

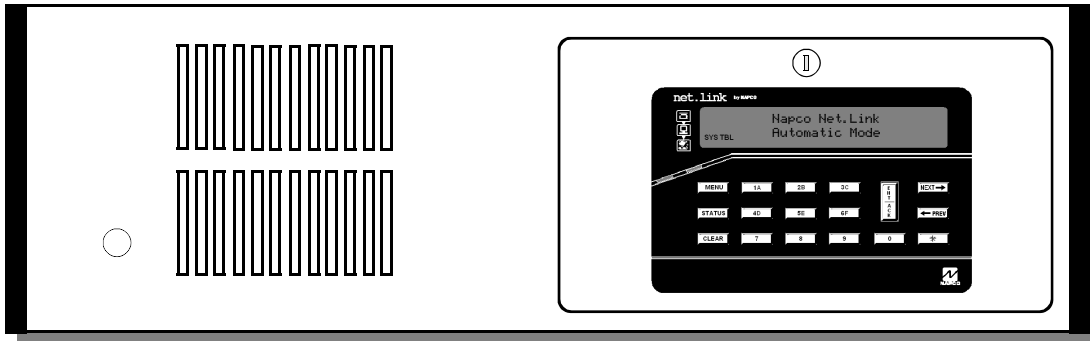


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NAPCO Net.Link™ NL-RCV-RMPCUL Central Station Alarm Receiver Installation, Programming and User's Guide

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Installing, Programming and Using the NAPCO Net.Link™ NL-RCV-RMPCUL Central Station Alarm Receiver

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FCC Requirements

The NL-RCV-RMPCUL Receiver complies with part 15 of the FCC rules.

THE FOLLOWING STATEMENT IS REQUIRED BY THE FCC.

This equipment generates and uses radio-frequency energy and, if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class-B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: reorient the receiving antenna; relocate the computer with respect to the receiver; move the computer away from the receiver; plug the computer into a different outlet so that computer and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington, DC 20402; Stock No. 004-000-00345-4.

Installation Requirements

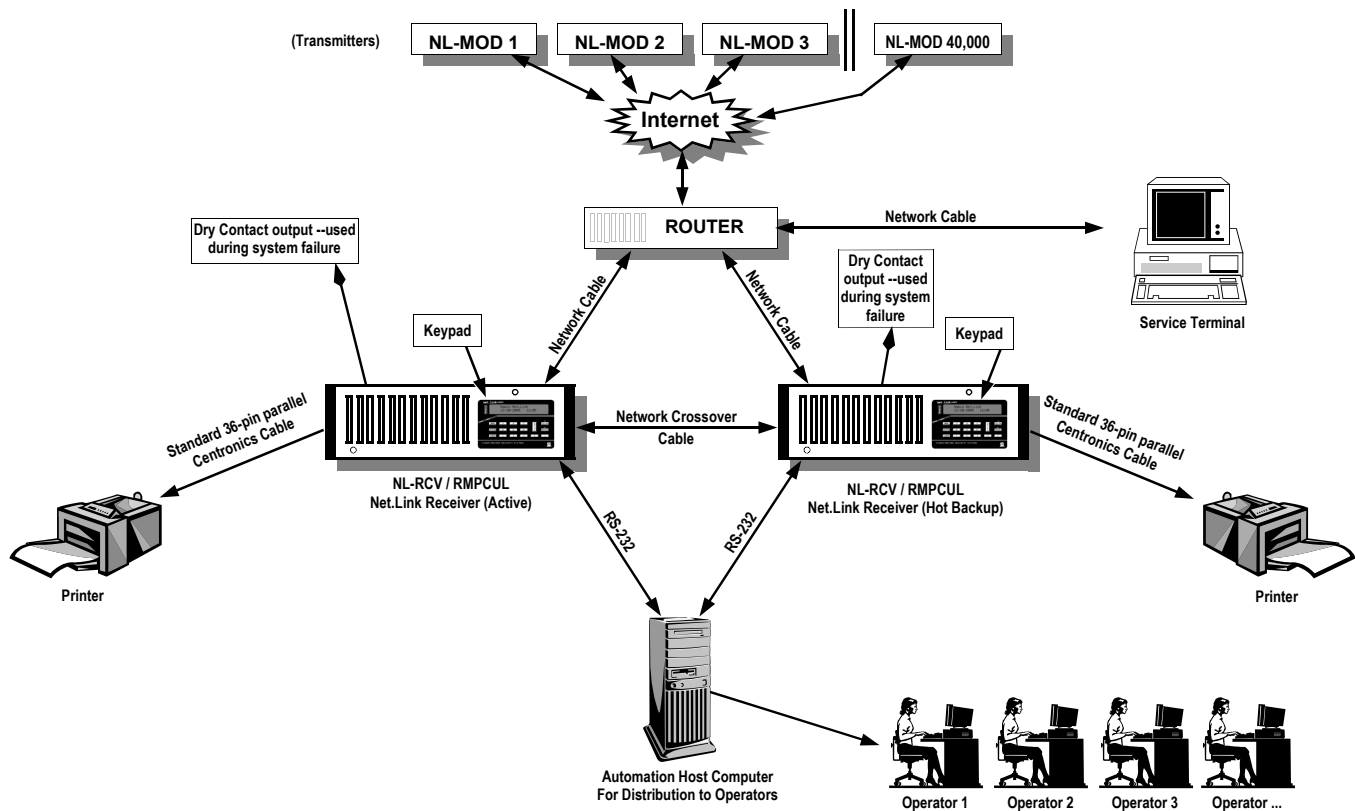
The NL-RCV-RMPCUL Receiver is listed for meeting Industry Approvals UL864 – Control Units for Fire Protective Signaling Systems and UL1610 – Central Station Burglar Alarm Units.

The NL-RCV-RMPCUL Receiver is UL listed for commercial fire and burglary central station service under UL file number S3594.

1. Installation must meet the requirements of NFPA 72. See "Installation and Startup" page 7. All external circuits must be electrically rated to permit proper installation of this product using wiring methods permitted by the National Electrical Code, ANSI/NFPA 70.
2. Receiver must be installed in a UL listed metal rack-mounting cabinet that complies with UL864. The cabinet must be provided with integral outlets and the ability to connect AC input via conduit. All wiring exiting the cabinet must be in electrical conduit. A suggested 19-inch rack in a cabinet listed for fire protective signaling is the Siemens model MXL-RK1. Be sure non power-limited and power limited wiring are separated by at least 1/4 of an inch.
3. A UL1481-listed UPS or generator to supply 24 hours of stand-by must be installed at the monitoring station and used. **Note:** If the primary power source at the monitoring station is lost or otherwise faulted, this faulted condition must be obvious to the operator on duty.
4. This Receiver is intended for use only with the model NL-MOD transmitter.
5. The test signal from transmitters is automatically processed. Failure to receive a test will result in a supervision failure for that transmitter.
6. The Receiver can be configured in two different ways:
 - a. Basic – Network connected Service Terminal or Printer only.
 - b. Duplicate – A second Net.Link Receiver and Printer serve as a Hot Backup duplicate Receiver to the first.

NAPCO Net.Link™ Receiver System Overview

NET.LINK BLOCK DIAGRAM



Since early 2004, the NAPCO Net.Link TCP/IP alarm reporting system has proven its reliability in the field. The Net.Link system was designed to conform to all UL requirements for Packet Switched Data Networks, and consequently the NAPCO Net.Link™ NL-RCV-RMPCUL (Receiver) is a fully UL compliant central station receiver platform.

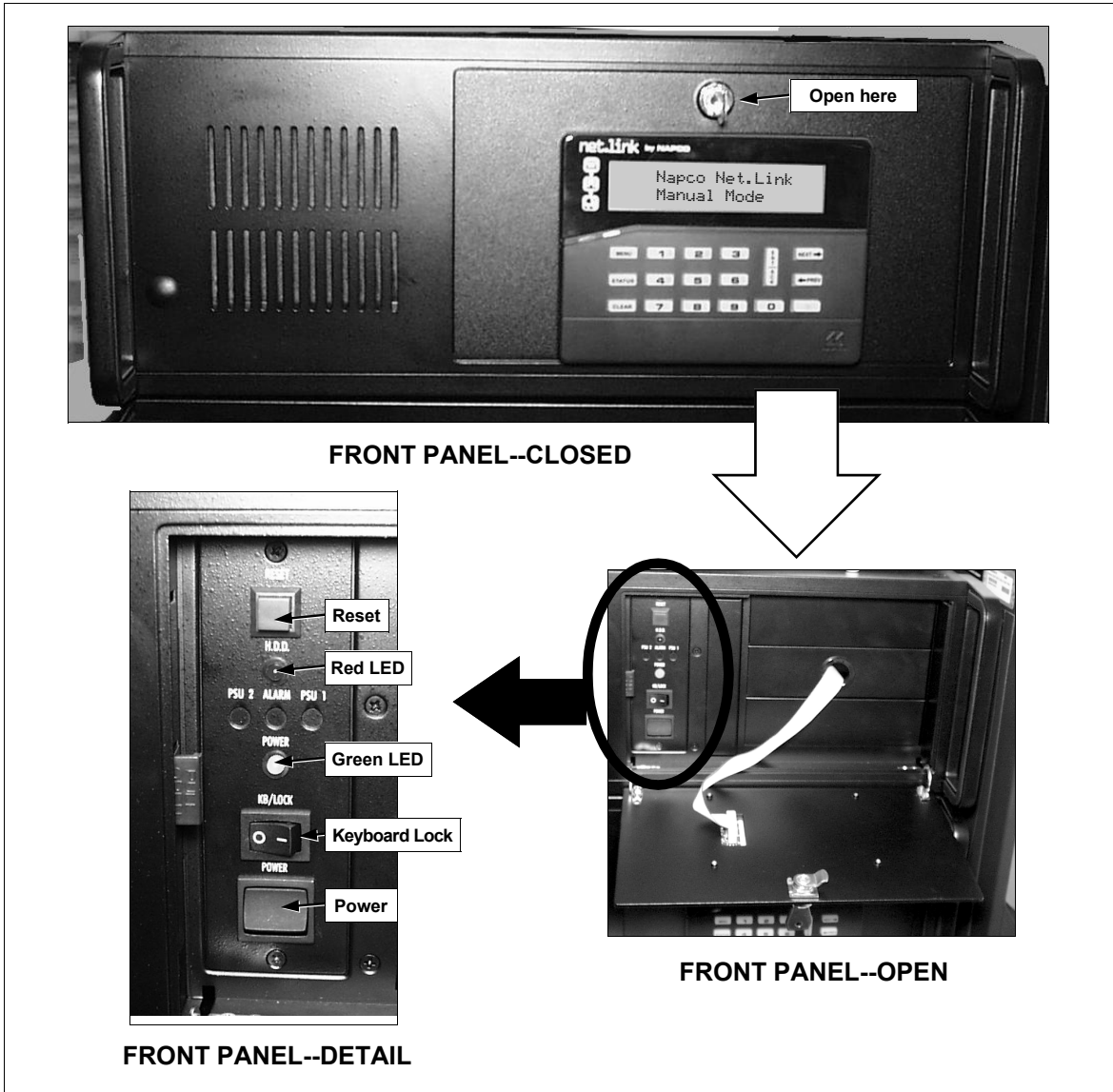
The NAPCO Net.Link Receiver decodes TCP/IP signals from Packet Switched Data Networks using an Ethernet 100BaseT physical layer interface. The signals are sent to the Net.Link Receiver from the protected premises using Napco's NL-MOD (Transmitter) located within a Burglary or Fire Control Panel housing. All transmitted data is encrypted using the 128bit AES encryption standard. Before data is accepted by the Net.Link Receiver for processing, the connection to an NL-MOD transmitter is first authenticated, confirming that the transmitter represents a valid Net.Link Receiver account. With encryption and authentication, the Net.Link Receiver is capable of meeting the highest level of security within the UL standards for commercial equipment.

Connected to the router, the service terminal is a PC that runs the NAPCO Net.Link Service Application software. The Service Application is a PC-based software program that is designed to maintain accounts and provide a means of displaying status changes and event history. The Net.Link Service Application software can also query the Receiver's database for a premise's status condition.

To provide a continuous interface with the Net.Link Receiver, a special keypad is permanently mounted to the front panel of each Net.Link Receiver housing. Each keypad features an LCD with two rows of 16 characters each and a 0-9 numbered keypad that includes several special function buttons for viewing and acknowledging alarm signals.

The Net.Link Receiver has two active modes of operation: In *Automatic Mode*, alarm signals are normally sent to an automation system for processing; in *Manual Mode*, operators can directly interact with the Net.Link Receiver using the keypad only. The system will automatically revert to Manual Mode when the automation system (or communication to the automation system fails). The keypad provides *the primary* means of displaying status change information using audible and visual indications. This booklet provides step-by-step instructions to guide you through all keypad displays and functions. Read this booklet carefully and keep it physically next to the Net.Link Receiver for future reference. To assure optimum safety and security, completely familiarize yourself with all hardware. Periodically check its condition and state of readiness by testing it at least once a week.

Front Housing Description



FRONT PANEL

See images above. The front panel includes a dedicated keypad with an LCD display, and a locking faceplate located behind the mounted keypad. Each keypad features an LCD with two rows of 16 characters each and a 0-9 numbered keypad that includes several special function buttons for viewing and acknowledging alarm signals. Inside the locking faceplate (turn the key to the right to open) are several switches and lights, from top to bottom as follows:

- **Reset** - (Not used).
- **Red LED** - Lights during hard drive activity.
- **Green LED** - Lights when system is powered on.
- **Keyboard Lock** - (Not used).
- **Power** - Press this momentary switch once to turn on the Receiver. Press and release to turn off the Receiver (the Receiver will shut down within a few minutes of pressing and releasing this switch).

Rear Housing Description

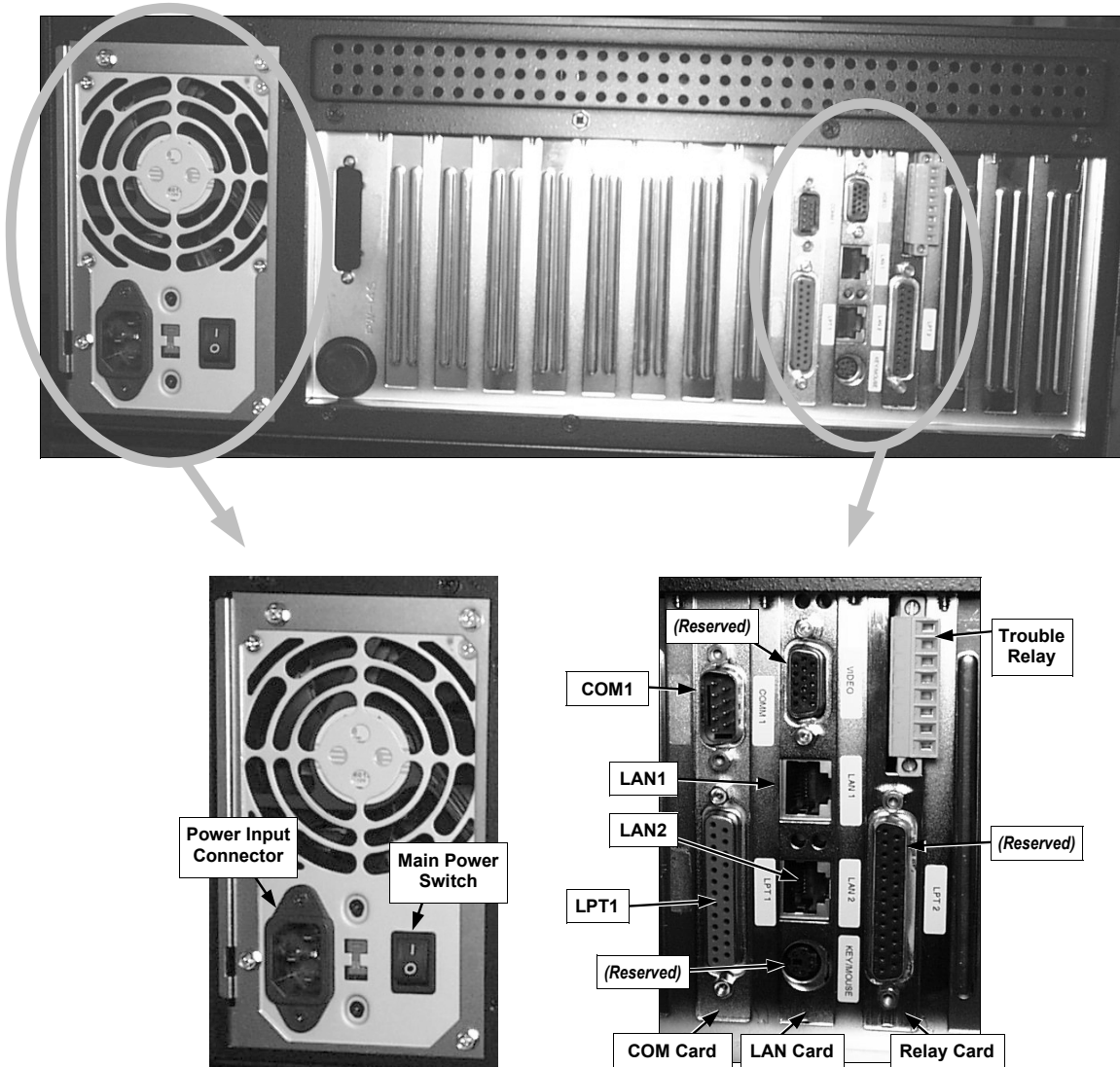


FIG. 2: REAR PANEL

REAR PANEL

The descriptions that follow apply to the images above, from left to right, as follows:

- **Power Input Connector** - Connects to a standard 110VAC three-pronged input jack (supplied). (Current draw = 1.2A max).
- **Main Power Switch** - Switch for main Receiver power supply. **Note:** This switch only supplies AC power and does not cause the software to run.

COM Card:

- **COM1** - Serial port used for output connection to an Automation Host computer. Electrostatically protected for connection to an automation system.
- **LPT1** - Standard DB-25 female parallel printer socket. Connect to the approved printer using a standard 36-pin Centronics cable.

LAN Card:

- **LAN1** - Primary connection to the Net.Link Receiver, and must be connected to the router.
- **LAN2** - Interlink connection RJ-45 crossover cable (e.g., NAPCO part #W943). Required only for Hot Backup failover configuration (see page 7).

Relay Card:

Top connector contains a terminal block and a receptacle:

- **Trouble Relay** - A normally closed dry contact relay. The relay is activated upon power-on of the system (open when powered) and closes when software resets, over-temperature condition or power supply problem exists. **Note:** Do NOT connect anything to reserved receptacles.

Installation and Startup

The NL-RCV-RMPCUL Receiver is intended to operate in an indoor dry central station environment. Temperatures above 95 degrees F, continuously high humidity, extremely dusty conditions, and a corrosive atmosphere should be avoided. The Receiver mounts onto a standard 19-inch rack. Refer to the instructions included with the rack mount adapters.

Two Receivers can be interconnected and work in tandem. The first machine to be powered up will configure itself as the "Active Receiver". When the second machine is powered up, it will automatically be configured as the "Hot Backup Receiver". In this manual, these two descriptions ("Active Receiver" and "Hot Backup Receiver") will be used to describe the two components of Hot Backup operation. **Note:** After both Receivers are powered up, the Active Receiver keypad will light its green LED to distinguish between the Active Receiver and the Hot Backup Receiver.

ENCLOSURES

For the Receiver housing, UL requires the use of a listed rack, cabinet, and wiring as described on page 3.

ROUTER SETUP

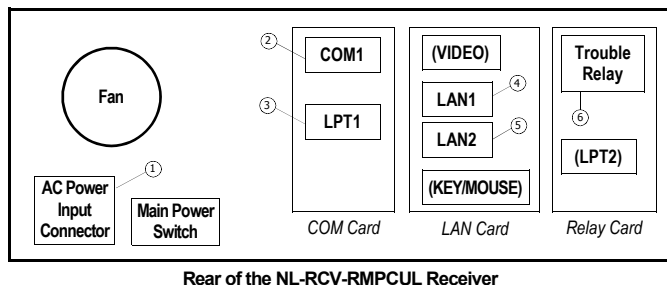
Please contact your IT personnel to assist you with configuring the router. A UL listed ITE router containing at least 4 ports (such as NETGEAR Model WGR614NA Version 6.0 router) is recommended. (Do **NOT** use a switch or hub). The Receiver is to be connected to a dedicated network and not be attached to a corporate network backbone.

The router **must** be configured for port forwarding and must port forward to the network address chosen for the Receiver (s) (i.e. the IP address requested by the keypad when first powered up—see page 8). One Virtual IP address is used for both Receivers. The transmitters are defaulted to send events to Port 5001, and the Receiver listening port must match this port number, otherwise see page 23 to change the Receiver port number. Also, be sure the router is port forwarded to this number.

RECEIVER WIRING

To install the Receiver, follow the following simple instructions, and refer to the Installation Diagram below (each connection is numbered in the diagram). All connections are made at the rear of the Receiver.

INSTALLATION DIAGRAM



Rear of the NL-RCV-RMPCUL Receiver

Refer to page 6 for a description of the Receiver rear hous-

ing, and plug in cables as follows:

1. CONNECT AC POWER INPUT CABLE

Position the Receiver within reach of a standard unswitched 110VAC outlet with a solid earth ground. Do not turn on Receiver yet—but simply connect the AC cord to each 110V AC power input jack located at the back of each Receiver and plug each power cord into an unswitched 110VAC outlet. **AGAIN, DO NOT TURN ON RECEIVER POWER AT THIS TIME.**

2. CONNECT AUTOMATION HOST COMPUTER

Connect the Receiver to a UL listed automation system. The Automation **COM** port is configured by default for 9600-baud, 8 data bits, 1 stop bit, and no parity. The Service Application software allows for reconfiguration of this port.

3. CONNECT PRINTER CABLES

Connect the printer to the **LPT1** parallel printer port. **DO NOT connect ANYTHING to the LPT2 port.** After connecting the printer AC power cord, apply power to printer. **Note:** UL Central Station applications must use a parallel printer listed for Fire Protective Signaling Systems.

4. CONNECTING LAN1 TO THE ROUTER

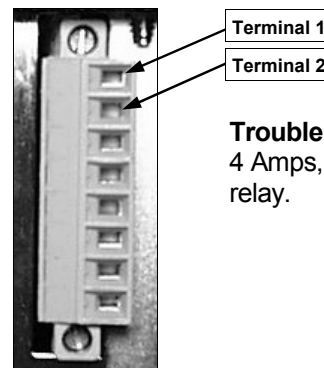
Connect a standard RJ-45 connector into the **LAN1** socket and the other end into the router. Do the same for the Hot Backup Receiver (if used).

5. CONNECTING LAN2 - CROSSOVER CABLE

If **NOT** using a Hot Backup configuration, **skip this step.** If you are using a Hot Backup configuration with two Receivers acting together, then connect one end of the RJ-45 crossover cable (e.g., NAPCO part #W943) to the **LAN2** socket of one Receiver, and connect the other end of the same crossover cable to the **LAN2** socket of the other Receiver.

6. RELAY CARD CONNECTIONS

Connect the **Trouble Relay** terminals 1 and 2 to a notification device. See image below for terminal locations.



Trouble Relay - Maximum 4 Amps, 12VDC, resistive relay.

Trouble Relay

Installation and Startup (cont'd)

STARTUP OPERATION

FIRST TIME POWER UP OF THE ACTIVE RECEIVER

After all cables are connected (see pages 6-7) and the Main Power Switch (see page 6) is switched ON, turn on one Receiver by opening the locking faceplate located behind the mounted keypad and pressing the **Power** switch. When power is first applied, the Receiver begins to configure itself as the "Active Receiver".

As stated previously, the router should be connected to a dedicated link from the Internet (not on a corporate network backbone). Therefore, when power is first applied, the keypad on the Active Receiver will display a request, "Please Enter the Virt IP Address" and will already display the first three octets of this (Class C) Static IP. You must enter the last 3 digits (between 001 and 255) of the Virtual IP address. Press the **ENT/ACK** key to enter and save the address.

POWERING UP THE HOT BACKUP RECEIVER

If **NOT** using a Hot Backup configuration, *skip this step*.

The Hot Backup Receiver is an optional component, thus the Active Receiver can be in use for any amount of time before a Hot Backup Receiver is added to provide redundancy to the system. **Please wait for the green LED on the Active Receiver to light before turning on the Hot Backup Receiver.**

No configuration setup is necessary, because the crossover cable connection that determines if the second Receiver will be configured as a Hot Backup Receiver. Connect both ends of the RJ-45 crossover cable (e.g. NAPCO part #W943) to the **LAN2** socket of both Receivers if you want both Receivers to act together—one as an Active Receiver and the other as a Hot Backup Receiver.

Apply power to the second Hot Backup Receiver **AFTER** the green LED is lit on the Active Receiver. The Hot Backup Receiver automatically synchronizes itself with the data from the Active Receiver. **Note:** Copying may take several minutes depending on existing data.

Note: The Active Receiver does not copy event history to the Hot Backup Receiver on initial power-up.

Installation and Startup (cont'd)

SERVICE TERMINAL SOFTWARE INSTALLATION

Connected to the router, the NAPCO Net.Link Service Terminal is a PC that runs the Net.Link Service Application software. The Service Application is a PC-based software program that is designed to maintain accounts and provide a means of displaying status information, event history, etc.

The Service Application must be used to:

- Add / Edit Accounts
- View Panel Status
- View Event Queue
- View Event History
- Setup Host Automation COM port settings

Service Terminal System Requirements:

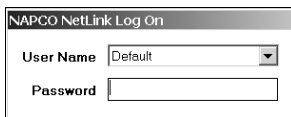
- Windows® XP Professional with at least 256 MB RAM.
- Network Card requirements: Dedicated 100 BaseT Network Card connected to the system router (see page 7 "Router Setup").

Note: Close all applications before installing software.

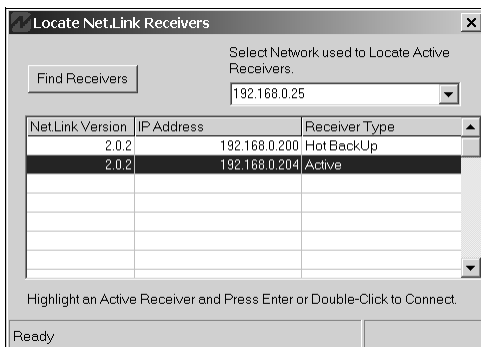
1. Place the Net.Link Service Application software CD into the CD-ROM drive. The software will automatically begin the installation process.
2. If the installation process does not automatically begin, click **Start, Run** and type the following: D:\Program \setup.exe, where **D** is the drive letter associated with the CD-ROM. (This procedure is subject to change).
3. A shortcut is placed on your desktop: **Net.Link Service Application**. This shortcut will be used to start the Net.Link Service Application software, as described below.

SERVICE APPLICATION SETUP

Double click the desktop shortcut and the Net.Link Service Application **Log On** screen appears. As shown in the image below, the default User Name is "Default".



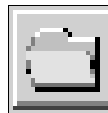
Note: There is no password associated with this **User Name**, so just leave the **Password** field blank and press **Enter**. The **Locate Net.Link Receivers** dialog opens:



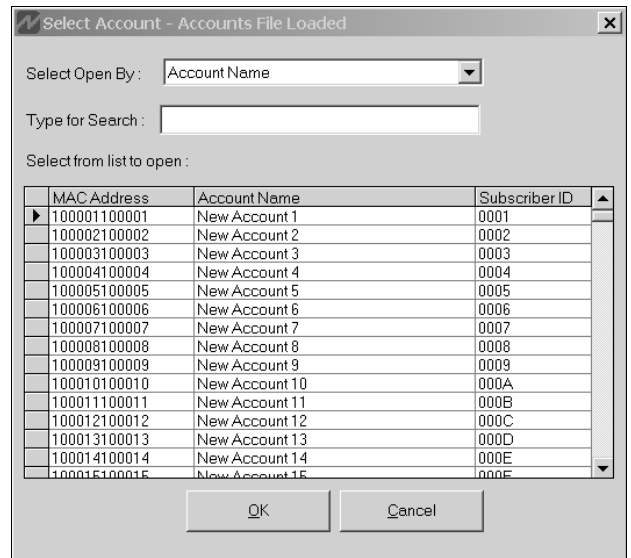
The **Locate Net.Link Receivers** dialog allows you to locate

and connect to an Active Net.Link Receiver. The list of Receivers will automatically populate. Click the **Find Receivers** button to refresh the Receiver list. To connect the Service Application to the selected Receiver, double-click in the row of the listed Net.Link Receiver (the dialog will automatically close). The IP address of the Receiver to which the Service Application is connected is displayed at the bottom left of the main screen (see page 19 for a sample image). **Note:** You may only connect to one Active Receiver at a time.

Any Hot Backup receiver is displayed in the list for information purposes only and cannot be accessed. The Active Receiver automatically sends new account data to the Hot Backup Receiver, synchronizing the Receivers.

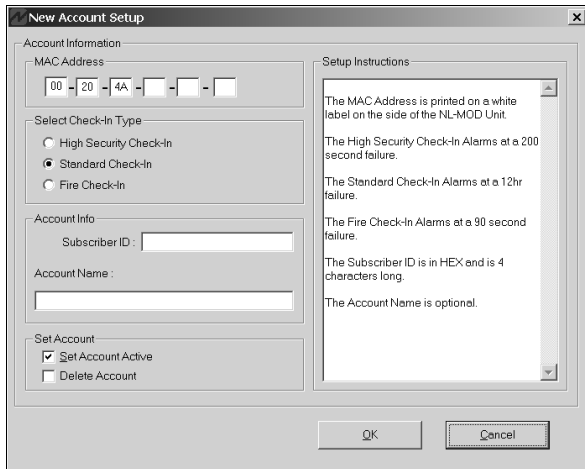


Select Active Account - Click this Quick Access Button on the Net.Link Service Application toolbar to open the Select Account dialog, allowing you to make an Account the Active Account.



Create a New Account by clicking **File, Create New Account** or press the **New Account** button on the toolbar (you can also press **Control + N** on your keyboard). The **New Account Setup** screen opens:

Installation and Startup (cont'd)



The **New Account Setup** dialog allows you to configure Account information. The required fields are:

- **MAC Address**
- **Subscriber ID**

The information provided in this window must correspond to information programmed into the transmitter. The fields within this window are as follows:

MAC Address: (Required field). This information is located on the transmitter housing and is unique to each device.

High Security/Standard Check-In: Two check boxes are provided as follows:

High Security Check-In: Select for check-in time intervals that conform to Encrypted Line Security standards.

Standard Security Check-In: Select for check-in time intervals of 3 hours.

Fire Check-In: Select for check-in time intervals that conform to UL Fire standards.

Note: The transmitter Check-In settings must agree with the settings configured here otherwise a *supervision failure* trouble could result.

Subscriber ID: (Required field). This is a hexadecimal field, much like the **MAC Address** field (4 digits). If your facility does not require this field, it is suggested to use the last 4 digits of the MAC Address.

Account Name: An alphanumeric field used by the dealer to reference Account information.

Set Account Active: Must be checked to place the Account on-line, and unchecked to take the Account off-line. Click **OK** to activate.

Delete Account: Check to select Account for deletion, and click **OK** to delete the Account from the system.

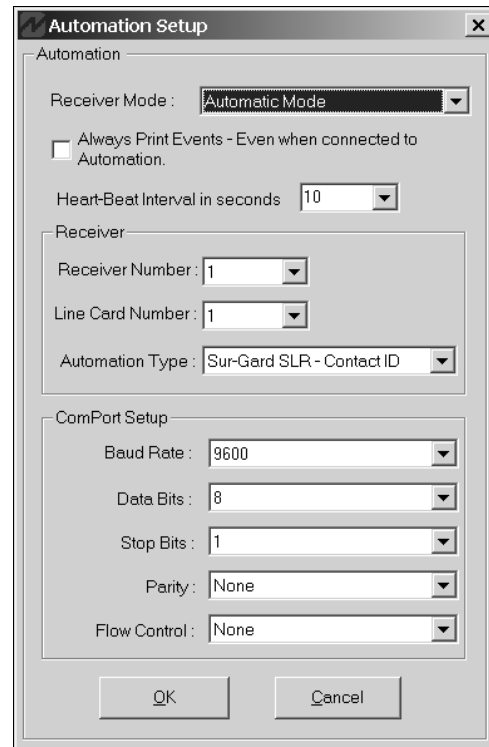
The large text field is used to display setup instructions.

Automation Setup

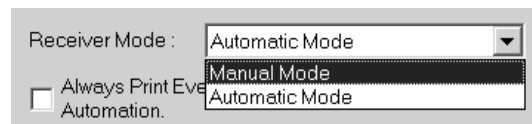
This section covers the options for sending events to the Automation Host computer system.



Click **Tools, Automation Setup** and the following **Automation Setup** dialog appears:



The Receiver can be placed into one of two modes. Use the **Receiver Mode** drop-down box to select one of the two modes. If the Receiver is NOT going to use Automatic Mode, click the **Receiver Mode** pull-down list and select **Manual Mode** (see image below). By default, **Automatic Mode** is selected.



Always Print Events

Check the **Always Print Events - Even when connected to Automation** checkbox if you wish to ensure that all events be printed by the printer, regardless of the condition of the Automation Host computer.

Installation and Startup (cont'd)

Heart-Beat Interval in seconds

Click this pull-down list to select the number of seconds between a "Heart Beat" signal being sent to the Automation Host computer.

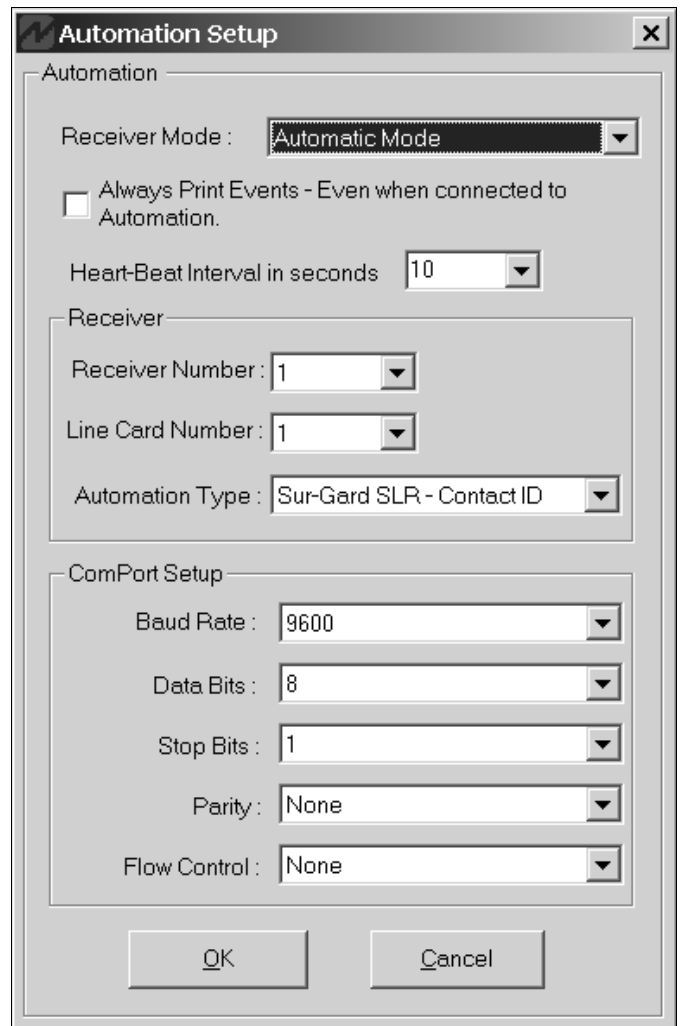
Receiver Section

The **Receiver** section of this dialog is used to configure the **Receiver Number** and **Line Card Number** required by some automation systems. Both of these fields are numeric only. Click the pull-down lists to select the number as required.

Automation Type: Currently only the *Sur-Gard* SG-SLR (Single Line Receiver) Contact ID protocol is used for host communication. See Appendix B on page 26 for more information.

ComPort Setup Section

The **ComPort Setup** section, although dependent on the Automation Host's requirements, will normally not need to be changed from its default settings. Using the appropriate drop-down lists, select the **Baud Rate** (300-115200), **Data Bits** (4-8), **Stop Bits** (1-2), **Parity** (odd or even) and **Flow Control** (None, Hardware or Xon / Xoff) for the Automation Host computer.



The image shows a screenshot of the "Automation Setup" dialog box. The dialog is titled "Automation Setup" and has a close button (X) in the top right corner. It is divided into two main sections: "Automation" and "ComPort Setup".

Automation Section:

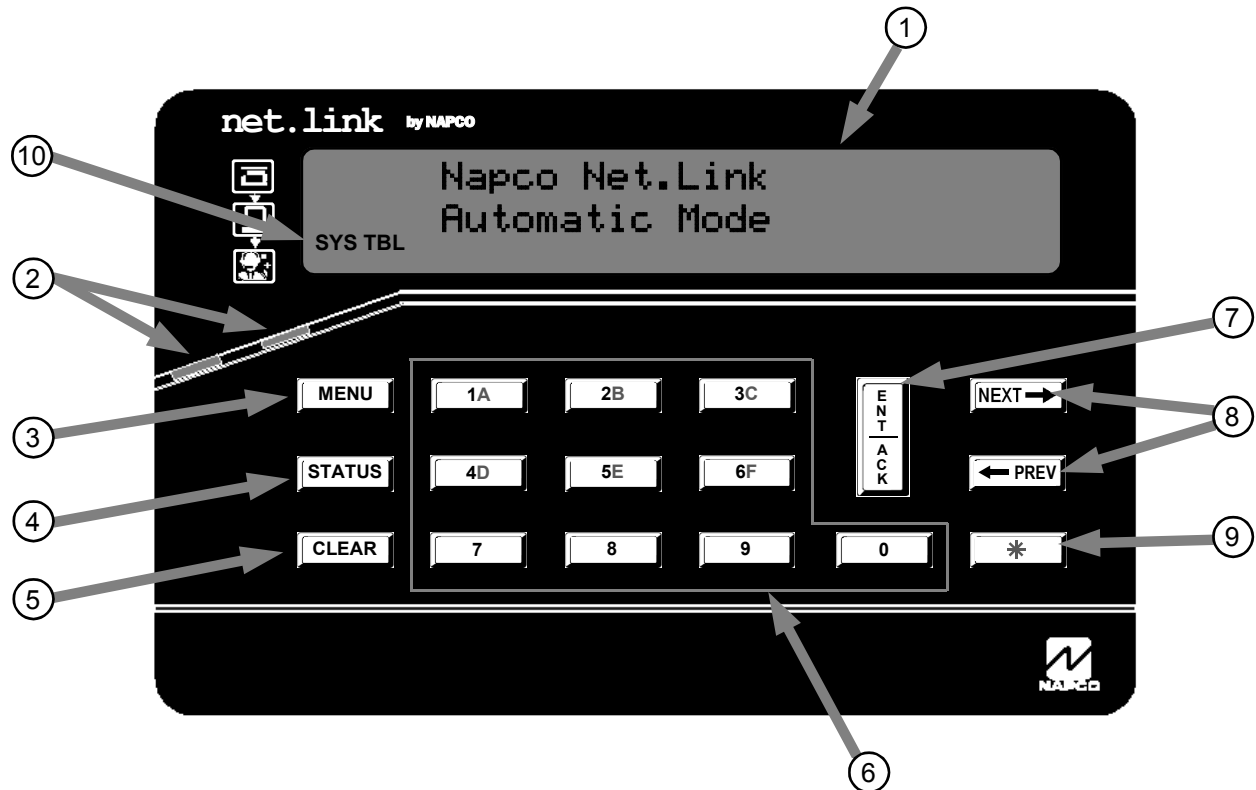
- Receiver Mode:** A pull-down menu set to "Automatic Mode".
- Always Print Events - Even when connected to Automation.
- Heart-Beat Interval in seconds:** A pull-down menu set to "10".
- Receiver Section:**
 - Receiver Number:** A pull-down menu set to "1".
 - Line Card Number:** A pull-down menu set to "1".
 - Automation Type:** A pull-down menu set to "Sur-Gard SLR - Contact ID".

ComPort Setup Section:

- Baud Rate:** A pull-down menu set to "9600".
- Data Bits:** A pull-down menu set to "8".
- Stop Bits:** A pull-down menu set to "1".
- Parity:** A pull-down menu set to "None".
- Flow Control:** A pull-down menu set to "None".

At the bottom of the dialog are two buttons: "OK" and "Cancel".

Keypad: Operation and Display



- ① **LCD Display** - Consists of two rows of 16 characters each and a *SYS TBL* icon. The *SYS TBL* icon displays when system troubles exist.
- ② **STATUS Lights** - The **red** light warns that events that have not been acknowledged are in the queue. The **green** light, when lit, indicates the Active Receiver.
- ③ **MENU Button** - Initiates *Menu View*. The keypad will automatically exit the Menu View if no keypad buttons are pressed within 60 seconds.
- ④ **STATUS Button** - Reserved for future use.
- ⑤ **CLEAR Button** - Press to silence audible. Also exits without taking action while in *Menu View*. Press and CLEAR to clear events and troubles from the LCD Display.
- ⑥ **Numerical Keys (0-9)** - Used for data entry.
- ⑦ **ENT/ACK Button** - Acknowledges events and executes options when in *Menu View*.
- ⑧ **NEXT/PREV Buttons** - Scrolls through menu when in *Menu View*. Also provides a Yes/No response to *Menu View* prompts (Y/N), also scrolls through the events and system troubles (Yes = **NEXT** and No = **PREV**).
- ⑨ **"Shift" Button** - Press and CLEAR to clear events and troubles from the LCD Display.
- ⑩ **SYS TBL Icon** - Appears on the display to indicate a problem has been detected in the system which may prevent it from working properly. You can display system troubles through a selection within the *Menu View*.

Keypad: Automatic Mode

The system operation includes two modes:

Automatic Mode and ***Manual Mode***.

AUTOMATIC MODE

Napco Net.Link
Automatic Mode

When an Automation Host is used, the display will automatically indicate *Automatic Mode*. All events will be sent to the **Automation Host Computer** for acknowledgement. After Acknowledgement, the events are automatically archived.

Note: In *Automatic Mode*, the audible will NOT sound when each new event is received.

If the Automation Host Computer system fails, the Receiver will automatically revert to *Manual Mode* and a System Trouble event will be logged and displayed.

For *Manual Mode* operation, please see page 14.

When the Automation System is restored, a System Trouble restore is logged and displayed and the system reverts back to *Automatic Mode*. Any unacknowledged events will be automatically be sent to the Automation Host computer and acknowledged. System Troubles will remain on the display and will need to be acknowledged.

Keypad: Manual Mode

Manual Mode

```
Napco Net.Link  
Manual Mode
```

Idle Keypad Display in Manual Mode

The Receiver is in Manual Mode when an Automation Host computer is not used, by selecting *Manual Mode* from the **Automation Setup** screen, or when *Automatic Mode* is selected from the **Automation Setup** screen and the Automation Host computer goes off line.

Incoming Events

With incoming events, the keypad displays each incoming event, one at a time. The current event must be acknowledged before the next event in the queue is displayed. Acknowledge by pressing the Enter/Acknowledge (**ENT/ACK**) key on the keypad. All events are sorted in the following descending order of priority:

1. Events associated with life safety;
2. Events associated with property safety;
3. Supervisory or associated life and/or property safety trouble events;
4. All other events.

Fail to Check In

ATTENTION MONITORING STATION STAFF:

If the Receiver display indicates event code "E356" (Fail to Check In), a possible line security compromise attempt may have occurred at the specified subscriber ID.

LCD Display

```
N 12:34 12/25 S+  
1111 E123 01 001
```

Example of an incoming event.
(For an explanation, see below).

When a new event arrives (see above for an example), the sounder turns on and the red LED flashes on the keypad. Pressing **CLEAR** silences the sounder and displays an "S" in the first line of the LCD. The first line of the LCD will display an "N" indicating the event is new and has not been acknowledged. The plus sign "+" (first line, right) indicates more events are waiting to be displayed. Also displayed are the time and date the event was originally received.

Note: The sounder reactivates for each new event.

The second line of the LCD displays the event, from left to right: the four-digit Subscriber ID, then the letter "E" or "R" ("E" indicates a new event, "R" indicates a *restoral*). The next three digits indicate the Contact ID Code (130 =

Burglary, 110 = Fire, etc.); the next two digits identify the area number, and the final three digits identify the Zone or User number.

Acknowledging Events / Troubles

Press the **ENT/ACK** button to acknowledge events. The audible deactivates, the "N" disappears, and the system marks the event as being acknowledged. The next available event (if any) will then be displayed. When all events are acknowledged or no other events occur, the keypad display will return to the Idle Keypad Display (shown at the upper left of this page).

System Troubles are displayed in a similar manner as incoming events. **Note:** Incoming events always take priority over System Troubles. When system troubles are displayed, the **Sys Tbl** icon will light on the keypad, and the display will be similar to the example below:

```
N SYS TROUBLE S+  
R118 12:23 01/18
```

Example of a System Trouble

See page 25 for a list of System Troubles.

```
N 12:34 12/25 S+  
#### ETTT AA ZZZ
```

Event Overview

N = New Event displayed until acknowledged
12:34 = Time (24Hr Military Time)
12/25 = Date (mm/dd)

S = CLEAR button pressed to silence audible
+ = More events are waiting in queue

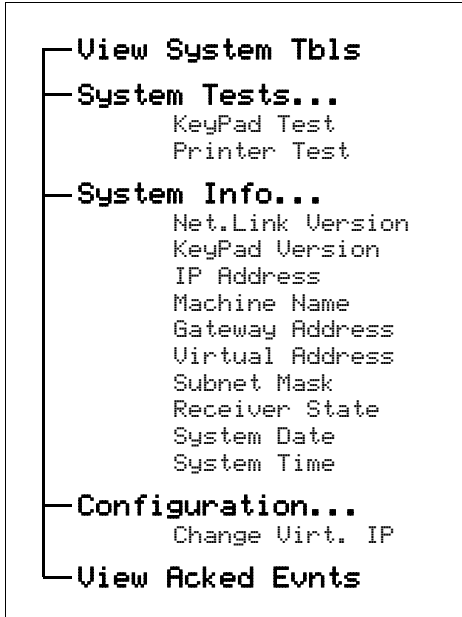
= Subscriber ID Account Number
"E" = Event; **"R"** = Restoral
TTT = Contact ID Code
AA = Area Number
ZZZ = Zone or User Number

Example:

```
N 12:34 12/25 S+  
1111 E123 01 001
```

(The above LCD is displaying the following information: "New event, received 12:34 PM December 25th, the CLEAR button on this Receiver keypad was pressed to silence the audible, and more events are in the queue waiting to be displayed. Customer account number 1111, new "Panic" event entered in Area 1, Zone 1").

Keypad: Menu View



Menu View Hierarchy

MENU VIEW NAVIGATION

Menu View is accessible in either *Automatic Mode* or *Manual Mode* by simply pressing the **MENU** button on the keypad. As shown in the above hierarchy, the first menu item, **View System Tbls** appears. Press **NEXT** and **PREV** buttons to navigate through the menu items and press **ENT/ACK** to access a sub-menu. Press **CLEAR** to move up a menu selection or repeatedly press **CLEAR** to exit the *Menu View*.


Note: The keypad will automatically exit *Menu View* if no keys are pressed within 60 seconds.

VIEW SYSTEM TROUBLES

```
SYS TROUBLE
E118 12:23 01/18
```

Example of a System Trouble

This displays all acknowledged system troubles.

Press **NEXT** and **PREV** to scroll through all system troubles. A maximum of 50 troubles can be displayed on the keypad. All troubles will be displayed on the keypad with either an E ("Event") or R ("Restore") before the code number (for example "E118"). To remove a system trouble from the keypad display, press  + **CLEAR**.

SYSTEM TESTS

The following system tests can be performed at the keypad.

Keypad Test

The Keypad test will prompt the operator through a series of tasks to ensure that the keypad is fully functional. If the test fails, a system trouble will be generated.

Printer Test

The Printer test will send a line of text to the printer for printing. This test is a visual test, and only a hardware failure will generate a system trouble.

SYSTEM INFO

Net.Link Version

Displays the version of the Net.Link software currently installed in the existing Receiver.

Keypad Version

Displays the current version of the firmware in the keypad.

IP Address

Displays the IP address of the physical machine, not the Virtual IP address, and is the DHCP address assigned to the machine by the router.

Machine Name

Displays the assigned Receiver name, and is a unique identifier of the Receiver.

Gateway Address

Displays the default gateway address of the network, and is used for diagnostic purposes.

Virtual IP Address

Displays the IP address that is shared between the Active and Hot Backup Receivers. This is also the same address to which the router was port-forwarded.

Subnet Mask

Displays the subnet mask of the network, and is used to derive the first three octets of the Virtual IP address.

Receiver State

Indicates if the Receiver is Active or Hot Backup.

System Date

Displays the current system date of the Receiver's operating system.

System Time

Displays the current system time of day within the Receiver's operating system.

Keypad: Menu View (cont'd)

CONFIGURATION

Change Virtual IP Address

Allows the last 3 digits of the Virtual IP Address to be changed at the keypad and press the **ENT/ACK** key. The keypad will read "Virt IP Updated". **Note:** The Virtual IP address can be manually assigned at the keypad at any time.

VIEW ACKED EVENTS

Displays events acknowledged (using the **ACK/ENT** button) via the keypad in Manual Mode.

- Press **NEXT** or **PRIOR** to scroll acknowledged events.
- Press and **CLEAR** to remove the displayed event from the keypad and archive the Event.

The **View Acked Events** menu will display up to a maximum of 50 acknowledged Events. **Note:** These Events can also be viewed at the Service Application in the **Event Queue** screen. If more than 50 events are acknowledged in Manual Mode, the oldest will be automatically archived. Events that are archived can be viewed from the **Event History** screen.

Printout of Events

The printout of the Receiver is easily interpreted. Typical signals are printed as follows on an 80-column printer:

```
01/04/2006 02:17:27 PM 01 0036 E602 06 U/Z 194 Fail to Check-In
```

01/04/2006 - Date MM/DD/YYYY

02:17:27 PM - Time HH:MM:SS AM or PM

01 - Ordinal number sequencing the events for each Subscriber ID

0036 - Subscriber ID

E602 - Contact ID Code

06 - Area

U/Z 194 - User / Zone #

Fail to Check In - Contact ID Text Description

Net.Link Service Application Quick Access Buttons



The Net.Link Service Application toolbar (above) contains the Quick Access buttons. It may be helpful to open each screen on your computer as you read. From left to right, they are as follows:



Log Off - Logs the current operator off the system.



Locate Active Receivers - Click this button to open the **Locate Net.Link Receivers** dialog, allowing selection of a Receiver that will connect to this Service Application (**Note:** For *Active Receiver Types* only).



Select Active Account - Click to make an Account the Active Account. An Account represents a monitored premises, such as a building or a home.



Event Queue - Displays events in currently selected Receiver, and shows the most recent incoming events at the bottom of the list.

(F5)



Create New Account - Creates a new account. For adding new Accounts to the system, see page 9.

(CTRL + N)



Event History - After events are archived, displays Event History in the currently selected Receiver.

(F6)



Edit Active Account - Click this button to edit active Account information, such as primary and secondary contact information, local police and fire department telephone numbers, etc.

(CTRL + E)



Panel Status - Opens the **Panel Status** screen for the currently active Account.

(F7)

Net.Link Service Application Main Menu

File View Tools About

Menu System and Shortcut keys

The sub-menus within the Net.Link Service Application Main Menu bar can be activated by clicking the mouse or via shortcut keys. For example, to open the **New Account Setup** screen, you can use your mouse to select **File, Create New Account** or you can use its shortcut (hold down the keyboard **Ctrl** button and press N).

View Menu (Alt + V)

Event Queue	Shortcut Key
Event History	F5
Panel Status	F6
	F7

Main Net.Link Service Application Screen:

File Menu (Alt + F)	Shortcut Key
Log Off	
Create New Account	CTRL + N
Select Account	
Edit Account	CTRL + A
View Panel Status	CTRL + P
Edit Active Account	CTRL + E
Exit	

Tools Menu (Alt + T) [For Administrative Users Only]

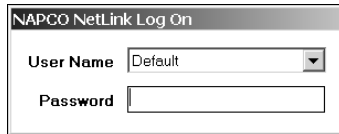
- Manage Users
- Locate Active Receivers
- Automation Setup
- Set Virtual IP Address
- Set Port Number
- Set Regional Time for Receiver

About Menu (Click to open)

Using the Service Application

The **NAPCO Net.Link Service Application** is a PC-based software program that is designed to maintain accounts and provide a means of displaying status changes and event history.

When the Net.Link Service Application software is first started, the Net.Link Log On screen appears (shown below). You must first *Log On* to the system before the system can be used.

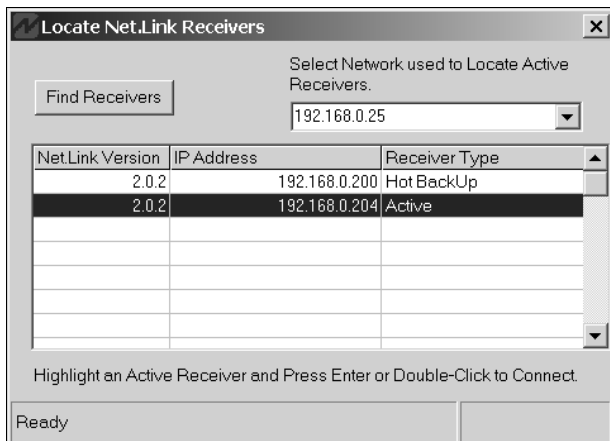


Select your user log-on name from the **User Name** drop down list, and type your password in the field provided. Press **Enter** to Log on. If you are unable to log on, see your system administrator for assistance.

When you log on successfully, the **Net.Link Service Application** main screen appears:



If the Active Receiver has not yet been selected, the **Locate Net.Link Receivers** dialog automatically appears:



See page 18 for a full listing of all button names and menu names in this main screen.

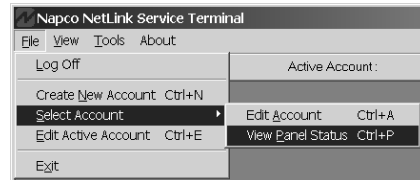
FILE MENU

As displayed in the image below, the **File** menu allows you to **Exit** the application and **Log Off** your User Name. The menu also allows you to create a new Account, select an Account, and edit an Account. To **Create a New Account**, see page 9.

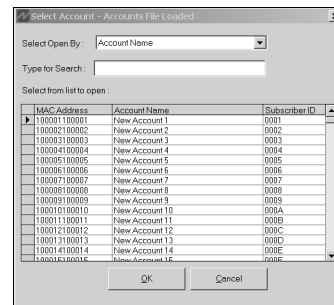


File, Select Account>>Edit Account

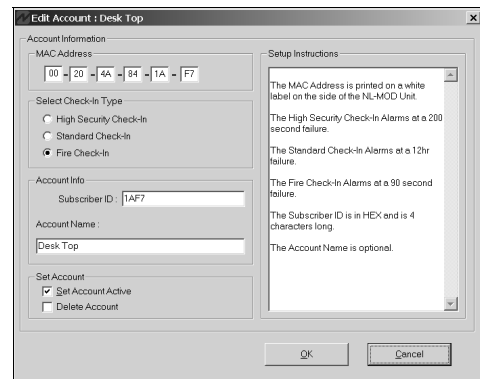
Click **File, Select Account** to open two more selections:



To edit, click **Edit Account** (or press **CTRL+A**) and the **Select Account** window opens:



Click to highlight an Account and click **OK**. The **Edit Account** dialog appears (shown below) and the selected Account now becomes the *active* Account.

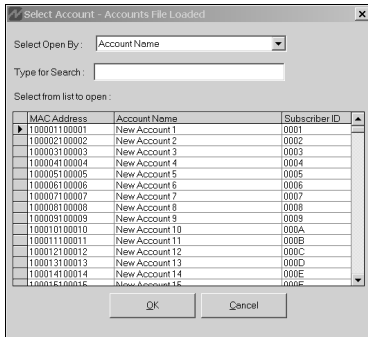


Each field of the **Edit Account** dialog reflects the current settings for the active Account. For definitions of each field, see page 10. To change the settings, click and/or type in the required fields in the standard manner. When finished, click **OK** to save or click **Cancel** to exit without saving.

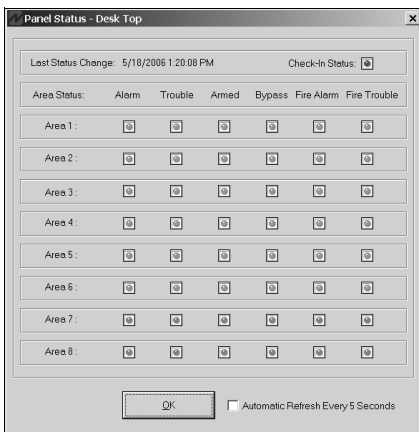
Using the Service Application (cont'd)

File, Select Account>>View Panel Status

Click **File, Select Account, View Panel Status** and the **Select Account** window opens:



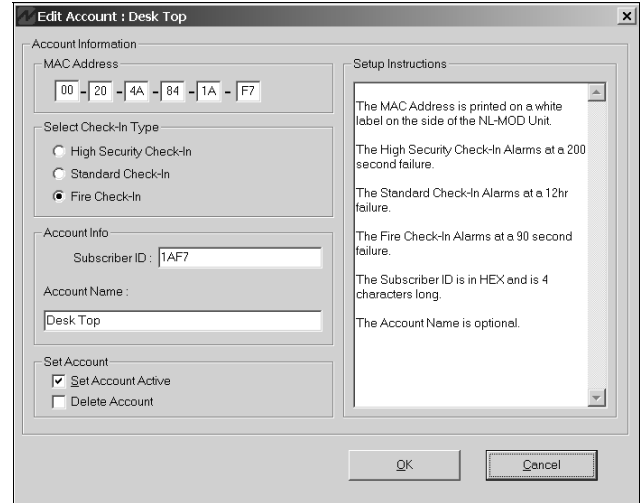
Click to highlight an Account and click **OK**. The **Panel Status** dialog appears (shown below) and the selected Account now becomes the *active* Account:



The **Panel Status** dialog details a status of each area in the system with respect to the following: *Alarm status, Existing Troubles, Armed status, Bypassed zones, Fire Alarm status, and Fire Troubles*, the current *Check In Status*. The status of each of these items is presented via a colored icon: (A **green** icon indicates all is OK. A **red** icon indicates the area specified is *in alarm*, is *armed* or is in *trouble*. The **darkest** icon indicates the area specified is inactive or does not exist). The date and time of the last Status Change is also displayed. At the bottom of the dialog is a checkbox named Automatic Refresh Every 5 Seconds, reloading data to the Panel Status screen.

The active Account can *only* provide a status of the control panel for transmitter installations if: (a) the control panel is set up to report to the TCP/IP receiver through a high speed serial output (such as the Local Download jack (JP2) on the control panel) and (b) the NL MOD is enabled for High Security Checkin . If the active Account is unable to provide a status of the control panel, the following popup will appear:

In addition, the popup will also appear for new control panel installations that have not yet sent any status packets.



File, Edit Active Account

Click **File, Edit Active Account** (or press **CTRL+E**) and the following **Edit Account** dialog appears allowing the current Account information to be changed.

The **Edit Account** dialog allows you to configure the same Account data that was saved when the Account was first created. For a description of each field, see page 10.

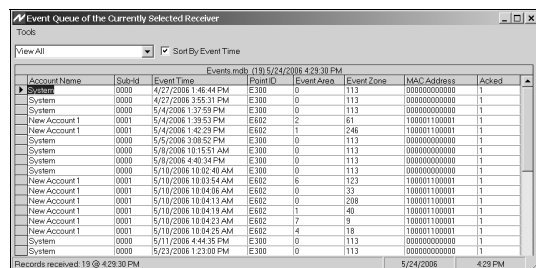
VIEW MENU

As displayed in this image, the **View** menu allows you to display the event queue, history, control panel status, as well as text files containing the system log and error log.



View, Event Queue

Click **View, Event Queue** (or press **F5** on your keyboard) and a grid appears—the **Event Queue** screen (shown below). As events are received, they are added to this list—with the most recent incoming events placed at the bottom. The **Event Queue** screen displays all data that appears on the keypad LCD within 5 seconds for the currently selected Receiver. The **Event Queue** screen can be minimized (or made floating) by the Windows® control box located in the upper right hand corner of the window.



Using the Service Application (cont'd)

If the **Event Queue** is closed, it can always be opened by clicking **View, Event Queue**, by pressing **F5**, or by clicking its **Quick Access** button (the tooltip "*Event Queue of the Currently Selected Receiver*" appears when you position your mouse arrow over the button).

Events in the **Event Queue** can not be *edited*, but can be *filtered* by clicking the pull-down menu located in the upper left corner of the **Event Queue** screen. The default selection is **View All**, but you can select to view only **System Troubles**, **Events** or **What's on the Keypad**.

The columns in the **Event Queue** are, from left to right, Account Name, Sub-ID (Subscriber ID), Event Time, Point ID, Event Area, Event Zone, MAC Address (on the transmitter housing) and Acked (0= Events not yet acknowledged, 1 = acknowledged Events).

search for Events by *Event Type*. Type a specific Event Type in the **Type in Event Type** field. The event **Area** and **Zone** can also be specified with their respective drop down lists. Press the keyboard **Enter** key to remove all events from the list not within the *Type*, *Area* and *Zone* conditions specified.

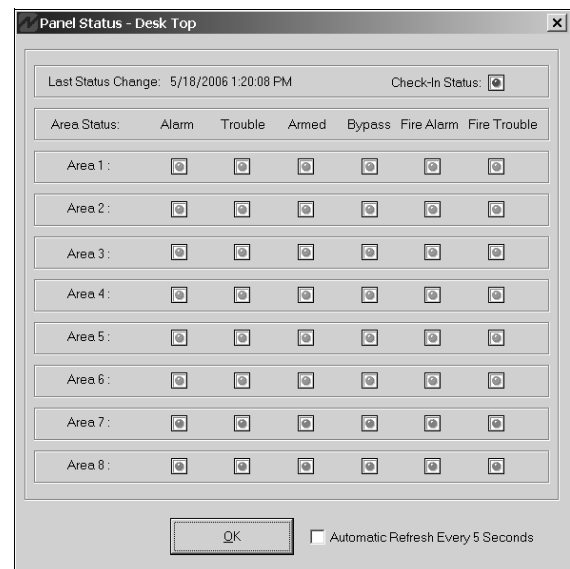
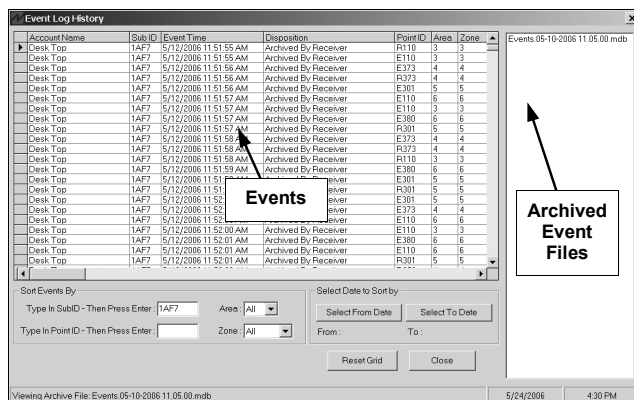
Click the **Reset Grid** button to reset previous filtering and sorting of events.

View, Panel Status

To view the status of the control panel within the *active* Account, click **View, Panel Status**, and the **Panel Status** screen will appear (or press **F7** on your keyboard). For a full description of the **Panel Status** screen (shown below), see page 20.

View, Event History

The **Event Log History** screen (shown below) is used to view archived events. To access the **Event Log History** screen, click **View, Event History** (you can also use the shortcut key (**F6**) or click the **Show Event Log of the Open Account** button on the toolbar).



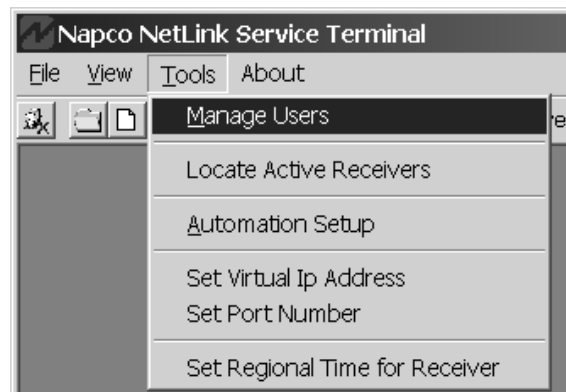
By default, events for the selected Receiver are listed chronologically (most recent placed at the bottom). Archived events are stored in a file (displayed on the right side of the screen with the most recent placed at the bottom). The date and time is used for the file name; to view events, click the file that corresponds to the correct date in question. (**Note:** It may take several moments for the data to be loaded and displayed).

Although the events can be scrolled, the events listed in the **Event Log History** screen can also be filtered by date, thus making it easier to find a particular event. In the **Filter by Date** area, type in a range of dates (or just the month and date), starting with the **From** field, and ending with the **To** field. Press the **Enter** key on your keyboard to remove all events from the list not within the range specified. Examples of date format are "4/20" or "7/16/2003".

To further assist in finding a particular event, you can also

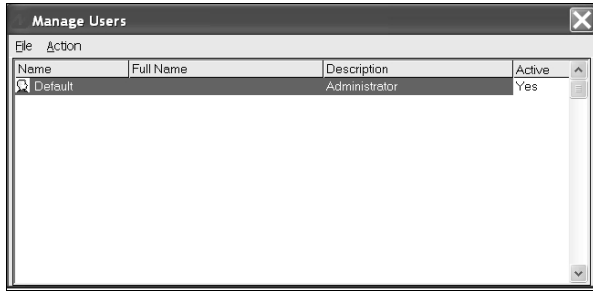
TOOLS MENU

As displayed in the image below, the **Tools** menu allows you to manage users, configure the Automation Host Output, and configure other items as needed.



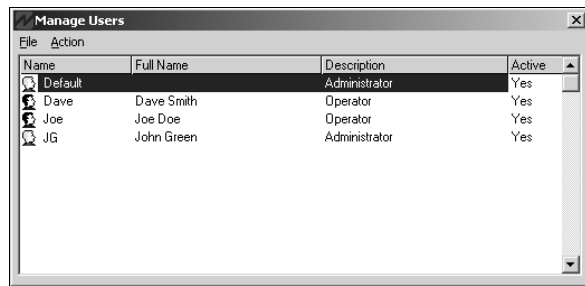
Using the Service Application (cont'd)

Tools, Manage Users

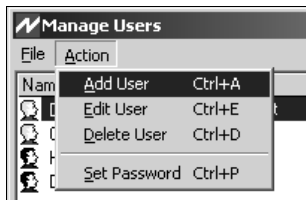


IMPORTANT: Rename and modify the password for the default Administrative User Name "Default". This will maintain security within the system, removing any possibility of unauthorized access to the system configuration screens located in the **Tools** menu.

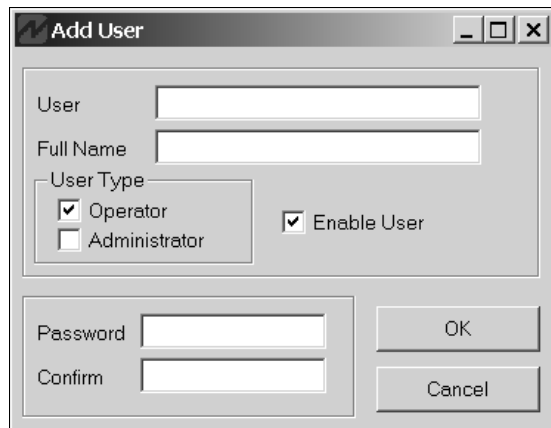
1. From the **Tools** Menu, click **Manage Users**. The **Manage Users** screen opens:



2. From the **Action** menu, click **Add User**.



The **Add User** dialog opens:



3. The areas of the **Add User** screen are as follows:

User Name: Type a "user name" to represent a central station operator in the **User** field.

Full Name: Type the full name of the user, identifying the actual person.

User Type: There are two user types: *Administrator* and *Operator*. Only one type can be selected for each user.

Administrator: Enables access to Administrator functions (**Tools** menu, **Manage Users**, **Options**, and Database Maintenance).

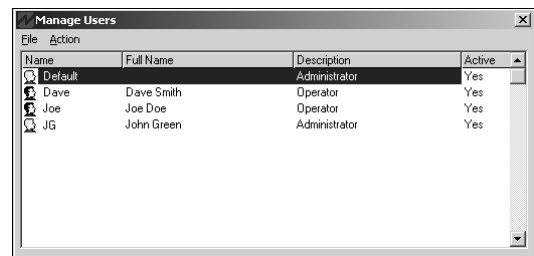
Operator: Disables access to Administrator Functions (default setting).

Enable User: Check to enable and uncheck to disable existing users. When unchecked, user information (User type, password, etc.) remains within the system but is disabled, thus denying the user the ability to log on to the system. Default setting is enabled (checked).

Password: A password is required for each user, with a minimum length of 4 characters. Type in a password for the operator, to be used when logging in to the system. Re-type the same password to confirm.

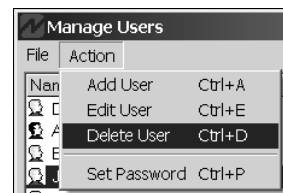
4. When finished, click **OK** to save or click **Cancel** to discard information.

Action, Edit User. If you wish to change existing information about a User, from the **Action** menu, click **Edit User** to open the Edit User dialog. Double-click on the user you wish to edit.



Action, Delete User. To delete a User, highlight the user you wish to delete. From the **Action** menu, click **Delete User** to remove the User from the system.

Note: At least one administrative user must always be active within the system. Any attempt to remove the only remaining administrative user will result in a warning dialog denying the deletion request.



Using the Service Application (cont'd)

Action, Set Password. This option is used to change the password of an existing user. To set a password required to access a user profile, click **Set Password** from the Action menu, and the Change Password dialog opens:



The Change Password dialog box contains three input fields: Old Password, New Password, and Confirm. Each field is a simple text box with a label to its left.

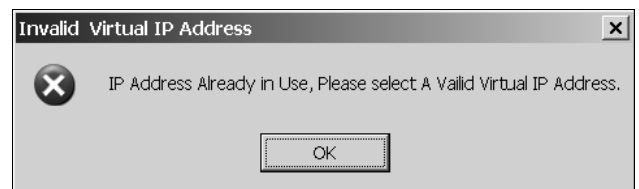
To add a new password, the old password must be provided as an added level of security. Type the new password in the **New Password** field, and re-enter the new password in the **Confirm** field. Press the **Enter** key on your keyboard to save.

The **Virtual IP Address Entry** screen displays the IP address that is shared between the Active and Hot Backup Receivers. This is also the same address to which the router was port-forwarded. This screen allows the Virtual IP Address to be changed.

When finished, click **OK** to save or click **Cancel** to exit without saving. When saving a new IP address, the following warning popup appears indicating that up to 60 seconds may elapse before the new IP address will be put into operation:

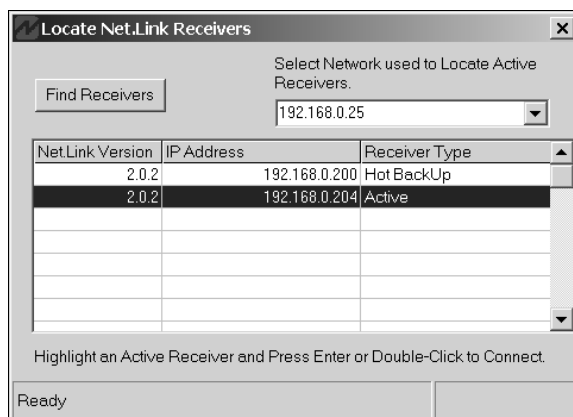


If the new Virtual IP address is invalid or already in use, the following popup will appear:



Note: The Virtual IP address can also be manually assigned at the keypad at any time (see page 15).

Tools, Locate Active Receivers



The 'Locate NetLink Receivers' dialog box has a title bar with the text 'Locate NetLink Receivers'. It features a 'Find Receivers' button and a dropdown menu for 'Select Network used to Locate Active Receivers.' with the value '192.168.0.25'. Below this is a table with three columns: 'NetLink Version', 'IP Address', and 'Receiver Type'. The table contains two rows of data. At the bottom, there is a status bar that says 'Ready' and a note: 'Highlight an Active Receiver and Press Enter or Double-Click to Connect.'

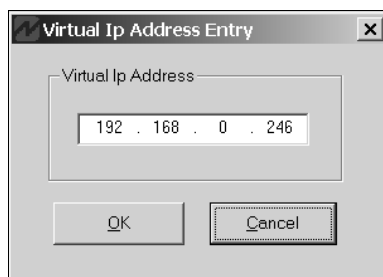
NetLink Version	IP Address	Receiver Type
2.0.2	192.168.0.200	Hot BackUp
2.0.2	192.168.0.204	Active

See page 18 for a full listing of all button names and menu names in this main screen.

Tools, Automation Setup

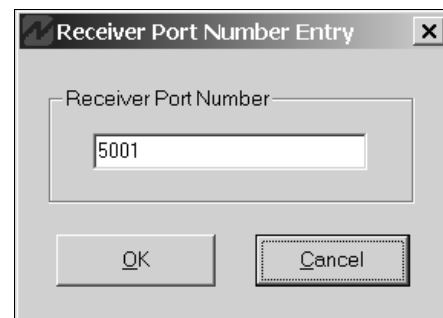
See page 10 for full details regarding configuring the Automation Host Output settings.

Tools, Set Virtual IP Address



The 'Virtual Ip Address Entry' dialog box has a title bar with the text 'Virtual Ip Address Entry'. It contains a text input field for 'Virtual Ip Address' with the value '192 . 168 . 0 . 246'. There are 'OK' and 'Cancel' buttons at the bottom.

Tools, Set Port Number



The 'Receiver Port Number Entry' dialog box has a title bar with the text 'Receiver Port Number Entry'. It contains a text input field for 'Receiver Port Number' with the value '5001'. There are 'OK' and 'Cancel' buttons at the bottom.

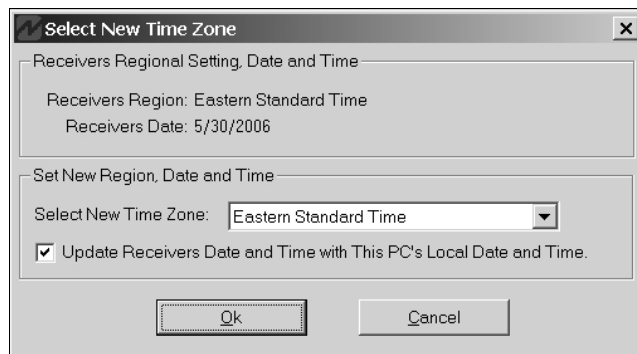
As stated previously (see page 7, **ROUTER SETUP**), transmitters are defaulted to send events into listening port 5001. If all transmitters have been configured for a different port number, the Receiver default port number also needs to be modified by the **Receiver Port Number Entry** screen. When finished, click **OK** to save or click **Cancel** to exit without saving. When saving, a warning popup appears, requesting that the NetLink Re-

Using the Service Application (cont'd)

ceiver be restarted for the new port number settings to take effect:



Tools, Set Regional Time for Receiver



This option is used to update the regional Time Zone settings for the Receiver's internal realtime clock. In the **Select New Time Zone** screen (shown above), the top half of this screen displays the current regional settings and the date. In the bottom half of the screen, you can set the new region and synchronize the date and time of the Receiver with that of the Service Application PC.

- Click the **Select New Time Zone** pull-down menu to select the geographic region for the Time Zone.
- Click the **Update Receivers Date and Time with This PC's Local Date and Time** checkbox.

ABOUT MENU

Click **About** to open the **About** dialog, to provide basic system information. A sample image of this dialog is provided below:



APPENDIX A

SYSTEM TROUBLES

All system troubles are sent to Automation Host computer when Automation is in use. The Contact ID code that is sent is an E300/R300 of the area and the SubID will always be zero (0) and the zone number will have one of the following numbers to identify the system trouble:

100 = Hot Backup Off Line
102 = LAN Network Failure
103 = Keypad Failure
105 = Virtual IP Address Conflict
110 = System Fan Failure
111 = Temperature High
112 = Watch Dog Failed
113 = Fan Monitor Card Failure
118 = Automation On/Off line
120 = Printer Trouble
121 = Paper Out

The Following are Events only with no Restores:

104 = Fail-Over Has Occurred
115 = Keypad Test Failed

NOTE: Not all system troubles have associated restores.

APPENDIX B

PROTOCOL INFORMATION FOR THE AUTOMATION HOST COMPUTER

The *Sur-Gard* SG-SLR (Single Line Receiver) Contact ID protocol is used for host communication. Only the "**Automatic Mode**" selection supports a "Heart Beat" signal being sent to the host computer (every 10 seconds). The "Heart Beat" can not be turned off, and an ACK (ASCII 06 Hex) is expected to be sent back acknowledging the "Heart Beat" signal. If an ACK is not received from either the "Heart Beat" or an Event, the system will resend the transmission two additional times (at which point an error is displayed and the system will try to re-establish communications until automation type is set to NONE or communications have been re-established).

CONTACT ID PROTOCOL DESCRIPTION

5RRLs18AAAAQXYZGGCCC[DC4]	
DATA	DESCRIPTION
5	Protocol number
RR	Receiver number
L	Line number
s	Space
18	Contact-ID format identifier
AAAA	Four digit account codes
Q	Qualifier, E = New event or opening, r = New restore or closing P = Previous event
XYZ	Class code and event code
GG	Group number
CCC	Zone codes or user ID
[DC4]	Terminator, 14 Hex

Example: Account 1234 sends in a duress alarm with group number 01, and zone code 001, the Receiver number 01 and line number 1 will send this signal as follows:

5011s181234E12101001[DC4]

NOTES

NAPCO LIMITED WARRANTY

NAPCO SECURITY SYSTEMS, INC. (NAPCO) warrants its products to be free from manufacturing defects in materials and workmanship for *thirty-six months* following the date of manufacture. NAPCO will, within said period, at its option, repair or replace any product failing to operate correctly without charge to the original purchaser or user.

This warranty shall not apply to any equipment, or any part thereof, which has been repaired by others, improperly installed, improperly used, abused, altered, damaged, subjected to acts of God, or on which any serial numbers have been altered, defaced or removed. Seller will not be responsible for any dismantling or reinstallation charges.

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. THERE IS NO EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. ADDITIONALLY, THIS WARRANTY IS IN LIEU OF ALL OTHER OBLIGATIONS OR LIABILITIES ON THE PART OF NAPCO.

Any action for breach of warranty, including but not limited to any implied warranty of merchantability, must be brought within the six months following the end of the warranty period.

IN NO CASE SHALL NAPCO BE LIABLE TO ANYONE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, EVEN IF THE LOSS OR DAMAGE IS CAUSED BY THE SELLER'S OWN NEGLIGENCE OR FAULT.

In case of defect, contact the security professional who installed and maintains your security system. In order to exercise the warranty, the product must be returned by the security professional, shipping costs prepaid and insured to NAPCO. After repair or replacement, NAPCO assumes the cost of returning products under warranty. NAPCO shall have no obligation under this warranty, or otherwise, if the product has been repaired by others, improperly installed, improperly used, abused, altered, damaged, subjected to accident, nuisance, flood, fire or acts of God, or on which any serial numbers have been altered, defaced or removed. NAPCO will not be responsible for any dismantling, reassembly or reinstallation charges.

This warranty contains the entire warranty. It is the sole warranty and any prior agreements or representations, whether oral or written, are either merged herein or are expressly cancelled. NAPCO neither assumes, nor au-

thorizes any other person purporting to act on its behalf to modify, to change, or to assume for it, any other warranty or liability concerning its products.

In no event shall NAPCO be liable for an amount in excess of NAPCO's original selling price of the product, for any loss or damage, whether direct, indirect, incidental, consequential, or otherwise arising out of any failure of the product. Seller's warranty, as hereinabove set forth, shall not be enlarged, diminished or affected by and no obligation or liability shall arise or grow out of Seller's rendering of technical advice or service in connection with Buyer's order of the goods furnished hereunder.

NAPCO RECOMMENDS THAT THE ENTIRE SYSTEM BE COMPLETELY TESTED WEEKLY.

Warning: Despite frequent testing, and due to, but not limited to, any or all of the following; criminal tampering, electrical or communications disruption, it is possible for the system to fail to perform as expected. NAPCO does not represent that the product/system may not be compromised or circumvented; or that the product or system will prevent any personal injury or property loss by burglary, robbery, fire or otherwise; nor that the product or system will in all cases provide adequate warning or protection. A properly installed and maintained alarm may only reduce risk of burglary, robbery, fire or otherwise but it is not insurance or a guarantee that these events will not occur. CONSEQUENTLY, SELLER SHALL HAVE NO LIABILITY FOR ANY PERSONAL INJURY, PROPERTY DAMAGE, OR OTHER LOSS BASED ON A CLAIM THE PRODUCT FAILED TO GIVE WARNING. Therefore, the installer should in turn advise the consumer to take any and all precautions for his or her safety including, but not limited to, fleeing the premises and calling police or fire department, in order to mitigate the possibilities of harm and/or damage.

NAPCO is not an insurer of either the property or safety of the user's family or employees, and limits its liability for any loss or damage including incidental or consequential damages to NAPCO's original selling price of the product regardless of the cause of such loss or damage.

Some states do not allow limitations on how long an implied warranty lasts or do not allow the exclusion or limitation of incidental or consequential damages, or differentiate in their treatment of limitations of liability for ordinary or gross negligence, so the above limitations or exclusions may not apply to you. This Warranty gives you specific legal rights and you may also have other rights which vary from state to state.