

D6600

Communications Receiver/Gateway

Operation and Installation Manual



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Contents

1.0 Introduction

The D6600 Communications Receiver/Gateway offers several unique features:

- Modular construction with plug-in circuit boards for quick, easy service
- PC platform makes the receiver an open structure for future development
- Programmable formatting to receive data from most major brands of digital communicators
- Easy/inexpensive updating (made possible by the modular cards and software downloading)
- Superior digital signal processing to reduce noise and signal loss

The D6600 Communications Receiver/Gateway also has the following features:

- User interface module with LED indicators
- Front panel keypad
- Alphanumeric LCD display

Inside the D6600 metal enclosure are several modular cards:

- D6610 Central Processing Unit CPU Card
- D6615 CPU Terminator Card
- D6630 AC/DC Power Supply Module
- D6631 DC/DC Power Supply Module
- D6640 Telephone Line Card which supports four telephone line interfaces
- D6645 (D6645INTL)Telephone Line Terminator Card

NOTE: For all countries located outside of North America, the D6645INTL Telephone Line Terminator Card must be used. See "Card Installation" in Section 5 for setup information.

Up to seven additional telephone line cards along with seven additional line terminator cards can be installed in the D6600 to expand the receiver's capacity to thirty-two receiving lines.

The D6600 is compatible with major communication formats.

The external printer permanently records date, time, group number or transmission format and line number, account number, receiver number, and event by area, zone and point. Other receiver status messages such as software revision levels of the CPU Card are recorded on the printer tape. The information is also shown on the D6600 LCD display.

The D6600 is programmed using the front panel keypad or via the COM4 port with the D6200 Programming Software package.

Optional NetCom package supports data network communications including an account database capacity of up to 3600 accounts. Please refer to *Section 14. Network Communications* for more detailed information.

NOTES:

Emergency Procedures

2.0 Emergency Procedures

SECTION 19 of this manual contains a Service Information form. This form is provided for your convenience and protection in case of an emergency. Radionics recommends that the data on this form be kept current and available to central station personnel at all times.

Radionics maintains a 24-hour Emergency Central Station Technical Support telephone number. If your D6600 Receiver becomes inoperable or experiences trouble receiving signals, the following steps should be taken:

1. Notify your supervisor.
2. Refer to **Section 16** Troubleshooting Guide.
3. ***The AC/DC Power Supply Module, DC/DC Power Supply Module is not field serviceable. Please contact Radionics for service.***
4. Never remove the Power Supply Modules, CPU Card or CPU Terminator Card while power is connected to the receiver.
5. If you have a receiver spares package and need to replace a circuit card or module, you may contact Radionics Technical Support for assistance.



Before Calling Radionics Technical Support:

1. Have this manual nearby and opened to **Section 4, Card Functions and Component Locations**.
2. Have your spares package, D6200 Programming Software Package, D6600 Program Entry Guide, Emergency Data Sheet, and Program Record Sheet nearby.
3. Know the location of the telephone line jacks for the receiver.
4. Know the telephone numbers to the receiver's Telephone Line Cards.
5. Know the exact nature of the problem you are experiencing (description of reports, LED's lit, Operator Alert Buzzer, etc.)
6. Have the Service Information form near by (see **Section 19**).

NOTES:

3.0 Specifications

Dimensions

Rack mount: 19.0" wide, 7.0" high, 19.5" deep (48.3 cm wide, 17.8 cm high, 49.5 cm deep)

Cabinet Finish

Aluminum/dark gray, semi-gloss enamel.

Power Input

AC nominal operating range 120 or 240

AC maximum operating range 100-120/220-240~

50/60 Hz

2.5 Amp maximum

Current Required (Milliamperes)

D6600 with one Line Card installed

Required Battery Current: 800mA.

Required UPS Standby Current: 350mA.

For each additional Line Card/Term Card pair

Required Additional Battery Current: 210mA.

Required Additional UPS Standby Current: 35mA.

For Network Communications Card

Required Additional Battery Current: 10mA.

Required Additional UPS Standby Current: 10mA.

Standby Power

An Uninterrupted Power Supply is recommended for use with the D6600. An external battery connection and battery harness are also provided. Use 12 volt rechargeable sealed lead-acid batteries. A 4-hour minimum standby power supply (UPS and/or Battery) is required for UL Certification. (See **Section 10** for battery size.)

Telephone Connections

RJ11C modular jacks, with 26 AWG or larger wire diameter.

FCC Registration

ESVUSA-25328-AL-N

The D6600 Receiver is FCC registered under Part No. 68 using the RJ11C Interconnect, which may be ordered from your local telephone company.

Notice:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Ringer Equivalence

0.4B

Display

Screen size: 0.7" high, 6.0" wide (1.8 cm high, 15.2 cm wide) dot matrix liquid crystal display (5 x 7 dots per character). Displays two separate lines of 40 characters each.

LED display section indicates receiver status and power source (AC or Battery).

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Specifications

Inputs and Outputs

One RS232 interface port COM3 (middle connector of CPU terminator card) for connection to an Automation Computer.

One RS232 interface port COM4 (upper connector of CPU terminator card) for connection to an external serial printer, PC, modem or for network communications.


One parallel printer port for connection to a parallel printer

Two programmable inputs on the D6610 CPU (Input/Output wire harness included)

Two programmable outputs on the D6610 CPU (Reserved feature)

Optional: One RS232 interface port (COM1) for the Network Communications expansion option.

Listings and Approvals

- UL Central Station Burglary
 - UL Police Station Connected Burglary
 - UL Central Station Fire
 - UL Canada
 - FCC Approved: Part 15 and 68
 -  (When used with the D6645INTL Telephone Line Terminator Card)
 - CTR21 (When used with the D6645INTL Telephone Line Terminator Card)
- NOTE: Terminal equipment does not perform repeated automatic seizure of the line without the intention to make a call.
- Austel

Card Functions and Locations

4.0 Card Functions and Locations

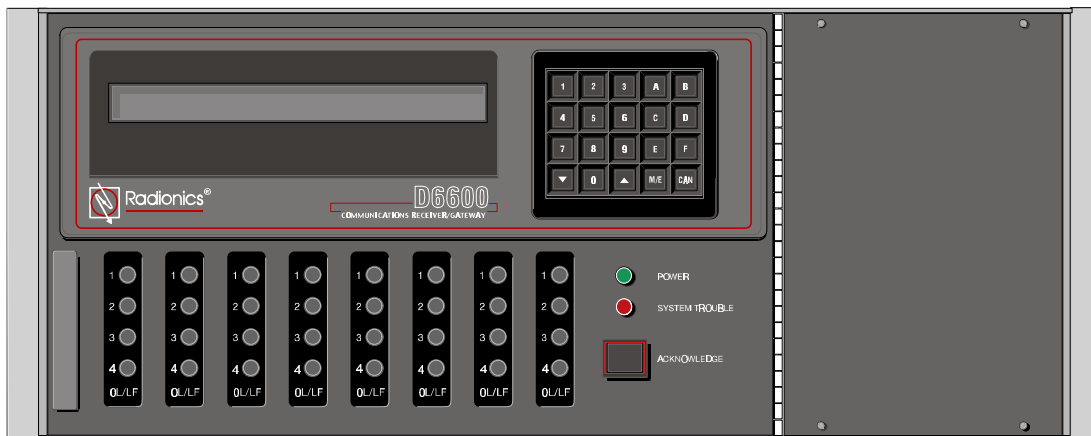


Figure 4-1: D6600 Communications Receiver/Gateway (front view)

LCD Display: The D6600 Liquid Crystal Display can display up to 80 characters of information (two lines of up to 40 characters each).

Keypad: The D6600 provides a 20-button keypad for easy user interface.

Telephone Line Card (Part # D6640): A total of 8 line cards can be installed in one D6600 Security Receiver, supporting a total of 32 telephone line connections.

Central Processing Unit (CPU) Card (Part # D6610): The D6600 uses one CPU Card. The CPU Card takes the incoming information from the Line Card and routes the information to the Internal Printer, an automation port, the LCD display on the front of the receiver or to an external printer.

Power Supply Modules (Part # D6630 and D6631): The Power Supply Modules regulate the power received and used by the D6600.

Telephone Line Terminator Card (Part # D6645 or D6645INTL): Located behind the Line Card, the Telephone Line Terminator Card provides isolation and protection for the Line Card against outside voltage surges that may come in over the telephone line. Each Line Card must have a Line Terminator Card.

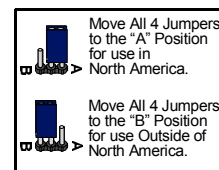
NOTE: For all countries located outside of North America, the D6645INTL Telephone Line Terminator Card must be used. See "Card Installation" in Section 5 for setup information.



For countries in North America, the four jumpers on the D6645 Line Terminator Card must be placed in the "A" position. For all other countries the jumpers must be placed in the "B" position.

Backplane: The backplane provides Input/Output pin connector sockets for up to 8 line cards, Network Option (if installed) and one CPU Card. It also provides slots for connecting these cards to their corresponding Terminator Cards.

CPU Terminator Card (Part # D6615): Located behind the CPU Card, the CPU Terminator Card provides the D6600 with 2 serial ports (COM3 and COM4), a parallel port (Parallel Printer), and a general I/O Port (I/O). The serial ports can be used for computer automation, optional external serial printer, PC connection, or modem connection.



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Card Functions and Locations

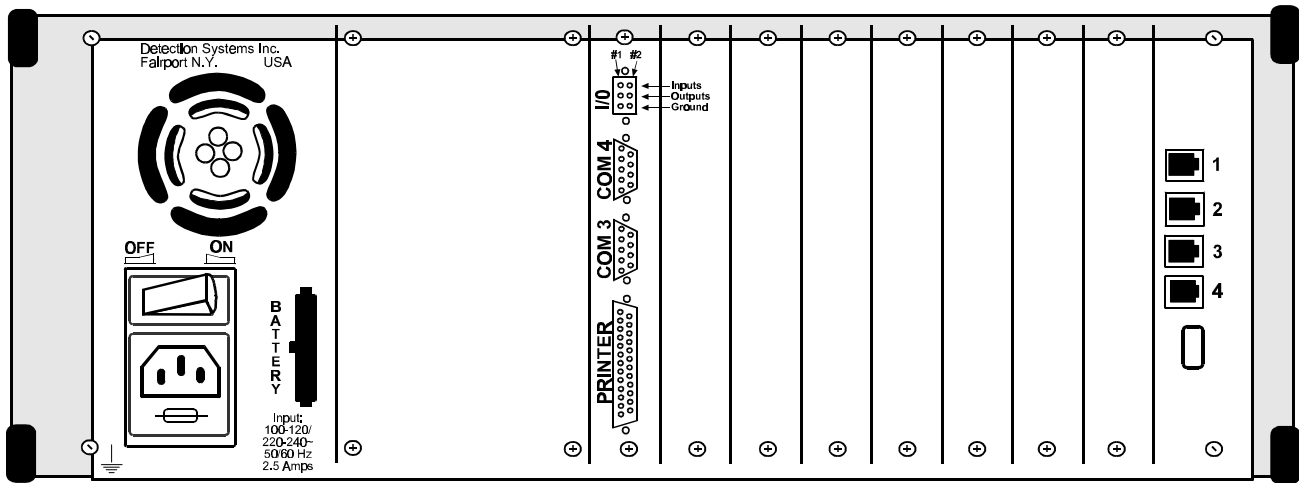


Figure 4-2: D6600 Communications Receiver/Gateway (rear view)

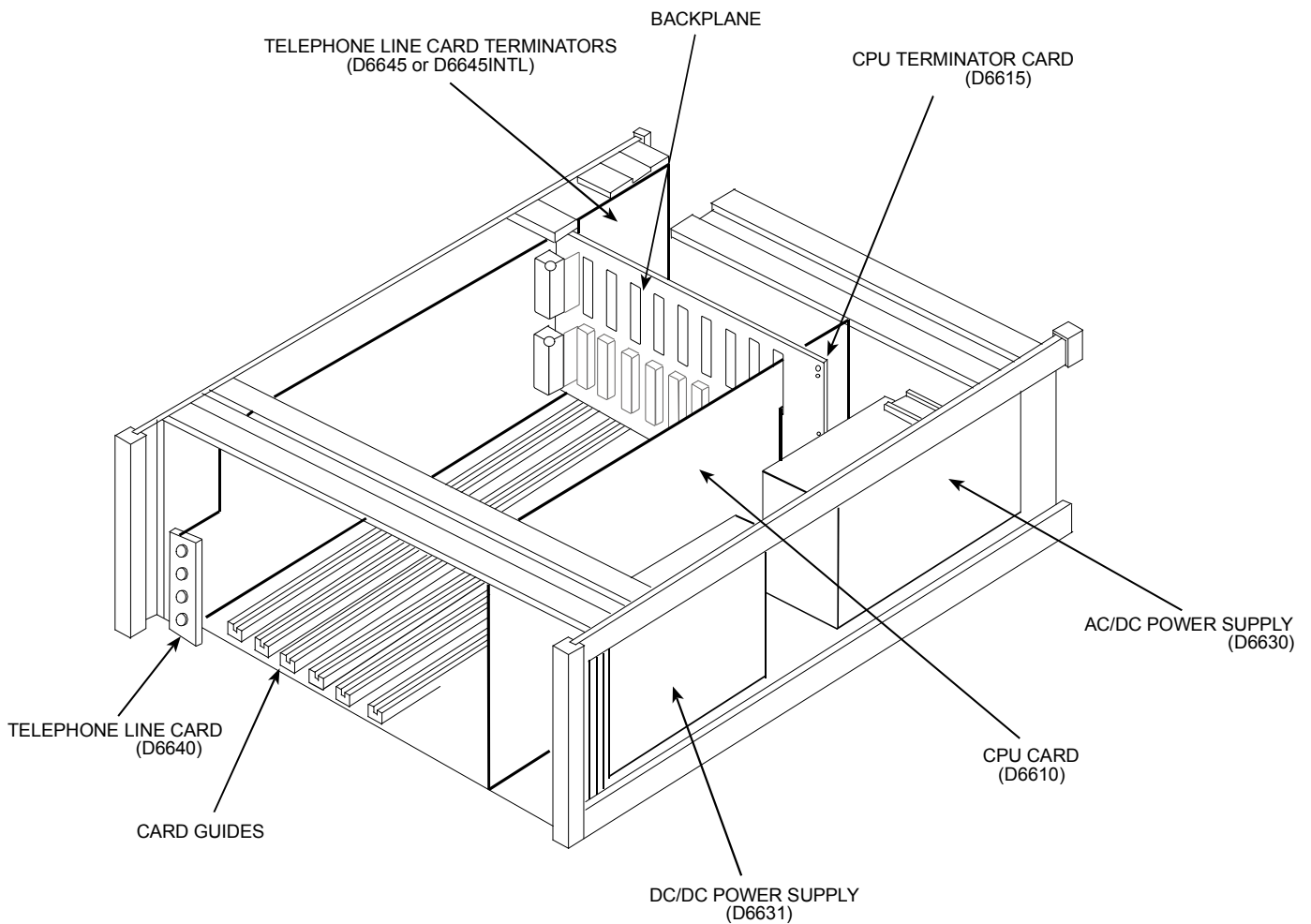


Figure 4-3: Receiver card placement

D6640 & D6645 Line Terminator Card

5.0 D6640 Line Card and D6645/D6645INTL Line Terminator Card

LED Descriptions

On Line/Line Fault Indicators (OL/LF)

- GREEN:** The LEDs marked as OL/LF will flash green when incoming call is ringing. The LEDs will light steady green after the receiver has answered an incoming call. The LED is active until the entire transmission has been acknowledged and the telephone line has returned to the on-hook condition (ready to receive signals).
- RED:** The LEDs will light steady red when the Line Card detects a line fault condition.
- OFF:** LED off for normal ready to receive signal condition.

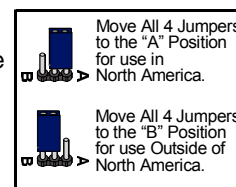
Line Terminator Card (Part #D6645 or D6645INTL)

- Alignment Guide:** Provides connection stability and acts as a guide when connecting the Terminator Card to the Line Card.
- Telco Line Jacks:** Standard telephone lines are connected to the RJ11C jacks.

Card Installation

It is not necessary to disconnect power when removing, replacing, or installing Phone Line Cards (Part #D6640) or Phone Line Terminator Cards (Part #D6645 or D6645INTL). **However, it is recommended to remove power when possible** (see *Powering Down the Receiver* in **SECTION 9, Installation**). Touch the receiver's frame (internal frame, unpainted section) before handling any circuit card to discharge static electricity from your body.

NOTE: For countries in North America, the four jumpers on the D6645 Line Terminator Card must be placed in the "A" position. For all other countries the jumpers must be placed in the "B" position.



Installing Phone Line Terminator Cards

1. Remove the rear slot cover.
2. One phone Line Terminator Card is installed in the receiver when shipped from the factory. Insert a Terminator Card in the slot next to the phone Line Terminator Cards, which are already installed in the back of the receiver. If replacing a failed Terminator Card, remove the defective card and insert the new card in the same slot.
3. Align the top and bottom of the card with the card guides in the enclosure. Slide the card into the enclosure so that the alignment guide pin on the back of the Terminator Card is inserted in the small opening in the back of the D6600's backplane circuit board.
4. Mount the Terminator Card in the receiver cabinet by securing the bracket screws at the top and bottom of the Terminator Card to the mounting rails at the top and bottom edges of the cabinet. Make sure the screws are tight.
5. Repeat this process for all additional Terminator Cards.

NOTE: Do not install spare Line Cards and do not connect Line Cards to the spare Terminator Cards.

6. Connect appropriate telephone line cords to the Phone Line Jack on the terminator cards.

Installing Phone Line Cards

1. Install the Phone Line Terminator Card(s) as described above.
2. Open the display door on the receiver. One Phone Line Card is installed in the receiver when shipped from the factory. Slide a line card into the slot next to the Line Card, which is already installed in the receiver.
3. Remove the appropriate snap-in covers from the front of the panel.
4. Close the front panel.
5. Program the Line Card if necessary. When the line card is initialized (as indicated by a printer report), the settings in the Line Card programming section are automatically loaded into the card.
6. Connect phone lines to the Line Card.

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D6640 & D6645 Line Terminator Card

NOTES:

D6610 CPU Card & D6615 CPU Terminator Card

6.0 D6610 CPU Card and D6615 CPU Terminator Card

Description

CPU Card (Part # D6610)

50-PIN Ribbon Cable Socket: For connection to the user interface on the front of the D6600.

CPU Terminator Card (Part # D6615)

Alignment Guide: Provides connection stability and acts as a guide when connecting the Terminator Card to the CPU Card.

COM3 Automation Computer Port: An auxiliary RS-232 port for connection to a computer terminal or an automation computer for SIA/6500 mode Automation format reporting. A **NULL** modem cable must be used for connecting to the computer.

COM4 RS-232 Port: This RS-232 Port is for an optional external serial printer connection, modem connection, computer connection (D6200 host software) for programming the receiver or for the optional network communication connection. A **NULL** modem cable must be used when connecting to the computer to program the receiver or when COM4 is used to connect to a network adapter.

Parallel Printer Port: Provides a connection to the parallel printer.

I/O Ports: Provide two programmable inputs and two programmable outputs.

Card Removal and Replacement



The D6600 must be powered down before removing, replacing, or installing the CPU Card (D6610) or CPU Terminator Card (D6615).

Removing the CPU Card

1. **Power down the Receiver** (see *Powering Down the Receiver* in **Section 9, Installation**).
2. Carefully grasp the plastic grip on the CPU Card. Slide it two or three inches out of the enclosure.
3. Unplug the 50-pin ribbon cable connecting the user interface card to the CPU Card. Use caution when disconnecting this cable. **Be careful not to bend the board.** Grasp the plastic plug connected to the CPU board at the end of the cable and gently pull it away from the plane of the circuit board.
4. Pull the CPU Card straight out of the card guide.

Replacing the CPU Card

1. **Power down the Receiver** (see *Powering Down the Receiver* in **Section 9, Installation**).
2. Remove the defective CPU Card from the enclosure as described above.
3. Align the top and bottom of the CPU Card with the card guides. Slide the card into the enclosure.
4. Re-connect the ribbon cable to the CPU Card. Orient the cable so that the red stripe is up.
5. Power-up the Receiver and setup the time and the date (see *Installation Checklist* in **Section 9** and *Time and Calendar Controls*, **Section 11**).

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D6610 CPU Card & D6615 CPU Terminator Card

NOTES:

Power Supply Modules

7.0 Power Supply Modules

NOTE:

The AC/DC (D6630) and DC/DC (D6631) Power Supply Modules are not field serviceable.

Please contact Radionics for service.

NOTES:

8.0 Printer Specifications**External Parallel Printers (Required)**

The DB25 port on the back of the D6600 panel is used to connect to a standard external parallel text printer.

Models: Safecom SC9002 [Star 300] (requires 3¼" paper)

NOTES:

9.0 Installation

All Installations

Install the D6600 Communications Receiver/Gateway in accordance with the National Electrical Code, NFPA 70, the National Fire Alarm Code, NFPA 72 and the local authority having jurisdiction.

UL Installations

Underwriters' Laboratories (UL) Standard 827 requires that any central station listed for NFPA 72, Central Station Protective Signaling, UL Central Station Burglary and/or Police Station Connect Service must have a redundant receiver on premises to be used in the event that the primary receiver malfunctions.

UL Standard 827 also states that you must be able to switch from one receiver to a standby receiver within 30 seconds, and repair the faulty receiver and return it to service within 30 minutes. (This requires a D6600 spares package).

NFPA 72 Requires that if more than 8 telco lines are used then receiving equipment must be completely duplicated so switch over can be accomplished in 30 seconds.

(Per NFPA 72-1996 4-5.3.2.2.1.1)

Burglar Alarm Applications

The D6600 Receiver is intended to be installed in accordance with UL Standard 827 for Central Station Burglar Alarm Systems. To supervise certificated accounts, this receiver must be used in a central station which has backup AC power per UL 827. Terminals for connection of external batteries are provided in the rear of the receiver.

Fire Alarm Applications

The D6600 Receiver is suitable for Central Station Protective Signaling when it is installed and used in compliance with NFPA 72 and ANSI/NFPA 70. Installation limits for Digital Alarm Communicator Receivers (DACR) are under the jurisdiction of your local authority.

Installation Check List

1. Check each of the receiver's cards to see that they are properly positioned in the card guides at the top and bottom of the enclosure and that the connections have not become loose in shipment.
2. The D6600 should be earth grounded through the AC inlet. Make sure the earth ground is provided to the AC inlet.
3. If you are going to install *additional* Line Cards, install the Terminator Cards now.
4. After installing additional Line Terminator Cards, you can install the Line Cards (see *Card Installation* in **SECTION 5**).
5. You may also want to install the Line Terminator Card(s) from your Spares Package(s) so that in the event of a malfunction, you may quickly switch over to the replacement card (see *Card Installation* in **SECTION 5**).

NOTE: You may install "spare" Line Terminator cards; however, **do not install "spare" line cards.**

6. Connect 4 or 6 conductor phone cord(s) to the RJ11C jack(s) of the desired phone line(s). Plug the other end of the modular phone cord(s) into the TELCO Jack on the appropriate line terminator card(s).
7. Plug the AC cord into a properly wired 120VAC, 60 HZ or 220VAC, 50 Hz outlet (standard AC outlet).

NOTE: Make sure the outlet is not controlled by a switch.

8. Turn the power switch on.
9. Set the Calendar and Clock to the correct date and time (see **SECTION 11, Clock and Calendar Controls**) and program the necessary options.
10. To ensure that communication formats are correct, test the receiver by having communicators transmit reports to each line connected to the receiver.

Installation

Rack Mount Instructions

Rack mounting hardware is included with the D6600. When mounted in a rack, the receiver's AC cord may be plugged into an outlet inside the rack *only if* the outlet is wired in accordance with Article 760 of the National Electrical Code. Rack mounting is required per NFPA 72, 1-5.2.5.2 to meet the mechanical protection requirement when using the type of AC cord provided with the D6600. It is also required that a UL Listed Rack for fire protective service be provided when used in UL Listed Central Stations.

NOTE: DO NOT connect the D6600 to an outlet that is controlled by a switch.

NOTE: A shelf or bracket **MUST** be installed at the back of the rack to support the receiver.



CAUTION

The front mounting ears **CANNOT** support the full weight of the D6600. A support shelf or bracket must be installed!

Powering Down the Receiver

1. Remove battery power.
2. Remove AC power.
3. Unplug the AC cord from the outlet.



CAUTION

Do not attempt to restart the D6600 with a deeply discharged battery. Reconnect after power up. To prevent deep battery discharge, use a D135A Low Battery Cutoff Module.

Standby Power

10.0 Standby Power

During a loss of AC power the receiver automatically switches to standby power. Standby power is supplied by the external batteries or by the uninterrupted power supply. As long as there is adequate standby power, there is no interruption of the receiver's operation even if the power loss occurs during signal processing. When power supervision is enabled, the primary reporting devices print AC FAIL and the D6600's POWER indicator starts blinking. When AC power is restored, the POWER indicator comes on and reporting devices show AC RESTORE.

Connection to External Batteries



Do not connect an external battery charger to the D6600.

A terminal on the rear panel allows you to connect to an external DC power source. During AC power outages, the external DC source begins supplying power to the receiver. A 12.0VDC lead-acid battery can be used for external back-up power. Use only approved stationary standby batteries for UL applications. Battery wiring needs to be run from the receiver through the Listed rack, exiting the rack through a conduit connection and terminating at a Listed battery enclosure which is suitable for the size and number of batteries used for UL applications.

Battery Voltage	Display (during AC power outage)	Display (if battery missing upon AC power restore)
11.5V above	Battery OK	
11.5V to 10.2V	Battery Low	
below 10.2V	Battery Bad	Battery Missing

Backup Battery / UPS Calculation Chart

The following table is used to calculate the standby capacity required by NFPA when using the D6600.

Device	Qty	Battery Standby current	Total Battery Standby current	UPS Standby current	Total UPS Standby current
D6600 base	1	800 mA	800 mA	350 mA	350 mA
D6640 Line Cards (up to 8)		210 mA/each		35 mA/each	
			Total		Total

Minimum Standby Battery Chart

The following table is the derated battery divided by the hours.

Derated battery = Battery AH - 20% Storage

Rechargeable Battery Size	Max. Standby for 4 hours
7AH	1400 mA
8AH	1600 mA
10AH	2000 mA
12AH	2400 mA
18AH	3440 mA

Minimum Standby UPS Power

Total UPS Current x 120 (voltage) x desired hours of standby + 20% (storage) = Minimum UPS required in watts.

Standby Power

UPS Monitoring through CPU Programmable Input Ports

Connecting the external UPS to the D6600 for power monitoring is achieved through the CPU Programmable Input / Output port. Connect the monitoring port from the UPS to their respective pins on the D6600 CPU Programmable Input / Output pins. Wiring needs to be run from the receiver through the Listed rack, exiting the rack through a conduit connection and terminating at the external UPS for UL applications. Setup the D6600 in Menu 2.2.20 for Input 1; Menu 2.2.21 for Input 2.

Inputs:

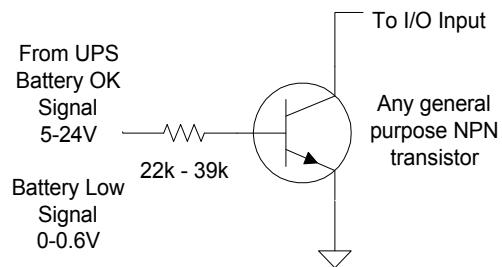
Default Configuration (straight through connection)

UPS Battery OK Input range 0-1Volt. Battery Low Input range 5-24Volts.

Alternate Configuration

UPS Battery OK Input range 5-24Volt. Battery Low Input range 0-0.6Volts

If input is required to be of opposite polarity then a transistor circuit will have to be placed between the device to be added and the D6600. See figure below.



NOTE: Alternate configuration is not for use in UL Listed applications.

Clock and Calendar Controls

11.0 Clock and Calendar Controls

The D6600 receiver uses a 24 hour clock format and a 365 day standard calendar year program (will also support leap years). The calendar automatically changes the month number at the end of each month. The clock and calendar will have to be adjusted when the unit is initially installed and whenever all power to the unit has been interrupted. The clock must be manually adjusted for changes from Standard Time to Daylight Saving Time and vice-versa.

Setting the Time and Date on the D6600

Use the front user interface keypad or D6200 software package to set the time and date. The D6600 receiver can also be synchronized by the central station automation computer, if the automation software is capable of supporting this function.

Using the Keypad to program:

- Press the [M/E] key. The D6600 will ask for your Password.
- Key in your password, press the [M/E] key. (*Default Password is 6600*)
- Use the arrow keys to Menu 2, CPU CONFIGURATION, Press the [M/E] key
- Use the arrow keys to Menu 2.2, GLOBAL, Press the [M/E] key.
- Use the arrow keys to Menu 2.2.1, Time Setup, Press the [M/E] key.
- Key in the current time. Press the [M/E] key.
- Use the arrow keys to Menu 2.2.2, Date Setup, Press the [M/E] key.
- Key in the current date. Press the [M/E] key.
- Press [CAN] to exit through menus.

NOTES:

12.0 Programming the D6600 Receiver

The D6600 Receiver is shipped with factory default program parameters and features already installed. Descriptions of the program items are found in the *D6600 Program Entry Guide* (P/N 39962). Many of the operational features of the D6600 can be altered through programming options. The programming options you choose will depend on the type(s) of peripheral reporting device(s) used in your central station (i.e. external printer or automation computer), the supervision characteristics for these devices, the type of communicators reporting to the receiver, and the number and type of receiving lines in use.

Editing Program Parameters

When you are ready to re-program the D6600 to change the operating parameters or add new features to your receiving system, you only need to edit the file affected by the changes. It is recommended that you use the D6200 Programming Software to program the parameters and record the changes.

D6200 Programming Software

The D6200 is a PC based program (for Windows 95 and 98) that allows the user to view, change, upload and download all of the D6600's programming parameters via the receiver's and the Host's serial COM ports. Configure this port in menu 4.5 Parameters. Be sure the baud rate and data settings match the D6200 configurations. These parameters may then be stored as configuration files on the Host PC. The D6600 programming is configured in three sections: CPU/Host/Network, Account Database and Line Card. These three files are modified, uploaded and downloaded separately. Be sure to review the *D6600 Computer Interface Manual* (P/N 39963) before connecting or using the D6200, including the configuration and connection instructions. See the *D6600 Quick Start* (P/N 39961) for D6200 installation instructions. Please refer to *Section 14. Network Communications* for information on network programming through the D6200 software.

Password Protection:

The D6200 Programming Software is password protected. To log in, the user must enter the correct User ID and Password upon opening the D6200 software. Only one user can be logged on at all times. To log off, select **FILE** from the D6200 interface, then select Log Off. A window will pop up prompting the user for the correct User ID and Password necessary to log on again. While the user is logged off, realtime reports are still sent to the D6200.

Note: The default User ID is **RAD**. The default Password is **RAD**. The D6200 passwords do not correspond with the D6600 passwords.

User Management:

User Names, Passwords and Access Rights can be added, edited or deleted. To do so, select **SETTINGS** from the D6200 interface, then select User Management. A window will pop up prompting the user to enter the correct user ID and password. The same user ID and password must be used that was used to log into the D6200. User names and passwords are not case sensitive. If the correct name and password are entered, the User Management window will pop up and display all user names and passwords.

Note: Master User (RAD) access rights cannot be edited, nor can the master user be deleted. To change the master password, use the Settings/Change Password menu.

To add a user, click on the add button, then enter the user name, password, access rights and then click the OK button. Click on the CLOSE button and the changes will be automatically saved.

To edit a user name, password or access rights, click on the appropriate cell, then click on the MODIFY button. This allows the user to modify the current value. Make the appropriate changes, then click on the OK button. Click the CLOSE button and the changes will be automatically saved.

To delete a user, click on the appropriate cell, then click on the DELETE button. A window will pop up to confirm the deletion, click on the OK button.

Programming

Access Rights:

Users of the D6200 Programming Software may be granted access rights to varying D6200 menu options. When adding or editing users from the User Management window, access rights from one of four categories: All, All except user management, Read/Off Line Modification or User Defined. If no access rights are designated, the user access rights default to Read/Off Line Modification.

1. **All:** Users can access all D6200 menu options.
2. **All except user management:** Users can access all D6200 menu options except user management.
3. **Read/Off Line Modification:** Users can read configurations from D6600 and modify parameters but cannot program the D6600.
4. **User Defined:** If the User Defined access category is selected, the user can then select or remove any of the menu options by double-clicking on the menu title listed. A check mark indicates that the user had been granted access to the item; no check mark indicates the user has been denied access to that option.

Save and Restore User Management Files:

Once the user configurations have been established, check the "Close" button. This will save user configurations into a hidden file. This file can be advantageous when performing D6200 upgrades, so that all user configurations can be updated. After a new version of the D6200 has been installed, click on the "Restore" button and the previously saved user configurations will now be loaded into the new D6200.

Changing User Password:

The currently logged in user can change his/her password. Select **SETTINGS**, then select Change Password. A window will pop up prompting the user to enter his/her User ID and Password. If the entered name and password are inconsistent with the currently logged in user, an error message will occur and the operation will be canceled. If the correct name and password have been entered, a Change Password window will pop up. Enter the new password twice for verification. Click on the CHANGE button to accept the new password.

Opening and Editing configuration files within the D6200 GUI:

From the D6200 interface, select **FILE**, then select either Open CPU Host and Network Configuration or Open Line Card Configuration. Then select the appropriate file to view or edit.

Reading Configuration files from the D6600:

From the D6200 interface, select **FILE**, then select **Read Configuration from D6600**. Click OK to close the status window once file transfer is complete. The D6600's operating parameters, line card, CPU and network configurations are now located in the D6200 Programmer.

Viewing and Editing Configuration files:

Once a file is loaded into the GUI using either one of the methods described above, the user can now view and edit all of the parameters. To do this, select **User Interface** or **NetCom**, then select configuration file to be viewed or edited. Then just click the tabs of the program selections you wish to view or modify, and enter values. Value changes will be saved temporarily when the window is closed.

Saving Configuration Files:

To save the parameters currently loaded in the D6200 GUI, select **File** or **NetCom**, then select the configuration to be saved. A dialog box will then pop up and a file name may be entered. To save and close all parameters currently loaded in the D6200, select File, then select Save & Close All. This operation will save the current parameters to their current file name and location and will close all configurations.

Sending Files from the PC to the D6600 Receiver:

After modifying options from the D6200 interface, select **Programming, Parameter Programming**, then select the appropriate (CPU-HOST-Network or line card) parameters to be sent from the D6200 to the D6600 receiver. You may also send the CPU-HOST-Network parameters to the D6600 by selecting **NetCom, Load Network & CPU & Host Configuration to D6600**. Parameter changes will take effect immediately at the receiver. For example, after modifications have been made to the line formats, updating the line card would be appropriate.

Sending New Software to the D6600 Receiver:

All software upgrades will be provided to the end user in a self-extracting file. To upgrade the software, double click the Radionics icon which will unzip the file to the necessary location. Open the **D6200 Programming Software**, select **Programming** and then **Software Upgrade Wizard** to display active and inactive options. Options will be displayed depending on which Upgrade, Line Card or CPU has been unzipped. Check the option(s) to be loaded to the D6600 and click Finish. The D6200 will guide you through the rest of the installation process.

13.0 D6600 Operation

Receiver Handshake and Kiss-Off: A line card in the D6600 Security Receiver is connected to the telephone line dialed by the communicator. The Line Card detects ringing voltage, answers the incoming call, and sends a programmed series of handshake tones. The communicator detects the expected handshake and transmits its message. After the communicator's message has been received and understood by the D6600, the kiss-off is sent.

The receiver can be programmed for up to eight handshake attempts, using any combination of the available handshake tones.

Message Verification: The D6600 receiver checks each message for errors. If the data is received correctly, the receiver sends the kiss-off acknowledgment tone to the communicator. The communicator then hangs up and returns the subscriber's telephone line to normal.

If the data is not correct, the receiver withholds the kiss-off tone and prints an "ERROR" message (see **SECTION 15, Error Reports**) causing the communicator to retransmit the information. If the data is still not received correctly after the communicator's set number of retransmissions, the communicator hangs up. The communicator will then restart the signal process and attempt to retransmit another message. The communicator will repeat this process until the kiss-off tone is received or until the number of dialing attempts has been depleted.

Handshake Tone Compatibility: When the D6600 Receiver answers an incoming line it waits for a programmed period of time before transmitting the handshake tone(s). *Some communicators will wait approximately 30 seconds for the proper handshake tone; however, others will hang up immediately if an improper handshake tone is heard. Still others may have a very short handshake wait time.*

Radionics recommends that you program the line card so the first handshake tone transmitted is compatible with existing equipment in order to eliminate a wait through a sequence of handshake tones.

The D6600 is able to receive any incoming signals while transmitting handshakes.

When a Message is Received: The receiver can process messages from all thirty-two phone lines simultaneously. The messages are printed and displayed one by one as the previous message clears from the display.

Many Control/Communicators can transmit multiple messages in the same phone call. The receiver may be programmed to print all multiple message transmissions as a group, or print each message as soon as it is received. Refer to the *Report Grouping section (2.2.16) of the D6600 Program Entry Guide (P/N 39962)* for more information.

As each message is checked and determined to be accurate, the D6600 sends the kiss-off tone so the communicator can hang up, allowing the receiver to process new incoming calls on the line. As reporting devices become available to receive additional signals, the D6600 retrieves the stored messages from memory and outputs the messages to the reporting devices.

How Call Groups Work: The D6600 receiver allows each line to report and print as a part of a *call group*. Lines which operate in rotary are typically assigned to the same call group. A call group can include any combination of incoming lines, regardless of the physical location of the Line Card in the receiver or the geographical location of the accounts which report to the various lines in the group. When a line is assigned to a call group, all reports on that line (with the exception of phone line or Line Card trouble reports) are identified by the group number (e.g. G01). If the line is not assigned to a group, all reports are identified by the line number (e.g. L01). See *Busy Seconds Reports* for further details on call groups.

Buzzer Operation: In the Manual Mode, an Operator Alert Buzzer beeps when a message is received until you press the [ACK] button (the buzzer operation is programmable and can be disabled when the receiver is programmed for the Automatic Mode).

Reporting Devices, Primary and Secondary: A reporting device is any device which can print or display messages from the D6600 receiver. This includes the central station automation computer, or an external printer. You can enable the external printer and designate it as the *primary* or *secondary* device. The automation computer will always be a *primary* device unless disabled. *Primary Reporting Devices* receive all reports generated by the D6600. *Secondary Reporting Devices* only receive input from the D6600 when all primary devices fail. Please note that the UL 1981 allows the receiver to suppress printing during normal automation system operation provided that the printer starts printing upon automation system failure.

If the receiver is in the Automatic Mode and *all* of the primary reporting devices fail, the receiver re-routes the messages to the secondary reporting device(s). If no secondary reporting devices are programmed, or if all secondary reporting devices fail, the D6600 will automatically switch to Manual Mode. When a primary device is restored to normal operation, the D6600 goes back into the Automatic Mode, provided the last buffered signal was manually acknowledged.

Operation

Normal Operation

In the normal operation mode, the D6600 receiver sends messages immediately or in blocks to reporting devices (i.e. printers, computers) as soon as the devices are ready to receive the information. Signals do not remain visible in the display. In the event that all reporting devices fail, the D6600 reverts to the Manual Mode of operation until a device is returned to service. The D6600 is normally programmed to sound the Operator Alert Buzzer for new events received when the automation link fails.

Typical Alarm Receiving Sequence

1. An alarm occurs on Zone 3 at subscriber location 456. Account 456 is programmed to report to Line 01 and Line 01 is not programmed to report to a call group.
2. The OL (On-Line) LED lights green when the receiver answers the call and receives data.
3. The primary reporting device(s) (e.g. external printer, automation computer) is activated. If the external printer is a primary reporting device and line 1 is not assigned to group reporting, it prints the following message:

```
11/11 14:10 L01 ACCT 456 ALARM ZN 3
```

If line 1 is assigned to group 1 reporting, the receiver's external printer prints the following:

```
11/11 14:10 G01 ACCT 456 ALARM ZN 3
```

4. The Line 01 hangs up.

Operation in Manual Mode

In the event that all reporting devices fail, the D6600 reverts to the Manual Mode of operation until a device is returned to service.

Receiving Signals

When signals are received while operating in the manual mode:

1. The Operator Alert Buzzer sounds. Push the [ACK] button to shut off the Operator Alert Buzzer. Compare the display to the printout to make certain you have correctly read the data.
2. Push the [ACK] button again. If there *are additional messages*, the second push of the [ACK] button allows the receiver to display and print the next message. See next page for an example.
3. Repeat the procedure until all outstanding messages are recorded on the reporting device(s) and the display is clear.
4. The LCD will alternate between 'Pending Alarms xx' and the current message:

```
Pending Alarms 2
```

(Press [ACK])

```
01/01 14:10 L00 SYSTEM RESET
```

(Press [ACK])



```
Pending Alarms 1
```

(Press [ACK])

```
01/01/14:11 L00 COMPUTER ERROR
```

(Press [ACK])

Keypad Menu Operation

1. Press [M/E] to enter the main menu. Key in the password when prompted. (Default Password is 6600.)
2. Scroll to the appropriate menu option using the  or  keys, and press the [M/E] key.
3. Edit the entry. Press the [M/E] key to enter the new data. Continue making changes to options until all desired changes are complete. The new data will be active as soon as the menu is completely exited.
4. Press the [CAN] key to return to the previous menu or to abort an entry.

Password Menu Protection

The D6600 offers several passwords for multiple users. Each level has certain restrictions.

Note: A maximum of eight numeric characters for valid passwords.

Manager (1 user)

The manager has full programming control, and access to all menu features. The manager may change any other passwords. The manager password will allow access to:

- Alarm Database
- CPU Configuration
- Line Cards configuration
- Host Programming
- Software Versions
- Network Configuration
- Account Database Configuration
- Registered Accounts

Supervisor (3 users)

The supervisor has limited programming control, and access to all menu features. The supervisor may also change any password except the Manager. The supervisor password will allow access to:

- Alarm Database
- CPU Configuration
- Line Cards configuration
- Host Programming
- Software Versions
- Network Configuration
- Account Database Configuration
- Registered Accounts

Operator (6 users)

The operator has restricted programming control, and access to some menu features. The operator may not change any passwords. The operator password will allow access to:

- Alarm Database
- Software Versions
- Registered Accounts

Event Buffer Display

An event buffer up to 10,000 messages can be viewed through the D6600 menu option 1.1 or by downloading the event buffer to the D6200. When using the D6600 keypad, these messages can be viewed by an authorized user through the menu. Using the arrow keys, the contents of this buffer are displayed in the order in which they were received. If multiple lines of text were received, the LCD will display (TOTAL LINES x). Press [M/E] to view the remaining lines. Use the arrow keys to continue browsing the buffer. Pressing [CAN] will exit this menu.

To download the event buffer to the D6200, select **User Interface** from the D6200 and then select Download Event Database. A file named D6600.EBF will be saved under C:\Program Files\D6200. This file cannot be viewed by the user. This file is only intended for Radionics Technical Support when required.

Current System Trouble Display

Menu option 1.2 offers viewing of a system trouble buffer. These messages can be viewed by an authorized user through the menu. Using the arrow keys, the contents of this buffer are displayed. Pressing [CAN] will

Operation

exit this menu. System troubles in this buffer will illuminate the red System Trouble light on the front of the receiver. As system troubles are corrected, they will automatically be removed from this list. When no messages remain, the System Trouble indicator will extinguish.

Software Version Display

Menu option 5 will display the current software versions of the CPU and each Line Card. This information is useful to Radionics for better customer support.

Busy Seconds (Line Busy) Reports

The D6600 receiver software monitors and reports the time that a "call group" of receiver lines is unable to receive signals. The receiver cannot process signals if its incoming phone lines are in trouble, if other communicators have the line tied up, or if the line card is inoperative. The receiver interprets these conditions as "busy time."

Busy Seconds Reports are based on the amount of busy time accumulated during a ten minute period. The ten minute busy time period begins when all lines in a call group become busy (*or when a single line which is not programmed for a call group becomes busy*). The D6600 totals the accumulated busy time and prints the Busy Seconds report after the ten minute period is over. A minimum accumulation of 60 seconds (10%) of busy time is required before a report is generated. The D6600 will report up to a maximum of 100% busy time.

If Busy Seconds Reports are not wanted for all lines, it is possible to disable them by programming the **Busy Seconds Reports** option to **No**. Reports for individual lines can be disabled by setting the **Line Sniff** option to **2**. *Busy Seconds Reports must be set to Yes for UL listed Central Stations*. Underwriters' Laboratories inspectors may investigate the amount of time that the digital receiver lines are unable to receive signals. It is very important to ensure that lines are available to process emergency signals on a timely basis. Excessive line busy reports may indicate that it is necessary to install additional lines in rotary with your primary receiver lines.

Each line card can be assigned to a call group. For the group to start accumulating busy time, all lines in the call group must either be on-line, in trouble, or without an operating line card.

Note: Although it is not mandatory, Radionics recommends that you assign lines to a call group. If a line is not assigned to a group, or if there is only one line in the group, one minute of busy time during a 10 minute period will result in a Busy Seconds report.

If you do not assign a line to a call group, displays and printer reports identify the LINE number instead of the GROUP number. A line busy report is displayed and printed as follows:

```
11/19 06:20 L01 BUSY SECONDS 23% RCVR01
```

Two-Way Audio

When using D6600 for Two Way Audio verification, it is suggested that the option Flash or Hold be used in accordance with the central station PBX system, so that the D6600 can be switched off line in a short period of time. In the situation that a PBX is not used, a regular telephone should be connected in parallel with the incoming telephone line. Once the D6600 is in two way audio mode, the operator can pick up the telephone and undertake the two way audio operation. The telephone must be put back on hook after the two way audio operation is finished.

In Pulse Formats, the D6600 will verify the first digit of the 3 or 4 digit account code range 0-F programmed in the option of Account Digits. If the received account code is programmed and it is the alarm reporting, the line card will be in two-way audio mode.

In DTMF Formats, the D6600 will verify the first digit account code range 0-F programmed in the option of Account Digits. If the received account code is programmed and it is the alarm reporting, the line card will be in two-way audio mode accordingly.

In BFSK Format, the D6600 will verify the first digit account code range 0-F programmed in the option of Account Digits. If the received account code is programmed and it is the alarm reporting, the line card will be in two-way audio mode. The D6600 will also verify the Listen-In bit to switch to the two-way audio mode.

For Modem II/IIIa^{2™} Formats, the D6600 will verify the first digit account code range 0-F programmed in the option of Account Digits, and switch to the two-way audio mode if the account code is programmed and it is one of the alarm events reporting.

In SIA Format, the D6600 will verify the first digit account code range 0-F, G-Z, programmed in the option of Account Digits, and switch to the two-way audio mode accordingly. The D6600 will also switch to two-way audio mode if the Listen-In block is received.

Operation

A non-zero number must be programmed in the Two-way Audio Duration option. This option should effect all formats, and the control panels will have no control of the two-way audio duration over the D6600.

If the qualifying criteria applies, the D6600 will send a signal to the automation software via RS-232 link indicating that the physical line is now in two-way audio mode. The line will maintain off-hook status for the period of time programmed in the Two-way Audio Duration option, in minutes.

Or

The D6600 will provide the Flash option. With this option programmed for 01 - 20 x 100 ms, the CPU will first send the two-way audio signal to automation software via RS-232. Then the line will be hook-flashed for the pre-programmed duration. It will stay in the off-hook position for another 5 seconds then hang up.

Or

The D6600 will provide the Hold option. With this option programmed for 01-99 seconds the line card will maintain the off-hook status for the pre-programmed duration after the audio event signal is sent to the automation software, in order to have the software controlled PBX pick up the line, then it will hang up.

The line card, once in audio mode, will only be hung-up when the [CAN] key is pressed by the operator, timed out, or the automation software issues a Stop Listening Command !**Knn<CR>**, where **nn** is the physical line number. **Note:** Line Card listen in duration settings will override any panel listen in duration settings.

When pressing [CAN] during the two-way audio session, the operator will be prompted to enter the line number for stopping the two-way audio. The D6600 should not be in the MENU mode during this operation. The OL/LF LED will be flashing green during the audio session.

The D6600 prints the audio status on the printer with the physical line number and sends the audio status to the automation software with the physical line number.

NOTES:

14.0 Network Communications

The D6600 Central Station Communications Receiver/Gateway NetCom system supports data network communications. NetCom allows the D6600 receiver to connect to various networks such as Token Ring and Ethernet, and to process messages both to and from most networks in TCP/IP protocols. Connection to the network can be implemented by use of a COM4 and/or a COM1 connection from the D6600 receiver to the network adapter. Reports from alarm control panels from the PSTN network, or other data networks can be sent to the central station automation software and/or the network printer via LAN or WAN. Alarm control panels can be monitored on the network for their status and for the network connection. D6600 can be updated and/or upgraded through the network connection. D6600 can be remotely programmed through the D6200 software.

INSTALLATION

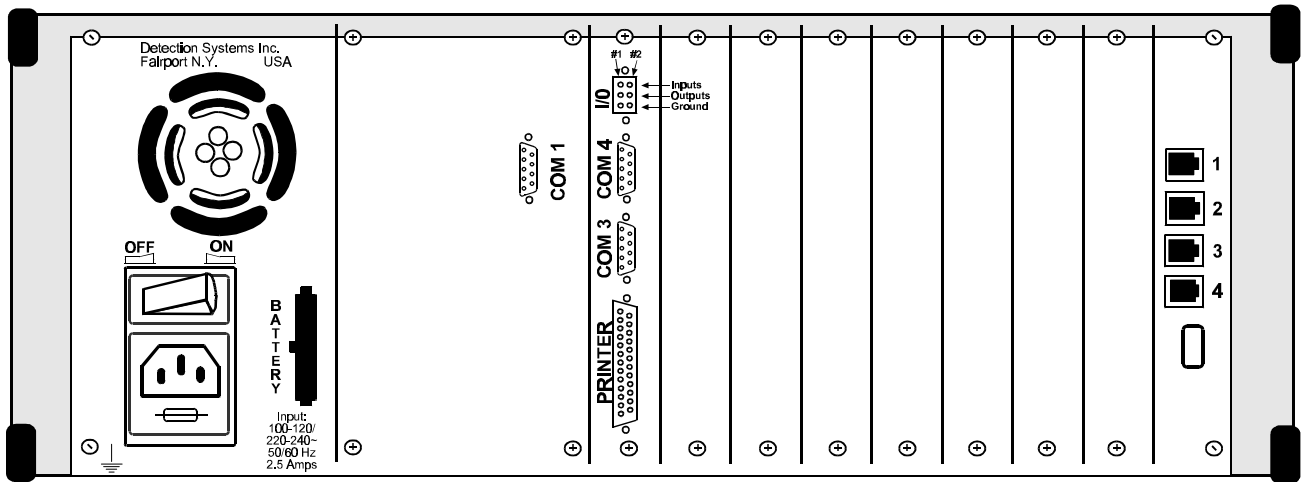


Figure 14-1 D6600 Communications Receiver/Gateway rear view with COM1

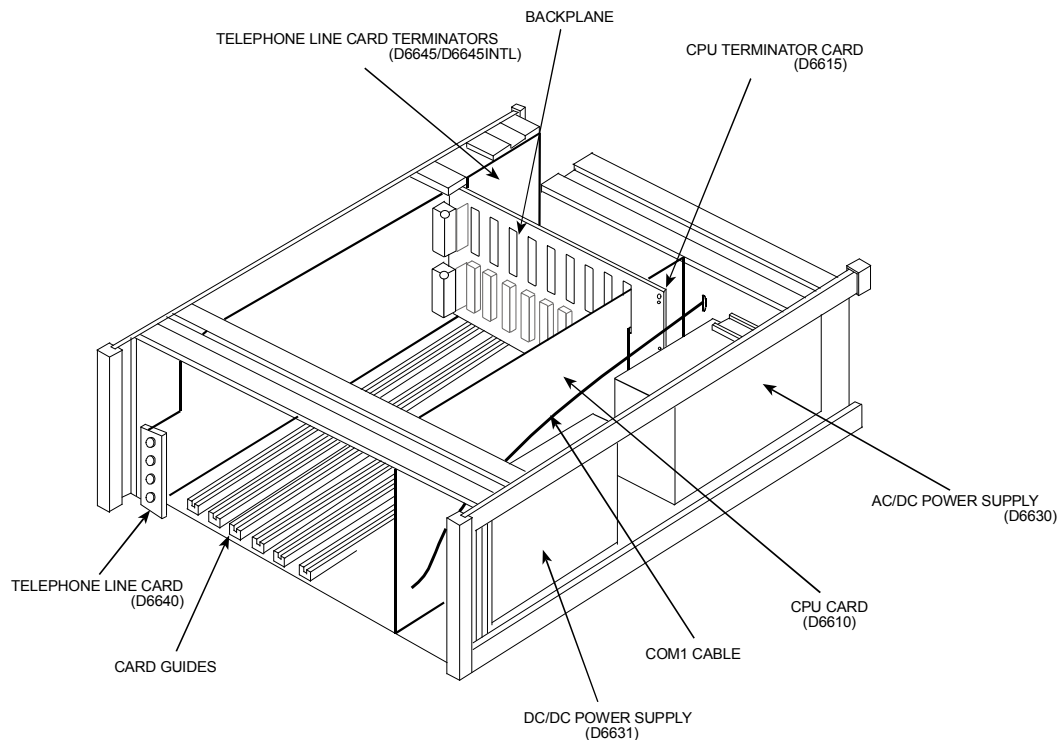


Figure 14-2 Receiver card placement with COM1

Network Communications

INSTALLATION

The D6600 has 2 COM ports available for network connections - COM 4 and the optional COM 1. The D6600 requires a separate D6680-XXXX for each com port in order to interface with either a Token Ring or Ethernet network. The D6680-XXXX are specific to the type of network you will be connecting to – **D6680-E120** or **D6680-E230** for Ethernet, **D6680-T120** or **D6680-T230** for TokenRing.

All control panels must have a similar interface to allow for network reporting. One method of interfacing a control panel to a network is to use the Detection Systems C900TTL Dialer Intercept Module. The C900 module will work with any panel that uses a standard PSTN dialer. Through dial tone and handshake simulations, the C900 “intercepts” the control panel’s report and translates it across the network connection. The model of C900 is specific to the network type. For instance, a C900TTL-E is for Ethernet and the C900TTL-TR is for Token Ring networks.

Radionics 7000 and 9000 series control panels can be connected to the Radionics D9133 Network Interface Module. The D9133 and the 7000 and 9000 series Radionics panels communicate using the SDI bus rather than the “captured” phone line like the C900. The model of D9133 is specific to the network type. For instance, a D9133TTL-E is for Ethernet and the D9133TTL-TR is for Token Ring networks.

The D6200 programming software is a D6600 programming utility that can work over a network connection.

Each network interface device must be ARP'ed, then TELNET'ed in order to assign IP addresses to each before network communications will work.

Token Ring Network:

- MUST use a MAU (equivalent to ethernet HUB)
- MUST use token ring cables.
- MUST use a token ring network interface card in host PC.
- MUST use a token ring D6680-T120 or D6680-T230.
- MUST use token ring C900s and token ring 9133s.
- RING IN and RING OUT must be connected together on the MAU.

Ethernet Network:

- MUST use a hub.
- MUST use ethernet cables.
- MUST use a ethernet network interface card in host PC.
- MUST use a D6680-E120 or D6680-E230.
- MUST use ethernet C900s and ethernet 9133s

Host Computer:

- Use host PC to ARP and TELNET (both are DOS utilities that must be run from the DOS prompt) the D6680-XXXX, the 9133s and the C900s.
- Must have the appropriate NIC installed - ethernet or token ring
- Must have the appropriate cables - ethernet or token ring.
- Be sure to manually set the Host Computer's IP address to an address that is acceptable to the particular class network. For more information on network classes please review appendix B of the Lantronix Co-Box manual.

Host Computer Setup:

1. From Windows, select Start\Settings\Control Panel. Then Select Network.
2. From the Configuration tab, scroll down the Network components until you get to your TCP/IP card. Highlight this and select "properties..."
3. Select the IP address tab.
4. Click the "Specify an IP address" radio button.
5. Enter an IP address for the network you will be setting up, such as 202.96.168.1. You will then be asked to reboot the computer.
6. Connect the Host PC's NIC card to the hub/MAU and reboot.

Network Communications

7. All devices that will be using this network must have the same first 3 numbers of the 4 number IP address. (for the example above, all IP addresses would begin with 202.96.168.xxx. 'xxx' will be different for each device).
8. From Windows select Start/Settings/Control Panel and then select System.
9. From the Device Manager tab, select Ports. Highlight the COM port used to connect the D6200 software to the network and select Properties.
10. Under the Port Settings tab, select 38400 bits per second baud rate and then click OK.

D6600 Setup:

1. Enter programming mode from the front panel keypad of the D6600 (press [M/E], 6-6-0-0-[M/E]).
2. Using the [▼] key, scroll down to section 6, NETWORK CONFIGURATION, press [M/E].
3. Press [M/E] again to enter section 6.1 - COM4 Network Adapter. press [M/E].
4. Verify parameters 6.1.2-6.1.4 are set to 8-N-1 (default). Change if necessary.
5. Set 6.1.5 to 1, COM 4 port enabled.
6. Press [CAN], then [▼] and Repeat steps 1-6 above for section 6.2 (COM1 Network adapter)
7. Press [CAN], then [▼] twice to scroll down to section 6.4 D6200 Network Connection. Press [M/E] twice.
8. Enter the IP address of the Host PC that will be running the D6200 software. When entering an IP address through the keypad of the D6600 an alpha character (A-F) must be pressed to enter a decimal in the IP address. For example, an IP address 202.96.168.127 must be entered as 202-A-96-A-168-A-127, where "A" represents ".". Press [M/E].
9. Press the [▼] twice to scroll down to section 6.4.3 Network Programming Enable press [M/E].
10. Press 1 then [M/E]. This enables communication between the D6600 and the Host PC running the D6200 software.
11. Press [CAN] multiple times to return to the idle stage (time and date on the LCD).

ARPing & TELNETing a D6680-XXXX or a 9133 from the host PC:

These D6680-XXXXs provide the network interface for each of the receiver's COM 1 and COM 4 ports. The 9133's provide the network interface for the Radionics 9000 and 7000 series panels.

1. Connect D6680-XXXX's serial type connector (channel 1 (25 pin) or channel 2 (9 pin)) to one of the COM ports of the D6600, using the appropriate cable (A modem cable is needed for a connection between channel 1 and a COM port on the receiver. A **NULL** modem cable is needed for a connection between channel 2 and a COM port on the receiver.).
2. If using a Black Box MAU for a token ring network, be sure to connect the RING -IN and RING-OUT jacks together using a token ring cable .
3. Connect appropriate cable from the hub/MAU to the network RJ45 connector on the D6680-XXXX.
4. Connect appropriate cable from the hub/MAU to the NIC in the host PC.
5. Verify that the connection is established to the panel by viewing the Ethernet link LED(hub)or the red indicator LED of the MAU. This should be on.
6. Pick an IP address for the D6680-XXXX. Typically 202.96.168.XXX. (X=unknown) The last number will be determined by you (range 1-255). All devices connected to this network need to have different addresses. Of the 4 sets of numbers, the first 3 must be the same (subnet), and the last 1 different (i.e. device1=202.96.168.1, device2=202.96.168.2, etc...).
7. Now open up the DOS prompt (from Windows) on the host PC tied into the network.
8. At the DOS prompt type (without the quotes) "arp -s 202.96.168.XXX ZZ-ZZ-ZZ-ZZ-ZZ" (Where 202.96.168.XXX is the static IP address you choose and ZZ-ZZ-ZZ-ZZ-ZZ is the Hardware Address also known as the MAC address found on the D6680-XXXX)
9. Verify the numbers entered are correct, then press "enter". If no errors are displayed, the address was accepted.
10. To verify the address is now in network memory, at the DOS prompt type "arp -g" and it should show the IP address as "Static"

Network Communications

11. At the Dos prompt type "telnet". The telnet application should open a new window.
12. Click on the "Connect" menu and choose "Remote System". Type the Static IP address of the D6680-XXXX into the "Host Name" field.
13. Type "1" into the port number (without the quotes) and leave the "TermType" field at "vt100"
14. Click "Connect" and wait a few seconds for a message to display that "Connection Failed" Host Name (showing the IP address)
15. Click "OK" then Click on the "Connect" menu and choose "Remote System" again. This time leave everything as it is except type "9999" into the Port number field.
16. A message will be displayed – "Press Enter to go into setup mode" – Press enter.
17. More data will be displayed, press 0 then Enter to set up basic configuration.
18. You will be asked for the IP address. Enter the 3 digit numbers of the IP you have just picked one at a time and press enter after each one (i.e. enter "202 enter" then enter "96 enter" etc.)
19. Choose "N" when asked to set Gateway address.
20. Choose the number of host bits that the network can handle. For example Class A has 24 host bits, Class B has 16 host bits and Class C has 8 host bits. Refer to the Lantronix appendix B for more networking information.
21. Change Telnet password – press N to leave at default of "No"
22. Now press 1 to setup Channel 1 settings or press 2 to setup Channel 2 settings.
23. It should show "Baudrate (38400)" Press enter to accept – if it doesn't show that, type "38400 enter" to change it
24. "IF mode 4C?" – press enter. (Refer to Lantronix Manual for more Information.)
25. "Flow 00" – press enter. (Refer to Lantronix Manual for more Information.)
26. Port number – type a number that is in between 2000 and 10000 – press enter. (Refer to Lantronix Manual for more Information.) *Please note that all port numbers in the network with the receiver should be the same.



Channel 1 and channel 2 must have different port numbers.

27. Connect mode (CC)? -- press enter. (Refer to Lantronix Manual for more Information.)
28. Datagram type – Type "00" press enter. (Refer to Lantronix Manual for more Information.)
29. Press 9 then enter to save changes and exit the Telnet session. A message is displayed that connection was lost – close the Telnet window.

ARPing & TELNETing a C900 from the host PC:

The C900s provide the network interface for virtually all panels.

Steps 1-21 are the same as with the D6680-XXXX and 9133 setup. Repeat steps 1-21 from above then complete steps 22-34 below.

22. Now press 1 to setup Channel 1 settings.
23. It should show "Baudrate (9600)" Press enter to accept – if it doesn't show that, type "9600 enter" to change it
24. "IF mode 4C?" – press enter. (Refer to Lantronix Manual for more Information.)
25. "Flow 00" – press enter. (Refer to Lantronix Manual for more Information.)
26. Port number – type a number that is in between 2000 and 10000 – press enter. (Refer to Lantronix Manual for more Information.) *Please note that all port numbers in the network with the receiver should be the same.



Channel 1 and channel 2 must have different port numbers.

Network Communications

27. Connect mode (CC)? -- press enter. (Refer to Lantronix Manual for more Information.)
28. Datagram type – Type “01” press enter. (Refer to Lantronix Manual for more Information.)
29. Remote IP address (000) – Enter the IP address that the D6680-XXXX for the D6600 has been set to in this network. (Refer to Lantronix Manual for more Information.)
30. Remote port (00000) – press enter. (Refer to Lantronix Manual for more Information.)
31. Pack Cntrl (00) – press enter to leave at 00. (Refer to Lantronix Manual for more Information.)
32. Send Char 1 (00) – press enter to leave at 00. (Refer to Lantronix Manual for more Information.)
33. Send Char 2 (00) – press enter to leave at 00. (Refer to Lantronix Manual for more Information.)
34. Press 9 then enter to save changes and exit the Telnet session. A message is displayed that connection was lost – close the Telnet window.

D6600 Setup:

Using the D6600 keypad, program the menu options listed below. Refer to Section 6, *Network Configuration*, of the *Program Entry Guide* for detailed explanations of each programming option.

1. Set menu 6.1.5 COM4 Network Adapter to 1 Enable COM4 Network Adapter Connection.
2. If using the optional COM1 network connection, set menu 6.2.5 COM1 Network Adapter to 1 Enable COM1 Network Adapter Connection.
3. Under Menu 6.4.1 *IP Address* enter the IP Address of the computer running the D6200 software.

Note: Any alpha key (A-F) may be used to add a decimal point (.) when programming IP addresses through the D6600 keypad.

4. Set menu 6.4.3 *Network Programming Enable* to 1 *Enable Network Programming*.

Perform steps 5-7 only if a network connection is used for automation software.

5. Under menu 6.3.1 *IP Address*, enter the IP address of the computer running the automation software.
6. Set menu 6.3.6 *Network Automation Output Format* to either 1 *D6500 mode automation output* or 2 *Radionics SIA mode automation output*.
7. Set menu 6.3.7 *Device* to 1 *Utilize Network Automation*.

D6200 Setup:

1. Under Settings menu, click on the connection settings.
2. Under connection mode, click on the TCP/IP network connection.
3. Under D6600, type in the IP address that was assigned to the D6680-XXXX that is connected to the D6600.
4. Under D6600, type in the port address that was assigned to the D6680-XXXX that is connected to the D6600.
5. Under Local PC, the IP address is the same IP address of the PC that is running the D6200 software and can only be changed through Windows Network settings.
6. Under Local PC, type in the port address that was assigned to the D6680-XXXX that is connected to the D6600.
7. To test for communication: Under User Interface menu, select 5. Software versions. This will read the current software versions the D6600 has installed.

D6600

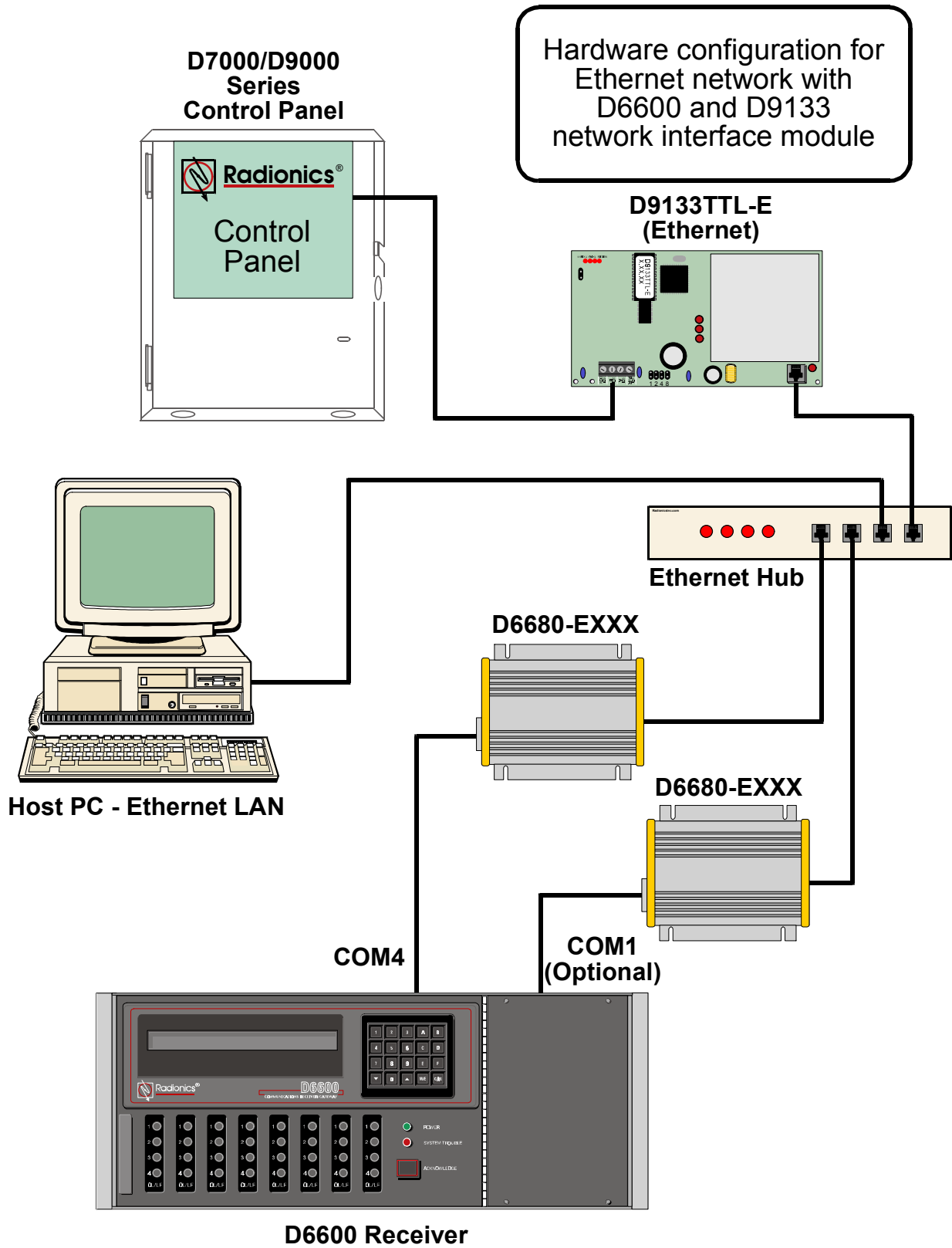
Network Communications

D6600 Database:

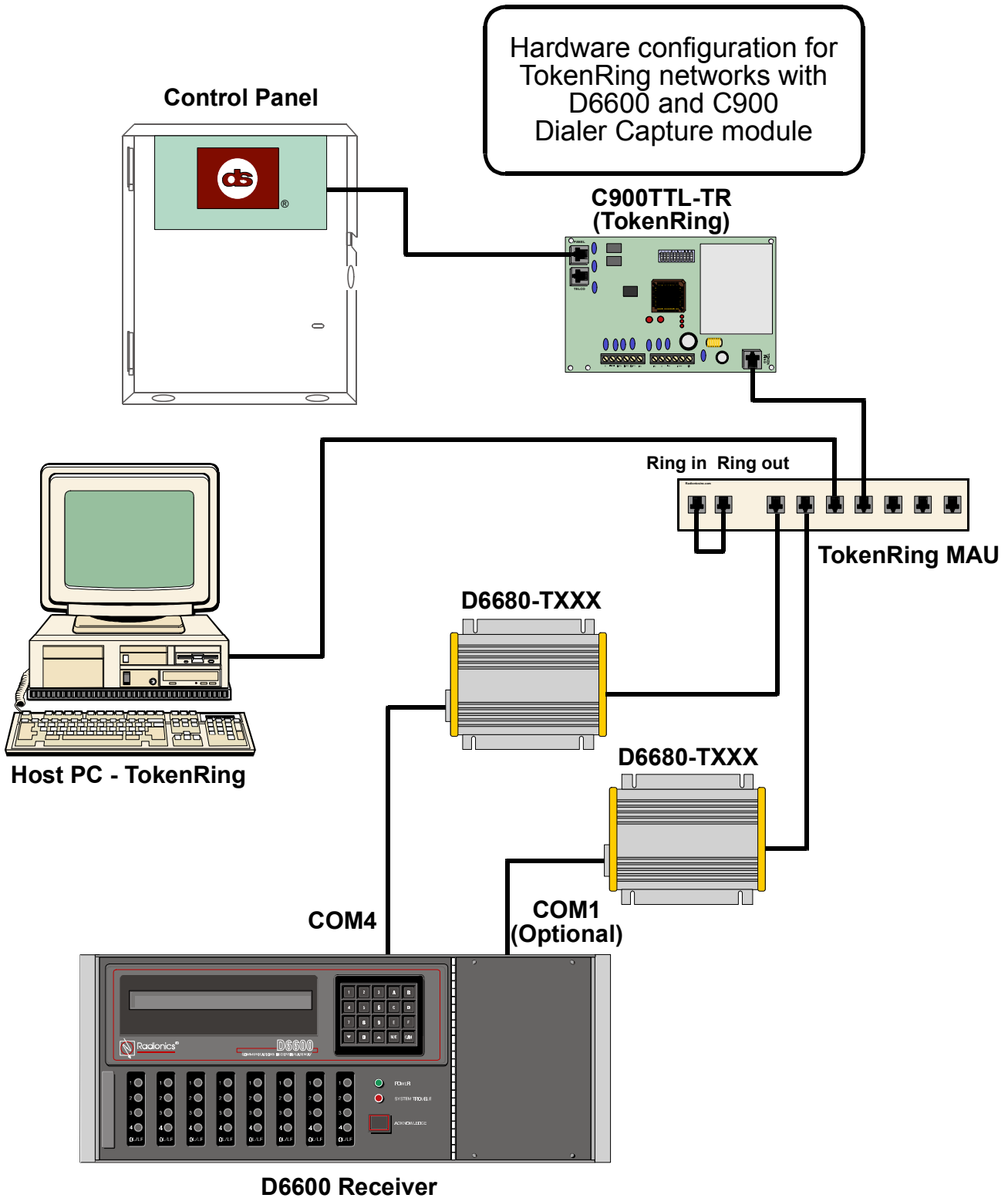
1. Enter programming mode from the front panel keypad of the D6600 (press [M/E]-6-6-0-0-[M/E]).
2. Using the [▼] key, scroll down to section 7, ACCOUNT DATABASE CONFIGURATION, press [M/E].
3. Press [M/E] again to enter section 7.1 - "add/modify an IP account". press [M/E].
4. Enter the IP address of one of the active C900/9133 panels programmed above, then press [M/E].
5. Enable this account in section 7.1.2, = 1.
6. Repeat steps 1-5 above for each C900/9133 configured for this network.

The D6600 can also be modified using the D6200 software.

Network Communications



Network Communications



OPERATION

D6600 NetCom Account Database

The D6600 receiver is capable of storing up to 3600 accounts in the account database. The actual connectivity varies depending on the programmed poll rate and the number of COM ports connected to the network. Account information can be programmed through the D6200 software or the D6600 receiver keypad. The account database allows the user to monitor account status from the D6200. For details on how to edit account information, see the *D6200 Network Programming* section. Please also refer to the *D6600 Program Entry Guide*.

D6600 Account Registration:

For database capacity greater than ten accounts, a security key must be purchased and registered. There are three keys available with ranging database capacity. The D6201-0500 Key allows a maximum of 500 accounts. The D6201-3600 Key allows a maximum of 3600 accounts. The D6201-SUPV Key allows for multiple IP addresses with a maximum of 3600 accounts for each IP address.

To establish the permissible number of accounts, the key must first be plugged into the parallel port of the computer running the D6200 Programming software. Select **NetCom** from the D6200 interface, then select D6600 Account Registration. The maximum allowable number of accounts will be detected and a registration confirmation window will appear. Click on the "Yes" button. The computer will now register the corresponding number of accounts. Click on the "OK" button once the registration is complete. The user will now be able to establish the maximum number of accounts pertaining to the registered key.

The maximum number of accounts and the current number of accounts may be viewed at any time from menu item 8 Registered Accounts from the D6600 keypad.



All account database configurations will be lost when the D6600 is rebooted. Be sure to save all database configuration changes to the "ACTXX.DB" file with the D6200. The database must then be reloaded into the D6600 after the D6600 has been rebooted.

D6600 NetCom Network Alarm Monitoring and Supervision

Connection to the network can be implemented through the use of a COM4 and/or a COM1 connection to the network adapter.

Connecting to the Network using COM4:

To connect to the network using a COM4 to network adapter connection, select **NetCom** from the D6200 interface. Select Network Configuration, then select the COM4 Network Adapter tab. Select the data transmission baud rate for communication to the network adapter. This baud rate must match the baud rate programmed in the network adapter. Enable the COM4 Network Adapter by selecting 1. Parameters programmed in the COM4 Network Adapter section will supercede any COM4 settings in the other sections. This method of connecting to the network supports the use of conventional PSTN line cards. If a programmed poll rate of 60 seconds has been selected, COM4 can support up to 1200 accounts. With a programmed poll rate of 30 seconds, COM4 can support a maximum of 600 accounts.

Connecting to the Network using COM1:

To connect to the network using a COM1 to network adapter connection, select **NetCom** from the D6200 interface. Select Network Configuration, then select the COM1 Network Adapter tab. Select the data transmission baud rate for communication to the network adapter. This baud rate must match the baud rate programmed in the network adapter. Enable the COM1 Network Adapter by selecting 1. This method of connecting to the network supports the use of conventional PSTN line cards. If a programmed poll rate of 60 seconds has been selected, COM1 can support up to 1200 accounts. With a programmed poll rate of 30 seconds, COM1 can support a maximum of 600 accounts.

Supervision:

The panel can be set to poll the receiver at certain time intervals so that the receiver can monitor the on-line/off-line status of the panel. To set the poll rate, select **NetCom** from the D6200 software, then select Account Database Configuration. From this window, the user can either select an existing account and click on the EDIT button or add a new account by clicking on the ADD button. Select the Settings tab, and edit the Panel Poll Rate in seconds. The panel will then send a message to the D6600 at the designated time interval to let the D6600 know that the connection still exists. If the D6600 does not receive a poll from an account in the preprogrammed time, the account status will be off-line and the missed poll will be reported. *It is recommended that a 90 second poll rate is used in UL Certificated Central Stations.*

D6600

Network Communications

D6600 Network Connection to Automation Software

The receiver can send messages to the automation software in either the D6500 mode or the Radionics SIA mode from COM3 (see *Section 17, Using Central Station Automation System with the D6600* for additional information) or through the COM4 network connection. **Automation cannot be used through COM1.** To enable automation through the network, select **NetCom** from the D6200 software, then select Network Configuration. Select the Automation Network Connection tab. Enter the IP address of the computer running the automation software. The automation software must run on a different computer other than the D6200 computer. The computer running the D6200 software must have a different IP address than the computer running the automation software. To enable Network Automation, select Option 1 under Device setting (6.3.7) and Option 1 or 2 under Network Automation Output Format (6.3.6). Parameters programmed in the Automation Network Connection section will supercede any COM3 settings in the other sections.

NOTE: Connect Automation software to the network through the COM4 port.

D6500 Mode:

To set the Network Automation Output Format to D6500 mode, select **NetCom** from the D6200 software, then select Network Configuration. Select the Automation Network Connection tab. To set the Network Automation Output Format (6.3.6) to D6500 mode, select option 1.

Radionics SIA Mode:

To set the Network Automation Output Format to Radionics SIA mode, select **NetCom** from the D6200 software, then select Network Configuration. Select the Automation Network Connection tab. To set the Network Automation Output Format (6.3.6) to Radionics SIA mode select option 2.

Network Resource Sharing

Network Printer:

Reserved Feature.

D6200 Network Programming

The D6200 incorporates the network communication configurations and the account database. The D6200 allows the user to view, change, upload and download all of the D6600's programming parameters via the receiver's and the Host PC's serial comports, or network connections. Through the D6200 software the user can view the status of all accounts in the database, add accounts, edit accounts, delete accounts, and configure network operations. Please refer to *Section 12, Programming the D6600*.

NOTE: Connect D6200 software to the network through the COM4 or COM1 port.



All account database configurations will be lost when the D6600 is rebooted. Be sure to save all database configuration changes to the "ACTXX.DB" file with the D6200. The database must then be reloaded into the D6600 after the D6600 has been rebooted.

Programming the D6600 through the Network:

It is recommended that to change existing account database parameters and network connection configurations for the D6600 receiver, the user remotely program the parameters through the D6200 software. Once the parameters have been modified, upload them to the D6600 receiver.

To upload parameter settings to the D6600 receiver from the D6200 software, select **NetCom** from the D6200 interface. Select either Load Network & CPU & Host Configuration to D6600 or Load Account Database Configuration to D6600. The parameter changes will take effect immediately at the receiver.

D6600 System Configurations on the Network:

All software upgrades will be provided to the end user in a self-extracting file. To upgrade the software, double-click on the Radionics icon which will unzip the file to the necessary location. Open the D6200 software, select **PROGRAMMING**, then select Software Upgrade Wizard to display active and inactive options. Choose to upload either CPU files, Line Card files, or System Files by checking the corresponding box. Click on the NEXT button. The D6200 will guide the user through the rest of the installation process.

Opening and Editing Account Database files from within the D6200:

From the D6200 interface, select **NetCom**, then select Open Account Database. Select the appropriate database to view or edit.

Network Communications

Reading Account Database files from the D6600:

From the D6200 interface, select **NetCom**, then select Read Account Database from D6600. Click OK to close the status window once the file transfer is complete. The D6600's Account Database is now located in the D6200 software.

Saving Account Database files:

To save the database currently loaded in the D6200, select **NetCom**, then select Save Account Database As. A dialog box will then pop up and a file name and location may be entered. To save the account database directly from the Account Management window, select **NetCom** from the D6200 software, then select Account Database Configuration. Click on the SAVE AS button to save any changes made to the database.

Printing Account Database files:

To print the database currently loaded in the D6200 software, select **NetCom**, then select Print Account Database.

Adding an Account to the Database:

To add a new account to the current database stored in the D6200 software, select **NetCom**, then select Account Database Configuration. Click on the ADD button, and an Add Account window will pop up. Select the Settings Tab. To add additional account information, select the Account Tab. When all the information has been entered, click on the OK button. A unique IP address must be assigned for each account.

Settings Tab

IP Address:

Enter the IP Address of the panel.

Virtual Account:

This is where the account number of the panel can be placed as it is identified in the automation system.



The number of digits entered for the Virtual Account number must match the number of digits in the dialer account number. For example: if a panel account number is 1234, then the virtual account number must consist of four digits. If the panel account number is 12345678, then the virtual account number must consist of eight digits. You cannot use alpha characters in the virtual account.

A Virtual Account number is used to identify which panel has lost its network connection when an "Off Normal Status" message appears. If no Virtual Account number has been entered, the default message "ACT0000 Off Normal Status" message appears. In this case the only way to identify which panel has lost its network connection is to read through D6200 and view the status of the panels in the account database.

Enable Communication:

"0" disables and "1" enables communication between the alarm panel and the receiver.

Virtual Line:

Enter this line number only if it is part of the alarm panel account number. If the line number is not used, enter "0".

Priority Level:

Reserved Feature.

Panel Poll:

This is a range of zero to 300 seconds in 30 second intervals. Enter the value that is closest to the number of seconds desired for polling the receivers. A selection of "0" will result in no poll being sent. "1" will send a poll every 30 seconds, "2" will send a poll every 60 seconds. "3" = 90 seconds, "4" = 120 seconds, etc.

Receiver Poll:

Reserved Feature.

Redirect Automation:

Reserved Feature.

Backup Automation:

Reserved Feature.

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Account Tab

Panel Type:

Make and model of the panel for this particular account/IP address.

Net Device:

The network device that allows the control panel to communicate over the network. Examples: The C900 or the D9133TTL.

Alternate Communication Path:

Reserved Feature.

Format:

Communication format used by this panel (Examples: BFSK, ModemIIIa² etc.).

Test Interval:

How often the panel sends out a test report.

Editing an Account in the Database:

To edit an account in the current database in the D6200, select **NetCom**, then select Account Database Configuration. Highlight the appropriate account and then click on the EDIT button or double-click on the desired account and the Edit Account window will pop up. Edit the information and then click on the OK button.

Copying Account Information:

To copy account information, select **NetCom**, then select Account Database Configuration. Highlight the appropriate account and then click on the COPY button. This will retain all account information except the IP address. The user must enter a new IP address pertaining to the new account. Enter the IP address under the Settings tab. Click on the OK button and the new account should appear in the database. This tool is extremely useful when account information is the same for several different panels.

Deleting an Account from the Database:

To delete an account from the current database in the D6200, select **NetCom**, then select Account Database Configuration. Highlight the account to be deleted, then click on the DELETE button. A window will pop up to confirm the deletion, click on the OK button.

Searching the Account Database:

To locate a particular account in the current database, select **NetCom**, then select Account Database Configuration. The user can choose to search the database by a key field, by a specific IP address, or by combined options.

To search the database by a key field, select a particular field from the Search By box. Enter the keyword in the Find Value box and then click on the GO button adjacent to it. To return to the entire database and to clear any previous queries, click on the List All button.

To search the database by a specific IP Address, enter an IP address and then click on the adjacent GO button. To return to the entire database and to clear any previous queries, click on the List All button.

To search the database by combined options, enter information in one or more of the boxes. Once all of the desired search criteria has been entered, click on the Search button. To return to the entire database and to clear any previous queries, click on the List All button.

Sorting Database Information:

To sort database information, select **NetCom**, then select Account Database Configuration. Click on the heading by which the user desires to sort the database. The user can choose to sort the database by IP address, Virtual Account, Virtual Line, Enable, Poll Rate, Status, or Status Changed Time.

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Status:

Under Account Database Configuration, this value will be either be a "1" or a "0". A "1" will indicate that the connection is good between the receiver and that particular panel. A "0" will indicate that the receiver is no longer receiving polls from that particular panel.



For both "**Status**" and "**Status Changed Time**" the database must be read into the D6200 for an up to date reading. After the database has been loaded from the D6200 to the D6600 all the status fields will be blank until a change on the network occurs.

Status Changed Time:

Under Account Database Configuration, this indicates the time at which the status changed for this panel, not when the database is read into the D6200.

Show Account Status:

To view the account status and status changed time for corresponding IP Addresses, select **NetCom**, then select **Show Account Status**. For up to date account status, the database must be read into the D6200 from the D6600.

Events Display Window ON/OFF:

Reserved Feature.

Changing C900 Status Settings

NetCom is capable of sending several Control Commands to the C900 to change its status. These Control Commands include:

Switch to Intercept:

This command will force the C900 to work in the Intercept mode. This allows the C900 to receive the dialer signals and then send them to the D6600 NetCom through LAN/WAN.

Refer to "Command Sent (Switch to Intercept mode)" in the Computer Interface Manual (P/N 39963F or later) for the D6600 output format.

Switch to Fallback:

This command will force the C900 to temporarily work in the fallback mode, so that the dialer can use its PSTN network to communicate with the central stations. This feature allows the central station to remotely access the dialer for uploading and downloading. If a C900 is switched to fallback, an optional reminder message can be created every 30 minutes. This will ensure that the operator is aware the C900 is in the fallback mode and may return the C900 back to the intercept mode for LAN/WAN communications.

The C900 will automatically switch to Intercept after one hour of being switched to Fallback or turn to Intercept mode immediately once it has received the command Switch to Intercept.

Refer to "Command Sent (Switch to Fallback Mode)" in the Computer Interface Manual (P/N 39963F or later) for the D6600 output format.

Disable Intercept:

This command is provided as a measure to remotely remove a defective C900 from service. The dialer will be connected to the PSTN until Intercept is enabled or the C900 reboots.

Refer to "Command Sent (Disable Intercept Mode)" in the Computer Interface Manual (P/N 39963F or later) for the D6600 output format.

Activate Output:

Turn on output #4.

Refer to "Command Sent (Activate Output)" in the Computer Interface Manual (P/N 39963F or later) for the D6600 output format.

Deactivate Output:

Turn off output #4.

Refer to "Command Sent (Deactivate Output)" in the Computer Interface Manual (P/N 39963F or later) for the D6600

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Network Communications

output format.

Output #4 is an open collector output which can be used for signaling various conditions by connecting to annunciating devices or directly to a control panel input.

Idle:

This command specifies the time in seconds that will elapse between polls. During this time, the C900 will not receive any information from the network. Valid entry is 0-255. If 0 is entered, the default of 30 seconds is used. This value should be resent to C900 after C900 reboot.

Refer to "Command Sent (Supervision Rate Changed)" in the Computer Interface Manual (P/N 39963F or later) for the D6600 output format.

Active:

This command specifies the time in seconds for the C900 to receive the acknowledgment or other information from the dialer. The C900 will enter the Active mode if it does not receive the dialer acknowledgement from the receiver. Valid entry is 0-255. If 0 is entered, the default of 1 second is used. This value should be resent to the C900 after the C900 reboots.

Refer to "Command Sent (Supervision Rate Changed)" in the Computer Interface Manual (P/N 39963F or later) for the D6600 output format.

Retry:

This command specifies the time in seconds that C900 will wait for a response to a message before sending it again. Note: The C900 will retry 9 times before deciding that the host has failed. Valid entry is 0-255. If 0 is entered, the default of 5 seconds is used. This value should be resent to the C900 after the C900 reboots.

Refer to "Command Sent (Supervision Rate Changed)" in the Computer Interface Manual (P/N 39963F or later) for the D6600 output format.

Hold:

This command specifies the time, in 256 milliseconds increments, that the C900 must wait after receiving any message before it can transmit another message. Valid entry is 0-255. If 0 is entered, the default of 256 milliseconds is used. This value should be resent to C900 after C900 reboot.

Refer to "Command Sent (Supervision Rate Changed)" in the Computer Interface Manual (P/N 39963F or later) for the D6600 output format.

All these commands and related C900 status changes will be recorded on the printer and sent to the automation software. Other C900 status messages such as Low Battery, Reboot, Dialer Diagnostic are also sent to the D6600 where it is processed and sent to the automation computer and the printer. The C900 input #1 status report (Open, Short and Normal) will be generated by the D6600 and send to the automation and printer.

To send C900 Control Commands, use D6200 software, select NetCom, click on menu item C900 Control Commands. In this window, click the select button to choose a C900 account. All C900 accounts that are online (Status=1) will appear in this window. The status of a C900 may have changed since the last time the Account database was read from the D6600. For an accurate C900 Account status, read the Account database from the D6600 before making any C900 changes. To view all C900 accounts, click the "List All C900" button. This will show all accounts that have the net device specified as C900 in the account database will be displayed in this window. (To specify the net device (C900 or 9133) for each account, use the D6200 software, select NetCom, click on menu item Account Database Configuration. In this window select an account and click the edit button. In this window under the Account tab, select the device in the Net Device section, then click OK. NOTE: If this is left blank - no selection - the account **will** be displayed in the selection window.) In the C900 Command window select the C900 account that will receive the commands. Select the command that will be transmitted to the C900 (See definitions above). Click the change button, this message will be transmitted to the C900 upon the next poll the D6600 receives from that selected C900. All these status changes are recorded in the D6200 History Log file.

To query status of an active C900, click the Query button under the D6200 menu item C900 Control Commands, the real status of the queried C900 will be displayed, in the History Log upon the next poll the D6600 receives from that selected C900. Click the Explain C900 Status button in the History Log window to get a more detailed explanation.

15.0 Error Reports

Description

If a message is garbled (incorrect checksum or inconsistent message rounds) due to a noisy phone line or other difficulty, the receiver withholds the kiss-off tone. This causes the communicator to retransmit the same message. Radionics communicators will retransmit a message up to four times.

[Error]

When you receive an error message, first try to determine the location and type of signal so you can dispatch the proper response. Make a note of the time, date, line number, and the account number on which the error occurred. *Any information that has an [ERROR] on the same line is probably incorrect.*

Sometimes an Error Message contains one line of clear signal, enabling you to determine the actual location and type of signal being transmitted. For example:

```
10/13 09:22 L01 [ERROR] B11BB12
10/13 09:22 L01 ACCT B11 TROUBLE ZN 6
10/13 09:21 L01 [ERROR] B1B12
10/13 09:21 L01 [ERROR] B141BB12
```

The D6600 displays and prints each message *as received* along with “[ERROR].”

When to Report Communication Trouble: If you receive several error messages from a particular location, your supervisor and/or service personnel should be notified to service that location. If you receive error messages from several accounts on one receiver line, the problem could be the receiver’s line card or the telephone line connected to the line card. You may need to report the trouble to the telephone company. If you have a consistent problem with errors, it may be necessary to call Radionics Customer Service for assistance (see **Section 2, Emergency Procedures**).

No Data Received

When a communicator does not send the data in a format that is recognized by the D6600 or there was nothing transmitted by a communicator, the D6600 will generate the following message:

```
10/13 09:28 L01 NO DATA RECEIVED
```

During this message no kiss-off was produced by the Receiver. Radionics communicators will then retransmit a message up to four times.

NOTES:

16.0 Troubleshooting Guide

The D6600 is made up of several plug-in assemblies which you can easily replace in the field (components and controls on individual assemblies are shown starting at **SECTION 4**).

Do not attempt to repair individual assemblies. Any failed assemblies should be returned to Radionics for testing and repair. This Trouble Shooting Guide should only be used to assist in the identification of failed modular components.

Individual Trouble Cases, Troubleshooting Procedures

Line Card OL/LF LED is on steady RED.

Either the telephone line, the telephone connecting cord, line card, or Telco Terminator is defective.

1. Pull the line card out of the receiver, then re-insert it to ensure the card is properly connected.
2. Swap the connecting cord with a phone line which is not in trouble. If the original OL/LF LED remains on steady red, the problem is with a plug-in card. Replace the line card with a spare. If the OL/LF LED on the new replacement card is on steady red, change the Line Terminator Card.
3. If the OL/LF LED on the original troubled card goes out and the OL/LF indicator on the previously untroubled card lights when you swap connecting cords, the trouble is either with the connecting cord or the telephone line. Replace the telco line connecting cord.
4. *If the OL/LF LED is still on, the trouble may be in the telephone line.* Report the trouble to the Telephone Company.



WARNING

If a telephone line is out of order and is the first line in a rotary or hunt group, IMMEDIATE ACTION IS NECESSARY! Have the telephone company busy the defective line at the telephone exchange. If emergency service is not available, call the troubled line and leave the calling handset off-hook. Do not hang up! Incoming alarm signals see a busy signal and rotor (hunt) to another line in the hunt group. This procedure will not work for WATS (Wide Area Telephone Service) Lines.

Menus Cannot Be Accessed.

1. *Incorrect Password.* Default password is 6600.
2. *Defective keypad panel.*
3. *Defective CPU Card.*

Printer Works but No Display.

1. Defective or loose cable between the CPU Card and display panel or User Interface card.
2. Defective User Interface card.
3. Defective CPU.

Operator Alert Buzzer Cannot Be Silenced.

1. *System Stalled.* Check watchdog LED on the inside of the door behind the keypad. LED must flash for a running system. A solid light does not indicate a running system. Reset D6600 if stalled.
2. *Defective [ACK] Button.* Return D6600 for repair.
3. *Defective User Interface card.* Return D6600 for repair.

Troubleshooting Guide

D6200 Cannot Connect to the D6600

1. Defective, missing or incorrect serial cable. Ensure the connection between the PC and the D6600 is NULL MODEM. Also ensure that the cable is not damaged. Inspect all pins on the D6600, the PC and on the serial cable.
2. Ensure the Null Modem Cable is connected to the correct COM port of the PC (as per the D6200 COM setting; COM 1 through COM 8).
3. Ensure that the connections between a 9 pin connector and a 9 pin connector use a **Null** modem cable. Connections between a 25 pin connector and a 9 pin connector use a straight modem cable.
4. COM settings do not match. In the D6200 under the Settings menu, select COM SETTINGS. Verify that all settings match the configuration of the D6600 "HOST PROGRAMMING/PARAMETER" (menu item 4.5).
5. On the D6600, ensure that the RS232 Direct Access Permission is set for 1 (menu item 4.5.9).
6. If upgrading software, ensure that Software Programming Enable is set for 1 (menu item 4.5.7).

NOTE: If Software Programming Enable is set for zero (0), communication between the D6200 and the D6600 will be successful but file upgrades will fail.

7. Reboot the PC and restart the D6200 with no other applications running.
8. Defective CPU Terminator Card.
9. Defective CPU Card.
10. Defective PC COM port.

Using Central Station Automation System with the D6600

17.0 Using the Central Station Automation System with the D6600

A central station automation system computer can be connected to the COM3 port (Automation Computer port) on the D6615 CPU Terminator Card using a **NULL** modem cable. Please refer to the D6600 Computer Interface Manual for additional information.

Standard Automation reporting is normally RS232 serial data sent from the COM3 port of the D6600 receiver to a COM port of a separate Automation PC (see *Section 2.5, COM3 Automation Configuration* in the *D6600 Program Entry Guide* P/N 39962G or later). As an option, with no additional programming required at the D6600 receiver, the same serial communication can be routed across a network connection by utilizing D6680-XXXX modules at both ends of the Automation communication path. The D6600 will still be sending the standard serial data, but the D6680-XXXX modules will serve to convert and then transmit this data over a network by communicating with each other and then converting the data back to the standard RS-232 that the Automation computer can interpret. NOTE: Increased network activities may cause the automation software to NACK some messages. This will force NetCom to resend these messages.

Optional Automation Connection

The following procedure will allow Arping and Telnetting with the D6680-XXXX connected to the D6600 COM3 port:

1. Connect the D6680-XXXX's serial connector (25 pin for channel 1 or 9 pin for channel 2) to the COM3 port of the D6600 using the appropriate cable (a modem cable is required for a connection between channel 1 and the COM port on the receiver. A **Null** modem cable is required for a connection between channel 2 and the COM port on the receiver).
2. If using a Black Box MAU for the token ring network, connect the "Ring In" and "Ring Out" jacks together using a token ring cable.
3. Connect the appropriate cable from the from the hub/MAU to the network RJ45 connector on the D6680-XXXX.
4. Connect the appropriate cable from the from the hub/MAU to the NIC on the host computer.
5. Verify that the connection is established to the panel by viewing the Ethernet Link LED on the hub or the red LED indicator on the MAU. These should be on.
6. Pick an IP address for the D6680-XXXX. Typically 202.96.168.XXX where the last digits are determined by you within a range of 1-255. All devices connected to the network must have a different IP address. Of the 4 sets of numbers, the first 3 (subnet) must be the same and the last digit different for each device. Examples: Device 1 = 202.96.168.1, device 2 = 202.96.168.2 etc.
7. On the network host PC, open the DOS prompt from Windows.



IMPORTANT

The network host PC cannot be the same computer as the Automation PC.

8. At the DOS prompt type (without the " marks) "arp -s 202.96.168.XXX ZZ-ZZ-ZZ-ZZ-ZZ" (where 202.96.168.XXX is the static IP address and ZZ-ZZ-ZZ-ZZ-ZZ is the hardware address (also known as the MAC address) found on the D6680-XXXX).
9. Verify that the numbers entered are correct and then press [ENTER]. If no errors are displayed, then the address was accepted.
10. To verify that the address is now in network memory, type "arp -g" at the DOS prompt. The computer should show that the IP address as "static".
11. At the DOS prompt, type "telnet". This will open up the telnet application window.
12. Click on the "Connect" menu and choose "Remote System". Type the static IP address of the D6680-XXXX into the "Host Name" field.
13. Type "1" (without the " marks) into the port number and leave the "Term Type" field at "vt100".
14. Click "Connect" and wait a few seconds for a message to display that says "Connection Failed" Host Name (showing the IP address).
15. Click "OK" then click on the "Connect" menu and choose "Remote System" again. This time leave everything as it is except type "9999" (without " marks) into the Port Number field.
16. The message "Press Enter to go into setup mode". Press [ENTER].

Using Central Station Automation with the D6600

17. More data will be displayed. Press 0 (zero) and then [ENTER] to setup the basic configuration.
18. You will be asked for the IP address. Enter the 3 digit numbers of the IP address you have just picked. You must press [ENTER] after each group of digits. Example: For the address 202.96.168.1, you would type 202 then press [ENTER], 96 [ENTER], 168 [ENTER] and then 1 [ENTER].
19. Set the gateway address if necessary.
20. Choose the number of host bits that the network can handle. For example, Class A has 24 host bits, Class B has 16 host bits and Class C has 8 host bits. Refer to the D6680-XXX manual, appendix B for more network information.
21. Change the Telnet password – press n to leave the password at the default of “No”.
22. Now press 1 to setup channel 1 settings or 2 to setup channel 2 settings.
23. The display should show “Baud Rate (38400)”. Press [ENTER] to accept this baud rate or enter the value of the baud rate of the COM3 automation port and then press [ENTER].
24. “IF” mode 4C” will then be displayed. Press [ENTER]. Refer to the D6680-XXXX manual for additional information.
25. “Flow 00” will then be displayed. Press [ENTER]. Refer to the D6680-XXXX manual for additional information.
26. Port Number. Type in a value between 2000 and 10000 and then press [ENTER].



When using the D6680-XXXX modules all of the channel 1 port numbers must be the same as all the other channel 1 port numbers. All channel 2 port numbers must be the same as all other channel 2 port numbers. The port number for channel 1 and the port number for channel 2 must be different, however.

27. Datagram type. Type “01” and press [ENTER]. Refer to the D6680-XXXX manual for additional information.
28. “Connect Mode (CC)?” will then be displayed. Press [ENTER]. Refer to the D6680-XXXX manual for additional information.
29. Remote IP address (000). Enter the IP address of the D6680-XXXX connected to the Automation software. Refer to the D6680-XXXX manual for additional information.
30. Remote port (00000). Press [ENTER]. Refer to the D6680-XXXX manual for additional information.
31. Pack CNTRL (00). Press [ENTER] to leave at 00. Refer to the D6680-XXXX manual for additional information.
32. Send Char 1 (00). Press [ENTER] to leave at 00. Refer to the D6680-XXXX manual for additional information.
33. Send Char 2 (00). Press [ENTER] to leave at 00. Refer to the D6680-XXXX manual for additional information.
34. Press 9 and then [ENTER] to save the changes and exit the Telnet session. A message will be displayed that the connection has been lost. Close the Telnet window.

The following procedure will allow Arping and Telnetting with the D6680-XXXX connected to the Automation Software Computer.

Follow the same steps as connecting the D6680-XXXX to the D6600 COM3 port with the following exceptions:

1. Connect the D6680-XXXX's serial connector (25 pin for channel 1 or 9 pin for channel 2) to the COM port of the computer running the automation software using the appropriate cable (a modem cable is required for a connection between channel 1 and the COM port on the receiver. A **Null** modem cable is required for a connection between channel 2 and the COM port on the receiver).
23. The display should show “Baud Rate (38400)”. Press [ENTER] to accept this baud rate or enter the value of the baud rate of the COM port used to run the automation software on the computer and then press [ENTER].
29. Remote IP address (000). Enter the IP address of the D6680-XXXX connected to the D6600 COM3 port. Refer to the D6680-XXXX manual for additional information.

Using Central Station Automation System with the D6600

NOTES:

Central Station Tips

18.0 Central Station Tips

BACKUP RECEIVER: Spare circuit boards and/or receivers should be available at the central station. Radionics recommends that a spare kit be kept on hand. U.L. listed central stations monitoring burglary or fire alarms are required to have a redundant receiver available which can be activated within thirty (30) seconds.

COMPUTER INTERFACE: Spare cards for all receiver components are strongly recommended. A spare CPU Terminator Card should be kept in the central station.

D6200 PROGRAMMING SOFTWARE: Radionics recommends that you keep D6200 Programming Software in the central station at all times.

PHONE LINES

Emergency Ringers: Extension ringers for incoming receiver phone lines are available from telephone equipment supply companies. They ring very briefly to signify an incoming call. If they continue to ring, that means your receiver is out of service. The ringer has a volume control, but in a high traffic central station you might prefer to use beehive lights instead of ringers.

Rotary Lines: Rotary receiver lines (hunt groups) are strongly recommended to prevent alarm signals from being delayed during periods of busy central station traffic. Rotary lines also are important to provide alternate paths when a line is out of service. To use this important feature your dispatcher should dial the out-of-service line and leave the calling phone off the hook. This will busy out the line to all incoming communicators and they will automatically rotor to an unused line. Rotary service is provided at the Telco Central Office and must be ordered.

NOTE: UL and FM central station service standards require phone lines that are constantly monitored.

PROPER GROUND: Receivers should be connected to **earth ground**, not chassis or electrical ground. Measure the resistance of the Receiver ground to another ground. If the meter reads above 2 ohms, check your Receiver ground against a third ground. If the difference is still greater than 2 ohms, ground your Receiver to a different earth ground. Cold water pipes or a grounding rod usually make a good earth ground. The grounding wire should be heavy copper with as short and straight a run as possible. Avoid sharp bends in the ground wire because a large power surge might arc across the bend.

The Terminator Cards and their connection to the receiver cabinet provide the ground source for the receiver's circuit boards. The screws used to secure the Terminator Cards to the back of the receiver cabinet must be firmly tightened at all times. *If the mounting bracket screws are not tight, the receiver's operation could be erratic. The receiver could fail in the event of a short circuit or if foreign voltage is induced into the system.*

Put an anti-static mat in front of the Receiver to prevent electro-static discharge from operator to equipment.

RADIO FREQUENCY INTERFERENCE: The D6600 Receiver is microprocessor based. All microprocessors are susceptible to RFI (Radio Frequency Interference) especially at the 480 MHz and 950 MHz bandwidths used by walkie-talkies. Never key a walkie-talkie in the vicinity of the Receiver.

TEST COMMUNICATOR: A digital communicator triggered by an interval timer provides an excellent periodic check on your receiver and its phone lines. If you have more than one data line use a communicator for each line, or use a multiple number communicator.

NOTES:

Central Station Tips

19.0 Service Information

(EMERGENCY DATA SHEET)

In the event of a central station Emergency, the following information will assist you to contact the necessary people and enables Radionics Customer Service Personnel to help you with your emergency. Have your supervisor provide you with the following information:

Supervisor's Name:	_____
Emergency Phone #:	_____
Telephone Co. Repair Service. Phone #:	_____
Contact:	_____
Power & Light Co. Repair Service. Phone #:	_____
Contact:	_____

Radionics Customer Service: (800) 538-5807 (press 6 for Technical Support) or (831) 757-8877 (No Collect Calls, please)

NOTE: When calling for emergency central station service, please tell the operator "Receiver Problem".

Receiver Software Version # CPU: _____ Line: _____ Printer: _____

Incoming Receiver Phone Line Numbers:

Line 1: _____	Line 17: _____
Line 2: _____	Line 18: _____
Line 3: _____	Line 19: _____
Line 4: _____	Line 20: _____
Line 5: _____	Line 21: _____
Line 6: _____	Line 22: _____
Line 7: _____	Line 23: _____
Line 8: _____	Line 24: _____
Line 9: _____	Line 25: _____
Line 10: _____	Line 26: _____
Line 11: _____	Line 27: _____
Line 12: _____	Line 28: _____
Line 13: _____	Line 29: _____
Line 14: _____	Line 30: _____
Line 15: _____	Line 31: _____
Line 16: _____	Line 32: _____

Are Lines in Rotary? Yes: _____ No: _____

Type of WATS Lines? Local: _____ Statewide: _____ National: _____ Other: _____

Location of Receiver Spares Package: _____

Location of Receiver Ground Wire Connection: _____

Location of AC Power for Receiver: _____

Location of Telephone Line Jacks: _____

Receiver Connected to Computer System?: Yes: _____ No: _____

Automation System Manufacturer: _____

