TL280(R)

Internet Alarm Communicator - North America

INSTALLATION GUIDE V4.1

For installation manual visit www.dsc.com

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

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.

Compromise of Radio Frequency (Wireless) Devices

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. While each transmitting device has a low battery monitor which identifies when the batteries need to be replaced, this monitor may fail to operate as expected. Regular testing and maintenance will keep the system in good operating condition.

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. Windows, doors, 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 temperature or if there are intentional or unintentional sources of heat in or near the detection area. Some of these heat sources could be heaters, radiators, stoves, barbecues, fireplaces, sunlight, steam vents, lighting and so on.

Power Failure

Control units, intrusion detectors, smoke detectors and many other security devices require an adequate power supply for proper operation. If a device operates from batteries, it is possible for the batteries to fail. Even if the batteries have not failed, they must be charged, in good condition and installed correctly. If a device operates only by AC power, any interruption, however brief, will render that device inoperative while it does not have power. 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 not provide timely warning of fires caused by carelessness 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 waken someone sleeping if there is an intervening wall or door. If warning devices are located on a different level of the residence or premise, 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 stereos, radios, televisions, air conditioners, other appliances, or passing traffic. Audible warning devices, however loud, may not be heard by a hearing-impaired person.

GENERAL

IMPORTANT

This installation manual shall be used in conjunction with the control panel manual. All the safety instructions specified within that manual shall be observed. The control panel is referenced as the "panel" throughout this document. This installation guide provides the basic wiring, programming and troubleshooting information. Use this guide in conjunction with the Installation Manual available online from the DSC website at www.dsc.com.

The Internet alarm communicator is a fixed, wall-mounted unit, 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.

Model Information

This manual covers the following models of alarm communicator: TL280 and TL280R. Models ending in "R" include a built-in RS-232 interface for connecting to local third party applications.

The TL280(R)s an Internet alarm communicator that sends alarm communication to Sur-Gard System I-IP, II, III (SG-DRL3IP), IV (SG-DRL4IP), and 5 (SG-DRL5IP) central station receivers through an Internet connection.

The TL280(R) supports integration over IP and is available with licensed 3rd party product solutions. Specific programming for the related programming sections is to be provided by the 3rd party. A current list of compatible 3rd party solutions can be found at www.dsc.com.

The communicator can be used as either a backup or primary communicator. The communicator supports Internet Protocol (IP) transmission of panel and communicator events over an Internet connection.

Panel Mounting

The **TL280(R)** communicator is compatible with HS2016, HS2032, HS2064, and HS2128 panels.

Features

- 128-bit AES encryption via Ethernet/Internet (NIST validation certificate number 2645).
- Ethernet LAN/WAN 10/100 BASE-T.
- Individual Internet periodic test transmission.
- Integrated call routing.
- Visual Verification (Not a UL feature) (Requires a Sur-Gard System 5 receiver)
- Remote firmware upgrade capability of the communicator and panel firmware via Internet.
- Panel remote uploading/downloading support via Internet.
- PC-LINK connection.
- SIA and Contact ID (CID) formats supported.
- Trouble display LEDs.
- Supervision heartbeats sent Internet.
- 3rd party integration over IP.

Technical Specifications

The input voltage to the Communicator can be drawn from an Underwriters Laboratories/Underwriters Laboratories Canada (UL/ULC) listed control panel or compatible power supply module such as **HSM2204** or **HSM2300**.

NOTE: Power supply must be Class 2, power limited.

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:

Network access and domain access policies shall be set to restrict unauthorized network access, and spoofing or Denial of Service (DoS) attacks. Select an Internet Service Provider (ISP) that has redundant servers/systems, back-up power, routers with firewalls enabled, and methods to identify and protect against DoS attacks (e.g., via spoofing).

Notes for using Public Switched 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.

- For **ULC Residential** Fire and Burglary applications the **TL280(R)** can be used as primary communication channel via either Ethernet or as a back-up in conjunction with the Digital Alarm Communicator Transmitter (DACT). Test transmission every 24 hours shall be enabled on each channel.
- For **ULC Commercial** Fire and Burglary applications the **TL280(R)** can be used as a passive communication module with the following security levels:
  - P1 (each channel is independent)
- The communicator can also be used as an active communication system with the security levels A1-A4 (each channel independent). 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** (00B4/180) seconds.
- For **UL Residential** Fire and Burglary applications the **TL280(R)** can be used as the primary communication channel via Ethernet, or as a back-up in conjunction with the DACT (30 day test transmission is required on each channel).
- The supervision heartbeat shall be enabled (panel section **[851][005]** toggle option [1] (Ethernet) 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 [004] = 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.
- For **UL Commercial** Burglary installations, the **TL280(R)** is listed as a primary (sole) communication means (heartbeat must be enabled) or for supplementary (back-up) use in conjunction with a Plain Old Telephone Service (POTS) line dialer. When the heartbeat transmission over the Ethernet network is enabled, using the **TL280(R)** with a compatible control unit listed for standard/encrypted line security, it can provide line security for the alarm system over the primary line.
- The **TL280(R)** is also suitable to be used with a compatible control unit listed for dual line security transmission when used in conjunction with a DACT or a Public Switched Data Network (PSDN) transmitter, where the PSDN provides the line security and is the primary line. In this mode, alarm signals are required to be sent simultaneously over both communication methods.

Ratings and Compatibility

Table 1: Communicator Ratings

Model	TL280(R)
Power Supply Ratings	
Input Voltage	10.8-12.5 VDC Power is supplied from the panel's PC-Link header or a PCL-422 module in remote cabinet installations. In remote cabinet installations, the PCL-422 module located with the communicator is powered by either an HSM2204 or an HSM2300. Refer to the PCL-422 installation instructions for details.
Current Consumption	
Current	100mA @ 13.66V
Environmental Specifications	
Operating Temperature	14°F to 131°F (-10°C to 55°C)
Humidity	5% ~ 93% relative humidity, non-condensing
Mechanical Specifications	
Board Dimensions (mm)	100 × 150 × 15
Weight (grams) with bracket	290

Table 2: Compatible Receivers, and Panels

Communicator	Receiver/ Panel	Description
TL280(R)	Receiver	• Sur-Gard System I Receiver, version 1.13+ • Sur-Gard System II Receiver, version 2.10+ • Sur-Gard SG-DRL3-IP, version 2.30+ (for Sur-Gard System III Receiver) • Sur-Gard SG-DRL4-IP version 1.20+ (for Sur-Gard System IV Receiver) • Sur-Gard SG-DRL5-IP version 1.00+ (for Sur-Gard System 5 Receiver)
	Panel	• HS2016 • HS2032 • HS2064 • HS2128

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 external 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.

COMMUNICATOR INSTALLATION CONFIGURATION

The communicator shall be installed by service persons only (service person is defined as a person having the appropriate technical training and experience necessary to be aware of hazards to which that person may be exposed to 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 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(TL280(R) Only)

A Category 5 (CAT 5) Ethernet cable must be run from a source with 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:

HSPA(3G)/Dual Alarm Communicator Installation Manual

• Do NOT strip off cable sheathing 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.

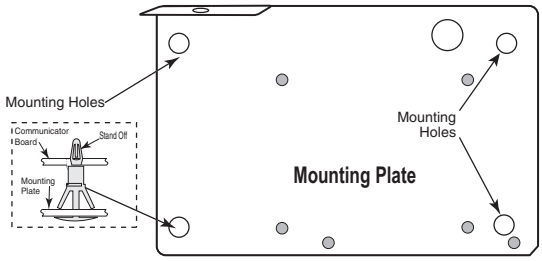
NOTE: CAT5 specification requires that any cable bend must have a minimum 2 in. (5 cm) bend radius. Maximum length of CAT 5 cable is 328 ft. (100 m).

INSTALLING ETHERNET COMMUNICATOR IN PANEL

Installing Communicator with HS2016, HS2032, HS2064, and HS2128 Panel

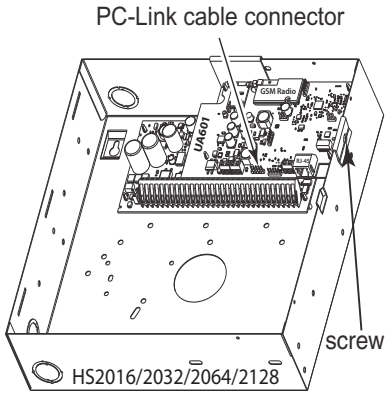
1. To assemble supplied mounting bracket, perform the following: (See **Figure 1**).
   a. Remove the 4 white plastic standoffs from the bag provided with the communicator kit.
   b. Insert the 4 standoffs through the back of the mounting bracket, into the holes at each corner.
   c. Place the bracket 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.

Figure 1:Communicator Mounting Bracket



2. Install the Communicator into the panel:
   a. Attach one end of the PC-LINK cable to the panel PCLINK_2 header on the panel (red wire goes on the right-hand pin of the **panel** PCLINK_2 header (see **Figure 3**)).
   b. Insert the assembled communicator into the panel.
   c. 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.
   d. Attach the other end of the PC-LINK cable to the communicator (red wire goes on the right-hand pin of the **communicator** PC-LINK header (See **Figure 3**)).
   e. 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.

Figure 2:HS2016/2032/2064/2128 Control Panel

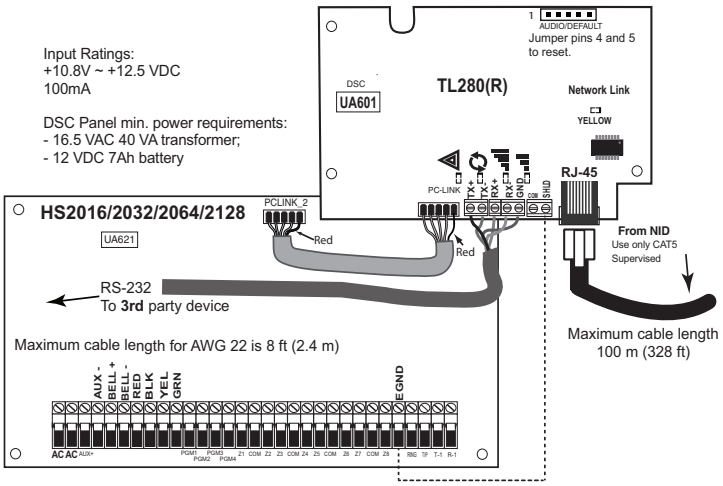


WARNING! - The TL280(R) module is power limited. Do not route any wiring over the circuit board. Maintain at least 1in. (25.4mm) separation between circuit board and wiring. A minimum of ¼ in. (7mm) separation must be maintained at all points between non-power limited wiring and power limited wiring.

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.

Figure 3:Communicator Wiring Diagram



4. Install the RS-232 connections (R models only). When installing the communicator for use with 3rd party applications, an RS-232 cable must be connected between the 3rd party device and the communicator module. Maximum cable length for RS-232 cable is 8 ft. (2.4 m).

NOTE: Please refer to the installation manual of the 3rd party device for wiring instructions. Wire the RS-232 cable connections as per the table below:

Table 3: RS-232 Connections

3rd Party Device	Communicator
TX	RX+
Unused	RX-
RX	TX+
Unused	TX-
GND	GND

Install Network Cable

1. Route the CAT 5 Ethernet cable through back of the panel and plug it into the communicator's RJ45 jack.

NOTE: Before leaving the premises the Ethernet communication lines must first be connected to an approved (acceptable to local authorities) type NID, (UL installations, UL 60950 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.

2. 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 are flashing together while it initializes. The 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 red and yellow LEDs have stopped flashing. (If only the yellow LED is flashing, there is a communicator trou-

ble). Correct trouble indicated by flashes on yellow LED before continuing. (See Table 6 for troubleshooting assistance).

3. Mount the panel in location.

INITIAL PANEL PROGRAMMING

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

HS2016/2032/2064/2128 Initial Programming

For detailed information refer to the panel manual section 'Alternate Communicator Set-up'.

1. In panel section [**377**] 'Communication Variables', subsection **[002]** 'Communication Delays', sub-subsection **[1]** 'Communication Delay', program **060** (seconds).
2. In panel section [**382**] 'Communicator Option 3' set option [**5**] ON.
3. In panel sections [300] 'Panel/Receiver Communications Paths' subsections [001] to [004], program the subsection with 02 to 04.

Table 4: Communicator Path Programming

Value	Communication Method
02	Auto Routing
03	Ethernet 1
04	Ethernet 2

NOTE: Refer to panel manual for additional information.

4. In panel section [350] 'Communication Formats', program the communication format as: CID (03) or SIA FSK (04).
5. In panel sections [311] - [318] 'Partition Call Directions', program the call direction options for the system.
6. In panel section [401] 'DLS/SA Options', set toggle option [2] 'User Enable DLS' to **ON** in order to perform panel DLS session through Ethernet.

NOTE: Before leaving the premises, the installer should verify all programmed communications paths. See programming options section [851][901] to send immediate test transmissions.

Communicator Troubles displayed on a HS2016/2032/2064/2128

The communication trouble is the only trouble that will appear on the keypad Liquid Crystal Display (LCD) when encountered by a communicator installed in a HS2016/2032/2064/2128. For more information about the trouble on the communicator module, refer to the panel event buffer or by pressing [*] [2] to view the individual trouble types.

COMMUNICATOR STATUS LEDS

The communicator has 2 on-board LED indicators: a yellow trouble LED and a red network connection status LED. The LED meaning is described in this section.

⚠Yellow Trouble LED

This yellow LED will flash to indicate a trouble on the unit. The number of flashes indicates the type of trouble. See the table below for the coded flashes and the conditions which will activate the trouble status LED.

Table 5: Yellow Trouble Status LED

# of Flashes	Trouble	# of Flashes	Trouble
2	Panel Supervision Trouble	8	Receiver Supervision Trouble
4	Not Applicable	9	FTC Trouble
5	Not Applicable	10	Not Applicable
6	Ethernet Trouble	12	Module Configuration Trouble
7	Receiver Not Available Trouble		

NOTE: Only the highest priority trouble (2 flashes is the highest priority trouble) is indicated. When this trouble is restored, the next highest trouble will indicate, if present. This will continue until all troubles have been cleared (yellow LED is not flashing).

⚠ Red Network Connection Status LED

BLINKING: Indicates communications in progress.

- Once quickly for outgoing Ethernet transmission.
- Twice quickly to indicate incoming Ethernet ACK/NACK.

OFF: This is the normal state of the red network connection status LED. There are no network connection issues present.

ON: There is a problem with the Ethernet network connection. LED will be ON if any of the following occur:

- Ethernet cable is not connected,
- DHCP configuration times out.

Network Activity LED (Red)

- **Ethernet Activity:** Red LED will blink quickly once for transmit, or twice for receive.

COMMUNICATOR TROUBLESHOOTING

Table 6: Trouble Indications

Trouble Indication	Trouble Indicator Digit	Possible Causes	Trouble Possible Solution
No Indication	N/A	No Power	• Check the power connections between the panel and the communicator. • Confirm PC-LINK cable is properly installed between communicator and panel.
Trouble LED – 2 Flashes	02	Panel Supervision Trouble	• Check section [382] toggle option[5] is ON (Alternate Communicator Enabled). • Ensure the PC-LINK cable between the panel and communicator is connected properly (not reversed) and is securely in place.
Yellow LED – 6 Flashes	06	Ethernet Trouble	• 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 link light on the hub/router/switch is ON. If link light is OFF, start 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.
Yellow LED – 7 Flashes	07	Receiver Not Available	• Ensure that the Ethernet path has Internet connectivity. • If using a static IP address, confirm that 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.
Yellow LED – 8 Flashes	08	Receiver Supervision Trouble	• 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.
Yellow LED - 9 Flashes	09	FTC Trouble	• 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.
Yellow LED – 12 Flashes	0C	Module Configuration Trouble	• This indication appears when section [021] system account code or sections [101] or [111] receiver account code have not been programmed. Ensure that a valid account code has been entered in these sections.
Red and Yellow LEDs flashing together	N/A	Initialization Sequence	• The unit is still initializing please wait while the unit establishes a connection to all programmed receivers. **Note: This process may take several minutes to complete.**
		Boot Loader Failed	• If the initialization sequence is taking more than several minutes, the boot loader might have failed. • Confirm that the boot loader has failed by entering communicator programming **[*][8][installer code] [851]**. • If access is granted, continue waiting for the initialization sequence to complete. • If access is denied (long error tone), disconnect power from, then reconnect power to the communicator module.

ETHERNET PROGRAMMING OPTIONS

The programming sections described in this document can be viewed at the keypad LCD. To start programming enter: **[*][8][installer code] [851] [section number]**, where section number 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.

ETHERNET PROGRAMMING WORKSHEETS

System Options

[001] Ethernet IP Address

Default (000.000.000.000)

|___|___|___|___|___|___|___|___|___|___|___|___|

[002] Ethernet IP Subnet Mask

Default (255.255.255.000)

|___|___|___|___|___|___|___|___|___|___|___|___|

[003] Ethernet Gateway IP Address

Default (000.000.000.000)

|___|___|___|___|___|___|___|___|___|___|___|___|

[004] Receiver Supervision Interval

Default (0087/135) Valid range: 0000 - FFFF.

|___|___|___|___|

[005] System Toggle Options

|___| [1] Ethernet Receiver 1 Supervised Default (OFF).

|___| [2] Reserved.

|___| [3] Supervision Type Default (OFF).

|___| [4] Reserved.

|___| [5] Reserved.

|___| [6] Remote Firmware Upgrade Default (ON).

|___| [7] Alternate Test Transmission Default (OFF).

|___| [8] Reserved.

[006] System Toggle Options 2

|___| [1] Ethernet Receiver 1 Enabled Default (ON).

|___| [2] Ethernet Receiver 2 Enabled Default (ON).

|___| [8] Network Trouble Suppression Default (OFF).

[007] DNS Server IP 1

Programming not permitted on UL/ULC listed system.

Default (000.000.000.000)

|___|___|___|___|___|___|___|___|___|___|___|___|

[008] DNS Server IP 2

Programming not permitted on UL/ULC listed system.

Default (000.000.000.000)

|___|___|___|___|___|___|___|___|___|___|___|___|

Programming Options

[010] System Toggle Options 3

|___| [1] Reserved.

|___| [2] Visual Verification Default (OFF).

|___| [3] Reserved.

[011] Installer Code

Default (CAFE) Valid range: 0000 - FFFF.

|___|___|___|___|

[012] DLS Incoming Port

Default (0BF6/3062) Valid range: 0000 - FFFF.

|___|___|___|___|

[013] DLS Outgoing Port

Default (0BFA/3066) Valid range: 0000 - FFFF.

|___|___|___|___|

[015] DLS Call-Up IP

Default (000.000.000.000)

|___|___|___|___|___|___|___|___|___|___|___|___|

[016] DLS Call-Up Port

Default (0000) Valid range: 0000 - FFFF.

|___|___|___|___|

[020] Time Zone

Default (00) Valid range: 00 - 99.

|___|___|___|___|

[021] Account Code

Default (FFFFFF) Valid range: 000001 - FFFFFE.

|___|___|___|___|___|___|

[022] Communications Format

Default (04) Program 03 (CID), 04 (SIA).

|___|___|

[023] Panel Absent Trouble

Default (FF); Program 00 disable or FF enable.

|___|___|

[024] Panel Absent Trouble Restore

Default (FF) Program 00 disable or FF enable.

|___|___|

System Test Options

[026] Ethernet 1 Transmission

Default (FF) Program 00 disable or FF enable.

|___|___|

[027] Ethernet 2 Transmission

Default (00) Program 00 disable or FF enable.

|___|___|

[030] FTC Restore

Default (FF) Program 00 disable or FF enable.

|___|___|

[033] Communicator Firmware Update Begin

Default (FF) Program 00 disable or FF enable.

|___|___|

[034] Communicator Firmware Update Successful

Default (FF) Program 00 disable or FF enable.

|__|__|

[035] Panel Firmware Update Begin

Default (FF) Program 00 disable or FF enable.

|__|__|

[036] Panel Firmware Update Successful

Default (FF) Program 00 disable or FF enable.

|__|__|

[037] Panel Firmware Update Fail

Default (FF) Program 00 disable or FF enable.

|__|__|

[095] SA Incoming Local Port

Default (0000) Valid range: 0000 - FFFF.

|__|__|__|__|

[096] SA Outgoing Local Port

Default (0000) Valid range: 0000 - FFFF.

|__|__|__|__|

[097] SA Call Up IP

Default (000.000.000.000)
|___|___|___|___|

[098] SA Call Up Port

Default (0000) Valid range: 0000 - FFFF.

|__|__|__|__|

[099] SA Access Code

Default (FFFFFFFF) Valid range: 00000000 - FFFFFFFF.

|__|__|__|__|__|__|__|__|

Ethernet Receiver 1 Options

[101] Ethernet Receiver 1 Account Code

Default (0000000000)
Valid range: 0000000001 - FFFFFFFFFE.

|__|__|__|__|__|__|__|__|__|__|

[102] Ethernet Receiver 1 DNIS

Default (000000) Valid range: 000000 - FFFFFF.

|__|__|__|__|__|__|

[103] Ethernet Receiver 1 Address

Default (127.000.000.001)

|__|__|__||__|__|__||__|__|__||__|__|__|

[104] Ethernet Receiver 1 UDP Remote Port

Default (0BF5/3061) Valid range: 0000 - FFFF.

|__|__|__|__|

[105] Ethernet Receiver 1 UDP 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 - FFFFFFFFFE.

|__|__|__|__|__|__|__|__|__|__|

[112] Ethernet Receiver 2 DNIS

Default (000000) Valid range: 000000 - 0FFFFF.

|__|__|__|__|__|__|

[113] Ethernet Receiver 2 Address

Default (000.000.000.000)

|__|__|__||__|__|__||__|__|__||__|__|__|

[114] Ethernet Receiver 2 UDP Remote Port

Default (0BF5/3061) Valid range: 0000 - FFFF.

|__|__|__|__|

[115] Ethernet Receiver 2 UDP Local Port

Default (0BF9/3065) Valid range: 0000 -FFFF.

|__|__|__|__|

[116] Ethernet Receiver 2 Domain Name Default ( )

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.

|__|__|__|__|__|__|

[226] Network Trouble Delay

Default (0F) Valid range: 00 - FF minutes. (e.g., for a 10 minute delay enter: 0A).

|__|__|

[651] Integration Identification Number

|__|__|__|__|__|__|__|__|__|__|__|__|

[652] Integration Access Code

|___|___|___|___|___|___|___|___|

[663] Integration Toggle Option

|___| [1] Integration Over Serial Default (ON).

|___| [2] Reserved.

|___| [3] Integration Over Ethernet Default (OFF).

|___| [4] Reserved.

|___| [5] Integration Protocol Default (ON*).

|___| [6] Reserved.

|___| [7] Reserved.

|___| [8] Reserved.

NOTE: *Toggle option 5 must be enabled for Integration to work.

[664] Integration Toggle Option 3

|___| [1] UDP Polling Default (OFF).

|___| [2] TCP Polling Default (OFF).

|___| [3] Real-time notification Default (OFF).

|___| [4] Notification Follows Poll Default (OFF).

|___| [5] Reserved.

|___| [6] Reserved.

|___| [7] Reserved.

|___| [8] Reserved.

[665] Integration Polling Interval in Seconds

Default (000A)Valid range: 0000 - FFFF.

|___|___|___|___|

[693] Integration Server IP

Default (000.000.000.000)

|___|___|___|___|___|___|___|___|___|___|___|___|

[694] Integration Notification Port

Default (0372) Valid range: 0000 - FFFF.

|___|___|___|___|

[695] Integration Polling Port

Default (0C01) Valid range: 0000 - FFFF.

|___|___|___|___|

[697] Integration Server DNS

Default (0020) Valid range: 0000 - FFFF.

|___|___|___|___|

[698] Integration Outgoing Port

Default (0C04) Valid range: 0000 - FFFF.

|___|___|___|___|

[699] Integration Incomming Port

Default (0BFF) Valid range: 0000 - FFFF.

|___|___|___|___|

[711] Integration No-Activity Timeout

Default (0078) Valid range: 0000 - FFFF.

|___|___|___|___|

Receiver Diagnostic Testing

[901] Diagnostic Test Transmission

|___| [1] Ethernet 1 Default (OFF).

|___| [2] Ethernet 2 Default (OFF).

System Information (Read Only)

[983] Firmware Update Diagnostics Section

[984] Communicator Status

[987] Language Version

[988] DNS 1 IP Address

|___|___|___|___|___|___|___|___|___|___|___|___|

[989] DNS 2 IP Address

|___|___|___|___|___|___|___|___|___|___|___|___|

[990] Boot Loader Version

|___|___|___|___|___|___|___|___|

[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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- 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.

Warning: To satisfy FCC RF exposure requirements for mobile transmitting devices, a separation distance of 20cm or more must be maintained between the antenna of this device and persons during device operation.

Industry Canada Statement

The prefix 'IC:' in front of the radio certification number signifies only that Industry Canada technical specifications were met.
Certification Number IC: 160A-3G260R

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following tow conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

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