Warning: This manual contains information on limitations regarding product use and function and information on the limitations as to liability of the manufacturer.
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WARNING: INSTALLER PLEASE READ CAREFULLY

Note to Installers
The Warnings on this page contain vital information. As the only individual in contact with system users, it is the installer’s responsibility to bring each item in this Warning to the attention of all users of this system.

System Failures
This system has been carefully designed to be as effective as possible. There are circumstances, however, involving fire, burglary, or other types of emergencies where it may not provide protection. Any alarm system of any type may be compromised deliberately or may fail to operate as expected for a variety of reasons. Some, but not all, of the reasons may be:

- **Access by Intruders**
  Intruders may enter through an unprotected access point, circumvent a sensing device, evade detection by moving through an area of insufficient coverage, disconnect a warning device, or interfere with or prevent the proper operation of the system.

Component Failure
Although every effort has been made to make this system as reliable as possible, the system may fail to function as intended due to the failure of a component. Component failures may result in the system being unable to operate correctly. Signals may not reach the receiver under all circumstances which could include metal objects placed on or near the radio path or deliberate jamming or other inadvertent radio signal interference.

Criminal Knowledge
This system contains security features which were known to be effective at the time of manufacture. It is possible for persons with criminal intent to develop techniques which reduce the effectiveness of these features. It is important that your security system be reviewed periodically to ensure that its features remain effective and that it is updated or replaced if it is found that it does not provide the protection expected.

Failure of Replaceable Batteries
This system’s wireless transmitters have been designed to provide several years of battery life under normal conditions. The expected battery life is a function of the device environment, usage, and type. Ambient conditions such as high humidity, high or low temperatures, or large temperature fluctuations may reduce the expected battery life. The system may fail to function correctly even though the batteries are still operational. Each device transmitter contains a battery monitor which identifies when the batteries need to be replaced. The installer must replace the batteries when they fail.

Inadequate Testing
The Warnings on this page contain vital information. As the only individual in contact with system users, it is the installer’s responsibility to bring each item in this Warning to the attention of all users of this system.

WARNING: INSTALLER PLEASE READ CAREFULLY

Inadequate Installation
A security system must be installed properly in order to provide adequate protection. Every installation should be evaluated by a security professional to ensure that all access points and areas are covered. Locks and latches on windows and doors must be secure and operate as intended. Doors, windows, walls, ceilings, and other building materials must be of sufficient strength and construction to provide the level of protection expected. A reevaluation must be done during and after any construction activity. An evaluation by the fire and/or police department is highly recommended if this service is available.

Inadequate Testing
Most problems that would prevent an alarm system from operating as intended can be found by regular testing and maintenance. The complete system should be tested weekly and immediately after a break-in, an attempted break-in, a fire, a storm, an earthquake, an accident, or any kind of construction activity inside or outside the premises. The testing should include all sensing devices, keypads, consoles, alarm indicating devices, and any other operational devices that are part of the system.

Insufficient Time
There may be circumstances when the system will operate as intended, yet the occupants will not be protected from an emergency due to their inability to respond to the warnings in a timely manner. If the system is remotely monitored, the response may not occur in time to protect the occupants or their belongings.

Motion Detectors
Motion detectors can only detect motion within the designated areas as shown in their respective installation instructions. They cannot discriminate between intruders and intended occupants. Motion detectors do not provide volumetric area protection. They have multiple beams of detection and motion can only be detected in unobstructed areas covered by these beams. They cannot detect motion which occurs behind walls, ceilings, floor, closed doors, glass partitions, glass doors or windows. Any type of tampering whether intentional or unintentional such as masking, painting, or spraying of any material on the lenses, mirrors, windows or any other part of the detection system will impair its proper operation.

Passive infrared motion detectors operate by sensing changes in temperature. However their effectiveness can be reduced when the ambient temperature rises near or above body temperatures. Sensitivity of devices is highly recommended if this service is available.

Power Failure
Control units, intrusion detectors, smoke detectors and many other security devices require an adequate power supply for proper operation. If a device operating on batteries is installed, it is possible that the batteries were not charged, have failed, or have been removed. Power interruptions of any length are often accompanied by voltage fluctuations which may damage electronic equipment such as a security system. After a power interruption has occurred, immediately conduct a complete system test to ensure that the system operates as intended.

Security and Insurance
Regardless of its capabilities, an alarm system is not a substitute for property or life insurance. An alarm system also is not a substitute for property owners, renters, or other occupants to act prudently to prevent or minimize the harmful effects of an emergency situation.

Smoke Detectors
Smoke detectors that are a part of this system may not properly alert occupants of a fire for a number of reasons, some of which follow. The smoke detectors may have been improperly installed or positioned. Smoke may not be able to reach the smoke detectors, such as when the fire is in a chimney, walls or roofs, or on the other side of closed doors. Smoke detectors may not detect smoke from fires on another level of the residence or building.

Every fire is different in the amount of smoke produced and the rate of burning. Smoke detectors cannot sense all types of fires equally well. Smoke detectors may only provide timely warning of fires caused by careless or safety hazards such as smoking in bed, violent explosions, escaping gas, improper storage of flammable materials, overloaded electrical circuits, children playing with matches, or arson.

Even if the smoke detector operates as intended, there may be circumstances when there is insufficient warning to allow all occupants to escape in time to avoid injury or death.

Telephone Lines
If telephone lines are used to transmit alarms, they may be out of service or busy for certain periods of time. Also an intruder may cut the telephone line or defeat its operation by more sophisticated means which may be difficult to detect.

Warning Devices
Warning devices such as sirens, bells, horns, or strobes may not warn people or warn someone sleeping if there is an intervening wall or door. If warning devices are located on a different level of the residence or premises, then it is less likely that the occupants will be alerted or awakened. Audible warning devices may be interfered with by other noise sources such as stereo, radios, televisions, air conditioners, other appliances, or passing traffic. Audible warning devices, however loud, may not be heard by a hearing-impaired person.
IMPORTANT
The installation manual shall be used in conjunction with the Power Series Alarm Controller Power Panel manual. All the safety instructions specified within that manual shall be observed. (or equivalent). The Alarm Controller Power Panel is referenced as the “panel” throughout this document.

The Ethernet Communicator is a fixed, wall-mounted unit, located inside the panel, and shall be installed in the location specified in these instructions. The equipment enclosure must be fully assembled and closed, with all the necessary screws/tabs, and secured to a wall before operation. Internal wiring must be routed in a manner that prevents:

- Excessive strain on wire and on terminal connections.
- Interference between power limited and non power limited wiring.
- Loosening of terminal connections, or
- Damage of conductor insulation.

WARNING: Never install this equipment during a lightning storm!

Safety Information
The Installer must instruct the System user on each of the following:

- Do not attempt to service this product. Opening or removing covers may expose the user to dangerous voltages or other risks.
- Any servicing shall be referred to service persons only.
- Use authorized accessories only with this equipment.
- Do not stay close to the equipment during device operation.
- Do not touch the external antenna.

Model Information
TL260R: is an Ethernet only alarm Communicator that sends alarm communication to Sur-Gard System I, II, III and IV central station receivers through a wired Ethernet/Internet connection.

NOTE: Prior to installation of the TL260R Communicator, confirm with your local service provider that the Internet is available and active in the area where the Communicator will be installed.

Panel Mounting
The following Communicators are compatible with PC1616/PC1832/PC1864 panels:

- TL260R, TL260

NOTE: This manual covers Communicator models with and without 'R' throughout entire manual unless specifically stated otherwise.

Features

- 128-bit AES encryption via Ethernet/Internet (NIST Validation Certificate No. 2032).
- Back up or primary alarm communication.
- Ethernet LAN/WAN 10/100 BaseT.
- Full event reporting to central station (UL/ULC listed) and C24 Interactive, via RS-422 to the C24-HUB. (This supplementary feature is in addition to required for a UL/ULC Listed system configuration and it does not affect the required UL/ULC Listed signaling).
- Individual Ethernet Periodic test transmission.
- Interactive Support via Gateway.
- Integrated call routing.
- Remote Firmware upgrade capability of the Communicator and Panel Firmware via Ethernet.
- Panel remote upload/download support via Ethernet/Internet.
- PC-LINK connection.
- Programmable Labels.
- RS-422 balanced line for supplementary communication to the external C24-HUB up to 1,000 ft. (305 m) for C24 Interactive. (This supplementary feature is in addition to what is required for a UL/ULC Listed system configuration and it does not affect the required UL/ULC Listed signaling). Only models with ‘R’.
- SIA and Contact ID (CID) formats supported.
- Trouble display LEDs.
- Supervision heartbeats sent via Ethernet/Internet.
- Supervision heartbeats via Ethernet/Internet.

Technical Specifications
The input voltage to the Communicator can be drawn from the Underwriters Laboratories/Underwriters Laboratories Canada (UL/ULC) Listed Control Panel or provided by an external UL/ULC Listed power supply rated for the application (external power-limited source).

UL/ULC Installation Requirements
NOTE: For equipment used at the protected premises and intended to facilitate IP communications (hubs, routers, NIDs, Digital Subscriber Line (DSL), Cable modems), 24 hour back-up power is required. Where such cannot be facilitated, a secondary (back-up) communication channel is required.

- Domain Name Service (DNS) programming is not permitted in UL/ULC listed systems.

Notes for using Private, Corporate, and High Speed Data Networks:
Communication channels shall be facilitated such that the Communicator will restrict unauthorized access, which could otherwise compromise security. The Communicator shall be located in a secured area.

- The Communicator can also be used as an Active communication system with the Security Levels A1-A4 (each channel Ethernet independent or together in a back-up/redundant configuration). For Active Line Security systems AES128 bit encryption shall be enabled (at the monitoring station receiver) and the supervision heartbeat rate shall be set as 90 seconds. (Panel Section [851][004] = 005A/90). The supervision window at the Signal Receiver Center (SRC’s) receiver shall be programmed as maximum of 180 (0084/180) seconds.

- The supervision heartbeat shall be enabled (Panel Section [851][005] Toggle Option [1] (Ethernet) and/or Toggle Option [2] shall be ON). Toggle Option [3] (Supervision Type) shall be ON and the supervision heartbeat rate shall be selected as 135 (0087/135) seconds. Option (0054) = 0087. The supervision window at the supervising station shall be maximum 200 (00C8/200) seconds. For Encrypted Line Security systems the encryption AES128 bit shall be enabled at the monitoring station receiver.
NOTE: Enter [*][8][Installer Code][900] at keypad to view the Panel Version number. Products or components of products, which perform communications functions only shall comply with the requirements applicable to communications equipment as specified in UL60950 or CAN CSA C22.2 No. 60950-1, Information Technology Equipment - Safety - Part 1: General Requirements. Where network interfaces are internal to the control unit or receiver, compliance to CAN CSA C22.2 No. 60950-1 is adequate. Such components include, but are not limited to: hubs; routers; NIDs; third-party communications service providers; DSL modems; and Cable modems.

C24 Interactive

NOTE: This application has not been investigated by UL/ULC and is not to be used on UL/ULC certified installations. The Communicator provides C24 Interactive monitoring and control via an RS-422 interface to an external C24-HUB. The default Keybus link speed is 110.2 KB and this option is programmable by the installer. All life-style events are transmitted by the RS-422 link to the C24-HUB and then remotely to the C24 Interactive Servers. NOTE: The C24-HUB is an interface device which connects to security panels, IP cameras, sensors, Z-wave based home automation devices, etc. to deliver a host of advanced functionality.

NOTE: Life-style events are “non alarm” events. Life-safety events are “alarm” events. The following features are available with the RS-422 C24 Interactive:

• Communicator faults can be transmitted.
• Panel communication errors are reported to the C24-HUB.
• Real time reporting of Zone status information to the C24 Interactive Server.
• Remote update of the Communicator (flash upgrade).
• WEB login to request an incoming session with the Communicator.
• Zone Label Programming.

NOTE: Communicator buffers 1000 date/time stamped Life-Style events to the C24-HUB as First In First Out (FIFO). NOTE: Life-style events are “non alarm” events. Life-safety events are “alarm” events.

Encryption

The Communicator uses 128 Bit AES Encryption. Encryption can only be enabled from the monitoring station receiver. Each receiver (Ethernet 1 and 2) can independently have encryption enabled or disabled. When encryption is enabled, the central station will configure the device to encrypt communications the next time the Communicator module performs a communication to that receiver.

NOTE: Packets will start being encrypted only after the next event is sent to that receiver, or if the unit is restarted.

Before leaving the installation site, the Communicator TL260R Ethernet line shall be connected via an APPROVED (acceptable to the local authorities) Network Interface Device (NID) (e.g., for UL Installations, UL60950 listed NID). All wiring shall be performed according to the local electrical codes.

COMMUNICATOR INSTALLATION CONFIGURATION

This Ethernet Communicator shall be installed by Service Persons only. (Service Person is defined as a person having the appropriate technical training and experiences necessary to be aware of hazards to which that person may be exposed in performing a task and can also take measures to minimize the risks to that person or other persons). The Communicator shall be installed and used only within an environment that provides the pollution degree max 2; overvoltages category II in non-hazardous, indoor locations only. This manual shall be used with the installation Manual of the panel which is connected to the Ethernet Communicator. All instructions specified within the panel manual must be observed. All the local rules imposed by local electrical codes shall be observed and respected during installation.

Installing the Ethernet Cable

A Category 5 (CAT 5) ethernet cable must be run from a source with Ethernet/Internet connectivity to the Communicator module, inside the Panel. The Communicator end of the cable must be terminated with an RJ45 plug, which will connect to the Communicator’s RJ45 jack after the Communicator is installed. All requirements for installation of CAT5 ethernet cable must be observed for correct operation of the Communicator, including, but not limited to, the following:

• Do NOT strip exactly 2 inches of cable sheathing. This more than required for proper termination. • Do NOT kink/knot cable. • Do NOT crush cable with cable ties. • Do NOT untwist CAT5 pairs more than ½ in. (1.2cm). • Do NOT splice cable. • Do NOT bend cable at right angles or make any other sharp bends.

NOTE: CAT5 specification requires that any cable bend must have a minimum 2 in. (5 cm) bend radius. Maximum length of CAT 5 cable is 328 ft. (100 m).

Running the RS-422 Cable

An RS-422 cable must be connected to the C24-HUB and cable run to the Communicator module inside the panel.

NOTE: Maximum cable length for RS-422 cable is 1,000 ft. (300 m).

<table>
<thead>
<tr>
<th>Model</th>
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<tbody>
<tr>
<td>TL260R</td>
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</tr>
<tr>
<td></td>
<td>• Sur-Gard System I Receiver, version 1.1+</td>
</tr>
<tr>
<td></td>
<td>• Sur-Gard System II Receiver, version 2.10+</td>
</tr>
<tr>
<td></td>
<td>• Sur-Gard SG-DRL3-IP version 2.80+ (for Sur-Gard System II Receiver)</td>
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<tr>
<td></td>
<td>• Sur-Gard SG-DRL4-IP version 1.20+ (for Sur-Gard System IV Receiver)</td>
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Table 2: Compatible Receivers, and Panels

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<td></td>
<td>• Sur-Gard SG-DRL4-IP version 1.20+ (for Sur-Gard System IV Receiver)</td>
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At the C24-HUB, make connections as follows:

1. Securely fasten the TX+ wire on the terminal block.
2. Securely fasten the TX- wire on the terminal block.
3. Install a 120 Ω ½ W resistor between the RX+ and RX- terminals at the C24-HUB.
4. Securely fasten the RX+ wire on the terminal block.
5. Securely fasten the RX- wire on the terminal block.
6. (Optional) Securely fasten the GND wire on the terminal block.

**NOTE:** The GND connection is optional. DSC recommends connecting the GND wire at both ends.

7. Run the RS-422 Cable from the C24-HUB to the inside of the Panel.

**Hardware Reset**

The Communicator can be hardware reset by installing a jumper between Pins 4 and 5 on the AUDIO/DEFAULT connector and restarting the Communicator. Installing jumper during normal operation has no effect.

**INSTALLING THE ETHERNET COMMUNICATOR IN PANEL**

**Installing Communicator with PC1616/1832/1864 Panel**

**NOTE:** Before installing Communicator ensure that system power is OFF and telephone line is disconnected.

1. To assemble supplied mounting bracket, perform the following: (See Figure 1).
   a. Remove the 4 white plastic standoffs from the bag provided with the Communicator kit.
   b. Insert the 4 standoffs through the back of the mounting bracket, into the holes at each corner. (The antenna mounting tab should be facing away from you).
   c. Place the bracket on a flat, solid surface. Hold the Communicator component side up and orient the 4 holes on the Communicator with the 4 standoffs protruding from the bracket. Push the Communicator firmly and evenly onto the standoffs until it is securely attached to the mounting bracket.
   d. Remove the panel front cover.
   e. Remove and discard the circular knockout located in the top-right section of the panel. (See Figure 3).

2. Install the Communicator into the panel:
   a. Attach one end of the PC-LINK cable to the panel PC-LINK header on the panel (red wire goes on Pin 1 of the panel PC-LINK header).
   b. Insert the assembled Communicator into the panel.
   c. Place the nylon washer with bushing (thick flat washer) onto the threaded section of the antenna cable. Insert the threaded section through the antenna mounting knockout hole at top right of panel.
   d. Place the second nylon washer (flat), followed by the brass washer and the brass nut, onto the threaded section of the cable, outside the panel. Tighten the assembly by hand only. (Finger tight only- Do not overtighten the antenna assembly).
   e. Locate the screw hole on the right side wall of the panel. See Figure 2 (screw). Line up the assembled Communicator with the right side wall of the panel and, using the screw provided, secure the mounting bracket to the panel.
   f. Attach the other end of the PC-LINK cable to the Communicator (black wire goes on Pin 1 of the Communicator).
   g. Using light pressure (finger tight only), attach the supplied white quad band whip antenna to the threaded antenna connection point at top of the panel.

**WARNING!**

TL260(R) MODULES ARE POWER LIMITED. DO NOT ROUTE ANY WIRING OVER THE CIRCUIT BOARD. MAINTAIN AT LEAST 1 IN. (25.4MM) SEPARATION BETWEEN CIRCUIT BOARD AND WIRING. A MINIMUM OF ¼ IN. (7MM) SEPARATION MUST BE MAINTAINED AT ALL POINTS BETWEEN NON-POWER LIMITED WIRING AND POWER LIMITED WIRING.

3. To electrically connect the Communicator to the panel, perform the following steps (See Figure 3).
   a. Disconnect both AC power and battery connections from the panel, and disconnect telephone line.
   b. Attach a wire from the Communicator’s left PWR terminal to the panel’s BELL+ terminal.
   c. Attach a wire from the Communicator’s GND terminal (beside PWR) to the panel’s AUX - terminal.
   d. Attach a wire from the Communicator’s SHLD terminal to the panel’s EGND terminal. (Protective earth ground).
   e. Confirm that the SIM card is inserted in the holder and locked.

   **(Optional) External Bell/Siren Connection**

   a. Attach a wire from the Communicator’s right PWR terminal to the positive (+) terminal on the Bell/ Siren.
   b. Attach the panel’s BELL – terminal to the negative (–) terminal on the Bell/Siren.
   c. If an external Bell/Siren is not used, install the 1KΩ ½ W 5% resistor (Brown, Black, Red, Gold) (supplied with the panel) between the panel’s Bell + and Bell – terminals, then only wire the BELL + to the PWR terminal on the Communicator.

   **Figure 1 Communicator Mounting Bracket**

   **Figure 2 PC1616/1832/1864 Control Panel**

   **Figure 3 Module Power Connection**
4. Install the Keybus cable between Communicator and Panel as follows:

WARNING: DO NOT CONNECT KEYBUS RED OR BLK WIRES TO THE PANEL OR THE COMMUNICATOR TERMINAL BLOCKS.

a. Attach a wire from the Communicator YEL terminal to the panel YEL terminal.

b. Attach a wire from the Communicator GRN terminal to the panel GRN terminal.

4-22 Connection for C24 Interactive

At the Communicator inside the Panel, connect the previously run RS-422 cable as follows:

1. Securely fasten the TX+ wire to RX+ on the terminal block.
2. Securely fasten the TX- wire to RX- on the terminal block.
3. Securely fasten the RX+ wire to TX+ on the terminal block.
4. Securely fasten the RX- wire to TX- on the terminal block.
5. (Optional) Securely fasten the GND wire on the terminal block.

NOTE: The GND connection is optional. DSC recommends connecting GND wire at both ends.

Install Network Cable

6. Route the CAT 5 Ethernet cable through back of the panel and plug it into the Communicator’s RJ45 jack.

Before leaving the premises the Ethernet communication lines must first be connected to an approved (acceptable to local authorities) type NID, (UL installations, UL 6950 listed NID, for ULC installations CAN/CSA C22.2 No. 60950-1 Certified NID). All wiring shall be performed according to the local electrical codes.

7. Perform the following steps for initial power on of the panel with Communicator installed:

a. Reconnect the AC power, telephone line, and battery connector to the panel. (The Communicator and Panel will power up together).

b. Observe that the Communicator’s red and yellow LEDs will continue to flash until the Communicator has successfully communicated to all programmed receivers.

NOTE: Initialization may take several minutes to complete. Red and yellow LEDs will flash together during initialization. Do not continue to next step until the re and yellow LEDs have stopped flashing. (If only the yellow LED is flashing, there is a Communicator trouble and the Green LEDs are not valid for Communicator Test). Correct trouble indicated by flashes on yellow LED before continuing. (See Table 4 for troubleshooting assistance).

Domain Name Service (DNS) programming is not permitted in UL/ULC listed systems.

Keypad Data Display

- Section-Toggle Options: The number is displayed when Toggle is ON, the number is not displayed when Toggle is OFF. (e.g., Toggle Options displays: - - 3 - 6 - 9 - ). Options 3 and 6 are ON, all others are OFF). Pressing keys 1 through 8 will alternately turn the Toggle ON and OFF.

- HEX/Decimal Data: Values that are provided with two defaults, separated by a " / " character, use the format: hexadecimal followed by decimal equivalent (e.g., Default [0BF5/3061]). Hexadecimal numbers are shown, with all leading zeroes, to the full field length defined for the number.

Entering HEX values at keypad

To enter HEX values at the keypad, you must press the " # " key before entering the HEX value. (e.g., to enter "C" at the keypad, press " [* ] [ 3 ]

Entering ASCII Characters at keypad

2. Press [*] to select ASCII entry mode.
3. Use the [4] [5] scroll keys to display the character you want and press [*] to save and exit ASCII.
4. Repeat the steps above to enter another ASCII character.

PC1616/1832/1864 Initial Programming

Perform the following steps to ensure that the Communicator and the Panel work together as intended.

These Sections must be programmed at the panel keypad. Enter [*][8][Installer Code][Section Number]. Record any values that are modified from their default, in the appropriate WorkSheets for the Panel or Communicator.

1. In Panel Section [167] program 065 (seconds).
2. In Panel Section [382] set Option B ON.
NOTE: If this option is OFF, the yellow status LED on the Communicator will indicate 'Panel Supervision Trouble' (2 flashes) and the unit can not be pro-
grammed via the PC-LINK cable.
5. A valid Account Number must be entered in Communicator Section [851][021]. See Programming Section.
NOTE: DSC recommends using the same Account Number for Panel and Communicator.
6. In Panel Sections [301], [302], and [303], program the central station telephone number that will be used for the Ethernet Communicator. Valid entries are:
   a. A valid telephone number; signals will be routed to the central station using the PSTN.
   b. DCAA (Receiver 0); signals will be routed to Ethernet Receivers 1 - 4 depending on programming Toggle Options in Communicator Section [851][006].
   c. Panel Section [301] sets the Primary communication path, and may be configured as either PSTN or Communicator routing. Panel Section [302] is redundant, and Panel Section [303] is the backup telephone number for Panel Section [301]. Refer to the Panel manual for additional information.
NOTE: The leading digit 'D' (dial tone detection) in the telephone number is pre-programmed.
7. In Panel Section [300], program the communication format as: CID (03) or SIA FSK (04).
NOTE: If any of the Panel telephone numbers have been set to DCAA, section [350] must be set to (04).
8. In Panel Sections [351] - [376], program the Communicator call direction options. Refer to the Panel Installation Manual for details on setting these options.
NOTE: Before leaving the premises, the installer should verify all programmed communications paths. See Programming Options Section [851][001] to send immediate test transmissions.
Communicator Troubles displayed on a PC1616/1832/1864
The General System trouble is the only trouble that will appear on the keypad Liquid Crystal Display (LCD) when encountered by a Communicator installed in a Panel 1616/1832/1864. For more information about the trouble on the Communicator module refer to the panel event buffer. Log entry will show Fault or Restore for each of the following events:
   • T-LINK Network Fault/Restore: This log will occur for the following trouble conditions: Ethernet Trouble.
   • T-LINK Receiver Trouble/Restore: This log will occur for the following trouble conditions: Receiver Not Available Trouble, Receiver Supervision Trouble, or Failure to Communicate (FTC) Trouble.


Yellow Ethernet Network Link LED
Network Link LED (Yellow)
See Figure 3 for location of LED.
The TL260R uses an active link LED on the board. LED is lit to indicate an active Ethernet connection.
Factory Defaults Reset

You can reset the programming options for the Communicator to the factory settings by installing the hardware jumper. Perform the following steps to reset the Communicator:

**NOTE:** A jumper is required on AUDIO/DEFAULT pins 4 and 5 to reset the hardware values.

1. Remove Panel front cover.
2. Locate the AUDIO/DEFAULT 5 pin connector on the Communicator board. (See Figure 3).
3. Apply a jumper to short the hardware default pins 4 and 5.
4. Remove AC and DC power from the panel and then reapply power to the Panel. Wait until the two green LEDs on the Communicator begin flashing rapidly.
5. Remove the jumper from the hardware default pins 4 and 5. (Green LEDs will stop flashing).
6. Replace the Panel cover.

**NOTE:** Your Communicator has now been reset to the factory default values.

Firmware Update

The firmware of the device can be updated remotely over the Ethernet or locally over PC Link updating:

- When the firmware update begins, all 4 LEDs are ON.
- During the firmware update process, the LEDs will be cycled individually in a chaser pattern.
- After a successful update, the unit will automatically restart.
- Should the update fail, all 4 LEDs will flash ON, then OFF together at 1 second intervals.

**NOTE:** If the firmware update fails, restart the Communicator by cycling Power. For persistent update failures, contact your dealer. For UL/ULC listed installations, only local firmware updates are allowed.
## APPENDIX A: COMMUNICATOR TROUBLESHOOTING

<table>
<thead>
<tr>
<th>Trouble indication</th>
<th>Possible Causes</th>
<th>Trouble Possible Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Indication</td>
<td>No Power</td>
<td>Check the power connections between the Panel and the Communicator. Confirm PC-LINK cable is properly installed between communicator and panel.</td>
</tr>
<tr>
<td>Troubleshooting</td>
<td>Panel Supervision Trouble</td>
<td>Check Section [382] Toggle Option [5] (Ethernet Module Enabled). Ensure the PC-LINK cable between the Panel and Communicator is connected properly (not reversed) and is securely in place.</td>
</tr>
<tr>
<td>Yellow LED – 2 Flashes</td>
<td>Ethernet Trouble</td>
<td>Check with your ISP to confirm Internet service is active in your area. Ensure your Ethernet cable is securely inserted into the RJ45 jack of the Communicator and the Hub/Router/ Switch. Check the light on the Hub/Router/ Switch is ON. If the light is OFF, try restarting the Hub/Router/ Switch. If DHCP is used, ensure that the unit has an assigned IP address from the server. In Section [851] [502] verify a valid IP address is programmed. If not, contact the Network administrator. If problem persists, replace the Ethernet cable and RJ45 connector.</td>
</tr>
<tr>
<td>Yellow LED – 6 Flashes</td>
<td>Receiver Not Available</td>
<td>Ensure that the Ethernet path has Internet connectivity. If you are using a static IP address make sure the gateway and subnet mask are entered correctly. If the network has a firewall ensure the network has the programmed outgoing ports open (Default UDP Port 3050 and Port 3065). Ensure that all the receivers are programmed for DHCP or have the proper IP address and port number.</td>
</tr>
<tr>
<td>Yellow LED – 9 Flashes</td>
<td>FTC Trouble</td>
<td>The unit has exhausted all communications attempts to all programmed receivers for events generated by the Communicator. Restart the system, if trouble persists, contact your dealer.</td>
</tr>
<tr>
<td>Yellow LED – 11 Flashes</td>
<td>Remote Programming</td>
<td>The LEDS will flash when a remote firmware upgrade is in progress over Ethernet. The LEDS will extinguish when update is complete. The LEDS will flash to indicate a remote programming session is active over Ethernet. The LEDS will extinguish when the session terminates.</td>
</tr>
<tr>
<td>Yellow LED – 12 Flashes</td>
<td>Module Configuration Trouble</td>
<td>This indication appears when Section [021] System Account Code or Section [101] [111] [201] and [211] Receiver Account Code have not been programmed. Ensure that a valid account code has been entered in these Sections.</td>
</tr>
<tr>
<td>All LEDs flashing together</td>
<td>Boot Loader Failed</td>
<td>Disconnect power, then reconnect power to the Communicator module.</td>
</tr>
<tr>
<td>Red and Yellow LEDs flashing together</td>
<td>Initialization Sequence</td>
<td>The unit is still initializing. Please wait while the unit gets its programming and establishes a connection to all programmed receivers. Note: This process may take several minutes to complete.</td>
</tr>
<tr>
<td>Only Green LEDs flashing</td>
<td>Hardware Default Jumper</td>
<td>The hardware default jumper is installed and must be removed. See Figure 3.</td>
</tr>
</tbody>
</table>
ETHERNET PROGRAMMING OPTIONS

The Programming Sections described in this document can be viewed at the LCD. To start programming enter: [*][8][installer code][851][###]. Where ### is the 3 digit Section number referenced in this section. The Programming Worksheets at the end of this document can be used to record the new values when programming changes have been made from the default values. Installers may set programming Options at the panel.

SYSTEM OPTIONS

[001] Ethernet IP Address
Default (000.000.000.000)
Enter the IP address of the Communicator. Ensure that the IP address is unique to your Communicator on the local network. Format is 4 fields, each field is a 3 digit decimal number. Valid range: 000-255. If an IP address is programmed in this Section, the unit will operate with Static IP (DHCP disabled). Sections [002] and [003] must also be programmed when using Static IP addresses.

NOTE: Default for this Section is Dynamic Host Configuration Protocol (DHCP) enabled. When enabled, the DHCP Server will set values for: IP Address [001], Subnet Mask [002], and Gateway [003]. Programming an IP address in this Section will disable DHCP (Static IP).

[002] Ethernet IP Subnet Mask
Default (255.255.255.000)
Enter the Ethernet IP Subnet Mask of the Communicator. Format is 4 fields, each field is 3 digits. Valid range: 000-255.

NOTE: If DHCP is enabled, the DHCP Server will assign the subnet mask for this Section and the programmed value will be ignored.

[003] Ethernet Gateway IP Address
Default (000.000.000.000)
Enter the Ethernet Gateway IP address of the Communicator. The gateway IP address is required when a router is used on the local network to reach the destination IP address specified in Section [001]. Format is 4 fields, each field is a 3 digit decimal number. Valid range: 000-255.

NOTE: If DHCP is enabled, the DHCP Server will assign the Gateway IP address for this Section and the programmed value will be ignored.

[004] Receiver Supervision Interval
Default (0087/135)
When receiver supervision is enabled (ON) in Section [005] Toggle Option [3], the unit sends heartbeats to Ethernet Receiver 1 to test the communications path. Use this Section to set the interval time (in seconds) when heartbeats will be sent to the receivers. Valid range 000A-FFFF seconds. If the programmed value is less than (000A/10) seconds, supervision is disabled.

• Receiver Window: This is the supervision timeout that must be configured at the central station receiver.
• Recommended Values: This is the recommended heartbeat interval that should be programmed into the Communicator.
• For ULC installations, the Daily test transmission must be enabled over each available communication channel Sections [125]. When programming the recommended intervals will be programmed automatically when the required window is selected.

Table 5: Supervision Intervals for UL/ULC

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Receiver Window (Timeout)</th>
<th>Recommended Supervision Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL Commercial Burglary</td>
<td>200 seconds</td>
<td>(0087/135) seconds</td>
</tr>
<tr>
<td>UL Residential Fire</td>
<td>30 days</td>
<td>Panel Test Transmission</td>
</tr>
<tr>
<td>UL Residential Burglary</td>
<td>30 days</td>
<td>Panel Test Transmission</td>
</tr>
<tr>
<td>UL Commercial Burglary Active</td>
<td>180 seconds</td>
<td>(005A/90) seconds</td>
</tr>
<tr>
<td>UL Commercial Burglary Passive</td>
<td>24 hours</td>
<td>Panel Test Transmission</td>
</tr>
<tr>
<td>UL Commercial Burglary Fire Active</td>
<td>180 seconds</td>
<td>(0073/115) seconds</td>
</tr>
<tr>
<td>UL Commercial Burglary Fire Passive</td>
<td>24 hours</td>
<td>Panel Test Transmission</td>
</tr>
</tbody>
</table>

[005] System Toggle Options
[1] Ethernet Receiver 1 Supervised
Default (OFF)
ON: Ethernet Receiver 1 will be supervised and heartbeats will be sent to Ethernet Receiver 1 based on the supervision interval programmed in Section [004].
OFF: Ethernet Receiver 1 will not be supervised. When disabled, heartbeat 1 is sent to the Ethernet receiver once every hour, regardless of supervision type (heartbeat 1 or 2). The heartbeat is resent every 5 seconds until ACK. If no event or heartbeat ACK is received after (Receiver Supervision Interval + 73 seconds), Supervisory trouble is indicated.

NOTE: Ethernet Receiver 2 cannot be supervised.
[3] Supervision Type
Default (OFF)
ON: Heartbeat 1 (Commercial Supervision). This supervision type is suitable for applications where swap detection is required on the supervisory packet.
OFF: Heartbeat 2 (Residential Supervision). This supervision type is suitable for applications where supervision of the communication path to the receiver is required. (no swap detection).
NOTE: Commercial supervision is more data intensive than residential supervision and should only be used when required to meet the approval for the installation.

[4] Primary Path
Default (OFF)
OFF: Ethernet channel is the primary path in TL260(R).

[5] Not Used

[6] Remote Firmware Upgrade
Default (ON)
ON: The Communicator module firmware can be remotely upgraded using the Ethernet path.
OFF: The Communicator module firmware cannot be remotely upgraded. Local firmware upgrade is still possible.

[7] Alternate Test Transmissions
Default (OFF).
ON: When the periodic test transmission interval occurs, the test transmission will alternate between being sent to the primary and secondary receivers with each test transmission interval.
OFF: When the periodic test transmission interval occurs, the test transmission will be sent to the programmed receivers, based on the settings of the periodic test transmission reporting codes.


[006] System Toggle Options 2
[1] Ethernet 1 Receiver Enabled.
Default (ON).
ON: Ethernet Receiver 1 is enabled.
OFF: Ethernet Receiver 1 is disabled.

Default (ON).
ON: Ethernet Receiver 2 is enabled.
OFF: Ethernet Receiver 2 is disabled.

[3] Reserved. ()
[6] Reserved ().
[8] Reserved ().

[007] DNS Server IP 1
Default (000.000.000.000)
Programming this Section is not permitted on a UL/ULC listed system.
Enter the IP address for DNS Server 1. Format is 4 fields, each field is a 3 digit decimal. Valid range: 000-255.
NOTE: If no value is programmed and DHCP is used, the DHCP Server will configure the address. If an address is programmed and DHCP is used, the address that you program will be used instead of the DHCP address.

[008] DNS Server IP 2
Programming this Section is not permitted on a UL/ULC listed system.
Default (000.000.000.000)
Enter the IP address for DNS Server 2. Format is 4 fields, each field is a 3 digit decimal. Valid range: 000-255.
NOTE: If no value is programmed and DHCP is used, the DHCP Server will assign this value. If an address is programmed and DHCP is used, the address that you program will be used instead of the DHCP address.

PROGRAMMING OPTIONS

[011] Installer Code
Default (CAFE)
Program your installer code for this Communicator module. The installer code will be required when programming the Communicator module. Valid range: 0000 - FFFF.

[012] DLS Incoming Port
Default (0BF6/3062)
The DLS Incoming Local Port (listening port) is the port DLS IV will use when connecting to the Communicator. If a router or gateway is used, it must be programmed with a Transmission Control Protocol (TCP) port forward for this port to the Communicator module IP address. Valid range: 0000 - FFFF.
[013] DLS Outgoing Port
Default (0BFA/3066)
The DLS Outgoing Port is used for outgoing session to DLS IV after an SMS request has been sent to the Communicator. Use this Section to set the value of the local outgoing port. The value must be changed if the Communicator is located behind a firewall and must be assigned a particular port number, as determined by your network administrator. In most cases, changing the default value or configuring your firewall with this port is not required. Valid range: 0000-FFFF.

NOTE: If Section [006] Toggle Option [7] is ON, DLS will use the Primary path for session. If Section [006] Toggle Option [7] is OFF DLS will use the Ethernet path, if available.

[021] Account Code
Default (FFFFFF)
The account code is included when transmitting any events generated by the Communicator. (e.g., Panel Absent Trouble). It is recommended that the account code be the same as the control panel account number. Valid range: 000000-FFFFF. For 4 digit account codes the 2 lowest digits shall be programmed as FF. (e.g., Account 1234 is programmed as: 1234FF).

NOTE: Programming this Section with all 0 or F will cause a Module Configuration Trouble.

[022] Communications Format
Default (04)
Program 03 for Contact ID (CID). Program 04 for SIA. The module can be configured to send Events in SIA or CID format. The SIA communication format follows the level 2 specifications of the SIA Digital Communication Standard - October 1997. This format will send the account code along with its data transmission. The transmission will look similar to the following at the receiver. Example: Nri0 ET001
Where: N = New Event; ri0 = Partition/Area identifier; ET = Panel Absent Trouble; 001 = Zone 001.

COMMUNICATIONS REPORTING CODES

<table>
<thead>
<tr>
<th>Event</th>
<th>SIA Identifier</th>
<th>SIA Reporting Code</th>
<th>CID Qualifier</th>
<th>CID Event Code</th>
<th>CID Reporting Code</th>
<th>CID User/Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>[023] Panel Absent Trouble</td>
<td>ET</td>
<td>001</td>
<td>1</td>
<td>3</td>
<td>55</td>
<td>001</td>
</tr>
<tr>
<td>[024] Panel Absent Trouble Restore</td>
<td>ER</td>
<td>001</td>
<td>3</td>
<td>3</td>
<td>55</td>
<td>001</td>
</tr>
<tr>
<td>[026] Ethernet 1 Test Transmission</td>
<td>RP</td>
<td>001</td>
<td>1</td>
<td>6</td>
<td>A3</td>
<td>951</td>
</tr>
<tr>
<td>[027] Ethernet 2 Test Transmission</td>
<td>RP</td>
<td>002</td>
<td>1</td>
<td>6</td>
<td>A3</td>
<td>952</td>
</tr>
<tr>
<td>[030] FTC Restore</td>
<td>VK</td>
<td>001</td>
<td>3</td>
<td>3</td>
<td>54</td>
<td>001</td>
</tr>
</tbody>
</table>

[023] Panel Absent Trouble
Default (FF)
Program 00 to disable this event or FF to enable. This event will occur when communications with the panel have been lost for more than 60 seconds.

[024] Panel Absent Trouble Restore
Default (FF)
Program 00 to disable this event or FF to enable. This event will occur when communications with the control panel have resumed.

SYSTEM TEST OPTIONS [026 - 029]
Test Transmissions to Primary Receiver, with Backup to Secondary Receiver:
Set Ethernet Section [026] to (FF); [027] to (00).
- If the test transmission fails to the primary receiver it will backup to the secondary receiver.
- If the test transmission fails to the secondary receiver an FTC trouble will be generated.

Test Transmission Unique to Primary and Secondary Receivers:
Set Ethernet Section [026] to (FF); [027] to (FF).
- The module will send periodic test transmissions to each receiver independently, with no backups.
- If the test transmission fails to any of the programmed receivers, an FTC trouble will be generated.

Alternate Test Transmission:
Alternate Test Transmission can be enabled or disabled in Section [005] Toggle Option [7].

[026] Ethernet 1 Transmission
Default (FF)
Program 00 to disable this event transmission or FF to enable. See System Test Options (above) for details on settings.

[027] Ethernet 2 Transmission
Default (00)
Program 00 to disable this event transmission or FF to enable. See System Test Options (above) for details on settings.

NOTE: The time interval (in minutes) between periodic tests is programmed in Section [125].

[030] FTC Restore
Default (FF)
Program 00 to disable this event transmission or FF to enable. This event will occur when an FTC Trouble on the system restores.
[033] Communicator Firmware Update Begin  
Default (FF): Program 00 to disable this event transmission or FF to enable. This event will occur when the communicator firmware update begins.  
[034] Communicator Firmware Update Successful  
Default (FF): Program 00 to disable this event transmission or FF to enable. This event will occur when the communicator firmware update successfully completed.  
[035] Panel Firmware Update Begin  
Default (FF): Program 00 to disable this event transmission or FF to enable. This event will occur when the panel firmware update begins.  
[036] Panel Firmware Update Successful  
Default (FF): Program 00 to disable this event transmission or FF to enable. This event will occur when the panel firmware is updated successfully.  
[037] Panel Firmware Update Fail  
Default (FF): Program 00 to disable this event transmission or FF to enable. This event will occur when the panel firmware updated has failed.

Table 7: Firmware Update Reporting Codes

<table>
<thead>
<tr>
<th>Event</th>
<th>SIA Identifier</th>
<th>SIA Reporting Code</th>
<th>Contact ID Qualifier</th>
<th>Contact ID Event Code</th>
<th>Contact ID Reporting Code</th>
<th>Contact ID User/Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>[033] Comm. FW Update Begin</td>
<td>LB</td>
<td>00</td>
<td>1</td>
<td>9</td>
<td>03</td>
<td>002</td>
</tr>
<tr>
<td>[034] Comm. FW Update Successful</td>
<td>LS</td>
<td>00</td>
<td>3</td>
<td>9</td>
<td>03</td>
<td>002</td>
</tr>
<tr>
<td>[035] Panel FW Update Begin</td>
<td>LB</td>
<td>00</td>
<td>1</td>
<td>9</td>
<td>03</td>
<td>003</td>
</tr>
<tr>
<td>[036] Panel FW Update Successful</td>
<td>LS</td>
<td>00</td>
<td>3</td>
<td>9</td>
<td>03</td>
<td>003</td>
</tr>
<tr>
<td>[037] Panel FW Update Fail</td>
<td>LU</td>
<td>00</td>
<td>1</td>
<td>9</td>
<td>04</td>
<td>003</td>
</tr>
</tbody>
</table>

**ETHERNET RECEIVER 1 OPTIONS**

[101] Ethernet Receiver 1 Account Code  
Default (0000000000)  
The account code is used by the central station to distinguish between transmitters. This account code is used when transmitting heartbeat signals to the central station receiver. Signals received from the Panel will use the control panel account number. Valid range: 0000000000-FFFFFFFF. Programming all 0 or all F will cause a Module Configuration Trouble.  

[102] Ethernet Receiver 1 DNIS  
Default (000000)  
The Dialled Number Information Service (DNIS) is used in addition to the Account Code to identify the Communicator module at the central station. Valid range: 000000 - 99999. Value is entered as a leading 0 followed by the 5 digit DNIS. Format is Binary Coded Decimal (BCD).  
**NOTE:** Each Ethernet receiver must be programmed with a unique DNIS.  

[103] Ethernet Receiver 1 Address  
Default (127.0.0.0.00001)  
The default address enables the Communicator to operate in Unattended Mode. Unattended Mode is used when a receiver is not available and the unit is required to perform DLS sessions. Typically used where the customer programs the control panel daily due to access control and still wants to receive alarms without buying extra hardware (receiver) or software.  
**NOTE:** When a valid IP address has been programmed, Ethernet Receiver 1 is enabled and will communicate events over the Ethernet channel.  

[104] Ethernet Receiver 1 Remote Port  
Default (0BF5/3061)  
This Section determines the remote port of Ethernet receiver 1. Valid range: 0000 - FFFF.  

[105] Ethernet Receiver 1 Local Port  
Default (0BF4/3060)  
Use this Section to set the value of the local outgoing port. Set the value of this port when your installation is located behind a firewall and must be assigned a particular port number as determined by your central station system administrator. Valid range: 0000 - FFFF.
**[106] Ethernet Receiver 1 Domain Name**
Default ( )
Enter the Domain Name as 32 ASCII characters.

![Programming this Section is not permitted on a UL/ULC listed system.](image)

**ETHERNET RECEIVER 2 OPTIONS**

**[111] Ethernet Receiver 2 Account Code**
Default (0000000000)
The account code is used by the central station to distinguish between transmitters. The account code is used when transmitting heartbeat signals to the central station receiver. Signals received from the control panel will use the control panel account number. Valid range: 0000000001 - FFFFFFFFFF. Programming all 0 or all F will cause a Module Configuration Trouble (yellow LED=12 flashes).

**[112] Ethernet Receiver 2 DNIS**
Default (00000)
The DNIS is used in addition to the account code to identify the Communicator module at the central station. Valid range: 000000 - 099999. Value is entered as leading 0 followed by the 5-digit DNIS. Format is BCD.

**NOTE:** Each Ethernet receiver must be programmed with a unique DNIS.

**[113] Ethernet Receiver 2 Address**
Default (000.000.000.000)
Programming the Ethernet receiver 2 IP address with 000.000.000.000 will disable Ethernet. Enter the Ethernet receiver 2 IP address. This address will be provided by your central station system administrator. Format is 4 fields, each field is a 3-digit decimal. Valid range: 000-255.

**NOTE:** When a valid IP address has been programmed, Ethernet Receiver 2 is enabled and will communicate events over the Ethernet channel.

**NOTE:** Do not program Ethernet Receiver 1 and Ethernet Receiver 2 to communicate to same receiver.

**[114] Ethernet Receiver 2 Remote Port**
Default (0BF5/3061)
This Section is used to program the port number used by Ethernet Receiver 2. Set the value of this port when your installation is located behind a firewall, and must be assigned a particular port number as determined by your network administrator. Valid range: 0000 - FFFF.

**NOTE:** Do not program Ethernet Receiver 1 and Ethernet Receiver 2 Port with the same value.

**[115] Ethernet Receiver 2 Local Port**
Default (0BF9/3065)
Use this Section to program the value of the local outgoing port. You can set the value of this port when your installation is located behind a firewall and must be assigned a particular port number as determined by your network administrator. Valid range: 0000 - FFFF.

**NOTE:** Do not program Ethernet Receiver 1 and Ethernet Receiver 2 Port with the same value.

**[116] Ethernet Receiver 2 Domain Name**
Default ( )

![Programming this Section is not permitted on a UL/ULC listed system.](image)
Enter the Domain Name as 32 Character ASCII.

**ETHERNET OPTIONS**

**[124] Ethernet Test Transmission Time**
Default (9999)
Enter a 4 digit number (0000-2359) using the 24-hour clock format (HHMM) to set the test transmission time of day. Valid range: 00 - 23 hours (HH) and 00 - 59 minutes (MM). Programming a value of 9999 will disable the test transmission time.

**NOTE:** The internal date and time will automatically be programmed when the unit communicates with the primary receiver.

**[125] Ethernet Test Transmission Cycle**
Default (000000)
This value represents the interval between test transmissions, in minutes. Valid range: 000000 - 999999 minutes. Once the unit has sent the initial periodic test transmission, all future test transmissions will be offset by the programmed number of minutes. See Sections [026] - [029].

**Table 8: Ethernet Test Transmission Interval**

<table>
<thead>
<tr>
<th>Test Transmission Interval</th>
<th>Daily</th>
<th>Weekly</th>
<th>Monthly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programmed Minutes</td>
<td>001440</td>
<td>010080</td>
<td>043200</td>
</tr>
</tbody>
</table>

**NOTE:** Minimum value is 000005 minutes. Programming an interval that is less than 5 minutes will disable test transmission.
RECEIVER DIAGNOSTIC TESTING

[901] Diagnostic Test Transmission

[3],[4],[5],[6],[7],[8] Reserved (OFF).

This Section may be used by the installer to force the Communicator to send an immediate test transmission to specific receivers, to verify that the communications paths are available. Diagnostic Test Transmission failure will indicate as FTC trouble (Yellow LED = 9 flashes). If an FTC error occurs when testing all receivers, select only one receiver and repeat test to isolate the receiver that is not communicating.

SYSTEM INFORMATION (READ ONLY)

NOTE: Sections [987] - [998] are provided for information (Read Only). Values in these Sections cannot be modified by the Installer.

[987] Language Version
This Section will display the current Language version of the Communicator.

[988] DNS 1 IP Address
This Section will display the IP address of DNS Server 1. This is useful when the unit is configured for DHCP and you need to see the IP address assigned to the device by the DHCP Server. This value is programmed in Section [007] or assigned by DHCP.

[989] DNS 2 IP Address
This Section will display the IP address of DNS Server 2. This is useful when the unit is configured for DHCP and you need to see the IP address that was assigned to the device by the DHCP Server. This value is programmed in Section [008] or assigned by DHCP.

[990] Boot Loader Version
This Section will display the current Boot Loader version of the Communicator.

[991] Firmware Version
This Section will display the current firmware version of the device. Update worksheets with new version after a flash update is completed.

[992] Ethernet IP Address
This Section will display the IP address of the Ethernet connection. This value is programmed in Section [001] or assigned by DHCP.

[993] Ethernet Gateway Address
This Section will display the IP address of the Ethernet Gateway. This value is programmed in Section [003] or assigned by DHCP.

[998] MAC Address
This Section will display the unique 12-digit, hexadecimal number assigned as the Media Access Control (MAC) address of the device.

SYSTEM RESET DEFAULTS

[999] Software Default
Default (99);
The Software default allows the installer to refresh the unit after changes and also return the Communicator to the default state.

00: Default Module. All programming Sections in module revert to factory settings. This will erase all existing programming of the unit.

55: Reset. The Communicator is reset. This option is equivalent to power cycling the Communicator.
COMMUNICATOR STATUS, INITIALIZATION, DIAGNOSTICS AND TROUBLESHOOTING

Communicator Status

The communicator status sections provide the installer with real-time status of the communicator's functionality and operational readiness. They also provide status of failures and potential malfunctions that may affect the operation of the communicator and its primary function of sending signals to the central status in case the monitored event occurs.

The communicator status is displayed in the form of a 6-digit CODE (6 hexadecimal numbers) as in the following pattern: 00000F. The range of the code is from: 00000F – 2220CF. Not all numbers in this range are assigned a status code (Some numbers are skipped, i.e. not assigned the code).

Each digit represents a status or trouble indicator (or assigned function when no trouble is present) as described below:

1. Digit 1 - Not Used.
2. Digit 2 - Not Used.
3. Digit 3 - Network Indicator, displays the presence (operational status) of network.
4. Digit 4 & 5 – TROUBLE INDICATOR displays the type of problem/malfunction on communicator or modules associated with and connected to communicator.
5. Digit 6 – Reserved for future use.

For example, status code 11002F – when interpreted means: “Signal Indicator 1 OK, Signal indicator 2 OK, there is no network trouble, and there is trouble in the communicator, Panel supervision trouble.” For details see the table below:

Table 9: Communicator Status and Trouble Coding in Hexadecimal Numbers

<table>
<thead>
<tr>
<th>Digit 1</th>
<th>Digit 2</th>
<th>Digit 3</th>
<th>Digit 4 &amp; 5</th>
<th>Digit 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal indicator 1</td>
<td>Signal indicator 2</td>
<td>Network indicator</td>
<td>TROUBLE INDICATOR</td>
<td>Future use</td>
</tr>
<tr>
<td>0</td>
<td>Not used</td>
<td>0</td>
<td>Off</td>
<td>00</td>
</tr>
<tr>
<td>1</td>
<td>Not used</td>
<td>1</td>
<td>On</td>
<td>01</td>
</tr>
<tr>
<td>2</td>
<td>Not used</td>
<td>2</td>
<td>Flashing</td>
<td>02</td>
</tr>
<tr>
<td>3</td>
<td>Not used</td>
<td>3</td>
<td></td>
<td>03</td>
</tr>
<tr>
<td>4</td>
<td>Not used</td>
<td>4</td>
<td></td>
<td>04</td>
</tr>
<tr>
<td>5</td>
<td>Not used</td>
<td>5</td>
<td></td>
<td>05</td>
</tr>
<tr>
<td>6</td>
<td>Ethernet Trouble</td>
<td>6</td>
<td></td>
<td>06</td>
</tr>
<tr>
<td>7</td>
<td>Receiver Not Available</td>
<td>7</td>
<td></td>
<td>07</td>
</tr>
<tr>
<td>8</td>
<td>Receiver Supervision trouble</td>
<td>8</td>
<td></td>
<td>08</td>
</tr>
<tr>
<td>9</td>
<td>FTC Trouble</td>
<td>9</td>
<td></td>
<td>09</td>
</tr>
<tr>
<td>A</td>
<td>Not used</td>
<td>A</td>
<td></td>
<td>0A</td>
</tr>
<tr>
<td>B</td>
<td>Future use</td>
<td>B</td>
<td></td>
<td>0B</td>
</tr>
<tr>
<td>C</td>
<td>Module configuration Trouble</td>
<td>C</td>
<td></td>
<td>0C</td>
</tr>
</tbody>
</table>

The communicator status codes will indicate the signal levels with digit 1 and 2, a network status with digit 3, and the trouble status with digit 4 and 5 as indicated in table above. For example status code 11000F would display following status:

1 – Not used
2 – Not used
00 – OFF = Network indicator, network is working
F – Future code not assigned yet. It is sixth hexadecimal digit. It could be also ‘-’ (dash) instead of letter F (11000-).

In this example the network indicator is OFF showing that we do no have any network problems and trouble indicators are both OFF indicating that we don’t have any trouble on the communicator.
Table 10: Trouble Code Indications

<table>
<thead>
<tr>
<th>Trouble Indicator Digit</th>
<th>Possible Causes</th>
<th>Trouble Possible Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>No Trouble</td>
<td>N/A</td>
</tr>
<tr>
<td>02</td>
<td>Panel Supervision Trouble</td>
<td>Check Section [382] Toggle Option[5] is ON (Ethernet Module Enabled). Ensure the PC-LINK cable between the Panel and Communicator is connected properly (not reversed) and is securely in place.</td>
</tr>
<tr>
<td>06</td>
<td>Ethernet Trouble</td>
<td>Check with your ISP to confirm Internet service is active in your area. Ensure your Ethernet cable is securely inserted into the RJ45 jack of the Communicator and the Hub/Router/ Switch. Check that the link light on the Hub/Router/ Switch is ON. If link light is OFF, try restarting the Hub/Router/ Switch. If DHCP is used, ensure that the unit has an assigned IP address from the server. In Section [851] [992] verify a valid IP address is programmed. If not, contact the Network administrator. If problem persists, replace the Ethernet cable and RJ45 connector.</td>
</tr>
<tr>
<td>07</td>
<td>Receiver Not Available</td>
<td>Ensure that the Ethernet path has internet connectivity. If you are using a static IP address make sure the gateway and subnet mask are entered correctly. If the network has a firewall, ensure the network has the programmed outgoing ports open (Default UDP Port 3060 and Port 3065). Ensure that all the receivers are programmed for DHCP or have the proper IP address and port number.</td>
</tr>
<tr>
<td>08</td>
<td>Receiver Supervision Trouble</td>
<td>This trouble is indicated when supervision is enabled and the unit is not able to successfully communicate with the receiver. If this trouble persists, contact your central station.</td>
</tr>
<tr>
<td>09</td>
<td>FTC Trouble</td>
<td>The unit has exhausted all communications attempts to all programmed receivers for events generated by the Communicator. Restart the system. If trouble persists, contact your dealer.</td>
</tr>
<tr>
<td>0C</td>
<td>Module Configuration Trouble</td>
<td>This indication appears when Section [021] System Account Code, Section [101], [111], [201], and [211] Receiver Account Code have not been programmed. Ensure that a valid account code has been entered in these Sections.</td>
</tr>
</tbody>
</table>

Communicator Troubleshooting
The status code for the radio signal strength, its typical troubles, possible causes and troubleshooting instructions is displayed in the table below.

Table 11: Network indicator - Digit 3

<table>
<thead>
<tr>
<th>Network indicator Value</th>
<th>Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>No Network Trouble</td>
</tr>
<tr>
<td>ON</td>
<td>Ethernet Cable disconnected Ethernet DHCP failed</td>
</tr>
<tr>
<td>Flashing</td>
<td>Incoming transmission Outgoing transmission</td>
</tr>
</tbody>
</table>
Firmware Update Diagnostics Section

The firmware updates can be made from the communicator. The communicator can update firmware of the panel and also of the communicator itself.

- The Firmware Update Diagnostic is located in section [984]
- From Factory Default, the value of this Location shall be 0xFE which indicates No Errors. When a default is made, the Diagnostic Section shall default to 0xFE
- The communicator could reject Firmware Download for many reasons, this will only be represented as 1 Reason Code 0xFF Described as Firmware Receive Failure. Firmware Receive Failure may be rejected for the following conditions:
  - DLS Session in Progress
  - Remote Firmware Upgrade is Disabled
  - TFTP Firmware Update Download is in Progress
  - iTcontrol/iHub Firmware Update in Progress
  - Panel Update in Progress
  - Once file download has begin, Section [984] shall be updated with 0xFD
  - If the download was dropped/cancelled for any reason, section [984] shall update it with 0xFF
  - Upon Download successful, the communicator will either be updating itself, or the panel
  - In the case of Communicator Firmware Upgrade, the communicator shall enter a 4.5 minute window before it performs the update because it is communicating to Central Station and interactive services. Section [984] shall use reason code 0x0A indicating communication in progress at this point
  - In the case of Panel Firmware Update, if panel firmware pushes through, User will be able to observe it because the keypad enters keybus fault. If panel rejects firmware for any reason, the communicator shall update section [984] with the cancellation reason code provided by the panel
  - In the case of Communicator Firmware Update successful, the communicator shall update diagnostic section to 0xFB after it is updated successfully
  - During Panel Firmware Update Sequence, the Panel could Cancel the Firmware Update due to the Following Reasons Codes:
    - Panel does not Send any Reason Code Upon Success of Panel Firmware Upgrade, section [984] shall be updated with 0xFC to indicate Panel Firmware Update Complete.

Reason codes and corresponding firmware images are displayed in the table below.

<table>
<thead>
<tr>
<th>Reason Code</th>
<th>Description of Reason Code</th>
<th>Firmware Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>Version Check Failed</td>
<td>Image Erased</td>
</tr>
<tr>
<td>01</td>
<td>Image Type Mismatch</td>
<td>Image Erased</td>
</tr>
<tr>
<td>02</td>
<td>Panel Type Mismatch</td>
<td>Image Erased</td>
</tr>
<tr>
<td>03</td>
<td>Hardware Type Mismatch</td>
<td>Image Erased</td>
</tr>
<tr>
<td>04</td>
<td>Firmware header Wrong Length</td>
<td>Image Erased</td>
</tr>
<tr>
<td>05</td>
<td>Panel is Armed</td>
<td>Firmware Update Pending Status Clearance</td>
</tr>
<tr>
<td>06</td>
<td>AC Trouble</td>
<td>Firmware Update Pending Status Clearance</td>
</tr>
<tr>
<td>07</td>
<td>Low Battery</td>
<td>Firmware Update Pending Status Clearance</td>
</tr>
<tr>
<td>08</td>
<td>Unviewed Alarm</td>
<td>Firmware Update Pending Status Clearance</td>
</tr>
<tr>
<td>09</td>
<td>FTC Trouble</td>
<td>Firmware Update Pending Status Clearance</td>
</tr>
<tr>
<td>0A</td>
<td>Communication in Progress</td>
<td>Firmware Update Pending Status Clearance</td>
</tr>
<tr>
<td>0B</td>
<td>Software Variant Mismatch</td>
<td>Image Erased</td>
</tr>
<tr>
<td>FA</td>
<td>(Future Use)</td>
<td>(Future Use)</td>
</tr>
<tr>
<td>FB</td>
<td>Communicator Firmware Update Complete</td>
<td>n/a</td>
</tr>
<tr>
<td>FC</td>
<td>Panel Firmware Update Complete</td>
<td>n/a</td>
</tr>
<tr>
<td>FD</td>
<td>File Download in Progress</td>
<td>n/a</td>
</tr>
<tr>
<td>FE</td>
<td>Firmware File Empty</td>
<td>Software Default Value (Factory Default)</td>
</tr>
<tr>
<td>FF</td>
<td>File Receive Failure</td>
<td>File Was Not Received</td>
</tr>
<tr>
<td>F1</td>
<td>Communicator Update Fail</td>
<td>Firmware Update did Not Occur</td>
</tr>
<tr>
<td>F2</td>
<td>Panel Update Fail</td>
<td>Panel is not responding</td>
</tr>
</tbody>
</table>

The table below displays the Network indicator codes and meaning of each code.

- This section does not provide specific details such as if the Image is still stored or erased due to the cancellation code. Specific details shall be captured in User/Installation Manuals and provided to Technical Advice Bulletin
- For the Purpose of Documentation:
  - Communicator shall erase panel image file on Reason Code 0x00 – 0x04 and 0x0B
  - Communicator shall try to upgrade panel image file forever on Reason Code 0x05 – 0x0A.
## System Options

<table>
<thead>
<tr>
<th>001</th>
<th>Ethernet IP Address</th>
<th>Default (000.000.000.000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>002</td>
<td>Ethernet IP Subnet Mask</td>
<td>Default (255.255.255.000)</td>
</tr>
<tr>
<td>003</td>
<td>Ethernet Gateway IP Address</td>
<td>Default (000.000.000.000)</td>
</tr>
<tr>
<td>004</td>
<td>Receiver Supervision Interval</td>
<td>Default (0087/135) Valid range: 0000 - FFFF.</td>
</tr>
<tr>
<td>005</td>
<td>System Toggle Options</td>
<td><img src="image" alt="Options" /></td>
</tr>
<tr>
<td>006</td>
<td>System Toggle Options 2</td>
<td><img src="image" alt="Options" /></td>
</tr>
</tbody>
</table>

## Programming Options

<table>
<thead>
<tr>
<th>011</th>
<th>Installer Code</th>
<th>Default (CAFE) Valid range: 0000 - FFFF.</th>
</tr>
</thead>
<tbody>
<tr>
<td>012</td>
<td>DLS Incoming Port</td>
<td>Default (0BF6/3062) Valid range: 0000 - FFFF.</td>
</tr>
</tbody>
</table>

## Programming Worksheets

<table>
<thead>
<tr>
<th>013</th>
<th>DLS Outgoing Port</th>
<th>Default (0BFA/3066) Valid range: 0000 - FFFF.</th>
</tr>
</thead>
<tbody>
<tr>
<td>022</td>
<td>Communications Format</td>
<td>Default (04) Program 03 (CID), 04 (SIA).</td>
</tr>
<tr>
<td>023</td>
<td>Panel Absent Trouble</td>
<td>Default (FF); Program 00 disable or FF enable.</td>
</tr>
<tr>
<td>024</td>
<td>Panel Absent Trouble Restore</td>
<td>Default (FF) Program 00 disable or FF enable.</td>
</tr>
</tbody>
</table>

## System Test Options [026 - 029]

<table>
<thead>
<tr>
<th>026</th>
<th>Ethernet 1 Transmission</th>
<th>Default (FF) Program 00 disable or FF enable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>027</td>
<td>Ethernet 2 Transmission</td>
<td>Default (00) Program 00 disable or FF enable.</td>
</tr>
<tr>
<td>030</td>
<td>FTC Restore</td>
<td>Default (FF) Program 00 disable or FF enable.</td>
</tr>
<tr>
<td>033</td>
<td>Communicator Firmware Update Begin</td>
<td>Default (FF) Program 00 disable or FF enable.</td>
</tr>
<tr>
<td>034</td>
<td>Communicator Firmware Update Successful</td>
<td>Default (FF) Program 00 disable or FF enable.</td>
</tr>
<tr>
<td>035</td>
<td>Panel Firmware Update Begin</td>
<td>Default (FF) Program 00 disable or FF enable.</td>
</tr>
<tr>
<td>036</td>
<td>Panel Firmware Update Successful</td>
<td>Default (FF) Program 00 disable or FF enable.</td>
</tr>
<tr>
<td>037</td>
<td>Panel Firmware Update Fail</td>
<td>Default (FF) Program 00 disable or FF enable.</td>
</tr>
</tbody>
</table>

[**Diagrams and Tables**]
**ETHERNET RECEIVER 1 OPTIONS**

[101] Ethernet Receiver 1 Account Code  
Default (0000000000)  
Valid range: 0000000001 - FFFFFFFF00.

[102] Ethernet Receiver 1 DNIS  
Default (0000000)  
Valid range: 000000 - FFFFFFFFFE.

[103] Ethernet Receiver 1 Address  
Default (127.0.0.1)  
Valid range: 00000000.0000.0000.0001.

[104] Ethernet Receiver 1 Remote Port  
Default (0BF5/3061)  
Valid range: 0000 - FFFF.

[105] Ethernet Receiver 1 Local Port  
Default (0BF4/3060)  
Valid range: 0000 - FFFF.

[106] Ethernet Receiver 1 Domain Name  
Default ( )  
32 ASCII characters.  
Programming not permitted on UL/ULC listed system.

**ETHERNET RECEIVER 2 OPTIONS**

[111] Ethernet Receiver 2 Account Code  
Default (0000000000)  
Valid range: 0000000001 - FFFFFFFF00.

[112] Ethernet Receiver 2 DNIS  
Default (0000000)  
Valid range: 000000 - 0FFFFFFF.

[113] Ethernet Receiver 2 Address  
Default (000.000.000.000)  
Valid range: 00000000.0000.0000.0000.

[114] Ethernet Receiver 2 Remote Port  
Default (0BF5/3061)  
Valid range: 0000 - FFFF.

[115] Ethernet Receiver 2 Local Port  
Default (0BF9/3065)  
Valid range: 0000 - FFFF.

[116] Ethernet Receiver 2 Domain Name  
Default ( )  
32 ASCII characters.  
Programming not permitted on UL/ULC listed system.

**ETHERNET OPTIONS**

[124] Ethernet Test Transmission Time  
Default (9999)  
Valid: 00-23(HH); 00-59(MM)

[125] Ethernet Test Transmission Cycle  
Default (000000)  
Valid range: 000000 - 999999 minutes.

[901] Diagnostic Test Transmission  
[1] Ethernet 1 Default (OFF).  

**SYSTEM INFORMATION (READ ONLY)**

[988] DNS 1 IP Address  
[989] DNS 2 IP Address  
[991] Firmware Version  
[992] Ethernet IP Address  
[993] Ethernet Gateway Address  
[998] MAC Address  

**SYSTEM RESET DEFAULTS**

[999] Software Default  
Default (99); Valid entries are 00 or 55
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DSC recommends that the entire system be completely tested on a regular basis. However, despite frequent testing, and due to, but not limited to, criminal tampering or electrical disruption, it is possible for this Software Product to fail to perform as expected.
LIMITED WARRANTY

Digital Security Controls (DSC) warrants the original purchaser that for a period of twelve (12) months from the date of purchase, the product shall be free of defects in materials and workmanship under normal use. During the warranty period, Digital Security Controls shall, at its option, repair or replace any defective product upon return of the product to its factory, at no charge for labour and materials. Any replacement and/or repaired parts are warranted for the remainder of the original warranty or ninety (90) days, whichever is longer. The original purchaser must promptly notify Digital Security Controls in writing that there is defect in material or workmanship, such written notice to be received in all events prior to expiration of the warranty period. There is absolutely no warranty on software and all software products are sold as a user license under the terms of the software license agreement included with the product. The Customer assumes all responsibility for the proper selection, installation, operation and maintenance of any products purchased from DSC. Custom products are only warranted to the extent that they do not function upon delivery. In such cases, DSC can replace or credit at its option.

International Warranty

The warranty for international customers is the same as for any customer within Canada and the United States, with the exception that Digital Security Controls shall not be responsible for any customs fees, taxes, or VAT that may be due.

Warranty Procedure

To obtain service under this warranty, please return the item(s) in question to the point of purchase. All authorized distributors and dealers have a warranty program. Anyone returning goods to Digital Security Controls must first obtain an authorization number. Digital Security Controls will not accept any shipment whatsoever for which prior authorization has not been obtained.

Conditions to Void Warranty

This warranty applies only to defects in parts and workmanship relating to normal use. It does not cover:

- damage incurred in shipping or handling;
- damage caused by disaster such as fire, flood, wind, earthquake or lightning;
- damage due to causes beyond the control of Digital Security Controls such as excessive voltage, mechanical shock or water damage;
- damage caused by unauthorized attachment, alterations, modifications, or foreign objects;
- damage caused by peripherals (unless such peripherals were supplied by Digital Security Controls);
- defects caused by failure to provide a suitable installation environment for the products;
- damage caused by use of the products for purposes other than those for which it was designed;
- damage from improper maintenance; or
- damage arising out of any other abuse, mishandling or improper application of the products.

Items Not Covered by Warranty

In addition to the items which void the Warranty, the following items shall not be covered by Warranty:

- freight cost to the repair centre;
- products which are not identified with DSC's product label and lot number or serial number; or
- products disassembled or repaired in such a manner as to adversely affect performance or prevent adequate inspection or testing to verify any warranty claim.

Access cards or tags returned for replacement under warranty will be credited or replaced at DSC's option. Products not covered by this warranty, or otherwise out of warranty due to age, misuse, or damage shall be evaluated, and a repair estimate shall be provided. No repair work will be performed until a valid purchase order is received from the Customer and a Return Merchandise Authorisation number (RMA) is issued by DSC's Customer Service.

Digital Security Controls' liability for failure to repair the product under this warranty after a reasonable number of attempts will be limited to a replacement of the product, as the exclusive remedy for breach of warranty. Under no circumstances shall Digital Security Controls be liable for any special, incidental, or consequential damages based upon breach of warranty, breach of contract, negligence, strict liability, or any other legal theory. Such damages include, but are not limited to, loss of profits, loss of the product or any associated equipment, cost of capital, cost of substitute or replacement equipment, facilities or services, down time, purchaser's time, the claims of third parties, including customers, and injury to property. The laws of some jurisdictions limit or do not allow the disclaimer of consequential damages. If the laws of such a jurisdiction apply to any claim by or against DSC, the limitations and disclaimers contained here shall be to the greatest extent permitted by law. Some states do not allow the exclusion or limitation of incidental or consequential damages, so that the above may not apply to you.

Disclaimers of Warranties

This warranty contains the entire warranty and shall be in lieu of any and all other warranties, whether expressed or implied (including all implied warranties of merchantability or fitness for a particular purpose) and of all other obligations or liabilities on the part of Digital Security Controls Digital Security Controls neither assumes responsibility for nor authorizes any other person purporting to act on its behalf to modify or to change this warranty, nor to assume for it any other warranty or liability concerning this product.

This disclaimer of warranties and limited warranty are governed by the laws of the province of Ontario, Canada.

Digital Security Controls recommends that the entire system be completely tested on a regular basis. However, despite frequent testing, and due to, but not limited to, criminal tampering or electrical disruption, it is possible for this product to fail to perform as expected.

Out of Warranty Repairs

Digital Security Controls will at its option repair or replace out-of-warranty products which are returned to its factory according to the following conditions. Anyone returning goods to Digital Security Controls must first obtain an authorization number. Digital Security Controls will not accept any shipment whatsoever for which prior authorization has not been obtained. Products which Digital Security Controls determines to be repairable will be repaired and returned. A set fee which Digital Security Controls has predetermined and which may be revised from time to time, will be charged for each unit repaired.
FCC Compliance Statement

CAUTION: Changes or modifications not expressly approved by the Digital Security Controls could void your authority to use this equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Re-orient the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

The user may find the following booklet prepared by the FCC useful: ‘How to Identify and Resolve Radio/Television Interference Problems’. This booklet is available from the U.S. Government Printing Office, Washington D.C. 20402, Stock # 004-000-00345-4.

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.