Avid®

iNEWS™ Newsroom Computer System

Setup and Configuration Manual

Version 2.0

make manage move | media™ Avid®

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Using This Guide

Congratulations on your purchase of an Avid iNEWS newsroom computer system. It is a vital part of the Avid Unity for News system solution that integrates with other Avid systems and third-party equipment to provide an ideal nonlinear workflow and optimize the news production process.

This manual provides information on how to manage the iNEWS newsroom computer system, consisting of:

- A console
- One or more servers
- Various clients, such as iNEWS Workstations and printers

The documentation describes software features and hardware related to the iNEWS newsroom computer system, which is extremely customizable. Your system may not contain certain features and/or parts that are mentioned in the documentation.

Who Should Use This Manual

This manual is written for system administrators who are managing the iNEWS newsroom computer system (NRCS). It is strongly recommended that system administrators have prior experience in or classroom knowledge of Red Hat Linux system administration. All iNEWS system administrators need to:

- Manage user accounts, security and permissions
- Start up and shut down iNEWS NRCS
- Perform file system maintenance, backup, and recovery

- Maintain disks
- Monitor processes
- Configure and monitor the network

About This Manual

This manual is part of a two-book set designed to keep pace with current advances in the Avid system's news production capabilities. The set—made up of this book and the *Avid iNEWS Operations and Troubleshooting Manual*—is a comprehensive resource of all the information you will need to take advantage of the many options available to you. This manual will lead you through even the most complex procedures with task-oriented instructions. The information provided here builds on basic news production procedures described in the help system and other user-based guides, while adding a complete explanation of all the tools and techniques required to manage the newsroom computer system, including useful tips, shortcuts, and custom options.

The Contents lists all topics included in this guide. They are presented with the following overall structure:

- The Introduction helps you get oriented with beginning concepts and general workflow and provides valuable pointers to keep in mind as you proceed.
- The main body of this guide follows the natural flow of your work, with clear and comprehensive step-by-step procedures.
- Finally, a detailed Index helps you quickly locate specific topics.

Symbols and Conventions

Avid documentation uses the following symbols and conventions:

Symbol or Convention	Meaning or Action
🗎	A note provides important related information, reminders, recommendations, and strong suggestions.
⚠	A caution means that a specific action you take could cause harm to your computer or cause you to lose data.
⚡	A warning describes an action that could cause you physical harm. Follow the guidelines in this document or on the unit itself when handling electrical equipment.
>	This symbol indicates menu commands (and subcommands) in the order you select them. For example, File > Import means to open the File menu and then select the Import command.
▶	This symbol indicates a single-step procedure. Multiple arrows in a list indicate that you perform one of the actions listed.
Margin tips	In the margin, you will find tips that help you perform tasks more easily and efficiently.
Italic font	Italic font is used to emphasize certain words and to indicate variables.
`Courier Bold font`	Courier Bold font identifies text that you type, such as commands entered at the console multiplexor. Output displayed on the console screen will appear in regular `Courier font`.

Symbol or Convention	Meaning or Action
Lengthy console displays may be edited to emphasize only the most important information in this manual. An ellipsis (...) represents portions of the console display not shown in the text. The console can display each server's prompt based on the system ID (typically a station's call letters) and the server's name. Examples in this manual use NRCS as the fictional station and system ID. For instance, the following is the console prompt for server A on the NRCS system: `NRCS-A$`	
Click	Quickly click and release the left mouse button.
Double-click	Click the left mouse button twice rapidly.
Right-click	Quickly click and release the right mouse button.
Drag	Click and hold the left mouse button while you move the mouse.
Ctrl+*key*	Press and hold the first key, such as Ctrl, Alt, or Shift, while you press the second key.

If You Need Help

If you are having trouble using iNEWS:

1. Retry the action, carefully following the instructions given for that task in this guide. It is especially important to check each step of your workflow.
2. Check for the latest information that might have become available *after* the documentation was published in one of two locations:
   - If release notes are available, they ship with your application CD, are in PDF format, and may be viewed from the CD using Adobe® Reader, a program freely available on the Internet.
   - If ReadMe files are available, they are supplied in your Avid application folder. ReadMe files are also available from Help.

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5. For Technical Support, please call 800-800-AVID (800-800-2843).

   For Broadcast On-Air Sites and Call Letter Stations, call 800-NEWSDNG (800-639-7364).

...With the Syntax of Console Commands

If you are at the console, and are unsure about the function of a console command, use the `help` command.

To view instructions about using a command, type `help` followed by the name of the command. For instance, type **`help dbvisit`** for an explanation of the dbvisit command. The following data appears:

```
dbvisit -<d or v or i> -{r or m name] -[s] [block# ...]
‘r’ for read only
‘s’ for “slow” to eliminate cache usage
‘m’ for machine name to disconnect
‘i’ to just validate isam files
```

Because of the margin limitations of this manual, console command lines may appear wrapped to multiple lines. This does not necessarily indicate the need to press an Enter key. Unless otherwise indicated, console commands should be typed on a single line, allowing the computer to wrap the text whenever the command line stretches beyond the screen margin.

See “Types of Console Commands” on page 28 for more information.

Related Information

The following documents provide more information about the iNEWS newsroom computer system:

- iNEWS NRCS Prep, Installation, and Upgrade Manual
- iNEWS NRCS Training Guide
- iNEWS NRCS Release Notes

The following documents provide more information about some of the other Avid products that integrate with the iNEWS newsroom computer system:

- iNEWS ControlAir Installation and Operations Manual
- iNEWS ControlAir User Manual
- iNEWS ControlAir Release Notes
- Avid Data Receiver Installlation and Operations Manual
- MOS Gateway Installation and Operations Manual
- MOS Gateway Release Notes
- Media Browse Installation and Operations Manual
- Media Browse Training Manual
- Media Browse Release Notes

For the latest information on all Avid products and documentation on other Unity for News products, such as the Avid AirSPACE video server, Avid Active ContentManager, or the Avid NewsCutter nonlinear editing system, see the Avid Knowledge Center: `http://support01.avid.com`.

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Chapter 1

Introduction

As part of the Avid Unity for News broadcast solution, the iNEWS newsroom computer system is an integrated, digital news creation, and production system. It provides journalists, producers, directors, writers, and technical personnel in a newsroom with an array of tools to make their jobs easier.

This chapter contains the following main sections:

- What is Avid Unity for NEWS?
- System Administrator Tasks

What is Avid Unity for NEWS?

The Avid Unity for News system is a nonlinear shared storage media network that enables the immediate and simultaneous availability of footage upon acquisition to both journalists and editors; the sharing of footage among teams for shot selection, script writing, and production; the parallel editing of news packages and promotions; and on-air playout, without dubbing back to tape, within moments of story completion. It is a truly integrated broadcasting solution that minimizes lag between processes, where even activities such as asset management and Web updating become concurrent tasks that facilitate production, without interfering with the primary objective of putting the news on the air.

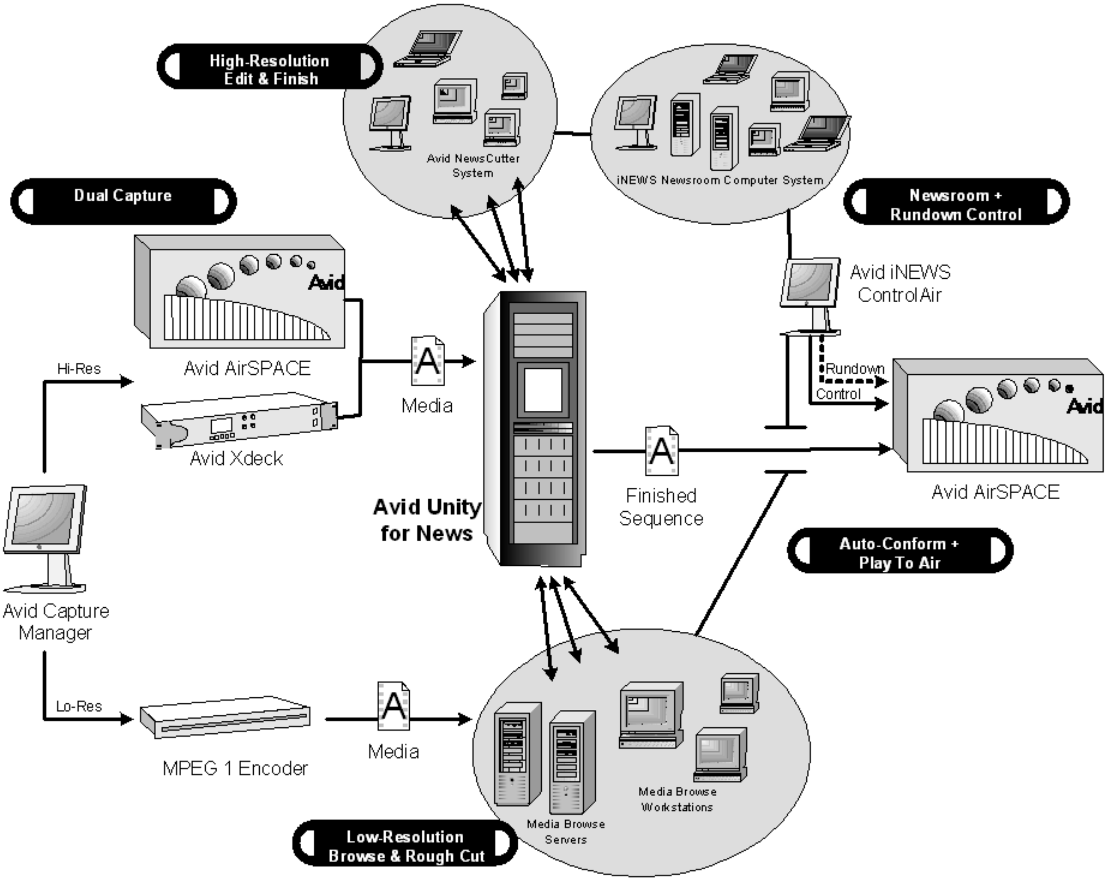
In the Avid Unity for News workflow, the Avid iNEWS newsroom computer system provides up-to-date news data throughout the newsroom and seamlessly links all tasks in the production process, such as wire service, assignment desk, script writing, browse, editing, rundown, playout, and device control tasks.

The Avid Unity for News environment consists of integration between several Avid products, such as:

- The Avid iNEWS newsroom computer system
- The Avid Media Browse system, including Avid Capture Manager
- The Avid iNEWS ControlAir system
- The Avid NewsCutter nonlinear editing system
- Avid Active ContentManager
- Avid AirSPACE video server(s)

Your newsroom may have any one or all of these products and others not mentioned in this brief summary.

The figure below shows a typical high- and low-resolution workflow, from capture to playout, in a shared storage environment with an iNEWS newsroom computer system:



iNEWS NRCS

An iNEWS newsroom computer system (NRCS) provides:

- News gathering from video, audio, and text sources
- News production, including:
  - Story creation and script editing
  - Show planning and creation

- News to air, including:
  - On-air playback control
  - File exporting
  - Internet publishing

In an Avid Unity for News environment, Web production processes can occur in parallel with newcast production.

For more information, see “NRCS Components” in Chapter 1 of the *iNEWS Installation and Upgrade Manual.*

Some primary components of iNEWS NRCS include:

- Linux-based computers running the iNEWS Server software. In this manual, these host computers are referred to as the iNEWS Servers, or individually as server A, server B, and so forth.
- An IBM/Intel-compatible personal computer (PC) running the iNEWS console multiplexor program. This PC is known as the console. See Chapter 2, “The iNEWS Console” for more information.
- Windows-based computer running the iNEWS client software. These PCs are known as iNEWS Workstations
- Other clients, such as printers.

Third-Party Connectivity and Open Integration

Avid’s commitment to open integration and conformance with industry-standard technologies is clearly demonstrated as a major feature of the Unity for News product set. Avid supports open integration by, among other methods, offering no fewer than 13 Applications Programming Interfaces (APIs) for Avid products to interact with third-party devices, software, and custom development, such as the general NRCS-MOS protocol agreement, or Transfer Manager APIs.

The iNEWS system is capable of interfacing with a wide variety of major control systems and servers with dedicated device interfaces, including Omnibus™ and Sony®. The iNEWS system has an efficient Active-X implementation of the MOS protocol, which greatly extends its interfacing abilities. For instance, in conjunction with iNEWS, ControlAir provides a central point of control for up to 32 production devices, such as video servers, character generators, and still store machines from third-party manufacturers; a sample of which is provided in Table 1.

Table 1 Third-Party Integration

Device Type	Manufacturers
Video Servers	Sony, Grass Valley™, and Quantel
Character Generators	Chyron, Aston, Pinnacle, Abekas, Quantel, and Pixel Power
Still Store Machines	Leitch® and Quantel

The Avid Unity Transfer Manager productivity tool synchronizes with the iNEWS rundown to determine file transfer priority—the story that appears sooner in the rundown will automatically be ranked higher in the queue, and playout order of the newscast matches the rundown precisely.

In addition to conforming to accepted, standard file formats, such as Open Media Framework (OMF), Avid systems accept media in more than 30 other file formats, allowing them to accept, use, track, and present any media, images, graphics, audio, scripts, or notes.

System Administrator Tasks

The following sections introduce many system administrator responsibilities and the system's capabilities and functions.

Basic Tasks

Before you can customize or maintain the iNEWS newsroom computer system, you must learn several basic tasks, which include:

- Start up or shut down iNEWS NRCS, which includes logging out users and taking the system offline.

- Backing up a site file before making file modifications.
- Send system administrator commands from the console to one or more of your system's computers.
- Be a console superuser, capable of setting up special superuser permissions.

User Tasks

A user is anyone who can log in to the database and use iNEWS NRCS. Your responsibilities regarding users are:

- Monitor user information, such as users' access privileges and which users are currently logged in.
- Customize the traits of users' accounts to enable users to more effectively use the system.
- Provide a new employee access to the information stored in the iNEWS NRCS database by creating a new user account.
- Remove user accounts of former employees to prevent improper access to the iNEWS NRCS database.

Database Tasks

The iNEWS system database contains the information your oganization needs to function. A system administrator's tasks associated with the database include:

- Design forms (that is, story templates) to display important information about stories in a queue.
- Monitor changes to files and queues in the database.
- Unlock or delete any item in the database, and recover items that were accidentally deleted or corrupted.
- Create new folders or queues in the iNEWS system database to meet your organization's expanding needs.
- Remove a directory or queue from the database, if it is no longer used.
- Change the name or traits of an existing directory or queue.

- Assign the mailbox trait to queues for configuring automatic story distribution into and out of queues.

Security Tasks

There are many ways to ensure the security of your iNEWS system. Your responsibilities regarding system security include:

- Monitor and change passwords or force users to change them by setting up system checks and modifications.
- Monitor user login activity to guard against unauthorized use of the iNEWS system.
- Assign security to a directory or queue, limiting access to a specific group of users.
- Restrict database access by placing users into security groups based on job roles and need for information.

Customizing the System

Your responsibilities regarding customization include:

- Customize command names, message text, and other items by changing their entries in your system's dictionary files.
- Remove your custom dictionary translations by reverting to the default settings for command names, message text, and other items.
- Create templates for the CG Title Entry tool.
- Design and assign custom keyboards for users with a unique set of keyboard macros.

Storage Maintenance Tasks

You will want to monitor the database regularly to ensure adequate storage. Storage maintenance tasks include:

- Monitor how much free space is available in the database and, if necessary, increase the amount to prevent the system from running out of space.
- Perform preventive database maintenance by periodically running certain utility programs that can find and fix minor problems before they become serious.
- Backup the entire database or portions of it onto tape, so if necessary, the information can be restored to the database later.
- Make a backup copy of files, such as the site file, on tape any time you make important changes.

Device Tasks

A device is any kind of hardware or software that performs a specific function when it is set up on the iNEWS system. Your responsibilities regarding devices include:

- List the parameters of any device running on your system or list all devices of one type.
- Add any type of device to your system, if you have the capacity and license permission.
- Edit site-specific files, to change the setup information for a device in your system's configuration file.
- Reconfigure the system so it recognizes any changes you make to your system's devices.
- Setup printer styles so that different tasks can be printed in pre-designated formats.
- Setup servers which are utility programs that automatically perform various actions on the stories in your database.
- Change wire distribution and sorting of data coming into your database from a wire service to queues based on their category codes or content.
- Write dialogs (lists of instructions) for each service to automate the connection process. A service is a device that connects a user to a remote computer system.

Reviewing Default Settings

Your responsibilities regarding system profiles, default settings, and command syntax include:

- Changing a system profile setting to change your system’s operation.
- Reviewing default settings of all system profile parameters.
- Reviewing command syntax for edit, console, and job list commands.

Troubleshooting

Your troubleshooting responsibilities include:

- Transfer system activities from a halted computer to other system computers. If a computer connected to the system has been halted, bring the system back to operation using the remaining computers.
- Reconnect a computer that has been halted. Following routine maintenance, reintegrate a computer into your system’s operation.

Chapter 2

The iNEWS Console

The iNEWS console multiplexor serves as a “command center” that enables system administrators to monitor and maintain the iNEWS newsroom computer system.

This chapter contains the following main sections:

- Overview
  - The Console Display
- Standard Console Operations
  - Starting the Console
  - The System Operator
  - The Console Superuser
  - Exiting the Console
  - Troubleshooting a Frozen Console
- Types of Console Commands
  - Server Commands
  - Console Control Commands
  - Console Function Keys
- Selecting Servers
- Console History
- Using the Remote Console
- The Console Configuration File

Overview

The iNEWS console multiplexor—commonly known as the console—is an IBM/Intel-compatible personal computer (PC) running custom-created Avid software. The console PC connects—via a serial link—to computers running the iNEWS Server software, and communicates with each server simultaneously.

With an external analog modem line, the console also provides a secure remote console feature, that allows a system administrator or Avid Customer Support personnel, if necessary, to do routine maintenance and diagnostic work while away from the computer room. See “Using the Remote Console” on page 40 for more information.

Figure 1 shows a sample layout for a dual-server newsroom computer system.

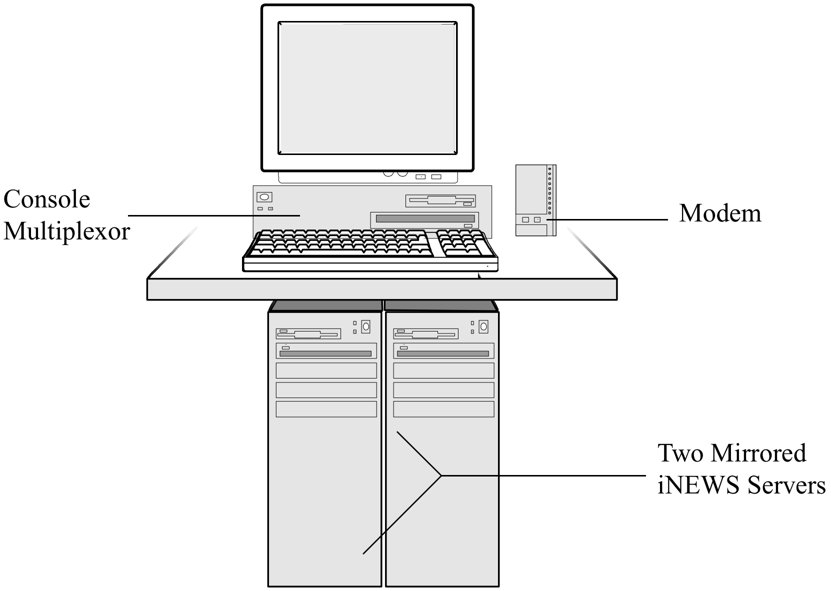


Figure 1 Layout of iNEWS NRCS Console and Servers

The Console Display

Although the console can control multiple servers, your console has one screen, which is often divided into regions to separate the output from each server. The user can alter the display to show multiple regions or a single region.

Figure 2 shows a console display for a dual-server system; the console screen is divided into two regions. Your console screen has as many regions as there are host servers in your system.

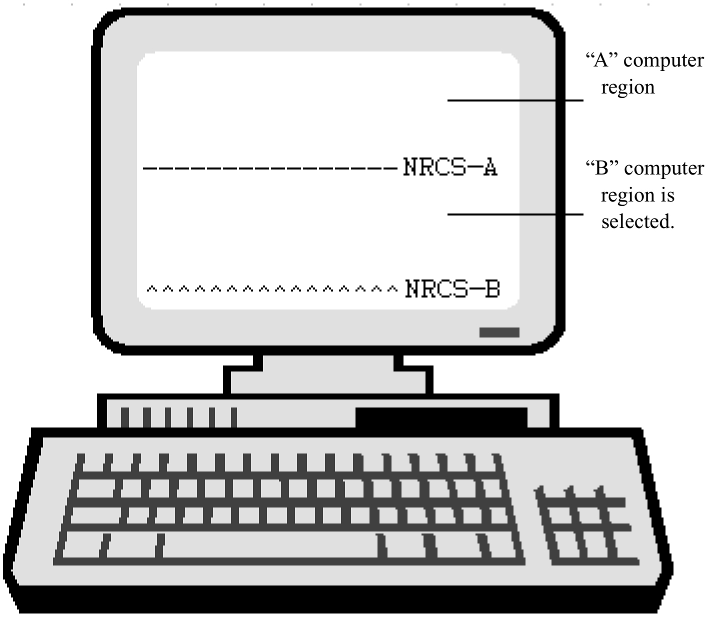


Figure 2 Console Screen for a Dual-Server System

To identify which region belongs to which server, the console displays the name of the server that a region represents in that region’s lower right corner.

Each server’s name is based on the system ID (typically a station’s call letters) and the server’s name (usually a single letter, such as A, B, or C). Examples in this manual use NRCS as the fictional station and system ID, as shown in Figure 2.

In Figure 2, the top region displays the output from server A, and the bottom region displays the output from server B. The wavy lines (^^^) to the left of the identifier for server B indicate that it is currently selected or active. Each region will have its own server and command prompts, after which you may enter various commands. See “Types of Console Commands” on page 28 for more information.

Should data shown in a region extend beyond the size of the screen, the user may temporarily pause the display output. See “To pause the screen display:” on page 35 for more information.

Standard Console Operations

The following section contains information about basic console operations, such as starting the console, logging in, entering console superuser mode, and troubleshooting.

Starting the Console

If your console has been turned completely off, it should start the console program automatically when it boots up. If not, it may be started from the operating system prompt.

To start up the console from your operating system prompt:

1. Type: **`console`**
2. Press Enter.

The console display will appear with multiple regions—as shown in Figure 2 on page 21—each region associated with a server and showing the following prompt:

```
login:
```

The System Operator

System administrators must log in to iNEWS NRCS at the console differently than other users who log in at an iNEWS Workstation. Ordinarily, system administrators always remain logged in on each of your system's servers as the system operator.

To log in as the system operator:

1. Select the server(s) displaying the login prompt. See "Selecting Servers" on page 33 for more information.
2. Type: **`so`**
3. Press Enter.
4. If your system has a password for this account—and most do—then type in the password when prompted, and press Enter.

   The system operator password is set during installation of the iNEWS Server software on the iNEWS Servers. For information about changing the system operator password, see "Changing System Administration Passwords" on page 25.

To keep the password confidential, the console does not display what you type.

The Console Superuser

A console superuser has special system privileges that allow more powerful (and therefore potentially more dangerous) commands.

The console's server prompt is the visual indicator for whether you are logged in as a system operator or a superuser. The server prompt for a system operator login ends with a dollar sign ($). The server prompt while in superuser mode ends in a pound sign (#).

The system operator prompt looks like this:

```
NRCS-A$
```

The superuser prompt looks like this:

```
NRCS-A#
```

If a command example in this manual shows the superuser prompt —ending in a pound sign (#)—you must be a superuser to use the command.

Follow the procedures explained in the next section to get to the superuser prompt.

Entering Superuser Mode

A console superuser password is required for entering superuser mode. This password is the same as the root user password, which is set during installation of the Linux operating system on the iNEWS Servers. See “Changing System Administration Passwords” on page 25 for more information.

To enter console superuser mode:

1. If you are not already logged in, then log in as a system operator, by typing: `so`
2. Type: `su`
3. Press Enter.
4. Type the superuser password at the password prompt, and press Enter.

To keep the password confidential, the console does not display what you type.

After you type the password correctly, the console shows that you are a console superuser by changing the dollar sign ($) at the end of the server prompt to a pound sign (#). If you enter an incorrect password, the console displays an error message and lets you try again.

To prevent users from typing unauthorized commands, never leave the console unattended when in superuser mode. You should log in as superuser only when you need to type a superuser command, and exit console superuser mode immediately after typing the command.

Exiting Superuser Mode

To exit from console superuser mode and return to system operator mode:

- Press Ctrl+D.

The console shows that you are a console system operator by changing the pound sign (#)at the end of the console's server prompt to a dollar sign ($).

Changing System Administration Passwords

When logging in to the console as either a system operator or console superuser, a password is needed. These system administration passwords are typically set by Avid Customer Support technicians during the installation of either the iNEWS Server software or the Linux operating system (OS). However, they may be changed later by system administrators at the console.

Keep a confidential record of password changes. Knowing the passwords is critical. If you forget your passwords, the operating system may need to be reinstalled from scratch by Avid Customer Support technicians.

For more information on changing the password for the remote console, see "Editing the Console Configuration File" on page 44.

To change the system operator password:

1. Log in as a system operator, using the current password.
2. At the server prompt, type the password command, as shown:
   ```
   NRCS-A$ passwd
   ```
3. Press Enter.
4. When prompted, type a new password, and press Enter.

If the system operator password is fewer than six characters or is based on a word in the dictionary, the system will issue a "BAD PASSWORD..." message, but it will accept such passwords. The system will not accept a blank password.

5. When prompted to confirm, retype the new password, and press Enter.

To change the superuser password:

1. Enter superuser mode, using the current password.

Changing the superuser password also changes the Linux root user password, which if set during the Linux OS installation, must be more than six characters, initially.

2. At the superuser prompt, type the password command, as shown:
   ```
   NRCS-A# passwd
   ```
3. Press Enter.
4. When prompted, type a new password, and press Enter.
5. When prompted to confirm, retype the new password, and press Enter.

If the password does not match, the system displays an error message. Start over by retyping the new password in step 4. Also, if the superuser password is fewer than six characters or is based on a word in the dictionary, the system will issue a "BAD PASSWORD..." message, but it will accept such passwords. The system will not accept a blank password.

6. Press Ctrl+D to exit console superuser mode.

Exiting the Console

You should leave the console on at all times while the iNEWS system is running. However, the following situations may require you to exit the console:

- You need to edit the console's configuration file. See "The Console Configuration File" on page 42 for more information.
- The console is frozen, and you are unable to unfreeze it using the methods described in "Troubleshooting a Frozen Console" on page 27.

To exit the console:

1. Press the Command key, as shown in Figure 3 on page 31.
2. Press Ctrl+E.
3. When COMMAND EXIT appears, press Enter.

After the console software completely shuts down, the prompt for your operating system will appear.

Troubleshooting a Frozen Console

If the servers on your system are not responding to commands and are not displaying messages, there are several possible procedures you can do to identify and resolve the problem:

To check and restart scrolling:

1. Ensure that you or someone else has not stopped scrolling. If that is the case, XOFF is displayed under the region where scrolling has stopped, as shown in Figure 5 on page 36.
2. Press Ctrl+Q to start scrolling.

It may also be possible that the server ports have stopped sending and receiving.

To restart sending and receiving from server ports:

See “Console Control Commands” on page 30 for more information.

1. Press the Command key, as shown in Figure 3 on page 31.
2. Type: **x**
3. Press Enter.

If this does not restore the console, static electricity may have frozen one or more of the servers’ I/O ports.

In the previous two procedures, the XON command is shown being issued in two ways: first, by pressing Ctrl+Q and second, by pressing the Command key and typing **x**. *Either way will accomplish the exact same thing.*

To reset the servers’ I/O ports:

1. Select the affected server(s). See “Selecting Servers” on page 33 for more information.
2. Press the Command key, as shown in Figure 3 on page 31.
3. Type: **r** (for reset).
4. Press Enter.

Another possible cause of a frozen console is an application program that will not stop running. If you suspect this problem, you can stop the program, and log in again to the console.

To stop a runaway program:

1. Select the affected server(s). See “Selecting Servers” on page 33 for more information.
2. Hold down the Control key and press the backslash key (Ctrl+\).

   This stops the program on the selected server(s).

If this does not stop the program so that the console displays a system prompt, suspend the program by pressing Ctrl+Z—or whatever the suspend (susp) character is. The default is Ctrl+Z.

You can use the jobs command to list suspended programs and kill suspended programs by using the kill command along with a percent sign (%) and the job number, such as: **`kill %1`**.

If the console still does not respond, exit the console program and restart it as described in “Exiting the Console” on page 26 and “Starting the Console” on page 22.

Types of Console Commands

You can type two kinds of commands at the console:

- *Server commands* are sent to the iNEWS Servers.
- *Console control commands* are sent to the iNEWS console software that communicates with the servers.

Some examples of server and console control commands appear as part of procedures in “Standard Console Operations” on page 22. Further information on these commands are provided in the next two sections of this chapter. Also, see “If You Need Help...With the Syntax of Console Commands” on page 5 for more information.

Server Commands

The iNEWS system will not recognize server commands entered in upper case. Type server commands at the console in lower case after the prompt for the server to which you want the command sent. For instance, if you want to send a command to server A, type the command after the server prompt associated with server A.

The console displays each server's prompt based on the system ID and the server's name, separated by a hyphen. Examples in this manual use NRCS as the system ID and single letters—such as A, B, or C—as the server name.

For instance, the server prompt may appear like this:

```
NRCS-A$
```

The appearance of the server prompt varies, depending on how the system administrator is logged in to the console. See "The Console Superuser" on page 23 for more information.

An example of a server command is the `list sessions` command—or `list s` command—which when sent to an iNEWS Server will return information about who is logged in.

To send a server command to multiple servers simultaneously:

- Type the command followed by a pound sign (#).

The # character acts as a place holder for each server name. It is replaced with each server's computer name, such as A or B, before the console sends the server command to all servers in the system. This allows system administrators to send commands to multiple servers without having to select each server and send commands individually. For instance, the `connect #` command sends `connect a` to server A, `connect b` to server B, and so forth.

To stop a server command:

- Press Delete.

If that does not work, press Ctrl+C—the stty interrupt character. Doing so will interrupt the command's execution. As a last resort, pressing the Control and Backslash keys (Ctrl+\—the stty quit character) will stop the command's execution. Avid recommends you should attempt to "interrupt" before trying to "quit" the execution.

If the server sends a message while you are typing a command, the console stops displaying your keystrokes to display the message. However, it continues to record what you type. After it has displayed the message, then the console will display the data you typed in its entirety.

If you are interrupted by a console display or have mistyped a command, you can cancel the entire command line and start over by typing Ctrl+U.

The character used to issue the command that cancels an entire command line—known as the "kill" character—may be customized, using the `stty` *command. For instance, to set it to "at" character, you would type:* **`stty kill @`**. *To reset it to the default Ctrl+U, type:* **`stty kill ^U`**.

The same customization capability applies to the "intr" or "interrupt" character, which is used to interrupt a running program. For instance, to set it to the Delete key, type: **`stty intr ^?`**. *To reset it to the default Ctrl+C, type:* **`stty intr ^C`**.

To clarify, the **`^U`** *and* **`^C`** *—shown above— mean to hold the Shift key down and press the 6 key, to get the ^ character, and then the U or C letter key respectively. The same applies to the* **`^?`**. *You can view these settings by entering the server command:* ***`stty -a`***

Console Control Commands

The Enter key on the numeric keypad will be called the Command key throughout this manual to prevent confusion with the Enter key on the keyboard.

The Enter key on the numeric keypad is the console's Command (CMD) key. See Figure 3. When you press it, the console displays the command prompt—also called the *command line*—from which you can type in commands.

The command prompt appears as shown:

```
COMMAND^
```

To enter console control commands:

1. Press the Command key, as shown in Figure 3.
2. Type the console control command.

   Some of the most common console control commands are those used to activate a region of the console display—by selecting an iNEWS Server(s)—and those commands used to view a record of messages displayed on the console, known as the console history. These commands are explained in “Selecting Servers” on page 33 and “Console History” on page 35. For a complete list of console control commands, see “Console Control Commands” on page 580.
3. Press Enter—also called the Return key—on the standard keyboard for the command to be executed.

Figure 3 shows the location of the two keys on a typical console keyboard.

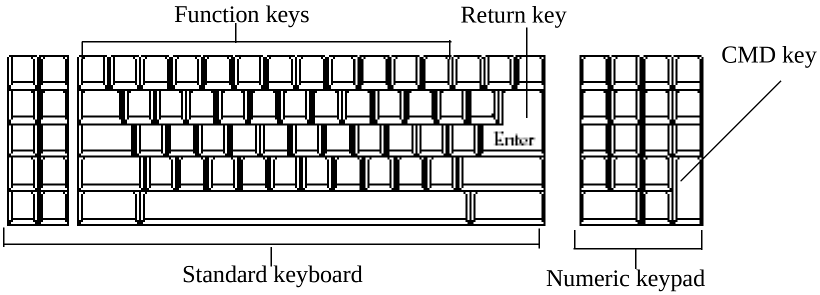


Figure 3 Typical iNEWS Console Keyboard

If you make a mistake when typing a command, use the Backspace key to move the cursor back and then type over the error.

Console Function Keys

The system administrator may preprogram the keyboard function keys to execute commands. For instance, you may program F1 to select server A, F2 to select server B, and F7 to move up 200 lines in the console history buffer.

Assigning a Command to a Function Key

To assign a command to a function key:

1. Press the Command key.
2. Type the name of the function key you want to use, followed by the equal sign (=) and the command the key is supposed to execute. The following example assigns the command of choosing server A to the F1 key: `f1=c a`
3. Press Enter.

To assign a command sequence to a function key—that is, include the Command and Enter keys in the definition—use the open brace ({) to represent Command, and the close brace (}) to represent Enter. For example, to program the complete command sequence (press Command key, type computer command to select all servers, and press Enter) to function key F10, you would type: `f10={c *}`

Changing the Assignment of a Function Key

To change a command assigned to a function key:

- Assign a new definition to the key.

Deleting the Definition of a Function Key

To delete a function key's command assignment:

- Assign it a null value.

Displaying Function Key Assignments

To find out the command (if any) assigned to a key:

1. Press the Command key.
2. Type the name of the key, such as, F9.
3. Press Enter.

Press Command again to clear the command assignment from the console screen.

Selecting Servers

On the console, you can select one server or multiple servers at the same time. For instance, some commands must be executed on all servers simultaneously, so on a two-server system, you must select both server A and B before typing in the command.

Selecting One or More Servers

To select only server A:

1. Press the Command key, as shown in Figure 3 on page 31.
2. Do one of the following:
   - Type: `computer a`
   - Type: `c a`
3. Press Enter.

To select both the A and B servers:

1. Press the Command key, as shown in Figure 3 on page 31.
2. Do one of the following:
   - Type: `computer ab`
   - Type: `c ab`
3. Press Enter.

To select all servers in the iNEWS system:

1. Press the Command key, as shown in Figure 3 on page 31.
2. Type: `c *`
3. Press Enter.

Selecting all servers enables you to send a command to all of them simultaneously. When you select all servers, each server region’s bottom line changes to a wavy line of caret symbols (^^^). Only one cursor appears, usually in the top region; however, the console commands you type appear simultaneously in each region of the console screen.

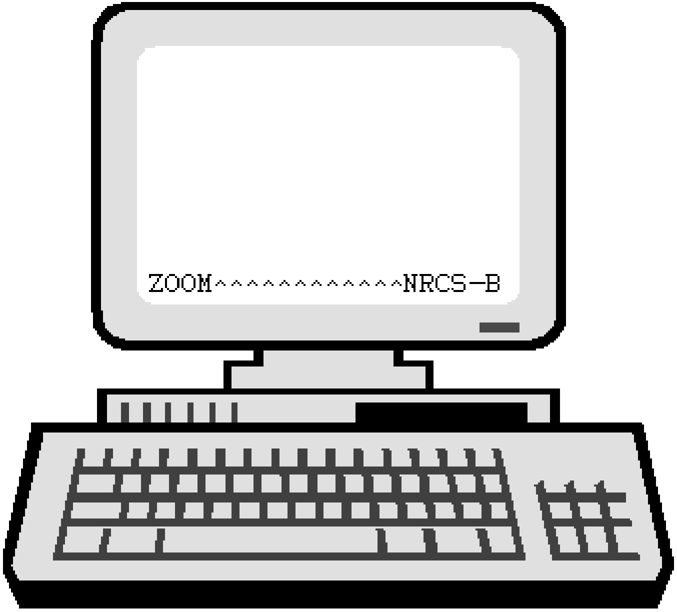
Zooming in on One Server

In addition to the `computer` command, you can also use the zoom command to select a server. Unlike the `computer` command, which operates in multiple region mode, zoom selects one server at a time and devotes the entire console screen to that server (or region).

To zoom in on one server, such as server B:

1. Press the Command key, as shown in Figure 3 on page 31.
2. Do one of the following:
   - Type: **`zoom b`**
   - Type: **`z b`**
3. Press Enter.

Figure 4 shows the console screen after “zooming in” on server B’s region.



```
ZOOM^^^^^^^^^^^^NRCS-B
```

Figure 4 “Zooming In” On Server B

To restore the screen to its former multiple region state, use the `computer` command to select any server. It does not matter which one you select; the console screen will revert to a multiple region display, and the region for the selected server will have the cursor.

Console History

When output from a server command consists of more lines than can fit in a region, lines will be scrolled off the screen. To view this data—known as console history—in screen-sized chunks, you must pause the screen display.

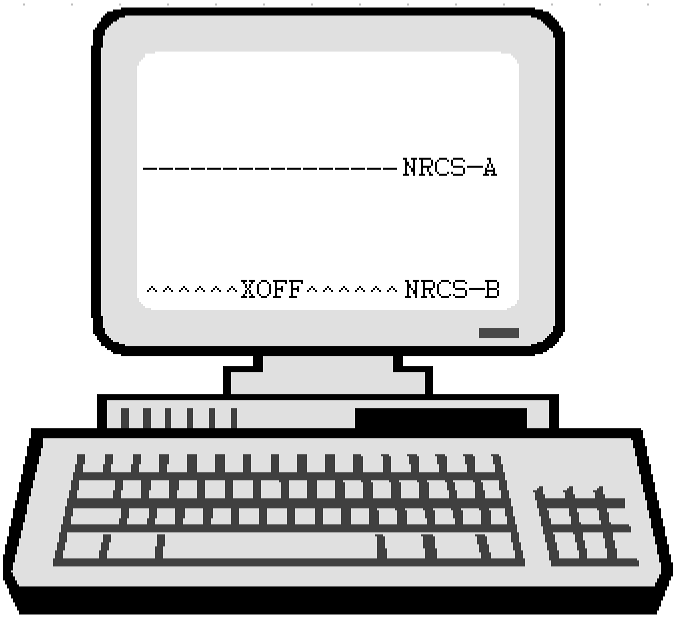
The system may also be configured to log console history for viewing at a later time.

To pause the screen display:

- Press Ctrl+S. The console screen temporarily stops scrolling.

Pressing Ctrl+-S does not have any effect if you are using a remote console. A remote console is connected by a modem dial-in from an external location. See “Using the Remote Console” on page 40 for more information.

When the screen is full of text, XOFF appears at the bottom of the selected region, as shown in Figure 5.



```
-----------------NRCS-A


^^^^^^XOFF^^^^^^NRCS-B
```

Figure 5 XOFF Message Indicating Scrolling Is Paused

To manually resume scrolling:

- Press Ctrl+Q.

Even if you do not press Ctrl+Q, the console automatically resumes scrolling after a pause of 60 seconds.

Viewing Recent Console History

The console maintains a history buffer containing messages that have appeared on the screen. You can go back in “console history” to review prior activity on any of the iNEWS Servers.

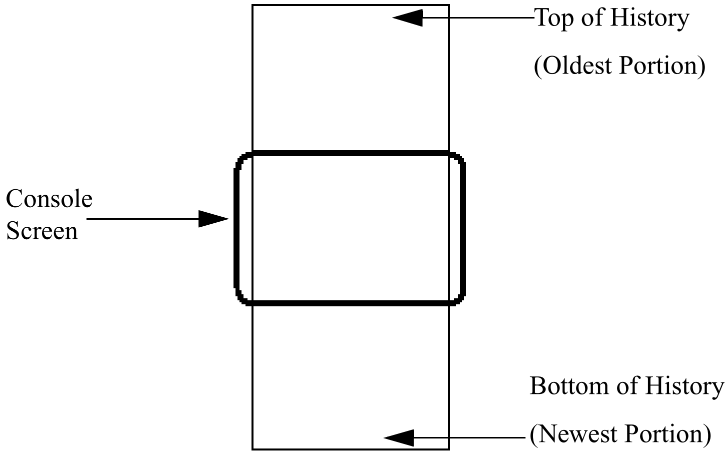


Figure 6 Console History

As shown in Figure 6, the “top” of the buffer contains the oldest information; the “bottom” of the buffer contains the most current.

To view recent history on a particular server:

1. Zoom in to the server whose history you want to review.
2. Press the Command key, as shown in Figure 3 on page 31.
3. Type one of the console history commands: **`up`**, **`down`**, **`top`**, or **`bottom`**.

   The `top` and `bottom` commands move the console screen to the top or bottom of the history.

   The `up` and `down` commands by themselves move the console screen up or down one line in the history. If you follow the `up` or `down` commands with a number, the console screen will move up or down that number of lines in the history. For instance, **`up 10`**, moves up—or back in the console history—10 lines. If you follow the `up` or `down`

Pressing Enter is equivalent to `down 1` commands with a word, the console screen will search from the current position backward or forward for that word, and if found, moves to the line containing that word. The commands are not case sensitive.

The pound character (#) is a wild card that can be included in the word to be searched for with the up and down commands. It is also used to search for numbers. For instance, **`up 10#`** *is a numerical search, and is not the same as* **`up 10`***, which will move up 10 lines in the console history.*

4. Press Enter.

The `print` command may also be used to view lines of console history. When the command is followed by a number, the screen will display that number of lines of history, starting from the current position. When the `print` command is followed by the word, `all`, the screen will display all lines from the current position scrolling to the bottom of the history, or newest line of information.

The `print` *command does not send console history text to the printer. The command for printing lines of history is* `list`*, followed by either a number or the word, all. See "Console Control Commands" on page 580 for more information.*

Viewing Logged Console History

You can configure iNEWS to log console history to disk for later review. The logs are written to the hard drive on your console PC, traditionally in the `C:\Console` directory. The logs are named as shown in Table 2.

Table 2 Log Names

File for server A:	File for server B:	Contains the following information:
log.a1	log.b1	Most recent console history
log.a2	log.b2	Old console history
log.a3	log.b3	Older console history

Table 2 Log Names

File for server A:	File for server B:	Contains the following information:
log.a4	log.b4	Oldest console history

The log.a1 file is the most recent console history; you can also view it as shown in prior examples using the up command.

As the log.a1 file fills up, old files are renamed and a new log.a1 file is created as follows:

- log.a1 is renamed log.a2
- log.a2 is renamed log.a3
- log.a3 is renamed log.a4
- A new log.a1 is created

The log files are ASCII text files that can be read with any word processing program. You must exit the console program if you want to edit the logs in any way.

You can use the console view command to view the log files without editing or exiting to DOS, but view only lets you start at the top of the file and scroll down. You cannot move back or search for words.

Both the presence or absence of disk logging and the size of the log files can be configured in the `console.cfg` file. See “The Console Configuration File” on page 42 for more information..

Using the Remote Console

The console should have a modem attached to it. This enables someone in another location to call up the console and log in, thereby turning the remote computer into a remote console. The primary use for a remote console is to enable Avid Customer Support technicians or system administrators to perform diagnostic and maintenance work on the iNEWS system from a remote location.

This section explains how to dial in over a modem line, what you can expect to see on the remote screen, and how to execute commands remotely.

Dialing in to the Console

To dial in to the console, you must have a computer that transmits and receives ASCII characters. You must also have set the following modem options:

- Eight data bits
- No Parity
- One stop bit
- Any baud rate supported by your console's modem

If you do not see the prompt immediately, pressing Enter should display it.

To prevent unauthorized people from dialing in to the console, remote access is protected with a password. When you dial in, you see a PASSWORD prompt on the screen. After you type the correct modem password, the console connects you to the first server listed in the console configuration file, usually server A.

The modem password is set in the console's configuration file. See "Editing the Console Configuration File" on page 44 for more information.

At the console, MDM is displayed at the bottom of the region representing the server that was selected from the remote console. Commands typed at the remote console are sent to that server and displayed on its console region. Likewise, output from that server are displayed both on the console and the remote console.

Executing Commands Remotely

After logging in, you can type commands and review history almost as if you were seated at the console itself. All commands except zoom are available from the remote console. Just as at the console, these commands can be abbreviated using the first letter in each command.

There are also some differences when using a remote console:

- The remote console displays screen input and output for only one server at a time, even if you have more than one selected.

  When you select two or more servers, the order in which you list the servers in the computer command determines which server's display you see. For instance, if you type **`c ab`** to select servers A and B, you see output only from server A on the remote console, even though what you type is sent to both A and B.

- Use the Escape character instead of the Command key to display the console command prompt.

The Escape character, by default, is set to the Escape (Esc) key; however, the character may be customized, using the escape command in the following format: **`escape <char>`**

For instance, to set the Escape character to the keystroke combination of the Control and Y keys (Ctrl+Y), type: **`escape Ctrl+Y`**

The **`Ctrl`** *in the above command means to hold down the Control key while pressing the Y letter key. It is important to remember that the escape command can only be used from a remote console and there must be a space after the escape command.*

To reset the Escape character to its default, type the escape command, space, then press the Escape key. For instance: **`escape Esc`**

Logging out from a Remote Console

To log out after you finish using the remote console:

1. Press the Escape character.

The lowercased L in step 2 stands for logout.

2. Type: **`l`**
3. Press Enter.
4. When the remote console redisplays the PASSWORD prompt, hang up your modem.

Logging out a Remote User from the Main Console

If you are at the main console and discover that you or someone else has been using the remote console but did not log out when they were done, you can log them out from the main console.

To log out a remote console user from the main console:

1. Press the Command key.

The `m` in step 2 stands for modem.

2. Type: **`m`**
3. Press Enter.

Always follow this procedure before disconnecting the modem on the main console.

The Console Configuration File

The console uses information from its own configuration file—a text file called `console.cfg`—to set a number of parameters, such as:

- Whether or not disk logging is enabled
- Information about each of the servers connected to the console
- Information about the remote console

This section contains a sample configuration file, and defines the console configuration keywords and their parameters.

Viewing the Configuration File

To view the configuration file:

1. Zoom in on one server, such as server A:
   a. Press the Command key.
   b. Type: **`z a`**
   c. Press Enter.
2. Press the Command key.
3. Do one of the following:
   - Type: **`view console.cfg`**
   - Type: **`v console.cfg`**
4. Press Enter to display the first line in the console configuration file.
5. Continue pressing Enter to scroll through the file.

Sample Console Configuration File

Here is a sample console configuration file:

```
log c:log * 32768
computer      ;“A” server
name a
label NEWS
irq 3
hostess 2c0
speed 9600
;
```

```
computer       ;“B” server
name b
label NEWS
irq 3
hostess 2c8
speed 9600
;

computer       ;“C” server
name c
label NEWS
irq 3
hostess 2d0
speed 9600
;

modem          ;Remote console
password turtle
irq 3
hostess 2d8
speed 1200
```

The configuration file consists of a list of keywords, such as `name` and `label`. Most keywords are followed by parameters, such as `a` and `NEWS`. The keyword `modem` identifies the start of the modem (remote console) section. The keyword `computer` identifies a server section. Each server—including the archive server, if your system has one—and the modem must have its own section in the console configuration file.

All keywords and their parameters are described in detail in Table 3.

Editing the Console Configuration File

Probably the only modification you will ever need to make to the console’s configuration file is to change the modem password, used when logging in from a remote console.

The console configuration file is stored on a DOS PC, so you need to use a DOS editing tool, such as `edit` *to change it. You could also copy the file to a diskette and take it to another location to edit using Microsoft's program, NOTEPAD, on a Windows-based PC.*

Console Configuration Keywords

Table 3 lists all the configuration keywords and their parameters, if they have any.

Table 3 Console Configuration Keywords

Keyword	Explanation
`computer`	Indicates the beginning of a server section. Must appear at the top of each server section on the configuration file.
`hostess` *<port-address>*	Indicates which port address (in hex) the console uses to communicate with a particular device (that is, a server or the modem). This information, which is dictated by the hardware, was placed in the configuration file when your system was installed and should not be changed.
`irq` *<interrupt-request-number>*	To get the attention of the console, each device (that is, the servers and the modem) connected to the console must have its own *interrupt request* with which it can signal the console. The `irq` keyword tells the console which interrupt request to expect from each device. This information, which is dictated by the hardware, was placed in the configuration file when your system was installed and should not be changed.
`label` *<region-name>*	Defines a label that the console uses to identify each server's region of the console screen. The label can be up to 15 alphanumeric characters long, and is typically the system ID, a hyphen, and the server letter—A, B, C, or D.

Table 3 **Console Configuration Keywords (Continued)**

Keyword	Explanation
`log` <*drive*:*filename*> [*server(s)*] [*max size*]	Enables disk logging. No matter what filename (for example, `history`) you designate here, the system always uses extensions like A1, A2, and B1, as indicated in “Viewing Logged Console History” on page 38. If you do not follow the filename with a list of the servers for which you want history to be recorded, the console records history for all servers. If you omit a log size it defaults to 16,384 bytes. This example creates a history file on drive B for servers A and B: **`log b:history ab`**
`modem`	Indicates the beginning of a modem section of the configuration file.
`name` <*computer-name*>	Names the server described in that section of the configuration file. Each server must have A, B, C, or D as its name.
`password` <*password*>	The modem password that must be typed when someone logs in at a remote console. The password can have up to eight alphanumeric characters and is case sensitive.
`portaddress` <*port*>	Selects the DOS address (in hex) the console should use to communicate with a particular device, such as a modem. This information which is dictated by the hardware, is placed in the configuration file during installation and should not be changed. Each device must have a port address defined in its section. The `portaddress` keyword is used instead of `hostess` when your system has four servers and a modem. In that case, the modem must use `com1` as its port. The port parameter should always be defined as `3f8`.
`speed` <*baud-rate*>	Sets the baud rate for communication between the console and the server. The baud rate is the only communication parameter you can alter; the console ports always communicate at 9600 baud, eight data bits, no parity, and one stop bit.

Table 3 Console Configuration Keywords (Continued)

Keyword	**Explanation**
`timeout <minutes:seconds>`	Allows you to set a time-out value for any modem connection. The system automatically logs out a modem connection if there is no activity for a specified amount of time. For instance, a value of `6:00` would automatically log out a modem connection after six minutes of inactivity. This keyword, which should only be used in the modem section, provides added protection should a user forget to logout from a modem connection to the console. With a value of `0:00`—the default value—the feature is disabled, which means the system will not log out a modem connection regardless of inactivity length. The maximum value is 546 minutes and 7 seconds (`546:07`).

Chapter 3

Getting Started

System Administrators are responsible for knowing how to start up and shut down the iNEWS system. This requires logging in at the console multiplexor, which is done differently than other iNEWS users and provides access to features that others do not. Information on using the console, including logging in, is covered in Chapter 2. This chapter provides specifics on starting up and shutting down the newsroom computer system.

This chapter contains the following main sections:

- Starting the System
- Shutting Down the System
- Starting a System in Single-Server Mode

Starting the System

The following procedure shows you how to reboot your servers and synchronize them. This is primarily for dual or triple-server systems. For steps on starting a system in single-server mode, see “Starting a System in Single-Server Mode” on page 56.

Because the following procedure applies to an entire system that has been shut down, you must perform all the steps on all servers, except where otherwise indicated.

To start your iNEWS system, do the following:

1. Power up or reboot servers in one of the following ways, depending on how you shut down your system:

   a. If you turned off the servers when you shut down your system, boot them to the login prompt by turning them on.

   b. If you halted the servers when you shut down your system, boot each server from the console. Servers that have their operating systems halted will display the following line ten times—one per second:

   ```
   Press any key to continue.
   ```

   If no key is pressed, the bootup will continue normally after ten seconds. If a key is pressed, the system displays a message similar to the following:

```
GRUB version 0.93 (640K lower/523256K upper memory)
   +-----------------------------------------------+
   | Red Hat Linux (2.4.20-6smp)                   |
   | Red Hat Linux-up (2.4.20-6)                   |
   | Red Hat Linux (2.4.20-6smp) SERIAL CONSOLE    |
   +-----------------------------------------------+
Use the ^ and v keys to select which entry is highlighted.
Press Enter to boot the selected OS, ‘e’ to edit the
commands before booting, ‘a’ to modify the kernel
arguments before booting, or ‘c’ for a command line.
```

The default is the SERIAL CONSOLE option, for booting to the iNEWS console. The other options should not be used for any reason, unless instructed to do so by Avid Customer Support personnel. Press Enter to continue.

⚠ **If the system was not shut down as described in “Shutting Down the System” on page 53, check the console history for messages indicating that all servers shut down at the same time. Do *not* connect servers unless you are sure their databases are mirrored. If you cannot find messages indicating simultaneous shutdown, or are otherwise unsure whether the disks are mirrored, call Avid Customer Support for assistance *before* proceeding. If the servers are not mirrored, it will be necessary to bring the system up as a single-server system and go through the re-mirroring process. See “Starting a System in Single-Server Mode” on page 56 for more information.**

If the system was taken through a normal shut down according to instructions, the databases would still be mirrored and you can continue the normal startup procedure.

2. Select all servers. See “Selecting Servers” on page 5 for more information.

3. Log in as a system operator by typing: **`so`**

4. When prompted, type the password.

5. Type: **`connect #`**

   The # character acts as a place holder for each server name, allowing you to send a single command to multiple servers simultaneously. So, typing **`connect #`** will send `connect a` to server A, `connect b` to server B, and so forth.

   When connected, each server displays status messages and the system prompt returns.

6. Messages similar to the following appear:

```
connect successful for NRCS-A, starting servers...
A is OFFLINE. ID is NRCS.
System is A. Master is A.
Disk status is OK. The database is OPEN.
```

Connecting servers provides each server with a unique name and causes each one to read and interpret the system profile. The servers can work together as a system after reading the system profile information.

7. (Optional) Check for edit and order locks if you are restarting the system after a power failure.

   During a power failure, the system may not have had time to remove edit and order locks from the database before shutting down. When you restart the system, remove these locks.

Checking for edit and order locks may take time depending on the size of the database. In an emergency, bypass this step to get the system running. Go back later and remove locks to provide system access. The system can detect invalid locks and will ignore them.

To remove edit and order locks:

a. Select one server.

b. Type: **`dbclean -x .`**

   The `-x` option tells dbclean to skip queues or directories marked with a skip flag, reducing the time it takes to run.

   The period (`.`) after the `-x` causes dbclean to start at the root directory of the database, so that it does not miss any part of the database not marked with a skip flag.

8. Select all servers. See “Selecting Servers” on page 5 for more information.

9. Type: **`startup`**

   Information similar to the following appears:

```
Checking free space...
Sep 10 15:42:51 NRCS msg: System is being configured
database size 10002352,free 9955000=100%,freelist 1991
Starting NRCS programs...
booting device 100 on port 1
booting server 130
```

The Startup command does the following:

- Causes the master computer (usually server A) to read the configuration file
- Brings each server online so users can log in
- Checks database free space (dbfree)
- Starts all devices and utility programs—called servers

The console displays device-ready messages (Hot-to-go) as each device starts up, indicating that the device is online and available.

Resources used for iNEWS Workstation sessions do not print any messages until a workstation establishes a connection.

Shutting Down the System

If you need to turn off your servers or reboot the system, first shut down the system. Shutting down the system:

- Saves any open stories
- Removes any remaining edit and order locks
- Ensures that each server's copy of the database is the same

Because the system requires that you shut down all servers at the same time, most steps in this procedure are performed on all servers simultaneously. Except where instructed to do otherwise, ensure that you have selected all servers before performing each step. See "Selecting Servers" on page 33 for more information.

To shut down your iNEWS system:

1. Log out all users, according to the procedures provided in “Logging Out All Users” on page 94.

⚠ **You must ensure that all users are logged out if shutting down the system. If a user is in a connect session when the system is shut down, the user’s workstation stops, the session is disconnected, and any unsaved work is lost. Ensure any connect session users have logged out before you continue the shutdown procedure.**

2. Ensure all servers are selected, then type: **`status`**

   This will display the systems current configuration status; verify that the servers are still connected to each other and running in the normal AB configuration for dual-server systems or ABC configuration for triple-server systems. If they are, you may continue with normal shutdown procedures.

⚠ **If the servers do not all display the same configuration settings—such as “System is AB”—then the databases on the servers are most likely not mirrored and must *not* be brought back up using normal startup procedures. Contact Avid Customer Support *before* proceeding.**

3. Type: **`shutdown`**

   A message similar to the following appears:

```
WARNING! This will stop all devices on this
computer, and close the database.
To prevent loss of work in progress, 'logout all'
first.
Do you really want to do this (y/n)?
```

4. To continue, type: **`y`**

   Press Enter. The screen appears similar to the following:

```
Do you really want to do this (y/n)? y
/exc/shutdown: Stopping all devices
/exc/shutdown: Closing database
```

The shutdown process stops all workstations, wires, and other devices, and no further changes can be made to the database.

5. Enter superuser mode by typing: **`su`**
6. When prompted, enter the password.

   The screen appears similar to the following

```
NRCS-A$ su
password:
SU: so/dev/console
NRCS-A#
```

When the superuser prompt appears, shut down the system by using a form of the `init` command, as shown:

```
NRCS-A# halt
Broadcast message from root (ttySO) (Fri ...)
The system is going down for system halt NOW!
INIT: Stopping atd: [ OK ]
Stopping keytable:  [ OK ]
...
Turning off swap:
Turning off quotas:
Unmounting file systems:
Halting system...
flushing ide devices: hda
System halted.
```

7. Turn off each server.

To start up the system again, follow the procedure in “Starting the System” on page 50.

Starting a System in Single-Server Mode

If the servers were not operating in their normal system configuration, such as AB in dual-server systems, or if they were not shutdown using normal procedures according to instructions in this manual, the databases on the servers may not be mirrored.

If the databases are not mirrored, you *must not* bring the system up using normal start up procedures as instructed in *"Starting the System" on page 50* or you will risk database corruption.

If non-mirrored servers, the system administrator *must* bring the system up in single-server mode and then go through the database re-mirroring process. This section provides the steps for starting a system in single-server mode.

Contact Avid Customer Support for assistance with triple-server systems. It may be possible to start these systems in a dual-server mode, depending on the circumstances of the shutdown.

To start the iNEWS system in single-server mode:

1. Power up or reboot the server that you want the system to run on.
2. Select that server. See "Selecting Servers" on page 5 for more information.
3. Log in as a system operator by typing: **`so`**
4. When prompted, type the password.
5. Do one of the following:
   - To connect server A as a single system, enter the following command:
     ```
     connect a single=a
     ```
   - To connect server B as a single system, enter the following command:
     ```
     connect b single=b
     ```

Notice in the sample message that the "System is A" not AB or ABC.

Messages similar to the following appear:

```
Sep 10 16:25:52 inews-a last message repeated 15 times
...
Sep 10 16:26:44 inews-a work:[2034]workserver Hot-to-go
connect successful for NRCS-A, starting servers...
A is OFFLINE. ID is NRCS
System is A. Master is A.
Disk status is OK. The database is OPEN.
NRCS-A$
```

6. (Optional) Check for edit and order locks if you are restarting the system after a power failure.

   During a power failure, the system may not have had time to remove edit and order locks from the database before shutting down. When you restart the system, remove these locks.

Checking for edit and order locks may take time depending on the size of the database. In an emergency, bypass this step to get the system running. Go back later and remove locks to provide system access. The system can detect invalid locks and will ignore them.

To remove edit and order locks:

a. Select one server.

b. Type: **`dbclean -x .`**

   The `-x` option tells dbclean to skip queues or directories marked with a skip flag, reducing the time it takes to run.

   The period (`.`) after the `-x` causes dbclean to start at the root directory of the database, so that it does not miss any part of the database not marked with a skip flag.

7. Type: **`startup`**

Information similar to the following appears:

```
Checking free space...
Sep 10 15:42:51 NRCS msg: System is being configured
database size 10002352,free 9955000=100%,freelist 1991
Starting NRCS programs...
booting device 100 on port 1
booting server 130
```

The entire newsroom computer system will now be run off the single server. The commands entered on a single-server system for shutting down are the same as those used to shut down a dual-server or triple-server system. To return to a dual or triple-server system, it will be necessary to complete the database re-mirroring process.

Chapter 4

Users

People in your newsroom must have user accounts to use the iNEWS newsroom computer system. Each user account has various user traits associated with it that capture information about the user's interaction with the system—information such as passwords, keyboard preferences, and permissions for story editing.

This chapter tells how the system administrator can access and change user account information from any iNEWS Workstation. However, user traits can also be viewed and modified at the console. The procedures for using the console is covered in Appendix G.

This chapter contains the following main sections:

- Viewing User Accounts
- Modifying User Traits
  - Changing a User's Password
  - User Preferences
  - Simplified Users
- Creating New Users
- Removing User Accounts
- The User Manager Account
- The Database Manager Account
- Logging Out All Users

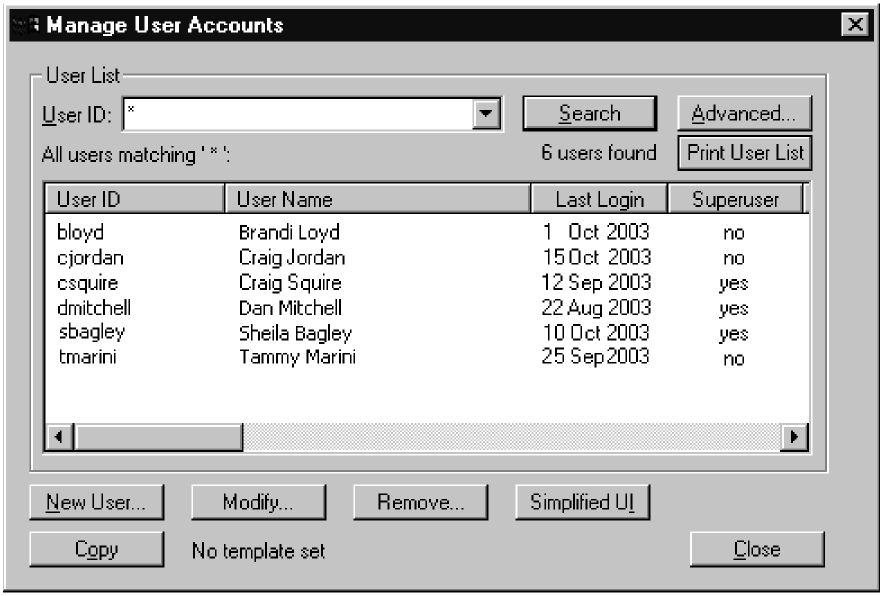
Viewing User Accounts

You must be logged on as a superuser or user manager (umanager) to change user traits. For an explanation of the umanager account and privileges, see "The User Manager Account" on page 92.

To view traits associated with a particular user account:

1. Select Tools > Options > Users.

   The Manage User Accounts dialog box appears.


Manage User Accounts

User List

User ID: *

All users matching ' * ':

6 users found

User ID	User Name	Last Login	Superuser
bloyd	Brandi Loyd	1 Oct 2003	no
cjordan	Craig Jordan	15 Oct 2003	no
csquire	Craig Squire	12 Sep 2003	yes
dmitchell	Dan Mitchell	22 Aug 2003	yes
sbagley	Sheila Bagley	10 Oct 2003	yes
tmarini	Tammy Marini	25 Sep 2003	no

No template set

2. Enter the user name in the User ID field.

An asterisk (*) in the User ID field will result in all user accounts listed when you click Search or press Enter. To search for all users with names that start with a certain letter, type that letter followed by an asterisk.

3. Do one of the following:
   - Click Search.
   - Press Enter.

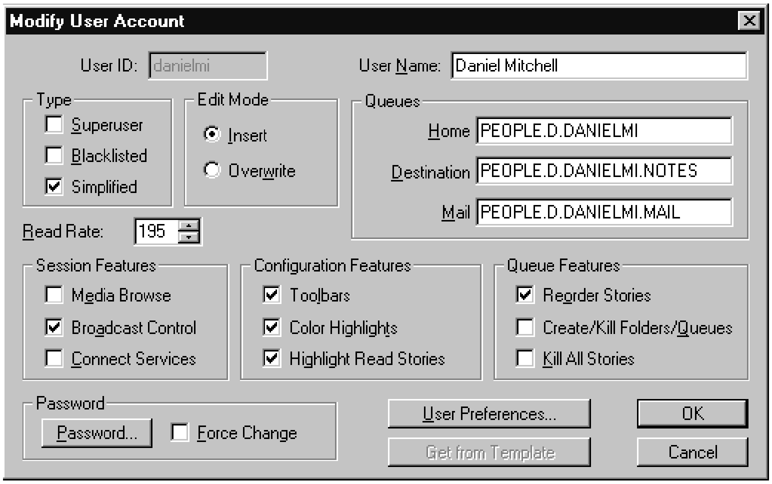
The results of the search appear in the User List field located in the center of the dialog box. The data provided in the field includes: User ID and Name, last time the user logged in, whether the user account has superuser privileges, and so forth. The scroll bar at the bottom of the field may be used to view the rest of the User Account data.

The Print User List button will send the User Account data for the results appearing in the User List field to the printer. There is no option to selectively limit what data is printed.

4. Do one of the following:
   - Double-click the user name in the User List field.
   - Click the name once to select it, and then click the Modify/Display button.

The Modify button will appear with the word Display on it if you do not have authority to modify user accounts. This applies to user managers (umanager) who cannot alter superuser accounts. Also, the traits shown in the dialog box will appear gray to indicate that the information is for viewing only.

The Modify User Account dialog box appears.



Modify User Account

User ID: danielmi

User Name: Daniel Mitchell

Type
- ☐ Superuser
- ☐ Blacklisted
- ☑ Simplified

Edit Mode
- ● Insert
- ○ Overwrite

Queues
- Home: PEOPLE.D.DANIELMI
- Destination: PEOPLE.D.DANIELMI.NOTES
- Mail: PEOPLE.D.DANIELMI.MAIL

Read Rate: 195

Session Features
- ☐ Media Browse
- ☑ Broadcast Control
- ☐ Connect Services

Configuration Features
- ☑ Toolbars
- ☑ Color Highlights
- ☑ Highlight Read Stories

Queue Features
- ☑ Reorder Stories
- ☐ Create/Kill Folders/Queues
- ☐ Kill All Stories

Password
- ☐ Force Change

The dialog box shows user traits associated with the account you chose, such as the user's name, read rate, and mail queue name. All user traits shown in the various sections of the Modify User Account dialog box are explained in detail in "User Traits" on page 63.

Modifying User Traits

You must be logged on as a superuser or user manager (umanager) to change user traits. The superuser account is an iNEWS user account with superuser type access privileges. It is not the same as the superuser mode used at the console. See "User Traits" on page 63 for more information. For an explanation of the umanager account and privileges, see "The User Manager Account" on page 92

To modify a user's traits from an iNEWS Workstation, do the following:

1. Access the Modify User Account dialog box as explained in "Viewing User Accounts" on page 60. An example of the dialog box is shown in Figure 7 on page 63.
2. Select or deselect check boxes, as required. Fill in the fields in the Queues section of the dialog box. See "User Traits" on page 63 for more information.

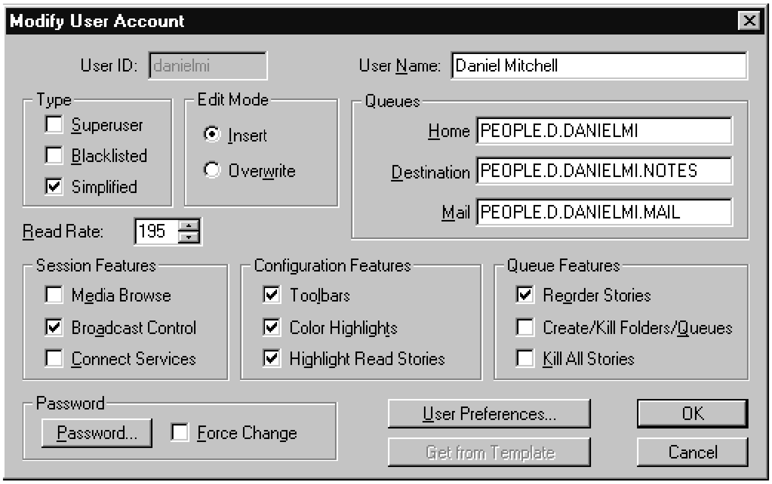
You can click the Get from Template button to copy traits from another pre-defined user account. The template must be selected prior to the start of account modification or the button will be inaccessible (grayed out). See "Copying User Traits to Another User Account" on page 84 for more information.

3. Create or change the password, as explained in "Changing a User's Password" on page 68.
4. Click User Preferences and modify settings, as explained in "User Preferences" on page 69.
5. Click OK to save modifications.

The Cancel button closes the dialog box without saving changes.

User Traits

The Modify User Account dialog box—shown in Figure 7—divides each user’s traits into sections, such as Type, Edit Mode, Queues, and so forth. These sections are explained in the following summary of all user traits.



User ID: danielmi
User Name: Daniel Mitchell

Type
☐ Superuser
☐ Blacklisted
☑ Simplified

Edit Mode
● Insert
○ Overwrite

Queues
Home PEOPLE.D.DANIELMI
Destination PEOPLE.D.DANIELMI.NOTES
Mail PEOPLE.D.DANIELMI.MAIL

Read Rate: 195

Session Features
☐ Media Browse
☑ Broadcast Control
☐ Connect Services

Configuration Features
☑ Toolbars
☑ Color Highlights
☑ Highlight Read Stories

Queue Features
☑ Reorder Stories
☐ Create/Kill Folders/Queues
☐ Kill All Stories

Password
☐ Force Change

Figure 7 Modify User Account Dialog Box

User ID and User Name

The User Name field contains the user’s real name. It should not be confused with the User ID, which the system uses to identify account activity. For instance, a user may have an account with a User ID `danielmi`; his real User Name is Daniel Mitchell, but he will type **`danielmi`**, his User ID, to log on to iNEWS.

Type

The Type section contains the check boxes that determine what type of user account is assigned to the user, and consequently, what privileges. If the check box is selected, the type is applied to that user account.

- **Superuser** – A superuser account allows the user complete access to administration features, such as user accounts, the database, the System directory, and connect sessions to the console that controls the servers.
- **Black Listed** – A black listed account cannot be used to log in to an iNEWS Workstation. This type is used for special accounts, such as `umanager` and `dbmanager`. It is not intended for standard user accounts. Another practical use for this trait is to quickly disable an account of someone leaving or someone who works intermittently.
- **Simplified** – A simplified account sets certain access limits, such as the maximum number of iNEWS Workspaces allowed. See “Simplified Users” on page 78 for more information.

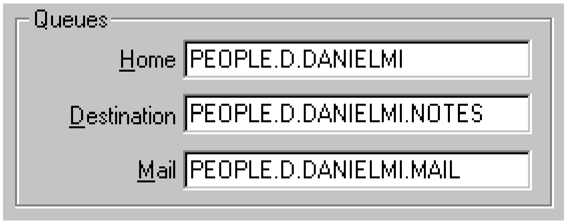
Edit Mode

The Edit Mode section’s radio buttons set up the condition of the PC keyboard’s Insert key at log in.

- **Insert** – The Insert editing mode, when selected, means if a user types text between two characters, the text is inserted at the cursor position without overwriting the character to the right of the cursor.
- **Overwrite** – The Overwrite editing mode, when selected, means each character a user types replaces the next character to the right of the cursor as the cursor moves through the text.

Queues

The iNEWS system provides a People directory in the database file structure that allows system administrators to set up a personal directory and two queues for each user as data storage. The Queues fields in the Modify User Account dialog box indicate the navigation paths (or locations) of the user's personal directory and queues.



Queues

Home PEOPLE.D.DANIELMI

Destination PEOPLE.D.DANIELMI.NOTES

Mail PEOPLE.D.DANIELMI.MAIL

The actual directory and queues are not created here. See "Creating a New User Area in the News Database" on page 82 for more information.

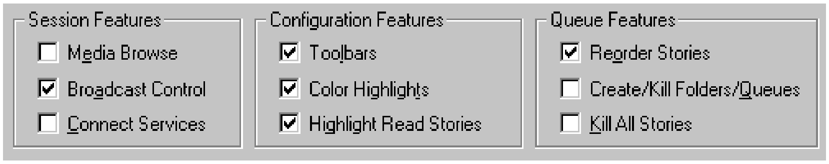
- **Home** – The Home field contains the path to the directory (folder) where the Destination and Mail queues are stored in the database file structure.
- **Destination** – The Destination field contains the path to the queue provided for the user as a storage location, such as Notes.
- **Mail** – The Mail field contains the path to the user's Mail queue, which is where all e-mail to that user is kept in the database.

Read Rate

The Read Rate is the user's spoken reading rate in words per minute. The average English reading rate is 180 words per minute. The iNEWS system uses the read rate of the designated user (presenter) to determine the audio (air) time of a story.

Session/Configuration/Queue Features

There are three sections of the Modify User Account dialog box pertaining to features.



Session Features
- □ Media Browse
- ☑ Broadcast Control
- □ Connect Services

Configuration Features
- ☑ Toolbars
- ☑ Color Highlights
- ☑ Highlight Read Stories

Queue Features
- ☑ Reorder Stories
- □ Create/Kill Folders/Queues
- □ Kill All Stories

The Session Features section defines access to other parts of the system.

- **Media Browse** – The Media Browse check box determines access to the Media Browse application.
- **Broadcast Control**– The Broadcast Control check box is a non-functioning option, reserved for future development.
- **Connect Services**– The Connect Services check box determines access to Connect to Service.

The Configuration Features section pertains to the look of the iNEWS Workspace.

- **Toolbars** – The Toolbars check box determines whether the user can create custom toolbars.
- **Color Highlights**– The Color Highlights check box determines whether the user can customize the highlighting status colors in the queue.
- **Highlight Read ...**– The Highlight Read Stories check box specifies that unread stories in the queue are highlighted on the user's screen. The highlight is removed when the cursor is positioned on the story.

The Queue Features section pertains to access privileges in the Queue panel of the iNEWS Workspace.

- **Reorder Stories** – The Reorder Stories check box determines authority to alter the order of the stories in a queue.

- **Create/Kill ...** – The Create/Kill Folders/Queues check box determines authority to create or delete queues and folders (directories) in the database file structure, as seen in the Directory panel of the iNEWS Workspace.
- **Kill All Stories** – The Kill All Stories check box determines authority to delete all stories from a queue at one time. The data is actually moved from the selected queue to the DEAD queue where it remains (and can be accessed) until purged.

Password

See “Changing a User’s Password” on page 68 for more information.

- **Password** – The Password button opens a dialog box that you can use to set up or change the password protecting access to the user account.
- **Force Change** – The Force Change check box determines whether the user is forced to change the assigned password the next time he logs on.

User Preferences...

The User Preferences button is used to view and/or modify a user’s preferences, such as keyboard, printer, and confirmation settings. See “User Preferences” on page 69 for more information.

Get from Template...

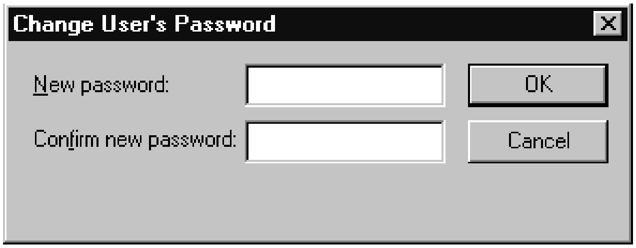
The Get from Template button is only used when copying the traits of one user’s account to another. See “Adding a New User Account” on page 84 for more information.

Changing a User’s Password

To change a user’s password:

1. Click the Password button in the Modify User Account dialog box, shown in Figure 7 on page 63.

   The Change User’s Password dialog box appears:



2. Type the password in the New password field.
3. Confirm the new password by retyping it in the Confirm new password field.

The password must be a minimum of five alphanumeric characters (and a maximum of 12 characters) with no spaces. Use the system profile to set or change a required length for all passwords for your site.

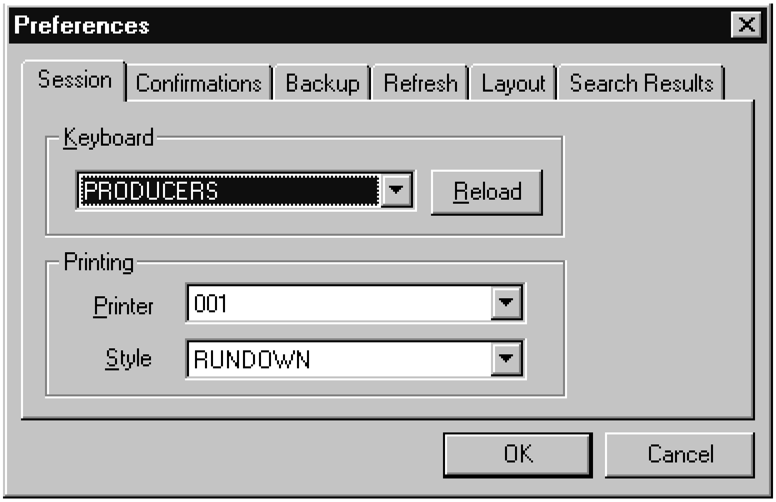
4. Do one of the following:
   - Click OK to store the password for saving after all modifications to the user’s account are done. This will close the dialog box. The process of saving the password is only completed after the OK button on the Modify User Account dialog box is also clicked.
   - Click Cancel to close the dialog box without saving changes.

User Preferences

To change user preferences:

1. Click the User Preferences button in the Modify User Account dialog box, shown in Figure 7 on page 63.

   The Preferences dialog box will appear, containing several tabs.



Keyboard: PRODUCERS

Printing

Printer: 001

Style: RUNDOWN

System administrators can use the Preferences dialog box to set up default preferences for users, such as a default printer. However, the Preferences dialog box is—by default—accessible to users, so they can alter these settings at any time. To learn how the system administrator can limit access to this dialog box and its features, see "Simplified Users" on page 78.

2. Modify the preference settings on each tab as needed. The settings are described in detail in the next sections of this chapter.

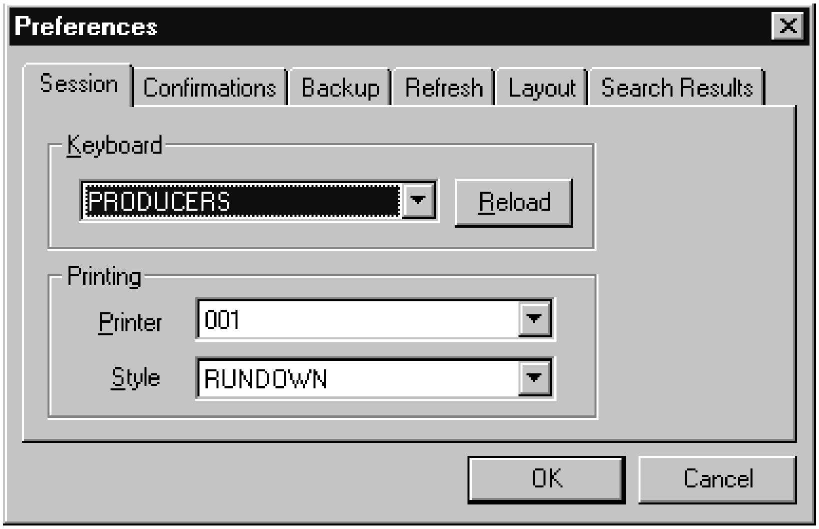
3. Do one of the following:

   - Click OK to store the preferences for saving after all modifications to the user's account are done. This will close the dialog box. The process of saving the preferences is only completed after the OK button on the Modify User Account dialog box is also clicked.

   - Click Cancel to close the dialog box without saving preference changes.

Session Tab

The Session tab has two sections, which system administrators can use to set up default user preferences.



Keyboard

PRODUCERS

Printing

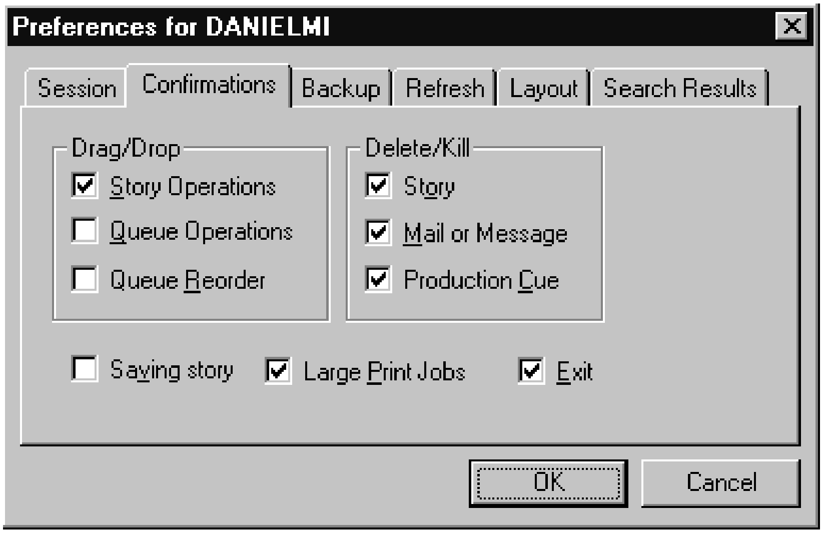
Printer 001

Style RUNDOWN

- **Keyboard** – The keyboard drop-down list contains a list of keyboards (or sets of macros) that can be assigned to the user account as a default for when he logs in. The Reload button allows the keyboard assignment to take effect without having the user log off and back on.
- **Printing** – The Printing drop-down lists contain two lists: one of Printers and another of pre-defined Styles that can be assigned to the user account as defaults for when he prints data from an iNEWS Workstation.

Confirmations Tab

The Confirmations tab is divided into sections and contains check boxes that determine whether iNEWS NRCS prompts the user to confirm a request before completing the command.



Drag/Drop
☑ Story Operations
☐ Queue Operations
☐ Queue Reorder

Delete/Kill
☑ Story
☑ Mail or Message
☑ Production Cue

☐ Saving story ☑ Large Print Jobs ☑ Exit

- **Saving Story** – When Saving Story is checked, iNEWS Workstation will display a confirmation message to save changes before closing an edited story. If you do not select the Saving Story check box, the system automatically saves changes before closing stories.
- **Large Print Jobs**– When Large Print Jobs is checked, iNEWS Workstation will display a confirmation message before sending potentially large print jobs to the printer, such as the text of all stories in a queue.
- **Exit** – When Exit is checked, iNEWS Workstation will display a confirmation message when the user attempts to close the iNEWS NRCS program at the workstation.

Drag/Drop section

- **Story Operations**– When Story Operations is checked, iNEWS Workstation will display a confirmation message before moving a story when you use the mouse to drag it to its new position.
- **Queue Operations**– When Queue Operations is checked, iNEWS Workstation will display a confirmation message before moving all stories in a queue when you use the mouse to drag them to their new position.
- **Queue Reorder** – When Queue Reorder is checked, iNEWS Workstation will display a confirmation message before moving a story to a new location in the same queue.

Delete/Kill section

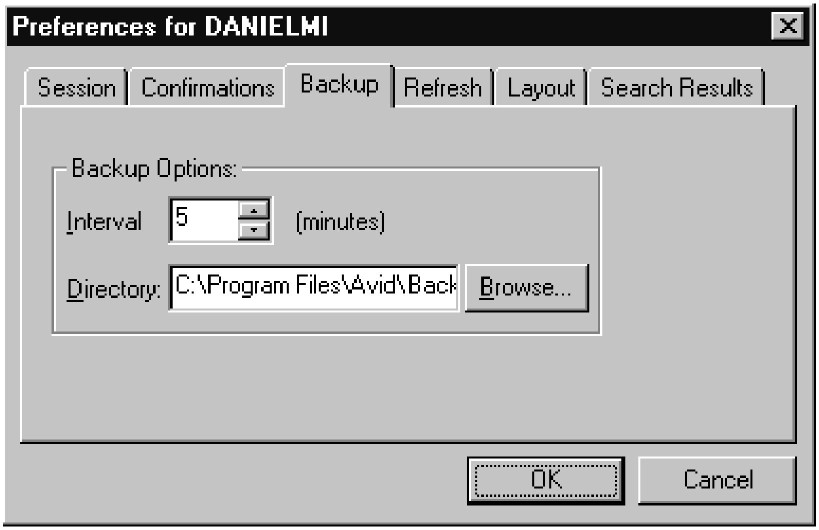
- **Story** – When Story is checked, iNEWS Workstation will display a confirmation message before deleting a story or stories.
- **Mail or Message** – When Mail or Message is checked, iNEWS Workstation will display a confirmation message before deleting e-mail or instant messages.

A production cue marker □ (shown here) appears in the Story Text panel. These markers are also known as grommets.

- **Production Cue** – When Production Cue is checked, iNEWS Workstation will display a confirmation message before deleting a production cue and its marker from a story.

Backup Tab

The Backup tab defines the settings for the iNEWS Workstation to automatically back up work in a current session to a specified location at specific time intervals.



Preferences for DANIELMI

Backup Options:

Interval 5 (minutes)

Directory: C:\Program Files\Avid\Back

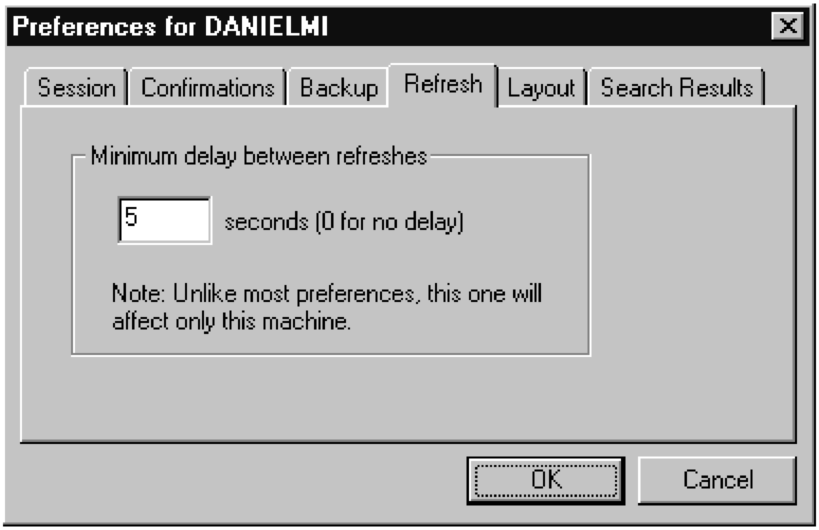
- **Interval** – Interval specifies the number of minutes between story backups. The default is 10 minutes. Set the interval to 0 (zero) minutes to turn off the automatic backup feature.
- **Directory** – Directory specifies the path name—the location in which iNEWS Workstation should store backup copies of stories. The location should be a directory (folder) on the harddrive of the local PC/workstation. You can type the path in manually, or click the Browse button to select the directory from the Browse dialog box.

Refresh Tab

The Refresh tab sets the seconds for refreshing the screen at the workstation.

This preference is unique because it only affects the workstation on which it is set.

Set the number to zero (0) for instant updating—that is, if you do not want to delay refreshes.



Preferences for DANIELMI

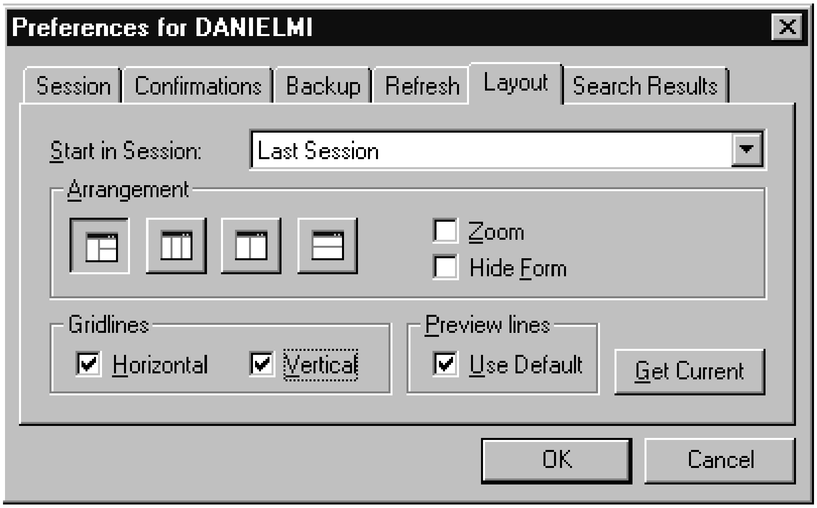
Minimum delay between refreshes

5 seconds (0 for no delay)

Note: Unlike most preferences, this one will affect only this machine.

Layout Tab

The Layout tab is divided into sections and contains buttons and check boxes that determine the layout of panels and workspaces in the iNEWS Workstation main window.



Preferences for DANIELMI

Session | Confirmations | Backup | Refresh | Layout | Search Results

Start in Session: Last Session

Arrangement

□ Zoom

□ Hide Form

Gridlines

☑ Horizontal ☑ Vertical

Preview lines

☑ Use Default

- **Start in Session** – The Start in Session field specifies the default session that will appear on screen when the user logs in to iNEWS Workstation.
- **Get Current** – The Get Current button will reset the preferences on the Layout tab to what was set when the dialog box opened.

Arrangement section

- – iNEWS Workstation, depending on which Arrangement button is selected, will display the panels of the iNEWS Workspace accordingly.
- **Zoom** – When Zoom is checked, iNEWS Workstation will display the iNEWS Workspace in zoom mode—that is, zoomed into one of the three panels: Directory, Queue or Story.

- **Hide Form** – When Hide Form is checked, iNEWS Workstation will display the Story panel with its Story Form panel hidden. The user can choose to show the Story Form panel by selecting the option to show the form from the Story drop-down menu.

Gridlines section

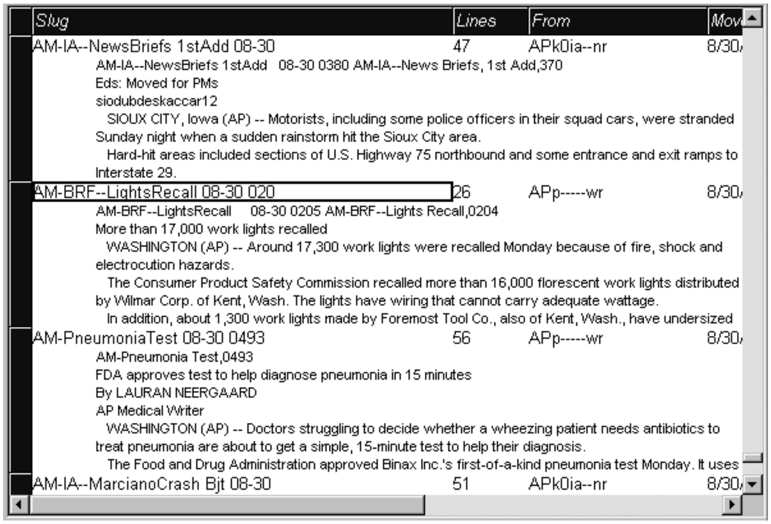
- **Horizontal** – When Horizontal is checked, iNEWS Workstation will display horizontal gridlines between rows in the Queue panel.
- **Vertical** – When Vertical is checked, iNEWS Workstation will display vertical gridlines between columns in the Queue panel.

Preview Lines

- **Use Default** – When Use Default is checked, iNEWS Workstation will display the default number of preview lines for each story in the Queue panel as defined by the queue's properties. When Use Default is not checked, every queue will display only one line of information per story in the Queue panel.

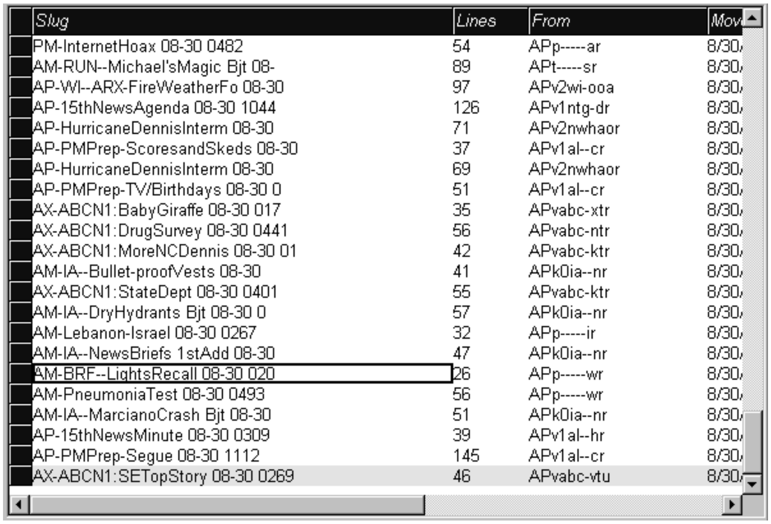
Users can manually override the Preview Lines setting by selecting the Story Preview option in the View drop-down menu. In the Story Preview dialog box, the user can override the default setting by typing in a number in the Lines to preview field. This overrides the setting for the queue while displayed. Once the user exits the queue, the queue's default setting is reinstated. If the user wants to return to the default setting manually (as defined in the queue's properties), the user can click the Default button in the Story Preview dialog box.

The following figures show the difference between Queue panel displays with and without Preview lines. The first is the display using the default of seven preview lines, as defined in the queue's properties.



Slug	Lines	From	Mov
AM-IA--NewsBriefs 1stAdd 08-30 AM-IA--NewsBriefs 1stAdd 08-30 0380 AM-IA--News Briefs, 1st Add,370 Eds: Moved for PMs siodubdeskaccar12 SIOUX CITY, Iowa (AP) -- Motorists, including some police officers in their squad cars, were stranded Sunday night when a sudden rainstorm hit the Sioux City area. Hard-hit areas included sections of U.S. Highway 75 northbound and some entrance and exit ramps to Interstate 29.	47	APk0ia--nr	8/30
AM-BRF--LightsRecall 08-30 020 AM-BRF--LightsRecall 08-30 0205 AM-BRF--Lights Recall,0204 More than 17,000 work lights recalled WASHINGTON (AP) -- Around 17,300 work lights were recalled Monday because of fire, shock and electrocution hazards. The Consumer Product Safety Commission recalled more than 16,000 florescent work lights distributed by Wilmar Corp. of Kent, Wash. The lights have wiring that cannot carry adequate wattage. In addition, about 1,300 work lights made by Foremost Tool Co., also of Kent, Wash., have undersized	26	APp-----wr	8/30
AM-PneumoniaTest 08-30 0493 AM-Pneumonia Test,0493 FDA approves test to help diagnose pneumonia in 15 minutes By LAURAN NEERGAARD AP Medical Writer WASHINGTON (AP) -- Doctors struggling to decide whether a wheezing patient needs antibiotics to treat pneumonia are about to get a simple, 15-minute test to help their diagnosis. The Food and Drug Administration approved Binax Inc.'s first-of-a-kind pneumonia test Monday. It uses	56	APp-----wr	8/30
AM-IA--MarcianoCrash Bjt 08-30	51	APk0ia--nr	8/30

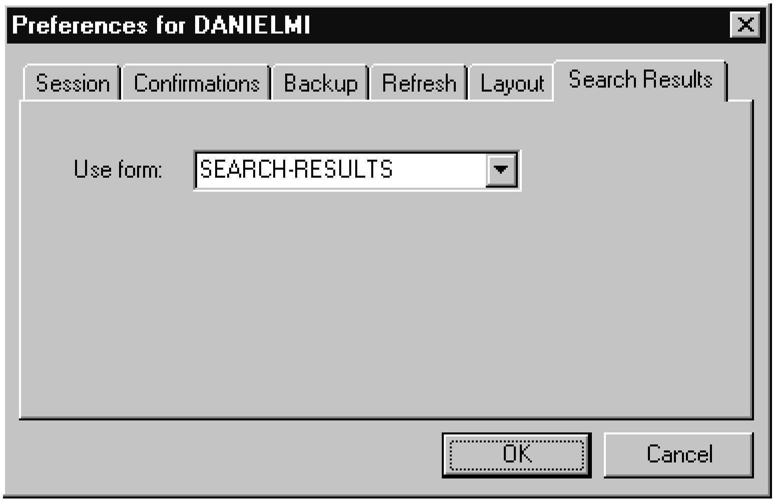
The second figure shows the Queue panel display without preview lines. This is the view when "Use Default" is unchecked, unless otherwise specified.



Slug	Lines	From	Mov
PM-InternetHoax 08-30 0482	54	APp-----ar	8/30
AM-RUN--Michael'sMagic Bjt 08-	89	APt-----sr	8/30
AP-WI--ARX-FireWeatherFo 08-30	97	APv2wi-ooa	8/30
AP-15thNewsAgenda 08-30 1044	126	APv1ntg-dr	8/30
AP-HurricaneDennisInterm 08-30	71	APv2nwhaor	8/30
AP-PMPrep-ScoresandSkeds 08-30	37	APv1al--cr	8/30
AP-HurricaneDennisInterm 08-30	69	APv2nwhaor	8/30
AP-PMPrep-TV/Birthdays 08-30 0	51	APv1al--cr	8/30
AX-ABCN1:BabyGiraffe 08-30 017	35	APvabc-xtr	8/30
AX-ABCN1:DrugSurvey 08-30 0441	56	APvabc-ntr	8/30
AX-ABCN1:MoreNCDennis 08-30 01	42	APvabc-ktr	8/30
AM-IA--Bullet-proofVests 08-30	41	APk0ia--nr	8/30
AX-ABCN1:StateDept 08-30 0401	55	APvabc-ktr	8/30
AM-IA--DryHydrants Bjt 08-30 0	57	APk0ia--nr	8/30
AM-Lebanon-Israel 08-30 0267	32	APp-----ir	8/30
AM-IA--NewsBriefs 1stAdd 08-30	47	APk0ia--nr	8/30
AM-BRF--LightsRecall 08-30 020	26	APp-----wr	8/30
AM-PneumoniaTest 08-30 0493	56	APp-----wr	8/30
AM-IA--MarcianoCrash Bjt 08-30	51	APk0ia--nr	8/30
AP-15thNewsMinute 08-30 0309	39	APv1al--hr	8/30
AP-PMPrep-Segue 08-30 1112	145	APv1al--cr	8/30
AX-ABCN1:SETopStory 08-30 0269	46	APvabc-vtu	8/30

Search Results Tab

The Search Results tab allows you to set the default form used in the Queue panel of the Search Results workspace.



Use form: SEARCH-RESULTS

- **Use form** – iNEWS Workstation will use the form selected from the Use form drop-down list when displaying the results from searches in iNEWS NRCS. The forms you can choose from are those created and stored in `SYSTEM.FORMS`. See “Creating Forms” on page 204 for more information.

Simplified Users

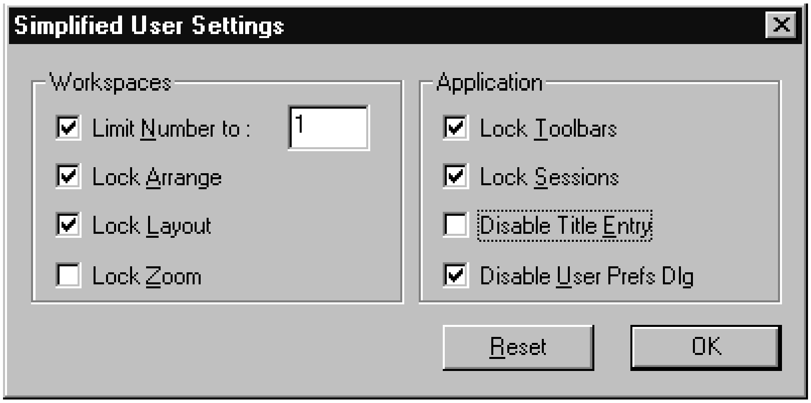
A simplified user is one that has certain limitations pertaining to the iNEWS Workstation. As the system administrator, you can define the limitations and then assign them to users. Only one set of limitations can be defined, which is then applied to all user accounts with the simplified user trait. In other words, either a user account has the simplifed user trait, with its designated limitation settings, or it does not.

Some of the Simplified User Settings lock the user’s preferences to those defined by the system administrator using the Preferences dialog box. See “User Preferences” on page 69 for more information.

To set up or modify the simplified user limitations:

1. Access the Modify User Account dialog box as explained in “Viewing User Accounts” on page 60. An example of the dialog box is shown in Figure 7 on page 63.
2. Click the Simplified UI button.

   The Simplified User Settings dialog box appears.



Simplified User Settings

Workspaces
- ☑ Limit Number to : 1
- ☑ Lock Arrange
- ☑ Lock Layout
- □ Lock Zoom

Application
- ☑ Lock Toolbars
- ☑ Lock Sessions
- □ Disable Title Entry
- ☑ Disable User Prefs Dlg

   The dialog box divides the settings into two sections, which are explained in the next sections of this chapter.

3. Select or deselect check boxes, as required.
4. Click the OK button to save the settings and close the Simplified User Settings dialog box.

Use the Reset button to discard changes and reset the check box settings to what they were when the dialog box opened.

Workspaces Section

The Workspaces section of the dialog box provides settings that pertain to the arrangement and quantity of workspaces within the iNEWS Workstation’s main window.

- **Limit Number to**:– When Limit Number to is checked, iNEWS Workstation will prevent the user from opening more workspaces than the number specified. This limit does not apply to the workspaces opened using the Urgent Wire and Mail buttons. However, this does lock the Urgent Wire workspace so the user is unable to navigate to other queues or directories in that workspace.

- **Lock Arrange** – When Lock Arrange is checked, iNEWS Workstation will prevent the user from altering the arrangement of panels in the Workspace. This disables the Arrangement buttons on the standard Layout toolbar. The setting is locked into the default arrangement as defined in the user's User Account Preferences.
- **Lock Layout** – When Lock Layout is checked, iNEWS Workstation will prevent the user from altering the layout of workspaces in the iNEWS Workstation main window. This disables the Layout buttons on the standard Layout toolbar. The setting is locked into the default layout as defined in the user's User Account Preferences.
- **Lock Zoom** – When Lock Zoom is checked, iNEWS Workstation will prevent the user from altering the zoom of panels in the iNEWS Workspace. The setting is locked into the default as defined in the user's User Account Preferences.

Application Section

The Application section of the dialog box provides settings that pertain to accessing certain iNEWS features at any workstation.

- **Lock Toolbars** – When Lock Toolbars is checked, iNEWS Workstation will prevent the user from altering the display of toolbars.
- **Lock Sessions** – When Lock Sessions is checked, iNEWS Workstation will prevent the user from creating or altering sessions. The user will be locked to sessions created prior to the Lock Sessions being applied to the user account.

- **Disable Title Entry** – When Disable Title Entry is checked, iNEWS Workstation will prevent user access to the Title Entry dialog box, used to enter production cues in stories, and the Edit Title Entry Template dialog box, used to create CG templates for the Title Entry feature.
- **Disable User Prefs...**– When Disable User Prefs Dlg is checked, iNEWS Workstation will prevent user access to the Preferences dialog box. The user will be unable to alter user preferences, such as default printer settings. The user will be locked to settings already in place at the time Disable User Prefs Dlg is applied to the user account. See “User Preferences” on page 69 and “Simplified Users” on page 78 for more information.

Creating New Users

To set up new users in iNEWS NRCS, you need to follow these three procedures, which are explained in detail in this section:

1. Create areas in the iNEWS NRCS database file structure where the user can store notes and receive mail. See “Creating a New User Area in the News Database” on page 82 for more information.
2. Add a new user account so that your system recognizes the user. This includes setting up the user traits associated with the account. See “Adding a New User Account” on page 84 for more information.
3. Enable the new user to receive mail by adding him or her to the appropriate group. See “Enabling a New User to Receive Mail” on page 87 for more information.

Creating a New User Area in the News Database

Each user needs an area in the database to keep notes and to receive e-mail. Usually, these areas are separate queues called Notes and Mail. These queues are kept in a sub-folder—with the user's account name—in the People directory.

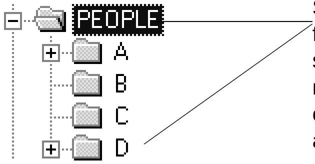
The common practice is to separate the first level of People sub-folders by using the first initial of the user's last name—otherwise, since the system is limited to 250 user names in the People directory, your site may eventually reach the limit.

For instance, the Home directory for user DANIELMI would be: `PEOPLE.D.DANIELMI`. The Notes and Mail queues would be: `PEOPLE.D.DANIELMI.NOTES` and `PEOPLE.D.DANIELMI.MAIL`, respectively.

You must be logged on to iNEWS NRCS with a user account that has authority to create new directories and/or queues to complete this procedure.

To create a new directory (folder):

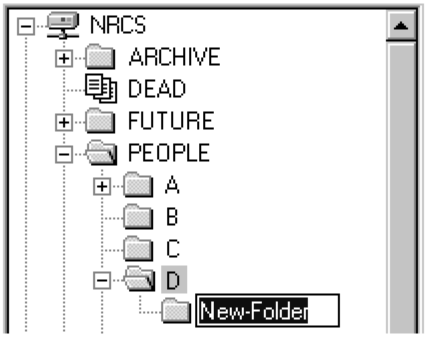
1. Using the database file structure in the Directory panel of the iNEWS Workspace, select the directory under which you want the new folder to be created, as shown in the following example.



Select the PEOPLE folder, then the folder with the alphabetic name corresponding to the first letter of the user's name, such as D. The new folder will be created in the D directory (folder), such as DANIELMI.

2. Do one of the following:
   - Select Tools > New Folder.
   - Right-click on the folder in the Directory panel, and select New Folder from the pop-up menu.

A new folder is created under the selected folder. The New-Folder appears at the end of the list of existing folders.The title, New-Folder, is highlighted, so you can rename it.

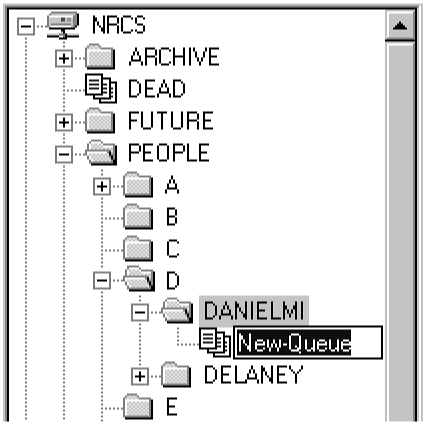


3. Type the name of the new folder.
4. Press Enter to save the new folder name. You can now open the new folder (directory) by double-clicking on it.

To create a new queue, such as the Notes and Mail queues for user DANIELMI:

1. Navigate to and select the folder created to hold the queue you want to create, such as `PEOPLE.D.DANIELMI`.
2. Do one of the following:
   - Select Tools > New Queue.
   - Right-click on the folder in the Directory panel, and select New Queue from the pop-up menu.

A new queue appears under the folder you selected. The New-Queue appears at the end of the list of existing queues.The title, New-Queue, is highlighted, so you can rename it.



3. Type the name of the new queue, such as MAIL or NOTES.
4. Press Enter to save the new queue name. You can now open the new queue by double-clicking on it.

There are some restrictions pertaining to adding directories and queues in the database. See "Adding a Directory or Queue" on page 99 for more information.

Adding a New User Account

When adding a new user account, you have the option of creating the account from scratch, or copying the traits of another user account already in the system. Both options are covered in this section.

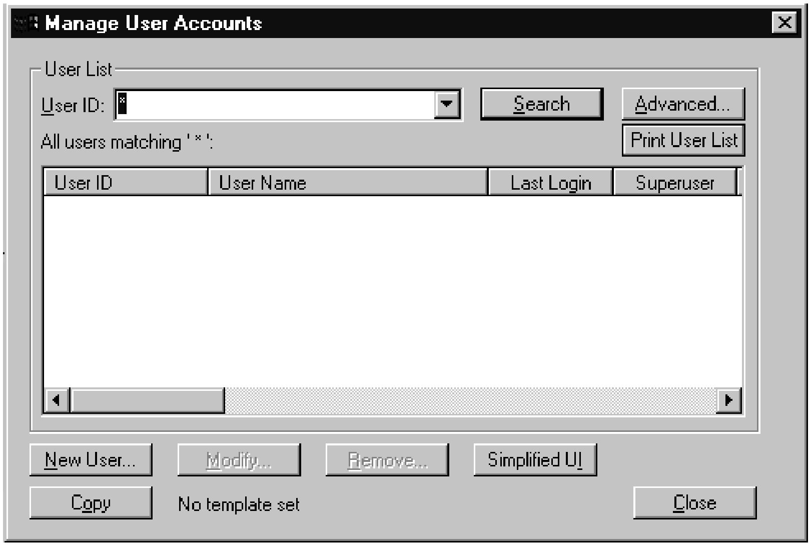
Copying User Traits to Another User Account

Before you can copy user traits from one user account to another, you must first select the account you want to copy—that is, select an account to use as a template for the new account you are going to create.

To define an account as a template for copying to other accounts:

1. Select Tools > Options > Users.

   The Manage User Accounts dialog box appears.



User ID: *

All users matching ' * ':

No template set

Figure 8 Manage User Accounts Dialog Box

If you do not have superuser privileges, which permits access to the Manage User Accounts dialog box, the system will prompt you for the umanager password. If the umanager account does not exist in the system, then access is only allowed to system administrators—that is, those with superuser privileges. See "The User Manager Account" on page 92 for more information. Also, see "User Traits" on page 63 for more information on the superuser trait and its privileges.

2. Search for the user account you want to copy—that is, use as a template.
3. Select the User ID when it appears in the search results list.
4. Click Copy. The User ID should appear to the right of the button. When no template is selected for copying, the words, "No template set," appears to the right of the Copy button.

You are now ready to create a new user account and copy the user traits, or copy the traits to an account that already exists in the system.

Creating a New User Account

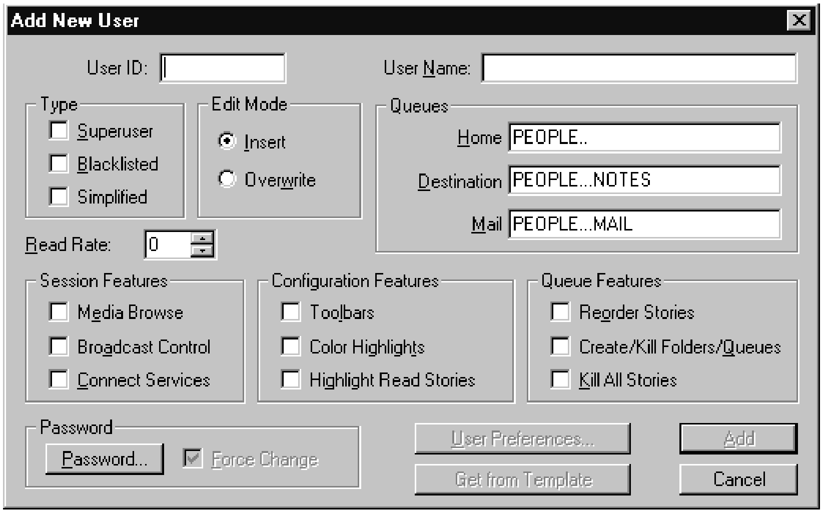
To add a new user account:

1. Select Tools > Options > Users.

   The Manage User Accounts dialog box appears as shown in Figure 8 on page 85.

2. Click New User.

   The Add New User dialog box appears.



Add New User

User ID:

User Name:

Type: □ Superuser □ Blacklisted □ Simplified

Edit Mode: ● Insert ○ Overwrite

Queues: Home PEOPLE.. Destination PEOPLE...NOTES Mail PEOPLE...MAIL

Read Rate: 0

Session Features: □ Media Browse □ Broadcast Control □ Connect Services

Configuration Features: □ Toolbars □ Color Highlights □ Highlight Read Stories

Queue Features: □ Reorder Stories □ Create/Kill Folders/Queues □ Kill All Stories

Password: ☑ Force Change

3. In the User ID field, enter the login name of the user account.

4. (Optional) In the User Name field, enter the user’s real name.

5. Do one of the following:

   - Click the appropriate check boxes for the user traits you want to set. See “User Traits” on page 63 for more information.

The Get from Template button is enabled when a user account is selected as a template via the Copy button on the Manage User Accounts dialog box.

- Click the Get from Template button to copy traits for another pre-define user account. See "Copying User Traits to Another User Account" on page 84 for more information.

6. Click Add to add the new user account.

Enabling a New User to Receive Mail

This section gives you the basic steps you need to follow to enable a new user to receive mail. If you need more information, refer to the information on groups in Chapter 6.

To enable a new user to receive mail:

- Add the user to a group in `SYSTEM.GROUPS`. When the group story is saved, the mail delivery files are updated automatically.

  A group story is one that you created in the system for groups in your organization such as newscasters, staff, or reporters. By adding the user to a group, the user inherits the security traits that were set up for that group.

Searching for User Information

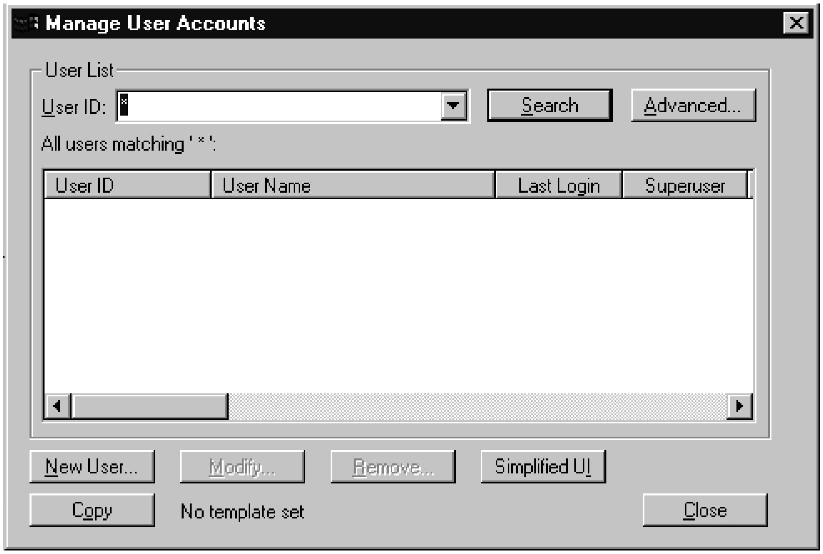
A search capability in iNEWS NRCS enables you to search for information about a particular user by specifying a user name and including certain criteria to refine the search. You can specify any alphanumeric characters in the search. You can use the asterisk (*), which acts as a wildcard, only as a suffix—not as a prefix or in the middle of a word. Used alone, the wildcard is equivalent to "all." Used with additional information, the wildcard serves as a parameter to the search.

For instance, if you are searching for all user accounts beginning with Dave, type **`Dave*`** (no space).

To search for information about users:

1. Select Tools > Options > Users.

   The Manage User Accounts dialog box appears.

2. Type the name of the user in the User ID field and click Search.

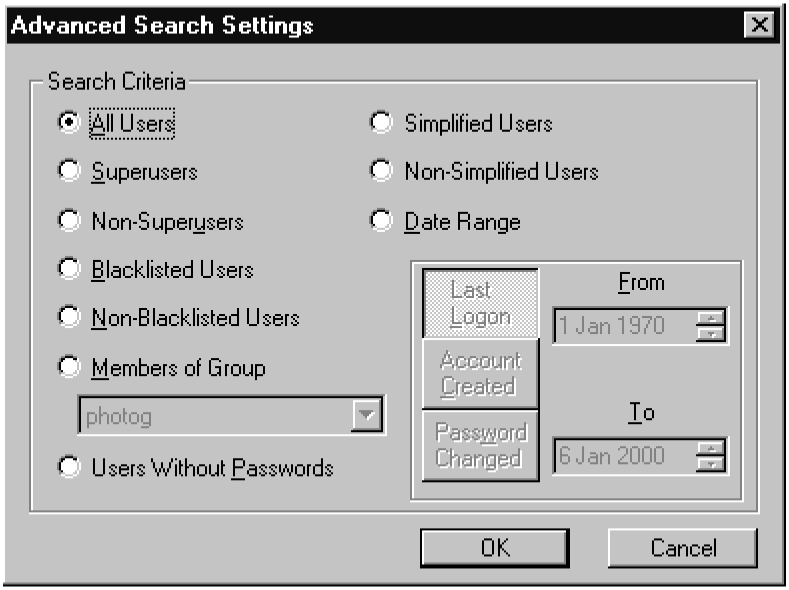
   If you search with a wildcard character and the system finds multiple matches, a results box appears listing all “hits”. You can specify one by double-clicking on it; this opens the specified user’s information in another dialog box.

   The results of the search appear in the User List field in the center of the dialog box.

   To quickly locate a name in the User List, type the name you want; the list will be positioned to a point matching what you type. User names are not case-sensitive, so you can use lowercase. To prevent you from having to type the whole name, the system automatically tries to match the letters you supply with a name in the list. Continue typing until the system locates the name you want.

3. Click Advanced to refine your search for a user.

The Advanced Search Settings dialog box appears with the All Users setting selected by default.



Advanced Search Settings

Search Criteria

● All Users

○ Superusers

○ Non-Superusers

○ Blacklisted Users

○ Non-Blacklisted Users

○ Members of Group: photog

○ Users Without Passwords

○ Simplified Users

○ Non-Simplified Users

○ Date Range

From: 1 Jan 1970

To: 6 Jan 2000

4. Select from the settings to specify additional search criteria. The criteria options are explained in detail below.

Advance Search Criteria

Setting	Description/Choice
All Users	Search through all user accounts on the server.
Superusers	Confine the search to user accounts with the superuser attribute.
Non-Superusers	Confine the search to user accounts without the superuser attribute.
Blacklisted Users	Confine the search to user accounts with the blacklisted attribute.
Non-Blacklisted Users	Confine the search to user accounts without the blacklisted attribute.

Setting	Description/Choice
Members of Group	Confine the search to user accounts belonging to the security group you select from the drop-down list.
Users Without Password	Confine the search to user accounts that do not have passwords.
Simplified Users	Confine the search to user accounts that have the simplified user trait.
Non-Simplified Users	Confine the search to user accounts that do not have the simplified user trait.
Date Range	Confine the search to dates you specify in the From and To fields and the kind of date range: When the user last logged in When the user account was created When the password changed Specify the date by either clicking the arrow buttons or typing the dates in `ddmmmyyyy` format. Indicate the day with two digits, the month with three letters, and the year with four digits.

5. Click OK to confirm your advanced search setting or click Cancel to cancel it.
6. Click Search to initiate the search.

   A progress bar appears if a lengthy search is underway.

The results of the search appear in the User List field in the center of the Manage User Accounts dialog box.

Above the field, iNEWS NRCS will display a brief statement indicating what matched the search criteria, such as:

```
All users matching '*':
```

Use the horizontal scroll bar at the bottom of the User List field to view the information headings, such as User Name, Last Login, Read Rate, and so forth.

Removing User Accounts

You must have access to the Manage User Accounts dialog box to remove user accounts. In other words, you must be logged on as a system administrator—that is, with an account that has superuser privileges—or successfully enter the user manager (umanager) password to remove user accounts.

Before removing user accounts from the system, remove the users' names from the stories in `SYSTEM.GROUPS`*. This reduces the potential for mail bounce back errors.*

To remove user accounts:

1. Select Tools > Options > Users.

   The Manage User Accounts dialog box appears. See Figure 8 on page 85.

If you are logged on as a system administrator, the Manage User Accounts dialog box will appear automatically, following step 1. Otherwise, iNEWS NRCS will prompt you for the umanager password (if that account exists in the system) before allowing access to the dialog box.

2. Enter the user name in the User ID field.
3. Click Search or press Enter. The results of the search appear in the User List field.
4. Select the name of the user you want to remove by clicking the name in the User List field.
5. Click Remove.
6. Click OK to remove the user or Cancel to stop the removal.

After removing the user, you will also need to remove the user's Home directory and the Notes and Mail queues by deleting them from the system's database file structure.

The User Manager Account

A user manager has some special system privileges, but not as many as a system administrator/superuser. For instance, user managers can add, remove, or change any user account, except those with the superuser attribute.

There can be only one user manager account in iNEWS NRCS; however, several users may acquire user manager privileges by successfully entering the user manager password when prompted. Unlike a superuser account, the user manager account is not used to log in to the system. Users with user manager privileges log in to their own accounts, as usual. When they need to do user manager tasks, they must access the Manage User Accounts dialog box, by typing in the user manager password.

To create a user manager account:

1. Create a user account as explained in "Adding a New User Account" on page 84.
2. Give the account a User ID: **`umanager`**.
3. Assign a password to this account.
4. Make the umanager account blacklisted so that no one can use it to log in.
5. Assign the account superuser status to prevent a user manager (or anyone who is not a superuser) from changing its password.
6. Tell user managers the password for the umanager account.

For further security, a write-access group should be assigned to `SYSTEM.GROUPS` and only those with user manager privileges should be included in the group. If no write-access group is assigned to `SYSTEM.GROUPS`, then all users who know the umanager password can access the Manage User Accounts dialog box by selecting Tools > Options > Users. After a write-access group is set up, any user

managers with nonsuperuser accounts must be included in the write-access group for `SYSTEM.GROUPS` or they will not be allowed access to the Manage User Accounts dialog box. See "Groups Tab" on page 129, "Users as Members of a Group" on page 166, and "Restricting Both Reading and Writing" on page 177 for more information.

The Database Manager Account

A database manager has some special system privileges, but not as many as a system administrator/superuser. For instance, database managers can add, remove, or change any database trait to a directory or queue in the iNEWS NRCS database from a workstation. Database managers also have access to the CG Template Editor, used to create and modify template for the Title Entry feature.

There can be only one database manager account in iNEWS NRCS; however, several users may acquire database manager privileges by successfully entering the database manager password when prompted. Unlike a superuser account, the database manager account is not used to log in to the system. Users with database manager privileges log in to their own accounts, as usual. When they need to do database manager tasks, they must access the Directory/Queue Properties dialog box. To modify anything in the dialog box, they must provide the database manager password.

To create a database manager account:

1. Create a user account as explained in "Adding a New User Account" on page 84.
2. Give the account a User ID: **`dbmanager`**.
3. Assign a password to this account.
4. Make the dbmanager account blacklisted so that no one can use it to log in.
5. Assign the account superuser status to prevent a user manager (or anyone who is not a superuser) from changing the dbmanager password.

6. Tell database managers the password for the database manager account.

Logging Out All Users

Sometimes maintenance of the iNEWS system requires you to first log out all users before completing a certain task, such as shutting down the system. This section explains the best way to log out all users from the console.

To log out all users:

1. Select all servers. See “Selecting Servers” on page 33 for more information.

The offline command prevents users from logging in.

2. Take the system offline by typing: **`offline`**

   Use **`offline silent`** if you want to suppress output of messages from new user login attempts.

3. Use the broadcast command to send a message warning all users that are logged in that they must log out and why. If the system will be shut down, include the time it will be shut down. Here are a few examples:

```
NRCS-A$ broadcast WARNING\! System shut down at 12PM
NRCS-A$ broadcast LOG OUT\! System shut down in 5 min.
NRCS-A$ broadcast -d LOG OUT\! Shut down in 10 seconds.
```

The backslash (\) before the exclamation point (!) is required because the exclamation point is a reserved character in Linux.

You may add `-d` after `broadcast` and before the message if you want your message to appear at the workstation as a popup message.

4. At the specified shutdown time, check the system for any users still logged in by selecting one server and typing: **`list s`**

A message similar to the following appears:

```
G505 miller        A
G500 allen         B
G507 stevens       A
R801 stevens       A
```

The `list s` command lists:

- The device controlling the session
- The user account used for the session
- The server servicing the session

5. Check the system for any connect session users, by typing: **`list s`**

   If there are any connect session users, a message similar to the following will appear:

```
G507 stevens       A
R801 stevens       A
```

Connect session will show up as an ‘R’ device. The system administrator must notify them of the shutdown by some other means, such as by telephone.

You must ensure that all users are logged out if shutting down the system. If a user is in a connect session when the system is shut down, the user’s workstation stops, the session is disconnected, and any unsaved work is lost. Ensure any connect session users have logged out before you continue the shutdown procedure.

6. Select all servers.
7. Log out all users by typing: **`logout all`**

If a user is editing a story, the system saves the file and then logs out the user. The command will not log out users who are in connect sessions.

Chapter 5

Stories Queues, and Directories

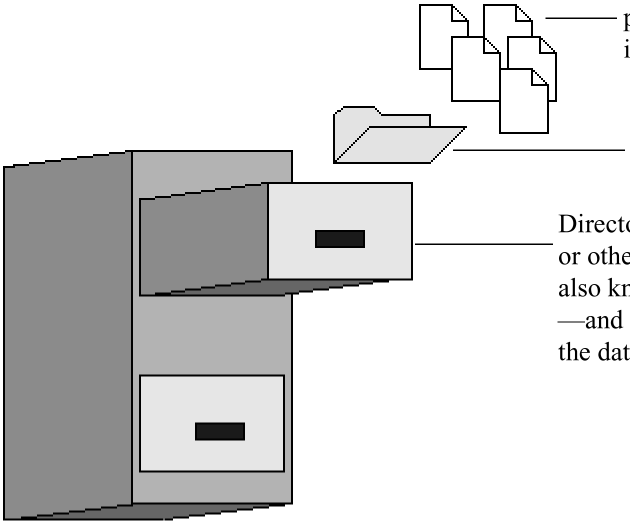
All relevant iNEWS information—except the system software and the Linux files—is stored in the iNEWS NRCS database. This database contains scripts, rundowns, e-mail, messages, users, groups and their memberships, and any other kind of information that is entered into the system. Some database maintenance, such as altering the database file structure and traits, can be done from the console or from any iNEWS Workstation. This chapter focuses on maintenance tasks at the workstation when possible. However, when a task can be done at both the workstation and console, the console information is provided as an appendix in this manual. See procedures for using the console in Appendix G.

This chapter contains the following main sections:

- Overview
- Adding a Directory or Queue
- Viewing Database Traits
- Changing Database Traits
- Database Traits Summary
- Locking and Unlocking

Overview

The iNEWS NRCS database is where all the data, such as scripts, rundowns, user accounts, and so forth, are stored. The database is structured in a way to promote ease of maintenance. For instance, it contains a file structure made up of directories, that contain other folders or queues, which in turn contain stories. It works similar to a filing cabinet.

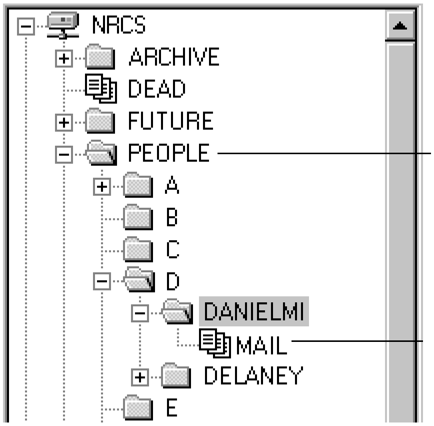


Stories with text and production cues are in queues.

Queues are stored in directories.

Directories contain queues or other subdirectories—also known as sub-folders—and make up the root of the database file structure.

In iNEWS NRCS, the database file structure can be seen (depending on your access privileges) in the Directory panel of the iNEWS Workspace.



Directories, also known as folders, are indicated by manila folders, such as this People directory.

Queues are indicated by three overlapping pieces of paper, such as this Mail queue.

The scripts, notes, e-mail, news stories, and other kinds of information are all called stories; each story is associated with a particular queue, and each queue with a single directory. A directory can also be contained within another directory in which case it would be called a subdirectory or subfolder of that directory.

Directories and queues have database traits that determine how the system manages the stories they contain, and also what actions users can perform with those stories.

For instance, by modifying the database traits of a particular queue, you can:

- Set its stories to read-only
- Restrict who can read them
- Enable the system to routinely purge stories in the queue that are older than a certain number of days

Database traits are used in conjunction with the user traits discussed in Chapter 4. For instance, stories in a queue with a security restriction set as a database trait can be read only by users whose user traits include the appropriate security level.

Adding a Directory or Queue

Before you can modify the database traits of queues or directories, the queues and directories must exist in the database. If they do not, you can create them from the iNEWS Workstation.

A Few Restrictions:

There are certain restrictions you should be aware of when creating new directories and queues.

- The total path name of a directory, including the separator characters (.), cannot exceed 60 characters.
- The total path name of a queue, including the separator characters (.), cannot exceed 62 characters.

- Each branch of a path name—that is the name between periods—cannot exceed 20 characters.
- The number of directory levels available is limited to 31.
- You cannot use a space or period in directory or queue names.
- The system has a limit of 250 queues per directory.

The 250 limit also applies to first-level sub-folders in a directory. If you need more than 250 in a directory, such as personal employee folders, create alphabetic sub-folders on the first level, then place the personal folders in the matching sub-folder. For instance, in a given directory, you could have 26 sub-folders, each with one of the 26 letters of the English alphabet as a name. This enables you to have 250 personal folders in each of the 26 alphabetic sub-folders; that's enough personal folders for up to 6,500 employees. See "Creating a New User Area in the News Database" on page 82 for more information.

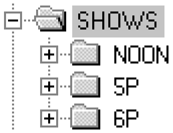
While punctuation marks can be used in path names, Avid recommends their use be limited to dashes and underscores only to avoid confusion for FTP clients, like teleprompters, accessing the database.

Ordinarily, directories and queues are listed in alphabetical order within their parent directory. However, you can add items to a directory in a different order. For instance, if you had directories for each month in the Futures directory, you would want them to appear in order by month (January, February, and so on). To do this, turn on the sequential database trait for the parent directory before you create the new items. See "Database Traits Summary" on page 120 for more information.

Creating a New Directory

To create a new directory (folder):

1. Log in as a system administrator unless you have write-access to the parent queue or directory. This ensures that you have full access to the database.
2. Using the database file structure in the Directory panel of the iNEWS Workspace, select the directory under which you want the new folder to be created, as shown in the following example.

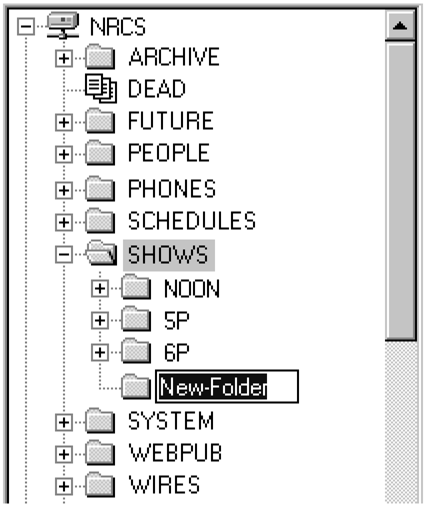


For instance, you could select the Shows folder if you want to add a new directory for a 10 PM show. After the new sub-folder (10P) is created, you can create queues or additional sub-folders in it.

If you are creating a new first-level directory, be sure to select the server rather than a directory (folder).

3. Do one of the following:
   - Select Tools > New Folder.
   - Right-click on the directory—or server, if you are creating a new first-level folder—in the Directory panel, and choose New Folder from the pop-up menu.

A new folder is created under the selected folder. The New-Folder appears at the end of the list of existing folders.The title, New-Folder, is highlighted, so you can rename it.



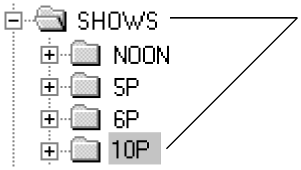
4. Type the name of the new folder, such as **`10P`**.
5. Press Enter to save the new folder name. The newly created folder will inherit the database traits of its parent directory initially. You can open the new folder by double-clicking on it.

Once created, directories cannot be renamed from the iNEWS Workstation. If you incorrectly name a newly created directory, delete it and recreate it with the appropriate name.

Creating a New Queue

To create a new queue, such as the Rundown and Master queues for the 10PM show:

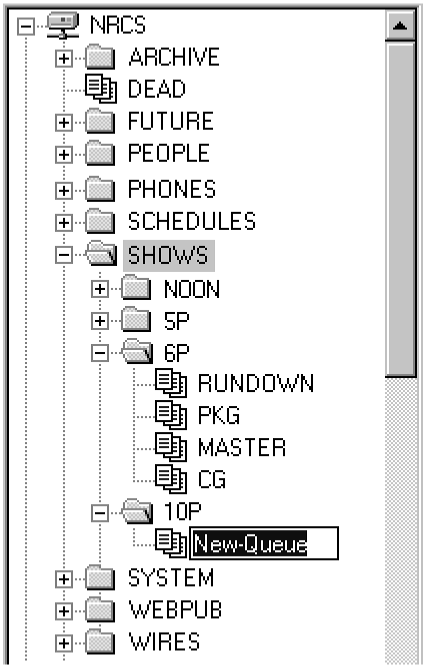
1. Navigate to and select the directory (folder) created to hold the queue you want to create.



Select the Shows folder, then the 10P folder, if you want to add a new queue for a 10PM show. The new queue will be created in the 10P folder.

2. Do one of the following:
   - Select Tools > New Queue.
   - Right-click on the folder in the Directory panel, and choose New Queue from the pop-up menu.

A new queue appears under the folder you selected. The New-Queue appears at the end of the list of existing queues.The title, New-Queue, is highlighted, so you can rename it.



3. Type the name of the new queue, such as **`RUNDOWN`** or **`MASTER`**.
4. Press Enter to save the new queue name. The newly created queue will inherit the database traits of its parent directory initially. You can open the new queue by double-clicking on it.

Once created, queues cannot be renamed from the iNEWS Workstation. If you incorrectly name a newly created queue, delete it and recreate it with the appropriate name.

Setting up the Outgoing Mail Queue

When someone sends e-mail, the first thing your system does is move the mail to the outgoing mail queue, usually called `SYSTEM.MAIL.OUT`.

The outgoing mail queue's name is defined in `/site/dict/queues`*. When your system was installed, the outgoing mail queue was defined in this dictionary as* `SYSTEM.MAIL.OUT`*. To change this name, modify the dictionary entry in /site/dict/queues. The token used to define the outgoing mail queue is* `Q_MAILOUT`*.*

Mail always uses the form that is assigned to the outgoing mail queue. See "Mail Form" on page 230 for more information.

After mail arrives in that queue, a utility program known as the mail server processes and sends it to its intended destination. If the outgoing mail queue, `SYSTEM.MAIL.OUT`, does not exist in the System directory, the mail server cannot distribute e-mail. To create this queue, follow the instructions provided in "Creating a New Queue" on page 103, making these adjustments:

- The queue's name should be "Out."
- The queue should be located in the Mail folder, which is in the System directory. If the Mail folder (directory) does not exist, create it. See "Creating a New Directory" on page 101 for more information.

Moreover, the Out queue's read group must be set properly for the mail server to process mail correctly. See "Read Group" on page 174 for more information. Although not required, you can restrict read permission for the queue `SYSTEM.MAIL.OUT` to a group that has no users. Doing so does not interfere with anyone's ability to send e-mail, but it prevents anyone (except superusers) from reading mail that is in `SYSTEM.MAIL.OUT` waiting to be processed. See "Restricting Both Reading and Writing" on page 177 for more information.

Also, for your system to notify the mail server when new mail arrives in `SYSTEM.MAIL.OUT`, that queue must have the same mailbox number assigned to it as the mail server. If the queue does not have a mailbox or has an incorrect one, your system has no way to notify the mail server when there is mail to process. See "Mailbox section" on page 134 for more information.

The mailbox number is not solely related to e-mail. This database trait lets you link a queue to a server (utility program) so that the system notifies the server program when stories are added to or edited in the queue. See "Mailbox section" on page 134 and Chapter 13 for more information.

Setting up the Dead Letter Queue

Your system must also have a dead letter queue, usually called `SYSTEM.MAIL.ERROR`. This queue is a final destination for any e-mail that your system is unable to deliver to the addressee or return to the sender.

The dead letter queue's name is defined in `/site/dict/queues` *as* `SYSTEM.MAIL.ERROR`. *To change the name of the queue, modify its dictionary entry in* `/site/dict/queues`.

If `SYSTEM.MAIL.ERROR` does not exist, any mail that the mail server cannot deliver or return to the sender is put in the Dead queue. To create this queue, follow the instructions provided in "Creating a New Queue" on page 103, making these adjustments:

- The queue's name should be "Error."
- The queue should be located in the Mail folder, located in the System directory. If the Mail folder (directory) does not exist, create it. See "Creating a New Directory" on page 101 for more information.

Returned mail may contain sensitive information. Therefore, restrict read permission for `SYSTEM.MAIL.ERROR` to a group that has no members. Then, only superusers can read mail in the queue. See "Read Group" on page 174 for more information. Examine the queue occasionally to see whether any mail exists.

Creating a New Story

To create a new story in a queue:

1. Navigate to the queue in which you want to create a story.
2. Open the queue by double-clicking on it.
3. Press the Insert key. A new story is inserted at the top of the queue.

Removing a Directory or Queue

If a queue or story is locked, unlock it first before removing it from the database.

Also, each directory or queue should be empty of other directories, queues, and stories, before it is removed, but it is not required.

⚠ **If a directory contains sub-folders or queues when you attempt to remove it, iNEWS NRCS will prompt you for confirmation. If you affirm the remove command, the directory and all its contents will be removed from the system. Caution should be taken so that sub-folders and sub-queues are not inadvertently removed.**

To remove a directory or queue from the database:

1. Log in as a system administrator unless you have write-access to the queue or directory.
2. Select the directory or queue you want to remove.
3. Do one of the following:
   - Select Tools > Remove Folder (or Remove Queue).
   - Right-click on the directory or queue, then select Remove Folder (or Remove Queue) from the pop-up menu.

Renaming a Directory or Queue

You cannot change the name of a directory or queue from an iNEWS Workstation. However, you can rename one from the console. All traits are preserved when a folder or queue is renamed.

⚠ **Do not rename queues on an active database. Do not run directory or queue modification console commands (such as dbvisit or dbtraits) at the same time as the rename command.**

To rename a directory or queue in the database:

1. At the console, enter superuser mode.
2. Select *all* computers. See “Selecting One or More Servers” on page 33 for more information.
3. Take the system offline, by typing the command: **`offline`**
4. Broadcast a message instructing users to log out.
5. Logout all users on the system, before renaming a queue or directory. This ensures that no stories are open for editing and no devices are running while rename is executing.

If users are not logged out, changes to stories may not be saved after the queue or directory is renamed. It is often most efficient to make several name changes at once. See “Logging Out All Users” on page 94 for more information.

6. Type: **`stop all`**. This command stops running all utility programs—known as servers—wire programs, and devices.
7. Select *one* computer.
8. Type the rename command to rename the folder or queue. Use the following format:

   ```
   rename  [-v|-r]  <from>  <to>
   ```

   For instance, to rename your People folder to `PEOPLE.STAFF`, select one computer and type:

   ```
   NRCS-B# rename people people.staff
   ```

   A message similar to the following appears:

   ```
   Do you really want to rename   PEOPLE
   and all its sub-directories to PEOPLE.STAFF ?
   56 records will be modified [y/n]:
   ```

   To display a console message for each renamed folder and queue, include the -v (for verbose) option with the rename command, such as:

   ```
   NRCS-B# rename -v people people.staff
   ```

If an attempt to rename a folder or queue was interrupted by a system crash, complete it by re-entering the same command with the -r option. Use this option *only* to resume an interrupted renaming—at any other time, its use will corrupt the database.

9. To continue with the renaming, type: **y**

   A message similar to the following appears:

```
   56 records will be modified [y/n]: y
   Adding new directories...
   Updating directory names...
   56 directories renamed
   1 directories added
```

   The system verifies that the queue or folder you specified exists, and it creates new folders necessary to complete your command (such as STAFF in this example). If you choose a pathname over 63 characters, the following appears:

```
TO: name too long
```

Before modifying files, the system checks for name length overflow. If any of the directory/queue names exceed their maximum length, no changes are made.

10. A verification request appears:

```
Do you want to update the user file (MAIL, HOME, DEST)?
[y/n]:
```

    The user file is where the names of users' mail queues, home folders, and automatic destinations are stored. If you answer y, any item affected by renaming is changed automatically. If you answer n, you must change them yourself. Typically, answer y.

```
Do you want to update the user file (MAIL, HOME, DEST)?
[y/n]: y
23 user records modified
```

11. Manually update any other references on the iNEWS system to the renamed folders.

Update the references while the system is unavailable to users. Failure to update any references affected by renaming a folder or queue can cause problems with system operation.

These references can include:

- Command bar icons set up by users
- Your system's service table
- Dialogs
- Keyboard description stories
- Server or Rx/Tx link job lists
- Wire distribution or keyword stories
- Your system's queue dictionary (`/site/dict/queues`)

12. Select *all* servers.
13. Restart all devices by typing: **`restart`**

    You will see `Hot-to-go` messages as each device starts.
14. Bring the system back online by typing: **`online`**

    This allows users to log in.
15. Exit from superuser mode by pressing Ctrl+D.

Viewing Database Traits

You can get information about your iNEWS database from both the iNEWS console and workstations. Which one you use depends on what information you want.

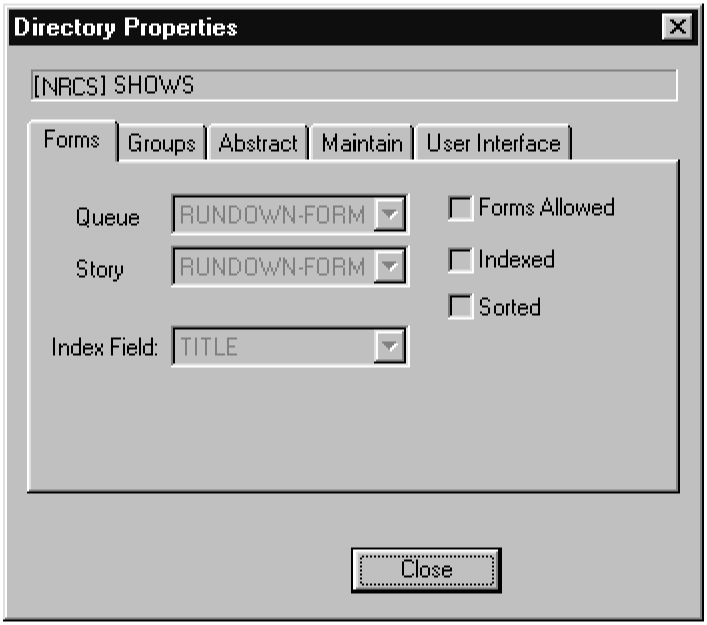
From the iNEWS Workstation...

To get database information on a specific directory or queue from an iNEWS Workstation:

1. Log in to iNEWS NRCS at an iNEWS Workstation.
2. Open an iNEWS Workspace.

3. Navigate to the directory or queue you want in the Directory panel.
4. Right-click on the directory or queue name.
5. Select Properties in the pop-up menu.

   The Directory/Queue Properties dialog box shows you the properties (traits) for the directory or queue you selected; however, its look may vary. For instance, the Locks tab does not appear when viewing properties of directories. If you are not logged in as a system administrator, and a database manager account was not created in iNEWS NRCS, the dialog will appear like this:



Directory Properties

[NRCS] SHOWS

Queue: RUNDOWN-FORM

Story: RUNDOWN-FORM

Index Field: TITLE

□ Forms Allowed

□ Indexed

□ Sorted

   The options in the dialog box appear gray, indicating they are for viewing only and cannot be altered. So, any user can view the traits of directories and queues in the iNEWS database from a workstation.

From the iNEWS Console

To get information about stories in your iNEWS database, or to view a list of database traits for several directories or queues at once, you can use the `list` command at your console:

- `list d <folder/queue name>` provides information about directories or queues
- `list q <queue name>` provides information about stories in queues.

Both of these commands have a verbose option, such as **`list d-v`**, that gives you more detailed information. For instance, a verbose list, such as **`list q-v`**, includes read and write group information for each story in the queue. Read and write groups are explained in Chapter 6. Also, see Appendix G.

Sending Output from the List Command to a Printer

Sometimes you may want a printout of database traits assigned to certain queues and directories. This can be done at the console.

To send the output from `list d` or `list q` to a system printer (PCU serial port), precede the command with print and the printer number. Use the same printer number you use when printing from an iNEWS Workstation.

For instance, to send to printer 4 a list of the traits for the Rundowns directory and all the subdirectories and queues in that directory, type:

```
print 4 list d rundowns
```

If you use a non-existent printer number in the command, the resultant print story will be placed in the DEAD queue where you may retrieve it.

The `print` command works with any variation of the list command or with any command that generates output on the console screen.

Getting Information about Stories

The `list q` command lists story information for any of your system's queues. The basic format of the command is as follows:

```
list  q  <queue name>  [<record limit>]
```

The `<record limit>` *specifies the number of stories from the queue you want to list. Queues may contain thousands of stories so a command without a specified* `<record limit>` *may scroll large amounts of output.*

For instance, to limit the list to the first three stories in PEOPLE.CAROLYN.NOTES, type:

`list q people.carolyn.notes 3`

A message similar to the following appears:

```
PEOPLE.CAROLYN.NOTES.SEARCH id=449889
rec quick index   LHDM-WObfpRmF  f.id    time    modified-time
2   pm-chronology --DM-W-------  457243  165     Jul 10 16:16:39 2000
3   pm-thumbnails --DM-W-------  487595  163     Jul 10 16:21:17 2000
```

By default, the stories are listed in chronological order, with the oldest story first.

To list information for a particular story, use this format:

`list qindex=<index value> q <queue name>`

The *index value* is the value of the selected sort field of the story you want to list. This value is typically the text found in the title field, but you can set different fields as the index field. The quick index value must be a single word, with no spaces, and can be uppercase or lowercase.

For instance, to get story information for a story called Nomad in the queue PEOPLE.SMITH.NOTES, type:

`list qindex=nomad q people.smith.notes`

A screen similar to the following appears:

```
PEOPLE.SMITH.NOTES id=449889
rec quick index   LHDM-WObfpRmF  f.id    time    modified-time
3901 bc-exp--nomad --DM---------  420690  165     Jul  6 20:23:11 2000
```

In this example of the story in PEOPLE.SMITH.NOTES, the D and M flags appear, indicating the story is duplicated and has the modified flag set.

The one-letter flags (`LHDM-WObfpRmF`) after the quick indexes provide current status information. The flags are:

L	Locked	b	Story's body (text) is edit locked
H	Held	f	Story's fields are edit locked
D	Duplicated	p	Story's production cues are edit locked
M	Modified	R	Read-only
-	---------	m	Mail
W	Wire	F	Floating
O	Ordered		

You cannot change any of these flags from the console, except the edit-locked status, which you can remove from a story with the unbusy console command. For instructions, see "Unbusy Stories and Queues" on page 149.

Finding out Who Moved, Duplicated, or Killed a Story

To list the last person to move, duplicate, or kill a particular story in a queue, use this format of `list q`:

```
list qindex=<search word> q-mb <queue name> <record limit>
```

Since the Index field is typically the field containing the story's title (slug), it can be used as the `<search word>`.

The `<search word>` is a word from the Index (sort) field of the story. It must be a single word, with no spaces. It is not case-sensitive. The `<record>` is the numerical limit of stories provided in response to your list command—for instance, the most recent stories killed in the Dead queue.

To list this information for each story in a queue when you do not know a word in the Index field—the story's title—use this format:

```
list  q-mb <queue name> <record limit>
```

The b in the command is optional. The difference between `list q-mb` and `list q-m` is:

`list  q-m` lists begins at the oldest story in the queue

`list  q-mb` lists from the most recent material in the queue, such as the most recently killed stories in Dead.

You can also run the command without the m to see the date and time stories were moved, duplicated or killed. For instance, type:

list q-b dead 5

A screen similar to the following appears:

```
DEAD id=123231
rec   quick index   LHDM-WObfpRmF   f.id    time  modified-time
0                   ---M--O-----    314490  0     Sep 6 09:51:58 2000
-1    kyw-directors --DM--O-----    313587  15    Sep 5 11:47:33 2000
-2    a             ---M--------    161746  11    Sep 6 09:15:06 2000
-3    sep 2000      ---M--------    314093  0     Sep 5 17:34:19 2000
-4    008           --DM--O-----    313555  600   Sep 5 16:49:24 2000
```

Here is an example of how to obtain the five most recently killed stories in dead:

list q-mb dead 5

A screen similar to the following appears:

```
DEAD id=123231
rec     quick index   LHDM-WObfpRmF f.id    time  user name
0                     ---M--O----- 314490  0     palmer
-1      kyw-directors --DM--O----- 313587  15    williams
-2      a             ---M-------- 161746  11    adbpurge
-3      sep 2000      ---M-------- 314093  0
-4      008           --DM--O----- 313555  600   ragusa
```

As shown in the example, some stories may be sent to the Dead queue by system processes, such as the automatic dbpurge (adbpurge). Lines without names are old versions of stories that were not written in the database by a user; for instance, they may have been put in the database through txnet.

Here is an example of how to get information for a story called “Camera” in the `ASSIGNMENTS.MONDAY` queue:

list qindex=camera q-m assignments.monday

A screen similar to the following appears:

```
ASSIGNMENTS.MONDAY  id=14569
rec      quick index    LHDM-WObfpRmF  f.id    time  user name
0        camera         --DM--------   16217   274   williams
```

Williams was the last person to move, duplicate, or kill this story; `list q-m` does not make any distinction between these actions. Killed stories can reside only in the Dead queue, while duplicated stories will have the D flag on their listing, as shown in the previous example.

If a utility program, such as a server or link, moves, duplicates, or kills a story, its device number is listed in the `list q-m` *or* `list q-mb` *display.*

When using the list command, long list results will scroll out of sight on the console screen. Since you may need to search through a long list of stories, such as 5000 in the Dead queue, you can redirect the output of the `list` command to a file in the database. For instance, the follow example redirects output to a user's Notes queue.

```
NRCS-A# list q-mb dead 5000 | doc pu people.p.palmer.notes
```

Recovering a Killed Story

You can recover a story that has been killed—moved to and currently resides in the Dead queue—from any iNEWS Workstation.

To retrieve a story to the database from the Dead queue:

1. Log in as a system administrator—that is, with a superuser account. This ensures you access to the Dead queue. On most systems, access to the Dead queue is restricted.
2. Navigate to the Dead queue in the Directory panel and open it by double-clicking on it.

The Dead queue cannot be indexed, so do not use the Fast Text Search feature.

3. Locate the story that you want to recover in the Dead queue, by scanning the list of stories displayed in the Queue panel for the story title (slug) or using the Find or Find All command.
4. Select the story or stories you want to retrieve by doing one of the following:

- Click on the selector button located to the left of the story's row in the Queue panel. The entire row is highlighted when selected.
- Move cursor to row and press Shift-Spacebar.
- Click on each row while holding down the Control (Ctrl) key to select multiple stories. The Shift key can be held down if you want to select all story rows between two mouse clicks.

5. Copy the selected story (or stories) to the new location by doing one of the following:
   - Click on and drag the highlighted selection to another queue in the Directory panel and release. The selected stories will be copied to the new queue location.
   - Use the Copy and Paste buttons or the Edit menu options to copy and paste the highlighted selection into a new queue location.
   - Use the Duplicate command to copy the highlighted selection to another location—particularly if the Dead queue is read-only.

Changing Database Traits

You must be logged on as a system administrator—that is using an account with the superuser trait—or provide the database manager (`dbmanager`) password to change database traits of directories and queues. For more information on `dbmanager`, see "The Database Manager Account" on page 93.

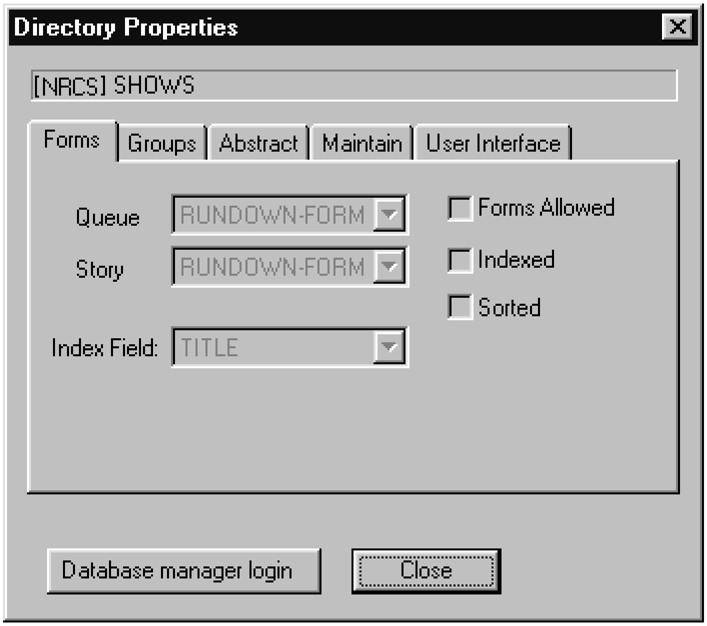
As the system administrator, you can alter database traits of a single directory (folder) or apply your changes to any subdirectories or queues in that parent directory as well.

When you change a directory's traits from a workstation, the changes only affects the directory you selected, unless you specify otherwise. This is directly opposite to what happens when changing database traits at the console. See Appendix G for more information.

Avid recommends you ensure that no users are working in a directory or queue prior to altering the database traits of that directory or queue.

To change database traits:

1. Navigate to the directory you want to change in the Directory panel of the iNEWS Workstation.
2. Right-click on that directory.
3. Select Properties from the pop-up menu. One of two things will happen, which will determine what you are to do next.
   - If you are logged on as a system administrator, the Directory Properties dialog box will appear. Go to step 5.
   - If you are not logged on as a system administrator, the Directory Properties dialog box will appear in read-only mode—that is, all the fields in the dialog box will be gray, which indicates they are for viewing only. Go to step 4.
4. Click on the dbmanager login button (located at the bottom left corner of the dialog box) to gain access to change traits in the dialog box.



Directory Properties

[NRCS] SHOWS

Queue: RUNDOWN-FORM

Story: RUNDOWN-FORM

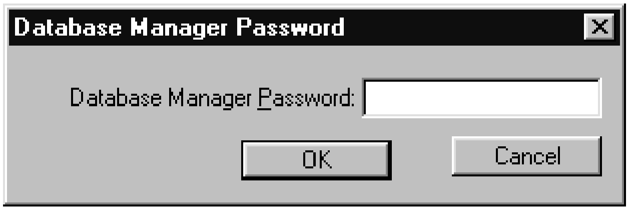
Index Field: TITLE

☐ Forms Allowed

☐ Indexed

☐ Sorted

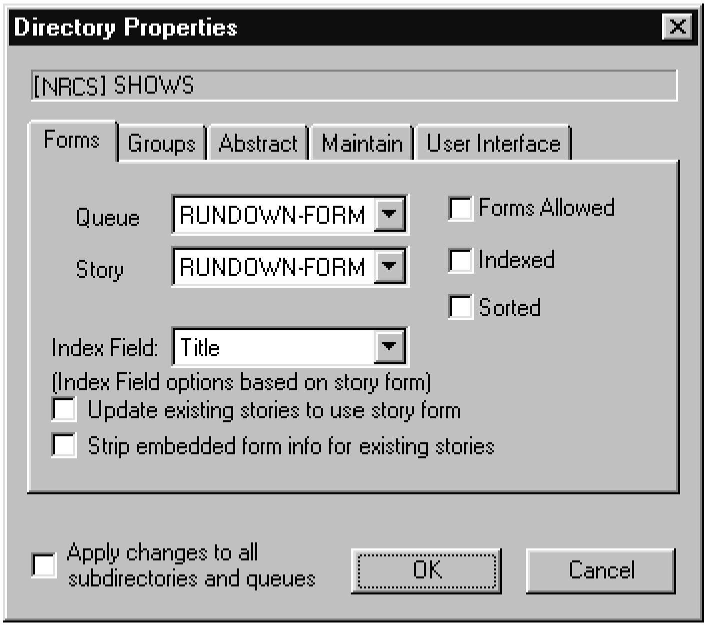
The system will prompt you for the database manager password. Fill it in, click OK.



Database Manager Password

Database Manager Password:

The Database Manager Password dialog box disappears, and the dbmanager login button in the Directory Properties dialog box is replaced with a check box. Go on to step 5.



Directory Properties

[NRCS] SHOWS

Queue RUNDOWN-FORM

Story RUNDOWN-FORM

□ Forms Allowed

□ Indexed

□ Sorted

Index Field: Title

(Index Field options based on story form)

□ Update existing stories to use story form

□ Strip embedded form info for existing stories

□ Apply changes to all subdirectories and queues

If you are altering the traits of a queue, you can skip step 5 completely because the Apply changes... check box does not apply and will not appear in the Queue Properties dialog box.

5. Do one of the following:

   - Click on the check box labeled Apply changes to all subdirectories and queues, if you want the changes you make to apply to all queues and subdirectories in the parent directory.
   - Do not select the Apply changes... check box, if you only want to change the traits of the chosen directory. The database traits are applied only to the directory selected when the Directory Properties dialog box opened.

Selecting the Apply changes... check box does not apply the new settings at that point. It just indicates whether you intend to apply them to all subdirectories and queues. Also, when you apply your changes to all subdirectories and queues, those changes are not immediately apparent at all workstations. Users should log off and back on to see the changes.

Selecting and/or unselecting check boxes in the Directory/Queue Properties dialog box does not apply changes immediately. Only step 7 does that.

6. Make changes to the various traits as needed. These traits are explained in detail in the next section of this chapter.
7. Click OK to save changes & apply settings.

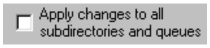
Database Traits Summary

Assigning traits can be done from the iNEWS Workstation as well as the console. For information on viewing and altering database traits from the console, see Appendix G.

On the iNEWS Workstation, the database traits are grouped together on various tabs in the Directory/Queue Properties dialog box. This section provides a detailed description of the dialog box, tabs and database traits. In some cases, traits offer a selection of options, such as what read group is assigned to a queue. These traits are usually shown as drop-down lists in the dialog box. In other cases, traits are either assigned to a queue or not—that is, the trait is “turned on” or “turned off.” These traits are usually shown as check boxes in the dialog box.

Directory/Queue Properties Dialog Box

The appearance of the Directory/Queue Properties dialog box's changes slightly, depending on whether you choose to view properties for a queue or a directory. First, the dialog box's title bar will appear different, indicating that choice—either Directory Properties or Queue Properties.



☐ Apply changes to all subdirectories and queues

Other differences include check boxes and tabs. For instance, the Apply changes... check box—shown at left—only appears in the bottom left corner of the Directory Properties dialog box. Also, the Ordered check box only appears in the right column of the Forms tab in the Queue Properties dialog box.

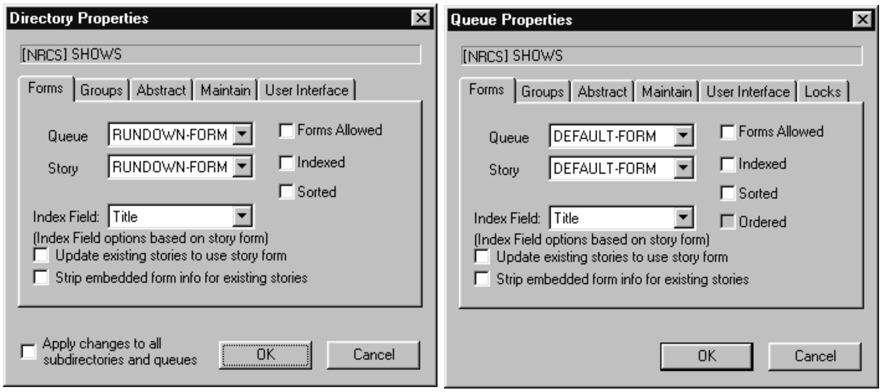
The number of tabs varies as well, depending on whether you choose to view properties for a queue or a directory.

The tabs are:

- Forms
- Groups
- Abstract
- Maintain
- User Interface
- Locks (This tab only appears for Queue properties.)

Each tab is explained in the following sections.

Forms Tab



Directory Properties

[NRCS] SHOWS

Queue: RUNDOWN-FORM

Story: RUNDOWN-FORM

Index Field: Title

(Index Field options based on story form)

□ Forms Allowed
□ Indexed
□ Sorted
□ Update existing stories to use story form
□ Strip embedded form info for existing stories
□ Apply changes to all subdirectories and queues

Queue Properties

[NRCS] SHOWS

Queue: DEFAULT-FORM

Story: DEFAULT-FORM

Index Field: Title

(Index Field options based on story form)

□ Forms Allowed
□ Indexed
□ Sorted
□ Ordered
□ Update existing stories to use story form
□ Strip embedded form info for existing stories

The Forms tab is unique because it is the only tab that allows access to certain items even when a user is connected to a local database, as opposed to the mirrored database on the system's servers.

If you are connected to a local database on your workstation, you can still change the queue and story form selection using the drop-down lists. However, all other traits in the Directory/Queue Properties dialog box will appear gray, indicating access to them is read-only.

- Queue – The Queue drop-down list, allows you to select a form used to display information in the Queue panel. The form defines what fields appear, which should be a sub-set of the fields used in the story form. A field included in the queue form that does not actually exist in the story form cannot be written to in the Queue panel. When `!<none>` is selected, no form is applied. This drop-down list is the equivalent of the database trait (dbtrait), `qform`, at the console.
- **Story** – The Story drop-down list, allows you to select a form used to display information in the form fields of the Story Form panel. When `!<none>` is

selected, no form is applied. This drop-down list is the equivalent of the dbtrait, `sform`, at the console.

- **Index Field** – The Index Field drop-down list, allows you to select a form field used if a queue is sorted (usually the Title field, also known as Slug field). Additionally, the cursor is placed on this form field by default when a user displays stories in a queue. This drop-down list is the equivalent of the dbtrait, `sortfield`, at the console.

The optional fields in the Index Field drop-down list depend on the form selected in the Story drop-down list on the Forms tab. For instance, if you select a story form that only contains two fields, such as Title and Writer, then those two fields will be the only options listed in the Index Field drop-down list.

- **Update existing...**– The Update existing stories to use story form check box, when selected, changes the story form assignment for previously existing stories within a queue. This check box is the equivalent of the dbtrait, `cform`, at the console.
- **Strip embedded...**– The Strip embedded form info for existing stories check box, when selected, removes embedded form traits from stories. For instance, queues with the Forms Allowed trait stamps the look of the story form into the story. Assigning a different story form to one of these queues and selecting Update existing... check box will not affect the look of stories with the embedded forms. You would need to strip the embedded "look" from the story so it would then use the form assigned to the queue it is in. This check box is the equivalent of the dbtrait, `stripform`, at the console.

The Update existing... and Strip embedded... check boxes are not database traits, but rather, they are used to apply current settings and/or changes in the dialog box at present. This means they will always appear unchecked when the dialog box opens, and they will not appear at all if the Directory/Queue Properties dialog box is opened in read-only mode.

- **Forms Allowed** – The Forms Allowed check box must be assigned to all queues in the Forms directory. The forms will not work without this database trait applied. Additionally, this trait can be assigned to any queue in the database, but is usually only assigned to other queues that receive stories from other systems via `rxnet/txnet` and then build forms for those stories, as needed. This check box is the equivalent of the dbtrait, `+f|-f`, at the console.
- **Indexed** – The Indexed check box, when selected, applies the Index trait. This trait is assigned to queues and directories that you want to be indexed by the Fast Text Search (FTS) server. This allows for quicker searching of the queue or directory.
  This check box is the equivalent of the dbtrait, `+index|-index`, at the console. See “Batch Indexing Directories (Folders)” on page 483 for more information.
- **Sorted** – The Sorted check box, when selected, applies the sort trait, which determines whether or not the stories in a queue will be sorted. Queues with the sort trait are sorted by the form field you choose in the Index Field drop-down list. For instance, you may want to sort a rundown queue by the Page Number field, so when a user changes the numbering in the fields of that column, the rows automatically adjust to the numerical order. See “Starting the Queue Sort Function” on page 128 for more information. This check box is the equivalent of the dbtrait, `+so|-so`, at the console.

The Ordered check box only appears on the Queue Properties dialog box, not the Directory Properties dialog box.

- **Ordered** – The Ordered check box is a unique check box, because it may appear as read-only, depending on the circumstance. It is provided to show you whether a queue is currently ordered. This is particularly helpful in identifying queues that have the sort trait, but are no longer being sorted because a user manually adjusted the order of the stories in the queue. If a sorted queue was manually ordered, the check box appears white and contains a checkmark, which you can remove if you want to reinstate the sorting feature. Unchecking the check box is the equivalent of the dbtrait, `-o`, at the console. See "Starting the Queue Sort Function" on page 128 for more information. However, if a queue is not ordered at present, then the box will appear gray and empty. You cannot select this box to order a queue. See "Finding out Who Last Ordered a Queue" on page 143 for more information.

Index Field/Story Form Compatibility Error Messages

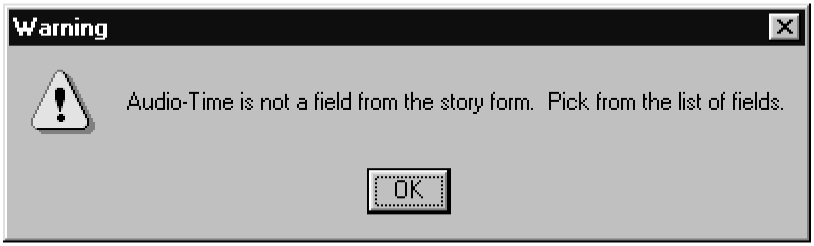
A story form is a form that defines the fields displayed in the Story Form panel of the iNEWS Workspace. The fields typically consist of important information about the stories kept in the queue, such as the title, writer's name, and the dates the story was created or modified. The field chosen as the Index Field in the Queue Properties dialog box serves two purposes:

- It is the field used to sort stories in sorted queues.
- When the Index Field is selected during a Find or FInd All search of a non-indexed queue, the system is able to return search results faster.

The Index Field is not associated with Fast Text Searches (FTS).

Therefore, it is crucial that the field selected as the Index Field actually exists as part of the story form. For this reason, the system will check for compatibility between the settings of the Story drop-down list and the Index Field drop-down list. Depending on the list selections, various messages may appear.

When the index field is already defined based on the current story form setting, and a user selects a different form from the Story drop-down list, the system will check to see if the field chosen as the index field exists in the new story form. If it does not, a warning is issued. For instance, the Index Field drop-down list is set to a field, such as Audio-Time, and the Story drop-down list is set to the Rundown story form. At the current settings, there is no warning because the Audio-Time field exists in the Rundown story form. However, if the user changes the story form from Rundown to another form that does not have the Audio-Time field, the following message appears.

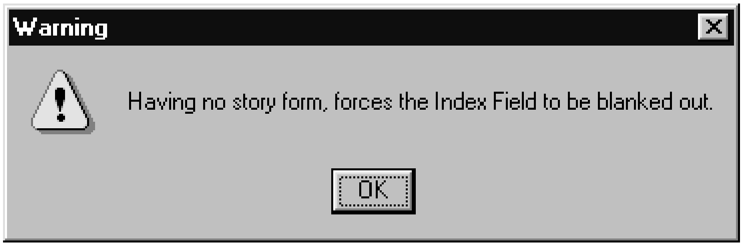

Warning

Audio-Time is not a field from the story form. Pick from the list of fields.

The Audio-Time field is no longer in the Index Field drop-down list. The user must select another field from the list as the warning message instructed. When the user clicks on the Index Field drop-down list, the system refreshes the list of options to display only those fields that exist in the currently selected story form.

Normally, pressing the Escape (Esc) key after the Index Field drop-down list is open (and therefore, refreshed), will close the list, retaining the original field selection. However, if the original field choice does not exist in the newly chosen story form—such as the Audio-Time field in the previously mentioned example—the list closes without any selection made, in which case, the setting appears blank.

If you select no story form—or set it to `!<none>`— then the system is forced to blank out the index field and issue the following warning message.

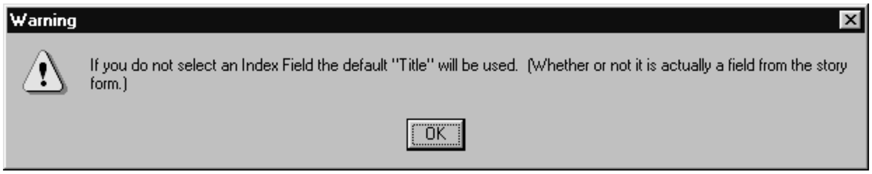


Warning

Having no story form, forces the Index Field to be blanked out.

This means the Index Field drop-down list will be inaccessible and appear grayed out. When the index field setting is blank, the system will use the default field, which is the Title field (also called the Slug field).

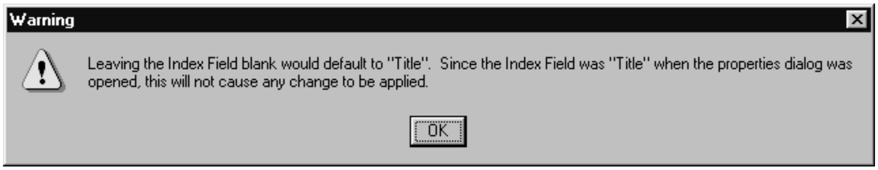
When an index field is blank—or in other words, no field is selected—the following message appears.



Warning

If you do not select an Index Field the default "Title" will be used. (Whether or not it is actually a field from the story form.)

If the index field drop-down list was already set to the Title field when the Directory/Queue Properties dialog box opened, and the user manually blanks out the setting, the following message appears.



Warning

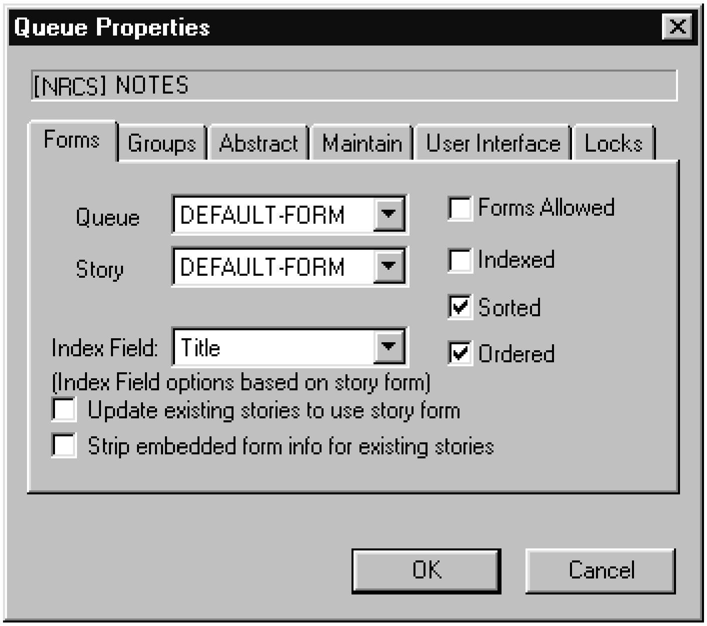
Leaving the Index Field blank would default to "Title". Since the Index Field was "Title" when the properties dialog was opened, this will not cause any change to be applied.

The above message indicates that by blanking out the index field setting, the default field, which is Title, is automatically applied. Since the default is the same field as the original field setting, no change occurs.

Starting the Queue Sort Function

If someone orders a sorted queue, the sorting is disabled even though the trait is still applied to the queue. You restart the Queue Sort Function from the console or any iNEWS Workstation. See “Starting the Queue Sort Function from the Console” on page 786 for more information.

When a sorted queue is ordered, the Queue Properties dialog box will appear similar to this:



[NRCS] NOTES

Queue: DEFAULT-FORM

Story: DEFAULT-FORM

☐ Forms Allowed

☐ Indexed

☑ Sorted

☑ Ordered

Index Field: Title

(Index Field options based on story form)

☐ Update existing stories to use story form

☐ Strip embedded form info for existing stories

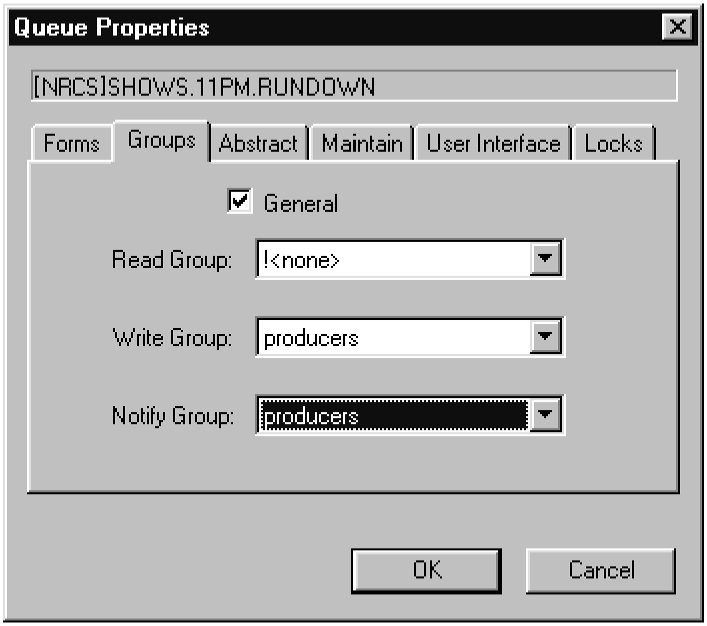
You cannot use the Ordered check box to apply the Ordered attribute. In other words, when the box is not checked, it will appear gray, indicating that it is read-only. Ordering a queue is done by manually moving stories around within the Queue panel.

To turn off the Ordered attribute and allow the queue to resume its original sorting function from the workstation:

1. Click on the Ordered check box, removing the checkmark.
2. Click OK to save the change.

When turning off the Ordered check box and clicking OK—the equivalent of dbtrait `-o`*—the current contents of the queue will be sorted, immediately and automatically. Any stories added to the queue or stories edited in the queue will be sorted.*

Groups Tab



Queue Properties

[NRCS]SHOWS.11PM.RUNDOWN

☑ General

Read Group: !<none>

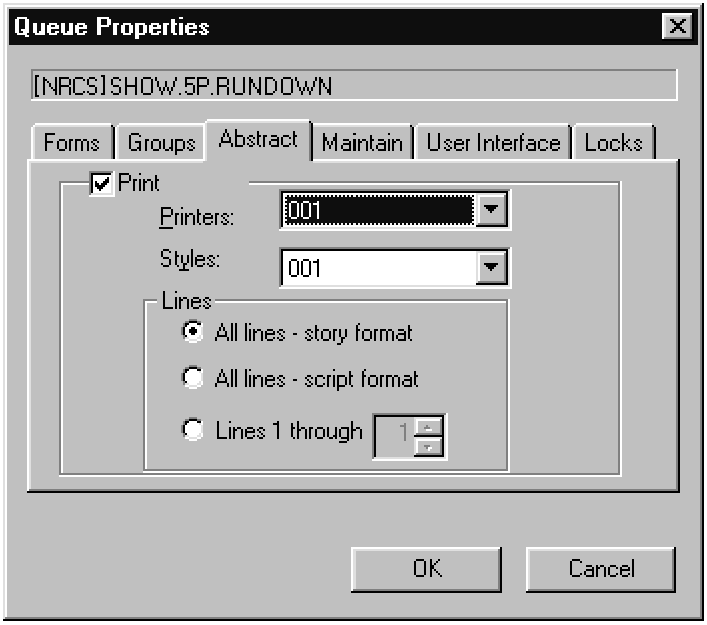
Write Group: producers

Notify Group: producers

- **General** – The General check box, when selected, specifies that stories moved to the queue will retain their original security restrictions, namely, their read and write groups. For instance, in most cases, sites restrict access to the Dead queue, but to further guarantee security of stories, the General trait is applied to the Dead queue. This prevents users who do have access to the Dead queue from opening restricted stories after they are deleted from other queues that were inaccessible to the users. See Chapter 6, “Groups,” on page 6-153 for more information. This check box is the equivalent of the dbtrait, `+g` | `-g`, at the console.

- **Read Group** – The Read Group drop-down list allows you to restrict read access to a queue or directory to a group of users. Users who are not in the read group cannot see the directory or queue. When `!<none>` is selected, no group is applied; therefore, all users will have read access to the queue or directory. The groups are not created here. See Chapter 6, “Groups,” on page 6-153 for more information. This drop-down list is the equivalent of the dbtrait, `rg`, at the console.
- **Write Group** – The Write Group drop-down list allows you to restrict write access to a queue or directory. Users who are not in the write group cannot add or modify data in the directory or queue. Users cannot delete stories in any queue if they are not in the write group for the Dead queue. When `!<none>` is selected, no group is applied; therefore, all users will have write access to the queue or directory. The groups are not created here. See Chapter 6, “Groups,” on page 6-153 for more information. This check box is the equivalent of the dbtrait, `wg`, at the console.
- **Notify Group** – The Notify Group drop-down list allows you to specify what group of users is notified whenever stories are added to or modified in a queue. When `!<none>` is selected, no group is applied; therefore, no users will be notified of additions or modifications to the queue or directory. The groups are not created here. See Chapter 6, “Groups,” on page 6-153 for more information. This check box is the equivalent of the dbtrait, `ng`, at the console.

Abstract Tab



[NRCS]SHOW.5P.RUNDOWN

☑ Print

Printers: 001

Styles: 001

Lines

● All lines - story format

○ All lines - script format

○ Lines 1 through 1

Abstract printing applies only to system printing, not local printing.

When a story is added to or modified in an abstract print queue, the system automatically prints a portion of the story, as defined by the properties on the Abstract tab.

- **Print** – The Print check box, when selected, applies the abstract print trait to a queue or directory. The other aspects of this trait, such as printers and styles, cannot be applied until this trait is turned on. This check box is the equivalent of the dbtrait, `al`, at the console.
- **Printers:** – The Printers: drop-down list allows you to select a printer the system will use to automatically print abstracts for the queue. This drop-down list is the equivalent of the dbtrait, `ap`, at the console.

- **Styles:** – The Styles drop-down list allows you to select a style the system will use when automatically printing abstracts for the queue. This drop-down list is the equivalent of the dbtrait, `as`, at the console.
- **Lines section**
  - **All lines - story...** – The All lines - story format radio button, when selected indicates the queue has the abstract print trait, and the system will print all lines of new or modified stories in story format as an abstract from that queue. This is equivalent of the dbtrait, `a1 127`, at the console.
  - **All lines - script...**– The All lines - script format radio button, when selected, indicates the queue has the abstract print trait, and the system will print all lines of new or modified stories in script format—that is, including production cues—as an abstract from that queue. This is equivalent of the dbtrait, `a1 126`, at the console.
  - **Lines 1 through** – The Lines 1 through radio button, when selected, indicates the queue has the abstract print trait, and the system will print the designated number of lines of each new or modified story as an abstract from that queue. This is equivalent of the dbtrait, `a1 N`, at the console.

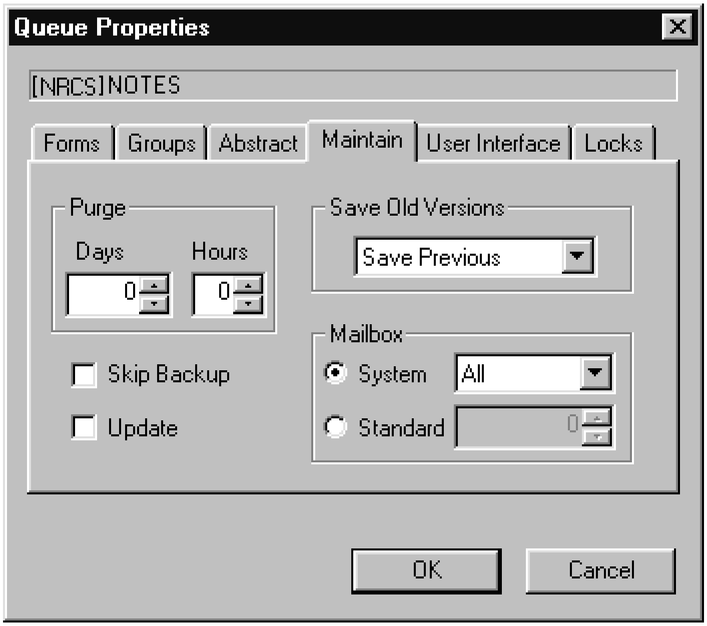
Uses for Abstract Printing

A common use for this feature is to print abstracts of wire stories on a specific topic. To do this, set up a wire keyword story to send to an abstract printing queue a copy of every wire story relating to the topic.

You can also use abstract printing to create a “paper trail” of changes made to stories in a particular queue. For instance, a producer may want a record of changes made to a show’s scripts. By making the queue where these scripts are written an abstract printing queue, the user can have the system print a record of every change made. Also, if the queue's form includes a "modified by" field, the producer can get a record of who made each change.

If you edit a story in an abstract printing queue, your system prints an abstract of the new version of the story when you save the changes. To avoid printing an abstract, move stories to a queue that is not an abstract printing queue before editing them.

Maintain Tab



Queue Properties

[NRCS]NOTES

Purge

Days 0

Hours 0

□ Skip Backup

□ Update

Save Old Versions: Save Previous

Mailbox

● System All

○ Standard 0

- **Save Old Versions**– The Save Old Versions drop-down list determines how many old story versions are retained in each queue. The Save Old Versions drop-down list is the equivalent of the dbtrait, `save-|n|o|a`, at the console. Options include:
  - Save None – Retains no old versions of a story when a new revision is saved in the queue.

- Save Previous – Retains the previous version of a story when a new revision is saved in the queue.
- Save Original – Retains the original version of a story when a new revision is saved in the queue.
- Save All – Retains all versions of a story when a new revision is saved in the queue.

The Save Old Versions trait is queue-specific. For instance, a story is moved from a queue that saves all versions to a queue saving none. In this case, all versions are moved to that queue, but the next time the story is edited and saved, the old versions are sent to the Dead queue. The command `dbdump` *honors the Save Old Versions when set to Save None and will only dump the latest version of a story in the queue with that trait.*

- **Skip Backup** – The Skip Backup check box determines whether or not a directory or queue is left out of database backups. This check box is the equivalent of the dbtrait, `+x`|`-x`, at the console, and is also known as a skip flag.
- **Update** – The Update check box indicates whether or not the stories in a queue will be replaced as new versions are moved or copied to it. This check box is the equivalent of the dbtrait, `+u`|`-u`, at the console.

The Update trait does not affect stories that are restored from tape backups. If you restore a story to a queue that already contains a version of that story, you will have two versions of the same story, even if the queue is assigned the update trait.

See “Using Mailboxes” on page 419 for more information.

- **Mailbox section**

  The Mailbox section does not apply to the e-mail feature of iNEWS NRCS. These mailboxes are “signal carriers” by which utility programs, called servers, are notified to perform a pre-defined task. This section’s trait is the equivalent of the dbtrait, `mail`, at the console. There are two types of mailboxes:

- **System** – The System radio button and drop-down list are used to assign mailboxes reserved for system functions, such as the keyboard and form checkers. Each queue or directory that needs a reserved system mailbox is assigned the correct one when the system is installed by Avid Customer Support personnel. Options include: All, Keyboard, Keyword, Distribution, and Group. See “Reserved Mailboxes” on page 421 for more information.
- **Standard** – The Standard radio button and drop-down list are used to assign mailboxes to queues. These are mailboxes used by utility programs you can configure, such as action servers. The mailbox number assigned to the queue must match the device number of the server monitoring it, as defined in the `/site/config` file. Valid mailbox numbers are one through 4096. See “Using the list Command to View Assigned Mailboxes” on page 501 for more information.

- **Purge** – The Purge section allows you to set the reoccurrence schedule for purging a queue. The purge interval determines how old stories in a queue can get before they are purged. Every hour, your system removes any stories that are older than their queue’s purge interval and places the stories in the Dead queue. The Purge section’s Days and Hours spin boxes are the equivalent of the dbtrait, `purgeinterval`, at the console.

Choosing Queues to be Purged

Any queue to which the system automatically sends stories should be purged regularly. For instance, queues in the Wires directory should be purged often , or else the database fills up with old wire stories. If you set up a keyword story to send stories to a queue, ensure that queue is purged regularly. Otherwise, you risk running low on space.

Purging is the first step in the process of freeing up space. Only when stories are removed from the Dead queue by the dbserver program is any database space freed.

Queues that do not automatically receive material usually do not need to be purged regularly. For instance, queues in the People directory are not normally purged automatically, since they usually only receive stories when users add them to their personal queues.

Choosing a Purge Interval

Different parts of your database contain different kinds of stories, and the purge interval you set for each queue depends upon the kinds of stories in the queue. Some material, for instance, may need to be held only 24 hours while other material may need to be held three days—or not purged at all.

By choosing each directory or queue's purge interval based on the kinds of stories found there, you enable your system to remove old material that is no longer needed and make room for new material.

You can have purge intervals as long as 2729 days and 23 hours or as short as one hour. Additionally, you can set the purge interval to zero hours to turn purging off for a particular directory or queue. You can adjust the purge interval to suit the rate at which stories are added to the queue. In general, the faster stories are added to a queue, the shorter you should make the queue's purge interval. Old stories that you restore from tape are treated as if they were just created.

Old stories restored from tape are treated as newly created stories unless *the* `dbrestore -M` *option was used when the stories were restored from tape. The* `-M` *option preserves the modification time of the story recorded when the story was dumped to tape.*

If you notice an increase in the rate at which stories enter a particular directory or queue, you may need to reduce its purge interval. For instance, if you add another wire service to your system, the number of stories entering wires each hour increases, and you probably need to reduce the purge interval of wires to allow the system to keep up with this increase.

Matching Purge Intervals

When choosing a purge interval, pay attention to queues that are likely to contain copies of stories held in other queues. Copies of stories are really pointers that point back to the original story. The actual story cannot be removed until all the copies have been purged. Otherwise, the copies would not have a story to which they could point.

Ensure queues that are likely to hold copies of a story have roughly the same purge intervals as the queue that holds the original.

In most systems, for instance, all wire stories are sent to `WIRES.ALL` and copies of each story are distributed to other queues in the Wires directory. This means that the system cannot purge a wire story until all the story's copies are also ready to be purged. To ensure that the story and its copies are ready to be purged at about the same time, the queues in the Wires directory are usually given similar purge intervals.

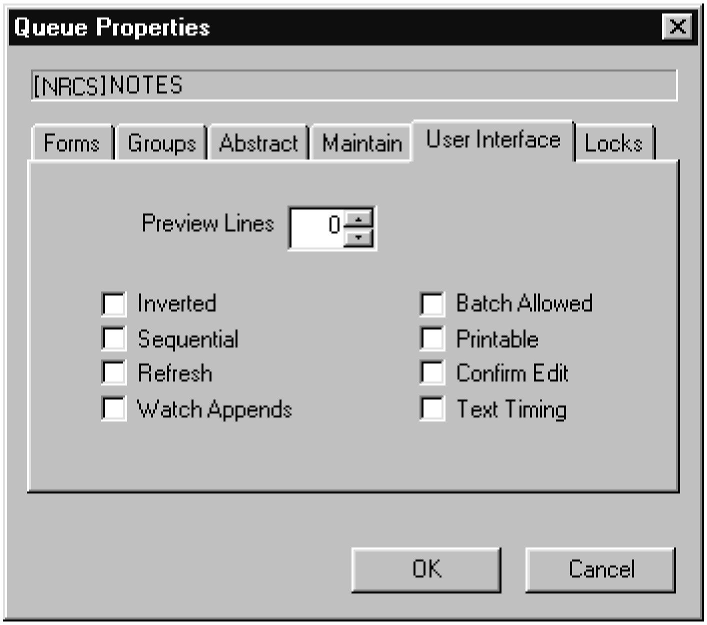
If someone edits a copy of a story and then saves the changes, the system replaces the pointer with an actual story. Consequently, you do not need worry about copies that have been edited, since they no longer point back to the original story.

Purge Intervals and the Purge Limit

If the system detects that it is running low on space, it purges beyond each queue's purge interval, if necessary, to build up the free list. Your system profile contains a parameter called the purge limit, which prevents the system from purging more than a certain number of hours beyond each queue's purge interval.

In an emergency, your system purges as many hours beyond the purge interval as the purge limit allows. Queues that contain important information should have a purge interval at least five hours greater than the purge limit. This ensures that stories up to five hours old are never purged, even in a “low on space” emergency.

User Interface Tab



[NRCS]NOTES

Preview Lines 0

□ Inverted
□ Sequential
□ Refresh
□ Watch Appends

□ Batch Allowed
□ Printable
□ Confirm Edit
□ Text Timing

- **Preview Lines** – The Preview Lines spin box allows you to set a number of lines per story that will appear as a preview in the Queue panel. Usually, a queue will only show one line of information per story, similar to what appears in the fields of the Story Form panel. By applying the preview trait, users can also see a preview of each story's text in the Queue panel, without having to open the entire story. A setting of zero will show the one line of information that is the standard; A setting of one will show that line plus one line of text, and so forth. This trait can be overridden by a user's preferences. See "Preview Lines" on page 76 for more information. The maximum number of preview lines allowed is 22. This spin box is the equivalent of the dbtrait, `dis`, at the console.

- **Inverted** – The Inverted check box, when selected, will force the most recent stories in a queue to be displayed at the top. Otherwise, the most recent stories will appear at the bottom. This check box is the equivalent of the dbtrait, `+i`|`-i`, at the console.
- **Sequential** – The Sequential check box, when selected, will force a directory to list its contents—of sub-directories and queues—in the order in which they were created. Otherwise, the contents are listed in alphabetical order. This check box is the equivalent of the dbtrait, `+s`|`-s`, at the console.
- **Refresh** – The Refresh check box, when selected, assigns the Refresh trait to a queue, so the system will begin automatically refreshing your screen when changes are made in the queue. This means when you are looking at a queue in the Queue panel, you will immediately see changes made to that queue by other users. This check box is the equivalent of the dbtrait, `+refresh`|`-refresh`, at the console.

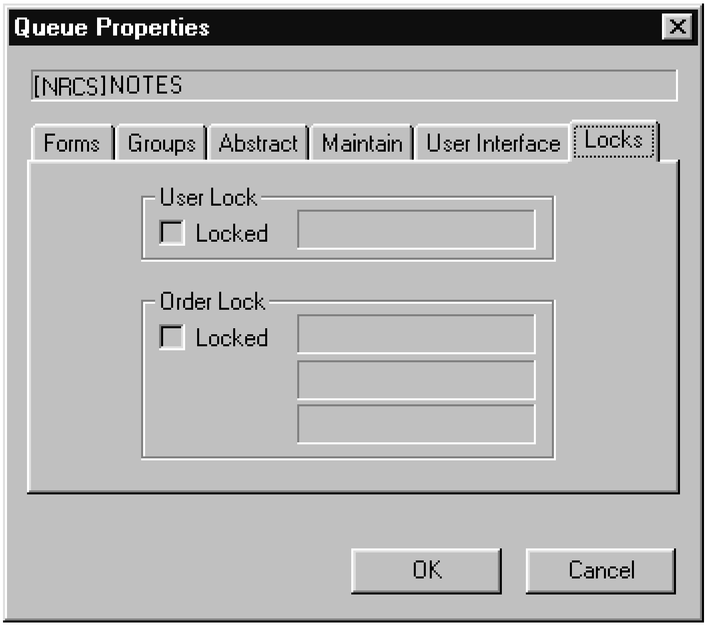
Use the Refresh trait only on important queues, like rundown queues that are often modified by multiple users simultaneously. To automatically refresh a queue, your system must spend a lot of time monitoring workstations where users are viewing that queue. Assigning the refresh trait to too many queues that are often accessed at the same time greatly increases the amount of work your system has to do and may severely degrade its overall performance.

- **Watch Appends** – The Watch Appends check box, when selected, allows a queue to monitor incoming data for new stories sent by the wire service, appends them to the wire queue, and immediately displays them to users who have that wire queue open. While this trait can be applied to any queue in iNEWS NRCS, it is crucial that it be assigned to queues that receive wire service data, such as the `WIRES.ALL` queue. This check box is the equivalent of the dbtrait, `+w`|`-w`, at the console.

- **Batch Allowed** – The Batch Allowed check box, when selected, indicates whether or not the kill, move, or duplicate operations can be performed against an entire queue. Unchecking this box for a particular queue does not affect the ability of people to kill, move, or duplicate individual stories in the queue, as long as they have appropriate permissions. This check box is the equivalent of the dbtrait, `+q | -q`, at the console. See Appendix G for more information on Batch Allowed, also known as Queue Operations Allowed.
- **Printable** – The Printable check box indicates whether you can use the print command to print all stories in the queue with a single command. This trait is usually applied to rundown queues, such as `SHOWS.5PM.RUNDOWN`. This trait does not limit or prevent the ability to print a single story (or script) in a queue. This check box is the equivalent of the dbtrait, `+p | -p`, at the console and applies to system printing.
- **Confirm Edit** – The Confirm Edit check box, when selected, will instruct iNEWS NRCS to prompt for confirmation before allowing a user to edit a story in the queue. This trait is typically assigned to queues in which users are likely to read but not change stories. It should not be assigned to queues with stories that are edited often. Doing so will needlessly slow down the performance of your system. This check box is the equivalent of the dbtrait, `+r | -r`, at the console.
- **Text Timing** – The Text Timing check box, when selected, activates the timing clocks that appear at the bottom of the Story panel for all stories in the queue. This check box is the equivalent of the dbtrait, `+t | -t`, at the console. The clocks are:
  - TTC – Time from start of story to cursor
  - BLK – Time of blocked (or highlighted) text

- EST – Estimated read time of entire story

Locks Tab



[NRCS]NOTES

User Lock
□ Locked

Order Lock
□ Locked

The Locks tab is unique for two reasons: first, it only appears in the Properties dialog box for a queue not a directory, and secondly, it is a read-only tab. It is provided for informational purposes only. It cannot be used to alter the Lock/Unlock settings of a queue.

- **User Lock** – The Locked check box in the User Lock section indicates that a user has either acquired an easy lock or a key lock on the queue. The User Lock field indicates the name of that user. If the queue is easy locked, access to the locked queue is limited to a system administrator (with a superuser account) or the user who locked the queue. If the queue is key locked, access to the locked queue is limited to a system administrator (with a superuser account) or any user who knows the key (password). The check box and field depict the current condition of the queue, so both are blank when the queue is not locked. However, you can find out the name of the last user to have locked the queue by going to the console.

- **Order Lock** – The Locked check box in the Order Lock section indicates the queue is order locked at present, which limits who can rearrange the order of stories in the queue. The Order Lock fields indicates the user name and device which implemented the order lock, and when it happened. The check box and fields depict the current condition of the queue, so both are blank when the queue is not order locked. However, you can find out the name of the last user to have order locked the queue by going to the console.

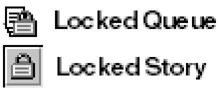
Locking and Unlocking

This section provides information on the types of locks and how to determine when a story or queue is locked and by whom. It also has information on how to remove certain locks.

Identifying Locked Queues and Stories

Varying information on which queues and stories are locked and by whom may be obtained from either the iNEWS Workstation or the console.

From the iNEWS Workstation...



At the iNEWS Workstation, you can identify currently locked queues by the padlock that appears over queue icons in the Directory panel. As shown at left, a similar padlock appears on the selector buttons in the Queue panel when stories are locked. While the padlocks do not tell you who initiated the lock, you can find that out for currently locked queues at the iNEWS Workstation by viewing the Queue Properties dialog box. The information is provided on the Locks tab as shown on page 141. To access this dialog box, right-click on the queue in the Directory panel, and select Properties.

If a queue or story is not locked at present, but you want to know who last locked it, you must use the console.

From the Console...

You can find out more from the console about locked queues and stories, even if they are no longer locked.

Finding out Who Last Locked a Queue

To find out the last user to have locked a queue, go to the console, and use the list command in the following format:

```
list  d-u  [<queue name>]
```

For instance, to find out who last locked the `PEOPLE.SNOW.MAIL` queue, type:

`list d-u people.snow.mail`

See Appendix G for more information on the list command one-letter flags.

The name of the person who last locked the queue appears in the lockuser column.

```
 SRPlo-LIsUGQSXWFiT    lockuser      directory
Q-------I----S----     edmonds       PEOPLE.SNOW.MAIL
```

In this case, edmonds appears to be the last person to have ever locked the `PEOPLE.SNOW.MAIL` queue. If the queue has never been locked, the name of the person who created the queue appears.

The L flag of the list command output shows whether the queue is locked at present.

Finding out Who Last Ordered a Queue

To find out who last order locked—that is, rearranged the order of a sorted queue and from which device the order was initiated, go to the console and use the list command in the following format:

```
list  d-o  [<queue name>]
```

For instance, to find out who last ordered the `CAST.MID.RUNDOWN` queue, type:

`list d-o cast.mid.rundown`

The name of the person who last ordered the queue appears in the orderuser column.

```
 SRPlo-LIsUGQSXWFiTorderuser    device  directory
QSRP-----sU-Q------williams     301     CAST.MID.RUNDOWN
```

In this case, williams was the last person to order this queue. If the queue has never been ordered, the order username will be blank and the device number will be zero (0). If no queue name is entered in the command, the order information for all folders and queues is displayed.

Using the list command does not *provide any indication of whether the queue is ordered at present.*

To resume sorting in a sorted queue that has been ordered, see “Starting the Queue Sort Function” on page 128.

Finding out Who Last Locked the Story

You can use the wholockedit command at the console to find out who last locked each story in a particular queue. Follow wholockedit with the name of the queue you want to investigate.

For instance, to find out who locked the stories in the `SHOW.10PM.RUNDOWN` queue, type:

```
wholockedit show.10pm.rundown
```

A screen similar to the following appears:

```
rec(4) locked by danielmi
       modified by danielmi on 2004-02-09 11:53:20
<fields>
<f id=page-number>A04</f>
<f id=presenter>DB</f>
<f id=title>MAYORAL RACE</f>
<f id=var-3>VO/W</f>
<f id=video-id>clip13</f>
<f id=mos-title></f>
<f id=event-status></f>
<f id=status>OK</f>
<f id=item-channel></f>
<f id=audio-time uec>20</f>
<f id=runs-time>0</f>
<f id=total-time>20</f>
<f id=back-time></f>
<f id=modify-date>1076349200</f>
<f id=modify-by>danielmi</f>
<f id=endorse-by></f>
<f id=cume-time></f>
<f id=air-date></f>
<f id=tape-time></f>
</fields>
```

In the previous example, the story, MAYORAL RACE, is the only one in the queue that is locked. The last user to lock and the last user to modify the story are provided; they aren't always the same. If no stories are locked in the queue, the system will display the message: `no stories locked`.

To see the status of every story in the queue, add `all` to the end of the command, after the queue name.

Types of Locks

There are four types of locks that can apply to either stories or queues: Edit lock, User lock, Order lock, Production lock. Not all the locks apply to both stories and queues. All four types are explained in the following sections.

Edit Lock

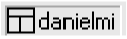
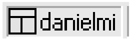
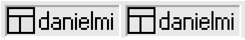
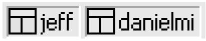
An Edit lock is applied to a story to prevent multiple users from editing the story at the same time. The Edit lock is applied in two ways:

- Manually – when a user types Ctrl+E. This locks both the story form and body when neither are already locked by the system.
- Automatically – by the system, which occurs in a segmented way when a user begins typing in either the story body or the story form.

  For instance, when a user types in the Story Text panel, the system locks the story's body. But another user may still type in the Story Form panel, which results in an automatic lock of the story's form for that user.

When a user attempts to manually lock a story by typing Ctrl+E, the system checks for segmented Edit locks. If one exists for either segment—the body or form—iNEWS notifies the user.

Additionally, edit lock indicators are provided on the Status bar.

 danielmi	The user, danielmi, locked the story form.
 danielmi	The user, danielmi, locked the story's body.
 danielmi danielmi	The user, danielmi, locked the entire story, body and form.
 jeff danielmi	The user, jeff, locked the story body, but the user, danielmi, has the Edit lock for the story form.

Removing a Story’s Edit Lock

The Edit lock is removed automatically when a story is saved, or when a user navigates to another location in the database. A user can manually remove the Edit lock (while remaining in the story) by saving the story or by doing one of the following:

- Type Ctrl+E.
- Select Story > Edit unlock.
- Click the Edit lock button on the Main toolbar (shown at left). The Edit lock is removed when the button no longer appears pushed in.

If a story is mistakenly left edit locked, it is considered to be in a busy state. You must unbusy the story before anyone can edit it. See “Unbusy Stories and Queues” on page 149 for more information.

User Lock

A User lock is a lock that is manually (or purposefully) applied to a story or a queue by a user to limit who can see the contents of the queue or story. Additionally, there are two types of User locks:

- A Key lock is when a user locks the queue and applies a password, known as a key, to the queue. At that point, only system administrators and users who know the key can access the queue or story.
- An Easy lock is when a user locks the queue or story and applies their User ID as the key to the queue. At that point, only system administrators and users who log in using that User ID can access the queue or story.

When the user forgets the key or is unavailable to log in and unlock the queue or story, you must remove the lock before anyone can access the queue or story.

Removing a Story’s User Lock Without a Key

Before you unlock any story, find out who locked the story. You want to make certain that you do not unlock a story that is being used at the time. See “Finding out Who Last Locked the Story” on page 144 for more information.

To unlock a story without knowing its key:

1. Log in as a system administrator—that is, with a superuser account. You must be a system administrator to remove a lock for which you do not know the key.
2. Double-click on the story to open it in the Story panel. The system will prompt for the key.
3. Press Enter. The story will open without the key, because you logged in with a superuser account.
4. Position your cursor in the Story panel.
5. Select Tools > Unlock Story. A User Unlock Story dialog box will appear.
6. Click the Unlock button.
7. Save the story.

Removing a Queue’s User Lock Without a Key

Before you unlock (unbusy) any queue, find out who locked the queue. You want to make certain that you do not unlock a queue that is being used at the time. See “Finding out Who Last Locked a Queue” on page 143 for more information.

To unlock a queue without knowing its key:

1. Log in as a system administrator—that is, with a superuser account. You must be a system administrator to remove a lock for which you do not know the key.
2. Select the queue to unlock.
3. Select Tools > Unlock Queue. The User Unlock Queue dialog box appears.
4. Click the Unlock button.

5. Click OK.

Order Lock

An Order lock is automatically applied to a queue by the system. The system places an Order lock on each queue being ordered—that is, while someone is moving a story in the queue. After the story is moved, the system automatically removes the Order lock. So, the lock only applies to the queue during the actual moving process. If you try to move a different story in a queue already being ordered, the system displays a busy message and temporarily denies order access to the queue.

If a queue is mistakenly left order locked, it is considered to be in a busy state. You must unbusy the queue from the console before anyone can order it. See “Unbusy Stories and Queues” on page 149 for more information.

Production Lock

A Production lock is similar to an Order lock in that it prevents multiple users from changing the order of a queue simultaneously. The difference is that a Production lock is manually applied to a queue by a user. Also, a queue will retain a Production lock until the user unlocks it.

To remove a Production lock from an iNEWS Workstation:

- Select Tools > Production Lock. A check mark appearing next to the Production Lock menu option indicates whether the lock in place.
- Navigate to another queue. Production Lock is disabled automatically.

If a queue is mistakenly left with a Production lock, it is considered to be in a busy state. You must unbusy the queue from the console before anyone can order it.

Unbusy Stories and Queues

Whenever a story or queue cannot be unlocked from a workstation, you can remove the locks by going to the console and using the unbusy command.

⚠ **Always ensure a lock is invalid first. Determine whether the edit or order lock is not the result of someone actually editing a story or ordering a queue. Unbusying a story or queue currently in use can cause serious problems.**

To unbusy a story or queue at the console:

1. Type the unbusy command
2. Follow it (on the same line) with the name of the locked queue or the queue that contains the locked story. For instance, if a locked story was in `SHOW.SCRIPTS` or that queue was order-locked, unbusy it by typing:

   `unbusy show.scripts`
3. Press Enter.

   One of the following will happen:

   - The unbusy command checks the queue for an Order/Production lock. If it finds one, the console displays the following prompt:

```
'shoe.scripts' Production locked by news from terminal
607 at 2004-02-28 17:51:46
User news no longer logged in at terminal 607 - Unlock?
(n/y/q)
```

To unbusy the queue, type **`y`**; otherwise, type `n`.

⚠ **Do not remove an order lock that you have not already determined is invalid.**

- The unbusy command checks for an edit-locked story in the queue. If it finds one, it checks the workstation where the story was last edited. If anyone is logged in at that workstation, the console displays the story’s form and prompts you to check with the person who is logged in at that workstation. For instance, if the story, Shootout, was last edited at workstation 11 and user, Smith, is currently logged in at workstation 11, the console displays the following:

```
WORKSTATION TAKE FROM MOVED STATUS  TIME
shootout 03-30 3044 APv1al--hr Fri Apr 26 17:37 READY 0:47
did you check with smith who is at workstation 11 ?
workstation(11) unbusy ? (n/y/q)
```

To unbusy the story, type **`y`**, which will remove the edit lock. Otherwise, type **`q`** to quit.

If a story is unbusied at the console while a user is editing it, when the user tries to save the story, the story is saved to the Dead queue, and the user gets an error message that states:

```
Story save failed: Error: Story saved to dead.
```

Chapter 6

Groups

This chapter explains how to create groups in iNEWS and use the system's group-related features to customize system usage. In some cases you will use the console, while in other cases, you can complete modifications from the iNEWS Workstation. When possible, procedures are explained using the workstation, but some can also be accomplished at the console, with extensive use of the gtraits command. This command is similar to the utraits command and the dbtraits command. All three commands are explained in Appendix G. This chapter also covers viewing and modifying information in the `SYSTEM.GROUPS` queue at the iNEWS Workstation and `/site/system` file at the console.

Topics covered in this chapter include:

- Overview
- Viewing Group Information
- Creating a New Group
- Group Checker
- Renaming a Group and Deleting a Group
- Creating or Modifying Multiple Groups
- Adding Members to an Existing Group
- Group Access and Usage Restrictions
- Group Traits for the Database
- Mail Aliases

Overview

The iNEWS newsroom computer system lets you categorize users by placing accounts belonging to people with similar needs into the same group. Organizing users in this way enables you to more easily customize your system to suit individual and small group needs. It also enables you to apply security restrictions at the group level.

For instance, you can:

- Restrict access to a particular queue so that only members of a certain group can use it
- Have the system notify a group of users when changes are made to a queue in which they are interested
- Send mail to a group name and have the system take care of the task of sending the mail to each individual in the group

You can create as many as 250 groups, and you can assign an unlimited number of users to each group.

Viewing Group Information

From the Console...

At the console, various versions of the gtraits command are used for viewing and modifying group information. You must be a console superuser before using any form of this command, as indicated by the below prompt, `NRCS-A#`. See “The Console Superuser” on page 23 for more information.

To get information for a list of all groups in the iNEWS database:

▶ Type: `NRCS-A#` **`gtraits list-`**

To get a list of all the members of a particular group, such as producers:

▶ Type: `NRCS-A#` **`gtraits list producers`**

To get a list of all groups a particular user belongs to:

- Type the command followed by the user's ID, such as:
  `NRCS-A# gtraits list danielmi`

Sometimes, for security reasons, groups are assigned as group traits to directories and queues in the database. This information can be viewed from the console by using the list d-v console command, which lists each queue's assigned read, write, and notification groups.

To list group information for a specific queue, use this format:

```
list d-g <queue name>
```

To list all queues in the database that have a particular group assigned as their read, write, or notification group, use this format:

```
list rwng=<group name> d
```

All of the gtraits list variants can be produced using `list g`.

From a Workstation...

You can also view group membership and group assignment information from an iNEWS Workstation. However, since groups are created at the console, the information you receive can potentially be out of sync with the information that is actually in the database. Therefore, use this method as a quick way to get information that you recognize may require verification at the console.

To view information about group memberships from a workstation:

1. Locate the `SYSTEM.GROUPS` queue in the Directory panel.
2. Double-click the Groups queue to open it.

   The Queue panel contains a list of the names of the existing groups with the first group name selected. The members of the group appear in the Story panel.
3. To view the contents of different groups, do one of the following:
   - Use the mouse to click a different group listed in the Queue panel.

- Use the Up or Down arrow keys or the scroll bar on the right side of the Queue panel to move to another group.
- Use Page Up or Page Down keys to scroll several groups (up or down) in the list at a time.

To view what group is assigned to a queue or directory for read and write access, or for notification purposes, do the following from a workstation:

1. Locate the queue or directory you want to know about in the Directory panel.
2. Right-click on the queue or directory.
3. Select Properties from the pop-up menu. The Queue/Directory Properties dialog box will appear.
4. Select the Groups tab. See “Groups Tab” on page 129 for more information.

Creating a New Group

Creating a new group is a three-step process:

- Step 1 - Choosing a Group Name
- Step 2 - Create New Group at Console
- Step 3 - Specifying Members of a New Group

The first part of the procedure must be done at the console. The last is done at the iNEWS Workstation.

Step 1 - Choosing a Group Name

Before you actually create a new group, you need to decide on the name of the group. To choose a group name, follow these guidelines:

- Group names cannot be more than 20 characters long and cannot contain spaces. A group name longer than 20 characters will be truncated to 20 characters.
- You cannot use a name already used as someone’s User ID.

- Some words are reserved by the system for special purposes, and cannot be used as names for groups. These words—which include: alias, all, group, and restricted—are defined in the Words dictionary as `W_ALIAS`, `W_ALL`, `W_GROUP`, and `W_RESTRICTED`, respectively.
- Choose a name that indicates the purpose or general makeup of the group, for instance, you may want to call the group that includes all your producers by the name “producers.”

View the list of groups in the `SYSTEM.GROUPS` queue to ensure the name you select is not being used for another group. If an existing group already uses a name, determine whether its members are the same as those users you want to assign to your group. The existing group may represent these users, so you can use it instead of creating a new one.

Step 2 - Create New Group at Console

To enter the new group name in the iNEWS database:

1. Verify that the new group name is not already used by typing the following kind of command at the console:

   ```
   NRCS-A# gtraits list fieldreporters
   fieldreporters is not a user or group name
   ```

   In the example, the system response indicates that fieldreporters is not currently a group name. You should receive a similar response before proceeding.

2. Use gtraits add to create the new group name in the system.

   ```
   NRCS-A# gtraits add fieldreporters
   Added group fieldreporters
   ```

Step 3 - Specifying Members of a New Group

To specify members of the new group at an iNEWS Workstation:

1. Open the System folder from the Directory panel.
2. Open the Groups queue.
3. Do one of the following:
   - Select File > New Story.

- Press the Insert key.

In the Queue panel, a blank row appears in the group list, and a blank story appears in the Story panel.

When your iNEWS newsroom computer system was installed, membership lists for several groups common to newsrooms were placed in the Groups queue. To make it easy to maintain, each list was placed in a separate story. Continue this convention to organize groups. You can put more than one group's membership list (or all of them) in a single story.

4. Type the name of the group, such as fieldreporters, in the Title (Slug) field of the Queue panel or in the corresponding field of the Story Form panel.
5. Press Enter.
6. Click inside the Story Text panel and type the group name and membership list in this format:

```
group fieldreporters
user-ID user-ID . . .
user-ID user-ID . . .
. . .
```

7. Select File > Save Story.

This procedure creates a story, stored in `SYSTEM.GROUPS`, that bears the group name and contains the membership list for that group. The system will refer to the story anytime its group is applied to security measures or other system features.

Group Checker

When you save your changes to a group, the system automatically runs the server program known as the group checker, which looks for errors in the stories in `SYSTEM.GROUPS`.

The group checker may also be run manually from the console by typing the command, `grpcheck`, using the following format:

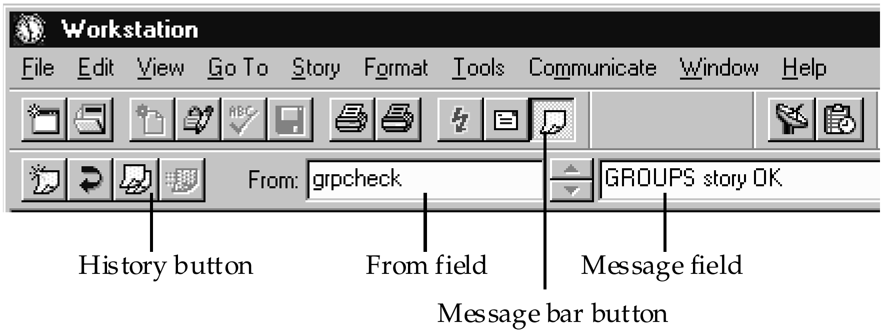
```
grpcheck [-v[v]] <name of queue>
```

For instance, to manually start the group checker to check group membership lists in the database, type: `grpcheck -v system.groups`

The group checker may take a minute or two to process. When it finishes, the system sends you one or more messages describing the results. The system alerts you to the fact that you have received a message by an audio tone and a flashing Message bar button in the menu bar.

Click the Message bar button to read the messages from the group checker. The name, grpcheck, appears in the From field. The messages appear in the Message field.

If the group checker finds no errors in the story you have created to list the members of the new group, you get a GROUPS story OK message.



From: grpcheck

GROUPS story OK

If the group checker finds an error, it sends a message indicating the story and the line in that story in which the error occurs. For a complete list of group checker messages, see “Group Checker Error Messages” on page 160.

In some cases, multiple errors are discovered, resulting in several error messages.

To display the entire list of error messages sent to you, do one of the following:

- Click the History button.
- Select Communicate > Messages > Show History.

You can also copy or paste the contents of the group checker messages to another file.

If the errors are not serious, the last message is GROUPS story accepted, with errors. The group checker applies changes that were not in error.

If there are serious errors, the last message is GROUPS story NOT Ok, indicating that the group checker could not use any changes because of errors.

The group checker examines whatever work you just completed along with everything else in `SYSTEM.GROUPS`. This means that if some of the error messages you see are not related to your changes, they are possibly the result of changes another user made in a different story in `SYSTEM.GROUPS`.

Group Checker Error Messages

The following is an alphabetical listing of error messages you may see when you create or edit group membership lists or alias definitions. The group checker usually takes a minute or two to completely process the stories in `SYSTEM.GROUPS` and report any error messages.

`Bad workstation device specification`

> You did not enter a workstation's device number or device name correctly. Usually, this happens because you did not use a closing brace (}) in the declaration.

`Cannot open default aliases file`

> The group checker could not open an internal file that it uses to check alias entries. Call Avid Customer Support.

`Cannot open new aliases file`

> The group checker could not create a new aliases file to reflect the changes you made. Call Avid Customer Support.

`Cannot save old aliases file`

> An internal error occurred. Call Avid Customer Support.

`Duplicate group or alias name`

> You tried to create two groups or aliases with the same name.

`Failed to open queue`

Due to an internal error, the group checker was unable to open `SYSTEM.GROUPS`. Call Avid Customer Support.

`Failed to open story`

Due to an internal error, the group checker was unable to open one of the stories in `SYSTEM.GROUPS`. Call Avid Customer Support.

`Group or alias word missing. Skipping text`

You did not begin a mail alias definition with the word, alias, or a group membership list with the word, ‘group’. This is followed by the line number where the group checker expected to find ‘alias’ or ‘group’. The `W_GROUP` and `W_ALIAS` dictionary tokens define what words, such as ‘alias’ or ‘group’, are used by the group checker. The tokens may be customized in the `/site/dict` directory on the iNEWS Server.

`GROUPS story accepted, with errors`

Errors appear in the group story, but none are serious. The group checker will use the entries that do not have errors. The entries that have errors are ignored.

`GROUPS story NOT OK`

Serious errors appear in the group story, and the group checker cannot use it.

`GROUPS story OK`

There are no problems with the group story.

`Ignoring words following alias name`

Any words you include on the same line after the name of the alias you are defining are ignored.

`Ignoring words following group name`

Any words you include on the same line after the name of the group you are defining are ignored.

`Improper use of reserved word`

You cannot use a reserved word, such as ‘alias’ and ‘group’, as a group or alias name.

`Internal groupchecker error`

Some undefined error occurred while the group checker was running. Call Avid Customer Support.

`Invalid name follows word “alias”`

The name of the alias is invalid, such as being too long. Check the alias and remove or correct the user name.

`Invalid name follows word “group”`

The name of the group is invalid, such as being too long. Check the group’s membership list and remove or correct the user name.

`More than 50,000 alias names created`

The system created many pseudo-alias names to break up individual aliases into lists of 1000 characters or less. Call Avid Customer Support.

`Missing alias name`

You did not follow the word, alias, with the name you want the alias to have.

`Missing group name`

You did not follow the word, group, with the name of a group.

`Name already used as alias name`

You created a group with the same name as an alias already defined in the story or queue.

`Name already used as group name`

You created an alias with the same name as a group already defined in the story or queue.

`No groups or aliases found`

All stories in `SYSTEM.GROUPS` are empty—they contain no aliases or groups.

`Not a workstation device`

You included something in braces ({ }) that is not a workstation device name or number. The message is followed by the name you tried to include as a workstation.

`Not a user or workstation`

You defined something that is not a recognized user or workstation as a member of a group.

`Recursive group membership`

You defined a membership list that created a recursion error. See "Group Access and Usage Restrictions" on page 171 for more information.

`User name used as group or alias name`

You cannot give a group or an alias the same name as an existing user.

Renaming a Group

To rename a group in the iNEWS newsroom computer system, you must complete two steps:

- Step 1 - Change Group Name in System
- Step 2 - Change Group Name in SYSTEM.GROUPS

Step 1 - Change Group Name in System

To change the group name in the system's database, do the following at the console:

▶ Type the gtraits r command, which has this syntax:

```
gtraits  r <old-group-name> <new-group-name>
```

For instance, to change the group name "producers" to "5pmproducers," type:

```
NRCS-A# gtraits r producers 5pmproducers
Renamed producers to 5pmproducers.
```

Step 2 - Change Group Name in SYSTEM.GROUPS

To change the name in the membership list story:

1. Locate the group's membership list story in `SYSTEM.GROUPS`.
2. Modify the name of the group, which appears in the the title field of the queue and story form, and on the first line of the story.
3. Change the group name if it appears as a member in any other membership lists.

If you do not do step 3, the next time you make a change in that story, the group checker warns you that the membership list uses an invalid group name. See "Group Checker" on page 158 for more information.

Deleting a Group

To delete a group in the system:

1. Delete the name in the system's database at the console using the gtraits d command, which has this syntax:

   ```
   gtraits d <group-name>
   ```

   For instance, to delete the group "5pmproducers", type:

   ```
   NRCS-A# gtraits d 5pmproducers
   Marked 5pmproducers for deletion.
   ```

   This first step is a two-stage process. The gtraits command you type marks the group for deletion. The group is actually deleted the next time the system runs the dbpurge process, which it does at 15 minutes past every hour.

You cannot use any gtraits commands on a group that is marked for deletion but still waiting to be deleted.

2. Delete the group name and its membership list story in `SYSTEM.GROUPS`.
3. Delete the group name if it appears as a member in any other membership lists.

If you do not do step 2, the next time you make a change in the queue, the group checker spots the deleted group’s membership list and warns you that it uses an invalid group name. If you do not do step 3, the next time you make a change in that membership list story, the group checker warns you that the membership list uses an invalid group name. See “Group Checker” on page 158 for more information.

Creating or Modifying Multiple Groups

The gtraits console command has an interactive mode in which you can execute group-related commands without entering gtraits each time. Use this mode when there are a number of gtraits commands you want to enter in succession.

To enter the gtraits interactive mode:

1. Become a superuser. See “The Console Superuser” on page 23 for more information.
2. Type:

   ```
   NRCS-A# gtraits i
   >
   ```

   The command replaces the normal system prompt with an angle bracket (>) to indicate that you are in interactive mode. At this prompt, you can enter any gtraits command, such as changegroup or add, without typing the gtraits command for each operation.

   For instance, to add the group “5pmproducers”, type:

   ```
   > add 5pmproducers
   ```

   If you were not in interactive mode, the entire command line would be required, such as: **`gtraits add 5pmproducers`**.
3. Type **`quit`** or **`q`** to leave interactive mode.

Adding Members to an Existing Group

There are three possibilities for membership in a group. For instance, an individual user can be a member of a group, one group can be a member of another group (making all the users of the first group members of the second), and a workstation can be a member of a group.

Users as Members of a Group

You must be at an iNEWS Workstation to change group membership.

To add individual users to an existing group:

1. Open the System folder from the Directory panel.
2. Open the Groups queue.
3. Locate the story or stories in your `SYSTEM.GROUPS` queue containing the group membership list you want to add or modify.
4. Open that story in the Story panel.
5. Type in the user ID(s) you want to add to the group.
6. Select File > Save Story.
7. Verify the approval of the story from the messages sent to you from the system's group checker server program.

Groups as Members of Other Groups

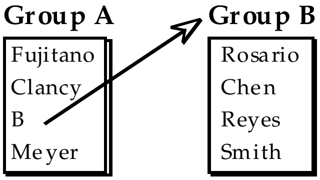
In addition to adding individual users to groups, you can add an entire group to another group. The members of the first group become members of the second group. The order in which you define groups in your `SYSTEM.GROUPS` queue is not important; however, care should be taken to avoid recursion.

Avoiding Recursion

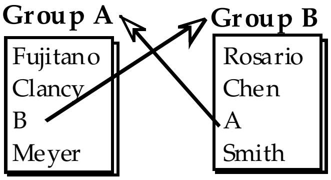
When you make groups members of other groups, do not create a membership list that contains a circular reference, also called *recursion*. The following is an explanation of recursion in a membership list.

When the group checker examines a group's membership list story, it builds an internal list of the group's members. If one member is the name of another group, the group checker must determine the members of the second group and add them to the first group's internal membership list.

For instance, in the following diagram, Group B is a member of Group A. When the group checker evaluates the membership list for Group A, it creates an internal membership list for Group A that contains users Fujitano, Clancy, Meyer, Rosario, Chen, Reyes, and Smith. This example is not recursive and causes no problems for the group checker.



Recursion occurs when the group checker cannot resolve memberships because one group in the chain refers to another group higher up in the chain. For instance, a case of recursion would occur if Group B is a member of Group A, but Group A is also a member of Group B.



The group checker cannot create internal membership lists for these groups. When it evaluates Group A, it sees that Group B belongs to Group A and tries to add B group's members to A group's internal list. However, one of the Group B members is Group A, which the group checker has still not resolved. The group checker cannot proceed.

If you see a recursion error message, examine your membership lists for incidents like this and remove the recursive reference. In the previous example, either remove Group B from the membership list for Group A or Group A from the membership list for Group B.

To check for recursion at the console:

- Type: NRCS-A# **grpcheck -v system.groups**

The group checker displays the title of the story in which it finds an error and a description of the error. For instance, after typing the grpcheck -v command, the following output shows a story with the title group_249 that has recursive entries in its membership list:

```
grpcheck: 09:09:13 [CONSOLE] [group_249] Recursive group membership
a->b->a
grpcheck: 09:09:13 [CONSOLE] [group_249] GROUPS story NOT OK
```

Workstations as Members of Groups

Suppose you have a workstation that is used by several staff members, all of whom are producers. When they use this workstation, they need access to the queues that members of the producers group normally have access to. When they are using other workstations, they do not need the special producer privileges.

You can grant the producer workstation the security permissions granted to the producer group by adding its session number as a member to the group called producers in SYSTEM.GROUPS.

When a user logs in at a workstation, the system ordinarily combines any system permissions the user already has with permissions the workstation may have. For instance, a user belonging to the writers group who logs in at a workstation assigned to the producers group would have access to directories and queues accessible to both groups.

System permissions that apply to workstations are assigned using the security parameter that is set in the /site/system file. The security parameter in this file is either OR or AND. OR security uses the security level set for either the user or the workstation. AND security uses the security level set for both the user and the workstation. For more information on how to edit the /site/system file, see Chapter 10, “System Configuration Files”.

A workstation can only be used as a member of a group if that PC is assigned a *dedicated* session in the iNEWS configuration file. For instance, an iNEWS Workstation, identified as 319, is assigned a certain group membership. Its configuration line appears with a specified session number, but is not dedicated to any particular PC, as shown:

```
inws  319   -            0      gnews  ;nondedicated
```

The session, 319, is *nondedicated*, meaning that *any* PC in the newsroom may be logged in on session 319, and therefore view whatever area is restricted to the group 319 is assigned to. To restrict a queue or directory to a specific workstation, such as 319, then in addition to adding that workstation's session number to the group's membership, the line in the configuration file must be *dedicated* to a specific PC's IP address.

```
inws  319  192-168-20-136 0      gnews  ;nondedicated
```

⚠ **Using session numbers in groups will provide proper security only if you have dedicated resources locking down specific PCs to specific resources in the configuration file. This requires that PCs have set IP addresses and would not work in a DHCP environment, where a PC may not always receive the same IP address. See "Group Access and Usage Restrictions" on page 171 for more information.**

Combining Permissions

Combining group and workstation permissions enables you to choose to apply additional security to your system, or less security:

- For additional security, you can specify that users at a particular workstation have membership in both human and workstation groups to perform certain actions.
- For less security, you can force the system to check only whether a user at a particular workstation is a member of either the human or the workstation group.

Being More Restrictive

To be more restrictive about the permissions granted to users, include the security parameter in your system profile and assign it the value "and."

For instance, you may use this security level for read permissions on a queue that should be read only by producers that are both members of the producers group and are sitting at the producers workstation.

Being Less Restrictive

Omitting the security parameter from the system profile or assigning it a value of “or” indicates that a user on a workstation is considered to be in a certain group if either the user or the workstation is a member of the target group.

Setting an Automatic Timeout

Either type of security described previously works well only if users log out from their workstations when they leave their desks. Otherwise, anyone with access to the workstation where a user logged in can take advantage of that user’s or workstation’s permissions.

To prevent this, you can set your workstations to automatically log out after a certain period of inactivity.

To do that, you need to edit one or more special timeout parameters in the system profile—that is, the `/site/system` file—at the console. See Chapter 10, “System Configuration Files” for more information on how to edit the `/site/system` file.

There are two types of timeout parameters:

- Idle timeout
- Login timeout

Modifying Idle Timeout

The most useful kind of automatic timeout is the idle timeout, which logs out a workstation if no activity has taken place on it in a specified length of time.

To change this value for local workstations (those that are most likely within the newsroom), modify the localtimeout value in `/site/system`.

To set the idle timeout value for dial-up workstations, modify the remotetimeout value in `/site/system`.

Modifying Login Timeout

You can set certain types of workstations to disconnect a user who does not log in within a certain length of time. For network workstations and DOS PCs, modify the netlogintimeout value in `/site/system`.

To set this parameter for dialup workstations, modify the logintimeout value in `/site/system`.

Timeout Value Settings and Format

All four timeout parameters accept values in the mmm:ss (minutes and seconds) format. The following table lists the parameters, the types of workstations they affect, and their maximum and default values.

Parameter	Workstation types	Maximum	Default
`localtimeout`	Serial, network, PCs	540:00	00:00*
`remotetimeout`	Dial-up (line devices and connect sessions)	540:00	00:00*

* Disables timeouts

Group Access and Usage Restrictions

The iNEWS newsroom computer system is designed to be used by a large group of people, ranging from temporary writer interns to technical producers. To ensure the correct level of security on a system that is accommodating such a wide range of capabilities and responsibilities, restrict access to sensitive areas of the database to people with a need to access the information.

The iNEWS newsroom computer system has security features that let you provide these kind of access restrictions. For instance, you can assign groups to a queue as a read and/or write group trait. By doing so, you can control which users can read and/or write stories in that queue.

⚠ **If you do not assign groups to a directory or queue as read and write group traits, the directory or queue is available to all users.**

Access and Usage Examples

Here are some other examples of how access is modified based on group trait assignments:

- If a user's ID does not appear in the group(s) assigned as both read and write group traits for a queue, a user will be unable to create a story in that queue. In other words, the user will not have read and write permission to that queue.
- A user also needs both read and write permission to lock or unlock a queue.
- A user who has only write permission to a queue can copy or move a story into that queue; however, without read permission, the user will be unable to see the queue and its contents in the Directory panel.
- It is possible to change a directory's read or write group, and thereby modify the read-and-write permissions for all the stories in all the queues in that directory.
- Stories that you move or duplicate into a queue whose general trait is turned on, retain their original security. For instance, the Dead queue usually has this trait turned on so that stories moved there retain the read-and-write restrictions from their original queues.

Group Traits for the Database

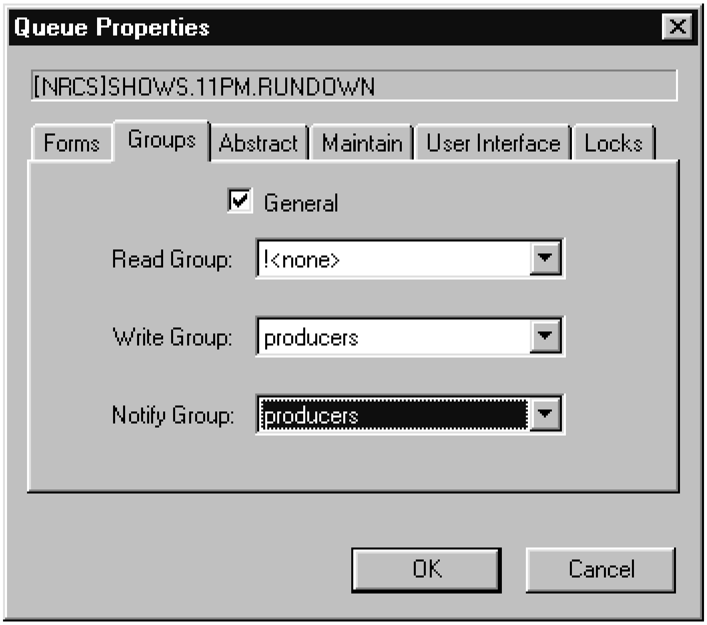
There are four group traits that can be assigned to queues and directories in the database:

- General

- Read Group
- Write Group
- Notify Group

You must be a system administrator—that is, logged in with a superuser account—or know the database manager password to modify any trait in the Directory/Queue Properties dialog box. See "Directory/Queue Properties Dialog Box" on page 121 for more information..

All four of the group traits can be assigned at the console and the iNEWS Workstation. For procedures at the console, see "Groups" on page 793 for more information. Procedures at the workstation, using the Groups tab in the Directory/Queue Properties dialog box, are covered in this chapter.



Queue Properties

[NRCS]SHOWS.11PM.RUNDOWN

☑ General

Read Group: !<none>

Write Group: producers

Notify Group: producers

The General trait, when applied to a queue, means that stories moved to the queue will retain their original security restrictions, as set by the read and write group traits. This will prevent any unintentional accessibility to stories that are moved from a highly secure queue to one that is widely accessible to users.

The other three group traits (Read, Write, and Notify) restrict who can read or write stories in a queue and indicate who is notified when stories are changed in it. Each of these group traits is explained in the following sections. See “Groups Tab” on page 129 for more information.

The General trait would normally be assigned to the Dead queue.

When a group assignment on a queue is changed from the GUI, the group security assigned to the stories in the queue is changed and the system automatically re-applies the security change to each individual story. If there are many stories in the queue, the client will apear to hang while the new security setting is adjusted for each story and control will not be returned to the user until it is done.

If the queue has the General trait, changing the group security on the queue does NOT change the security assignment on the pre-existing stories created under the old group assignment.

Read Group

A directory or queue’s read group specifies who can read stories in the queue. Users who are not in the read group for the directory or queue cannot see the directory or queue in the file structure displayed in the Directory panel.

To assign a group as a read group to a queue or directory:

1. Locate the directory or queue you want to modify in the Directory panel.
2. Open the Directory/Queue Properties dialog box by right-clicking on the folder or queue in the Directory panel and selecting Properties from the pop-up menu.
3. Select the Groups tab.
4. Select a group from the Read Group drop-down list. Only groups that are already created in the system database will appear in the list. When `!<none>` is selected, no group is applied; therefore, all users will have read access to the queue or directory.
5. Click OK to save settings.

To remove a group as a read group from a queue or directory:

1. Locate the directory or queue you want to modify in the Directory panel.
2. Open the Directory/Queue Properties dialog box by right-clicking on the folder or queue in the Directory panel and selecting Properties from the pop-up menu.
3. Select the Groups tab.
4. Select `!<none>` from the Read Group drop-down list. When `!<none>` is selected, no group is applied; therefore, all users will have read access to the queue or directory.
5. Click OK to save settings.

Write Group

A queue’s write group specifies who can add or modify stories in the queue.

Users cannot kill stories if they are not in the write group for the Dead queue.

To assign a group as a write group to a queue or directory:

1. Locate the directory or queue you want to modify in the Directory panel.
2. Open the Directory/Queue Properties dialog box by right-clicking on the folder or queue in the Directory panel and selecting Properties from the pop-up menu.
3. Select the Groups tab.
4. Select a group from the Write Group drop-down list. Only groups that are already created in the system database will appear in the list.
5. Click OK to save settings.

To remove a group as a write group from a queue or directory:

1. Locate the directory or queue you want to modify in the Directory panel.
2. Open the Directory/Queue Properties dialog box by right-clicking on the folder or queue in the Directory panel and selecting Properties from the pop-up menu.
3. Select the Groups tab.
4. Select `!<none>` from the Write Group drop-down list. When `!<none>` is selected, no group is applied; therefore, all users will have write access to the queue or directory.
5. Click OK to save settings.

Notification Group

A queue's notification group specifies which users are notified whenever stories are added to or modified in the queue.

To assign a group as a notify group to a queue or directory:

1. Locate the directory or queue you want to modify in the Directory panel.
2. Open the Directory/Queue Properties dialog box by right-clicking on the folder or queue in the Directory panel and selecting Properties from the pop-up menu.
3. Select the Groups tab.
4. Select a group from the Notify Group drop-down list. Only groups that are already created in the system database will appear in the list.
5. Click OK to save settings.

To remove a group as a notification group from a queue or directory:

1. Locate the directory or queue you want to modify in the Directory panel.
2. Open the Directory/Queue Properties dialog box by right-clicking on the folder or queue in the Directory panel and selecting Properties from the pop-up menu.

3. Select the Groups tab.
4. Select `!<none>` from the Notify Group drop-down list. When `!<none>` is selected, no group is applied; therefore, no users will be notified whenever modifications are made to the queue or directory.

Click OK to save settings.

Restricted Group

Members of the restricted group are prevented from accessing directories and queues that have no group traits assigned. For instance, if you set a queue's Read and Write group settings—located on the Groups tab of the Directory/Queue Properties dialog box—to `!<none>`, then that queue has no Read or Write group assigned; therefore, a member of the restricted group will not be able to see or write to that queue. The restricted group is commonly used at sites for temporary users. The system administrator can assign a temporary user to the restricted group and then to a limited set of specific groups. That user is then restricted to only those directories and queues that have those specific groups.

Restricting Both Reading and Writing

You may need to restrict a queue so that one group of users can read and write in that queue, while another group can only read stories.

Suppose you want to restrict your Assignments directory. In most systems, a few people—mostly those at the assignments desk—need write permission to this directory. A larger number of users, such as writers and reporters, need to read, but not edit, stories in the Assignments directory.

The people who should have read-and-write permission for the Assignments directory come from different areas of the newsroom, so it is unlikely a group exists with just those users. However, you could set it up like this:

1. Create a group called assignments to represent users who need write permission for the Assignments directory.
2. Similarly, create a group called staff to represent users who need read permission.
3. Assign the staff group to the directory's read group trait and the assignments group to the directory's write group trait.

Transferring Group Assignments

You may need to locate every instance where a particular group is assigned to a directory or queue and change that assignment so that another group is assigned to that directory or queue. Use this form of the gtraits console command:

```
gtraits  transfer current-group-name new-group-name
```

Groups are marked for transfer, but no changes are made to any directories or queues until dbpurge runs. Both groups that you include in the gtraits transfer command must already exist.

Hiding Queues and Directories

In addition to restricting access to various queues, you can use group access and usage restrictions to hide queues or directories by placing a strict read restriction on them.

A number of queues on your system probably have very tight write security to ensure that only certain users can create and edit stories in those queues. If other users do not need to read the stories in the queue, you may give the queue tight read security. This prevents the queue from appearing on unauthorized users' screens. Some examples of this are the Dead queue, a Suggestions queue, an Employee Evaluations queue, and so forth.

All users that you want to have the capability to send stories to these queues need to have write access to the queue, but not necessarily read access. For instance, all users will need write access to the Dead queue so *they can delete stories in other queues, which then moves them to the Dead queue. But you can limit who has access to the Dead queue by using the read group trait to restrict access to a certain group of users.*

Another example is the System directory, which is usually restricted so that only superusers can write stories there. You can hide this directory so that it does not appear in the main directory for normal users by setting its read group to a group that has no users. Because superusers can read everything in the database, they can still see the directory.

Many put the system administrator's name in the sysop group for e-mail purposes.

For this example, your system could use an empty group called sysop, which is then assigned as the read group trait for the System directory.

To set the System directory's read group to sysop:

1. Locate the directory or queue you want to modify in the Directory panel.
2. Open the Directory/Queue Properties dialog box by right-clicking on the folder or queue in the Directory panel and selecting Properties from the pop-up menu.
3. Select the Groups tab.
4. Select the sysop group from the Read Group drop-down list. If it does not appear in the list, it has not been created in the system database. See "Creating a New Group" on page 156 for more information.
5. Click OK to save settings.

Mail Aliases

Some groups already in your system probably represent collections of people to whom you or other users want to send mail. For instance, you may want to send mail to all the producers in your newsroom. Producers probably already exist as a group in your system, and the mail system can use the producers group membership information to direct the mail to the right people.

You may also want to send mail to a group like the entire staff of your 5 p.m. newscast. That group may not already exist, and the need for such a group may be related solely to mail delivery and not system security.

If you have such a need, do not create a group solely to meet the mail delivery objective. Use a mail alias, instead.

Creating a Mail Alias

A mail alias is a name up to 20 characters long that represents a group of people who often receive similar mail. Each mail alias acts like a distribution list. This way, instead of sending mail to each user individually, you can send mail to the alias and the mail server distributes a copy of the mail story to each user on the group's membership list.

Like groups, mail aliases are defined in stories in the Groups queue in the System directory.

You can have an unlimited number of aliases, but only 250 groups. Groups should primarily be used for security purposes; Aliases are not used for security purposes, only for mail delivery.

To create a mail alias, do the following at an iNEWS Workstation:

1. Open the System folder in the Directory panel.
2. Open the Groups queue.
3. Select File > New Story.

   A new blank Story panel appears. In the Queue panel, a blank entry in outline appears.
4. Type the name of the alias in the blank field of the Queue panel or in the corresponding title field of the Story Form panel.
5. Click inside the Story panel and type the alias name and membership list in this format:

   ```
   alias alias-name
   user-ID user-ID group-name …
   user-ID alias-name …
   ```

An alias's membership list must begin with the word `alias` followed by the name of the alias and one or more lines that list user IDs, groups, or aliases that you want to include.

6. Select File > Save Story.

While using aliases for mail distribution, the removal of a user's account may result in mail bounce back errors if that user's name remains listed in `SYSTEM.GROUPS` *stories. Remember to remove users names from stories in* `SYSTEM.GROUPS` *before removing the user accounts from the system. This will reduce the potential for mail bound back errors.*

Mail Aliases for Other Machines or the Internet

You can send mail to a user on another system connected to your system over the network. When you put a network mail address in a mail story's TO field, the mail server routes the mail to the correct address, which can be another machine on your iNEWS system or anywhere on the Internet.

You can make it easier to use network mail addresses by assigning them mail aliases. Then, when you want to mail to someone who is not on a system connected to yours, use the mail alias.

To assign a mail alias to a network mail address, do the following at an iNEWS Workstation:

1. Open the System folder in the Directory panel.
2. Open the Groups queue.
3. Select File > New Story.

   A new blank Story panel appears. In the Queue panel, a blank entry in outline appears.

4. Type the name of the alias in the blank field of the Queue panel or in the corresponding title field of the Story Form panel.
5. Click inside the Story panel and type the alias name and membership list in this format:

   ```
   alias alias-name
   network-address...
   ```

For instance, to assign the network address `jan@kbba_a.bba` to a mail alias called Jan, type:

```
alias Jan
jan@kbba_a.bba
```

6. Select File > Save Story.

Chapter 7

Keyboards and Macros

Macros are time-saving routines you can assign to a key or key combination on your keyboard, which then can be evoked with one or two simple keystrokes. A single macro can be the shortcut to an entire command sequence.

A keyboard is a group of macros (programmable key definitions) that is stored in a description (story) file in the system directory. Each keyboard typically contains macros grouped according to specific job or task, such as a Producer keyboard.

This chapter explains how you can use macros and description files to customize keyboards within the following sections:

- Understanding Macros and Keyboards
- Customizing Workstation Keyboards
- Creating a Macro
- Keyboard Checker
- Assigning a Default Keyboard to a User

Understanding Macros and Keyboards

Macros let the user enter multiple characters and commands with a single key or key combination. You, as the system administrator, determine the function of each macro key. You can assign any command, sequence of commands, or plain text to a key or key combination. A set of macros is called a keyboard because it defines various actions that take place based on the keys pressed on an actual keyboard. A keyboard is usually created to contain a set of macros associated with a specific job, such as writer or producer.

For instance, suppose a writer in your newsroom frequently writes scripts for a particular reporter. You can assign the text in that reporter's usual sign-off to a macro key on the writer's keyboard. Then the writer could put the entire text of the reporter's sign-off in stories by pressing that key. This same key may be associated with a different macro, such as one that opens a rundown queue, if the user is a producer using a different keyboard, or set of macros.

Keyboards in iNEWS are stored in queues in the `SYSTEM.KEYBOARDS` directory. See "Customizing Workstation Keyboards" on page 184 for more information.

You can assign macros to function keys, such as F1, F2, F3, and so forth, across the top of the keyboard and to the numeric keys on the numeric keypad, located at the right side of the keyboard. On iNEWS Workstations you can use other keys known as state keys, such as Control (Ctrl), in conjunction with the function and numeric keypad keys as shortcuts to entire command sequences. See "Creating a Macro" on page 187 for more information.

Customizing Workstation Keyboards

An iNEWS Workstation keyboard can contain more than 100 macros, representing possible states of the 12 function keys plus the 10 numeric keypad keys.

For example, possible combinations for F7 are:

F7	Ctrl+Shift+F7
Shift+F7	Alt+Shift+F7
Ctrl+F7	Alt+Ctrl+F7
Alt+F7	Alt+Ctrl+Shift+F7

The iNEWS newsroom computer system will not recognize the Shift state key used in combination with the numeric keypad keys. For instance, `{Shift-{Ctrl-{kp9}}}` *is the same as* `{Ctrl-{kp9}}`. *If a user attempts to create a macro with this combination of keys, the system's keycheck program will issue an error message:* `(M_NUMKEYNOSHIFT) "Shifted numeric keypad 0-9 keys cannot be assigned."`

The keyboard, or set of macros, is actually a story that is saved in a specific location in iNEWS. The macros are listed as text in the story. To create a keyboard containing a set of macros for iNEWS Workstations, you create a story in one of the queues in the `SYSTEM.KEYBOARDS` directory.

The first story in the queue with a title containing the string `inws`, which is not case-sensitive, is used as the keyboard macro definition story for iNEWS Workstation.

Creating a New Keyboard Story

To create a new keyboard story:

1. Create a queue to hold the story in `SYSTEM.KEYBOARDS`. To do this from the Directory panel:

   a. Navigate to `SYSTEM.KEYBOARDS` and right-click on the folder.

   b. Select New Queue.

   The queue name must begin with a three-digit number. Append a hyphen immediately after the number, then a descriptive name for the keyboard. If the number is less than 100, you must supply leading zeros.

   For instance, to create a new keyboard named Producers, you could name the queue `005-PRODUCERS`.

Queues with the number 256 or greater will not work. The valid numerical range for queue names is 000-255 as shown in the follow examples: `system.keyboards.000-installation` `system.keyboards.255-archivist`

You can have at most 250 queues defined in `SYSTEM.KEYBOARDS`. Although the numbers 251-255 are valid, you cannot have actual queues numbered 251-255, since those would exceed the 250 limit on the number of queues in a single directory.

2. Open the newly created queue. To do this from the Directory panel, do one of the following:
   - Double-click on the Queue icon
   - Select the queue and press Enter.
3. Press the Insert key to create a new, blank keyboard story in the queue.

   If an existing keyboard story is similar to the new keyboard description you want to create, you can copy it into the queue and modify it rather than creating a keyboard story from scratch.

If writing macros for iNEWS Workstation, the story's slug must contain inws in it.

4. Create or modify the macros in the keyboard story. See "Creating a Macro" on page 187 for more information.
5. Save the keyboard story.

The "key" mailbox is used by the iNEWS keycheck program, which checks for errors immediately after a keyboard story is saved. See "Keyboard Checker" on page 194 for more information. The "key" mailbox must be set on keyboard queues. The mailbox trait can be viewed and changed from the Directory Properties dialog box. See "Directory/Queue Properties Dialog Box" on page 121 and "Maintain Tab" on page 133 for more information.

Creating a Macro

Keyboard macros begin with the "at" symbol (@) and are written in segments which make up a macro definition. The segments include a Key Indicator, a Separator symbol (~) , an Action, and an optional Comment. The segments must appear in the proper order for the macro to work correctly.

For instance: <Key Indicator> <Separator> <Action> <Comment>

The following is an example of a macro definition:

```
@{f4}~{alt gd}wires.all{enter};Go to wires.all
```

This macro allows the user to press F4 to navigate to the `WIRES.ALL` queue rather than completing the longer process—typing Alt+G+D to open the Destination dialog box, then typing **`WIRES.ALL`**, and pressing Enter—to do the same thing.

The segments of the sample macro definition are explained below:

Macro segment	Function
@{f4}	The Key Indicator begins the macro definition line with the @ symbol. Then, {f4} indicates that the macro is invoked when a user presses and releases the key(s) defined within the braces—in this case, the F4 key. The braces { } are used to group letters together as one key or combination of keys.
~	The Separator is the tilde character (~) and it divides the key you are defining from the action that the macro is to perform.
{alt gd}wires.all{enter}	The Action includes a series of keystroke combinations. {alt gd} presses Alt, then types `gd` (for the Go, Destination drop-down menu options), and releases Alt. Then `wires.all` is typed in the text field in the Destination dialog box. And {enter} presses the Enter key and releases it.
;Go to wires.all	The optional Comment begins with the ; and provides a description of what the macro does.

Adding Comments

Do not use the semicolon character in a macro. If you include a semicolon (;) in a description line in iNEWS, everything following that character is treated as a comment by the system and is ignored.

A keyboard macro in iNEWS NRCS can be as long as you want. All text that appears with an “at” symbol (@) at the start of a paragraph through to the end of that paragraph is considered to be part of a macro (except for comments as indicated by a semicolon).

If you create a macro longer than 80 characters, let the system wrap the cursor around to the next line. When you finish the macro, press Enter to start a new line for another macro. However, be sure that the next line starts with the @ symbol or a semicolon.

If you end a paragraph and start another paragraph with anything other than an @ symbol or a semicolon, you will get an error message indicating an invalid key definition.

Assigning Macros to Keys

Keyboard macros for iNEWS NRCS are written using the key names which are in the file: `/site/dict/keymacros`. You can use alphabetic and numeric keys, and most punctuation marks in a macro. However, some punctuation marks are reserved for specific functions within a macro, as shown in this section’s Key Names table.

For instance, because the open brace ({), close brace (}), and tilde (~) characters have special meanings, you cannot use them as plain text in a macro. You can use the @ symbol in the action of the macro—to the right of the Separator, or tilde(~)—but not as plain text on the left-side of the Separator, where it indicates the start of a new macro definition.

Only certain keys can be defined as indicators for macros. On the iNEWS Workstation, you can define macros for the function keys, and the numeric keypad keys, located at the right side of any standard PC keyboard.

To use the numeric keys on the numeric keypad, Num Lock must be off.

In most cases, you can define macros by combining the function or keypad keys with one or more state keys, such as Alt+F7. The other keys—listed in the second part of Key Names table as Edit, Arrow, and Miscellaneous keys—can appear in macros, but cannot have macros assigned to them.

Key Names

Function Keys	Keypad Keys	State Keys	Edit Keys	Arrow Keys	Miscellaneous	Reserved
f1	kp0	shift	insert	up	tab	@ (in Indicator)
f2	kp1	ctrl	home	down	backspace	~
f3	kp2	alt	pageup	left	space	{
f4	kp3		pagedown	right	enter	}
f5	kp4		end			;
f6	kp5					
f7	kp6					
f8	kp7					
f9	kp8					
f10	kp9					
f11						
f12						

Predefined System Function Keys

Some function keys have predefined system functions, such as F1, which opens the iNEWS Online Help System. These keys are provided as accelerator keys for common user functions.

⚠ **Redefining these predefined keys is allowed, but is not recommended. If you save a macro for a key that has a predefined function, the system displays a warning message stating that a reserved key has been redefined. See "Warning Messages" on page 197 for more information.**

The following table shows the standard predefined system function keys.

Function Key or Key Combination	Predefined System Function
F1	Opens the iNEWS Online Help System
F2	Edit a field (or cell) in the Queue panel
F3	Find Next
Alt+F4	Exits the iNEWS program
Ctrl+F4	Closes a workspace
F5	Refreshes display in Queue or Story panel
Ctrl+F5	Discard changes
F6	Toggles between Instruction panel (production cue) and Story Text panel
Shift+F6	Toggles between Story Text and Story Form panels
F7	Opens Wire Urgent Workspace (Wire Priority queue)
Shift+F7	Opens Wire Alert History window
F8	Toggles Message toolbar on and off
Shift+F8	Opens Message History dialog box
F9	Toggles Mail Workspace open and closed

State Keys

The Alt, Shift, and Ctrl keys are known as state keys, because their state affects what happens when another key is pressed. For instance, pressing F7, Shift+F7, Alt+F7, Alt+Shift+F7, and so on, can execute different macros.

To include a state key in a macro:

1. Begin with an open brace character (**{**)to indicate that a key is being pressed.
2. Follow with the name of the state key, such as Alt.
3. Since a state key does not do anything by itself, enter the name of the next key pressed along with it. Enclose this key in another set of braces `{ }` if it is a function or numeric keypad key, such as F7 or `kp1`.
4. End with a close brace character (**}**) to indicate the release of the state key.

The iNEWS newsroom computer system will not recognize the Shift state key if used in combination with the numeric keypad keys. For instance, `{Shift-{CTRL-{kp9}}}` *is the same as* `{CTRL-{kp9}}`

You can use state keys in the Indicator or Action sections of a macro—either as the indicator for defining the macro key combination or within the actions that the macro is to carry out. Here is an example:

```
@{alt{f8}} ~ {alt crl}
```

In the example, a state key is in the key indicator combination (Alt+F8) that executes the macro which contains another state key in the macro action itself (Alt+C+R+L).

Braces are used to group letters that are key names or key-combinations. For instance, `{alt{f8}}` is not the same as `{alt f8}`. In the first example, the Alt key is held down while the function key, F8, is pressed. In the second example, the Alt key is held down, while two separate keys, F and 8, are pressed in sequence.

The following table shows more examples of key combinations and how they appear in macros. The second combination shows how to write a macro using multiple state keys combined. It does not matter whether letters like these are in uppercase or lowercase in macros.

Key Combinations	Macro
Ctrl+kp1	`{ctrl{kp1}}`
Alt+Shift+F7	`{alt{shift{F7}}}`
Alt+G+D	`{alt gd}`

Using Plain Text in Macros

Besides using individual keys and key combinations in a macro definition, you can also have the macro enter plain text. This could be text you include in stories often or text that you enter in the fields of a dialog box in iNEWS. For example:

```
@{ctrl{f9}}~{space} Roll tape - Sound up full
{space}{enter}
```

Whenever you include plain text in a macro, all spaces in the text are preserved. The case (lowercase or uppercase) is preserved as well.

Repeating Macros

If there are actions performed at the workstation that require executing the same command or series of commands over and over, you can create a repeating macro that performs this action. Once invoked, a repeating macro executes at regular intervals until the user presses Ctrl+Break or Escape.

To have a macro in an iNEWS keyboard perform a repeating function, place the command `{repeat}` just before the actions you want the macro to repeat.

As an example, create a macro that makes it easier to browse wires and assign it to the F4 key. This macro takes the user to `WIRES.ALL` and then scrolls down one story at a time. It pauses briefly on each story, so the user can read the title and decide whether to read the story. The user stops scrolling by pressing Ctrl+Break or Escape.

To create this repeating macro:

1. Begin the macro by typing **`@{f4}~`** to indicate that it is for the F4 key.
2. After the Separator (~), type **`{alt gd} wires.all {enter}`** to open a window displaying `WIRES.ALL`.
3. Add the repeating portion of the macro, which moves the user down one line at a time at regular intervals. Begin by typing **`{repeat}`** to indicate that what follows is repeated. Then type **`{down}`** to move the cursor down one line in the queue.

The range for the `{pause}` option is 1 to 60 seconds.

4. Use the `{pause}` command to make the macro pause a few seconds on each story. Follow this command with the number of seconds you want the repeating macro to pause. To make the macro pause two seconds before repeating, type **`{pause 2}`**.

   The macro should be one continuous line of text. Otherwise, allow the computer to wrap the text if it extends beyond screen margins.

The completed macro looks like this:

```
@{f4}~{alt gd}wires.all{enter}{repeat}{down}
{pause 2}
```

Notes of Caution for Creating Macros

When creating macros—whether or not they are repeating macros— care should be taken. First, certain commands should never be used in macros.

⚠ **Do not use the Duplicate or Kill commands in repeating macros. Doing so raises the risk of accidentally killing the wrong stories or filling up the database and causing a “low-on-space” condition.**

Secondly, all macros should be created using steps only to a point where varying options are not a possibility. For instance, a system administrator wants a macro designed to open a story and type a specific production cue on a certain line, then save the story and open the next one in the lineup. The system administrator must keep in mind that the process for editing stories may vary for each user depending on user preferences or queue location. In other words, in some cases, a user may start to save a story and be prompted by a dialog box that requests confirmation. This confirmation box is a user preference that varies with each user. A similar confirmation dialog box may appear if a user is opening a story in a read-only queue. So, any macro must incorporate these possibilities or stop prior to them. Otherwise, the macro may hang up on an unexpected dialog box.

To immediately stop a macro that is in progress for any reason—including one hung up on an unexpected dialog box—press the Escape (Esc) key.

Keyboard Checker

Whenever you modify and save macros in a keyboard description story, the system checks the keyboard and all its macros for problems that may prevent the macro from working properly. If it finds a problem, it sends you a message describing the error.

Error messages are prefixed with `inws macro #%d`*. The* `%d` *represents the macro number. Macros are numbered from one (1) at the beginning of the story. Some of the error messages will include the macro key identifier.*

The iNEWS system will also issue a warning if any predefined system function keys—that is, those keys reserved for iNEWS system functions—are replaced with a macro. This warning can be ignored if you want to override the pre-defined system function keys with a macro. See "Predefined System Function Keys" on page 189 for more information.

As long as you get a `Keyboard ok` message, the description story can be used, but go back and fix any noted problems so the keyboard does what it is supposed to.

Error Messages

The following table contains a list of messages from the message dictionary that can appear after you save a keyboard description story.

Error message	Explanation
`Duplicate key description (M_KEYDUP)`	You defined the same function key twice in the story; remove one of the definitions.
`First key description does not begin with @ (M_KEYSTART)`	You must use an @ symbol as the first noncomment character in the description story.
Invalid key number (M_KEYRANGE)	You tried to define a function key with a number that is not supported.
`Keyboard description contains too many characters (M_KEYLONG)`	This description story is too long. Shorten the macros by using command abbreviations, or deleting macros you do not use.
`Keyboard NOT usable (M_KEYBAD)`	You must fix the errors in this description story before you can use it.
`Keyboard ok (M_KEYOK)`	You may use this keyboard, even if it has errors.
`Missing key number separator (~) (M_KEYSEP)`	You must follow the key number of an extended programmable key with a tilde (~).
`Not enough key descriptions (M_KEYMIN)`	You must include lines for all the standard VT keys. Include only the key's number on a blank line, if you don't want to assign a function to a standard key.
`Warning: a key definition contains a repeating function (M_KEYREP)`	One of your key definitions has a repeating function. If this is not what you want, edit the description.
`Warning: badly placed @ exists in key definition line (M_KEYFUNKY)`	A line in the story contains an @ symbol that is not the first character in the line or between two commands. If this is not what you want, edit the description.

Error message	Explanation
`Memory allocation error(M_BADMEMORY)`	An internal error; contact Avid Technical Support.
`Unable to stack keywords (M_BADSTACK)`	An internal error; contact Avid Technical Support.
Mismatched {} (M_MISMATCH)	The macro does not have paired brackets.
`No {} found for reserved word (M_RESWORD)`	A reserved word (key name) was found but was not enclosed in brackets.
`Could not locate }%d (M_NOLOCATE)`	Unbalanced { } pairs. Missing a }. The %d represents the occurrence number of the expected }.
`Circular reference to macro #%d: (M_REFERENCE)`	A circular reference was found in the macro. The %d represents the macro number of the reference.
`Multiple tildes (~) found (M_TWOTILDES)`	A macro definition cannot contain a tilde (~).
`Multiple macro keys: %s %s (M_TWOTAGS)`	An invalid key indicator specified—it contains two key names. Each %s represents a key name.
`Unexpected: %s (M_UNEXPECTED)`	An invalid key indicator specified—it contains plain text. The %s represents the unexpected text.
`Unknown macro key identifier: %s (M_UNKNOWN)`	An invalid key indicator specified—it contains a key name that is not one of the recognized key names. The %s represents the unknown key name.
`No tilde (~) found (M_NOTILDE)`	There is no tilde (~) separating the key indicator from the key action.
`No macro key tag (M_NOTAG)`	There was no key name included in the key indicator.

Error message	Explanation
Shifted numeric keypad 0-9 keys cannot be assigned macros (M_NUMKEYNOSHIFT)	You cannot assign a macro to a keystroke combination of Shift and a numeric keypad key.
Empty macro (M_EMPTY)	There was no key action data in the macro definition.
Duplicate macro definition: %s (M_TWODEFS)	There was a duplicate key indicator defined. The %s represents the key indicator.
Invalid pause interval (M_BADPAUSE)	The interval included in the pause command was not a number between one and sixty.
Isolated keyboard state: (M_LONESTATE)	A state key (Alt, Shift, or Ctrl) was specified but did not modify the action of any other key, such as: {shift} instead of {shift abc}
%s does not distribute (M_DISTRIBUTE)	A non-state key (not Alt, Shift, or Ctrl) was found while another key was still depressed, such as: {insert{home}}. The %s represents the key still depressed.
Ignoring: %s (M_IGNORING)	The state of a macro definition was expected but did not begin with an at character (@). All of the text is being ignored. The %s represents the text being ignored.

Warning Messages

The following table lists the messages that appear if the keys reserved for iNEWS system functions are redefined.

Reserved key	Warning message
F1	Warning: “Help” key redefined (M_STDHELP)
F3	Warning: “Find Next” key redefined (M_STDFINDNEXT)
Alt-F4	Warning: “Exit” key redefined (M_STDEXIT)

Reserved key	Warning message (Continued)
CTRL-F4	Warning: “Window Close” key redefined (M_STDCLOSE)
CTRL-F5	Warning: “Discard Changes” key redefined (M_STDDISCARD)
F5	Warning: “Refresh” key redefined (M_STDREFRESH)
F6	Warning: “Script Swap” key redefined (M_STDSCRIPT)
F7	Warning: “GoTo Priority Queue” key redefined (M_STDPRIORITYQUEUE)
Shift-F7	Warning: “GoTo Alerts History” key redefined (M_STDALERTSHISTORY)
F8	Warning: “Communicate Message Bar” key redefined (M_STDMESSAGEBAR)
Shift-F8	Warning: “Communicate Message Show History” key redefined (M_STDMESSAGEHISTORY)
F9	Warning: “Communicate Open/Close Mail key redefined (M_STDMAIL)

Assigning a Default Keyboard to a User

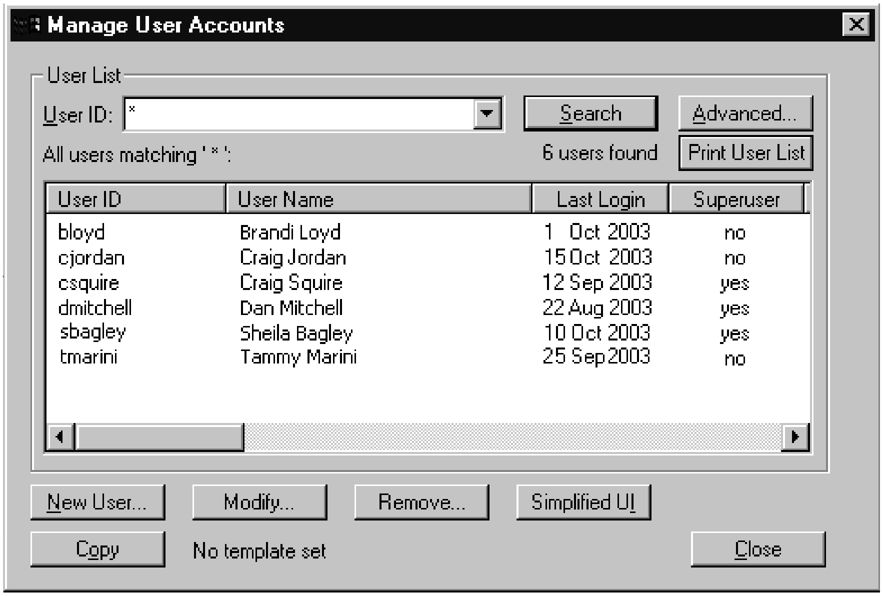
Users can select a keyboard—that is, a set of macros—to use at any time by using the Preferences option in the Tools menu. The system administrator can assign the default keyboard for a user, which appears when the user first logs on.

When you add a new user to the system, you may want to assign a keyboard as a default for the user at that time, according to the role the user plays in your newsroom. For instance, a new writer may get the “user” keyboard, a new producer would be assigned the “producer” keyboard, and so forth.

You assign a set of macros as a user's keyboard by assigning the keyboard story containing those macros to that user. When the user presses a programmable key, the system looks at the user's assigned keyboard story and executes the macro assigned to that key.

To assign a keyboard to a user as a default from an iNEWS Workstation:

1. Select Tools > Options > Users. The Manage User Accounts dialog box appears.



Manage User Accounts

User List

User ID: *

All users matching ' * ':

6 users found

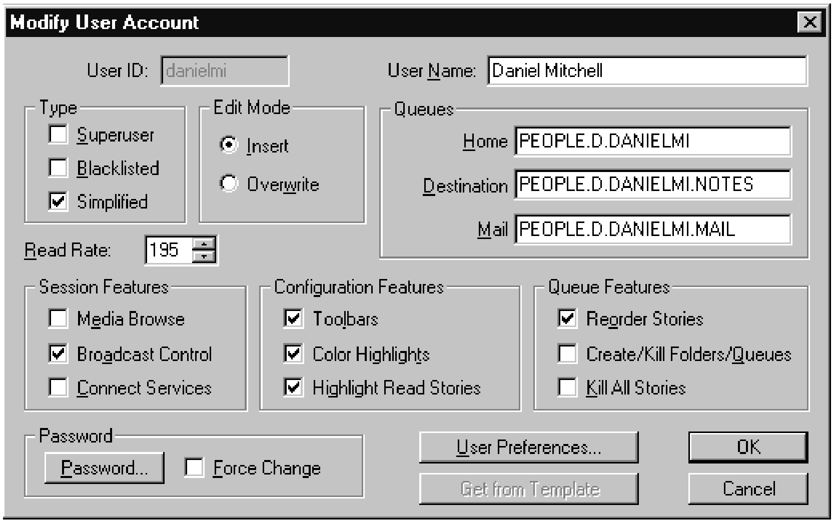
User ID	User Name	Last Login	Superuser
bloyd	Brandi Loyd	1 Oct 2003	no
cjordan	Craig Jordan	15 Oct 2003	no
csquire	Craig Squire	12 Sep 2003	yes
dmitchell	Dan Mitchell	22 Aug 2003	yes
sbagley	Sheila Bagley	10 Oct 2003	yes
tmarini	Tammy Marini	25 Sep 2003	no

No template set

2. Do one of the following:
   - Create a new user account by clicking New User.
   - Modify an existing user account by selecting a user and clicking Modify.

If you clicked New User rather than Modify in step 2, the dialog box appearing in step 3 will be titled Add New User. See "Adding a New User Account" on page 84 for more information.

3. In the Modify User Account dialog box, click User Preferences.



Modify User Account

User ID: danielmi

User Name: Daniel Mitchell

Type
- □ Superuser
- □ Blacklisted
- ☑ Simplified

Edit Mode
- ● Insert
- ○ Overwrite

Queues
- Home: PEOPLE.D.DANIELMI
- Destination: PEOPLE.D.DANIELMI.NOTES
- Mail: PEOPLE.D.DANIELMI.MAIL

Read Rate: 195

Session Features
- □ Media Browse
- ☑ Broadcast Control
- □ Connect Services

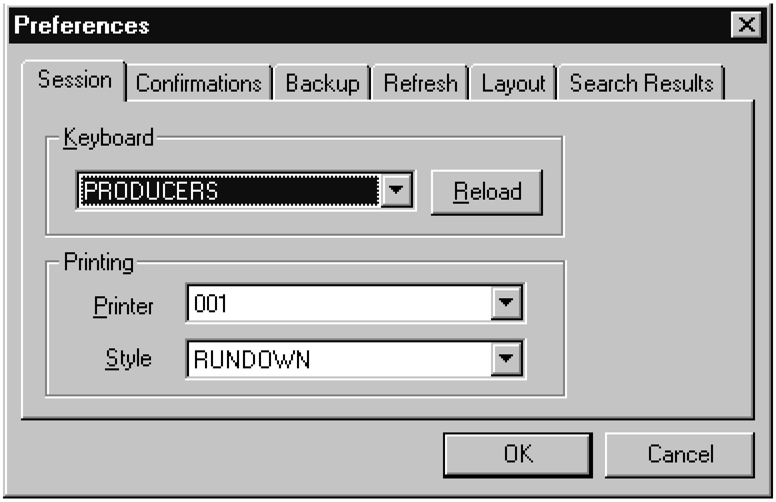
Configuration Features
- ☑ Toolbars
- ☑ Color Highlights
- ☑ Highlight Read Stories

Queue Features
- ☑ Reorder Stories
- □ Create/Kill Folders/Queues
- □ Kill All Stories

Password
- Password...
- □ Force Change

Access to the Modify User Account or Add New User dialog boxes are restricted to certain users, such as system administrators and user managers—that is, users who know the umanager password. See "Modifying User Traits" on page 62 for more information.

4. In the Preferences dialog box, click the Session tab, if not already selected.



Preferences

Keyboard: PRODUCERS

Printing
- Printer: 001
- Style: RUNDOWN

5. Use the Keyboard drop-down list to select a keyboard for the user.
6. Click Reload.
7. Click OK to save the new keyboard assignment and close the Preferences dialog box.
8. Click OK to save the modified user account and close the Modify User Account dialog box.
9. Do one of the following:
    - Select another user to assign a keyboard to, and click Modify.
    - Click Close to close the Manage User Accounts dialog box.
10. The next time the user logs in, the computer will automatically assign the new keyboard. If the user is already logged in, he or she needs to reload the keyboard or log out and then log back in to use the new keyboard assignment.

Users can choose a different keyboard than what is assigned to their user accounts at any time by doing the following: Select Tools > Options > Preferences. Then, choose the Session tab, pick a keyboard from the drop-down list, and click the Reload button.

Chapter 8

Forms

You can use standard iNEWS forms that come with the system or customize your database by creating forms and assigning them to queues, based on the kind of information you want to appear in the stories in those queues. You can also use forms in your database to replicate any preprinted forms that you use currently, such as rundowns and assignment sheets.

This chapter explains the following:

- Form Names, Locations and Guidelines
- Creating Forms
- Assigning a Form as a Queue or Story Form
- Form Field Types and Definitions
- Standard iNEWS Forms

Form Names, Locations and Guidelines

You create forms that are stored as stories in queues located in the database file structure under the main system folder, `SYSTEM.FORMS`. The folder name format is `SYSTEM.FORMS.`*`N.NAME`*, where *`N`* is the first letter of the form name.

For instance, a rundown form may be `SYSTEM.FORMS.R.RUNDOWN`. You can have up to 250 forms starting with each letter.

Guidelines for Designing Forms

Follow these general guidelines in designing forms:

- The story form and queue form can be different, but all fields displayed in the queue form must exist in the story form before you can enter or display data in that field.
- In iNEWS, you cannot system print wider than 80 columns. If a form extends beyond 80 columns, the extra columns will be dropped from printing.

Creating Forms

You can create a new form from any iNEWS Workstation. This section outlines the procedures for constructing a basic form for a rundown. After building this form, you can easily modify it to match the rundown you currently use.

The following procedure takes you through steps to create the basic rundown form, which can be used to create any form in the system.

To create a new form at a workstation:

1. Navigate to the `SYSTEM.FORMS` folder. The queue for the new form must be stored in the `SYSTEM.FORMS` folder.
2. Select Tools > New Folder. A new highlighted directory labeled New-Folder appears.

You can skip steps 3 & 4 if the alphabet folders already exist in the `SYSTEM.FORMS` directory.

3. Type the name of the folder, such as R.
4. Select the alphabet folder, such as R (the folder for forms with names that begin with the letter R), in which you want to create the new form.
5. Do one of the following:
   - Select Tools > New Queue.
   - Right-click on the folder and select New Queue from the pop-up menu.

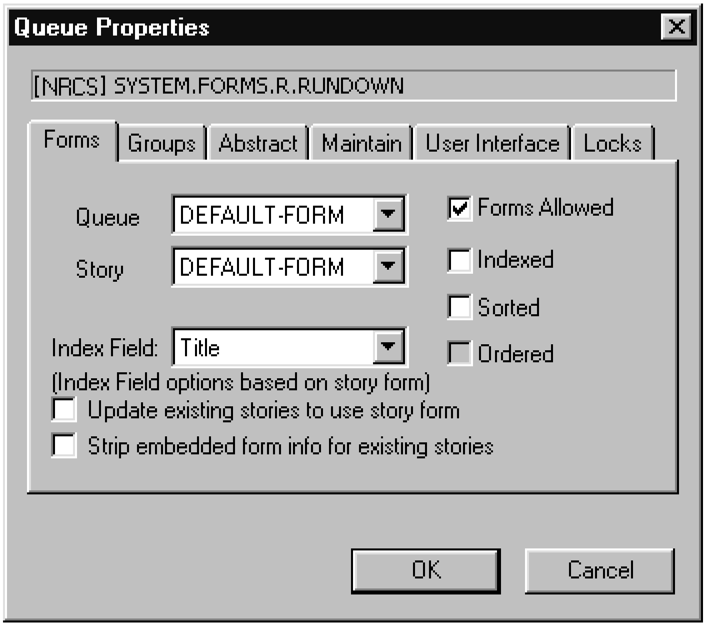
   A new highlighted file labeled New-Queue appears.
6. Type the new form queue's name, such as Rundown.
7. The Forms Allowed attribute should be inherited from the parent queue, `SYSTEM.FORMS`, but you can ensure the Forms Allowed database trait is applied to the queue by doing the following:

   a. Right-click on the queue in the Directory panel to open the Queue Properties dialog box.

   b. Select the Forms Allowed check box so that a check mark appears.

See "Changing Database Traits" on page 117 and "Forms Tab" on page 122 for more information.

   c. Click OK to save changes. Otherwise, you will be unable to create a form in that queue.



Queue Properties

[NRCS] SYSTEM.FORMS.R.RUNDOWN

Queue: DEFAULT-FORM

Story: DEFAULT-FORM

Index Field: Title

(Index Field options based on story form)

☑ Forms Allowed

□ Indexed

□ Sorted

□ Ordered

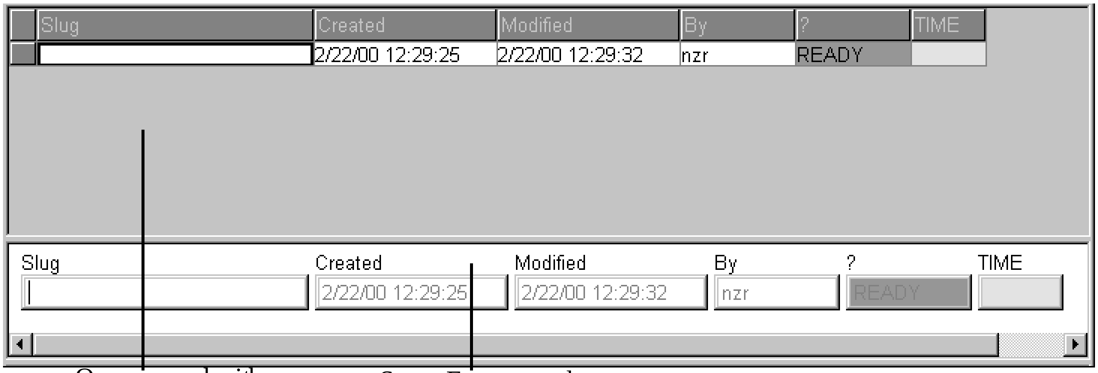
□ Update existing stories to use story form

□ Strip embedded form info for existing stories

8. Double-click the queue to display it in the Queue panel.
9. Do one of the following:
   - Select File > New Story.
   - Position your cursor in the Queue panel and press the Insert key.

If the story form fields do not appear, click on the Story drop-down menu and select the option to Show Form Area.

A new story row appears in the Queue panel and opens in the Story panel. At the top of the Story panel, there is the Story Form panel that displays the story form fields (using the default form or the form previously assigned to the queue). The following graphic shows the Queue and Story Form panels with some standard form fields.



Slug	Created	Modified	By	?	TIME
	2/22/00 12:29:25	2/22/00 12:29:32	nzr	READY	

Slug:
Created: 2/22/00 12:29:25
Modified: 2/22/00 12:29:32
By: nzr
?: READY
TIME:

Queue panel with a new story row

Story Form panel with six fields

10. Modify each field to customize the new form. For instance, you would need to select each field’s type, which defines the field’s function within the form. See “Customizing Forms” on page 207 and “Form Field Types and Definitions” on page 214 for more information.

    Since a basic rundown form does not necessarily use the default fields, as shown in the above graphic, field modification is needed. For instance, the form may include the following fields:

    - Page field uses the PAGE-NUMBER field type
    - Title (or Slug) field uses the TITLE field type
    - Presenter (or Anchor) field uses the PRESENTER field type
    - Writer (or Reporter) field uses either the CREATE-BY or WRITER field type

When a new story is created, and the field called Writer is a CREATE-BY field type, it is filled in automatically but cannot be changed by users. However, if the WRITER field type is selected for the field called Writer, then when a new story is created, the field is filled automatically, but data in it can be changed manually by a user.

- Graphics (or Production Notes) field uses the VAR-N field type, where N is any number
- Audio time field uses the AUDIO-TIME field type
- Back time field uses the BACK-TIME field type

Text and production cues may be placed into the body of the form and text may be put into the form fields; if so, all data contained in the story form will appear in a new story whenever one is created in a queue with that story form.

11. Save the story and exit the queue, accepting current fields and form properties as the new form.

Customizing Forms

After you create the form queue in `SYSTEM.FORMS`, you can modify fields to customize the new form.

To customize a form, open its story and do the following:

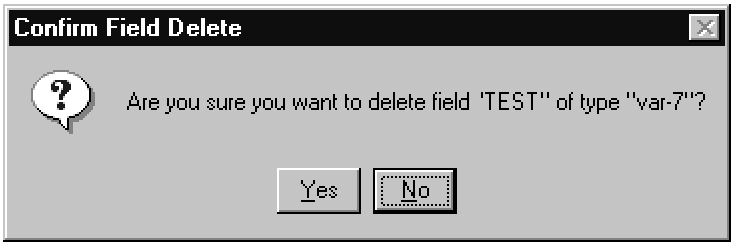
1. Put the cursor in the Story Form panel and right-click. A pop-up menu will appear.

   There are three menu options for customizing form fields: Insert Field, Delete Field, and Field Properties. Access to these options vary, based on whether or not you right-click on a field in the Story Form panel.

Another option in the pop-up menu is Label Borders. See "Label Borders" on page 212 for more information.

2. Choose an option in the pop-up menu, based on one of the following (The choice you make also determines which dialog box appears):

- Select Delete Field if you want to remove an existing field from the form. (The field you right-clicked on is the one you will delete if you choose this option.) The Confirm Field Delete dialog box will appear. Go to step 3.



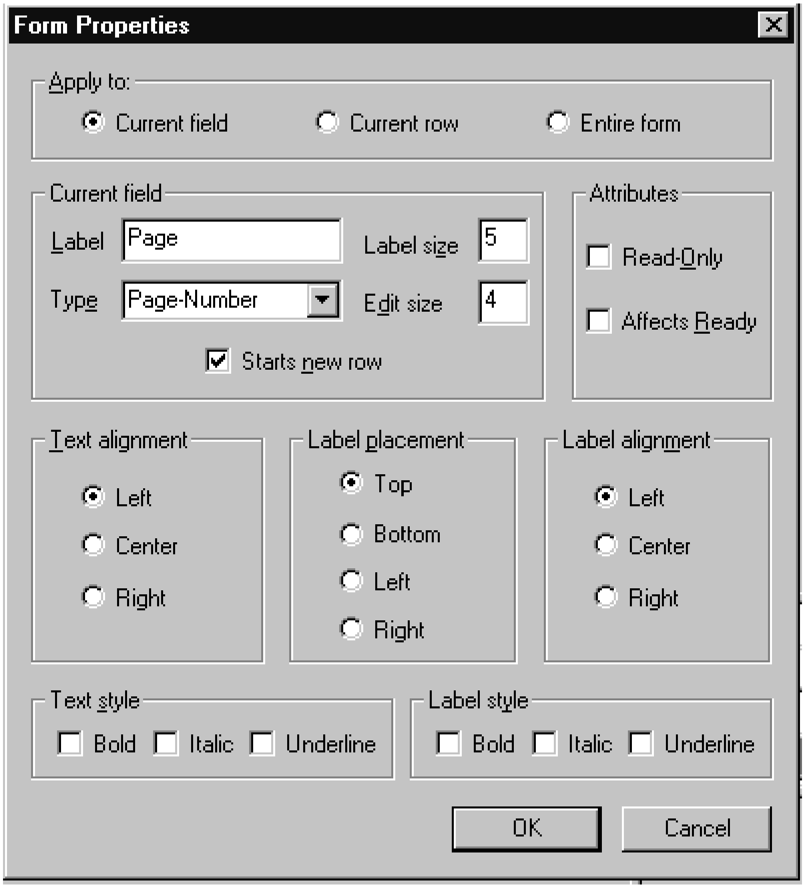
Confirm Field Delete

Are you sure you want to delete field "TEST" of type "var-7"?

- Select Field Properties to modify properties of an existing form field. Go to step 4.
- Select Insert Field to add a new field to the form. Go to step 5.

3. Confirm your command to delete the field and, if necessary, return to step 2 to continue modifying form fields.

4. The Form Properties dialog box appears.



Form Properties

Apply to:

● Current field ○ Current row ○ Entire form

Current field

Label: Page

Label size: 5

Type: Page-Number

Edit size: 4

☑ Starts new row

Attributes

☐ Read-Only

☐ Affects Ready

Text alignment

● Left

○ Center

○ Right

Label placement

● Top

○ Bottom

○ Left

○ Right

Label alignment

● Left

○ Center

○ Right

Text style

☐ Bold ☐ Italic ☐ Underline

Label style

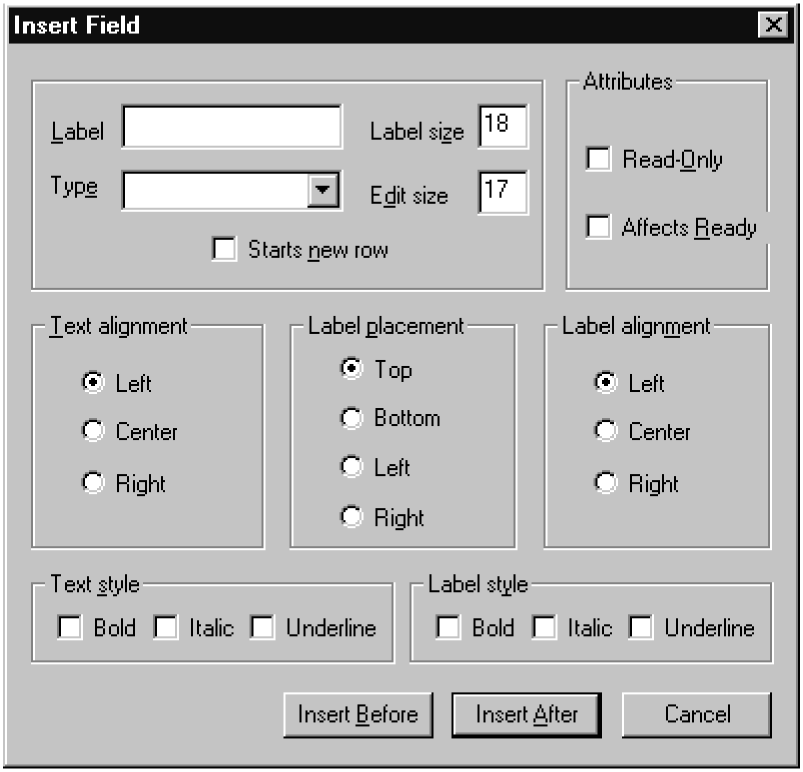
☐ Bold ☐ Italic ☐ Underline

Use the Apply to radio buttons to determine whether you want your property modifications to be applied to:

- Current field—the one you right-clicked on
- Current row—all fields in the row of the field you right-clicked on
- Entire form—all fields in the form

The rest of the Form Properties dialog box offers the same form options as those explained in step 5.

5. The Insert Field dialog box appears.



Select various form options—as explained in the following table—to determine appearance and function of field(s) in the form.

Option	Explanation
Label	Enter current field's name you want to appear in the Story Form panel.
Type	Select a field type from the drop-down list, which defines the field's function. See "Form Field Types and Definitions" on page 214 for a detailed explanation of the various types you can choose, including variable fields that allow you to make up your own field names, such as "shot" or "printed."
Starts new row	Select this check box to force the field to be the first one in the next row of the form.

Option	**Explanation**
Label size	Enter a numerical value to determine the label size. This size is in approximate characters. Using a proportional font will, of course, cause the number of characters to vary. Generally, label size should be set to edit size plus one.
Edit size	Enter a numerical value to determine the space text will fill in the field. The numerical value entered for edit-size does not limit the amount of text that can be typed in the field, but just the amount of text viewed in the field at any one time. *System administrators can set a limit for text in Story Form fields, using a Registry value defined as* `VT Compatibility` *at each workstation.*
Attributes	Select attributes for the form field. • Read-Only check box determines whether the form field can be read (not modified). • Affects Ready check box determines whether the form field participates in determining the Ready field value.
Text alignment	Select text position within the field.
Label placement	Select label position. • Top (default) puts label on top of the field • Bottom puts label below the field • Left or Right puts label to either side of the field.
Label alignment	Select way in which label aligns (left, center, or right) with the field.
Text style	Select appearance of text (bold, italic, or underline) in the field.
Label style	Select appearance of the label (bold, italic, or underline). *Any combination of these attributes may be selected.*

6. Do one of the following:
   - Click OK in the Form Properties dialog box to record changes to an existing form and close the dialog box.
   - Click Insert Before or Insert After in the Insert Field dialog box, depending on where you want the new field to appear in the form in relation to the field (or cursor position) you right-clicked on in step 1. This will record the changes and close the dialog box.
7. Save story in the form queue, by clicking the Save button or selecting File > Save.

After a form is created and customized, it can be assigned to other queues in the database as either the queue form, which dictates appearance of the queue, or story form, which dictates appearance of stories created in the queue.

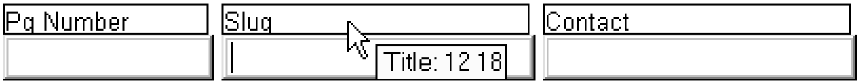
Label Borders

Label borders provide various information about fields in a tool tip format.

To turn on Label borders in the Story Form panel:

1. Right-click in the Story Form panel.
2. Select Label Borders in the pop-up menu.
3. Position mouse pointer over a field label to view tool tip.

When selected, rectangular borders are placed around the labels for each field in the form. When the mouse pointer is positioned over a field's label, a tool tip appears that displays that field's type, and the character count for the field position and label size.



For instance, the field called Slug (shown above) is a TITLE field located 12 characters in from the left with a label size of 18 characters. So, from the position of the Slug field, you can determine the Pg Number field has a Label size of 12 characters. Also, the Contact field, in the example, is located 30 characters in from the left—that is, its position in the row is equal to the sum of the label sizes for the fields directly to its left. This is the case for sites that follow the general recommendation by Avid that label sizes be equal to each field's edit size plus one. However, if the fields' edit sizes are larger than their label sizes, a field's position in the row would be based on the larger of the two. You may confirm these figures by positioning your mouse over the fields and viewing the tool tips that appear for each field. Similar to those that appear for labels, field tool tips also provide character count for position and edit size.

Positioning labels to the left or right of fields rather than above or below will also result in adjustments for calculating field positions on a row, since both the label and edit sizes would have to be included instead of the larger of the two.

Assigning a Form as a Queue or Story Form

Queue and Story forms are database traits that allow you to assign different forms to different folders and queues using the Directory/Queue Properties dialog box at the workstation, or the dbtraits command at the console. For more information on how to assign a form at the console, see "Queue Form" and "Story Form" on page G-23.<--Fix XREF

You assign these traits to define the appearance of information in the Queue panel and Story Form panel.

To assign a form at an iNEWS Workstation:

1. Navigate to the directory (folder) or queue you want in the Directory panel.
2. Right-click to open the Directory/Queue Properties dialog box. Access to this dialog box and its appearance varies, depending on certain circumstances. See "Directory/Queue Properties Dialog Box" on page 121 for more information.
3. Do either or both of the following:
   - Use the Queue drop-down list on the Forms tab to select the form you want to apply to the directory as queue form database trait.

- Use the Story drop-down list on the Forms tab to select the form you want to apply to the directory as story form database trait.

  See “Forms Tab” on page 122 for more information.

4. Click OK to save changes and apply the new queue/story form settings.

Users should log off and sign back on to view the new queue/story form settings.

Form Field Types and Definitions

Form field types are explained in this section. Included is the suggested maximum or minimum length for each field (where applicable) and whether a user can enter text in the field.

You can repeat only the variable and AFF-READY-*N* fields in a form, where *N* is a different number for each occurrence, such as AFF-READY-1. You can use all other fields only once.

The following table provides explanation of forms pertaining to broadcast and/or machine control and which fields are typically used in a variety of forms/queues.

Field Type	Description
AFF-READY-*N* (*N* represent any number)	AFF-READY-*N* fields are created when a system is converted from Avid Netstation to iNEWS. The AFF-READY-*N* fields are assigned the “Affects Ready” attribute when created. This means the field affects the display in the READY status field and allows a user to initialize a story and change its status. There can be more than one AFF-READY-*N* field in a form. If any AFF-READY-*N* field within a form contains a “?” then the READY field displays a `NOT READY` message. If a question mark does not appear in any of the AFF-READY-*N* fields in the form, then the Ready field displays a `READY` message. This field should precede the READY status field in the form. In iNEWS, the “Affects Ready” attribute can be assigned to any field in a form and the result would be the same behavior as described here pertaining to the AFF-READY-*N* field. For more information, see the definition for the READY field in this document.

Field Type	Description (Continued)
AIR-DATE	When a story is aired using the show-timing function, the date and time it airs is inserted in this read-only field. This field is designed to show which story is currently on-air and give users a sense of how much time remains until a later story goes to air. As the producer syncs timing on stories, the queue display on other iNEWS Workstations shows that story in a different color. (Peach is the standard default color rule.) The format on iNEWS Workstation is controlled by the workstation control panel for regional settings.
APP*N*-*X* to APP*N*-*X* (*N* represents 1 through 5; *X* represents any number)	These fields are used differently, depending on the queue in which they are used. They appear in Machine Control Terminal (MCT) forms and some ControlAir forms. Also, many of the fields have different meaning, depending on the device type. For instance, in an MCT form, the event ID for a video/cart machine goes in the APP1-1 field, but in the APP2-1 field for a CG or SS, where the APP1-1 field is used for the style. These fields were previously used in the mail and account forms in Avid Netstation, but are no longer used for those forms in iNEWS. The APP*N*-*X* fields have been renamed in iNEWS and occur only in template conversion from Avid Netstation.
AUDIO-TIME	This field will display the estimated time for reading a story, which can be estimated by the computer system or entered into the field by a user. If a user enters a time in the field, the system will use it to calculate the total time. If there is also a TAPE-TIME field in the form, the system adds the TAPE-TIME to the AUDIO-TIME to calculate the story’s total time. Without any user input, the system will display an estimated time based on the length of the story and presenter’s read rate, which is obtained from the PRESENTER field in the form. If there is no PRESENTER field or it does not contain a user ID, then audio time is based on the system’s default read rate. The length of the story is actually the word count of the story, since the read rate is based on words per minute. If a user has entered a time in the field and wants to restore the audio time calculated by the system, the user should remove entered data from the field with the space bar, delete, or backspace key. After the cursor leaves the form field, the system will then display the computer-calculated audio time and recalculate total time accordingly.

Field Type	Description (Continued)
BACK-TIME	The system displays the back-time in this field. The back-time field is usually eight characters wide, such as `00:00:00`. A user can enter data in this field to indicate hard-hit times for back-timing to certain points within a program.
CA-CAPTURED	This field displays total number of characters captured during a session connection; it is one of eight special fields used in the `SYSTEM.ACCOUNT` queue form for logging connection time activity. Although this field is not required, omitting it will prevent iNEWS from displaying the corresponding information in the form.
CA-DIRECTION	This field displays the direction of incoming or outgoing connections. It is one of eight special fields used in the `SYSTEM.ACCOUNT` queue form for logging connection time activity. Although this field is not required, omitting it will prevent iNEWS from displaying the corresponding information in the form.
CA-ELAPSED	This field displays elapsed time of a session connection. It is one of eight fields used in the `SYSTEM.ACCOUNT` queue for logging connection time activity. Although this field is not required, omitting it will prevent iNEWS from displaying corresponding information in the form.
CA-IDENT	This field displays the connection identifier. It is one of eight fields used in the `SYSTEM.ACCOUNT` queue for logging connection time activity. Although this field is not required, omitting it will prevent iNEWS from displaying corresponding information in the form.
CA-ORIGIN	This field displays the origin machine name. It is one of eight special fields used in the `SYSTEM.ACCOUNT` queue form for logging connection time activity. Although this field is not required, omitting it will prevent iNEWS from displaying corresponding information in the form.
CA-RECEIVED	This field displays the total number of characters received from a remote system during a connection. It is one of eight special fields used in the `SYSTEM.ACCOUNT` queue form for logging connection time activity. Although this field is not required, omitting it will prevent The iNEWS system from displaying corresponding information in the form.
CA-REMOTE	This field displays the remotely connected machine name. It is one of eight special fields used in the `SYSTEM.ACCOUNT` queue form for logging connection time activity. Although this field is not required, omitting it will prevent iNEWS from displaying corresponding information in the form.

Field Type	Description (Continued)
CA-SENT	This field displays the total number of characters sent to a remote system during a connection. It is one of eight special fields used in the `SYSTEM.ACCOUNT` queue form for logging connection time activity. Although this field is not required, omitting it will prevent iNEWS from displaying corresponding information in the form.
CG-ADDR	This field holds the ID's or recorded page addresses from the character generator on which a super is written by the CG interface. This field is primarily used in association with machine control systems and ControlAir systems. See "iNEWS MCS/ControlAir Fields and Forms" on page 226 for further information on when and how this field is used.
CG-TEMPLATE	This field contains template information for the character generator, namely the address on the character generator of the template or tab field to be used for the requested super. This field is primarily used in association with machine control systems and ControlAir systems. See "iNEWS MCS/ControlAir Fields and Forms" on page 226 for further information on when and how this field is used.
CG-TEXT	This field contains text of the super from the machine control instruction requested by a user in the script. It is written into specified template fields on the character generator interfaced with iNEWS. This field is primarily used in association with machine control systems and ControlAir systems. See "iNEWS MCS/ControlAir Fields and Forms" on page 226 for further information on when and how this field is used.
CHANNEL	The letter or numerical identifier of the on-air output or playback channel of an interfaced production device is located in this field. Most production devices have two or more channels. This field is primarily used in association with machine control systems and ControlAir systems. See "iNEWS MCS/ControlAir Fields and Forms" on page 226 for further information on when and how this field is used.
CREATE-BY	When you open a new story, the system enters your user name in this field. The name is permanent and cannot be erased or overwritten. In a Mail form, this field is used to indicate who sent the E-mail.
CREATE-DATE	When you create a new story, the system stores the date and time the story was created in this read-only field. The format on iNEWS is controlled by the workstation control panel for regional settings.

Field Type	Description (Continued)
CUME-TIME	The computer displays the cumulative (cume) time. This field represents the time of all the stories—except the selected story—added together. It has a suggested minimum length of five characters, and is typically eight characters.
DEVICE-MGR	This field displays the device name controlling a particular event. This field is primarily used in association with machine control systems and ControlAir systems. See “iNEWS MCS/ControlAir Fields and Forms” on page 226 for further information on when and how this field is used.
DURATION	This field displays the playing length of an event, such as how long a certain piece of video will be aired or the duration of a CG or still store effect. This field is primarily used in association with machine control systems and ControlAir systems. See “iNEWS MCS/ControlAir Fields and Forms” on page 226 for further information on when and how this field is used.
EFFECT	This field holds the effect name requested in association with a machine control or broadcast control event that will be applied to the character generator or still store machine when it’s taken to air. For instance: a wipe or a dissolve. This field is primarily used in association with machine control systems and ControlAir systems. See “iNEWS MCS/ControlAir Fields and Forms” on page 226 for further information on when and how this field is used.

Field Type	Description (Continued)
ENDORSE-BY	This field enables a user with write-access to the queue to endorse stories in that queue. When a story is first saved in a queue, the field is red and blank. Whenever a user endorses the story, the system places that user's name in the ENDORSE-BY field corresponding to that story and the field changes to green. To manually endorse a story, click on the field in the queue. If another user subsequently changes the story and saves it, the ENDORSE-BY field turns yellow but the endorser's name remains in the field. This indicates the story was changed by one user after it had been approved by another. The endorser can see who made the change by looking in the MODIFY-BY field if there is one in the story form. The endorser can also withdraw approval by opening the story form and deleting the user id from the ENDORSE-BY field. If the ENDORSE-BY field is not shown in the Queue panel, a user can still endorse the story by typing a character in the ENDORSE-BY field located in the story form. A non-system administrator (non-superuser) cannot kill an endorsed story if another user has the Production Lock set. *The story form must include a MODIFY-BY field to show the green "endorsed" status in the ENDORSE-BY field.*
EVENT-STATUS	This field displays availability and play status of an MCS/ControlAir event, as reported by the production device involved. For instance, a video event could be reported as N/L (not loaded), CUED,PLAYING, or STOPPED, among other things. In rundown and Event List forms only the status of a video event can be displayed. In Machine Control Terminal (MCT) and iNEWS ControlAir Workstation forms, this field can also contain the status of CG and still store events. EVENT-STATUS is primarily used in association with machine control systems and ControlAir systems. See "iNEWS MCS/ControlAir Fields and Forms" on page 226 for further information on when and how this field is used.

Field Type	Description (Continued)
ITEM-CHANNEL	This field is required to allow changing of the channel that primary events will play on. It does not apply to events entered as production cues in the story body. The ITEM-CHANNEL field is used to set or display the channel for primary ControlAir video events. A user can edit this field—thereby changing the play out channel for a primary event—manually or through the Assign Channel dialog box at the iNEWS Workstation. Any changes made at an iNEWS Workstation will be relayed to the appropriate device. *When using the Assign Channel dialog box for ControlAir Plugin (CAP) events, the channel information is displayed in the ITEM-CHANNEL field. It is no longer appended to information in the VIDEO-ID field, as was the case in versions prior to iNEWS 2.0.*
LITERAL	This field is a non-editable field, typically used as a label or spacer to assist in alignment of other fields within the Story Form.
MAIL-CC	This field is used in the Mail story form to display names of users receiving a copy of an E-mail message.
MAIL-TO	This field is used in the Mail story form to display names of users to whom an E-mail message is sent.
MODIFY-BY	This field contains the name of whoever most recently modified a story. A user cannot edit this field.
MODIFY-DATE	Displays date and time story was last modified. Every time a story is edited and saved, the system updates this field.
MODIFY-DEV	If a device name for a workstation is included in the configuration file, it appears in this field when a story is saved at that workstation. If the device name is not included in the configuration file, this field displays the IP address of the workstation that was used when the story was saved. The maximum number of characters for a device name is eight, but the IP address can contain up to 15 characters.
MOS-ACTIVE	This write-protected field is required for the Story Form to accept MOS or CAP events. The field’s content is created by the software when MOS or CAP events are created. Content may be cleared if the user selects Delete Machine Control from the right-click pop-up menu.

Field Type	Description (Continued)
MOS-DURATION	This editable field is required to allow duration information from MOS or CAP events to be included in calculations for CUME-TIME, BACK-TIME or TOTAL-TIME fields. A user can enter a value, which appears bold, directly into this field, which will be used only in show-timing calculations. Such user-entered information does not become part of MOS or CAP events that are passed on to the appropriate MOS device or ControlAir in the case of CAP events. Deleting user-entered information from the field will allow show-timing to revert back to duration information supplied by MOS or CAP events. The contents of MOS-DURATION field are only used if a RUNS-TIME field is present in the story. The contents of the MOS-DURATION field is added to the computed runs time of the story and this total is shown in the RUNS-TIME field. If the user enters a time in the RUNS-TIME field, the MOS-DURATION field contents are ignored.
MOS-SUBEVENT	This field is reserved for future use.
MOS-TITLE	This write-protected field is required to allow the display of descriptive text associated with MOS or CAP events.
NSML-LITERAL	This field is only seen in stories and forms transferred from an Avid Netstation database to an iNEWS database and cannot be created by a user. The field is a by-product of the database conversion process and represents a protected field in the Netstation template.
PAGE-NUMBER	This field is used primarily to arrange stories in a queue. If a queue is set to sort stories by page number, users can change the order of stories in the queue by entering in new page numbers. This is commonly done with rundowns, because it allows the producer to quickly change the order of stories by assigning them new page numbers. This field can also be displayed on the WinCue prompter. The system uses the first six characters of the field as a page number when the story is printed. This field is used in printing only when the story is printed using the “print script” option.
PRESENTER	The system uses the name of the user from this field to look up the user read-rate. The system then calculates audio time for the story based on the user read-rate. If a form does not contain a PRESENTER field, the system calculates the audio time, based on the default read-rate set in the system profile. (This is usually 180 wpm in English.)

Field Type	Description (Continued)
READY	In some cases, the system places status information, such as NEW, HOLD, LOCKED, or WIRE in this field. For instance, a wire story starts with the WIRE status. When a user changes the story, it changes from WIRE to READY. In the Mail form, the READY field is used to indicate whether an E-mail message is NEW or was READ. A user cannot enter data in this field, but it can be altered based on information put in other fields with the “Affects Ready” attribute in the form. In these cases, iNEWS checks the “Affects Ready” fields in the form for a “?” and if any one of the fields are empty or contain that character as the first non-blank character, then the READY field displays a NOT-READY status. However, iNEWS displays READY in the READY field if none of the fields with the “Affect Ready” attribute contain a question mark.
RESULT-INDEX	This field is in forms used to define the display of iNEWS database search results. It contains the sequence number that indicates the original order of items within the search results.
RESULT-LOC	This field is in forms used to define the display of iNEWS database search results. It contains the location of data found during a search, such as the name of a queue containing the story found matching the search criteria.

Field Type

Description (Continued)

RUNS-TIME

This field displays the sum of all “runs=” times in a story’s production cues plus the contents of the MOS-DURATION field. If the RUNS-TIME field is not present in the story form, then the runs time entries will not be calculated. It it’s not present along with MOS-DURATION, then the time from the MOS-DURATION field will not be added to the story’s total time.

Runs time entries and the RUNS-TIME form field are not updated when the iNEWS Workstation is connected only to the local database. When connected to both the local database and server, the runs times will be updated when the local database story is edited. Also, when the story is copied from the local database into a queue on the iNEWS Server, its runs times will then be updated accordingly.

The field functions much like the AUDIO-TIME field in that it can accept user entered times while still maintaining the “real” runs time. For example, a user can manually enter a time of 45 seconds in the field and that time will be reflected in the TOTAL-TIME field. The sum of runs time entries as calculated in the RUNS-TIME field are also included along with time from story text in the text timing clocks, located at the bottom of the Story panel. However, if a user manually edit the RUNS-TIME field, that data will not be included in the times calculated for the text timing clocks.

By default, the Runs Time feature uses the word RUNS (not case-sensitive) to indicate a runs time entry, which is quite flexible. Some examples are:

```
RUNS=25
RUNS=1:30
RUNS = 25
RUNS 1:30
TAPE RUNS 115
```

You can change this default by redefining the token `W_RUNS` on the server in `/site/dict/words`.

A runs time entry of 115, as shown in the last example above, is the equivalent of one minute and fifty-five seconds (1:55). The number 115, without a colon, is interpreted as the number of seconds. So, 115 is not the same as 1:15.

SEARCH-ID

This field, which contains the request ID number, is used by the Find All and Fast Text Search features of iNEWS.

Field Type	Description (Continued)
STATUS	This field is used in a rundown queue. It will display “OK” or “ERROR,” depending on the machine control event. The ControlAir system monitoring program sets this field to indicate whether there are any errors in the production cues in stories of the rundown. In the `SYSTEM.ACCOUNT` queue form used for logging connection activity, the STATUS field is used to display the type of connection.
STILL-ID	In an Event List or Composite List queue, this field displays the alphanumeric identifier for a still store graphic. This field is primarily used in association with machine control systems and ControlAir systems. See “iNEWS MCS/ControlAir Fields and Forms” on page 226 for further information on when and how this field is used.
STILL-PRESET	This field contains the number or letter designation of a predefined still store format. It is typically used in the form for the still store device event list, and is recognized by the iNEWS ControlAir Workstation. This field is primarily used in association with machine control systems and ControlAir systems. See “iNEWS MCS/ControlAir Fields and Forms” on page 226 for further information on when and how this field is used.
STYLE	This field contains the MCS/ControlAir style name specified when a user requests a CG or Still Store event in the production cue. It is typically an alpha or alphanumeric sequence that is a maximum of eight characters long. For instance, iNEWS translates a CG style into an address on the character generator at which a template is stored. That template is then used to build the requested super. Styles are defined in stories in the `SYSTEM.RESOURCE` queue. They define the details, such as CG template, number of fields, still preset or playback effect, that define an event. This field is primarily used in association with machine control systems and ControlAir systems. See “iNEWS MCS/ControlAir Fields and Forms” on page 226 for further information on when and how this field is used.
TAPE-TIME	A user can enter the tape’s run time in this field. If there is an AUDIO-TIME field, the system adds tape time to audio time to calculate the story’s total time.

Field Type	Description (Continued)
TITLE	This field is used to give each story a name. Occasionally referred to as the “Slug” field, it is the default quick “index field” for sorting stories in a queue. The first 20 characters of any field defined as the sort field of a queue is extracted and used as the “quick index” for the story. The TITLE field is usually selected as the “index field.” That means it is the field searched when a user conducts a Find or Find All search function and specifies a search of the index field. In a Mail form, this field is used to display the Subject of the E-mail message sent. In the `SYSTEM.ACCOUNT` queue form used for logging connection activity, the TITLE field is used to display the Service name.
TOTAL-TIME	The computer stores the total time for a story in this field, calculated based on the sum of information from the RUNS-TIME, TAPE-TIME and AUDIO-TIME fields. If the AUDIO-TIME field isnot present,the computed audio time is used. The RUNS-TIME and TAPE-TIME fields must be present to be included in the total time. The story’s total time is used when calculating back-time. If none of the three field types are present, the total story time is a computed adio time.
VAR-N (N represents any number.)	This variable field was carried over from the Avid Netstation template conversion. It is typically used for generic editable text fields. Users can make up their own new fields using descriptive names, such as “crew” for a field that lists a reporter/photographer team assigned to cover a story. The user can employ anything for a field name with the following restrictions: • The name must be 12 characters or less • The name must begin with a letter of the alphabet • It can include any letters (a-z), numbers (0-9), a dash (-) or a period (.) • The name is not case sensitive. User-created field names are treated the same as variable fields.
VIDEO-ID	This field is used in the rundown queue to display the tape number or clip ID for video. It is also found in forms for the composite and video event lists. This field is primarily used in association with machine control and ControlAir systems.

Field Type	Description (Continued)
WRITER	When someone creates a new story, the system automatically enters his or her user name in this field if it is present in the form. You can also enter text and change the name. *Distribution codes assigned to wire stories are placed in the WRITER field if it is present on the form used for wire stories. The codes would also be placed in a MODIFY-BY or CREATE-BY field if either are present in the story as well.*

Write-protected fields may be edited if the third-party vendor supplies an editor interface. Otherwise, such fields can be modified only by deletion or by replacement. To delete, use the Delete Machine Control option from the right-click pop-up menu. To replace, use the Import From Plugin option or drag-and-drop a MOS or CAP event from any source.

iNEWS MCS/ControlAir Fields and Forms

Certain field options within iNEWS are used in specialized forms, which deal with various devices that interface with the iNEWS newsroom computer system. These forms work in part with the Machine Control System (MCS) or iNEWS ControlAir system monitoring programs.

The application fields available in Avid Netstation are now used only by the Machine Control Terminal, which cannot use new field types because of the limitation in the number of fields usable by PCU programs.

In certain cases, some fields in these forms are filled out by the system rather than users. The monitor utility program in iNEWS recognizes a new set of descriptive MCS field types in the Rundown, Event list, and Composite list forms.

Here’s a brief description of these forms:

Data Type	**Rundown Forms**
RUNDOWN FORMS	This is the form used by stories in the rundown queue. The monitor program may extract text from some fields in this form and may put text in others. It also copies text from the rundown form to Event List/Composite List and MCT forms. Only event information for video devices is currently placed in the rundown story form.
EVENT LIST FORMS	The monitor server program places information about an event destined for a specific device in the form fields of the Event List story. It also copies rundown field text—for instance, title and page number—into matching fields in the Event List story form.
COMPOSITE LIST FORMS	The monitor server program puts information about events destined for all devices in the form fields of the Composite List story. It also copies rundown field text—for instance, the title and page number—into matching fields in the Composite List story form.
MCT FORMS	All MCS device "drivers" use a Machine Control Terminal form to hold displayable data for the MCT monitoring program. Some event status is passed through the fields in this form.
ControlAir FORMS	The function of the iNEWS ControlAir Workstation form is similar to the MCT form in that it controls which data will be displayed on the playback screen. Currently, the iNEWS ControlAir Workstation only extracts the PAGE-NUMBER from this form, but in future releases it will use all fields in the form. Fields defined for use only by the iNEWS ControlAir Workstation are: DURATION, CHANNEL, and DEVICE-MGR.

See “Monitor Servers” on page 495 for more information.

Below is a chart of form fields filled in by the monitor server (utility) program:

Data Type	Rundown Forms	Event List Forms	Composite List Forms	MCT Forms (MCS only)
Error Status	STATUS			
Video ID/Address	VIDEO-ID	VIDEO-ID	VIDEO-ID	APP1-1
Video Status	EVENT-STATUS	EVENT-STATUS	EVENT-STATUS	AFF-READY-1
Video Duration	TAPE-TIME			TAPE-TIME
CG Address		CG-ADDR	CG-ADDR	APP2-1
CG Template		CG-TEMPLATE	CG-TEMPLATE	APP3-1
CG Text		CG-TEXT	CG-TEXT	VAR-1
Still Store Address		STILL-ID	STILL-ID	APP2-1
Still Store Preset		STILL-PRESET	STILL-PRESET	APP3-1
CG/SS Style		STYLE	STYLE	APP1-1
CG/SS Effect		EFFECT	EFFECT	MODIFY-DEV
CG/SS Event Status				AFF-READY-1
MCT Current Event				WRITER
Sony Barcode SOM	APP4-1	APP4-1		
Sony Barcode EOM	APP5-1	APP5-1		

Standard iNEWS Forms

The iNEWS system contains a number of standard forms, each designed for use with one of the system’s features. The forms your system provides are ready to use, but you can also customize them. You can add or remove fields from a form or change a field’s title.

Account Queue Form

The system keeps a record of events, such as who logged into a connect session, the service used, and length of the connect session. This information is made available when the system creates a story in the `SYSTEM.ACCOUNT` queue and puts information in the story's form. A form designed for this must be assigned to `SYSTEM.ACCOUNT`, or your system cannot display the information. The standard account queue form is usually stored in the queue `SYSTEM.FORMS.A.ACCOUNT`.

The following table shows the fields used in the Account Queue form.

Field Label	Field Type
Service name	TITLE
User	CREATE-BY
Date and time	CREATE-DATE
Connection type	STATUS
Origin machine name	CA-ORIGIN
Incoming or outgoing connection	CA-DIRECTION
Remote machine name	CA-REMOTE
Elapsed time of session connection	CA-ELAPSED
Connection identifier	CA-IDENT
Total characters sent to remote system	CA-SENT
Total characters received from remote system	CA-RECEIVED
Total characters captured	CA-CAPTURED

You are not required to include any of these fields in the account queue form. However, omitting a field prevents the system from displaying information associated with that field in the account queue.

Mail Form

The Mail feature has a form specially designed for mail stories. This form has fields for elements such as the subject of your message, name of message recipient, and people you want copied on the message. The mail form is stored in `SYSTEM.FORMS.M.MAIL`. The system includes a mail form, but you can specify a form for the mail feature to use by assigning the form to the `SYSTEM.MAIL.OUT` queue.

You may modify this form to suit your system needs. The following fields are used by the Mail queue.

Field Label	Field Type
To	MAIL-TO
Subject	TITLE
Cc	MAIL-CC
From	CREATE-BY

Only the To field is required. A form that does not have the other fields is still usable.

Print Form

The system maintains a separate print queue for each of your printers. When someone sends a story to a printer, the system places it in the printer's print queue behind any pending print requests.

While a print request is held in a print queue, the system displays information in the print request's form, such as creator of the print request and time the request was made. To display this information, the print queue must have a form designed to display print queue information.

Your system's standard print queue form is assigned to your system's print queues. This form is stored in `SYSTEMS.FORMS.P.PRINTER`.

The following table shows field types used in the print queue form.

Field Label	Field Type
Title/Folder	TITLE
Date Printed	CREATE-DATE
By	CREATE-BY
Style	VAR-1
Type	STATUS
Copies	PAGE-NUMBER

None of these fields is required. However, omitting any field would prevent the display of information associated with that field.

Find All Form

Your system uses the form assigned to `SYSTEM.SEEK`, or whichever queue is specified for `Q_SEEK` in the system dictionary (`/site/dict/queues`) as the find all form. Since the system expects to find certain information in each of the form's fields, the form assigned to `SYSTEM.SEEK` must be designed for use with the `find all` command.

The follow table shows field types used in the find all form.

Field Label	Field Type
Id	SEARCH-ID
Status	READY
Search For	VAR-1
Search Where	APP1-1
Results Queue	TITLE
Search Type	APP2-1

Field Label	**Field Type**
Max Hits	PAGE-NUMBER
Notify Hits	APP3-1
Hits so Far	PRESENTER
By	CREATED BY
Started At	CREATE-DATE

The `find all` command must have certain information to perform a search. If you leave out a required field, the iNEWS Workstation displays a `Missing form field` message whenever someone tries to use the `find all` command.

Wire Story Form

The name of the form used for wire stories is defined by the Words dictionary token `W_WIRE_FORM`.

To display information such as title, time moved, source, and average reading time in each wire, the system contains a wire story form. It is assigned to the wire queues and stored in `SYSTEM.FORMS.W.WIRES`. Any changes you make to this form do not take effect until you restart the wire. The following table shows field types used in the wire story form.

Field Label	**Field Type**
Title	TITLE
From	WRITER or CREATE-BY
Moved	CREATE-DATE
Status	READY
Time	AUDIO-TIME
FlashWord	PRESENTER
Number	PAGE-NUMBER

Chapter 9

Character Generator Title Entry

The iNEWS newsroom computer system provides journalists, producers, directors, writers, and technical personnel in a newsroom with an array of tools to make their jobs easier. One such tool is the CG Title Entry feature, which enables newsroom personnel to simulate character-generated graphics at the iNEWS Workstation. By offering a graphical view of CG information, iNEWS helps production staff verify the accuracy and quality of the data prior to air.

This chapter explains the following:

- Overview of CG Title Entry
- Title Entry Setup and Configuration
- CG Template Backgrounds
- CG Template Editor
- Title Entry Security

Overview of CG Title Entry

When writing scripts, journalists are typically required to include information in the script that will appear as a character-generated graphic when the story is aired. These graphics, called supers or CGs, must be entered into the script in such a way that iNEWS can identify the information as data for the character generator. This method of identification uses production cues—also called machine instructions—which are separated from the story text.

The first production cue example appears graphically later in this section.

Here is an example of a production cue for a CG with one line of text for the graphic and one line of information for production staff.

```
*CG live
USA Hockey Championships
```

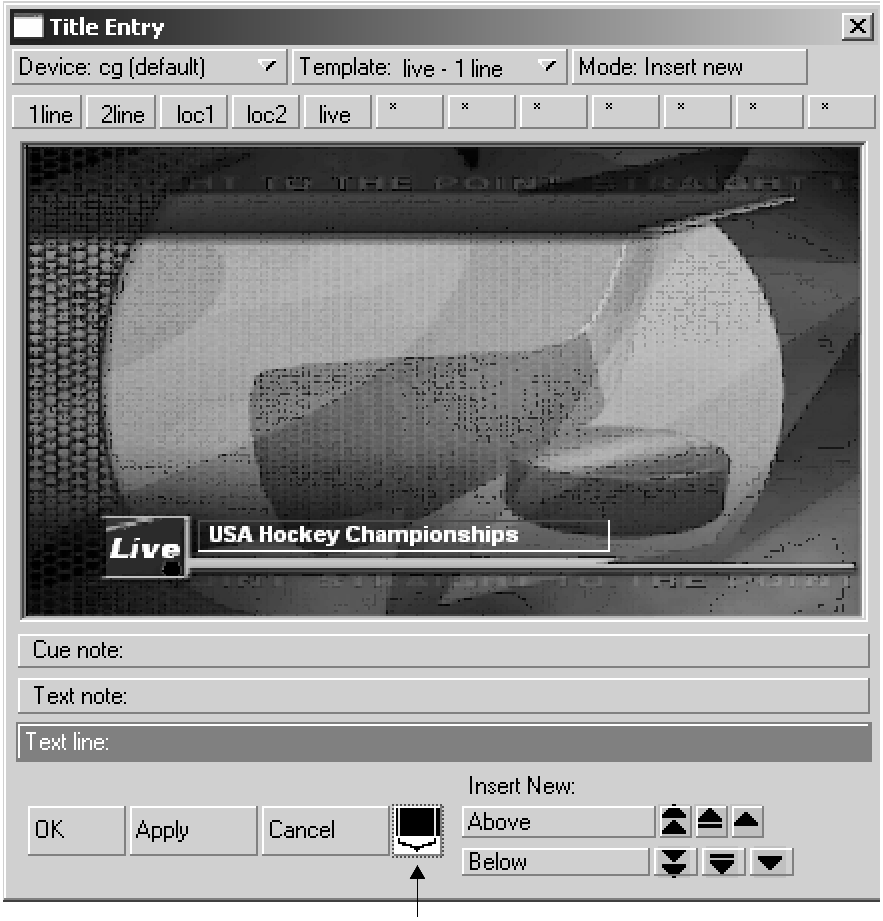
Here is another example of a production cue for a CG with two lines of text for the graphic and two lines of information for iNEWS and production personnel:

```
*CG live
Ellen Miller
City Hall
Take cg at 10 seconds in...
```

In the example, the user cannot visually determine how information will appear on air when the data is loaded in the character generator template. For instance, will the data fit into the actual text fields on the CG template? The answer to this question cannot be determined from the production cue text. However, the Title Entry feature allows for this possibility by offering a graphic-style dialog box.

The dialog box displays sample templates, complete with backgrounds and text fields, similar to actual CG templates that appear on air. These sample templates—which are configured and modified by system administrators using the CG Template Editor—can be filled in by the users, and information is applied to the production cue within the script. When configured accordingly, the Title Entry dialog box can provide users with visual verification of whether text they enter will fit in fields of actual character-generated graphics. Producers can use the Title Entry dialog box to preview CG information in scripts in order to check the appearance and accuracy prior to airing the production cue.

The following graphic shows how a single-lined production cue appears in the Title Entry dialog box, using a template background that has a 16 x 9 screen ratio.



Title Entry

Device: cg (default)

Template: live - 1 line

Mode: Insert new

Dimensions
Toggle Button

The black button at the bottom of the window allows users to toggle markers on and off, indicating what part of the graphic would be visible within the standard 4 x 3 screen ratio.

The Title Entry feature can only be accessed by users when the cursor is located in the Story panel of the iNEWS Workspace. Access to Title Entry can also be limited to certain users. See "Title Entry Security" on page 255 for more information.

Title Entry Setup and Configuration

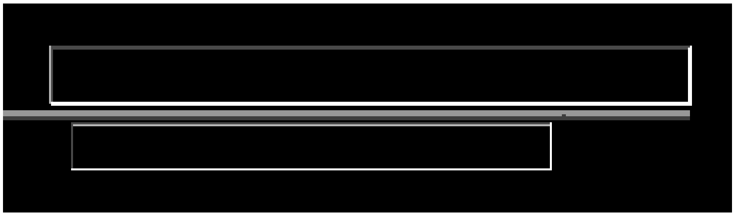
Before you can use the Title Entry feature, templates must be created by the system administrator in iNEWS to simulate the actual graphics used by the character generator. The person responsible for setting up the templates should have a good understanding of how CGs are created on the character generator, because it is important that templates in Title Entry correspond to those used by the character generator.

Understanding CG Templates

Most CGs are comprised of both background graphics and text fields. A background graphic could be a small color bar that spans the bottom third portion of the television screen, a full-screen graphic, a logo in the corner of the screen, and so forth. See "CG Template Backgrounds" on page 238 for more information.

The text fields vary as well. A CG template can contain numerous text fields, with each one having different predefined properties, such as screen location and font style. Typically, users can write text in the fields, but some may contain predefined text that users cannot edit. For instance, a CG can have a field with the predefined word, FILE, which would be aired over file video of previous news coverage.

An example of a standard CG template is a two-line lower-third CG. In the following example, the bar separating the two rectangular boxes make up the background. The boxes are the text fields, which can be filled in by a user.



CG text fields are also known as tab fields, referring to the key used to navigate from one field to another.

In a CG template, the character generator assigns each text field a number, indicating the order in which fields can be filled in. For instance, a user types a name in field one, then navigates to the second field in the sequence using the Tab key, and types the person's job title or location.

Knowing the numeric field assignments of each template is crucial, because the sequence in the Title Entry dialog box must match the tab field's sequence on the corresponding character generator's template.

CG templates are stored on the character generator at locations assigned or represented by identification numbers known as Template numbers. These numbers can be used by the CG operator to recall templates, which are filled in and aired during a show. However, in iNEWS, aliases are usually assigned to each template to provide users with an easier way of recognizing the template.

For instance, a template containing one field—one line of text—used to air the location of a story may be stored on the character generator as template 502, but users type in the alias `loc1` in the production cue.

The assignment of aliases to Template numbers is stored in the Resource queue located in the System directory (`SYSTEM.RESOURCE`). These same aliases must be established first and used in naming the templates for Title Entry.

The Title-Entry queue in the System directory (namely, `SYSTEM.TITLE-ENTRY`) is used to limit access to the CG Template Editor. When the CG Template Editor starts, it gains a lock on

`SYSTEM.TITLE-ENTRY`, which guarantees that only one system administrator can modify the set of templates at any given time. The Title-Entry queue must be created, if it does not already exist, prior to creating templates. See "Creating a New Queue" on page 103 for more information. Do not manually edit the data in this queue. When configuring templates or setting up new ones, use the CG Template Editor provided in the software. See "CG Template Editor" on page 243 for more information.

CG Template Backgrounds

Before creating CG templates for Title Entry, the system administrator should capture an image of the actual CG templates on the character generator as bitmaps. These bitmaps are used as background images in the creation process of corresponding templates in iNEWS.

The Capture Tool is a program—included with your iNEWS software CD—used to capture template backgrounds on character generators. It captures the templates as bitmaps with the exact specifications (400 x 300 pixels) for a screen ratio of 4 x 3, one of two acceptible ratios for Title Entry templates.

If you chose to use some other method of capturing bitmaps on the character generator, you must create bitmaps in one of two sizes. Standard size is 400 x 300 pixels with 256 or more colors. The iNEWS CG Title Entry also supports images for a 16 x 9 screen ratio, which requires bitmaps with the larger dimensions of 560 pixels wide by 315 pixels high. The Capture Tool can be used only to capture bitmaps for the smaller 4 x 3 screen ratio.

You can store the bitmaps anywhere on the network as long as they are accessible from the iNEWS Workstation used to run the CG Template Editor. When the CG Template Editor program creates Title Entry templates, the chosen bitmaps are copied to the iNEWS database, at which point the bitmaps on the network, created by the Capture Tool (or other software) may be disposed of.

This section will explain what bitmaps are needed, hardware requirements for the Capture Tool, the installation process and procedures for using the Capture Tool to capture bitmaps with 400 x 300 pixel dimensions.

Required Bitmaps

Two slightly different bitmaps of each unique CG template should be captured from the character generator. First, capture the CG template with the text fields full of text.

Do not use spaces. Each text field in the actual CG template filled out with information from a user should have a solid string of characters in it when the bitmap is made. Fixed-width fonts allow for absolute accuracy; however, proportional fonts can be used. The character limit of a field with fixed-width fonts will be the same no matter which letters of the alphabet are used to fill it up. Proportional—also known as variable-width—fonts contain some letters that are wider than others, so the character limit may vary. For instance, the character limit of a field with a proportional font may be nine letters if "M" is used to fill up the field, but that limit increases to 25 when the letter "I" is used instead. A good mix of wide and narrow letters should be typed in the field to fill it up if a proportional font is used.

The first bitmap provides a graphical demonstration of character width allowed in a text field and the position of that field on the screen. This bitmap will be used to align text fields and fonts on the Title Entry template when created in the CG Template Editor.

Secondly, capture the CG template with empty text fields as a bitmap. This bitmap will replace the first one in the final version of the Title Entry template. It will be used as the template background shown in the Title Entry dialog box.

Capture Tool

The Capture Tool is a program used to capture graphical representations of templates on character generators. The tool captures a template as a bitmap, with dimensions of 400 x 300 pixels, which can then be used as a background image in the iNEWS Title Entry templates.

The Capture Tool does not support images with dimensions of 560 x 315 pixels, the size used for a screen ratio of 16 x 9.

Hardware Requirements for Capture Tool

The hardware requirements to operate Capture Tool are:

- 133 Mhz IBM PC
- 32 MB RAM
- 10 MB Hard Disk space available
- XGA Monitor
- Osprey® 100 Video Card

Installation of Capture Tool

For more information on the Osprey 100 video card, visit the Web site: www.ViewCast.com.

Before you can install Capture Tool, the Osprey 100 video card should already be installed, according to the instructions provided with the card by ViewCast.com, Incorporated.

To install Capture Tool:

1. Run the setup program (`setup.exe`) from your iNEWS CD. This program is on the CD in a subdirectory called GTECapture.

Follow any instructions as prompted in the program. The setup process will install the capture tool on your PC and create a Program Files group called Title Entry Capture Tool.

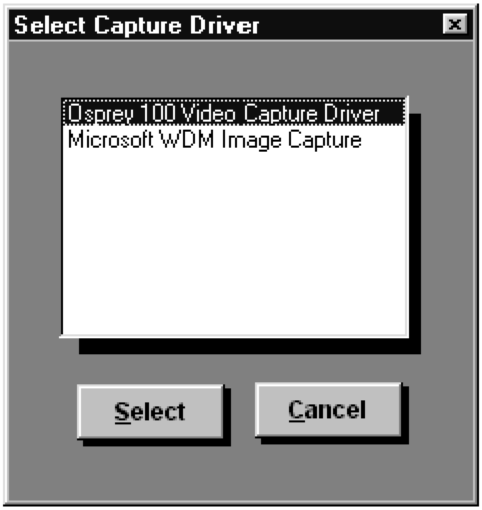
You must provide a baseband video signal to the input of your Osprey card. This signal can be from a VCR or from your internal routing system. It does not require time-base corrected video; however, corrected video will produce better images.

Using the Capture Tool

To use the Capture Tool to capture a bitmap image:

1. Select Start > Program > Capture Tool.

   The Capture Tool program checks for multiple video card drivers and display a dialog box similar to the Select Capture Driver dialog box:

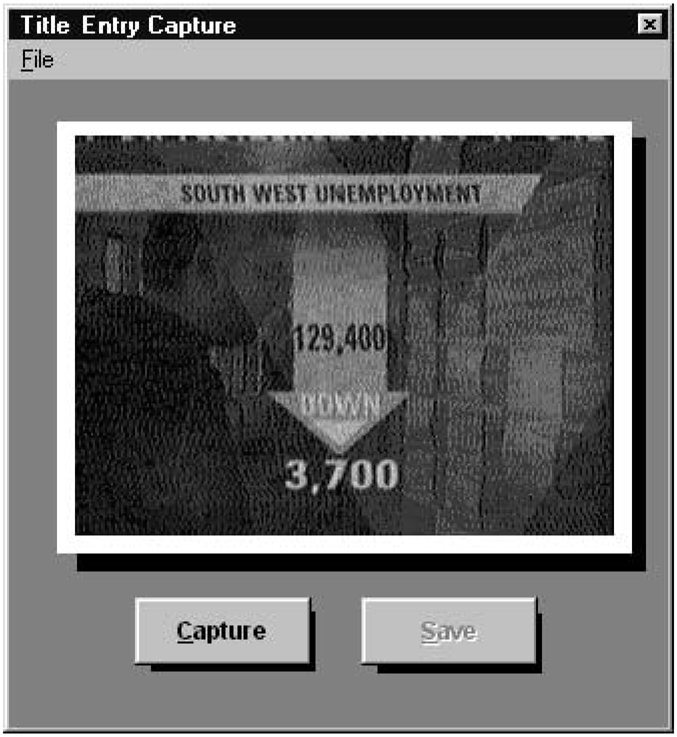


Select Capture Driver

Osprey 100 Video Capture Driver

Microsoft WDM Image Capture

2. Select the driver for the card used to capture images (typically, the Osprey card). After the selection is made, the tool will open a window showing incoming video.

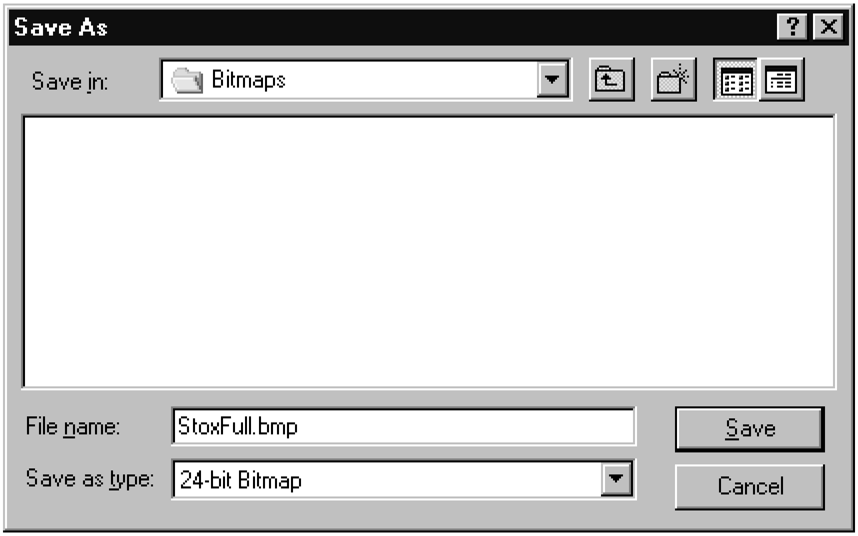


3. Click the Capture button to freeze the image. After the image is frozen, the Save button is activated.

4. Click Save to save the image as a bitmap to be used in the iNEWS CG Template Editor window.

When using the Capture Tool, the image saved will be exactly 400 x 300 pixels, which is one of two sizes supported for Title Entry templates. There is no need to adjust the size.

5. Select the location in the Save As dialog box where you want to save the bitmap.



Save in: Bitmaps

File name: StoxFull.bmp

Save as type: 24-bit Bitmap

Remember this location, which should be accessible from the PC running CG Template Editor. You will refer to it later while using the CG Template Editor.

Repeat this procedure as often as needed to supply the necessary bitmap images for templates used by the Title Entry feature. After the bitmaps are saved, you are ready to proceed in making iNEWS CG Title Entry templates using the CG Template Editor.

CG Template Editor

System administrators should use the CG Template Editor to create and modify templates referenced by the Title Entry dialog box.

To start the CG Template Editor:

1. Sign on to iNEWS.
2. Select Tools > CG Templates. For superusers, the Edit Title Entry Template window will open.

In some cases, a password is required before access to the CG Template Editor is allowed. See "Title Entry Security" on page 255 for more information.

Edit Title Entry Template Window

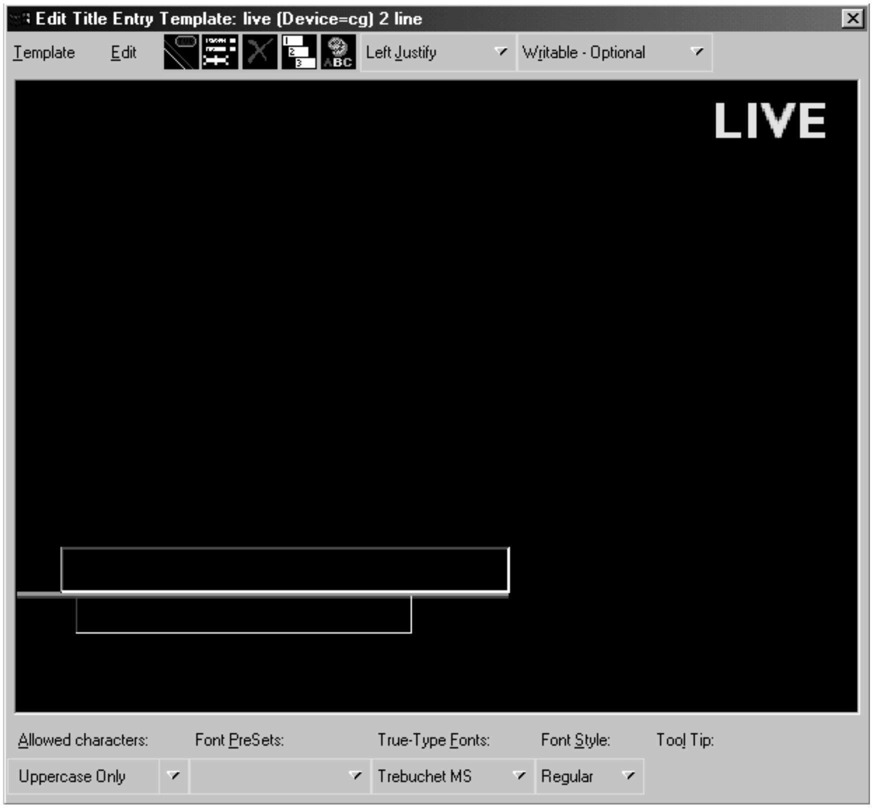
The Edit Title Entry Template window contains several template options, which can be used to create templates that graphically represent actual CGs aired from the character generator.

Some options available to the system administrator are:

- Select a bitmap for a CG template background
- Add, modify, or delete text fields in a template
- Reorder sequence of text fields
- Limit editorial access to text fields
- Modify font size, color, style, and so forth
- Provide helpful Tool Tip text, which appears in the Title Entry dialog box when a user positions the mouse over a text field.

Options in the CG Template Editor do not directly affect features of actual CG templates on the character generator, but should be used to correctly reflect to the iNEWS user facsimiles of CG templates on the character generator that are as accurate as possible.

The Edit Title Entry Template window's toolbars—located at the top and bottom of the window—contain various buttons and drop-down menus, used to configure template options.



Edit Title Entry Template: live (Device=cg) 2 line

Left Justify

Writable - Optional

Allowed characters: Uppercase Only

Font PreSets:

True-Type Fonts: Trebuchet MS

Font Style: Regular

Tool Tip:

The following table provides details about the toolbar buttons and menus in Edit Title Entry Template window.

Button or Menu	Options and Explanation
Template drop-down menu	Options include: New, Open, Save and so forth. This menu is used to open new or existing templates, save modified templates, and to close the window.

Button or Menu	Options and Explanation
Edit drop-down menu	Options include: Background, Add Field, Font PreSets, and so forth. This menu is used for adding or deleting items to a template, such as a background or field, and setting predefined Fonts.
Logo button	This button is the same as the Background option in the Edit drop-down menu. It allows the user to select a bitmap graphic as a template background.
Text Fields button	This button is the same as the Add Field option in the Edit drop-down menu. It allows the user to add a text field to a Title Entry template, which can then be positioned and sized accordingly.
X button	This button is the same as the Delete Field option in the Edit drop-down menu. It allows the user to delete the selected text field from a Title Entry template.
1-2-3 button	This button is the same as the Field Order option in the Edit drop-down menu. It allows the user to rearrange the numerical tab sequence of the text fields in a Title Entry template.
Text Color button	This button is the same as the Text Color option in the Edit drop-down menu. It allows the user to change the color of the font used in a text field as displayed in the Title Entry dialog box.
Justify drop-down list	Options include: Left Justify, Right Justify, and Center Justify. This list is used to set the alignment of text in a field. The drop-down list will continue to display the current setting of the selected field when the list is closed. The default is Left-Justify.

Button or Menu	Options and Explanation
Editing drop-down list	Options include: Writable, Read Only, Optional and Required. This list allows the user to determine whether a field is Writable or Read Only, and whether it is a required field. If Required is chosen, the user of CG Title Entry will be required to fill out the field with text before saving the production cue. Because the user is prevented from entering text in a read-only field, if Read Only is chosen, the user of the CG Template Editor is required to fill out the field with text before saving the template. Blank, read-only fields are not permitted. The drop-down list will continue to display the current setting of the selected field when the list is closed. The default is Writable-Optional.
Allowed Characters drop-down list	Options include: All characters OK, Uppercase Only, Lowercase Only, and Define Subset. This list allows the user to limit the type of characters allowed in a text field. For instance, if the text field should only contain numerical sports scores, then the user could use the Define Subset option to limit the allowed characters in that field to the numbers: `0123456789`. As shown, do not use a comma to separate the numbers or it too will be allowed in the field. The Define Subset option is case-sensitive.
Font PreSets drop-down list	Options include: 10 user-definable font display settings. This list allows the user to store up to 10 font display settings created by the user as PreSets. These can later be selected when making new templates with fields that contain the same size and style of font, saving the user from having to recreate the font repeatedly. The first font stored is particularly important because it becomes the field properties default for the Template Editor at start up.

Button or Menu	Options and Explanation
True-Type Fonts drop-down list	Options include: any true-type font installed on the workstation, such as Times New Roman. This list allows the user to select a font that matches or closely resembles the font used on the actual CGs.
Font Style drop-down menu	Options include: Bold, Italic, Underline, and Strike through. This allows the user to define the style of font used in the selected text field.
Tool Tip field	This field allows the user to type in text that will appear as a Tool Tip box in the Title Entry dialog box, when a user positions the mouse over the text field. For instance, if a user should type only a person's name or location in the field, the Tool Tip text for that field could be: `Type Person` or `Location Name Here`.

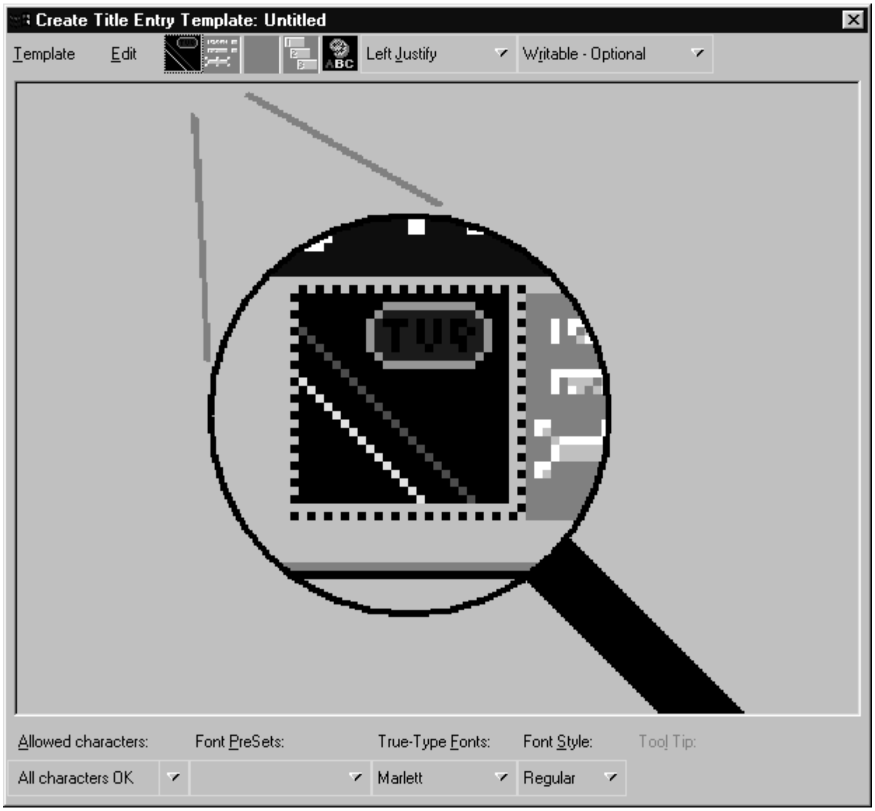
Creating a New Template

The CG Template Editor is used to recreate a template that will simulate the appearance of information sent to actual templates aired by the character generator. This section assumes those actual CG templates were already captured as bitmaps and stored in a file accessible to the user creating a new template. See "Required Bitmaps" on page 239 for more information.

⚠ **Since template names must match the alias associated with the actual CG template number used by the character generator, the aliases must be defined before opening the CG Template Editor. For instance, if a user typically types `*CG loc1` as the first line of a production cue for a 1-line location CG, then the Title Entry template created for that CG should also be named loc1.**

Aliases are defined in `SYSTEM.RESOURCE`. The CG Template Editor will not start if there are no available aliases to save templates to.

When the Create Title Entry Template window first opens, it appears with a graphic that highlights the first step in the process for creating new templates.



To create a new template from the Create/Edit Title Entry Template window:

1. Define a temporary background for the template by doing one of the following:

    - Click the Logo button.
    - Click the Edit drop-down menu, then select Background.

To create another new template when an existing one already appears in the window, use the Template drop-down menu, and select New.

2. Select a bitmap from the directory where you stored them. This is the bitmap of the actual CG template you want to recreate in the Template Editor. See “Required Bitmaps” on page 239 for more information.

The first bitmap you choose should be the one that contains text fields filled with characters. In upcoming steps, you will use this bitmap to align the text fields and the font in the template, before replacing it with another bitmap containing empty text fields.

If a template already has a text field and it is selected, then any new field added to the template will follow size and font styles for that original field.

3. Add a text field by doing one of the following:
   - Click the Text Fields button.
   - Click the Edit drop-down menu, then select Add Field.
4. Click on the new text field and drag it into position over the text-filled area pictured in the bitmap—one field per line of text in the bitmap. You can also adjust the position of the text field by using any of the following key combinations:

• Ctrl+Right Arrow	Move field to the right
• Ctrl+Left Arrow	Move field to the left
• Ctrl+Up Arrow	Move field up
• Ctrl+Down Arrow	Move field down

5. Use the mouse to resize the text field to reflect the size of the text area in the bitmap.
6. Use the True-Type Font drop-down list or the PreSet list to select a font similar to the font used by the character generator, as seen in the bitmap.
7. Type the same characters shown in the bitmap into the new text field. The font may or may not line up exactly over that of the bitmap. To enable Title Entry to accurately reflect the text as it will appear on actual CGs, you must align the field and characters with those shown in the bitmap.
8. Adjust the height and width of the font by using the following key combinations:

• Alt+Right Arrow	Expand width of font
• Alt+Left Arrow	Contract width of font
• Alt+Up Arrow	Expand height of font
• Alt+Down Arrow	Contract height of font

This may take some time and will require experimentation with fonts and font styles, before the characters align with those of the bitmap. The goal is to make certain the text field you create in the template has the same character limit as the area shown in the bitmap when the exact characters are used in both.

9. Use the backspace key to erase characters from the field once the font and field alignment is complete.
10. Repeat steps 5-11 as needed for each text field in the template.

If text fields on several CG templates use the same font and field size, you do not have to repeat steps 9 and 10 with each new template created. You can duplicate a field (including all its size and font properties) within a template by holding the Control (Ctrl) key down, clicking on the field, and dragging its copy to a new location within the template. You can also reuse field properties by saving them as a Font PreSet, which can then be selected for use when creating other templates. See "Using Font PreSets" on page 253 for more information.

11. Determine the justification of text in each field. Select the field and use the Justify drop-down list.
12. Determine whether a user can write in each field, and whether the user is required to fill in a field by using the Editing drop-down list. If you make a field required, then the user must enter some data into that field when using Title Entry before iNEWS will accept the production cue. This does not apply to the field while in the CG Template Editor. However, if you make a field read-only, it must contain some text so you will be required to put some text in the field while in the CG Template Editor. Users will be prevented from altering that text in the read-only field when using Title Entry.

    The Read Only option can be used for setting up templates that standardize certain commonly used CGs. For instance, you have a CG that has two fields: one for any council member's name and the second that should contain the words, City Council Member. But, users sometimes just write Councilman or worse, they misspell Council. You could make the second field read only and pre-define the words that appear in the field.

If a field is pre-defined on the actual CG template, such as LIVE or FILE, it should appear as part of the background—saved as part of the bitmap—not as a read-only field on the Title Entry CG template.

The Allowed Character option is case-sensitive. Also, notice the example in step 15 does not include commas, such as: **`1,2,3,4,OT,F`** If commas are included, then commas will also be accepted in the field.

13. Determine which characters are allowed in each text field. Select the field, then choose from the options in the Allowed Characters drop-down list. If you choose to define your own subset of characters, a dialog box will appear, where you must then type in only those characters you want to allow in the field. For instance, you can limit what a user types into a field for a Sports CG to only characters: **`1234OTF`**—representing 1st-4th quarter, OT for over-time, and F for final.
14. Type in the text for the field's Tool Tip. The Tool Tip will appear in the Title Entry dialog box when the user positions the mouse over that field. To enter Tool Tip text, click on the Tool Tip field at the bottom-right corner of the Edit Title Entry Template window, then type your text in the field provided. You must press Enter to save the tool tip text.

Alt+L can be used to select and enter data into the Tool-Tip field. Also, each Tool Tip will appear with a number in the CG Template Editor window. The number indicates that field's order in the template. These numbers do not appear as part of actual Tool Tips over fields of the Title Entry dialog box.

15. Replace the background of the template with the bitmap of the CG Template containing empty text fields. To chose another bitmap, do one the following:
    - Click the Logo button.
    - Select Edit > Background.
16. Save the template by doing one of the following:
    - Select Template > Save.
    - Type Ctrl+S.

The template name must match the pre-defined alias associated with the actual CG template number used by the character generator. Aliases are defined in `SYSTEM.RESOURCE`.

Using Font PreSets

Font PreSets are a time-saving feature for system administrators using the CG Template Editor to create Title Entry templates.

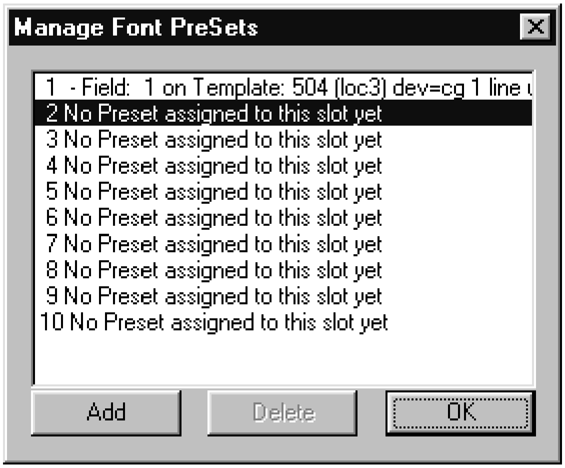
After a system administrator sets up a text field and saves it as part of a template, he can store settings for that field as a Font PreSet. The Font PreSet can then be selected when the system administrator needs to add a field with those same settings to another template. For instance, the text field of a one-line location CG is saved as a Font PreSet, which is later used to create the first field in a two-line name CG, a two-line live CG, and so forth, because all fields use the same font style and field size.

You can have a maximum 10 Font PreSets in iNEWS. The first one stored is particularly important, because it becomes the field properties default for the CG Template Editor at start up. Save the PreSets for major font/field variations. Because you are limited to 10, it is not recommended they be used for minor variations, such as a font color change. You can replace any Font PreSet with a new one if all of the PreSets are taken.

To save a field as a Font PreSet:

1. Open the template containing the field you want to save as a Font PreSet.
2. Click on the specific field to select it.
3. Do one of the following:
   - Select Edit > Font PreSets.
   - Press the F7 key.

The Manage Font PreSets dialog box will appear, with the first available PreSet option highlighted.

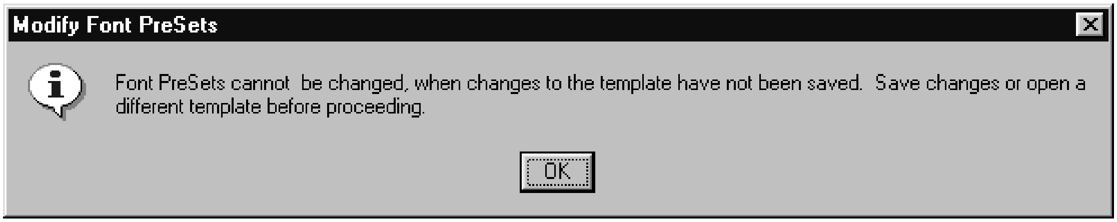


Manage Font PreSets

1 - Field: 1 on Template: 504 (loc3) dev=cg 1 line u
2 No Preset assigned to this slot yet
3 No Preset assigned to this slot yet
4 No Preset assigned to this slot yet
5 No Preset assigned to this slot yet
6 No Preset assigned to this slot yet
7 No Preset assigned to this slot yet
8 No Preset assigned to this slot yet
9 No Preset assigned to this slot yet
10 No Preset assigned to this slot yet

4. Click Add to save the selected field as a new Font PreSet. The name of the newly added field will appear in place of existing data on the highlighted PreSet option.
5. Click OK to close the dialog box.

You cannot save a field's settings as a Font PreSet until after the field is saved as part of a template. If you attempt to set a Font PreSet using a newly created field from an unsaved template, iNEWS will issue the following advisory.



Modify Font PreSets

Font PreSets cannot be changed, when changes to the template have not been saved. Save changes or open a different template before proceeding.

To delete an existing Font PreSet:

1. Open the Manage Font PreSets dialog box, by doing one of the following:
   - Select Edit > Font PreSets.

- Press the F7 key.

2. Select the PreSet you want to delete from the list.
3. Click Delete.
4. Click OK to close the dialog box.

To choose an existing Font PreSet for a selected text field:

1. Click the Font PreSets drop-down list at the bottom of the Edit Title Entry Template window.
2. Select the Font PreSet you want to use for the chosen field.

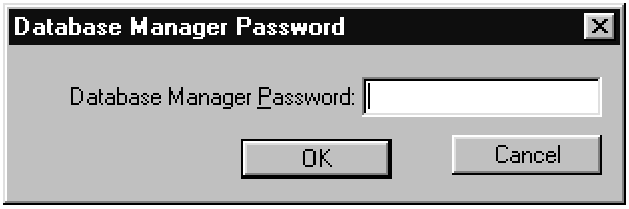
Title Entry Security

Access to CG Template Editor and CG Title Entry is determined separately per user account. A user who can use CG Title Entry will not necessarily have access to CG Template Editor, while another user can be denied the ability to use both features.

Access to CG Template Editor

Access to CG Template Editor is limited to system administrators, or superusers, and those who know the password for dbmanager, if that user account is created by a system administrator. This is the same dbmanager account that is used to modify database traits. See “The Database Manager Account” on page 93 and “Changing Database Traits” on page 117 for more information.

When a non-superuser attempts to launch the CG Template Editor from the Tools menu, the following dialog box appears:



If the correct password is not given, then iNEWS will notify the user and deny access to the Edit Title Entry Template window.

Only one person on the network can use CG Template Editor to edit Title Entry templates at a time.

Access to CG Title Entry

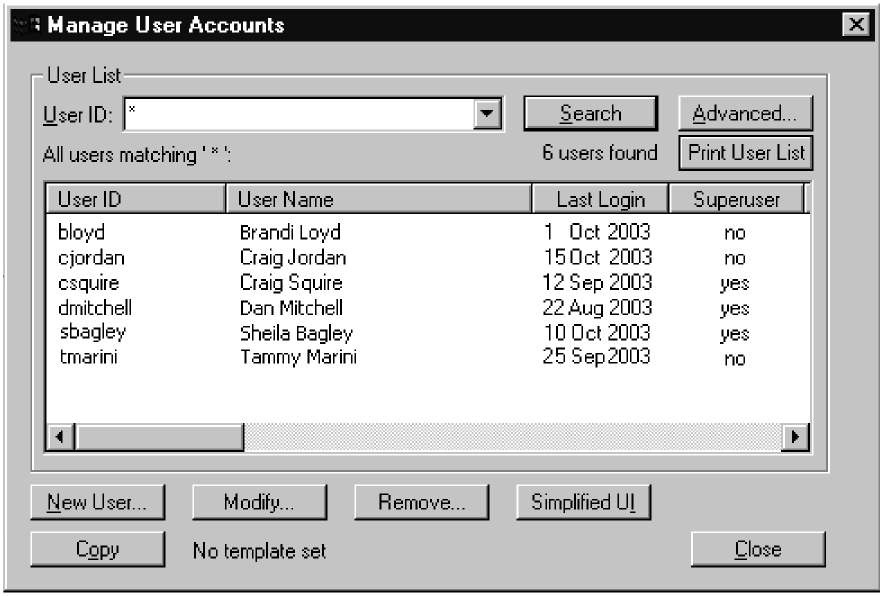
The availability of CG Title Entry is dependent on two things: cursor position in the iNEWS Workspace and permission granted in the user's account.

When a user's cursor is in any panel other than the Story panel, the Titling option in the Tools menu will appear gray, indicating that Title Entry is unavailable. Additionally, a system administrator, or those authorized with the umanager password, can limit access to Title Entry.

There is no individual user setting that enables or prevents access to CG Title Entry. However, those users whose accounts are set as "Simplified" may be prevented from accessing CG Title Entry.

To prevent access to CG Title Entry for all simplified users:

1. Sign on as a system administrator, or with your own user account if you know the umanager password.
2. Select Tools > Options > Users. System administrators will see the Manage User Accounts window open. Others will be prompted to give the umanager password first before the Manage User Accounts window will open.



User ID: *

All users matching ' * ':

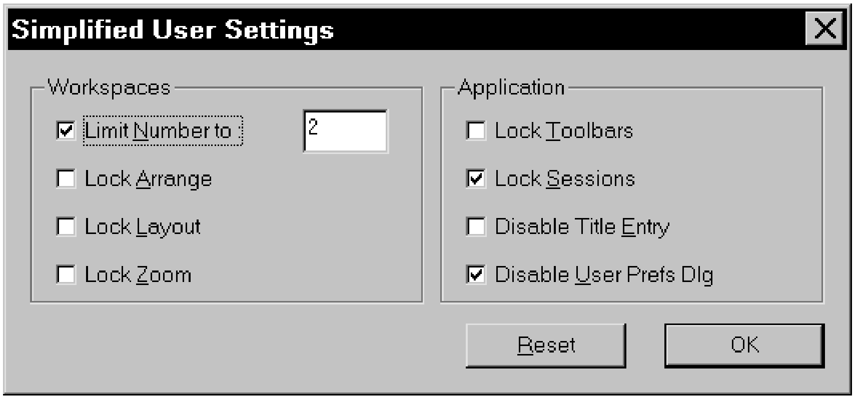
6 users found

User ID	User Name	Last Login	Superuser
bloyd	Brandi Loyd	1 Oct 2003	no
cjordan	Craig Jordan	15 Oct 2003	no
csquire	Craig Squire	12 Sep 2003	yes
dmitchell	Dan Mitchell	22 Aug 2003	yes
sbagley	Sheila Bagley	10 Oct 2003	yes
tmarini	Tammy Marini	25 Sep 2003	no

No template set

3. Indicate the user, by providing the User ID. The Search button is available to help locate the user's account if the ID is unknown.

4. Click the Simplified UI button. The Simplified User Interface dialog box will appear.



Simplified User Settings

Workspaces

☑ Limit Number to 2

☐ Lock Arrange

☐ Lock Layout

☐ Lock Zoom

Application

☐ Lock Toolbars

☑ Lock Sessions

☐ Disable Title Entry

☑ Disable User Prefs Dlg

5. Click on the Disable Title Entry checkbox to select it.

6. Click OK.

Chapter 10

System Configuration Files

Information about your iNEWS system's hardware devices (workstations and printers), connections (wires and links), and iNEWS Servers is stored in configuration files. A representative sample of each iNEWS configuration file is contained in this chapter. A comprehensive list of sample configuration files is contained in Appendix B. Procedures for editing configuration files using the line editor, `ed` are provided in Appendix H.

This chapter contains:

Overview

Configuration of the iNEWS newsroom computer system is controlled by settings stored as text files in the (root) Site directory on the software area of the system's hard disk. Files in the Site directory or subdirectories include:

- `/site/config`
- `/site/system`
- `/site/wires/<file name>`
- `/site/printers/<file name>`
- `/site/dict`
- `/site/mcs`

Because many system files are located in the Site directory, they are also referred to as site files.

All files in the Site directory, including the system profile and configuration file, can contain only Roman characters.

Some other important files are stored in the ETC directory, such as:

- `/etc/dhcpd.conf`
- `/etc/hosts`

Samples of these and other system files are provided in Appendix B. Changes to system configuration are made by editing these text files. The recommended method is at the console using the line editor, `ed`. Unlike Microsoft® Word or similar word processing programs, `ed` deals with text files on a line-by-line basis.

To learn more about the line editor, refer to one of the books available in bookstores on the Linux operating system with sections devoted to `ed`.

The most likely reason for you to use `ed` is to modify system files, such as `/site/config` or `/site/dict/queues`. For instance, if you add a workstation to your system, you will need to add the computer's configuration information to the configuration file in the Site directory. Some procedures for editing certain files are provided in this chapter. For further information about the line editor, type **`info ed`** at the console. Additional information, including details on how to use the line editor, `ed`, is provided in Appendix H of this manual.

It is vital that you ensure system files remain identical across all iNEWS Servers. When you modify a site file, make the same changes to each server's copy of the file, or your system will not run properly. Select all servers before you open a file for editing to ensure changes you make are applied to each server's copy of the file.

The Linux graphical X-window login offers additional Linux GUI tools for system management. Tasks such as changing IP addresses and checking hardware are much easier within the X-window GUI. However, if all iNEWS Servers have the GUI installed as part of the Linux installation, it does take additional resources to run and requires additional hardware, such as monitor, keyboard, and mouse. Some system managers may not want to run the GUI full-time so as to reserve memory and other resources for the iNEWS Server processes.

While the impact of running the GUI is probably not terribly significant on modern hardware with speedy processors and plenty of RAM, Avid does not test the software or system performance with the GUI running. This editing alternative is not required or supported by Avid.

Before editing any system file, you can view, print, and as recommended, make a backup copy of the file.

Making a Backup File

When you want to make changes to a system file, begin by making a backup copy of the file, and then edit the backup file. That way, if you make a mistake during the editing process, your original file version is preserved.

When copying a file, use this format:

```
cp <file pathname> <new pathname>
```

For instance, to copy the configuration file in the Site directory, type:

```
NRCS-A$ cp /site/config /site/config.test
```

Viewing System Files

When viewing a system file, use the `more` command at the console. The format is: `more <file pathname>`

Only part of the configuration file is shown here. An entire example is available in Appendix B.

For instance, to view your copy of the configuration file, created in the previous section's example, type:

```
NRCS-A$ more /site/config.test
```

Information similar to the following appears:

```
host   ab a
        net     10
        reslist 121                     ; console connect
        servers 141 201 211             ; Print, Mail,
Keyword
        servers 231 233 235 241 243 245 ; Seek & FTS
        servers 251 253 255 257 259     ; Action servers
        servers 271 273 275 277 279     ; Monitor servers
        servers 281 283 285 287 289     ; Monitor servers
        reslist 301 303 305 307 309     ; Txnet
        reslist 311 313 315 317 319     ; Rxnet
        reslist 321 323 325 327 329     ; Rxnet
        reslist 401:402                 ; Web Access
        reslist 501:504                 ; iNEWS sessions
;
host   ab b
        net     ; 20
        reslist 122                     ; net connect
        servers 232 234 236 242 244     ; Seek & FTS
        servers 252 254 256 258 260     ; Action servers
        servers 272 274 276 278 280     ; Monitor servers
        servers 282 284 286 288 290     ; Monitor servers
        reslist 302 304 306 308 310     ; Txnet
        reslist 312 314 316 318 320     ; Rxnet
        reslist 322 324 326 328 330     ; Rxnet
        reslist 601:604                 ; iNEWS sessions
...
```

The `more` command allows you to view one page at a time, which is especially useful for really long files. The `cat` command may also be used, particularly for smaller files.

The following example shows the `cat` command and sample output for viewing the system profile, a text file stored in `/site/system`.

```
NRCS-A$ cat /site/system
```

The system output looks similar to the following:

```
NRCS-A$ cat /site/system
id=NRCS       net=abc
lowwater=100000  highwater=105000 purgelimit=5
load=5         pausetimeout=0:05
;
; defaults - if parameter not present these values are assumed
;            unless overridden on the command line.
;
; auto_upgrade=yes        lowwater=100000          remotetimeout=0:00
; clockmax=12             maxhits=500              scriptlhmax=40
; excluded_video=none     min_passwd_length=5       scriptrhmax=40
; highwater=105000        msgserver=silent         security=or
; lastlogin=yes           pausetimeout=0:30        timechar=:
; load=0                  purgelimit=0             timer=verbose
; localtimeout=0:00       readrate=180             wordlength=0
```

Printing a Copy of a File

To send a file to a serial printer instead of viewing it on the console screen, precede the cat command with print and the number of the printer you want to use. Use this number to refer to that printer when you print from a computer connected to the iNEWS system.

For instance, to print `/site/config.test` on printer number 1, type:

```
print 1 cat /site/config.test
```

The `list c printer` *command will list any configured system printers.*

Licensing of iNEWS Components

Each time the iNEWS newsroom computer system is configured, your licensing information is checked. This information determines the number of devices you are authorized to connect to the system. An error message appears if the configuration file defines more devices than are licensed in any of the following categories:

- All serial devices (printers, wires, and so forth)
- PCUs
- iNEWS and network workstations

To display your system’s licensing limits, at the console, type:

`NRCS-A$` **`status license`** -OR- **`status l`** (lowercase L)

A message similar to the following will appear on your screen:

```
A is ONLINE and has been CONFIGURED.  ID is NRCS.
System is AB.  Master is A.
Disk status is OK.  The database is OPEN.

Site Key: 001234
CPUs: 3
PCUs: 2
Serial devices: 8
Workstation addresses: 3000
Workstation resources: 1000
COM resources: 1
Web Access resources: 2
Wire Server resources: 8
Remote Searching allowed.
```

The `Workstation addresses` category indicates how many IP and/or Ethernet addresses can be specified in the `SYSTEM.CLIENT.WINDOWS` story. The iNEWS Server will only accept a connection from a workstation that is identified in the appropriate story; otherwise, an error is given stating that the workstation is “not authorized to connect.”

The *resources* category defines the total number of simultaneous login sessions. The `Wire Server resources` line indicates the number of wire server resources allowed for the Avid Data Receiver.

When the system is configured, if the number of IP addresses present in the `SYSTEM.CLIENT.WINDOWS` *story exceeds the number of addresses, a diagnostic is produced. The system will be configured. This differs from exceeding other license limits.*

To change license allowances, contact an Avid sales representative.

Devices

The iNEWS newsroom computer system supports the following types of devices:

- *Workstation* – The PC device on which a user can log in to the iNEWS newsroom computer system known as an iNEWS Workstation.
- *Printer* – A device that prints stories and scripts. The iNEWS newsroom computer system supports serial and Windows printing. It also supports the ability to print to a queue in the iNEWS database.
- *Wire* – A device that processes wire service stories in the database.
- *WireServer* – A device that allows an Avid Data Receiver instance to connect to the iNEWS newsroom computer system.
- *Service* – A device that allows a user to connect to another computer system from a workstation.

The server listed here is not the same as the computers used as iNEWS Servers, typically given names with the station's call letters and an A, B, or C. For instance, `NRCS-A`.

- *Server* – A utility program that performs tasks on stories in a queue, based on defined instructions. Supported server types are action, distribution, parallel wire, monitor, and keyword. Other servers facilitate searches, mail, and printing. See “Servers” on page 14-1 for more information. <--Fix XREF
- *Rx/Tx Network Link* – Device designed for receiving or transferring stories between computer systems.
- *COM* – A (connection) device used by some Avid applications, such as MOS Gateway, to communicate with the iNEWS Server.

- *Remote Search* – A device that allows iNEWS users to search content on a remote iNEWS newsroom computer system.

Viewing Information About Devices

To view information about devices connected to your system, use forms of the `list c` console command. The console command `list c` prints information to the console screen about configuration of a device or devices. The format for this command is:

```
list  c [<device type, device number, or program name>]
```

The device type or device number is optional. If you do not enter them, you get a list of the configuration information for all devices in your system. When you type **`list c`** at the console, information similar to the following appears:

```
DEV   DEVICE_TYPE  COMPUTER  CCU  PRINTER  SPEED OPTIONS  DEVNAME

C60   pcu          A-pcu60   60                  P        pcu60

S200  monitor      A              N200

S401  txnet        A-net          N401                    txnet

...

S522  seek         A              N522
```

If you follow `list c` with the name of a program, iNEWS lists every device on your system that uses that program.

For instance, to find out how many devices use the action server program, type:

```
list c action
```

Information similar to the following appears:

```
DEV  DEVICE_TYPE COMPUTER CCU  PRINTER SPEED OPTIONS DEVNAME

S344 action      A             N344

S345 action      A             N345
```

To list configuration information for device number 344, type:

`list c 344`

A message similar to the following appears:

```
DEV  DEVICE_TYPE  COMPUTER  CCU  PRINTER  SPEED  OPTIONS  DEVNAME

S344 action       A              N344
```

List C Message Columns

There are eight columns in the `list c` messages.

- DEV
- DEVICE_TYPE
- COMPUTER
- PCU
- PRINTER
- SPEED
- OPTIONS
- DEVNAME

Each column is explained in this section.

DEV – Lists the device number. The number is preceded by a capital letter identifying the type of device.

The device identifiers (the first element of the display under DEV) are defined as follows:

Identifier	Supported Device
B	Web browsers
c	COM devices
G	iNEWS Workstation graphical user interface
L	Serial resource (line)
M	MCS driver, MCS PC
P	Printer
R	Network resource
r	Remote Search devices
S	Server, special
U	Unused
W	Wire

DEVICE_TYPE – The program that runs the device. For instance, workstations have `gnews` listed in this column.

COMPUTER – Identifies the computer to which a PCU (or a device, through its PCU) is attached. For instance, a network PCU running on computer A and using the network name pcu10 would have A-pcu10 in this column.

The COMPUTER column also indicates on which computer server a service or server (utility) program is running.

PCU – Contains the PCU device number and port on that PCU to which the device is attached. For instance, a device connected to port 4 on PCU 20 has 20-4 in this column. If the device is a PCU, only its device number appears here.

PRINTER – Lists the printer number assigned to the device. For instance, a terminal assigned printer number 2 would have 2 in this column. Wires display a join or raw option.

Servers and specials use this column to indicate which mailbox they use to receive notifications. For instance, a txnet link with notification mailbox 189 would have N189 in this column.

SPEED – Indicates the bps rate used for communication between a device and its PCU.

OPTIONS – Lists any modifiers to the device's speed, such as bits per character, parity, and handshaking. For PCUs, a P is listed.

DEVNAME – Lists the device's name, if it has one, which can be used for group membership and placed in the DEVNAME field of stories.

Configuration File

The configuration file (`/site/config`) is a system road map. It lists all devices, servers, and resources configured to run on your system and how they are connected. If a device is not in the site configuration file, the system will not know about it and cannot use it. Standard devices and resources you may configure in this file include terminals, printers, iNEWS Workstations, and wire services.

Each server for your system has a copy of this file that it reads when it starts up and when you execute the `configure` command. However, it is only the configuration file on the master computer that is active and used when the system is started up.

⚠ **Whenever you make changes to a site file, such as the configuration file, be sure to select *all* servers in your system at the console. Unlike database stories, site files are not automatically mirrored from one**

computer's disk to another. See "Selecting Servers" on page 33 for more information. Also, see Appendix H for information on using the line editor, `ed`, to make changes to site files.

An example of a configuration file is located in Appendix B.

The site configuration file is divided into two major sections: the *host section* and the *device section* (or *body*). The host section contains information about various configurations your system can run, and devices used in each of those configurations.

The format for each host section is:

```
host  <system configuration>  <computer>
             <net>
             <reslist>
             <servers>
```

Parameter	Description
`System configuration`	Refers to whether the system is running single, dual, or triple. For instance, a standard installation with two iNEWS Servers runs in a dual configuration: AB. Installations with three servers are known as triple systems, and normally run in ABC configuration.
`computer`	Refers to the particular iNEWS Server in the system that runs in this configuration. The iNEWS Servers are computers connected to the console, run the iNEWS application software, and contain the iNEWS database. See "Selecting Servers" on page 33 for more information.
`net`	Refers to devices configured on that particular iNEWS Server in that system configuration (Communicate via the network).
`reslist`	Refers to resources configured on that particular iNEWS Server in that system configuration.

Parameter	Description
`servers`	Refers to various utility programs called *servers* that are configured to run on that particular iNEWS Server in that system configuration. This term should not be confused with the computers, also called *servers*, which run the iNEWS application software. See “Servers” on page 407 for more information.

The *top* host section details the device, resource, and utility program numbers that run on the A server in a dual AB configuration. The *second* host section details ones assigned to server B.

Information in the *third* and *fourth* host section is used by the system if one of the servers fails. In the sample site configuration file, the `host a a` section contains a list of all the devices, including ones normally assigned to server B. If server B experiences a failure and is shut down, the system can be reconfigured to run all devices, resources, and servers (utility programs) on A. The `host b b` section contains a list of all the devices, including ones that normally run on server A, in case that server experiences a failure and is shut down.

When you run the `configure` command, the master computer (usually server A) looks at the current system configuration and then assigns devices listed for each iNEWS Server in that system configuration to each iNEWS Server.

In the sample `/site/config` file, the odd numbered devices are assigned to server A and even numbered devices are assigned to server B in a dual AB configuration.

Any item number listed in the host section must have a corresponding line in the device section or body of the configuration file, and vice versa. For instance, if you are adding an iNEWS Workstation resource to the body of the file, you must also add it to one or more host sections so the system knows which server would be responsible for it under various conditions.

The following table shows some of the more common device configuration lines.

Type	Number	Speed	Printer	Program	Name	Comment
inws	301	–	1	gnews	–	;iNEWS Workstation (PC)
printer	37	9600	4		–	;laserjet4
wire	38	9600	anpa7	AP	–	;AP wire
wireserver	801	news	–	AP	–	;Data Receiver instance
line	42	38400-8na	modem	hayes		;dialout
line	42	38400-8na	radio	direct		;serial to WXYZ radio
resource	226	console	–			;net connect
server	211	monitor	211	–		;6pm show
server	233	action	233	–		;action server
server	234	mail	234	–		;mail server
server	235	action	–	–		;timed action
special	51	19200	mct	–	200	;MCTerminal
special	220	0	txnet	220	–	;txnet to archive
special	55	9600	telex	55	telxl	;telex
driver	45	9600-8nh	infindriver	CG1		;Chyron 1
driver	62	9600-8nh	qpboxdriver	SS		;Picturebox
mcspc	80	mcspc1	infindriver	CG2		;Chyron 2
com	701	–	1	gnews	–	;Component client
com	702	10.2.1.35	1	gnews	–	;Component client
rsearch	703	–	1	gnews	–	;Remote Search client
rsearch	704	10.2.1.35	1	gnews	–	;Remote Search client

The number of configured `com` *resources are limited to the number of license* `com` *resources and* `rsearch` *resources are only allowed if Remote Searching is licensed; the number of* `rsearch` *resources are not otherwise limited by license. If Remote Searching is not allowed, the system will not be configured if there are any* `rsearch` *resources defined.*

Changing the Configuration File

Whenever you add, remove, or modify devices on your system, you must make corresponding changes to the configuration file—also referred to as the `/site/config` file. Changing this file requires the use of the line editor. See Appendix H for more information.

To edit the configuration file:

1. Select all servers. See “Selecting Servers” on page 33 for more information.
2. Type:

   `ed /site/config`
3. What information is edited in the file depends on the device.

   Editing procedures for specific devices are provided in later sections of this chapter. See “Adding Devices to Your iNEWS System” on page 285 for more information.

Do not use an uppercase (**`W`**) in step 4.

4. Type **`w`** to write (save) your changes to disk.
5. Type **`q`** to quit the line editor.

Testing the Site Configuration File After Changing

Whenever you make changes to `/site/config`, *always* run a test on the changes to ensure there are no problems with the new configuration. By doing so, the test will warn of problems or if license limits are exceeded. Some configuration problems will prevent system configuration and startup.

To run the test, use the configure console command in the following format:

```
configure <config file> <system> <computer>
```

System refers to the set of servers that make up your iNEWS system, while computer is the server whose configuration you have changed. In "Changing the Configuration File" the procedural example showed steps for adding a workstation to PCU 10, which is connected to server A in an AB (dual server) system.

The following example shows the command for testing the configuration of server A in an AB system:

```
NRCS-A$ configure /site/config  ab a
```

When the prompt returns, the configuration file has been checked. If the system detects any errors, it displays `bad configuration` messages. To help you debug the file, the output displays the line numbers of any lines that have errors.

Incorporating Configuration Changes

After testing, to put the new configuration into effect:

1. Stop any devices affected by the new configuration.
2. Take the system offline by typing:
   `offline`
3. Configure the system, using the following command format:
   `configure (master computer)`
4. Bring the system back online by typing:
   `online`
5. Wait for messages from the system being configured, and then restart the newly added devices or any devices affected by the new configuration.

If you change the type of device on a PCU port, the entire PCU may need to be stopped and restarted.

To list contents of the site configuration file, at the console type:

```
cat /site/config
```

The configuration file that appears on your screen is similar to the sample provided in Appendix B.

Semicolons precede comments and blank lines separate sections.

The sample file in Appendix B (to which we refer throughout this explanation) may not match your system's file exactly, but it contains examples of the different kinds of entries you may find in your file.

On lines of the `/site/config` *files where device numbers are listed, a range of numbers may be specified—two numbers separated only by a colon (:). This is useful at sites with many resources, servers, and sessions. For instance, the resource line below shows device numbers listed individually, then the line is repeated, showing how it may appear as a range.*

```
reslist 100 100 102 103 104 105 106 107 108 109
reslist 100:109
```

Similarly, you can specify a device range for definitions, such as:

```
inws 201:210 - 1 gnews ; iNEWS Workstation (PC)
```

This is equivalent to 10 lines, each with a different device number, with all other information on the line applying to each device definition. If an IP address is specified, a device range cannot be specified.

Hosts File

The hosts file (`/etc/hosts`) is a road map to other computers on the network that your iNEWS Servers need to know about or communicate with. It lists IP addresses of other computers and the computers' names, along with any alternate names or aliases by which the other computers are known. Workstations need not be listed in the hosts file, but putting them in will maintain an inventory of already used IP addresses. If a computer is not listed in the hosts file, the iNEWS Servers will not know about it. This includes PCU units, archive computers, routers, and mail gateways.

An example of a hosts file is located in Appendix B.

System Profiles Files

For your system's servers to work together, they need access to basic system information, such as how many computers are in the system and how the computers are connected. Each server must also have access to system parameters, such as the default read rate and script margins. This information is kept in *system profile files* whose names reflect the information they contain. For instance, information about wires is kept in `/site/wires` and information about printers is kept in `/site/printers`.

Sample system profile files are in Appendix B. The most important of these profile files is the system profile(`/site/system`), which is discussed in the sections that follow. When you start your system, each server reads its copy of the system profile and incorporates the material into its operation.

An example of the system profile is provided in "Viewing System Files" on page 262.

The system profile contains several parameters. Each parameter begins with an identifying keyword, followed by an equal sign (`=`) and the parameter's value. When an iNEWS Server reads its system profile, it finds each parameter's value by searching for the keyword that represents that parameter.

For instance, to find the system ID, each server searches its system profile for the keyword, `id`, and reads the parameter associated with that keyword located after the equal sign. If the server searched the system profile in the example on page 262, it would find that NRCS was the parameter associated with the keyword, `id`.

Most, but not all, parameters have default values the system uses if the parameter is not present in the system profile. Consequently, a system profile usually includes only parameters that you want to set differently from their default values, and those that have no default values and must be set in the system profile. Your system profile may not contain the same parameters as the example.

Changing the System Profile

System profile parameters are configured in the system when servers are connected. After the system profile in `/site/system` is modified, the system should be shut down and restarted to get the servers to read the modified system profile.

For instance, to change the localtimeout parameter in your system profile file, do the following at the console:

This procedure, which modifies the `/site/system` file uses ed, the line editor. If you do not know how to use ed to modify lines in the file, please see Appendix H.

1. Select all servers. See “Selecting Servers” on page 33 for more information.
2. Type:

   `ed /site/system`

   A message similar to the following appears:

```
editing /site/system
213
```

3. Find the line that contains the localtimeout parameter, such as:

   `scriptrhmax=20 localtimeout=45:00 remotetimeout=30:00`

4. Change the 45:00 value for that parameter to 15:00:

   `scriptrhmax=20 localtimeout=15:00 remotetimeout=30:00`

Do not use an uppercase (**`W`**) in step 5. See Appendix H for more information.

5. Type **`w`** to write (save) your changes to disk.
6. Type **`q`** to quit `ed`.

When you modify your system profile, separate parameters from each other with spaces, tab spaces, or carriage returns.

7. Shut down the system, and then start it up again.

When you start the system, each server reads its system profile and incorporates parameters in that file in its operation.

You must reboot the servers and connect the system to get the servers to read the system profile file.

Listing Parameter Settings

To find out which parameters the system is using:

1. At the console, type `status all`. This command displays the system profile settings the system has incorporated in its operation.

   Information similar to the following appears:

```
A is ONLINE and has been CONFIGURED.  ID is NRCS.
System is AB.  Master is A.
Disk status is OK.  The database is OPEN.

System was last configured at 2004-04-19 13:53:49
Dbtraits changes recorded at  2004-04-02 13:06:36

auto_upgrade=yes    maxhits=500         scriptlhmax=40
clockmax=12         min_passwd_length=5 scriptrhmax=40
excludedvideo=none  pausetimeout=0:05   security=or
lastlogin=yes       readrate=180        timechar=:
load=5              remotetimeout=0:00  wordlength=0
localtimeout=0:00
```

   The `status all` command lists values for all parameters defined in the profile, except for the low and high watermarks and the purge limit. Parameters not explicitly defined in the system profile will appear in the list with their default values.

   To list current low and high watermarks and the purge limit, type: **`cat /site/system`**

   See “Viewing System Files” on page 262 and “System Profile Parameters” for more information.

System Profile Parameters

Each system profile description below includes information about the values that parameter can have and whether or not the parameter has a default value. If there is a default value, it is underscored. If a parameter does not have a default value, you must give it a value in the system profile.

The connect command can override anything in the profile by adding `<parameter>=<value>` *on the connect command line.*

```
auto_upgrade=[yes | no]
```

Determines whether a user running an outdated version of the iNEWS Workstation (client) software is allowed to upgrade it automatically. If set to no, it means users of outdated software are not asked if they want to upgrade. The default is auto_upgrade=yes.

```
clockmax=[12 | 24]
```

Determines how backtimes/cumetimes (cumulative) are displayed—12 or 24-hour format. While the iNEWS Workstation always displays these times in 24-hour format, this setting is used by various utility (server) programs whenever a date/time is formatted, such as when an action server processes a mailto command and a story is sent as an email message. It used by system printing as well. The default is 12.

```
excludedvideo=[director | none]
```

Determines the handling of director video when received in Story Exchange Protocol (SEP) format. If set to none, this text is converted into bold italic text. If set to director, the text is converted into closed caption (CC) text.

```
highwater=<# of block units>     (2500)
```

Establishes the upper limit to which dbserver attempts to rebuild the free list. Set this parameter far enough above the low watermark so the system is not in danger of slipping beneath that mark. The number you enter represents actual blocks of database space, where a block is one kilobyte. For instance, a high watermark of 6250 (recommended for most systems) represents 6250 blocks. The default value is 2500.

`id=<system name>`

Gives the system a name. The system uses this name in some of its messages and in the prompts. The system name defined here must match that used in the `/etc/hosts` file (a file used by networking software), must be in uppercase, and can be up to eight characters long. There is no default value, so you must set it in the system profile.

`lastlogin=[yes | no]`

Lets you suppress on a user's workstation display of last time user was logged in. Setting no accomplishes this; the default is lastlogin=yes.

`load=<number of connections>          (0)`

Specifies the maximum numerical difference the system tries to maintain between network connections from Windows-based clients on different servers in your system. This is called *load balancing*, and it is intended to keep one server from handling a much higher number of connections than any other server.

For instance, if you set this parameter to 5, the system distributes connection requests so the difference in the number of connections is no higher than 5. If you had 2 active connections on server A, and 7 on B, the next request to connect to B would be shifted to A. Connection requests for A would be allowed, until the number of connections on A was 5 more than on B.

The default value for this parameter is 0, which means load balancing does not occur.

`localtimeout=<min:sec>                (00:00)`

As a security precaution, your system automatically logs out workstations if they are idle longer than the time set in this parameter.

If a story is open at an idle workstation, the system saves the story before logging out the workstation. Setting localtimeout=00:00 prevents the system from logging out workstations. This is the default setting if it is not set in the system profile.

The localtimeout parameter is set in minutes and seconds. For instance, to have the system log out any workstation idle for more than two hours, set this parameter to 120:00. The maximum value is 540 minutes.

`lowwater=<# of block units>      (1250)`

Establishes minimum disk space that the system tries to keep available for immediate use. Use it with the highwater and purgelimit parameters to control how the system recycles space in the database. Set this parameter in units of actual database blocks, where a block is one kilobyte (1KB). For instance, a low watermark of 5000 (recommended for most systems) equals 5000 blocks of database space.

If the number of blocks in the free list falls below the low watermark, the system runs dbserver to reclaim the oldest stories from the Dead queue, recycling the space onto the free list. This continues until the free list is restored to the high watermark. If you do not include this parameter, the system uses the default value of 1250 blocks.

`master=<computer name>`

Designates one of your system’s servers as the master computer, which controls all database activity and performs the majority of housekeeping, such as running dbpurge every hour and invoking dbserver when low on space.

Generally, this parameter is left out of the system profile, causing the system to designate as the master computer the server whose name is alphabetically first (usually server A). You can specify a server as the master computer using the connect console command. The format is:

```
connect <computer> master=<name>
```

`maxhits=<number of hits>         (500)`

Defines maximum number of hits, or matches, that a background search—including Fast Text Search (FTS)—can find. For instance, setting this parameter to 50 limits the total number of hits in a single search to 50. The maximum number you can specify is 32765. If you do not assign a value, the system uses a default value of 500.

`min_passwd_length=<number of characters>    (5)`

Defines minimum password length for your users. For instance, setting `min_passwd_length=6` prevents users from creating passwords shorter than six characters. The value may range between 1 and 12 characters. This does not apply to passwords you assign with the utraits command, but if you assign a password that is too short, the user will be forced to change it the next time he or she logs in. The system uses 5 as the default value.

`msgserver=[silent | verbose]`

Used only for debugging. To find out whether or not a mailbox is working, set this parameter to verbose. This causes the console to display a message whenever activity occurs in a queue with a mailbox assigned to it. Change this parameter while the system is running using the msgdebug command. The default setting is silent. This prevents messages regarding mailbox activity from being displayed.

`name=<computer name>`

Each server must have a unique name (either A, B, C, or D) to distinguish it from the other servers in the system. Typically, assign these names during the startup process using the connect console command—`connect a` for server A, and so forth—so it need not appear in the system profile. There is no default value assigned.

`net=<computer names>`

If your system's servers are connected over an Ethernet network, include this parameter in the system profile. This allows you to specify all servers in the network. For instance, in a system using three servers named A, B, and C, this parameter would be set to `net=abc` in the system profile.

Include this parameter only if your servers are connected on a network. Using this parameter precludes use of the single parameter. There is no default value assigned.

`pausetimeout=<min:sec>          (00:30)`

Sets a default value for the `PAUSE` command, which is used in some keyboard definitions. Users can override this default value. If not set, the system assumes a value of 30 seconds.

`purgelimit=<hours>              (0)`

If dbserver reclaims all space available in Dead queue without restoring the free list to the low watermark, it begins to purge old stories by making a series of passes through the database. On each pass, dbserver temporarily decreases each queue's purge interval by one hour and removes any stories older than the new purge interval. It continues doing this until it has rebuilt the free list to the high watermark or reaches the purge limit.

The purge limit sets the maximum number of passes dbserver can make through each queue. The total number of hours dbserver can purge from a queue is equal to the queue's purge interval minus your system's purge limit.

Use the purge limit to prevent dbserver from purging everything from important queues in its attempt to build up the free list. For instance, if you set the purge limit to two hours, queues with a 3-hour purge interval retain at least one hour's worth of stories, even in a low-on-space situation.

You can set the purge limit between 0 and 24. If not set, your system uses a default value of zero hours, which prevents dbserver from purging any queue beyond its purge interval.

```
readrate=<words/minute>            (180)
```

Sets the system's default read rate. When you add a user to the system, the Add New User dialog box will default to a read-rate of zero, which will be replaced by the /site/system read rate when needed. After a user has been added, you can change the user's read rate using the Modify User Account dialog box. See "Modifying User Traits" on page 62 for more information. If not set, the system uses a default read rate of 180 words per minute.

```
remotetimeout=<min:sec>            (00:00)
```

This time-out value also applies to all connect sessions, including sessions that connect a workstation at your station to another service. If a story is open when the system logs out the workstation, the story is saved. Disable the automatic logout of connect sessions by setting this parameter to `00:00`. The maximum value is `540:00`. The default that the system uses is `00:00` if this parameter is not included in the system profile.

```
scriptlhmax=<number of columns>    (40)
```

Sets default width of left column of a scripted story. The width is set as a number of characters from the left side of the screen. For instance, a value of 20 causes the left column of a scripted story to be 20 characters wide, beginning from the left edge of the workstation screen. The allowable range for this value is 2 to 78, inclusive. If not set, the system uses a default value of 40.

`scriptrhmax=<number of columns>      (40)`

Sets default width of right column of a scripted story. The width is set as a number of characters from the end of the left column. For instance, a value of 20 causes the right column of a scripted story to be 20 characters wide, beginning from the end of the left column. This is not the same as `scriptrhmax` in the printer profile. The allowable range is 2 to 78, inclusive. The sum of the `scriptlhmax` and `scriptrhmax` values must not be greater than 80.

If not set, the system uses a default of 40. These settings are used during system printing and provide defaults when not defined in the profile or style.

`security=[and | or]`

Indicates how your system determines group access of a particular user with a particular workstation (or other device). If set to and, both user and workstation must be members of the same group for the user to gain access to directories or queues assigned to that group. If set to or, the user can access any database items assigned to groups containing either the user or workstation. The default value is or.

`single=<computer name>`

Tells the system it is running on only one server and names that server. If your system consists of a single server, include this parameter. Generally, in systems with only one server, the name is A, and this parameter is set to `single=a`.

`timechar=<character>           (:)`

Defines the character the system uses to separate hours, minutes, and seconds in time displays. For instance, using a colon as the time character displays the time as `hh:mm:ss`. A colon is the default.

`timer=[silent | verbose]`

Your system contains a timer program that is always running. If this parameter is set to `verbose`, the server sends a time display to the console every 15 minutes.

```
A  Sat Apr  3 14:45:00 2004 iNEWS
```

`verbose` is the default setting, so do not include when you want timer messages to appear. To disable time displays, include this parameter as `timer=silent`.

All time values in the system profile must be set in minutes and seconds in the format `<mm>:<ss>`. Set a value for both minutes and seconds. For instance, to specify a time of two minutes, type: `2:00`. To specify a time of 25 seconds, type: `0:25`.

```
wordlength=<numeric value>          (0)
```

This determines the word counting strategy used. If set to zero, the old word counting strategy is used; if set to a non-zero value, the new character counting strategy is enabled. This is the number of characters that are counted as one word. When counting, the system divides the character count by the `wordlength` to determine the number of "words" in the story.

Adding Devices to Your iNEWS System

When you add a device, such as a new printer, to your iNEWS system, you need to put information about it in the appropriate configuration file(s). This section gives you information about how to do that. It includes complete procedures for adding PCUs, workstations, printers, and wires. For information about adding connect services, see the *iNEWS Operations and Troubleshooting Manual*.

Adding a PCU or PC-PCU

This section contains information about adding a Peripheral Controller Unit (PCU) to your system.

There are two kinds of PCUs: older models in rack-mount cases and newer models in standard PC cases. The latter is referred to as a PC-PCU. A PC-PCU can be an ordinary PC with special additional hardware to give it more serial ports.

See Appendix D for more information.

To add a PCU or PC-PCU to your system:

1. Choose a device number.

   By convention, PCU device numbers are multiples of 10. Choose the next available multiple of 10. If the system already has four PCUs, numbered 10 through 40, use 50 as the device number for the new PCU. See “PCU Device Numbering” on page 290 for more information.

2. Connect PCU or PC-PCU to network.

3. Add appropriate host definitions in the configuration file—that is `/site/config`. See “Changing the Configuration File” on page 273 for more information.

   The net line in each server’s host definition begins with the word `net`. Follow this with a list of network PCUs or PC-PCUs that you want to run on that computer.

   For instance, in the host definitions shown below, PCUs 10 and 20 are network PCUs running on server A, while PCUs 30 and 40 are network PCUs running on server B.

```
host   ab   a
       net       10  20
;
host   ab   b
       net       30  40
```

   a. Add new PCU to server B, so its host definition looks like this:

```
host   ab   b
       net       30  40  50
```

   b. Add new PCU to the appropriate alternate host definitions.

4. Add a PCU or PC-PCU line to the configuration file `/site/config`.

   The configuration line must begin with the word `pcu (`or `pc-pcu)` followed by the device number and name. These are followed by a list of the devices connected to the it. The following shows an example of the format for a configuration line:

```
pcu <device #> <name> <dev 1> <dev 2> ...<dev 8>
```

Parameter	Description
`device #`	The device number. It must be listed in a host definition. By convention, this is a multiple of 10.
`name`	The name of the PCU or PC-PCU. Can be any string, as long as it begins with a letter and is no longer than six characters. Names that appear in the configuration file must match those listed in your `/etc/hosts` file.

End the configuration line with a list of connected devices, with their numbers separated by spaces. The order in which you list devices must correspond to the ports to which they are connected—the device connected to port 1 must be first, the device connected to port 2 must be second, and so on.

You can include up to eight devices in a PCU configuration line. By convention, the device number is the sum of the port number and the PCU's device number. See "PCU Device Numbering" on page 290 for more information.

Fill unused ports with hyphens (-).

Add the line following the device lines for PCU 50. Because devices are not connected to the new PCU, the line would look like this:

```
pcu   50 pcu50 -  -  -  -  -  -  -  -
```

5. Add the PCU to the `/etc/hosts` file.

   A PCU's name must be a valid Internet name. It must resolve to an Internet address, either by being included in the hosts file or by an Internet name server.

   An example PCU line from the hosts file may look like this:

   ```
   125.0.10.50 pcu50
   ```

   The hosts file also contains lines identifying each server in your system. An example of the `/etc/hosts` file is provided in Appendix B.

6. Add the PCU to the `/etc/dhcpd.conf` file.

You must list each PCU running on your system in the file `/etc/dhcpd.conf`.

An example of this file is installed on the server with the iNEWS software.

Format of a PCU entry in the file is:

```
host <name> {
   hardware ethernet <Ethernet address>;
   fixed-address <IP address>;
}
```

Parameter	**Description**
`name`	Put the name, such as `pcu50`, in this position. This must match the entry in `/etc/hosts`.
`Ethernet address`	The Ethernet address is found on its Ethernet card.
`IP address`	Put the fixed IP address in this position.

A typical entry in `/etc/dhcpd.conf` may look like this:

```
host pcu50 {
   hardware ethernet 00:d0:b7:4b:52:f8;
   fixed-address 125.0.10.50;
}
```

The semicolons after the Ethernet and IP addresses are required. Also, the entire PCU entry, starting with word `host` *and ending with the closing brace (}), must be inside the* `subnet` *entry for the network the PCU will be connected to.*

An example of a `/etc/dhcpd.conf` file with entries for both a PCU and an MCSPC is provided in Appendix B.

7. (Optional) Use the `configure` command to test your changes.

   Use the following form of the configure command:

   ```
   configure  /site/config  <system>  <computer>
   ```

   In the previous example, PCU 50 is added and running on server B in an AB system. To test this change, type:

   ```
   configure /site/config ab b
   ```

When the prompt returns, the configuration file has been checked. If the system detects any errors, it displays `bad configuration` messages.

8. Select the master computer (typically server A). See “Selecting Servers” on page 33 for more information.

9. Become a console superuser. See “The Console Superuser” on page 23 for more information.

10. Take the server (master computer) offline by typing:

    ```
    NRCS-A# offline
    ```

11. Reconfigure the system by typing:

    ```
    NRCS-A# configure
    ```

    A message similar to the following will appear:

    ```
    Apr 5 15:41:49 NRCS-A msg System being configured
    ```

12. When the prompt returns, bring the server online again by typing:

    ```
    NRCS-A# online
    ```

13. Exit superuser mode. (Ctrl+D)

14. Use the `restart` command followed by the PCU’s number to start the new PCU or PC-PCU. For instance, for PCU 50, type:

    ```
    NRCS-A$ restart 50
    ```

    The system reports Hot-to-go messages.

    For Rack mounted PCUs, the final LED display indicates the PCU’s number.

    At this point the PC-PCU has broadcast its bootp request. If it is on the network and the iNEWS Server is properly configured to respond to the PC-PCU,obtains its IP address and the following is displayed:

    ```
    ethernet address: 00 20 AF 9F DD A5
    internet address: 125.1.10.30
    LEDS 00000
    ```

After the PC-PCU has been properly configured and can be restarted from the console, the monitor and keyboard may be removed. However some PCs will not boot with the keyboard removed so before removing the monitor and keyboard, it maybe necessary to go into the CMOS setup of the PC to adjust its boot-up behavior.

15. (Optional) Back up your site files with the `sitedump` command.

PCU Device Numbering

Each PCU and device connected to it must have a unique device number. Use device numbers to refer to devices when using commands such as `restart` and when adding configuration lines to your configuration file. Your system uses device numbers in its console messages, such as `failed to load device 11`.

You can randomly assign different numbers to devices, but system maintenance is simpler if you give each device a number that corresponds to the PCU port to which it is connected. The numbering convention described here has been established to make your system maintenance work easier.

Network PCUs are usually given device numbers that are multiples of 10. These numbers are usually sequential and begin with the number 10. So, in a system with four network PCUs, the PCUs would have 10, 20, 30, and 40 as device numbers.

When your system was installed, each device connected to a PCU was given a number that is the sum of the PCU's device number and the number of the PCU port to which the device is connected. For instance, you would give a wire connected to port 1 on PCU 10 device number 11. A printer connected to port 5 on PCU 20 would have device number 25.

Numbering your system's devices in this way lets you quickly determine which PCU—and which port on the PCU—a device is connected to just by looking at the device's number.

Adding a Workstation

To add any type of new workstation to your system:

1. Choose a device number for the workstation—determine the next available number in the range you have set aside for these devices.
2. Connect workstation to network.
3. Add workstation to the configuration file stored on each server in your system.

   Add the workstation’s device number to a reslist line in the host definitions.

   To configure a workstation, use the format:

   ```
   inws <dev #> <address> <printer #> gnews <dev name>
   ```

Parameter	Description
`device #`	Workstation’s device number.
`address`	If you use a hyphen (`-`), this resource is available to any licensed PC on your system. If you place an IP address here, this resource can be used only by the PC with that address. Additionally, this can be the Ethernet address assigned to the PC’s network card.
`printer #`	Default printer. This number must be assigned to a printer listed in the configuration file. Entering `0` has the workstation print to a printer connected directly to the workstation.
`device name`	A device name up to eight characters used for group security. If you assign a device name to a workstation, you can grant security permissions to the workstation by adding that name to the appropriate group story. When someone edits and saves a story at this workstation, its device name is placed in the `devname` field (if one exists) in the Story Form panel. If you do not want to give the workstation a device name, place a hyphen (`-`) in this position.

4. (Optional) Use the `configure` command to test your configuration changes. The syntax is:

   ```
   configure  /site/config  <system>  <computer>
   ```

   For instance, type:

   ```
   configure /site/config ab a
   ```

   When prompt returns, the configuration file has been checked. If the system detects any errors, it displays appropriate `bad configuration` messages.

5. Reconfigure the system.

   a. Select the master computer (typically server A). See “Selecting Servers” on page 33 for more information.

   b. Become a superuser. See “The Console Superuser” on page 23 for more information.

   c. Take the server (master computer) offline by typing:

   ```
   NRCS-A# offline
   ```

   d. Reconfigure the system by typing:

   ```
   NRCS-A# configure
   ```

   A message similar to the following will appear:

```
Apr 5 15:41:49 NRCS-A msg System being configured
```

   e. When the prompt returns, bring the server online again by typing:

   ```
   NRCS-A# online
   ```

   f. Exit from superuser mode. (Ctrl+D)

6. (Optional) Back up site files with the `sitedump` command any time you add a device.

Adding a Printer

You can connect any kind of serial printer to the iNEWS system, and configure each printer to take advantage of its special features.

For more information about printers, see Chapter 11.

Even if you never add a printer to your system, this information can help you if you need to move a printer to a different PCU or modify a printer's profile.

To add a printer to your system:

1. Choose a device number for the printer. To do this, find an available PCU port to which you want to connect the printer. For instance, if we add a printer, such as HP LaserJet, to port 7 on PCU 10, we give the printer device number 17. See "PCU Device Numbering" on page 290 for more information.
2. Connect printer to PCU.
3. Create a printer queue in the database in the `SYSTEM.PRINTERS` directory. If you do not complete this step, any print requests to the new printer will not be processed. This is done at an iNEWS Workstation. See "Adding a Directory or Queue" on page 99 for more information.

   Here's an example: The new printer is printer number 4, so the new queue is called `004`. The entire pathname is:

   `SYSTEM.PRINTERS.004.`

Your system can handle up to 500 printers. Print queues for the first 250 printers are in the directory `SYSTEM.PRINTERS`. *Print queues for the next 250 printers are in* `SYSTEM.PRINTERS2`.

4. Return to the console to finish adding the printer.
5. Add the printer to the configuration file, `/site/config`, on each iNEWS Server in your system.

   This involves adding the printer's device number to the PCU's configuration line and adding a device configuration line for the printer.

If you move a printer to another PCU, you must remove the printer's device number from the old PCU's configuration line and add it to the new PCU's configuration line. Give the printer a new device number that reflects the new PCU port to which you attached it.

This procedure, which modifies the `/site/config` file uses `ed`, the line editor. If you do not know how to use `ed` to modify lines in the file as required in step 5, see "Configuration File" on page 269 and Appendix H.

a. Select all servers. See "Selecting Servers" on page 33 for more information.

b. Type:

```
NRCS-A$ ed /site/config
editing /site/config
1259
```

c. Add printer's device number to list of device numbers in the PCU configuration line. For instance, for a printer connected to port 7 on PCU 10, the printer's device number (17) is added to PCU 10's configuration line. At first, the line may appear similar to this:

```
pcu  10 pcu 10 11  12  13  14  15  16 - -
```

Ensure that you place the new device number in the position that represents the port to which you connected the printer. For instance—for the printer with device number 17—the printer's device number is placed in position 7 in PCU 10's configuration line. The new line should look like this:

```
pcu  10  pcu10   at  11  12  13  14  15  16  17  -
```

d. Add a configuration line for the new printer. By convention, configuration lines are arranged according to device number. For instance, the configuration line for the printer with device number 17 would be placed after the configuration line for device 16.

A regular printer configuration line uses the format:

```
printer  <device #>  <speed>  <printer #>
```

Parameter	**Description**
`device #`	The printer's device number. It identifies the printer to which the configuration line applies. Include this number in the appropriate PCU configuration line.
`speed`	Sets the baud rate (bits per second) at which the printer communicates with the PCU.
`printer #`	Assigns a logical printer number to the printer. Used in workstation configuration lines to identify the printer that devices use as their default printer. This is not the same as the printer's device number, but it is the same number that you use to refer to the printer when you print to it from an iNEWS Workstation.

For instance, the printer uses device number 17 and communicates at 1200 baud, 7-bit, even parity, and users will refer to this printer as printer 4. So, the new printer line looks like this:

```
printer  17  1200-7e   4   ;newsroom HP LaserJet
```

Do not use an uppercase (**W**) in step 6. See Appendix H for more information.

6. When you finish making changes to the configuration file, you must save your changes before exiting the line editor. To do this, type:

   ```
   w
   ```

   After you press Enter, a number will appear representing the file size, such as:

   ```
   1306
   ```

7. Exit the line editor by typing:

   ```
   q
   ```

8. Create a profile for the printer.

The easiest way to create a profile is to copy the standard profile for the type of printer you are adding to a file for the new printer's profile. Then make any necessary modifications to the copy you just made.

A printer's profile must be in a file with the same name as the printer's device number. Also, this file must be located in the `/site/printers` directory.

For instance—for an HP LaserJet printer connected to port 7 on PCU 10—you would copy the standard profile for the HP LaserJet (`/site/printers/hplaser`) to a new file called `/site/printers/17`. Then modify the profile so the system can use a font module that has been added to the printer.

To copy a profile to a new file:

a. Select *all* servers. See "Selecting Servers" on page 33 for more information.

⚠ **As with all site files, each of the system's servers must have its own copy of the printer's profile, so ensure that you select all servers before you copy the standard profile.**

9. Use the `cp` command to copy the standard profile, such as `/site/printers/hplaser` for an HP LaserJet printer into a new file on each server, such as `/site/printers/17`.

   The format for this command is:

   ```
   cp <file pathname copied> <new file pathname>
   ```

The entire command line would look similar to this:

```
cp /site/printers/hplaser /site/printers/17
```

10. Use the `cat` command to examine the file and determine whether you need to make any changes or additions. The format is:

```
cat <file pathname>
```

For instance, to examine the file for the printer connected to port 7 on PCU 10, type:

```
NRCS-A$ cat /site/printers/17
```

A message similar to the follow will appear:

```
; HP LaserJet IVsi Printer profile
;
ejectcode         <ff>
ejectcount        1
idlecount         0
pagelength        66
scriptrhstart     32
scriptrhmax       23
scriptlhmax       25
scriptshift       yes
scripttemplate    no
;
expand    <esc>(OU<esc>(sp7.0h18vs0b11T  <nul>;Courier
;
font 2   <esc>(s3B        <esc>(s0B        ;Bold
font 3   <esc>(s4B        <esc>(s0B        ;Extra Bold
font 4   <esc>&dD         <esc>&d@         ;Underline
font 5   <esc>&dD<esc>(s3B<esc>&d@<esc>(s0B;Bold/Under
;
form 7   <esc>&100<esc>(s10H<esc>(s12V <nul>;landscape
form 8   <esc>&l1H       <nul>             ;top tray
form 9   <esc>&14H       <nul>             ;lower tray
```

11. (Optional) Test your configuration changes by using:

```
configure  /site/config  <system>  <computer>
```

For instance, a printer is added to PCU 10, which is connected to server A in an AB system. To test this change, type:

```
configure /site/config ab a
```

12. When the prompt returns, the configuration file has been checked. If the system detects any errors, it displays `bad configuration` messages.

After editing the configuration file, you should reconfigure the system. However, if you modified only an existing printer's profile, you need only to restart the printer to incorporate the changes. You may skip to step 14.

13. To have the system adopt changes you have made to the configuration file, reconfigure it by doing the following:

    a. Stop the PCU. For instance, to stop PCU 10, type:

    ```
    stop 10
    ```

    b. Select the master computer (typically server A). See "Selecting Servers" on page 33 for more information.

    c. Become a superuser. See "The Console Superuser" on page 23 for more information.

    d. Take the server (master computer) offline by typing:

    ```
    NRCS-A# offline
    ```

    e. Reconfigure the system by typing:

    ```
    NRCS-A# configure
    ```

    A message similar to the following will appear:

```
Apr 5 15:41:49 NRCS-A msg System being configured
```

    f. When the prompt returns, bring the server online again by typing:

    ```
    NRCS-A# online
    ```

    g. Exit from superuser mode. (Ctrl+D)

14. When you see the `System being configured` message, select the server to which the printer's PCU is connected and restart that PCU.

    Use the `restart` command in this format:

    ```
    restart <PCU number>
    ```

For instance, to restart the PCU 10, type:

```
NRCS-A$ restart 10
NRCS-A$ P10: 12:43:20 Hot-to-go
```

When you see a `Hot-to-go` message for the printer, as shown in the previous example, you can begin to use it. If there are any errors in the profile, the system reports them on the console when you restart the printer.

15. (Optional) Back up site files using the `sitedump` command.

Adding a Wire

The iNEWS system supports the ingest of wire services in two ways:

- Through a PCU port
- Through an Avid Data Receiver wireserver resource

To add a wire for a PCU port, you must complete four phases in the setup.

- Phase 1 - Connect the wire service to a PCU port.
- Phase 2 - Create an entry for the wire service in the configuration file and a wire profile for the wire service.
- Phase 3 - Add the wire distribution information.
- Phase 4 - Restart the wire service's program to incorporate the changes you made, so it can begin receiving and distributing wire stories.

You can edit just a wire service's profile.

More information about wires is provided in Chapter 12, "Wires". For a step-by-step procedure outlining the four phases for adding a wire service on a PCU port, see "Adding a Wire – PCU Port" on page 358. For more on setting up wire ingest using the Avid Data Receiver, see "Adding a Wire – Avid Data Receiver" on page 354.

Alternative Editing of the Site Configuration File

The line editor is used at the console to edit site files, which are located on an area of the server's hard disk known as the software partition. If these files, such as the `/site/config` file, are temporarily transferred to the iNEWS database located on an area known as the database partition, you can use an iNEWS Workstation to edit the file. Here is the alternative method of editing a site file, such as the `/site/config` file, in the database rather than using the line editor:

1. At an iNEWS Workstation, create a transfer queue—that is, go to a directory, such as the System directory, and create a new queue to hold the configuration file. A `SYSTEM.TRANSFER` queue may already be set up on your system. See "Adding a Directory or Queue" on page 99 for more information.

When performing this procedure, there should be only one file—the one you are working on—in `SYSTEM.TRANSFER`.

2. At the console, use the `doc` command to transfer material between the software and database partitions.

   The `doc` command format is:

   ```
   doc -pu <queue name> <file to be transferred>
   ```

   For instance, to transfer a copy of the configuration file to the `SYSTEM.TRANSFER` queue, type:

   ```
   doc -pu system.transfer /site/config
   ```

3. Return to an iNEWS Workstation.

4. Log in as a system administrator. (This is to ensure that you have access to the System directory.)

5. Navigate to the `SYSTEM.TRANSFER` queue and open it by double clicking on it.

6. Select the configuration file story in the queue and edit it in the Story panel.

If you are adding devices in the bottom section of the configuration file, do not forget to also add the device numbers in the `hosts` *section at the top.*

7. Move file from database partition back to software partition using the `doc` command again. The format is:

   ```
   doc -gu <queuename> > <filename>
   ```

   For instance, to move the new configuration file from the `SYSTEM.TRANSFER` queue back into the Site directory, type:

   ```
   doc -gu system.transfer > /site/config.new
   ```

The example shows the file is transferred into a temporary location (`/site/config.new` rather than `/site/config`). This allows for testing prior to actual file implementation.

8. Use the `configure` command to test the new configuration file, to see if there are any problems with it. If none are found, you will get the system prompt; otherwise, you will get an error message.

   Here are some sample configuration tests:

   ```
   configure /site/config.new abc a
   configure /site/config.new ab a
   configure /site/config.new a a
   configure /site/config.new bc b
   configure /site/config.new ac c
   ```

9. Copy the new configuration file into the correct location:

   ```
   cp /site/config.new /site/config
   ```

10. Remote copy it to the other server(s):

    ```
    rcp /site/config NRCS-B:/site/config
    rcp /site/config NRCS-C:/site/config
    ```

11. Implement the new configuration by reconfiguring the system from the master computer (typically server A).

    a. Select the master computer.

    b. Take the system offline by typing:

    ```
    NRCS-A$ offline
    ```

    c. Reconfigure the system by typing:

    ```
    NRCS-A$ configure
    ```

    d. Take the system back online by typing:

    ```
    NRCS-A$ online
    ```

12. Return to the iNEWS Workstation and delete the configuration file from SYSTEM.TRANSFER.

Usually, iNews Customer Support technicians edit the configuration file on the console, in the software partition. If you leave a copy of the file in the database, it is possible someone may change the file on the console, so when you come back to edit the file in the database (which you assume to be the more current version), it will actually be an outdated version. To eliminate the possibility of confusion, delete the file from the database when you are done.

Intersystem Messaging

Intersystem Messaging is a feature that allows a user to exchange messages with another user on a separate iNEWS newsroom computer system, or other third-party system with a compatible interface.

On iNEWS systems, intersystem messages can be sent from iNEWS Workstation sessions, and from the console send utility. For intersystem messaging to work, a system must have an agent that functions as described in the following section. For iNEWS, this agent is integrated into the iNEWS Server software.

RFC (Request For Comments) documentation is provided at the following Web sites: http://sunsite.auc.dk/RFC or http://www.rfc-editor.org/

To receive intersystem messages, a system must have a TCPMUX service running. TCPMUX is defined by RFC 1078, “TCP Port Service Multiplexer (TCPMUX).” Additionally, the system must have an intersystem message service configured.

Sending Intersystem Messages

An intersystem send is attempted whenever a message send request has a recipient name which includes an at symbol (@). It is assumed that this represents a name in <user name>@<system name> format. This is the same format used for sending mail to a user on a foreign system, such as the Internet. The `<system name>` parameter can be an IP address in standard notation, such as `172.161.131.2`.

The system name is resolved to an IP address through standard lookup services.

A TCP connection to port 1 of the system is attempted. Port 1 is the “well known port” (as defined in RFC 1700, “Assigned Numbers”) assigned to the TCPMUX service.

After the connection is established, the string `inter_system_message<cr-lf>` is sent. The receiving system sends `+<explanation><cr-lf>` to indicate a positive acknowledgement. This conforms to RFC 1078.

The service name—in this case, `inter_system_message`*—is never case-sensitive and* `<explanation>` *is any text that helps to explain the reason for the response.*

The sending system can then send the following string:

```
SEND<sp><user name><sp><sender's name><sp><message
text><cr-lf>
```

In this string, the user name and sender’s name do not contain any spaces, carriage returns, or line feeds. The names are as they are used within their respective systems. The sender’s name should be suitable to use as the user name in an intersystem message reply. The message text can contain spaces but not carriage returns or line feeds. It is optional (so you can check the logged-in status of the user). The iNEWS system will truncate this string at the first line feed or at 72 characters.

After sending the intersystem message, the sending system should read a single line, which is the receiving system’s response. On receipt of the response, the sending system should close its connection. See “Receiving Intersystem Messages” on page 303 for more information.

The sending system should be prepared to handle all of these error conditions:

- Time out on establishing connection to the receiving system's TCPMUX port
- The receiving system actively refusing the connection on the TCPMUX port
- Connection closed by the receiving system at any time
- A negative response -<explanation><cr-lf> to the inter_system_message<cr-lf> request. This is a negative TCPMUX response, and <explanation> is any text that helps to explain the reason for the response.

Receiving Intersystem Messages

To receive intersystem messages, a system must respond to connections on the TCPMUX port. On Linux systems, this is done by having a TCPMUX service defined in /etc/services and /etc/inetd.conf.

To hook an intersystem message service into the TCPMUX service on a Linux system, an entry must be included in the /etc/inetd.conf, such as:

```
tcpmux/+inter_system_message stream tcp nowait <agent>
<parameters>
```

The inter_system_message string is the identifier used by the sending system to select this service. This string is not case sensitive.

The plus character (+) preceding inter_system_message tells the inetd daemon to handle the initial connection and negotiation. In this case, when the inetd daemon determines that it has an intersystem message agent, it will perform the positive acknowledgement (the +...<cr-lf> response) and then invoke the agent program.

The agent program must be prepared to respond to the "SEND" command, as described above.

The iNEWS agent program is /exc/ismessage. The suggested parameter for the iNEWS intersystem message agent is ism. This parameter can be anything and is used to identify the program in messages printed to the system's console. If an additional parameter is supplied and it is a non-zero decimal string, the /exc/ismessage program is put into a verbose mode. When in verbose mode, the /exc/ismessage program will print its responses onto the system console. This can be used to track frequency and identity of intersystem messages.

The actual message text is not printed onto the console.

For iNEWS, the /etc/xinetd.d/ismessage file contains:

```
# default: on
# description: The ism server serves iNEWS InterSystem
Message requests.

service ismessage
{
   id                =iNEWS-ismessage
   disable           =no
   flags             =REUSE
   socket_type       =stream
   wait              =no
   user              =root
   server            =/exc/ismessage
   log_on_failure+   =USERID
}
```

Responses from the receiving agent program must conform to the following syntax:

```
<3-digit response code><sp><explanation><cr-lf>
```

The 3-digit response code is modeled on FTP response codes (See Section 4.2 of RFC 959, “File Transfer Protocol”).

However, only single line responses are expected. The explanation is any text excluding a carriage return – linefeed (cr-lf), which makes the response better understood.

The receiving agent program will generate one of the following responses, with the iNEWS receiving agent including the following explanations:

```
201 <user name> is logged in<cr-lf>
```

Message stored for the specified user (if there is message text) and the user is currently logged in. User is notified of message arrival.

```
202 <user name> is not logged in<cr-lf>
```

Message stored for the specified user (if there is message text) and the user is not currently logged in.

```
421 System not online<cr-lf>
```

System not connected, not configured, or not online. Message is discarded.

```
430 No such user: <user name><cr-lf>
```

Username unknown on receiving system. Message is discarded.

```
450 Message save failed for: <user name><cr-lf>
```

Failed to properly store the message for the specified user. Message is discarded.

```
500 Syntax error, command unrecognized<cr-lf>
```

The first “word” on the line was not “send.” The check for the word “send” is case insensitive. Message is discarded.

```
501 Syntax error, insufficient parameters<cr-lf>
```

The “send” line has fewer than three space-delimited tokens. Minimally “send”, `<user name>`, and `<sender's name>` are required, `<message text>` is optional. Message is discarded.

The iNEWS receiving agent will print diagnostics to the system’s console when abnormal conditions are encountered. The diagnostics are:

```
ism: getpeername failed (<errno>) <errno string>
```

The sender’s IP address could not be determined.

```
ism: fgets error (<errno>) <errno string>
```

The read failed for the send command.

```
ism: gethostbyaddr failed (<errno>) <errno string>
```

The sender’s IP address could not be converted into a host name.

`Errno` is the Linux system error number returned on system function calls and `errno` string is an explanation of that error code.

The iNEWS receiving agent will accept intersystem messages directed to the user's computer. Messages addressed to "computer" will be printed on the system's console. The word "computer" can be localized using the message dictionary token `M_COMPUTER`. A `201 computer is logged in` response will always be returned for messages directed to "computer."

Database Change

The iNEWS message file format includes the sending system's IP address for intersystem messages. When upgrading an iNEWS newsroom computer system, a `dbdump` of the message file should be done to preserve the message file content. After upgrading, a `dbgen` *`x`* (*`x`* identifies the message file) command must be done. A `dbrestore` can then be done to restore the message file.

iNEWS Workstation Session Behavior

There is virtually no difference between sending local messages and sending intersystem messages. If the recipient's name contains an at symbol (`@`), name validation is not performed and an intersystem send is attempted.

The only difference on receiving messages is that the complete sender's information is always returned. If it is a local message, a simple user name is provided. If it is an intersystem message, the sender's name will be formatted as `<sender's name>@<system name>`.

Chapter 11

Printers

Each printer on your system has a profile that contains the commands iNEWS needs to control the printer, plus settings for options you may use with the printer. When you restart a printer, your system checks its profile for the necessary information. There are two types of printing that require configuration: system and local printing. Managing both are covered in this chapter. For information on how to connect a printer to iNEWS, see “Adding a Printer” on page 292.

This chapter contains:

- System Printing
- Creating and Using Print Styles
- Local Printing
- Managing Printers

System Printing

A *system printer* is connected to an iNEWS Server and not directly connected to an iNEWS Workstation. Users can send print jobs to a system printer from any iNEWS Workstation on the network. System printers can be customized by configuring certain system profile files and forms.

The Printer Profile Files in /site/printers

Printer profiles are text files in the `/site/printers` directory. Your system is installed with standard profiles for many popular printers.

To see which printer profiles are installed on your system, go to the console and type:

```
ls /site/printers
```

Information similar to the following appears:

```
15   81           facit        laser2       rawprint
17   95           generic      laser3       ti820
25   adx          genicom      laser4       ti850
35   apcarbon     hplaserjet   magnum2rev   ti855
45   apcarbonra   la120        nec          ti880
55   autocue      laser        okidata      today
65   epson        laser.bold   printronix   today-script
```

This list contains numbered and alphanumeric filenames. Alphanumeric files are the standard profiles for several different types of printers. For instance, `ti855` is the standard printer profile for the TI-855 printer. Numbered files are profiles your system uses to operate your printers.

Numbered files in the list correspond to device numbers of printers in your system. For the system to find the correct profile for each printer, the profile must be stored in a numbered file corresponding to the printer's device number. For instance, a printer whose device number is 17 must have its profile in a file named `/site/printers/17`.

The standard profile for an HP LaserJet printer is in /site/printers/hplaserjet. To list this file, type:

cat /site/printers/hplaserjet

Information similar to the following appears:

```
NRCS-A: cat /site/printers/hplaserjet
;HP Laserjet IVsi  14SEP00
;
ejectcode      <ff>
ejectcount     1
idlecount      0
pagelength     66
scriptrhstart  32
scriptrhmax    23
scriptlhmax    25
scriptshift    yes
scripttemplate no
;
expand    <esc>(0U<esc>(sp7.0h18vs0b11T <nul>   ;Courier
;
font 2   <esc>(s3B        <esc>(s0B          ;Bold
font 3   <esc>(s4B        <esc>(s0B          ;extra bold
font 4   <esc>&dD         <esc>&d@           ;underline
font 5   <esc>&dD<esc>(s3B <esc>&d@<esc>(s0B  ;bold/Under
;
form 1   <esc>E        <nul>                 ;reset
form 7   <esc>&l0O<esc>(s10H<esc>(s12V <nul> ;landscape
;form 8  <esc>&l1H     <nul>                 ;top tray
;form 9  <esc>&l4H     <nul>                 ;lower tray
;
```

The first half of the file contains options that control margins, headers, form feeds, and page length. The second half contains fonts and forms. The fonts section defines control codes that select print effects, such as bold or underlining. The forms section defines codes that set up the printer, such as control codes to select a font module or set print quality.

Control codes often use nonprinting characters such as the one generated by the ESC key. All control codes in the profile above begin with the character produced by the ESC key. Because this key does not produce a printing character, enter it in the file as `<esc>`.

Customizing Print Effects (Fonts)

To turn print effects—such as bold or underlining—on and off, the iNEWS system must send control codes to the printer. Control codes are defined as font in a printer profile.

A profile can have up to 10 fonts, numbered from 1 to 10. Each font defines the control code to turn on an effect and the control code to turn off the effect. Usually, a font defines the control codes for one effect. However, you can combine control codes for effects, such as bold and underlining, to create complex fonts.

Defining a Font

Each font is defined on a separate line in a printer profile. The definition must begin with the word `font` followed by the font number, which must be between 1 and 10. This is followed by the control code that turns on the effect, a few spaces, and the control code that turns off the effect.

Style stories select fonts by number, and any printer can use them. If you have a style story that expects `font 1` to represent bold text, define `font 1` as bold in all your printer profiles.

For instance, to create a bold font, start a line with `font 1`, followed by the code to turn on bold printing. For an HP laser printer, the code would be `<esc>(s3B`. Follow that with a few spaces and the code to turn off bold printing `<esc>(s0B`. The finished definition looks like this:

```
font 1       <esc>(s3B    <esc>(s0B    ;bold print
```

Assign fonts consistently in all your printer profiles, such as `font 1` *is bold;* `font 2` *is underlined, and so on.*

Combining Print Effects

In many cases, you can combine two or more print effects by creating a font containing the print effects control codes. Follow the font name with control codes to turn on the print effects you want. Follow these codes with a few spaces and control codes to turn off those print effects.

For instance, the HP LaserJet printer can print both bold and underlined text. It uses `<esc>(s3B` and `<esc> s0B` to turn bold on and off and `<esc>&dD` and `<esc>(&d@` to turn underline on and off.

When you combine several print effects in one font, no spaces can occur between control codes that turn on all print effects. Additionally, no spaces can occur between control codes that turn them off.

For instance, combine two effects to create a font, such as `font 5`, that prints bold and underline as follows:

```
font 5     <esc>&dD<esc>(s3B     <esc>&d@<esc>(s0B
;bold, underline
```

Defining Print Forms

When you send a story to a printer, your system must first initialize the printer to prepare it to print according to the style you select. Define each of the control codes that represent initialization commands as form. For instance, define codes that select draft quality printing as `form 1` and codes that select letter quality printing as `form 2`. You can define up to 10 forms in a printer profile. See “Selecting Forms” on page 329 for more information.

Each form contains on and off control codes for a different setup command. Usually, a form contains control codes for one setup command, but you can also combine control codes for different commands, such as select both letter quality and a font module.

Forms may seem to be the same as fonts, but forms are used strictly to initialize the printer. Therefore, use a form to set a printer to word processing mode before printing, but not to turn on bold printing.

Defining a Form

You define forms similarly to fonts. Each definition begins with the word form followed by the form's name. The form's name contains a number between 1 and 10. This is followed by a control code that initializes the printer, a few spaces and, optionally, an off control code.

The form's on control code is sent at the beginning of the print job, and the form's off control code is sent at the end of the job.

Each setup option has an on control code. Many—but not all—have an off control code. If the setup option you are defining does not use an off control code, you must put a <nul> where the off control code would be located.

Always name forms consistently in each printer profile. For instance, in each profile define form 1 as draft quality.

Suppose that you are creating a profile for your HP laser printer and want to define a form that sets up the printer in landscape mode. Define this as form 7.

Begin the line with form 7, and follow with the control code that puts the printer in landscape mode. For an HP laser printer, the control code is:

```
<esc><&l0o<esc>(s10H<esc>(s12V
```

The HP laser printer needs landscape mode turned off at the end of a print request, so follow the on control code with <esc>E. The finished line should look like this:

```
form 7   <esc>&l0o<esc>(s10H<esc>(s12V  <esc>E ;landscape
```

Combining Setup Options

As with fonts, you can combine two or more setup options in one form. You do this in the same way you would combine options for fonts. See "Combining Print Effects" on page 311 for more information.

Font and Form Space Available

The system reserves about 400 bytes of space for form and font definitions for each system printer profile. Each character in a font or form definition—including the spaces to separate on and off control codes and the Enter character at the end of each line—uses space.

If you exceed the limit, the message `Maximum Definitions Already Made` appears when you try to start the printer.

If you see this message, free some space by deleting forms or fonts from that profile that you do not use. Alternatively, comment out any forms and fonts you are not using by placing semicolons in front of them.

Printer Profile Options

Besides defining forms and fonts, you can set a number of options in the profile to be used when a print request is sent to the system printer. These options control formatting, such as the number of lines on each page, whether or not the text is all uppercase, whether stories have a banner at the top of each page, and so on.

These options fall into two categories:

- Profile-only options are set in the printer profile.
- Profile and style options are also set in the printer profile, but can be temporarily overridden if a different value is specified in a style story within the database.

Almost all of these options have default values the system uses if you do not set the options.

For options pertaining to local printing, see “Local Print Style Options” on page 340.

Profile-Only Options

Profile-only options are set in the printer profile, and cannot be overridden in a style story. Use options beginning with the word auto only with an autocue printer, which produces teleprompter roll copy according to European standards—that is, printing only the audio portion of a script. The underlined item or number in parenthesis is the default value.

The profile-only options are described in the following table.

Option	Description
answerback <message to send> <expected reply>	Use with printers that require the system to send a specific message and then expect a certain answer back from the printer before sending the story to the printer. There is no limit on these strings.
autofield <form field> (S)	Determines which form field of the story is used as a header line when printing the story. The default value is the title field (S). This is a Video Terminal (VT) template field identifier character, not a field name.
autoindent <number of spaces> (0)	Sets the number of spaces to indent each line (as a printing offset) on an autocue printer. The default value is 0.
autolength <length of line> (30)	Sets the maximum length for lines of text on an autocue printer. The default value is 30.
autopara <number of spaces> (3)	Controls the number of spaces an autocue printer indents each paragraph. The default value is 3 spaces.
autospace <line spacing> (3)	Controls line spacing for an autocue printer. A value of 1 produces single-spaced text. A value of 2 produces double-spaced text. A value of 3 is the default and produces lines of text separated by two blank lines.
autoshift [yes | no]	Controls whether an autocue printer prints in uppercase or mixed case. When the value is yes, it uses uppercase. If set to no, text is printed as entered. The default value is yes.

Option	Description
done <queue name> (Dead)	Specifies the queue where a print request is sent after the print job is done. The default value is the Dead queue.
ejectcode <printer's eject string>	Lets the system know which codes it must send to the printer to execute a form feed. There is no default for this option, so you must explicitly define the eject code in the printer profile.
ejectcount <number of ejects> (1)	Selects the number of times your system sends the eject code to the printer at the end of each print request. The default is 1.
exlines <number of lines> (0)	Printers that print double-high text, such as the Printronix P300, use one extra line per line of expanded text. Use this option to set the number of additional lines used when printing expanded text with the `print script` command. The default is 0.
expand <start string> <end string>	Defines control codes that turn a printer's expanded text mode on and off. The system uses this option when someone prints a story using the `print script` command. If you do not define these control codes in a printer's profile, or if a printer cannot print expanded text, the system prints scripts in normal text. To set up, begin a line with `expand`. Follow that with your printer's control codes to turn on expanded printing, a few spaces (or a tab space), and the control codes to turn off expanded printing. For instance, if the code to turn on expanded printing is `<esc>P` and the code to turn it off is `<esc>Q`, define expanded printing like this: `expand   <esc>P   <esc>Q   ;(DP) expanded`
font	Defines control codes that turn on or off print effects, such as bold or underlining. See "Customizing Print Effects (Fonts)" on page 310 for more information.

Option	**Description**
form	Defines control codes that represent initialization commands, such as selecting draft quality. See “Defining Print Forms” on page 311 and “Selecting Forms” on page 329 for more information.
idlecount <number of ejects> (0)	Determines the number of ejects (as defined by the ejectcode and ejectcount options) to be performed once all pending print requests have been printed. The default value of 0 prevents the system from ejecting a page at the end of a print request.
initprint <printer’s initialization string>	The system uses these codes to initialize the printer when you restart it. This may be lost when the printer is powered off.
map <database character> <printer code>	Use to translate or map a database character to a character the printer can print. Useful if you need characters such as ¿ and £, which are available on many printers but have a different code in the printer. To map a translation of a database character, begin a line with `map`. Add a few spaces and enter in the database character you want to translate. Add a few more spaces and enter the code you want the system to send to the printer in place of that database character. *The printer code is a single byte and not a sequence of bytes.*
sbc_frames <frames per second>	Indicates the number of video frames transmitted in one second. This value is used when calculating the duration of a tape event. There is no restriction on this value. However, Phase Alternate Lines (PAL) video format transmits 25 frames per second and National Television Systems Committee (NTSC) video format transmits 30 frames per second. This Sony barcode parameter is required. *If printer type is Sony-beta,* `sbc-frames` *must be defined. Otherwise, a* `Missing required barcode parameter` *message will appear.*

Option	Description
sbc_max_duration <[hh:]mm:ss:ff>	This Sony barcode parameter has two functions. It is used to determine the maximum segment duration time if raw time code is being used to calculate the segment duration, which is calculated as the End Of Message (eom) time code minus the Start Of Message (som) time code. It is also used to check if a duration time entered from the template does not exceed the duration entered in the profile. In the format, `hh` is hours, `mm` is minutes, `ss` is seconds, and `ff` is frames. The maximum time allowed is `23:59:59:ff`, where `ff` is the value found in `sbc_frames`. This Sony barcode parameter is required. *If printer type is Sony-beta,* `sbc_max_duration` *must be defined. Otherwise, a* `Missing required barcode parameter` *message will appear.*
sbc_som <hh:mm:ss:ff>	Enables the user to determine a constant Start Of Message (som) timecode. The maximum value permitted is `23:59:59:ff`, where `ff` is the value found in `sbc_frames`. This Sony barcode parameter is optional.
sbc_eomstyle [<HH:mm:ss:ff>|<hh:mm:ss:FF>]	Enables a user to specify a constant End Of Message (eom) style. A user can declare a constant hour field or a constant frame field. It is not possible to declare both. The format ends with either `HH:mm:ss:ff`, where `HH` is the constant hour field value or `hh:mm:ss:FF`, where `FF` is the constant frame field. The `mm` and `ss` parts of the format are literal. If you specify a number of hours, you must put `ff` for frames. If you specify a number of frames, you must put `HH` for hours. This Sony barcode parameter is optional.
sbc_bulkprint	Permits printing of multiple Sony barcode labels, when the command `print story` is entered from the directory level.

Option	Description
scriptshift [yes | no]	Controls whether scripts are printed in uppercase. The yes option prints scripts in uppercase; no prints scripts as is. The default is yes.
type [generic | autocue | adx | sony_beta| beeline]	Defines European Autocue, ADX, generic, beeline, and Sony Barcode printers. If the profile is for any of these printers, use this option to specify the printer. The default value is generic.

Profile and Style Options

The options in the following table are set in the printer profile, but can be overridden by settings in a style story. Generally, use a printer profile to set these options to the values you want the system to use as defaults for a particular system printer. When you create a style story, you need only include these options to use a value different from the one defined in the printer profile.

Option	Description
banner [yes | no | continuous]	Controls whether each page begins with a header that includes the name of the user who printed the story, the time, and the page number. If you want a banner, set this option to yes. The default value is yes. When you print a queue, your system numbers each story in the queue, beginning with page one by default. To make the page numbers continuous, set the banner option to continuous.
blanks <number of blank lines> (3)	Controls the number of blank lines the system prints following each story when printing a directory. A value of 1 results in single spacing (no blanks between stories), a value of 2 gives double spacing, and so on. The minimum value is 1. The default value is 3.
pagefooter <queue name> [<footer name>]	Use to include a footer on each page of printed output.
pageheader <queue name> [<header name>]	Use to include a header on each page of printed output.

Option	Description
pagelength <number of lines> (65)	Determines the number of lines printed on a page before the page is ejected. Specify a value of 1 for no page breaks. Other valid values are 6 through 255. The system uses the default if you specify an invalid value. The default value is 65.
printform [yes | no | all]	Controls whether a story's form is included in the printed output. The yes option prints the form at the top of the first page only; no prints the story without a form; and all prints the form at the top of each page of the story. The default value is yes. `Template` *is an alias for* `printform`. *Both are recognized.*
printscriptform [yes | no | all]	By default, a script is printed with only the title, page, and presenter fields at the top of the first page. To print the entire form on the first page, set this option to yes. The `printscriptform all` option causes the entire form to be printed on each page of the script. The `printscriptform no` option causes the script to be printed without any form information. `Scripttemplate` *is an alias for* `printscriptform`. *Both are recognized.*
scriptlhmax <number of columns> (28)	Sets margin of left (production cue) portion of a script. Adjust this value if you are changing from a script printed in normal text to a script printed in expanded text. The default value is 28.
scriptrhmax <number of columns> (25)	Controls the right margin of a script. Normal settings are from 20 to 30. The default value is 25.
scriptrhstart <column number> (29)	Sets starting column of right (audio) portion of a script. If you are using normal-sized print, column 40 is the midpoint of a page and the value generally used. If you use expanded print, use a smaller value to accommodate the larger text. The `scriptrhstart` printer-profile option differs from the `scriptrhstart` parameter in the system profile. The default value is 29.

Option	Description
scriptspacing <number of lines> (2)	Sets spacing used between lines of printed text when printing a script. Use a value of 2 for double-spacing. Use a value of 1 (the minimum value) for single-spacing. The default value is 2.
separator [yes | no]	Specify whether a row of equal (=) characters is printed after a story's form to separate it from the text of the story. The default value is yes.
spacing <line spacing value> (2)	Controls line spacing of printed stories. Set the value to 1 for single-spacing, or 2 for double spacing. The default value is 2.

Standard Header and Footer Options

Use the pageheader and pagefooter options to include headers and footers in printed stories. You can put your header and footer stories anywhere in your database. Group header stories in a queue called `SYSTEM.HEADERS` and group footer stories in a queue called `SYSTEM.FOOTERS`.

To create a header or footer, enter the text into the story as you want it to appear on the printed page. The total number of lines in the header and footer combined cannot be more than half of the `pagelength` value.

For instance, if the `pagelength` is 66, the combined number of lines in the header and footer cannot be more than 33. If the header/footer combination exceeds half of the `pagelength` value, the system truncates header and footer lines so that both fit on the page.

To select a header in a printer profile or a style story, use the `pageheader` option. The format for this option is:

```
pageheader  <queue name>  <header name>
```

The queue name is the full pathname of the queue containing the header story you want to use. The header name is generally the title of the story in that queue containing the header. It is defined by the Header queue's sorting index field, whose default is the Title field. For instance, to select a header from SYSTEM.HEADERS called am-script, use the following:

```
pageheader   system.headers   am-script
```

To select a footer story in a printer profile or a style story, use the pagefooter option. The format for this option is:

```
pagefooter  <queue name>  <footer name>
```

The footer name is generally the title of the story in that queue containing the footer. It is defined by the Footer queue's sorting index field, whose default is the Title field. For instance, to select a footer from SYSTEM.FOOTERS called am-script, use the following:

```
pagefooter   system.footers   am-script
```

Profiles and styles interpret spaces as delimiters; give your header and footer stories titles that do not include spaces and left-justify them in the title field.

User-Selected Headers and Footers

You can also let the user select the header or footer when the story is printed. To enable this, the story must have a form field where the user can enter the header or footer name.

To set up a profile or a style so the user can select a header or footer, use the pageheader or pagefooter options. Put an equal sign followed by a field name as the header or footer name.

For instance, suppose your Scripts queue has a form with a field called footer where users can enter the title of the footer story they want to use. Set up the pagefooter option in the printer's printer profile:

```
pagefooter     system.footers   =footer
```

When someone uses that printer to print a story, the system looks for a story in SYSTEM.FOOTERS with the name entered in the story's footer form field. The name must be an actual story in the queue named in the pagefooter option, or the footer is not printed.

Profile Option Defaults

Many profile options have default values.These options and their default values are shown in the following table. Some of these profile options also have minimum values. Options for which defaults or minimum values do not apply are marked n/a.

Option Name	Default	Minimum	Maximum
answerback	n/a	n/a	n/a
autofield	S	n/a	n/a
autoindent	0	0	n/a
autolength	30	1	n/a
autopara	3	0	n/a
autoshift	yes	n/a	n/a
autospace	3	1	n/a
banner	yes	n/a	n/a
blanks	3	1	n/a
done	n/a	n/a	n/a
ejectcode	n/a	n/a	n/a
ejectcount	1	0	n/a
exlines	0	0	n/a
expand	n/a	n/a	n/a
idlecount	0	0	n/a
initprint	n/a	n/a	n/a
map	n/a	n/a	n/a
pagefooter	n/a	n/a	n/a
pageheader	n/a	n/a	n/a

Option Name	Default	Minimum	Maximum
pagelength	65	1	255
printform	yes	n/a	n/a
printscriptform	no	n/a	n/a
scriptlhmax	28	1	79
scriptrhmax	25	1	79
scriptrhstart	29	2	79
scriptshift	yes	n/a	n/a
scriptspacing	2	1	n/a
separator	yes	n/a	n/a
spacing	1	1	n/a
type	generic	Setting this parameter to `autocue/adx/sony_beta/beeline` changes the program behavior for a special purpose.	

Using Special Characters in a Profile

Some printers use control codes that include nonprinting characters, such as those produced by the Escape and Enter keys.

Others use characters such as semicolons (;), pound signs (#), and at (@) symbols, which have a special meaning for your system or your system's console. You must enter these characters in your profile in a special way.

Using Nonprinting Characters

A nonprinting character is one that does not show up on your screen. You can add a nonprinting character to a profile either by alias or by decimal value.

Adding Nonprinting Characters by Alias

Your system recognizes a number of aliases for many of the nonprinting characters you may use in a printer profile. These aliases are two- or three-letter abbreviations that represent different characters. For instance, esc represents Escape (ESC) and cr represents Enter.

When you put an alias in a printer profile, you must enclose it in angle brackets (< >) so that your system recognizes it as an alias. For instance, enter a font that used the Escape and Enter characters as follows:

```
font  3    <esc>4    <cr>5
```

Adding Nonprinting Characters by Decimal Value

You can represent any character by its decimal value. Enter the character's decimal value in angle brackets (< >) where you want it to appear in the profile.

For instance, Escape has a decimal value of 27, and Enter has a decimal value of 13. Accordingly, you could enter a font using these characters in its control codes as follows:

```
font  3    <27>4    <13>5
```

See "Character Alias and Decimal Values" on page 325 for more information.

Avoiding Characters Used by the System

Some printing characters are reserved for system use. Therefore, you cannot include any of these characters as a control code by typing it. Some of these characters and their system interpretations are listed in the following table.

Character	How it is interpreted
;	Indicates the start of a comment
#	Represents the computer's name
space	Separates on and off control codes

Character	How it is interpreted
<	Indicates the start of character entered by alias or decimal value
@	Causes system to abandon the line you are typing

Character Alias and Decimal Values

If your printer uses control codes that contain any of the characters used by the system, enter the characters by alias or by decimal value. The aliases and decimal values for these characters are listed in the following table.

Character	Alias	Decimal Value
;	<sc>	<59>
#		<35>
space	<sp>	<32>
<	<<	<60>
@	\@	<64>
|	<vrl>	<124>
\	<bks>	<92>
<ctrl>A	<soh>	<1>
<ctrl>B	<stx>	<2>
<ctrl>C	<etx>	<3>
<ctrl>D	<eot>	<4>
<ctrl>E	<enq>	<5>
<ctrl>F	<ack>	<6>
<ctrl>G	<bel>	<7>
<ctrl>H	<bs>	<8>

Character	Alias	Decimal Value
<ctrl>I	<ht>	<9>
<ctrl>J	<lf>	<10>
<ctrl>K	<vt>	<11>
<ctrl>L	<ff>	<12>
<ctrl>M	<cr>	<13>
<ctrl>N	<so>	<14>
<ctrl>O	<si>	<15>
<ctrl>P	<dle>	<16>
<ctrl>Q	<dc1>	<17>
<ctrl>R	<dc2>	<18>
<ctrl>S	<dc3>	<19>
<ctrl>T	<dc4>	<20>
<ctrl>U	<nak>	<21>
<ctrl>V	<syn>	<22>
<ctrl>W	<etb>	<23>
<ctrl>X	<can>	<24>
<ctrl>Y	<em>	<25>
<ctrl>Z	<sub>	<26>
<ctrl>[	<esc>	<27>
<ctrl>\	<fs>	<28>
<ctrl>]	<gs>	<29>
<ctrl>^	<rs>	<30>

Character	Alias	Decimal Value
<ctrl>_	<us>	<31>
<ind>	<ind>	<132>
<nel>	<nel>	<133>
<hts>	<hts>	<136>
<ri>	<ri>	<141>
<ss2>	<ss2>	<142>
<ss3>	<ss3>	<143>
<dcs>	<dcs>	<144>
<csi>	<csi>	<155>
<st>	<st>	<156>

Creating and Using Print Styles

For your printer profiles to be useful, you must have styles designed to take advantage of them. Each of your system's styles is defined in a separate story in your database, called a *style story*. Each style story creates a particular kind of printed output by selecting forms and fonts necessary to produce the output. It may also override some options set in the printer's profile. In addition to using style stories to control printed output, you can change default translations of special system words that control print operations.

Print styles can be used to define printed output for both system and local printers. Local printing style stories are created in the same location and in the same manner as those for system printing. See "Local Printing" on page 333 and "Local Print Style Options" on page 340 for more information.

Creating a Style Story

Each style story is held in its own queue in `SYSTEM.STYLES`. Queues in this directory have names that are three-digit numbers, such as 001. This lets you refer to each style by a number. For instance, a user can choose the print style defined in the style story in queue 001 by selecting that queue.

Each three-digit queue name in the example can be followed by a hyphen and a descriptive name, such as `SINGLE-SPACE`. This optional name is used by the Print dialog box.

To create a new style story and queue:

1. Create the new queue in `SYSTEM.STYLES`. See “Creating a New Queue” on page 103 for more information.
2. Choose the next available three-digit number for the queue name. For instance, if 004 is the last queue name used, create a style 005. Give the new queue a numerical name, such as `005-memo`. The number is followed by a hyphen and the descriptive word, `memo`.

The largest number that you can use as a queue name is 255 and the lowest is 0. (Style 0 is the default style your system uses when someone enters a `print` *command without specifying a style.) You can have as many as 250 separate style stories.*

3. After the queue is created, open it by double-clicking on it in the Directory panel.
4. Create a new story to hold the style you want to create. See “Creating a New Story” on page 106 for more information.
5. Create the new style by writing the various profile options, font, and form information in the Story panel. This is explained in more detail in the next sections.
6. Save the story.

Changing System Profile Options

The first part of your style story should contain options that are different from the default values set in the printer profile. For instance, suppose that profiles usually have the banner or running header option set to `yes`, the spacing option set to 2 (double spacing), and a page length of 65 lines. However, you want the memos to be single-spaced, printed without a banner, with a maximum of 40 lines per page.

Change these options in the style story. Put `banner no` on the first line of the style story, `spacing 1` on the second line, and `pagelength 40` on the third.

Setting these options in a style story overrides their settings in the printer profile, but only when this style is used. You can modify profile and style options only in the style story; you cannot modify profile-only options.

The style options are different for local printing. See "Local Print Style Options" on page 340 for more information.

These are the system profile options you can change in a style story for system printing:

```
banner  [yes | no | continuous]
blanks  <number of blank lines>
pagefooter  <queue name>  <footer name>
pageheader  <queue name>  <header name>
pagelength  <number of lines>
printform [yes | no | all]
printscriptform [yes | no | all]
scriptlhmax  <column number>
scriptrhmax  <column number>
scriptrhstart  <column number>
scriptspacing  <number of lines>
separator  [yes | no]
spacing  <line spacing value>
```

Selecting Forms

What appears next in the style story are forms selected to produce the output you want. For instance, to print memos in letter quality mode, choose forms that set up the printer to do that.

As part of this example, suppose that we must initialize letter quality and word processing modes on printers to produce letter quality output. Also, our system's printer profiles define codes to initialize letter quality printing and codes to initialize word processing mode as `form 1` and `form 2`, respectively.

To add forms to the style story:

1. Type form and the numbers representing forms you want to add. For instance, to add `form 1` and `form 2` to the style story, type:

   `form 1 2`

2. Add a comment at the end of each line explaining the form's purpose. Begin the comment with a semicolon and then enter a short explanation. If you use more than one form, ensure the forms do not conflict.

The same word, `form`*, is used in both the style story and printer profile, but have different, although related, meanings. A* `form` *in the printer profile defines a sequence of codes to be output to the printer when one of the 10 possible forms is selected. When specifying a* `form` *in a style story, you are selecting a list of forms to use that correspond to form numbers in the printer profile. See "Defining a Form" on page 312 for more information.*

Identifying and Selecting Fonts

The fonts come last in the style story. This parameter allows you to match video effects produced by the iNEWS Workstation to corresponding print effects. For instance, you can match the bold video attribute, which produces bold text on the screen, to the print effect that produces bold printed text.

This is a multilevel process.

Video attributes produced by the iNEWS Workstation are converted to video modes used for system printing. These video modes can be associated with font numbers, in the style story. Fonts, defined and associated with a number in the printer profile, produce the desired print effect on paper.

There are a total of five video modes available for system printing. Their standard names are:

- NORMAL
- BOLD
- REVERSE

- UNDERLINE
- BOLDREVERSE

The following table is a chart displaying some of the different video attributes that can be produced on the iNEWS Workstation and the associated video modes.

Attribute	**Video Mode**
NORMAL	NORMAL
BOLD	BOLD
ITALIC	REVERSE
UNDERLINE	UNDERLINE
PRESENTER	REVERSE
CLOSED CAPTION	BOLDREVERSE
BOLD ITALIC	BOLDREVERSE
BOLD UNDERLINE	BOLD
ITALIC UNDERLINE	REVERSE
BOLD ITALIC UNDERLINE	BOLDREVERSE

As an example, we will map bold and underlined attributes on the iNEWS Workstation to corresponding print effects. The printer profiles in our example system are standardized so that they all define `font 1` as producing bold printed text, and `font 3` as producing underlined text. We assign bold to `font 1` and underline to `font 3`.

When you assign a video mode to a font in a style story, you must refer to the video mode by its standard name that your system recognizes for system printing.

To assign a video mode to a font in a style story, begin a line with the video mode's standard name followed by the font number you want to associate with that video mode. For instance, to associate the bold video mode with `font 1`, type a line in the style story similar to this:

```
bold    1    ; bold text
```

We assign the underline video mode to `font 3` in the same way, such as:

```
underline 3 ; underline text
```

When you save the story, the system incorporates the style story into its operations so users can select that style when they print stories from the database.

The bold video mode is also associated with the bold attribute on the iNEWS Workstation. The underline video mode is associated with the underline attribute on the iNEWS Workstation. When you type some bold text in a story in the iNEWS Workstation, that bold text is associated with the bold video mode. When you print that story using a style story, which associated bold video mode with `font 1`, the bold text you typed into your story on the iNEWS Workstation will print bold-faced on paper.

There is one more important system dictionary file, which determines how attributes of field labels and field text in Story forms are associated with the five standard video modes. This file is called `convertvideo` and exists in the `/site/dict` directory.

In some cases, the `/site/dict/convertvideo` *directory may not be present on the system.*

The standard form for this file is shown here:

```
NRCS-A$ cat /site/dict/convertvideo
;                       attribute    mode
;
field-style-to-video    <b>          bold
field-style-to-video    <b><u>       bold
field-style-to-video    <b><i>       boldreverse
field-style-to-video    <b><i><u>    boldreverse
field-style-to-video    <i>          reverse
field-style-to-video    <i><u>       reverse
field-style-to-video    <u>          underline
label-style-to-video    <b>          bold
label-style-to-video    <b><u>       bold
label-style-to-video    <b><i>       boldreverse
label-style-to-video    <b><i><u>    boldreverse
label-style-to-video    <i>          reverse
label-style-to-video    <i><u>       reverse
label-style-to-video    <u>          underline
```

Avid strongly cautions that you not change this file.

The letters in angle brackets (< >) represent attributes. For instance, <b> represents the bold attribute. The <i> represents italic. The <u> represents the underline attribute. Words in the right column represent video modes associated with attributes. This file affects how Story forms are displayed on video display terminals and how they are printed to system printers.

Local Printing

Local printing is any print request sent to a printer directly accessible to the iNEWS Workstation.

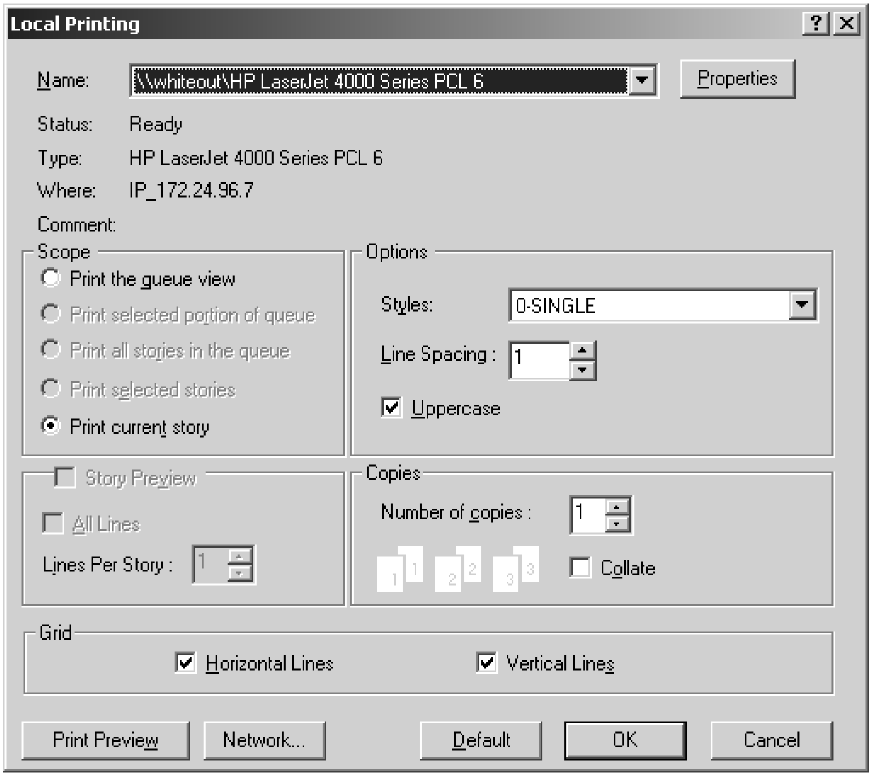
The iNEWS system includes an enhanced Local printing feature, also called Windows printing. These enhancements include a dialog box that offers users more options, such as selecting a predefined style when printing locally.

When local printing a batch of stories, stories that have a BLANK body are not printed.

Local printing does require some setup preparation or alterations. For instance, there are print style options that must be defined in `SYSTEM.STYLES`. Both print style options and the dialog box are explained here, starting with the dialog box.

Local printing is not available when the cursor is in the Directory panel, unless it is on a queue that is currently displayed in the Queue panel. Local printing is not recommended for stories larger than 10 kilobytes or 5 minutes, according to iNEWS timing. The iNEWS system will print these files, but because the local printing is not handled in the background, it may cause the workstation to appear "frozen" or "locked up" while the system processes the print request.

Local Printing Dialog Box



Local Printing

Name: \\whiteout\HP LaserJet 4000 Series PCL 6

Status: Ready

Type: HP LaserJet 4000 Series PCL 6

Where: IP_172.24.96.7

Comment:

Scope

○ Print the queue view

○ Print selected portion of queue

○ Print all stories in the queue

○ Print selected stories

● Print current story

Options

Styles: 0-SINGLE

Line Spacing : 1

☑ Uppercase

□ Story Preview

□ All Lines

Lines Per Story : 1

Copies

Number of copies : 1

□ Collate

Grid

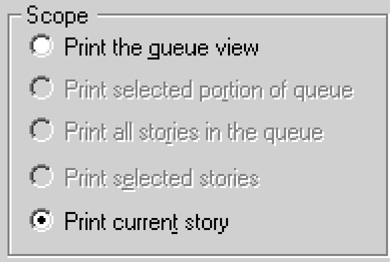
☑ Horizontal Lines

☑ Vertical Lines

The dialog box is divided into five sections: Scope, Options, Story Preview, Copies, and Grid. There are also several buttons, which include: Print Preview, Network, and Default. Each of these sections and buttons are described in more detail in this part of the chapter.

Scope

The Scope section allows users to select one of four radio buttons to indicate what they want to print.



Scope
○ Print the queue view
○ Print selected portion of queue
○ Print all stories in the queue
○ Print selected stories
● Print current story

The options these radio buttons offer are explained as follows:

The "Print the queue view" option determines whether the Story Preview checkbox is available. See "Story Preview" on page 336 for more information.

- **Print the queue view -** This option is available in most cases. A user's cursor does not have to be in the Queue panel of the iNEWS Workspace for this option to be used. Even if the cursor is located in the Story panel, the user can still print the queue view by selecting this option.
- **Print selected portion of queue -** This option is available when a portion of the Queue panel is selected. Only that highlighted portion of the queue view—which must be contiguous—will be printed when this option is chosen. This option is not available when noncontiguous lines in the queue are selected.
- **Print all stories in the queue -** This option is available from the Directory panel or Queue panel if the queue has the printable (+p) database trait. This option will send the text of all stories in the queue to the printer.
- **Print selected stories -** This option is only available if a row or rows of stories are selected in the Queue panel. The option will send text of stories highlighted in the queue to the printer.

- **Print current story** - This option is available in all three panels of the iNEWS Workspace. It will send the story that currently appears in the Story panel to the printer.

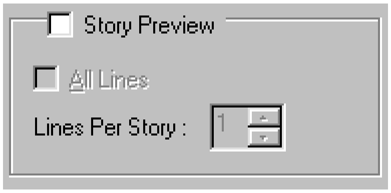
Not all options are available all the time. Also, which option in the Scope section is selected by default depends on which panel in the iNEWS Workspace is activated—that is, in which panel the cursor is located.

Default Option Selection:

- From the Directory panel, if the queue has the printable database trait, it defaults to "Print all stories." If the queue does not have the printable database trait, it will default to "Print current story."
- From the Queue panel with one or more stories selected by the row selector button, it will default to "Print selected stories."
- From the Queue panel with no stories selected, it will default to "Print current story."
- From the Story Panel, it will default to "Print current story."

Story Preview

The Story Preview section allows a user to print a preview or sample of each script as part of the queue image. Consequently, this section is only enabled if the "Print the queue view" option is chosen in the Scope section of the dialog box. Otherwise, it will appear gray and be unavailable.



The Story Preview section, once enabled, has three options a user can define, depending on how the queue view should be printed.

- **Story Preview** - When this check box is selected, iNEWS will print lines of each story, along with the queue view, as defined by the user in the Story Preview section.

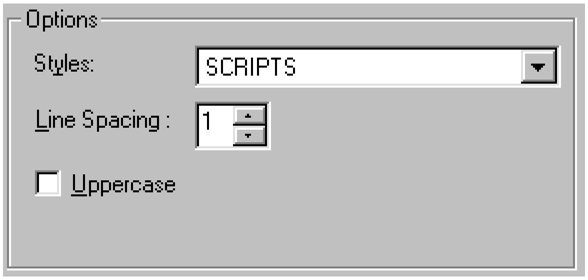
- **All lines** - When this check box is selected, iNEWS will print all of lines of each story, along with the queue image. When this option is selected, the remaining option called Lines Per Story appears gray and is unavailable.
- **Lines Per Story** - When enabled, iNEWS will print the specified number of lines of each story, along with the queue view. Lines of the story will be printed below the row that corresponds to it in the queue view. This option is disabled (appears gray) when the All lines option is checked.

For instance, if a user wants to see the first few lines of each story in addition to a show's lineup, the user selects the "Print the queue view" radio button in the Scope section of the dialog box, selects the Story Preview check box, sets the Lines Per Story setting to 3, and clicks OK to print it. The iNEWS system will print the first row of the lineup (or fields of the Story Form), followed by three lines of that story, then the second row and three lines of the second story, and so forth.

Rows as shown in the Queue panel may not match exactly rows of the queue image printed with Story Preview selected. That is because iNEWS' Story Preview printing feature is configurable. System administrators can define what information appears in the columns of a Queue panel and in fields of the Story Form panel. These two displays may or may not match exactly. This is also the case for Story Preview printing. For instance, a system administrator can designate which fields from the Story Form are not printed. The default is to print all fields in the Story Form, as specified within each story.

Options

The Options section of the dialog box contains three choices for users: Styles, Line Spacing, and Uppercase.



Styles: SCRIPTS

Line Spacing : 1

□ Uppercase

- **Styles** - A user can choose from a drop-down list of predefined styles. This feature is available when printing to both local and system printers.

Various print style options can be defined by the system administrator and are stored in the first story in the queues within `SYSTEM.STYLES`*. See "Local Print Style Options" on page 340 for more information.*

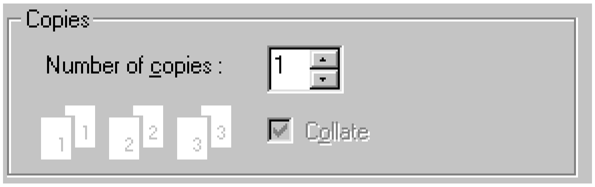
- **Line Spacing** - A user can configure how much space appears between lines of text. A setting of one would result in single-spaced text, two would be double-spaced, and so forth. This option will override any line spacing predefined in the chosen print style.

The maximum number for line spacing allowed by default in the dialog box is 10. A print style can exceed this maximum and that setting will appear in the Line Spacing box when that style is chosen. However, if a user chooses to manually override the style setting by changing it in the Local Printing dialog box, then the default maximum of 10 will again take effect.

- **Uppercase** - When this check box is selected, iNEWS will print all text in uppercase (all capitalized letters). Whether this check box appears selected by default when the dialog box first opens can be set by the system administrator using a print style option. See "Local Print Style Options" on page 340 for more information.

Copies

The Copies section allows the user to determine the number of copies printed and whether multiple pages are collated.



Copies

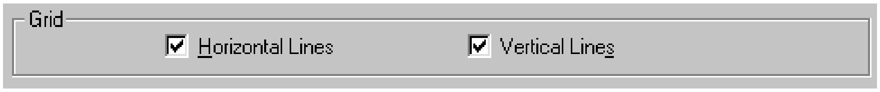
Number of copies : 1

☑ Collate

The Collate check box is not available for selection unless multiple copies are printed—that is, the number of copies is set to a number more than 1.

Grid

The Grid section of the dialog box contains two choices: Horizontal and Vertical.



Grid

☑ Horizontal Lines ☑ Vertical Lines

- **Horizontal** - When this check box is selected, iNEWS will include horizontal grid lines when printing the queue view image.
- **Vertical** - When this check box is selected, iNEWS will include vertical grid lines when printing the queue view image.

The default behavior of these check boxes is based on a user's preferences.

Print Preview and Network buttons

Print Preview - This button allows users to preview queues or stories on their screens prior to printing.

The Print Preview button is disabled when Story Preview is selected.

- **Network** - This button offers the user more flexibility in selecting which printer is used. The dialog box has two locations from which a user can select a printer. The first is a drop-down list at the top of the dialog box that displays a list of printers loaded on, or locally connected to, the computer the user is on. The second is the Network button, which allows the user to select any printer available through the network.

- **Default -** This button returns settings of the Print dialog box back to default preferences of the user.

Local Print Style Options

Local print style options are added to the styles already used by iNEWS for system printing. They are stored in the first story in queues within `SYSTEM.STYLES` with options for system printing. See “Creating a Style Story” on page 328 for more information.

Do not make separate stories in the queues for system and local printing. Because all options for local printing begin with the letters WIN, iNEWS will ignore these options when conducting a system print.

In the story, options are specified with an option name—also known as a token—followed by an equal sign (=) and then the parameter value. Each option must be on its own line. A semicolon (;) will cause the remainder of that line to be ignored, and can be used to make notes in reference to the print option. The format looks like this:

```
<option name>=<parameter value>;<notes>
```

A sample story containing local print styles is provided later in this document. See “Example Style Story” on page 348 for more information.

The local print options are not case-sensitive, but do have default settings provided in the following table:

Options	Parameter Values	Defined
WinVTEmulation	YES | NO	Specifies whether blank lines will be added to the script side to line up the production cue and the marker (grommet) if the production cue spans more than one line. The default is NO and will keep local printing functioning without inserting blank lines.

Options	Parameter Values	Defined
WinCopyDriverSetting	YES | NO	Specifies if multiple copies should be sent as a single print job rather than a separate print job sent for each copy. Will allow the printer to handle the printing to multiple output bins. The default behavior is NO.
WinRundownFontFace	<font>	Specifies the font to be used when printing the queue view. Underscores *cannot* be used to represent a space in a font name. If a font name is not specified, the currently displayed font on screen will be used.
WinRundownFontSize	<font size>	Specifies a numeric value for the size of the font in points when printing the queue view. If a font face and font size is not specified, the currently displayed font size on screen will be used. If a font face is specified but the font size is not, the font size will default to 12.
WinRundownLeftMargin	<left margin>	Specifies a numeric value for the left margin when printing the queue view. Measured in inches. Default size for the left margin will depend on the width of the queue view.
WinRundownRightMargin	<right margin>	Specifies a numeric value for the right margin when printing the queue view. Measured in inches. Default size for the right margin will depend on the width of the queue view.
WinRundownTopMargin	<top margin>	Specified a numeric value for the top margin when printing the queue view. Measured in inches. Default size is 1.
WinRundownBottomMargin	<bottom margin>	Specifies a numeric value for the bottom margin when printing the queue view. Measured in inches. Default size is 1.
WinBannerBlanks	<number of blank lines>	Specifies the number of blank lines printed in between the banner and the start of the story form. Default is 0 (zero).

Options	Parameter Values	Defined
WinPrintRundownForm	<form>	Defines what form is used when printing the queue view. If a form is not specified, the currently displayed form on screen will be used.
WinPrintHide	YES | NO	Specifies whether to prevent certain text in the story body from printing. Default is NO. See WinPrintHideStart and WinPrintHideStop on how to define what text does not get printed.
WinPrintHideStart	<character string>	Specifies a character or character string that will be used to mark the beginning of a portion of text in the story body that is not to be printed. Numbers and letters cannot be used. Default is <<.
WinPrintHideStop	<character string>	Specifies a character or character string that will be used to mark the end of a portion of text in the story body that is not to be printed. Numbers and letters cannot be used. Default is >>.
WinWYSIWYG	YES | NO	Specifies whether to use WYSIWYG printing in the printout. If YES, then the font style/size for both the story form and story body will be overridden by the font style/size currently being used on screen for the form and body. Default is NO.
WinSegmentPageBreak	YES | NO	Specifies whether to force a page break in the queue view printout at “Break” lines. Default is NO.
WinSpacing	<number of line spacing>	WinSpacing supports the use of decimals. For example, WinSpacing=1.5 can be used to define line spacing of 1 1/2 lines. Default is 1.
WinColorPrint	YES | NO	Specifies whether to use color printing in the story form on printouts. Default is YES.

Options	Parameter Values	Defined
WinPageFooter	<queue name>.<footer name>	Specifies the use of a footer. The `<footer name>` must match the name of a story in a queue, as defined by the `<queue name>`, located in `SYSTEM.STYLES`. Default is NONE.
WinPageHeader	<queue name>.<header name>	Specifies use of a header. The `<header name>` must match the name of a story in a queue, as defined by the `<queue name>`, located in `SYSTEM.STYLES`. Default is NONE.
WinHeaderFontFace	<font>	Specifies font used in the header and/or footer on the printout. Underscore *cannot* be used to represent a space. Does not recognize bold, italic, or underline. Default is MS Sans Serif.
WinHeaderFontSize	<font size>	Specifies a numeric value for the font size, in points, used in the header and/or footer on the printout. Default is 10.
WinBanner	YES | NO	Specifies whether to include the banner in printout. Default is yes.
WinLeftBanner	<format>	Defines banner format options (such as user name, page number, and queue name for printout) on left side of banner. See "Banner Format Options" on page 346 for more information.
WinRightBanner	<format>	Defines banner format options (such as user name, page number, and queue name for printout) on right side of banner. See "Banner Format Options" on page 346 for more information.
WinBannerFontFace	<font>	Specifies font used in the banner on the printout. Underscore *cannot* be used to represent a space. Does not recognize bold, italic, or underline. Default is MS Sans Serif.

Options	Parameter Values	Defined
WinBannerFontSize	<font size>	Specifies a numeric value for the font size, in points, used in the banner on the printout. Default is 10.
WinForm	YES | NO | ALL	Specifies whether a form is included in the printout of each story. The YES option specifies printing the form on first page of each story; NO specifies none; ALL specifies printing the form on every page of each story.
WinPrintForm	<form>	Defines which form is used for printing. Default is form specified within each story.
WinFormFontFace	<font>	Specifies font used in the form on the printout. Underscore *cannot* be used to represent a space. Does not recognize bold, italic, or underlined text. Default is MS Sans Serif.
WinFormFontSize	<font size>	Specifies a numeric value for the font size, in points, used in the form on the printout. Default is 10.
WinSeparator	YES | NO	Specifies whether a horizontal rule (line) is printed after the Story Form row and before the line of text from the story. Default is NO.
WinBlanks	<number of blank lines>	Specifies a numeric value for blank lines printed following each story when printing the Story Preview. Default is 2.
WinSpacing	<number of line spacing>	Specifies a numeric value for the line spacing of printed stories and queues. Default is 1, which results in a single-spaced printout.
WinScriptShift	YES | NO	Specifies whether iNEWS selects the Uppercase checkbox in Local Printing dialog box by default, and prints all text in uppercase. Default is YES.

Options	Parameter Values	Defined
WinBodyFontFace	<font>	Specifies font used in body of the printout. Underscore *cannot* be used to represent a space. System will print bold, italic, or underlined text, as indicated in the original text of story. This option also applies to printed production cues. Default is MS Sans Serif.
WinBodyFontSize	<font size>	Specifies a numeric value for the font size, in points, used in the body of the printout. Also applies to printed production cues. Default is 10.
WinOrientation	<orientation>	Specifies an override of page orientation in the Printer Properties dialog. Allowable options are `portrait` or `landscape`. Default is as specified by the Printer Properties dialog.
WinScriptLeftWidth	<left width>	Specifies a numeric value for the width—measured in inches—of the left side of the story that contains production cues. Default is 3.
WinScriptRightWidth	<right width>	Specifies a numeric value for the width—measured in inches—of the right side of the story that contains story text. Default is 4.
WinLeftMargin	<left margin>	Specifies a numeric value for the left print margin—measured in inches. Default is .50.
WinRightMargin	<right margin>	Specifies a numeric value for the right print margin—measured in inches. Default is .50.
WinTopMargin	<top margin>	Specifies a numeric value for the top print margin—measured in inches. Default is 1.0.
WinBottomMargin	<bottom margin>	Specifies a numeric value for the bottom print margin—measured in inches. Default is 1.0.

The sum of the defaults: WinLeftMargin + WinScriptLeftWidth + WinScriptRightWidth + WinRightMargin = .50 + 3 + 4 + .50 = 8.0. This width does not exceed a standard page of 8.5.

Banner Format Options

In Local printing, iNEWS will include a banner at the top of printed text if the style selected by the user includes the `WinBanner=yes` option.

The banner comes in two parts—a left side and a right side—each with its own user-configurable option. The system administrator can set what information appears in either side of the banner by using the local printing style options `WinLeftBanner` and `WinRightBanner`.

Literal text can be used with `WinLeftBanner` *and* `WinRightBanner` *parameters. For instance, if you want the banner to print the word, "User" followed by a user's name, define the parameter this way:*
`WinLeftBanner=USER-&u-name`
See "Example Style Story" on page 348 for other literal text examples.

These options recognize parameters only in certain formats, as shown in the following table:

Format Parameter	Defined
`&u-name`	user name
&q-name	queue name
`&date`	date (according to Windows regional setting)
&time	time (according to Windows regional setting)
&f-title	slug
&f-page-number	page number
&f-presenter	presenter name (according to the presenter field)

To define a banner in a local print style:

1. Navigate to `SYSTEM.STYLES` in the Directory panel.
2. Double-click on the queue you want to modify, opening it in the Queue panel.
3. Double-click on the first story in the queue. This will open or load that story into the Story panel.
4. Position your cursor in the Story panel.
5. Press Enter to ensure your cursor is at the start of a new line.
6. Type **`WinBanner=yes`** on the new line. If this line already appears somewhere in the style, you can skip this step.
7. Type **`WinLeftBanner=`** followed by a `<format parameter>`. Separate multiple format parameters with single spaces. Format parameters are shown in the preceding table.

   For instance, if the left side of the banner should include the user's name and date, the local print style option would look something like this:

   `WinLeftBanner=&u-name &date`

The left banner print style option should be defined even if it will be blank; otherwise, the system uses the default setting. To define the left banner as blank, type: **`WinLeftBanner=`** *leaving the remainder of the line after the equal sign blank. The left banner default setting is:* `WinLeftBanner=&u-name &date &time`

8. Press Enter to make certain your cursor is at the start of a new line.
9. Type **`WinRightBanner=`** followed by a `<format parameter>`. Separate multiple format parameters with single spaces. Format parameters are shown in the preceding table.

   For instance, if the right side of the banner should include the story slug and queue name, the local print style option would look something like this:

   `WinRightBanner=&f-title &q-name`

The right banner print style option should be defined even if it will be blank; otherwise, the system uses the default setting. To define the right banner as blank, type: **`WinRightBanner=`** *leaving the remainder of the line after the equal sign blank. The right banner default setting is:*
`WinRightBanner=&q-name &f-title &f-page-number`

10. Save the story.

Example Style Story

The example style story shows only those style options pertaining to local printing. An actual style story may also contain style options pertaining to system printing. System style options are ignored when iNEWS handles a local print job.

Here is an example of a local print style story stored in a queue located in `SYSTEM.STYLES`:

```
WinWYSIWYG=yes
WinBanner=yes
WinLeftBanner=&q-name  PAGE-&f-page-number SLUG-&f-title
WinRightBanner=Tal-&f-presenter USER-&u-name &date &time
WinBlanks=2
WinSegmentPageBreak=yes
WinColorPrint=no
WinScriptShift=no
WinScriptLeftWidth=3.5
WinScriptRightWidth=3.5
WinLeftMargin=0.75
WinRightMargin=0.75
WinTopMargin=1.0
WinBottomMargin=1.0
WinSeparator=yes
WinSpacing=1.5
WinForm=All ;NOTE-Other options=Yes, No
WinPrintForm=Rundown
WinPageHeader=header.default
WinPageFooter=footer.default
WinHeaderFontFace=Times New Roman
WinHeaderFontSize=10
WinBannerFontFace=Arial
WinBannerFontSize=12
WinFormFontFace=Arial
WinFormFontSize=10
WinBodyFontFace=Times New Roman
WinBodyFontSize=20
WinOrientation=portrait;Note-Only other options=landscape
WinRundownFontFace=Arial
WinRundownFontSize=10
WinRundownLeftMargin=0.50
WinRundownRightMargin=0.50
WinRundownTopMargin=0.75
WinRundownBottomMargin=0.75
WinBannerBlanks=2
WinPrintRundownForm=Rundown
WinPrintHide=yes
WinPrintHideStart=<<
WinPrintHideStop=>>
WinVTEmulation=no
WinCopyDriverSettings=yes
```

Managing Printers

When someone prints a single story or an entire queue from the workstation, it is called a *print request*. Your system allows any number of users to send print requests to the same printer at the same time. Your system schedules print requests in the order it receives them.

When you add a printer to your system, the system administrator creates a print queue for that printer in `SYSTEM.PRINTERS`. The queue must not be inverted to hold requests in the proper order. For instance, the queue for printer 3 is called `SYSTEM.PRINTERS.003`.

Each print request is identified by its title (or queue), the time the user printed it, user name, style used, number of copies to be printed, and print command used.

Your system places the first print request it receives for a printer in that printer's print queue and then sends it to the printer. This is called the *current print request*.

As more requests come in, they are placed below the current request in the order received. These requests are called *pending print requests*. When the printer finishes printing the current print request, the system removes it from the queue and moves the pending print request below it up, making it the new current print request.

Removing a Pending Print Request

Pending print requests are held in print queues like stories. You can remove any pending print request that you do not want printed.

To remove a pending print request:

1. Open the appropriate print queue under `SYSTEM.PRINTERS`.
2. Select any print request.
3. Select Edit > Kill.

Restarting the Current Print Request

To rebuild the print job:

1. Fix whatever caused your print job to be canceled.
2. Restart the printer using the `restart` command at the console.

   For instance, if printer 35 jams, fix the jam and then rebuild the print job by typing:

   ```
   restart 35
   ```

Reordering a Pending Print Request

You can rearrange pending print requests by reordering the stories in `SYSTEM.PRINTERS`. The printer does not stop while you reorder the queue. If the current print request finishes while you are reordering the queue, the next story at the top of the queue is processed.

Cancelling a Runaway Print Job

You can cancel an unwanted print job, such as printing the entire contents of a queue instead of a single story.

To cancel a runaway print job:

1. Turn off the printer or put it offline.
2. Navigate to the `SYSTEM.PRINTERS` queue for the printer at an iNEWS Workstation.
3. Kill the job request.
4. Restart the printer using the `restart` command at the console.

   For instance, restart printer 35 by typing:

   ```
   restart 35
   ```

5. Turn the printer back on, or put it online.

Responding to a “Printer Offline” Problem

Occasionally, a system printer to which a print request has been submitted is in an offline condition. The user who submitted the print request receives the following message:

```
[System] P199: Unable to continue printing
```

The number following `P` is the device number of the printer to which the request was submitted. A similar message appears on the console when the offline condition is first detected.

A printer is considered offline by iNEWS if it has not responded to normal flow control for three minutes. Consult your printer hardware manual for information on recovering from an offline condition.

Chapter 12

Wires

All hardware and software components on your iNEWS system are contained in profile files. Therefore, each wire service available to your system has a wire profile file. This file contains commands your system needs to control the wire, and also contains settings for options you can use with that wire service. When you restart a wire service, your system checks its profile for necessary information.

Major sections of this chapter are:

- Adding a Wire – Avid Data Receiver
- Adding a Wire – PCU Port
- Wire Profile Files
- Wire Profile Options
- Using Special Characters in a Profile
- Distributing Stories from the Wire
- Operating Wire Keyword Searches
- Keyword Checker Messages

Adding a Wire – Avid Data Receiver

The Data Receiver is a highly configurable wire server designed to handle all of a newsroom's subscription wire feeds in a single server, while giving iNEWS users access to the data from their desktops. It processes incoming wire data from multiple input sources, including e-mail and traditional serial feeds in multiple data formats. For more information on the Avid Data Receiver, see the *Avid Data Receiver Installation and Operations Manual*.

To add a wire for ingesting through the Data Receiver, you must complete four phases in the setup.

- Phase 1 - Ensure the Avid Data Receiver software is installed, configured, licensed, and the wire feed is connected to the appropriate port.
- Phase 2 - Create an entry for the wire service in the configuration file and a wire profile for the wire service.
- Phase 3 - Add the wire distribution information.
- Phase 4 - Reconfigure the system and start the Avid Data Receiver so it can begin receiving and distributing wire stories.

Phase 1

The procedures for installing and configuring the Data Receiver is provided in the *Avid Data Receiver Installation and Operations Manual.* The following also must be completed on the iNEWS Server:

1. The iNEWS Server license must have wire server resources added to it. An example of a license is shown in Chapter 10. See "Licensing of iNEWS Components" on page 264 for more information. Each instance of the Data Receiver requires its own wire server resource be licensed and configured on the iNEWS Server.

Configuring more wire server resources in the iNEWS configuration file (`/site/config`*) than what is licensed will result in the system failing to configure. If this happens, the system will display a message at the console indicating that license limits were exceeded and by how much.*

2. Choose a device number for each Data Receiver instance. This number is required for later phases in the setup. Ensure that the number you choose is not already in use.
3. Connect the wire feed to the selected port on the PC running the Data Receiver software.

Phase 2

Wire service information must be added to two files in the Site directory on the iNEWS Server(s):

- The configuration file (/site/config)
- The wire profile, located in /site/wires directory

To add wire service information to the configuration file:

1. Select *all* servers.

See "Changing the Configuration File" on page 273 for more information.

2. Modify the iNEWS configuration file by adding the following:
   a. Add a resource list entry to the host section of the /site/config file on the iNEWS Server.

      The format is:

      ```
      reslist <device #> ;<comments>
      ```

      For instance:

      ```
      reslist 801 ;Data Receiver instance
      ```

For dual or triple server systems, the configuration file will have multiple host sections to define which server handles which devices under various circumstances. Resource list entries should be added to each host section depending on which server you want the Data Receiver instances to run. See "Configuration File" on page 269 for more information.

   b. Add a wireserver resource line for each Data Receiver instance to the devices sections of the /site/config file on the iNEWS Server.

The format is:

```
wireserver <device #> news <source> <join option>
```

Parameter	**Description**
`device #`	The Data Receiver instance device number.
`source`	The wire's source name (capitalized portion of the distribution name—AP, UP, and so forth). It is the same as the source name used in the Data Receiver.
`join option`	Links stories that have the same title. It is used with wire services that routinely break stories into multiple takes. If you place `join` in this position, users can view all takes of a story with the `get all` or `read all` workstation commands. To leave this option out of the configuration line, enter a hyphen (-).

Example:

```
wireserver    801   news  AP     -
```

The Data Receiver requires a wire profile in the `/site/wires` directory. This text file is similar to those for PCUs; however, only two of the many wire profile options used for PCUs are associated with the Data Receiver—`form` and `idle`. The wire profile must have the same name as the Data Receiver instance's device number. See "Wire Profile Files" on page 366 and "Wire Profile Options" on page 368 for more information.

To add a wire profile:

1. Select *all* servers.

This procedure, which modifies the wire profile in the `/site/wires` directory uses ed, the line editor. If you do not know how to use ed, please see Appendix H.

2. Use the `ed` command in the following format:

   ```
   ed /site/wires/<device#>
   ```

   For instance, type:

   ```
   NRCS-A# ed /site/wires/801
   ```

   Since the file doesn't exist, the system will create it, but display a line similar to the following:

   ```
   /site/wires/801: No such file or directory
   ```

3. Add the necessary text to the file, but typing: **a**

Everything you type after pressing Enter will now be added to the file. The two wire profile options that must be defined for a Data Receiver are:

```
form <name>
idle <timeout> <interval> <notify group>
```

For instance, type:

```
form wire
idle 15:00 00:01 inews
```

4. Stop adding lines to the file, but typing a period (**.**) and press Enter.

Do not use an uppercase (**W**) in step 5. See Appendix H for more information.

5. When you finish making changes to the profile, you must save your changes before exiting the line editor. To do this, type:

   ```
   w
   ```

   After you press Enter, a number will appear representing the file size, such as:

   ```
   33
   ```

6. Exit the line editor by typing:

   ```
   q
   ```

Phase 3

Each Data Receiver instance must have its own set of instructions in a story, called the wire distribution story, located on the iNEWS system in the Distribution queue in the `SYSTEM.WIRES` directory.

This phase is exactly the same as Phase 3 for setting up a wire connected to a PCU port. See “Phase 3” on page 363 for more information.

Phase 4

The final phase in adding a wire is to check your setup by reconfiguring the system and starting the Data Receiver.

To reconfigure the system:

This will incorporate the changes you made to the configuration file in Phase 2.

1. Take the system offline by typing:
   ```
   offline
   ```
2. Configure the system, using the following command format:
   ```
   configure
   ```
3. Bring the system back online by typing:
   ```
   online
   ```

For information on how to start the Data Receiver, see the Avid Data Receiver Installation and Operations Manual.

Adding a Wire – PCU Port

To add a wire service to your system, you must complete four phases in the setup.

- Phase 1 - Connect the wire service to a PCU port.
- Phase 2 - Create an entry for the wire service in the configuration file and a wire profile for the wire service.
- Phase 3 - Add the wire distribution information.
- Phase 4 - Restart the wire service's program to incorporate the changes you made, and so it can begin receiving and distributing wire stories.

Phase 1

To connect a wire service to iNEWS:

1. Choose a device number for the wire service.

   Find an unoccupied PCU port. For instance, an AP wire is added to port 6 on PCU 10, which means the wire has device number 16. See "PCU Device Numbering" on page 290 for more information.

2. Connect wire to selected PCU port.

Phase 2

Wire service information must be added to the configuration file on each server of your system. That includes adding the wire service’s device number to the PCU’s configuration line and adding a configuration line for the wire program that processes stories sent by the wire service. See “Changing the Configuration File” on page 273 for more information.

If you move a wire service to another PCU, you must modify the entry for the wire service’s program. Move the wire service’s device number from the old PCU’s configuration line and add it to the new PCU’s configuration line. Give the wire service a new device number that reflects the new PCU port to which you attached it.

To modify the configuration file for a wire service:

1. Select *all* servers. See “Selecting Servers” on page 33 for more information.

This procedure, which modifies the `/site/config` file uses ed, the line editor. If you do not know how to use ed to modify lines in the file as required in step 2, please see Appendix H.

2. Type:

```
NRCS-A$ ed /site/config
1259
```

3. Modify the configuration file (`/site/config`), by doing the following:

   a. Add the wire’s device number in the position that represents the port to which you have connected the wire service. For instance, for the wire service connected to port 6 of PCU 10, the wire program’s device number (16) is added to PCU 10’s configuration line. At first, the line may appear similar to this:

```
pcu  10 pcu10  11  12  13  14  15  - - -
```

   b. Ensure that you place the new device number in the position representing the port to which you connected the wire. For instance—for the wire with device number 16—the wire’s device number is placed in position 6 in PCU 10’s configuration line. The new line should look like this:

```
pcu  10 pcu10  11  12  13  14  15  16 - -
```

c. Add a configuration line for the new wire service. By convention, the configuration lines are arranged according to device number. For instance, the configuration line for the wire service with device number 16 would be placed after the configuration line for device 15.

A wire program's configuration line uses this format:

```
wire <dev #> <speed> <program> <source> <join option>
```

Parameter	Description
device #	The wire's device number. Include this device number in device numbers list in the configuration line for the PCU.
speed	Sets baud rate (bits per second) at which the wire communicates with the PCU.
program	Used to process the wire. Ask the wire provider which communications standard the wire conforms to.
source	The wire's source name (capitalized portion of the distribution name—AP, UP, and so forth). It is the same as the source name used in the wire distribution story. Use the source name to create an entry in the wire distribution story and keyword search job list for the wire program. The source name is prepended to the category and priority code information collected from the story to form the distribution code. The distribution code is limited to 10 characters, so care must be taken to prevent the distribution code from being truncated because of a long source name.
join option	Links stories that have the same title. It is used with wire services that routinely break stories into multiple takes. If you place `join` in this position, users can view all takes of a story with the `get all` or `read all` workstation commands. To leave this option out of the configuration line, enter a hyphen.

For instance, the wire program device number is 16, and it needs to communicate with the wire service at a speed of 1200 baud, 7 bit, even parity. Also, the wire program uses the `anpa7` program, and will be referred to as AP. So, AP is the wire's source. The new device configuration line looks like this:

```
wire  16  1200-7e   anpa7   AP -   ; ap wire
```

Do not use an uppercase (**W**) in step 4. See Appendix H for more information.

4. When you finish making changes to the configuration file, you must save your changes before exiting the line editor. To do this, type:

   `w`

   After you press Enter, a number will appear representing the file size, such as:

   ```
   1306
   ```

5. Exit the line editor by typing:

   `q`

6. Create a profile for the wire.

The easiest way to do this is to copy the standard profile for the type of wire service the wire program works with to the file holding that wire program's profile, then modify the copy.

A wire program's profile must be in a file with the same name as the wire service's device number. That file must be located in the `/site/wires` directory.

For instance, an AP wire service is installed at port 6 on PCU 10, and given device number 16. Accordingly, the profile for the AP wire service is copied to a new file called `/site/wires/16`. After the profile is copied, modifications can be made.

If you move a wire service to a new PCU port and give it a new device number, you need to give the corresponding wire program's profile a new name that matches its new device number. The best way to do this is to use the move (`mv`*) command. Type* **`mv`** *followed by the pathname of the file you want to change and the new pathname you want the file to have.*

To copy and modify a wire profile at the console:

1. Select *all* servers.

2. Use the `cp` command to copy the profile for the wire service. For instance, to copy `/site/wires/anpa7` (the profile for an AP wire service) to a file on each server called `/site/wires/16`, type:

   ```
   cp /site/wires/anpa7 /site/wires/16
   ```

3. To determine whether you need to make changes or additions, use the `cat` command to view the file. The format is:

   ```
   cat <file pathname>
   ```

   For instance, to examine the file for the wire service connected to port 6 on PCU 10, type:

   ```
   cat /site/wires/16
   ```

A message similar to the following will appear:

```
; @(#) release/wires/anpa7      11.1 Date 00/05/22
; anpa7 - suitable for upi7, ap7, and cupi7
bits            7
start           <soh>
eos             <EOT>
category        -------
flags           peosline
title 30
;
map     <16>    <SP>            ; TTS SPACE BAND
...
```

Before you modify a profile, use the copy (`cp`*) command to make a backup copy of the wire profile. Use the backup copy to restore the file.*

To back up the profile, type **`cp`** *followed by the full pathname of the file you want to copy and the full pathname of the file to which you want to copy it. (The destination filename can be a new file.)*

4. If changes are needed, then edit the profile by doing the following:

This procedure, which modifies the `/site/wires/16` file uses `ed`, the line editor. If you do not know how to use `ed` to modify lines in the file as required in step 4, see Appendix H.

a. Select all servers. See “Selecting Servers” on page 33 for more information.

b. Type:

```
NRCS-A$ ed /site/wires/16
245
```

c. Navigate to and modify lines in the file, as necessary. For instance, to have the wire program convert all text in each story it processes to uppercase, the word uppercase should be added after the flags option.

At first, the line may look like this:

```
flags   peosline
```

The line should now look like this:

```
flags   peosline   uppercase
```

Do not use an uppercase (**W**) in step 4d. See Appendix H for more information.

d. When you finish making changes to the profile, you must save your changes before exiting the line editor. To do this, type:

   `w`

   After you press Enter, a number will appear representing the file size, such as:

   `306`

e. Exit the line editor by typing:

   `q`

Phase 3

Each wire program must have its own set of instructions in a story, called the wire distribution story. When you add a new wire to your system, you need to add new instructions to your system’s wire distribution story so it knows how to distribute stories it receives from that wire service.

The wire distribution story is located in the Distribution queue in the `SYSTEM.WIRES` directory.

To view the story, log in as a system administrator at an iNEWS Workstation, and navigate to `SYSTEM.WIRES.DISTRIBUTION`.

Here is a partial sample of a wire distribution story:

```
AP#bloom## wires.bloomberg
AP#kip01## wires.kipling
APb###aa## wires.features
AP######o# wires.weather
AP######s# wires.sports
AP######i# wires.world                      URGENT
AP######w# wires.washington                 URGENT
AP######n# wires.national                   URGENT
AP######a# wires.national                   URGENT
AP######f# wires.biz                        URGENT
AP######## wires.all            always      URGENT
```

If you move a wire to a different PCU, the system continues to use whatever instructions are in the wire distribution story for that wire.

Before making any modifications to the wire distribution story, make a backup copy of the story.

To modify the story at an iNEWS Workstation:

1. Select the story in the Queue panel. The story's text will appear in the Story panel.
2. Click in the Story panel to place your cursor there.
3. Edit the story by changing or adding lines, as necessary.
4. Save the story, by doing one of the following:
   a. Click the Save button.
   b. Select File > Save.

The wire distribution story is typically set up by Avid Customer Support technicians when your system is installed. If you need assistance in modifying an existing wire distribution story, contact Avid Customer Support. Also, a standard copy of a wire distribution story is available in Appendix B.

Phase 4

The final phase in adding a wire to your system is to check your setup and restart devices.

To check your setup for errors and restart the PCU and wire service:

5. (Optional) Test your configuration changes for errors by using:

   ```
   configure  /site/config  <system>  <computer>
   ```

   For instance, to test configuration changes for a wire added to a PCU running on server A in an AB system, you would type at the console:

   ```
   configure /site/config ab a
   ```

   When the console prompt returns, the configuration file has been checked. If the system detects any errors, it displays diagnostic messages.

6. If you modified the configuration file, you must reconfigure the system to adopt those changes. If you modified only an existing wire program's profile and did not make any changes to the configuration file, skip to step 7.

   a. Stop the PCU. For instance, to stop PCU 10, type:

   ```
   stop 10
   ```

   b. Select the master computer (typically server A). See "Selecting Servers" on page 33 for more information.

   c. Become a console superuser. See "The Console Superuser" on page 23 for more information.

   d. Take the system offline by typing:

   ```
   NRCS-A# offline
   ```

   e. Reconfigure the system by typing:

   ```
   NRCS-A# configure
   ```

   f. When the prompt returns, bring the system online again by typing:

   ```
   NRCS-A# online
   ```

   g. Exit from superuser mode. (Ctrl+D)

   A message similar to the following will appear:

```
Apr 5 15:41:49 NRCS-A msg System being configured
```

   h. When you see the `System being configured message`, select the server to which the PCU—and wire service—is connected and use the `restart` command. For instance, to restart PCU 10, type:

   ```
   NRCS-A$ restart 10
   ```

   You will see `Hot-to-go messages` indicating that the devices on the PCU have been restarted and are ready to use.

   i. (Optional) Back up site files using the `sitedump` command.

7. If you modified only an existing wire program's profile and did not make any changes to the configuration file, restart the wire and it begins to use changes you made to its profile. To do this:

   a. Select the server to which the PCU is connected.

b. Use the `restart` command in this format:

```
restart <device number>
```

c. For instance, to restart the device at port 6 of PCU 10, type:

```
NRCS-A$ restart 16
NRCS-A$ P16: 12:43:20 Hot-to-go
```

When you see a `Hot-to-go message` for the wire service, as shown in the previous example, you can begin to use it. If there are any errors in the profile, the system reports them on the console when you restart the wire service.

Wire Profile Files

Each wire program's profile contains instructions that tell the program how to interpret and process stories it receives. Your system must have a separate wire program for each wire service connected to it. Each wire program, in turn, must have its own wire profile to process stories sent by the wire service.

Wire profiles for Data Receiver instances are similar to those for wires connected to PCU ports, except that only two wire profile options are used. Examples of both types of wire profiles are shown in this section. See "Wire Profile Options" on page 368 for more information.

Wire profiles are text files located in the `/site/wires` directory. Your system is installed with standard profiles for most wire services. To see which wire profiles are already installed on your system, use the `ls` command to produce a list of filenames. Type:

```
NRCS-A$ ls /site/wires
```

Information similar to the following appears:

```
77    apa6     bbcgns   europa5 notimex5 sports7  ukpa5
81    apr5     bbcmon5  globo5  prime7   sticker7 ukpa6
aap7  aptv7    busines7 gns5    prwire7  tass7    ukreut5
abc7  asca5    cbs7     gns7    radcor5  tndm7    ukreut7
anpa7 baycity7 city7    iptc7   reut5    ukafp5   uktelex5
```

This list contains numbered filenames, such as 77 and 81, and alphanumeric filenames, such as anpa7 and aptv. The alphanumeric files are the standard profiles for several different types of wires. For instance, the anpa7 file is the standard profile used by wires such as AP and UPI.

The numbered files are profiles your system actually uses. These files correspond to device numbers used by your system's wire programs. Device numbers are specified in the configuration file. Each wire program looks for its profile in a file in the `/site/wires` directory. The filename must match the wire program's device number. For instance, a wire program with device number 17 looks for its profile in a file named `/site/wires/17`.

To see what a wire profile looks like, use the `cat` command to list the standard wire profile:

```
NRCS-A$ cat /site/wires/anpa7
```

Aa an example of a wire profile for a PCU, a display similar to the following appears:

```
; @(#) release/wires/anpa7      11.1     Date 04/05/22
; anpa7 - suitable for upi7, ap7, and cupi7
;
bits            7
start           <soh>
eos             <EOT>
category        -------
flags           peosline
title            30
;
map     <16>    <SP>          ; TTS SPACE BAND
map     <25>    <SP>          ; EM SPACE
map     <29>    <SP>          ; THIN SPACE
map     <30>    <SP>          ; EN SPACE
...
map     <124>   5/8
map     <125>   3/4
map     <126>   7/8
```

The following example is a wire profile for a Data Receiver instance:

```
; Data Receiver instance
form wires
idle 00:15 00:01 inews
```

Wire Profile Options

In general, each wire option available may appear only once in a wire profile and may be assigned only one value. Exceptions are noted in the descriptions.

Only two options—`form` *and* `idle`*—are necessary in a wire profile for wires ingested through Data Receiver.*

`accent  <character>`

To convert wire codes into accented characters, a code is used to identify the accent sequences. To enable accent sequence conversions, specify the code that the wire service sends with this command. No accent conversions are done if this command is omitted. Typically a backspace (`<bs>`) is used to identify accent sequences.

`answer <code string>  <name string>`

For wires that require an answerback string sent before a story is received, include a line with `answ` followed by the code string sent by the wire service and the name string the iNEWS newsroom computer system answers back.

`bell  <character>`

Some wire services send bell codes, which cause Teletype machines to ring a bell, to indicate the relative priority of a story. The more bell codes sent with a story, the more urgent the story. Usually, only the older, slower wire services do this.

Although your wire program does not assign a relative priority to a story based on the number of bell codes in the story, it can upgrade a story from routine (r) to urgent (u) if the story contains a bell character. Type **bell** followed by the character the wire service uses as a bell code.

This upgrades a routine story to urgent; it does not do anything if the story's priority is not set to routine. The bell character can be any character.

```
bits  [5 | 6 | 7 | 8 | ibm]
```

Each character sent by a wire service is represented by a number of data bits (ones and zeros). Different wire services use different numbers of data bits to represent the characters they send. Older, slower wire services use as few as five bits; newer, faster wire services use seven or eight bits.

See "IBM Character Set" on page 725 for more information.

You must use the bits option in each wire program's profile to specify the number of bits the wire service uses to represent characters it sends. Type **bits** followed by the number of bits the wire service uses. Take special care not to specify an incorrect number, because that may make it impossible for the wire program to receive stories transmitted by the wire service. Type **ibm** as the bits value for a wire that sends IBM PC format 8-bit characters.

The number of bits you specify also determines the character translation table the wire program uses. This table tells the wire program how to convert decimal values it receives to characters. The number of bits you specify also sets the stop bits, parity, and handshake options to values normally used by wire services that use that number of bits.

See "ASCII (7-bit) Character Set" on page 719 for more information.

The following table shows the character table, stop bits, parity, and handshaking selected when you specify a certain number of data bits.

Bits	Character Table	Stop Bits	Parity	Handshake
5	Baudot	1.5	None	None
6	TTS	1	None	None

Bits	Character Table	Stop Bits	Parity	Handshake
7	ASCII	1	Both	None
8	ASCII+DEC MCS	1	None	None
ibm	ASCII+PC	1	None	None

You can change stop bits, parity, and handshaking values individually using the `stopbits`, `parity`, and `handshake` keywords within the wire profile.

```
category  <string>
```

Each wire story has a distribution code that consists of the wire program's source name, the story's category codes, and the story's priority code. Since different wire services attach different numbers of category codes to their stories, use the `category` keyword to specify how many category codes the wire program can expect with each story it receives from the wire service.

Follow the keyword with a number of printable characters equal to the number of codes the wire sends. For instance, if the wire service sends seven category codes, follow `category` with seven hyphens as shown here.

```
category   -------
```

These characters are refered to as a "string" and although hyphens are used in standard profiles by convention, you can use any printable character. The category code will be initialized to the string and then whatever code is collected is written over the initial string.

Type the characters instead of the actual number to allow the wire program to pad the category codes with those characters if the number of codes sent is smaller than what you specify. For instance, if you use the `category` keyword as shown above and the wire program receives a story with only four category codes (`a`, `n`, `j` and `x`), it pads the unused positions with hyphen (-) characters, such as `an--j-x`.

The total distribution name cannot be longer than 10 characters. Ensure the category length you specify combined with the length of the wire's source name and length of the story's priority code is no more than 10 characters. A wire program's source name is defined in its configuration line. Priority codes are always one-character long.

`distribution <category> <word>`

If the story contains a certain word, two wire programs—`abc7` and `ukpa6`—can assign a category code to a story. Follow the `distribution` option with the category you want to assign, and then the word the story must contain to be assigned that category. For instance, to assign the category `xlf` to stories that contain the word `moonshot`, type:

```
distribution    xlf    moonshot
```

The wire program searches only for a whole word. It does not recognize the word if it is part of a longer word. You can specify multiple distributions. Order of distribution lines in the profile is significant, because the system searches for words in the order they are given and stops searching a story after the first match, ignoring any subsequent `distribution` lines.

Values you supply for the `<category>` and `<word>` must consist of printable characters. The `distribution` option is used by two wire programs—`abc7` and `ukpa6`—all other programs ignore this keyword if you use it in their profiles. If the `<word>` string you specify contains a nonprintable character, enclose it in angle brackets (< >). See "Entering Nonprinting Characters" on page 382 for more information.

The iptc7 wire program uses the `distribution` option to control the collection and placement of certain data into form fields. If the wire profile contains: `distribution    <fieldname>    priority` the "raw" priority code, which is a number from 1 to 6, will be stored in the field identified by `<fieldname>`. If the story is displayed using a form that contains `<fieldname>`, the "raw" priority code will be shown. If the profile contains:

```
distribution    <fieldname>    catchline
```

the "Keyword-Catchline" text in the incoming wire story will be stored in the field identified by `<fieldname>`. If the profile contains:

```
distribution    <fieldname>    headline
```

the "slug", or first line of the story text, will be stored in the field identified by `<fieldname>`.

There is one restriction on the `<fieldname>`, it cannot be one of the reserved field names other than "TITLE". This means it cannot be any of: CREATE-BY, PRESENTER, VAR-x, PAGE, and so forth.

Collecting text for fields defined by the `distribution` *option is only done prior to the first line of text being stored into the story. Furthermore, the iptc "optional information" field is typically collected as text.*

If the profile contains:

```
distribution   <fieldname> optionalinformation
```

the “optional information” text in the incoming wire story will be stored in the field identified by `<fieldname>`. If `<fieldname>` is a single hyphen (-), the “optional information” text will be discarded.

`end  <string>`

If the wire program receives stories from a wire service that marks the end of each story with a special string, use the `end` command to define that string in the program’s profile. Some wire services mark the end of each story with a special character instead of a string. In that case, you can use the end-of-story (`eos`) keyword to define the character.

To define the end-of-story string, type **`end`** followed by the string the wire service uses. This string must consist of printable characters. For instance, if the wire service uses `nnnn` as the end-of-story string, in the wire profile type:

```
end     nnnn
```

A wire service may alternate between using an end-of-story character and an end-of-story string. In that case, you may include both `end` and `eos` in your profile. The wire program considers either to indicate the end of the story.

`eol <character>`

If a wire service uses a special character (other than the standard line feed) to indicate the end of a line, use the `eol` option to define that character so it is converted to a line feed in all stories received from that wire service.

```
eop  <character>
```

Some wire services use a special character to indicate the end of a paragraph in a story. Use the `eop` option to define the character that wire service uses as the end of paragraph marker. The wire program only converts the `eop` character when it appears as the last printable character on the line.

For instance, if the wire service uses the greater than sign (>) to indicate the end of a paragraph, you can use `eop` to signify any occurrence of a > at the end of a line as an end of paragraph. Type:

```
eop   >
```

```
eos  <character> <character> <character> . . . <character>
```

If the wire program receives stories from a wire service that marks the end of each story with a special character, use the eos keyword to define that character in the program's profile. Some wire services mark the end of each story with a special string of characters. Use the `end` command to define the string.

While wire services that use an end-of-story character generally use the same character consistently, not all do. Some wire services change characters with each Teletype operator shift change. If this is the case, follow `eos` with all the different end-of-story characters the wire service uses. The wire program considers the first occurrence of any of these characters in a story to signal the end of the story.

To define the end-of-story character, type **`eos`** followed by the characters your wire service uses. These characters can be any character. See "Entering Nonprinting Characters" on page 382 for more information.

For instance, if the wire service uses `EOT` as the end of story character, enter the following in the wire profile:

```
eos      <EOT>
```

A wire service may alternate between using an end-of-story character and using an end-of-story string. You can include both `end` and `eos` in your profile. The wire program considers either one to indicate the end of story.

`flags [lock or char | pblines | peosline | uppercase | addheol]`

The `flags` option allows you to control certain aspects of how wire stories are displayed on your system. This keyword accepts up to five values, each value separated by a space.

If your system is receiving a wire that uses a case-shift character, you need to include a line in that wire's profile that translates this character to the value iNEWS expects (`decimal <130>`). If the case-shift character from a particular wire service has a decimal value of `<0>`, the instruction looks like this:

```
map   <0>  <130>
```

For more information, see the `map` command.

- `lock`

  Certain wires transmit only lowercase characters, but send a case-shift character to indicate when to start uppercase display. If you follow `flags` with lock, characters sent after the case-shift character in a wire story are all converted to uppercase until some other shift character is sent.

- `char`

  Using `char` instead of `lock` in the `flags` line causes only the next character following the case-shift character to be converted to uppercase.

- `pblines`

  A wire program usually removes blank lines, such as lines used to separate paragraphs, from the wire stories it processes. If you do not want these lines removed, follow `flags` with `pblines`, which prints blank lines.

- `peosline`

  Normally, a wire program will not include the line containing the end-of-story string or end-of-story code in a wire story. If you follow `flags` with `peosline` (print end-of-story line), the wire program includes the line containing the end-of-story string or end-of-story code as part of the story text.

- `uppercase`

  By default, a wire program leaves the text of each wire story as the wire service transmitted it. However, to force the wire program to shift text in each story to uppercase, follow `flags` with `uppercase`.

- `addheol`

  Some wires do not provide enough formatting information for handling tabular material, which makes reading sports scores, weather tables, and stock listings difficult on an iNEWS Workstation. The `addheol` option causes the server to treat each line break as an end of paragraph. The default wire profile condition is that there is no `addheol` handling done.

`flash <priority character> <word>`

A `flash` option line specifies a correspondence between a certain word that may appear in a received story and the priority code character to be assigned to any story that contains that word. For instance, to assign the priority `u` (`urgent`) to stories that contain the word moonshot, type:

```
flash    u    moonshot
```

The wire program searches for the full word; it does not recognize the word when it is part of a larger word. You can use up to 16 `flash` keywords in a profile. The order of `flash` lines in a profile is significant, because the wire program searches a story line by line for words in the order they are given. If a `flash` word is found on a line, the rest of that line is not searched, but subsequent lines in the story will be searched.

Whenever a flash word is found and the story's priority is set, the flash word is saved and will be stored in the story's PRESENTER form field. However, the wire profile `presenter` *option may affect the storing of a flash word in the PRESENTER form field.*

You must supply printable values for both the priority character and the word. Also, while most wire programs search the entire text of each story for the word, a few (`ukpa5` and `ukpa6`) search only the title.

`form <name>`

The `form` option is the form name assigned to the wire story, generally used to view the story. This form is the story form assigned to queues that typically contain wire stories. In wire profiles for Data Receiver instances, the `<name>` is usually `wire`.

The words dictionary contains `W_WIRE_FORM /wire` *which is used as the default if no* `form` *option is specified in the profile.*

`handshake  [auto | xon | both | none]`

The `handshake` option specifies the type of handshaking (flow control) used by the wire program. If you leave this option out of a wire profile, the wire program uses the default value, which is `none`. Since wire services do not usually use handshaking, most wire profiles do not include this option.

If the wire service uses handshaking, you must include handshake to specify the type it uses. If you follow handshake with `xon`, the wire program uses XON/XOFF software flow control. If you follow it with `auto`, the wire program uses RTS/CTS hardware flow control. If you follow it with `both`, the wire program uses both in parallel.

`idle  <timeout>  <interval>  <notify group>`

The `idle` option is used in wire profiles for both PCUs and the Data Receiver. It controls how your system handles a prolonged period of inactivity, when no stories are received by iNEWS, for a wire. The `timeout` value indicates how long the wire should be idle before users are notified. For instance, a time-out value of `2:00` triggers notification if no stories are received from this wire in two hours.

The notify group is optional; it contains the user group name on iNEWS that is notified, through the top-of-screen message, if the time-out value is reached. A message is always sent to the console when this happens. To disable sending a message to a group, put a hyphen (-) in this position.

The interval value is used to repeat this notification if the wire remains idle for an additional period of time beyond the time-out value. A time-out value of `2:00` combined with an interval of 15 notifies users after two hours of idle time and every 15 minutes thereafter, as long as the wire remains idle.

The time-out and interval can have any values between 2 minutes and 24 hours, expressed in hh:mm format. Providing a value of 0 for the time-out, or omitting the idle option from the profile altogether, disables the idle time alert for this wire. An interval of 0 limits notification to one initial message.

For more information, see Appendix E.

```
map  <incoming character>  <translated string>
```

A map command translates a particular received character code into one or more characters that can be displayed.

When you specify a value for the bits option, a standard translation table is selected. The map command allows you to override the standard translation table for individual characters.

Almost every wire service uses a few characters in a nonstandard way to represent such things as fractions and em/en spaces and hyphens, using variable character widths. Since each wire service may use different characters, they cannot be translated in the standard character-translation table. Instead, they must be translated individually using the map command.

To translate a character to a string that can be displayed, follow map with the wire service character and the character or string you want to translate it to. For instance, suppose the wire service uses a value of 91 to represent the fraction 1/2. To display this on a workstation, map 91 to the string 1/2:

```
map   <91>  1/2
```

Enter the character you want to translate and the string to which you want to convert it as either decimal values in angle brackets, such as <32>, or as actual characters, such as a. A space in the string ends the string. To translate to a string that contains a space, use <sp> to represent the space, such as a<sp>b.

You may use up to 256 map commands in a profile, one for each character. Decimal values used in map lines can be any value from 0 to 255.

```
pagenumber <length>
```

The pagenumber option specifies the number of characters allowed as PAGE-NUMBER field information. The default value is five, with the maximum number of 18 characters that can be collected. Most wire programs collect a story number from the wire input. The length of this information varies from wire to wire. The `pagenumber` option is similar to the `title <length>` and `presenter <length>` options.

`paragraph  <number>`

Wire programs generally expect the first line in a new paragraph to begin with three to five leading spaces. When the wire program processes a story, it adjusts any line with at least that many spaces to the standard five-space indent.

However, some wire services use only one or two leading spaces to indicate when a line is the start of a new paragraph. If you have such a wire service, you must let its wire program know how many leading spaces indicate the beginning of a new paragraph. Use the `paragraph` option, followed by the number of leading spaces the wire service uses to indicate when a line is the start of a new paragraph.

You cannot set this option to a value greater than four.

`parity  [odd | even | both | none]`

To set the `parity` option to something other than the default value assigned with the `bits` option, include a parity value of `odd`, `even`, `both`, or `none`, depending on whether the wire service includes a parity bit with each character it sends and, if so, the kind of parity it uses.

Set this option to `none` if the wire service does not use a parity bit. This is usually the default setting, so if you do not include the `parity` option in the profile, the wire program expects the wire service not to use a parity bit. Set it to `even` if the wire service uses even parity. If the wire service uses odd parity, set this option to `odd`. If the wire service includes a parity bit with each character it sends, but the bit's setting does not matter, set this option to `both`. This instructs the wire program to expect a parity bit but ignore its value.

`presenter <length>`

The `presenter` option specifies how many characters are allowed as PRESENTER field information. The default value is 0, which means that no `presenter` data will be stored in the wire story. Only wires using the `flash` option and the `bbcmon5` wire program collect data, which is stored in the PRESENTER field.

The flash word found in the story that causes the priority to change is stored in the PRESENTER field. If you specify any flash options, also specify a presenter <length> option. Presenter is similar to the title <length> option.

```
priority  <character>
```

If you have a wire service that frequently transmits wire stories without priority codes, use the priority option to assign a default priority code to each story you receive. This is usually used with the flash option, which assigns specific priorities to stories that meet certain criteria.

To set a default priority, type **priority** followed by a printable ASCII character indicating the priority you want attached to stories. Common values for this option include r for routine (the default), u for urgent, f for flash, and b for bulletin. Setting the priority to <nul> causes no priority to be appended to the distribution code of the story.

```
reverse   <characters>  [<embedded characters>]
```

See "dbrestore Character Map (Arabic)" on page 732 and "Sample Arabic Wire Profile" on page 733 for more information.

The wire program has the ability to reverse the order in which figures are displayed in the database, using the wire profile option called reverse. This parameter is typically used at sites where the written language is from right to left, such as Arabic sites. The syntax of this option includes:

- <characters> that are included in the sequence to be reversed. Any of these characters can signal the start or end of the sequence.
- <embedded characters> that are included in the sequence to be reversed; however, they cannot start or end the sequence. This string need not be present. An example would be:

  ```
  reverse   0123456789   /,.
  ```

  So any sequence of characters starting and ending with a digit that may include a period, comma, or slash will be reversed. Here are a few examples:

  An input line "the systems as 9991/70/60." would be converted to "the systems as 06/07/1999."

  The period was not included in the reversal since it is an embedded character and cannot be the last character in the sequence.

The line `"we had $00.000,01."` is converted to `"we had $10,000.00."`

The period between the zeros is reversed, along with the digits, since it is "embedded" in the sequence.

`start <string>`

The `start` option specifies the exact string of characters that indicates the start of a received story. The entire string must be found to start a story. The start string may include any character. You can use the wildcard character `<128>` within the string to stand for a sequence of any characters.

`stopbits [1 | 1.5 | 2]`

To set the number of stop bits to a value other than the default, use the `stopbits` option with the number of stop bits the wire service transmits with each character. You generally do not need to use this option, because setting the `bits` option usually sets the appropriate `stopbits` value as well.

`title <length>`

The `title` option specifies how much of each story's title the wire program puts in the story's title field. The default value is 20 characters. If you want more or fewer characters, use `title` to specify how many. For instance, `title 30` causes the wire program to use the first 30 characters of each story's title.

While this option determines how much of a story's title is available for display, the size of the title field in the form where the story is sent controls how much of the title can be displayed. The length of the form fields is not specified in characters, and, because variable pitch fonts are used, the 30 characters may not fit in a field of 25 units.

Often, wire services transmit stories with titles longer than the title field. You can use the `title` option to have the wire program display the entire title at the top of each story, as well as in the title field. Set the title to a value equal to or less than the width of the title field. If a story has a title longer than this value, it displays as much as it can in the story's title field, and then displays the entire title at the top of the story as well.

If you want the wire program to display as much as it can in the story's title field and not display the title at the top of the story, specify a large value, such as 80, for this option. This will not affect the title field, because characters that do not fit into it are lost.

`tli <character>`

The `tli` option allows most wire programs (excluding `atelex5` and `baycity7`) to recognize lines of text, starting with a tab line indicator. If you do not specify a `tli` option, it defaults to a backspace character. Wire input conforming to anpa format has lines that contain tabular information and is introduced with a `tli`. The wire programs ensure that each of these lines is stored in the database as a separate paragraph. You can disable this feature by defining the `tli` to be zero (null).

`wait <minutes>`

This controls the number of minutes a wire feed can be inactive (no data delivered) before the wire program will automatically close and save a partially collected story.

If this directive is not included in the wire profile, a wait interval of one minute is assumed.

The `<minutes>` parameter is a simple decimal number. To express an interval of one hour and five minutes, use `wait 65`.

The minimum value can be 0. The maximum value can be 255.

Specifying a wait value of zero causes the wire program to wait indefinitely (and never automatically save a partially collected story). The end of story sequence must be received to have the story saved into the database. A wait value of zero will cause the wire program to ignore all wire idle parameters.

Wire idle processing only occurs at the end of a wait interval. So idle parameters smaller than the wait interval are "rounded up" to the next multiple of the wait interval.

Using Special Characters in a Profile

Some characters cannot be produced from the keyboard or are interpreted differently by your system and, therefore, you must enter them in your profile in a special way. Characters such as semicolons (;), pound signs (#), and at symbols (@) have a special meaning for your system or your system's console. Additionally, you may need to set an option to a value that includes nonprinting characters, such as those produced by the Escape (Esc) and Enter keys.

Entering Nonprinting Characters

To add a nonprinting character to a profile, you must use either the alias or the decimal value.

Entering Characters by Alias

Your system recognizes a number of aliases for many of the nonprinting characters you may use in a wire profile. These aliases are two or three-letter abbreviations that represent different characters. For instance, `esc` represents the Escape key and `cr` represents the Enter key.

When you put an alias in a wire profile, you must enclose it in angle brackets (< >) so your system knows that it is an alias. For instance, here is an eos line that uses the Escape character:

```
eos     <esc>
```

Entering Characters by Decimal Value

You can also represent any character, nonprinting or otherwise, by its decimal value. Enter the character's decimal value in angle brackets where you want it to appear in the profile.

For instance, Escape has a decimal value of 27, and Enter has a decimal value of 13. Here is an example of an eos line using the esc character:

```
eos     <27>
```

Avoiding Characters Used by the System

Do not include any of the following characters as control codes. The characters, and how the system interprets them, are listed in the table.

Character	Interpretation
;	Indicates the start of a comment
#	Represents the computer’s name
space	Used as a separator
<	Indicates start of a character entered by alias or decimal value
@	Causes system to abandon the line you are typing

The next table shows the aliases and decimal values you must use if you need to use these characters as control codes.

Character	Alias	Decimal value
;	<sc>	<59>
#		<35>
space	<sp>	<32>
<	<<	<60>
@	\@	<64>

Enter the at (@) symbol by typing it, but only if you first type a backslash (\) character. This causes the console to treat the @ as a normal character, rather than the command to abandon the current line, and put it in the profile you are editing.

Converting Text with Accents and Diacritical Marks

Wire services that deliver 8-bit codes may send only a two-character sequence, typically a nonspacing diacritical mark and a character. Wire programs in iNEWS do not recognize these two character sequences. However, each nonspacing diacritical mark can be mapped to one of the recognized accent-mark/enable-accent codes listed in the table.

The `bits` option defines a mapping table to convert received wire codes into codes used by the system. The system applies ASCII conversions to codes 0-127 and the DEC Multinational Character Set (MCS) conversions for codes 128-255. When you specify `ibm`, a selected map is used to convert an IBM code into a DEC MCS code.

To send accented characters, wire services send a sequence of three characters, typically an accent mark, an enable-accent code, and a character, when the accented character is not included in the wire service character set.

Wire programs in iNEWS convert these accent sequences into accented characters in the DEC MCS. When the wire profile contains an accent definition (typically a backspace character), the wire program provides the following conversions.

Mark	Accent displayed	Supported characters
"	Umlaut (¨)	Ä ä Ë ë Ï ï Ö ö Ü ü Ÿ ÿ
`	Grave (`)	À à È è Ì ì Ò ò Ù ù
'	Acute (´)	Á á É é Í í Ó ó Ú ú
^	Circumflex (ˆ)	Â â Ê ê Î î Ô ô Û û
~	Tilde (˜)	Ã ã Ñ ñ Õ õ
,	Cedilla (¸)	Ç ç
*	Ring (°)	Å å
/	Slash (/)	Ø ø

If the wire service uses ISO characters, your map lines should look like these:

```
; ISO accent mapping
map  <193>  `<bs>  ; grave
map  <194>  '<bs>  ; acute
map  <195>  ^<bs>  ; circumflex
map  <196>  ~<bs>  ; tilde
map  <200>  "<bs>  ; umlaut
map  <202>  *<bs>  ; ring
map  <203>  ,<bs>  ; cedilla
map  <233>  <216>  ; slash-O
map  <249>  <248>  ; slash-o
```

The ISO character set includes specific values for the Ø and ø characters, rather than building them out of two other characters. These characters are mapped to corresponding values in the DEC MCS (<216> and <248>).

Similar lines using different values are used for ANPA characters:

```
; ANPA accent mapping
map  <196>  '<bs>  ; acute
map  <197>  ,<bs>  ; cedilla
map  <198>  ^<bs>  ; circumflex
map  <199>  `<bs>  ; grave
map  <200>  /<bs>  ; slash
map  <201>  ~<bs>  ; tilde
map  <202>  "<bs>  ; umlaut
map  <203>  *<bs>  ; ring
map  <204>  _      ; underline
```

The accent sequence that results from this mapping is paired with the character that follows it in the wire service transmission and checked to see whether the specified accent is available with that character. For instance, the ISO sequence `<202>a` is mapped to `*<bs>a` by the iNEWS system, and then converted to the å character.

The ISO sequence <202>u is displayed as *u, because the ° accent is not available for use with the letter u. The sequence <202>u received from an ANPA wire is translated to "<bs>u by iNEWS and displayed as ü in the story.

Distributing Stories from the Wire

Wire programs route each wire story they receive to an appropriate queue, based on which wire service sent the story and the story's distribution code. This distribution system ensures that all sports-related wire stories are sent to the sports wire queue, weather forecasts are sent to the weather wire queue, and so on.

This section explains the method wire programs use to categorize and distribute wire stories, and provides a process for customizing the distribution of wire stories to keep up with the changing needs of your newsroom.

Defining Distribution of Wire Stories

Each wire program must have its own entry in the wire distribution story. The wire distribution story is the first story in the SYSTEM.WIRES.DISTRIBUTION queue. If there is more than one story in that queue, the first story is used. This entry consists of up to 150 instructions that tell the wire program how to distribute wire stories, based on their wire service codes.

Each line in the story is called a *distribution line*. Each distribution line consists of a distribution name, a destination queue, and an optional notification priority constraint.

Here is a sample of a wire distribution story:

```
AP#####a#    wires.us-national
AP#####b#    wires.us-national
AP#####d#    wires.features
AP#####e#    wires.briefs
AP#####f#    wires.features
AP#####h#    wires.business
AP#####h#    wires.briefs
AP#####i#    wires.us-national
AP#####l#    wires.features
AP#####m#    wires.business
AP#####o#    wires.weather
AP#####p#    wires.us-national
AP#####q#    wires.sports-score
AP#####r#    wires.rundowns
AP#####s#    wires.sports-stories
AP#####t#    wires.rundowns
AP#####v#    wires.advisory.other
AP#####w#    wires.washington
AP#######    wires.all
AP#######    wires.unknown
```

Creating a Distribution Name

Each distribution line must begin with a distribution name that sets the criteria a story must meet to be sent to the destination queue specified in that instruction. Begin the distribution name with the wire program's source name, as specified in the configuration file. Otherwise, the wire program ignores that instruction.

The source name is the contents of the fifth column for the wire in the `/site/config` file. The following wire on port 18 is named `AX`:

```
wire    18 9600-8n anpa7   AX - ;ap express
```

Follow the source name with the wire service code you want that instruction to handle. There must be no spaces between the source name and code. Within the code, specify the category, service level, selector, and priority codes a story must have for the wire program to send it to the destination queue specified in the instruction.

In most cases, you need only specify the category code to distribute wires. You generally use only the source name and category code positions in the distribution name and fill the remainder of positions in the distribution name with pound sign (#) characters, which the wire program ignores.

For instance, to create a distribution name that matches all Associated Press sports stories you receive, begin the distribution name with the source name of the wire program that handles the AP wire (AP in this example) and put s in the ninth (second-to-last) position. It does not matter what is in the remainder of the distribution name, so fill those positions with # characters: `AP######s#`.

When you enter a distribution name, type the wire program's source name in the same case as it is defined in the configuration file. Similarly, wire category and priority codes are always sent in lowercase, so enter them that way in your distribution names.

Identifying a Destination Queue

Follow the distribution name with the full pathname of the destination queue where you want the wire program to put any stories that match the distribution name. For instance, to have the wire program send every story that matches `AP######s#` to `WIRES.SPORTS`, specify that queue:

```
AP######s#  WIRES.SPORTS
```

If you create a distribution line with a destination queue that does not exist, the system creates the queue when you save the distribution story. A queue created this way inherits directory traits assigned to the Wires directory, including the purge interval. If you want a different purge interval, use the Directory Properties dialog box to change it. See "Changing Database Traits" on page 117, "Directory/Queue Properties Dialog Box" on page 121, and "Choosing Queues to be Purged" on page 136 for more information.

Changing Notification Priority

Normally, when your system receives a story the wire service has marked as either BULLETIN or URGENT, it notifies everyone logged in. You can change the priority level a story must have to merit notification. Set an optional notification priority constraint in the distribution line.

You can set four notification priority constraint levels in each distribution line. Each level restricts user notification to a higher degree. By convention, type them in uppercase.

Priority Level	Description
URGENT	The lowest constraint level. Any story marked flash, bulletin, or urgent by the wire service causes users to be notified if this constraint level is specified.
BULLETIN	The next-lowest constraint level. Any story marked flash or bulletin causes users to be notified if this constraint level is specified. BULLETIN is the default priority level; if you do not specify a notification priority constraint in a distribution line, any story that matches the distribution name in that line and has this level or higher priority causes notification.
FLASH	The second-highest constraint level. When you set a distribution line to this constraint level, stories that match the distribution line's distribution name must have a priority of "flash" in your system to notify users.
SILENT	The highest constraint level. It prevents your system from notifying users of the arrival of any story processed by that distribution line. No story ever has a high enough priority to override this constraint level.

Setting the Transmit or Always Options

You can apply two other options, TRANSMIT and ALWAYS, to a distribution line.

TRANSMIT

This option is used on distribution lines that send stories to queues scanned by distribution servers. It causes the wire program to give the story a distribution code that matches its wire service code before sending it to the destination queue. This way, a distribution server that scans the destination queue can distribute the story, based on its original wire-service code.

ALWAYS

If you want the wire program to distribute a copy of every story it receives to a certain queue, place ALWAYS on the distribution line that sends stories to that queue. The word ALWAYS may follow or precede a notification priority constraint. Most often, this is used to send a copy of every story received to WIRES.ALL:

```
   AP#######   wires.all       ALWAYS
```

Adding a Distribution Line

Although your distribution story was set up for you when your system was installed, you may need to modify it by changing an existing distribution line or adding a new distribution line to the story.

For instance, to have the wire program that handles the AP wire service put a copy of each Associated Press brief it receives in WIRES.BRIEFS and notify you whenever it puts an AP brief marked urgent in this queue, add the distribution line shown here:.

```
AP######d#     wires.briefs    URGENT
```

⚠ **When you add a new distribution line, you must add it above any distribution lines for WIRES.UNKNOWN or WIRES.ALL.**

Avoiding Hidden Categories

When you add lines to your wire distribution story, you may get hidden category error messages when you save the story. These errors occur when the line or lines you have added are not in the proper position relative to other lines in the story. The following example illustrates this problem and shows how to fix it.

Suppose you had this line in your wire distribution story:

```
UP######g#     wires.regional
```

In addition to this line, you wanted to add a line like this one:

```
UP#xyz##g#     wires.briefs
```

While this may seem straightforward, you get a hidden category error message if you add the new line following the existing one. To understand why, look at the two lines together.

```
UP######g#     wires.regional
UP#xyz##g#     wires.briefs
```

Suppose a story came from the wire service with a distribution code of UPoxyzoogr or something else that would ordinarily match your new WIRES.BRIEFS distribution line. The problem arises because the story also matches the WIRES.REGIONAL line above that one, and, since the wire distribution program stops checking the distribution story after it finds a match, it never gets to the WIRES.BRIEFS line.

To avoid this problem, ensure that you arrange any distribution lines that have common elements so the more specific line comes first in the distribution story, like this:

```
UP#xyz##g#     wires.briefs
UP######g#     wires.regional
```

This rule of distribution does not apply to distribution lines that have the same code but distribute the stories to different queues. These lines still match the appropriate wire stories, as long as they are placed together in the distribution story.

Using the WIRES.ALL Notification Priority

Your system sends only one notification for a story, even if the story matches two or more distribution lines. However, since each line may have a different notification level, the system chooses the lowest notification level and uses it to determine whether to send a notification.

This is important when considering the distribution line for WIRES.ALL. By definition, each story received is distributed to this line as well as others. Consequently, the notification priority set for this line can also affect how notification levels are interpreted for other lines.

For instance, if the distribution line for WIRES.ALL has a notification level of BULLETIN, any other distribution line set to a notification level of FLASH or SILENT (higher levels) is downgraded to BULLETIN.

However, by setting the distribution line for WIRES.ALL to SILENT (the highest notification level), you can ensure that all other distribution lines for that wire have notification levels lower than WIRES.ALL. This ensures their notification levels take precedence over those for WIRES.ALL.

Distributing Unknown Wires

A wire program puts stories that do not match any of its distribution lines in the queue WIRES.UNKNOWN. Most systems have a distribution line that uses a wildcard distribution code and the ALWAYS option to send a copy of every story to WIRES.ALL. As a result, no story is unknown as far as the wire program is concerned.

In many cases, you want to send stories that do not match normal distribution codes to both WIRES.ALL and WIRES.UNKNOWN. To do this, you need a special distribution line that sends a copy of any wire that does not match a normal distribution code to WIRES.UNKNOWN before sending it to WIRES.ALL.

If your system uses more than one wire service, the distribution lines for each service should be in separate groups. Each group should have its own distribution line for WIRES.UNKNOWN at the bottom of that group of distribution lines, just above that group's distribution line for WIRES.ALL.

Maximum Number of Lines

Each wire program's entry in the distribution story can contain up to 150 distribution lines. To fix a distribution story so your system can use it, divert distribution wires to the distribution server so the total for each wire program is no more than 150. Once you remove excess distribution lines and save the story, your system should accept the distribution story and begin using it.

Mailboxes

Your system was installed with the reserved distribution mailbox assigned to the queue `SYSTEM.WIRES.DISTRIBUTION`. This mailbox allows the wire distribution checker (a server program) know when you make changes to the distribution story. The checker in turn notifies the wire programs that the distribution story has changed. This is the only way the wire program knows to incorporate changes you make. See "Using Mailboxes" on page 419 for more information.

Do not assign a different mailbox to this queue or assign this mailbox to any other queue.

If you want everyone logged in on the system to be notified when a wire story is placed in `WIRES.ADVISORY.PRIORITY`, you must assign the reserved mailbox "all" to that queue. Mailboxes are assigned to queues using the Queue Properties dialog box. See "Changing Database Traits" on page 117 and "Reserved Mailboxes" on page 421 for more information.

Purge Intervals

Nowhere in your database are proper purge intervals as important as in the Wires directory. All queues in the Wires directory should have roughly similar purge intervals. If not, the system may not reclaim space used by old wire stories efficiently.

Never use the wire distribution story to distribute wire stories to queues not purged. Doing so can eventually lead to a low-on-space condition as the queues fill up with old stories.

Internationalization

You can modify the FLASH, URGENT, BULLETIN, SILENT, ALWAYS, and TRANSMIT options by changing appropriate entries in the words dictionary (/site/dict/words).

You must use the maketab command for the system to recognize dictionary changes.

The system expects each option to begin with a unique letter and looks at the first letter of the word to determine what it is. The system would find TRANSMIT to be the same as TX.

Operating Wire Keyword Searches

In addition to receiving and distributing wire stories, a wire program can also search stories it processes for keywords you want. When it finds a story that satisfies one of your search rules, it copies that story to a queue you specify. Using wire keyword searching can be an easy way to collect stories of interest to specific writers in your newsroom.

Setting up Keyword Searching

Utility (server) programs, called keyword servers, can do keyword searching in the same way as wires. They are listed differently in the search job list, but otherwise searching and story distribution are handled the same way.

See “Adding a Keyword Server” on page 462 for more information.

To set up a keyword search for a wire or keyword server:

1. Check the search job list for existing entries.

   The search job list is the first story in the SYSTEM.WIRES.KEYWORDS queue.

Each job list entry uses the following format:

```
*[<number of queues>] [<name>] [< name>]
[<queue name>]
. . .
[<queue name>]
```

Begin each entry with an asterisk (*). Include a number, which indicates the number of queue names that follow. Type **5** here if the entry is for a wire program—this is also the default value.

Follow the asterisk and number combination with the device name of the program that uses this entry or a source name for a wire. List two or more names if you want more than one program to use the entry. Names are specified in the configuration file.

Follow the first line with one or more lines that specify queues containing keyword stories you want the program to use. A keyword server can have as many as 20 queues.

If the program that uses the entry is a wire program, you can list as many as five different queues here.

2. Create a keyword queue.

   See "Adding a Directory or Queue" on page 99 for more information.

   By convention, keyword stories are placed in queues in `SYSTEM.WIRES`, so create a queue called `SYSTEM.WIRES.APKEYWORDS`.

3. Assign the reserved keyword mailbox to the new keyword queue.

   See "The Keyword Mailbox" on page 403, "Changing Database Traits" on page 117 and "Reserved Mailboxes" on page 421 for more information.

   If this mailbox is not assigned to this queue, your system cannot notify the keyword server when you add new search rules to the keyword story or modify existing ones. The keyword server will not examine your changes for mistakes or notify programs that use that keyword story of changes you made.

4. Add an entry to the search job list.

   Ensure the keyword story queue you just created is listed in the wire program's search job list.

The iNEWS system looks for the keyword story in the `SYSTEM.WIRES.APKEYWORDS` queue, so the wire program's search job list should look similar to this:

```
* AP
system.wires.apkeywords
;
* kwdserver1
system.keywords.shuttle
system.keywords.recycle
```

When you save the story, the keyword checker examines your changes for errors. Then it notifies all wire programs that keyword changes were made.

The keyword checker (`kwdcheck`*) validates keyword search stories just as the distribution checker (*`catcheck`*) validates wire distribution stories. The keyword checker is different from the keyword server, which is the utility program that does the actual wire keyword searching.*

See "Additional Information about Search Jobs" on page 397 for more information.

The number of queues you specify determines how many unique keywords can be in each story. The formula for this is the maximum number of unique keywords a wire program can use (250) divided by the number of stories you declare. For instance, listing two queues would mean each story could have a maximum of 125 unique keywords.

5. Create a keyword story.

   Wire and keyword server programs assume the first story in the queue is the keyword story. If there is more than one story, ensure that your keyword story is at the top of the queue.

6. Add search rules to the keyword story. See "Keyword Searching" on page 398 for more information.

7. Save the keyword story.

   The keyword checker examines the story for errors and creates any destination queues that do not exist. If the keyword checker finds an error, it sends a message to your workstation.

The most important of these messages advises you the story contains a destination queue that does not have a purge interval.

Using a destination queue that is not purged does not prevent the keyword story from being used, but you risk having any program that uses the rule set collect stories in that queue until the system runs out of space. We strongly recommend that all your destination queues have purge intervals.

The messages you see after saving a keyword story are advisory messages and do not prevent the keyword story from being used. Once you have viewed all the messages, the program for which the keyword story was designed begins using the rule sets in that keyword story to search the stories it processes, as long as an entry for that program has been made in the search job list.

Additional Information about Search Jobs

The following section provides additional information about search job list features and important considerations.

Suppressing a Search

To prevent a program from doing any searching, create an entry for the program that consists of an asterisk only and the program's device or source name, or do not include an entry for the program in the search job list. If your search job list contains a default entry, you need to include entries for each wire and keyword server program you want to keep from doing any searching.

Default Entry

A default entry is one that begins with an asterisk, but does not specify a device or source name. Often, a search job list contains a default entry located at the bottom of the story. If a program is unable to find an entry that contains its device name, it uses the default entry.

Your system uses a special utility (server) program, called keyword checker, to check any changes you make to the search job list. For the system to notify the keyword checker when you modify the search job list, assign the reserved system mailbox keyword to the SYSTEM.WIRES.KEYWORDS queue. See “Changing Database Traits” on page 117 and the “Maintain Tab” on page 133 for more information.

Keyword Limitations

Each wire program can have search rules that contain no more than 250 unique keywords. Divide the search rules among as many as five keyword stories in different queues. The maximum number of unique keywords that you can use in each queue’s keyword story is 250 divided by the number of queues you specify in the program’s search job-list entry.

In a similar way, keyword servers can use search rules that contain a total of 1000 unique keywords. Divide these search rules among as many as 20 different queues. The number of unique keywords allowed in each keyword story is equal to the total number allowed for that keyword server divided by the number of queues you include in the keyword server’s search job list entry.

Keyword Searching

Each keyword story is a collection of rule sets. Each rule set contains the search rules you want your program to use to identify stories relating to a particular topic.

The format each rule set must have is as follows:

```
destination  <queue name>
<search rule>
[<search rule>]
. . .
[<search rule>]
```

Each rule set begins with a destination line that names the queue where copies of stories that satisfy any of the rule set’s search rules are placed. This line must begin with the word destination, followed by the full pathname of the destination queue. Two rule sets cannot use the same destination queue.

Follow the `destination` line with one or more lines that contain search rules you want a particular wire and keyword server program to use to search. Each search rule occupies a separate line in the rule set.

For instance, the rule set in the following example begins with a `destination` line that tells the program to put copies of stories that satisfy either of the rule set's search rules into `WIRES.KEYWORDS.DRUGS`. The two lines that follow contain the search rules the program uses to find stories relating to drugs:

```
destination       wires.keywords.drugs
    panama AND drugs
    drugs NOT pharmacy OR (drugs AND smuggling)
```

⚠ **Never create a destination line that sends stories to a personal queue or any queue not purged. Having a program send stories to such queues can lead to an out-of-space condition.**

Each search rule consists of one or more keywords you want a wire or keyword server program to use to locate stories on a particular topic.

Each search rule is contained in a paragraph and is limited to approximately 1000 characters or to the end of the paragraph, whichever is less. You can have more than one search rule defined for each destination queue. The only limitation is that you cannot exceed the number of unique keywords allowed for the story. For details on the maximum number of unique keywords, see "Keyword Limitations" on page 398.

If your search rule contains more than one keyword:

- Include a space before and after each keyword so the system can identify the start and end of each keyword. You can change default delimiters by customizing the dictionary translation for the `W_DELIMITERS` token in the words dictionary. Use the `makeccutab` command and the `maketab` command to allow the system to recognize dictionary changes.

  Delimiters defined by `W_DELIMITERS` are used by the wire, seek, and keyword server programs to find the start and end of words in stories. These isolated words are matched with keywords from the search list. Definition of the delimiters is not related to the task of constructing search rules.

- Include the AND, OR, or NOT operator between two keywords:

  AND requires that a story contain multiple keywords. For instance, a rule like "drugs AND smuggling" finds only stories that contains *both* of these words.

  OR requires that a story have any of multiple keywords. For instance, a rule like "cnn OR panama" finds any story that contains *either* of these words.

  NOT specifies that a story must not contain the keyword following the operator. For instance, a rule like "drugs NOT pharmacy" finds any story that has the word "drugs" in it but does *not* contain the word "pharmacy."

Using Parentheses in Searches

Wire and keyword server programs evaluate a search rule from left to right. For instance, to find stories that contain either "air quality," "clean air," or "dirty air," create the following long search rule:

```
air AND quality OR air AND dirty OR air AND clean
```

Because these programs evaluate rules from left to right, they first see if a story contains both "air" and "quality." If a story does not contain both of these keywords, the program checks whether it contains both "air" and "dirty." If the story does not, the program checks whether the story contains both "air" and "clean."

Using parentheses, you can control how a program evaluates the rule. For instance, by rearranging the rule, we greatly simplify it:

```
air AND (quality OR dirty OR clean)
```

You can use as many sets of parentheses as necessary to have the program evaluate the search rule.

For instance, to create a search rule that finds any story that contains either the word "smog" or the words "air" and "quality," but not "pollen" or "airline," build a rule such as the following:

```
smog OR ((air AND quality) NOT (pollen OR airline))
```

After you add your search rules to the keyword story and save, the keyword checker examines your changes for errors. If there are no errors, it notifies any program that uses that keyword story of what you have done so the program can use your changes.

Tips on Building Search Rules

- Each keyword must be a single word; two words without an operator between them generate an error. For instance, you must use `space AND shuttle` rather than `space shuttle` to find stories about the space shuttle.
- Each search rule is contained in a paragraph and is limited to approximately 1000 characters or to the end of the paragraph, whichever is less. Searches are not case-sensitive, so you can use uppercase or lowercase letters.
- Be careful using keywords that form the first part of larger words. For instance, "air" finds stories that contain words like "airline" and "airports" as well as "air." To use a keyword like "air," include the NOT operator to exclude other words that begin with that keyword, such as NOT airline.

  However, wire and keyword server programs do not find keywords when they appear in the middle or at the end of a word. For instance, searching for "ports" does not locate stories that contain words like "airports" or "sports."

The success of your search depends on how well you design the search rules; they should be specific enough so programs that use them find only stories that relate to your topic.

Scanning stops either at the end of the story or after a maximum of 50 keywords are found. Then the search rules are used on the set of located keywords. The program abandons that rule set when it finds a search rule the story satisfies or when it exhausts all search rules in the rule set.

You can increase the efficiency of your searches by putting rules that are most likely to find stories at the top of each rule set. Put the least complex rules at the top.

User Notification

You can have the system notify you when a program finds a story that contains one of the keywords for which you are searching. Assign a group you are in to the notification group trait of the queue(s) where the program sends the stories. See "Notification Group" on page 176 for more information. Your system then notifies you every time the program places a story in one of these queues.

Removing a Rule Set

When a rule set becomes obsolete, remove it. Because a large number of keyword searches slows your system, removing unused rule sets helps maintain system efficiency.

If you are no longer using the rule set's destination queue, remove it. This frees up space in the database and helps keep it from being cluttered up with unused queues.

Sending a Story to More Than One Queue

Wire and keyword server programs check stories they process against each rule set in the keyword stories they use. When the program finds a match, it sends a copy of the story to the rule set's destination queue and continues searching, using the remaining rule sets. Only the first 50 words identified in the story will be used when checking the rule sets.

So, you can have a story copied to more than one destination queue by repeating the same search rule in different rule sets.

Default Directory Paths

You usually need the full pathname to specify each rule set's destination queue. You must do this for the program performing the search, to locate the destination queue.

Sometimes, all rule sets in a keyword story contain destination queues in the same directory. In this case, set a default directory path for the keyword story and then specify the destination queues by name rather than using the full pathnames.

To specify a default directory, enter the queue's default directory in the search job list entry that uses the keyword story. Follow the queue name that contains the keyword story with the default directory pathname.

Use this feature with group security. You can allow users to manage their own keyword searches but control where they send the stories.

The Keyword Mailbox

See "Changing Database Traits" on page 117 and "Reserved Mailboxes" on page 421 for more information.

Assign the reserved keyword mailbox to the queue `SYSTEM.WIRES.KEYWORDS`, which contains the search job list. Otherwise, your system cannot notify the keyword checker when you make changes to the search job list.

Always assign the keyword mailbox to queues that hold your keyword stories. If this reserved system mailbox is not assigned, your system cannot notify the keyword checker when you create new search rules or modify existing ones.

When you modify an existing search rule or create a new one, the keyword checker alerts programs that use that rule about the change. If the queue does not have the keyword mailbox assigned to it, the keyword checker cannot do this. Consequently, programs that use the search rule you created or modified will not know about your changes until you restart them.

Keyword Checker Messages

The following messages from the message dictionary may appear when you modify and save a keyword story:

```
Could not enter the queue  (M_BADQUEUE)
```

The specified destination is not accessible or an error occurred while creating or entering the queue.

```
Default keyword list must be last  (M_WNOTLAST)
```

Placing the default keyword list anywhere but at the bottom of the story will prevent those keyword lists that follow it from being used.

`Duplicate destination (M_DUPEDEST)`

The specified destination has already been used for another keyword list.

`Keyword too long (M_KWDLONG)`

Length of the keyword string is longer than maximum length allowed.

`Maximum file number bad (M_FILENUM)`

The number of keyword stories has exceeded the maximum allowed.

The `M_FILENUM` diagnostic is produced if there is anything other than a space, a five, or a twenty following the asterisk in the `* AP` line of the wire program's search job list. A sample of this job list is shown on page 395.

The `* AP` is equivalent to `*5 AP` meaning that you can have at most 5 queue names specified that will contain the search rules for the AP wire. Wires are limited to 250 unique keywords in the search rules. So you can have 5 stories with each story containing 50 unique keywords. If you have one story, it can contain 250. If you have 2 stories, each story can contain 125, and so forth.

Keyword servers are limited to 1000 unique keywords in the search rules. You can specify `*20 kwdserver1` to indicate that this keyword server may have as many as 20 queue names specified that will contain the search rules for it. The example on page 395 limits the list to 5 and therefore at most 250 unique keywords for `kwdserver1`.

`missing (M_MISSING)`

The keyword story does not understand the specified rule set. Either an operator is missing (AND, OR, or NOT) or an unmatched parenthesis exists.

`No destination found (M_NODEST)`

No destination is specified for a given rule set.

`Not a queue (M_NOTQUEUE)`

The specified destination is not a valid queue name. Check whether it is misspelled, or whether it is a directory.

`Queue is never purged (M_PURGEZERO)`

The specified destination queue is never purged, which means stories may accumulate in it and eventually cause a space problem in the database.

`Syntax error   (M_SYNERROR)`

The keyword checker does not understand the specified line. Check whether format of the line is correct.

`System error   (M_SYSERROR)`

A system error has occurred that caused the keyword checker to terminate.

`Too many expressions (M_EXPMAX)`

A single search rule is too complicated. It contains more than 500 words/operators.

`Too many keyword distribution files   (M_KWFMAX)`

The number of keyword distribution files exceeded the maximum allowed.

`Too many keywords   (M_KWDMAX)`

The total number of unique keywords processed by the keyword checker has exceeded the maximum allowed.

`Unexpected   (M_UNEXPCTD)`

The specified line has extra punctuation, such as an unmatched parenthesis. Ensure that parentheses appear only in pairs.

`UPDATE queue (M_UPDATEQ)`

The specified destination queue is an update queue. This means that each time a story is placed into the destination queue, the queue must be searched to determine if a copy of the story is already in the queue. This puts an unnecessary load on the system. Destination queues should not have the update trait.

Chapter 13

Servers

Do not confuse servers in this chapter with server hardware or file servers, which are computers with the iNEWS database and running the iNEWS application software. Those computers are referred to in this chapter as iNEWS Server, server A, server B, and so forth. This chapter explains setup and use of utility programs, also known as servers. There are various types of these server programs, which perform a multitude of tasks. This chapter contains the following information:

Major sections of this chapter are:

- Overview
- Adding a Server Program to the System
- Job Lists: Queues, Stories, and Commands
- Action Servers
- Distribution Servers
- Parallel Wire Servers
- Keyword Servers
- System Servers
    - Seek Servers & Fast Text Search (FTS) Servers
    - Print Servers
    - Mail Servers
- Monitor Servers
- Network iNEWS Systems Using Rx/Tx Links

Overview

Servers are utility programs, which automatically perform various actions on stories in the iNEWS database. Some are general purpose and do jobs you define; others are narrowly defined, needing no instruction from you. You can connect (network) server programs in separate systems together using rx/tx links.

These various types of server programs are explained in more detail in individual sections later in this chapter.

The types of servers available to you are:

- Action servers – general-purpose servers that move, duplicate, remove, or replace stories added to or edited in certain queues
- Distribution servers – distribute stories to different queues, based on each story's distribution code
- Parallel wire servers – allow you to have a wire distribution backup in case you have problems with the usual wire port
- Keyword servers – perform keyword searches on stories added to or modified in the designated queues and then copy or move results to a queue that you specify
- System servers include:
  - Seek servers - perform searches
  - Fast Text Search (FTS) servers - perform fast text searches and index stories in the FTS database
  - Print servers - format stories sent to printers
  - Mail servers - handle mail processing
- Monitor servers – check a show's event requests for errors, create composite and event lists, and send playlists to iNEWS ControlAir.

Although listed as a special device in the configuration file, txnets are very similar to servers in function and configuration. See "Network iNEWS Systems Using Rx/Tx Links" on page 528 for more information.

Adding a Server Program to the System

The overall process of creating a server is the same for all server utility programs.

Guidelines for adding a server to iNEWS are:

1. Check the configuration file (`/site/config`) and choose the next available device number for the server program, from the range of 3-digit numbers reserved for use by your system's server programs, such as 256 to 300.
2. Add the server program to the configuration file on each iNEWS Server—such as server A and server B—in your system.

Changing the configuration file requires the use of a line editor. See "Changing the Configuration File" on page 273 and Appendix H for more information.

   a. Select *all* iNEWS Servers. See "Selecting Servers" on page 33 for more information.

   b. Open and edit the configuration file, by typing (what appears in bold):

```
NRCS-A$ ed /site/config
1259
```

   c. Add the server program's device number to the `servers` line in the `host` section(s) of the configuration file for the iNEWS Server on which the server program will run. For instance:

```
servers 257 258 259 260
```

   The device number 260 is added to the `servers` line in this example.

   d. Add a configuration line for the server program. This line should contain the mailbox number assigned to the server program, when necessary.

Divide your server programs evenly among your iNEWS Servers to distribute the load they put on your system. Additionally, ensure that you modify the `servers` *line for alternate* `host` *definitions for your iNEWS Servers to include the server program's device number. This ensures the* *server program can run on the surviving computer should one of your iNEWS Servers stop functioning. See "Configuration File" on page 269 for more information.*

The format for server programs' configuration lines are:

```
server <device#> <type> <mailbox> <device name>
```

Parameter	Description
device #	The device number assigned to the server program. This 3-digit number must also be listed in the `servers` line in a `host` definition.
type	The type of server program, such as `action`, `distribution`, `parallel`, `keyword`, `seek`, `monitor`, `mailserver`, `printserver`, `ftsseek`, and `ftsindex`.
mailbox	The mailbox the server program uses. Valid standard mailbox numbers are 1 through 4096. This number typically matches the server program's device number. See "Using Mailboxes" on page 419 for more information.
device name	To give the server (utility program) a device name, enter that name here (up to 8 characters). If not, enter a hyphen.

Comments appearing after the semicolons (;) are optional.

The following are sample configuration lines for various server programs:

```
server   141  printserver  141  - ;slave printing
server   201  mailserver   201  - ;mailserver
server   211  keyword      211  keyword ;keyword svr
server   231  seek         231  - ;seek server
server   241  ftsindex     241  - ;fts indexing
server   242  ftsseek      242  - ;fts searches
server   251  action       251  - ;action svr
server   251  action       -    - ;timed-action svr
server   258  parallel     258  devname2
server   260  seek         260  seek ;seek server
server   271  monitor      271  - ;Morning show
```

Do not use an uppercase (W) in step 2e. See Appendix H for more information.

e. When you finish making changes to the configuration file, save your changes and exit the line editor by typing:

```
w
1279
q
```

Information pertaining to steps 3, 4, 5, and 6 vary depending on the type of server program. These steps are discribed in more detail in individual sections for each server program later in this chapter.

3. Create a job list queue in the System directory of the iNEWS database. See “Adding a Directory or Queue” on page 99 for more information. The name and location of the job list queue in the System directory varies, depending on the type of server program.

4. Create a job list story with defined tasks. See “Job Lists: Queues, Stories, and Commands” on page 412 for more information.

Check your job list before you save the story. When you start the server, it checks for syntax errors in time intervals, but does not catch errors such as misspelled queue names. You must make sure that everything is correct.

5. (Optional) Additional queues and stories may be required for some utility programs, such as distribution and parallel servers. See individual sections for each server program later in this chapter for more information.

6. Assign mailboxes to queues, if necessary. The queue's mailbox number should match the server program's mailbox number, which appears in its configuration line in the `/site/config` file.
7. (Optional) Test your configuration changes. See "Testing the Site Configuration File After Changing" on page 273 for more information.
8. Reconfigure the system. See "Incorporating Configuration Changes" on page 274 for more information. When adding server programs, you do not need to stop anything to reconfigure the system.
9. Start the server program using the following command format:

   ```
   restart <device#>
   ```

   For instance:

   ```
   NRCS-A$ restart 271
   ```
10. (Optional) Back up site files. See the *iNEWS Operations and Troubleshooting Manual* for more information.

Job Lists: Queues, Stories, and Commands

Server programs, such as action and distribution servers, require a job list queue to hold its job list story, a set of instructions telling the server program what you want it to do. Job lists for each action, distribution, parallel, and keyword server must be in its own job list queue in the `SYSTEM.CONFIGURE` directory. The job list story must be the first story in the appropriate queue. Also, the job list queue name must match the server's device number.

For instance, an action server with device number 257 would have a job list queue named 257 in the Configure folder of the System directory. The full pathname would be: `SYSTEM.CONFIGURE.257`. You may want to add a description of the server's function as part of its queue's name. Do this by using a hyphen, such as:

```
SYSTEM.CONFIGURE.257-DUP-TO-ARCHIVE.
```

Further examples are provided in procedures for adding various server programs in their corresponding sections later in this chapter. A complete list of job list commands is provide in Appendix A. See "Job List Commands" on page 627 for more information.

Defining Tasks for Servers

The job list story outlines *tasks* the server program is instructed to execute. There are two types of tasks: *mailbox tasks* or *timed-interval tasks*. Most servers execute mailbox tasks, while timed-interval tasks are executed by action servers and tx links.

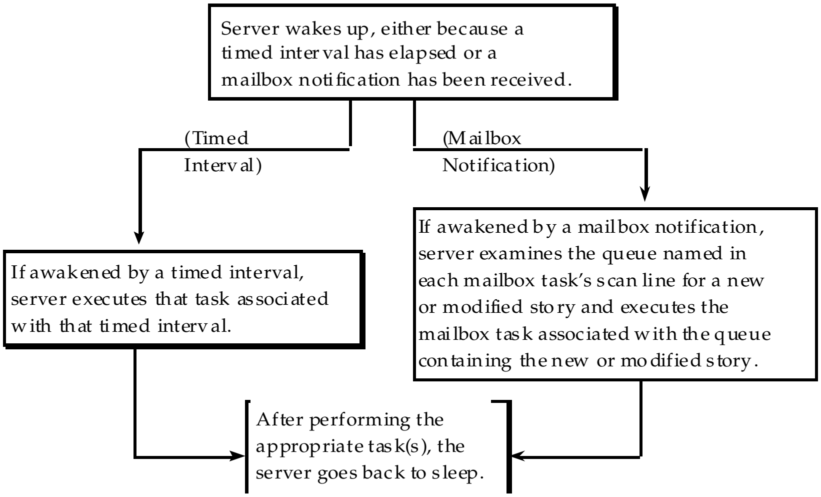
Both tasks must have a *scan line* that identifies the queue with which the task is associated. See “Adding a Scan Line in a Job List Story” on page 414 for more information. Follow this scan line with job list commands you want the server to execute if stories have been added to or modified in the task’s scan queue. These commands are the task’s *command set*. See “Defining a Server Command Set” on page 415 for more information.

Mailbox tasks are activities the server program is prompted to do whenever something happens to a queue or its contents. Timed-interval tasks are activities an action server or tx link is instructed to do at certain times.

The server program is inactive and said to be “asleep” until it is “awakened” to execute a job list, either when scheduled to (a timed-interval task) or when stories are added to or changed in a queue (mailbox task).

The difference between the two tasks is that a timed-interval task begins at specified time intervals and a mailbox task does not. Also, timed-interval tasks are only associated with action servers and tx links, while mailbox tasks are used by other utility programs.

The sequence of actions taken by an action server is shown in the following diagram.


Server wakes up, either because a timed interval has elapsed or a mailbox notification has been received.
(Timed Interval)
(Mailbox Notification)
If awakened by a timed interval, server executes that task associated with that timed interval.
If awakened by a mailbox notification, server examines the queue named in each mailbox task's scan line for a new or modified story and executes the mailbox task associated with the queue containing the new or modified story.
After performing the appropriate task(s), the server goes back to sleep.

Adding a Scan Line in a Job List Story

Both mailbox and timed-interval tasks must have a `scan` line that identifies the queue you want associated with the task. The server performs commands in the task's command set on any new or modified stories in this queue. A scan line must begin with the word `scan` followed by the full pathname of a queue you want the task to watch. The format is:

```
scan  <queue name> [all | priority | everyentry]
```

In a mailbox task, the `scan` line is the first line in the task. See "Defining Mailbox Tasks" on page 419 for more information. In a timed-interval task, the `scan` line follows the time interval commands. See "Defining Timed-Interval Tasks" on page 423 for more information.

A normal scan reads stories in its scan queue in chronological order, with the oldest first. To reverse this order, use `bscan` *instead of* `scan`*. Apart from this distinction,* `scan` *and* `bscan` *operate identically. Use* `bscan` *for long queues.A scan only processes modified stories, which are stories added to or edited in the queue. The* `everyentry` *option causes different behavior.*

If more than one queue is being scanned by a server, each scan only processes 10 stories at a time from a queue before going on to the next queue, unless the queue is designated as a priority queue or the all option is used. The all option overrides the 10 entry limit and will cause all entries in the queue to be processed before the server moves on to the next scan set. The all option differs from the priority queue because the scan queue does not preempt other scan sets and there is no limit to the number of scan sets with the all option specified.

Defining a Priority Queue

You can set up a scan queue as a priority queue for processing new stories. This means that the 10-story limit for scan does not apply to that queue; all new or modified entries in the queue are processed before the server moves on to the next queue. If the priority queue has no stories to process, the system will scan each of the queues in normal order, returning to the priority queue between each queue to check for new stories.

To designate a scan queue as a priority queue, add priority to the scan line after the queue's pathname. For instance:

```
scan SHOW.SCRIPTS.AM     priority
```

Defining an Every Entry Queue

The everyentry option forces the server to process each entry in a queue, not just modified entries.

To designate a scan queue as an every entry queue, add everyentry to the scan line after the queue's pathname. For instance:

```
scan SHOW.SCRIPTS.AM     everyentry
```

Defining a Server Command Set

Follow a task's scan line with a command set containing the commands that you want the server to perform on new or modified stories in the queue associated with that task. The set of commands that follow the scan line are known as a scan set.

A complete list of job list commands are provided in Appendix A. See “Job List Commands” on page 627 for more information. Also, see “Ordered Queues and the Order Command” on page 418.

Many servers have unique job list commands that only they can use. However, almost every server can use the following five commands.

`dup <destination queue name> [distribution code]`

Copies stories in the scan queue to a queue you specify, optionally including a distribution code. It must be followed by the name of a queue into which you want the server program to duplicate stories.

When a server, such as an action server, duplicates a story, it replaces any old version of the story in the destination queue with the updated version only when the update database trait is applied to the destination queue. When dup’ing, moving, or replacing a deleted queue entry, server programs will not issue notifications; however, an environment variable (`DELETE-NOTIFY`*) may be used to change this behavior.*

`replace <destination queue name>`

Updates a story in the destination queue only if the original is changed in the scan queue; it does not duplicate new stories from the scan queue into the destination queue. The original story must first be manually duplicated to the destination queue. Also, the destination queue must have the update database trait.

`move <destination queue name> [distribution code]`

Moves stories from the scan queue to a queue you specify, optionally adding a distribution code to them. It must be followed by the name of a queue into which you want the server to move stories and be the last instruction in a scan set.

For `dup`*,* `replace`*, and* `move`*, the destination queue name may be formatted using the* `strftime` *syntax to create names based on the current date and time. Use* `man strftime` *on the console to get a description. The queue will be automatically created if it doesn’t exist.*

`remove`

Deletes the story from a scan queue. It does not send stories to the Dead queue but deletes them immediately. It must be the last instruction in a scan set.

Do not include both the `remove` *and* `move` *command in a single scan set. The server program cannot do anything else to the story once it executes either one of these commands. Only one of these commands can appear in each scan set, and it must be at the end of the scan set.*

Here is an example of a command set that has an action server duplicate new or modified stories in `SHOW.SCRIPTS.AM` to `BACKUP.MORNING-SCRIPTS` and then remove them from `SHOW.SCRIPTS.AM`:

```
at 10:00
on mon tue wed thu fri
   scan show.scripts.am
   dup backup.morning-scripts
   remove
```

`number  <field name>  <length>  <error queue name>`

Places a unique number in a specified name of each scanned story when the story is moved or duplicated to a new location. The command should include the field name in which the number is placed, the length in digits of the number (from 1 to 5), and the name of an error queue where stories can be placed if the number cannot be inserted in their forms.

The error queue name may be formatted using the `strftime` *syntax and will be automatically created if it doesn't exist.*

Depending on how many digits you specify, the story number can range as high as 65535, at which point it resets and starts over at 1. The number is also reset to 1 each day at midnight. Specifying fewer digits results in the number rolling over at 9, 99, 999, or 9999. The number is reset at startup. The version of the story with the number in it does not replace the original story in the scan queue.

The numbered story is used for all operations in the scan set that follow the `number` command. So, if a `dup` comes before the `number` command in the scan set, the story duped is the story from the source queue. If a `move` or `dup` comes after the `number` command in the scan set, the numbered story is used for the `move`/`dup`.

Processing Deleted Stories

Ordinarily, servers process stories that are deleted from their scan queues. This counts as a modification. To override this function so that the server takes no action when a story is deleted, you can include the `ignore-del` command in the job list, preceding any scan lines that you want to ignore deleted stories.

To switch back to the default handling of deleted stories later in the job list, include the `send-del` command at that point.

Ordered Queues and the Order Command

Action servers and tx links can order queues by using the `order` command in the job list command set. When `dup`, `move`, or `replace` commands are specified while the order option is enforced, the destination queue will be ordered to mirror the scan queue. The `order` command can be turned on or off. The format is:

```
order [yes | no]
```

The `yes` option turns on the order command and the `no` option turns it off. The `order` command is reset (turned off) at the start of each new scan set within the job list story.

The `order` *command cannot be placed between* `open` *and* `put` *commands, which are used by tx links. Otherwise, it can appear anywhere within a scan set to control the ordering of queues. Both* `open` *and* `put` *commands can appear between* `order yes` *and* `order no` *commands*

Here is an example of the `order` command used in an action server's job list story:

```
scan        main.rundown.6pm all      ;all option on
            order                     ;order turned on
            dup slave1.rundown.6pm    ;will be ordered
            order no                  ;order turned off
            dup archive.rundown.6pm   ;not ordered
            order yes                 ;order turned on
            dup slave2.rundown.6pm    ;will be ordered
scan  main.rundown.11pm               ;all & order off
```

Defining Mailbox Tasks

For a server program to respond immediately to changes in a queue, you must set up mailbox tasks, by assigning the same mailbox number to the server and queue you want it to watch. Otherwise, the server will not know when changes are made to the queue.

As long as no stories are added to or changed in that queue, the server is inactive or “asleep.” However, when a story is modified in or added to that queue, the system wakes the server by notifying it through the mailbox. On notification, the server program checks its job list for mailbox tasks. For each mailbox task, it searches each scan queue to find modified stories and then executes the instructions in it and goes back to sleep.

A server places some additional load on your system when it wakes and executes a task. With mailbox tasks, you have no control over when the server wakes up. Use this kind of task only when the server must act as soon as a story is added to or modified in a particular queue.

In cases where the action can wait until a time when system use is light, use timed-interval tasks, following the instructions in “Defining Timed-Interval Tasks” on page 423.

All mailbox tasks must precede any timed-interval tasks in a job list. If a queue identified in a timed-interval task has the server’s mailbox assigned to it, the server is awakened when changes are made to the queue but the queue is not scanned. That queue is scanned only at the designated time. The server scans all mailbox task lists whenever it wakes up.

Using Mailboxes

The server program and the queue it watches must share the same mailbox. There are two kinds of mailboxes: reserved and standard.

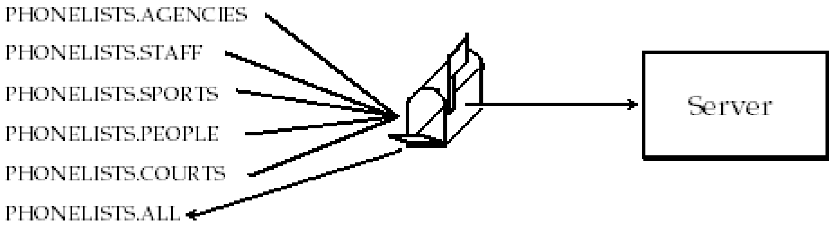
- *Reserved mailboxes* are used with special server programs reserved for system functions. See “Reserved Mailboxes” on page 421 for more information.

- *Standard mailboxes* are used by server programs you can configure, such as action servers. There are 4096 standard mailboxes available, numbered 1 through 4096. When you create a server, choose a mailbox number that is the same as the server's device number.

These mailboxes are not related to your system's electronic mail feature, but are activation mechanisms or "signal carriers" by which servers are notified to perform predefined tasks.

When the system detects that a story has been modified in or added to a queue, such as `PHONELISTS.PEOPLE`, it checks to see if a mailbox is assigned to the queue. If so, it notifies any utility program sharing that mailbox that a change has occurred in the queue. That message causes the utility program (in this case, an action server) to perform the task you have assigned to it, such as duplicate information from `PHONELISTS.PEOPLE` to `PHONELISTS.ALL`.

Several queues can be linked to a single server just by sharing the same mailbox number as the server program.



The following is an example of how the mailbox tasks would appear in the job list for the action server.

```
scan     phonelists.agencies
         dup phonelists.all
scan     phonelists.staff
         dup phonelists.all
scan     phonelists.sports
         dup phonelists.all
scan     phonelists.people
         dup phonelists.all
scan     phonelists.courts
         dup phonelists.all
```

Mailboxes are not limited to action servers, but can apply to other utility programs, such as distribution, parallel, or keyword servers. For instance, the `WIRES.ALL` queue can be assigned the same mailbox number as a distribution server, or you could set up a `WIRES.AP-SEARCH` queue in Wires with the same mailbox number as the keyword server.

The mailbox is an activation mechanism for a server program, so if a queue has a mailbox number matching a server program, then that server is the one activated or "awakened" whenever something happens to the queue.

Reserved Mailboxes

Reserved mailboxes are used only with servers reserved for your system to use. Each of these mailboxes links a specific system queue or directory to the server that watches that queue. Each queue that needs a reserved mailbox was assigned the correct one when your system was installed. The information presented here is intended to help you understand how your system uses these reserved mailboxes. Unlike standard mailboxes, reserved mailboxes are referred to by name, not by number. The name and purpose of each of the reserved mailboxes appears in the following table.

Mailbox	Purpose
All	Assigned to a queue used by your system to notify all users when an event occurs. The All mailbox should be assigned to the queue where urgent wire stories are sent.
Distribution *(dist)*	Assigned to the queue containing your system's distribution story for wires (usually `SYSTEM.WIRES.DISTRIBUTION`). This mailbox is used by the server program, known as the distribution checker.
Group *(grp)*	Assigned to the system's group queue (`SYSTEM.GROUPS`). This mailbox is used by the server program, known as the group checker, which checks your system's group description stories for errors.
Keyboard *(key)*	Assigned to the directory that contains your system's keyboard stories (usually `SYSTEM.KEYBOARDS`). This mailbox is used by the server program, known as keyboard checker, which checks your system's keyboard description stories for errors.

Mailbox	Purpose
Keyword *(kwd)*	Assigned to the queue with your system’s keyword stories (usually `SYSTEM.WIRES.KEYWORDS`). This mailbox is used by the server program, known as the keyword checker, which checks your system’s keyword stories for errors.

Assigning a Mailbox to a Queue

To set up a particular server, you must assign a standard mailbox for that server to associated queues.

To assign a mailbox to a queue:

1. Choose a mailbox number (1 through 4096). This number should match the server’s device number.

   a. Use the `list c` command at the console to ensure no other device is using the mailbox number you have chosen.

   For instance, to check mailbox 201, type:

   ```
   list mailbox=201 c
   ```

   Information similar to the following appears:

```
DEV  DEVICE_TYPE  COMPUTER  CCU   PRINTER  SPEED   OPTIONS  DEVNAME
```

   b. If you see the device configuration header (as shown in step 1a) with no information below it, then no device has that mailbox and you can use that number. However, if configuration information for a device appears below the header, that device has the same mailbox as the one you chose. Therefore, choose another mailbox number and repeat step 1a.

Multiple queues can share the same mailbox number. To list all queues and directories in the database with a certain mailbox, use this format of the `list d` *command:* `list  mail=<mailbox number>  d`

   c. Log in to iNEWS Workstation as system administrator.

   d. Assign the mailbox database trait to the queue.

Mailboxes are assigned to queues in the same way other database traits are—using the Queue Properties dialog box, as explained in Chapter 5. See “Changing Database Traits” on page 117, “Database Traits Summary” on page 120, and “Maintain Tab” on page 133 for more information.

Defining Timed-Interval Tasks

Timed-interval tasks allow you to specify what time you want an action to take place. For instance, you may want an action server to watch a queue but not do anything to the new or modified stories until a time when system use is light. Alternately, you may want an action server to monitor a queue and wait until everyone is done using that queue before performing some action on new or modified stories. Timed-interval tasks are also used with rundown mirroring. See “Mirroring Rundowns” on page 434 for more information.

In addition to action servers, timed-interval tasks are also associated with tx links. However, this type of task is not used by other server programs, like distribution and parallel servers. Unlike a mailbox task, a timed-interval task acts like an alarm clock and wakes the server at a time you specify. On waking, the server examines the queues associated with that timed-interval task. If there are any new or modified stories in these queues, the server executes the commands in the tasks.

All mailbox tasks must precede any timed-interval tasks in a job list. If a queue identified in a timed-interval task has the server’s mailbox assigned to it, the server is awakened when changes are made to the queue but the queue is not scanned. That queue is scanned only at the designated time. The server scans all mailbox task lists whenever it wakes up.

For instance, you may create a timed-interval task that wakes the server at 3 A.M. to look for scripts added to or modified in the `SCRIPTS.TODAY` queue in the last 24 hours. If the server finds any, you could instruct it to move them to `SCRIPTS.HOLDING`.

When you create a timed-interval task, you must begin it with the time interval in which you want it to execute. To create the time interval you want, use one or more of the following job list commands:

`at <hh:mm>`

Sets the time of day when you want the task to wake up the server. Set the time in hours and minutes using a 24-hour clock where 12 A.M. (midnight) is `00:00` and 12 P.M. (noon) is `12:00`.

For instance, `at 3:30` wakes the server at 3:30 in the morning. If the time is after midnight but before noon, you do not have to put a 0 in front of the hour.

`every <D.HH>`

`every` followed by a number of days and hours (in `D.HH` format) specifies an interval you want the task to follow when waking the server. For instance, `every 0.12` wakes the server every 12 hours.

`on <day> [<day>...]`

Names of the days of the week are defined in `/site/dict/words`.

Names the day or days on which you want the task to wake up the server. For instance, `on mon tue` wakes the server on Monday and Tuesday only.

You can combine these commands to create very specific time intervals. For instance, to create a timed-interval task that executes every weekday at 10 A.M., begin the task with the following time interval:

```
at 10:00
ON mon tue wed thu fri
```

Example of Timed-Interval Tasks

Here is an example of how an action server's job list uses timed-interval tasks to move old scripts out of each show's script queue after the show has aired:

1. Separate timed-interval tasks for each show wakes the server 15 minutes after the show has aired. Because the three shows are not aired on weekends, the timed-interval tasks wake the server only on weekdays.
2. The morning show ends at 8 A.M., so have the first timed-interval task wake the server at 8:15 A.M. and move the scripts in `SHOW.MORNING.SCRIPTS` to `SCRIPTS.TEMP-ARCHIVE`.

3. The noon show ends at 1 P.M., so have the second timed-interval task move the scripts in SHOW.NOON.SCRIPTS to SCRIPTS.TEMP-ARCHIVE at 1:15 P.M.
4. The evening show ends at 6 P.M., so have the third timed-interval task move the scripts in SHOW.EVENING.SCRIPTS to SCRIPTS.TEMP-ARCHIVE at 6:15 P.M.

Each timed-interval task must begin with a time interval indicating when you want it to wake the server. This is followed by a scan line identifying the queue you want the server to examine on that day and time. Finally, the scan line is followed by one or more tasks to be performed on stories in that queue at that time.

You can have multiple command sets controlled by a single timed-interval. In this example, the finished tasks look like this:

```
at 8:15
on mon tue wed thu fri
     scan show.morning.scripts
     move scripts.temp-archive
at 13:15
on mon tue wed thu fri
     scan show.noon.scripts
     move scripts.temp-archive
at 18:15
on mon tue wed thu fri
     scan show.evening.scripts
     move scripts.temp-archive
```

Action Servers

An action server is a general-purpose utility program that automatically performs specified routine tasks, such as moving or copying stories added to or edited in certain queues, according to a job list you define. One action server can perform multiple tasks not necessarily related to each other.

- Example: You want an action server to update a phone list. You have organized several queues as phone lists: `PHONELISTS.AGENCIES`, `PHONELISTS.COURTS`, `PHONELISTS.STAFF`, `PHONELISTS.SPORTS`, and `PHONELISTS.PEOPLE`. Additionally, you have created another queue as a master phone list, `PHONES.ALL`, that holds all numbers in the individual source phone queues. What you want the action server to do is have `PHONES.ALL` updated whenever anyone adds or changes a number in one of the source phone queues.
- Example: You also want the action server to make a daily archive of all the scripts used in your morning, noon, and evening news shows. After each show, you want to move scripts in that show's script queue to the queue `SCRIPTS.ARCHIVE-TEMP`. At the end of the day, you want to move everything in this queue to an archive queue named `SCRIPTS.MAY.01` on May 1, `SCRIPTS.MAY.02` on May 2, and so forth. You want the action server to automatically perform all of these activities for you, rather than having to do them manually.
- Example: You want to replicate data from a primary queue to a backup queue, including any story additions, deletions, modifications, and reordering, on the same system or through a tx link to another system's iNEWS Server or to an external third-party FTP server.

In the first bulleted example, mailbox tasks are required to achieve the desired results. The server shares the same mailbox of the queue(s). See a visual representation of how an action server uses mailbox tasks to maintain a master phone list on page 420.

In the second example, timed-interval tasks are needed. See "Example of Timed-Interval Tasks" on page 424 for another example of an action server using timed-interval tasks to archive scripts. A timed-interval action server operates on a queue at specified times without requiring a shared mailbox.

In the final example, polling is required for the rundown mirroring process. See "Mirroring Rundowns" on page 434 for more information.

Adding an Action Server

Action servers can perform multiple or single tasks. They can be time-related or respond to a system change. In this section, we will outline a procedure where we will create an action server that performs the following activities:

- Update the master phone list as soon as anyone makes a change to any of the source phone lists
- Move each show's scripts to `SCRIPTS.ARCHIVE-TEMP` at the end of the show

To add an action server to your system:

1. Choose a device number and mailbox number for the server which will also be used for associated queues.
2. Add the server (utility program) to the configuration file on each iNEWS Server—such as servers A and B—in your system. For instance:

   ```
   server 256 action 256 - ;action server
   ```

   Details for this step are provided in "Adding a Server Program to the System" on page 409.
3. Create a job list queue in the Configure folder of the System directory in the iNEWS database. The queue's name, such as 256, is the number selected in step 1. For instance, the full pathname is `SYSTEM.CONFIGURE.256`.

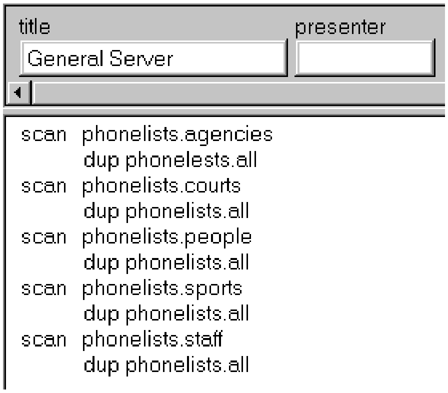
Since the action server has a number of tasks, you can end the name with a hyphen and a descriptive word, such as "general." The pathname would then look like: `SYSTEM.CONFIGURE.256-GENERAL`. *See "Creating a New Queue" on page 103 for more information.*

4. Create a job list story with tasks for the server.
   a. Open the job list queue, such as `SYSTEM.CONFIGURE.256`.
   b. Create a new story, the first in the job list queue, to hold the action server's job list. See "Creating a New Story" on page 106 for more information.

See “Defining Tasks for Servers” on page 413 and “Job List Commands” on page 627 for more information on tasks and job list commands.

c. Add tasks that you want the server to perform; mailbox tasks first, followed by timed-interval tasks. Ensure that each task in the job list story has a scan line identifying a queue to scan, followed by job list commands the server should execute if stories have been added to or modified in the task’s scan queue.

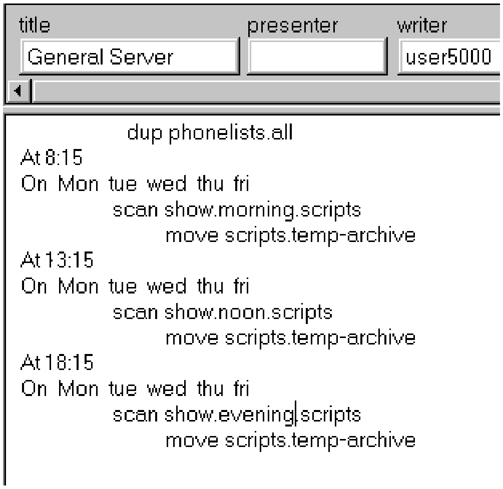
Here is a job list story with mailbox tasks:



title: General Server
presenter:

```
scan  phonelists.agencies
      dup phonelests.all
scan  phonelists.courts
      dup phonelists.all
scan  phonelists.people
      dup phonelists.all
scan  phonelists.sports
      dup phonelists.all
scan  phonelists.staff
      dup phonelists.all
```

Here is a job list story with timed-interval tasks added:



title: General Server
presenter:
writer: user5000

```
                dup phonelists.all
At 8:15
On Mon tue wed thu fri
              scan show.morning.scripts
                      move scripts.temp-archive
At 13:15
On Mon tue wed thu fri
              scan show.noon.scripts
                      move scripts.temp-archive
At 18:15
On Mon tue wed thu fri
              scan show.evening.scripts
                      move scripts.temp-archive
```

You can have one server watch many different queues by putting a separate task for each queue in the server’s job list. You can have one server perform several tasks or have separate servers perform each task, depending on the task. The number of jobs—a job is a scan plus the actions for that scan—for a mailbox activated server should be as small as *possible because a change in a single queue could cause the server to do a lot of work; when activated it will scan all queues in the job list, excluding timed actions.*

Ideally each queue should have a server, but because of system resource limitations, this organization is rarely possible. Group queues according to the rate they are generally updated (rarely, moderately, or frequently) and assign servers to the groups.

5. Assign mailbox database traits, using the number matching the mailbox assigned in step 2 on page 427 to the server in the configuration file, to the appropriate queues.
   a. Open the Queue Properties dialog box for a scan queue, such as `PHONELIST.AGENCIES`. See “Changing Database Traits” on page 117 for more information.
   b. Click on the Maintain tab. See “Maintain Tab” on page 133 for more information.
   c. Select the Standard radio button.
   d. Type in the mailbox number, such as `256`.
   e. Click OK to save changes.
6. Test your configuration changes. See “Testing the Site Configuration File After Changing” on page 273 for more information.
7. Reconfigure the system. See “Incorporating Configuration Changes” on page 274 for more information. When adding server programs, you do not need to stop anything to reconfigure the system.
8. Start the server program using the following command format:

   ```
   restart <device#>
   ```

   For instance:

   ```
   NRCS-A$ restart 256
   ```
9. (Optional) Back up site files.

Assigning Field Validation

See “Adding Rx/Tx Links” on page 531 for more information.

Validation is an option for use with action servers and tx links. With it, you can provide an action server or tx link with a list of acceptable values for certain fields. When the action server or tx link processes a story, it checks the contents of these fields to make sure each contains an entry you have defined as acceptable for that field.

If all fields that you want checked contain acceptable entries, the server or tx link continues to process the story according to the command set for the task it is executing. However, if one of the fields you want checked contains an invalid entry, the action server or tx link puts the story in an error queue and ignores the remaining commands in the task.

Background and Possible Uses of Validation

Validation is designed to help users attach accurate distribution codes to stories before sending them to a distribution server. See “Distribution Servers” on page 440 for more information. Part of its function is to combine entries in each field it checks into a distribution code. If all fields contain acceptable values, it attaches that code to the story. You can have the action server or tx link use a move or dup command to overwrite this code with another one.

See “Assigning Distribution Codes” on page 441 for more information.

This way, a user can put a code the user wants to attach to a story in one of the story’s fields. The user can send the story to an action server or tx link that is set up to check that field. If the field contains a valid distribution code, the action server or tx link attaches that code to the story and sends the story to a distribution server. Otherwise, it sends the story to an error queue and notifies the user of the error.

You can also use validation to allow people to enter different parts of a distribution code in different fields. If the action server or tx link determines that these fields contain acceptable values, it combines the contents of the fields into a distribution code, which it attaches to the story before sending it to a distribution server.

Though validation was designed primarily to help create accurate distribution codes, you can use it anywhere you need to have an action server or tx link verify the contents of one or more of a story’s fields before processing the story. For instance, you could use validation to have an action server check the created by and modified by fields in each story it processes to ensure that it accepts only stories created or modified by certain users.

It could also be used to rid the rundown of unwanted pages before archiving by searching for a specific string in a field and removing any stories with that string. Any stories the producer did not want or need to archive could be coded with that string and later stripped from the rundown by a timed-interval action server using validation.

Using Validation with Action Servers or Tx Links

You can use validation with an action server or a tx link. Adding validation to either uses the same process.

In the example, we set up the tx link to send stories marked with a distribution code that indicates whether they are news or sports stories and whether they are intended for television or radio. First, create a form that writers can use to mark stories as either news or sports stories and indicate whether they are intended for television or radio.

The writer indicates whether the story is for television or radio by typing either **`tv`** or **`radio`** in the TV/RADIO field. Likewise, the writer indicates whether the story is a news or sports story by typing either `news` or `sports` in the NEWS/SPORTS field.

The tx link that we set up checks each of these fields. If it determines that both contain valid entries, it combines the contents of these fields into a distribution code. Then it attaches that code to the story and sends the story to the affiliate.

Using the Validation Feature

To use the validation feature with a server, create a validation story that contains the instructions you want the server to use for validation. This story can be in any queue (such as `SYSTEM.VALIDATION`).

The validation story consists of one or more verification instructions. Each verification instruction identifies a field you want the server to check and specifies a list of values that field is allowed to contain. The format for a verification instruction is:

```
verify  <field name> <length>  [ignore]
<list of allowed values for the field>
```

1. Begin each verification instruction with the word `verify` followed by the name of the field you want to check. For instance, put `title` here to check a TITLE field.
2. Specify the number of characters you want to check in that field. For instance, to check three characters, type **`3`**. The server compares only the first three characters that appear in that field against the list of acceptable values for the field.

   This number also controls how many characters in a field are used in the distribution code. If you specify three, only the first three characters in the field are used. The server converts any space characters (trailing or embedded) to hyphens so that it can add them to the distribution code.
3. (Optional) Use the `ignore` validation story in an instruction to indicate, if the field is validated, the server should skip validation of the other fields and build the distribution code as if all fields contained acceptable values. If a preceding field failed validation, the story will be considered invalid.

   If the field fails verification, the server moves to the next field to be verified and does not consider the story to be invalid. You can use ignore only once in a validation story.
4. List the values you allow for the field. The value list must start on the line following the `verify` command.

   If you list more than one value, separate them with spaces. List as many values on as many lines as necessary. Include + and - characters to indicate ways in which you want the field to be checked.

   - A plus sign (+) means the field can be blank.
   - A minus sign (`-`) means the field can be any value except blank.

- A plus and minus sign (+ -)used together means that any value is acceptable for the field. This is not the same as using the ignore option on that field.

For clarity, provide more characters for each item in the list of acceptable values for a certain form than you have specified in the verify line. The server ignores the extra characters. You can list possible values along with the + - option, which tells the server to accept anything in that field as valid. Any values you list in addition are superfluous, but harmless.

Validation Job List Commands

An action server or tx link has a job list that contains a separate task for each queue you want it to watch. If you want an action server or a tx link to validate fields, you must put the appropriate validation commands in each task of the job list where you want it to check the fields.

The validate command must appear after the task's scan command Any commands that precede the validate command are processed before the validate command; therefore, those commands are not dependent on the outcome of the validation. There are two commands, ignore and quiet, that alter the behavior of the validate command. If present, they must preced the validate command to affect it.

```
quiet  no
ignore  yes
validate  <validation queue name> <error queue name>
```

These job list commands are described as follows:

```
quiet no
```

An action server or tx link that validates fields displays a message only if it encounters a field that does not contain an acceptable value. Otherwise, it processes the story. If you include the quiet no validation instruction in the task, the action server or tx link also displays a message indicating success whenever it successfully validates a story.

`ignore yes`

Occasionally, you may want to create a task that builds distribution codes from the contents of certain fields, but does not validate those fields. Include the ignore yes validation instruction in the task. Then, the action server or tx link accepts whatever appears in the fields you have it check.

`validate <validation queue name> <error queue name>`

The error queue name is subject to `strftime` formatting.

Include this instruction in the task for the action server or tx link to validate fields when it executes the task. This instruction must begin with the word `validate` followed by the queue containing the validation story that you want the server to use with that task. Then, list the error queue where you want the action server or tx link to place stories that it cannot validate.

If you use either `ignore yes` or `quiet no`, they must precede this instruction.

Mirroring Rundowns

Rundown mirroring takes what's written in a primary queue and copies it to a backup queue like a one-way mirror. All production activities—conducted only in the primary queue—including story additions, deletions, modifications, and reordering are replicated to the backup queue by a timed-interval action server configured for polling. Rundown mirroring is also available for tx links.

⚠ **Conducting production activities directly into the backup queue is not supported and may cause undesirable behavior. Avid suggests assigning a restricted write group, such as "nobody-writes" to all designated backup queues. This write group restriction will not prevent the timed action server from completing its polling and replicating tasks.**

Additional guidelines for mirroring rundowns:

Features	Primary Rundown	Backup Rundown
Story and Queue forms	Same as Backup	Same as Primary

Features	Primary Rundown	Backup Rundown
Mailbox number	Different that Backup	Different than Primary
	Rundown mirroring allows for two monitor servers to load data from identical rundowns to separate ControlAir Servers, possibly controlling separate video servers. For this to work, each rundown is linked to a separate monitor servers through different mailbox numbers.	
Purge interval	May have a zero purge interval to allow producers to manually delete the previous day's contents.	Must have a purge interval that ensures the previous day's contents are purged prior to production and rundown mirroring the next day.
Update trait	No update trait enabled.	Must have the update trait enabled.

Polling for Action Servers/Tx Links

Two job list commands, `poll` and `bpoll`, allow iNEWS to poll a local source queue for a specified duration of time at specified intervals. The source queue is scanned at every interval and stories with modified times greater than the time of the last scan are processed. Polling stops when the system time is greater than the time of the initial poll plus the polling duration. The `poll` command scans the queue in a forward direction, while `bpoll` scans the queue in a reverse direction. The syntax for both commands is as follows:

```
poll/bpoll <queue name> [<polling interval> [<polling
duration>]]
```

If the polling interval and/or polling duration are omitted, a single scan of the queue will be done. The syntax for the polling interval and polling duration is `hh:mm:ss`, `mm:ss`, or `ss`. For the `hh` value, the range is 0 to 23. For the values of `mm` and `ss`, the range is 0 to 59. Both commands are restricted to a timed action set. They are not available as mailbox triggered actions.

Configuring Rundown Mirroring

To configure rundown mirroring:

1. Determine what action servers are configured on your system and are available to be used for rundown mirroring. You can use the `grep` command to pull out all the lines from the `/site/config` file that have the word "action" in them:

   ```
   NRCS-A# grep action /site/config
   server  243  action     243  -    ;
   server  244  action     244  -    ;
   server  245  action     245  -    ;
   server  251  action     -    -    ; timed-action
   server  252  action     -    -    ; timed-action
   server  253  action     -    -    ; timed-action
   server  254  action     -    -    ; timed-action
   ```

   In the example above, seven action servers are outlined in the configuration file. Those numbered 251 - 254 have no mailbox assigned to them, having a dash in the fourth column. Normally action servers are linked via a shared mailbox number to a queue. But that is not necessary for timed-interval action servers. For the purposes of this procedure, 252 will be used.

2. Create a job list queue for the timed-action server in the `SYSTEM.CONFIGURE` directory. Its name must start with the number of the server, then a hyphen, then a descriptive name. For instance, any of the following would be valid queue names for an action server numbered 252.

   ```
   SYSTEM.CONFIGURE.252-ACTION
   SYSTEM.CONFIGURE.252-MIRRORING
   SYSTEM.CONFIGURE.252-10PM-NIGHTCAST-MIRROR
   SYSTEM.CONFIGURE.252-TIMED-ACTION
   ```

   Action server 252 will look for it's job list in the queue you create. The job list is a listing of commands the action server will perform. See “Creating a New Queue” on page 103 for more information.

3. Create a new story in the queue, if one does not exist, and start writing the job list. Here is a sample job list for action server 252:

```
at 20:30
poll SHOW.10PM-NIGHTCAST.RUNDOWN 00:00:05 3:30:00
order yes
dup SHOW-MIRROR.10PM-NIGHTCAST.RUNDOWN
```

Timed-interval action servers work off the iNEWS Server's clock. All times must be listed in 24 hour military time. So, 20:30 in the above example instructs the action server to begin at 8:30 PM.

The sample action server is instructed to poll the Nightcast rundown queue once every 5 seconds (`00:00:05`) for a total of three and a half hours (`3:30:00`) before automatically turning off at midnight (`20:30` start time + `3:30:00` duration).

You may use the `bpoll` command instead of `poll` to instruct the action server to begin the scan at the opposite end of the queue, in which case the second command line of the job list would appear as follows:

```
bpoll SHOW.10PM-NIGHTCAST.RUNDOWN 00:00:05 3:30:00
```

The `order yes` command ensures that re-ordering events in the polled queue get transmitted to the backup queue. Without this, the timed-interval action server would not pick up any reordering of the rundown by the producer. The primary rundown queue and the backup rundown queue would have the same stories, but they would not be in the same order after the sequence of stories was changed in the primary rundown. See “Ordered Queues and the Order Command” on page 418 for more information.

The `order yes` command is only relevant when polling to or from an iNEWS Server. It is not possible to "order" stories mirrored through a tx link to an external, third party FTP server.

Over-lapping Job Lists

Each joblist in a SYSTEM.CONFIGURE queue can have more than one polling instruction servicing more than one rundown. For example, the job list for timed-interval action server 252 may look like this:

```
at 09:30
poll SHOW.NOON.RUNDOWN 00:00:05 3:30:00
order yes
dup SHOW-MIRROR.NOON.RUNDOWN
;
at 15:30
poll SHOW.6PM.RUNDOWN 00:00:05 3:30:00
order yes
dup SHOW-MIRROR.6PM.RUNDOWN
;
at 20:30
poll SHOW.10PM-NIGHTCAST.RUNDOWN 00:00:05 3:30:00
order yes
dup SHOW.10PM-NIGHTCAST.RUNDOWN
```

The only restriction is that none of the polling actions in a job list for a single timed-interval action server can overlap. Since the Noon show begins at 09:30 and runs for three and a half hours, polling won't be done until 1 PM (or 13:00). So another show cannot be scheduled to start in this job list until after 1 PM.

If an overlap in polling is necessary, separate job lists for separate timed-interval action servers are required.

Polling Issues Related to Tx Links

Rundown mirroring may be used to poll rundown queues in an iNEWS system and replicate the data to another system's iNEWS Server or to a third-part FTP server. The guidelines for mirroring still apply, such as overlapping job list restrictions, purge intervals, and update traits. See the table on page 434 and "Over-lapping Job Lists" on page 438 for more information.

The follow are examples of job lists for rundown mirroring through a tx link:

```
at 15:55
poll SHOW.4PM.RUNDOWN 00:00:05 1:00:00
open myftpserver user3 html system.webforms.s.scripts
put /shows/4pm
```

The above example would begin polling the `SHOW.4PM.RUNDOWN` at 3:55 PM, at five-minute intervals for one hour, then open a connection to an external FTP server using the name, `user3`, and place stories in the `/shows/4pm` folder in HTML format based on the HTML skeleton outlined in the `SYSTEM.WEBFORMS.S.SCRIPTS` queue. See "Web Publishing" on page 542 for more information.

FTP servers do not order stories, so that command line is not valid. Also, the username in the job list (user3, in the above example) must exist as an account in the iNEWS database and on the external FTP server. It must have the same password on both systems, and have proper permissions on the FTP server to create and overwrite files. If the user account is only used for tx links, it may be blacklisted on the iNEWS Server to prevent it being used for actual logins.

```
at 15:55
poll SHOW.4PM.RUNDOWN 00:00:05 2:00:00
order yes
open AVID-A transmituser nsml
put SHOWS.MADISON.4PM.RUNDOWN
```

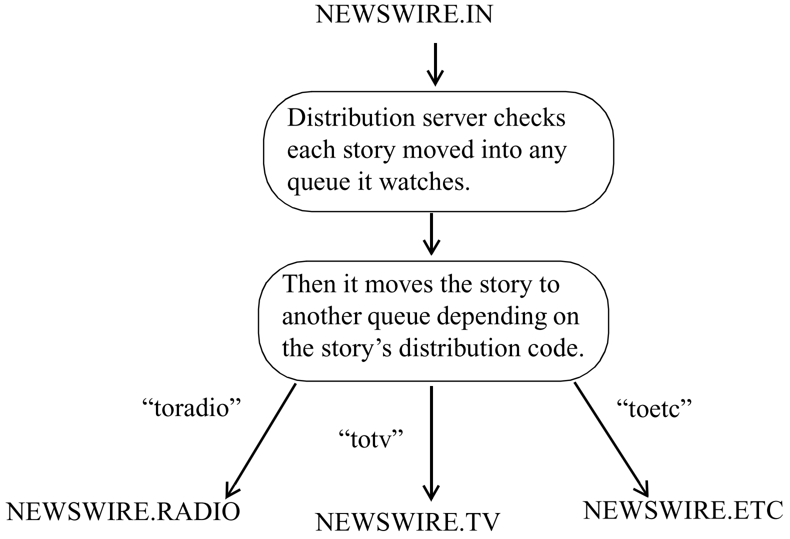
News Story Markup Language (NSML) is the default format for transmitting to iNEWS Servers, so the `nsml` *on the* `open` *command line is optional. Also, the pathname for the* `put` *command line uses periods (.) when transmitting between iNEWS systems, unlike the slashes (/) used when transferring to an FTP server.*

Distribution Servers

A distribution server is used to route stories based on their distribution codes. *Distribution codes* are text strings of up to 32 characters which you can assign to your stories. A distribution code that is longer than 32 characters is truncated to 32 characters before being assigned to the story. When you assign a distribution code to a story, you overwrite any distribution code that story may already have.

Distribution servers are usually used by large stations or networks who write their own wire stories and send them to their affiliates. By attaching distribution codes to these stories, their affiliates can distribute the stories to appropriate queues.

Distribution servers can also monitor a queue. When a new story is added to a queue, the distribution server will move the story to another queue based on the distribution code and instructions you assign.


NEWSWIRE.IN
Distribution server checks each story moved into any queue it watches.
Then it moves the story to another queue depending on the story’s distribution code.
“toradio”
“totv”
“toetc”
NEWSWIRE.RADIO
NEWSWIRE.TV
NEWSWIRE.ETC

Also, distribution instructions in a distribution story can use the same `always`, `silent`, `urgent`, `flash`, and `bulletin` options that wire service distribution instructions use. These options must appear at the end of the distribution instruction if you use them.

A distribution server is different from an action server in that it will always remove each story from the source queue after distributing it. An action server depends on the `move` *and* `remove` *commands.*

Assigning Distribution Codes

To create a distribution instruction that matches more than one distribution code, use a wildcard. A wildcard is a special character (a pound sign (#) in this case) that matches any character.

For instance, the following distribution instruction tells the distribution server to match all code that begin with “tv” and send the story to `INEWSWIRE.TVNEWS`:

```
tv#     inewswire.tvnews
```

When the wildcard character is placed at the end of the pattern, the distribution server interprets it as an instruction to match all remaining characters. If it occurs anywhere else in the pattern, the distribution server matches only characters that occur in that position.

- `tv#` – matches anything that begins with tv
- `AP#a` – matches any code that begins with AP and contains the letter `a` in the fourth position.

When the distribution server is trying to match a story’s code to an instruction line, it stops at the first line that matches. It then looks for only those lines in the story that have a pattern exactly like that line.

Suppose you have the following two instructions, and the distribution server is trying to match a story with distribution code `tvsports`.

```
tv#        inewswire.all
tvsports   inewswire.tvsports
```

The distribution server matches the first instruction that contains the pattern `tv#`, and then it looks for any other line that also contains the pattern `tv#`. In this case, there is no such line, so it sends the story to `INEWSWIRE.ALL` and not to `INEWSWIRE.TVSPORTS`.

If you use just a wildcard character as a distribution code, that instruction should come at the end of the job list story. For instance, to create an instruction that handles all stories with distribution codes that do not match any other distribution instructions. After the server matches a wildcard only, it stops looking for additional matches for the story.

Using Wildcards and the Destination Queue

You can also use a wildcard as a part of a distribution instruction's destination queue. Whenever the distribution server uses that instruction line, it replaces the wildcard with the distribution code attached to the story it is processing.

For instance, suppose that your distribution story has the following instruction line:

```
tvnews    inewswire.#
```

In this case, whenever it processes a story with the distribution code tvnews, it uses this line. In doing so, it uses the story's distribution code in place of the wildcard in the destination queue and distributes stories with the distribution code tvnews to `INEWSWIRE.TVNEWS`.

This is most useful when you also use a wildcard in the instruction's distribution code. You can create an instruction that handles stories with several different distribution codes.

For instance, suppose you want your distribution server to send stories with the distribution code `tvnews` to `INEWSWIRE.TVNEWS` and stories with the distribution code `tvsports` to `INEWSWIRE.TVSPORTS`. You can do this with a single instruction if you use a wildcard in the instruction's distribution code and destination queue:

```
tv# inewswire.#
```

This instruction causes the server to copy each story with the distribution code `tvnews` to `INEWSWIRE.TVNEWS`. Likewise, it causes the distribution server to copy each story with the distribution code `tvsports` to `INEWSWIRE.TVSPORTS`.

If you try this, ensure that what gets substituted into the wildcard portion of the destination queue forms the pathname of an existing queue. Otherwise, the server cannot copy stories to that queue and sends them to `SYSTEM.UNKNOWN`*, or the default error queue you named.*

From the Command Line

When moving or dup'ing stories from a session on an iNEWS Workstation, you can use the `move` and `dup` commands to attach a distribution code to a story. If people on your system use these commands frequently to attach distribution codes to stories, you can publish the codes that you want them to use.

Using an Action Server or Tx Link

Tx links are explained in "Network iNEWS Systems Using Rx/Tx Links" on page 528.

You can attach distribution codes to stories that you send to a distribution sever using an action server or a tx link. There are two ways to use action servers and tx links to do this.

- Dup or Move commands
- Validate commands

Using Dup or Move Commands in Job Lists

You can use the `move` and `dup` commands in action server and tx link job lists to attach distribution codes to the stories those servers process. For instance, the following job list shows how you may have an action server attach a distribution code to any story added to `TVNEWS.OUT`:

```
scan tvnews.out
   dup inewswire.send tvnews
```

The job list tells the server to attach the code `tvnews` to each story it handles and then copy the story to `INEWSWIRE.SEND`.

Use this method to automatically assign a particular distribution code to every story added to a particular queue. If you need more flexibility in how the server assigns codes, see "Assigning Distribution Codes" on page 441.

Using Validate Commands in Job Lists

Action servers and tx links support a feature called *validation*. This feature allows you to have an action server or tx link extract a distribution code from a story's form and check whether it is a valid code. If the code is valid, the server attaches it to the story and sends the story to the distribution server. If the code is invalid, the server puts the story in an error queue and notifies the user. Validation is covered in more detail in "Assigning Field Validation" on page 430.

Instructions in the Wire Distribution Story

A wire program relies on instructions in the wire distribution story to determine what to do with each story it receives. This allows the wire program to use each story's wire service code to determine where to send the story.

Each wire program can have no more than 150 distribution instructions. If you need to handle more than 150 codes from a particular wire service, you can use a distribution server to get around this limit.

Add special distribution instructions to the wire distribution story. These instructions cause the wire program to look for stories with the wire service codes that you want the distribution server to handle. The wire program assigns each story a distribution code that matches their wire service code and sends them to the distribution server's source queue.

Those instructions should match the following format. They should begin with a wire service code that you want the distribution server to handle. Follow the code with the distribution server's source queue. You must follow the destination queue with the `TRANSMIT` option:

```
<wire service code> <destination queue name> TRANSMIT
```

When a story comes in with that wire service code, the wire program gives the story a distribution code that matches its wire service code. Then the wire program sends the story to the destination queue specified in the instruction.

You can use options such as ALWAYS, SILENT, and URGENT with the TRANSMIT option. A distribution instruction that assigns stories distribution codes matching their wire service codes does not have to send those stories directly to a distribution server. The instruction can send them to an intermediate queue and then an action server can send them to the distribution server.

Matching and Case

When using two or more distribution instructions that begin with the same code, you must enter the codes in the same case. If you do not, the distribution server does not execute all the instructions when it receives a story with that distribution code.

When a distribution server processes a story, it begins by checking whether the first instruction in its distribution story matches the story's distribution code. If not, the server checks the second instruction, and then the third, and so on, until it finds one that matches the story's distribution code.

When it finds a match, it sends the story to the queue specified in that instruction. Then the distribution server does a case-sensitive search on the remaining instructions in the distribution story to see whether any use exactly the same distribution code (that is, the same code entered in the same case) as the instruction that it has matched. If any instructions match, the server sends the story to the queues specified in those instructions as well.

For instance, if a distribution server successfully matches an instruction with a distribution code of `tvnews`, it looks for other instructions that also begin with `tvnews` and sends the story to the queues specified in those instructions. It ignores instructions that have that code in a different case, such as `TvNews` or `TVnews`.

Matching and Order

The order of instructions is important, especially when you have a distribution code that also forms the beginning of another distribution code, such as `tv` and `tvnews`. In this case, you need to make sure that instructions that use the longer code appear before those that use the shorter code.

When the distribution server attempts to match an instruction's code to a story's distribution code, it considers that it has a match if the instruction's code matches some initial portion of the story's distribution code. For instance, the distribution server would match an instruction for code `tv` to a story with distribution code `tvnews`.

After the distribution server has matched an instruction code to the story, it stops trying to match additional instructions to the story. Instead, it looks for other instructions that have the same code as the story that it has matched. It never matches the instructions with the longer codes.

If you had a distribution story with the following instructions in the order shown below, and if you were to send a story with distribution code `tvnews` to this distribution server, the distribution server would match the first instruction in the distribution story but would never execute the second:

```
tv          newswire.tv
tvnews      newswire.tvnews
```

In this example, the server always matches the first instruction to any story that has a distribution code that begins with `tv`. Then it looks for other instructions that have `tv` as their code. It never executes the instruction that has the code `tvnews`. Always arrange such instructions so that those with longer codes come before those with shorter codes. That way, only stories with the distribution code `tvnews` (or longer) match the first line. Stories with the code `tv` fall through the first line and match the instruction in the second line.

Adding a Distribution Server

To set up a distribution server to watch a queue and distribute stories placed in a queue:

Details for steps 1 and 2 are provided in "Adding a Server Program to the System" on page 409.

1. Choose a device and mailbox number for the server that will also be used for associated queues.
2. Add the server (utility program) to the configuration file on each iNEWS Server—such as servers A and B—in your system.
   For instance:
   ```
   server 257 distribution 257 - ;distribution server
   ```

3. Create a job list queue in the Configure folder of the System directory in the iNEWS database. The queue's name, such as `257`, is the number selected in step 1. For instance, the queue's full pathname is `SYSTEM.CONFIGURE.257`.

You can end the name with a hyphen and descriptive word, such as "distribution." The queue's full pathname would then look like: `SYSTEM.CONFIGURE.257-DISTRIBUTION`. *See "Creating a New Queue" on page 103 for more information.*

4. Create a job list story for the server, by doing the following.
   a. Open the job list queue, such as `SYSTEM.CONFIGURE.257`.
   b. Create a new story, the first in the job list queue, to hold the distribution server's job list. See "Creating a New Story" on page 106 for more information.
5. Add tasks that you want the distribution server to perform; include a separate task for each queue the server watches. Each task in the job list story consists of two lines with the following format:

```
source  <queue scanned by server>
distribution <distribution queue> [<error queue>]
```

`source`

Identifies which queue the distribution server should scan. This job list command is the same as the scan command, used by action servers. The queue is known as both the scan queue and source queue.

If you do not specify an error queue, the distribution server sends any such stories to `SYSTEM.UNKNOWN`.

`distribution`

Specifies the queue containing the distribution story and, optionally, an error queue for stories whose distribution codes cannot be processed.

For instance, the job list story may appear like this:

```
source newswire.in
distribution system.distribution.257 newswire.error
```

Unlike action servers where the scan queue identifier (scan line), tasks, and commands (instructions) are located altogether in the job list story, a distribution server separates the instructions (except for the distribution command), placing them in another queue and story, called the distribution queue and distribution story, respectively. The distribution queue is typically given the same numerical name as its corresponding job list queue and is located in the `SYSTEM.DISTRIBUTION` *directory.*

6. Create the distribution queue and story, by doing the following:

   a. Navigate to `SYSTEM.DISTRIBUTION`. (If this directory does not exist, create it. See “Creating a New Directory” on page 101 for more information.)

   b. Create a new queue, giving it the same numerical name as the job list queue for the distribution server, such as `257`. The full pathname for the new queue would be `SYSTEM.DISTRIBUTION.257`. See “Creating a New Queue” on page 103 for more information.

   c. Open the new queue and create the distribution story.

   Each instruction in the distribution story is one line long and has the following format:

```
<distribution code> <destination queue> [<options>]
```

   For instance, suppose we know that some stories sent to our distribution server have `tvnews` as their distribution code and others have `tvsports`. We want the distribution server to send stories with the `tvnews` code to `INEWSWIRE.TVNEWS` and those with tvsports to `INEWSWIRE.TVSPORTS`.

   In this case, you would type the following two instructions in the distribution story:

```
tvnews inewswire.tvnews
tvsports inewswire.tvsports
```

   If you want to send stories that have a certain distribution code to more than one queue, follow this example:

```
tvnews inewswire.news
tvnews inewswire.all
tvsports inewswire.sports
tvsports inewswire.all
```

The choices for the options parameter are: ALWAYS, BULLETIN, FLASH, MAIL, SILENT, and URGENT.

7. Assign mailbox database traits, using the number matching the mailbox assigned in step 2 on page 446 to the server in the configuration file, to the appropriate source queue(s), as identified in step 5. For instance, the job list queue is named 257, so that is the standard mailbox number assigned to queues identified in the job list associated with the distribution server.

   a. Open the Queue Properties dialog box for a scan queue, such as NEWSWIRE.IN. See "Changing Database Traits" on page 117 for more information.

   b. Click on the Maintain tab. See "Maintain Tab" on page 133 for more information.

   c. Select the Standard radio button.

   d. Type in the mailbox number, such as 257.

   e. Click OK to save changes.

8. Repeat step 7 as needed for each source queue in the job list.

9. (Optional) Test your configuration changes. See "Testing the Site Configuration File After Changing" on page 273 for more information.

Details for steps 10-12 are provided in "Adding a Server Program to the System" on page 409.

10. Reconfigure the system.

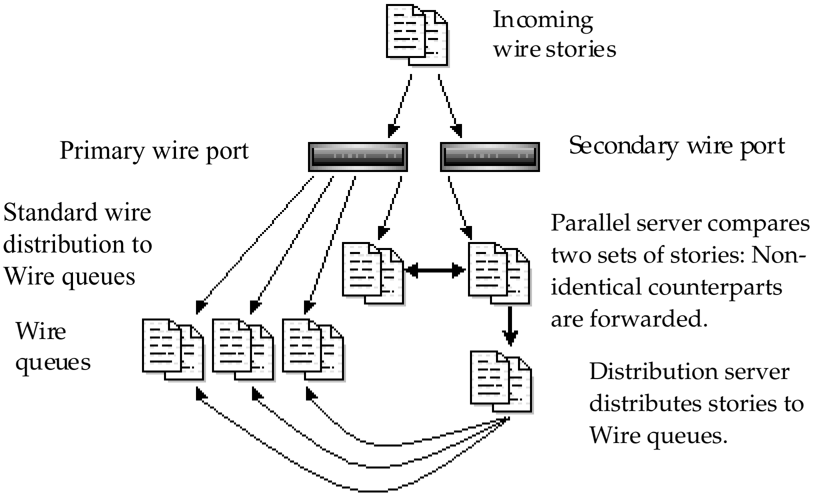
11. Start the distribution server. For instance, to start a distribution server with device number 257, type:

```
restart 257
```

12. (Optional) Back up site files using sitedump command.

Parallel Wire Servers

Another use for a distribution server is to help provide backup wire distribution in case the usual wire distribution fails—if, for instance, the PCU port receiving the wire goes down. This is accomplished by a distribution server working in tandem with a parallel wire server.


Incoming wire stories
Primary wire port
Secondary wire port
Standard wire distribution to Wire queues
Parallel server compares two sets of stories: Non-identical counterparts are forwarded.
Wire queues
Distribution server distributes stories to Wire queues.

A parallel wire server works as follows:

The PCUs mentioned her may be rack-mounted PCUs or PC-PCUs. Wire service ingest may also involve the Avid Data Receiver rather than PCUs.

- The same wire service is received through two different PCU ports: preferably on two different PCUs on two different iNEWS Servers. One of these ports uses the standard wire distribution feature, with a line added to distribute its wires to the parallel wire server. The second port uses one line in the distribution story, which routes its wire stories to the parallel wire server.
- The parallel wire server checks to make sure that each story received from the secondary wire has a counterpart from the primary port. If a secondary wire story cannot be matched, it is passed on to a distribution server. No action is taken on unmatched primary wire stories, since they were already distributed normally.
- If the primary wire port fails, each secondary story your system receives lacks a corresponding primary story, so the parallel wire server passes each one to a distribution server. This server uses a

distribution story nearly identical to the wire distribution story, so stories are routed to the same queues as with standard wire distribution. Wire reception thus appears normal to users.

Although using two PCU ports for the same wire may seem like a waste of a port, this redundancy can be a lifesaver in the long run. However, a parallel wire server is useful only for problems within the system such as a PCU port or computer problem. If the reception problem is in phone lines, satellite antenna, or the wire service distribution box, receiving wire stories on two PCU ports does not help.

Database Components for Backup Wire Distribution

Only one set of parallel and distribution servers are necessary, even if you are providing backup for up to ten wires. For backup wire distribution to work, distribution and parallel servers require certain database components, which are:

- A pair of scan queues to hold incoming wire stories for comparison by the parallel server—typically `SYSTEM.PARALLEL.A1` and `SYSTEM.PARALLEL.A2`.
- A queue where the parallel server forwards unmatched stories for the distribution server to scan—typically `SYSTEM.PARALLEL.WIRES`
- A queue containing the wire distribution story for the distribution server, should it need to take over wire distribution—typically `SYSTEM.PARALLEL.DISTRIBUTION`
- Queues containing job lists used by the parallel and distribution servers located in the `SYSTEM.CONFIGURE` directory.

Adding a Parallel Wire Server

A parallel wire server monitors two wire inputs of the same wire on different PCUs. If the primary source fails, the system will obtain stories from the secondary. For your parallel wire server to be truly redundant, each wire of the parallel server must be connected to an independent source of the incoming service.

Here, we assume that your site requires continuous reception of the AP wire, so we set up two wire inputs and a parallel wire server to receive stories from that wire service.

To add a parallel wire server to the iNEWS system:

Details for steps 1 and 2 are provided in "Adding a Server Program to the System" on page 409.

1. Choose a device and mailbox number for the parallel server which will also be used for associated queues.
2. Add the server program (`server` line) to the configuration file on each iNEWS Server—such as servers A and B—in your system. For instance:

   ```
   server 258 parallel 258 - ;parallel server
   ```

   However, additional editing of the configuration file (`/site/config`) is required for parallel servers.

   a. You must determine which PCU port is free for use as the second wire port. If your main AP wire is on port 4 of PCU 10, it would probably look like this in the configuration file:

   ```
   wire 14 1200 anpa7 AP - ;AP wire
   ```

   Wires using the anpa7 program to interpret incoming stories, such as AP, restrict device names to two characters. `A1` and `A2` are used in this procedure.

   Change the device name `AP` to `A1` to avoid name duplication, and change the comment field at the end of the line to help identify it as the primary wire port. It should look similar to this:

   ```
   wire 14 1200 anpa7 A1 - ;primary AP wire
   ```

   See "PCU Device Numbering" on page 290 for more information.

   b. Choose an unused port on a different PCU running on a different iNEWS Server for the secondary wire feed. For instance, if PCU 10 (with its AP wire on port 4) is running on server A, you should select a PCU running on server B, such as PCU 20. If port 6 is available on PCU 20, the server program's device number, 26, is added to PCU 20's configuration line:

   ```
   pcu 20 pcu20 pc 21 22 23 24 25 26
   ```

   c. Then, the secondary wire line is added, which should look like this:

   ```
   wire 26 1200 anpa7 A2 - ;secondary AP wire
   ```

d. Save the configuration file according to step 2e of “Adding a Server Program to the System” on page 409.

Do not reconfigure or restart the wire programs yet. They do not match the codes in `SYSTEM.WIRES.DISTRIBUTION`*, so all wires would be sent to* `WIRES.UNKNOWN`.

3. Log in to an iNEWS Workstation. (You must create several queues and stories, as well as modify some that may already exist.)
4. Create a folder (directory) called Parallel in the System directory. The full pathname for this folder is `SYSTEM.PARALLEL`. See “Creating a New Directory” on page 101 for more information.
5. In `SYSTEM.PARALLEL`, create four new queues, giving them the following names: A1, A2, Wires, Distribution. The full pathnames for these queues will be:

```
SYSTEM.PARALLEL.A1
SYSTEM.PARALLEL.A2
SYSTEM.PARALLEL.WIRES
SYSTEM.PARALLEL.DISTRIBUTION
```

   See “Database Components for Backup Wire Distribution” on page 451 for more information on the purpose for each of these queues. Also, see “Creating a New Queue” on page 103 for information on how to create a queue.

When wires are being distributed normally, the parallel server immediately removes matching stories from A1 and A2 queues, so purging the queues is not necessary. If the primary or secondary wire input stops reaching the A1 or A2 queue, automatic removal of stories from either queue stops. If the parallel server (or the iNEWS Server it is on) dies, both queues continue to fill up until you run out of space. Finally, if the distribution server dies, `SYSTEM.PARALLEL.WIRES` *fills up. To prevent these problems, set a short purge interval (less than six hours) for these three queues: A1, A2, and Wires. See “Choosing Queues to be Purged” on page 136 for more information.*

6. Assign mailbox database traits to three of the new queues, according to the following criteria:

- SYSTEM.PARALLEL.A1 – shares same mailbox number as parallel server, such as 258
- SYSTEM.PARALLEL.A2 – shares same mailbox number as parallel server, such as 258
- SYSTEM.PARALLEL.WIRES – shares same mailbox number as distribution server, such as 257

  Mailbox numbers must match the server's mailbox number, as indicated in the configuration file. Otherwise, changes in the queue will not activate the correct server program. To assign the mailbox database trait to a queue, do the following:

  a. Open the Queue Properties dialog box for a queue, such as SYSTEM.PARALLEL.A1. See "Changing Database Traits" on page 117 for more information.

  b. Click on the Maintain tab. See "Maintain Tab" on page 133 for more information.

  c. Select the Standard radio button.

  d. Type in the mailbox number, such as 258.

  e. Click OK to save changes.

  f. Repeat steps a-e until queues have assigned mailboxes.

7. Create the parallel server's job list queue in the SYSTEM.CONFIGURE directory in the iNEWS database. The queue's name, such as 258, is the number selected for the parallel server in step 1. The queue's full pathname is SYSTEM.CONFIGURE.258.

You can end the name with a hyphen and descriptive word, such as "parallel." The queue's full pathname would then look like: SYSTEM.CONFIGURE.258-PARALLEL.

8. Create a job list story with tasks for the parallel server.

   a. Open the job list queue, such as SYSTEM.CONFIGURE.258.

   b. Create a new story—the first in the job list queue—to hold the parallel server's job list. See "Creating a New Story" on page 106 for more information.

c. Add tasks that you want the parallel server to perform. Each task in the job list story consists of three lines, in the following format:

```
local <queue scanned by server>
remote <queue scanned by server>
distribution <destination queue>
```

The commands, local and remote, do not describe actual queue locations; both queues are on the same system.

`local`

Identifies which queue contains wire stories forwarded to the parallel server through normal wire distribution. This job list command is similar to the scan command, used by action servers. The parallel server will scan the local queue and compare its contents to those in the remote queue.

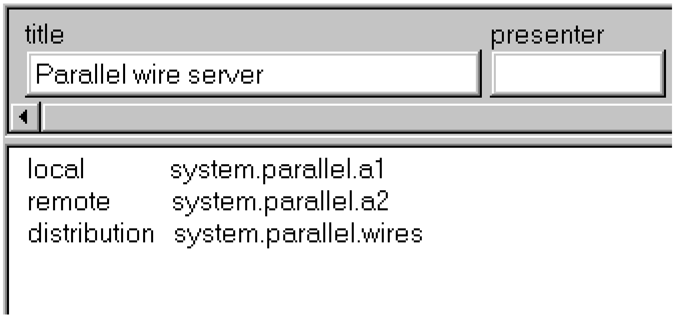
`remote`

Identifies which queue contains the wire stories received through the secondary wire port. This job list command is similar to the scan command, used by action servers. The parallel server will scan the remote queue and compare its contents to those in the local queue.

`distribution`

Specifies the destination queue where the parallel server forwards unmatched stories from the remote queue—the source queue scanned by the distribution server.

For instance, the job list story may appear like this:



title: Parallel wire server

presenter:

```
local        system.parallel.a1
remote       system.parallel.a2
distribution system.parallel.wires
```

If the distribution server has not been set up, you must create it as well as its job list queue and story. See "Adding a Distribution Server" on page 446 for more information.

9. Modify the distribution server's job list story.

   For instance, go to SYSTEM.CONFIGURE.257-DISTRIBUTION and add the following lines to its job list story:

   ```
   source    system.parallel.wires
   distribution  system.parallel.distribution
   ```

10. Since you want the distribution server to distribute stories in the same way as standard wire distribution, copy the system's wire distribution story (in SYSTEM.WIRES.DISTRIBUTION) to the SYSTEM.PARALLEL.DISTRIBUTION queue.

Your system's wire distribution queue and story were included when your system was installed.

   a. Open the first story in SYSTEM.WIRES.DISTRIBUTION.

   b. Select Edit > Copy To.

   c. Enter SYSTEM.PARALLEL.DISTRIBUTION, the destination queue.

11. Back up the original wire distribution story in the SYSTEM.WIRES.DISTRIBUTION queue by making a copy of the story in that queue.

12. Return to SYSTEM.WIRES.DISTRIBUTION to make the following modifications:

   a. Modify the bottom story (Leave the top copy unchanged, for now) so your system's wire distribution sends a copy of every incoming wire story to the two queues scanned by the parallel server (SYSTEM.PARALLEL.A1 and SYSTEM.PARALLEL.A2) as specified in the parallel server's job list story. To do this, add two lines (as shown) below the line that sends a copy of each wire story to WIRES.ALL. It should look like this:

```
    AP########     wires.all      ALWAYS      URGENT
    A1########       system.parallel.a1       ALWAYS
    A2########       system.parallel.a2       TRANSMIT
```

b. Modify every line in the wire distribution story that starts with AP, changing AP to A1. This makes it possible to tell whether a given wire story came from standard wire or parallel server distribution. When you are done, the three lines in the story should look like this:

```
A1########     wires.all      ALWAYS      URGENT
A1########       system.parallel.a1       ALWAYS
A2########       system.parallel.a2       TRANSMIT
```

Do not change the last line's A2 *to* A1*. The* A2 *indicates the line that transmits stories to the* SYSTEM.PARALLEL.A2 *queue.*

c. Save the story.

d. Move the modified distribution story (at the bottom) to the top of the queue, using the `order` workstation command; this will make it the primary wire distribution story.

13. Connect the secondary wire to the PCU port.

    Before you can receive wires on the secondary wire port, ensure there is a physical connection to provide those wires. Details vary depending on the hardware, but in the example you must ensure a wire service line is connected to the PCU port you listed in the configuration file (26 in the example). See step 2a on page 452.

    This wire service line could come from a DR400 box, an Equatorial box, or some other kind of signal splitter or multiplexor. Ensure cabling and connectors are correct. See your hardware installation manual for details.

14. Reconfigure the system. See "Adding a Server Program to the System" on page 409 for more information.

15. Restart the original wire port, and the parallel and distribution servers.

    You also need to restart the PCU using the new wire program, such as PCU20.

    Ensure you select the iNEWS Server the original wire port, servers, and PCU are configured on.

    ```
    NRCS-A$ restart 257 258 20
    ```

You will receive `Hot-to-go` messages for the devices on PCU 20. Also, a message similar to the following will appear:

```
S258: Sat Jun  3 08:22:13 2000 matching system.parallel.a2
```

The message is from the parallel server and appears when it is started, indicating the server is alive and comparing the standard wire reception with wire stories routed to the A2 queue.

If primary reception fails, the parallel server gives the following message when it wakes up the distribution server:

```
S258: Sat Jun 3 08:22:13 2000 distributing system.parallel.a2
```

This message is the only way to tell when the parallel server is forwarding secondary wire stories for distribution. You can tell if these stories are being distributed by A2 instead of A1 by checking the wire-distribution codes in the stories.

There may not be any indication if secondary wire distribution fails. Check the local queue (`SYSTEM.PARALLEL.A1`*) occasionally to see if it is accumulating stories. If so, this would indicate a problem with reception of the secondary wire.*

If there is a problem with something other than the primary wire PCU port—for instance, if the wire fails in the phone or satellite connection—the redundancy provided by the parallel wire server cannot provide continuous wire service reception.

Keyword Servers

A *keyword server* is a utility program that searches stories it processes for specific keywords. It distributes copies of each story to different queues, based on which keywords the story contains. Unlike wire and telex programs, which are limited to searches that contain no more than 250 unique keywords, a keyword server can perform searches that contain as many as 1000 unique keywords.

When you install a keyword server, it runs on one of your system's iNEWS Servers, not on a PCU. While this allows the keyword server to handle long lists of search rules, it also means the keyword server may affect your system's performance.

The impact a keyword server has on your system depends on what kind of equipment your system uses and how much of a load it is carrying. In some cases, a keyword server will not have any impact at all. In others, there may be a noticeable reduction in performance. If you find that a keyword server degrades your system's performance too much, reduce the amount of searching the keyword server does.

⚠ **Since keyword servers could affect your system's performance, use keyword servers only when wire capabilities are inadequate.**

Suppose we have set up a wire program to perform keyword searching on stories it receives from the Associated Press (AP). Wire programs can only use 250 unique keywords in searches they perform.

To get around this limitation, a keyword server may be created to help the wire program, which still searches each story it receives using its own search rules. However, it also sends a copy of each story it receives to the keyword server, which in turn searches each copy using its own search rules. This effectively increases the number of unique keywords allowed to 1250: 1000 for the keyword server and 250 for the wire program.

An instruction is required in the wire distribution story that has the wire program duplicate a copy of each story it receives to a queue, which the keyword server watches. Some modification of the wire program's keyword job list queue (`SYSTEM.WIRES.KEYWORDS`) will also be required.

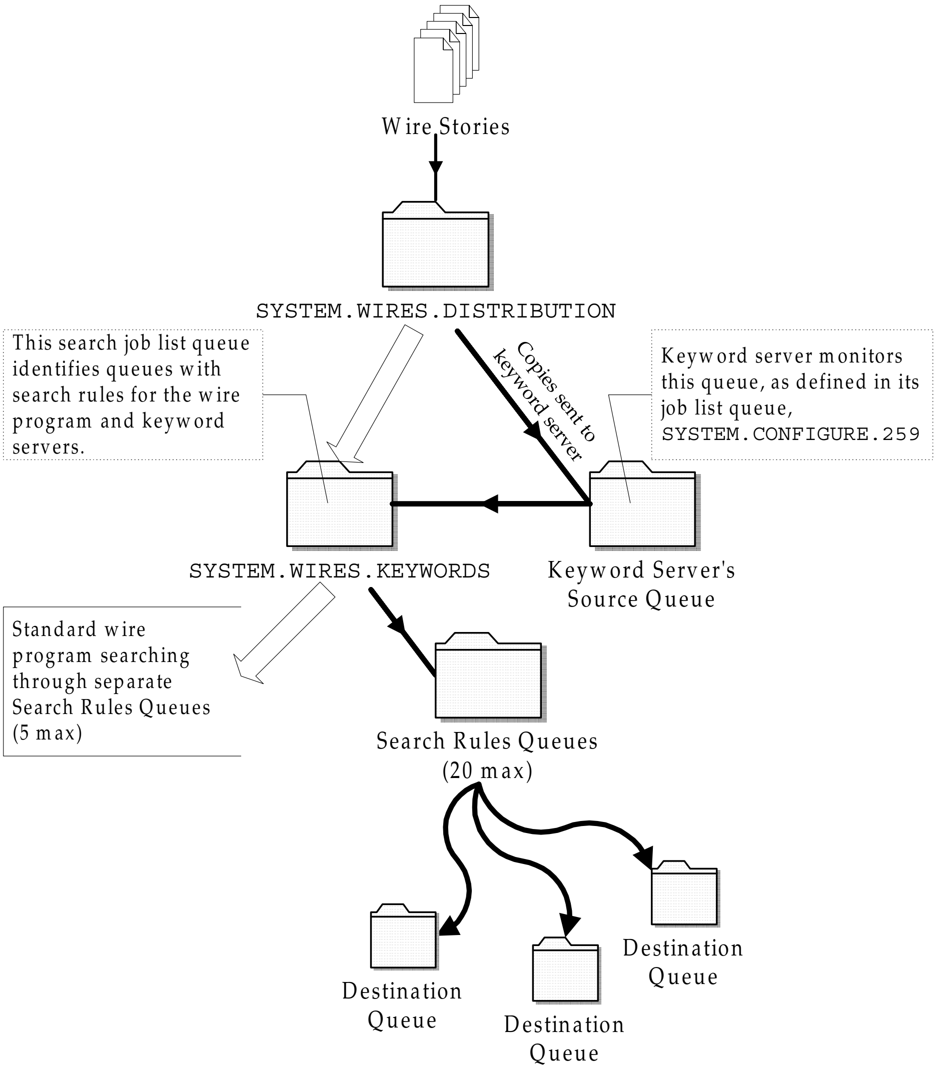
Database Components for Expanded Wire Keyword Searches

For expanded wire keyword searches to work, the keyword server requires certain database components. These components are:

- Queue containing job list used by the keyword server. It must be located in the `SYSTEM.CONFIGURE` directory.

- A source queue to hold incoming wire stories for scanning by the keyword server—such as `WIRES.AP-SEARCH`.
- A queue—typically named `SYSTEM.WIRES.KEYWORDS`—containing the search job list story. This queue is used by the system's standard wire searching feature; therefore, it should already exist in your database.
- Queues containing stories with search rule sets of keywords and destination queue names. The maximum number of search rule queues are 20 per keyword server.
- Destination queues where the keyword server forwards stories/search results.
- A queue containing the wire distribution story—typically named `SYSTEM.WIRES.DISTRIBUTION`. This queue is used by the system's standard wire distributing feature; therefore, it should already exist in your database.

Here is a sample workflow diagram for a keyword server.


Wire Stories
SYSTEM.WIRES.DISTRIBUTION
This search job list queue identifies queues with search rules for the wire program and keyword servers.
Copies sent to keyword server
Keyword server monitors this queue, as defined in its job list queue, SYSTEM.CONFIGURE.259
SYSTEM.WIRES.KEYWORDS
Keyword Server's Source Queue
Standard wire program searching through separate Search Rules Queues (5 max)
Search Rules Queues (20 max)
Destination Queue
Destination Queue
Destination Queue

Adding a Keyword Server

To add a keyword server:

Details for steps 1 and 2 are provided in "Adding a Server Program to the System" on page 409.

1. Choose a device and mailbox number for the keyword server which will also be used for associated queues. A device name should also be chosen, such as `key1`; it will be needed for the next step in the procedure.
2. Add the server program (`server` line) to the configuration file on each iNEWS Server—such as servers A and B—in your system.

In addition to adding the keyword server to the standard `host` *definition of the iNEWS Server on which you want it to run, ensure you also add it to each alternate* `host` *definition.*

A keyword server's device name, such as `key1`*, is used in the search job list; ensure that you always include a device name when adding a keyword server to the system. For instance, the configuration line may appear like this:*

```
server  211  keyword 211  key1 ;keyword server
```

See step 2 *of* "Adding a Server Program to the System" on page 409 *for more information.*

3. Create a job list queue in the Configure folder of the System directory in the iNEWS database. The queue's name, such as `211`, is the same number selected in step 1. For instance, the queue's full pathname is `SYSTEM.CONFIGURE.211`.

You should end the name with a hyphen and descriptive word, such as "key1." The queue's full pathname would then look like: `SYSTEM.CONFIGURE.211-KEY1`*. See "Creating a New Queue" on page 103 for more information. In this example, the keyword server's device name is used as the descriptive word for the job list queue name. The device name is an important factor of later steps in this procedure.*

4. Create the keyword server's job list story in the database, by doing the following:

   a. Open the job list queue, such as `SYSTEM.CONFIGURE.211-KEY1`.

   b. Create a new story, the first in the job list queue, to hold the keyword server's job list. See "Creating a New Story" on page 106 for more information.

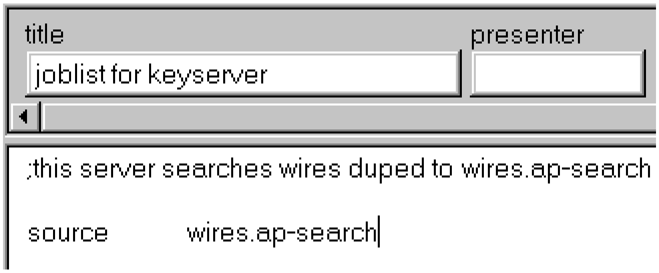
   c. Add tasks that you want the keyword server to perform; include a separate task for each queue the server watches. Each task in the job list story consists of only one line, with the following format:

   ```
   source  <queue scanned by server>
   ```

`source`

Identifies which queue the keyword server should scan. This queue is the same queue to which the wire program will be instructed to send wire story copies.

For instance, here is an example of a job list story for a keyword server that scans `WIRES.AP-SEARCH` when it gets a wake-up notification:



title: joblist for keyserver

presenter:

```
;this server searches wires duped to wires.ap-search

source        wires.ap-search
```

A single task is defined in the keyword server's job list, with a commented line—a line preceded with a semicolon (;)—offering further details about the keyword server.

When the keyword server processes a story, it deletes it from the source queue. You do not need to clear old stories out of the keyword server's source queue. It is recommended that you "hide" the source queue from general user accounts, by assigning it a read group, such as sysops. See "Groups Tab" on page 129 and "Read Group" on page 174 for more information.

5. Assign the mailbox database trait, using the mailbox assigned in step 2 to the keyword server in the configuration file, to the appropriate source queue(s), as identified in step 4c. For instance, the job list queue is named `211`, so that is the standard mailbox number assigned to queues identified in the keyword server's job list.

   a. Open the Queue Properties dialog box for a scan queue, such as `WIRES.AP-SEARCH`. See "Changing Database Traits" on page 117 for more information.

   b. Click on the Maintain tab. See "Maintain Tab" on page 133 for more information.

   c. Select the Standard radio button.

   d. Type in the mailbox number, such as `211`.

   e. Click OK to save changes.

6. Repeat step 5 as needed for each source queue in the job list.

7. Create the queues and stories to hold search rule sets for the keyword server to use.

Each keyword server can have 1-20 search rules queues, each with its own keyword story, containing keywords. Each keyword story must be the first one in the queue, and contain a number of keywords equal to 1000 divided by the number of search rule queues. For instance, if 4 queues are set up for a keyword server, each queue's keyword story can hold up to 250 keywords. This evenly distributes the 1000 keywords allowed for keyword servers across search rules queues and their stories. If 10 queues are set up, then each queue's keyword story can have 100 keywords.

   a. In this sample procedure, two search rules queues are created in the `SYSTEM.WIRES` directory. For instance, the queues' full pathnames could be `SYSTEM.WIRES.KWDSERVER-1` and `SYSTEM.WIRES.KWDSERVER-2`.

   b. In each queue, the first story is considered the keyword story, and contains the rule set of keywords.

   See "Setting up Keyword Searching" on page 394, "Keyword Limitations" on page 398, and "Tips on Building Search Rules" on page 401 for more information.

The format each rule set must have is as follows:

```
destination  <queue name>
<search rule>
[<search rule>]
[<search rule>]
. . .
```

`destination`

Identifies the queue into which the keyword server will place the results of its keyword search. The name and location of this queue is customizable.

`<search rule>`

Each search rule consists of one or more keywords you want a keyword server (utility program) to use to locate stories on a particular topic.

⚠ **Never create a destination line that sends stories to a personal queue or any queue not purged. If a program sends stories to such queues, it can lead to an out-of-space condition.**

Here is an example of what a keyword story and its rule set may look like.

```
destination      wires.keywords.drugs
   panama AND drugs
   drugs NOT pharmacy OR (drugs AND smuggling)
```

Each search rule occupies a separate line in the rule set. Also, the number of keywords allowed (1000 for keyword servers) is defined by the words, not the number of lines. For instance, in the previous example, four keywords are used—since you do not count each occurrence of a word (just the first), `drugs` is only counted once.

Each keyword in the story can have a maximum of 10 characters. More examples and detailed information on rule sets and keyword searches are available in Chapter 12. See "Operating Wire Keyword Searches" on page 394 for more information.

8. Add an entry to the first story in the search job list queue, typically named `SYSTEM.WIRES.KEYWORDS`.

   a. Go to that queue and open the first story for editing.

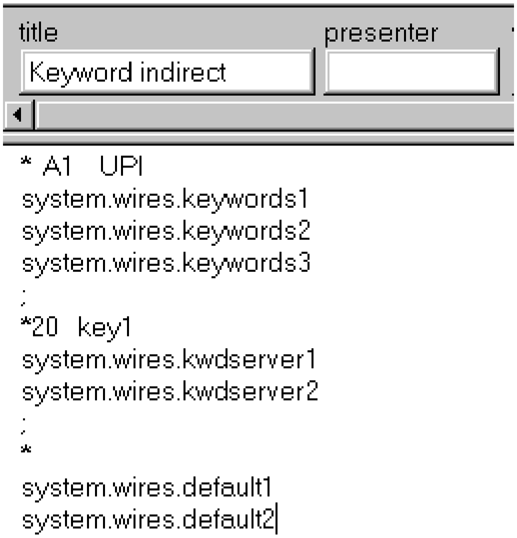
In step 8b, use the same device name, which was defined in the configuration file in step 2 on page 462, and the queues with the search rules, which were created in step 7 on page 464.

   b. Insert an entry for the keyword server into the job list, which must begin with `*20`, followed by the keyword server's device name. If you do not want the program to do any searching, that is all you need to put in the entry. If you want the program to search for keywords, follow the device name with one or more lines that list queues containing search rules you want the keyword server to use.

   For instance, the keyword server has `key1` as its device name and should use search rules in queues:

   `SYSTEM.WIRES.KWDSERVER1` and
   `SYSTEM.WIRES.KWDSERVER2`.

   Here is an example of how the story may appear.



title: Keyword indirect

presenter:

```
* A1   UPI
system.wires.keywords1
system.wires.keywords2
system.wires.keywords3
;
*20  key1
system.wires.kwdserver1
system.wires.kwdserver2
;
*
system.wires.default1
system.wires.default2
```

An optional destination prefix may also be included with the indirect list entries: `*20 <device name> [<destination prefix>]`
If provided, the prefix is prepended to the destination queue of the destination line of the search rule.

9. Modify the wire distribution story—the first story in `SYSTEM.WIRES.DISTRIBUTION`.

   For the keyword server to search stories sent by the AP wire service, the wire program must duplicate a copy of each story it receives to the keyword server's source queue. For this to happen, the wire distribution story must be modified.

   a. Open the story and add the new instruction on a *single* line, using the following format:

   ```
   <dev name><wire code> <distribution queue>
   [<options>]
   ```

There must be no spaces between the device name and the wire service code. The `[<options>]` should also be on the same line, separated from the distribution queue by a space.

`<dev name><wire code>`

For instance, the wire program's device name is `AP`. If you want this instruction to match all wire stories regardless of their wire service code, use `########` as the code, because it matches any code.See "Creating a Distribution Name" on page 387 for more information.

`<distribution queue>`

The distribution queue is where you want stories with the specified code to be duplicated, such as `WIRES.AP-SEARCH`.

See the table on page 389 for more information on these options.

`[<options>]`

Finally, you can end the line with any of the following options: `ALWAYS`, `SILENT`, `URGENT`, `FLASH`, `BULLETIN`, or `TRANSMIT`. For instance, end the instruction with the `ALWAYS` option to ensure that every wire the AP wire program processes is duplicated to the keyword server's source queue.

The finished instruction looks like:

```
AP########       wires.ap-search    ALWAYS
```

Steps 10-13 are described in more detail in “Adding a Server Program to the System” on page 409.

10. (Optional) Test your configuration changes.
11. Reconfigure the system.
12. Start the keyword server.

    When you see the `System being configured` message, select the iNEWS Server where the keyword server is configured and start the keyword server. For instance, type:

    ```
    NRCS-A$ restart 211
    ```

    When the system displays a `Hot-to-go` message, the keyword server has successfully started.
13. (Optional) Back up site files with the `sitedump` console command.

System Servers

Utility programs called *system servers* are usually included on your system at installation. You cannot customize them; therefore, they are described here in a limited way. This information should be enough for you to maintain and use these servers, or add them if necessary.

System servers include:

- Seek servers
- Fast Text Search (FTS) servers (Search and Index)
- Print servers
- Mail servers

Seek Servers

Seek servers allow users to search for text in the background, while users continue with other program activities, such as script writing. A seek server must be installed on your system.

The seek server program runs on the main iNEWS Server, while you continue to work on your client computer (iNEWS Workstation). The seek server works by scanning the regular iNEWS database, story by story, going through the area you specified in the Find All dialog box. The seek server then returns stories resulting from its search as stories are encountered in the iNEWS database.

Seek search is used by anyone who uses iNEWS. The seek server can search any non-indexed queue or folder in your iNEWS database. If your site does not have a Fast Text Search (FTS) server, you will use the seek search exclusively.

Installing a Seek Server

To set up the seek feature on your system:

1. Choose a device and mailbox number for the server program.

Editing the configuration file requires use of the line editor. See “Adding a Server Program to the System” on page 409, and Appendix H for more information.

2. Add the server program’s information to the configuration file.

   b. The seek server’s device number, such as 260, must appear in the `servers` line in the host definition for the iNEWS Server, such as server B, on which it runs. The line may appear as follows:

   ```
   servers  257  258 259 260
   ```

In addition to adding the seek server to the standard `host` *definition of the iNEWS Server on which you want it to run, add it to each alternate* `host` *definition.*

   c. Next, create a configuration line for the seek server at the bottom of the configuration file.

   A seek server configuration line should look similar to this:

   ```
   server    260 seek      260 SEEK  ;seek server
   ```

   d. After adding information to the configuration file, save your changes.

3. Create the seek queue in the database.

The seek queue's name is defined in the `Q_SEEK` token in the `/site/dict/queues` file. Usually this name is `SYSTEM.SEEK`. Go to your System directory and see if this queue exists. If it does not, create it. See "Creating a New Queue" on page 103 for more information.

This queue must exist for the `seek` *command to work. Ensure the write group restriction is* not *applied so all users can use* `seek`*. See "Write Group" on page 175 for more information.*

4. Assign a form to the Seek queue, `SYSTEM.SEEK`.

   A standard seek form was included with of your standard forms. The form is stored in `SYSTEM.FORMS.S.SEEK`. See "Find All Form" on page 231 for more information.

   For the `seek` command to use this form, assign it to the Seek queue using the Queue Properties dialog box and its Form tab. See "Changing Database Traits" on page 117, "Directory/Queue Properties Dialog Box" on page 121, and "Forms Tab" on page 122 for more information.

5. Assign a mailbox to the Seek queue.

   For the seek server to process a seek request placed in the Seek queue, your system must notify the seek server that a new seek request has arrived there. So, the Seek queue's mailbox number must match the seek server's mailbox number, as indicated in the configuration file. Otherwise, changes in the queue will not activate the correct server program.

To assign the mailbox database trait to a queue:

a. Open the Queue Properties dialog box for a queue, such as `SYSTEM.SEEK`. See "Changing Database Traits" on page 117 for more information.

b. Click on the Maintain tab. See "Maintain Tab" on page 133 for more information.

c. Select the Standard radio button.

d. Type in the mailbox number, such as `260`.

e. Click OK to save changes.

More detailed information for steps 6-9 is available in “Adding a Server Program to the System” on page 409.

6. (Optional) Test your configuration changes for the iNEWS Server on which you added the seek server program.
7. Reconfigure the system.
8. Use the `restart` console command to start the seek server.
9. (Optional) Back up site files using the `sitedump` command.

Fast Text Search (FTS) Servers

There are two server (utility) programs related to Fast Text Search (FTS): those that perform fast text searches and those that index stories in the FTS database. Both are explained in this section.

FTS is an alternative to the seek feature. FTS allows fast, efficient searching through large quantities of text material using indexes.

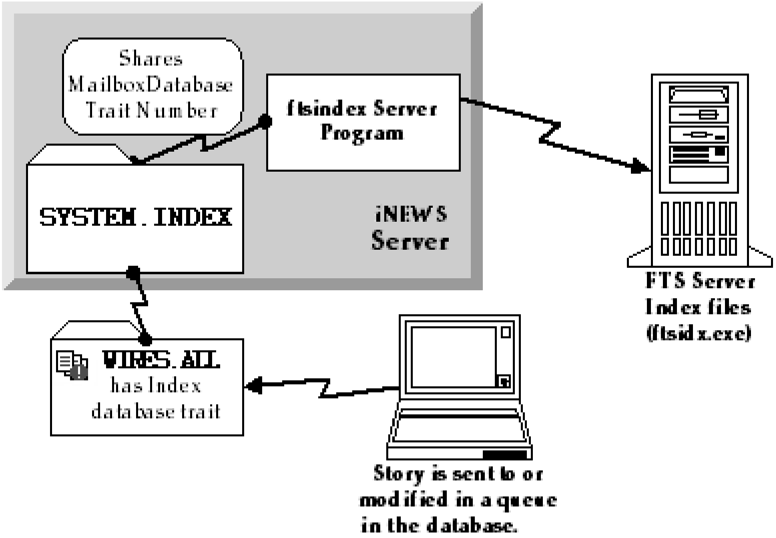
While both seek and FTS searches operate in the background—that is, the user can continue with other activities at the iNEWS Workstation while the system searches the iNEWS database—FTS searches will generally be faster than seek searches.

FTS Workflow

Fast text searching involves two separate activities: indexing data and searching the index for data. Different components are required for these separate activities to function.

FTS Indexing

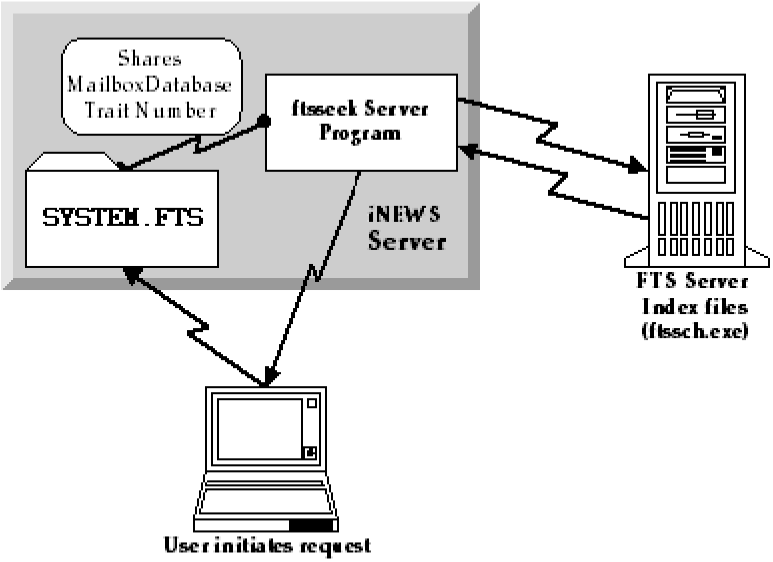
The following figure shows the workflow iNEWS follows to create Index files of database stories, which can be queried later.


Shares MailboxDatabase Trait Number
ftsindex Server Program
SYSTEM.INDEX
iNEWS Server
FTS Server Index files (ftsidx.exe)
WIRES.ALL has Index database trait
Story is sent to or modified in a queue in the database.

In a fast text search, the FTS server gets duplicate copies of material from those queues and folders in the iNEWS database marked with the Index icon (as shown at left). The system administrator identifies which queues and folders the system should index. See “Batch Indexing” on page 482 for more information. The material in those queues and folders is fully indexed in the FTS server, so every word is added to an Index file.

For each word, the index lists information about all stories where that word was encountered. The index is updated each time a story is added, changed, or deleted in an indexed queue. For instance, a story is added to `WIRES.ALL`. The system identifies that queue as an indexed queue and prompts the ftsindex server program to forward copies of the data to the FTS server for indexing.

The following figure shows the workflow for a user's FTS request—the procedure iNEWS Workstation follows to search Index files and respond with results (pointers to database stories containing search criteria specified by the user).

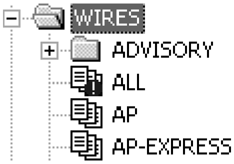

Shares MailboxDatabase Trait Number
ftsseek Server Program
SYSTEM.FTS
iNEWS Server
FTS Server Index files (ftssch.exe)
User initiates request

In the above example, the user sends an FTS query to the iNEWS Server. The request is received in `SYSTEM.FTS`, which notifies the ftsseek server program to conduct the search. (This is accomplished because both the `SYSTEM.FTS` queue and the server program share the same mailbox number.) The ftsseek server program contacts the FTS server, which conducts a search of its Index files for data matching the user's search criteria, and then responds with pointers to those stories located in the iNEWS database. The ftsseek server program forwards the FTS server's results to the user at the iNEWS Workstation.

Fast text search acts much like an index in a book. In other words, the fast text search stores references to where the information you search for is stored. For instance, if you were to search for the word *Bush*, the FTS server will note that the word appears in story 1, 8, 12, and 16. If you looked for the word *Chaney*, the FTS server will find the word in stories 2, 8, and 12. If you look for stories containing *Bush & Chaney*, you can view stories that appear in both lists (in this example, stories 8 and 12). This is faster than examining every story in the queue to see which contain both words. Instead, the system does that for you, and you benefit from the search.

If you invoke a background search (Find All or Find Global) for material in a folder or queue marked with the Indexed icon, iNEWS sends your search request to the FTS server. The FTS server will look up the words you specified in the index, and return a list of the resulting stories to the iNEWS Workstation.

Not all queues can be searched with the fast text search, simply because it takes space and effort to maintain an index. Therefore, system administrators will usually index only those queues searched often. You can determine which queues are available for fast text searches in three ways:



- In the Directory panel, the queue will display an Index icon (as shown in the `WIRES.ALL` queue at left)
- In the Find All dialog box, you will see the word *Indexed* in the title
- In the Directory/Queue Properties dialog box, the directory/queue will have the index database trait

Installing FTS Components

FTS is an optional feature that requires certain configurations within the iNEWS system as well as additional hardware and setup. For instance, FTS requires the set up of two utility programs (ftsindex and ftsseek) on iNEWS Servers. Additionally, two executable files (`ftsidx.exe` and `ftssch.exe`) must be installed and running on a Windows-based server. These components are described in further detail in the next sections of this chapter.

...On the Windows-based Server

The Windows-based server running the two FTS utility programs (`ftsidx.exe` and `ftssch.exe`) is known as the *FTS server*. This computer is not to be confused with the two FTS utility programs (discussed in "...On iNEWS Servers (Linux)" on page 478) known as ftsindex and ftsseek servers.

The FTS server should be running a Windows-based operating system. For information on the current service pack, contact Avid Customer Support.

Installing ftsidx.exe and ftssch.exe

To install the executable files (FTS programs) required for FTS:

1. Insert the iNEWS CD into the FTS server's CD ROM drive.
2. Navigate to the FTS folder on the CD.
3. Double-click on the setup program (`setup.exe`) and follow instructions as they appear on screen.
4. The setup program will install several files, including `ftsidx.exe` and `ftssch.exe`. Make a note of the directory (folder) where they are installed.
5. A batch file—used to start the FTS processes (executable files installed in step 4)—is located on the installation CD in the Misc folder. The batch file is called `go-fts.bat`.
   a. Copy that file to the directory in which you installed the executable files, such as:
   `C:\Program Files\Avid\FTS`
   b. (Optional) Create a shortcut to the batch file on the desktop. (Right-click and drag the file to the desktop, then select Create Shortcut Here when the pop-up menu appears.)
   c. This provides you with a desktop shortcut you can double-click to launch the FTS programs: `ftsidx.exe` and `ftssch.exe`. See "Starting ftsidx.exe and ftssch.exe" on page 476 for more information.

d. The batch file contains two command lines in the code that you may need to modify based on the ports used by FTS. To open the batch file for editing, right-click on the file and select Edit from the pop-up menu. Locate the two lines in the code that look like this:

```
@cgi-fcgi -start -connect :6100 ftsidx.exe
@cgi-fcgi -start -connect :6101 ftssch.exe
```

The `W_BINDFTSI` and `W_BINDFTSS` tokens are defined in the `/site/dict/words` file.

The number `6100` corresponds to the Index `<port>` defined for `W_BINDFTSI` on the iNEWS Server, and `6101` corresponds to the Search `<port>` defined for `W_BINDFTSS` on the iNEWS Server. Ports `6100` and `6101` are defaults used by the FTS Index and Search programs.

6. You must also create a directory (folder) on the FTS server that will be used by the Index program to hold index files it makes. You can create the directory using Windows Explorer.

   a. Click Start.

   b. Locate and select Windows Explorer in the Start menu.

   c. Navigate to where you want the new directory to be and right-click.

   d. Select New Folder from the pop-up menu and name it, such as Index. For instance, the full pathname could be: `C:/Index`.

The token `W_INDEXBASE` *in the* `/site/dict/word` *file must be defined to reference the directory created in step 6. See page 479 for more information.*

Starting ftsidx.exe and ftssch.exe

The executable file, `ftsidx.exe`, is known as the Index program and the executable file, `ftssch.exe`, is called the Search program. These utility programs are started from the MSDOS command console window.

The MSDOS command console window must not be closed (it may be minimized) after starting the `ftsidx.exe` and `ftssch.exe` programs. Closing the window will cause the two programs to exit.

A batch file, called go-fts.bat, provided on the installation CD, can be used to launch the Index and Search programs in the MSDOS command console window. Otherwise, the programs can be launched manually.

To manually start the search and index programs on the FTS server:

1. Open the MSDOS command console window.

The W_BINDFTSI and W_BINDFTSS tokens are defined in the /site/dict/words file.

2. Enter the following commands:

```
cgi-fcgi -start -connect :6100 ftsidx.exe
cgi-fcgi -start -connect :6101 ftssch.exe
```

   The 6100 corresponds to the index <port> defined for W_BINDFTSI on the iNEWS Server. The 6101 corresponds to the search <port> defined for W_BINDFTSS on the iNEWS Server.

If you restart FTS programs, you must also restart ftsseek and ftsindex server programs on the iNEWS Server-side. Start Windows-side FTS programs first; otherwise, ftsseek and ftsindex will exit with an error message on the console.

To start multiple instances of the ftssch.exe program on the FTS server, specify the number of instances to start in the cgi-fcgi command line or batch file, such as:

```
cgi-fcgi -start -connect :6101 ftssch.exe 3
```

The example would start three instances of the ftssch.exe program. If three ftsseek servers are configured, three simultaneous FTS searches can be performed.You must stop the ftssch.exe program to restart it with the new command.

Stopping ftsidx.exe and ftssch.exe

Use the Windows-based Task Manager to stop (kill) the FTS utility programs, ftsidx.exe and ftssch.exe, as follows:

a. Open the Task Manager.

b. Click the Processes tab.

c. Select ftsidx.exe

d. Click EndTask, then OK in the confirmation dialog.

e. Repeat steps c-d, selecting `ftssch.exe` instead.

...On iNEWS Servers (Linux)

The two utility programs used by FTS, known as ftsindex and ftsseek servers, must be set up on iNEWS Servers—that is, computers running the Linux operation system and iNEWS Server application, such as server A and server B.

To set up these utility programs, you may need to create some queues, such as `SYSTEM.INDEX` and `SYSTEM.FTS`, if they do not already exist in the iNEWS database. Also, some editing of files in the Site directory is required, particularly files in the `/site/dict` directory. To edit files in `/site/dict`, you will use `ed`, the line editor.

The following table shows tokens defined in the Queues and Words dictionary files in `/site/dict`. If the token name starts with a `Q`, the dictionary is in `/site/dict/queues`. If it begins with a `W`, it is defined in `/site/dict/words`.

FTS Dictionaries	Explanation
`Q_INDEX` queue	Identifies the queue—typically `SYSTEM.INDEX`—that holds index requests from various server programs. The ftsindex program reads index requests from this queue, which is not visible on iNEWS Workstation.
`Q_FTS` queue	Identifies the queue—typically `SYSTEM.FTS`—that holds indexed search requests, much like `SYSTEM.SEEK` holds seek requests.
`W_INDEXED`	The word— typically set to `INDEXED`— used in indexed search requests to indicate that an indexed search is being requested. This type of search is similar to “fast” and “slow” seek searches.

FTS Dictionaries	Explanation
W_INDEXBASE	Defines location and name of index files on the FTS server. Its format is <pathname>/<basename>. The <pathname> is a directory that exists on the FTS server. The <basename> is any name you choose for index files. The FTS server will create four index files with .inX appended to the <basename>, where X is 1, 2, 3, or 4, such as verdi.in1, verdi.in2, and so forth. For instance, W_INDEXBASE could be defined as c:/index/verdi
W_HITSWEIGHT	Weight parameter that determines search results ranking by how many times a word appears in a story (number of hits). Value ranges from 0-100. Default is 0.
W_AGEWEIGHT	Weight parameter that determines search results ranking by age of stories. (Newer stories have higher weight and appear at top.) Value ranges from 0-100. Default is 100.
W_LOCWEIGHT	Weight parameter that determines search results ranking by location of words searched for. (Words or “hits” closer to start of story have higher weight.) Value ranges from 0-100. Default is 0.
W_BINDFTSI	Identifies the binding address for the FTS server and its port, used for indexing. The format is <server>:<port>. The <server> is the hostname of the FTS server and <port> is the dedicated port number used for FTS search indexing. The default is ftsserver:6100 where ftsserver should be replaced with the FTS server name and 6100 should be replaced with the number for the TCP port used by the ftsidx.exe program. If you named the FTS server ftsserver and used port 6100, then no change is necessary.

FTS Dictionaries	Explanation
W_BINDFTSS	Identifies the binding address for the FTS server and its port, used for searching. The format is <server>:<port>. The <server> is the hostname of the FTS server and <port> is the dedicated port number used for FTS text searching. The default is ftsserver:6101 where ftsserver should be replaced with the FTS server name and 6100 should be replaced with the number for the TCP port used by the ftsindex.exe program. If you named the FTS server ftsserver and used port 6101, then no change is necessary.

Setting up ftsseek and ftsindex Servers

To set up the ftsseek and ftsindex servers:

1. At an iNEWS Workstation, verify whether the Index and FTS queues exist in the System directory. If SYSTEM.INDEX and SYSTEM.FTS do not exist, you must create them.
2. At the console, add a definition for Q_INDEX to /site/dict/queues. For instance:
```
Q_INDEX /system.index
```
3. Add a definition for Q_FTS to /site/dict/queues. For instance:
```
Q_FTS   /system.fts
```
4. Configure ftsindex and ftsseek server programs.
   a. Choose device and mailbox numbers for each server program.

   b. Edit /site/config , ensuring there is a server line for each server program. For instance:
```
server  261   ftsseek  261   - ;fts searches
server  262   ftsindex 262   - ;fts indexing
```

See "Adding a Server Program to the System" on page 409 for more information.

   c. Assign mailbox numbers to the appropriate queues in the System directory. All ftsseek servers must be assigned the same mailbox that is assigned to SYSTEM.FTS. For instance, assign 262 to the queue defined for Q_INDEX, such as: SYSTEM.INDEX, and assign `261` to the queue defined for `Q_FTS`, such as: `SYSTEM.FTS`. Further details for assigning mailbox numbers (database traits) to queues are found in “Assigning a Mailbox to a Queue” on page 422. Also, see “Changing Database Traits” on page 117 for more information.

d. Assign a queue form and story form to queues defined for `Q_INDEX` and `Q_FTS` (`SYSTEM.INDEX` and `SYSTEM.FTS`, respectively). The forms should be the same queue and story forms assigned to the queue defined for `Q_SEEK`, such as `SYSTEM.SEEK`. See “Assigning a Form as a Queue or Story Form” on page 213 for more information.

5. Add a definition for `W_INDEXED` to `/site/dicts/words`. It should be set to `INDEXED`. For instance:

```
W_INDEXED   /INDEXED
```

6. Add a definition for `W_INDEXBASE` to `/site/dicts/words`. Ensure the associated path exists on the FTS server and has appropriate access privileges. It should be an absolute path. For instance:

```
W_INDEXBASE    /c:/index/verdi
```

7. Add weight definitions for search results ranking factors (age , number of hits, and location of hits) in `/site/dict/words`.

If all weight definition parameters (`W_HITSWEIGHT`*,* `W_AGEWEIGHT`*, and* `W_LOCWEIGHT`*) are set to zero, ranking order is undefined. Any setting that is beyond the range of 0-100 is rounded to within the correct range.*

8. Set the binding address for indexing by adding a definition for `W_BINDFTSI` to `/site/dict/words`. Use the format `<server>:<port>`. For instance:

```
W_BINDFTSI       /dexy:6100
```

9. Set the binding address for searching by adding a definition for `W_BINDFTSS` to `/site/dict/words`. Use the format `<server>:<port>`. For instance:

```
W_BINDFTSS       /dexy:6101
```

You must define separate port numbers for `W_BINDFTSI` *(indexing) and* `W_BINDFTSS` *(searching) on the FTS server.*

Starting and Stopping ftsindex and ftsseek on the iNEWS Server

To start both FTS server programs (located on the iNEWS Server), use the `restart` console command in the following format:

```
restart     <device number>    <device number>
```

For instance, select the appropriate server at the console, and type:

```
restart 261 262
```

To stop both FTS server programs (located on the iNEWS Server), use the `stop` console command in the following format:

```
stop        <device number>    <device number>
```

For instance, select the appropriate server at the console, and type:

```
stop 261 262
```

Stop both ftsseek and ftsindex programs on the iNEWS Servers before the FTS programs on the FTS (Windows-based) server. This will help ensure a stable, quiescent index base for future use when you restart FTS search.

To stop the FTS programs on the FTS server from the console:

- Type:

```
ftsdebug index shutdown
ftsdebug search shutdown
```

You must logout of and back into the Windows-based FTS server to restart the programs on that server before restarting them on the iNEWS Servers. For more information on the ftsdebug command, see iNEWS Newsroom Computer System Operations and Troubleshooting Manual.

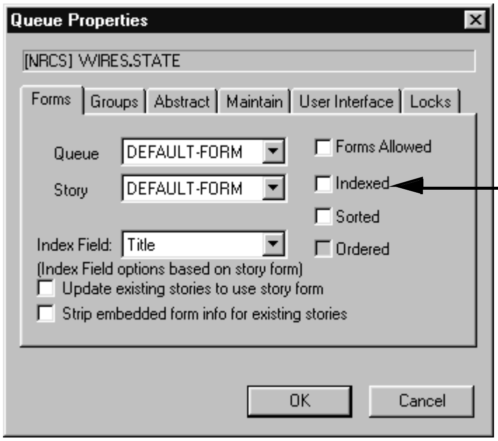
Batch Indexing

Index base is the set of four Index files on the FTS server, as defined in `W_INDEXBASE`, in `/site/dict/words`.

Batch indexing is a procedure by which a system administrator can define queues to be indexed or de-indexed, and cause an update of the index base to incorporate the current state of the queues’ stories in the index base. Batch indexing can be performed at either the queue or directory level by applying the index database trait. See “Changing Database Traits” on page 117 and “Database Traits Summary” on page 120 for more information.

To mark a queue as indexed and schedule an index base update, apply the Index database trait to the queue using the Queue Properties dialog box.

This command marks the queue, `WIRES.STATE`, as indexed and submits a request to update entries in the index base for all stories in the queue. The queue will appear with the Indexed icon (shown at left) in the Directory panel of the iNEWS Workspace.



Queue Properties

[NRCS] WIRES.STATE

Queue: DEFAULT-FORM

Story: DEFAULT-FORM

Index Field: Title

(Index Field options based on story form)

□ Forms Allowed

□ Indexed

□ Sorted

□ Ordered

□ Update existing stories to use story form

□ Strip embedded form info for existing stories

Select Indexed check box to apply the index database trait. Click OK to save changes.

Similarly, to mark a queue as deindexed and schedule an index base update, uncheck the Indexed check box in the Queue Properties dialog box. This command marks the queue, `WIRES.STATE`, as not indexed and submits requests to remove all story entries for the queue from the index base.

Batch Indexing Directories (Folders)

To mark all queues at every level under a directory (folder) as indexed and schedule an index base update, apply the index database trait to the directory, using the Directory Properties dialog box. Similarly, to mark all queues at all levels under a directory as deindexed and schedule uncheck the Indexed check box in the Directory Properties dialog box. The ‘apply changes to all subdirectories and queues’ check box must be checked to have the change propagated to all subdirectories and queues of the directory.

The database traits program will ignore requests to index or deindex the queues defined for the dictionary entries Q_SEEK*,* Q_FTS*,* Q_INDEX*, and* Q_DEAD *in* /site/dict/queues.

Dynamic Indexing

Dynamic indexing is a function of the iNEWS Server that automatically triggers an index change when a story is added, changed, moved, or deleted. Set index database traits for queues to be indexed as in the Batch Indexing instructions, and the iNEWS Server will automatically schedule updates to the index base whenever a story in an indexed queue changes.

Archival and Backup

Copying and Archiving the Index Base Files

To save the current state of an index base, you must copy the Index files to another location and then archive/back up the files as you would normally do for a Windows-based server system. (See Microsoft's server documentation for details on backing up and archiving files.)

Archived index bases may be out of sync with the active iNEWS database.

Removing the Index Base and Reindexing (Optional)

If an index base becomes unusable, you should remove the index base on the FTS server and reindex, by doing the following:

1. Stop the ftsseek and ftsindex server programs. See "Starting and Stopping ftsindex and ftsseek on the iNEWS Server" on page 482 for more information.
2. Stop the ftssch.exe and ftsidx.exe programs on the FTS server. See "Stopping ftsidx.exe and ftssch.exe" on page 477 for more information.
3. Open the folder—tyically called INDEX—where the Index files reside.

   This is the <path> portion of the <path>/<basename> defined for W_INDEXBASE in /site/dict/words on the iNEWS Server. For instance, W_INDEXBASE is defined as follows:

   ```
   W_INDEXBASE     /c:/index/verdi
   ```

In this example, the folder would be `index` on the FTS server.

4. Select all files whose names match the `<basename>` portion of the `<path>/<basename>` defined by `W_INDEXBASE`.

5. Continuing with the example in step 3, the `<basename>` is `verdi`, so you would select all files matching `verdi`, such as `verdi.in1`, `verdi.in2`, and so forth.

6. Delete the selected files.

7. Restart the `ftssch.exe` and `ftsidx.exe` programs on the FTS server. See “Starting ftsidx.exe and ftssch.exe” on page 476 for more information.

8. Restart ftsseek and ftsindex server programs on the iNEWS Server. See “Starting and Stopping ftsindex and ftsseek on the iNEWS Server” on page 482 for more information.

9. At the console, issue a `dbtraits` command with the `reindex` option for one or more folders that may contain indexed queues. This will traverse the folder's hierarchy and schedule index requests for each indexed queue found.

   For instance, type:

   ```
   dbtraits wires reindex
   ```

   This will cause the system to revisit all queues anywhere under the Wires directory and schedule indexed queues for indexing.

The `ftsdebug` *command may be used to troubleshoot communication between the iNEWS Servers and FTS programs, compare contents of indexes and indexed queues, etc. For more information on this command, see the iNEWS Newsroom Computer System Operations and Troubleshooting Manual.*

Print Servers

A print server allows users to employ the `print` command to print stories to any queue in your system. When the story reaches the queue, it is formatted so that it appears on the screen exactly as if you had sent it to a system printer. This is referred to as printing to a story.

Print servers use the system printing function, not the local printing function.

Not every newsroom wants to use these features; only those that request it have a print server added to their system during installation. If you want the server, install it as described in “Adding a Print Server”.

Because a print server’s only job is to print stories to queues, it does not need a mailbox or a job list. Installing one requires that you choose a device number for the print server, add the print server to your system’s configuration file, and assign it a profile.

You need install only one print server to make the print-to-story feature available to everyone. In fact, you can only install one such server on your system. Only one user at a time can use the print-to-story. Other users who submit print requests while the server is busy have their requests queued, to be sent when the server is available again.

Adding a Print Server

Installing a print server (utility program) requires only that you choose a device number for the print server, add the print server to your system’s configuration file, and assign it a profile. A print server does not need a mailbox or a job list.

To add a print server to your system:

1. Choose a device number for the print server.
2. Add the server program information to the configuration file (`/site/config`). See “Changing the Configuration File” on page 273 for more information.
   a. Select *all* iNEWS Servers. See “Selecting Servers” on page 33 for more information.
   b. Use `ed` to open the configuration file for editing by typing:

```
NRCS-A$ ed /site/config
1259
```

c. The print server's device number must appear in a `servers` line in the `host` definition for the iNEWS Server on which it runs, such as server B. Move to the `servers` line in server B's `host` definition. It should appear something like this:

```
servers  257 258 259 260 261 262
```

Then, add the print server's device number , such as `263`, to the `servers` line in server B's `host` definition.

```
servers  257 258 259 260 261 262 263
```

In addition to adding the print server to the standard `host` *definition for the iNEWS Server on which you want it to run, make sure that you also add it to each alternate* `host` *definition.*

3. Create a configuration line for the print server. A print server configuration line uses the standard server format shown here:

```
server  <device #>  printserver   -  -
```

The new line should look like this:

```
server    263 printserver  -   - ;print server
```

Do *not* use an uppercase (**W**) in step 4. See Appendix H for more information.

4. After adding the line, type:

```
w
1565
q
```

5. Create a printer profile exactly as you would for a printer connected to a PCU, as described in Chapter 11. The print server's profile must be in a file named after the print server's device number. For instance, put it in: `/site/printers/263`.

More detailed information for steps 6-9 is available in "Adding a Server Program to the System" on page 409.

6. (Optional) Test your configuration changes for the iNEWS Server on which you added the seek server program.
7. Reconfigure the system. You do not need to stop anything to reconfigure the system.
8. Use the `restart` command to start the print server.
9. (Optional) Back up site files using the `sitedump` command.

Mail Servers

Your system provides a mail feature that allows users to send mail messages to other users. To enable the mail feature, a utility program known as the mail server must be installed on your system. Generally, this is done when your system is installed.

Disabling Mail to All Users

Ordinarily, a user can send mail to `all`, which sends a copy of the mail story to every user on the system. To disable this feature, include an alias for `all` in a story in `SYSTEM.GROUPS` that maps the word `all` onto a nonexistent user name. The new alias may look like this:

```
alias  all
not-allowed
```

Because `not-allowed` is not a valid user on your system, anyone who tries to send mail to `all` will get the error message:
`Returned mail: User unknown`.

Using Network Mail

Your system has a hosts file that it uses to communicate with other devices on the network. This file is found in `/etc/hosts`. Each iNEWS Server’s hosts file is like a directory that includes the network addresses of all computers on the network. The iNEWS Servers use that directory to find the address of other computers. See “Hosts File” on page 275 for more information.

The typical format of a line in the hosts file lists the Internet address of a computer or other network device, followed by its name.

For instance, here is an `/etc/hosts` file for a three-server system:

```
124.4.0.1 nrcs-a a
124.4.0.2 nrcs-b b
124.4.0.3 nrcs-c c
```

Using 8-Bit Characters in Mail

You can use 8-bit characters, such as accented letters (ñ, ó, and á), in both mail messages and mail addresses. You send mail in a format compatible with the MIME standard. By default, 8-bit characters will be represented in the MIME standard `quoted-printable` format. See RFC 2045 at `http://www.rfc-editor.org/rfc/rfc2045.txt` for more information. You can change this behavior by setting the `EIGHTMAIL` environment variable in `/exc/.profile`.

`EIGHTMAIL=`*`x-underscore-prefix`* causes mail to be encoded using the iNEWS system underscore format. `EIGHTMAIL=8bit` or `EIGHTMAIL=` turns off 8-bit encoding and sends unencoded 8-bit characters without change.

Only two programs use `EIGHTMAIL`, namely `grpcheck` and the mail server.

`Grpcheck` normally converts 8-bit characters in user, group, and alias names to the iNEWS proprietary `underscore-prefix` format when building the mail alias file (`/site/.mail/aliases`*)*. This occurs when `EIGHTMAIL` is not found in `grpcheck`*'s* environment. If `EIGHTMAIL=` or `EIGHTMAIL=8bit` is present in `grpcheck`*'s* environment, conversion is not done (the 8-bit characters are put into the alias file). If `EIGHTMAIL` is in `grpcheck`*'s* environment but is set to some other value, it is ignored and `grpcheck` behaves as when `EIGHTMAIL` is not found in the environment.

The mail server normally converts 8-bit characters in the From, To, and CC names to `underscore-prefix` format and converts 8-bit characters in text to `quoted-printable` format for outgoing mail messages. This occurs when `EIGHTMAIL` is not found in mail server's environment or when `EIGHTMAIL=quoted-printable` is found in mail server's environment. If `EIGHTMAIL=` or `EIGHTMAIL=8bit` is present in mail server's environment, no conversion is done (the 8-bit characters are included in the outgoing mail message).

If `EIGHTMAIL=x-underscore-prefix`, mail server will convert 8-bit characters in the From, To, and CC names and 8-bit characters in text to `underscore-prefix` format. The mail server will include a

`Content-Transfer-Encoding: <type>` statement in the outgoing mail message. The `<type>` will be set to one of `quoted-printable`, `x-underscore-prefix`, or `8bit`. This will be used by the mail receiving program to determine how to convert back into 8-bit characters.

The mail server's behavior may be more easily understood, as shown in the following table.

Environment	From/To/CC Names	Text
(nothing)	underscore-prefix	quoted-printable
EIGHTMAIL=quoted-printable	underscore-prefix	quoted-printable
EIGHTMAIL=x-underscore-prefix	underscore-prefix	underscore-prefix
EIGHTMAIL=	(no conversion)	(no conversion)
EIGHTMAIL=8bit	(no conversion)	(no conversion)

Character Conversion Table for Underscore-Prefix Format

The iNEWS system uses the Character Conversion table (on page 491) to convert 8-bit characters used in mail stories into 7-bit representation strings when mail is sent and then converted back into their 8-bit values when the mail is received at another iNEWS system.

If you are sending mail from a Linux system to iNEWS, the `Mail Compose` strings in column four are required only in the address of the mail; you can use either these strings or the standard VT220 compose sequences within the message. Use the corresponding lowercase characters in the address.

Character conversion data in the following table originates from the MS (Windows) 1252 code page, which is used for such languages as: English, German, French, Icelandic, Norwegian, Italian, Portuguese, Spanish, Dutch, Finnish, and Swedish. Other languages, such as Arabic, Czech, *Turkish, Polish, Hungarian, Slovenian, and so forth, use different code pages. Contact Avid Customer Support for assistance with these language conversions.*

8-Bit Character	Decimal	Hex	Mail Compose	7-Bit String
¡	161	A1	_}}	_}}
¢	162	A2	_c-	_|c
£	163	A3	_l-	_l=
¥	165	A5	_y-	_y=
§	167	A7	_so	_}s
¤	168	A8	_xo	_xo
©	169	A9	_oc	_oc
ª	170	AA	_}a	_a_
«	171	AB	_~~	_~~
°	176	B0	_o&	_o&
±	177	B1	_-+	_-+
2	178	B2	_2+	_^2
3	179	B3	_3+	_^3
µ	181	B5	_u-	_u/
¶	182	B6	_}p	_}p
·	183	B7	_+*	_^.
1	185	B9	_1+	_^1
º	186	BA	_}o	_o_
»	187	BB	_``	_``

8-Bit Character	Decimal	Hex	Mail Compose	7-Bit String
1/4	188	BC	_41	_41
1/2	189	BD	_21	_21
¿	191	BF	_{{	_??
À	192	C0	_`A	_`A
Á	193	C1	_A'	_A'
Â	194	C2	_A+	_^A
Ã	195	C3	_~A	_~A
Ä	196	C4	_A$	_A$
Å	197	C5	_A*	_A*
Æ	198	C6	_EA	_EA
Ç	199	C7	_}C	_C;
È	200	C8	_`E	_`E
É	201	C9	_E'	_E'
Ê	202	CA	_E+	_^E
Ë	203	CB	_E$	_E$
Ì	204	CC	_`I	_`I
Í	205	CD	_I'	_I'
Î	206	CE	_I+	_^I
Ï	207	CF	_I$	_I$
Ñ	209	D1	_~N	_~N
Ò	210	D2	_`O	_`O
Ó	211	D3	_O'	_O'

8-Bit Character	Decimal	Hex	Mail Compose	7-Bit String
Ô	212	D4	_O+	_^O
Õ	213	D5	_~O	_~O
Ö	214	D6	_O$	_O$
Œ	215	D7	_OE	_OE
Ø	216	D8	_O-	_O/
Ù	217	D9	_`U	_`U
Ú	218	DA	_U'	_U'
Û	219	DB	_U+	_^U
Ü	220	DC	_U$	_U$
Ÿ	221	DD	_Y$	_Y$
ß	223	DF	_ss	_ss
à	224	E0	_a`	_a`
á	225	E1	_a'	_a'
â	226	E2	_a+	_a^
ã	227	E3	_~a	_~a
ä	228	E4	_a$	_a$
å	229	E5	_a*	_a*
æ	230	E6	_ea	_ea
ç	231	E7	_}c	_c;
è	232	E8	_e`	_e`
é	233	E9	_e'	_e'
ê	234	EA	_e+	_e^

8-Bit Character	Decimal	Hex	Mail Compose	7-Bit String
ë	235	EB	_e$	_e$
ì	236	EC	_i`	_i`
í	237	ED	_i'	_i'
î	238	EE	_i+	_i^
ï	239	EF	_i$	_i$
ñ	241	F1	_~n	_~n
ò	242	F2	_o`	_o`
ó	243	F3	_o'	_o'
ô	244	F4	_o+	_o^
õ	245	F5	_~o	_~o
ö	246	F6	_o$	_o$
œ	247	F7	_oe	_oe
ø	248	F8	_o-	_o/
ù	249	F9	_u`	_u`
ú	250	FA	_u'	_u'
û	251	FB	_u+	_u^
ü	252	FC	_u$	_u$
ÿ	253	FD	_y$	_y$

Monitor Servers

Monitor server is a utility program—running on the iNEWS newsroom computer system—that checks a show's event requests for errors, creates composite and event lists, and sends playlists to ControlAir and MOS Gateway.

A monitor server must be assigned device and mailbox numbers—typically, these numbers are the same, which makes the configuration easier to remember. A device number is chosen for monitor server so iNEWS recognizes the server (utility) program as a valid device. The device number must be entered in the system's configuration file. The mailbox number must be assigned to both the show's monitor server and its rundown queue.

A mailbox is an activation mechanism for a server (utility) program, so if a queue has a mailbox number matching a server program, then that server is the one activated or "awakened" whenever something happens to the queue.

The mailbox enables iNEWS to notify the monitor server of changes made to a rundown queue—the one sharing the same mailbox number—while that show is monitored. The monitor server then updates composite and event lists, if necessary.

The monitor server is turned on when a user at an iNEWS Workstation turns it on. When on, monitor server checks its assigned rundown for machine control events, and builds playlists. It continues to monitor the rundown for changes and performs as much error checking as it can—by comparing machine control events with styles located in the `SYSTEM.RESOURCE` queue—without communicating with any broadcast equipment, including ControlAir. To learn more about styles and how monitor servers check for errors, see "Styles" on page 519.

The monitor server loads data to the iNEWS ControlAir system or the MOS Gateway system when a user instructs it to do so from an iNEWS Workstation. The communication path between monitor server and ControlAir, at this point, is explained in more detail in Chapter 1 of the *ControlAir Operations Manual*. See also "Using the Monitor Server" on page 526.

It is recommended that producers turn the monitor server on early so it can check the rundown queue throughout much of the show's development. Instructing the monitor server to load data should be done later, such as just before taking the show to air.

Configuring Monitor Servers

When configuring monitor servers, there are certain tasks that must be performed on the iNEWS Servers at the console, and at an iNEWS Workstation. If your site already has the Machine Control System (MCS), much of this work may already be done. These tasks must be completed to download playlists and updates to the ControlAir system.

This section assumes:

- Your site has a fully functioning network.
- Your newsroom computer system servers are operational and running the iNEWS Server software.
- All iNEWS Servers are connected to a console multiplexor, to which Avid Customer Support technicians have dial-in access.
- The person performing the installation has attended an iNEWS, AvidNews, or NetStation system administration course or has equivalent experience. This includes having a working knowledge of `ed`, the line editor and selecting servers at the console.

Configuration Summary

The set-up procedure has the following steps: Each step is explained further in "Configuration Details".

1. Creating a Monitor Server for Each Show (page 497)
2. Creating Composite and Event List Queues (page 502)
3. Set Up Queue and Story Forms (page 505)
4. Assigning Forms to Queues (page 506)
5. Create an Entry in the SYSTEM.MAP Story (page 507)
6. Updating the iNEWS System Dictionaries (Optional) (page 515)

Some configurations require updating styles in the `SYSTEM.RESOURCE` *story. For more information on how to do that, see "Styles" on page 519.*

Configuration Details

The following steps do not include setting up external devices, such as character generators and still stores, which play broadcast events. Refer to the manufacturer's documentation provided with the device and to the *Device Manager Guides*, provided on the ControlAir Installation CD, for more configuration details.

The configuration procedure comprises the following steps:

Step 1: Creating a Monitor Server for Each Show

This section assumes rundown queues for the shows being monitored already exist. If not, create them before continuing.

To create and configure a monitor server:

1. Check the configuration file (`/site/config`) and choose the next available device number for the monitor server, from the range of 3-digit numbers reserved for use by your system's server programs, such as 201 to 300.

Valid standard mailbox numbers are 1 through 4096.

2. Choose an available mailbox number. For simplicity, this can be the same 3-digit device number. Do the following:

   a. Use the `list` console command to ensure no other device is using the mailbox number you have chosen.

   For instance, to check mailbox 266, type:

   `list mailbox=266 c`

   Information similar to the following appears:

```
DEV DEVICE_TYPE COMPUTER CCU PRINTER SPEED OPTIONS DEVNAME
```

For other `list` *command options for determining mailbox assignments of queues and servers, see "Using the list Command to View Assigned Mailboxes" on page 501.*

b. If you see the device configuration header (as shown in step 2a) with no information below it, then no device has that mailbox and you can use that number. However, if configuration information for a device appears below the header, that device has the same mailbox as the one you chose. Therefore, choose another mailbox number and repeat step 2a.

If the mailbox number is already being used, and you must choose another, you may want to try another device number for the monitor server as well. Typically, mailbox numbers match server program device numbers, although this is not required. However, the mailbox number you select must be assigned to the queue monitored by the server program. Multiple queues can share the same mailbox number, but care must be take to avoid conflicts. See "Using the list Command to View Assigned Mailboxes" on page 501 for more information.

3. Add the monitor server to the `/site/config` file on each iNEWS Server—such as server A and server B in a dual server system— by doing the following:

Always back up the `/site/config` file before making any changes. See "Changing the Configuration File" on page 273 for more information.

Changing the configuration file requires the use of `ed`, the line editor. See Appendix H for more information.

a. At the console, select *all* iNEWS Servers. *See "Selecting Servers" on page 33* for more information.

b. Use the `ed` command to open and edit the configuration file, by typing:

```
ed /site/config
1259
```

After you press Enter, the editor responds by displaying a number, as shown, indicating the file size expressed as the number of characters, including spaces and returns.

c. Add the monitor server's device number to the `servers` line in the `host` definition for the iNEWS Server that will run the monitor server program. For instance:

```
servers 261 263 265 267
```

The device number 267 is added to the `servers` line in this example.

Divide your server programs evenly among your iNEWS Servers to distribute the load they put on your system. For instance, put odd numbered programs on server A and even numbered ones on server B. Additionally, ensure that you also add the configuration line for the monitor server to alternate `host` *definitions for your iNEWS Servers. This ensures it can run on the surviving computer should one of your iNEWS Servers stop functioning.*

Do not confuse the configuration line, which starts with `server`, and the `servers` line mentioned in 3c on page 498, which lists device numbers.

d. Add a configuration line for the monitor server in the `host` definition belonging to the iNEWS Server that will run the server program. This line begins with the word `server` and contains the mailbox number assigned to the monitor server.

The format for server programs' configuration lines are:

```
server <device#> <type> <mailbox> <device name>
```

Parameter	Description
`device #`	The device number assigned to the server program. This 3-digit number must also be listed in the `servers` line in a host definition.
`type`	The type of server program is `monitor`.
`mailbox`	The mailbox the server program uses. Valid standard mailbox numbers are 1 through 4096. This number typically matches the server program's device number.
`device name`	Monitor servers do not use a device name; enter a hyphen (-).

Comments appearing after the semicolons (;) are optional.

The following are sample configuration lines for monitor server programs:

```
server   264  monitor      264  - ;monitor server
server   265  monitor      265  - ;monitor server
server   266  monitor      266  - ;monitor server
server   267  monitor      267  - ;monitor server
```

Do *not* use an uppercase (**`W`**) in step 3e. See Appendix H for more information.

e. When you finish making changes to the configuration file, save your changes by typing:

   `w`

f. When you press enter, a number will appear, such as `1279`, indicating the file size. You can then exit the line editor by typing:

   `q`

4. (Optional) Test your configuration changes. See “Testing the Site Configuration File After Changing” on page 273 for more information.

After editing the configuration file (`/site/config`), it should be backed up.

5. Reconfigure the system. See “Incorporating Configuration Changes” on page 274 for more information. When adding server programs, you do not need to stop anything to reconfigure the system.

Unlike other utility programs, it is not necessary to start a monitor server when you add it to the configuration file. It starts when someone uses the `monitor on` or `monitor load` command for the rundown queue to which you have assigned the monitor server. See “Using the Monitor Server” on page 526 for more information.

Mailboxes are assigned to queues in the same way other database traits are—using the Queue Properties dialog box. See “Directory/Queue Properties Dialog Box” on page 121 for more information.

6. After you choose the monitor server’s mailbox number and verify that it is not used by another device, you must also assign it to the show’s rundown queue, being monitored by the monitor server.

   For instance, if the monitor server’s mailbox number is 267 and it will monitor the `SHOWS.6PM.RUNDOWN` queue, then that number must be assigned to that queue.

   See “Assigning a Mailbox to a Queue” on page 422 for more information.

Using the list Command to View Assigned Mailboxes

Variations of the `list` command can be used at the console to determine mailbox assignments for specific devices, queues, and so forth.

Since multiple queues can share the same mailbox, you can list all queues and directories in the database that are using a certain mailbox, such as 267. To do this, type:

```
list mailbox=267 d
```

To find out which monitor server mailboxes are assigned, type:

```
list c monitor
```

The system displays configuration information for your system’s monitor servers, similar to the following:

```
DEV DEVICE_TYPE COMPUTER CCU PRINTER SPEED OPTIONS DEVNAME
S264 monitor        A       N264
S265 monitor        B       N265
S266 monitor        A       N266
S267 monitor        B       N267
NRCS-A$
```

The mailbox number assigned to each monitor server appears in the PRINTER column and begins with the letter, N.

To see if any servers are assigned a certain mailbox number, use the following format: `list mailbox=<mailbox number> c`

⚠ **Two rundowns queues can share the same mailbox, but they should never be monitored simultaneously. If two rundowns share the same mailbox number, ensure that both their monitor servers do not run simultaneously; otherwise, results could be unpredictable.**

To check whether mailbox 267 is assigned to a server program, type:

```
list mailbox=267 c
```

Step 2: Creating Composite and Event List Queues

The monitor server scans stories for machine control events and builds lists of these events, which can be referenced or used to transmit data to production devices, such as character generators (CGs), video servers, and still store machines. These lists, known as composite and event lists, are optional, yet valuable, resources for a show's director and production device operators. An event list contains details for a specific device, while a composite list contains status information for all devices connected through ControlAir.

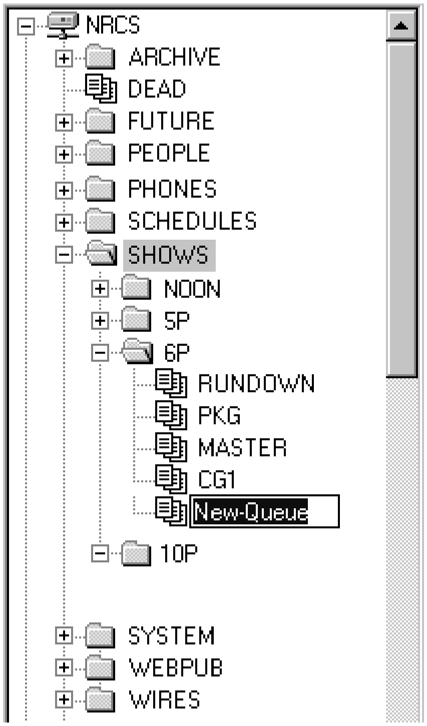
You may want to create only composite and/or event lists for certain production devices. If you do not create list queues for some devices, the monitor server will not create lists.

For these lists to exist, queues for them must be created—if they do not already exist—and they must be "mapped" to the monitor server so it knows where to put composite information and event lists.

The following procedure explains how to create queues. For more on mapping them, see "Create an Entry in the SYSTEM.MAP Story" on page 507.

To create and configure the composite and event list queues:

1. At an iNEWS Workstation, create the queues in the iNEWS database by following the steps provided on page 103. See “Adding a Directory or Queue” on page 99 for more information.
2. Name the new queue, such as **`COMPOSITE`** or **`CG1`**.



The pathname of each device’s event list queue is a combination of the event list directory and the device manager’s name. For instance, if you want an event list for the 6PM show that has a character generator called `CG1`*, you may select to place the event list queue in the* `SHOWS.6P` *directory. The pathname would be* `SHOWS.6P.CG1`*. Using the same example, the pathname for the composite list queue would be* `SHOWS.6P.COMPOSITE`*.*

The newly created queue will inherit database traits of its parent directory initially. You can open the new queue by double-clicking on it. For more information about queues and their database traits, see Chapter 5.

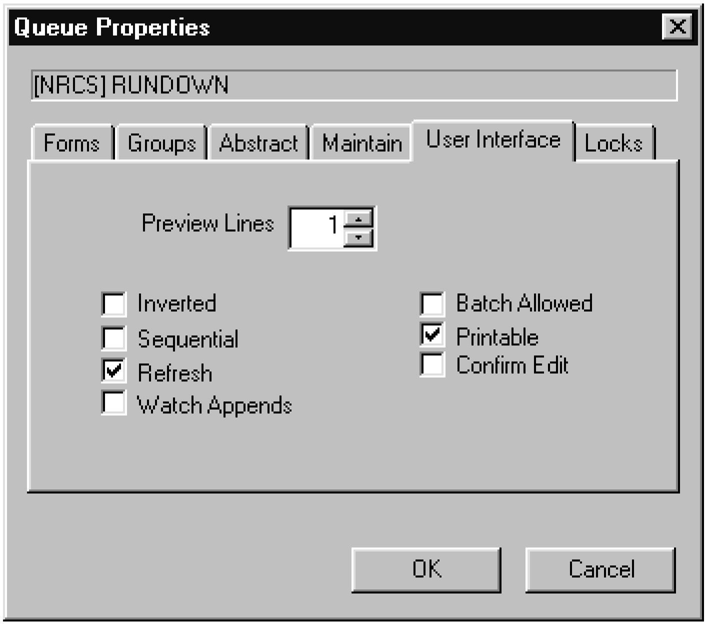
3. To have monitor server display information in these lists properly, each queue must have a 1-line display and be assigned the proper queue form. Assigning these forms is covered in “Assigning Forms to Queues” on page 506.

To set the display of any queue, such as a composite or event list queue:

a. Log in as a system administrator at an iNEWS Workstation.

b. Navigate to and right-click on the composite or event list queue in the Directory panel.

c. Select Properties from the pop-up menu. The Queue Properties dialog box appears.



[NRCS] RUNDOWN

Preview Lines 1

□ Inverted
□ Sequential
☑ Refresh
□ Watch Appends

□ Batch Allowed
☑ Printable
□ Confirm Edit

d. Select the User Interface tab.

e. Set Preview Lines to the number of lines you want displayed in the Queue panel.

f. Click OK to save changes.

4. To ensure that you can use the queues effectively, remove the inverted database trait and apply the refresh database trait to them. This can be done by removing the check mark from the Inverted checkbox and selecting the Refresh checkbox on the User Interface tab of the Queue Properties dialog box at any iNEWS Workstation.

   For more information about assigning database traits to queues, see Chapter 5.

5. Assign a write security group to your event and composite list queues to ensure that only the monitor server makes changes to the composite and event lists. It is recommended that you restrict writing access of these queues to superusers.

   For more information on how to assign write groups to queues, see “Group Traits for the Database” on page 172.

After the composite and event list queues are created, the monitor server must be created—as described in step 1 on page 497—and mapped to them. This will enable the monitor server to determine the queue where the composite list should be placed and the directory where the event list queues are located. The procedures for mapping the monitor server to composite and event list queues are explained in “Create an Entry in the SYSTEM.MAP Story” on page 507.

Step 3: Set Up Queue and Story Forms

All three queues—rundown, composite, and event list—use forms with fields that may be filled in by monitor server programs.

Add fields to existing rundown queue and story forms in iNEWS, as well as forms used by the composite and event list queues, using the following guidelines:

For more information on these form field types, see “Form Field Types and Definitions” on page 214 and “iNEWS MCS/ControlAir Fields and Forms” on page 226.

- Two fields are used in forms for all three queues: VIDEO-ID and EVENT-STATUS.
- Two fields are used in forms for rundown queues: STATUS and TAPE-TIME.

- The following fields are used in forms for composite and event list queues: MOS-TITLE, CG-ADDR, ITEM-CHANNEL, STILL-ID and CG-TEXT. The following fields are used only for event list queues: CG-TEMPLATE, STILL-PRESET, STYLE, and EFFECT.

For a field to exist in a queue form, it must also exist in a story form. See Chapter 8 for more information.

Step 4: Assigning Forms to Queues

After you create queues to hold the composite and event lists, you must assign forms containing iNEWS fields to each queue. For instance:

- Assign a form designed to display composite list information to `SHOWS.6PM.COMPOSITE`
- Assign a form designed to display the information in a character generator's event list to `SHOWS.6PM.CG1`

Your system includes default forms—located in the `SYSTEM.FORMS` directory—for composite, still store, character generator, and video event list queues. If upgrading to iNEWS from a previous product version, such as NetStation, you must update forms for composite and event list queues, including rundown forms.

To assign a form to a queue at an iNEWS Workstation:

1. Navigate to the queue you want in the Directory panel.
2. Right-click on it.
3. Select Properties from the pop-up menu. The Directory/Queue Properties dialog box will appear.

Access to the Directory/Queue Properties dialog box and its appearance vary, depending on certain circumstances. See Chapter 5 for more information.

4. Do either or both of the following:

See “Forms Tab” on page 122 for more information.

   a. Use the Queue drop-down list on the Forms tab to select the form you want to apply to the queue as the queue form database trait.

b. Use the Story drop-down list on the Forms tab to select the form you want to apply to the queue as the story form database trait.

You must assign a queue form and a story form. The *queue form* determines the look of the queue. The *story form* determines how an event request is displayed when you double-click it.

For instance, to assign the standard composite list queue form to the `SHOWS.6PM.COMPOSITE` queue, select the appropriate form from the Queue drop-down list in the Queue Properties dialog box. To assign a story form to this composite list, select the appropriate form from the Story drop-down list in the Queue Properties dialog box.

The forms will only appear in the drop-down lists if they exist in the database. For information about how to create your own forms or modify existing forms, and about database traits, see Chapter 5 and Chapter 8.

5. If you made changes to an existing form, you must select the Update existing stories to use story form. When this check box is selected, iNEWS changes the story form assignment for existing stories with the queue.
6. Click OK to save changes and apply the new queue/story form settings.

Users should log off and sign back on to view the new queue/story form settings.

Step 5: Create an Entry in the SYSTEM.MAP Story

The *map story* is a standard iNEWS database story and is always the first story in the `SYSTEM.MAP` queue (as defined by `Q_MMAP`). It can be opened and edited like any other iNEWS database story; however, access to it is typically limited to system administrators who already have access to the System directory.

When you create a show’s map story entry, you will usually specify that monitor server create and maintain event and composite lists when someone monitors the show.

On a small system, the work required to update composite and event lists could affect overall system performance. In these cases, specify in the show's `SYSTEM.MAP` *story entry that monitor server should not create composite and event lists, or that it create one and not the other.*

After creating the show's monitor server, add an entry for the show to your system's map story. This entry specifies to the show's monitor server the location of the show's rundown queue, and composite and event lists. Without this information, the monitor server will not create lists. The map story entry also specifies the list of groups that can monitor a queue, and when the monitor server turns itself off.

To add an entry for the show in the map story:

MOS Gateway is another Avid product that works with the iNEWS newsroom computer system to control production devices.

1. Open the `SYSTEM.MAP` story, which contains a separate entry for each show that will be produced using ControlAir or MOS Gateway.

   The following figure shows three sample entries, with four devices each, in a `SYSTEM.MAP` story.

Each show's map story entry must begin with a line called an entry header.

```
;RUNDOWN                   EVENT DIR        COMP QUEUE          GROUP (OFF TIME)
;DEVICE       DEVNMAME                 UPDATE     PLAYBACK FORM     (MSG DIR)
;
; ---6P uses monitor/mailbox 267 ---
SHOW.6P.RUNDOWN            SHOW.6P          SHOW.6P.COMPOSITE        -   2100
ss           ss@casvr-1,casvr-2         UPDATE bcs-bcw
cg           cg@casvr-1,casvr-2         UPDATE bcs-bcw       C:NEWS:500 699
cart         pdr@casvr-1,casvr-2        UPDATE bcs-bcw       3
mos          sony@mosgwy                UPDATE bcs-bcw       -
;
;
; ---10P uses monitor/mailbox 268 ---
SHOW.10P.RUNDOWN           SHOW.10P         SHOW.10P.COMPOSITE       -   130
ss           ss@casvr-1,casvr-2         UPDATE bcs-bcw
cg           cg@casvr-1,casvr-2         UPDATE bcs-bcw       C:NEWS:300 499
cart         pdr@casvr-1,casvr-2        UPDATE bcs-bcw       3
mos          sony@mosgwy                UPDATE bcs-bcw       -
;
;
; ---SPECIALS uses monitor/mailbox 269 ---
SHOW.SPECIALS.RUNDOWN      SHOW.SPECIALS    SHOW.SPECIALS.COMPOSITE  -   D130
ss           ss@casvr-1,casvr-2         UPDATE bcs-bcw
cg           cg@casvr-1,casvr-2         UPDATE bcs-bcw       C:NEWS:300 499
cart         pdr@casvr-1,casvr-2        UPDATE bcs-bcw       3
mos          sony@mosgwy                UPDATE bcs-bcw       -
```

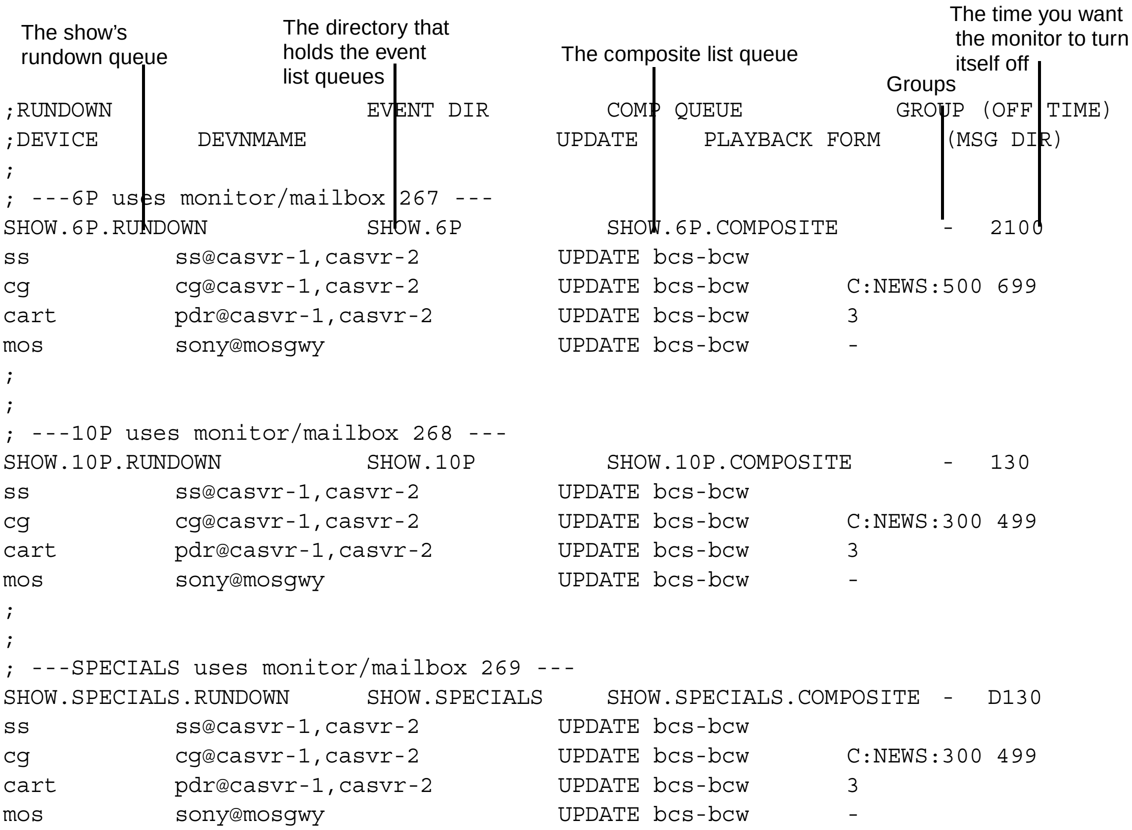
The entry header must be followed by a device list.

2. Create an entry header, which specifies the following information for each show:

   - The show's rundown queue
   - The directory that holds the event list queue(s)
   - The composite list queue
   - Group of users who can monitor the show

- The time you want the monitor to turn itself off—when you want the system to stop monitoring the show.

The time may be enter as a specific time, such as 130 (1:30 AM) or 2100 (9:00 PM). It may also be entered as a duration, such as D130; the monitor server will turn itself off 1 hour and 30 minutes after it was turned on.


The show's rundown queue
The directory that holds the event list queues
The composite list queue
Groups
The time you want the monitor to turn itself off

```
;RUNDOWN                    EVENT DIR          COMP QUEUE             GROUP (OFF TIME)
;DEVICE       DEVNMAME                     UPDATE      PLAYBACK FORM      (MSG DIR)
;
; ---6P uses monitor/mailbox 267 ---
SHOW.6P.RUNDOWN             SHOW.6P            SHOW.6P.COMPOSITE         -   2100
ss           ss@casvr-1,casvr-2            UPDATE bcs-bcw
cg           cg@casvr-1,casvr-2            UPDATE bcs-bcw       C:NEWS:500 699
cart         pdr@casvr-1,casvr-2           UPDATE bcs-bcw       3
mos          sony@mosgwy                   UPDATE bcs-bcw       -
;
;
; ---10P uses monitor/mailbox 268 ---
SHOW.10P.RUNDOWN            SHOW.10P           SHOW.10P.COMPOSITE        -   130
ss           ss@casvr-1,casvr-2            UPDATE bcs-bcw
cg           cg@casvr-1,casvr-2            UPDATE bcs-bcw       C:NEWS:300 499
cart         pdr@casvr-1,casvr-2           UPDATE bcs-bcw       3
mos          sony@mosgwy                   UPDATE bcs-bcw       -
;
;
; ---SPECIALS uses monitor/mailbox 269 ---
SHOW.SPECIALS.RUNDOWN       SHOW.SPECIALS      SHOW.SPECIALS.COMPOSITE  -   D130
ss           ss@casvr-1,casvr-2            UPDATE bcs-bcw
cg           cg@casvr-1,casvr-2            UPDATE bcs-bcw       C:NEWS:300 499
cart         pdr@casvr-1,casvr-2           UPDATE bcs-bcw       3
mos          sony@mosgwy                   UPDATE bcs-bcw       -
```

You must specify the parameters in the entry header in the order indicated in the following table.

Parameter	Definition
Rundown Queue	The full pathname of the show's rundown queue.
Event List Directory	(Optional) The directory in which event lists are stored. The monitor server combines information you put here with the device name. For instance, if you specify `SHOWS.6PM` here and you have a still store machine called "ss1," the monitor server puts the still store's event list in SHOWS.6PM.SS1. It is a good idea to use the same directory that holds the show's rundown. If you do not use this field, put a dash here.
Composite List Queue	(Optional) The full pathname of the queue in which the show's composite list is stored. It is a good idea to put the composite list in the same directory as the show's rundown queue. If you do not use this feature, put a dash here.
Group of Users	(Optional) Put a security group in this field so that only superusers and people assigned to that group can monitor the show. Put a dash here if you do not want to restrict who can monitor the show. Consider using different security groups for each show in a series of back-to-back shows to prevent one show's producer from starting or stopping another show's monitor server.
Off Time	The time you want the show's monitor server to turn itself off. You can enter this time as either a time of day or a duration. Enter the time of day in 24-hour format. For instance, type **`1915`** to have the monitor server turn itself off at 7:15 PM. Enter a duration by typing **`D`** before the value. For instance, enter a duration of one hour and 30 minutes as **`D130`**. (These values are not case-sensitive.)

3. List the devices used by the show; production devices for which you want the show’s monitor server to process event requests.

```
;RUNDOWN                   EVENT DIR        COMP QUEUE           GROUP (OFF TIME)
;DEVICE       DEVNMAME                   UPDATE     PLAYBACK FORM    (MSG DIR)
;
; ---6P uses monitor/mailbox 267 ---
SHOW.6P.RUNDOWN            SHOW.6P          SHOW.6P.COMPOSITE       -   2100
ss           ss@casvr-1,casvr-2          UPDATE bcs-bcw       
cg           cg@casvr-1,casvr-2          UPDATE bcs-bcw       C:NEWS:500 699
cart         pdr@casvr-1,casvr-2         UPDATE bcs-bcw       3
mos          sony@mosgwy                 UPDATE bcs-bcw       -
;
;
; ---10P uses monitor/mailbox 268 ---
SHOW.10P.RUNDOWN           SHOW.10P         SHOW.10P.COMPOSITE      -   130
ss           ss@casvr-1,casvr-2          UPDATE bcs-bcw
cg           cg@casvr-1,casvr-2          UPDATE bcs-bcw       C:NEWS:300 499
cart         pdr@casvr-1,casvr-2         UPDATE bcs-bcw       3
mos          sony@mosgwy                 UPDATE bcs-bcw       -
;
;
; ---SPECIALS uses monitor/mailbox 269 ---
SHOW.SPECIALS.RUNDOWN      SHOW.SPECIALS    SHOW.SPECIALS.COMPOSITE -   D130
ss           ss@casvr-1,casvr-2          UPDATE bcs-bcw
cg           cg@casvr-1,casvr-2          UPDATE bcs-bcw       C:NEWS:300 499
cart         pdr@casvr-1,casvr-2         UPDATE bcs-bcw       3
mos          sony@mosgwy                 UPDATE bcs-bcw       -
```

The monitor server can only process event requests for devices specified in the device list; event requests for other devices generate errors.

The parameters contained in the device list are explained in following tables:

Parameter	Definition
Device Type	Specify the type of production device in this parameter. *The iNEWS newsroom computer system stores a Machine Control System (MCS) dictionary file—named* `mcs`*—in the* `/site/dict` *directory. The* `/site/dict/mcs` *file usually defines production device types as CG for character generator, SS for still store machines, and CART for video devices, such as video servers or cart machines. You must specify in the device list a valid production device as defined in the dictionary file; otherwise, the monitor server ignores that line and any that follow it, so it cannot properly process event requests.* In some cases, iNEWS users may create machine control events that specify devices by type rather than name. When the monitor server encounters such an event, it sends it to the first device of that type defined in the show's `SYSTEM.MAP` story entry. If you have a show that uses two devices of the same type, decide which device you want as the monitor server's default, and define it first in the show's `SYSTEM.MAP` story entry.

Device Name	Specify the name of the production device in this parameter. If the device is connected to the system through an MCS-PC or PC-PCU, only the device name is needed in this parameter, such as `CG1`, `SS`, `VID-A`. The device name is assigned to the production device in the iNEWS configuration file (`/site/config`). If you are unsure of the device name, check its entry in this configuration file.
	For devices interfaced through a ControlAir Server or MOS Gateway, the format is:
	`<device name>@<ControlAir Server name>`
	`<device name>@<MOS Gateway Server name>`
	In addition, a backup server may be specified. The backup server can be loaded in place of the primary server; however, both may not be loaded at the same time. For server pairs, the format is:
	`<device name>@<primary server name>, <backup server name>`
	Device names for ControlAir Server devices must match the device name specified in the DMP file for one of the device managers configured on the ControlAir Server. See the *Avid iNEWS ControlAir Operations Manual* for more information.

Parameter	Definition
Update	Specify whether you want the monitor server to update the device’s playlist when someone modifies the rundown in this parameter. By default, these updates are performed. Type **`noupdate`** in this parameter if you do not want the monitor server to perform these updates.
Playback Form	Specify the form used to display each device’s machine control events. You can use standard forms provided with your system, such as the `bcs-bcw` form, or build your own. If you use a Machine Control Terminal (MCT), the standard forms are `MCT-CG`, `MCT-SS`, and `MCT-CART`.

The last parameter of a device list line—Drive, Directory/User#, and so forth—is defined in the following table.

Parameter	Definition
Parameters for Character Generators:	
Drive	Select the disk drive you want the machine to use. If you leave this field empty, the machine uses its default drive.
Directory/User#	Select the directory you want the character generator to use.
Address Range	Specify a range of addresses in this field. The monitor server uses this range to store the forms it builds. To specify a range of addresses, enter the starting address, followed by a space and the ending address. For instance, to reserve addresses 1 through 199, type **`1 199`** in this field. The range of numbers must be large enough to hold all character-generated graphics—also known as supers—that monitor server is likely to build for the show. Also, ensure you do not select a range that conflicts with the addresses the character generator uses to store its permanent supers or CG forms. *Because the monitor server may skip an address to keep them contiguous within a story, this range should be larger than the largest number of possible addresses used.*
Parameters for Still Stores:	
Drive	Select the disk drive you want the machine to use. If you leave this field empty, the machine uses its default drive.

Parameter	Definition
Directory/User#	If your still store machine has user numbers, use this field to specify the user number you want to use for that show.
Stack	Specify the stack or playlist identifier you want the still store to use in this field.
Parameters for Video Machines:	
Channel Assignment	This parameter specifies whether the iNEWS system, the ControlAir Workstation, the device manager, or the video (cart) device assigns channels. Use these codes: 0 to have channels assigned by device 1 to have channel assigned by iNEWS 2 to have channels assigned by device manager 3 to have channels assigned by ControlAir Workstation

4. Save the map story.
5. Test monitor the show to ensure map story entries are functioning correctly.

The monitor server only examines the show's map story entry when a user turns it on, so any changes to the show's map story entry will not take effect until then. Changes made to the show's map story entry after the show is monitored do not take effect until the next time the show is monitored.

For this reason, you should monitor the show after creating or modifying the show's `SYSTEM.MAP` story entry to test the changes you make. Monitoring the show allows the monitor server to check your work and ensures smooth operation when you produce the show.

Step 6: Updating the iNEWS System Dictionaries (Optional)

Machine Control System (MCS) dictionary files in iNEWS can be modified to customize the appearance of status indicators from various devices. For instance, an Omnibus device, connected to iNEWS, shows a video play-back status of "OnAir," but the status field in the show rundown on iNEWS shows "Play" instead. If the system administrator wants the two status indicators to match, the MCS dictionary file in iNEWS must be modified. This will “translate” the iNEWS status wording so that it corresponds to what appears on the actual device.

The monitor server uses the MCS dictionary to show status for all devices, so ensure that words you choose apply to all devices. For instance, there is no way for the play status to be “OnAir” for character generators and “Playing” for video servers simultaneously.

Dictionary files are located in the `/site/dict` directory. This section covers changes made only to the `/site/dict/mcs` file; if changes are made to other dictionaries in the `/site/dict` directory, the procedure may require more steps.

Editing the /site/dict/mcs Dictionary File

In the following procedure, as an example, the term “Play” is changed to “OnAir” in the dictionary.

To edit the dictionary file:

1. Select *all* servers at the console, so changes you make are made to each server’s copy of the file. See “Selecting Servers” on page 33 for more information.

This procedure uses the line editor. *See Appendix H* for more information.

2. Open `/site/dict/mcs` for editing by typing:

   ```
   ed /site/dict/mcs
   ```

3. Navigate to the line with the word you want changed, such as “PLAY” by typing:

   ```
   /PLAY
   ```

   The console will respond with a display similar to the following:

   ```
   A_CAPLAY          /PLAY
   ```

   In the above example, PLAY appears twice in the line.

When navigating in the file, remember the line editor is case-sensitive. So, typing either **`/Play`** *or* **`/play`** *will not locate a line with “PLAY.”*

4. Substitute the new word, such as “OnAir,” for the second occurrence of the existing word, PLAY, by typing:

   ```
   s?/PLAY?/OnAir
   ```

   The console will respond with a display similar to the following:

   ```
   A_CAPLAY      /OnAir
   ```

The question marks are necessary to prevent the editor from substituting “OnAir” in place of the first occurrence of the word, “PLAY.” For instance, typing **`s/PLAY/OnAir`** *would result in the edited line appearing as*

```
/A_CAOnAir      /PLAY.
```

Do *not* use an uppercase (**`W`**) in step 5. See Appendix H for more information.

5. When you finish making changes to the dictionary file, save your changes by typing:

   ```
   w
   ```

6. When you press enter, a number will appear, such as `1279`, indicating the file size. You can then exit the line editor by typing:

   ```
   q
   ```

See Appendix C for more information about Dictionary files.

If you change your existing MCS dictionary files, you must apply those changes by running the `makemctab` command at the iNEWS console; however, any monitor servers that are running at the time the command is entered will not apply the changes. The monitor servers must be stopped prior to running the `makemctab` command.

A system administrator who knows the device numbers for monitor servers can choose to stop just those programs; however, it should be done *only* during off-peak hours, when the monitor servers are not used to monitor on-air shows.

To update your iNEWS dictionaries:

The prompt endings change from a dollar sign ($)—indicating a system operator login—to a pound sign (#)—indicating a superuser login.

1. Select *all* servers.
2. At the console, type **`su`** to become a superuser and type the superuser password. The prompts will appear as follows:

   ```
   NRCS-A$ su
   Password:
   NRCS-A#
   ```

   For security reasons, the console does not display the password you type.
3. At the specified time, select *one* server and type the command **`list s`** to check who is still logged in and which server programs are still running.

   A message similar to the following appears:

```
   S264      2Af4        B
   T11       miller      A
   T82       allen       B
   T101      stevens     A
   R801      stevens     A
```

   The `list s` command displays the device controlling the session, the user account used for the session, and the server servicing the session. In the example, the first line starts with an `S`, indicating a server (utility) program, such as a monitor server. The 3-digit number after the `S` is the device number. If you are unsure whether the device number is that of a monitor server, check the iNEWS configuration file (`/site/config`) for monitor servers and their assigned device numbers. You can do this by using the `list c` command at the console, in the following format: `list c <device number>`.

Server programs are only listed as a result of the `list s` command if they are actually running, so they may be in use. Do not stop them without first check with production staff to ensure you are not stopping a monitor server that is monitoring a show that is on-air.

4. After checking with production staff, type **`list s`** again to confirm whether all monitor servers are off.
5. Use the `stop` command followed by the device number(s) of monitor servers. This further ensures they are stopped. For instance, type:

   `stop 264`
6. Type **`makemctab -i`** to translate dictionaries used by monitor servers.
7. Log off the iNEWS console.

Unlike other utility programs, monitor servers do not have to be restarted from the iNEWS console. They are turned on and off from the iNEWS Workstation.

Styles

Some sites use the monitor server alone—without any direct connection to devices or ControlAir—to check machine control events within scripts for errors and produce playlists that personnel can print out or refer to during broadcasts.

Whether the monitor server in iNEWS is used alone or with ControlAir, it must have a defined set of styles with which to compare machine control events to work properly.

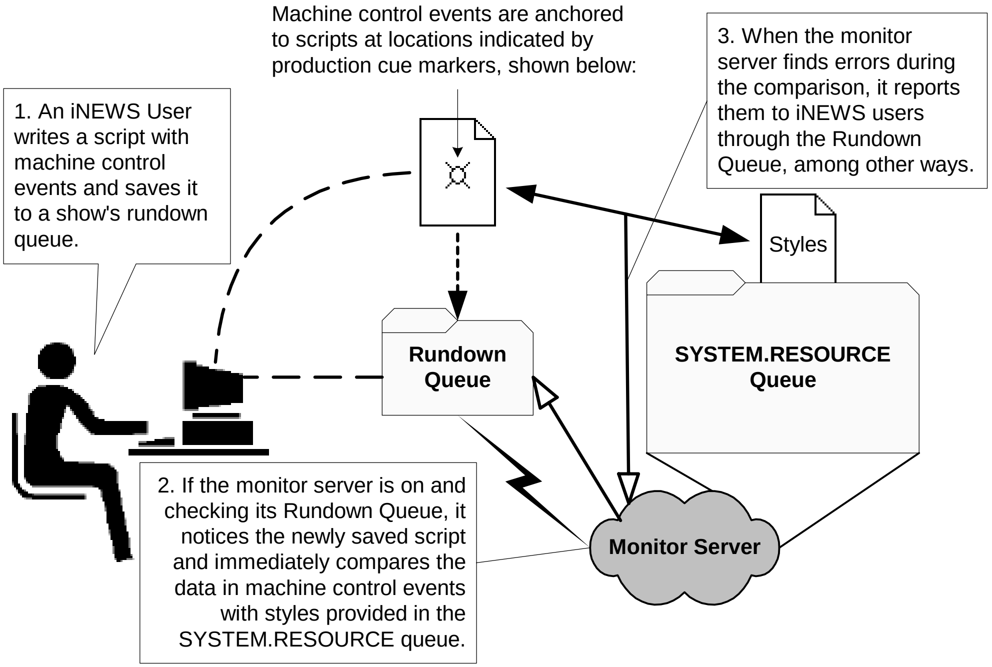
Styles apply to machine control events for character generators (CGs) and still store (SS) machines. Video machines and MOS devices do not use styles.

Styles are defined in stories located in the `SYSTEM.RESOURCE` queue of the iNEWS database. Each style represents elements necessary for the device (CG or SS) to produce a particular playback event.

Each device must have its own list of styles. If there are two production devices of the same type, such as two CGs, users may assume that a style that works on one device also works on the other. Consider creating a new story for each device, defining the same styles for both devices to avoid confusion. Because `SYSTEM.RESOURCE` *stories for several devices can* *be lengthy, users can find information they need more efficiently if there is one story per device. See "Creating Styles" on page 521 for more information.*

Styles make it easier to create event requests because they simplify the information users must put into the request. Most importantly, styles provide the information required for the monitor server to check machine control events for errors, which is then reported to iNEWS users through instant messages or by changing the color of the event when displayed in the Story panel at an iNEWS Workstation. This information can also be forwarded to the ControlAir system.

The following diagram shows where styles appear in the workflow.


Machine control events are anchored to scripts at locations indicated by production cue markers, shown below:
3. When the monitor server finds errors during the comparison, it reports them to iNEWS users through the Rundown Queue, among other ways.
1. An iNEWS User writes a script with machine control events and saves it to a show's rundown queue.
Styles
Rundown Queue
SYSTEM.RESOURCE Queue
Monitor Server
2. If the monitor server is on and checking its Rundown Queue, it notices the newly saved script and immediately compares the data in machine control events with styles provided in the SYSTEM.RESOURCE queue.

If you use effects in your character generator and still store styles, you should develop a strategy for using them. How you use effects depends on whether or not you use the ControlAir system:

- If you have a ControlAir Workstation and want to include an effect in a style, you must first define the style effect in the DMP file for the device manager that controls the production device.
- If you do not have a ControlAir Workstation, the effects you include in your styles serve as instructions to your production device operators. Develop a standard set of effect names that your production device operators can easily understand.

Creating Styles

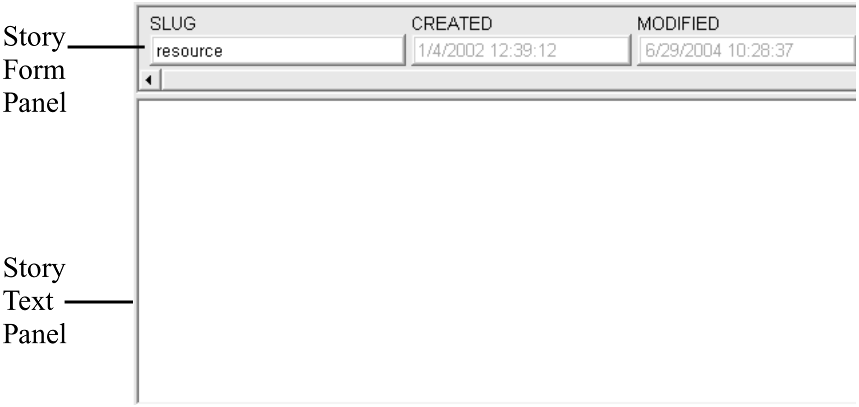
Styles are stored in stories, which are saved to the SYSTEM.RESOURCE queue. These stories are created and edited like any other story in the iNEWS newsroom computer system. However, if the queue has a write security group assigned to it, you must belong to that group or be logged on as a superuser to edit stories in the SYSTEM.RESOURCE queue.

⚠ **If your SYSTEM.RESOURCE queue does not have a write security group, one should be assigned. Because its stories define styles that people will use to request playback events, assigning a write security group helps ensure that only authorized personnel can edit these stories. See Chapter 6 for more information.**

To create a style:

1. At an iNEWS Workstation, navigate to the SYSTEM.RESOURCE queue.
2. Do one of the following:
   - ▶ Open an existing story to edit.

- Click the File menu and select New Story. The new story is created, and will appear with blank Story Form and Story Text panels.



SLUG: resource

CREATED: 1/4/2002 12:39:12

MODIFIED: 6/29/2004 10:28:37

3. The story should begin with a commented header and parameter line similar to the following:

```
;Resource File
;Dev    Style Template  Effect   # of Fields  ;Comments
```

Lines beginning with a semicolon (;) are comments and ignored by the system. Comments may also be added to the end of lines.

4. Do one of the following:

    - If editing styles in an existing story, move to the appropriate line(s) in the story.

    - If creating a new story, type the header as shown in step 3.

5. Enter a style entry line for the device, ensuring all parameters are addressed, as explained in the following table. The information you provide will vary slightly between styles for character generators and still store machines.

Parameter	Definition
Device	The device name of the character generator or still store machine to which the style applies. This name is defined in the device's entry in the ControlAir configuration file. For instance, `CG`, `CG1`, `CG2`, `SS`, and `SS1`.
Style	The name of the style. Specify a name, eight characters or less, containing at least one alpha character. For instance, `1LINE` , `2-LINE` , and `LLBOX` are valid style names, but `412` is not.
Template/Preset	This information differs depending on the device: **For CGs:** Enter the character generator address where the pre-recorded super or template that you want to use is located. *Many CGs allow alphanumeric addresses. Template addresses for these machines can also be alpha-only addresses, which are very useful to CG operators. Pre-recorded super addresses must be numeric only—at an address outside the address ranges listed in the* `SYSTEM.MAP` *story.* **For Still Stores:** Enter the preset you want to include in the style. If the style does not use a preset, type a dash (**-**) for this parameter. If you specify an invalid preset, when the playlist is downloaded the still store generates an error for event requests that use this style.
Effect	The name of a special effect you want to include in the style. If you do not want to include a special effect, such as `FADE` or `WIPE`, type a dash for this parameter. If you have a ControlAir Workstation and want to include an effect in a style, you must first define the style effect in the DMP file for the device manager that controls the production device. If the operator plays the event requests from the device's console, you can use any name up to eight characters long to represent the effect you want. However, ensure the operator is familiar with the name. When an event request uses this style, the monitor server puts the effect name you specify here in the event list entry for that event request. The operator uses the effect name to identify what effect should be used when the event is played.

Parameter	Definition
# of Fields	This information differs depending on the device: **For CGs:** If the style uses a template, use this parameter to specify the number of fields (or lines) in that template. Typing a number of fields here specifies to ControlAir that the address refers to a template. The number here also ensures that this style cannot be used to add more text than there are fields in the template. If the style uses a pre-recorded super address, type a zero here to specify to ControlAir that this parameter refers to a specific CG address. When you type a zero for this parameter, ControlAir ensures that this style cannot be used to add text to the CG. **For Still Stores:** If the style uses a fixed still number, put that number here. Otherwise, type a dash for this parameter. If you use this field, no address can be entered into the machine control event. If you enter a dash for this parameter, you must enter the still number with the machine control event before the event can be loaded onto the still store's event list, also known as a still store stack.

6. When finished editing the styles in the story, save it by clicking the Save button or selecting Save from the File menu.
7. Test new or edited styles by monitoring a rundown. Changes to `SYSTEM.RESOURCE` stories do not take effect until a show containing scripts with machine control events using the styles is monitored. Also, if a monitor server is running when changes are made, they will not take effect until it is restarted.

Some examples of styles for a character generator are shown in the sample `SYSTEM.RESOURCE` story below:

```
;Dev Style   Template  Effect     # lines   Comment
cg   bnews     62        -         0         ;breaking news
cg   mm        75        -         1         ;money matters
cg   lottopb   9993      -         12        ;lotto/powerball
cg   world     50        -         1         ;the world
cg   nation    50        -         1         ;the nation
cg   south     50        -         1         ;the south
cg   recap     52        -         1         ;recap
cg   nitetz    53       LOGO       1         ;11 tonight
cg   tvex      67      WIPE       0         ;tv exclusive
cg   intv1     1         -        1         ;1 line interview
cg   intv      2         -        2         ;2 line interview
cg   loc       4         -        1         ;1 line locator
cg   locdate   5         -        2         ;locator with date
cg   date      6         -        1         ;date
cg   file      7         -        0         ;file tape
cg   ctsy      8         -        1         ;courtesy
cg   sktch     10        -        1         ;sketches by
cg   locskylv  24        -        1         ;live skycam locator
cg   repsky    18        -        1         ;reporter skycam
cg   loclv     19        -        1         ;live locator
cg   intvlv    20        -        2         ;live interview 2 line
cg   live      21        -        0         ;live
cg   replv     22        -        1         ;live generic reporter
cg   lvsky     23      LOGO       0         ;live skycam
cg   rep       27        -        1         ;reporter not live
;
;special for NoonDay
cg   locn      1002      -        1         ;1-line locator/noonday
cg   innd      1001      -        2         ;2 line interview noon
cg   lond      1008      -        1         ;live locator noon
;
;SPORTS
cg   nl        950       -        10        ;national league
cg   al        951       -        10        ;american league
cg   nfl       952       -        10        ;nfl
cg   cf        953       -        10        ;college football
cg   nba       954       -        10        ;nba
cg   cbb       955       -        10        ;college basketball
cg   nhl       956       -        10        ;nhl
cg   prep      957       -        16        ;high school
cg   scr       960       -        4         ;score lower third
;
; Anchors/Reporters
cg   sa        104       -        0       ; steve aveson
cg   salv      105       -        0       ; steve aveson live
cg   sasky     107       -        0       ; steve aveson skycam
```

Here is an example of styles for a still store machine as shown in a sample SYSTEM.RESOURCE story:

```
;picture box style
;Device          Style    Preset   Effect   Address
pb               rtbox    1        a1       -
pb               ltbox    1        a2       -
```

Using the Monitor Server

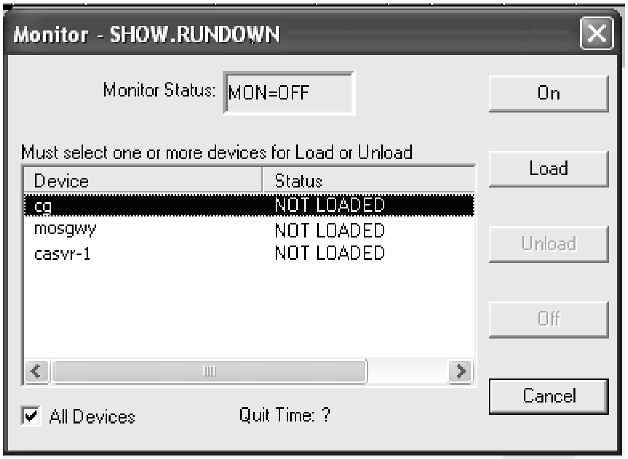
This section provides some basic user information, which can be used to test when the monitor server is set up and working properly. Procedures include how to turn the monitor server on and off, as well as how to instruct it to load or unload machine control event data.

To use the monitor server:

1. Log in to an iNEWS Workstation.
2. Open the appropriate rundown queue.
3. Select Tools > Monitor.

Quit Time indicates the time that machine control is automatically turned off. Quit Time is based on the run time of the queue.

The Monitor Queue dialog box appears. The Quit Time or automatic shut-off time appears at the bottom left corner of the dialog box.



Monitor - SHOW.RUNDOWN

Monitor Status: MON=OFF

Must select one or more devices for Load or Unload

Device	Status
cg	NOT LOADED
mosgwy	NOT LOADED
casvr-1	NOT LOADED

☑ All Devices

Quit Time: ?

The status bar in the iNEWS Workstation displays the current status of the monitor server, such as:
MON=OFF
MON=ON
MON=LOAD
and MON=PART, which stands for partial device loads.

4. Select a Monitor Mode based on the following options:
   - On - turns the monitor server on and creates an event list for each device in the rundown queue.
   - Load - instructs the monitor server to load event lists to devices you select.
   - Unload - clears device event lists (also known as playlists) without turning the monitor server off.

- Off - turns the monitor server off, overriding the Quit Time setting.

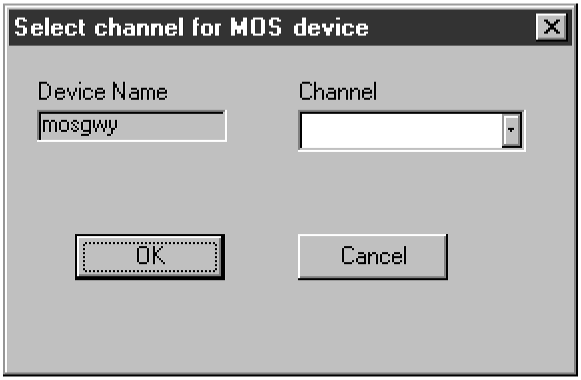
The Devices section of the Monitor Queue dialog box displays a list of devices based on those defined for the rundown queue in the `SYSTEM.MAP` story.

The list could include:

- Specific devices, such as those connected through an MCS-PC or PC-PCU
- Servers, such as the ControlAir Server and/or MOS Gateway Server

If you select Load, specify the device or server to load from the Devices list, or select the All Devices checkbox to load all devices associated with the rundown queue. To select up to three devices from the list, without selecting all, press the Ctrl key while you click on each item. If you select a server, the data will be loaded to all devices associated with that server.

If you select the MOS Gateway Server that is interfacing with a device that has multiple channels, such as an OmniBus automation system, a second dialog box will appear, allowing you to select the channel from a drop-down list.


Select channel for MOS device

Device Name: mosgwy

Channel:

5. Click OK to return to the previous dialog box.
6. Click OK again.

Network iNEWS Systems Using Rx/Tx Links

This section introduces you to rx/tx links and explains their operation. Use rx/tx links to transfer stories between iNEWS systems and other systems using the Ethernet network. To send stories across a network connection, use network rx/tx links. You can connect several servers or systems into a network using rx/tx links.

For one system to send stories to another, it must have a Tx (transmit) link configured. The other system must have an Rx (receive) link configured to receive stories the tx link sends.

Information relevant to this section is also contained in "Assigning Field Validation" on page 430.

Sending Story Forms

Your system can transmit story form information by sending the form name with a story or by sending the full form with a story. The first way reduces the time it takes the system to send a story to another system by omitting the form and sending only the text of the story, including any text contained in the form's fields, and the form name. When the receiving system gets a story without a full form, it uses the form name supplied with the story. The form may not exist on the receiving system, but no check is made by the rx link.

If the receiving system gives a story a new form, it fills in the fields of that form as much as possible with the story's original field text. For transfers using the NSML format, if the original story had fields that are not present in the new form, the text from those fields are stored in the field section of the story, but are not displayed on screen and will be discarded when the story is modified.

To ensure that transmitted stories have the same form on both systems, instruct the system to send the full form with the transmitted stories. This is done by adding a `sendform` line to the Tx job list. This instruction must appear in the job list immediately following the scan line.

For transfers using the NSML format, if using the tx `sendform` *option, the queue on the receiving system should have the* `FORMS_ALLOWED` *attribute. Avid recommends that if the volume of stories transferred is high, whatever forms are used for stories should be resident on both systems, especially when the two systems are 'owned' by the same customer.*

Setting Automatic Update

When a new version of a story is transmitted to a queue that already contains an older version of the same story, you usually want the receiving system to replace the older version of the story with the new one. To do this, enable the `update` trait on the queue where the received stories are placed.

For instance, suppose an affiliate in Washington sends stories it uses for its six o'clock show to your system as these stories are added to or modified in the show's rundown queue. On receipt of these stories from Washington, your system puts them in `WASHINGTON.RUNDOWN.6PM`. You want your system to dispose of old versions of stories as new versions come in from Washington.

To set an automatic update:

1. Log in as a system administrator at an iNEWS Workstation.
2. Navigate to the queue `WASHINGTON.RUNDOWN.6PM` and right-click on it.
3. Select Properties from the pop-up menu.
4. Click on the Maintain tab in the Queue Properties dialog box. See "Maintain Tab" on page 133 for more information.
5. Click on the Update check box to turn on the update database trait in the queue `WASHINGTON.RUNDOWN.6PM`.
6. Save changes and close the dialog box.

If you change the `update` trait and stories are in the queue, those stories will not be replaced by updated versions. Turn on the trait when the queue is empty.

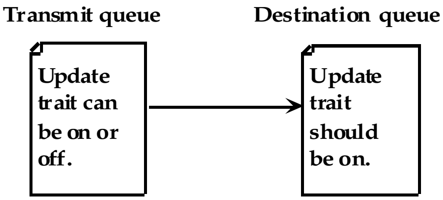
After you apply the update database trait, your system starts replacing older versions of stories in WASHINGTON.RUNDOWN.6PM with new ones as they come in from Washington.

If you have a tx link that sends stories to an update queue, any change you make to a story in a queue watched by the tx link affects the copy of the story in the other system. This includes killing a story, which causes the tx link to notify the receiving system that the story has been killed. The second system then kills its copy of the story as well. You can use the ignore-del command to prevent the tx link from notifying the receiving system when stories are killed.

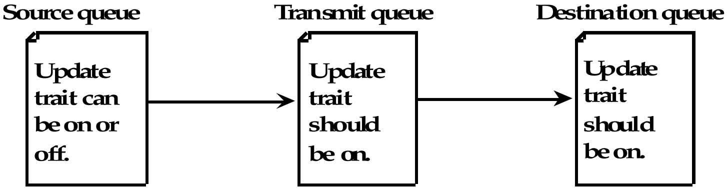
Updating Queue Considerations

A story's final destination queue and any intermediate queues through which the story passes before reaching the destination queue must have their update trait turned on. If not, the final destination queue does not get updated. It does not matter if the queue where the story was created has its update trait turned on.

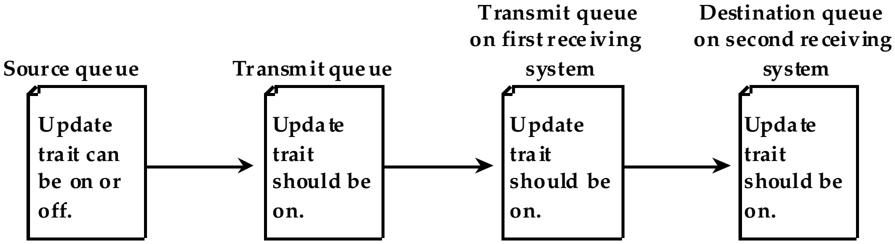
The example below shows which queues must have their update trait turned on if a story is transmitted directly from the queue in which it is created to its final destination queue.



If the story passes through an intermediate queue before reaching its destination queue, both the intermediate queue and destination queue must have their update traits turned on, as shown below.


Source queue
Transmit queue
Destination queue
Update trait can be on or off.
Update trait should be on.
Update trait should be on.

Similarly, if a story received from one system is copied to another queue for transmission to a third system, enable the `update` trait on every queue through which the story passes, as shown below.


Source queue
Update trait can be on or off.
Transmit queue
Update trait should be on.
Transmit queue on first receiving system
Update trait should be on.
Destination queue on second receiving system
Update trait should be on.

Changing Queue Order

To have the system transmit queue ordering information, add an `order` line to your network tx job list. When a local queue is ordered, information is sent to the remote queue. That queue is ordered, identical to the local queue. This also applies to action servers.

Ordinarily, when a queue in the transmitting system is ordered, changes are not evident in the receiving system's corresponding queue. This is adequate for many queues, because their story order is not important. However, story order is very important for other queues (for example, rundown queues). These queues must be identical on the local and remote systems.

Also, additions and deletions to a sorted queue on the local system do not cause the system to transmit queue order change information. Ensure that you turn on the `sort` attribute in the destination queue.

The destination (remote) queue must have its `update` *trait turned on.*

Adding Rx/Tx Links

If your iNEWS system is connected to the same network as another iNEWS system, you can use network rx/tx links to allow one system to automatically send stories to the other. For each rx or tx link, create an entry in your system's configuration file that defines where the link runs and how it sets up.

For instance, use network rx/tx links to have a networked iNEWS system periodically send stories ready for archival to a third-party archive system on the same network. Set these links up so that people can place stories ready for archival in `archive` queues on the iNEWS system. Then, on Sunday morning, the iNEWS system moves these stories to queues on the archive system.

Give the iNEWS system a tx link that performs two tasks. At 3 A.M. every Sunday, the first task moves any stories added to `ARCHIVE.SCRIPTS` since the previous Sunday to `SYSTEM.TRANSFER.SCRIPTS` on the archive system. Then, at 4 A.M. every Sunday morning, the second task moves any stories added to `ARCHIVE.PACKAGES` that week to `FROM.NEWS.PACKAGES` on the archive system.

Adding Network Links

To add network rx and tx links to your iNEWS system:

1. Ensure both systems are in the hosts file.

   For two systems to use network rx/tx links to exchange stories, each must have the name of the computer(s) used by the other system in its hosts file.

   Use the `cat` command to check each system's hosts file and ensure that necessary servers are listed. For instance, check the iNEWS system:

   NRCS-A$ **`cat /etc/hosts`**

   A message similar to the following will appear:

```
125.0.0.1      NRCS-A
125.0.0.2      NRCS-B
125.0.0.3      ARCHIVE-C
...
```

   The archive system's server (`ARCHIVE-C`) is listed in this file. Now check the archive system's hosts file for `NRCS-A` and `NRCS-B`.

   If you find that either system's hosts file does not contain the names of the computers belonging to the system to which you want it to connect, call Avid Customer Support for help in modifying the file.

2. Choose device numbers for the links.

   Reserve a range of numbers for network devices and always choose the next available number from within that range. In the examples in this manual, we have reserved numbers 301-399 for network devices.

   To see which numbers are taken, check your system's configuration file. For this example, choose device number 301 for the network tx link. On the archive system, we use device number 101 for our network rx link.

3. Create the tx link job list queue in the database. See "Creating a New Queue" on page 103 for more information.

   This queue must be in `SYSTEM.CONFIGURE`. Its name must begin with a three-digit number that matches the tx link device number.

   For instance, create a queue named `301` to hold the job list. Follow the number with a hyphen and a descriptive name, such as: `-txnet-to-archive`. The full pathname of the queue would be `SYSTEM.CONFIGURE.301-txnet-to-archive`.

Network rx links do not require job lists.

4. Open the newly created tx link job list queue.
5. Create the tx link job list story in the database.

Like action servers, tx links use mailbox and timed-interval tasks. Tasks that you want the tx link to execute as soon as a story is modified in a queue must be mailbox tasks, while those that you want the tx link to execute at a specific time must be timed-interval tasks. See "Defining Tasks for Servers" on page 413 for more information.

In a network tx link's job list, you must always follow the scan line with an `open` line and a `put` line, both of which are used only in this type of job list.

The `open` line uses the `open` command in the following format to open a network connection to the receiving system:

```
open  <computer name>[:<port>] <username> [<format>]
```

The computer name must match exactly with the name in the `/etc/hosts` file.

The port is the port number used by the rx link on the receiving system. If it is omitted, the tx link program will use the port defined by the rxnet service in its local `/etc/services` file; if there is not an rxnet service defined, the tx link program will look up the FTP service in its local `/etc/services` file.

The user name must have the same password on both systems.

To improve security of your tx link, apply the blacklist user trait to the user name (account) you list here on both systems, which prevents anyone from logging in under that name. This has no effect on name use in a job list. See "User Traits" on page 63 for more information.

If the format is HTML, then the `open` command syntax has two more parameters. See Chapter 14 for more information.

Possible formats are:

- NSML - News Story Markup Language
- 2NSML - 2nd version of NSML contains extensions for MOS support. Default format.
- HTML - Hypertext Markup Language
- SEP - Avid Netstation Story Exchange Protocol

The rxnet program uses an inactivity timer set to the system `localtimeout` *value. If rxnet does not receive a command within the inactivity interval, it will exit. If the* `localtimeout` *value is zero (0), the inactivity timer is disabled.*

You must follow the `open` line with a `put` line, which uses the `put` command in the following format to send stories to a queue on the receiving system:

```
put  <target queue name>
```

The target queue name may be formatted using the `strftime` *syntax, may be whatever directory pathname that is appropriate for the target system if not an iNEWS system, and will be automatically created if it doesn't exist, and if the target system allows.*

If you do not name a queue, `put` uses the destination queue assigned to the user you specified in the `open` command.

If you want stories you transmit to be distributed to more than one queue, set up an action or distribution server on the receiving system to do this. See "Adding an Action Server" on page 427 and "Adding a Distribution Server" on page 446 for more information.

In this example, the network tx link's job list requires two timed-interval tasks. At 3 A.M. each Sunday, the first task sends copies of everything added to `ARCHIVE.SCRIPTS` in the last week to `SYSTEM.TRANSFER.SCRIPTS` on the archive system. Then, at 4 A.M. every Sunday the second task sends copies of everything added to or changed in `ARCHIVE.PACKAGES` to `FROM.NEWS.PACKAGES` on the Archive system.

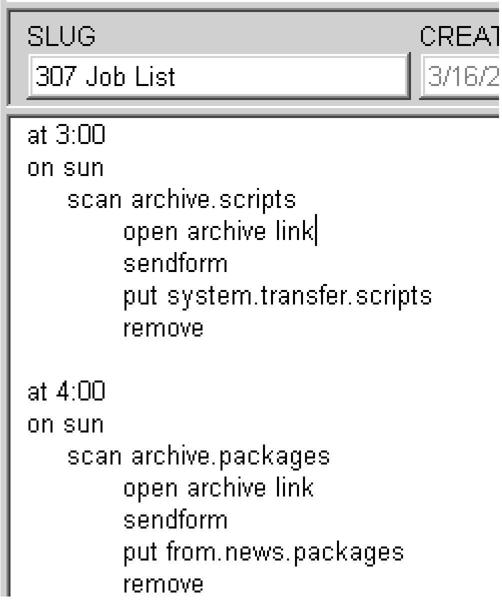
To ensure forms are transmitted with stories, include a `sendform` *line in the Tx job list. The* `sendform` *line must be added to the job list anywhere after the* `scan` *command and applies to all following* `put` *commands. The* `sendform` *option setting persists to the end of the current task of until a* `sendform no` *command changes the setting within that task.*

If you want any queue order changes in your scan queue to be transmitted to your remote queue, include an `order` line in the Tx job list. The `order` command must precede the `open` command to affect the `put` command. Also, make sure the `update` trait of the destination queue is turned on.

After the tx link has completed the first tasks, you may want it to remove stories it sent from the scan queue. To have it do this, end both tasks with the `remove` command.

If you use either `move` *or* `remove`*, it must be the last command in the task's command set.*

The finished job list looks like the following:



SLUG: 307 Job List

CREAT: 3/16/2

```
at 3:00
on sun
   scan archive.scripts
       open archive link
       sendform
       put system.transfer.scripts
       remove

at 4:00
on sun
   scan archive.packages
       open archive link
       sendform
       put from.news.packages
       remove
```

You can use the following job list commands in a network tx link job list. (These are the same commands used by action servers.)

```
at
bscan
dup
every
ignore
ignore-del
mailto
move
number
on
order
quiet
remove
replace
scan
send-del
sendform
validate
```

These are the same commands used by action servers; however, the following commands can only be used by tx link: `open`, `put`, `publish`, and `extension`.

The `mailto` joblist command's synax is:

```
mailto    <recipient1> [<recipient2> ...]
```

The list of recipients is a space separated list; do not use commas.

The effect of this command is to send the modified story from the scan queue as an email text message.

The `sendform` joblist option causes the field contents of the modified story to be prefixed to the story's text.

The story form assigned to the modified story is used to determine which fields are included and the order of the fields. When placing a field into the email text message, the field will be preceded by the label text from the story form. Each label/field pair will be put on a separate line of the email text message. If the field does not have any label text, the field name is used.

The AIR-DATE, MODIFY-DATE, and CREATE-DATE fields are formatted with the `strftime` format: `%x %X`. This format can be controlled by setting the environment variable—`VT_TIME`—to the desired `strftime` format and including it in the action / txnet program environment.

Only the modified story's text and field text if the `sendform` *option is "on" is put into the email text message. No production cues, anchor points, nor attachment text is put into the email text message.*

If write access for the destination queue on the receiving system in the `put` command is restricted, the connection must be established with the appropriate security to send stories to this queue. The user name you specify in the task's `open` command must belong to the necessary group on the receiving system.

Usually, you assign a read group to the System directory that prevents most users from reading stories in that directory. If you do not want to restrict all of the System directory, consider restricting who can modify stories in `SYSTEM.CONFIGURE`.

6. Add links to the configuration file on each iNEWS Server in your system.

Changing the configuration file requires the use of `ed`, the line editor. See Appendix H for more information.

   a. Select *all* iNEWS Servers. See “Selecting Servers” on page 33 for more information.

   b. Use the `ed` command to open and edit the configuration file.

```
NRCS-A$ ed /site/config
1356
```

c. Add the network tx link’s device number to a `reslist` line in the appropriate `host` definitions. For instance, put the network tx link on server A by adding a `reslist` line in its `host` definition beneath the `servers` line, which is the last line in the `host` configuration.

```
servers  256 257 258 259 260 261 262 263
reslist  301
```

To keep the network tx link running if one of the iNEWS Servers fails, add this line to each alternate host definition before proceeding.

The tx link must be added to the transmitting system and the rx link must be added to the receiving system.

7. Add a `server` and `special` line for the tx link. These lines are generally grouped in one place in your configuration file. Append the network tx link’s `special` line below the last `server` line using the format shown:

```
special <device #> 0 txnet <mailbox> <device name>
```

The finished line (in bold) for the tx link should appear at the end of the line grouping:

```
server   256  action        256  actphon ;action svr
server   257  distribution  257  devname1 ;dist server
server   258  parallel      258  devname2
server   259  keyword       259  key1 ;keyword server
server   260  seek          260  seek ;seek server
server   261  ftsseek       261  - ;fts searches
server   262  ftsindex      262  - ;fts indexing
special  301  0     txnet   301  - ;tx link
```

8. Create a `special` line for the rx link. Like the `special` line for the tx link, place this line at the end of the file.

The general format for a network rx link configuration line is similar to that of a network tx link:

```
special <device #> 0 rxnet <mailbox> <device name> [<IP
address>]
```

Since the rx link does not use a mailbox, place a hyphen in the mailbox parameter. The rx link does not use the device name field, so place a hyphen in that position, too. If an IP address is specified for the last parameter, the rx link will only be used for connections from the system with that IP address.

The rx link and tx link would be on different systems if supporting a job list like the one shown on page 536.

The finished line should look like this:

```
   special   101  0     rxnet  -      -
```

Do *not* use an uppercase (**W**) in step 3e. See Appendix H for more information.

9. When you are done making changes to the `/site/config` file, save your changes and exit the line editor by typing:

   ```
   w
   1401
   q
   ```

10. (Optional) Use the `configure` command to test your configuration changes. For instance, type:

    ```
    configure /site/config ab a
    ```

11. Reconfigure the system.

    a. Select the master computer (typically server A). See “Selecting Servers” on page 33 for more information.

    b. Type **su** to enter superuser mode and type the superuser password. See “Entering Superuser Mode” on page 24 for more information.

    c. Type:

    ```
    NRCS-A# offline
    NRCS-A# configure
    ```

    d. Type:

    ```
    NRCS-A# online
    ```

    A message similar to the following appears:

```
     A  Fri Oct  6 00:19:01 2000 msg System being configured
```

e. Press Ctrl+D to exit from superuser.

f. Repeat this step on the archive system to incorporate the network rx link into its operation.

12. When you see the `System being configured` message, start the tx link by typing **`restart`** followed by the tx link device number. For instance:

    ```
    NRCS-A$ restart 301
    ```

    When the system displays a `Hot-to-go` message, the tx link has been successfully started.

A network rx link is not restarted after you add it to your system. The system starts the rx link automatically as soon as it receives something from the transmitting system.

13. (Optional) Back up site files using the `sitedump` command anytime you make significant changes.

Chapter 14

Web Publishing and Access

The iNEWS Web publishing feature allows users to publish news on the World Wide Web (WWW) by transmitting stories to other computers in Hypertext Markup Language (HTML) format. Web Access allows direct, read-only browsing of the iNEWS database through the Web browser. This chapter covers the Web publishing installation and process, as well as Web Access.

- Web Publishing
  - Setting Up Txnet to Send HTML
  - Creating an HTML Export Template
- Web Access
  - The Web Server
  - Web Access Login
  - Web Access Story Templates
  - Web Access Directory and Queue Templates
  - Web Access Configuration

Web Publishing

The configuration procedure for Avid's Web publishing involves:

- Setting up txnet to send Hypertext Markup Language (HTML)
- Creating the HTML export template
- Putting the HTML export template in a queue

After this setup is complete, Web publishing involves three steps:

1. Select a story from the news database.
2. Merge pieces of the story with an HTML export template to recreate the story as an HTML document.
3. Use the txnet facility to put the HTML document onto another computer, known as the Web Publishing server.

You can then revise the HTML-formatted story, as necessary, to complete the publishing process.

Setting Up Txnet to Send HTML

To set up txnet to send HTML:

1. Establish Tx links. See "Network iNEWS Systems Using Rx/Tx Links" on page 528 for more information.

   The links (txnet) transfer stories between systems. You can send stories to non-iNEWS systems. The only requirement is that the receiving computer support File Transfer Protocol (FTP) so the iNEWS Server can send stories to it.

2. Get the name of the Web server to which you will send the stories and be sure it is listed in `/etc/hosts`.
3. Create a valid user account on the Web server.
4. Create that same user account on the iNEWS Server.

The Web server and iNEWS Server must have matching logins with matching passwords.

5. Create an entry in the job list for the txnet to specify sending stories in HTML format rather than the standard iNEWS format, News Story Markup Language (NSML).

   ```
   open <computer name> <user name> HTML [<queue name>]
   [<story name>]
   ```

   The computer name can include a suffix in the form of `:<port>`*. If* `:<port>` *is omitted, the txnet program will use the port defined fory the rxnet service in the* `/etc/services` *file and if there is not an rxnet service defined, the txnet program will look up the FTP service in the* `/etc/services` *file. This allows the txnet program to connect to computers that use a different port for FTP connections.*

   a. Specify the Web publishing server name (to send the stories) as the `computer name`.

   b. Specify the `user name` that gives you access to the Web publishing server (common user account).

   c. Specify the `format` as HTML to enable Web publishing.

   d. (Optional) Specify the `<queue name>` as the queue that contains the HTML export template. If no queue is specified, a default is used. See “Default HTML Export Template and Queue” on page 545 for more information.

If you specify a queue, the entire queue name must be specified in the `open` command. Otherwise, the system will issue a “Failed to get form from...” error message when txnet is restarted. Also, if you specify a queue that does not contain an HTML export template, Web publishing will not work.

   e. (Optional) Rather than use the default, which is the first story in the queue, specify the `story name` in the queue.

Here is an example of a correctly written `open` command line:

```
open ntsrvr webtx html system.webforms.s.script-tx
```

6. After you have edited the txnet job list, restart txnet for your changes to take effect.

When HTML stories are placed on the Web server, they are assigned a unique filename, similar to the following:

```
f6daab8.html
f6daab9.html
f6daaba.html
```

Additionally, a story named `published.html` is created in the directory written to. The `published.html` file contains a listing of each file exported to the server, in that directory, referenced by the quick index field of the story. The format is:

```
<A HREF="qstamp.html">quickindex &nbsp;</A><BR>
```

Here is an example:

```
<A HREF="f6daab8.html">pre-show tease &nbsp;</A><BR>
<A HREF="f6daab9.html">bosnia &nbsp;</A><BR>
<A HREF="f6daaba.html">fort bragg &nbsp;</A><BR>
```

This story could be used as a base for creating an index page. Generation of the `published.html` file can be turned off by a job list command after the scan line: `publish no`. The default for this job list command is `yes`. See “Job List Commands” on page 627 for more information.

A txnet job list command, called `extension`, is used to control the suffix for file names when sending stories from txnet using the HTML format option. The syntax is:

```
   extension <suffix>
```

The `<suffix>` is any string of characters. When the story is output, the story name will be constructed as:

```
   <qstamp as 8 hexadecimal digits> . <suffix>
```

The `<suffix>` does not include the dot and will also apply to the published file. So, instead of that file always being called `published.html`, it will now be called `published.<suffix>`. If no extension command is found in the job list, the suffix will be set to `html`.

Default HTML Export Template and Queue

The default HTML export template is shown in “Default Story Template” on page 562.

If you do not specify a queue in the job list where the HTML export template resides, the system uses the default location. The default location is constructed from the dictionary entries `Q_WEBPUB_FORMS` and `W_WEBPUB_FORM`. These entries are normally defined to be `SYSTEM.WEBFORMS` and `PUBLISH-FORM` respectively; therefore, the default location is `SYSTEM.WEBFORMS.P.PUBLISH-FORM`. If this queue does not exist, or does not have an HTML export template, a hard-coded default Web form is used instead.

Creating an HTML Export Template

The HTML export template defines the appearance of stories transmitted out of iNEWS—that is, exported in HTML format. The template is stored as a news database story whose text is in HTML, with optional embedded references to story entities.

The iNEWS system contains an HTML export template to use as the default, but you can customize it or create new templates.

Adding Story Entity References

In creating the HTML export template, you use HTML tags and add story components or entities.

The three basic entities of a story are:

- **Field IDs** – Story information such as story title, creation date, writer, and so forth. It is the information you see in a Queue or Story Form panel.
- **Body** – Story text.
- **Production cue set** – Production cues entered in the Instruction pane—to the left of a story’s text.

Specify entities in the HTML export template using an ampersand (&) to mark the beginning of an entity and a semicolon (;) to mark the end. When put in this notation, an entity is called a *story entity reference*.

The following section shows the format for each story entity and its corresponding story entity reference:

- Field ID format is:

  `&f-<field_id>;[<optional format string>]`

  The field ID is replaced in the HTML output by information associated with it. For instance, to create a field ID such as the title of a story to appear in the HTML template, use the following:

  `<title>&f-title;</title>`

  You are combining HTML tags with the story entity reference. The information in the field ID is now a title in the HTML export template, and when it is merged with an actual story, it will contain the story's title, in HTML format. For instance, the title will look like this:

  `<title>LOTTERY-WIN</title>`

  The `optional format string` defines the format to be applied to the field ID entity. The string applies to fields that are time-related, such as the date or length of a story. Format strings are optional and defaults are assumed if they are not specified. See the section on optional format strings for more information on how to modify this default display for date or time fields.

- Body format is:

  `&body;`

  When encountered in the export template, it is replaced by the story text in the resulting HTML output.

- Production cue format is:

  `&aeset;`

  The term `aeset` stands for anchored element set.

  When encountered in the export template, it is replaced in the resulting HTML output by a list of production cues defined in the production cue set, a collection of all production cues for the story. Production cues—also known as anchored elements—are anchored at specific positions in the story text. How they display depends on their content and the application displaying them.

The rules for entity reference names are:

- ASCII characters a-z, A-Z, period (.), and hyphen (-) are allowed. The first character of a name is always in the set a- z or A-Z.

- A name can have a maximum of 12 characters.
- Entity names are not case-sensitive, which means that `&body`, `&BODY`, and `&Body` are equivalent.

Do not forget to precede the entity with an ampersand and close it with a semicolon, such as &F-TITLE; or &DEFINE:P;"BR".

The story entities are:

Entity	Explanation
&BODY;	Interpolate the story BODY section in place of the entity. [false if story body section is empty] [true if story body section is not empty]
&AESET;	Interpolate the story AESET section in place of the entity. [false if story aeset section is empty] [true if story aeset section is not empty]
&F-<name>;	Interpolate the named field from the story in place of the entity. If the entity is one of `F-AIR-DATE`, `F-CREATE-DATE`, `F-MODIFY-DATE`, `F-MOS-DURATION`, `F-AUDIO-TIME`, `F-BACK-TIME`, `F-CUME-TIME`, `F-TOTAL-TIME`, `or F-TAPE-TIME`, the field is output using the `strftime` function. Furthermore, a formatting string can follow these fields. The formatting string must immediately follow the ';' of the entity and be enclosed in single or double quote characters. See "Time and Date Fields" on page 553 for more information. [true if the field is present in the story] [false if the field is not present in the story or is blank or empty]

Entity	Explanation
&IF:<entity-name>;	If the entity yields a true condition, process template text up to a closing ELSE or ENDIF in the output stream. If the entity yields a false condition, skip over all template text up to the next ELSE or ENDIF (not output). Empty and blank fields are treated as a false IF condition. Only fields which are present and contain at least one non-blank character cause a true IF condition.
&ELSE;	Terminates the first part of an IF condition. If the IF condition was "true," it is now treated as "false" and all template text up to the closing ENDIF is skipped. If the IF condition was "false," it is now treated as "true" and all template text up to the closing ENDIF is processed.
&ENDIF;	Terminates an IF condition or an IF/ELSE combination.
&FIELDS;	Only used for test conditions [false if story fields section is empty or blank] [true if story fields section is not empty]

NSML to HTML Conversion

The iNEWS system uses the News Story Markup Language (NSML) as its native story storage format. When HTML format is selected, the txnet program converts the NSML into HTML as stories are exported.

Various NSML tags can be redefined on export and translated to another code, if desired. For instance, it would be possible to translate the NSML paragraph tag into an HTML break tag (`<BR>`) instead of the default HTML paragraph tag (`<P>`).

By placing DEFINE statements at the top of the HTML export template before the `<HTML>` line, the default conversion of NSML tags into HTML tags can be modified. Format of a DEFINE statement is:

Single or double quotes can be used.

```
&DEFINE:<tag>;“<string>”
```

-OR-

`&DEFINE;<tag>;’<string>’`

The string includes all characters up to the matching delimiting quote; this allows inclusion of the other quotation mark within the string.

Standard definitions, which can be redefined, are listed below:

Opening NSML Tag	Output String	Closing NSML Tag	Output String
P	`“\r\n<p>”`	/P	`“</p>”`
I	`“<i>”`	/I	`“</i>”`
U	`“<u>”`	/U	`“</u>”`
B	`“<b>”`	/B	`“</b>”`
PI	`“<i>”`	/PI	`“</i>”`
CC	`“<b><i>”`	/CC	`“</i></b>”`
A	`“\r\n<!--a-->”`	/A	`“\r\n<!--/a-->”`
AE	`“\r\n<!--ae-->”`	/AE	`“\r\n<!--/ae-->”`
AP	`“\r\n<p>”`	/AP	`“</p>”`
MC	`“\r\n<!--mc-->”`	/MC	`“\r\n<!-- /mc -->”`
IMG	`“\r\n<!--img-->”`		
PB	`“\r\n<!--pb-->”`		
TAB	`“\r\n<!--tab-->”`		
WP	`“\r\n<!--wp-->”`		

For instance, to redefine the open paragraph conversion, use: `&DEFINE:P;“output this”.`

To redefine the close paragraph conversion, use:

`&DEFINE:/P;“found a close paragraph tag”.`

The delimiting quotation mark must immediately follow the end of the entity, namely the semicolon.

To include a carriage return or a line feed, use `\r` and `\n` in the `<string>`.

The display format for date or time fields can also be modified by a DEFINE statement in the HTML skeleton form:

- `&DEFINE:<type>;“<format>”`

  or

  `&DEFINE;<type>;’<format>’`

  Define default formats used to convert AIR-DATE, CREATE-DATE, and MODIFY-DATE data into date strings, and formats used to convert AUDIO-TIME, BACK-TIME, CUME-TIME, TAPE-TIME, MOS-DURATION, and TOTAL-TIME data into time strings. The format includes all characters up to the matching delimiting quote (this allows inclusion of the other quotation mark within the format).

  The “type” names used and default “formats” are:

  ```
  DATE “%D %T”
  TIME “%M:%S”
  ```

  Format strings are defined by the `strftime` function.

  You can still include a format string to override the default when referencing any of these fields individually, as in:

  `&f-create-date;“%c”`

A lowercase `c` *is recommended; an uppercase C would denote the two digit century, such as* `&f-create-date;”%C”.`

- `&DEFINE:<entity name>;“<string>”`

Define standard entity representations for each of the four characters: left and right angle brackets (< >), ampersand (&), and quotation mark (“).

```
&DEFINE:lt;"..."
&DEFINE:gt;"..."
&DEFINE:amp;"..."
&DEFINE:quot;"..."
```

The default definitions are (respectively): `&lt;`, `&gt;`, `&amp;`, and `&quot;`.

- `&SHOW:A;`

  Causes output of tags for locating and referencing anchors and production cues (anchored elements). This is the default, which is the opposite functionality prior to introduction of this entity.

  The string produced whenever an NSML `<a>` tag is encountered in the “template” is:

  ```
  <A NAME="A<id>" HREF="#AE<id>">[<id>]</A>
  ```

  For an NSML `<ae>` tag, the string produced is:

  ```
  <A NAME="AE<id>" HREF="#A<id>">[<id>]</A>
  ```

  The `<id>` is the production cue identifier, typically a small number.

  This results in strings such as `"[1]"` appearing as HTML links in the text at the anchor point and also preceding the production cue. The two links point at each other.

- `&HIDE:A;`

  Suppresses output of HTML anchor tags.

Empty fields and non-present fields in the HTML output are noted with comments similar to the following:

```
<!-- "var-1" field is empty -->
<!-- "app1-1" field not present -->
```

- `&HIDE:COMMENTS;`

  If the `&HIDE:COMMENTS;` entity is processed, comments normally generated for the conditions `"field not present"` and `"field is empty"` will not be output to the HTML document.

This does not affect comments generated from error conditions.

- `&SHOW:COMMENTS;`

  Generation of these HTML comments can be turned back on using `&SHOW:COMMENTS;`.

Web Story Directives

Any story can contain Web Story directives. Directives are included as text. This allows system administrators to embed HTML codes within stories. Without these directives, characters and symbols such as the greater than sign (>) would normally be translated to `&gt;` and not appear as HTML coding when exported to the Web server.

Directives	Explanation
#HTMLSTART#	All text in the story after this directive is processed as literal text. Four characters—<, >, &, and ”— are output without being converted into HTML entities. Furthermore, all NSML tags are stripped from the input stream so they are *not* converted. However, to make viewing the HTML source a little easier, each paragraph closing tag is converted and output as a Carriage-Return / Line-Feed pair.
#HTMLEND#	This will terminate the processing of story text as literal text.

Using Optional Format Strings

Optional format strings apply to date and time-related fields that you use for the field ID story entity references. You can add several time or date elements together (after the field ID) to create an optional format string, which changes the presentation of the time or date information field.

The optional time format strings must be enclosed within quotes in the HTML export template.

Time and Date Elements

The time and date elements to use in an optional format string to modify date and time field ID areas may vary depending on the version of Linux. Use **`info strftime`** at the console to get the format directives.

The difference between %U and %W is which day is considered the first day of the week. Week number 01 is the first week in January, with a Sunday for %U or a Monday for %W. Week number 00 contains those days before the first Sunday or Monday in January for %U and %W, respectively.

Time and Date Fields

See “Form Field Types and Definitions” on page 214 for more information.

Only certain fields—those relating to time and date—can recognize the optional format string, made up of the time and date elements. Specify these fields in field IDs, using the types shown here:

Field Type	Description	Default Format
AIR-DATE	The date and time a story airs, using the show timing function	%D %T
CREATE-DATE	Seconds since January 1, 1970 00:00:00 GMT	%D %T
MODIFY-DATE	Seconds since January 1, 1970 00:00:00 GMT	%D %T
MOS-DURATION	Runtime, in seconds, of a MOS item that is inside the Story Form	%M:%S
AUDIO-TIME	Audio read time of the story in seconds. Normally based on read rate and word count, but can be entered by the user	%M:%S

Field Type	Description	Default Format
BACK-TIME	Hard in-time of the story, in seconds	%M:%S
CUME-TIME	Hard out-time of the story, in seconds	%M:%S

If you use field names in the field IDs without creating an optional format string, default formats for the field types, as listed in the previous table's "Default Format" column, are used.

Time and Date Field Example

For instance, you decide to include a story creation date in the HTML template. Instead of using defaults provided for the CREATE-DATE field (%D %T - date as %m/%d/%y and time as %h:%m:%s), you want the creation date information to appear differently.

1. Choose the following date and time elements:
   - %a – Abbreviated weekday name
   - %B – Full month name
   - %d – Day of month (01 - 31)
   - %Y – Year as ccyy
   - %r – Time as %I:%M:%S [AM|PM]
2. Enter elements in the optional format string, enclosing the string within quotes.

   The `field_ID` story entity reference looks like this:

   ```
   &f-create-date;"%a %B %d %Y %r"
   ```

   The `field_ID` is embedded in HTML format tags. If the HTML export template is applied, the entry looks like this:

   ```
   <b>CREATE-DATE:</b>&f-create-date;"%a %B %d %Y %r"
   ```

   Data from the field would appear on the page similar to this:

   ```
   CREATE-DATE: Sat July 10 2004 5:30:45 PM
   ```

Without the spaces between each element inside the quotation marks—such as, `"%a%B%d%y%r"`*—the date will appear as one continuous word. For instance:* **`CREATE-DATE:`** `SatJuly1020045:30:45PM`

A Sample HTML Export Template

The following sample shows a news story in an iNEWS HTML export template used to define the appearance of the story, and the resulting HTML output.

Characteristics of the Story

The story has the following characteristics:

- TITLE field with an associated value `TEASE-BREAK`
- MODIFY-DATE field with an associated value `862347754`
- PRESENTER field with an associated value `SB*`
- PAGE-NUMBER field with an associated value `75`
- Two production cues (each formatted in its own paragraph):

  ```
  VO ENG
  Coming Up Next…
  ```

- Story text:

  ```
  (BELL)
  STILL AHEAD ON EYEWITNESS NEWS...
  THE MAXWELL CLUB HONORS SOME OF OUR AREA'S BEST HIGH
  SCHOOL FOOTBALL PLAYERS. YOU'LL MEET THEM... COMING UP.
  ```

Contents of the Export Template

An HTML export template is applied to the story. The template's contents look like this:

```
<html>
<head>
<title>&f-title;</title>
<h1>
&f-title;
</h1>
</head>
<body>
<!--This is an example of an iNEWS HTML template.-->
<table border="4" width="100%">
    <tr>
         <td colspan=1 align="left" width="10%">
            <b>PAG:</b>&f-PAGE-NUMBER;
       </td>
         <td colspan=1 align="left" width="40%">
            <b>MOD-DATE:</b>&f-modify-date;
       </td>
         <td colspan=1 align="left" width="50%">
            <b>PRESENTER:</b>&f-PRESENTER;
        </td>
   </tr>
   <tr>
<h2><th colspan=2 align="left" align="left">Story:
</th></h2>
   </tr>
    <tr>
        <td colspan=2 align="left" width="100%"> <p>&BODY;
       </td>
    </tr>
    <tr>
<h2><th colspan=2 align="left" >Anchored Element
List:</th></h2>
   </tr>
    <tr>
```

```
            <td colspan=2 align="left" width="100%">
              &AESET;
           </td>
        </tr>
</table>
</body>
</html>
```

The next section shows the HTML output as a result of this process.

Resulting HTML Output

```
<html>
<head>
<title>TEASE/BREAK</title>
<h1>
TEASE/BREAK
</h1>
</head>
<body>
<!--This is an example of an iNEWS HTML form.-->
<table border="4" width="100%">
    <tr>
         <td colspan=1 align="left" width="50%">
            <b>PAG:</b>75
       </td>
         <td colspan=1 align="left" width="40%">
            <b>MOD-DATE:</b>04/29/97 14:02:34
       </td>
         <td colspan=1 align="left" width="50%">
            <b>PRESENTER:</b>SB*
        </td>
   </tr>
   <tr>
<h2><th colspan=2 align="left" align="left">Story:
</th></h2>
   </tr>
    <tr>
        <td colspan=2 align="left" width="100%">
(BELL)
STILL AHEAD ON EYEWITNESS NEWS...
THE MAXWELL CLUB HONORS SOME OF
OUR AREA'S BEST HIGH SCHOOL FOOTBALL
PLAYERS.  YOU'LL MEET THEM... COMING
UP.
       </td>
</tr>
    <tr>
<h2><th colspan=2 align="left" >Anchored Element
List:</th></h2>
   </tr>
    <tr>
        <td colspan=2 align="left" width="100%">
          <p><I>VO ENG</p>
          <p>Coming Up Next…
       </td>
    </tr>
</table>
</body>
</html>
```

Web Access

The Web Access software is normally installed with your iNEWS newsroom computer system, which:

- Accesses the database
- Formats the story the user selects into Hypertext Markup Language (HTML), using the default HTML export template
- Presents the story to the user's Web browser

Format of information sent to the user's Web browser is configurable by the system administrator. How the directory listing, queue contents, and stories are converted to HTML for presentation are governed by HTML templates inside the database.

The Web Server

The Apache Web server is loaded on iNEWS Servers as part of the Linux system, and automatically launches when those servers are booted. You can check to see if the Apache Web server is currently running on your system by pointing your browser to:

```
http://<servername>
```

The `<servername>` is the iNEWS Server name you normally log in to from the iNEWS Workstation. If the Web server is running, you should see a test page with the Apache logo.

Web Access Login

You must have at least one Web session configured on your system to log in over the Web. The format of a Web session resource in the `/site/config` file is:

```
websession          <session number>
```

such as:

```
websession          401
```

Each `websession <session number>` must be included in a `reslist` list in each appropriate host section of the `/site/config` file.

To log in to the iNEWS database with a Web browser, point the browser to the following URL:

```
http://<servername>/cgi-bin/NewsWeb
```

This will open a page containing a drop-down list of iNEWS Servers accessible via the Web. When you select one of those servers and click submit, you will be taken to a login screen. If you know the servers configured for Web Access, you may include their names in the URL to go directly to the login dialog page:

```
http://<servername>/cgi-bin/NewsWeb.nrcs-a
```

At the login dialog screen, enter your user name and password and click login. When logging in over the Web for read-only database access, group security on the system is respected. Users who do not have access to queues and directories protected by a read-group will not see those areas when they log in over the Web.

The message of the day screen is not displayed when logging in via a Web browser.

Web Access Story Templates

When users view a story in their Web browser, the system presents the story in HTML format. The appearance of this story is configurable by the system administrator via a Web Access template, similar to the HTML export templates used for Web publishing.

When accessing iNEWS over the Web, the story form assigned to a story is noted and a corresponding Web Access form is searched for under queues specified by the `Q_WEBACC_FORMS` entry in the system's queues dictionary. The default location for the Web Access form (HTML export template) is `SYSTEM.WEBFORMS`.

The appropriate Web Access form is sought from:
`SYSTEM.WEBFORMS.`*`<first letter of story form>.`*
`<story form>`.

For instance, if the form assigned to the story was called `script`, then the Web Access form—that is, the top HTML export template—in the queue, `SYSTEM.WEBFORMS.S.SCRIPT` would be used to display the story. Stories assigned the `rundown` story form would be displayed with the Web Access form in `SYSTEM.WEBFORMS.R.RUNDOWN`. Stories assigned the `memo` story form would look for the top HTML export template in the queue, `SYSTEM.WEBFORMS.M.MEMO`, for their display on the Web browser.

If a corresponding Web Access form was not created, the system uses the HTML export template in the default Web Access queue as specified by the `W_WEBACC_FORM` entry in the `words` dictionary. The default value is `ACCESS-FORM`. So, a story assigned a form that does not have a corresponding `SYSTEM.WEBFORMS` queue will be displayed with the system-wide default HTML export template in `SYSTEM.WEBFORMS.A.ACCESS-FORM`.

If a system-wide default Web Access form has not been created, the story will be displayed with a hard-coded default.

The following Web Access form locations will be checked, in order, for an HTML export template to display stories:

1. `SYSTEM.WEBFORMS.`*`<first letter of story form>.<story form>`*
2. `SYSTEM.WEBFORMS.A.ACCESS-FORM`
3. `Hard-coded internal default`

You may create HTML export templates to define the appearance of stories viewed via a Web browser. The export template is stored as an iNEWS database story whose text is in HTML with optional embedded references to story entities. The iNEWS system contains an HTML export template to use as the default, but you can customize it or create new templates, using story entities. A full listing of all entities available to Web Access forms used for database browsing appears in “Template Entities” on page 564.

The same HTML export templates set up on your system for exporting stories in HTML format can also be used when browsing the database over the Web. See “Adding Story Entity References” on page 545 for more information.

Default Story Template

The following is the default story template, provided with the iNEWS software.

```
<html>
<head>
<title>&F-TITLE;</title>
</head>
<body>
 <table border=4 width='100%'>
  <tr>
   <td colspan=1 width='50%'><b>CREATED BY:</b>&F-CREATE-BY;
   </td>
   <td colspan=1 width='50%'><b>CREATED:</b>&F-CREATE-DATE;
   </td>
  </tr>
  <tr>
   <td colspan=1 width='50%'><b>PAGE:</b>&F-PAGE-NUMBER;
   </td>
   <td colspan=1 width='50%'><b>MODIFIED:</b>&F-MODIFY-DATE;
   </td>
  </tr>
  <tr><h2>
    <th align=left colspan=2>Story:
    </th></h2>
  </tr>
  <tr>
    <td colspan=2 width='100%'>&BODY;
    </td>
  </tr>
  <tr><h2>
   <th align=left colspan=2>Anchored Element List:
   </th></h2>
  </tr>
  <tr>
    <td colspan=2 width='100%'>&AESET
    </td>
  </tr>
 </table>
</body>
</html>
```

Web Access Directory and Queue Templates

The iNEWS system allows the system administrator to customize the display of directory listings and listings of a queue's contents via system-wide directory and queue HTML export templates rather than predefined formats. However, it is not necessary to customize directory and queue templates. Defaults can be used, if desired. See "Default Directory Template" on page 570 and "Default Queue Template" on page 571 for more information.

The template used for directory pages is located in the queue defined by the `Q_WEBACC_FORMS` and `W_WEBACC_FORM` definitions (`SYSTEM.WEBFORMS.A.ACCESS-FORM`). To distinguish this directory template from the story template, the directory template is identified by having the word `directory` as the first word in the index field (also known as the sortfield). Only a single template is required for directory page construction.

The template used for queue pages is located in the queue defined by the `Q_WEBACC_FORMS` definition and the queue form name assigned to the queue being displayed. This is similar to how story forms are handled. To identify the template as a queue template, the word `queue` must appear as the first word in the index field (also known as the sortfield). This allows both the queue template and story template with the same name to reside in the same queue.

If a queue template is not found using the queue form name of the queue, the system looks in the queue defined by the `Q_WEBACC_FORMS` and `W_WEBACC_FORM` definitions, similar to story templates. The queue template is identified with the word `queue` as the first word in the index field.

Put the system-wide default Web Access form (HTML export template) at the top of the `SYSTEM.WEBFORMS.A.ACCESS-FORM` queue. Place stories titled `directory` and `queue` beneath the form used by default to display story contents.

Template Entities

The following table lists all of the available entities that can be placed in either a story, directory, or queue template. The `Q-` and `D-` entities are only valid for Web Access. They are not available for Web Publishing. If an entity is not valid for a certain type of template, it is noted in the entity description.

Each entity has IF condition definitions included following the text handling description. If an entity is not valid for a certain type of template, it will always result in a false condition when tested. Empty and all blank fields produce a false IF condition. Only fields present in the story and containing at least one non-blank character cause a true IF condition.

Do not forget to precede the entity with an ampersand and close it with a semicolon, such as &F-TITLE; or &DEFINE:P;"BR"

Entity	Explanation
&BODY;	Interpolate story BODY section in place of entity. [false if story body section is empty] [true if story body section is not empty]
&AESET;	Interpolate story AESET section in place of entity. [false if story aeset section is empty] [true if story aeset section is not empty]

Entity	Explanation
&F-<name>;	Interpolate the named field from the story in place of the entity. If the entity is one of `F-AIR-DATE`, `F-MOS-DURATION`, `F-CREATE-DATE`, `F-MODIFY-DATE`, `F-AUDIO-TIME`, `F-BACK-TIME`, `F-CUME-TIME`, `F-TOTAL-TIME`, `or` `F-TAPE-TIME`, the field is output using the `strftime` function. Furthermore, a formatting string can follow these fields. It must immediately follow the ';' of the entity and be enclosed in single or double quotation marks. Default format for the *-DATE fields is `"%D %T"`. Default format for the *-TIME fields is `"%M:%S"`. [true if the field is present in the story] [false if the field is not present in the story or is blank or empty]
&IF:<entity-name>;	If the entity yields a true condition, process template text up to a closing ELSE or ENDIF in the output stream. If the entity yields a false condition, skip over all template text up to the next ELSE or ENDIF (not output). Empty and blank fields are treated as a false IF condition. Only fields which are present and contain at least one non-blank character cause a true IF condition.
&ELSE;	Terminates the first part of an IF condition. If the IF condition was "true," it is now treated as "false" and all template text up to the closing ENDIF is skipped. If the IF condition was "false," it is now treated as "true" and all template text up to the closing ENDIF is processed.
&ENDIF;	Terminates an IF condition or an IF/ELSE combination
&FIELDS;	Only used for test conditions [false if story fields section is empty or blank] [true if story fields section is not empty]

Entity	Explanation
&REPEAT;	Bracket a section of the template text, up to an ENDREPEAT entity. The bracketed text will be processed for each object to be displayed on the page. This is only valid for directory and queue templates. If there are no objects to be displayed, the directory or queue is empty, and all of the bracketed text is skipped over.
&ENDREPEAT;	Terminates a REPEAT section. If there is another subdirectory or queue entry to be displayed on the page, template processing will continue at the preceding REPEAT entity. If there are no more objects to be displayed, template processing continues at the point following this entity.
&D-CHILD;	Interpolate current subdirectory name in place of the entity. Not valid for queue or story templates. [always true]
&D-COUNT;	Interpolate number of sub-directories contained in current directory. This is intended primarily for test conditions, to determine if a directory is empty. Not valid for queue or story templates. [false for empty directory] [true for directory with at least one entry]
&D-CURRENT;	Interpolate a link reference, such as `HREF`, to current subdirectory entry in place of the entity. Not valid for queue or story templates. [false for an empty directory] [true for a directory with at least one subdirectory]
&D-DIRECTORY;	Nothing, only used for test condition. Not valid for queue or story templates. This is the opposite of D-QUEUE. [true if the current subdirectory is a directory] [false if the current subdirectory is a queue]
&D-LOGOUT;	Interpolate a link reference, such as `HREF`, which includes a Web Access server logout request in place of the entry. [always true]

Entity	Explanation
&D-NAME;	Interpolate the current directory name in place of the entity. [always true]
&D-PARENT;	Interpolate a link reference, such as `HREF`, to the parent directory of the current directory in place of the entity. [false when current directory is the root directory] [true when current directory is not the root directory]
&D-QUEUE;	Nothing, only used for test condition. Not valid for queue or story templates. This is the opposite of D-DIRECTORY. [true if the current subdirectory is a queue] [false if the current subdirectory is a directory]
&D-SERVER;	Interpolate the server name (computer name) in place of the entity. [always true]
&Q-COUNT;	Interpolate number of queue entries contained on current page. This is intended primarily for test conditions, to determine if a queue is empty. Not valid for directory templates. [false for empty queue] [true for queue with at least one entry] [always true for story template]
&Q-CURRENT;	Interpolate a link reference, such as `HREF`, to current queue entry in place of the entity. This includes the complete URL-string to identify the current story position within the queue. Not valid for directory templates. [false for empty queue] [true for queue with at least one entry] [always true for story template]
&Q-HREF;	alias for Q-CURRENT (preferred name)

Entity	Explanation
&Q-LOGOUT;	Interpolate a link reference, such as `HREF`, which includes a Web Access server logout request in place of the entry. [always true]
&Q-MODIFY-DATE;	Interpolate modified time of current queue entry in place of the entity. Not valid for directory templates. The modified time is formatted using the `strftime` function with a default format definition of "%D %T". This format can be redefined via the DEFINE:DATE entity described below. Just as with *-DATE fields, you can supply a format following this entity. *This is the queue entry modified time and NOT the story modified time.* [always true]
&Q-NAME;	Interpolate current queue name in place of the entity. [always true]
&Q-NEXT;	Interpolate a link reference, such as `HREF`, to the next queue entry within the queue. This includes the complete URL-string to identify the next queue entry position within the queue. Not valid for directory templates. [false in queue template when current page contains last queue entry] [true in queue template when current page does not contain last queue entry] [false in story template when current story is the last story in the queue] [true in story template when current story is not the last story in the queue]
&Q-PARENT;	Interpolate a link reference, such as `HREF`, to parent directory of current queue in place of the entity. [always true]

Entity	Explanation
&Q-PREV;	Interpolate a link reference, such as HREF, to the previous queue entry within the queue. This includes the complete URL-string to identify the previous queue entry position within the queue. Not valid for directory templates. [false in queue template when current page contains first queue entry] [true in queue template when current page does not contain first queue entry] [false in story template when current story is the first story in the queue] [true in story template when current story is not the first story in the queue]
&Q-QUICK-INDEX;	Interpolate quick index contents of current queue entry. Not valid for directory templates. *Twenty (20) characters are always interpolated. This is different than story field contents where only the text present is interpolated.* [always true]
&Q-SERVER;	Interpolate the server name (computer name) in place of the entity. [always true]
&Q-STORY-TIME;	Interpolate story read time of current queue entry in place of the entity. Not valid for directory templates. The modified time is formatted using the strftime function with a default format definition of "%M:%S". This format can be redefined via the DEFINE:TIME entity described below. Just as with *-TIME fields, you can supply a format following this entity. [always true]

See "NSML to HTML Conversion" on page 548 for more information.

Default Directory Template

The following is the default directory template included with the iNEWS software:

```
<html>
 <head>
  &IF:D-PARENT;
   <title>&D-SERVER;</title>
&ELSE;
   <title>&D-SERVER;:&D-NAME;</title>
  &ENDIF;
 </head>
 <body><a name=top></a>
  <h3>
   &IF:D-PARENT;
    <img hspace=5 src=’/icons/folder.open.gif’>[&D-SERVER;]&D-NAME;
 &ELSE;
    <img hspace=5 src='/icons/comp.gray.gif'>[&D-SERVER;]
   &ENDIF;
  </h3>
  <img src='/icons/blank.gif' hspace=5><a href=&D-
LOGOUT;>[Logout]</a>
&IF:D-PARENT;
&nbsp;&nbsp;
<a href=&D-PARENT;>
 <img src='/icons/back.gif' hspace=5 border=0>Return to Parent 
Directory
</a>
  &ENDIF;
  <hr>
&IF:D-COUNT;
&REPEAT;
 <a href=&D-CURRENT;>
  &IF:D-QUEUE;
   <img src='/icons/text.gif’ hspace=5 border=0>
  &ELSE;
   <img src='/icons/folder.gif’ hspace=5 border=0>
  &ENDIF;
  &D-CHILD;
 </a>
    <br>
&ENDREPEAT;
&ELSE;
   <img src='/icons/blank.gif' hspace=5>[Empty]<br>
&ENDIF;
 </body>
</html>
```

Default Queue Template

The following is the default queue template included with the iNEWS software:

```
<html>
 <head><title>&Q-SERVER;:&Q-NAME;</title></head>
 <body>
  <a name=top></a>
  <h3>
   <img src='/icons/folder.open.gif' hspace=5>
   [&Q-SERVER;]&Q-NAME;
  </h3>
  <hr>
  <img src='/icons/blank.gif' hspace=5><a href=&Q-
LOGOUT;>[Logout]</a>
  &nbsp;&nbsp;
  <a href=&Q-PARENT;>
   <img src='/icons/back.gif' hspace=5 border=0>Return to Parent 
Directory
  </a>

  &IF:Q-COUNT;
   &IF:Q-PREV;
    &nbsp;&nbsp;&nbsp;&nbsp;
    <a href=&Q-PREV;>
     <img src='/icons/left.gif' hspace=5 border=0>[Previous Page]
    </a>
   &ENDIF;

   &IF:Q-NEXT;
    &nbsp;&nbsp;&nbsp;&nbsp;
    <a href=&Q-NEXT;>
     [Next Page]<img src='/icons/right.gif' hspace=5 border=0>
    </a>
   &ENDIF;

   <pre>
    &REPEAT;
     <a href=&Q-CURRENT;>
      <img src='/icons/script.gif' hspace=5 border=0>
      &Q-QUICK-INDEX;&nbsp;&nbsp;&Q-MODIFY-DATE;
     </a>
     <br>
    &ENDREPEAT;
   </pre>
 <img src='/icons/blank.gif' hspace=5><a href=&Q-
LOGOUT;>[Logout]</a>
   &nbsp;&nbsp;
   <a href=&Q-PARENT;>
    <img src='/icons/back.gif' hspace=5 border=0>Return to Parent 
Directory
   </a>

   &IF:Q-PREV;
    &nbsp;&nbsp;&nbsp;&nbsp;
     <a href=&Q-PREV;>
      <img src='/icons/left.gif' hspace=5 border=0>[Previous Page]
     </a>
&ENDIF;

   &IF:Q-NEXT;
    &nbsp;&nbsp;&nbsp;&nbsp;
    <a href=&Q-NEXT;>
     [Next Page]<img src='/icons/right.gif' hspace=5 border=0>
    </a>
   &ENDIF;

  &ELSE;
   <img src='/icons/blank.gif' hspace=5 border=0>[Empty]<br>
  &ENDIF;
 </body>
</html>
```

Web Access Configuration

Error messages returned by the Web Access server can be adjusted by editing a system dictionary. In addition, various default parameters can be adjusted.

Configuration parameters for the Web Access server must be included in the file `/site/web/configuration`, accessible by the Web Access server on the computer on which the Web Access server is running. This file is read once when the Web Access server starts.

`announce attempted logins=<value>`

> If the value is non-zero, all unsuccessful logins will be printed on the console. This includes failures due to an unknown user name, an invalid password, or a *blacklisted* user. The default is zero (0).

`announce logins=<value>`

If the value is non-zero, all logins will be printed on the console. The default is zero (0).

`diagnostics=<value>`

This is primarily for debugging purposes. The value is a bitmask, which controls printing of diagnostics. For instance, if the value is odd, such as the 1 bit is on, a diagnostic is printed every time a session is requested but all session licenses are in use.The default is zero (0).

`hard expire = <seconds>`

Number of seconds of inactivity which will force a reauthentication by the user and release the Web session for another user to log in to. The default is 1200 (20 minutes).

`putenv=<environment string>`

Allows environment settings to be put into the initial environment. The environment string should be of the form `name=value`. This will be primarily used for debugging purposes.

`queue entries per page = <number>`

Number of stories to put on a queue page. This can be a number from 1 to 50. The default is 50.

`soft expire = <seconds>`

Number of seconds of inactivity before the session license can be reused for another session. This will only affect a user if the server gets a session request and does not have any free session licenses. The server attempts to obtain the oldest session license—that is, the one that has been inactive the longest. If that session has been inactive for more than the soft expire interval, it will be reused. (Anytime a session is inactive for more than the hard expire interval, the user will be required to reauthenticate the session.) The default is 300 (5 minutes).

The following definitions must be present in the file `/site/web/strings`, accessible by the Web Access server on the computer on which the Web Access server program is running. The format of this file is the same as all dictionary files. This file is read once when the Web Access server starts. Definitions can be localized, as necessary.

session error	/iNEWS news session error

session login	/iNEWS news session login
session terminated	/Your iNEWS news session has been successfully terminated!
offline	/iNEWS news is offline.
try again later	/Please try again later.
cannot set subdirectory	/Cannot set subdirectory.
cannot open dir file	/Cannot open directory file.
cannot open queue	/Cannot open queue.
cannot access	/Cannot access
invalid certificate	/Invalid session certificate
no license	/No Web Access licenses available.
name	/Name:
password	/Password:
login	/Login
clear login	/Clear Form
enter login	/Please enter your name and password
reauthenticate	/iNEWS news Web session reauthentication
session expired	/Your iNEWS news session authentication has expired
reenter login	/Please re-enter your user name and password.
not authorized	/You are not authorized to access the iNEWS database

```
bad login              /The user name and/or password you entered
                       are not valid.

no login see admin     /If you do not have a login, see your system
                       administrator.

story unavailable      /You cannot access this story.

cgi short post         /input length less than CONTENT_LENGTH

cgi empty post         /CONTENT_LENGTH is missing

cgi empty query        /QUERY_STRING is null

cgi unknown request    /unknown REQUEST_METHOD

cgi expression error   /Expression error

cgi upload error       /Create of upload file failed

cgi no request         /REQUEST_METHOD is missing

;

;Used by "NewsWeb" script

;

no servers             /There are no iNEWS Servers configured.

server session         /iNEWS Server selection

server error           /iNEWS Server selection Error

server admin           /See your system administrator

server submit          /submit

server select          /Please select an iNEWS Server and click on
                       "submit."
```

Appendix A
Command References

Most of your system's commands are special commands provided by Avid. The commands you are most likely to need are listed and explained in this appendix, along with examples.

⚠ **Some available commands are meant to be used only by Avid technicians or under the supervision of Avid personnel. These commands may cause damage if used improperly. They are listed in this appendix on page 578.**

This appendix contains the following main sections:

- Programs Invoked by iNEWS
- Commands Used by Avid Personnel Only
- Linux Commands Used in iNEWS
- Console Control Commands
- Console Server Commands
- Job List Commands
- Dialog Commands

Programs Invoked by iNEWS

The following programs are invoked and used by your iNEWS system. Do not use them as commands.

action

bio.conf

bioserver

boot

brand

cgi-fcgi

connect.sh

console

copyright

disconnect

distribution

ftsindex

ftsseek

gnews

ismessage

keyword

license

mailserver

mct

monitor

monserver

news

newsmail

NewsWeb.fcgi

nxserver

parallel

prtscanner

rxnet

seek

server

snews

start

telex

txnet

webaccserver

workserver

Commands Used by Avid Personnel Only

The following commands are used by Avid personnel only.

attach

bdump

binhex

biodebug

dblock

dbprint

dbsize

detach

msgdebug

nsupgrade

poke

qcheck

biosleep
biostat
catcheck
ccuputwire
ccuq
ccureset
ccuspeed
ccutime
dbcopy
dbgen
dblinks
diddle
download
finit
ftsdebug
ifis
ifmaster
ifsu
iftapeis
keycheck
kwdcheck
load
qstampcheck
qxcheck
rcat
traverse
unjumble
userclean
wdump
workdebug
wxlate
xi

Linux Commands Used in iNEWS

The following Linux commands are available in iNEWS. For further information, see the reference material that came with your Linux system. To obtain command syntax and other usage information, type the `man` command along with the command name. For instance, to get information about the `grep` command, type:

```
man grep
```

cat
cp
date
df
grep
kill
more
mv
passwd
ps
pwd
rm
sync
telnet

Console Control Commands

The table below lists available console control commands and their functions.

Keyword	**Explanation**
`bottom`	Moves you to the newest (bottom) line in the history.
`computer [`*`computer-name(s)`*` | *]`	Selects one or more of your system's servers, so that you can type a command on the selected server(s). The command may be abbreviated: typing **`c`** or **`computer`** plus the computer name(s) of the servers you want to select will work. Type the command plus an asterisk (*) to select all servers, such as **`c *`**.

`down [`*`number-of-lines`*` |`
`keyword>`
	Moves you that many lines forward (down) in the history.
	• `down` *`number-of-lines`* moves you that many lines forward in the history. For example, typing **`down 30`** moves you forward 30 lines. If you follow `down` with a number greater than the number of lines between your current position and the last line in the history, the `down` command moves you to the last (newest) line in the history.
	• `down` *`keyword`* searches forward through the history from your current position for that word. For example, to search forward for a line containing the word, `list`, type: **`down list`**.
	The `down` command is not case sensitive. If you specify `PEOPLE`, `people` is a valid match. If the system does not find the keyword before reaching the bottom of the history, the console beeps and you are returned to the current line.
	• `down` with no parameter moves you down one line.
	A wildcard character (#) can be used to match any character or to a search for a number. For instance, `down 160#` will search for the number `160` instead of moving down 160 lines.

Keyword	Explanation
`Exit Function`	**To leave the console program and return to the MS-DOS prompt:** 1. Press the Command key. 2. Press Ctrl+E. 3. Press Enter. (You cannot type `exit` at the Command prompt.) Type **`console`** at the prompt to restart the console program.
`function-key-number=definition`	Assigns a command to a console function key. For instance, to assign the `list s` command to the F9 key, type **`f9=list s`**. To include Command and Enter keys in a function key definition, use braces. For instance, to include those keystrokes in the previous assignment example, type **`f9={list s}`**. To list the current assignment of a function key, type the key number by itself plus Enter on the command line. The valid range is `f1-f14`. Avid recommends no definition be made for F14, which defaults to the Command key. F13 corresponds to the plus (+) key on the numeric keypad.
`list [`*`#-of-lines`*` | all]`	Sends some number of lines of the history to the printer attached to the console multiplexor. • `list` followed by a number, such as `list 3`, prints that many lines of the history beginning at the current line. • `list all` prints everything from the current line to the newest line. • `list` with no parameter prints the current line. When using `list`, the word `PRINTER` appears on the command line. If `PRINTER` is displayed but nothing is being printed, ensure that the printer is plugged in, turned on, online, and has paper. The console assumes a printer is connected to the PC's parallel port, where output is sent. To cancel a `list` command while output is printing, press any key; printing stops and your position in the history moves to the last line sent to the printer.
`logclose`	Writes all history currently in memory to disk and then disables disk logging. You can use it to change log disks.
`logopen`	Resumes history disk logging after it has been disabled with `logclose`.

Keyword	**Explanation**
`logout`	Logs you out from a remote console. To log out, press the Escape key and type **`logout`**. The remote console displays the `PASSWORD` prompt, and you can then hang up your modem.
`modem`	Typed at the main console, this command logs out a remote console user. Before you type this command, ensure that the remote console user is not in the middle of an operation. The command may be abbreviated: typing **`m`** or **`modem`** will work.
`print [`*`number-of-lines`*` | all]`	Displays a number of lines of the history on the console screen. • `print` followed by a number displays that many lines of the history beginning at the current line. • `print all` displays everything from the current line to the newest line. • `print` with no parameter displays the current line. To cancel a `print` command while it is displaying console history, press any key. The console stops at the line last displayed on the screen, and your position in the history moves to that line.
`reset`	Attempts to unfreeze one or more of the console's I/O ports, if communication has failed between the console and your system's servers. To use `reset`, select the servers that are affected, press the Command key, and type the command. The command may be abbreviated: typing **`r`** or **`reset`** will work.
`top`	Moves you to the oldest line in recent console history. To see history older than this, use the `view` command to view a history disk log file.

Keyword	Explanation
`up` [*number-of-lines* | *keyword*]	Moves you backward (up) some number of lines in the history. • `up` *number-of-lines* moves you that many lines back in the history. For example, typing **`up 30`** moves you back 30 lines. If you follow `up` with a number greater than the number of lines between your current position and the first line in the history, the `up` command moves you to the first line in the history. • `up` *keyword* searches backward through the history from your current position for that word. For example, to search backward for a line containing `dbpurge`, type **`up dbpurge`**. The `up` command is not case sensitive. If you specify `PEOPLE`, `people` is a valid match. If the system does not find the keyword before reaching the top of the history, the console beeps and you are returned to the current line. • `up` with no parameter moves you back one line. A wildcard character (#) can be used to match any character or to a search for a number. For instance, `up 160#` will search backwards for the number `160` instead of moving up 160 lines.
`view` <*drive:filename*>	Displays a DOS text file on your console screen. Use this command to look at old history that has been saved to disk or to read other disk files, such as the console configuration file. Before you type this command, use the `zoom` command to display only one server's region on the console screen. (You can choose any server.) While you are viewing a file, you can only move down through it (as opposed to back or up in the file). Each time you press the Enter key, the file scrolls down one line. To stop viewing the file and return to normal console operation, press the Command key. The command may be abbreviated: typing **`v`** or **`view`** plus the filename will work.
`x`	Restarts the sending and receiving of information by the computers' console ports.It stands for XON and causes an XON character to be sent to the server for each selected region. If you are having trouble communicating with your servers from the console, try this command. If it does not work, use the `reset` command.

Keyword	**Explanation**
`zoom <`*`computer-name`*`>`	Selects a single server and fills the console screen with its region. To return the screen to its normal split-screen, multi-region state, select any server with the `computer` command. The command may be abbreviated: typing **`z`** or **`zoom`** plus the computer name will work.

For commands that include an individual server letter (A, B, C, or D), use the pound (#) character to send to multiple servers without typing them individually; The console will convert the # to the server's letter, such as A or B. For instance, if you type **`connect #`***, the console sends the command* `connect A` *to server A,* `connect B` *to server B, and so forth. To enter a # without it converting to a server letter, press the Enter key on the numeric keypad, then press Shift+3.*

Console Server Commands

You must enter commands in lowercase. Your system does not recognize commands entered in uppercase.

`broadcast`

```
broadcast  <message>
```

Sends a message to everyone logged in. The `-d` option will issue the broadcast in a popup window. For instance, to send a message, select *one* server and type:

```
NRCS-A$ broadcast -d System going down at 12:00
```

Certain characters are interpretted by the bash shell program, so when including characters, such as angled brackets, exclamation points, asterisks, or pound signs (<,>,`!`*,*`*`*,#) in the* `<message>`*, the entire message should be placed within quotation marks to prevent the program from interpretting them.*

`configure`

```
configure [-ns] [<config file> [<system> <computer>]]
```

Incorporates changes to your configuration file into your system's operation, and checks the configuration file for any errors.

For instance, suppose you made changes to PCUs 10 and 20, which are connected to server A in an AB system. To test these changes, become a superuser and type:

```
NRCS-A# configure /site/config ab a
```

If no `<config file>` is specified, `/site/config` is used.

If a service has been added to a database story in `SYSTEM.SERVICE`, use `configure -s` so the service can be recognized.

If an Ethernet or Internet address has been added to a database story in the `SYSTEM.CLIENT.WINDOWS` directory, use `configure -n` to validate the address and allow it to be recognized by the system.

In both cases, you must first take the system offline, enter the `configure` command, then put the system back online.

`connect`

```
connect  <name>  [<option>=<value>] …
```

The `connect` command names each server in the system, and tells each how many other servers there are in the system and how to communicate with them. For instance:

```
NRCS-A$ connect a net=ab
```

The `connect` *command reads the* `/site/system` *file for options. If an option is specified on the command line and also in the* `/site/system` *file, the command line setting takes precedence.*

connect Command Options

auto_upgrade=<yes | no>

clockmax=(12 | 24)

disk=<status>

excludedvideo=(director | none)

highwater=<number_of_blocks>

id=<system name>

msgserver=<silent | verbose>

name=<a | b | c |d>

pausetimeout=<mm:ss>

purgelimit=<number of hours>

readrate=<number of words per minute>

remotetimeout=<mm:ss>

lastlogin=<yes | no>	scriptlhmax=<number of columns>
load=<number>	scriptrhmax=<number of columns>
localtimeout=<mm:ss>	security=<and | or>

lowwater=<number_of_blocks>	single=<name> or
	net=<name,name[,name,name]>

master=<a| b | c |d>	timechar=<character>
maxhits=<number>	timer=<silent | verbose>
min_passwd_length=<number>	wordlength=<number>

`dbclean`

```
dbclean  [-x]  <directory name>
```

When starting up after a power failure, use `dbclean` to remove any edit or order locks in the database. Run the command before startup or log everyone off the system by typing **`logout all`** before issuing this command.

The most common usage of `dbclean` scans all queues except those marked with the skip flag. To use this command, after logging out all the users, type:

```
NRCS-A$ logout all
NRCS-A$ dbclean -x .
```

`dbclose`

```
dbclose
```

Closes the database.

⚠ **If you use this command while users are active, changes to stories will be lost.**

`dbdev` `dbdev`

Reports the disk partitions in use and the number of blocks allocated for the database on each disk partition. To find out the size of your database, type:

`dbdev`

A message similar to the following appears:

```
/dev/rp5  0        60000
/dev/rp6  60001    120123
/dev/rp7  120124   999999
```

The numbers reported are the first and last blocks for each partition. The last number of the report (999,999 in the example above) is the size of the database.

`dbdump` `dbdump  <keys>  [<option>] …`

Dumps individual stories or the entire database to tape.

This command can be interrupted. The program will continue dumping to reach an appropriate quitting point.

Valid Keys	**Description**
a	Append to current dump
c	Create new dump
C	Create new dump, don’t ask if it’s ok.
d	Dump the news directory
i	Dump indexed files (such as, user index)
s	Show quick index of dumped stories
v	Verbose output
x	Ask before dumping indexed file

Valid Options		Description
-a	<device>	Use alternate device for dump
-d		Dump news directory skeleton (no stories)
-f	[file]	Dump to file (use '+' for standard output)
-m	<minutes>	Dump files modified in last *x* minutes
-n	<namelist>	Only dump listed directories
-N	<computer name>	Network dump to specified computer

To dump everything except those directories marked with a skip flag, type:

```
dbdump c
```

To dump a queue to a new tape, add `-n` and the queue name to the command. For instance, to dump the queue `SCRIPTS.JUNE.01` to a new tape, type:

```
dbdump c -n scripts.june.01
```

By replacing the `c` with an `a`, you can add a queue to a tape without erasing information already on the tape. For instance, to append `SCRIPTS.JUNE.10` to a tape, type:

```
dbdump a -n scripts.june.10
```

Dumps already on the tape are skipped and this dump is added to the end.

dbfree

```
dbfree [-cf]
```

Reports the size of the database and the size of the free list—that is, the amount of free blocks available. To display this information, type:

```
dbfree
```

A message similar to the following appears:

```
data base size 4106240, free 72600=18%, freelist 2904
```

The freelist is compressed, so there can be as many as 5000 free blocks accounted for in each freelist block.

To display the amount of free space in your software area, type:

```
df
```

Prior to the system being configured, there are two maintenance options that may used with the `dbfree` command.

The format is `dbfree [-cf]`.

The `c` option is used to check for cleared free blocks. The `f` option is used to “unclear” cleared free blocks.

`dblines`

```
dblines  [b | c | f | n | q | s | v |+S|-S|-O]  <pathname>
```

Checks the database for story errors.

Valid Keys	Description
b	Story block count only (no checking)
c	Complete check
f	Compare fields in story form with fields in story. Report those not found in both.
n	Do *not* fix errors
-O	Do *not* report orphaned story record errors
q	List queue names
s	Skip queues that are skipped by `dbdump`
+S	Fix script related errors
-S	Skip (not report) script related errors
v	Verbose output
w	Check word counts

Valid Keys	Description
x	For qstamp checking

The dblines program normally will not fix script related errors; if you want to do so, the `+S` *option must be specified and the* `n` *option must not be specified.*

Use this command weekly as part of normal database maintenance. Start `dblines` before you go home and run it in the background. To run `dblines` in the background, precede `dblines` with a `print` command. Including a period with the command checks the entire database.

For instance, to run `dblines` in the background and send any error messages to system printer 2, type:

`print 2 dblines`

If `dblines` finds any errors related to queue corruption, call Avid Customer Support for assistance.

`dboriginal`

```
dboriginal [-a] <pathname>
```

Removes all old versions of stories in a queue to the freelist, so use it only on queues where you do not need to retain these old versions. For instance, to remove the old story versions in `ARCHIVE.MARCH`, type:

`dboriginal archive.march`

Use the `dboriginal` command to reclaim space when the system is low on space.

The `dboriginal` command will print diagnostics, indicating how many stories were examined and how many old versions were removed. The command removes old versions for unshared stories—those with a link count of 1—in a queue. The option, `-a`, allows the command to remove old versions from all stories (shared and unshared).

The `dboriginal` *command can also be used to remove old versions from stories in a queue that has the* `save none` *attribute. When stories are moved to or copied to a queue, all old versions are retained even if the queue has this attribute; only when a story is edited are the old versions removed.*

As indicated by the pound sign (#) in the prompt, you must be in superuser mode to execute commands. Also, you must use 24-hour military time.

It should only be necessary to run this command once or twice a year. Below is an example of using the `at` command to execute a `dboriginal` command at a specified schedule and directing it to a specified area (`archive`).

```
NRCS-A# at 11:10
/exc/dboriginal archive
<Ctrl+D>
job 1001340809.a at Sat Jul 10 11:10:00 2004
NRCS-A#
```

`dbpurge`
(Superuser conditional)

```
dbpurge  <path>  [- h | l | f]  [<interval>]
```

`dbpurge` purges the database to regain space.

Valid Keys	Description
-	Condition used as `<path>` parameter. Purges all queues with the default interval
-v	Condition used as `<path>` parameter. Purge all queues listed in the command in verbose mode
-h	Include held entries (must be superuser to use this option) in the purge
-l	Include locked entries (must be superuser to use this option) in the purge
-f	Include future dated entries (must be superuser to use this option) in the purge
	Interval is expressed in `<hours>` or `<days>.<hours>`

Any queues that have a write group assigned will not be purged when `dbpurge` *runs as a non-superuser.*

The system automatically purges the directories and queues each hour to move old material from high-turnover queues (such as the Wires queues) into the Dead queue. Normally locked and held stories are not purged regardless of their age. Use this command only in an emergency when you need to regain some space. Stories can receive a date in the future if your system date is inaccurate. If you have future-dated stories because the system date was inaccurately set, remove them using the `-f` option or wait until the date expires. You must be a console superuser to run `dbpurge` on write-protected queues. For instance, to purge all stories in the Wires queues older than five hours, type:

```
dbpurge wires 5
```

Typing `dbpurge -` purges all queues in the database according to each queue's purge interval. `dbpurge -v` does the same, and prints a message on the console for each queue purged.

You can also use `dbpurge` to remove held and locked stories from the database. To remove all locked stories from all queues in the People directory, type:

```
dbpurge people -l
```

To remove all held stories from a queue, use `dbpurge`, but substitute `-h` for `-l`.

The `dbpurge` *command can be run only on the master computer.*

`dbrestore`

```
dbrestore  <key>  [option] ...
```

The `dbrestore` command restores data dumped via `dbdump` to the iNEWS database. Automatic data conversions are performed to convert data from older database revisions to the current database format.

Conversion from the Avid NetStation database format is controlled with conversion parameters stored in a database conversion profile file —normally, `/site/dict/conversion` or optionally specified with the `dbrestore -c` option). For NetStation dbdumps, existing form templates stored in directory records and in stories will be converted to form names consisting of three digits. See the `qform`, and `sform` database traits.

If your database is damaged, you can restore it from your backup tape by typing:

```
dbrestore div
```

When you use `dbrestore`, restoring large numbers of stories can cause a temporary out-of-space condition.

Press Delete to stop a `dbrestore` in progress.

dbrestore Command Key Options

Keys:	
s	Restore stories only
d	Restore stories with their original directories
i	Restore ISAM files
v	Verbose output; list directory names
vv	List directory names and *each* title
x	Ask before restoring each ISAM file
f	Print facts about blocks and times
t	Print table of contents; do not restore
Options:	
-a <device>	Restore from alternate device
-c <filename>	Database conversion profile filename
-C <filename>	Character map filename
-d	<date>[-<date>]
-f [file]	Restore from a file (use '+' for standard input)

-i	Do *not* index. Do *not* post index request to `SYSTEM.INDEX` when a story is restored in an indexed queue.
-k	<keyword> (You can specify multiple keywords.)
-m <value>	Maximum number of stories to restore
-M	Preserve modification times
-n [=]	<directory>[=<new name>]
-N	Read from network socket for dump data
-p <queue>	Only with key letter s, will create queue
-s <platform>	Linux

You cannot use both the `s` *and* `d` *options in the same command. Select one or the other; not both. Additionally, you must be a superuser to list ISAM files.*

`dbserver`

```
dbserver  <high water>
```

Reclaims space from the Dead queue and places it on the free list. Use `dbserver` to build up the free list prior to periods of peak use.

When you use `dbserver`, specify the total number of free blocks you want to have in the free list. If the free list contains 25,000 blocks and you want to build up the free list to 100,000 blocks, type:

```
dbserver 100000
```

When the free list contains the desired number of blocks `dbserver` *stops. If you specify a number that is smaller than the current free list size,* `dbserver` *will not do anything.*

You can also use `dbserver` to place all space in the Dead queue on the free list. To do so, specify that you want to rebuild the free list to an unreasonably large size.

For instance, on a maximum 16 gigabyte database, type:

```
dbserver 16000000
```

The dbserver command is invoked when the system is booted and runs in the background continually monitoring the number of free database blocks based on the high and low water marks specified in the system profile.

dbsort

```
dbsort  [-v]  <queue name>
```

The dbsort command sorts stories in any queue by the quick-index field, and should primarily be used to verify that the quick-index field accurately reflects the story sort field contents. For instance, if RUNDOWN.AM has the page-number field set as its quick-index field, type the following to sort the queue by page number:

```
dbsort rundown.am
```

If no quick-index field has been set for the queue, its stories are sorted by the value of the title field. If a sorted queue is ordered, the sorting is disabled. Using dbsort starts the sorting again. Only a superuser can sort queues with nonzero write groups.

Dbtraits will automatically sort a queue when the sort attribute is turned on with the +so *option. An ordered queue is automatically sorted when the ordered attribute is turned off with the* -o *option.*

Use the -v option to verify the sort field. The system checks that the quick-index field in the database has the same data as the sort field in the story. This option provides no sorting function, but it updates the quick-index field so that your next sort is based on current information.

dbtraits

```
dbtraits <pathname> [only] [<option> <value>]
[+|- mode] …:
```

dbtraits Command Options

abstractlines or al	queueform or qform
abstractprinter or ap	readgroup or rg
abstractstyle or as	reindex

changeform or cform	save
displaylines	sortfield or sf
mailbox or mb	storyform or sform
notify or ng	stripform
purgeinterval <days.hours>	writegroup or wg

Sets and modifies database traits.

To assign a story form called rundown to the `RUNDOWNS.5PM` directory, type:

```
dbtraits rundowns.5pm storyform rundown
```

To assign a queue form called rundown to the `RUNDOWNS.5PM` directory, type:

```
dbtraits rundowns.5pm queueform rundown
```

Assigning forms can be combined to one command line, such as:

```
dbtraits rundowns.5pm storyform rundown queueform rundown
```

dbtraits Command Modes

f	Forms allowed
g	General
i	Inverted
index	Indexed
o	unorder (- only)
p	Printable
q	Queue operations allowed
r	Read access
refresh	Queue refresh

s	Sequential
so	Sorted
t	Text timing clocks
u	Update
w	Watch appends
x	Skip

dbvisit

```
dbvisit  -<d | v | i> -[r | m name]  [-s]  [block# …]
```

dbvisit Command Options

-d	Display progress by printing dots
-i	Validate ISAM file record and key sizes
-m	Machine name to disconnect (for online use)
-r	Read only; do not rebuild free list
-s	Operate in slow mode to eliminate cache usage
-v	Verbose output; print name of each queue

The validation is a validation of ISAM key and record sizes to prevent problems after software upgrades when the key and/or record sizes of any ISAM files changed for the new software release.

Scans the database for errors, then rebuilds the free list and fixes bad story-link counts. A list of block numbers can be specified, as shown by the `[block# …]` parameter above. A diagnostic is printed whenever `dbvisit` encounters one of the specified blocks, which is helpful for tracking down database corruption. Use `dbvisit` once a month as a part of your regular maintenance.

There are two ways to run `dbvisit`:

- Without the `-m` option: The system must be offline and shut down. No one can log in until `dbvisit` is complete.
- With the `-m` option: Specify a machine that will be running `dbvisit`. The system must be offline and shutdown only long enough to enter the `dbvisit` command. Remaining machines can be brought up for users to log into. After the `dbvisit` procedure is complete, the machine running `dbvisit` can be reconnected following the normal procedure.

⚠ **Before you run `dbvisit`, ensure the system is offline, all PCUs are stopped, and the system is shut down. If `dbvisit` reports any errors, do not rebuild the free list; call Avid Customer Support for assistance.**

`dial`

```
dial -p<port> [-i<devid> -o<options> - b|c|d|e|q|S|t| -
m<modem> -n<phone#>]
```

This command makes a connection between a workstation and a modem, passing data in both directions. Use it only in the service table, not from the console.

dial Command Options

-b	Binary data
-c	Check evidence of modem
-d	Direct (no modem)
-e	Echo
-i	Device ID for a direct-line device
-m	Modem type
-n	Phone number
-o	Communications options
-p	Port number
-q	Allow user to quit with Control <space>
-S	Special device

-t	Touch tone

`dictionary`

```
dictionary [-update] <dictionary> | <directory> ...
```

Any combination of dictionary names and dictionary directories can be specified. For each directory specified, all dictionaries within that directory will be compared to their standard dictionary counterpart. Only missing and obsolete dictionary tokens are identified; definitions are not compared.

The standard dictionary name begins with a pound sign (#) and is expected to reside in the same directory. A dictionary update is only done when the `-update` flag is specified; otherwise, the dictionary is only checked, by default. Any tokens found in the standard dictionary that are missing from the dictionary will be added and those found in the dictionary that are missing from the standard dictionary will be removed.

`diskclear`
(Superuser only)

```
diskclear  [-|u]
```

Marks each block of a server's database as invalid so that you can copy a new database to the disk. To clear the disk, select a server and type:

```
diskclear -
```

Do this prior to connecting a replacement server to a running system.

⚠ **Using this command erases the server's entire database.**

To reverse the effects of `diskclear`, type:

```
diskclear u
```

Arguments	Description
-	Clear database
-+	Writes to disk (cannot be repaired by running `diskclear u`)
--	Read database blocks
-<number>	The number of blocks to process at one time

Arguments	Description
u	Unclear database

diskcopy

```
diskcopy -[<# of simultaneous copies>]
diskcopy <start block> [<end block>]
diskcopy -s
```

Copies database from master computer (usually server A) to a replacement computer. Enter it on the replacement server.

Select the `-s` parameter to minimize impact on system performance.

doc

```
doc  -g[qu] <queue> [<title>...]
doc  -p[qu] <queue> [<file>...]
```

`title` must be one word or enclosed in quotes.

The `-g` option does not take any file name parameters; standard output is assumed. If output is to be written into a file, shell file redirection must be used (as in "> output-file-name"). The `-g` option defaults to plain text input / output and lines are terminated with CR/LF characters.

The `q` modifer specifies that the input / output will be in NSML format (not plain text). The `u` option specifies Linux line termination is used—that is, lines are terminated with an LF character.

The `-p` option will take input from its standard input if no files are specified. This will put a single story into the database composed of the data read from its standard input up to an end of file condition.

ed

```
ed <file pathname>
```

This command initiates the line editor used to edit text files. Since each server has its own copy of each site file, always select *all* servers before editing a site file. Procedures for using this line editor are covered in Appendix H. The line editor is a Linux-supplied program; refer to Linux documentation for more information.

`force`
(Superuser only)

```
force   -
force   [-q]   [<name>] ...
force   [-q]   “created>date1<date2” [<name>] ...
force   [-q]   “lastlog>date1<date2” [<name>] ...
force   [-q]   “passchg>date1<date2” [<name>] ...
```

When using angled brackets (>,<)in a parameter, they must be enclosed within quotation marks. The same applies to characters, such as the exclamation point (`!`) and asterisk (`*`).

This command forces users to change their password. For instance, to force user Harris to change her password, type:**`force harris`**

`grpcheck`

```
grpcheck [-v] <group story queue>
```

This command validates groups and aliases defined in each of the stories in the group directory (`SYSTEM.GROUP` by default). It then builds the alias file used by iNEWS.

grpcheck Command Options

`-v`	Display processing status as grpcheck traverses the queue.
`-vv`	Display processing status as well as group, user, and alias statistics encountered.
`-vvv`	Display messages from -v and -vv, as well as the final list of groups and their members.

`gtraits`
(Superuser only)

```
gtraits  add  <group name>
```

This command creates groups of users and modifies the security of existing groups.

The following lines show syntax for the `gtraits` command:

```
gtraits  changegroup  <pathname>
gtraits  delete  <group name>
gtraits  interactive
gtraits  list-
gtraits  list  [<group name>|<user name>]
gtraits  rename  <old group name>  <new group name>
gtraits  transfer  <source group name>  <destination group
name>
```

The first letter of each option can be used for shorthand.

`help`

```
help  <command name>
```

Displays information on how to use other commands. For instance, to get instructions for the `list` command, type:

`help list`

A message similar to the following appears:

```
usage:
   list configuration     [<termid> | <name>...]
   list directory         [<name>...]
   list terminal          [<termid> | <name>...]
   list user              [<name>...]
   list queue  <name>     [<record limit>]
```

`hogs`

```
hogs  [<pathname>]
```

Scans the directories or queues you specify and displays usage information for them. You can use this command to get an idea of which queues are consuming the most space and how much is being consumed. This command is also useful when used on the People directory. For instance, to display usage information for the People directory, type:

`hogs people`

To execute a hogs command and send the results to a system printer, use the following format:

```
NRCS-A$ print <system printer number> hogs .
```

A display similar to the following appears:

```
%  USED  SHARED  HELD  LOCKED  PURGE  QUEUE NAME
0  136   20      0     0       0      PEOPLE.ARLIN
```

This command can take up to 12 hours to generate. The primary number to observe is the number under USED. If this number is much higher for a certain queue than the numbers for other queues, you can determine where material needs to be downsized.

As indicated by the pound sign (#) in the prompt, you must be in superuser mode to execute commands. Also, you must use 24-hour military time.

Below is an example of using the `at` command to execute a `hogs` command at a specified schedule, sending the results to a file (`hogs.report`), and then using the `doc` command to copy that file to a queue for later review.

```
NRCS-A# at 11:10
/exc/hogs . > /tmp/hogs.report
doc -pu people.sysadmin.notes /tmp/hogs.report
<Ctrl+D>
job 1001340698.a at Sat Jul 10 11:10:00 2004
NRCS-A#
```

`idiff`

```
idiff <file1> <file2>
```

This command allows you interactively compare two files and select and/or edit the portions of the files that differ and create a composite file. The program displays the differing portions of two files and gives you the option to put the portion from the first file or the second file into the output file.

You can also edit the display using the vi program and put the resulting portion into the output file, named `idiff.out`.

`list`

```
list  [mailbox=<# | name>]  c  [<terminal #> | <program
name>] ...
```

list configuration	[<termid> | <name>...]
list directory [- (a | f | g | o | s | u | v)]	[<name>...]
list group	<name | {name}>

list queue [- (a | b | d | f | g | m | s | v)]	<name> [<record limit>]
list session [- v | p]	[<termid> | <name> ...]
list user [- (h | l | m | p | r | t | v)]	[<name | groupname>...]
list Blob [-v]	[<name>]

Configuration Options

computer=<name>

mailbox=[<number> | <name>]

Directory Options

list ap=<number> d

list as=<number> d

list flags=<flags> d

The `flags=<flags>` *directory option allows the use of directory flags from the set* `SRP(p/l)opLIsUGQ(O/N/A)XWFi` *to be used to select the directory entries to be listed. To see all indexed directory entries use:* `list flags=i d`. *To see all sequential, read-only, and printable directory entries use:* `list flags=SRP d`.

list form=<name> d

The `form=<name>` *directory option matches the directory entry queue form and story form names.*

list mailbox=[<number | name>] d

list ng=<group> d

list purge=[<days>.<hours> | <hours>] d

list rg=<group> d

```
list  rwg=<group>  d

list  rwng=<group>  d

list  save=[last | original | none | all]  d

list  sortfield=<field>  d

list  wg=<group>  d
```

Queue Options

```
list  qindex=<index value>
```

User Options

```
list blacklist=[b | -] user

list “created>date1<date2” user

list keyboard=<number> user

list “lastlog>date1<date2” user

list “passchg>date1<date2” user

list password= user

list readrate=<number> user

list session=<number> user

list simplified=[s | -] user

list su=[n | -] user
```

`list B`

Lists details of the “system blobs” stored on the server. System blobs are used to store bitmaps for the title-entry tool and for the simplified user interface settings. The following is a sample output:

```
  # list B
   File-Id    Size  Date      Time       Name
       449    7287  Jul 10 00 07:27:19  BM000001
       457    7238  Jul 10 00 07:28:16  BM000002
     84435    6066  Nov 30 00 08:16:39  BM000003
     84363    6066  Nov 30 00 10:44:13  BM000004
     84403    1171  Nov 30 00 10:56:40  BM000005
     88956  265255  Jan  4 01 16:05:18  BM000006
    103749   15439  Mar 22 01 00:40:24  BM000007
       498   11212  Jan 14 00 15:35:28  BM000008
       530   15439  Jan 14 00 15:53:46  BM000009
       546   91416  Jan 26 00 09:47:30  BM000010
       638   14342  Apr  4 00 13:11:17  BM000011
       653    8608  Apr  4 00 13:18:09  BM000012
       662   26673  Apr  5 00 13:46:54  BM000013
    104423      40  Mar 21 01 15:16:28  SimplifiedUISettings
```

`list c`

Lists current configuration of the system.

list c Command Options

computer=<name>
mailbox=[<number> or <name>]

`list d`

```
list  [<option>]  d-[a | f | g | o | s | u | v]
[<directory name>...]
```

list d Command Options

d-a	Abstract printing traits
d-f	Queue and story form names
d-g	Group information
d-o	Order user

d-s	Son count and sequence number
d-u	Lock user
d-v	Verbose mode

Lists information about the specified directory or queue. If no directory or queue name follows `d`, the command displays information on the entire database.

For instance:

```
# list d dead
 SRPlo-LIsUGQSXWFiT sortfield    purge dis mbox directory
Q-R-----I--G--X---- TITLE        P3.0  D1  -    DEAD
# list d-f dead
 SRPlo-LIsUGQSXWFiT queue form story form directory
Q-R-----I--G--X----                    DEAD
# list d-v dead
 SRPlo-LIsUGQSXWFiT sortfield    purge ap,  al, as   dis mbox
DEAD:
Q-R-----I--G--X---- TITLE        P3.0  A000,000,000  D1  -
     rg=-                    wg=-                    ng=-
     queue form=                       story form=
```

`list g`

```
list  g  [<user or group name>] ...
```

Lists group information.

`list q`

```
list [<option>] q-[a | b | d | f | g | m | s | v] <name>
[<limit>]
```

list q Command Options

q-a	Record address
q-b	Reverse order
q-d	Include deleted entries
q-f	Story form
q-g	Read-and-write group information

q-m	Who moved, duplicated, or killed the queue
q-s	Queue stamp
q-v	Verbose output

Lists information on the contents of a queue. For instance:

```
NRCS-B$ list q people.palmer.new 1
```

A display similar to the following appears:

```
PEOPLE.PALMER.NEW id=126126
rec  quick index    LHDM-WObfpRmF  f.id    time  modified-time
25   h-disd         ---M---------  13735   1     May2 17:07 2000
```

The index value consists of the selected sort field of the story you want to list. The quick index (`qindex`) value is optional, but must be a single word, and is not case-sensitive.

For instance, to get information for a story called “Nomad” in the queue `PEOPLE.SMITH.NOTES`, type:

`list qindex=nomad q people.smith.notes`

`list s` `list s -[p | v] [<session id> | <name>]...`

Lists session information, such as users currently logged in.

The `-p` option causes the process id for the controlling session process to be printed. The `-v` option causes the IP address for the session to be printed if the session is a network session, such as an iNEWS Workstation.

`list u` `list [<option>] u[-(h | l | m | p | t | r | v)] [<user or group name>]...`

Lists user traits information, such as read rate, the keyboard description story, system setup and preferences, and mail and home queues.

If no name follows `u`, the command displays information about all users; otherwise, it displays information about the listed user, such as:

```
NRCS-A$ list u-v danielmi
```

The verbose result of the command will look something like this:

```
user      rr   kb   su  m   SOEKCVTH  sc  queues

danielmi  180  0    n   i   -OEKCVTH  sc  dest: PEOPLE.D.DANIELMI.NOTES
                                          home: PEOPLE.D.DANIELMI
                                          mail: PEOPLE.D.DANIELMI.MAIL

NRCS-A$
```

The flags (`rr kb su m SOEKCVTH sc`) in the header provide current status information. The flags are:

rr	Readrate	K	Can Kill All
kb	Keyboard	C	Can Connect
su	Superuser	V	Can Video Browse
m	Insert/Overstrike Mode	T	Can Technical Direct
S	Simplified User	H	Can Highlight Read
O	Can Order	s	Can Configure Shortcut Toolbar
E	Can Enter & Remove	c	Can Configure Colors

The letters in the header are defined as follows:

u-h	Home queue
u-l	Last login
u-m	Mail queue
u-p	Preferences
u-r	Real name
u-t	Tracking information

u-v	Verbose output
<option>	list blacklist=[b | -] user
	list “created>date1<date2” user
	list keyboard=<number> user
	list “lastlog>date1<date2” user
	list “passchg>date1<date2” user
	list password= user
	list readrate=<number> user
	list session=<number> user
	list simplified=[s | -] user
	list su=[n | -] user

When using angled brackets (>,<)in an option, as shown above, they must be enclosed within quotation marks. The same applies to characters, such as the exclamation point (`!`*) and asterisk (*`*`*), as shown below.*

```
list user “a*”
```

Lists all users whose login names begin with the letter ‘a’.

`logout`

```
logout  [<device #>] ...
logout  all
```

Logs out a workstation. When you use `logout`, it saves the user’s work before logging out his or her workstation. This command does not log out users in a connect session.

To log out specific workstations, follow the `logout` command with the device numbers of the workstations you want to log out. For instance, to log out workstations 12, 34, and 91, type:

```
logout 12 34 91
```

To log out all workstations, use `logout all`. Before logging users out, always broadcast a warning message and give them a chance to log out on their own.

`makeccutab`
(Superuser only)

```
makeccutab  -i[sv]
```

Builds new dictionary translations into PCU programs.

To use this command, stop all PCUs, then become superuser and type:

`makeccutab -i`

For testing, the command format is: `makeccutab -f [sv] filename`.

makeccutab Command Options

s	Standard translations
v	Verbose output
vv	Very verbose: show progress plus translations

The dictionary definitions are installed into the `/exc/ccu/at/printer` *file.*

`makemctab`

The file into which the dictionary definitions are installed are `/exc/monitor`, all configured mcs drivers resident in the `/exc/ccu/at` directory, `/exc/ccu/at/cmct`, and all configured mcspc drivers resident in the `/exc/ccu/tftp/mcspc` directory.

The usage for the `makemctab` is the same as the `makeccutab`.

`makeshift`
(Superuser only)

```
makeshift -[v|i|a|p|r|f <shift-file>] file1 file2 ...
```

Manages the case-shifting dictionary that iNEWS uses to determine how to convert lowercase characters to their uppercase counterparts, and vice-versa.

Use the `makeshift` command in maintenance mode when you install iNEWS to implement the case-shifting dictionary appropriate for the national language used at your site.

makeshift Command Options

v	Verbose. To diagnose the case-shifting dictionary for potential errors, displaying messages for each line in the file. Checks that the file is readable and contains shift tables.
i	Install. To install the shift table into files you specify in the filename list.
a	Ask. To confirm installation of each file as you are installing the shift tables. Forces installation.
p	Print. To print shift tables contained in each file you specify in the filename list, with formatting similar to that in the default case-shifting dictionary. This option does not build or install the shift tables.
f	File. Specify with a <shift-file> filename, to use a file other than the default file for the case-shifting dictionary. The default file is (`/site/dict/shift`).
r	Recursive. (For directories.)
<shift-file>	When you specify the -f option, enter the case-shifting dictionary name you want to use instead of the `/site/dict/shift` file.
<file1> <file2> ...	When you specify the -i or -p option, enter one or more file names to install or print. If you specify a directory path instead of a file name, the `makeshift` program processes each file in the directory, then returns to the original directory.
[path]	When processing files in a directory, the `makeshift` program ignores additional directory pathnames it encounters, rather than recursively scanning child directories. To have `makeshift` scan all files in a directory, specify the directory path in the filename list.

`maketab`
(Superuser only)

```
maketab  -i[sv]
```

maketab Command Options

s	Standard translations
v	Verbose output

Use this command after making changes to the dictionaries (or before the system is connected) to build the new translations into programs. To use this command, first stop all PCUs. Then become a superuser and type:

```
maketab -i
```

The usage for the `maketab` is the same as the `makeccutab`.

For maketab, the dictionary definitions are installed into the following programs: `/exc/news`*,* `/exc/gnews`*,* `/exc/snews`*,* `/exc/nxserver`*, and* `/exc/newsmail`*. Day and month abbreviation definitions are installed into:* `/exc/news`*,* `/exc/gnews`*,* `/exc/snews`*,* `/exc/nxserver`*,* `/exc/newsmail`*,* `/exc/telex`*,* `/exc/rxnet`*, and* `/exc/server`*.*

`msgclean`

```
msgclean -[r|d|o|t] [<username>|<number of days>]
```

msgclean Command Options

-r	Remove invalid messages
-d	Show messages that are removed
-o	Show outstanding messages
-t	Tabulate outstanding messages
<username>	Specified user (use “*” for wildcard match)
“#<days>”	Older than number of days

When using characters, such as angled brackets (>,<), the pound sign (#), exclamation point (`!`*) and asterisk (*`*`*), they must be enclosed within quotation marks.*

If you remove a user who has unread messages, those messages remain in the database. You can remove them using the `msgclean` command followed by `-rd`. For instance, to remove the pending messages for all users that have been removed from the system, type:

```
msgclean -rd "*"
```

You can substitute the name of a removed user for the "*" to remove only the messages for that user.

`offline` `offline [silent]`

Puts iNEWS offline. Users cannot log in, but users already on the system can continue normal function. The `silent`option suppresses diagnostics for network connections that are refused because the system is offline. Both `nxserver` and `workserver` typically generate these diagnostics.

The datastamp generator, server timer, includes an indication that the system is offline in the timestamp messages produced on the console. This provides feedback that the system is offline when the `silent`option was specified.

The `status` command will print "OFFLINE (silent)" when the system is offline with the `silent` option turned on.

You can keep the system offline and turn off the `silent` option by reentering the `offline` command without the `silent` option.

`online` `online`

Puts iNEWS online. Users can log in and use the system.

`otod` `otod <number> …`

otod Command Options

leading 0	Octal
leading 0x	Hex
leading =	Next characters (as characters)

leading -	Negative number
leading _	Two-character compose sequence
leading %	strftime format - subsequent numbers formatted with format for local and gmt times
leading L	locale to use for date formats

This command converts numbers from one base (such as decimal) to another (such as octal). For instance, to convert decimal 32, type:

`otod 32`

A message similar to the following appears:

```
h(0x20) o(040) d(32) u(32) SP
32.0.0.0 Wed Dec 31 16:00:32 1969
```

In this listing, `h` stands for hexadecimal, `o` for octal, `d` for decimal, and `u` for unsigned decimal. The number conversions are followed by the corresponding ASCII character (space, in this case), and the date value. The `32.0.0.0` is the number shown in IP address format.

The `%` and `L` options can assist you in handling different locale settings and formats. The following are two examples:

Type: **`otod %X 32`**

A message similar to the following appears:

```
h(0x20) o(040) d(32) u(32) SP
0.0.0.32  Wed Dec 31 18:00:32 1969
lcl: 18:00:32
gmt: 00:00:32
```

Type: **`otod Lfr 32`**

A message, with the date in French, similar to the following appears:

```
locale is fr
h(0x20) o(040) d(32) u(32) SP
0.0.0.32  mercredi 31 décembre 1969, 18:00:32
```

`print`

```
print  <printer #>  <command>
```

Redirects the output from any console command into a story in the Dead queue and prints it.

For instance, to print the configuration file on printer 1, type:

`print 1 cat /site/config`

`query`

```
query  <pcu #> | <mcs pc devid>
query  <device #>  <qtype>  [parameters]
```

Syntax:

```
<devid>  ioregister
<devid>  iocontrol
<devid>  proc
<devid>  input
<devid>  output
<devid>  read  <addr> <length>
<devid>  absread  <seg> <addr> <length>
<devid>  writeb  <addr> <byte value in hex>
<devid>  writew  <addr> <word value in hex>
<devid>  abswrite  <seg> <addr> <word value in hex>
<devid>  netstat
<devid>  bstat
```

Tests communication between a PCU or MCS-PC and its server. Type **`query`** followed by the device number of the PCU or MCS-PC. For instance, to test PCU 20, type:

```
NRCS-A$ query 20
```

A message similar to the following appears if the PCU or MCS-PC is functioning properly:

```
#(@) 1.5.1.12 DOS PCUOS OK
```

If the system returns an OK message a few seconds after you execute the command, the PCU or MCS-PC is functioning properly. If there is a problem, the server displays a failed message after about a minute.

`reconnect`

```
reconnect  <name>  [<option>=<value>] …
```

The options for this command are the same as for the `connect` command.

⚠ **Enter the correct identifier, such as A, B, C,or D, for the host computer (server). The `reconnect` command must be entered on all of the currently connected servers as well as the server to be reconnected. The`reconnect` command will exit with a diagnostic if the specified server is already connected.**

Connects a server to a running iNEWS newsroom computer system. You must type the `diskclear` command first on the server being reconnected before reconnecting it to the iNEWS newsroom computer system.

`rename`
(Superuser only)

```
rename  [- u|v|r]  <old name>  <new name>
```

rename Command Options

-u	Update user records only, changing mail, destination, and home directory entries that match <old name>
-v	Verbose output
-r	Resume interrupted operation

⚠ **System must be offline. Resuming interrupted operations after changing queue or directory names could cause loss of data.**

Renames any directory or queue in the database. You must become superuser, take the system offline, and log out all users before using `rename`.When you use this command, the system must be named and offline. For instance, to rename the People directory to `PEOPLE.STAFF`, type:

```
rename people people.staff
```

The command creates any new directory levels that are necessary.

`reorder`

```
reorder <parent> <child> <position>
```

This allows you to change the order of a directory by putting one of the child entries into a new position in the directory. Reordering is only done for Sequential directories.

The `<position>` parameter can be:

```
-a <sibling>  (place <child> after <sibling>)
-b <sibling>  (place <child> before <sibling>)
-<number>     (move <child> up <number> positions)
+<number>     (move <child> down <number> positions)
<number>      (place <child> at <number> position)
```

The `<child>` and `<sibling>` parameters do not include the full pathname; only the last level name relative to the parent name.

`restart`

```
restart  [-v]  <device> | all
```

⚠ **If you restart a device when a user is editing, data could be lost.**

Restarts one or more devices, an entire PCU (and its devices), or every PCU and their devices on a server. The `restart` command stops and reloads the currently executing program(s).

To restart a device, type **`restart`** followed by the device number. For instance, to restart printer 41, type:

```
restart 41
```

To restart all devices on a PCU, type **`restart`** followed by the PCU’s device number. To restart all devices on your system, type:

```
restart all.
```

After each restart, you see a `Hot-to-go` message for each device as it starts. If the device does not start, you see a message indicating that the restart of that device has failed.

`searchtape`

```
searchtape [on <device>] [from <date> to <date>]
[<max # stories>] for <word> ...
searchtape [on <device>] [just <date>]
[<max # stories>] for <word> ...
```

Use one of the following date formats: YY, YYMM, YYMMDD, or CCYYMMDD.

Searches a tape created by the `dbdump` command and recovers stories from it. Stories that contain a word specified in your search are restored to the queue `SYSTEM.SEARCHTAPE`. For instance, to search a tape for stories containing the word "dinosaur," type:

```
searchtape for dinosaur
```

A message similar to the following appears:

```
8 stories restored to SYSTEM.SEARCHTAPE
```

In this case, `searchtape` found eight stories containing the word "dinosaur" and placed them in `SYSTEM.SEARCHTAPE`.

When searching a tape, you can specify a date range when the story was saved, as well as the maximum number of stories for the system to restore.

`send`

```
send  <username>  "<message>"
```

Lets you send instant and intersystem messages to users from the console. Messages can be sent to the special user—`computer`—on another system by using the username, `computer@other-system`. These messages are printed on the console of the other system.

Here are two examples of messages sent to user Smith:

```
send smith "are you editing ap-arson"
send smith "please log out now"
```

`shutdown`

```
shutdown
```

Typing this command while users are editing may cause data loss.

Stops all devices and closes the database. It is used before halting the system. To use this command, you must first select *all* servers and log everyone off the system.

`sitedump`
(Superuser only)

```
sitedump  [-d<device> | -f<file>] [-ehv]
```

Makes backups of your system's site files.

sitedump Command Options

-d	`<device>` is the name of a tape device. The actual device name used will be `/dev/<device>`. The default is `/dev/tape`.
-f	`<file>` is the name of a file to use as the archive.
-e	Eject tape when done.
-h	Help - show usage information.
-v	Verbose

`siterestore`
(Superuser only)

```
siterestore [-d<device> | -f<file>] [-ehtv] [<file> ...]
```

All site files will be replaced by the version on the backup tape. You will lose the version currently on your system.

Restores site files and programs backed up to tape with `sitedump`.

After performing a siterestore, run the `grpcheck` *command to rebuild the mail aliases file.*

siterestore Command Options

-d	`<device>` is the name of a tape device. The actual device name used will be `/dev/<device>`. The default is `/dev/tape`.
-f	`<file>` is the name of a file to use as the archive.

-e	Eject tape when done.
-h	Help - show usage information.
-t	Show table of contents; no files are restored.
-v	Verbose
<file> ...	Only the named files are restored. If a directory is specified, all files in the directory will be restored.

`softdump`

```
softdump  [-d <device>] [-ehv]
```

Dumps a complete image of the software area of the disk to tape.

You must be a superuser to backup the root disk.

With the exception of `-f`, the options for `softdump` are the same as the `sitedump` command.

`softrestore`

```
softrestore  [-d <device>] [-ehtv] [<pattern>...]
```

This function must be performed from single-user mode. Restoring an old or inaccurate version of the data may cause functionality problems.

Use this command only when advised to do so by Avid personnel to restore the software area of the disk from a `softdump` tape.

You must be a superuser to restore the root disk.

softrestore Command Options

-d	`<device>` is the name of a tape device. The actual device name used will be `/dev/<device>`. The default is `/dev/tape`.
-e	Eject tape when done.
-h	Help - show usage information.
-t	Show table of contents; no files are created.

-v	Verbose
<pattern> ...	Select only files with names that match pattern.

`startup`

```
startup
```

Starts the system's devices after they have been shut down. The system must be offline and all devices must be stopped.

`status`

```
status  [all | license]
```

Displays system connection information: which server is the master, if system is running single or dual, and the disk status.

There are three disk statuses:

- **OK** - When the system is up and running either as dual or single.
- **Cleared** - When you have cleared the database of a failed server.
- **Unknown** - When you reconnect the CPUs following a `diskclear`. When the `diskcopy` procedure has completed and the database has been mirrored, the disk status will change back to OK.

To list basic system information, type:

`status`

A message similar to the following appears:

```
A is online  ID is NRCS
System is AB. Master is A.
Disk status is UNKNOWN
```

To list system options set in the system profile, type:

`status all`

To list the system's license information, type:

`status license`

`stop`

```
stop  [-v] all | <device number>
```

⚠ **If you stop a device when a user is editing on the device, data could be lost.**

Stops activity on a server prior to shutting it down. Before using the `stop` command to stop an activity, use the `broadcast` command to notify users the system will be going down, and log out all devices on the affected servers. To stop all devices on a server, use `stop all`.

To stop a device, follow `stop` with the number of the device you want to stop. For instance, to stop workstation 12, type:

`stop 12`

The `stop all` command differs from the `shutdown` command in that the free list remains in memory and is not flushed back to the disk.

`su`

```
su
```

This Linux command allows you to enter superuser mode. Type **`su`**, then type the superuser password when prompted.

The display looks similar to the following:

```
NRCS-A$ su
password:
SU: so /dev/console
```

`unbusy`

```
unbusy  [-i] <queue name>
```

Removes edit and order locks from the specified queue in your database.

The `-i` option allows you to ignore the inverted database trait.

⚠ **If a user is actually working in the file, removing the lock could cause data loss.**

`utraits`
(Superuser only)

```
utraits <username> [<option> <value>] [+|- flag]
```

utraits Command Options

destination	realname
editmode	su
keyboard	home
readrate	password
mail	

The `bloblist` *option is useful for removing iNEWS Workstation user preferences should they become corrupted.*

utraits Command Flags

b	Blacklist	ka	Kill all
bloblist	Remove blob list	log	Log client/server communication
c	Connect	o	Order
cc	Configure colors	s	simplified user interface
cs	Configure shortcut toolbar	td	Technical direct
er	Enter and remove	vb	Video browse
hr	Highlight read		

Sets a user's traits. For instance, to assign keyboard 12 to user Jones, type:

```
utraits jones keyboard 12
```

The `<username>` can be "all", a pattern, or a user name. You can enclose the real name in quotation marks to allow for embedded spaces. Use `"<string>*"` to indicate wildcards. For instance, "a*" applies to all users with names starting with the letter A.

`version`

```
version [-<alternate pattern>] <filename> ...
version [+]
```

Displays the version and platform of the iNEWS software you are using. Type:

`version`

A message similar to the following appears and displays product version information:

```
(c) 2004
This computer program is protected by copyright law and
international treaties. Unauthorized reproduction or
distribution of this program, or any portion of it, may
result in severe civil and criminal penalities.

U.S. GOVERNMENT USERS RESTRICTED RIGHTS: Use, duplication
or disclosure by the U.S. Government is subject to
restrictions as set forth in subparagraph (c)(1) of FAR
clause 52.227-19, COMMERCIAL COMPUTER SOFTWARE -
RESTRICTED RIGHTS or, in the case of the Department of
Defense or its subcontractor, is subject to DFARS
227.7202-3, RIGHTS IN COMMERCIAL COMPUTER SOFTWARE OR
COMMERCIAL COMPUTER SOFTWARE DOCUMENTATION.

version: 2.0.0.21 LINUX
```

You can also use this command to display a particular program’s version number. Type **`version`** followed by the program’s name. For instance, to find out which version of the `dbsort` program you are using, type:

`version dbsort`

A message similar to the following appears:

```
dbsort: 2.0.0.21 LINUX
```

`wholockedit`

```
wholockedit  <queue name>  [all]
```

Displays who locked a story. For instance, to find out who locked a story in `PEOPLE.SMITH`, type:

```
wholockedit people.smith
```

To find out who last modified each story in a queue, type **`wholockedit`** followed by the name of the queue and the keyword **`all`**.

`wiredump`

```
wiredump <device number> <speed> <bits> <file> <count>
```

or

```
wiredump <device number> <speed> <bits> -<code[rotate]> <style>
```

<bits>	Bits per character (5, 6, 7, or 8) or speed options, as interpreted by the `ccuspeed` program.
<file>	File name for collected data
<count>	Number of bytes of data to collect
<code>	b for Baudot, t for TTS, a for ASCII, w for Wire ASCII, or e for 8-bit ASCII
[rotate]	1-7 to rotate right <x> bits; 8 for one's complement (010=>101); 9 for inversion (123=>321)

If a problem exists with your wires, you may need to use this command to collect raw wire data so it can be sent to iNEWS for testing. The `wiredump` command can also be used for debugging format changes made by a wire service. A wire dump can be sent to the screen or to a disk file.

For instance, if device 35 is a 1200 baud, ASCII, 7-bit wire, type the following to print the first 200 characters to the screen:

```
wiredump 35 1200 7 -a c
```

To dump wire data to a file, use the following format. The file name refers to the output file into which the `wiredump` data is placed. It should include the name of the wire and be preceded by the `/tmp` directory name. The count is measured in number of bytes.

For instance, if device 35 is the APTV wire, to capture the first 2000 characters, type:
`wiredump 35 1200 /tmp/aptv.raw 2000`

A display similar to the following appears:

```
loadtime = 0:11
NRCS-A$ restart 35
W35: 14:34:09 Hot-to-go
```

Job List Commands

The following section provides a list of commands that can be used in a job list, which is created and modified in the database. The command's format and description are provided, followed by a list of servers that can utilize the command in their job lists.

`at`

```
at  <hh:mm>
```

Specifies the time of day when a task will take place. You can combine this instruction with the keyword `on` to specify both the day and time for the task. Applies to action and tx servers.

`bpoll`

```
bpoll <queue name> [<polling interval> [<polling
duration>]]
```

Works like `poll`, except it reads stories in the primary queue in reverse direction. If the polling interval and duration are not specified, a single scan of the primary queue will be done. Applies to timed-interval action and tx servers.

```
bscan                bscan  <queue name> [priority | all | everyentry]
```

Works like `scan`, except it reads stories in the scan queue in reverse chronological order, reading the newest stories first. This is convenient for very large queues. Applies to action and tx servers.

The `priority` option forces the action/txnet server to interrupt the scan of another queue if the action/txnet server receives a mailbox notification. The `all` option forces the action/txnet server to scan the entire queue instead of the limit of 10 stories when it has more than one queue to scan. The `everyentry` option forces the server to process each entry in a queue, not just modified entries.

```
distribution         distribution <distribution story queue> [<error queue>]
```

Specifies the queue containing the distribution story and, optionally, an error queue for stories whose distribution codes cannot be processed. Applies to distribution and parallel servers.

```
dup                  dup  <destination queue>  [<distribution code>]
```

Copies the stories in the scan queue to a queue you specify, optionally including a distribution code with them. Applies to action and tx servers.

```
every                every  <dd.hh>
```

Specifies the interval at which a task is performed. You can set this value in days and/or hours. Applies to action and tx servers.

```
extension            extension <file extension>
```

Applies to tx servers. When transmitting stories using HTML format, each transmitted story has a filename composed of a hexadecimal representation of the entry’s qstamp and a filename extension of `.html`. Use the `extension` command to specify a different extension. Do not include the period in the `<file extension>` parameter. The defined extension will also be used in place of `html` for the published file. See the `publish` job list command for more information.

`ignore`

```
ignore  [yes | no]
```

Including `ignore yes` in a job list that performs validation ensures the server accepts any values for the fields it is validating. The default is `ignore no.` Applies to action and tx servers.

`ignore-del`

```
ignore-del
```

Causes a server to take no action when a story is deleted from its scan queue. Applies to action and tx servers.

This option is not reset for each `scan/bscan` *command set. Use* `send-del` *to restore processing of deleted queue entries.*

`local`

```
local  <queue name>
```

Specifies the primary wire queue. Applies to parallel servers.

`mailto`

```
mailto <recipient>...
```

Mails the story as an e-mail text message to each recipient. The list of recipients is a space-separated list. If the `sendform` option is on, the content of fields in the story is included at the start of the e-mail text message. Only fields present in the story form assigned to the story are included. Each field is identified by the label text associated with the field in the story form assigned to the story.

`move`

```
move  <destination queue>  [<distribution code>]
```

Moves stories from the scan queue to a queue you specify, optionally adding a distribution code to them. It must be the last instruction in a job list task. Applies to action and tx servers.

`number`

```
number  <form field>  <length> <error queue>
```

Assigns a unique number to each story as the story is processed. Specify the form field that will contain the number and the number of digits for the number. Applies to action and tx servers.

`on`

```
on  <day> ...
```

Indicates on which days of the week a time-interval task will occur. You can combine this instruction with the `at` keyword to indicate both day and time. Applies to action and tx servers.

`open`

```
open  <computer> <username> [<format> [<queue name>
[<story name>]]]
```

Initiates a network connection to a remote system for story transfer. The `username` you specify must exist with identical passwords on both the local and remote systems. Applies to tx servers.

The `<computer>` can include a port number. The format is `host:port`. If no `:port` is included in the `<computer>` parameter, the port defined by the rxnet service is used, if defined; otherwise, the port defined by the FTP service is used.

The `<username>` can specify a simple name or a name in the format `name@host`. Only the name portion is used to locally look up a password. The entire username is sent in the FTP `USER` command. This may allow connections to be made through proxy servers.

The format, if specified, must be one of the following: `2nsml, nsml, sep, or html`.

The queue name and story name are only used when the format is set to `HTML`. The queue name and story name are used to get the Web publishing template that controls the formatting of the story into an HTML page. If the queue name is not specified, the template is taken from the `SYSTEM.WEBFORMS` queue. The story name can be used to select a specific template from the queue. If not specified, the first story in the queue is used.

`order`

```
order [yes | no]
```

Indicates that order changes in the scan queue should be transmitted to the remote system. For this to work correctly, the destination queue on the remote system must have its update trait turned on.

The order command applies to tx servers and action servers. For action servers, the order of the scan queue is propogated to each of the dup, move, and replace command destination queues. Specifying order without yes or no is the same as order yes.

poll

```
poll <queue name> [<polling interval> [<polling
duration>]]
```

Reads stories in the specified primary queue in a forward direction at certain intervals for a specified duration. Polling is used in conjunction with the put or dup commands for rundown mirroring. Stories with modified times greater than the time of the last scan are processed. If an interval and duration are not specified, a single scan of the primary queue will be done. Applies to timed-interval action and tx servers. See "Mirroring Rundowns" on page 434 and "Polling for Action Servers/Tx Links" on page 435 for more information.

publish

```
publish [no|yes]
```

When placed following a scan or bscan line, the txnet publishing option, publish no, disables appending information to the PUBLISHED.HTML file on the remote system when using HTML export. The default is set to yes. Applies to tx servers.

put

```
put  [<queue name>]
```

Sends stories over a Tx link to a specified queue on the remote system. Applies to tx servers.

The <queue name> parameter is optional. When it is not included, the story is put into the default destination queue of the user on the remote system.

quiet

```
quiet  [no|yes]
```

Including quiet no in a job list that performs validation sends a message whenever the server successfully validates a story. The default, quiet yes, means a message is sent only when a story fails validation. Applies to action and tx servers.

`remote` `remote <queue name>`

Identifies the secondary wire queue. Applies to parallel wire servers.

`remove` `remove`

Deletes stories from the scan queue. It must be the last instruction in a job list task. Applies to action and tx servers.

`replace` `replace <destination queue name> [<distribution code>]`

Works like the `dup` command, except that it updates stories in the destination queue only when they are already present in the destination queue. It does not add new stories to the destination queue. Applies to action and tx servers.

`scan` `scan <queue name> [priority | all | everyentry]`

Specifies the queue monitored by this task. The scan line must come before any instructions that manipulate stories in the queue, like `dup` or `move`. Ten stories are scanned at a time from each scan queue; adding `priority` to a scan line means all new or modified stories in that queue are scanned at once. The queue identified in the `scan` command as the priority queue is always the next queue in the multiple-scan job list, so if it is idle, other queues are processed. The system checks after every queue to see if new stories are ready for processing on the queue identified in the `scan` command. Applies to the action and tx servers.

The `priority` option forces the server to interrupt the scan of another queue if the server receives a mailbox notification. The `all` option forces the server to scan the entire queue instead of the limit of 10 stories when there are multiple queues to scan. The `everyentry` option forces the server to process each entry in a queue, not just modified entries.

Deleted entries are still controlled by the `send-del` *option.*

`send-del`

`send-del`

Instructs the server to process story deletions in the scan queue; this is the default behavior. Use `ignore-del` to have the server take no action when a story is deleted from a scan queue. Applies to action and tx servers.

`sendform`

`sendform`

Instructs the Tx link to transmit the full form text of each story, rather than just the story's form name. Applies to tx servers.

`source`

`source  <queue name>`

Specifies a queue that a distribution or keyword server should check each time it wakes up. Each task in a job list for such a server must begin with a `source` line. Applies to the distribution and keyword servers.

`validate`

`validate  <validation queue>  <error queue>`

Activates form field validation for a server. It must include the queue name containing the validation story and an error queue for stories that cannot be validated. Applies to action and tx servers.

Dialog Commands

This section describes the dialog commands. Some of these commands are equivalent to those available to a user during a connect session, while others are unique to dialogs.

Each command must begin on a new line and can be uppercase or lowercase. The system does not check dialogs for errors.

Many of these commands take one or more strings as their parameters. These strings are text and can be entered from the keyboard or, if you need to include characters not available from your keyboard, use their aliases or decimal equivalents. This applies to nonprinting characters, such as Escape and Enter, which are represented by `<esc>` and `<cr>` respectively.

Depending on which character set is used by the device to which you connect, you may need to translate certain keyboard characters to characters understood by the device. You may also need to translate some of the characters sent by the device to characters usable by your system.

Translating characters is called *mapping*, and there are three commands (`map`, `mapin`, and `mapout`) that allow you to do this. While these commands are also available to users, system administrators will usually use them in dialogs to set up the translations for users rather than leave it for users to do after they have connected.

`capture`

```
capture  <destination queue name>
```

Places a copy of all text received from the remote connection during a session in a story into the queue you specify.

Usually you invoke `capture` from the `cmd>` prompt. However, to turn `capture` on in a dialog, place the `capture` command and destination queue name at the point in the dialog where you want to begin capturing material.

You must include a destination queue unless you are restarting `capture` after having paused it. If you have not paused `capture` earlier in the dialog, leaving out the queue name generates an error and terminates the dialog.

`delay`

```
delay  <# of seconds>
```

Pauses the dialog for a number of seconds.

When the specified time has passed, the dialog resumes. Put the command where you want the dialog to pause and follow it with the number of seconds you want the dialog to pause. For instance, to pause the dialog for five seconds, type **`delay 5`**.

Although the dialog is suspended while this command is in effect, you can use the `quit connect` command to close the connection.

```
diag                    diag [on | off]
```

Normally, a dialog's diagnostic mode is off and screen output is suppressed while the dialog is running. However, you can use the `diag` command to turn the dialog's diagnostic mode on so you can see what the dialog is doing as it executes.

Usually you want the diagnostic mode on only when you are debugging a dialog, so you can determine exactly where any errors occur. Place a `diag on` command in the dialog at the point where you want to start debugging.

To see what happens during just one part of a dialog, bracket that portion of the dialog with `diag on` and `diag off` commands.

```
echo                    echo  [on | off]
```

Turns local echo on or off.

Turn on local echo in any dialog used to connect to a device or information service that does not echo back what the user enters. This way, the user can see what he or she is entering.

To turn on local echo, place `echo on` in the dialog where you want local echo turned on. Use this command at or near the beginning of the dialog.

While you can turn local echo off using the `echo off` command, you are not required to do so. Local echo is turned off automatically when the dialog finishes.

```
escape                  escape  <escape character>
```

To change the escape character (used to bring up the `cmd>` prompt) from within a dialog, use the `escape` command.

For instance, to change the escape character from the default Ctrl+] to Ctrl+Z, use the `escape` command. Represent the Ctrl+Z character as `<26>` (its decimal value).

Do not change the escape character to Ctrl+A, Ctrl+Q, or Ctrl+S. These characters have other important functions.

The escape character is reset to the default (Ctrl+]) when the user closes the connection.

expect

```
expect
<delimiter><string1><delimiter><string2><delimiter>...
```

Instructs the dialog to wait for the device to which the service has connected to send a string (*string1*). If that string is not received within five seconds, `expect` sends the second string (*string2*) to the device and waits for a third string (*string3*). This continues until an expected string is received within the five-second limit or `expect` runs out of strings.

To use the `expect` command, follow it with the character—that is, `<delimiter>`—you want to use as the delimiter to separate each string in the list. The delimiter can be any character. Follow this with the first string you want `expect` to wait for. Then add a delimiter and the string you want `expect` to send if it does not receive the first string. You can add as many strings as you want.

For instance, some devices may not display a `login:` prompt unless you press Enter. To have the dialog send a carriage return to the device if it does not receive the `login:` prompt immediately, use the `expect` command. If the first character following `expect` is a comma, this sets the comma as the delimiter used to separate strings following the command from each other.

If you do not place a string between two delimiters, this indicates a null string. If you have the `expect` command wait for a null string, it considers any string it receives to be a match. If you have the `expect` send a null string, it does not send anything, but instead waits for the next expected string.

Although the dialog is suspended while this command is in effect, the user can employ the `quit connect` command to close the connection.

heol

```
heol [on|off]
```

If necessary, you can have the system insert a hard end-of-line character (HEOL) after each line of captured text.

Put the `heol on` command in the dialog at the point where you want this feature turned on.

To turn off this feature, use `heol off`.

If you are calling a device that contains information in tables or columns, have the system insert an HEOL at the end of each captured line. This way, tables and columns you capture retain their format. Put the `heol on` command in the dialog.

`map`

```
map  <local character>  <remote character>
```

Translates a character (local character) entered at the keyboard to some other character (remote character) before sending it to the device to which you are connected. Likewise, if the system receives a remote character from the device, the `map` command translates it to local character before sending it to a workstation.

`mapin`

```
mapin  <remote character>  <local character>
```

Translates a specific character (remote character) received from the device to which you are connected to another character (local character).

This translation affects only characters received from the device to which you are connected. It has no effect on the character when you enter it.

`mapout`

```
mapout  <local character>  <remote character>
```

Translates a particular character entered at the workstation (local character) to another character (remote character) before it is sent to the device to which you are connected.

For instance, some devices use a limited character set that does not recognize lowercase letters. To connect to such a device, you would want to map all lowercase characters to their uppercase equivalents. For instance, to map a to A, use this `mapout` command:

```
mapout a A
```

This has no effect on characters received from the device. Only characters typed at the workstation are translated.

message

```
message <string>
```

Sends the string to the screen.

This command informs users that the system is active and functioning during a dialing session.

pass

```
pass  <resume character>
```

Suspends a dialog and yields control to the user.

Whatever the user enters after the pass command is sent directly to the device to which the user is connected. When the user enters the character defined in <resume character> parameter, pass resumes the dialog.

To use pass, place it in the dialog where you want to yield control to the user and follow it with a character you want the user to enter to resume the dialog. When the user enters this character, pass sends it to the device and then resumes the dialog, preventing further user input.

For instance, suppose you have a dialog that logs you into an information service. For security reasons, you want the dialog to pause at the password prompt, let you enter the password, and then resume. Do this using the pass command followed by a <cr> so pressing Enter after entering the password resumes the dialog.

If you use pass without a parameter, it passes everything the user enters until he or she tries to close the connection with the quit command. Then the dialog resumes, executes the remaining commands in the dialog, and closes the connection.

pause

```
pause
```

Suspends capturing from within the dialog. If you turned capture on earlier in the dialog, you can pause capturing using the pause command.

To resume capturing later in the dialog, include a capture command (without a destination queue) at that point in the dialog.

`stop` `stop`

Stops capturing from within a dialog.

If you have turned `capture` on earlier in the dialog, you can turn it off using the `stop` command.

`timer` `timer <# of seconds> <string to display>`

Counts number of seconds specified in `<# of seconds>` when it is activated by the next `wait` command in the dialog.

When a specified string in the `wait` command is received, `timer` stops counting and `wait` resumes the dialog. If `wait` does not receive the expected string within the time specified in the `timer` command, `timer` displays the text specified in `string` and closes the connect session.

To use `timer`, follow it with the number of seconds you want it to count and the string you want it to display if that period of time elapses. For instance, you may want to use the `timer` command so it terminates the session if the dialog is unable to log in within 60 seconds.

When a `pass` command is active, an active `timer` command suspends counting. When `pass` command finishes, `timer` command resumes counting.

Also, the same `timer` command applies to any subsequent `wait` commands if no other `timer` commands appear before them. If you do not want to use the same `timer` value for another `wait` command later in the dialog, insert `timer 0` after the first `wait` command. This cancels the first `timer` command and causes subsequent `wait` commands to wait for their string forever if no other `timer` commands follow `timer 0`.

`type` `type <string to send>`

Sends a string to the device to which the service has connected.

For instance, if you were creating a dialog that types the user’s name in response to a login prompt, you may use:

```
type joel smith
```

Most devices to which you connect expect a carriage return (represented by a `<cr>`) after each string you send. When this is the case, you must include a `<cr>` at the end of the string.

`wait`

```
wait  <string to wait for>
```

Pauses the dialog until a specified string is received from a device to which the service has connected, or until a certain amount of time (specified by a `timer` command) has elapsed with no response.

To use this command, follow it with the string for which the dialog should wait. If you use `wait` without a parameter, the dialog waits until any character is received.

Unless a `timer` command has been executed first, the `wait` command waits forever until the specified string is received, so type exactly the string you want it to wait for, and keep in mind that `wait` is case-sensitive. If the dialog never receives the string `wait` is looking for, the dialog hangs, and you need to use the `quit connect` command to exit the dialog and return to your iNEWS Workstation.

Appendix B

System Files

This appendix contains samples of system files you are most likely to reference or change:

- /etc/dhcpd.conf
- /etc/hosts
- /site/config
- /site/printers/hplaser1
- /site/system
- /site/wires/anpa7
- console.cfg
- SYSTEM.CLIENT.WINDOWS
- SYSTEM.CONFIGURE.301-ACTION
- SYSTEM.MAP
- SYSTEM.RESOURCE
- SYSTEM.WIRES.DISTRIBUTION
- SYSTEM.WIRES.KEYWORDS
- SYSTEM.WIRES.KEYWORDS-AP
- SYSTEM.WIRES.KEYWORDS-AP2

/etc/dhcpd.conf

```
allow bootp;
ignore unknown-clients;
not authoritative;
ddns-update-style none;
subnet 172.24.96.0 netmask 255.255.254.0{
```

PCU entry starts here...

```
host pcu10 {
   hardware ethernet 00:d0:b7:4b:52:f8;
   fixed-address 172.24.96.53;
}
```

MCSPC entry starts here...

```
host mcs19 {
   hardware ethernet 00:00:f8:20:25:19;
   fixed-address 172.24.96.71;
}
}
# line below because of dual nic cards
subnet 10.1.1.0 netmask 255.255.255.0 {}
```

/etc/hosts

```
# Do not remove the following line, or various programs
# that require network functionality will fail.
127.0.0.1                localhost.localdomain localhost

# iNEWS Servers
123.123.123.95    nrcs-a1 a1 nrcs-a1.local
123.123.123.96    nrcs-b1 b1 nrcs-b1.local
10.1.1.1                  nrcs-a a nrcs-a.local
10.1.1.2                  nrcs-b b nrcs-b.local

# PCU
10.1.1.10         pcu10

# FTS
123.123.123.54    ftsserver
```

/site/config

```
;
; iNEWS Starter config
;
host   ab a
        net     10
        reslist 121                      ; console connect
        servers 141 201 211              ; Print, Mail, Keyword
        servers 231 233 235 241 243 245 ; Seek & FTS
        servers 251 253 255 257 259     ; Action servers
        servers 271 273 275 277 279     ; Monitor servers
        servers 281 283 285 287 289     ; Monitor servers
        reslist 301 303 305 307 309     ; Txnet
        reslist 311 313 315 317 319     ; Rxnet
        reslist 321 323 325 327 329     ; Rxnet
        reslist 401:402                  ; Web Access
        reslist 501:504                  ; iNEWS sessions
;
host   ab b
        net     ; 20
        reslist 122                      ; net connect
        servers 232 234 236 242 244     ; Seek & FTS
        servers 252 254 256 258 260     ; Action servers
        servers 272 274 276 278 280     ; Monitor servers
        servers 282 284 286 288 290     ; Monitor servers
        reslist 302 304 306 308 310     ; Txnet
        reslist 312 314 316 318 320     ; Rxnet
        reslist 322 324 326 328 330     ; Rxnet
        reslist 601:604                  ; iNEWS sessions
;
host   a a
        net     10 ; 20
        reslist 121:122                  ; console, net connect
        servers 141 201 211              ; Print, Mail, Keyword
        servers 231:236 241:245          ; Seek & FTS
        servers 251:260                  ; Action servers
        servers 271:290                  ; Monitor servers
        reslist 301:310                  ; Txnet
        reslist 311:330                  ; Rxnet
        reslist 401:402                  ; Web Access
        reslist 501:504                  ; iNEWS sessions
        reslist 601:604                  ; iNEWS sessions
;
```

```
host   b b
        net     10 ; 20
        reslist 121:122                 ; console, net connect
        servers 141 201 211             ; Print, Mail, Keyword
        servers 231:236 241:245         ; Seek & FTS
        servers 251:260                 ; Action servers
        servers 271:290                 ; Monitor servers
        reslist 301:310                 ; Txnet
        reslist 311:330                 ; Rxnet
        reslist 401:402                 ; Web Access
        reslist 501:504                 ; iNEWS sessions
        reslist 601:604                 ; iNEWS sessions
;
; PCUS
;
pcu   10  pcu10  11:18
; pcu   20  pcu20  21:28
;
; PCU DEVICES
;
wire    11  9600  anpa7  AP  -  ;
wire    12  9600  anpa7  AX  -  ;
unused  13:18
;
; unused  21:28
;
; NETWORK RESOURCES
;
resource  121  console  -  -  ;
resource  122  net      -  -  ;
;
; SERVERS
;
server  141  printserver 141  -        ; slave printing
server  201  mailserver  201  -        ; mailserver
server  211  keyword     211  keyword  ; keyword server
;
; SEEK & FTS SERVERS
;
server  231  seek       231  -    ; seek server
server  232  seek       231  -    ; seek server
server  233  seek       231  -    ; seek server
server  234  seek       231  -    ; seek server
server  235  seek       231  -    ; seek server
server  236  seek       231  -    ; seek server
server  241  ftsindex   241  -    ; Fast Text Indexing
server  242  ftsseek    242  -    ; Fast Text Search
server  243  ftsseek    242  -    ; Fast Text Search
server  244  ftsseek    242  -    ; Fast Text Search
server  245  ftsseek    242  -    ; Fast Text Search
;
; ACTION SERVERS
;
server  251  action     251  -    ; timed-action
server  252  action     252  -    ; timed-action
server  253  action     253  -    ; timed-action
server  254  action     254  -    ; timed-action
server  255  action     255  -    ; timed-action
server  256  action     256  -    ; timed-action
server  257  action     257  -    ; timed-action
server  258  action     258  -    ; timed-action
server  259  action     259  -    ; timed-action
server  260  action     260  -    ; timed-action
;
; MONITOR SERVERS (Only 1 rundown per monitor server!)
;
server  271  monitor    271  -    ; Morning Show
server  272  monitor    272  -    ; 725 Cut-in
server  273  monitor    273  -    ; 755 Cut-in
server  274  monitor    274  -    ; 825 Cut-in
server  275  monitor    275  -    ; 855 Cut-in
server  276  monitor    276  -    ; 5PM
server  277  monitor    277  -    ; 6PM
server  278  monitor    278  -    ; 10PM
server  279  monitor    279  -    ; Updates-Afternoon
server  280  monitor    280  -    ; Updates-Evening
server  281  monitor    281  -    ;
server  282  monitor    282  -    ;
server  283  monitor    283  -    ;
server  284  monitor    284  -    ;
server  285  monitor    285  -    ;
server  286  monitor    286  -    ;
server  287  monitor    287  -    ;
server  288  monitor    288  -    ;
server  289  monitor    289  -    ;
server  290  monitor    290  -    ; Training
;
; RXNET/TXNET DEVICES
```

```
;
special  301  0  txnet  301  -    ; txnet
special  302  0  txnet  302  -    ; txnet
special  303  0  txnet  303  -    ; txnet
special  304  0  txnet  304  -    ; txnet
special  305  0  txnet  305  -    ; txnet
special  306  0  txnet  306  -    ; txnet
special  307  0  txnet  307  -    ; txnet
special  308  0  txnet  308  -    ; txnet
special  309  0  txnet  309  -    ; txnet
special  310  0  txnet  310  -    ; txnet
;
special  311  0  rxnet    -  -    ; rxnet
special  312  0  rxnet    -  -    ; rxnet
special  313  0  rxnet    -  -    ; rxnet
special  314  0  rxnet    -  -    ; rxnet
special  315  0  rxnet    -  -    ; rxnet
special  316  0  rxnet    -  -    ; rxnet
special  317  0  rxnet    -  -    ; rxnet
special  318  0  rxnet    -  -    ; rxnet
special  319  0  rxnet    -  -    ; rxnet
special  320  0  rxnet    -  -    ; rxnet
special  321  0  rxnet    -  -    ; rxnet
special  322  0  rxnet    -  -    ; rxnet
special  323  0  rxnet    -  -    ; rxnet
special  324  0  rxnet    -  -    ; rxnet
special  325  0  rxnet    -  -    ; rxnet
special  326  0  rxnet    -  -    ; rxnet
special  327  0  rxnet    -  -    ; rxnet
special  328  0  rxnet    -  -    ; rxnet
special  329  0  rxnet    -  -    ; rxnet
special  330  0  rxnet    -  -    ; rxnet
;
; WEB ACCESS SESSIONS
;
websession  401:402
;
; INWS SESSIONS
;
inws  501:504  -  0  gnews  -     ; inws
inws  601:604  -  0  gnews  -     ; inws
;
; END OF FILE
```

/site/printers/hplaser1

```
; HP LaserJet IVsi Printer profile
;
ejectcode      <ff>
ejectcount     1
idlecount      0
pagelength     66
scriptrhstart  32
scriptrhmax    23
scriptlhmax    25
scriptshift    yes
scripttemplate no
;
expand  <esc>(0U<esc>(sp7.0h18vs0b11T  <nul>   ;Courier
;
font 2  <esc>(s3B           <esc>(s0B          ;Bold
font 3  <esc>(s4B           <esc>(s0B          ;extra bold
font 4  <esc>&dD            <esc>&d@           ;underline
font 5  <esc>&dD<esc>(s3B   <esc>&d@<esc>(s0B  ;bold/Under
;
;form 7  <esc>&l0O<esc>(s10H<esc>(s12V <nul> ;landscape,
;form 8  <esc>&l1H      <nul>                ;top tray
;form 9  <esc>&l4H      <nul>                ;lower tray
```

/site/system

```
id=NRCS       net=AB
lowwater=5000  highwater=6250     purgelimit=5
load=5         pausetimeout=0:05
;
; defaults - if parameter not present these values are assumed
;            unless overridden on the command line.
;
; auto_upgrade=yes     lowwater=1250          remotetimeout=0:00
; clockmax=12          maxhits=500            scriptlhmax=40
; excluded_video=none  min_passwd_length=5    scriptrhmax=40
; highwater=2500       msgserver=silent       security=or
; lastlogin=yes        pausetimeout=0:30      timechar=:
; load=0               purgelimit=0           timer=verbose
; localtimeout=0:00    readrate=180           wordlength=0
```

/site/wires/anpa7

```
; %Z% %M%     %I%           Date %E%      %Q%
; anpa7 - suitable for upi7, ap7, and cupi7

bits      7
start     <soh>
eos                  <EOT>
category  -------
slug      30
;
;
map       <16>       <SP>          ; TTS SPACE BAND
map       <25>       <SP>          ; EM SPACE
map       <29>       <SP>          ; THIN SPACE
map       <30>       <SP>          ; EN SPACE
map       <35>       .             ; EN LEADER
map       <42>       ..            ; EM LEADER
map       <60>       <23>          ; HARDEOL
map       <61>       <23>          ; HARDEOL
map       <62>       <23>          ; HARDEOL
map       <64>       |N
map       <91>       1/8
map       <92>       1/4
map       <93>       3/8
map       <94>       |B
map       <95>       --
map       <123>      1/2
map       <124>      5/8
map       <125>      3/4
map       <126>      7/8
```

console.cfg

```
log b:log 32764
computer                 ; A server
name           a
label          NRCS
irq            3
hostess        2c0
speed          9600
;
computer                 ; B server
name           b
label          NRCS
irq            3
hostess        2c8
speed          9600
;
computer                 ; C server
name           c
label          NRCS
irq            3
hostess        2d0
speed          9600
;
modem                    ; remote console
password       issecret
timeout        6:00
irq            3
hostess        2d8
speed                    2400
```

SYSTEM.CLIENT.WINDOWS

Either IP address or network card information is acceptable; IP address is preferable.

```
125.1.100.1  ;02608cdbe7a2 ns001 big table
125.1.100.2  ;02608cd95e7e ns002 brock 07
125.1.100.3  ;02608c7e178e ns003 nydam 16
125.1.100.4  ;02608c7e67aa ns004 lockett 38
02608c7e519f ;ns005 michel 87
02608c7e1790 ;ns006 thibault 22
02608c7e51a8 ;ns007 ries   04
02608c7e6c01 ;ns008 lucas 57
125.1.100.9  ;02608c7e52c6 ns009 christensen 48
125.1.100.10 ;02608c7e5260 ns010 betty 69
125.1.100.11 ;0020aff431ff ns011 aveson 28
125.1.100.12 ;02608c7e6bfc ns012 robinson 49
125.1.100.13 ;02608c7e5274 ns013 tinsley 63
125.1.100.14 ;02608c7e6b58 ns014 reed 44
125.1.100.15 ;02608c7e532e ns015 landis 61
125.1.100.16 ;0020aff42efc ns016 dorr 51
125.1.100.17 ;0020aff42dad ns017 donnallen 60
125.1.100.18 ;0020aff42dcb ns018 douda 54
125.1.100.19 ;0020aff432ca ns019 kennedy 52
125.1.100.20 ;0020aff42d42 ns020 control room
125.1.100.21 ;0020aff431bf ns021 becker 30
125.1.100.22 ;0020aff43277 ns022 glass 29
```

SYSTEM.CONFIGURE.301-ACTION

```
scan      system.shredder
     remove

scan      system.cables.master
     dup  system.cables.groups
     dup  system.cables.cable#
     dup  system.cables.device_type

scan      phones.airports
     dup  phones.*all
scan      phones.business
     dup  phones.*all
scan      phones.fire
     dup  phones.*all
scan      phones.government.federal
     dup  phones.*all
scan      phones.government.local
     dup  phones.*all
scan      phones.government.state
     dup  phones.*all
scan      phones.hospitals
     dup  phones.*all
scan      phones.media
     dup  phones.*all
scan      phones.misc
     dup  phones.*all
```

SYSTEM.MAP

```
;
;<rundown queue>    <event dir>    <composite><grp><mon off time>
;<name>   <dev name>     <update>  <mct temp> <drv><dir><range>
;
show.6am.rundown     show.6am                -       monitor
800
cg        cg@casvr              update     ca-cg     C:AMNEWS:500
599
cart      cart@casvr2            update     ca-cart   3

show.cutins.725      show.cutins             -       monitor
900
cg        cg@casvr              update     ca-cg     C:AMNEWS:700
750
cart      cart@casvr2            update     ca-cart   3

show.noon.rundown    show.noon               -       monitor
1400
cg        cg@casvr              update     ca-cg     C:AMNEWS:800
899
cart      cart@casvr2            update     ca-cart   3

show.6pm.rundown     show.6pm                -       monitor
2100
cg        cg@casvr              update     ca-cg     C:PMNEWS:500
599
cart      cart@casvr2            update     ca-cart   3

show.11pm.rundown    show.11pm               -       monitor
0300
cg        cg@casvr              update     ca-cg     C:PMNEWS:500
599
cart      cart@casvr2            update     ca-cart   3

show.updates.rundown show.updates            -       monitor
0100
cg        cg@casvr              update     ca-cg     C:PMNEWS:800
850
cart      cart@casvr2            update     ca-cart   3

show.special.rundown show.special            -       monitor
0200
cg        cg@casvr              update     ca-cg     C:PMNEWS:4000
```

```
4100
cart      cart@casvr2          update     ca-cart   3

show.sat-am.rundown  show.sat-am             -       monitor
1100
cg        cg@casvr             update     ca-cg     C:PMNEWS:500
599
cart      cart@casvr2          update     ca-cart   3

show.sports-sat.rundown show.sports-sat      -       monitor
2200
cg        cg@casvr             update     ca-cg     C:PMNEWS:800
899
cart      cart@casvr2          update     ca-cart   3

show.sat-am.cut-in-1 show.sat-am             -       monitor
1100
cg        cg@casvr             update     ca-cg     C:AMNEWS:800
850
cart      cart@casvr2          update     ca-cart   3
```

SYSTEM.RESOURCE

```
;Dev Style   Template  Effect     # lines   Comment
cg   bnews     62        -         0         ;breaking news
cg   th        76        -         1         ;today in history
cg   mm        75        -         1         ;money matters
cg   pball     9996      -         6         ;powerball
cg   lottopb   9993      -         12        ;lotto/powerball
cg   cashpb    9994      -         9         ;cash3/powerball
cg   world     50        -         1         ;the world
cg   nation    50        -         1         ;the nation
cg   fancash   9995     -         8         ;fantasy 5 cash 3
cg   south     50        -         1         ;the south
cg   recap     52        -         1         ;recap
cg   nitetz    53        -         1         ;11 tonight
cg   tvex      67        -         0         ;tv exclusive
cg   uv        68        -         0         ;unedited video
cg   tji       69        -         0         ;this just in
cg   intv1     1         -         1         ;1 line interview
cg   intv      2         -         2         ;2 line interview
cg   intvdate  2         -         2         ;1 line interview
with date
cg   loc       4         -         1         ;1 line locator
cg   locdate   5         -         2         ;locator with date
cg   date      6         -         1         ;date super
cg   file      7         -         0         ;file tape
cg   newsfile  7         -         0         ;newsfile
cg   ctsy      8         -         1         ;courtesy
cg   sktch     10        -         1         ;sketches by
cg   spkng1    11        -         1         ;speaking one line
cg   spkng     12        -         2         ;speaking two line
cg   scenes    13        -         1         ;scenes from
cg   locskylv  24        -        1         ;live skycam locator
cg   locsky    16        -         1         ;locator skycam
cg   intvskylv 17       -        2        ;interview skycam live
cg   repsky    18        -         1         ;reporter skycam
cg   loclv     19        -         1         ;live locator
cg   intvlv    20        -         2         ;live interview
cg   intv1lv   28       -        1        ;live interview 1 line
cg   live      21        -         0         ;live
cg   replv     22       -        1        ;live generic reporter
cg  lvsky    23      -       0       ;live skycam
cg   rep       27        -         1         ;reporter not live
cg   sky       141       -         0         ;skycam live
cg   frsky     254       -         0         ;from skycam
;
;special for NoonDay
;
cg   locn      1002      -         1         ;1-line
locator/noonday
cg   scenesn   1022      -         1         ;scenes from/noonday
cg   innd      1001      -         2         ;2 line interview noon
cg   lond      1008      -         1         ;live locator noon
cg   inlvnd    1007      -         2         ;live 2 line interview
noon
;
; SPORTS
cg   nl        950       -         10        ;national league
cg   al        951       -         10        ;american league
cg   nfl       952       -         10        ;nfl
cg   cf        953       -         10        ;college football
cg   nba       954       -         10        ;nba
cg   cbb       955       -         10        ;college basketball
cg   nhl       956       -         10        ;nhl
cg   prep      957       -         16        ;high school
cg   scr       960       -         4         ;score lower third
;; Anchors/Reporters

cg   sa        104       -         0       ; steve aveson
cg   salv      105       -         0       ; steve aveson live
cg   sasky     107       -         0       ; steve aveson skycam
```

SYSTEM.WIRES.DISTRIBUTION

```
AP#medc2##          wires.medsource
AP#env####          wires.environmental
AP######a#          wires.national
AP######c#          wires.features
AP######d#          wires.summaries
AP######e#          wires.features
AP######f#          wires.business
AP######g#          wires.state/regional
AP######h#          wires.summaries
AP######i#          wires.international
AP######j#          wires.state/regional
AP######m#          wires.farm
AP######n#          wires.state/regional
AP######o#          wires.weather
AP######p#          wires.politics
AP######q#          wires.sports.all
AP######q#          wires.sports.scores
AP######r#          wires.advisory.other
AP######s#          wires.sports.all
AP######s#          wires.sports.stories
AP#nbc##t#          wires.newschannel
AP######t#          wires.advisory.other
AP######u#          wires.state/regional
AP######v#          wires.advisory.other
AP######v#          wires.daybook
AP######w#          wires.national
AP########          wires.unknown
AP########          wires.ap                 ALWAYS
AP########          wires.all                ALWAYS    URGENT
NC######u#          wires.advisory.priority
NC########          wires.all
NC########          wires.newschannel
NC########          wires.all                ALWAYS    URGENT
AP######q#          sports.wires
AP######s#          sports.wires
```

SYSTEM.WIRES.KEYWORDS

```
* AP
system.wires.keywords-ap           wires.keywords
system.wires.keywords-ap2          wires.
* UP
*
system.wires.keywords-others       wires.keywords
```

SYSTEM.WIRES.KEYWORDS-AP

```
destination        atlanta
atlanta
destination        rape
rape
destination        braves
braves
destination        carter
carter
destination        tuscaloosa
tuscaloosa and football
destination        xgr
xgr
destination        medsource
medc2 or medstar
destination        gingrich
gingrich
destination         space
(space AND shuttle) OR (shuttle AND columbia) or (shuttle AND
atlantis)
shuttle AND discovery
destination         drugs
crack AND cocaine
destination         air-safety
crash and plane OR ntsc or n.t.s.c. or faa or f.a.a.
destination         delta
(delta and airlines) OR (hartsfield and airport)
destination        guns
guns or weapons or nra
```

SYSTEM.WIRES.KEYWORDS-AP2

```
destination 9am-specials
900a and specials
```

Appendix C

Standard Dictionaries

This appendix defines and explains contents of standard dictionaries as they are installed on your iNEWS newsroom computer system. Reference this information when modifying dictionary contents. Major sections are:

- Using Dictionaries to Define Messages and Commands
- Customizing Dictionaries
- Utility Messages Dictionary (/site/dict/messages)
- ccumsgs Dictionary (/site/dict/ccumsgs)
- Commands Dictionary (/site/dict/ccucmds)
- Queues Dictionary (/site/dict/queues)
- Words Dictionary (/site/dict/words)
- Connect Dictionary (/site/dict/doac)
- Telex Dictionary (/site/dict/telex)
- Dial Dictionary (/site/dict/dial)
- Keyboard Macros Dictionary (/site/dict/keymacros)
- Printer Messages Dictionary (/site/dict/printmsgs)
- Case-shifting Dictionary (/site/dict/shift)
- MCS Dictionary (/site/dict/mcs)

Using Dictionaries to Define Messages and Commands

Most commands, messages, and many queues your iNEWS newsroom computer system uses are defined in dictionaries. Your system has a number of these dictionaries, each defining a particular group of commands, messages, or words, such as: the names of all commands are defined in the `ccucmds` dictionary. Many messages your system uses are defined in the `ccumsgs` dictionary.

Dictionaries let you customize your system's messages, workstation and commands, as well as the names of many of the queues your system uses (such as `SYSTEM.SEEK`). You can change the names of any of your system's required queues by editing their definitions in the `queues` dictionary and then having your system read the modified dictionary.

If you customize your dictionary entries, keep a log of the changes you make so your changes can be re-entered after future software upgrades.

The following table lists names and locations of dictionary files.

Names and Locations of Dictionary Files

File Name & Location	Dictionary File Name
`/site/dict/ccucmds`	Terminal commands
`/site/doct/ccumsgs`	Error and Status Messages
`/site/dict/ccuvideo`	Video Modes
`/site/dict/messages`	Utility Messages
`/site/dict/queues`	Required Queues
`/site/dict/words`	Status and Option Words
`/site/dict/doac`	Connect Commands and Messages
`/site/dict/telex`	Telex Commands and Messages
`/site/dict/dial`	Modem/Dial Messages

Names and Locations of Dictionary Files

File Name & Location	Dictionary File Name
`/site/dict/keymacros`	Key Names for Macros
`/site/dict/printmsgs`	Printer Messages
`/site/dict/shift`	Case-Shifting Parameters
`/site/dict/mcs`	MCS Alarms and Words
`/site/dict/mctcmds`	MCT Commands
`/site/dict/mctmsgs`	MCT Error and Status Messages

Each line in a dictionary begins with a standard name followed by the translation for the command, message, or word represented by that standard name, as shown in the following Dictionary Standard Names and Translation table..

Dictionary Standard Names and Translation

Standard Name	Translation
cursor left	`/cu l`
cursor top	`/cu t`
cursor up	`/cu u`

Each translation is preceded by a slash (`/`). In commands, the translation represents the minimum a user must enter to execute the command. In the example above, the translation `/cu u` is the minimum a user must enter to execute the `cursor up` command.

The translations may be more than one word long, but the dictionaries have limited space, so keep each translation as short as possible. As a rule, make translations just long enough to be unique from any other translation. For instance, the `cursor up` command is translated as `cu u`. This is the shortest translation for this command that keeps the translation unique.

If the purpose of a standard name or its translation is not clear, clarify them by inserting a comment on the line following the translation. Begin the comment line with a semicolon (`;`) to prevent the system from treating it as part of the translation.

iNEWS newsroom computer system uses standard names in each dictionary to match each translation to the correct command, message, or word. Do not change any of the standard names in your dictionaries.

Customizing Dictionaries

Your system's dictionaries are text files stored in the `/site/dict` directory. Because they are text files, you can change any dictionary translation using `ed`, the line editor, at the console. See Appendix H for more information.

Changing Default Dictionary Values

As an example of how to modify a dictionary translation, change the enter directory and enter queue commands to make directory and make queue. To do this, change the translations for enter directory and enter queue from `e d` and `e q` to `ma d` and `ma q`, respectively.

The new translations, like the ones they are replacing, are as short as they can be and still remain unique. Keep each translation short, because there is a space limit.

If necessary, hide commands from users by changing the command name. For instance, to restrict access to the `order` command, change it to something like `arrange` and inform only users that you want to have access to the command.

To edit the dictionary file, do the following:

1. Select all servers at the console, so changes you make are made to each server’s copy of the file. See “Selecting Servers” on page 33 for more information.

   The `enter directory` and `enter queue` commands have their translations stored in `/site/dict/ccucmds`.

This procedure uses the `ed` line editor. See Appendix H for more information.

2. Open /site/dict/ccucmds for editing by typing:

   `ed /site/dict/ccucmds`

   A message similar to the following appears:

```
editing /site/dict/ccucmds
1824
```

3. Move to the line containing the standard name `enter` directory by typing:

```
enter directory          /e d
```

4. Change `e d` to `ma d` by typing **`s/e d/ma d`**.

```
enter directory          /ma d
```

5. Change the translation for `enter queue` in the same way.

```
enter queue              /ma q
```

6. Type **`w`** (lowercase w) to save your changes to disk and type **`q`** to quit edit.

```
w
1826
q
```

To change a default dictionary value, do the following:

1. Edit the dictionary file.

   See the previous procedure.

2. Type a message like the following:

```
NRCS-A: broadcast System going down at 1:55 pm. Please log
out.
```

3. Type **`offline`** to bring the system offline. This will prevent users from logging in.
4. At the designated time, type **`list t`** to see whether anyone is still logged in.

   If there is someone logged in, a message similar to the following appears:

```
G500 terryl      A
```

5. If anyone is logged in, type **`logout all`** to log them out.
6. Type **`stop all`** to stop all servers.
7. Become a console superuser. See “The Console Superuser” on page 23 for more information.
8. Type **`makeccutab -b`** (-b for build tables).

   Use `makeccutab` to build the command and error message tables in the PCU program.

   Information similar to the following appears::

```
Translating </site/dict/ccucmds>
Translating </site/dict/ccuvideo>
Translating </site/dict/ccumsgs> and </site/dict/queues>
<atccu> unused space is 205 characters
<directccu> unused space is 205 characters
```

   After modifying a dictionary, run `makeccutab` and `maketab` to have your system read the modified dictionaries and incorporate changes into its programs.

   The `makeccutab` command builds the command and error message table for the PCU dictionaries and then displays how much space is unused in these dictionaries. In the previous example, the unused space is 205 characters.

9. Type `maketab -b` to build command and message tables and translate dictionaries for the iNEWS newsroom computer system.

   When the prompt returns, run `maketab` to translate site dictionaries. To make it build the table, add `-b` to this command.

A display similar to the following appears:

```
Translating </site/dict/queues>
Translating </site/dict/words>
Translating </site/dict/messages>
<host> unused space is 109 characters
Translating </site/dict/doac>
<snews> unused space is 221 characters
Translating </site/dict/doac>
<nxserver> unused space is 221 characters
```

The `maketab` command translates each dictionary and then displays unused space in these dictionaries.

If you changed the name of a command in a command dictionary, you must also change the function key definition that references that command.

10. Restart all devices.
11. At the prompt, exit from superuser using Ctrl+D.
12. Reset your system's PCUs using their reset switches.
13. When all PCUs have completed their reset, restart them by typing restart all at the console.

    Once you have restarted the system, try using **`enter directory`** and **`enter queue`**. The system no longer recognizes these commands. It recognizes the **`make directory`** and **`make queue`** commands.

14. Back up your site files with the **`sitedump`** command.

    If you do not have one of your site files, a message similar to the following appears when you run the **`makeccutab`** or **`maketab`** console command:

```
Translating </site/dict/ccucmds>
Cannot access translation file </site/dict/ccucmds>.
Do you wish to use the standard English translations and
continue? (n/y)
```

If a set of dictionaries exceeds the amount of space allotted, a message similar to the following appears:

```
Table space exceeded by 14 characters
No modifications done!
```

Restoring Dictionary Defaults

You can restore original dictionary default translations without editing the dictionary again. Original dictionary files are stored in the `/tmp/dict` directory and have a pound symbol (#) prefix, such as `#mcs`. So, even after you have made changes to a dictionary, you can restore the standard default translations by copying the appropriate dictionary file from `/site/dict` and running the **`makeccutab`** and **`maketab`** commands again.

To restore standard translations for `enter directory` and `enter queue`, do the following

1. List files in `/site/dict` by running the following `ls` command:

   ls /site/dict

A display similar to the following appears:

```
#ccucmds        #pcdgidriver     ccumsgs
pcdgidriver
#ccumsgs        #pcflexidriver   ccuvideo
pcflexidriver
#ccuvideo       #pcinfdriver     convertvideo
pcinfdriver
#dial           #pclsfdriver     dial
pclsfdriver
#doac           #pcqcbdriver     doac
pcqcbdriver
#keymacros      #pcqdeltradriver keymacros
pcqdeltadriver
#mcs            #pcqpbdriver     mcs
pcqpbdriver
#mctcmds        #pcsvsdriver     mctcmds
pcsvsdriver
#mctmsgs        #printmsgs       mctmsgs        printmsgs
#messages       #queues          messages       queues
#pca72driver    #shift           pca72driver    shift
#pcavidapdriver #telex           pcavidapdriver telex
#pcbcartdriver  #words           pcbcartdriver  words
#pccypherdriver ccucmds          pccypherdriver
```

2. Type `cp` followed by the pathname of the file you want to copy, and the pathname of the file you want to contain the copy. For instance,

   `cp /tmp/dict/ccucmds /site/dict/ccucmds`

   After you copy the file to /site/dict, complete the procedure for changing a translation.

Utility Messages Dictionary (/site/dict/messages)

The `/site/dict/messages` dictionary holds a number of utility messages displayed in utility programs used by the iNEWS newsroom computer system including messages usually displayed when a user is building a form or creating a keyboard story. A few console messages are also included in this dictionary.

These messages do not contribute to the total size of translations, because they are sent to workstations only under special circumstances, and—with some exceptions—the system looks up translations only as they are needed rather than building them into a program. Some exceptions include the following messages, which are built into programs via the `maketab` program:

- M_COMPUTER
- M_KEYBAD
- M_LASTLOG
- M_NOBULKPR
- M_ONDEVICE
- M_PIOFAIL
- M_WIREFAIL
- M_WIREIDLE
- M_WIRERESUME

Some messages defined in dictionary entries on the server that would typically be displayed in the iNEWS client status bar can now have a display method designator to determine if the message should be displayed in the status bar or as a pop-up message. This display method designator is based on the first character of the message definition. A display designator of 1 denotes that the message will appear on the status bar. A display designator of 2 denotes the message displays as a pop-up dialog in addition to being displayed in the status bar and alerts history. The default display method will be a '1' if no display designator is specified. Pop-up dialogs do not steal focus away from the user or interrupt their work.

This section describes these utility messages in the following tables:

- DBServer Program Messages
- Disconnect Program Messages
- Category and Keyword Check Program Messages
- Keyboard Check Program Messages
- Keyboard Check Program Messages for Macros
- Grpcheck Messages

- Wire Program Messages
- Mail Server Messages
- Validation (Action) Server
- Seek Server Messages
- Last Login Messages
- Messages for Print Server
- Message for the Sony Barcode Printer
- dbtraits Messages

For information on the display method designator appearing in the message definition, see note on page 668.

DBServer Program Messages

Standard Name	Translation
M_NOSPACE	/2NO SPACE IN SYSTEM
M_LOWSPACE	/1SYSTEM LOW ON SPACE

For information on the display method designator appearing in the message definition, see note on page 668.

Disconnect Program Messages

Standard Name	Translation
M_DISCONNECT	/2COMPUTER DISCONNECTED

Category and Keyword Check Program Messages

Standard Name	Translation
M_NODEST	/No destination found
M_DUPEDEST	/Duplicate destination
M_LINE	/Line
M_KWFMAX	/Too many keyword distribution files
M_BADQUEUE	/Could not enter the queue
M_NOTQUEUE	/Not a queue
M_PURGEZERO	/Queue is never purged
M_SYSERROR	/System error
M_CATLONG	/Category code word too long
M_CATMAX	/Too many category codes
M_CATFORM	/Illegal category format
M_CATHIDE	/Hidden category
M_KWDLONG	/Keyword too long
M_KWDMAX	/Too many keywords
M_WNOTLAST	/Default keyword list must be last
M_SYNERROR	/Syntax error
M_MISSING	/Missing
M_UNEXPCTD	/Unexpected
M_FILENUM	/Maximum file number bad
M_UPDATEQ	/UPDATE queue
M_INVALIDQ	/Invalid destination queue

Keyboard Check Program Messages

Standard Name	Translation
M_KEYDUP	/Duplicate key description
M_KEYRANGE	/Invalid key number
M_KEYSEP	/Missing key number separator (~)
M_KEYSTART	/First key description does not begin with @
M_KEYMIN	/Not enough key descriptions
M_KEYLONG	/Keyboard description contains too many characters
M_KEYREP	/Warning: a key definition contains a repeating function
M_KEYFUNKY	/Warning: badly placed @ exists in key definition line
M_KEYOK	/Keyboard ok
M_KEYBAD	/Keyboard NOT usable
M_COMPUTER	/Computer

Keyboard Check Program Messages for Macros

Standard Name	Translation
M_MACRO	/%s macro #%d:
M_NOLOCATE	/could not locate "%c%d"
M_BADMEMORY	/memory allocation error

Standard Name	Translation
M_REFERENCE	/circular reference to macro #%d:
M_BADSTACK	/unable to stack keywords
M_MISMATCH	/mismatched "%c%c"
M_TWOTILDES	/Multiple "%c"s found
M_RESWORD	/no "%c%c" found for reserved word %s
M_TWOTAGS	/multiple macro keys: %s %s
M_NOTILDE	/no "%c" found
M_NOTAG	/no macro key tag
M_UNKNOWN	/unknown macro key identifier: %s
M_IGNORING	/ignoring: %s
M_UNEXPECTED	/unexpected: %s
M_TWODEFS	/duplicate macro definition:
M_LONESTATE	/isolated keyboard state:
M_DISTRIBUTE	/%s does not distribute
M_EMPTY	/empty macro
M_NUMKEYNOSHIFT	/Shifted numeric keypad 0 - 9 keys cannot be assigned macros
M_STDHELP	/Warning: "Help" key redefined:
M_STDCELLEDIT	/Warning: "Edit Cell" key redefined:
M_STDFINDNEXT	/Warning: "Find Next" key redefined:
M_STDEXIT	/Warning: "Exit" key redefined:

Standard Name	Translation
M_STDCLOSE	/Warning: "Window Close" key redefined:
M_STDDISCARD	/Warning: "Discard Changes" key redefined:
M_STDREFRESH	/Warning: "Refresh" key redefined:
M_STDTOGGLETEXTFORM	/Warning: "Toggle Story Form" key redefined:
M_STDSCRIPT	/Warning: "Script Swap" key redefined:
M_STDPRIORITYQUEUE	/Warning: "GoTo Priority Queue" key redefined:
M_STDALERTSHISTORY	/Warning: "GoTo Alerts History" key redefined:
M_STDMESSAGEBAR	/Warning: "Communicate Message Bar" key redefined:
M_STDMESSAGEHISTORY	/Warning: "Communicate Message Show History" key redefined:
M_STDMAIL	/Warning: "Communicate Open/Close Mail" key redefined:
M_BADPAUSE	/Invalid pause interval

Grpcheck Messages

Standard Name	Translation
M_GRPBADALIAS	/Invalid name follows word "alias"
M_GRPBADGRP	/Invalid name follows word "group"

Standard Name	Translation
M_GRPBADDEV	/Not a workstation device
M_GRPERRSKIP	/Group or alias word missing. Skipping text
M_GRPEXINPUT	/Ignoring words following group name
M_GRPAEXINPUT	/Ignoring words following alias name
M_GRPINT	/Internal groupchecker error
M_GRPDBERR	/Failed to access first story
M_GRPDEVSYN	/Bad workstation device specification
M_GRPNAMUSR	/User name used as group or alias name
M_GRPNAMDUP	/Duplicate group or alias name
M_GRPNONAME	/Missing group name
M_GRPALNONAME	/Missing alias name
M_GRPGRPREC	/Recursive group membership
M_GRPINALIAS	/Name already used as group name
M_GRPAINGRP	/Name already used as alias name
M_GRPMEMBAD	/Not a user or workstation
M_GRPNIX	/No groups or aliases found
M_GRPRESERV	/Improper use of reserved word
M_GRPNOSTORY	/Failed to open story
M_GRPNOQ	/Failed to open queue
M_GRPFLODEF	/Cannot open default aliases file

Standard Name	Translation
M_GRPFLONEW	/Cannot open new aliases file
M_GRPFLSOLD	/Cannot save old aliases file
M_GRPFLLONG	/more than 50,000 alias names created
M_GRPOK	/GROUPS story OK
M_GRPBAD	/GROUPS story NOT OK
M_GRPSOSO	/GROUPS story accepted, with errors
M_GRPNOSOUSER	/Lookup of "so" user in passwd file failed.
M_GRPCHOWNFAILED	/Could not change ownership of mail alias file.

Wire Program Messages

Standard Name	Translation
M_WIREFAIL	/1HOST-CCU COMMUNICATION ERROR
M_WIREIDLE	/1wire has been idle for
M_WIRERESUME	/1wire received story, was idle for

Mail Server Messages

Standard Name	Translation
M_MAILSYNTAX	/Can't send mail, no address
M_MAILNOREC	/Unable to receive mail from
M_MAILQUEUE	/Can't return mail, bad mail queue

Validation (Action) Server

Standard Name	Translation
M_VALID	/Story valid
M_INVALID	/Story invalid
M_VMOVEDTO	/Story invalid - Moved to

Seek Server Messages are also used by ftsseek.

Seek Server Messages

Standard Name	Translation
M_BGSNSCHP	/No search path
M_BGSNRESP	/No results path
M_BGSSCHTP	/Invalid Search Type
M_BGSIKWEX	/Invalid keyword expression
M_BGSSPDNE	/Search Path does not exist
M_BGSRQDNE	/Results Queue does not exist

Standard Name	Translation
M_BGSRQNAQ	/Results Queue not a queue
M_BGSRQNPM	/No write permission for results queue
M_BGSINVLD	/Invalid Search
M_BGSEOP	/end of path
M_BGSMAXH	/max hits
M_BGSSPI	/Invalid search path
M_BGSRQI	/Invalid results queue
M_BGSRQOE	/Open error on results queue
M_BGSDONE	/Done
M_BGSSTOPPED	/Stopped
M_BGSCANCELLED	/Cancelled
M_BGSSYNTAXERROR	/Syntax Error
M_BGSCOMMERROR	/Communication Error
M_BGSMPAT	/Missing search pattern

Last Login Messages

Standard Name	Translation
M_LASTLOG	/Last Login
M_ONDEVICE	/on device

Messages for Print Server

Standard Name	Translation
M_PRINTER_BUSY	/Printer Is OFFLINE

Message for the Sony Barcode Printer

Standard Name	Translation
M_NOBULKPR	/Bulk printing disabled

dbtraits Messages

Standard Name	Translation
M_CHANGE_GROUP	/1Group, form, order, or sortfield changed.

ccumsgs Dictionary (/site/dict/ccumsgs)

The following table shows entries used for PCUs in the ccumsgs dictionary, with their default translations.

PCU Messages

Standard Name	Translation
D_AIRBEND	/End-backwards
D_AIRFEND	/End-forward
D_AIRSTOP	/Stopped
D_AUTHORIZED	/Not allowed
D_BACKT	/Backtime
D_BADARG	/Bad argument
D_BADDEST	/Bad destination
D_BADKBD	/Bad keyboard
D_BADREP	/Must FIND First
D_BUSY	/Busy
D_CANTFIND	/Can't find
D_CMD	/CMD
D_CONTINUE	/Press CMD to continue
D_DEFINED	/Text is defined
D_DIRMODE	/Not in directory
D_DUPED	/2 spaces then DUP'D
D_EMPTY	/5 spaces then EMPTY
D_ERROR	/System error
D_EXISTS	/Already exists
D_GONE	/Gone
D_HOME	/home
D_INSERT	/Insert

Standard Name	Translation
D_KEY	/Key (must match ccucmd translation)
D_KILLED	/1 space then KILLED
D_LINE	/Line
D_LOCKED	/Locked
D_LOGGEDIN	/Logged in
D_LOGIN	/Login (must match ccucmd translation)
D_MAIL	/mail
D_MAILSTORY	/Story
D_MAXSONS	/Too many
D_MESSAGE	/Message
D_MODE	/Invalid in this mode
D_MOVED	/2 spaces then MOVED
D_NAMETL	/Name too long
D_NEW_PASSWORD	/New password
D_NOARG	/Needs argument
D_NOCMD	/Unrecognized command
D_NODEFINED	/Nothing defined
D_NODELETED	/Nothing deleted
D_NOFINDSTR	/Type word to find
D_NOLOG	/Not logged in
D_NOMSG	/No messages
D_NOREPSTR	/Type new word
D_NOTBATCH	/Queue lacks that capability
D_NOTEMPTY	/Not empty

Standard Name	Translation
D_NOTEXIST	/Story moved
D_NOUSER	/No such user
D_OFFLINE	/Offline
D_ONAIR	/On air
D_ORDER	/Order
D_PASSWORD	/Password (must match ccucmd translation)
D_PAUSED	/Paused
D_PERM	/P
D_PRINTED	/PRINTED
D_PURGELOCK	/Queue busy
D_QONLY	/Only in queue
D_QUEMODE	/Not in queue
D_REFRESH	/Refresh
D_REPLACE	/Replace
D_RONLY	/Read-only
D_SORRY	/Sorry
D_SORTED	/Sorted
D_STORY	/Story
D_SYNTAX	/Bad usage
D_TOO_SHORT	/Too short
D_TXED	/TRANSFERRED
D_UNABLEMAIL	/Unable to send mail
D_UNKNOWN	/Unknown command
D_WAIT	/Please stand by

Standard Name	Translation
D_WORD	/Word

Commands Dictionary (/site/dict/ccucmds)

The Commands dictionary consists of commands and job list commands and their translations. Your system's version of this file may be slightly different.

Commands may be customized by changing their translation definition. For instance, the default translation of backtime next is `ba n` , as shown in the following commands table. You can change the translation to `back n` or `back next`, or some other translation.

Commands(/site/dict/ccucmds)

Standard Name	Translation
air	/ai
air prompter	/ai p
air scrollbox	/ai s
backtime	/ba
backtime begin	/ba b
backtime end	/ba e
backtime next	/ba n
backtime pause	/ba p
blank	/bl
bulletin	/bu
connect	/co

Standard Name	Translation
cursor bottom	/cu b
cursor down	/cu d
cursor left	/cu l
cursor right	/cu r
cursor top	/cu t
cursor up	/cu u
define character	/def c
define erase	/def e
define paragraph	/def p
define word	/def w
delete character	/del c
delete defined	/del d
delete recover	/del r
destination	/des
display	/di
display norefresh	/di n
display refresh	/di r
display story	/di s
duplicate	/du
enter directory	/e d
enter queue	/e q
find	/fi

Standard Name	Translation
flash	/fl
get	/ge
get all	/ge a
get old	/ge o
go	/go
help	/he
hold	/ho
insert block	/i b
insert character	/i c
insert mode	/i m
key	/ke
kill	/kill
load keyboard	/loa k
lock	/loc
login	/logi
login exit	/logi e
logout	/logo
logout exit	/logo e
mail	/ma
mail copy	/ma c
mail reply	/ma r
message	/me

Standard Name	Translation
message clear	/me c
message recall	/me r
monitor	/mon
move	/mov
new	/ne
new bottom	/ne b
new insert	/ne i
new top	/ne t
note clear	/no c
note recall	/no r
note save	/no s
order	/or
pack	/pac
pack all	/pac a
page down	/pag d
page up	/pag u
password	/pas
pause	/pau
print	/pr
publish	/publish
quit	/q
read	/rea

Standard Name	Translation
read all	/rea a
read old	/rea o
receive	/receive
remove	/rem
replace	/rep
save	/sa
script	/scri
script undo	/scri u
scroll bottom	/scro b
scroll down	/scro d
scroll top	/scro t
scroll up	/scro u
seek	/see
send	/sen
split	/sp
status clear	/st c
tab right	/ta r
template recall	/te r
template save	/te s
time stamp	/ti s
transmit	/tr
unlock	/unl

Standard Name	Translation
unsplit	/uns
user	/us
video define	/vid d
video step	/vid s
view	/vie

Job List Commands

Standard name	Translation
bscan	/bscan
bpoll	/bpoll
ignore-del	/ignore-del
eof	/eof
all	/all
at	/at
every	/every
everyentry	/everyentry
extension	/extension
ignore	/ignore
ignore-del	/ignore-del
mailto	/mailto
number	/number
on	/on

Standard name	Translation
open	/open
order	/order
poll	/poll
priority	/priority
put	/put
quiet	/quiet
scan	/scan
sendform	/sendform
send-del	/send-del
validate	/validate
verify	/verify

Queues Dictionary (/site/dict/queues)

The Queues dictionary contains names for system queues such as SYSTEM.KEYBOARDS and the Dead queue.

See “Fast Text Search (FTS) Servers” on page 471 for information on the Queues Disctionary as defined for FTS server.

Queues in this dictionary are used by functions within iNEWS. For instance, the `seek` command uses whatever queue translation is given to `Q_SEEK`, which is `SYSTEM.SEEK` by default. Like other dictionaries, the standard name is in uppercase and must not be changed. The translation can be in lowercase, but appears in uppercase on the screen. Queue names and their standard translations are shown in the following Queues Dictionary table. The 8-bit codes can be defined using 7-bit sequences.

Queues Dictionary

Standard Name	Translation
Q_ACCT	/system.account
Q_ADDRLIST	/system.teleprinter.addrlist
Q_ADDRDIST	/system.teleprinter.distribution
Q_CATWORDS	/system.wires.distribution
Q_CLIENT_DOS	/system.client.dos
Q_CLIENT_COM	/system.client.com
Q_CLIENT _REMOTE_SEARCH	/system.client.remote-search
Q_CLIENT_COM_VERSIONS	/system.client.com-versions
Q_CLIENT_RS_VERSIONS	/system.client.rs-versions
Q_CLIENT_WIRE_SERVER	/system.client.wire-server
Q_CLIENT_WINDOWS	/system.client.windows
Q_CLIENT_VERSIONS	/system.client.versions
Q_CONFIGURE	/system.configure
Q_DEAD	/dead
Q_DESTINATION	/notes
Q_FLASH	/wires.advisory.priority
Q_FORMS	/system.forms
Q_FTS	/system.fts
Q_GROUPS	/system.groups
Q_HELP	/system.help.terminal
Q_HOME	/notes

Standard Name	Translation
Q_INDEX	/system.index
Q_KEYBOARDS	/system.keyboards
Q_KEYWORDS	/system.wires.keywords
Q_MAIL	/mail
Q_MAILOUT	/system.mail.out
Q_MAILERROR	/system.mail.error
Q_MESSAGE	/system.message
Q_MOS_MAP	/system.mos-map
Q_MMAP	/system.map
Q_MRESOURCE	/system.resource
Q_NODEST	/system.unknown
Q_PRINTERS	/system.printers
Q_PRINTER2	/system.printers2
Q_REMOTE_SEARCH	/system.remote-search
Q_SEARCHTAPE	/system.searchtape
Q_SEEK	/system.seek
Q_STYLES	/system.styles
Q_SERVICE	/system.service
Q_SCRIPT	/system.dialogs
Q_SPELL	/system.spell
Q_TEMPLATES	/system.templates
Q_TITLE _ENTRY	/system.title-entry

Standard Name	Translation
Q_UNKNOWN	/wires.unknown
Q_USERROOT	/people
Q_WEBACC_FORMS	/system.webforms
Q_WEBPUB_FORMS	/system.webforms

Words Dictionary (/site/dict/words)

The Words dictionary contains translations for a variety of miscellaneous words used by the system. For instance, words regarding priority (such as flash and silent) or print options (such as story and script) are included.

See “Fast Text Search (FTS) Servers” on page 471 for information on the Queues Disctionary as defined for FTS server.

Standard names are in uppercase and must not be changed. Because many messages in this dictionary are displayed in the upper right corner of active stories and rundowns, keep them short to avoid overwriting portions of the story or rundown. Translations can be uppercase, lowercase, or mixed case.

Words Dictionary

Standard Name	Translation
Wire Priorities and Options	
W_FLASH	/FLASH
W_BULLETIN	/BULLETIN
W_WIRE_FORM	/wires
W_URGENT	/URGENT
W_SILENT	/SILENT
W_ALWAYS	/A
W_TRANSMIT	/TRANSMIT

Standard Name	Translation
Status Types	
W_HOLD	/HOLD
W_LOCKED	/LOCKED
W_MAIL	/mail
W_READY	/READY
W_NEW	/NEW
W_WIRE	/WIRE
Special Words for Find	
W_AND	/and
W_NOT	/not
W_ANDNOT	/andnot
W_OR	/or
W_NOTREADY	/
W_SLOW	/slow
W_ALL	/all
Print Command Options	
W_STORY	/story
W_SCRIPT	/script
W_RUNDOWN	/rundown
W_DIRECTORY	/directory
W_ON	/on

Standard Name	Translation
W_DAYS	/SunMonTueWedThuFriSat You can change these translations only once. If you make a mistake, or want to change them again, you must extract the news program from the release CD first. Call iNews Customer Support for assistance in extracting the program.
W_MONTHS	/JanFebMarAprMayJunJulAugSepO ct NovDec You can change these translations only once. If you make a mistake, or want to change them again, you must extract the news program from the release CD first. Call iNews Customer Support for assistance in extracting the program.
W_PAGE	/page
Words Relating to the Seek Server	
W_FAST	/fast
W_ACTIVE	/ACTIVE
W_DONE	/DONE
W_ERROR	
W_ABORT	/ABORTED
W_MBSPACE	/¡@ This token applies to multibyte iNEWS systems only. It must be set to the multibyte space character of the code set being used.
W_DELIMITERS	/ <sp> “()-.’/
W_PENDING	/PENDING
W_RESTRICTED	/restricted

Standard Name	Translation
W_SLOW	/slow
W_BREAK	/====
Words relating to FTS Server	
W_INDEXBASE	/C:/FTS/FTSINDEX
W_BINDFTSI	/ftsserver:6100
W_BINDFTSS	ftsserver:6101
W_AGEWEIGHT	/100
W_HITSWEIGHT	/0
W_LOCWEIGHT	/0
Miscellaneous Options	
W_DEFAULT_FORM	/default_form
W_WEBACC_FORM	/access_form
W_WEBPUB_FORM	/publish_form
W_LOGTYPES	/D
W_ERROR	/ERROR (only seek)
W_INDXD	/archvd
W_DEST	/destination
W_QUEUE	/queue
W_RESULTS_FORM	/search-results
W_START	/ON
W_OFF	/OFF
W_LOAD	/LOAD
W_UNLOAD	/UNLOAD
W_YES	/yes

Standard Name	Translation
W_NO	/no
W_GROUP	/group
W_ALIAS	/alias
W_ANYSTR	/-
W_BLANKSTR	/+
W_PAGEBREAK	/pagebreak
	(used by various programs and identifies the word used to replace the NSML `<pb>` (pagebreak) tag when converting to SEP.
W_RESTRICTED	/restricted
	(only used by gtraits program and identifies the name used for the restricted user group)
W_NEAR	/near
W_RUNS	/runs
W_STARTMEDIA	/Primary
W_CUE_REF	/164

Both W_PENDING and W_BREAK may appear in the Words Dictionary however they are obsolete.

Connect Dictionary (/site/dict/doac)

The Connect dictionary contains messages and commands used by the Connect feature.

The standard name is in uppercase and must not be changed. The translation can be in lowercase, uppercase, or mixed case.

Connect Dictionary

Standard Name	Translation
S_SNPROMPT	/cmd>
S_SNCAPON	/Capturing session to
S_SNCAPOFF	/Session saved to
S_SNPAUSE	/Pause capture
S_SNESCAPE	/New escape character
S_SNQUIT	/Quitting
S_SNCAPERR	/Capture error!
S_SNNOQUEUE	/Could not append to queue
S_SNCRERR	/Error creating capture story
S_SNCLOSED	/Connection closed
S_NOSVC	/Unknown service
S_NOCAPTURE	/Session not saved to
S_SNNOTCAP	/Not capturing
S_SNEXPECT	/Failed to get expected string
S_NSCRIPT	/Could not open script story
S_CONNECT	/CONNECT
S_ACCEPT	/ACCEPT
S_REJECT	/REJECT
S_FINISH	/FINISH
S_TERMINAL	/TERMINAL
S_RXNET	/RXNET

Standard Name	Translation
S_RXDNET	/RXDNET
S_CCAPTURE	/capture
S_CQUIT	/quit
S_CPAUSE	/pause
S_CSTOP	/stop
S_CHELP	/help
S_CESCAPE	/escape
S_CECHO	/echo
S_CHEOL	/heol
S_CTYPE	/type
S_CWAIT	/wait
S_CMESS	/message
S_CEXPECT	/expect
S_CDELAY	/delay
S_CTIMER	/timer
S_CPASS	/pass
S_CDIAG	/diag
S_CMAP	/map
S_CMAPIN	/mapin
S_CMAPOUT	/mapout
S_CAPHLP	/<queue> Capture to queue, or continue after a pause

Standard Name	Translation
S_QUITHLP	/End this connect session
S_PAUSEHLP	/Pause capture, but do not close capture story
S_STOPHLP	/Stop capturing and close capture story
S_HELPHLP	/Show this list of commands
S_ESCHLP	/<c> Change escape character to specified character
S_HEOLHLP	/Toggle Hard-End-Of-Line on captured data
S_ECHOHELP	/Toggle local character echo
S_MAPHLP	/<fromchar> <tochar> map input & output
S_MAPINHLP	/<fromchar> <tochar> map input
S_MAPOUTHLP	/<fromchar> <tochar> map output
S_NXNONAME	/Computer not named
S_NXNOCONF	/System not configured
S_NXNOPTY	/No ptys available
S_NXNODEV	/No device available
S_KTRANSFER	/transfer
S_KCANCELLED	/cancelled
S_KDISCARDED	/discarded
S_KLOCAL	/L:
S_KREMOTE	/R:
S_KEOF	/[EOF]

Standard Name	Translation
S_KEOT	/[EOT]
S_KTIMEOUT	/Timed out
S_KUNKNOWN	/Unknown packet type
S_KIOPENERR	/Input file open error
S_KINOTFOUND	/File not found
S_KOOPENERR	/Output file open error
S_KOWRITERR	/Output file write error
S_KOCLOSERR	/Output file close error

Telex Dictionary (/site/dict/telex)

TheTtelex dictionary contains commands and messages used with the telex feature.

Telex Dictionary

Standard Name	Translation
X_0	/LINE FREE
X_1	/LINE UNAVAILABLE
X_10	/RING INDICATE
X_20	/CONNECTION MADE
X_36	/INCORRECT AB
X_43	/NO CONNECTION
X_50	/CALL CLEARED
X_61	/INVALID COMMAND

Standard Name	Translation
X_70	/SS ABS
X_71	/SS DER
X_72	/SS MON
X_73	/SS NCH
X_74	/SS NP
X_75	/SS NA
X_76	/SS OCC
X_77	/SS NC
X_81	/SS INF
X_82	/SS CIC
X_83	/SS RDI
X_DISTRIBUTE	/SYSTEM.TELEX.DISTRIBUTION
X_UNKNOWN	/dead
X_CMD	/CMD
X_SENT	/SENT
X_ABORT	/ABORT
X_BUSY	/BUSY
X_NODIAL	/NODIAL
X_NOCNX	/NOCNX
X_MORE	/MORE
X_RETRY	/RETRY
X_FAIL	/FAIL

Standard Name	Translation
X_MLKUP	/NO LOOKUP ENTRY FOUND
X_MMORE	/SENT OK REMAINING SENDS:
X_MSENT	/SENT OK
X_MRETRY	/NO CONNECTION–RETRIES LEFT:
X_MFAIL	/FAILED–NO MORE RETRIES

Dial Dictionary (/site/dict/dial)

The Dial dictionary contains messages used with modems.

Like other dictionaries, the standard name is in uppercase and must not be changed. The translation can be in lowercase, uppercase, or mixed case.

Dial Dictionary

Standard Name	Translation
C_USAGE	/Dial: bad usage
C_MDMTO	/Modem timed out
C_NOCONS	/Could not open `/dev/console`
C_MDMRDY	/Line ready...
C_DSYSERR	/Dial: system error
C_MDMNOT	/Modem not responding
C_MDMNODIAL	/Modem not responding to dial command
C_MDMNOHUP	/Modem did not hang up–Check modem
C_MDMHUP	/Modem is hung up

Standard Name	Translation
C_QUITQ	/Do you really want to quit (y/n)?

Keyboard Macros Dictionary (/site/dict/keymacros)

The keyboard macros dictionary contains names of keyboard keys for use in keyboard macro definitions for iNEWS NRCS.

Like other dictionaries, the standard name is in uppercase and must not be changed. Translations can be in lowercase, uppercase, or mixed case.

Keyboard Macros Dictionary

Standard Name	Translation
K_NULL	/null
K_F1	/f1
K_F2	/f2
K_F3	/f3
K_F4	/f4
K_F5	/f5
K_F6	/f6
K_F7	/f7
K_F8	/f8
K_F9	/f9
K_F10	/f10
K_F11	/f11
K_F12	/f12

Standard Name	Translation
K_KP0	/kp0
K_KP1	/kp1
K_KP2	/kp2
K_KP3	/kp3
K_KP4	/kp4
K_KP5	/kp5
K_KP6	/kp6
K_KP7	/kp7
K_KP8	/kp8
K_KP9	/kp9
K_INSERT	/insert
K_HOME	/home
K_PAGEUP	/pageup
K_PAGEDOWN	/pagedown
K_DELETE	/delete
K_END	/end
K_UP	/up
K_DOWN	/down
K_LEFT	/left
K_RIGHT	/right
K_SHIFT	/shift
K_CTRL	/ctrl

Standard Name	Translation
K_ALT	/alt
K_TAB	/tab
K_ESC	/esc
K_BACKSPACE	/backspace
K_ENTER	/enter
K_PAUSE	/pause
K_REPEAT	/repeat
K_SPACE	/space

Printer Messages Dictionary (/site/dict/printmsgs)

The Printer Messages dictionary contains error messages generated by the Sony barcode printer.

The standard name is in uppercase and must not be changed. The translation can be in lowercase, uppercase, or mixed case.

Printer Messages Dictionary

Standard Name	Translation
M_TAPEIDREQ	/Tape ID required
M_INVTAPEID	/Invalid tape ID
M_DUREXCEED	/Duration time exceeded
M_DURTOOSHORT	/Duration time too short
M_INVTIMECODE	/Invalid timecode
M_EOMREQ	/EOM required

Standard Name	Translation
M_SOMREQ	/SOM required
M_INVCHARS	/Tape ID or title has invalid characters
M_EOMSTMISSING	/EOM Style missing from profile
M_TAPEIDLEN	/Tape ID must be between 3-8 characters long
M_PAGESTRLEN	/Page string too long
M_SOMEXCEEDS	/SOM timecode exceeds EOM timecode
M_UNKERR	/Unknown print error
A_CMDDEL	/*

Case-shifting Dictionary (/site/dict/shift)

The Case-shifting dictionary maps lowercase characters to their uppercase counterparts and vice versa. iNEWS shifts the case of a character according to its decimal value in a standard character conversion table.

The dictionary has two parts:

- The first part, labeled with the keyword tolower, maps decimal values of uppercase characters to the decimal values of their lowercase counterparts.
- The second part, labeled with the keyword toupper, maps decimal values of lowercase characters to decimal values of their uppercase counterparts.

In the default dictionary shipped with iNEWS newsroom computer system, a character at a decimal position in the range on the left of the arrow (->) shifts to the character at the corresponding decimal position in the range on the right. For instance, the character at decimal position 65 (A) is mapped to the character at decimal position 97 (a); the character at decimal position 66 (B) shifts to the character at decimal position 98 (b); and so on:

```
;
tolower
 65 -  90 ->  97 - 122      ; A - Z -> a - z
192 - 207 -> 224 - 239
209 - 221 -> 241 - 253
end

toupper
 97 - 122 ->  65 -  90      ; a - z -> A - Z
224 - 239 -> 192 - 207
241 - 253 -> 209 - 221
end
```

The character-conversion table the system uses depends on the interface you are using.

- If you are using the DOS, the character-conversion table is based on the DEC Multinational Character Set (MCS).
- If you are using the iNEWS Graphic User Interface (GUI), the conversion table is based on the ISO standard for multinational characters.

If character mappings specified in these standard character-conversion tables are not appropriate for the language you are using, edit the `/site/dict/shift` file to remap character conversions. You can map ranges of values (as shown in the default dictionary file) or you can map values one by one, if necessary.

When editing the dictionary file, follow these guidelines:

- Ensure all keywords (tolower, toupper, end) in the dictionary file remain in lowercase.
- Specify all character-conversions in terms of the characters' decimal values in the conversion table.
- Do not specify a value higher than 255.

- Any characters not mapped in the dictionary file remain the same when shifted.
- The system ignores blank lines in the dictionary file and any characters following a semicolon (;).

After you edit the dictionary file, run the `makeshift` console command in maintenance mode during installation to prepare the Case-shifting dictionary for use by the iNEWS newsroom computer system. For more information, call Avid Customer Support.

If you map a character to more than one value, the system displays a warning when you type the `makeshift` command, but uses the last character mapping in the file.

MCS Dictionary (/site/dict/mcs)

The MCS dictionarycontains the following:

- Device Types Used by Monitor Servers and Drivers
- Special Strings Recognized by the Monitor Server
- Error Messages for the Monitor Server
- Error Messages Shared by Monitor Servers and Drivers
- Driver Errors Sent to MCT Only
- Driver Errors Sent to MCT and Possibly to Console & Mon User
- Driver Errors Sent to User Only
- Status Reported in Device Status Field

The standard name is in uppercase and must not be changed. The translation can be in lowercase, uppercase, or mixed case.

Device Types Used by Monitor Servers and Drivers

Standard Name	Translation
A_CART	/CART

Standard Name	Translation
A_CG	/CG
A_MOS	/MOS
A_SS	/SS
A_USRDEF	/USRDEF
A_CART	/CART

Special Strings Recognized by the Monitor Server

Standard Name	Translation
A_BREAK	/====
A_CHANNELOPEN	/[
A_CHANNELCLOSE	/]
A_CMDDEL	/*
A_COMDEL	/;
A_CURRENT	/<<<<
A_FLDDEL	/
A_LOCALHYPHEN	/-
A_NOUPDT	/noupdate
A_UPDATE	/update

Error Messages for the Monitor Server

Standard Name	Translation
A_MBINVL	/Invalid mailbox

Standard Name	Translation
A_NOTINMAP	/Queue not in map
A_XMAXSTORY	/Exceeded max # stories, monitor exiting
A_MAPOPENERR	/Map story open error
A_RESOPENERR	/Resource story open error
A_NOSERVER	/Server cannot execute
A_BADCG	/Bad Map line: CG device requires range
A_BADMCT	/Bad Map line: Invalid MCT template
A_BADMAPARG	/Bad Map line: Invalid arg count
A_BADMAPUPDT	/Bad Map line: Expected update arg
A_BADMAPQTME	/Bad Map line: Invalid time value
A_BADMAPDUPE	/Bad Map line: Duplicate device
A_BADMAPDRV	/Bad Map line: Invalid drive specification
A_BADMAPINVCHAN	/Bad Map line: Invalid video channel assignment policy
A_BADMAPBADMOS	/Bad Map line: Unrecognized MOS parameter
A_BADMAPNOMOS	/Bad Map line: MOS device not assigned to MOS Server
A_BADMAPBADSVR	/Bad Map line: device-server type mismatch
A_BADMOSITEM	/Invalid MOS item
A_BADDUPENTRY	/Bad Resource line: Duplicate style entry
A_BADCGLINES	/Bad Resource line: Invalid # CG fields
A_BADRESARG	/Bad Resource line: Invalid arg count
A_BADCGTMPL	/Bad Resource line: Invalid CG template

Standard Name	Translation
A_RESERRORS	/Following errors found in resource story
A_INVLDEV	/Invalid device specification
A_INVLSTYLE	/Invalid style
A_INVLADD	/Invalid address
A_INVLARG	/Missing argument
A_XMAXADD	/Exceeded address range
A_NOFORM	/Cannot access form
A_SRTERR	/Error sorting queue
A_DELERR	/Cannot delete from
A_DIRERR	/Directory open error
A_QUEERR	/Queue open error
A_QUEAPPERR	/Queue append error
A_STRYERR	/Story open error
A_STRYCRT	/Story create error
A_STRYWRT	/Story write error
A_DRVNOTINMAP	/Driver not in Map
A_DRVNCONFIG	/Download failed: driver not configured
A_DRVNOCOMM	/Network connect failed
A_DEVBUSY	/Refused connection request
A_NOSSADDR	/No SS address specified

Standard Name	Translation
A_MULSSADDR	/Multiple SS addresses specified
A_MONEXIT	/Monitor exiting
A_QUITTIME	/Quite Time reached
A_MUSTUNLOAD	/Must first unload
A_READY	/OK

Error Messages Shared by Monitor Servers and Drivers

Standard Name	Translation
A_XMAX	/Exceeded max # events
A_NOMEM	/Out of memory

Driver Errors Sent to MCT Only

Standard Name	Translation
A_NOHOST	/Disconnected from host

Driver Errors Sent to MCT and Possibly to Console & Mon User

Standard Name	Translation
A_NODEV	/Device error
A_NODEVCOMM	/Device communication failed

Driver Errors Sent to User Only

Standard Name	Translation
A_LOADDONE	/Download complete
A_LOADERR	/Errors in download
A_DRIVEREXIT	/Driver exiting
A_CANOTCUED	/Tape not cued

Status Reported in Device Status Field

Standard Name	Translation
A_EVERR	/ERROR
A_CAFRZ	/FREEZE
A_CATREL	/TREL
A_CATHRD	/THREAD
A_CACUING	/CUEING
A_CACUED	/CUED
A_CANOTAPE	/N/L
A_CABIN	/BIN
A_CAPLAY	/PLAY
A_CAPAUSE	/PAUSED
A_CAREW	/REWIND
A_CAEJECT	/EJECT
A_CAINCMPLT	/TRANSFER

Appendix D

PCU Reference

This appendix contains the following main sections:

- Overview
- PCUs

Overview

A Peripheral Controller Unit (PCU) is a Personal Computer (PC) connected between an iNEWS Server and one or more serial devices, such as printers and wire services. The PCU expands the available serial ports and relieves the server of routine communication with the devices. The PCU is an open system. The operating system is Microsoft DOS and a standard public domain TCP/IP network stack is used.

No server should be connected to more than half the number of PCUs it is capable of supporting. This ensures that if one server fails, the surviving server(s) have enough reserve capacity to run the failed server's PCUs.

Divide your system's PCUs evenly among your system's servers. This yields maximum performance possible from each server. If a server fails, reconfigure the failed server's PCUs to the surviving servers until the failed server is repaired.

PCUs

There are two kinds of PCUs: older models in rack-mount cases and newer models in standard PC cases. The latter is referred to as a PC-PCU. A PC-PCU can be an ordinary PC with special additional hardware to give it more serial ports. This section describes the rack-mount models.

For more information about PC-PCUs, see "Adding a PCU or PC-PCU" on page 285.

A PCU is essentially a DOS PC. A PCU's front panel contains one or two LED displays and reset switches. The reset switches allow you to clear the PCU's memory prior to restarting it. LEDs display the PCU's device number or current status. This section describes parts of a PCU with which you need to be familiar to do normal system maintenance work. It also describes how to reset the PCU, how to connect the PCU to a server, and how to connect devices to the PCU.

Avid no longer supports CCUs. If your system has existing CCUs that have been upgraded to PCUs, such devices must be configured as PCUs.

Resetting a PCU

Occasionally, there may be a need to reset a PCU to clear its memory so that you can load a fresh set of programs. To do this, press the Reset button and let go. The PCU tests its hardware and boots up to a point where you can restart it from the console.

A PCU built to resemble a CCU has one or two LED displays with four digits each. It uses the LED display to indicate whether it is running normally, has just been reset, or has detected an error. As long as the PCU is running normally, the LED displays the PCU's device number.

If the LED goes out, the PCU may have lost power, so make certain the power switch is in the "on" position and the PCU's power cord is firmly attached to the PCU and power supply. PCUs produced in regular PC housings do not have LED displays.

As the PCU tests itself, it shows a number of status codes on the LED display. When DOS boots on the PCU, it displays "8000." If the PCU passes all its diagnostic tests and receives an IP address from a `bootp` server, it displays "0000," indicating that it has successfully completed the self test and is ready to be restarted. If the PCU continues to display "8000," there is a network or bootp problem.

A PCU displays "8888" after receiving a reset request from the host server. After it has been restarted and is operational, it displays its device number (the device number is not divided by 10).

PCU LED Displays

There are standard codes that can appear on the PCU's LED display. The 8000 codes are typically shown during a normal boot of the PCU, while the 9000 codes represent errors. Contact Avid Customer Support for assistance if one of your PCUs displays an error code after being restarted. The following PCU LED Code table lists the codes and their meanings.

PCU LED Codes

Code	Meaning
0000	Network initialization complete
8000	Boot started
8002	Connected to host server for download of PCU OS
8003	PCU OS download in progress
8004	PCU OS downloaded
8005	Start received
8006	Invoking PCU OS
8100	PCU OS started
8101	PCU OS network initialized
8102	PCU OS fully operational
8888	Reset received
9001	Error, execv failed
9002	Error, file could not be opened
9003	Error, no data downloaded
9004	Error, cannot establish socket connection
9005	Error, read on socket failed
9006	Error, receive on socket failed
9007	Error, send on socket failed
9010	Memory management—bad free
9011	Memory management—unknown free
9012	Memory management—no space

Connecting Devices to a PCU

You use the I/O ports to connect serial devices, such as printers and wires, to the PCU. These ports are numbered 1 through 8.   Use these port numbers in combination with the PCU's device number when assigning device numbers to devices you connect to the PCU. These ports are Data Terminal Equipment (DTE) RS-232 serial ports. To connect a device to one of these ports, use a cable built to carry signals the device and PCU need, in a way they expect.

Locating Ports

The back panel of a PCU built in a CCU III housing contains eight I/O ports, a host port, a power receptacle, an Ethernet connector, and a power switch.

The power switch controls power to the PCU and should always be in the on position. The power receptacle is where the power cord attaches to the PCU. The host port is used to attach a diagnostic workstation to the PCU, if necessary.

A PCU in a standard PC case looks similar to this, except that eight serial I/O ports are on a serial card in one of the PC's expansion slots.

Connecting a PCU to the System

A PCU has an Ethernet connector. Use this connector to attach the PCU to the Ethernet network so it can communicate with its server.

Appendix E
Character Maps

This appendix contains character mapping code tables used by wire programs. The value set in the “bits” wire profile option determines which of these tables the wire program uses to “translate” stories it receives from a wire service. Unless otherwise indicated, the tables contain, in the first column, decimal numbers sent by the wire service. The other columns contain characters represented by those numbers, descriptions of the characters, and mapped values.

Also included in this appendix are examples of character mapping for Arabic wires.

This section contains the following:

- ASCII (7-bit) Character Set
- IBM Character Set
- dbrestore Character Map (Arabic)
- Sample Arabic Wire Profile

ASCII (7-bit) Character Set

The following ASCII (7 bit) table is an identity mapping, where the wire value equals the mapped value, with one exception—the wire value of 124 is mapped to 0. The other 127 values are preserved.

ASCII (7 bit).

Value	Mapped Alias	Description	Mapped Value
000	<nul>	null	000
001	<soh>	start of header	001
002	<stx>	start of text	002
003	<etx>	end of text	003
004	<eot>	end of transmission	004
005	<enq>	enquiry	005
006	<ack>	acknowledgment	006
007	<bel>	bell	007
008	<bs>	back space	008
009	<ht>	horizontal tab	009
010	<lf>	line feed	010
011	<vt>	vertical tab	011
012	<ff>	form feed	012
013	<cr>	carriage return	013
014	<so>	shift out	014
015	<si>	shift in	015
016	<dle>	data link escape	016
017	<dcl>	device control 1	017
018	<dc2>	device control 2	018
019	<dc3>	device control 3	019
020	<dc4>	device control 4	020
021	<nak>	negative acknowledge	021
022	<syn>	synchronous idle	022

Value	Mapped Alias	Description	Mapped Value
023	<etb>	end of transmission	023
024	<can>	cancel	024
025	<em>	end of medium	025
026	<sub>	substitute	026
027	<esc>	escape	027
028	<fs>	file separator	028
029	<gs>	group separator	029
030	<rs>	record separator	030
031	<us>	unit separator	031
032	<sp>	space	032
033	!		033
034	“		034
035	#		035
036	$		036
037	%		037
038	&		038
039	'	quote	039
040	(		040
041	)		041
042	*		042
043	+		043
044	,	comma	044
045	-		045
046	.	period	046

Value	Mapped Alias	Description	Mapped Value
047	/		047
048	0		048
049	1		049
050	2		050
051	3		051
052	4		052
053	5		053
054	6		054
055	7		055
056	8		056
057	9		057
058	:	colon	058
059	<sc>		059
060	<		060
061	=		061
062	>		062
063	?		063
064	@		064
065	A		065
066	B		066
067	C		067
068	D		068
069	E		069
070	F		070

Value	Mapped Alias	Description	Mapped Value
071	G		071
072	H		072
073	I		073
074	J		074
075	K		075
076	L		076
077	M		077
078	N		078
079	O		079
080	P		080
081	Q		081
082	R		082
083	S		083
084	T		084
085	U		085
086	V		086
087	W		087
088	X		088
089	Y		089
090	Z		090
091	[		091
092	\ or<bks>		092
093	]		093
094	^		094

Value	Mapped Alias	Description	Mapped Value
095	_	underscore	095
096	`		096
097	a		097
098	b		098
099	c		099
100	d		100
101	e		101
102	f		102
103	g		103
104	h		104
105	i		105
106	j		106
107	k		107
108	l		108
109	m		109
110	n		110
111	o		111
112	p		112
113	q		113
114	r		114
115	s		115
116	t		116
117	u		117
118	v		118

Value	Mapped Alias	Description	Mapped Value
119	w		119
120	x		120
121	y		121
122	z		122
123	{		123
124	<nul>		0
125	}		125
126	~		126
127	<del>	Delete	127

IBM Character Set

The IBM character set is the same as the ASCII 7-bit character set for the first 127 characters. For the remaining characters, see the following IBM Character table.

IBM Character

Value	Wire Value HEX	Mapped Alias	Mapped Value	Mapped Value HEX
128	80	Ç	190	C7
129	81	ü	252	FC
130	82	é	233	E9
131	83	â	226	E2
132	84	ä	228	E4
133	85	à	224	E0
134	86	å	229	E5

Value	Wire Value HEX	Mapped Alias	Mapped Value	Mapped Value HEX
135	87	ç	231	E7
136	88	ê	234	EA
137	89	ë	235	EB
138	8A	è	232	E8
139	8B	ï	239	EF
140	8C	î	238	EE
141	8D	ì	236	EC
142	8E	Ä	196	C4
143	8F	Å	197	C5
144	90	É	201	C9
145	91	æ	230	E6
146	92	Æ	198	C6
147	93	ô	244	F4
148	94	ö	246	F6
149	95	ò	242	F2
150	96	û	251	FB
151	97	ù	249	F9
152	98	ÿ	253	FD
153	99	Ö	214	D6
154	9A	Ü	220	DC
155	9B	¢	162	A2
156	9C	£	163	A3
157	9D	¥	165	A5

Value	Wire Value HEX	Mapped Alias	Mapped Value	Mapped Value HEX
158	9E	<nul>	0	0
159	9F	<nul>	0	0
160	A0	á	225	E1
161	A1	í	237	ED
162	A2	ó	243	F3
163	A3	ú	250	FA
164	A4	ñ	241	F1
165	A5	Ñ	209	D1
166	A6	ª	170	AA
167	A7	º	186	BA
168	A8	<nul>	0	0
169	A9	<nul>	0	0
170	AA	<nul>	0	0
171	AB	<nul>	0	0
172	AC	<nul>	0	0
173	AD	<nul>	0	0
174	AE	<nul>	0	0
175	AF	<nul>	0	0
176	B0	<nul>	0	0
177	B1	<nul>	0	0
178	B2	<nul>	0	0
179	B3	<nul>	0	0
180	B4	<nul>	0	0

Value	Wire Value HEX	Mapped Alias	Mapped Value	Mapped Value HEX
181	B5	<nul>	0	0
182	B6	<nul>	0	0
183	B7	<nul>	0	0
184	B8	<nul>	0	0
185	B9	<nul>	0	0
186	BA	<nul>	0	0
187	BB	<nul>	0	0
188	BC	<nul>	0	0
189	BD	<nul>	0	0
190	BE	<nul>	0	0
191	BF	<nul>	0	0
192	C0	<nul>	0	0
193	C1	<nul>	0	0
194	C2	<nul>	0	0
195	C3	<nul>	0	0
196	C4	<nul>	0	0
197	C5	<nul>	0	0
198	C6	<nul>	0	0
199	C7	<nul>	0	0
200	C8	<nul>	0	0
201	C9	<nul>	0	0
202	CA	<nul>	0	0
203	CB	<nul>	0	0

Value	Wire Value HEX	Mapped Alias	Mapped Value	Mapped Value HEX
204	CC	<nul>	0	0
205	CD	<nul>	0	0
206	CE	<nul>	0	0
207	CF	<nul>	0	0
208	D0	<nul>	0	0
209	D1	<nul>	0	0
210	D2	<nul>	0	0
211	D3	<nul>	0	0
212	D4	<nul>	0	0
213	D5	<nul>	0	0
214	D6	<nul>	0	0
215	D7	<nul>	0	0
216	D8	<nul>	0	0
217	D9	<nul>	0	0
218	DA	<nul>	0	0
219	DB	<nul>	0	0
220	DC	<nul>	0	0
221	DD	<nul>	0	0
222	DE	<nul>	0	0
223	DF	<nul>	0	0
224	E0	<nul>	0	0
225	E1	ß	223	DF
226	E2	<nul>	0	0

Value	Wire Value HEX	Mapped Alias	Mapped Value	Mapped Value HEX
227	E3	<nul>	0	0
228	E4	<nul>	0	0
229	E5	<nul>	0	0
230	E6	µ	185	B5
231	E7	<nul>	0	0
232	E8	<nul>	0	0
233	E9	<nul>	0	0
234	EA	<nul>	0	0
235	EB	<nul>	0	0
236	EC	<nul>	0	0
237	ED	ø	248	F8
238	EE	<nul>	0	0
239	EF	<nul>	0	0
240	F0	<nul>	0	0
241	F1	±	177	B1
242	F2	<nul>	0	0
243	F3	<nul>	0	0
244	F4	<nul>	0	0
245	F5	<nul>	0	0
246	F6	<nul>	0	0
247	F7	<nul>	0	0
248	F8	°	176	B0
249	F9	<nul>	0	0

Value	Wire Value HEX	Mapped Alias	Mapped Value	Mapped Value HEX
250	FA	<nul>	0	0
251	FB	<nul>	0	0
252	FC	<nul>	0	0
253	FD	²	178	B2
254	FE	<nul>	0	0
255	FF	<nul>	0	0

dbrestore Character Map (Arabic)

The following is an example of a `dbrestore` Character map—in this case, converting characters from ASMO 449+ to Arabic Windows 1256.

```
#this file maps from ASMO 449+ to MS 1256 code page
130 -> 233               ;e acute
131 -> 226               ;a circumflex
133 -> 224               ;a grave
135 -> 231               ;c cidilla
136 -> 234               ;e circumflex
137 -> 235               ;e umlaut
138 -> 232               ;e grave
139 -> 239               ;i umlaut
140 -> 238               ;i circumflex
147 -> 244               ;o circumflex
150 -> 251               ;u circumflex
151 -> 249               ;u grave
172 -> 161               ;arabic comma
174 –.>171               ;left double angle quote
175 -> 187               ;right double angle quote
187 –.>186               ;arabic semi colon
215 – 218 -> 216 – 219   ;tah,zah,ain,ghain
224 – 227 -> 220 – 223   ;tatweel,feh,qaf,kaf
228 -> 225               ;lam
229 – 232 -> 227 – 230   ;meem, noon, heh, waw
233 – 234 -> 236 – 237   ;alef maksura, yeh
235 – 238 -> 240 – 243  ;fathatan,dammatan,kasratan,fatha
239 – 240 -> 245 – 246   ;damma, kasra
241 -> 248               ;shadda
242 ->250                ;sukun
246 -> 161               ;arabic comma
247 => 225 194           ;lam alef with madda above
248 => 225 195           ;lam alef with hamza above
249 => 225 197           ;lam alef with hamza below
250 => 225 199           ;lam alef
# that s all
```

Sample Arabic Wire Profile

The following is an example of a wire profile for an Arabic wire service, using the map and reverse wire profile options.

```
wire    11      300-5   dummy   MIN   -   -   ;MINA service

# cat /site/wires/11
; MENA WIRE
;iNEWS 1.2 MS Codepage 1256

form    wire-arabic
bits            5
flags           pblines
start
<212><237><212><237><128><LF><128><LF><128><LF><128><LF>
<128><LF><128><LF>
reverse 0123456789 /,.
end             <228><228><228>
slug            30
accent          <bs>
form wire
flags   addheol

map                <00>    _<bs>
map             <01>    <216>
map             <02>    <CR><LF>
map             <03>    <213>
; 4 is space
map             <05>    <198>
map             <06>    <200>
map             <07>    <203>
map             <08>    <223>
map             <09>    <222>
map             <10>    <207>
map             <11>    <229>
map             <12>    <228>
map             <13>    <221>
map             <14>    <237>
map             <15>    <205>
map             <16>    <230>
map             <17>    <212>
map             <18>    <204>
map             <19>    <225><199>
map             <20>    <218>
map             <21>    <209>
map             <22>    <195>
map             <23>    <225>
map             <24>    <202>
map             <25>    <199>
map             <26>    <218>
;27 is figure shift
map             <28>    <227>
map             <29>    <211>
map             <30>    <199><225>
;31 is letter shift
map                <32>    _<bs>
map             <33>    <55>
map             <34>    <CR><LF>
;34 is new line
map             <35>    <213>
;36 is space
map             <37>    <236>
map             <38>    <50>
map             <39>    <51>
map             <40>    <223>
map             <41>    <222>
map             <42>    <54>
map             <43>    <229>
map             <44>    <228>
map             <45>    <201>
map             <46>    <236>
map             <47>    <205>
map             <48>    <53>
map             <49>    <212>
map             <50>    <204>
map             <51>    <56>
map             <52>    <47>
map             <53>    <52>
map             <54>    <48>
map             <55>    <57>
map             <56>    <49>
map             <57>    <193>
map             <58>    <218>
;59 is figure shift
map             <60>    <227>
map             <61>    <211>
map             <62>    <225>

;63 is letter shift
```

Appendix F
Environment Variables

Some features in the Avid iNEWS newsroom computer system require the system administrator to set up environment variables in the Registry of the workstations. The person responsible for setting up these variables should have a good understanding of Windows-based operating systems, and the Registry Editor program. This appendix includes the following sections:

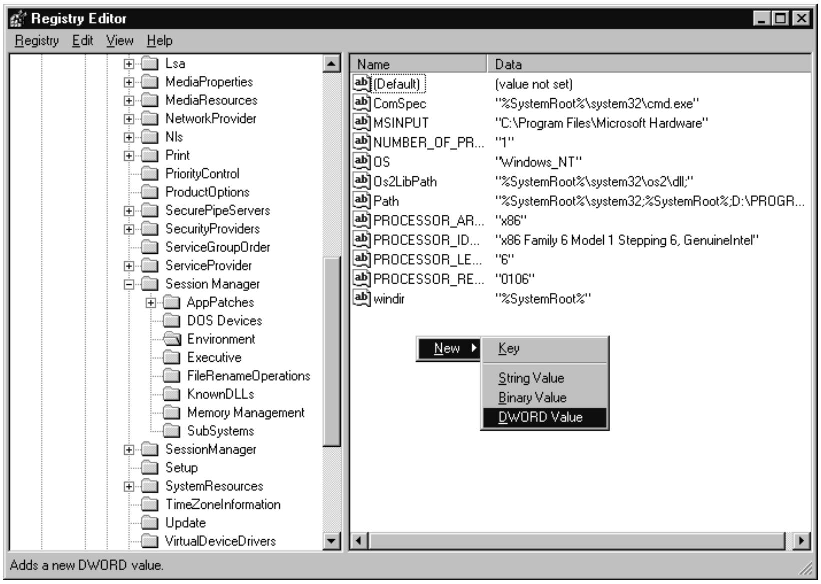
- Registry Editor
- Environment Variables (Registry Values)
- Environmental Variables for Servers

Registry Editor

The Registry Editor is used to create and define environment variables (Registry values) at each workstation.Environment Variables

To access the Registry Editor:

1. Click the Start button on the Windows Taskbar.
2. Select the Run option.
3. Type regedit in the dialog box that appears.
4. The Registry Editor window appears.



Name	Data
(Default)	(value not set)
ComSpec	"%SystemRoot%\system32\cmd.exe"
MSINPUT	"C:\Program Files\Microsoft Hardware"
NUMBER_OF_PR...	"1"
OS	"Windows_NT"
Os2LibPath	"%SystemRoot%\system32\os2\dll;"
Path	"%SystemRoot%\system32;%SystemRoot%;D:\PROGR...
PROCESSOR_AR...	"x86"
PROCESSOR_ID...	"x86 Family 6 Model 1 Stepping 6, GenuineIntel"
PROCESSOR_LE...	"6"
PROCESSOR_RE...	"0106"
windir	"%SystemRoot%"

Adds a new DWORD value.

All iNEWS newsroom computer system environment variables are set up and stored in the same location on each workstation. After opening the Registry Editor window, navigate to the following folder (also called a key).

```
HKEY_LOCAL_MACHINE\
     SYSTEM\
     CurrentControlSet\
     Control\
     Session Manager\
     Environment
```

On workstations running the Windows NT-based operating system, there are two keys with similar names:SessionManager and Session Manager. The one called Session Manager (with a space between the two words) must be used

Environment Variables (Registry Values)

Environment variables or registry values are sometimes required to set up certain iNEWS features at various iNEWS Workstations. Environment variables are located and defined in the Registry of iNEWS Workstations—that is, Windows-based PCs running the Client software. The following variables are covered in this section:

- CCColor
- DestinationOrder
- MailLookup
- MsgMailAlert
- PIColor
- ShowTimingBar
- SyncToServer
- Delete_Notify

The following sections explain how to can set up environment variables by editing the Registry using the Registry Editor.

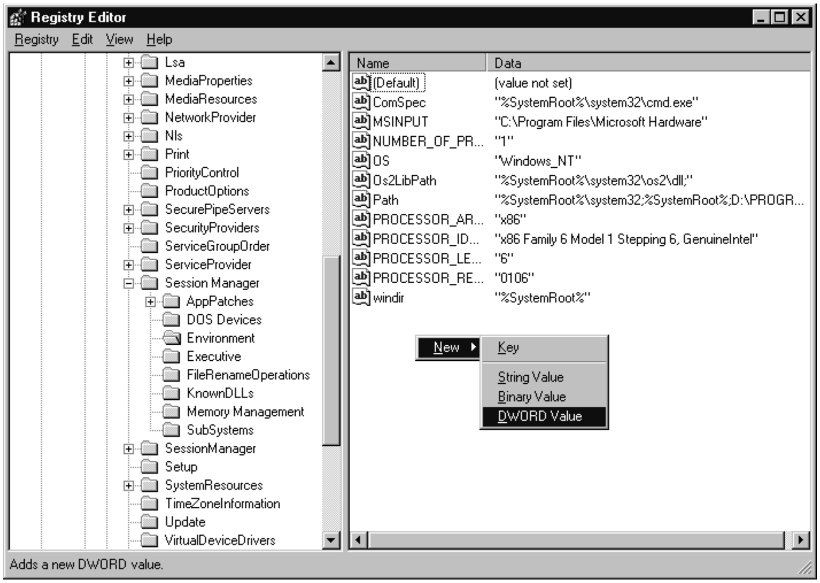
Self-importing files, called reg files, can be executed to automatically import envionment variable information into the Registry. These files with their exported registry keys, can be used on PCs running Windows NT - based operating systems. For more information on how to obtain and use these reg files, contact Avid Customer Support.

CCColor

An individual workstation can have its closed captioning text color changed via an environment variable called CCColor. If no environment variable exists, then the default color of green is used.

To change the closed captioning text color:

1. Open Registry Editor. See “To access the Registry Editor:” on page 738 for more information.
2. Navigate to the Environment key and open it.
3. Right-click on the right side of the Registry Editor window. A pop-up menu appears.

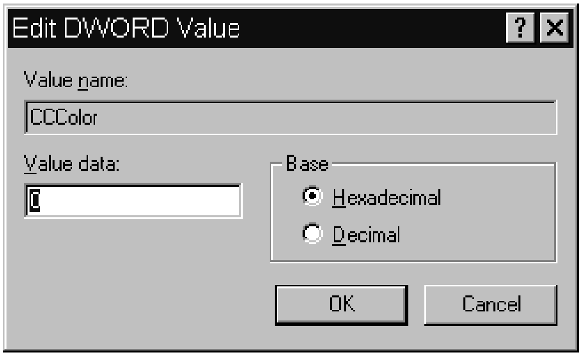


Name	Data
(Default)	(value not set)
ComSpec	"%SystemRoot%\system32\cmd.exe"
MSINPUT	"C:\Program Files\Microsoft Hardware"
NUMBER_OF_PR...	"1"
OS	"Windows_NT"
Os2LibPath	"%SystemRoot%\system32\os2\dll;"
Path	"%SystemRoot%\system32;%SystemRoot%;D:\PROGR...
PROCESSOR_AR...	"x86"
PROCESSOR_ID...	"x86 Family 6 Model 1 Stepping 6, GenuineIntel"
PROCESSOR_LE...	"6"
PROCESSOR_RE...	"0106"
windir	"%SystemRoot%"

Adds a new DWORD value.

4. Select the DWORD Value option to create and define a new Registry value of type DWORD in the Registry Editor.
5. Type the name of the new value: CCColor.
6. Press Enter.
7. To set the Value data option:
   - Right-click on the CCColor value.
   - Choose Modify from the pop-up menu.

   The Edit DWORD Value dialog box appears



Edit DWORD Value

Value name: CCColor

Value data: 0

Base: ● Hexadecimal ○ Decimal

   - Set the Value data using the following hexadecimal format:

     `0x00RRGGBB`,

     where RR, GG, BB are two bytes for each color.

The leftmost two bytes (00) are not used. Also, If the CCColor has its value set to zero (0), the closed captioning text will be black because zero corresponds to the color Black.

   - Click OK to save the setting and close the dialog box.
8. Close the Registry Editor window.

See “RGB Hexadecimal Color Chart” on page 747 for more information on possible colors used in this environment variable

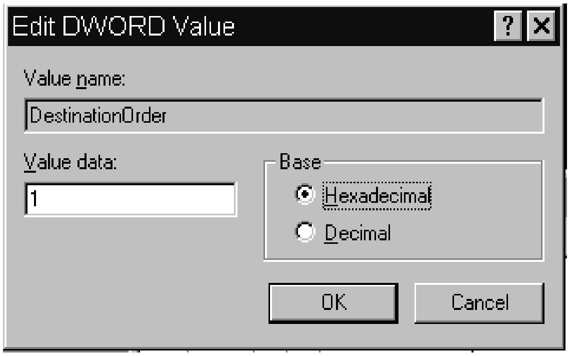
DestinationOrder

Enabling the destination order feature ensures the user's Home location is always the top item in the Destination queue list. For instance, when you duplicate a story to another queue, the user's Home location will always be the top item in the list. It also ensures the user's Destination location is the second item in the list.

To enable the destination order feature, do the following:

1. Open Registry Editor. See "To access the Registry Editor:" on page 738 for more information.
2. Navigate to the Environment key, and open it.
3. Right-click on the right side of the Registry Editor window. A pop-up menu appears.
4. Select the DWORD Value option to create and define a new registry value of type DWORD in the Registry Editor.
5. Type the name of the new value: **DestinationOrder**.
6. Press Enter.
7. To set the Value data option:
   - Right-click on the `DestinationOrder` value.
   - Choose Modify from the pop-up menu.

   The Edit DWORD Value dialog appears.



Edit DWORD Value

Value name: DestinationOrder

Value data: 1

Base
● Hexadecimal
○ Decimal

- Set the Value data. Type `0` (zero) to disable the destination order feature, or `1` to enable it.

Any number other than `1` *turns DestinationOrder off and back to its default behavior, which is to always display the last visited queue/folder as the top item in the destination list.*

- Click OK to save the setting and close the dialog box.

8. Close the Registry Editor window.

MailLookup

The iNEWS newsroom computer system provides users with an e-mail addressee name lookup feature. When used, all groups, aliases, and users that partially match characters in the To: or CC: fields are displayed in a Check Name dialog box for user selection. This is the default behavior. However, system administrators can set an environment variable that defines which matches are displayed for selection in the Check Name dialog box. Consequently, this allows system administrators to hide any groups that exist in the system for reasons other than e-mail purposes.

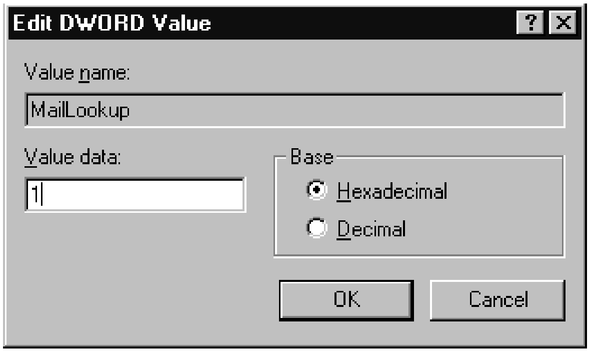
This environment variable must be created and defined in the Registry Editor at each workstation. Default behavior is used at workstations where the environment variable is not defined.

To set the environment variable:

1. Open Registry Editor. See “To access the Registry Editor:” on page 738 for more information.
2. Navigate to the Environment key, and open it.
3. Right-click on the right side of the Registry Editor window. A pop-up menu appears.
4. Select the DWORD Value option to create and define a new registry value of type DWORD in the Registry Editor.
5. Type the name of the new value: **MailLookup.**
6. Press Enter.
7. To set the Value data option:

- Right-click on the `MailLookup` value.
- Choose Modify from the pop-up menu.

  The Edit DWORD Value dialog appears.



Value name: MailLookup

Value data: 1

Base

● Hexadecimal

○ Decimal

- Set the Value data, by typing one of the following options:

  0 - (zero) show no matches

  1 - show only user matches

  2 - show only group/alias matches

  3 - show groups/aliases and user matches

  The default behavior—without the Registry value `MailLookup` defined at a workstation—is 3.
- Click OK to save the setting and close the dialog box.

8. Close the Registry Editor window.

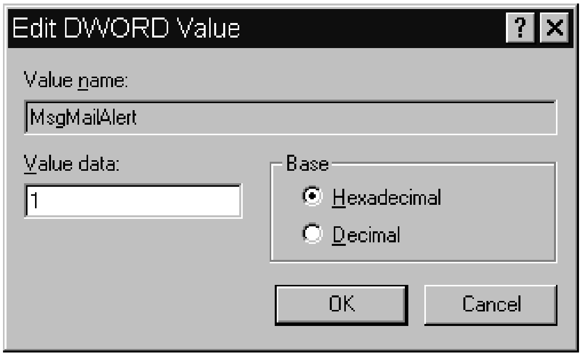
MsgMailAlert

Enabling the Message Mail Alert feature allows you to change the alert behavior so that the iNEWS Workstation will flash message and/or mail alerts on the status bar for only 15 seconds, rather than persistently. By adding the `MsgMailAlert` variable, you can specify additional settings.

To set the environment variable:

1. Open Registry Editor. See “To access the Registry Editor:” on page 738 for more information.
2. Navigate to the Environment key, and open it.
3. Right-click on the right side of the Registry Editor window. A pop-up menu appears.
4. Select the DWORD Value option to create and define a new registry value of type DWORD in the Registry Editor.
5. Type the name of the new value: **MsgMailAlert**.
6. Press Enter.
7. To set the Value data option:
   - Right-click on the `MesgMailAlert` value.
   - Choose Modify from the pop-up menu.

     The Edit DWORD Value dialog appears.



Edit DWORD Value

Value name: MsgMailAlert

Value data: 1

Base: ● Hexadecimal ○ Decimal

   - Set the Value data, by typing one of the following options:

     0 - disable - no alerts whatsoever on status bar

     1 - neither persistent - alerts flash for 15 seconds

     2 - only message alerts persistent

     3 - only mail alerts persistent

     4 - both alerts persistent - alerts will not go away until user has read all correspondence.

The default behavior—without the Registry value

MsgMailAlert defined at a workstation—is 1.

8. Click OK to save the setting and close the dialog box.
9. Close the Registry Editor window.

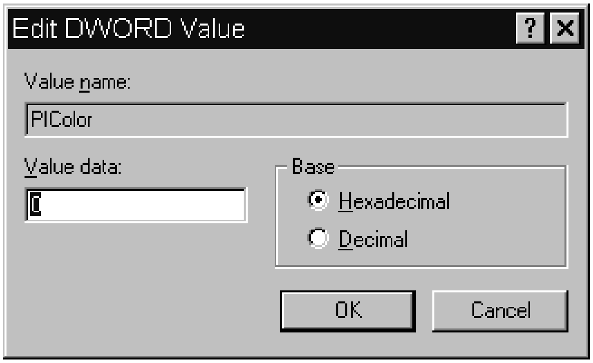
PIColor

An individual iNEWS Workstation can have its presenter instructions text color changed via an environment variable called PIColor. If no environment variable exists, then the default color of red is used.

To change presenter instructions text color:

1. Open Registry Editor. See “To access the Registry Editor:” on page 738 for more information.
2. Navigate to the Environment key, and open it.
3. Right-click on the right side of the Registry Editor window. A pop-up menu appears.
4. Select the DWORD Value option to create and define a new registry value of type DWORD in the Registry Editor.
5. Type the name of the new value: **PIColor.**
6. Press Enter.
7. To set the Value data option:
   - Right-click on the PIColor value.
   - Choose Modify from the pop-up menu.

     The Edit DWORD Value dialog box appears.



Edit DWORD Value

Value name: PIColor

Value data: 0

Base: ● Hexadecimal ○ Decimal

- Set the Value data using the following hexadecimal format:

  `0x00RRGGBB`

  where RR, GG, BB are two bytes for each color.

The leftmost two bytes (`00`) are not used. Also, If the PIColor has its value set to zero (`0`), the closed captioning text is black because zero corresponds to the color Black.

- Click OK to save the setting and close the dialog box.

8. Close the Registry Editor window.

RGB Hexadecimal Color Chart

Avid’s PIColor and CCColor environment variables require RGB Hexadecimal Color codes. The following are some basic colors, along with their corresponding hexidecimal code values:

Complete RGB Hexadecimal Color Charts, with various color shades, can be found on the Internet.

RGB Hexadecimal Color Chart

Color	Hex	Default
Black	000000	
Blue	0000FF	

Color	Hex	Default
Brown	330000	
Green	008800	(Default color for CCColor)
Orange	FF6600	
Pink	CC0099	
Purple	660099	
Red	FF0000	(Default color for PIColor)
White	FFFFFF	
Yellow	FFFF00	

ShowTimingBar

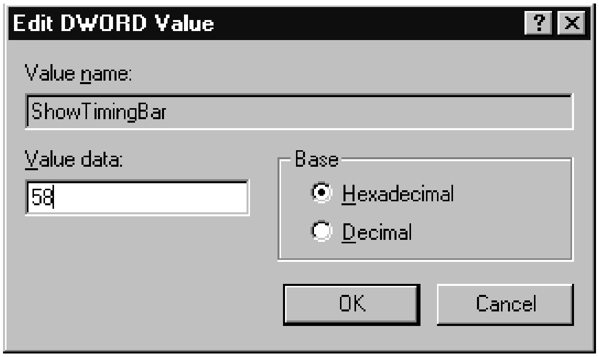
A system administrator can define which key on the keyboard is used to advance the timing bar during show timing. The default key is the space bar.

To change the setting to a different key:

1. Open Registry Editor. See “To access the Registry Editor:” on page 738 for more information.
2. Navigate to the Environment key, and open it.
3. Right-click on the right side of the Registry Editor window. A pop-up menu appears.
4. Select the DWORD Value option to create and define a new registry value of type DWORD in the Registry Editor.
5. Type the name of the new value: **ShowTimingBar.**
6. Press Enter.
7. To set the Value data option:
   - Right-click on the `ShowTimingBar` value.

- Choose Modify from the pop-up menu.

  The Edit DWORD Value dialog box appears.



Edit DWORD Value

Value name: ShowTimingBar

Value data: 58

Base

● Hexadecimal

○ Decimal

The `ShowTimingBar` Value data is determined by the Scan Code of the selected key on the keyboard. For instance, if the system administrator wants to use the F12 key to advance the timing bar, the Value data for the ShowTimingBar registry would be either the Hexadecimal code of `58` or Decimal code of `88`. See the following Scan Codes table for more information.

Scan Codes

Key	Decimal	Hexadecimal
‘ ~ (accent/tilde)	41	29
1 ! (exclamation point)	2	02
2 @ (at symbol)	3	03
3 # (pound sign)	4	04
4 $ (dollar sign)	5	05
5 % (percent)	6	06
6 ^ (carrot)	7	07
7 & (ampersand)	8	08
8 * (asterisk)	9	09
9 ((open parenthesis)	10	0A
0) (close perenthesis)	11	0B
- _ (dash/underscore)	12	0C

Key	Decimal	Hexadecimal
= + (equal/plus)	13	0D
Backspace	14	0E
Tab	15	0F
Q	16	10
W	17	11
E	18	12
R	19	13
T	20	14
Y	21	15
U	22	16
I	23	17
O	24	18
P	25	19
[{ (open bracket/brace)	26	1A
] } (close bracket/brace)	27	1B
Caps Lock	58	3A
A	30	1E
S	31	1F
D	32	20
F	33	21
G	34	22
H	35	23
J	36	24
K	37	25
L	38	26
; : (semicolon/colon)	39	27
‘ ” (accent/quote)	40	28
\ | (backslash/pipe)	43	2B
Left Shift	42	2A
Z	44	2C
X	45	2D

Key	Decimal	Hexadecimal
C	46	2E
V	47	2F
B	48	30
N	49	31
M	50	32
, < (comma/less-than)	51	33
. > (period/greater-than)	52	34
/ ? (slash/question mark)	53	35
Right Shift	54	36
CTRL (Control keys)	29	1D
ALT (Alt keys)	56	38
Spacebar	57	39
ESC (Escape key)	1	01
F1	59	3B
F2	60	3C
F3	61	3D
F4	62	3E
F5	63	3F
F6	64	40
F7	65	41
F8	66	42
F9	67	43
F10	68	44
F11	87	57
F12	88	58
INS (Insert key)	82	52
DEL (Delete key)	83	53
Home	71	47
End	79	4F
Page Up	73	49
Page Down	80	51

Key	Decimal	Hexadecimal
Up Arrow	72	48
Down Arrow	80	50
Right Arrow	77	4D
Left Arrow	75	4B
NUM (Number Lock key)	69	45
/ (divide on Numeric Keypad)	53	35
- (minus on Numeric Keypad)	74	4A
+ (plus on Numeric Keypad)	78	4E
Print Screen	55	37

SyncToServer

The timing feature of iNEWS syncronizes the clock on the local workstation with the time set on the server when a user activates show timing. A user can use the Set Clock option from the Tools drop-down menu to manually override the clock synchronization. This feature is turned off by default, but a system administrator can turn it on at any workstation by creating a new registry value in the workstation.

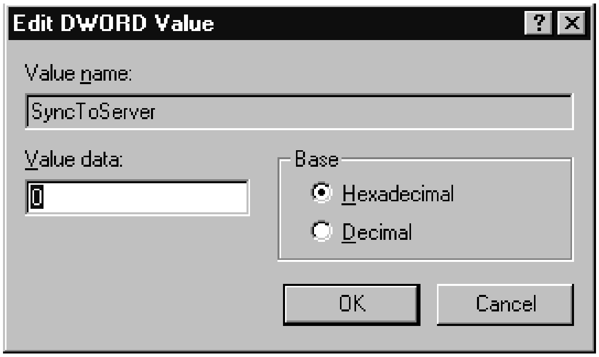
The syncronized timing feature should be enabled only at those workstations used to time a show. If the `SyncToServer` registry value is not created and defined at a workstation, then the synchronized timing feature is disabled at that workstation.

This feature is not backwards compatible to iNEWS newsroom computer system software prior to version 1.2.4. Before enabling the synchronized timing feature by creating the `SyncToServer` Registry value in any workstation, the software for both iNEWS Workstation(s) and iNEWS Server(s) must be upgraded. iNEWS newsroom computer system will issue the following message if the server does not support the sync-to-server feature: Timing synchronization failed. Not supported on this server.

To enable the syncronized timing feature:

1. Open Registry Editor. See “To access the Registry Editor:” on page 738 for more information.
2. Navigate to the Environment key, and open it.
3. Right-click on the right side of the Registry Editor window. A pop-up menu appears.
4. Select the DWORD Value option to create and define a new registry value of type DWORD in the Registry Editor.
5. Type the name of the new value: **SyncToServer.**
6. Press Enter.
7. To set the Value data option:
   - Right-click on the SyncToServer value.
   - Choose Modify from the pop-up menu.

     The Edit DWORD Value dialog box appears.



Value name: SyncToServer

Value data: 0

Base
● Hexadecimal
○ Decimal

   - Set the Value data. Type `0` (zero) to disable the synchronized timing feature, or `1` to enable it.
   - Click OK to save the setting and close the dialog box.
8. Close the Registry Editor window

Delete_Notify

When a deleted queue record was received by the rxnet utility program (from a txnet utility program on another news system) into an update queue, and the queue had a notify group associated with it, an alert was sent to the notify group with the queue name and title (slug) of the deleted entry (story). This is no different than the notification for new or modified stories entering the queue. This resulted in users wasting time searching for deleted stories that were no longer in the queue.

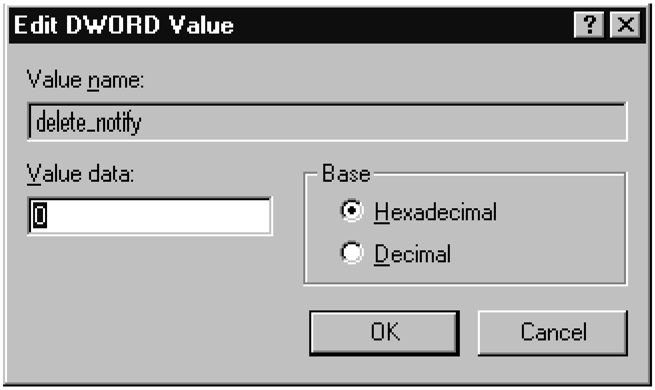
Action servers and txnet links behaved the same way as the rxnet utility program. The utility programs (servers) do not send out notifications when deleting queue entries.

As a precaution for sites which may want such notification to occur, an environment variable can be set to restore the former operation. The environment variable is defined in the workstation's Registry as `delete_notify`. It must be added in the Environment key of the Registry and should be set to a non-zero value.

To change the setting for `delete_notify`:

1. Open Registry Editor. See "To access the Registry Editor:" on page 738 for more information.
2. Navigate to the Environment key, and open it.
3. Right-click on the right side of the Registry Editor window. A pop-up menu appears.
4. Select the DWORD Value option to create and define a new registry value of type DWORD in the Registry Editor.
5. Type the name of the new value: **`delete_notify`**
6. Press Enter.
7. To set the Value data option:
   - Right-click on the **`delete_notify`** value.
   - Choose Modify from the pop-up menu.

The Edit DWORD Value dialog box appears.



Edit DWORD Value

Value name:

delete_notify

Value data:

0

Base

● Hexadecimal

○ Decimal

- Set the Value data. Set the Environment key of the Registry to a non-zero value.
- Click OK to save the setting and close the dialog box.

8. Close the Registry Editor window

Environmental Variables for Servers

You can control some of the behavior of rxnet by putting some enviroment variable settings in the `/site/env/nxserver file.`

If the `/site/env/nxserver` *file or its parent directory* `/site/env` *do not exist you need to create the directory using the* `mkdir /site/env` *command, before you can edit the file. Contact Avid Customer Support if you need assistance with this procedure.*

The specific variables are:

- RXDEBUG=<level>
- RXDEBUGFILE=<filename>
- RXSITELISTSZ=<size>
- RXSITEFORMAT=<format>
- RXSEPFIELDLIST=<filename>

- RXSITEIDLE=<seconds>
- RXOLDNLST=1

RXDEBUG=<level>

An rxdebug level of 2 produces the command traffic to/from rxnet.

RXDEBUGFILE=<filename>

The RXDEBUGFILE file allows you to cause rxnet diagnostics to be put into <filename>.<process id> instead of the console.

RXSITELISTSZ=<size>

The list size controls the number of stories included in a queue list when rxnet responds to an FTP list command. The default value for this is 300.

RXSITEFORMAT=<format>

The format controls which transfer protocol is initially used. This can be set to nsml or sep. The default is nsml. This is how you get a foreign application, such as CNN which operates in sep but did not use the FTP SITE command to change the format to sep.

RXSEPFIELDLIST=<filename>

RXSEPFIELDLIST defines a file name. That file is processed as a list of field substitutions. For instance,

```
RXSEPFIELDLIST=/site/env/substitutes
```

in the /site/env/nxserver file, rxnet inherits this variable when invoked.

The format of each line of the field substitution file is:

```
<field identifier> = <field name>
```

where <field identifier> is a single character SEP field

identifier and <field name> is a valid nsml field name. An example would be 1 = video-id. This causes the contents of the APP1 field, identified by 1, to be put into the nsml field video-id instead of the usual APP1-1.

RXSITEIDLE=<seconds>

The idle time value may be set from the client via SITE IDLE=<seconds> where <seconds> is a count of seconds. For instance:

SITE IDLE=900 sets the idle timeout to 15 minutes

SITE IDLE=0 disables the timeout

The client can query the rxnet server to find out what the current idle timeout is with `SITE IDLE`. You can also define an idle timeout value to override the localtimeout setting by inserting `RXSITEIDLE=<seconds>` in the file `/site/env/nxserver`.

You can also define an idle timeout value to override the "localtimeout" setting by inserting `RXSITEIDLE=<seconds>` in the file `/site/env/nxserver`.

`RXOLDNLST=1`

FTP clients that use the `MGET`command make an NLST request to get the list of story/file names for retrieval. The `LIST` and `NLST` commands produce the identical output, a directory listing. The `NLST` command produces a name list, that is a list of subdirectories in the directory and a list of stories id's in a queue.The iNEWS FTP Server produces a list of names without story attributes. If you want the iNEWS Server to include story attributes, put `RXOLDNLST=1` in the rxnet environment. If you do not want story attributes included, use `RXOLDNLST=0`.

The bold entires are exactly what to place in the file. Do not use an export statement after the line.

Appendix G

Managing Traits at the Console

Chapter 4, “Users” explains how the system administrator can access and change the various user traits associated with each user’s account from an iNEWS Workstation. Chapter 5 explains how to manage database traits from a workstation. Chapter 6 explains how to create groups and apply the system’s group-related features to customize the system’s security and usage from a workstation. This Appendix shows how some of the information also can be viewed and modified from the console.

This appendix contains the following main sections:

- Viewing User Traits from the Console
- Modifying User Traits from the Console
- User Traits Console Command Summary
- Changing Database Traits from the Console
- Database Traits Console Command Summary
- Managing Group Traits at the Console

Viewing User Traits from the Console

From the console, use the `list u-v` command to get user trait information. The console will display a verbose list of user accounts.

To get information about a single user, follow the command with the User ID of the specific user. For instance, if you wanted to access the user account, danielmi, the command would look like this:

```
list u-v danielmi
```

The result of the command will look something like this:

```
user      rr    kb   su   m    SOEKCVTH   sc   queues

danielmi  180   0    n    i    -OEKCVTH   sc   dest: PEOPLE.D.DANIELMI.NOTES
                                               home: PEOPLE.D.DANIELMI
                                               mail: PEOPLE.D.DANIELMI.MAIL


NRCS-A:
```

The first line of the display lists the traits; the other lines list specific values for the traits.

The following is the interpretation of the sample command results previuosly displayed:

- User `danielmi` has a read rate (rr) of 180.
- The keyboard preference (kb) is 0.
- The user is a superuser (su). The `n` means “news superuser.” A minus (-) would appear if the user is not a superuser.
- The edit mode (m) is insert.
- The traits indicated by SOEKCVTH and sc are explained in the “User Traits Summary” on page 769. See also “list u” on page 608.
- The users destination queue is `PEOPLE.D.DANIELMI.NOTES`.
- The users home directory is `PEOPLE.D.DANIELMI`.
- The users mail queue is `PEOPLE.D.DANIELMI.MAIL`.

“User Traits Console Command Summary” on page 768 shows user traits, their Console abbreviations, and detailed information about them.

Modifying User Traits from the Console

You must be a superuser or user manager (`umanager`) to change user traits. For an explanation of the superuser privileges, see Chapter 3. For an explanation of the `umanager` account and privileges, see "The User Manager Account" on page 92.

Use the `utraits` command (which requires superuser privileges) to modify a user's traits from the console. The syntax of the `utraits` command is:

```
utraits userid {trait new-value [trait new-value ...}|
{+|-flag}
```

For instance, to set the read rate for a user named Daniel Mitchell, whose User ID is `danielmi`, the command would look something like this:

```
NRCS-A# utraits danielmi readrate 195
1 user records modified
NRCS-A#
To give him superuser privileges:
NRCS-A# utraits danielmi su n
1 user records modified
NRCS-A#
To take superuser privileges away from him:
NRCS-A# utraits danielmi su -
1 user records modified
NRCS-A#
```

The blacklist trait is a flag; that is, it is either on or off. You grant flag traits with a plus sign; you take them away with a minus sign. To blacklist the user:

```
NRCS-A# utraits danielmi +b
1 user records modified
NRCS-A#
To remove him from blacklist status:
NRCS-A# utraits danielmi -b
1 user records modified
NRCS-A#
```

You can change more than one trait at a time. For instance, to give this user keyboard 3 and make SHOW.RUNDOWN his destination queue, type:

```
NRCS-A# utraits danielmi key 3 dest show.rundown
1 user record modified
NRCS-A#
```

Changing a Users' Password

To change Smith's password to `changeme`:

1. Log on as a superuser.
2. Type the `utraits` command using the following format:

   ```
   utraits <username> password <newpassword>
   ```

   For instance,

   ```
   NRCS-A# utraits smith password changeme
   1 user records modified
   NRCS-A#
   ```

Since everything you type at the console is recorded in console history, consider using the force command to require the user to change their password the next time they log in. This will help prevent someone from using passwords obtained from the console history.

For users who do not change their passwords, as instructed, use the `force` console command to require them to change passwords at their next login. The following is the force console command format:

```
force  <user or group names>
```

The most common way to use this command is to require a particular user or users to change their password the next time they log in.

For instance, suppose that you have been unable to convince Mitchell and Schofield to change their passwords. As a last resort, to require that they do so the next time they log in, log on as a superuser and type the following:

```
NRCS-A# force mitchell schofield
```

A message similar to the following appears:

```
Users who will be forced to make password changes on next login:
-----------------------------------------------------------------
mitchell   schofield
2 users qualified out of a domain of 2 users, and were updated.
```

The `force` command tells you who is going to be required to change their passwords. The example above reports that it will make both Mitchell and Schofield change their passwords.

If you find that a user does not have a password, use the force command to require the user to select a password the next time he or she logs in.

The following example uses the `force` console command to make Weisman select a new password at the next login. To do this, type the

```
NRCS-A# force weisman
```

A screen similar to the following appears:

```
Users who will be forced to make password changes on next login:
-----------------------------------------------------------------
weisman
1 users qualified out of a domain of 1 users, and were updated.
```

You can use the `force` console command to require that anyone who has not changed passwords since a certain date or within a certain date range do so. You can also use this command to force a particular group of users or all your users to change their passwords.

To do this, use the `force` console command with the following format:

```
force [-q] [passchg<date or date range>] <user or group names>
```

Normally, the `force` command tells you which users must change their passwords the next time they log in. If you would rather not see this display, suppress it with the `-q` option.

You may want to use the `force` command to require all users who last changed their passwords prior to a certain date to change their passwords the next time they log in. You can do this by specifying a date in the command, as shown in the previous format description.

The `force` command recognizes dates in the same way the `list u` console command does; you can specify relative dates, absolute dates, and date ranges. This command applies only to people who last changed their passwords within the date parameter you set.

If you specify a value for the date parameter, the `force` console command works only on those users who are among those you specify, and whose last password change falls within the criteria set by the date parameter.

For instance, the following command affects only those members of the producers group who last changed their password before July 5, 2004:

```
NRCS-A# force passchg\<05JUL2004 producers
```

To force all users to change their passwords, put a hyphen (`-`) in place of any user or group names. This is especially useful in combination with a date parameter. For instance, to force all users who last changed their passwords more than 90 days ago, become a superuser and type the following:

```
NRCS-A# force passchg\<90. -
```

A message similar to the following appears:

```
Users who will be forced to make password changes on next login:
-----------------------------------------------------------------
erickson   mccormack   arlin
3 users qualified out of a domain of 62 users, and were updated.
```

Listing Users Who Do Not Have Passwords

To check for users who do not have a password from the console, type: `list password= u`

Ensure that you include a space between the = and the u

The following command lists every user who does not have a password.

```
NRCS-A: list password= u
user                 rr   kb   su   mode  destination
weisman              0    0    -    o
```

In the previous example, there is one user, `weisman`, who does not have a password.

To find out who has not changed their password within a specified period of time, use this form of `list u`:

```
list  passchg<date>  u  [<domain>]
```

For instance, to list users who have not changed their password in the last 90 days, enter `list passchg` followed by `<` and the number of days you want to specify (90 in this case) and a period (`.`). Ending the number with a period indicates the value is in days; no period indicates hours. There must be no spaces between `passchg`, the `<`, and the number of days.

For information on users who have not changed their password within the last 90 days, type:

```
list passchg\<90. u
```

A screen similar to the following appears:

```
User    DEV   Date Created     Last Login       Last Password
------- ----  -------------    ---------------  -------------
levy    427   02JAN2004 10:50am24JUL2004 9:03am 06JAN2004 9:50am
```

As you can see in the previous example, this produces a listing with:

- Name of user
- Device where the user logged in last
- When user became a user
- Date of the last login
- Date when password was last changed

In the previous example, only user Levy has not changed passwords within the last 90 days. So, use the `send` console command to send a message reminding Levy to change passwords:

```
NRCS-A: send levy Please change your password.
```

A message similar to the following appears:

```
message sent to levy
```

Use the less than (<) and greater than (>) operators to specify whether you want to list people who last changed their password *before* (<) or *after* (>) a certain date.

When metacharacters— | & ; ( ) < > space or tab— or control operators—|| & && ; ;; ( ) | <newline> are used in a command string threy must be escaped with a backslash character.

The following are some examples:

`list passchg\<05JUL2004 u`	produces a list of all users who last changed their password before July 5, 2004
`list passchg\>10. u`	produces a list of users who have changed their password after 10 days ago (that is, within the last 10 days).

You can also use `list u` to list people who last changed their passwords sometime between two dates, such as between June 15, 2004 and July 1, 2004. You can even use this command to check a single user or a group of users.

To the afore mentioned, use this format of the `list` command:

```
list passchg\>date1\<date2 u [<user or group names>]
```

The date1 and date2 parameters are not surrounded with greater than and less than characters here as is customary for parameters. These characters are also used in the command alone, and this could cause confusion.

You must follow `passchg` with a date. This date may be a relative date, an absolute date, or a date range. Also, there must be no spaces between `passchg` and the date or date range, or the `list u` command does not work correctly.

A *relative date* is one that you specify as some time prior to the present date, as in `list passchg\<90. u`. In the previous example, we used a relative date to find out which users had last changed their password prior to

90 days ago. Remember, ending the number with a period (`.`) indicates that the value is in days; no period indicates hours.

An *absolute date* specifies an actual calendar date. In the following example, we use an absolute date to find out which users last changed their passwords before August 5, 2004, by typing the following:

```
list passchg\<05AUG2004 u
```

Information similar to the following appears:

```
User    DEV   Date Created     Last Login       Last Password
------- ----  ------------     ---------------  -------------
mitchell495   02JAN2004 10:55am24JUL2004 9:00am 07JAN2004 9:50am
```

You must specify absolute dates in `DDMMMYYYY` format. You must enter the days in double-digit format, meaning you must add a leading zero to single digit days, such as `05`. Also, you must enter months as they are defined in the Words dictionary.

You can also specify a date range. This way, you can list users who changed their passwords sometime between two specific dates (`date1` and `date 2`). For instance, to see if anyone changed their password after August 1, 2004, and before August 15, 2004, type the following:

```
list passchg\>01AUG2004\<15AUG2004 u
```

Information similar to the following appears:

```
User    DEV   Date Created     Last Login       Last Password
------- ----  ------------     ---------------  -------------
loyd    433   02JAN2004 11:50am25AUG2004 9:01am 05AUG2004 9:05am
```

You can also use `list u` to check on particular users or groups. To do this, follow the `u` in the command with user names or groups you want to check.

For instance, suppose that of all your users, only Mitchell and Schofield regularly forget to change their passwords. To see if they have not changed their passwords in the last 90 days, type the following:

```
list passchg\<90. u mitchell schofield
```

Information similar to the following appears:

```
User    DEV  Date Created     Last Login       Last Password
------- ----  -------------    ---------------  -------------
mitchell495  02JAN2004 10:55am24JUL2004 9:00am 07JAN2004 9:50am
```

This causes `list u` to report only on Mitchell and Schofield, and only if they have not changed their passwords within the specified period of time. In the example above, Mitchell has not changed his password in the last 90 days, but Schofield has.

If you specify a group, such as producers, `list u` checks members of that group and then reports those that have not changed their passwords in the specified period of time.

Once you have set a policy on how often people must change their passwords, use `list u` regularly to ensure that no one forgets to do this within the prescribed period of time. If one or more users do not change their passwords often enough, use the `force` command to force them to do so. See "Changing a Users' Password" on page G-762 for more information.

User Traits Console Command Summary

The following User Traits Summary table is a summary of iNEWS user traits. The first column shows the trait name as it appears in the Modify User Account dialog box, which is explained in detail in Chapter 4. See "Modify User Account Dialog Box" on page 4-63 for more information. The second column lists actual commands for assigning or removing each trait. The third column contains an explanation of the trait and example of utraits console command lines.

User Traits Summary

Name in Modify User Account dialog box	Utrait Console Command	Definition / Example
Superuser	`su n	su -`	The user has superuser privileges.
Blacklisted	`+b |-b`	The user cannot log in to the iNEWS system.

Simplified	`+s |-s`	The user has limitations, as defined by the Simplified User Settings.
		Examples:
		`utraits palmer su n`
		`utraits palmer su -`
		`utraits palmer +b`
		`utraits palmer +s`

Insert	`editmode i`	Everything the user enters in a story is inserted at the current cursor position, moving the following text over. Example: **`utraits palmer editmode i`**
Overwrite	`editmode o`	Everything the user enters in a story overwrites the character under the cursor. This is the default. Example: **`utraits hansen editmode o`**
Home	`home`	Sets the user's home directory, which usually contains the user's Mail and Notes queues. Example: **`utraits loyd home people.l.loyd`**

Name in Modify User Account dialog box	Utrait Console Command	Definition / Example
Destination	`destination`	Specifies the user's destination, which is usually a queue he or she uses frequently, such as the Notes queue. Example: **`utraits loyd destination people.l.loyd.notes`**
Mail	`mail`	Specifies the user's Mail queue, where any mail addressed to that user is placed. Example: **`utraits loyd mail people.loyd.mail`**
Read Rate	`readrate`	The user's spoken reading rate in words per minute. The system uses the readrate of the designated presenter to determine the audio (air) time of a story. Example: **`utraits vandenberg readrate 180`**
User Name	`realname`	The user's real name (as contrasted with their account's User ID name). For instance, John Chapman may have a User ID of `jchapman`; his real name is John Chapman.
Video Browse	`+vb | -vb`	Specifies user can search the video server. Example: **`utraits palmer +vb`**

Name in Modify User Account dialog box	Utrait Console Command	Definition / Example
Broadcast Control	`+td | -td`	Enables the user to employ the technical director's workstation for broadcast control. Example: **`utraits miller +td`**
Connect Services	`+C | -C`	Allows user to connect to any service defined in the system. Example: **`utraits smith +C`**
Toolbars	`+cs | -cs`	Allows users to create custom toolbars. Example: **`utraits carver +cs`**
Color Highlights	`+cc | -cc`	Allows users to configure custom status colors. Example: **`utraits bagley +cc`**
Highlight Read Stories	`+hr | -hr`	Specifies that unread stories in the queue are highlighted on the user's screen. Example: **`utraits davis +hr`**
Reorder Stories	`+o | -o`	Specifies that user can create and remove stories from a folder or queue. Example: **`utraits lumpkin +o`**

Name in Modify User Account dialog box	Utrait Console Command	Definition / Example
Create/Kill Folders/Queues	`+er | -er`	Specifies that user can create and remove entire folders and queues. Example: **`utraits delany +er`**
Kill All Stories	`+ka | -ka`	Specifies that user can select an entire queue and move stories in it to the Dead queue. Example: **`utraits richards +ka`**
Password button	`password`	Provides capability to change the user's password. Example: **`utraits jordan pass changeme`**
Force Change check box	`force`	Specifies that user will be forced to change his/her password the next time he or she logs in. This command line does not require `utraits` typed in front of it, as shown below. Example: **`force jordan`**
User Preferences button; Sessions tab; Keyboard field	`key ###`	Assigns a default keyboard (set of macros) to the user account. Example: **`utraits vandenberg key 048`**

Managing Database Traits from the Console

Getting Basic Information

To obtain information about a particular queue or directory from the console, type list d, followed by the name of the directory or queue.

For instance, to obtain information about the WIRES.ALL queue, type:

```
list d wires.all
```

information similar to the following appears:

```
SRPlo-LIsUGQSXWFiT sortfield purge dis mbox directory
-R-----I---Q-X----  TITLE P4.0 D1          - WIRES.ALL
```

A trait listing begins with a header line containing the letters `SRPlo-LIsUGQSXWFiT`; each letter in the header line represents a particular database trait. That is, in the previous example, the second letter in the header line (an `R`) stands for the database trait Read-only.

When one of these traits is on, the letter representing that trait appears in the second line. For instance, the `R` in the second line of the example indicates the Read-only trait is on:

```
SRPlo-LIsUGQSXWFiT sortfield purge dis mbox directory
-R-----I---Q-X----  TITLE P4.0 D1          - WIRES.ALL
```

A hyphen in the second line indicates that trait identified above it is off. For instance, the first trait in the header, an `S`, represents a sequentially ordered directory or queue. Because the second line has a hyphen below the Sequential trait indicator (the `S`) means that `WIRES.ALL` is alphabetically, rather than sequentially, ordered.

Another trait indicated as “on” for `WIRES.ALL` is the one represented by the letter `I`. This trait is Inverted, which means this queue displays the most recent stories at the top.

```
SRPlo-LIsUGQSXWFiT sortfield purge dis mbox directory
-R-----I---Q-X---   TITLE P4.0 D1          - WIRES.ALL
```

See “Database Traits Summary” on page 120 for more information.

Getting Detailed Information

To obtain a more detailed information about a directory or queue, add the verbose command, such as list d-v followed by the queue or directory name.

For instance, to list information about the queue called `RUNDOWNS.5PM`, type:

```
list d-v rundowns.5pm
```

A screen similar to the following appears:

```
SRPlo-LIsUGQSXWFiT sortfield purge ap,al, as  dis mbox
RUNDOWNS.5PM:
QSRP-----U-Q------ TITLE   P0    A000,000,000 D1  220
     rg=castread wg=castwrite ng=-
queue form=MCS-RUNDOWN story form=MCS-RUNDOWN
```

The first letter (`Q`) in the line under the queue name indicates that `RUNDOWNS.5PM` is a queue.

The `ap` near the end of the header line stands for Abstract Printer. This trait indicates which printer your system uses to automatically print abstracts for this queue.

The `al` that follows `ap` stands for Abstract Lines. This trait controls whether or not abstracting is done, and, if it is done, how many lines of each story are printed.

Changing Database Traits from the Console

To change a database trait from the console, you must use the `dbtraits` command. The general format is:

```
dbtraits pathname [only][option value][+mode][...]
[-mode][...]
```

Database traits come in two types: options and modes.

- Options accept a range of values, such as setting 18 hours for a queue's purge interval.

  ```
  dbtraits rundowns.5pm purge 18
  ```

- Modes are traits that are either assigned or not—that is, they are either turned on or off. A trait preceded by a plus (+) turns a mode on. A trait preceded by a minus (-) turns it off. The following is an example:

  ```
  dbtraits rundowns.5pm +p
  ```

You can change several traits at the same time. For instance, the following command changes the queue to read-only status and also assigns the wires story form and the wires queue panel form to it:

```
dbtraits wires +r sform wires qform wires
```

Changing a Parent Directory Only

When you change a directory's traits at the console, `dbtraits` also applies your changes to any subdirectories or queues in that folder. You can restrict your changes to the parent directory by following the directory name with the word `only`.

This is the opposite of the way traits are assigned using the iNEWS Workstation. See "Viewing Database Traits" on page 110 for more information.

For instance, to turn on the Scripts directory's Sequential trait (`+s`) without also turning it on for any of the Scripts subdirectories or queues, type:

```
dbtraits scripts only +s
```

Database Traits Console Command Summary

The following Database Traits Summary table is a summary of iNEWS database traits, (`SRPlo-LIsUGQSXWFiT`) as seen and used in connection with the `dbtraits` command at the console. These traits may also appear in a GUI format at the iNEWS Workstation. See “Database Traits Summary” on page 120 for more information.

Database Traits Summary

Name	Location in Display SRPlo-LIsUGQSXWFiT	Mode / Option Keyword	Definition / Example
Sequential	`SRPlo-LIsUGQSXWFiT` `S----------------`	`+s|-s`	Lists directories or queues in the order in which they were created. (The default is alphabetical.) To order the `RUNDOWN.5PM` sequentially: **`dbtraits rundown.5pm +s`**
Read Access	`SRPlo-LIsUGQSXWFiT` `-R---------------`	`+r|-r`	Indicates whether or not stories in the queue are in read-only mode. To set the `SHOW.5PM.SCRIPTS` queue to read-only mode, type: **`dbtraits show.5pm.scripts +r`** When this mode is turned off, users opening stories have them in edit-lock mode. This is the logical setting for any queue in which people will be changing stories. Turn Read Access on for queues in which people are likely to read but not change the stories.

Name	Location in Display SRPlo-LIsUGQSXWFiT	Mode / Option Keyword	Definition / Example
Printable	`SRPlo-LIsUGQSXWFiT` `--P---------------`	`+p|-p`	Indicates whether you can use the print command on all stories in the queue with a single command when systen printing. To enable users to print all stories in the `SHOW.5PM.SCRIPTS` queue with a single command: **`dbtraits show.5pm.scripts +p`** This trait does not interfere with your use of the `print story` or `print script` commands on individual stories in the queue.

	Location in Display	**Mode / Option**	
Name	**SRPlo-LIsUGQSXWFiT**	**Keyword**	**Definition / Example**
Queue Being Ordered	`SRPlo-LIsUGQSXWFiT` `---lo-------------`	`-o`	This is an indicator, rather than database traits. It indicates the queue’s order status. **`l`** indicates that the queue is currently order locked to prevent more than one user from reordering stories in a queue at the same time. To find out who is ordering a queue, read the `Busy` error message you get when you try to order the queue. If no one is actually ordering the queue, then it has an invalid order lock on it. **`o`** indicates the queue was once sorted, but has since been ordered. When a sorted queue is ordered, the system stops sorting stories as they enter the queue. To indicate that a sorted queue has been ordered, the system replaces `sorted` on the screen with `order`. The dbtrait command `-o` can be used to remove the ordered attribute (indicator) and make the queue resume sorting from the console. There is no `+o` to apply the ordered attribute. See “Starting the Queue Sort Function from the Console” on page 786 or “Starting the Queue Sort Function” on page 128 for more information. To find out who last ordered the `SHOW.5PM.SCRIPTS` queue: **`list d-o show.5pm.scripts`**

Name	Location in Display SRPlo-LIsUGQSXWFiT	Mode / Option Keyword	Definition / Example
Locked Queue	`SRPlo-LIsUGQSXWFiT` `------L-----------`		Not a database trait; indicates a user has locked the queue. Only a superuser or someone who knows the correct key for the lock can remove it. To find out who last locked the `SHOW.5PM.SCRIPTS` queue: **`list d-u show.5pm.scripts`**
Inverted	`SRPlo-LIsUGQSXWFiT` `-------I----------`	`+i|-i`	Indicates whether or not stories in a directory or queue will be displayed with the most recent one at the top. To display stories in the `WIRES.ALL` queue, with the most recent one at the top: **`dbtraits wires.all +i`**
Sorted	`SRPlo-LIsUGQSXWFiT` `--------s---------`	`+so|-so`	Indicates whether or not the stories in a queue will be sorted by a form field you choose (usually the title field). To turn on the sorted trait for the `SHOW.5PM.SCRIPTS` queue: **`dbtraits show.5pm.scripts +so`**

Name	Location in Display SRPlo-LIsUGQSXWFiT	Mode / Option Keyword	Definition / Example
Update	SRPlo-LIsUGQSXWFiT ---------U--------	+u|-u	Indicates whether or not stories in a queue will be replaced as new versions are moved or copied to it. To indicate that stories in SHOW.5PM.SCRIPTS should be replaced as new versions are moved or copied to it: **dbtraits show.5pm.scripts +u** The update trait does not affect stories that are restored from tape. If you restore a story to a queue that already contains a version of that story, you will have two versions of the same story, even if the queue's update trait is on.
General	SRPlo-LIsUGQSXWFiT ----------G-------	+g|-g	Indicates whether or not stories in a queue should retain their security restrictions when they are moved to another queue. For instance, access to stories in the Dead queue would normally be unrestricted. To prevent people from opening restricted stories once they are moved to the Dead queue: **dbtraits dead +g**

Name	Location in Display SRPlo-LIsUGQSXWFiT	Mode / Option Keyword	Definition / Example
Queue Operations Allowed	SRPlo-LIsUGQSXWFiT -----------Q------	+q|-q	Indicates whether or not the kill, move, or duplicate operations can be performed against an entire queue. Setting the trait “off” for a particular queue does not affect the ability of people to kill, move, or duplicate individual stories in the queue, as long as they have appropriate permissions. To allow users to kill, move, or duplicate the entire `SHOW.5PM.SCRIPTS` queue: **`dbtraits show.5pm.scripts +q`**
Save Version	SRPlo-LIsUGQSXWFiT ------------S-----	save -|n|o|a	Determines how many old story versions are retained in each queue. To save only the last version of the People directory (this is the default) use: **`dbtraits people save -`** To save no version use: **`dbtraits people save n`** To save only the original version use: **`dbtraits people save o`** To save all versions use: **`dbtraits people save a`**
Skip	SRPlo-LIsUGQSXWFiT -------------X----	+x|-x	Indicates whether or not a directory or queue is left out of database backups. To leave the Dead queue out of the database backup procedure: **`dbtraits dead +x`**

Name	Location in Display SRPlo-LIsUGQSXWFiT	Mode / Option Keyword	Definition / Example
Watch Append	SRPlo-LIsUGQSXWFiT --------------W---	+w|-w	Assigned to queues that receive data from wire services. It allows the queue to monitor for new stories sent by the wire service, appends them to the wire queue, and immediately displays them to users who have that wire queue open. While this trait can be applied to any queue in the iNEWS newsroom computer system, it is crucial that it be assigned to queues receiving data from wire services. For instance, the command to assign Watch Append to the WIRES.ALL queue is: **dbtraits wires.all +w**
Forms Allowed	SRPlo-LIsUGQSXWFiT- ---------------F--	+f|-f	Must be assigned to all queues in the forms directory. The forms will not work without this database trait applied. Additionally, this trait can be assigned to any queue in the database, but is usually only assigned to other queues that receive stories from other systems via rx/tx and then build forms for those stories, as needed. For instance, the command to assign the forms allowed trait to the SYSTEM.FORMS.R queue is: **dbtraits system.forms.r +f**
Index	SRPlo-LIsUGQSXWFiT ----------------i-	+index| -index	Assigned to queues and directories that you want to be indexed by the Fast Text Search (FTS) server. Allows for quicker searching of the queue or directory. For instance, the command to assign this trait to the WIRES.ALL queue is: **dbtraits wires.all +index**

Name	Location in Display SRPlo-LIsUGQSXWFiT	Mode / Option Keyword	Definition / Example
Sortfield SRPlo-LIsUGQSXWFiT sortfield Q---------------- Title		sortfield	Indicates which form field a sorted queue is sorted by. See “Sortfield” on page 785 for more information. When the sortfield is on, all the stories in the queue are sorted. When used on a large queue, the command prompt and control will not be returned until the entire queue is sorted. This may take a long time dependin on the size of the queue.
Purge Interval		purge	Indicates the “age” stories in a queue can reach before they are purged. See “Purge Interval” on page 787 for more information.
AbstractPrinting		ap|as|al	Indicates whether or not a queue is an abstract printing queue. See “Abstract Printer” on page 789 for more information.
Display Lines/Refresh		dis /+|- refresh	Indicates how many lines of each story in the queue are displayed. See “The dis Column” on page 791 for more information.
Queue Form		qform	The form used to display information in the Queue panel. Fields selected should be a sub-set of fields used in the story form. A field included in the queue form that does not actually exist in the story form cannot be written to in the Queue panel. In this example the rundown form is assigned as the queue form to the SHOWS.6PM.RUNDOWN queue: dbtraits show.6pm.rundown qform rundown

Name	Location in Display SRPlo-LIsUGQSXWFiT	Mode / Option Keyword	Definition / Example
Story Form		`sform`	Indicates the form assigned to be used in the Story Form panel (of the Story panel) to display form fields. In this example the futures form is assigned as the story form to the `ASSIGNMENTS.TODAY` queue: dbtraits assignments.today sform future
Change Form		`cform`	Changes the story form assignment for previously existing stories within a queue, and restamps them with a new form name. The following example would change the way stories in the 6 o'clock show would appear, reassigning them to be displayed using a newly designed rundown form. Example: dbtraits show.6pm.rundown sform rundown-new cform For this to take effect, you need to log out and log back in again.
Strip Form		`stripform`	Removes embedded form display information from stories. Forms allowed queues stamp the look of the story form into the story. Assigning a different story form to one of these queues and running `changeform` on the queue would not affect the look of stories with embedded forms. You would need to strip the embedded "look" out of the story so it would then appear using the form assigned to that queue.

Name	Location in Display SRPlo-LIsUGQSXWFiT	Mode / Option Keyword	Definition / Example
Mailbox	`mbox`	`mail`	Indicates mailbox assigned to the queue. See “Mailbox” on page 790 for more information.
Groups	`wg= rg= ng=`	wg|rg|ng	Assigns a write, read, or notify group to queue or directory. Here are a few examples: **dbtraits show.5pm rg=castread dbtraits show.5pm wg=producers** **See “Managing Group Traits at the Console” on page 793 for more information.** See “Groups” on page 793 for more information.
Text Timing Clocks	`SRPlo-LIsUGQSXWFiT` `-----------------T`	`+t | -t`	Turns on the Text Timing Clocks, which appear in the Story Text panel. They are: TTC - Time to cursor BLK - Time of blocked (highlighted) text EST - Estimated read time of entire story To turn on these clocks in the `RUNDOWN.5PM`: **`dbtraits rundown.5pm +t`**

Sortfield

The format of the `sortfield` information is:

SRPlo-LIsUG-QSXWFiT **sortfield**

```
Q--------------- TITLE
```

This trait shows by which form field a sorted queue is sorted. A letter representing the form field appears in this position in the trait listing. A hyphen (-) here means that no sort field has been set. The system automatically uses the title field as the sort field.

This trait also determines which form field the computer searches during fast finds. In addition, the cursor is placed on this form field when a user displays stories in a queue.

Do not confuse this trait with the sorted queue trait, which determines whether the queue is sorted at all.

Changing a Queue's Sort Field

Perform this procedure at a time of low system usage, because the `dbsort` command can impair system performance while it is running.

To change a queue's sort field from the console:

1. Esure no users are in the queue.

   Changing a queue's sort field does not affect what is seen by users already in the queue. If they try to use a displayed out-of-date sort field, it could cause confusion.

2. Use `dbtraits` to set the queue's sort field.

   ```
   dbtraits <queue name> sortfield <field name>
   ```

   If the queue is not already sorted, include `+so` at the end of the command to turn on its sorted trait.

   For instance:

   ```
   dbtraits rundowns.5pm sortfield page-number +so
   ```

Turn on the sorted option (**+so**) before allowing users to re-enter the queue.

Starting the Queue Sort Function from the Console

You can use the console to restore a ordered queue to its original sorted state and restart sorting in one of two ways:

- Use the `dbsort` command

- Use the `dbtraits -o` command

To restart sorting at a queue using the `dbsort` command:

1. Type the `dbsort` command and the queue name you want to sort. For instance:

   `dbsort rundowns.5pm`

2. Press Enter. Something similar to the following appears:

   ```
   Sorting: <RUNDOWNS.5PM>
   ```

If the queue has a write group assigned to it, you must be a console superuser to use `dbsort`. Otherwise, you will see something like this:`RUNDOWNS.5PM Write group producers NOT sorted.`

To restart sorting at a queue using the `dbtraits -o` command:

1. Type the `dbtraits` command, the queue name you want to sort, and `-o`. For instance:

   `dbtraits rundowns.5pm -o`

2. Press Enter.

Using either the `dbsort` or the `dbtraits` command turns off the ordered attribute, allowing the queue to resume sorting, as indicated by the sort trait.

Purge Interval

The format of the `purge` information is:

```
 SRPlo-LIsUGQSXWFiT sortfield    purge dis mbox directory
Q-RP----I---QSXW--- TITLE       P3.0    D1  -    WIRES.ALL
```

The `purge` column in the `list d` output displays the directory or queue's purge interval, preceded by `P`. The purge interval determines how old stories in a queue can get before they are purged. Every hour, your system removes any stories older than their queue's purge interval and places these stories in the Dead queue. This process frees up space in your database for new stories.

You can set a purge interval as days or hours, or a combination of both. You distinguish between hours and days by using a decimal point.

To enter hours, type the number of hours, such as `24`.

To enter the purge interval in days and hours, type the number of days, a period, and the number of hours, such as `2.12`.

To set the purge interval in days, type the number of days followed by a period (for instance, `90.`). A purge interval of zero means the queue is never purged.

To set a queue's purge interval, use:

```
dbtraits  <queue name>  purge  <purge interval value>
```

For instance, to give all queues in the Wires directory a purge interval of two days, type:

```
dbtraits wires purge 2.
```

To list all queues in the database with a purge interval, use:

```
list  purge=<purge interval>   d
```

To list all queues in a directory with a purge interval, use:

```
list  purge=<purge interval>  d  [<directory name>]
```

Abstract Printing

Abstract printing is only for system printing.

This group of traits controls whether or not a queue is an abstract printing queue. When a story is added to or modified in an abstract printing queue, the system automatically prints a portion of the story. Using these traits, you can control how much of each story is printed and the print style used to print the story.

Abstract printing is controlled by the following traits:

- Abstract Printer
- Abstract Lines
- Abstract Style

To list a queue's abstract printing traits, type **`list d-a`** followed by the queue name. For instance, to list the abstract traits of `WIRES.STATE`, type:

```
list d-a wires.state
```

A display similar to the following appears:

```
 SRPlo-LIsUGQSXWFiT sortfield    ap,  al, as   dis directory
Q------------------ TITLE        A000,000,000  D1  WIRES.STATE
```

The three abstract printing traits appear toward the middle of the listing under the headings `ap`, `al`, and `as`. There is no abstract printing facility for local printing.

Abstract Printer

The abstract printer trait indicates which system printer your system uses to automatically print abstracts for this queue. There is no abstract printing facility for local printing. To select a printer, set this trait to the printer number you want to use. (This is the same number you would use to select that printer in a `print` command.) Use this form of `dbtraits`:

```
dbtraits  <queue name>  ap  <printer number>
```

For instance, to set `WIRES.STATE` to print abstracts on printer 1, type:

```
dbtraits wires.state ap 1
```

The format of the `abstract printer` information is:

```
 SRPlo-LIsUGQSXWFiT sortfield    ap,  al, as   dis directory
Q------------------ TITLE        A000,000,000  D1  WIRES.STATE
```

To list all queues in the database that have a particular abstract printer value, use:

```
list  ap=<printer number> d
```

Abstract Lines

The abstract lines trait controls whether or not abstracting is done and, if it is done, how many lines of each story are printed.

Both `ap` and `al` must be non-zero for abstract printing to be enabled.

To set this trait, use:

```
dbtraits  <queue name>  al  <abstract lines value>
```

For instance, to set `WIRES.STATE` to print 10-line abstracts, type:

```
dbtraits wires.states al 10
```

If you do not want the queue to be an abstract printing queue, set this trait to zero. Otherwise, set this trait to the number of lines you want printed for each story. You can select a number of lines between 1 and 125. A value of 126 prints the entire story in script form. Setting abstract lines to 127 prints the entire story in story form.

Zero is the default value for this trait, which means the queue is not set up to print abstracts.

The format of the `abstract lines` information is:

```
 SRPlo-LIsUGQSXWFiT sortfield    ap,  al, as   dis directory
Q------------------ TITLE        A000,000,000  D1  WIRES.STATE
```

Abstract Style

The abstract style trait indicates the print style your system uses when it prints an abstract from this queue. To choose a style, set this trait to the number representing the style you want. To list all queues in the database that have a particular abstract style value, use:

```
list  as=<style number>  d
```

To set this trait, use:

```
dbtraits  <queue name>  as  <abstract style value>
```

For instance, to set `WIRES.STATE` to print abstracts with style 3, type:

```
dbtraits wires.states as 3
```

You can select any style defined in `SYSTEM.STYLES`.

The format of the `abstract style` information is:

```
 SRPlo-LIsUGQSXWFiT sortfield    ap,  al, as   dis directory
Q------------------ TITLE        A000,000,000  D1  WIRES.STATE
```

Mailbox

If a mailbox is assigned to a queue, the number representing that mailbox appears in the `mbox` column of the `list d` display.

The format of the `mailbox` information is:

```
 SRPlo-LIsUGQSXWFiT sortfield    purge dis mbox directory
Q-RP----I---QSXW--- TITLE        P3.0    D1  -    WIRES.ALL
```

To list all queues in the database with a particular mailbox, use:

```
list  mail=<mailbox number>  d
```

To assign a mailbox to a queue, use:

```
dbtraits  <queue name>  mail  <mailbox number> | <reserved
mailbox name>
```

For instance to assign mailbox 103 to the queue WIRES.KEYWORDS.HOCKEY, type:

dbtraits wires.keywords.hockey mail 103

The dis Column

The dis column of the list d output represents two traits in one column: the preview lines trait (formerly known as display lines) and the refresh trait.

The format of the preview lines information at the console is:

```
 SRPlo-LIsUGQSXWFiT sortfield    purge dis mbox directory
Q-RP----I---QSXW--- TITLE       P3.0    D1  -    WIRES.ALL
```

The preview lines trait applies to lines previewed in the Queue panel of the iNEWS Workstation. To see an example of preview lines at the workstation, see “Preview Lines” on page 76. The value of a queue’s preview lines trait controls how many lines of each story in the queue are displayed. The number in the dis column indicates the preview lines setting. You can have a queue display as few as one line of each story or as many as 23 lines.

The second trait, refresh, is also listed under dis. Refresh controls whether the system automatically updates your screen if you view a queue someone else is changing. If the number under dis begins with a D, the queue is not refreshed automatically; if it begins with an R, it is refreshed automatically.

Preview Lines

To change the value of a queue’s preview lines trait, use:

```
dbtraits  <queue name>  dis  <number of lines>
```

Because screens can display a maximum of 22 lines of a story at a time, that is the maximum value used with this trait. The minimum value is `0`, which would show no preview lines.

For instance, to give `SHOW.RUNDOWNS` a one-line display, type:

```
dbtraits show.rundown dis 1
```

`SHOW.RUNDOWNS` now has a one-line-per-story display.

In a one-line display, the first line on the screen is the top line of the form assigned to that queue. The next 22 lines in the queue display the second line of each story's form. Queues that display more than one line per story begin with the top line of each story's form.

Choosing a value for a queue's display lines trait depends on which is more important: displaying as many stories as possible at one time, or showing a large portion of each story.

For instance, in a rundown queue it is important to display as many stories on the screen at a time as possible, so the display lines trait is usually set to one line per story.

In queues where people often browse (such as those in the Wires directory), display a small part of each story.

Stories in a queue display are usually separated by a blank line. The only exception is any queue that displays one line per story, such as a rundown queue. Stories in these queues are not separated from each other.

Type the `display` command to temporarily change the number of lines displayed per story for a queue you are viewing. This change applies only to a single user's workstation and lasts only while the queue is being viewed.

Refresh

To set the queue refresh trait at the console, use:

```
dbtraits  <queue name>  [+refresh | -refresh]
```

To turn on this trait for a queue, use `+refresh`; to turn it off, use `-refresh`. For instance, to turn on the refresh trait in `RUNDOWNS.5PM`, type:

```
dbtraits rundowns.5pm +refresh
```

Queues with refresh turned on display `R` in the preview lines column of `list d` output.

Use this trait only on important queues, like rundowns, that more than one person may modify simultaneously. This allows everyone working on that rundown to immediately see changes made by others.

To automatically refresh a queue, your system must spend a long time monitoring workstations where users are viewing that queue. Using the refresh option on too many queues simultaneously greatly increases the amount of work your system has to do and may severely degrade its overall performance.

Managing Group Traits at the Console

Groups

There are three primary group traits used to apply groups to queues and directories in the database: Read, Write, and Notify.

The `list d-v` console command lists each queue's assigned read, write, and notification groups. These groups restrict who can read or write stories in the queue and indicate who is notified when stories change in it. Each group is explained individually in the following sections.

To list group information for a queue at the console, use:

```
list  d-g  <queue name>
```

To list all queues in the database with a particular group assigned as their read, write, or notification group at the console, use:

```
list  rwng=<group name>  d
```

Read Group

To set a queue's read group, use:

```
dbtraits  <queue name>  rg  <group name>
```

For instance, to assign a read group of producers to the queue `SHOW.5PM`, type:

```
dbtraits show.5pm rg producers
```

To list all queues in the database with a particular group assigned as their read group, use:

```
list  rg=<group name>  d
```

Write Group

To set a queue's write group, use:

```
dbtraits  <queue name>  wg  <group name>
```

For instance, to assign a write group of producers to the queue `SHOW.5PM`, type:

```
dbtraits show.5pm wg producers
```

To list all queues in the database with a particular group assigned as their write group, use:

```
list  wg=<group name>  d
```

To list all queues in the database with a particular group assigned as their read or write group, use:

```
list  rwg=<group name>  d
```

Notify Group

To set a queue's notification group, use:

```
dbtraits  <queue name>  ng  <group name>
```

For instance, to assign a notification group of producers to the queue `WIRES.WAR`, type:

```
dbtraits wires.war ng producers
```

To list all queues in the database that have a particular group assigned as their notification group, use:

```
list  ng=<group name>  d
```

Restricting Access Using Read and Write Limitations

In addition to restricting access to various queues, you can use group access and usage restrictions to hide queues or directories by placing a strict read restriction on them.

For instance, the System directory is usually restricted so that only superusers can write stories there. You can hide this directory so it does not appear in the main directory for normal users. Set its read group to a group with no users, such as sysop. (Because system administrators can read everything in the database, they can see the directory.)

To set the System directory's read group to `sysop` at the console:

1. Log on to the console as a superuser so that the prompt appears like this:

   ```
   NRCS-A#
   ```

2. Type:

   ```
   NRCS-A# dbtraits system rg sysop
   ```

3. To apply changes you made to stories already in the directory and as a console superuser and type:

   ```
   NRCS-A# gtraits changegroup system
   ```

   A message similar to the following appears:

```
SYSTEM.CABLES  5 out of 5 changed
...
SYSTEM.WIRES 4 out of 4 changed
```

Now, only system administrators, logged in with an superuser account, can see the System directory on their screens.

You may also have a queue to which you want people to move or duplicate stories, but that you do not want anyone to read or go to. An example of this would be a confidential suggestions queue to which people would move stories containing suggestions. Once placed in this queue, suggestions would be visible only to those authorized or to superusers.

For instance, to set the read group of the Suggestions queue to mngmt, as a console superuser, type:

```
NRCS-A# dbtraits suggestions rg mngmt
```

All users you want to allow the capability to send suggestions need to have write access to the queue.

To make changes take effect on stories already in the Suggestions queue, remain a console superuser and type:

```
NRCS-A# gtraits changegroup suggestions
```

Unless you are a member of the mngmt group, you can not see this queue in the Directory panel or open this queue. You may copy or move stories containing suggestions to this queue.

Removing Directory or Queue Restrictions

To remove a directory or queue's read or write restrictions at the console, you first must log on as a console superuser—that is, the prompt should appear with a number sign (#) not a colon (:). To remove a restriction, type **dbtraits** followed by the name of the directory or queue you want to change, then **rg**, **wg**, **ng**, and a dash (**-**).

For instance, to remove both the read and write restrictions from the Phonelists queue:

As a console superuser, type:

```
NRCS-A# dbtraits phonelists rg - wg -
```

To apply these read and write group changes to stories already in the Phonelists queue, as a superuser, type:

```
NRCS-A # gtraits changegroup phonelists
```

Now, anyone can read and write stories in the Phonelists queue.

Appendix H

The Line Editor, `ed`

This appendix provides basic information about the line editor, called `ed`, including procedures for using it to make changes to important system files. These include the system configuration, system profile, and printer or wire profile files.

Additional information may be obtained by typing **`info ed`** *at the console.*

This appendix contains:

- Launching ed
- Editing Commands
- Saving Changes
- Quitting ed

Launching `ed`

When you modify a file, make the same changes to each server's copy of the file, or your system will not run properly. Select all servers before launching `ed` and opening a file for editing to ensure changes you make are applied to each server's copy of the file.

To launch `ed` from the console:

- Type **`ed`** followed by the file path and name to be edited. For instance, to edit a copy of the configuration file in the Site directory, you would type:

```
NRCS-A$ ed /site/config.test
3624
```

The line editor, `ed`, returns a number indicating the file size expressed as the number of characters, including spaces and returns. Also, the console prompt, `NRCS-A$`, changes to no prompt when you launch the editor.

If the file name specified does not exist or is a non-text file unsuitable for editing with `ed`, `ed` returns a question mark (?) followed by the file name. This is one way to create a new text file. For instance, a new text file called `newfile` is created when the following is typed:

```
NRCS-A$ ed newfile
?newfile
```

⚠ **Do not attempt to edit a non-text file such as a binary file. Doing so could cause undesirable results.**

Specifying Lines to Edit

The line you are on presently is called the current line.

Because `ed` is a line editor, you navigate through the file by line numbers. For instance, when you open a file for editing, `ed` considers the last line in the file the current line. If you want to view or edit a different line, you must go to that line.

For instance, you can move to the first line of the file by typing 1 and pressing Enter. To move ahead five lines, you could type **`+5`**. To move back three lines, you could type **`-3`**.

The line editor, `ed`*, will respond with a question mark (?) if you try to move beyond the last line of the file. Additionally, you cannot type a minus (-) value greater than or equal to the current line number, because you cannot move to a line preceding the first line in the file.*

Within `ed`, pressing Enter with no line number reference or command will cause ed to make the next line in the file the current line, displaying that line as it goes. For instance, in the following example, the user selects line 19 in the file, then presses the Enter key three times. The line editor, `ed`, responds each time by displaying lines 20, 21, and 22, respectively.

```
19
;printer     11     2400          11                 -      ;
Enter
terminal     12     19200         0        news      -      ;
Enter
terminal     13     9600-8n       1        news      -      ;
Enter
wire         14     2400          anpa7    AX        -      ;
```

When editing, it is necessary to specify the line number(s) to be acted upon. This can be done in several ways:

- Type the line number.
- Type starting and ending line numbers separated by a comma.
- Type period (.) to specify current line number.
- Type a dollar sign ($) to specify last line in the file.

The editing command to act upon the specified line(s) is typed immediately following the specified line(s). There should be no spaces. Here are some examples using the Print command, p.

To make line 18 the current line, type:	**`18`**
To print (to screen) line 10 of the file, type:	**`10p`**
To print (to screen) lines 10-20, type:	**`10,20p`**
To print all lines from the current line to line 20, type:	**`.,20p`**
To print all lines in the file from line 80 to the end, type:	**`80,$p`**
To display the current line number, type:	**`.=`**
To display the line number of the last line, type:	**`$=`**

To make the fifth line from the bottom current, type: **$-5**

Searching the File

When you do not know the line number, but you want to locate a line containing a specific word, phrase, or number, you can use the search option. The line editor, `ed`, will search the file, starting at the current line, and display the line with the next occurrence of the specified text.

To search for text:

1. Type a forward slash (/). Do not press the spacebar.
2. Type the text you want to locate, followed by another forward slash.
3. Press Enter.

For instance, if you want to find websession in the configuration file, type:

```
/websession/
;websession   900
```

In the previous example, `ed` found the word, websession, on line 900. If you want to repeat the search to locate further occurrences of that word, type a forward slash and press Enter again. For instance:

```
/websession/
;websession   900
/
;websession   901
/
;websession   903
```

In the previous example, the user repeated the original search command two more times. Each time, ed responded with the word searched and the line number where the next occurrence of the word appears. In each case, the current line becomes the line number displayed by `ed`.

Searching Tips

Here are a few more tips for searching with `ed`.

- Remember to use spaces before and/or after text to further define your search string. For instance, type **`/ 25 /`** instead of **`/25/`** to avoid finding other numbers that contain the number 25, such as in the line:
  `net     n125     20`
- Remember that searches are case sensitive. For instance, searching for **`/PCU/`** does not find pcu.
- Remember that searches distinguish between spaces and tabs. In other words, if you use spaces and the file contains the information separated by a tab, you will not find it. For instance, the search example below will not work:

  You type: **`/pcu 20/`** (pcu and 20 are separated by a space)

  The line is: `pcu          20` (pcu and 20 are separated by a tab)

Editing Commands

There are several basic editing commands you can use in ed to view, change, add, move, and delete text in a system file.

Some commands, such as Add, Delete, and Insert, change the current line, while others do not. For instance, the Print command sets the current line to the number of the last line printed.

Here is a list of editing commands, along with examples of their use:

Command | **Description & Examples**

`a`

The Append command inserts one or more lines *after* the selected line. For instance:

```
/websession/
;websession    900
a
inws           511    -    1     gnews   -    ;
inws
.
```

In the above example, the user searches for websession, and `ed` responds by displaying the first line found containing that word. The user types **`a`**, presses Enter to start the append operation, and types information to be inserted in the file *after* the displayed line. The user then types a period (**`.`**) on a line by itself, which is very important because it terminates the append operation. Without it, successive lines typed by the user would be added to the file.

`c`

The Change command replaces the entire contents of the line addressed. For instance:

```
21
terminal      13   9600-8n   1    news   -     ;
c
; not used
.
```

In the above example, the user selects line 21, and `ed` responds by displaying line 21. The user types **`c`** on one line to start the change operation. On the second line, the user types replacement text and presses Enter, followed by a period on a line by itself. The period (**`.`**) is very important because it terminates the change operation. Without it, successive lines typed by the user would be added to the file.

`d`

The Delete command is used to delete the line(s) specified. For instance:

`27d`	-	Deletes line 27.
`30,35d`	-	Deletes lines 30 through 35.
`40,$d`	-	Deletes every line from 40 to the end of the file.

After each Delete command, as well as after the Append, Change, and Insert commands, the file's lines are renumbered. For instance, if you delete line 27, then delete line 30, you actually delete the lines originally numbered 27 and 31 prior to the first Delete command.

Command	Description & Examples (Continued)
g	The Global command allows the user to apply an editing command to all lines in the file that contain a specific word, phrase, or number. For instance: **g/asws/s/asws/inws** - Finds all occurrences of asws and uses the Substitute command to replace the first occurrence of asws on each line found with inws. To replace all occurences on a line, add **/g** to the end of the command, such as: **g/asws/s/asws/inws/g** **g/websession/d** - Finds all occurrences of websession and deletes the lines containing it. Each line affected is displayed after the editing command is applied.
i	The Insert command inserts one or more lines *before* the selected line. For instance: **/websession/** `;websession        900` **i** **`inws               511     - 1   gnews     -   ;`** **inws** **.** In the above example, the user searches for websession, and ed responds by displaying the first line found containing that word. The user types **i** and presses Enter to start the insert operation. The user then types two lines of information to be inserted in the file *before* the displayed line. On the last line, the user types a period (**.**) on a line by itself, which is very important because it terminates the insert operation. Without it, successive lines typed by the user would be added to the file.
m	The Move command removes the line(s) specified from their original location and inserts the line(s) *after* the target location. For instance: **18m20** - Line 18 becomes line 20. Lines 19 and 20 become 18 and 19. **1,5m$** - Moves lines 1 through 5 to the end of the file.

Command	Description & Examples (Continued)
`p`	Contrary to the name, the Print command does not send information to a printer. Instead, it *prints* text to the console screen. It is handy for viewing specific lines within a file. Typed alone with no line number references, the Print command displays the current line. For instance, to print (to screen) lines 10-20, type: **`10,20p`**. More examples of the Print command can be found in “Specifying Lines to Edit” on page 798.

`s/<old text>/ <new text>`	The Substitute command substitutes a specific portion of a line with new text.
	For instance:
	`3`
	`;AvidNews   Starter config     09JAN00`
	`s/AvidNews/iNEWS`
	`;iNEWS      Starter config     09JAN00`
	In the above example, the user selects line 3, and `ed` responds by displaying line 3. The user substitutes the word `AvidNews` for `iNEWS` but does not alter anything else on the line. The line editor, `ed`, confirms the substitution by redisplaying line 3, incorporating the change.

`t`	The Copy command copies the line specified, and inserts a copy *after* the target location. For instance: **`5t10`** - Inserts a copy of line 5 *below* line 10. The copy becomes line 11. The original line 11, if any, becomes line 12, and so forth. **`20,30t50`** - Inserts copies of lines 20 through 30 *after* line 50.

`u`	The Undo command is used to cancel the effects of the last editing command entered. For instance:
	`1,5m$`
	`u`
	In the above example, the user issues a command to move lines 1 through 5 to the end of the file, then types **`u`** to undo that command.

Saving Changes

The changes you make to a file are not saved immediately. This means you could quit (or exit) `ed` without saving changes if necessary. You must use the Write command to save modifications.

To save changes, type **w** and press Enter. The line editor, `ed`, will respond by displaying the file size, such as:

```
w
3624
```

The Write command is case-sensitive. If uppercase `W` *is used,* `ed` *will append the modified version of the file to the end of the original file version. This can quickly increase the file size and result in redundancy. Always use the lowercase* `w`*.*

Quitting `ed`

To exit the line editor, type **q** and press Enter. For instance:

```
w
3624
q
NRCS-A$
```

In the previous example, the user saved changes first by using the Write command (**w**), then typed **q** to quit `ed` and return to a normal console prompt.

However, if you wanted to quit `ed` without saving your changes, you can do so. In this case, you would have to type the Quit command twice: the first time to notify `ed` you want to quit, and the second time to confirm that you want to quit without saving changes.

For instance:

```
q
?
q
NRCS-A$
```

In the previous example, `ed` responds to the first Quit command with a question mark (?) to remind the user changes were made to the file and not saved. This is a precautionary warning to help prevent a user from exiting `ed` and inadvertently losing changes that were not saved. When the user replies by typing the Quit command a second time, `ed` exits, abandoning any changes made.

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