iNEWS ControlAir™

Installation & Operations Manual

Version 1.0.5

Avid

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Preface

This publication provides information on how to install and manage the iNEWS ControlAir system.

Who Should Use This Guide

This manual is written for journalists, producers, directors, writers, and various technical personnel responsible for using the iNEWS ControlAir system in a broadcast newsroom. Portions of the manual provide installation data for technicians. Other chapters provide configuration and maintenance information for system administrators who are managing the system.

It is strongly recommended that system administrators have prior experience in or classroom knowledge of the Windows 2000 or NT® operating system.

About This Manual

This guide will lead you through even the most complex procedures with task-oriented instructions, illustrated for a more realistic presentation of the actual icons and images you will encounter. The information provided here builds on basic user procedures, while adding a

complete explanation of all the tools and techniques required to create, apply, and adjust various settings, including useful tips, shortcuts, and custom options.

The Table of Contents that precedes this preface lists all topics included in the book. They are presented with the following overall structure:

- The *Introduction* helps you get oriented with beginning concepts and general work flow and provides valuable pointers to keep in the back of your mind as you proceed.

- The main body of the guide follows the natural flow of your work, with clear and comprehensive step-by-step procedures.

- At the back of the book is a comprehensive *Glossary*, providing cross-industry terms and definitions.

- Finally, a detailed *Index* helps you quickly locate specific topics.

This manual provides requirements and specifications for your system in the following areas:

- Environmental and electrical

- Minimum hardware and software components

- Installation procedures

- System configuration and maintenance

Use this manual to prepare for and set up your system on the network, after you have purchased ControlAir components according to requirements and specifications. Before installing any equipment, the site must already have a configured network.

Symbols and Conventions

The ControlAir documentation uses the following special symbols and conventions:

1. Numbered lists, when the order of the primary items is important.

    a. Alphabetical lists, when the order of secondary items is important or in the case of optional procedures.

• Bulleted lists, when the order of primary items is unimportant.

    - Indented dashed lists, when the order of secondary items is unimportant.

Look here in the margin for tips and environment-specific information.

In the margin you will find tips that help you perform tasks more easily and efficiently. You will also find information specific to a particular operating environment.

A note provides important related information, reminders, recommendations, and strong suggestions.

A caution means that a specific action you take could harm your computer or cause you to lose data.

Cross References

Cross references are provided throughout this manual to give readers locations where additional—sometimes more detailed—information on a certain topic can be found. In some cases, the chapter name and number is provided. In most cases, a two-part page number is given along with the name of a section header. The first number in the page number is actually the chapter number.

For instance: See "ControlAir Work Flow" on page 1-9.

See "About This Manual" on page v for more information on what chapters are in which sections of this manual.

In this example, information on work flows through a ControlAir system can be found on page 1-3 in Chapter 1 of this manual. Chapters are numbered consecutively; page numbers restart at one in each chapter. Section numerals are not provided in cross references. So, a cross reference that shows page 9-57, for instance, indicates that the information is in Chapter 9.

Keyboard Conventions

- CTRL-*x* means to press and hold down the Control key and then press another key on the keyboard, represented here by *x*. This is also used for other key-combinations such as ALT-*x* or Shift-*x*.

- "Type" in a command procedure means to type the command on the command line and then "press" the Enter key.

- "Select" means to choose an operation on a drop-down or pop-up menu.

- "Click" means to click the left mouse button, usually in response to a dialog box. "Right-click" means to click the right mouse button.

If You Need Help

If you are having trouble using ControlAir, you should:

1. Repeat the procedure, carefully following the instructions provided for the task in this guide.

2. Refer to the documentation included with your hardware to review the maintenance procedures or the hardware-related issues.

3. Check the Support section of Avid's Web site at http://www.avid.com/support/ for online technical publications and additional telephone support phone numbers.

4. Maintenance Agreement contract customers can contact Avid Broadcast Customer Support personnel at any of these 24-hour global telephone numbers:

   - 1 800 639 7364   in the Americas (All Broadcast products, except Newsview)

   - 44 1256 814222   in Europe, Africa, and Mid-East

   - 61 2 8877 6880   in Asia/Pacific

Or online:

- e-mail   `support@inewsroom.com`

- http://www.avid.com/support/contact.html

For general information, call your local Avid reseller or in North America call the Avid Broadcast Customer Relations desk at 1-800-869-7009.

Related Information

Contact your Avid Sales representative for documentation and infor-mation on other Avid® products, such as the iNEWS™ newsroom com-puter system, Media Browse™, EditStar™, LeaderPlus™, MOS Gateway, and so forth.

If You Have Documentation Comments

The Avid Broadcast Technical Publications department continually seeks to improve its documentation. We value your comments about this manual or other Avid-supplied documentation.

Send your documentation comments by e-mail to:

    `techpubs@inewsroom.com`

Include the title of the document, its part number, revision, and the specific section that you are commenting on in all correspondence.

How To Order Documentation

To order additional copies of this documentation from within the United States, call the Avid Sales department at 1-608-274-8686. If you are placing an order from outside the United States, contact your local Avid Sales representative.

CHAPTER 1

Introduction to the iNEWS ControlAir™ System

This chapter contains the following major sections:

- Overview
- System Architecture
- ControlAir Work Flow

Overview

The iNEWS ControlAir system is a machine control system for on-air operations, which can be integrated into the iNEWS newsroom computer system. It can also operate in a standalone environment if the iNEWS connection is lost.

A ControlAir system normally consists of one or more servers, one or more workstations, and several Device Managers (DMs).
Also, ControlAir:

- Directly controls production devices

- Receives information from the iNEWS Workstation as control events are entered into production cues in scripts

- Handles several shows simultaneously, while enabling shows to be produced back-to-back, with only a few seconds between them

Windows-based workstations, with Graphical User Interfaces (GUIs), allow production personnel to control events on the ControlAir Server.

Links to Other Newsroom Products

The iNEWS ControlAir system also provides efficient links to other Avid products for additional scripting and video capabilities, such as Digital News Gathering (DNG), a disk-based production system, which stores digital video, audio, and graphics data in a single central library. That data is then accessible by workstations for recording, editing, and playback. Another feature is the iNEWS CG Title Entry, which enables newsroom personnel to simulate character-generated graphics on the iNEWS Workstation.

The iNEWS product set is constructed on a modular, open architecture, enabling its components to work efficiently not only with other Avid products, but also with third-party hardware and software. The iNEWS newsroom computer system operates on industry-standard

technologies, including Windows®-based operating systems, Intel®-based PCs, Intel and Silicon Graphics®-based servers, and TCP/IP Internet networking protocols.

Avid publishes open Applications Programming Interfaces (APIs) for ControlAir that enables integration with third-party software and hardware.

System Architecture

There are three groups of software in the iNEWS ControlAir system.

- The ControlAir Server (which includes the `casvr.exe` and `AMCPapp.exe` executable programs)

- Device Managers (DMs)

- ControlAir Workstation

Typically, ControlAir Server software and DMs are installed on the ControlAir Server, while the ControlAir Workstation is installed on computers in each of the control rooms where ControlAir will be operated. So, the ControlAir architecture consists of:

- ControlAir Server

    - Avid Machine Control Protocol application (`AMCPapp.exe`)

    - ControlAir Server application (`casvr.exe`)

    - ControlAir Manager application (`camgr.exe`)

    - Device Managers

- ControlAir Workstation(s)

- The monitor server utility program - running on the iNEWS Server.

📋 *ControlAir software can be installed on either the Mirror Net or the House Net of the iNEWS hosts. If ControlAir components need access to other station networking services than just iNEWS Servers, then they should be placed on the House network. In either case, static IP addresses and local hosts files should be used for all ControlAir components.*

ControlAir Components

There are several ControlAir components, including the ControlAir Server program (`casvr.exe`), AMCP application (`AMCPapp.exe`), ControlAir Manager program (`camgr.exe`), device managers, and ControlAir Workstation, which are explained in this section.

ControlAir Server

The ControlAir Server is a computer that will minimally run the `casvr.exe`, `AMCPapp.exe`, and `camgr.exe` programs. Device managers should also reside on the same server as the ControlAir Server program (`casvr.exe`). You can run ControlAir Workstation software on this computer, if desired, but it is not required. For more information on hardware requirements for the ControlAir Server, see "Hardware Requirements" on page 2-4.

casvr.exe

The executable program called `casvr.exe` is the central program that runs on the ControlAir Server.

The ControlAir Server program:

- Routes status and messages between `AMCPapp.exe`, device managers, and ControlAir Workstations

- Creates and manages playlists and downloads them to their respective devices

- Tracks which components have playlists and devices reserved

- Directs control commands from ControlAir Workstation to the appropriate device manager.

AMCPapp.exe

The executable program called AMCPapp.exe is the interface between Avid's iNEWS newsroom computer system and the ControlAir Server running casvr.exe. It translates Avid Machine Control Protocol (AMCP) data coming in from iNEWS—or other newsroom computer systems—into data that the ControlAir system can manage.

camgr.exe

The executable program named camgr.exe is known as the ControlAir Manager and it monitors ControlAir components, including device managers, on the ControlAir Server. If one stops running, the ControlAir Manager will restart it automatically.

ControlAir Manager can also monitor third-party device managers.

For information on configuring this program, see "Setup ControlAir Manager" on page 3-25.

If `casvr.exe` fails, components must be reconnected to the server. If the ControlAir Manager program is set up, it will monitor device managers and reconnect them to the ControlAir Server should they stop running. If ControlAir Manager is not used, the DMs cannot automatically reconnect and must be restarted manually. Any playlists loaded at the time must be reloaded if the ControlAir Server program (`casvr.exe`) is stopped.

Device Managers

A Device Manager (DM) is the program that handles communication between ControlAir and specific production devices. When the connection is made to casvr.exe, the DM will accept playlists from iNEWS and commands from ControlAir Workstation. Device manag-

ers should be installed on the ControlAir Server—the same computer running the `casvr.exe` program.

Each DM is designed to control a specific machine. For instance, `LouthDM.exe` is a DM designed to control any video server that correctly supports the Louth video device control protocol (VDCP)—such as Avid's AirSPACE series of video servers.

There are existing DMs that allow the ControlAir operator to control the following machine types used for broadcast production:

- Character generators
- Still stores
- Video playback devices

ControlAir Workstation

From the ControlAir Workstation, the ControlAir operator can view playlists that have been downloaded from iNEWS, get device and event status, and control the broadcast production devices.

The ControlAir client software can run on the same computer as the `casvr.exe` program, or on a separate computer.

Monitor Server

The *monitor server* is not an actual part of the ControlAir system software, but is a utility program on the iNEWS Server. For ControlAir, it is used to scan stories in the rundown, searching for production cues to build lists of machine control events (playlists) for the production devices. It continues monitoring the rundown for changes to production cues and sends them to the ControlAir system until the show goes off the air.

Figure 1-1 depicts how connections are made from iNEWS, through the Avid Machine Control Protocol Application (`AMCPapp.exe`), to

the ControlAir Server program (`casvr.exe`), then to the ControlAir Workstation, device managers, and devices.
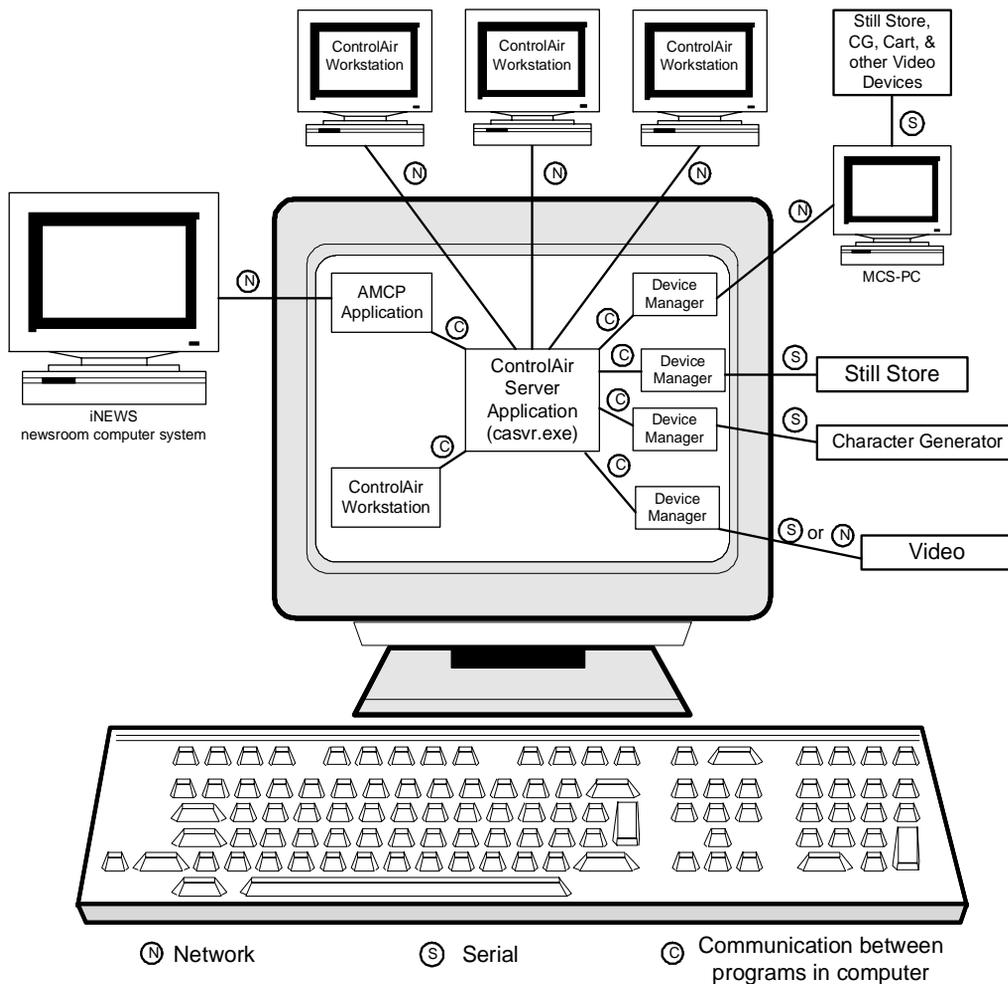
Figure 1-1   Association of Components in ControlAir

Figure 1-2 shows network (TCP-IP) and serial connections between equipment related to the ControlAir system.

iNEWS stations

Writers, etc. create scripts with production cues. Producer tracks progress of show, and can make changes to production cues even while the show is on-air.

iNEWS Server:

Software
monitor server; /site/config file; MCSPC Legacy drivers

Database
Rundown & Event List queues
System Map & Resource queues

iNEWS Workstations

100Base-T Ethernet or Faster

MCS-PC

RS-422 or RS-232

Any MCS Legacy Playback device

ControlAir Workstations

Leitch ASC 300's

ControlAir Server

Equinox
16 Port
RS-422
(or RS-232)

Chyron

AirSPACE (AirSPACE DM)

ControlAir Server Connections

Typically, most ControlAir components (casvr.exe, AMCPapp.exe, & DMs) will run on the ControlAir Server.
Some DMs (Louth) will attach to their production devices via Equinox or other multi-port serial board (RS-422 and/or RS-232). Other DMs, such as the Leitch ASC 300 DM, and our DM for legacy MCS-PC's, will connect via Ethernet.

Figure 1-2   Typical ControlAir Network Layout

<blockquote>
ControlAir software can be installed on either the Mirror Net or the House Net of the iNEWS hosts. If ControlAir components need access to other station networking services than just iNEWS Servers, then they should be placed on the House network. In either case, static IP addresses and local hosts files should be used for all ControlAir components.
</blockquote>

ControlAir Work Flow

After the news staff has entered machine control events in scripts, the producer can download rundowns to ControlAir using the monitor server in iNEWS.

<blockquote>
For more information on creating monitor servers, see "Setting up the Monitor Server on iNEWS Servers" on page 4-1.
</blockquote>

From the ControlAir Workstation, production personnel, such as the ControlAir operator, can access playlists for downloaded rundowns and control associated production devices to cue, play, and stop the production events requested.

When your newsroom staff builds a show, they insert special keywords into scripts, known as *production cues*. These items include a word to identify the specific production machine or a machine type, such as CG or SS, and some information to indicate what they want that machine to display.

The following example shows a production cue that instructs the character generator to display two lines of text using a saved template named LOC2:

```
*CG LOC2
Bob Willhouser
Washington DC
```

Monitor Mode - On

When the monitor server is turned on—usually by the producer, from the iNEWS Workstation's Tools drop-down menu—it will read all production cues in the rundown and build *playlists*, also known as *event lists*, for each device.

After the monitor server is turned on, it continues to monitor the rundown, examining every saved story for deleted, new, or updated events in the playlist.

The monitor server performs as much error checking as it can without communicating with any broadcast equipment.

The iNEWS ControlAir system is not yet involved. Event lists can be printed and distributed to the equipment operators, who can control devices, such as the CG, using traditional methods.

Figure 1-3 depicts communication paths after the monitor server is turned on from the iNEWS Workstation.

For more information about iNEWS utility programs known as monitor servers, see "Setting up the Monitor Server on iNEWS Servers" on page 4-1. Also, see "Monitor Server's Error Checking Workflow" on page 4-34 and "Using the Monitor Server" on page 4-41.
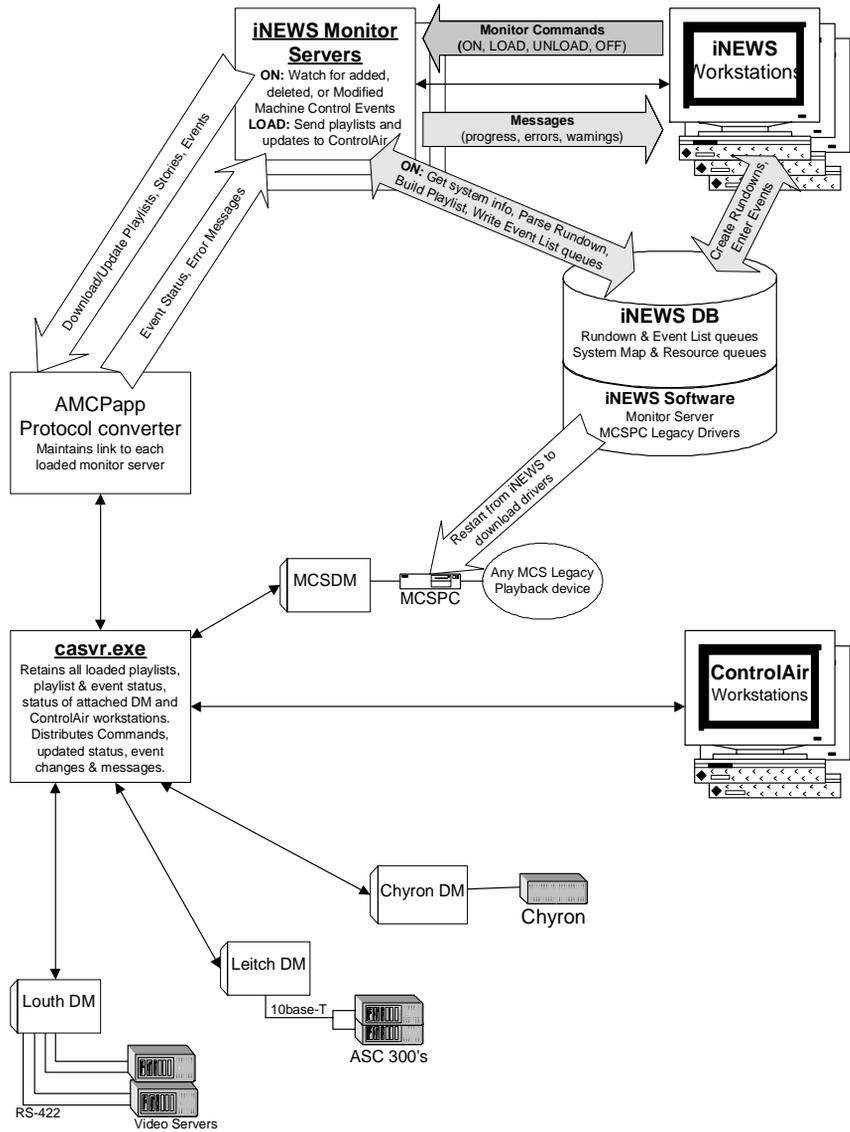
Figure 1-3   Communication Paths after Monitor Mode - On

Monitor Mode - Load

As air time nears and the newsroom staff completes the rundown, someone—usually the producer or equipment (ControlAir) operator—will instruct the monitor server to load the playlist into the ControlAir system (via the AMCP application `program`). See "Using the Monitor Server" on page 4-41 and Figure 4-7 on page 4-42 for more information about the various modes of the monitor server.

As the rundown is downloaded to the ControlAir Server, the `casvr.exe` program loads it to the ControlAir Workstation, and loads individual playlists to the appropriate device manager (DM). That DM establishes a connection to the device (if it has not already done so) and begins its assigned task, such as inserting CG text, checking for availability of video clips, and so forth.

Each DM sends to the ControlAir Server program (`casvr.exe`) the status of devices and individual playlists, such as whether video is available, and so forth. The ControlAir Server then forwards the data to the ControlAir Workstation and iNEWS monitor server. Error messages are returned to the iNEWS user who loaded the rundown and the ControlAir operator. The monitor server also displays status for video clips, such as whether the clip is available, into stories in the rundown and event lists located in the iNEWS database.

The ControlAir operator can now take control of the playback devices and take the show to air.

Figure 1-4 depicts communication paths after the monitor server is instructed to load playlists, commands, status, and user messages between ControlAir components; note the direction of flow for the four different kinds of data.
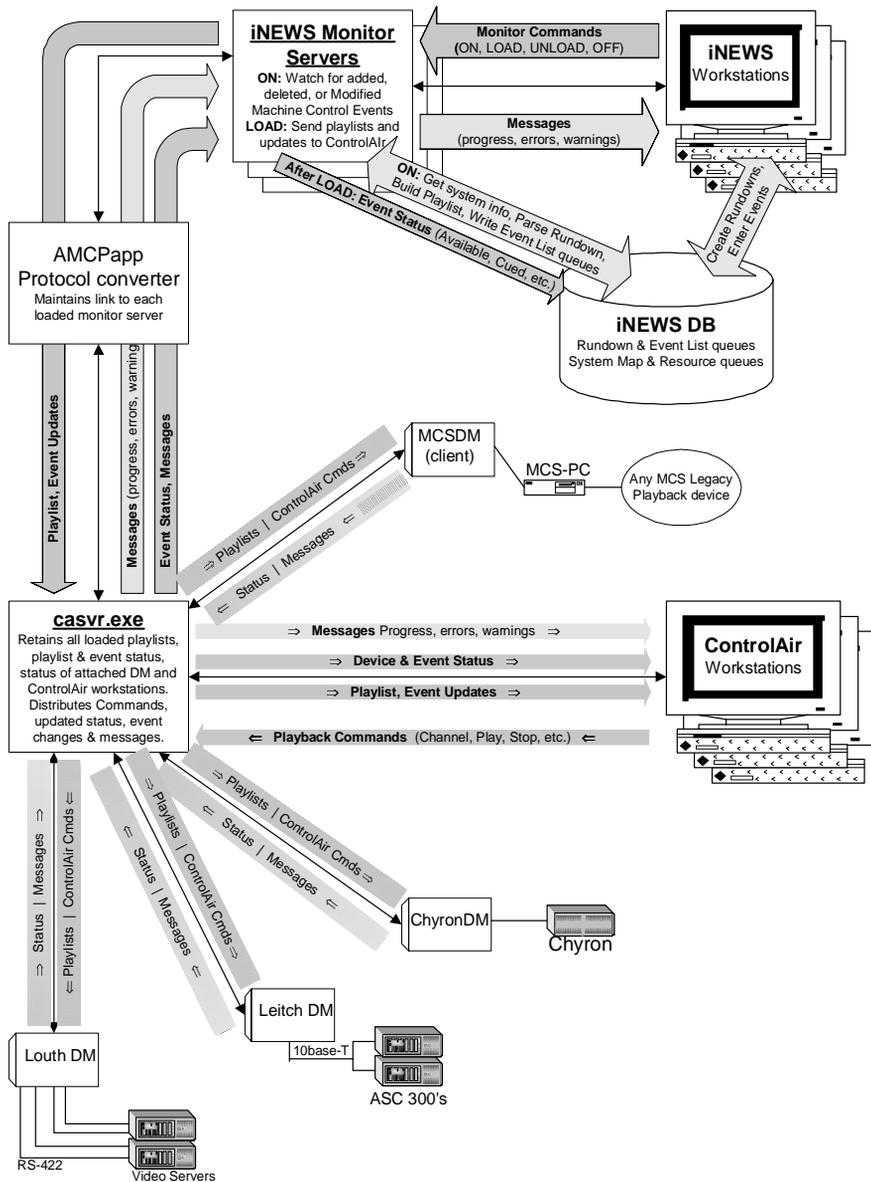
Figure 1-4   Communication Paths after Monitor Load

Monitor Mode - Unload

After the show airs, someone—typically the producer or equipment (ControlAir) operator—will instruct the monitor server to unload the playlist from the ControlAir system. The unload mode allows the user to disconnect from the ControlAir Server without turning off the monitor server.

See "Using the Monitor Server" on page 4-41 and Figure 4-7 on page 4-42 for more information about the various modes of the monitor server.

CHAPTER 2

Preparing for Installation

This chapter contains the following major sections:

- Before You Begin the Installation Procedure
- Site Requirements
    - Power Requirements
    - Environmental Requirements
    - Hardware Requirements
- Configuring & Installing the Host Adapter Card

Before You Begin the Installation Procedure

Setting up ControlAir involves doing tasks in the following places:

- ControlAir Server
- iNEWS Servers (at the console)
- ControlAir Workstations

Device Manager configuration is done at the ControlAir Server. You should consult the iNews Newsroom Computer System Operations Manual for specific information on iNEWS Servers, the console, or various related system operations.

Before you begin installing the ControlAir software, do the following:

- Read the *iNEWS ControlAir Release Notes* for the most up-to-date product and installation information.
- Familiarize yourself with the entire installation procedure described in this manual.
- Ensure the installation CD is available.
- Ensure the site meets all requirements, provided in this chapter.

Site Requirements

The following sections describe customer-supplied components that make up the iNEWS ControlAir system. Most are hardware components typically purchased from a third party vendor. However, some items can be obtained through Avid. For more information, contact your Avid Broadcast Sales representative.

It is recommended you install a hand-held, wall-mounted Halon fire extinguisher, or alternative environmentally acceptable extinguisher, in the vicinity of all computer equipment.

Power Requirements

Surge protection and an uninterruptible power supply (UPS) are essential for all system servers. If the computers lose power even for a moment, the entire system will stop functioning properly.

⚡ **Most systems are designed to work with single-phase (three-wire) power cord with a grounded neutral conductor. To reduce the risk of electric shock, always plug the cord into a grounded power outlet.**

For best performance, keep all system power connections on the same power feed distribution panel. Do not connect fans, lamps, coffee pots, or other equipment to the same outlet that is powering the iNEWS ControlAir equipment.

Ensure the UPS has surge protection and a high enough rating to handle all systems connected to it. The rating plate on each system will help calculate the required rating for the UPS. Figure 2-1 shows how to connect multiple systems to a UPS using a power strip.
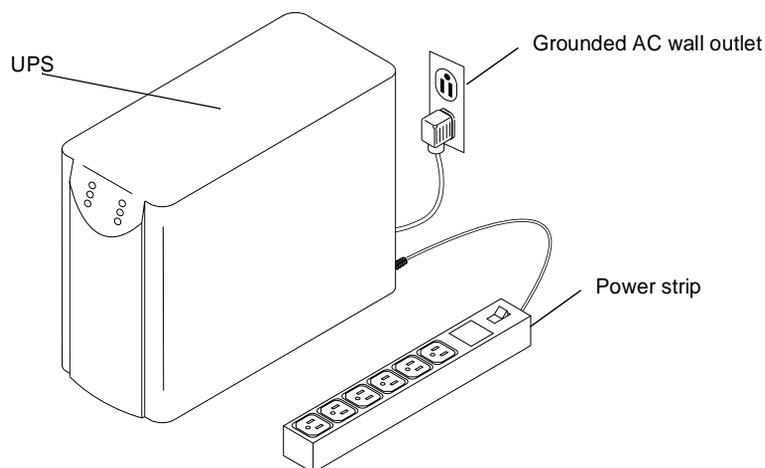
Figure 2-1   UPS Connections

Environmental Requirements

The air conditioning must maintain the operating temperature shown in Table 2-1. The Avid iNEWS newsroom computer system produces an estimated heat load of 15,000 BTUs per hour. Table 2-1 shows the environmental specifications for a standard iNEWS environment.

⚠ **Avid reserves the right to stop the installation and shut off the iNEWS equipment if the temperature exceeds 75°F (24°C). Installation will be completed after the air conditioning has been corrected.**

Table 2-1   Environmental Specifications

Condition	Range
Operating temperature	50°F to 75°F (10°C to 24°C)
Storage temperature	–4°F to 140°F (–20°C to 60°C)
Relative humidity	20% to 80%
Altitude	0 to 6000 ft (0 to 1829 m)

Hardware Requirements

To install and run ControlAir, use the following tables as a guide for basic equipment needs. Because development is on-going, requirements are subject to change without notice. For specifications pertaining to ControlAir, visit Avid's Web site at:
www.avid.com/products/controlair/specs.shtml

Review the latest minimum hardware requirements for all iNEWS-related product lines on the Web at:
www.avid.com/products/.

For a list of qualified PCs, contact Avid Broadcast Customer Support at: +1-800-869-7009 in the USA

+44-1256-814222 in Europe

+61 2 8877 6888 in Asia/Pacific

ControlAir Server

Table 2-2 describes the base hardware required to install and operate a ControlAir Server and associated device managers.

⚠ **Ensure the time is set correctly on all machines (including date and AM/PM). In general, this makes it easier to interpret messages from the system. However, some equipment may cause critical errors if the time is set differently between systems. For instance, Grass Valley Group's Pro*file* currently will not correctly report the completion of video clip transfers, so the clips will remain "unavailable" for playback on ControlAir.**

Table 2-2   ControlAir Server Requirements

Device	Minimum Requirement
CPU	450-MHz Pentium® II
Memory	256 MB of RAM
Keyboard	104 keyboard
Mouse	Windows-compatible mouse
Hard drive	4-GB drive (NTFS format recommended)
Floppy drive	3.5-inch diskette drive; reads and writes to 1.44-MB diskettes
CD-ROM drive	4X CD-ROM drive

Table 2-2   ControlAir Server Requirements

Device	Minimum Requirement
Operating system	Windows 2000 with Service Pack 2 or Windows NT Server 4.0 with Service Pack 6a (minimum)
Monitor	15-inch screen
Video card	SVGA-compatible video card with 2MB of VRAM. Must support: • 1024 x 768 resolution • 256 colors
Network card	Windows-compatible 10/100 NIC

A site may also need a serial host adapter card installed on the ControlAir Server. See "Ports" on page 2-7 and "Configuring & Installing the Host Adapter Card" on page 2-10 for more information.

ControlAir Workstation

To install and run ControlAir Workstation, you will need the base equipment detailed in Table 2-3.

Table 2-3   ControlAir Workstation Requirements

Device	Minimum Requirement
CPU	450-MHz Pentium II
Memory	256 MB of RAM
Keyboard	104 keyboard
Mouse	Windows-compatible mouse
Hard Drive	4-GB drive

Table 2-3   ControlAir Workstation Requirements (Continued)

Device	Minimum Requirement
Floppy Drive	3.5-inch diskette drive; reads and writes to 1.44-MB diskettes
CD-ROM Drive	4X CD-ROM drive
Operating System	Windows 2000 with Service Pack 2 or Windows NT Workstation 4.0 with Service Pack 6a (minimum)
Monitor	SVGA color monitor (17-inch recommended)
Video Card	SVGA-compatible video card with 2MB of VRAM. Must support: • 1024 x 768 resolution • 256 colors
Network Card	Windows-compatible 10/100 NIC

Machine Control PC (MCS-PC)

If your site uses an MCS-PC, for more information, refer to the latest minimum hardware requirements on the Web at:

`www.avid.com/products/controlair`

Ports

Additional Serial Ports

Most CG and SS devices use a serial port (either RS-232 or RS-422) to communicate with the ControlAir device manager. Many video devices require an RS-422-only serial port for each channel. The device managers use any serial ports that can be addressed through Windows as a standard COM port, such as COM1, COM4, COM9, or COM32.

📄 *A less expensive alternative is the optional use of the built-in RS-232 COM1 and 2, and add a Sea-Level two-port RS-422 board for COM3 and 4. Refer to the appropriate third-party manufacturer's documentation for the host adapter card.*

COM Ports—Digi and Equinox

See "Configuring & Installing the Host Adapter Card" on page 2-10 for more information on installing a host adapter card.

For scalability, Avid recommends using the Digi AccelePort 8r-(PCI)EIA-422 serial host adapter card in the ControlAir Server, as shown below.

To peripherals
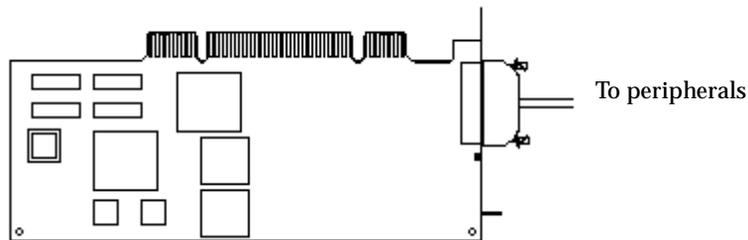
Flat telco, cat-3, or cat-5 are all more than adequate.

The 8r-(PCI)EAI-422 host adapter cable assemblies should have eight DB-25 (male) connectors to which a DB-25 (female) to RJ-45 adapter is connected. From there, an 8-wire RJ-45 terminated straight cable goes from the ControlAir Server to the video server, character generator, or other peripheral device. A custom RJ-45 modular adapter connects to the device of your choice.

Pinouts for this custom adapter will vary, depending on the device you are attaching.

Some sites may choose to use other cards, such as the Equinox™ SST-64 PCI serial host adapter card, with the PM16-RJ/422 port module, as shown below.

Serial Host Adapter Card   Port Module
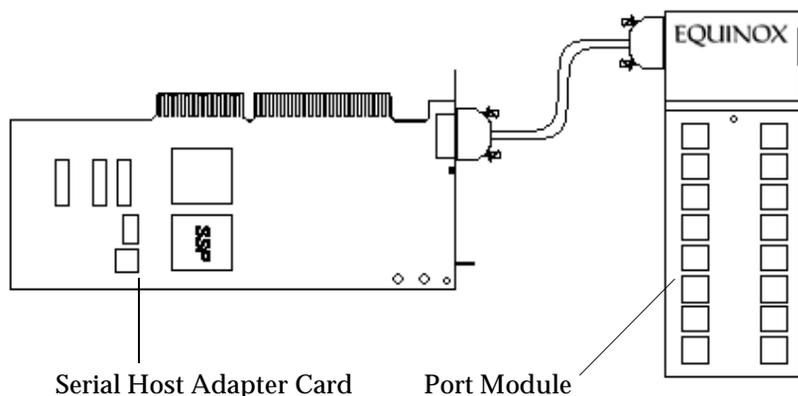
The PM16-RJ/422 is an external box which connects to the SuperSerial™ Technology (SST) card and has 16 RS-422 ports using RJ-45 sockets. After the SST card is installed, up to 4 port modules can be attached to each other, in series, for a total of 64 ports (128 ports with the SST-128). There is no need to install additional boards or change any software, drivers, or settings. Any combination of external port modules RS-232 or RS-422 with either DB-25 or RJ-45 connectors will work. So, a site could have an RS-232 port module for CGs and still stores, and RS-422 for video devices, on the same SST-64 card. (As of this publication, DB-9s for the SST do not exist).

Flat telco, cat-3, or cat-5 are all more than adequate.

An 8-wire RJ-45 terminated straight cable goes from the Equinox port module on the ControlAir Server to the peripheral devices. A custom RJ-45 modular adapter connects the cable to the device of your choice.

A pin-out diagram is located on the back of the Equinox RJ/422 port module. Some manufacturers, including Digi International and Equinox, use "A" to represent "+" and "B" for "-" while others, such as Sony, reverse "A" and "B," respectively. Refer to the manufacturer's documentation for more information.

Configuring & Installing the Host Adapter Card

Before installing the host adapter card on the ControlAir Server, set any configuration switches according to the manufacturer's documentation. Digi and Equinox documentation provided with the cards have more detailed installation instructions, configuration settings, and cabling diagrams.

To install the host adapter card, do the following:

1. Unplug the PC.

2. Remove the computer's cover.

3. Put on a wrist strap and attach the ground clip to the computer's chassis as shown in Figure 2-2.

⚠ **Semiconductor devices are vulnerable to damage by electrostatic discharge (ESD). Always use an ESD wrist strap or other grounding device when opening the computer or removing any circuit boards from its packing.**
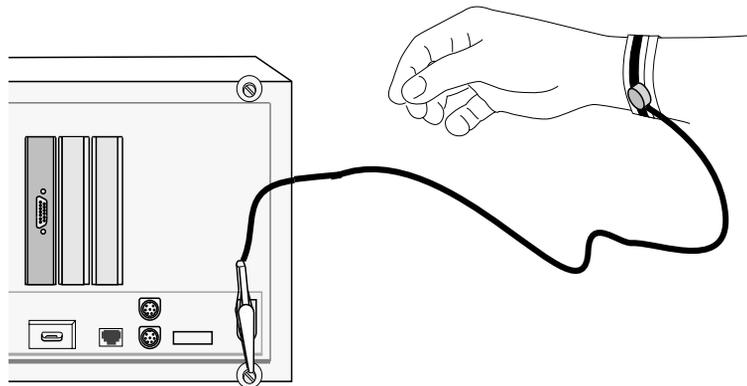
Figure 2-2   ESD wrist strap

4. Remove the host adapter card from its static-proof bag. Hold the card by its outer edges to avoid touching the components and connector on the card.
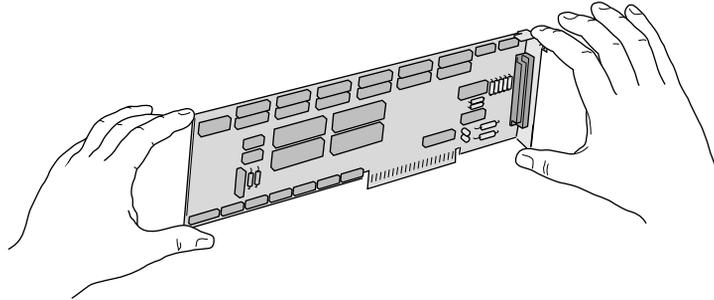
Figure 2-3   Host Adapter Card

5. Record the card's serial number so the manufacturer can provide better service, should the need arise.

6. Remove the expansion slot cover from within the computer.

Slot cover screw

ISA connectors (larger)

PCI connectors (smaller)

Slot cover
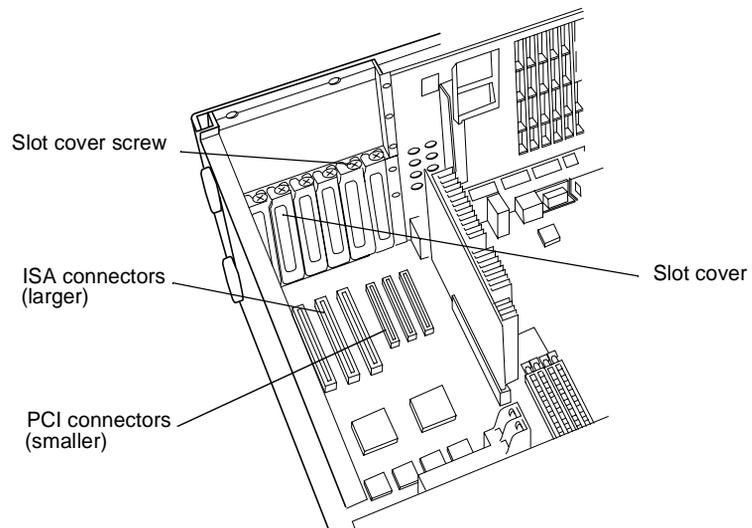
7. Locate a free expansion slot (ISA, EISA or PCI) of the proper type for your card. Match the bottom of the host adapter card with the structure of the expansion slot.

The correct slot is selected if all the gold pins will fit into the slot and all spaces in the slot will be occupied.

Align the connector on the adapter card with the system board connector.
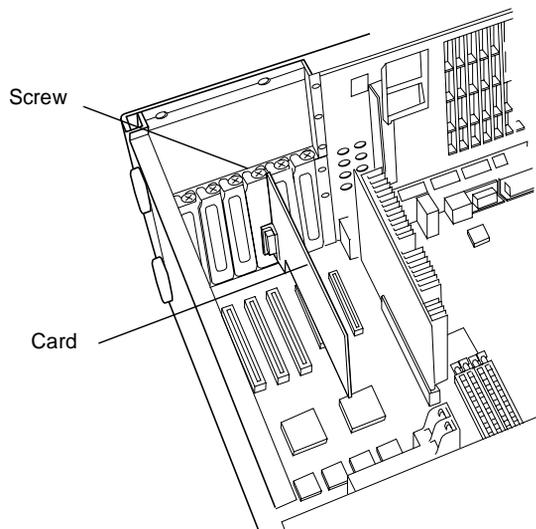
8. Press the adapter card firmly until the connector is seated. Do not force the card. If you meet with a lot of resistance, pull it out, inspect the connector, and try again.

9. Reinstall the screw used for the slot cover to secure the host adapter.

10. Reconnect any cables that you disconnected.

11. Replace the computer cover.

12. Connect a host cable between the host adapter card and a 16-port expansion module, such as the PMT6-RJ45/RS-422.

A 16-port expansion module is not required; some sites may use a 4 or 8-port expansion module.

13. Turn on the computer.

Installing the Digi Software Driver

On Windows 2000-based PC

The Access Resource CD that accompanies the Digi host adapter card, if inserted and run on a PC with the Windows 2000 operating system, will provide the following prompt:

```
The driver for the product (AccelePort 8r-PCI 422)
is included in the Microsoft Windows 2000
installation CD-ROM and is not included with the
Access Resource CD-ROM. However, documentation can
be browsed.
```

In that documentation, the following installation procedures are pro-vided—and included for your information here:

Use this procedure to install Microsoft Windows 2000 device drivers for Digi PCI adapters.

1. Ensure the adapter is installed according to instructions as pro-vided earlier in this section or on the hardware installation card for that adapter.

When you install multiple PCI adapters of the same type on a Windows sys-tem, it is sometimes difficult to determine which adapter you are configuring. To avoid confusion, you may want to install and configure adapters one at a time.

2. Turn on the computer and start Windows 2000.

3. Windows will auto-detect the adapter and search for the correct device driver.

4. If Windows cannot find a driver for the adapter, you will be asked for the location of the driver. If the driver is on a Digi-supplied CD, check the CD-ROM box. If you have downloaded the driver, enter the path to the folder into which you downloaded the driver.

5. Depending on your adapter type, you may be asked to complete various configuration wizards or dialogs. These wizards and dialogs are fully documented in context-sensitive help screens.

6. When the installation is complete, the device is ready to use. There is no need to restart Windows.

On Windows NT-based PC

The following instructions are for installing on a PC with the Windows NT operating system. Procedures may vary for other operating systems.

To install the software driver, do the following:

1. Insert the Digi CD into your CD-ROM drive.

2. Click the Start on the Windows taskbar.

3. Select Settings.

4. Select Control Panel. The Control Panel window opens.

5. Double-click on the Network icon.

    The Network dialog box opens.

6. Click the Adapters tab.

7. Click the Add button.

8. When the Select Network Adapter dialog box appears, click the Have Disk button.

9. Type the following driver path, with `d:` indicating your CD-ROM drive letter.

    D:/drivers/windows/nt/acceleport/i386

10. When the Select OEM Option dialog box appears, select Digi Acceleport 8r-(PCI)EAI-422 Adapter.

11. Click OK. The driver files are installed.

12. Make any configuration modifications as needed, if prompted.

Installing the Equinox Software Driver

These sample instructions are for installing on a PC with the Windows NT operating system. Procedures may vary for other operating systems.

To install the software driver, do the following:

1. Insert the Equinox CD into your CD-ROM drive.

2. Click the Start on the Windows taskbar.

3. Select Settings.

4. Select Control Panel. The Control Panel window opens.

5. Double-click on the Network icon.

   The Network dialog box opens.

6. Click the Adapters tab.

7. Do one of the following, depending on whether an Equinox driver exists and is displayed in the Network Adapters list.

   a. Select it from the list and click Update. Go to step 10.

      -OR-

   b. If an Equinox driver does not exist in the list, choose Add and continue to Step 8.

8. When the adapter list is displayed, click the Have Disk button.

9. The Insert Disk dialog box appears.
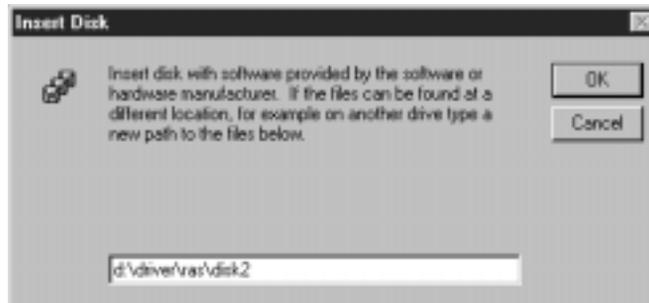
10. Type the following driver path, with d: indicating your CD-ROM drive letter.

    d:\drivers\ras\disk2

11. Do one of the following:

    a. If you are Updating, click Continue and go to step 19.

       -OR-

    b. If you are adding the driver, click the OK button.

       The Select OEM Option dialog box opens. Go to step 12.
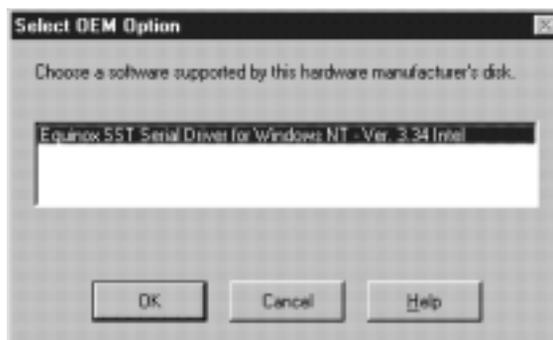
12. Select Equinox SST.

13. Click the OK button.

    The driver files are installed and a message box appears, telling you the Equinox driver has been installed.

14. Click the OK button.

    The Equinox SST Configuration dialog box appears.

15. Make any necessary changes to the COM port number or the memory block for the ISA adapter cards.

16. Click the Next button.

17. If the path for the data scope trace files is acceptable, click Finish.

18. A notice indicating that /PC1LOCK was added to the `boot.ini` file may appear. Click OK.

19. Click the Equinox Logger icon on the Windows taskbar (at the bottom of your screen).

The Equinox Logger - Running window opens, displaying status messages generated during the driver loading operations.

The following information is displayed:

- Number of adapter cards (boards) found

- Memory range(s) and I/O addresses used

- Names of ports available

- Any failure reasons

- Driver version

20. Click Close in the Network dialog box to continue with the installation procedure.

21. The system prompts you to reboot the system. Click Restart and then click Yes.
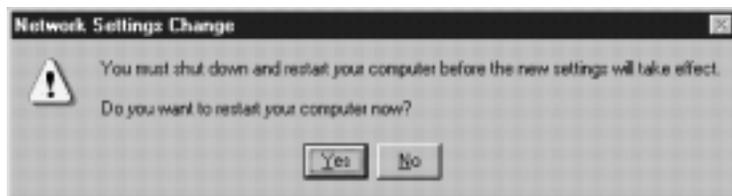
CHAPTER 3

Installing and Configuring iNEWS ControlAir

This chapter contains the following major sections:

- Overview of the Setup

    - Adding IP Addresses on ControlAir Server

    - Adding IP Addresses on iNEWS Servers

    - Installing ControlAir Software

    - Configuring ControlAir Software

Overview of the Setup

The following tasks must be performed on the ControlAir Server.

- Add IP addresses for ControlAir and iNEWS Servers

- Install the ControlAir software

- Configure the ControlAir software

These tasks are described in this chapter.

Ideally, all ControlAir Servers, iNEWS Servers, and ControlAir Work-stations would have each other's IP addresses and computer names, so IP addresses should be added on the ControlAir Server as well as on iNEWS Servers. It is not necessary to include IP addresses for Avid Broadcast workstations or other equipment. See "Adding IP Addresses on iNEWS Servers" on page 3-3 for more information.

The monitor server communicates with the ControlAir software only if the ControlAir Server's IP address is added to all of the iNEWS Servers' `/etc/hosts` *files. Procedures for configuring monitor servers are located in Chapter 4.*

Adding IP Addresses on ControlAir Server

This section provides steps for adding IP addresses to the ControlAir Server.

To add IP addresses to the ControlAir Server, do the following:

1. Use My Computer or the Windows Explorer to open the `\WINNT\system32\drivers\etc` folder.

2. Double-click on the `hosts` file.

3. A dialog box may appear with a list of programs to use for open-ing the file. Scroll down the list and select Notepad. Ensure that you *uncheck* the box to "Always use this program."

4. Click OK. The `hosts` file opens in a Notepad window.

IP Addresses for LAN connected devices should also be listed. See "Native Device Managers" on page 5-4 for more information.

5. At the bottom of the file, add lines listing the IP addresses and computer names for iNEWS Servers, ControlAir Servers, ControlAir Workstations, and MCS-PC machines (if any). For example:

```
192.198.1.1  NRCS-A    nrcs-a  nrcs-a.yourdomain.com
192.198.1.2  NRCS-B    nrcs-b  nrcs-b.yourdomain.com
192.198.1.11 CA1       ca1
192.198.1.12 CA2       ca2
192.198.1.21 CAWKSTN1  cawkstn1
192.198.1.22 CAWKSTN2  cawkstn2
192.198.1.31 MCSPC1    mcspc1
192.198.1.32 MCSPC2    mcspc2
```

6. Save the file and close the Notepad window.

When saving, ensure the newly edited file does not have a `.txt` extension. The default options in Windows Explorer will not display this crucial information. To change this setting, open Windows Explorer and select Options from the View drop-down menu. In the dialog box, check Show All Files and uncheck Hide file extension for known file types, then click OK.

7. Repeat this procedure for each computer on which ControlAir Server, device manager, or ControlAir Workstation software is installed.

Adding IP Addresses on iNEWS Servers

For more information about monitor servers, see Chapter 4.

To enable monitor server to communicate with ControlAir, the IP address of the ControlAir Server must be added to all iNEWS Servers' `/etc/hosts` files.

The following procedures explain how to add the ControlAir IP addresses to iNEWS Servers.

📄 *ControlAir software can be installed on either the Mirror Net or the House Net of the iNEWS hosts. If ControlAir components need access to other station networking services than just iNEWS Servers, then they should be placed on the House network. In either case, static IP addresses and local hosts files should be used for all ControlAir components.*

⚠ **Always back up the `/etc/hosts` file before editing.**

At the console, perform the steps below:

1. Select *all* servers. Instructions for how to do this is provided in Chapter 2 of the *iNEWS Newsroom Computer System Operations Manual.*

2. Type **su** to log in as superuser and type the superuser password.

These steps require the use of ed, *the UNIX line editor. For more information, see Chapter 10 of the* iNEWS Newsroom Computer System Operations Manual.

3. Type **ed /etc/hosts**

    This command launches the UNIX line editor, and positions the cursor at the end of the /etc/hosts file, which contains a list of IP addresses, computer names, and comments, such as:

    ```
    125.1.0.1    NRCS-A    nrcs-a nrcs-a.yourdomain.com
    125.1.0.2    NRCS-B    nrcs-b nrcs-b.yourdomain.com
    ```

📄 *A sample* /etc/hosts *file is provided in Appendix B.*

4. Add addresses to the file by doing the following:

    a. Type **a** and press Enter to append information to the file.

    b. Enter IP addresses, computer names, and comments, such as:

    ```
    192.198.1.11   CA1 ca1 #ControlAir Server1
    ```

    c. Type a period (**.**) to stop appending information to the file.

    d. (Optional) Type **p** to print the appended file and verify your changes.

Do not use an uppercase **W***.*

    e. Save the file by typing **w**.

    f. Quit ed by typing **q**.

The following example shows the UNIX line editing commands used in step 4 along with explanations (appearing in parentheses after the command):

```
a                                               (begins append mode)
192.198.1.11  CA1       ca1       # ControlAir Server1
192.198.1.12  CA2       ca2       # ControlAir Server2
192.198.1.21  CAWKSTN1 cawkstn1 # Wkstn1(ControlRm1)
192.198.1.22  CAWKSTN2 cawkstn2 # Wkstn2(ControlRm2)
.                                                (ends append mode)
p                                              (prints appended file)
w                     (saves changes by writing the file to the disk)
362                          (ed responds by displaying file size)
q                                               (quits the edit session)
```

Installing ControlAir Software

It is possible to install all ControlAir components on a single computer or to install them separately. Typically, ControlAir Server software and device managers (DMs) are installed together on ControlAir Servers and the ControlAir client software is installed on ControlAir Workstations—computers in each control room where ControlAir will be used. See "ControlAir Components" on page 1-4 for more information.

⚠ **If you are planning to install either the AirSPACE or Grass Valley Group Device Manager, there is other software that must be installed prior to the ControlAir software. For the AirSPACE DM, install Avid AirSPACE NT Applications. For the GVG DM, install the Pro*file* software for non-Pro*file* PCs. If the GVG DM is to be used with EditStar, you must also install the EditStar Server Interface for ControlAir. For more information, refer to the specific Device Manager Guides available for these DMs, located in the Docs folder on the ControlAir Install CD.**

The procedure in this manual provides steps for a typical installation.

To install the ControlAir software, do the following:

1. Insert the ControlAir Installation CD into the computer's CD-ROM drive.

2. Navigate to the CD drive. For instance, on a computer running the Windows NT operating system, use Windows NT Explorer and select the CD-ROM drive from the tree-style directory listing.

3. Double-click the Setup.exe file to launch the Setup program.

During installation, the Setup program will check for a valid operating system (OS). Exactly when this check is done varies, depending on selections you make during the installation procedure. If a valid operating system is not found, a message indicating an unsupported OS will appear.

Severe	✕
✖ This target operating system is not supported. The supported operating systems are NT 4 service pack 6a and Windows 2000 service pack 2.	
OK	

Your only option will be to exit the Setup program.

When the Setup program launches, the ControlAir Setup dialog box opens.
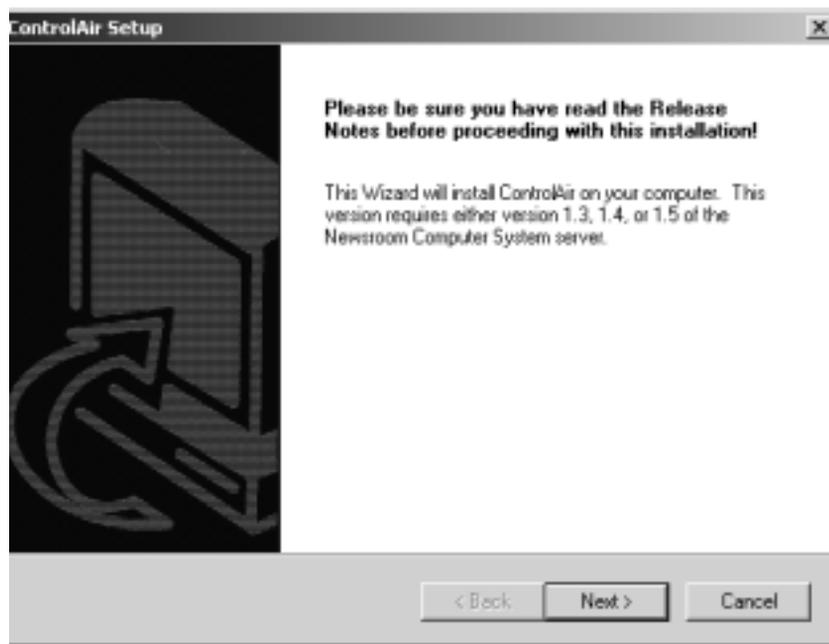
4. Click Next.

📄 *A dialog box will appear with a notice stating the Setup program will change the main directory name from old name(s), if any—such as iNEWS—to Avid. If you have a device manager not provided by iNews, LLC or Avid Technology, Inc., you may need to reinstall it. When this dialog box appears, continue the setup process by clicking Next.*

5. When the License Agreement dialog box appears, read the user license agreement information.
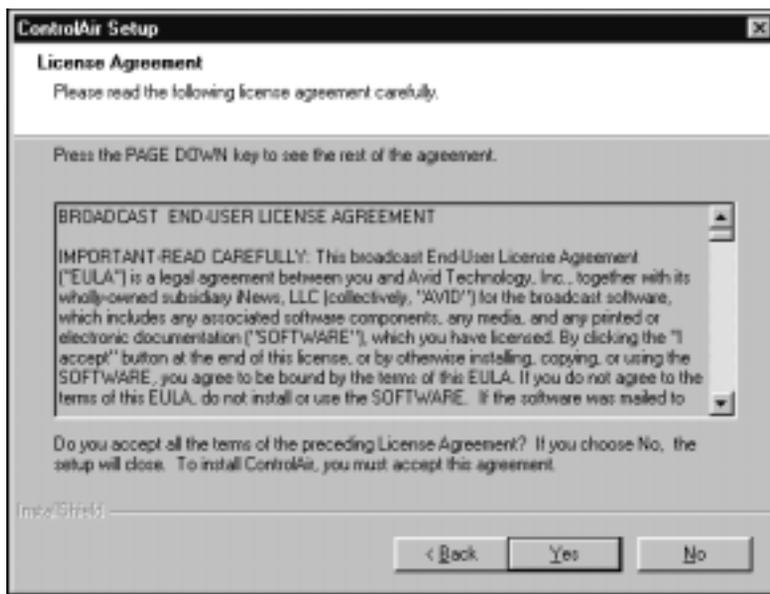
If you accept the terms of the agreement, click Yes and go to step 6. If not, click No and the Setup program will close.

6. When the Customer Information dialog box appears, enter a user name and company name in the appropriate fields.
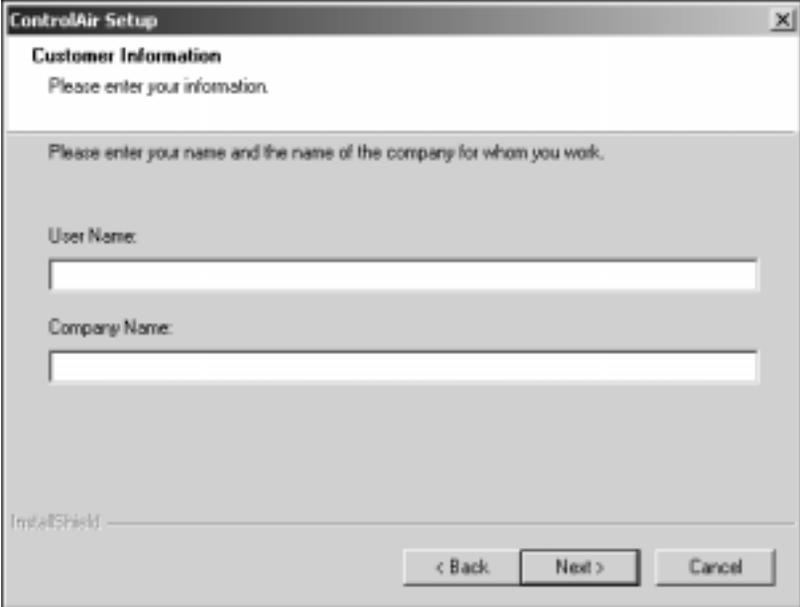
7. Click Next to continue. The Select Program Files Location dialog
   box appears.
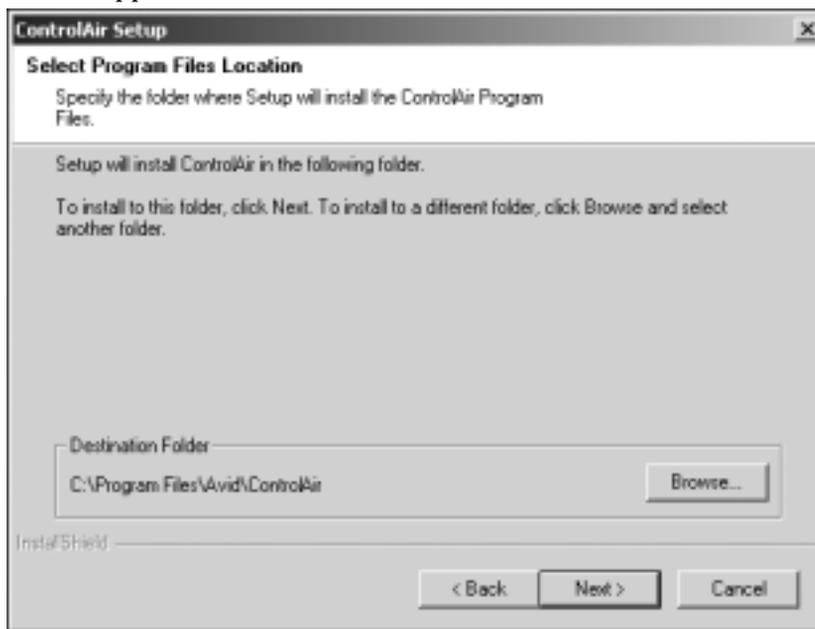
8. Do one of the following:

   a. If the default Destination Folder is acceptable, click Next. Go
      to step 9.

      -OR-

   b. If the default Destination Folder is not acceptable, click
      Browse and choose another location, then click Next. Go to
      step 9.

9. The Setup Type dialog box appears.
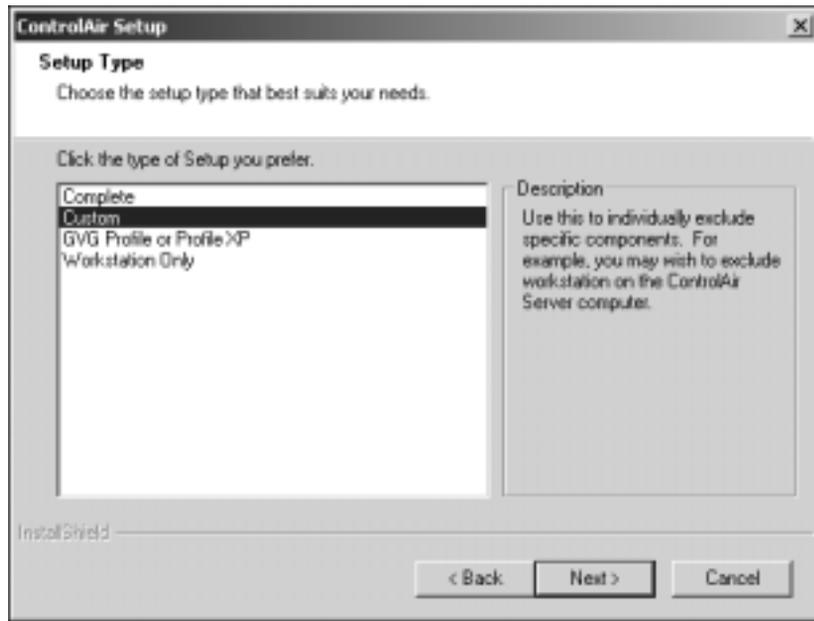
Highlight each type—with a single click—to see a description of that Setup type, provided in the Description section on the left side of the dialog box.

When you click Next in the Setup Type dialog box, the Setup program will verify whether the selected destination has enough space for the type chosen. If it does, the Setup program continues. If not, a warning message will appear and the Setup program will return to the Select Program Files Location dialog box. See step 7 on page 3-10.

Do one of the following:

Step 9a is recommended for the ControlAir Server.

a. Select Complete if installing *all* ControlAir components—server, device manager, and client software—on a single computer. Go to step 11 on page 3-13.

-OR-

b. Select Custom if you want to select individual components to install, such as installing only ControlAir Server and device manager software on a computer. The Select Components dialog box appears. Go to step 10.

-OR-

c. Select GVG Profile or Profile XP if installing software related to the Grass Valley Group's Profiles, high resolution video servers. Go to step 13 on page 3-17.

-OR-

d. Select Workstation Only if installing the client software only on a ControlAir Workstation. Go to step 13 on page 3-17.

10. When a Custom Setup is chosen (as in step 9b), the Select Components dialog box appears.
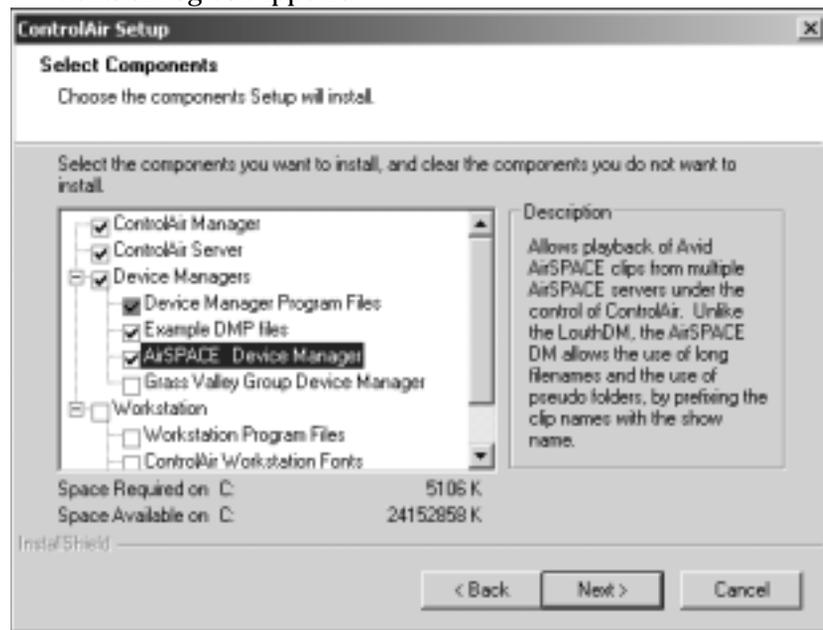
As each component is highlighted, a description is provided on the right.

> *Individual Device Manager subcomponents are explained in Device Manager Guides for each device, which are provided on the ControlAir Install CD. For more information, refer to the guide for your devices.*

To install components for the ControlAir Server and device managers on a single computer, ensure that the following primary components are checked:

- ControlAir Manager
- ControlAir Server– if selected, go to step12 on page 3-16.
- Device Managers, and any of its secondary components, as listed below:
    - Device Manager Program Files – select this option to install program files for the Louth, MCS, and Chyron device managers.
    - Example DMP files – select this option to install sample DMP files.
    - AirSPACE Device Manager – select this option to install program files for the AirSPACE DM. Doing so will result in additional dialog boxes appearing as part of the setup process. Go to step 11 on page 3-13.
    - Grass Valley Group Device Manager – select this option to install program files for the GVG DM. Doing so will result in additional dialog boxes appearing as part of the setup process. Go to step 11 on page 3-13.

> *The other primary component available in the Select Components dialog box is for ControlAir Workstations. Selecting all components in the list would be the same as selecting a Complete setup as shown in step 9a on page 3-11.*

11. This step only applies to Complete Setups or Custom Setups when the Device Managers component is chosen.

    If the Complete Setup type is *not* chosen or if the AirSPACE DM and Grass Valley Group DM components are *not* chosen for a Custom Setup, you may skip this step and go to step 12.

If the AirSPACE and GVG DM components are chosen, additional dialog boxes will appear as part of the setup process—four of which are described in this step:

• For Complete Setups or for a Custom Setup in which the GVG DM is selected, a dialog box will appear asking if the site also has Edit-Star.
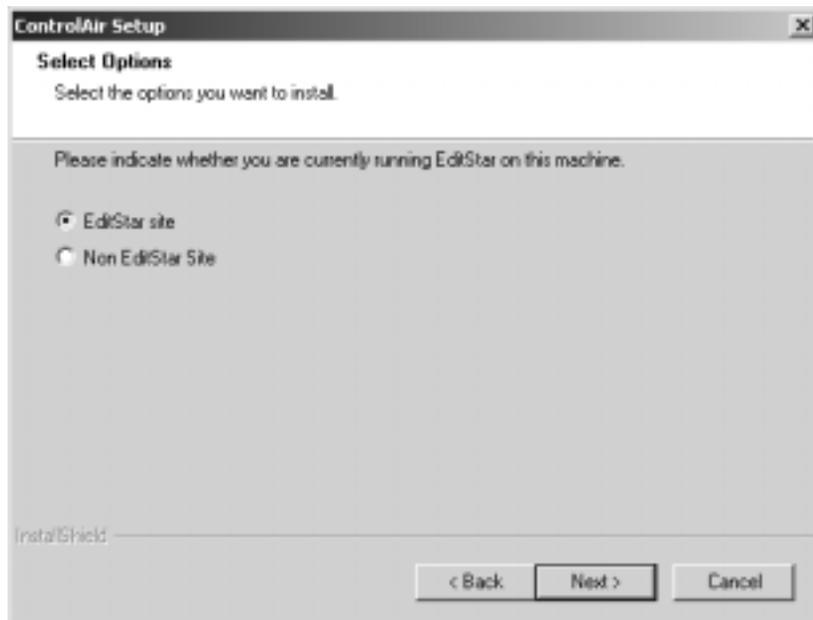
Select the appropriate radio button and click Next.

• For Complete Setups or for a Custom Setup in which the Air-SPACE DM is selected, a dialog box will appear asking if software pertaining to Avid's LaunchPad or MissionControl is installed.

    a. Choose Yes if the requested software is already installed.

       -OR-

    b. Choose No and the Setup program will exit automatically.

- For Complete Setups and or for Custom Setups in which the Air-SPACE DM and/or GVG DM are selected, a dialog box similar to following will appear:

GPI Remote Panel Universal Driver Software ✖

❓ To use GPI Remote Panel to control the AirSPACE device manager you need to have already installed the CBI universal driver software. If you have already installed this software, please click Yes. Otherwise, please click No and install the CBI universal driver software. Once this is complete, please restart the ControlAir installer.

[Yes] [No]

It pertains to GPI Remote Panel support for either the AirSPACE DM, the GVG DM, or both.

    a. Click Yes, if the driver software is already installed.

       -OR-

    b. If not, click No. The Setup program will exit automatically.

12. This step only applies to Complete Setups or Custom Setups when the ControlAir Server component is chosen. The Create the ControlAir Workstation Reserve Override Password dialog box appears.

To set a password, type an Override password in the text box. The password is case-sensitive and can be a combination of letters and numbers.

The Override password must be set during installation; it can be changed through the ControlAir Server program. See "Setting the Override Password" on page 6-7 for more information. The purpose of the password is to prevent a show from being reserved by a second ControlAir Workstation while under the control of a first workstation. Setting this password ensures that only authorized personnel may take control of the show from another workstation, which is useful should a workstation computer fail after it was used to reserve a rundown.

13. Click Next. The Select Programs Menu Folder dialog box opens.

📄 *Program icons are used to launch software programs. For instance, a user clicks the Start button, selects Programs from the menu, then chooses the program icon for the software the user wants to run. By default, most program icons are placed in the Start menu under the Programs option. But , the Select Programs Menu Folder dialog box (shown above) allows an installer to choose an alternative location in the Start menu, during the setup process.*

14. Do one of the following:

   a. Click Next if the default Program Folder setting for the program icons is acceptable.

   -OR-

   b. Type another folder pathname in the Program Folder text box, if the default setting is unacceptable, then click Next.

Settings will vary according to selections made in previous steps.

15. Click Next. The Start Copying Files dialog box appears, displaying the current settings for installation.
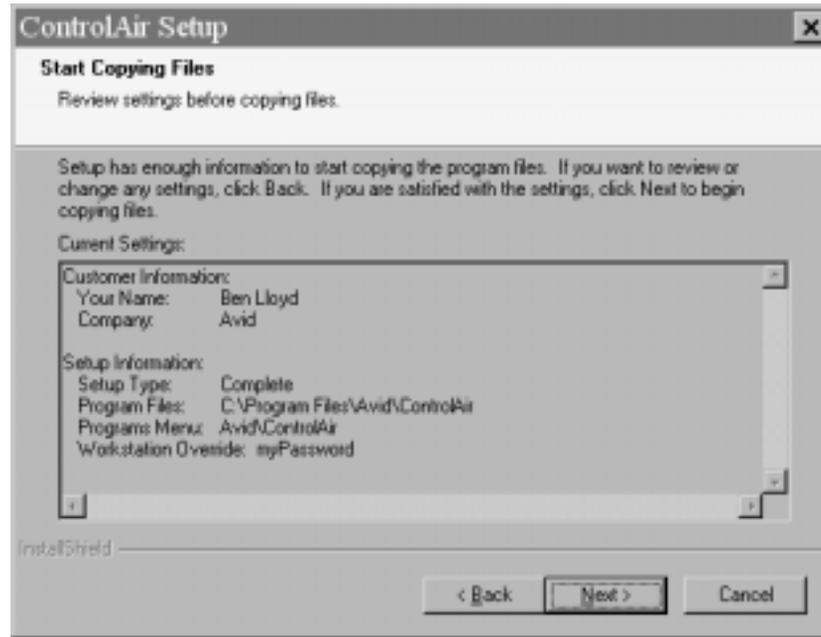
16. Do one of the following:

    a. To review or change any setting, click the Back button.

       -OR-

    b. To continue the setup and start copying files, click Next. Go to step 17.

17. The Setup Status dialog box appears, displaying a progress bar that indicates the percentage of installation completed.
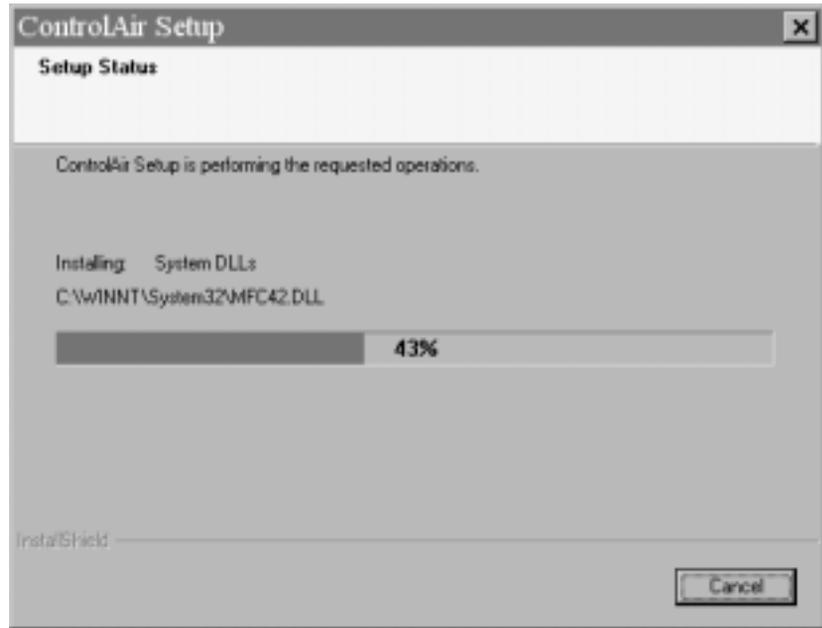
When the progress bar reaches 100%, another dialog box appears; which one depends on what type of installation you chose in step 9 on page 3-11:

- If you chose a Complete or Custom installation that included ControlAir Server software, go to step 18.

- If you chose a Custom installation that did not include the ControlAir Server software, a Workstation Only installation, or GVG Profile or Profile XP installation, go to step 23 on page 3-22.

18. If you are installing ControlAir Server components, an Information-tion dialog box will appear with instructions on how to set up Dr. Watson notifications on the server.

19. Click OK.

20. The Dr. Watson for Windows NT dialog box appears.
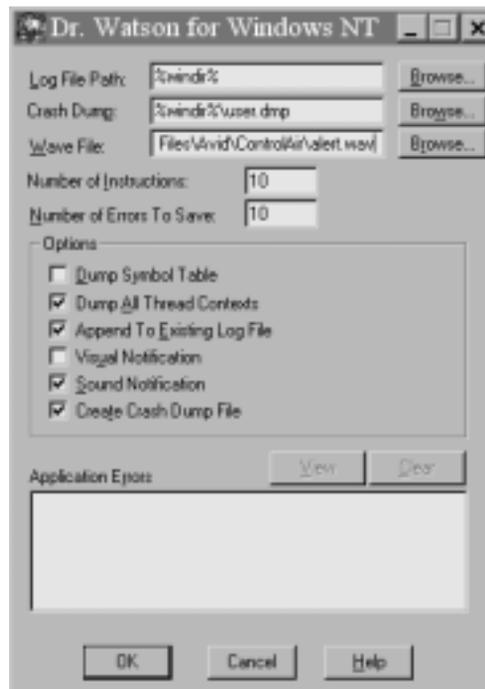
Since most ControlAir Servers are left to run unobserved, visual notification of Dr. Watson issues is not needed. Instead an audible alert is provided. The default audio file is a WAV file called

`alert.wav`. However, this setup dialog box allows the installer to select an alternative audio file, so do each of the following:

a. Ensure the correct pathname to the WAV file is provided. The default location is in the Program Files directory, as shown in the above graphic.

b. Ensure that Visual Notification is unchecked and Sound Notification is checked.

c. Click OK.

The audible alert will only work if the ControlAir Server has a sound card and speakers.

21. A Question dialog box will appear, confirming whether you want the ControlAir Server to automatically logon after reboot? Do one of the following:

a. Click No if you do not want to enable automatic logon. Go to step 23 on page 3-22.

-OR-

b. Click Yes if you want the ControlAir Server to automatically log on after rebooting. Go to step 22 on page 3-22.

If automatic log on is enabled, the password is stored in the server's registry, which means anyone with access to the computer has access to the password. You can bypass the auto logon function after it is enabled by holding down the Shift key during the boot or logoff process.

22. The Logon Information dialog box will appear.
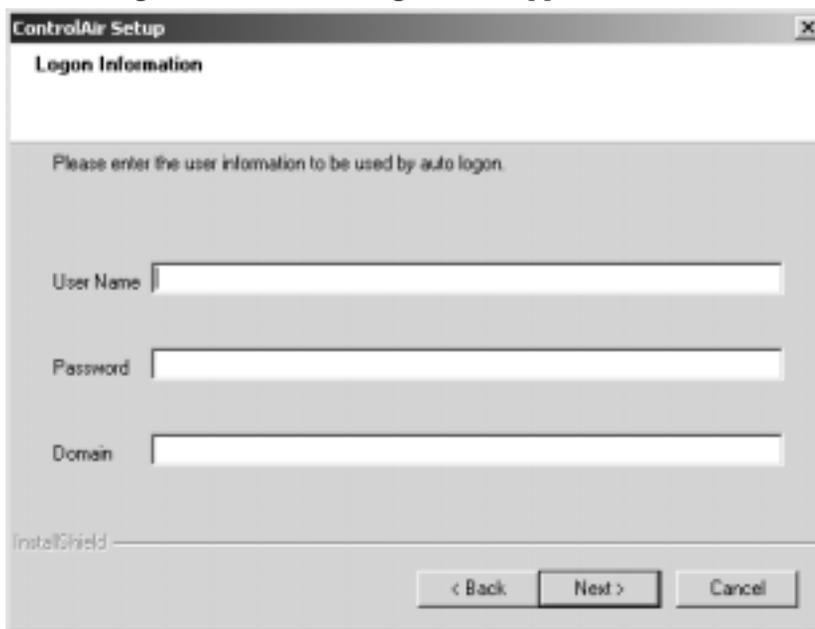
Enter your User Name, Password, and Domain, then click Next.

23. The Setup program will determine whether any previous version of the ControlAir(formerly known as BCS) software is installed.

   a. If not, go to step 27 on page 3-25.

       -OR-

   b. If there is previous software installed, a dialog box will appear as shown:
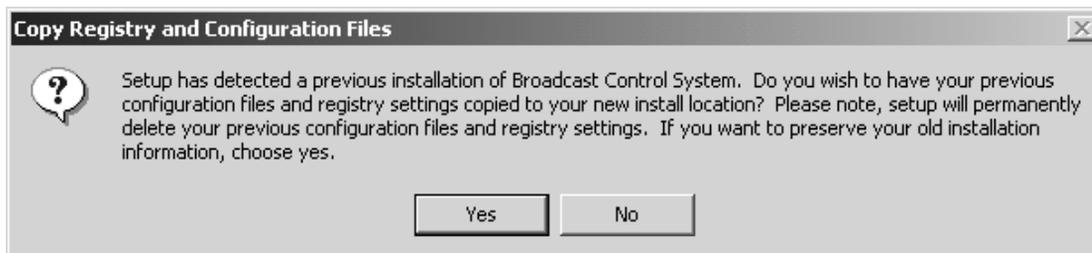
Click Yes, then go to step 24 on page 3-23.

24. The Setup program will search for previous configuration files and registry settings. If it finds them, the copying will proceed as shown:

If it does not find them, then a prompt will appear allowing you to provide the path to their location.
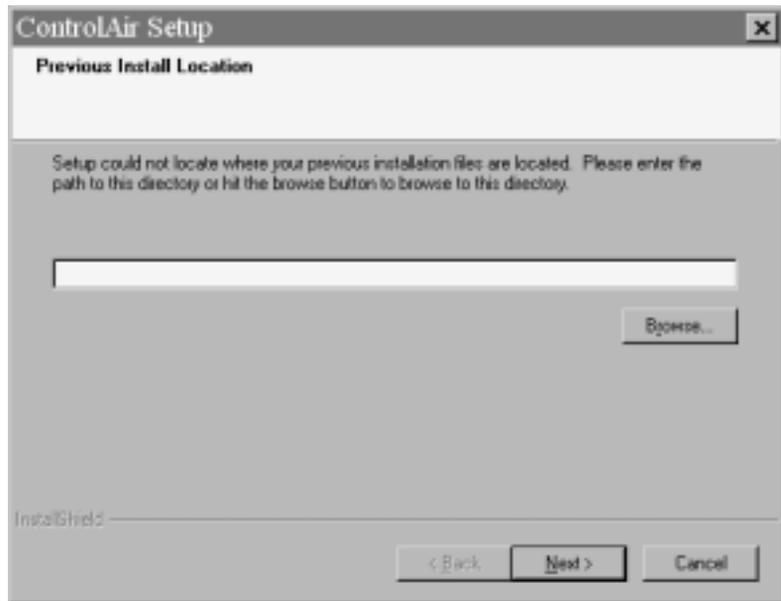
Fill in the path and click Next. The copying will then proceed.

25. After the configuration files and registry settings are copied, if a previous version of ControlAir (formerly known as BCS) exists,

the following notification is displayed: Click OK.
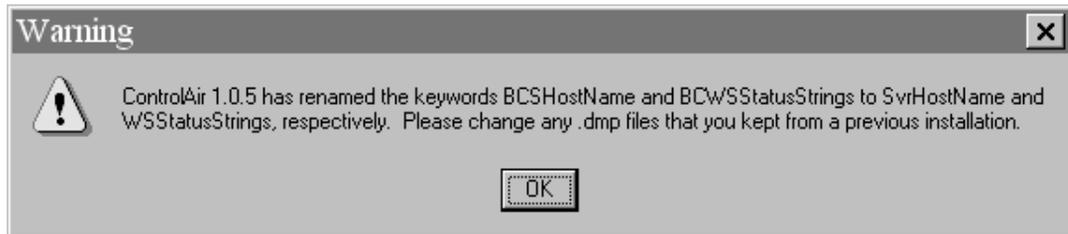
The Setup program will then inform you that it will launch the previous version's uninstall program. Click OK.

26. The InstallShield Wizard displays its Welcome screen.

a. Ensure that Remove is selected.

b. Click Next.

c. Respond to any prompts as needed.

d. When the uninstallation is complete, click OK.

27. The InstallShield Wizard Complete dialog box will appear and prompt you to restart the computer. Do one of the following:

    a. Select Yes to restart the computer, remove the Install CD, and click Finish.

       -OR-

    b. Select No to close the Setup program without restarting the computer.

When installing the software, the computer must be restarted after setup is complete. If the server and device manager software was installed, the ControlAir Server and device manager programs will launch automatically following the reboot. See "Overview" on page 6-2 for more information.

Configuring ControlAir Software

Because ControlAir can interface with a variety of devices, such as character generators, still store machines, and video playback devices, the specific steps for configuring the system will vary. However, the major steps to configuring ControlAir are:

- Setup the ControlAir Manager program by editing the `autostart.ini` file.

- Edit the Device Manager Profile (DMP) file for each device.

The first step is explained in this section. See "DMP Configuration Files" on page 5-6 for more on editing DMP files.

Setup ControlAir Manager

The *ControlAir Manager* program monitors ControlAir components, including device managers, on the ControlAir Server. If one stops running, the ControlAir Manager will restart it automatically.

ControlAir Manager can also monitor third-party device managers.

To determine which programs to monitor, the ControlAir Manager looks for the Start Sequence list in the `autostart.ini` file. A default version of this file—shown in Appendix B—is installed with the ControlAir Server software in the `Avid/ControlAir` directory. A sample copy is also provided in the Examples folder, which is located in the `Avid/ControlAir` directory too.

⚠ **Do not use ControlAir Manager for video device managers, such as DMAirPlay, that do not protect playing clips when it starts up. For more information, refer to the *Device Manager Guide* for each specific device—located on the ControlAir Install CD.**

The `autostart.ini` file contains two lists:

• The Start Sequence list appears first in the file and contains a line for each program monitored by the ControlAir Manager, in the order in which they are to be started.

• The Samples list appears second in the file and contains standard sample lines for other devices commonly used.

The following is an example of the two lists as they appear in the default version of the `autostart.ini` file:

```
[Start Sequence]
casvr.exe
AMCPapp.exe
MCSDM.exe        dmp\mcsdmss.dmp
MCSDM.exe        dmp\mcsdmcg.dmp
LouthDM.exe      dmp\Louth.dmp


[Samples]
;This section is ignored by the ControlAir Manager


ChyronDM.exe dmp\ChyronDM.dmp
LouthDM.exe  dmp\pdr1.dmp
MCSDM.exe    dmp\clipbox.dmp
LouthDM.exe  "c:\My Device Profiles\AirSPACE-2.dmp"
```

The Start Sequence list must begin with the name of the ControlAir Server program, `casvr.exe`. Next comes the Avid Machine Control Protocol Application filename, `AMCPapp.exe`. The remaining lines contain two columns of information pertaining to various device managers—one device per line. The first column has the name of the device manager program and the second provides the pathname for the DMP configuration file. If no DMP file is specified, the device manager will start, but an Open File dialog box will appear, requesting the user to specify a DMP file. See the *Device Manager Guides* on the ControlAir Install CD for more information on creating and editing DMP files for each device.

⚠ **If no DMP file is specified, the ControlAir Manager cannot automatically restart the DM.**

🗎 *It is highly recommended that a copy be made first as a backup before editing the* `autostart.ini` *file.*

To edit the `autostart.ini` file, use the Windows Notepad program.

⚠️ **When saving the newly edited INI file, ensure that it does not have a `.txt` extension. The default options in Windows Explorer will not display this crucial information. To change this setting, open Windows Explorer and select Options from the View drop-down menu. In the dialog box, check Show All Files and uncheck Hide file extension for known file types, then click OK.**

To prevent ControlAir Manager from automatically restarting a device program, the line for that device must be removed from the Start Sequence list in the `autostart.ini` file. It can be deleted from the list completely or moved to the Samples list.

In the following example, the default line for a character generator—`MCSDM.exe`—is and replaced with the standard Chyron device manager line—`ChyronDM.exe`—originally provided in the Samples list. Compare the list below with the standard default listings shown on page 3-27 to spot the edit.

```
[Start Sequence]
casvr.exe
AMCPapp.exe
MCSDM.exe     dmp\mcsdmss.dmp
ChyronDM.exe dmp\ChyronDM.dmp
LouthDM.exe  dmp\Louth.dmp

[Samples]
;This section is ignored by the ControlAir Manager

MCSDM.exe     dmp\mcsdmcg.dmp
LouthDM.exe  dmp\pdr1.dmp
MCSDM.exe     dmp\clipbox.dmp
LouthDM.exe  "c:\My Device Profiles\AirSPACE-2.dmp"
```

CHAPTER 4

Setting up the Monitor Server on iNEWS Servers

After the iNEWS ControlAir software is installed, you must set up monitor servers on iNEWS Servers to use ControlAir.

Do not confuse the monitor server in this chapter with server hardware or file servers, which are computers with the iNEWS database and running the iNEWS Server software. If referenced in this chapter, those computers are called iNEWS Servers, NRCS-A, NRCS-B, and so forth. This chapter explains setup and use of the utility program known as the monitor server. There are various types of these utility programs, called servers, which perform a multitude of tasks. See the "Servers" chapter of the *iNEWS Newsroom Computer System Operations Manual* for more information.

This chapter contains the following major sections:

- Overview
- Configuring Monitor Servers
    - Configuration Summary
    - Configuration Details
- Using Monitor Server

Overview

A *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.

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. See Chapter 14 in the iNEWS Newsroom Computer System Operations Manual for more information on mailboxes and other server programs.*

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 production cues, and builds playlists.

It continues to monitor the rundown for changes and performs as much error checking as it can—by comparing production cues with styles located in the SYSTEM.RESOURCE queue—without communicating with any broadcast equipment, including ControlAir. See "Monitor Mode - On" on page 1-10 and Figure 1-3 on page 1-11 for more information. Also, to learn more about styles and how monitor checks for errors, see "Styles" on page 4-33.

The monitor server loads data to the ControlAir system when a user instructs it to do so from an iNEWS Workstation. The communication paths between monitor server and ControlAir, at this point, is explained in more detail in "Monitor Mode - Load" on page 1-12. See also Figure 1-4 on page 1-13 and "Using the Monitor Server" on page 4-41.

📄 *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.*

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.

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 chapter 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 Broadcast 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 UNIX line editor and selecting servers at the console.

It is highly recommended that you have an iNEWS Newsroom Computer System Operations Manual available while conducting procedures found in this chapter. Selecting servers is explained in Chapter 2 of the operations manual and the UNIX line editor is explained in Chapter 10.

Configuration Summary

The set-up procedure has the following steps: Each step is explained further in "Configuration Details" on page 4-4.

1. Creating a Monitor Server for Each Show (page 4-5)

2. Creating Composite and Event List Queues (page 4-12)

3. Set Up Queue and Story Forms (page 4-15)

4. Assigning Forms to Queues (page 4-17)

5. Create an Entry in the SYSTEM.MAP Story (page 4-19)

6. Updating the iNEWS System Dictionaries (Optional) (page 4-28)

7. Some configurations require updating styles in the SYSTEM.RESOURCE story. For more information on how to do that, see "Styles" on page 4-33.

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. Refer to the *iNEWS Newsroom Computer System Operations Manual* for more information.

To create and configure a monitor server, do the following:

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. For more on mailboxes, see "Using Mailboxes" in Chapter 14 of the *iNEWS Newsroom Computer System Operations Manual.*

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 4-11.

   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 "Assigning the Mailbox to the Rundown Queue" on page 4-10 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" in Chapter 11 of the *iNEWS Newsroom Computer System Operations Manual* for more information.

Changing the configuration file requires the use of ed, the UNIX line editor. See Chapter 10 of the *iNEWS Newsroom Computer System Operations Manual* for more information.

a. At the console, select *all* iNEWS Servers. Instructions for how to do this is provided in Chapter 2 of the *iNEWS Newsroom Computer System Operations Manual.*

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. A sample configuration file is provided in Appendix B; it includes pointers indicating where in the file information is added, as described in this procedure.*

Do not confuse the configuration line, which starts with `server`, and the `servers` line mentioned in 3c (page 4-6), 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 various server programs:

```
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
server   263  print        263  - ;print server
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 Chapter 10 in the *iNEWS Newsroom Computer System Operations Manual* 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 UNIX line editor by typing:

q

4. (Optional) Test your configuration changes. See "Testing the Site Configuration File After Changing" in Chapter 11 of the *iNEWS Newsroom Computer System Operations Manual* for more information.

After editing the configuration file (`/site/config`), it should be backed up to tape. For more information about backing up site files, see the iNEWS Newsroom Computer System Operations Manual.

Before the monitor server can be used, two more tasks must be completed:

- Reconfiguring the system to incorporate the new device (monitor server) into your system's operation.

- Adding the monitor server's mailbox to the rundown queue it will be monitoring.

These tasks are covered in the next two sections.

Reconfigure the System

You do not need to stop anything to reconfigure the system.

To reconfigure the system, do the following:

1. At the console, select the master computer (typically server A).

2. Type **su** to log in as superuser and type the superuser password.

3. Type:

   NRCS-A# **offline**

4. Type:

   NRCS-A# **configure**

5. When the prompt returns, bring the system online again by typing:

   NRCS-A# **online**

   A message similar to the following will appear:

   ```
   A  Wed Oct  3 00:18:58 2001 msg System being configured
   ```

6. After you see the System being configured message, exit from superuser mode. (CTRL-D)

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 4-41 for more information.

Assigning the Mailbox to the Rundown Queue

Mailboxes are assigned to queues in the same way other database traits are—using the Queue Properties dialog box. See Chapter 5 in the *iNEWS Newsroom Computer System Operations Manual* for more information.

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, the rundown queue in the following procedure is SHOWS.6P.RUNDOWN, and the mailbox being assigned is number 267.

To assign a mailbox to the rundown queue, do the following:

1. Log in as a system administrator—that is, with a superuser account—to an iNEWS workstation.

2. Navigate to the rundown queue, such as the queue named Rundown located in the SHOWS.6P directory.

3. Right-click on the queue and select Properties from the pop-up menu. The Queue Properties dialog box will appear.
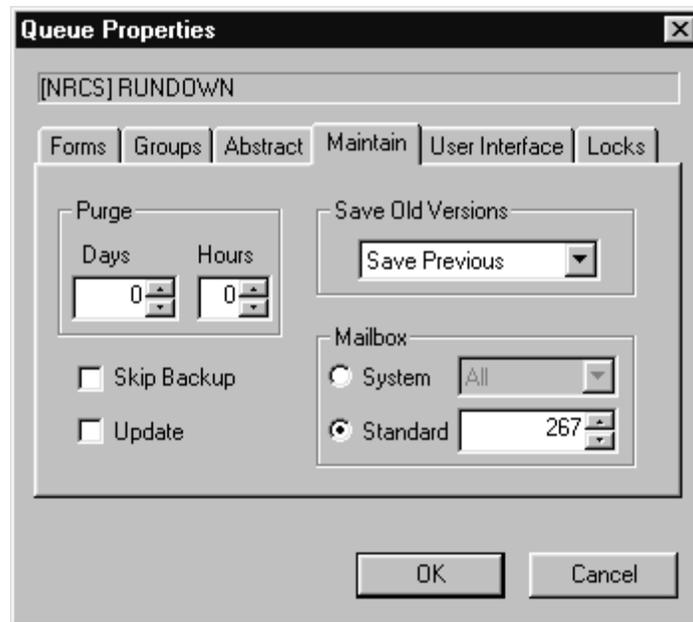
4. Click on the Maintain tab.

5. Select the Standard radio button located in the Mailbox section.

6. Type in the mailbox number, such as 267.

7. Click OK to save changes.

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 rundown 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 production cues and builds lists of machine control 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 4-19.

To create and configure the composite and event list queues, do the following:

1. At an iNEWS workstation, log in as a system administrator—or user with authority to create queues in the iNEWS database.

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

3. Do one of the following:

   a. Click on the Tools drop-down menu, then select New Queue.

      -OR-

   b. 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.
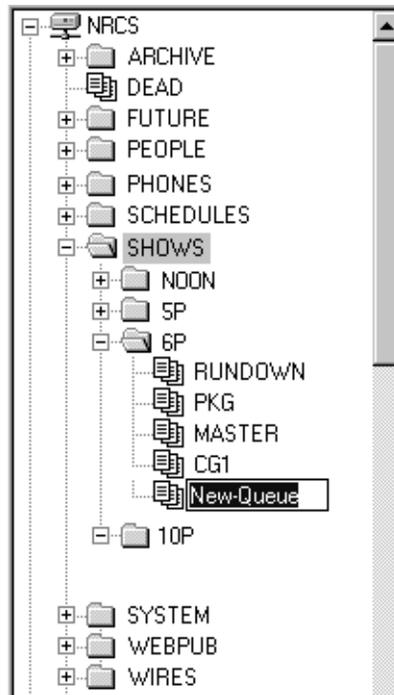
4. Type the name of the new queue, such as **COMPOSITE** or **CG1**.

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 path-name would be* `SHOWS.6P.CG1`. *Using the same example, the pathname for the composite list queue would be* `SHOWS.6P.COMPOSITE`.

5. Press Enter to save the new queue name.

   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 in the *iNEWS Newsroom Computer System Operations Manual.*

6. To have monitor server display information in these lists properly, each queue must be assigned the proper queue and story form. Assigning these forms is covered in "Assigning Forms to Queues" on page 4-17.

7. 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 of the *iNEWS Newsroom Computer System Operations Manual.*

8. 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" in Chapter 6 of the *iNEWS Newsroom Computer System Operations Manual.*

After the composite and event list queues are created, the monitor server must be created—as described in step 1 on page 4-5—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 4-19.

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:

• Two form field types that are often used in forms for all three queues—except for CG and Still Store event lists: VIDEO-ID and EVENT-STATUS.

• The following form field types are used in forms for composite and event list queues: CG-ADDR, CG-TEMPLATE, CG-TEXT, STILL-ID, STILL-PRESET, STYLE, and EFFECT.

All of these fields, associated with the ControlAir system, are explained in more detail in Table 4-1.

Table 4-1   iNEWS Form Fields for ControlAir

Field Type	Description
CG-ADDR	This field holds the ID's or recorded page addresses from the character generator on which a CG (or super) is written by the character generator interface.
CG-TEMPLATE	This field contains template information for the character generator, namely the address on the character generator of the template or tab description message to be used for the requested super.
CG-TEXT	This field contains text of the CG (or super) from the machine control event requested by a user in the script. It is written into specified template fields on the character generator that is interfaced with the iNEWS newsroom computer system.

Table 4-1   iNEWS Form Fields for ControlAir

Field Type	Description (Continued)
EFFECT	This field holds the effect name requested in association with a machine control event that will be applied to the character generator or still store machine when it is taken to air. For instance: a wipe or a dissolve.
EVENT-STATUS	This field displays availability and play status of a machine control event, as reported by the production device involved. For instance, a video event could be reported as N/L (not loaded) or OFFLINE, CUED,PLAYING, or STOPPED, among other things. In forms for rundown and event list queues, only the status of a video event can be displayed. In Machine Control Terminal (MCT) and ControlAir Workstation forms, this field can also contain the status of CG and still store events.
STYLE	This field contains the style name specified when a user requests a CG or Still Store machine control 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 CG. 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.
STATUS	This field is used in a rundown queue. It will display "OK" or "ERROR," depending on the status of production cues in the story. The iNEWS system's monitoring program sets this field to indicate whether there are any errors in the production cues in stories of the rundown.
STILL-ID	In a composite or event list queue, this field displays the alphanumeric identifier for a still store graphic.
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 ControlAir Workstation.
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.

📑 *See the "MCS/BCS Fields and Forms" section in Chapter 8 of the iNEWS Newsroom Computer System Operations Manual for further information on when and how these fields are used, as well as other fields that maybe used. For instance, TAPE-TIME, RUNS-TIME, and MOS-DURATION.*

For a field to be used in a queue form, it must also exist in a story form. Refer to Chapter 8 in the iNEWS Newsroom Computer System Operations Manual for details on creating or modifying forms and other form field types. More form and field information pertaining to upgrading to iNEWS as it relates to ControlAir is provided in Appendix C of this manual.

Step 4: Assigning Forms to Queues

After you create queues to hold the composite and event lists, you must assign forms containing ControlAir fields to each queue. For instance:

- Assign a form designed to display composite list information to `SHOWS.6P.COMPOSITE`

- Assign a form designed to display the information in a character generator's event list to `SHOWS.6P.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 Net-Station, you must update forms for composite and event list queues, including rundown forms.*

To assign a form to a queue, do the following at an iNEWS workstation:

1. Navigate to the queue you want in the Directory panel.

2. Right-click on it. A pop-up menu will appear.

3. Select Properties from the pop-up menu. The Directory/Queue Properties dialog box will appear.
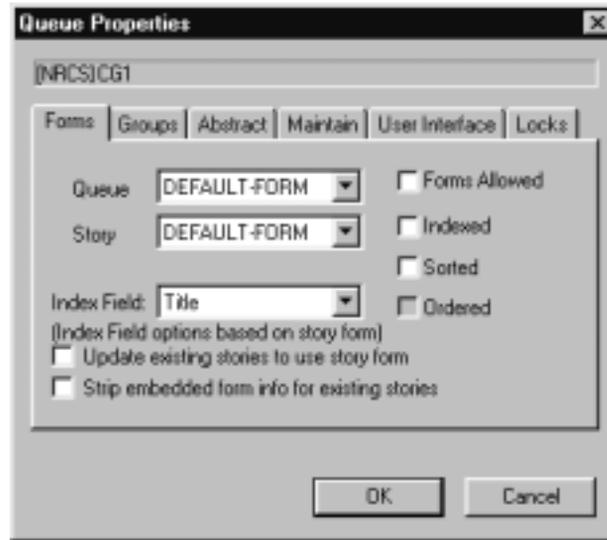
⊟ *Access to the Directory/Queue Properties dialog box and its appearance vary, depending on certain circumstances. See Chapter 5 of the iNEWS Newsroom Computer System Operations Manual for more information.*

4. Do either or both of the following:

   a. 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.

   b. 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.

   You must assign a queue form and a story form. The *queue form* determines the look of the queue. The *story form* determines the look of each individual story.

   For instance, to assign the standard composite list queue form to the SHOWS.6P.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 the iNEWS Newsroom Computer System Operations Manual.

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 previously existing stories within 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. 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.

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, do the following:

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.

   Figure 4-1 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      DEVNAME                       UPDATE   PLAYBACK FORM (MSG DIR)
;
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       -
;
;
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       -
;
;
SHOW.SPECIALS.RUNDOWN   SHOW.SPECIALS   SHOW.SPECIALS.COMPOSITE    -   D130
ss           ss2@casvr-1,casvr-2          UPDATE   bcs-bcw
cg           cg2@casvr-1,casvr-2          UPDATE   bcs-bcw       C:NEWS:300 499
cart         pdr2@casvr-1,casvr-2         UPDATE   bcs-bcw       3
mos          sony@mosgwy                  UPDATE   bcs-bcw       -
```

The entry header must be followed by a device list.

Figure 4-1   Sample Map Story

2. Create an entry header.

   As shown in Figure 4-2, the entry header 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 entered 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 time you want the monitor to turn itself off

The directory that holds the event list queues

The composite list queue

The show's rundown queue

Groups

```
;RUNDOWN                EVENT DIR     COMP QUEUE              GROUP (OFF TIME)
;DEVICE      DEVNAME                  UPDATE   PLAYBACK FORM (MSG DIR)
;
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        -
;
;
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        -
;
;
SHOW.SPECIALS.RUNDOWN    SHOW.SPECIALS   SHOW.SPECIALS.COMPOSITE   -   D130
ss           ss2@casvr-1,casvr-2    UPDATE   bcs-bcw
cg           cg2@casvr-1,casvr-2    UPDATE   bcs-bcw        C:NEWS:300 499
cart         pdr2@casvr-1,casvr-2   UPDATE   bcs-bcw        3
mos          sony@mosgwy            UPDATE   bcs-bcw        -
```

Figure 4-2   Sample Entry Header

You must specify the parameters in the entry header in the order indicated in Table 4-2.

Table 4-2   Entry Header Parameters

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.6P here and you have a still store machine called "ss1," the monitor server puts the still store's event list in SHOWS.6P.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.

The type of production device | The name of the production device | Whether the monitor server updates the device's playlist | The ControlAir Workstation form for that show, or the MCT form for that device | The address range you want to use (CGs and still stores only)

```
;RUNDOWN                      EVENT DIR       COMP QUEUE              GROUP (OFF TIME)
;DEVICE       DEVNAME                         UPDATE  PLAYBACK FORM (MSG DIR)
;
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          -
;
;
SHOW.6P.RUNDOWN             SHOW.6P              SHOW.6P.COMPOSITE         -    2100
ss            ss@casvr-1                       UPDATE  bcs-bcw
cg            cg@casvr-1                        UPDATE  bcs-bcw          C:NEWS:500 699
cart          pdr@casvr-1                       UPDATE  bcs-bcw          3
mos           sony@mosgwy                     UPDATE  bcs-bcw          -
;
;
SHOW.SPECIALS.RUNDOWN   SHOW.SPECIALS   SHOW.SPECIALS.COMPOSITE    -    D130
ss            ss2@casvr-1,casvr-2             UPDATE  bcs-bcw
cg            cg2@casvr-1,casvr-2             UPDATE  bcs-bcw          C:NEWS:300 499
cart          pdr2@casvr-1,casvr-2            UPDATE  bcs-bcw          3
mos           sony@mosgwy                     UPDATE  bcs-bcw          -
```

Name of backup server

Figure 4-3   Sample Device List in a SYSTEM.MAP story

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 Table 4-3 and Table 4-4.

Table 4-3   Device List Parameters

Parameter	Definition
Device Type	Specify the type of production device in this parameter.
	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.

Table 4-3   Device List Parameters (Continued)

Parameter	Definition
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 the format is:
	`<device name>@<ControlAir 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>,<backup>`
	Examples are provided in Figure 4-3.
	Device names for ControlAir Server devices, must match the device name specified in a DMP file for one of the DMs configured on that ControlAir Server.
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`.

Configuring Monitor Servers

📰 *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.*

The last parameter of a device list line—Drive, Directory/User#, and so forth—is defined in Table 4-4.

Table 4-4   CG and Still Store Specific Device List Parameters

Parameter	Definition
Parameters for Character Generators:	
Drive	Select the disk drive you want the character generator to use. If you leave this field empty, the CG uses its default drive.
Directory/User#	Select the directory you want the character generator to use.

Table 4-4   CG and Still Store Specific Device List Parameters

Parameter	Definition
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 templates.
	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 still store to use. If you leave this field empty, the still store uses its default drive.
Directory/User#	If your still store 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.

Table 4-4   CG and Still Store Specific Device List Parameters

Parameter	Definition
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 channels 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 text of any dictionary entry. These include the names given to device types, the text of any error or warning messages sent to the iNEWS Workstation, certain keywords, and the text of status indicators from various devices. There are many reasons a site

may want to change a dictionary entry. For instance, an AirSPACE, 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. Refer to the *iNEWS Newsroom Computer System Operations Manual* for more information about editing iNEWS system dictionaries.

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, 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 One or More Servers" in Chapter 2 of the *iNEWS Newsroom Computer System Operations Manual* for more information.

This procedure uses the UNIX line editor. For more information, see Chapter 10 of the *iNEWS Newsroom Computer System Operations Manual.*

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 UNIX 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 Chapter 10 in the *iNEWS Newsroom Computer System Operations Manual* 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 UNIX line editor by typing:

q

See Appendix C in the iNEWS Newsroom Computer System Operations Manual 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, if any monitor servers are running at the time the command is entered, the changes will not apply. All 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* when the monitor servers are not being used to monitor on-air shows or during preparation prior to going on-air.**

To update your iNEWS dictionaries, do the following:

1. Select *all* servers.

The prompt endings change from a colon (:)—indicating a system operator login—to a pound sign (#)—indicating a superuser login.

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

Configuring Monitor Servers

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.

📑 *In versions prior to iNEWS 1.5, the command was* **`makemctab -b`***. This command is still valid in version 1.5, but* **`makemctab -i`** *is recommended.*

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

Whether the monitor server in iNEWS is used alone or with the iNEWS 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 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 4-35 for more information.*

Styles make it easier to create event requests because they simplify the information users must put into the request. Styles are also important for providing information required for the monitor server to check production cues for errors. Any errors are then reported to iNEWS users through instant messages or by changing the color of the production cue when displayed in the Story panel at an iNEWS Workstation. The information contained in styles will 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:

1. An iNEWS User writes a script with machine control events and saves it to a show's rundown queue.

3. When the monitor server finds errors during the comparison, it reports them to iNEWS users through the Rundown Queue, among other ways.

Styles

Rundown Queue

SYSTEM.RESOURCE Queue

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.

Monitor Server

Figure 4-4   Monitor Server's Error Checking Workflow

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.

To help users remember the styles and their names when they assign event requests, you should publish a list of styles as shown in Figure 4-5.

Publish the list both in printed format and in a read-only queue to allow users to reference the list from an iNEWS Workstation.
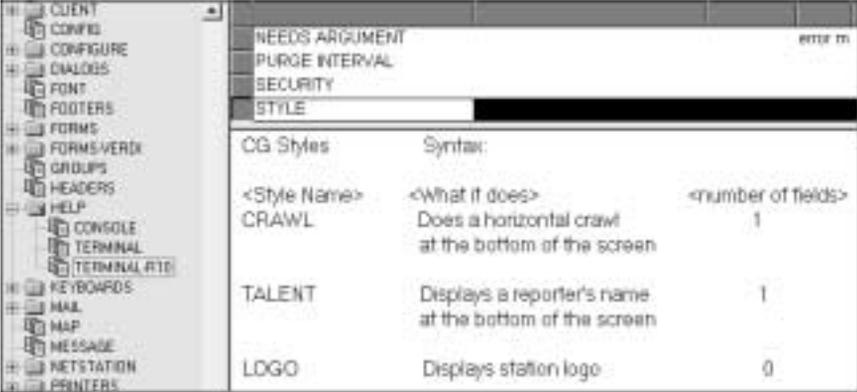
Figure 4-5   Example Style List

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. Instructions for doing this is in the *iNEWS Newsroom Computer System Operations Manual*.**

To create a style, do the following:

1. At an iNEWS Workstation, navigate to the SYSTEM.RESOURCE queue.

2. Do one of the following:

   a. Open an existing story to edit.

      -OR-

   b. Click the File drop-down menu and select New Story. The new story is created, and will appear with blank Story Form and Story Text panels.

Story Form Panel

Story Text Panel

[NRCS]SYSTEM.RESOURCE			☒
slug	anchor	creator	modified
		rdarah	3/17/98 11:02:35
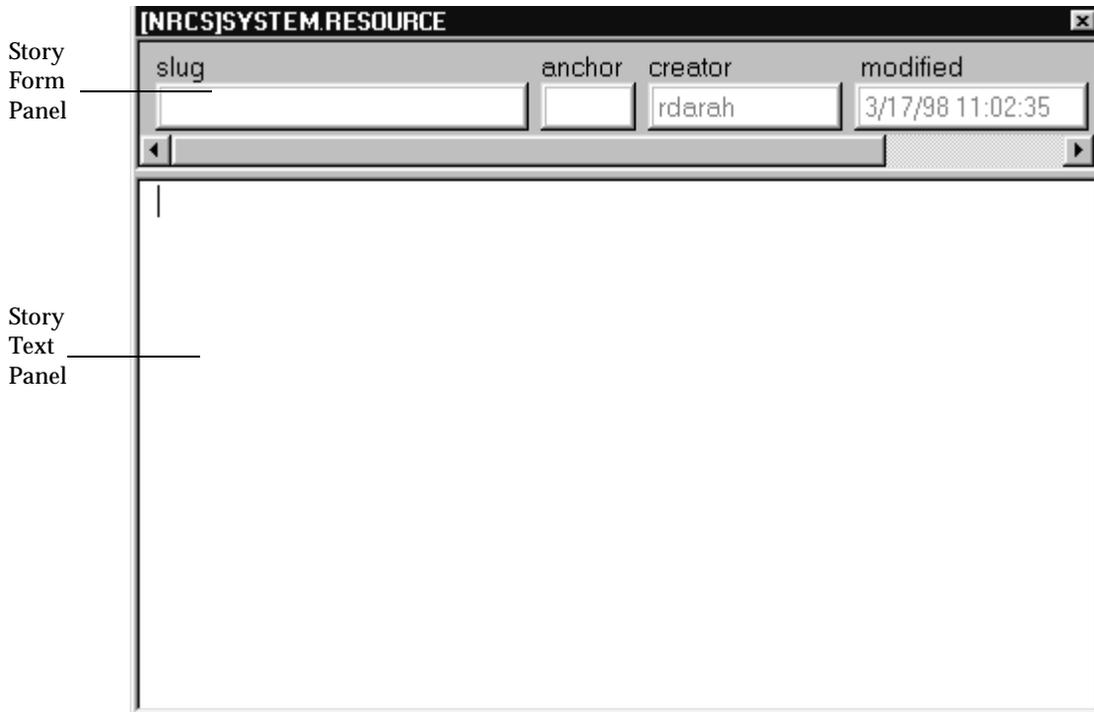
Lines beginning with a semicolon (;) are comments and ignored by the system. Comments may also be added to the end of lines.

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
```

4. Do one of the following:

   a. If editing styles in an existing story, move to the appropriate line(s) in the story.

      -OR-

   b. 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 Table 4-5. The information you provide will vary slightly between styles for character generators and still store machines.

Table 4-5   Style Parameters for CGs 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 must match one of the device names assigned to a rundown in the SYSTEM.MAP story. 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.

Table 4-5   Style Parameters for CGs and Still Store Machines

Parameter	Definition
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. See Figure 4-3 on page 4-23 for more information.*
	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 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.

Table 4-5   Style Parameters for CGs and Still Store Machines

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 the Template parameter refers to the CG address of that pre-recorded super. 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 drop-down 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 in Figure 4-6.

```
;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
```

Figure 4-6   Sample Styles for CG in SYSTEM.RESOURCE Story

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, log in to an iNEWS Workstation, and do the following:

1. Open the appropriate rundown queue.

2. Click the Tools drop-down menu.

3. Select 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.
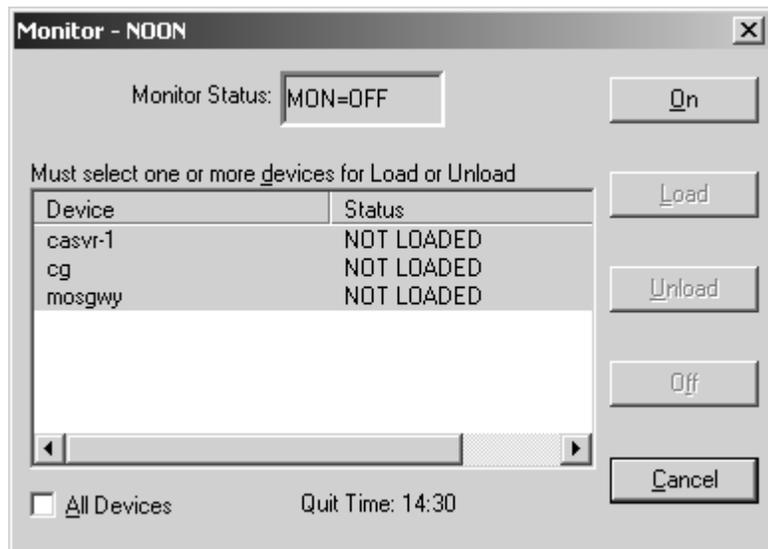
Figure 4-7   Monitor Queue Dialog Box

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   - disconnects from the selected device or server without turning the monitor server off. (If all devices/ servers are unloaded, the monitor server returns to the On mode.

- 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 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.
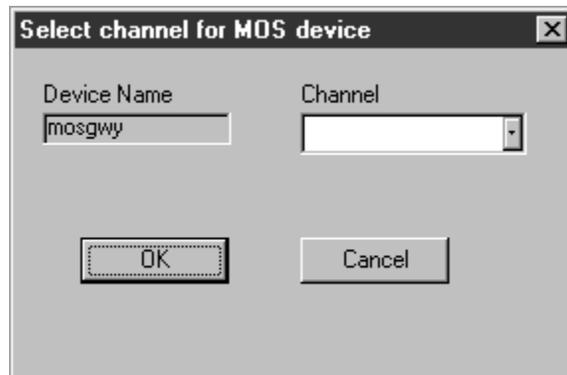
Click OK to return to the previous dialog box.

5. Click OK.

For more information on using the monitor server, please refer to the ControlAir Training Guide.

CHAPTER 5

Working with Devices

This chapter contains the following major sections:

- Overview
  - Native Device Managers
  - MCS-PC Device Manager
- Adding Devices
- DMP Configuration Files
  - What Does a DMP File Do?
  - Character Mapping

Overview

To get a show to air, you must control several devices simultaneously. These devices include:

- Character generators

- Still store machines

- Video playback devices (such as the Louth VDCP or cart machines)

The ControlAir system enables you to control several types of devices from one workstation, using device managers—also known as DMs. Without ControlAir, each device has a separate standalone workstation through which it is controlled. Not all production devices use computer interfaces; some older ones have special panels, custom keyboards, and so forth. Figure 5-1 depicts a one type of standalone device configuration.
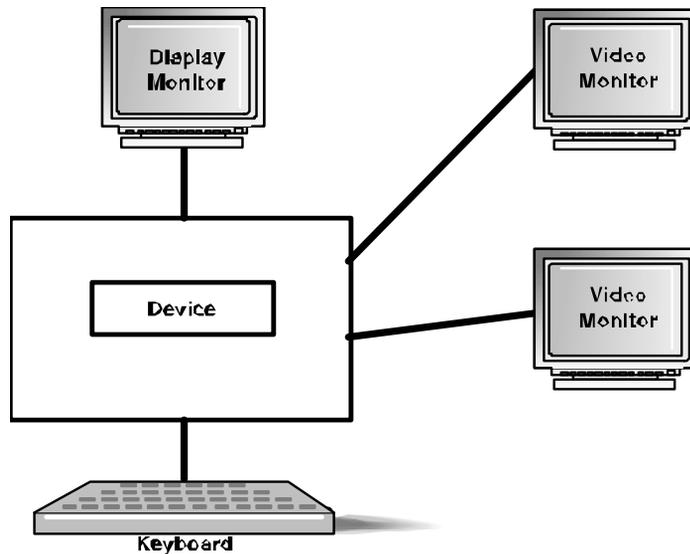
Figure 5-1   Sample Standalone Device Configuration

When ControlAir software is installed, one option includes installing default DMs and configuration files for various devices. This is usually done on the ControlAir Server. See "Installing ControlAir Software" on page 3-5 for more information.

Devices are connected to the ControlAir Server through DMs, which control the devices and report their status in DM windows. See "Device Manager Windows" on page 6-12 for more information.

DMs are executable program files that usually have DM in the name and end with the extension `.exe`, such as `LouthDM.exe`.

The ControlAir system supports two types of DMs:

• Native DMs, such as ChyronDM and Louth VDCP DM, written specifically for ControlAir

• MCS-PC DM, which makes ControlAir compatible with devices that run on Avid's iNEWS newsroom computer system. See "MCS-PC Device Manager" on page 5-5 for more information.

Some Native DMs are supplied by Avid, while other Native DMs are provided by third-party suppliers, such as production device vendors.

Figure 5-2 illustrates a sample device setup in ControlAir.
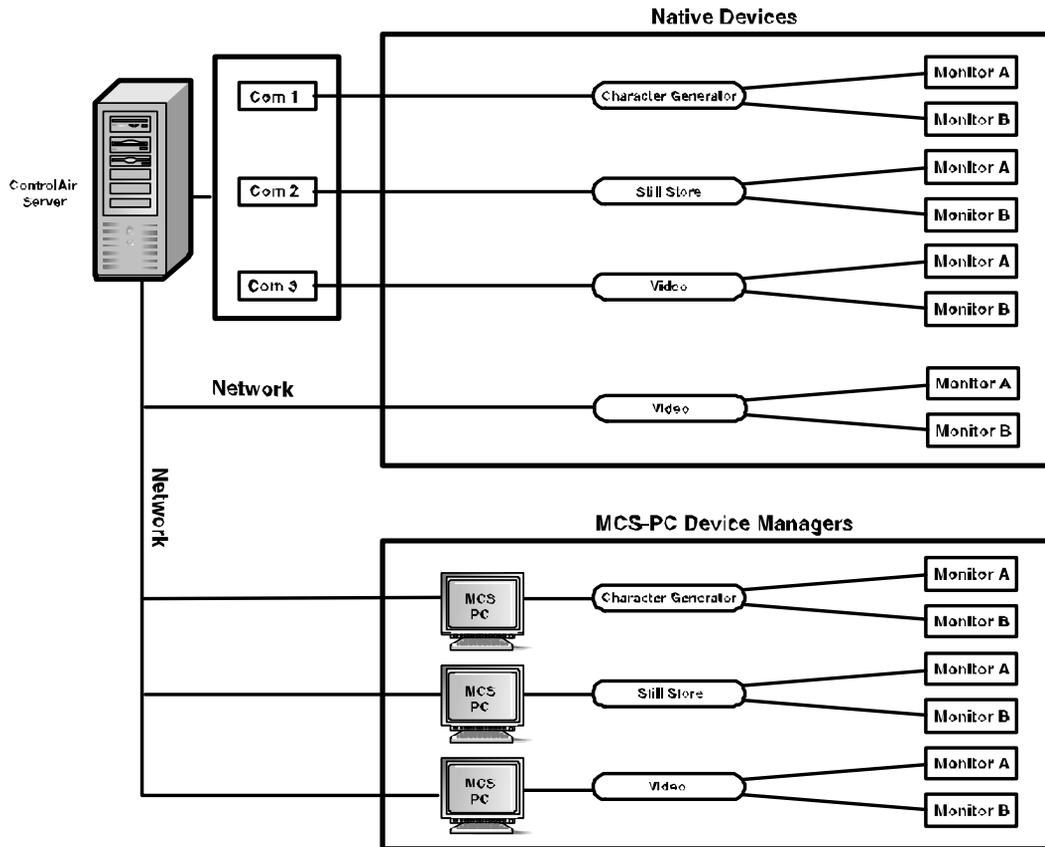
Figure 5-2 Sample Device Setup in ControlAir

Native Device Managers

Some devices connect directly to the ControlAir Server through a native device manager. These devices include:

• Louth VDCP-compatible devices

• Chyron Intelligent Interface-compatible devices

- Avid AirSPACE™

- Grass Valley Group Pro*file*™

Third-party DMs will connect in a manner most appropriate for the device. See the third-party manufacturer's documentation for more information.

With ControlAir, the current native DMs for Louth and Chyron-compatible devices are connected to devices over a serial interface, but a Local Area Network (LAN) is used for connecting the AirSPACE and GVG DMs to their respective devices: the Avid AirSPACE and GVG Pro*file*. For those using LAN connections, ControlAir Server must have their IP addresses in its `etc/host` file. See "Adding IP Addresses on ControlAir Server" on page 3-2 for more information.

Each native DM has a Device Manager Profile—also known as the DMP file—in which configuration data for the device is specified.

MCS-PC Device Manager

Some devices connect to an MCS-PC first, which in turn connects to the ControlAir Server through the MCS-PC device manager. These devices include:

- Character generators

- Still Stores

- Cart machines

With ControlAir, device managers are connected to MCS-PCs through a network connection, and from MCS-PCs to devices over a serial interface. The ControlAir Server must have IP addresses for MCS-PCs in its `etc/host` file. See "Adding IP Addresses on ControlAir Server" on page 3-2 for more information.

Unlike native DMs, configuration data for devices controlled by the MCS-PC DM is specified in two locations:

- An `MCSDM.dmp` file, located in the `Avid/ControlAir/DMP` directory on the ControlAir Server. These files are typically named

for the device or for the ControlAir device name if there is more than one of the same type.

- The device's MCS-PC driver profile—a file with the device's number as its name and located on the iNEWS Servers in the `/site/mcs` directory

For instance, the MCS-PC DM controlling a character generator called CG1 with the device number of 407 would rely on configuration data located in the `CG1.dmp` MCSDM profile and the `/site/mcs/407` MCS-PC driver profile.

Adding Devices

While the ControlAir Install program sets up the standard DMs for typical devices, different devices can be added at a later date.

To add a device, ensure the following items are done:

- The executable program for the device is installed in the `iNEWS/ControlAir` directory. See "Installing ControlAir Software" on page 3-5 for more information.

If the device is controlled by the MCS-PC device manager, additional configuration data may be required in a driver profile. See the specific device's *Device Manager Guide* for more information.

- The device's DMP configuration file is edited and saved into the `Avid/ControlAir/DMP` folder. See the *Device Manager Guide* for the device, which is located in the Docs folder on the ControlAir Install CD, for more information.

- The device is added to the `autostart.ini` file, if necessary. See "Setup ControlAir Manager" on page 3-25 for more information.

DMP Configuration Files

Each DM has a Device Manager Profile (DMP) file that enables you to specify the device's configuration. For each device and DM (except

AirPlay devices), there must be a separate DMP file, which is a text file with the extension `.dmp`. Multiple instances of any device and its DM can be run on ControlAir by starting each with its own DMP file.

In the case of the MCS-PC DM, configuration data is in two locations; some settings are defined in its DMP file, while others are configured in specific MCS-PC driver profiles on the iNEWS Server in the `/site/mcs` directory. See "MCS-PC Device Manager" on page 5-5 for more information.

Each DM will open its corresponding DMP file—as defined in the `autostart.ini` file—at start-up. See "Setup ControlAir Manager" on page 3-25 for more information.

By default, DMs are installed in the `Avid/ControlAir` directory. Sample DMP configuration files are installed together in a folder called Examples, which is put in the same `Avid/ControlAir` directory. DMP files can be edited using the Windows Notepad program.

It is highly recommended that a copy be made as a backup first before editing any DMP file. Most text is not *case-sensitive in DMP files. For the exceptions to this rule, see the Device Manager Guide for your specific device, located in the Docs folder on the ControlAir Install CD.*

The active DMP files, after edited, should be placed in the DMP folder, which—by default—is also located in the same `Avid/ControlAir` directory. A device manager will find its DMP file by searching relative to the directory it is in.

The device manager can be running while its DMP configuration file is edited; however, the changes will not take effect until the DM is restarted. To do this, do the following:

1. Leave the DM running while you edit and save its DMP file.

2. Stop the device manager by closing its DM window located on the ControlAir Server.

When the DM stops, this triggers the ControlAir Manager, which will automatically restart the DM with its new configuration settings as found in the DMP file.

One exception to this procedure is the AirPlay DM, which is not monitored by the ControlAir Manager. For further editing instructions, see the Device Manager Guide for your specific device, located on the ControlAir Install CD in the Docs folder.

What Does a DMP File Do?

Device parameters that can be defined in DMP files include:

- The ControlAir Server's Host name
- The Device's name
- Number of Channels
- Dictionary (for error messages)
- Serial port configuration (and/or network settings)
- Character mapping
- Playback effects

The ControlAir Server's Host name and device manager name are required in all DMP files. Also, all DMP files will have connection (serial or network) configuration information. All CG-related DMP files will have character mapping and most files for CGs and still stores will include effects.

Depending on the device, other parameters not listed here may be defined. See the device's specific Device Manager Guide for more information.

Just as production devices differ from each other, so do their profiles. For instance, some still store machines can display graphics using special effects, such as fade or dissolve. Normally, if the still store operator wants to use an effect, he or she would select that effect from the still store machine's console when the graphic is displayed. However,

ControlAir can select the effect for you when the graphic is aired if it is provided with the information to do so. This information is defined in the still store machine's DMP file. This same concept applies to character generators, which can also implement special effects, such as crawls.

Character Mapping

Character generators can usually produce characters that do not appear on standard keyboards . For instance, your character generator can probably produce the character "¥" for yen, the Japanese currency or "£" for pound, the British currency, but these characters do not appear on standard keyboards. To enable users to select these characters from their workstations—that is, entering text in the CG machine control event—they must be mapped to characters located on the keyboard.

For users to create machine control events with these kinds of characters in CG template fields, they must be mapped to characters that do appear on the keyboard but are not likely to appear in actual character generated graphics—also known as supers. An example of such a character is the carrot symbol (^).

You can map a single character to a string of one or more characters in a profile, but not vice versa. In fact, this is the only way that you can pass eight-bit (or extended) characters through certain serial interfaces; the eight-bit characters would be mapped in the profile to the escape codes that would generate them on the device.

Except in the case of the MCS-PC DM, character mapping is done in the device's DMP file. For MCS-PC DM, character mapping is done in the MCS PC driver profile located in /site/mcs.

For Native DMs

This section provides a brief introduction of character mapping in DMP files for natively-controlled character generators. For more detailed information, see the device's *Device Manager Guide*, located on the ControlAir Install CD.

In each CG DMP configuration file, a section dealing with character mapping is included. It is easily recognizable; locate the line that looks like this:

```
[Mapping]
```

The syntax for character mapping in a DMP file is:

```
<Character-to-Map>=<Mapped String>
```

A single character on a keyboard can be mapped to another single character or string of characters.

To correctly map characters for a device, refer to the manufacturer's documentation accompanying the device to determine the acceptable codes. The standard Windows ASCII codes, such as 0163 for the British pound (£), may *not* be used to define a mapped character or string.

For MCS-PC DM

This section applies to mapping characters for character generators controlled by the MCS-PC device manager.

In the following example, a character generator's profile is edited to map that CG's code for the Yen (¥) to the asterisk character (*) on the keyboard. The character generator, in this example, recognizes 234 as the code for the Yen character and its device number is 407, so its profile is stored in /site/mcs/407.

1. List the profile by using the cat command:

```
NRCS-A: cat /site/mcs/407
```

A message similar to the following appears:

```
;Configuration
setup com1 9600-8nh
setup id 2
setup mixpreset 0
;setup debug 81
;character mapping
;map  <fromchar> <tochar>
map    <209>      <78>
NRCS-A:
```

This part should be done with *all* iNEWS Servers selected. See the *iNEWS Newsroom Computer System Operations Manual* for more information on selecting servers and how to use the UNIX line editor.

2. To add a new line to the profile, use the UNIX line editor by typing the `ed` command.

   NRCS-A: **ed /site/mcs/407**
   editing /site/mcs/407
   145

3. Since the character mapping information is at the end of this profile, type **$** to move to the end of the file and append the new line there.

   $
   map   <209>   <78>

4. Type **a** and press Enter. This will start appending information you type to the file:

   a

5. The format you must use to map a character the CG can produce to one available on the keyboard is shown below:

   map   <terminal character> <CG character>

   Enter the `<terminal character>` and `<CG character>` parameter values either by typing the actual character—if, of

course, it is one that can be generated from the keyboard—or by using the ASCII code for that character. If you use an ASCII value, you must enclose it in angle brackets—`<67>` for instance. If you type the character itself; however, do not enclose it in angle brackets. In the following example, the asterisk (*) key is mapped to the code the character generator uses to represent yen symbol represented by the code `234`, so the command line appears as follows:

`map   *   <234>`

6. Type a period to stop appending, the save and exit the UNIX line editor by typing the write and quit commands, as shown:

`.`

`w`

`167 chars`

`q`

`NRCS-A:`

After editing the file, restart the device so the changes to the profile can take effect.

CHAPTER 6

Control Air Operations

This chapter contains the following major sections:

- Overview
- The ControlAir Server Program
  - Stopping and Starting the ControlAir Server
  - Setting the Override Password
- The AMCP Application Program
- Device Status at the ControlAir Workstation

Overview

After the ControlAir Server software is installed and when the computer is rebooted, several programs associated with the ControlAir system are launched automatically. These programs include:

- The ControlAir Manager program

- The ControlAir Server program (`casvr.exe`)

- The AMCP application (`AMCPapp.exe`)

- Any device managers configured in the ControlAir Manager

The ControlAir Server program and AMCP application are explained in this chapter. Information about the ControlAir Manager is available in "Setup ControlAir Manager" on page 3-25. For more information pertaining to device managers, see Chapter 5 and the appropriate *Device Manager Guides* on the ControlAir Installation CD.

Windows for each of these programs will open on the desktop. They may be minimized, but do not close a window since this will close the actual program.

Shortcuts—indicated by icons like those shown at left—may also be placed on the desktop for quick access to one or more of these programs.

For instance, there is typically a shortcut to the ControlAir Manager. Double-clicking on the icon will manually launch the ControlAir Manager program, which in turn launches other ControlAir programs the manager monitors. Using the shortcut is not necessary after the computer is rebooted, since the programs launch automatically upon a reboot.

If the ControlAir Manager is configured and running, should a user close a window associated with the system, such as the ControlAir Server program, ControlAir Manager will automatically relaunch the program, which will reopen the window.

Because the ControlAir Manager relaunches device managers, short-cuts for them are not usually needed.

The ControlAir Server Program

The ControlAir Server's window—as shown in Figure 6-1 on page 6-4—displays a list of diagnostics while the program is running. As changes occur, information about errors, new clients or playlists, or other status changes is displayed along with the date and time of the change. The types of messages that appear in the list vary, depending on what diagnostic filters are set. See "Setting Diagnostic Filters" on page 6-4 for more information.

Printing ControlAir Server Diagnostics

To obtain a printout of the readings on the screen—that is, the list of messages in the ControlAir Server window, do the following:

1. Click the File drop-down menu.

2. Select Print Screen. The Print dialog box will appear, from which you can select a printer, number of copies, and so forth.

3. Click OK to print.

There are two other options in the File drop-down menu that pertain to print-ing. Choose the Print Setup option to alter printer settings. Choose the Print Preview option to view on screen a sample of what will be sent to the printer.

```
Control Air Server                                                    _ □ ×
File  View  Diagnostic  Tools  Help
08/13/01 13:12:52  I/O: [e1]: Received MSG_EVENT_STATUS_DATA from "vid".          ▲
08/13/01 13:12:52  DATA: "vid": Changing event #1a719ce4 status to 2.
08/13/01 13:12:52  I/O: [f6]: Sending MSG_EVENT_STATUS_DATA to "caws-1".
08/13/01 13:12:52  I/O: [a7]: Sending MSG_EVENT_STATUS_DATA to "RND:SHOW.11PM.RUNDOWN".
08/13/01 13:12:52  I/O: [e1]: Received MSG_EVENT_STATUS_DATA from "vid".
08/13/01 13:12:52  DATA: "vid": Changing event #1c719ce4 status to 2.
08/13/01 13:12:52  I/O: [f6]: Sending MSG_EVENT_STATUS_DATA to "caws-1".
08/13/01 13:12:52  I/O: [a7]: Sending MSG_EVENT_STATUS_DATA to "RND:SHOW.11PM.RUNDOWN".
08/13/01 14:43:26  I/O: [a7]: Received MSG_EVENT_DELETE from "RND:SHOW.11PM.RUNDOWN".
08/13/01 14:43:26  DATA: "SHOW.11PM.RUNDOWN": Deleting event #f719cdf.
08/13/01 14:43:26  I/O: [e1]: Sending MSG_EVENT_DELETE to "vid".
08/13/01 14:43:26  I/O: [f6]: Sending MSG_EVENT_DELETE to "caws-1".
08/13/01 14:43:27  I/O: [a7]: Received MSG_EVENT_ADD from "RND:SHOW.11PM.RUNDOWN".
08/13/01 14:43:27  DATA: "SHOW.11PM.RUNDOWN": Adding break event #a, "[break]".
08/13/01 14:43:27  I/O: [f6]: Sending MSG_EVENT_ADD to "caws-1".
08/13/01 14:43:27  I/O: [a7]: Received MSG_EVENT_DELETE from "RND:SHOW.11PM.RUNDOWN".
08/13/01 14:43:27  I/O: [a7]: Received MSG_EVENT_DELETE from "RND:SHOW.11PM.RUNDOWN".
08/13/01 14:43:27  DATA: "SHOW.11PM.RUNDOWN": Deleting event #10719cdf.
08/13/01 14:43:27  DATA: "SHOW.11PM.RUNDOWN": Deleting event #11719cdf.
08/13/01 14:43:27  I/O: [f6]: Sending MSG_EVENT_DELETE to "caws-1".
08/13/01 14:43:27  I/O: [f6]: Sending MSG_EVENT_DELETE to "caws-1".
08/13/01 14:43:27  I/O: [dc]: Sending MSG_EVENT_DELETE to "cg".
08/13/01 14:43:27  I/O: [dc]: Sending MSG_EVENT_DELETE to "cg".         ▼
Ready                                                          NUM
```

Figure 6-1   The ControlAir Server Window

Setting Diagnostic Filters

Diagnostic information is grouped into four separate categories:

- Errors and Warnings

- Status changes

- Data information

- Input/Output information

Any or all of this information could be displayed in the ControlAir
Server window, as determined by diagnostic filters. The data could

also be saved as text files, known as Log files, on the ControlAir Server, if the Output to File check box is selected, as shown below in the Select Diagnostic Information Groups dialog box.

Samples of Data and Input/Output information are shown in Figure 6-1.

To set diagnostic filters, do the following: from the ControlAir Server window:

1. Restore the ControlAir Server window if it is not already.

2. Do one of the following:

   a. Click the Diagnostic drop-down menu and select Choose Filter.

      -OR-

   b. Type ALT-DC.

   The Select Diagnostic Information Group dialog box appears.
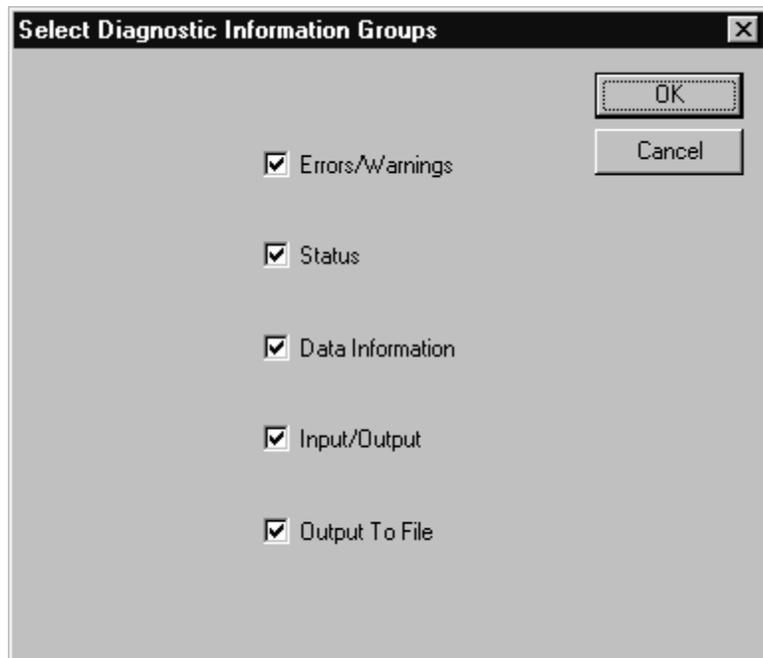
3. Check each box, depending on whether you want that type of information displayed in the ControlAir Server window.

The ControlAir Server stores diagnostic information, status changes, and all error/warning messages. Checking those corresponding boxes only controls whether such information is displayed on screen in the ControlAir Server program window. Data and Input/Output information is only stored when the appropriate check box is selected.

4. Check the Output to File box if you want the data saved to text files—thus generating Log files—on the ControlAir Server.

5. Click OK to save settings.

Stopping and Starting the ControlAir Server

The ControlAir Manager program automatically launches the ControlAir Server program when the computer boots up. However, a system administrator can manually stop and restart the ControlAir Server program without having to completely reboot the computer.

To stop and restart the ControlAir Server program, do the following:

1. Close the ControlAir Server window.

2. Close the AMCP Applications window.

The device managers will close their own windows automatically after the ControlAir Server program stops.

The ControlAir Manager program will automatically relaunch the ControlAir Server program, the AMCP application, and the device managers.

An exception is the device manager for AirPlay, which must be manually stopped and restarted. If the ControlAir Manager does not restart a program or device, see Chapter 7 for more information on troubleshooting.

To stop the ControlAir Server program without restarting it, do the following:

1. Close the ControlAir Manager window.

2. Close the ControlAir Server window.

3. Close the AMCP Applications window.

   The device managers will close their own windows automatically after the ControlAir Server program stops.

4. Verify that all device manager windows closed; if not, close them.

If the programs are not stopped in the proper sequence, the system could be caught in a loop. This can happen if a device manager is left running after the ControlAir Manager is stopped and restarted; the ControlAir Manager attempts to restart the DM, which is already running, thus causing the ControlAir Manager to issue an error message stating that it cannot restart the DM. Should this happened, see Chapter 7 for troubleshooting information.

5. Close the ControlAir Workstation program if it is running on the same computer.

This procedure is useful for maintenance purposes, such as if you should need to cut the power to the computer for some reason.

To restart the ControlAir Server, do one of the following:

a. Reboot the computer.

   -OR-

b. Restart the ControlAir Manager program. It will automatically launch the ControlAir Server program, the AMCP application, and device managers (except the DM for AirPlay).

Setting the Override Password

The purpose of the Override password is to prevent a show from being reserved by a second ControlAir Workstation while under the

control of a first workstation. Setting this password ensures that only authorized personnel may take control of the show from another workstation, which is useful should a workstation computer fail after it was used to reserve a rundown. The password must be set during installation of the ControlAir Server software; however, from the ControlAir Server window, it may be changed at any time. The password cannot be set from a ControlAir Workstation.

To change the password, do the following:

1. Maximize the ControlAir Server window if it is not already.

2. Do one of the following:

   a. Click the Tools drop-down menu and select Options, then Password.

      -OR-

   b. Type ALT-TOP.

   The Change Override Password dialog box appears.
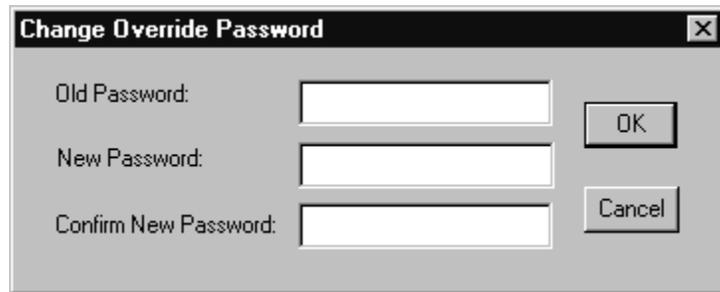
Change Override Password	✕
Old Password:	[ ] [OK]
New Password:	[ ]
Confirm New Password:	[ ] [Cancel]

3. In the fields provided, do the following:

   a. Type the old password.

   b. Type the new password. The password is case-sensitive and can be a combination of letters and numbers.

   c. Confirm the new password, by typing it a second time.

4. Click OK to save the new settings. (Click Cancel only if you want to exit without altering the existing password.)

The AMCP Application Program

The Avid Machine Control Protocol (AMCP) application is one of the programs typically monitored by the ControlAir Manager, so if it is stopped, the ControlAir Manager will automatically relaunch it. This also happens after the ControlAir Server is rebooted.

The AMCP application is an executable program used primarily as a translator between the iNEWS monitor server and the ControlAir Server; without it running, there is no communication between iNEWS and ControlAir. It is also used by software programmers and third-party developers for obtaining diagnostic information so they can build device managers that interface well with the ControlAir system. It is seldom used by system administrators on site, but it must be running on the ControlAir Server. Closing the application's window will stop the program; minimize the window instead to regain access to the desktop.

In the main window, smaller windows—known as views—will open containing machine control data for each show when the monitor server loads machine control event data from a rundown to the ControlAir system. That is done when a user issues the `monitor load` command in iNEWS, using the drop-down menu option provided in the rundown.

Each view disappears when the `monitor unload` or `monitor off` command is issued, the last of which turns off that show's monitor server.

See Chapter 4, particularly the section called "Overview" on page 4-2, for more information on monitor servers.

The AMCP application also provides a verbose mode feature that records communication between monitor servers and ControlAir. This is particularly helpful for troubleshooting. See "Saving Rundown Data" on page 7-6 for more information.

Figure 6-2 shows the AMCP Application window, displaying three cascaded workspaces for the Noon, 10 PM, and 11 PM shows:
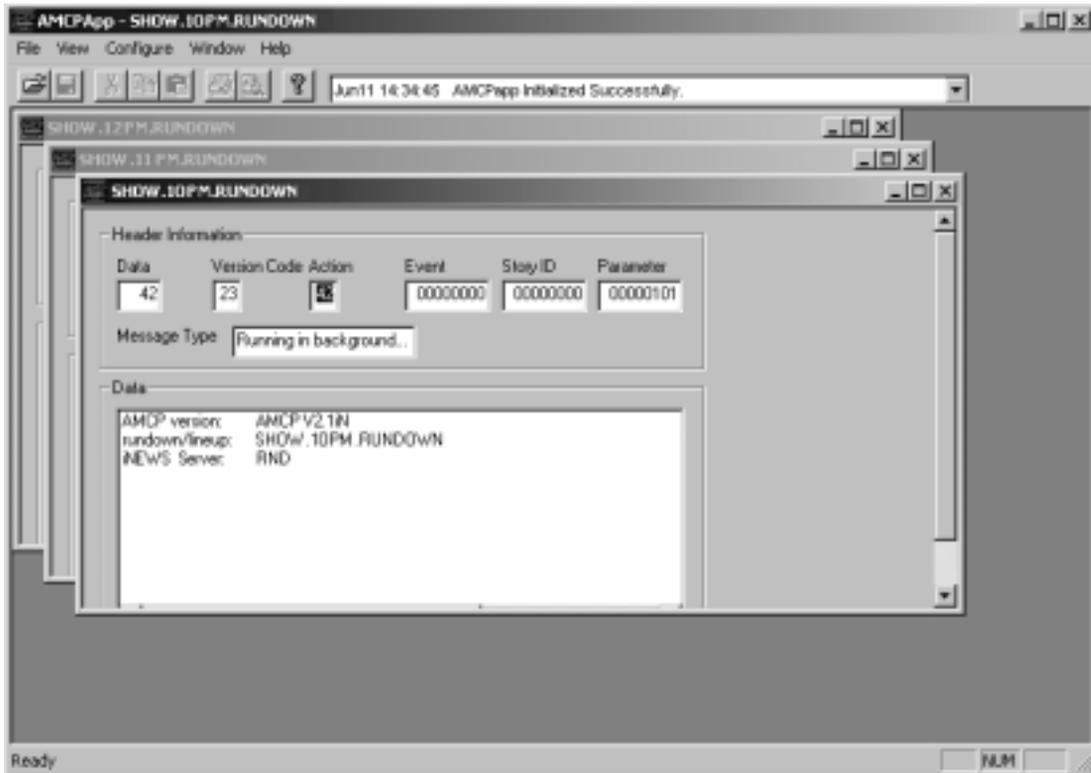
Figure 6-2   The AMCPAPP Window

The display can be changed from cascade to tile so views do not overlap within the AMCP Application window, as shown in Figure 6-3.

To do this, click the Window drop-down menu, and select Tile.
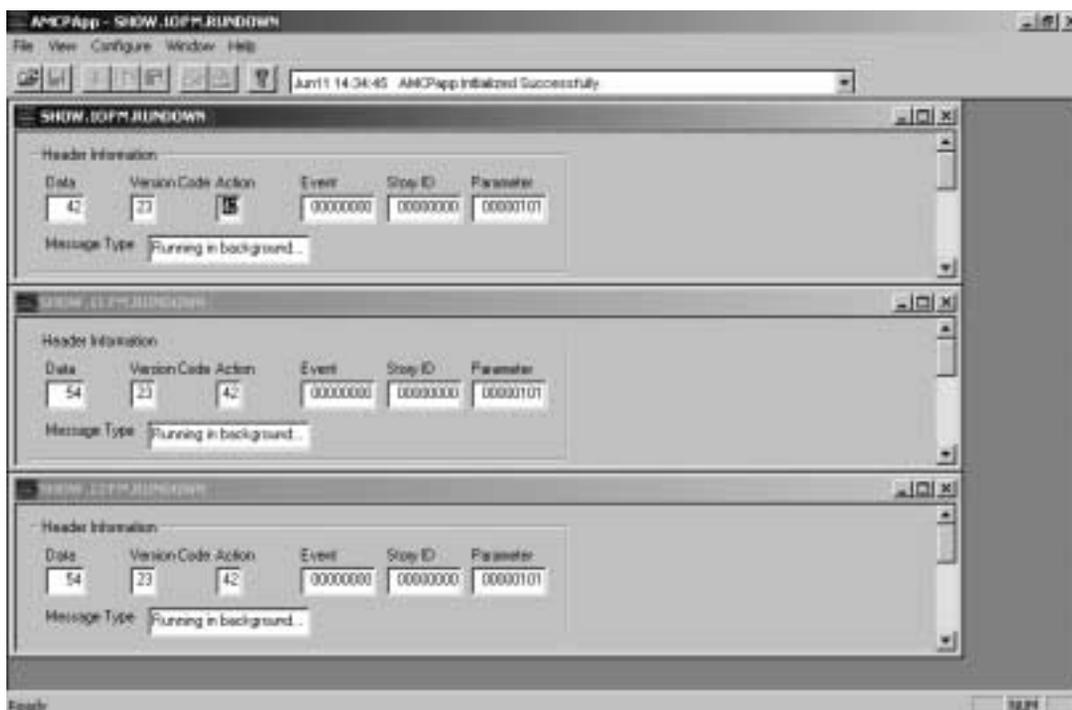
Figure 6-3   The AMCPApp Window with Tiled Workspaces

⚠ **Each view represents a connection between an iNEWS rundown and the ControlAir Server. Users must not close the view within the AMCP Application window; doing so closes that connection between rundown and server. The proper method to close the connection is to use the `monitor unload` and `monitor off` options at an iNEWS Workstation.**

The main toolbar has a drop-down list—shown below—that provides a historical list of the past several system messages, such as initialization and disconnect notices, with the most recent appearing on screen.

| Aug13 09:34:30 AMCPapp Initialized Successfully. | ▼ |

The AMCP Application Program

Device Manager Windows

Typically, device managers are installed on the ControlAir Server, so when it boots, DM programs are launched and their windows opened over the desktop. The look and information provided in each DM window varies, depending on the device; however, one example is shown in Figure 6-4.

Figure 6-4   Device Manager Window for LouthDM

The specific details of each DM window are explained in each device's *Device Manager Guide*, provided on the ControlAir Install CD.

DM windows can be minimized to the Windows taskbar, without jeopardizing control of devices. However, do *not* close a DM window because doing so will terminate control of the device.

When ControlAir Manager is set up and running, it will monitor DMs—with the exception of the AirPlay DM—and should a DM window be closed, it will relaunch the DM program, reopening the DM window.

See Chapter 5, "Working with Devices," for more information.

Device Status at the ControlAir Workstation

This section provides some basic information about the ControlAir Workstation window, as it pertains to connectivity between devices and the ControlAir Server. At the top of the window is a drop-down list providing a history of messages about system status. Below the drop-down list is a section called Playlist Devices and below that is the Device bar, containing five black fields.

Message History List   Playlist Devices Section

Device Bar, with five devices shown
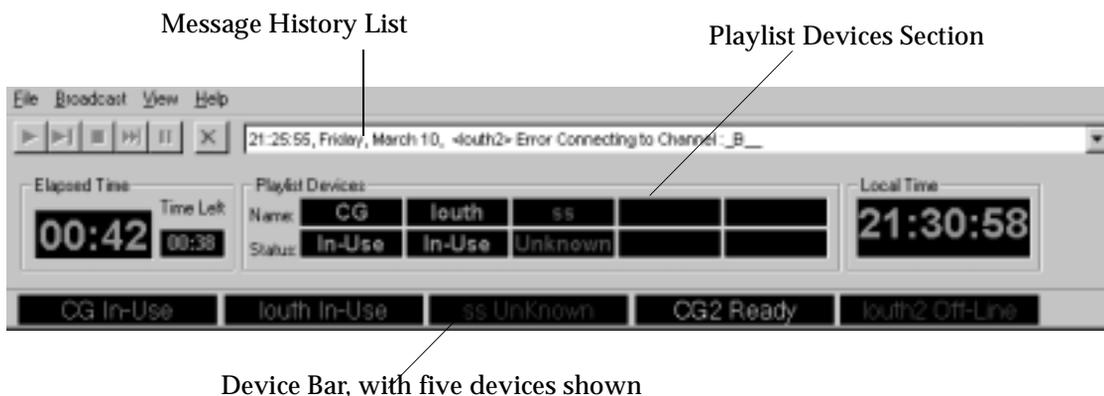
Figure 6-5   Partial View of the ControlAir Workstation Screen

Below the Device bar is a spreadsheet-style panel displaying information loaded from an iNEWS rundown. The top row of that spreadsheet is identified by an icon—shown at left—and displays the name of the rundown, whether it is reserved, and by which ControlAir Workstation.

When the ControlAir Workstation program is launched, and the window opens for the first time, devices will not necessarily appear automatically on the Device bar in the window. They will appear when the ControlAir Workstation connects to the ControlAir Server if the DMs have already been connected as well. Should another DM be started after the ControlAir Workstation is launched and monitor server is loaded, it will automatically appear on the Device bar.

Devices on the Device bar will remain displayed even after the rundown is unloaded, as long as the ControlAir Workstation remains connected to the ControlAir Server.

The DMs listed on the bar are not necessarily used by the current rundown queue; that is, the rundown may or may not have a playlist for the device associated with the DM. Those actually used by the loaded rundown are shown in the Playlist Devices section when the rundown is reserved from the ControlAir Workstation. If a device appears, whether on the Device bar or in the Playlist Devices section, both the device name and its status will be shown.

There are five status possibilities that are color-coded for easy visual recognition.

Table 6-1   Status of Devices

Status	Color	Explanation
On-Line	Green	Indicates the DM for the named device is running, connected to the ControlAir Server, and communicating with the device. However, control of the device has not yet been reserved by a ControlAir Workstation.

Table 6-1   Status of Devices

Status	Color	Explanation
In-Use	Green	Indicates the DM for the named device is running, connected to the ControlAir Server, communicating with the device, and control of the device is reserved by this ControlAir Workstation.
Busy	Green	Indicates the same things as In-Use, except that control of the device is reserved by another ControlAir Workstation.
Ready	Yellow	Indicates a DM for a certain device is running on the ControlAir Server and ready to communicate with the device, but no communication between DM and device has happened.

Ready does not indicate an actual connection between the device and ControlAir Server. For more information, see "Visual Indicators" on page 7-3.

Off-Line	Purple	Indicates ControlAir can communicate with the DM for this device, but the device is not available to be controlled by ControlAir; can indicate problems with the serial connection.
Unknown	Red	Indicates a DM for this device is not running or is no longer connected to the ControlAir Server. It can also indicate a mismatched device name; ensure that the device names in the SYSTEM.MAP file and device manager's DMP file are correct.

See "Visual Indicators" on page 7-3 in Chapter 7, "Troubleshooting," for more information on how to handle these status issues.

Device Status at the ControlAir Workstation

CHAPTER 7

Troubleshooting

This chapter contains information to help you respond to various error messages and recover from various types of system failures. This chapter contains the following major sections:

- ControlAir Components
- Where to Look for Errors
    - Visual Indicators
    - Error Messages
- Other Problem-Solving Tips
    - ControlAir Manager
    - Gathering Diagnostic Data

ControlAir Components

The iNEWS ControlAir system consists of several components that interface to provide machine control for on-air operations. Problems can arise when communication between components is interrupted for various reasons, such as the cable to a device being inadvertently disconnected.

Primary components include:

*   The ControlAir Server program (`casvr.exe`)

For information on how the AMCP application or ControlAir Server can be used in troubleshooting, see "Gathering Diagnostic Data" on page 7-5.

*   The AMCP application (`AMCPapp.exe`)

*   ControlAir Workstation(s) running the client software

*   iNEWS Workstation(s)

*   Device manager programs (DMs)

*   Devices, such as character generators

This chapter, combined with Appendix A, provides information to help troubleshoot common problems. It is recommended that system administrators and operators familiarize themselves with this information.

Where to Look for Errors

Problems are often identified when a ControlAir component issues an error message. Because the iNEWS ControlAir system interfaces with Avid's iNEWS newsroom computer system, errors may appear in a variety of locations.

The most common locations include:

*   The iNEWS Console Multiplexor

• The iNEWS Workstation's Message bar

• The ControlAir Workstation (Figure 6-5 on page 6-13)

Visual Indicators

The ControlAir Workstation also provides some indicators concerning devices and their DMs in the Device bar and Playlist Devices section, as shown in Figure 6-5 on page 6-13 and in Table 6-1 on page 6-14. For instance, some status categories may indicate potential problems, such as Off-line and Unknown.

Unknown indicates no DM is running for a requested device. When Unknown appears, check the following:

• Ensure the actual device manager for the requested device is running on or connected to the ControlAir Server.

• Ensure the device manager's DMP configuration file is correct.

• Ensure the settings on iNEWS in the SYSTEM.MAP file are correct.

If alldevices show an Unknown status, it may indicate a more serious problem:

• Ensure the ControlAir Server program (casvr.exe) is running.

Off-line indicates that ControlAir can communicate with a device manager for the requested device, but that device is not available to be controlled by ControlAir. When a show containing machine control events for that device is loaded, the device status should change to Online. If the device status remains Off-line or if the machine control events for that device still have event status Unknown in the playlist, check the following:

• Ensure the device is connected to its device manager and they are configured correctly.

⌐▤ *A device with multiple channels will appear Off-line when all of its channels become disconnected. When this happens, an error message is issued to the ControlAir Workstation and displayed in its Message History drop-down list. An example of this is shown in Figure 6-5 on page 6-13; see the* louth2 *device.*

Another potential problem may exist even when the device status is Ready. The Ready status indicates a DM for a certain device is running on the ControlAir Server and ready to communicate with the device, but no communication between DM and device has happened. This does *not* indicate an actual connection between the ControlAir Server and the device.

Error Messages

Many ControlAir errors can be divided into the following categories:

- Startup errors, which are generated when any component associated with ControlAir cannot start.

- System configuration errors, which are reported when ControlAir encounters a situation where its configuration is incomplete or incorrect.

- Communication errors, which are reported when ControlAir encounters a problem communicating with any component, such as a device or program.

- Monitor errors, which are reported by the monitor server utility program on the iNEWS newsroom computer system.

An alphabetical listing of errors are provided in Appendix A along with the category, the source—the ControlAir component generating the error—and actions required to alleviate any problems as noted by each error message.

Other Problem-Solving Tips

The following sections provide other troubleshooting tips.

ControlAir Manager

If programs on the server are not stopped in the proper sequence, the system could be caught in a loop. This can happen if a device manager (DM) or other program, such as the AMCP application, monitored by the ControlAir Manager, is left running after the ControlAir Manager is stopped and restarted. The ControlAir Manager attempts to restart the program, which is already running, thus causing the program to issue an error message—appearing in a dialog box—stating that it cannot restart.

Two identical DMs can coexist only if each uses a different DMP configuration file. Only one copy of the AMCP application or ControlAir Server program can be running at a time.

Gathering Diagnostic Data

Not all problems can be resolved through user action. Such problems should be reported to Avid Broadcast Customer Support. The ControlAir system provides the means to gather diagnostic data that can assist Avid personnel in locating and correcting these problems.

Capturing Server Data Logs

The ControlAir Server produces some diagnostic information that may be helpful in troubleshooting problems. That information can be viewed in two ways:

- The ControlAir Server window (Figure 6-1 on page 6-4)

- The ControlAir Server's Log files, if configured to output the data.

Log files are text files, which can be opened with Notepad. To view these files, open Windows Explorer and navigate to the installation directory where these files are stored, usually on the ControlAir Server. The default pathname is:

```
C:\Program Files\Avid\ControlAir
```

See "Setting Diagnostic Filters" on page 6-4 for more information on setting up the system to output data to Log files.

Saving Rundown Data

A feature of the AMCP application may be used to help troubleshoot problems related to communication between ControlAir and the monitor server in iNEWS. When the AMCP application is configured to save rundown data, it will record all messages known as rundown data—which may be saved and used later—that are sent to ControlAir by the monitor server.

To save the rundown data, do the following:

1. At the ControlAir Server, in the AMCP application window, click the Configure menu.

2. Select iNEWS.

3. Select Save to File.

After Save to File is set, verbose mode is on and all messages from the next monitor server to connect to ControlAir will be recorded until the rundown is unloaded or the monitor server is stopped. This option also turns on verbose mode, which displays each of the data messages in the rundown view window as they arrive.

4. Start the monitor server and load the show.

5. When the monitor unload command is issued from an iNEWS Workstation, the AMCP application will prompt for the information recorded to that point to be saved in a data file. The dialog

box—shown below—will appear onscreen at the ControlAir
Server where the AMCP application is running.

6. Choose ... to save the file. By default these files are in the following
   format:

   ```
   <show name>.rdn
   ```

   For instance, if the monitor server was monitoring the 10PM run-
   down, located in the Show directory, the name of the file may be
   similar to the following:

   ```
   show.10pm.rundown.rdn
   ```

These RDN files may be kept and provided to Avid Broadcast Cus-
tomer Support—instead of the actual rundowns—to help identify and
troubleshoot monitor server communications issues with ControlAir.
RDN files are *not* text files; they contain rundown data. These files
must be viewed using the AMCP application.

APPENDIX A

Error Messages

This appendix contains ControlAir error messages in alphabetical order. Each message appears in a paragraph with the following format:

Error: Error message text.

> **Location:** Where message is found.   **Source:** Which program.
>
> **Category:** Which type of error.   **Token:** Standard name
>
> **Action:** What to do about the problem.

Error shows the error message itself, although some words are italicized and shown inside parentheses, indicating their purpose rather than the actual words that may appear as part of the error message. For instance, if an actual error message appears at the iNEWS Workstation as "Bad map line: Duplicate device: louth1," the corresponding error message in this appendix will be "Bad map line: Duplicate device: (*invalid entry*)."

Token shows the standard name for the message as defined in the system's dictionaries. The system looks up these tokens as needed and translates them into error messages, which are then sent to workstations under special circumstances. Table A-1 on page A-29 provides an alphabetical listing of these tokens—pertaining to the monitor server—that is cross-referenced with their corresponding error messages in the "Errors" section of this appendix.

Location specifies where the error is found. For errors generated by the monitor server and located on an iNEWS Workstation, they only appear on the workstation used to start the monitor server, not all iNEWS Workstations on the network.

Source specifies which ControlAir component generated the error.

Category specifies in which category the error falls. Categories are defined in the "Error Messages" on page 7-4 in Chapter 7, "Trouble-shooting." Action describes steps to take to resolve the error.

Some error messages are warnings only; the ControlAir system will continue to run with a default behavior. Warnings are marked below with the opening statement "This is a warning only," and a description of the default behavior.

Errors

Error: Bad map line: CG Map entry requires range

Location: iNEWS Workstation & console   **Source:** monitor server

Category: Monitor   **Token:** A_BADCG

Action: The show's SYSTEM.MAP story entry contains a character gen-erator (CG) device line that does not specify a range of addresses. (You can leave out the drive and directory information, but you must spec-ify a range.) Examine the show's SYSTEM.MAP story entry and add the range of addresses that you want the CG to use for that show. The monitor server failed when it encountered the problem map entry, so restart monitor server by turning it on from an iNEWS Workstation.

Error: Bad map line: device-server type mismatch: (*device name*)

Location: iNEWS Workstation & console   **Source:** monitor server

Category: Monitor   **Token:** A_BADMAPBADSVR

Action: The show's SYSTEM.MAP story entry contains a line where a MOS device is assigned to a ControlAir Server or ControlAir device is assigned to a MOS Gateway. Examine the show's SYSTEM.MAP story entry and check that each device type is correct. Also check that MOS devices are only assigned to a MOS Gateway and that video (cart), CG and SS devices are only assigned to ControlAir Servers. The monitor server failed to startup when it encountered the problem map entry, so restart monitor server by turning it on from an iNEWS Workstation.

Error: Bad map line: Duplicate device (*invalid entry*)

Location: iNEWS Workstation & console   **Source:** monitor server

Category: Monitor   **Token:** A_BADMAPDUPE

Action: The same device name appears twice in the show's SYSTEM.MAP story entry. The second entry was ignored. If the second entry is the duplicate remove it. If one of the entries references the wrong device name, correct that entry. Resave the SYSTEM.MAP story, then, to incorporate the repaired entry, turn the monitor server off and back on from an iNEWS Workstation.

Error: Bad map line: Invalid arg count: (*line number*)

Location: iNEWS Workstation   **Source:** monitor server

Category: Monitor   **Token:** A_BADMAPARG

Action: There are only one or two parameters in one of the lines in the show's SYSTEM.MAP story entry. Check that show's entry and fix the erroneous line. Resave the SYSTEM.MAP story, then, to incorporate the repaired entry, turn the monitor server off and back on from an iNEWS Workstation.

Error: Bad map line: Invalid drive specification

Location: iNEWS Workstation & console   **Source:** monitor server

Category: Monitor   **Token:** A_BADMAPDRV

Action: The show's SYSTEM.MAP story entry contains a character generator (CG) or still store device line that does not specify the drive and directory information. The drive and directory information can be empty, but you must enter two delimiters—namely, colons (:)—to separate the fields. Examine the show's SYSTEM.MAP story entry and add the two delimiters. The monitor server failed to startup when it encountered the problem map entry, so restart monitor server by turning it on from an iNEWS Workstation.

Error: Bad map line: Invalid MCT form: (*invalid entry*)

Location: iNEWS Workstation & console   **Source:** monitor server

Category: Monitor   **Token:** A_BADMCT

Action: The monitor server was unable to open the form named in the `<MCT/CAWS form>` parameter in the show's `SYSTEM.MAP` story entry. Check this parameter and ensure the name of the form appears. A hyphen (-) in this field indicates that the story form for the Event List queue is to be used. Resave the `SYSTEM.MAP` story, then, to incorporate the repaired entry, turn the monitor server off and back on from an iNEWS Workstation.

Error: Bad map line: Invalid time value: (*invalid entry*)

Location: iNEWS Workstation   **Source:** monitor server

Category: Monitor   **Token:** A_BADMAPQTME

Action: An improper monitor shutdown time was entered in the show's `SYSTEM.MAP` story entry. Ensure the shutdown time is in the proper format, and that it is preceded by a "D" if it is a duration. The monitor server failed when it encountered the problem map entry, so restart monitor server by turning it on from an iNEWS Workstation.

Error: Bad map line: Invalid update arg: (*invalid entry*)

Location: iNEWS Workstation & console   **Source:** monitor server

Category: Monitor   **Token:** A_BADMAPUPDT

Action: Something other than `update`, `noupdate`, or a hyphen (–), which is equivalent to `update`, was placed in the `<update>` parame-

ter in the show's `SYSTEM.MAP` story entry. Check this parameter and ensure the proper value appears, depending on whether you want the monitor server to update the device's playlist. Resave the `SYSTEM.MAP` story, then, to incorporate the repaired entry, turn the monitor server off and back on from an iNEWS Workstation.

Error: Bad map line: Invalid video channel assignment policy

Location: iNEWS Workstation & console   **Source:** monitor server

Category: Monitor   **Token:** `A_BADMAPINVCHAN`

Action: The show's `SYSTEM.MAP` story entry contains a video device line that does not specify the ControlAir channel assignment policy information. This field determines which ControlAir component assigns video channels. The options are zero (0) for the video device, one (1) for the iNEWS Workstation, two (2) for the video device manager, and three (3) or a hyphen (-) for the ControlAir Workstation. Examine the show's `SYSTEM.MAP` story entry and add the appropriate channel assignment indicator. The monitor server failed to startup when it encountered the problem map entry, so restart monitor server by turning it on from an iNEWS Workstation.

Error: Bad resource line: Duplicate style entry: (*style name*)

Location: iNEWS Workstation   **Source:** monitor server

Category: Monitor   **Token:** `A_BADDUPENTRY`

Action: The previously identified `SYSTEM.RESOURCE` story contains two styles with the same name. Examine the `SYSTEM.RESOURCE` story and choose a new name for one of the styles. Resave the `SYSTEM.RESOURCE` story, then, to incorporate the changes, turn the monitor server off and back on from an iNEWS Workstation.

Error: Bad resource line: Invalid #CG fields: (*line number*)

Location: iNEWS Workstation   **Source:** monitor server

Category: Monitor   **Token:** `A_BADCGLINES`

Action: The CG fields entry at line (*line number*) in the previously identified `SYSTEM.RESOURCE` story is missing or is not a valid number. The entry in the `SYSTEM.RESOURCE` story should match the number of fields in the CG template. Find and correct the value in the `SYSTEM.RESOURCE` story and resave it. Then, to incorporate the changes, turn the monitor server off and back on from an iNEWS Workstation.

Error: Bad resource line: Invalid arg count: (*line number*)

Location: iNEWS Workstation   **Source:** monitor server

Category: Monitor   **Token:** `A_BADRESARG`

Action: The entry on line (*line number*) in the previously identified `SYSTEM.RESOURCE` story contains only one or two parameters. Examine the `SYSTEM.RESOURCE` story, looking for that erroneous line and add the necessary parameters. Resave the `SYSTEM.RESOURCE` story, then, to incorporate the changes, turn the monitor server off and back on from an iNEWS Workstation.

Error: Bad resource line: Invalid CG template: (*line number*)

Location: iNEWS Workstation   **Source:** monitor server

Category: Monitor   **Token:** A_BADCGTMPL

Action: A style defined for the character generator does not have a CG template or CG address in the third parameter. Locate this line in the previously identified SYSTEM.RESOURCE story and add the necessary parameter values—specifically, the template or address you want that style to use. Resave the SYSTEM.RESOURCE story, then, to incorporate the changes, turn the monitor server off and back on from an iNEWS Workstation.

Error: Bad resource line: Invalid SS address: (*line number*)

Location: iNEWS Workstation   **Source:** monitor server

Category: Monitor   **Token:** A_BADSSADDR

Action: A style defined for the still store machine has an invalid number in the fifth parameter. Locate this line in the previously identified SYSTEM.RESOURCE story and add the correct parameter values. If the style uses a fixed still number, put that number here; otherwise, type a dash for this parameter. If you enter a dash for this parameter, the still number must be entered in the production cue. Resave the SYSTEM.RESOURCE story, then, to incorporate the changes, turn the monitor server off and back on from an iNEWS Workstation.

Error: Cannot access form: (*form name*)

Location: iNEWS Workstation   **Source:** monitor server

Category: Monitor   **Token:** A_NOFORM

Action: The monitor server was unable to locate the specified form in the SYSTEM.FORMS directory. The form may be the story form for an event list or composite queue or the MCT/CAWS form for a device specified in the SYSTEM.MAP story. If the form is used by an event list or composite queue, check the story form assigned to the queue and ensure that the name of a valid form has been entered. If not, enter the correct name and turn the monitor server off and back on from an iNEWS Workstation. If the specified form is the MCT/CAWS form for a device, check the device entry in the SYSTEM.MAP story for this run-down and ensure that a valid form name appears in the MCS/CAWS form field. Resave the SYSTEM.MAP story, then, to incorporate the repaired entry, turn the monitor server off and back on from an iNEWS Workstation.

Error: Cannot delete from: (*queue name*)

Location: iNEWS Workstation & console   **Source:** monitor server

Category: Monitor   **Token:** A_DELERR

Action: The monitor server was unable to delete a story in a composite or event list queue, with the result that the information in that queue will be unreliable. This error may be caused by editing or removing stories in that queue. Composite and event list queues are maintained by the monitor server program. They should be read-only and not altered by users. This error may also indicate database corruption or even hardware failures. The system administrator should investigate to isolate the cause. If the cause cannot be determined, report the problem directly to Avid Broadcast Customer Support.

Error: ControlAir Server Aborted: (*CAServer host name*) disconnecting.

Location: iNEWS Workstation   **Source:** `AMCPapp.exe`

Category:

Action: See the action for the error: "ControlAir Server Aborted: disconnecting (*CAServer host name*)."

Error: ControlAir Server Aborted: disconnecting (*CAServer host name*).

Location: iNEWS console   **Source:** `AMCPapp.exe`

Category:

Action: The ControlAir Server program (`casvr.exe`) is not running; restart it. Matching workstation messages may say "ControlAir Server Aborted: (*CAServer host name*) disconnecting". This is the same error.

*When the ControlAir Server program (*casvr.exe*) exits, device managers connected to it will also exit. Restart them if necessary and reload the rundown.*

Error: Device not in Map: (*device name*)

Location: iNEWS Workstation   **Source:** monitor server

Category: Monitor   **Token:** `A_DRVNOTINMAP`

Action: The user attempted to load the monitor server for a device not listed in the show's `SYSTEM.MAP` story entry. Try again, and ensure the correct device name is selected when loading the monitor server. If a valid device name was used, then examine the `SYSTEM.MAP` story, and ensure the show's entry specifies the correct device name for each of the show's devices. If the device name does not appear in the

show's `SYSTEM.MAP` story entry, users cannot download playlists from that show to that device. Resave the `SYSTEM.MAP` story to incorporate the changes to the show's entry, then turn the monitor server off and back on from an iNEWS Workstation, and reload the show.

Error: Directory open error

Location: iNEWS Workstation & console	**Source:** monitor server
Category: Monitor	**Token:** `A_DIRERR`

Action: The monitor server was unable to open a necessary system directory; the directory name will be reported on the iNEWS console. This is a very serious problem that should never occur. The system administrator should immediately investigate and correct the problem. If the cause cannot be determined, report the problem directly to Avid Broadcast Customer Support.

Error: Download failed: device not configured: (*device name*)

Location: iNEWS Workstation	**Source:** monitor server
Category: Monitor/System Configuration	**Token:** `A_DRVNCONFIG`

Action: The user attempted to load the monitor server for a device that is not assigned to a ControlAir Server or a MOS Gateway or defined in the configuration file. This can also happen if a `monitor LOAD all` command is used and one or more of the devices in the show's `SYSTEM.MAP` story entry are not defined in the configuration file. Examine the `SYSTEM.MAP` story, correcting the erroneous entries. Ensure the show's entry specifies the correct device name for each of the show's devices. Then, to incorporate the changes, turn the monitor server off and back on from an iNEWS Workstation.

Error: Driver communication failed: (*device name*)

Location: iNEWS console

Source: monitor server

Category: Monitor/Communication

Token: A_DRVNOCOMM

Action: See the action for the error: "Network communication failed: (*device name*)"

Error: Error sorting queue

Location: iNEWS Workstation & console

Source: monitor server

Category: Monitor

Token: A_SRTERR

Action: The monitor server was unable to re-arrange the stories in a composite or event list queue to match the order of the rundown, with the result that the information in that queue will be unreliable. This error may be caused by editing or removing stories in that queue. Composite and event list queues are maintained by the monitor server program. They should be read-only and not altered by users. This error may also indicate database corruption or even hardware failures. The system administrator should investigate to isolate the cause (the queue name will be reported on the iNEWS console). If the cause cannot be determined, report the problem directly to Avid Broadcast Customer Support.

Error: Exceeded address range

Location: iNEWS Workstation

Source: monitor server

Category: Monitor

Token: A_XMAXADD

Action: The monitor server has used all of the available addresses assigned to the specified character generator (CG) device in the SYSTEM.MAP story. When this happens, no new CG events can be processed. The immediate solution is to turn the monitor server off and then on again. Then, reload the show. The address range in the map story will be larger than the total number of CG events because the monitor server reassigns new addresses when the number of CG events in a story increases. This keeps addresses contiguous within a story, making their recall more efficient. If this error occurs frequently, the address range for the device should be increased in the SYS-TEM.MAP story.

Error: Exceeded max # events: (*device name*)

Location: iNEWS Workstation & console   **Source:** monitor server

Category: Monitor   **Token:** A_XMAX

Action: Some older device managers limit the number of events they can support to 250. The monitor server program will stop processing events for those devices when the limit is reached. To create room for new events, float or remove stories that have already aired. In some cases, the limit was removed for newer versions of the device manager. Contact Avid Broadcast Customer Support for specific details.

Error: Following errors found in resource story [(*story name*)]

Location: iNEWS Workstation   **Source:** monitor server

Category: Monitor   **Token:** A_RESERRORS

Action: One or more errors were found in the SYSTEM.RESOURCE story. Remember the name of the story in the SYSTEM.RESOURCE queue so that you can locate and correct errors that will follow.

Error: iNEWS DISCONNECTED DURING LOAD: Items Lost, No Updates: (*rundown name*)

Location: ControlAir Workstation & iNEWS   **Source:** `casvr.exe`

Category: Runtime

Action: The connection to the iNEWS monitor server was lost while a rundown was loading. Some data was lost as a consequence. Will need to reload to receive needed playlist items; do so when safe.

Error: iNEWS DISCONNECTED: No Updates: (*rundown name*)

Location: ControlAir Workstation & iNEWS   **Source:** `casvr.exe`

Category: Runtime

Action: The connection to the iNEWS monitor server was lost either intentionally or unintentionally, for the named rundown while that playlist is reserved. The playlist will be preserved while it remains reserve red, but no further updates will occur. May need to reload to receive needed playlist items; do so when safe.

Error: Invalid address: (*video ID*)

Location: iNEWS Workstation   **Source:** monitor server

Category: Monitor   **Token:** `A_INVLADD`

Action: A video machine control event in a script is missing the clip ID. This can also indicate that an incorrect channel is appended to the

clip ID. Examine the script's production cue containing the machine control event and ensure the correct clip ID (or channel) is entered.

Error: Invalid Device Specification

Location: iNEWS Workstation   **Source:** monitor server

Category: Monitor   **Token:** `A_INVLDEV`

Action: A machine control event in a script contains a device name that the monitor server does not recognize. The script's author either mistyped the device name or selected a device that is not used by the show. Examine the script's production cue containing the machine control event and ensure the correct device name is used. If the device name appears to be correct, check the show's `SYSTEM.MAP` story entry to see if that device is listed as one used by that show. If it is not but should be, add it. Resave the `SYSTEM.MAP` story to incorporate any changes made to the show's entry, then turn the monitor server off and back on from an iNEWS Workstation, and reload the show.

Error: Invalid Msg Data: Order : Story Count Mismatch: iNEWS=(*number*), ControlAir=(*number*)

Location: iNEWS Workstation & console   **Source:** `AMCPapp.exe`

Category: Runtime

Action: A serious data error has occurred. As a first step, unload and reload the rundown. It may be necessary to restart ControlAir components. Report this error directly to Avid Broadcast Customer Support.

Error: Invalid Msg Data: Story Add: Exceeded Max Stories?

Location: iNEWS Workstation & console   **Source:** `AMCPapp.exe`

Category: Runtime

Action: A serious data error has occurred. As a first step, unload and reload the rundown. It may be necessary to restart ControlAir components. Report this error directly to Avid Broadcast Customer Support.

Error: Invalid Msg Data: Story Add: Found duplicate ID (*hex number*)

Location: iNEWS Workstation & console   **Source:** `AMCPapp.exe`

Category: Runtime

Action: A serious data error has occurred. As a first step, unload and reload the rundown. It may be necessary to restart ControlAir components. Report this error directly to Avid Broadcast Customer Support.

Error: Invalid Msg Data: Story Delete: Could not find ID (*hex number*)

Location: iNEWS Workstation & console   **Source:** `AMCPapp.exe`

Category: Runtime

Action: A serious data error has occurred. As a first step, unload and reload the rundown. It may be necessary to restart ControlAir components. Report this error directly to Avid Broadcast Customer Support.

Error: Invalid Parameter Value: Missing iNEWS Server Name

Location: iNEWS Workstation & console   **Source:** `AMCPapp.exe`

Category: System Configuration

Action: The iNEWS system is not matched to the ControlAir system. The two cannot communicate properly. Report this error directly to Avid Broadcast Customer Support.

Error: Invalid Parameter Value: Missing Playlist Name

Location: iNEWS Workstation & console   **Source:** `AMCPapp.exe`

Category: System Configuration

Action: The iNEWS system is not matched to the ControlAir system. The two cannot communicate properly. Report this error directly to Avid Broadcast Customer Support.

Error: Invalid Parameter Value: Unsupported String Type 0x(*string type code*)

Location: iNEWS Workstation & console   **Source:** `AMCPapp.exe`

Category: System Configuration

Action: The iNEWS system is not matched to the ControlAir system. The two cannot communicate properly. Report this error directly to Avid Broadcast Customer Support.

Error: (*style name*): Invalid Style

Location: iNEWS Workstation   **Source:** monitor server

Category: Monitor   **Token:** A_INVLSTYLE

Action: The monitor server found a machine control event that uses an unknown style. Common causes of this error are mistyping a valid style (especially using the letter "l" for the number "1") or using a style that has not been defined for the device specified in the event request. Alternately, an error in the SYSTEM.RESOURCE story may result in a style listed there being considered undefined. Check the machine control event to see if the style was entered correctly. Also, ensure the style is one that has been defined for the device specified in the machine control event. Finally, check the SYSTEM.RESOURCE story for other errors that might cause the style to be skipped.

Error: Lost Connection to (*CAServer host name*) Press OK to clear display.

Location: ControlAir Workstation   **Source:** ControlAir Workstation

Category: Runtime

Action: See the action for the error: "Received ControlAir Server CONNECTION END!"

Error: Map story open error

Location: iNEWS Workstation & console   **Source:** monitor server

Category: Monitor   **Token:** A_MAPOPENERR

Action: The monitor was unable to find or open the first story in the SYSTEM.MAP queue. Ensure that the correct map story is in the queue and that the user starting the monitor server has the correct permissions to read that story. The monitor server failed to startup when it could not open the map story, so restart monitor server by turning it on from an iNEWS Workstation.

Error: Missing argument

Location: iNEWS Workstation   **Source:** monitor server

Category: Monitor   **Token:** A_INVLARG

Action: A non-video machine control event in a script is missing necessary information. The script's author forgot to enter a style name or address (or both). Examine the script's production cue containing the machine control event and ensure the correct information is entered.

Error: Monitor exiting: Exceeded max # stories (*rundown queue name*)

Location: iNEWS Workstation & console   **Source:** monitor server

Category: Monitor   **Token:** A_XMAXSTORY
                                                                              A_MONEXIT

Action: The monitor server limits the number of stories that it can process in a rundown queue. The limit is 500 total stories. Reduce the number of stories in the rundown, either by floating, moving, or delet-

ing stories until the number is below the limit. The monitor server exited when it exceeded the story limit, so restart monitor server by turning it on from an iNEWS Workstation.

This message is only a warning.

Error: Monitor exiting: Quit Time reached: (*rundown queue name*)

Location: iNEWS Workstation & console   **Source:** monitor server

Category: Monitor   **Token:** A_QUITTIME
                                                                        A_MONEXIT

Action: This message is sent to inform the user that monitor server has reached the time specified in the SYSTEM.MAP story for it to exit. No action is required unless the show has run past its scheduled time. In that case, if further updates for the show are required, it is necessary to restart the monitor server and reload the show to the ControlAir Server.

Error: Monitor exiting: Memory allocation failure: (*rundown queue name*)

Location: iNEWS Workstation & console   **Source:** monitor server

Category: Monitor   **Token:** A_NOMEM
                                                                        A_MONEXIT

Action: The monitor server was unable to allocate more memory for data processing; it cannot continue and has exited. This is a very serious problem that should never occur; it means that all of the systems available physical and virtual memory are in-use by running processes. The system administrator should immediately investigate and correct the problem.

Error: Multiple SS addresses specified

Location: iNEWS Workstation   **Source:** monitor server

Category: Monitor   **Token:** A_MULSSADDR

Action: Both a still store machine control event and the style it is using contain a still address. If the style is correct, then no address is needed in the production cue; remove it. If the wrong style is being used, change it to the correct style.

This message is only a warning.

Error: Must first unload: (*server name*)

Location: iNEWS Workstation & console   **Source:** monitor server

Category: Monitor   **Token:** A_MUSTUNLOAD

Action: A pair of ControlAir Servers have been configured for this rundown, with one designated as a backup for the other. Both are configured with the same devices. Only one server may be loaded at any given time. This message alerts the user to the fact that one of the pair is already loaded. To load this server, first unload the other.

Error: Network communication failed: (*device name*)

Location: iNEWS Workstation   **Source:** monitor server

Category: Monitor/Communication   **Token:** A_DRVNOCOMM

Action: The monitor server is unable to communicate with the ControlAir Server or a stand-along device manager (DM) running on an MCS-PC or in a PCU. This may be because of one of the following:

• The network is down

• The AMCP application on the ControlAir Server is not running

• The ControlAir Server is down

• The stand-alone DM on the MCS-PC or PCU is not running

• The computer to which the device is connected, either the MCS-PC or PCU, is down.

Check the network and connections to the ControlAir Server, MCS-PC, or PCU. Ensure that the AMCP application or stand-alone DM is running; restart it if it not. Download the playlist to the device again by reloading the monitor server from an iNEWS Workstation. Older versions of this message may say "Driver communication failed: (*device name*)". This is the same error.

Error: No SS address specified

Location: iNEWS Workstation   **Source:** monitor server

Category: Monitor   **Token:** A_NOSSADDR

Action: There is no address specified for a still store machine control event, either in the machine control event (production cue) or in the style used. If the style is correct, then add the correct address in the production cue. If the wrong style is being used, change it to the correct style.

Error: Queue append error: (*queue name*)

Location: iNEWS Workstation & console **Source:** monitor server

Category: Monitor **Token:** A_QUEAPPERR

Action: The monitor server was unable to insert a story in a composite or event list queue, with the result that the information in that queue will be unreliable. This error may be caused by editing or removing stories in that queue. Composite and event list queues are maintained by the monitor server program. They should be read-only and not altered by users. This error may also indicate database corruption or even hardware failures. The system administrator should investigate to isolate the cause. If the cause cannot be determined, report the problem directly to Avid Broadcast Customer Support.

Error: Queue open error: (*queue name*)

Location: iNEWS Workstation & console **Source:** monitor server

Category: Monitor **Token:** A_QUEERR

Action: The monitor server was unable to open the rundown or a composite or event list queue. Ensure that the named queue exists and has the correct properties for its purpose. The monitor server failed to startup when it encountered this problem, so restart monitor server by turning it on from an iNEWS Workstation.

Errors: Received ControlAir Server CONNECTION END!

Location: ControlAir Workstation   **Source:** ControlAir
Workstation

Category: Runtime

Action: When the message appears, a dialog box will also appear with
the following text:
"Lost Connection to (*CAServer host name*) Press OK to clear display."
The message—"Disconnected: (*CAServer host name*)" will appear on
the status bar. All three identify the same problem—an unexpected
disconnect from the ControlAir Server program. Close the dialog box.
Check status of ControlAir Server program (casvr.exe); restart, if
necessary. Reconnect ControlAir Workstation to ControlAir Server.

*When the ControlAir Server program (*casvr.exe*) exits, device managers
connected to it will also exit. Restart them if necessary and reload any run-
downs.*

Error: Refused connection request

Location: iNEWS Workstation & console   **Source:** monitor server

Category: Monitor   **Token:** A_DEVBUSY

Action: The ControlAir system has denied a connection request from
this monitor server program. The most common reason for this error
is that the AMCP application was unable to connect to the ControlAir
Server program (casvr.exe). Ensure the casvr.exe program is
running; restart it if necessary. This message may also follow an error
message from the AMCP application indicating an incompatibility
between the iNEWS and ControlAir systems. In that case, refer to the
preceding error message for the correct action.

Error: Resource story open error

Location: iNEWS Workstation & console   **Source:** monitor server

Category: Monitor   **Token:** A_RESOPENERR

Action: The monitor server was unable to find or open at least one story in the SYSTEM.RESOURCE queue. Ensure that the correct resource story is in the queue and that the user starting the monitor server has the correct permissions to read that story. The monitor server failed to startup when it could not open the resource story, so restart monitor server by turning it on from an iNEWS Workstation.

A resource story is only required for character generator (CG) devices, is optional for still store devices, and is not used by video devices.

Error: Server cannot execute

Location: iNEWS Workstation & console   **Source:** monitor server

Category: Monitor   **Token:** A_NOSERVER

Action: The monitor server was unable to find or start its companion program (/exc/monserver). Ensure that the monserver program is in the /exc directory and has the correct permissions. The monitor server failed to startup when it could not launch the monserver program, so restart monitor server by turning it on from an iNEWS Workstation.

Error: Story create error

Location: iNEWS Workstation & console   **Source:** monitor server

Category: Monitor   **Token:** A_STRYCRT

Action: The monitor server was unable to create a new story in a composite or event list queue, with the result that the information in that queue will be unreliable. This error may be caused by changing the properties in that queue. Composite and event list queues are maintained by the monitor server program. They should be read-only and not altered by users. This error may also indicate database corruption or even hardware failures. The system administrator should investigate to isolate the cause. If the cause cannot be determined, report the problem directly to Avid Broadcast Customer Support.

Error: (*story name*): Story open error

Location: iNEWS Workstation & console   **Source:** monitor server

Category: Monitor   **Token:** A_STRYERR

Action: The monitor server was unable to open a story in the rundown, with the result that the information in that queue will be unreliable. This error may be caused by rapidly editing or removing stories in that queue. This error may also indicate database corruption or even hardware failures. The system administrator should investigate to isolate the cause. If the cause cannot be determined, report the problem directly to Avid Broadcast Customer Support.

Error: (*story name*): Story write error

Location: iNEWS Workstation & console   **Source:** monitor server

Category: Monitor   **Token:** A_STRYWRT

Action: The monitor server was unable to write text into a story in an event list queue, with the result that the information in that queue will be unreliable. This error may be caused by editing or removing stories in that queue. Event list queues are maintained by the monitor server program. They should be read-only and not altered by users. This error may also indicate database corruption or even hardware failures. The system administrator should investigate to isolate the cause. If the cause cannot be determined, report the problem directly to Avid Broadcast Customer Support.

Error: Unable to create playlist; disconnecting.

Location: iNEWS Workstation & console   **Source:** AMCPapp.exe

Category: Runtime

Action: Ensure that the ControlAir Server program (casvr.exe) is running; restart it if necessary and reload any rundowns.

Error: Unsupported AMCP Version: (*version string*)

Location: iNEWS Workstation & console   **Source:** AMCPapp.exe

Category: System Configuration

Action: This indicates component mismatch between iNEWS and ControlAir systems. Contact Avid Broadcast Customer Support for upgrade.

Error: Unsupported NRCS Type: (*type string*) - Currently iNEWS is the only supported NRCS.

Location: iNEWS Workstation & console   **Source:** `AMCPapp.exe`

Category: System Configuration

Action: This indicates component mismatch between iNEWS and ControlAir systems. Contact Avid Broadcast Customer Support for upgrade.

Error: Warning: (*video id*): Channel out of range; reset to (*first channel ID*).

Location: ControlAir Workstation   **Source:** ControlAir Workstation

Category: Runtime

Action: An invalid video channel was entered in iNEWS. The ControlAir Workstation has changed it to the A channel. If this is not correct, correct it in the iNEWS Workstation. It may also be set locally on the ControlAir Workstation, but that change will not be reflected in iNEWS.

Error Message Tokens

The following table provides an alphabetical listing of tokens, which may be cross-referenced to error messages (translations) in the previous section of this Appendix.

Table A-1   Error Message Tokens

Standard Name	Translation	See Page:
A_BADCG	Bad map line: CG device requires range	Page A-2
A_BADCGLINES	Bad resource line: Invalid # CG fields	Page A-7
A_BADCGTMPL	Bad resource line: Invalid CG template	Page A-8
A_BADDUPENTRY	Bad resource line: Duplicate style entry	Page A-6
A_BADMAPARG	Bad map line: Invalid arg count	Page A-4
A_BADMAPBADSVR	Bad map line: device-server type mismatch	Page A-3
A_BADMAPDRV	Bad map line: Invalid drive specification	Page A-4
A_BADMAPDUPE	Bad map line: Duplicate device	Page A-3
A_BADMAPINVCHAN	Bad map line: Invalid video channel assignment policy	Page A-6
A_BADMAPQTME	Bad map line: Invalid time value	Page A-5
A_BADMAPUPDT	Bad map line: Invalid update arg	Page A-5

Table A-1   Error Message Tokens

Standard Name	Translation	See Page:
A_BADMCT	Bad map line: Invalid MCT form	Page A-5
A_BADRESARG	Bad resource line: Invalid arg count	Page A-7
A_BADSSADDR	Bad resource line: Invalid SS address	Page A-8
A_DELERR	Cannot delete from	Page A-9
A_DEVBUSY	Refused connection request	Page A-24
A_DIRERR	Directory open error	Page A-11
A_DRVNCONFIG	Download failed: device not configured	Page A-11
A_DRVNOCOMM	Network connection failed	Page A-12 and Page A-12
A_DRVNOTINMAP	Device not in Map	Page A-10
A_INVLADD	Invalid address	Page A-14
A_INVLARG	Missing argument	Page A-19
A_INVLDEV	Invalid device specification	Page A-15
A_INVLSTYLE	Invalid style	Page A-18
A_MAPOPENERR	Map story open error	Page A-19
A_MONEXIT	Monitor exiting	Page A-20
A_MULSSADDR	Multiple SS addresses specified	Page A-21
A_MUSTUNLOAD	Must first unload	Page A-21

Table A-1   Error Message Tokens

Standard Name	Translation	See Page:
A_NOFORM	Cannot access form	Page A-9
A_NOMEM	Memory allocation failure	Page A-20
A_NOSERVER	Server cannot execute	Page A-25
A_NOSSADDR	No ss address specified	Page A-22
A_QUEAPPERR	Queue append error	Page A-23
A_QUEERR	Queue open error	Page A-23
A_QUITTIME	Quite Time reached	Page A-20
A_RESERRORS	Following errors found in resource story	Page A-13
A_RESOPENERR	Resource story open error	Page A-25
A_SRTERR	Error sorting queue	Page A-12
A_STRYCRT	Story create error	Page A-26
A_STRYERR	Story open error	Page A-26
A_STRYWRT	Story write error	Page A-27
A_XMAX	Exceeded max # events	Page A-13
A_XMAXADD	Exceeded address range	Page A-12
A_XMAXSTORY	Exceeded max # stories	Page A-19

APPENDIX B

System Reference Files

This appendix contains various samples of system files, such as the `/etc/hosts` file for the iNEWS Server.

- The autostart.ini File

- The /etc/hosts File

- Sample Configuration File on iNEWS Servers

- Sample SYSTEM.MAP Story

The autostart.ini File

This section provides the default `autostart.ini` file installed on ControlAir Servers, which is used by the ControlAir Manager program. Text preceded by semicolons (`;`) is a comment and will be ignored by ControlAir.

```
; The ControlAir executables that are to be auto-started
; are listed below in their desired start sequence. The
; ControlAir Server program must be started first. Any
; needed parameters are included on the same line. Note:
; do not include comments or programs that are not to be
; auto-started.

[Start Sequence]
casvr.exe
AMCPapp.exe
MCSDM.exe dmp\mcsdmss.dmp
MCSDM.exe dmp\mcsdmcg.dmp
LouthDM.exe dmp\Louth.dmp

[Samples]
; This section is ignored by ControlAir Manager. You may
; copy lines from here into the Start Sequnce section.

; Ensure that ControlAir Server is listed first.

; For device managers, specify a valid rooted or
; non-rooted path to the DMP file.

; If no DMP file is specified for a device manager, the DM
; will be invoked, which will present an "Open File"
; dialog box, and wait for the operator to specify a DMP
; file.


ChyronDM.exe dmp\ChyronDM.dmp
LouthDM.exe dmp\pdr1.dmp
MCSDM.exe dmp\clipbox.dmp
LouthDM.exe "c:\My Device Profiles\AirSPACE-2.dmp"

; WARNING: Do not use ControlAir Manager for video device
; managers that do not protect playing clips when it
; starts up (such as DMAirplay).
; Refer to the documentation for you device manager. If
```

```
; you are not sure, test it by playing a clip, then kill
; the DM while the clip is still playing (using NT's Task
; Manager, click Processes tab, select the Device Manager
; program, and click the End Task button).
;
; Video DMs from iNEWS (except DMAirplay) and most CG or
; SS DMs are safe to use with ControlAir Manager's
; Autostart.
```

The /etc/hosts File

```
#  IP address-hostname database
#MIRROR NETWORK
10.1.0.1     NRCS-A nrcs-a A a nrcs-a.local NRCS-A.local
10.1.0.2     NRCS-B nrcs-b B b nrcs-b.local NRCS-B.local
10.1.0.8     WEBARCHIVE webarchive
10.1.0.10    PCU10  pcu10
10.1.0.20    PCU20  pcu20
10.1.0.30    pcu30  PCU30
10.1.0.19    MCSPC1 mcspc1 MCSPC19 MCSPC19
10.1.0.29    MCSPC2 mcspc2 MCSPC29 mcspc29

#CLIENT NETWORK
172.101.6.2 NRCS-A1 nrcs-a1 A1 a1 #iNEWS Workstation
172.101.6.3 NRCS-B1 nrcs-b1 B1 b1 #iNEWS Workstation
172.101.6.4 ftsserver FTSSERVER
172.101.6.5 casvr1 CASVR1          #CA Server Studio A
172.101.6.6 casvr2 CASVR2          #CA Server Studio B
172.101.6.8 CAWS-a CAWS-A          #CA Workstation
172.101.6.9 CAWS-b CAWS-B          #CA Workstation
172.101.6.10 CAWS-video CAWS-VIDEO
172.101.6.11 inews-web INEWS-WEB
172.101.6.12 MOSGWY mosgwy         # MOS Gateway machine
172.101.6.13 MG1    mg1            # MOS Gateway Server 1
172.101.6.14 MG2    mg2            # MOS Gateway Server 2
```

Sample Configuration File on iNEWS Servers

After you choose a mailbox and a device number for your monitor server, you must add certain information to your system configuration file—/site/config on the iNEWS Servers. The procedures for this are found in Chapter 4 of this manual. However, Figure B-1 shows a sample configuration file with pointers indicating where in the file information is entered. In this example, the monitor server being added is assigned 204 as its device number and mailbox number.

```
`
host ab  a
 net-   10
  servers  200   201   256              Add the monitor server to the
;                                        servers line for the computer
host ab  b                               on which you want the server
 net-   20                               utility program to run.
  servers  202   203   204   257
;
host a   a
 net-  10   20
  servers  200   201   202   203   204   257    Also, add the monitor server
;                                               to each server's alternate host
host b   b                                       definition.
 net-   10  20
  servers  200   201   202   203   204   257
;
ccu      10 ccu10  at 1112131415- - -
terminal 11 19200-7  2    news -    -   ;[1-01]
terminal 12 9200-7   1    news -    -   ;[2-01]
terminal 13 9200-7   3    news  -   -    ;[3-03]
terminal 14 9200-7   1    news  -   -    ;[1-07]
printer  15 1200-7e  1                  ;[4-04]
;
ccu      20  ccu20  at 2122232425- - -          Finally, add the
terminal 21 9200-7   2    news  -   - ;[1-02]   monitor server
terminal 22 9200-7   1    news -    - ;[5-01]   configuration line.
terminal 23 9200-7   1    news  -   - ;[2-03]
terminal 24 9200-7   1    news -    - ;[1-03]
printer  25 9600-7e  2                  ;[5-03]
;
server     256     action      128   -     ;action server
server     257     action      129   -     ;action server
server     200     monitor     200         ;monitor server
server     201     monitor     201   -     ;monitor server
server     202     monitor     202   -     ;monitor server
server     203     monitor     203   -     ;monitor server
server     204     monitor     204   -     ;monitor server
```

Figure B-1   Adding a Monitor Server to the Configuration File

Sample SYSTEM.MAP Story

```
;<rundown queue> <event dir> <composite> <grp> <mon off time>
;<name> <dev name> <update> <mct temp> <drv>:<dir>:<range>
;-------------------------------------------------------
;
show.10pm.rundown  show.10pm - 2300
cg      cg@casvr     update   MCT-CG     C:NEWS:2000 2498
cart    video@casvr  update   MCT-CART   1
ss      ss@casvr     update   MCT-SS
;
;
show.5pm.rundown    show.5pm  - monitor 1615
cg      cg@casvr     update   MCT-CG     C:NEWS:2000 2498
cart    video@casvr  update   MCT-CART   1
ss      ss@casvr     update   MCT-SS
;
```

APPENDIX C

Upgrading Information

This appendix contains information about upgrading to the Avid iNEWS newsroom computer system, as it relates to the iNEWS ControlAir system.

- Upgrading to iNEWS

Upgrading to iNEWS

When upgrading to the Avid iNEWS newsroom computer system from a previous product version, such as NetStation, you must update specific field types in all your forms. See Table 3-1 for information about which field types to update.

📄 *You must update these forms after you run the standard upgrade conversions on your system.*

To update field types on forms:

1. At the iNEWS Workstation, open a specific form.

   For example, you may open the CG event list form under SYSTEM.FORMS.C.CG.

2. Place the cursor in the field you need to update, and right-click.

3. Click Field Properties on the menu that appears.

   The Form Properties dialog box opens.

4. In the Form Properties dialog box, ensure that Current field is selected.

5. In the Type field, enter the new type or select it from the drop-down list.

6. Click the OK button.

Table 3-1   Form Properties Window Parameters

In this form:	Change this field type:	To this field type:
Rundown	APP1-1 AFF-READY-1	VIDEO-ID EVENT-STATUS
Video Event List	APP1-1 AFF-READY-1	VIDEO-ID EVENT-STATUS
CG Event List	APP2-1 APP1-1 APP3-1 MODIFY-DEV VAR-1	CG-ADDR STYLE CG-TEMPLATE EFFECT CG-TEXT
SS Event List	APP2-1 APP3-1 APP1-1 MODIFY-DEV	STILL-ID STILL-PRESET STYLE EFFECT
Composite List	APP1-1 APP2-1 CUME-TIME AFF-READY-1	CG-ADDR STILL-ID VIDEO-ID EVENT-STATUS

If you are upgrading from NetStation software, you must change the tape ID assignment for cart devices. On NetStation, this information was entered in the APP1 form field. In iNEWS, this information must be entered in the VIDEO-ID form field. For more information about fields and forms, see Chapter 8 in the iNEWS Newsroom Computer System Operations Manual.

Glossary

10Base-T Low-cost point-to-point 10Mb/sec Ethernet using four unshielded twisted pairs (UTP) of wire (only two pairs are actually used) with RJ-45 connectors.

100Base-T Low-cost point-to-point 100Mb/sec Ethernet using four UTP (only two pairs are actually used) with RJ-45 connectors.

absolute time The time assigned to a clip when it was encoded.

account A level of authorization assigned to individuals using iNEWS newsroom computer system. This determines the types of information users can access and the actions they can perform. Account types include user, user manager, superuser, and system administrator.

alias A code of up to 12 alphanumeric characters. It substitutes individual user names and automates the distribution of a mail story to a group of people.

anchor 1. The person presenting a newscast on-air to a television audience. Also called a *presenter*.
2. The indicator in a Story Text panel that links a script to production information, such as machine control events. Also called: *grommet* or *production cue marker*.

ASCII　　　　　American Standard Code for Information Interchange. The standard that governs the recording of characters by a sequence of binary digits, as in a computerized timecode or video editing system.

auto-backup　　A function in iNEWS newsroom computer system that writes a backup copy of an open story to a user's local disk at specified time intervals.

auto-refresh　　A queue attribute that automatically redisplays the queue screen whenever changes are made to the queue.

autoscript　　　A mode in which the production cue area of a story is automatically displayed if production cues are in the story. If there are no production cues added to a story, the story is displayed unscripted.

backtime　　　The exact time when a story in a newscast must start in order for the show to remain on schedule. Television newscasts typically use back-time to ensure that the newscast ends precisely as scheduled.

baud　　　　　Unit for measuring the rate of the digital data transmission. Usually one baud equals one bit per second.

bulletin　　　　An incoming wire story coded as high-priority by a wire service; it is fed directly into the iNEWS "priority" queue. Users are informed of its arrival with both an audio signal and lightning bolt icon in the status portion of the iNEWS Workspace.

clip　　　　　A segment of digitized source material.

connect　　　　To call a service that is either local (such as an archive system) or remote (such as Nexis). In iNEWS, users connect to services to access data.

context menu　　See *pop-up menu.*

ControlAir   A product, formerly known as Broadcast Control System or BCS, that works with the iNEWS newsroom computer system to run a show's production devices, such as character generators, still-stores, and videotape devices.

cue   See *production cue*.

cume (cumulative) time   The amount of airtime required from the beginning of the show up to a certain point in the show in order for the show to remain on-schedule. It is displayed with each entry in a rundown queue. Cumetime is used by producers when building, ordering, or airing a newscast.

DAT   A digital audio recording format that uses 3.8mm-wide magnetic tape in a plastic cassette. (Digital Audio Tape)

Dead queue   A queue containing stories that have been either deleted by users or purged automatically by the system. These stories are recycled automatically as new space is required.

device   Any computer peripheral of hardware component (such as printer, mouse, monitor, or hard disk) capable of receiving or sending data.

dialog box   A secondary window that gathers additional information from a user. It usually contains only a close (X) button in the top right corner, and can be removed from the screen by pressing the Escape (ESC) key. See also *window*.

directory   Like a file drawer in a file cabinet, a directory is a storage space. Directories, also known as *folders*, can contain other directories (known as sub-directories) or queues. Directories do not contain stories.

Directory panel   An area in the iNEWS Workspace that displays the hierarchy of directories (folders) and queues in the iNEWS database. Users can use the Directory panel to navigate through the system.

drop-down menu A menu that is displayed from a menu bar—the bar of words, such as File or Edit, located at the top of a window. The menu can appear as a result of a mouse click on the menu bar or a keystroke combination of ALT plus the underlined letter of a word in the menu bar. For instance, ALT-F will open the File drop-down menu. See also *pop-up menu.*

duration The length of a show or story. It is calculated by using the elapsed time in a broadcast when a story begins.

easy lock A feature that allows a user to open a queue or story while preventing others from doing the same. It is similar to a key lock, but is created without a key. Therefore, others cannot be granted access. See also *lock*, *key lock.*

Edit Decision List (EDL) A list of edits made during offline editing and used to direct the online editing of the master.

edit lock A feature that prevents two people from working in a story simultaneously. The iNEWS system automatically places a story in edit-lock mode when a user is working in a story, and a user can also manually edit lock a story.

encode The process of converting analog video to a digital form.

Ethernet A standard for connecting computers in a local area network (LAN). The actual technicalities are based on a Collision Sense Multiple Access protocol (CSMA).

export 1. To create an EDL from a sequence.
2. To conform a sequence.

extract To remove a selected area from an edited sequence and close the resulting gap in the sequence.

float To temporarily suspend a story. The story's time is removed from the show timing. Float time is also ignored by the teleprompter and

machine control. Floating is used when you are not sure whether or where to put a story in a rundown.

folder   See *directory.*

form   A preformatted layout (template) containing the fields and the field positions (such as presenter and writer) required for a story. The form serves as a copy master when creating a new story.

gigabyte (GB)   Approximately one billion bytes (1,073,741,824 bytes) of information.

grommet   The indicator in a Story Text panel that links a script to production information. Also called: *anchor* or *marker.*

hard out   A story in a newscast that has a fixed start time, usually at the end of a segment or show. It is manually entered into the system.

headframe   A single frame that can be used to help visually identify a clip or a sequence.

high-resolution   Digital video of a resolution suitable for broadcast.

In point   Starting point of an edit. Also known as a *Mark IN.*

insert   The process of including a clip into a sequence.

Instruction panel   The area of the Story panel that contains production cues or machine control data. This area can be removed (hidden) from the display within the Story panel, so it may not appear on screen. See also *Story panel, Story Form panel, Story Text panel.*

IP address   An Internet Protocol address is a 32-bit numeric identifier usually expressed as four groups of 8-bit decimal numbers (0 to 256) separated by dots, as in 192.168.0.1.

ISA	Industry Standard Architecture. A bus standard used in personal computers.
key	A special alphanumeric code that a user assigns to a queue or story to lock it. To open, or unlock, a queue or story, a user must have the key. See also *lock, easy lock, key lock*.
key lock	A feature that allows a user to lock a queue. To open the key-locked queue, all users (including the individual who put the key lock on the queue) must know the "key" if they want to open, move, duplicate, print, or delete the queue. See also *lock, easy lock*.
kill	To delete a story and place it in the Dead queue.
lineup	See *rundown*.
load	The process of opening a clip into the editor in preparation for viewing or editing.
Local Area Network (LAN)	This is a network of computers located in a common environment, such as in a building or building complex.
lock	To protect a queue or story from access by unauthorized users. A queue or story can be locked and unlocked with a key or by a user-name specific lock. See also *key, easy lock, key lock*.
low-resolution	Digital video of a resolution suitable for edits.
machine control event	The event typically appears in Production Cue Text boxes in the Instruction panel of iNEWS, and includes commands for machines, such as still stores, character generators, digital playback devices, cart machines, and so forth. Each one begins with an asterisk, followed by a code for the type of machine the instruction is for, such as CG for character generator or SS for still store machine, and so forth. Then, information specific to the machine and particular item or template is

provided. Also known as machine control commands or machine control instructions.

marker

1. The indicator in a Story Text panel that links a script to production information. Also called: *grommet* or *anchor*.

2. A mark added to a selected frame to qualify a particular location within a video sequence.

Media Browse　A system that works with iNEWS and high-resolution editing applications to create broadcast-quality video output.

media object　An on-air object managed by a MOS device. See also *MOS*.

menu　See *drop-down menu, pop-up menu.*

Messages of the Day window　A window that displays one or more messages for iNEWS system users when they log in to the system.

mirroring　A fault tolerance method that keeps identical copies of data on disk partitions located on different physical hard disks and servers.

monitor server　Autility program on the iNEWS Server. For ControlAir, it is used to scan stories in the rundown, searching for machine control events to build event lists (playlists) for the production devices

MOS　Acronym for Media Object Server. See also *MOS device.*

MOS device　A vendor product that stores media objects and supports the MOS protocol.

MOS protocol　XML-based protocol for communication between a newsroom computer system and a MOS device. For more information, visit http://www.mosprotocol.com on the Internet.

multimedia　In computing, multimedia refers to the presentation of information on a computer using sound, graphics, animation, and text.

network   A group of computers and other devices connected together so they can communicate with each other.

network address   A network number that uniquely identifies a network cable segment. It is also referred to as the IPX external network number.

NRCS   An acronym for Newsroom Computer System.

order lock   A temporary lock that the iNEWS system places on a queue when a user changes a sequence of stories in that queue. Order locking does not prevent other users from accessing the queue, but does prevent them from ordering the queues simultaneously.

Out point   End point of an edit, or a mark on a clip indicating a transition point. Also known as a *Mark OUT*.

out time   The total length of time for a show (shown in hours, minutes, and seconds) or the actual time by which the show must end (shown in 12-hour-clock time). See also *backtime*.

panel   A part of an iNEWS Workspace. In iNEWS, the three panels are the Directory panel, Queue panel, and Story panel. The Story panel is split further into the Story Form panel, Story Text panel, and Instruction panel (used for production cues).

partition   A method of assigning disk space, creating two or more virtual disks from a single physical disk. Similar to creating a directory.

password   A word users enter when logging in to the iNEWS system. Passwords are alphanumeric and must be between 5- and 12-characters long.

pathname   The hierarchical name of the directory and queue in which a story is located. For instance, the pathname for the Yankees queue is `WIRES.SPORTS.STORIES.YANKEES`.

PCI
Peripheral Component Interconnect. A bus standard used in newer computers.

player controls
The electronic equivalent of a tape-deck controls.

pop-up menu
A menu that appears at the mouse pointer location when a user executes a right-click on a selected object. It contains commands contextually relevant to the selection. Also known as context menu. See also *drop-down menu.*

presenter
The person presenting a newscast on-air to a television audience. Also called an *anchor.*

preview
To rehearse an sequence without actually performing (exporting) it.

priority queue
1. An area where iNEWS places copies of wire stories (usually in `WIRES.ADVISORY.PRIORITY`).

2. A queue designated to be read first by a server program for new stories.

production cue
A prompt to start a story element, such as a video playback. In iNEWS, it is typically anchored to the script by a marker with text appearing to the left of a scripted story, and it provides information for production staff, such as VO—an indication to the presenter that video is on-air. Production cues may also contain instructions for machine control events that involve other devices being controlled in the rundown. These machine control instructions are usually prefaced by an asterisk (*). See also *marker* and *machine control event.*

purge
To remove stories from queues (based on age) and place them in the Dead queue. Purged stories are recycled as needed as new space is required. See also *purge interval.*

purge interval
A queue trait that indicates the time after which a story is considered "old." At hourly intervals, iNEWS will scan the entire database and purge old stories from a queue.

queue
An area of the database that contains stories related to a general topic. Like a folder in a file drawer, queues are storage places within a system's file structure that allow you to organize information in detailed categories. See also *directory, Directory panel, Queue panel.*

queue form
The area used to display the contents, size, and labels of a Queue panel.

Queue panel
An area in the iNEWS Workspace that contains a list of the stories in a queue. Users can add, delete, and sequence stories in the Queue panel.

queue property
A trait that controls the characteristics of a queue in the iNEWS database. Queue properties include the refresh trait, read-only purge interval, sorting, and so forth.

read access
Authority granted to users that allows them to read and duplicate the contents of a directory, queue, or story.

read rate
The number of words per minute at which a talent can read a news story. The system determines the total running time of a newscast based on the read rate of the assigned presenter.

refresh
A queue property or trait that automatically updates your screen's display of the queue when changes are made to that queue by another user or by the system.

relative-to-mark time
Time is displayed as though the start of the clip is at the locator mark.

relative-to-start time
Time is displayed as though the start of the clip is at 00;00;00;00.

remote service
An archival system, bulletin board, or any information service that allows you to establish a connection to another service.

results queue
An area in iNEWS in which results from a Find All search are placed.

roll	To play a video. The digital equivalent of starting the tape deck.
RS-232	The Electronic Industries Association standard for short-range serial control.
RS-422	The Electronic Industries Association standard for medium-range serial control.
rundown	A lineup or timed-out list of stories indicating the order in which they will be aired during a news program. A rundown is viewed in the Queue panel of the iNEWS Workspace. The rundown queue typically uses a form with BACK-TIME or CUME-TIME fields to display the timing of the newscast.
SCO	Santa Cruz Operation UNIX® operating system.
scratch pad	A buffer in which text or notes are stored until the appropriate recovery procedures is performed. Deleted text and notes are stored in the scratch pad. It is separate from the Windows Clipboard and allows clippings to be accumulated.
script	A story that is read on the air. Typically, a script also contains production cues and references to the related media annotations.
SCSI	Small Computer System Interface is an industry standard with guidelines for connecting peripheral devices (such as hard drives and tape backup systems) and their controllers to a microprocessor. The SCSI, commonly pronounced "scuzzy," interface defines standards for hardware and software to communicate between a host computer and a peripheral device. Computers and peripheral devices designed to meet SCSI Specifications are normally compatible.
selection bar	The box at the left edge of a Queue panel that, when clicked, selects a story and all of that story's details.
sequence	An edited composition that includes one or more clips.

server
1. A special utility program the system uses to handle the distribution of stories internally. Some of these servers are known as: action, distribution, parallel, and so forth.

2. Computer hardware (or file servers) with the iNEWS database and running the iNEWS application software. These computers also run other operating systems, such as UNIX or Windows NT®. For instance, the FTS server and the iNEWS Servers (also called server A, server B, or NRCS-A, NRCS-B, and so forth).

session
The way in which an iNEWS Workspace is customized. Toolbars, workspace layout, and preferences can be customized and saved with a session.

slave printer
A printer attached to the workstation.

sorted queue
A queue in which stories are sorted according to criteria specified by the system administrator.

source queue
A queue from which stories are copied or moved.

story
Uniquely identified file containing text; stories are grouped in queues and are displayed in the Story panel of the iNEWS Workspace.

Story Form panel
An area at the top of a Story panel that contains information about a story, such as its title, length, or status. This information is provided in fields that may correspond to data displayed in the Queue panel. This area can be removed (hidden) from the display within the Story panel, so it may not appear on screen.

Story panel
An area in the iNEWS Workspace that displays the story form, text, and production cues of a story.

Story Text panel
An area in the Story panel that contains the text or script of a story. It is the only area that is always displayed as part of the Story panel. See also *Story panel, Story Form panel, Instruction panel*.

superuser　　　　　　A user account that is given access to restricted functions in the iNEWS system. Only a system administrator can assign superuser status.

system administrator　　A person responsible for maintaining the iNEWS system and keeping all functions operating properly.

TCP/IP　　　　　　Transmission Control Protocol/Internet Protocol is a platform-independent protocol for intercomputer communication.

time bar　　　　　A graphical representation of the duration of a clip, including an indication of the current position and the In and Out marks.

user　　　　　　　Individual who has a valid user account in the iNEWS system.

user ID　　　　　A special alphanumeric code that identifies a user account in the iNEWS system. A user ID can be up to 20-characters long.

user manager　　　User ID given the authority to add, modify, delete, and search for information about user accounts. User manager status can be assigned by a system administrator only.

user name　　　　A word established to identify the individual user. Enter your user name and your password to log in. User names are alphanumeric and are up to 20-characters long.

video clip　　　　See *clip*.

window　　　　　An area in which the main interaction takes place. It is typically rectangular, with a title bar (that appears blue when active and gray when inactive), and three buttons in the top right corner (used to resize the window or close it). Unlike a dialog box, a standard window cannot be closed by pressing the Escape key.

Windows®　　　　Graphical shell operating environment that runs on top of DOS. It contains many accessories and features that access DOS functions such as

file, program, and printer management. Windows is referred to as a GUI (Graphical User Interface).

Windows NT®   Microsoft Windows New Technology operating system that implements protected process multitasking, security, and other features of traditional operating systems, while maintaining a high level of compatibility with other Windows operating systems.

wire bulletin   See *bulletin*.

workstation   A personal computer (PC) that, when running the iNEWS client software, is called an iNEWS Workstation. This the PC that is operated by end-users to write scripts or email, create rundowns (lineups), and so forth.

workspace   The area within the iNEWS main window consisting of the Directory panel, Queue panel, and Story panel. The iNEWS Workspace is where users can view, add, edit, and delete information.

write access   The ability to add new stories, edit existing stories in a particular queue, add a queue, or add a directory.

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