

Honeywell

IntelliPath™ Series Communicator

LTE-HSV

High Security Internet and Cellular Communicator

Installation and Setup Guide



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General Information

System Overview

Introduction

Congratulations on your purchase of Honeywell's LTE-HSV High Security Internet and LTE Communicator (henceforth referred to as LTE-HS). It represents the latest and most innovative communication technology for the security industry and uses the most sophisticated encryption to ensure the highest level of security for your customer.

The new network connectivity brings faster cell data transfers with lower latency (response time); together it results in speedier data transfers.



The communicator requires an AlarmNet-i account. For new installations, please obtain the account information from the central station prior to programming this communicator. For detailed information about enrolling the communicator and replacing communicators, refer to the *AlarmNet 360 Online Help Guide*.

In addition to alarm reporting, the communicator provides upload/downloading capability of Honeywell's control panel data over the Internet, using LTE technology.

General Information

The LTE-HS communicates via the Internet (when service is available) and switches to cell service when the Internet is not available.

In normal operation (with Internet connectivity), the LTE-HS communicates from your customer's network connection to the Honeywell Network Operations Center, (NOC) via the AlarmNet-i network. The NOC receives data and routes the information to the Central Station of your choice, based on the account number you assign to the communicator. Note that your Central Station needs to give you the account number. The same account number is used for both Internet and cell transmissions. If your current Central Station is capable of receiving signals from the Honeywell NOC, they are capable of receiving signals from the communicator.

If, for some reason, Internet connectivity is not available, (for example, your customer's ISP is off line or disconnected), the communicator will transmit signals via the cellular network. These transmissions are sent to the Honeywell NOC and then forwarded to your Central Station exactly the same way as if they were received via the Internet.

If the Internet and cell network are both unavailable (fail), the message will not be sent from this communicator.



For maximum reliability, it is recommended the device be operated in dual path mode with Internet and Cell both enabled and connected.

System Features

Basic features include:

- Supports dynamic or static IP addressing, and installs behind firewalls without compromising network security.
- Quick connection to compatible Honeywell series control panels
- Simple programming using a 7720P programming tool
- Reports fire (Fire has not been evaluated by UL), burg, and status messages via the Internet
- Allows uploading and downloading of control panel data over the Internet.

About AlarmNet-i Internet Application

AlarmNet-i is a fully encrypted, secure method of delivering alarm messages from a protected premise to an AlarmNet equipped central station. The internet communicator transmits status, supervisory, and alarm messages to the AlarmNet Control Center using a broadband Internet connection.

The AlarmNet Control Center identifies, validates, and forwards the messages to the appropriate AlarmNet central station. AlarmNet-i has an unlimited account capacity.

Encryption

The communicator uses 256 bit AES (Rijndael) encryption (which is required for certain government installations). The AlarmNet-i AES Encryption Software Module Version 1.0 contained in the Honeywell products has NIST approval. Listings for this approval can be found at <https://csrc.nist.gov/projects/cryptographic-algorithm-validation-program/validation/validation-list/aes> and search for "Certification number 979."

UL

The IP and Cell signaling paths are suitable for encrypted line security when programmed for 1 minute IP/Cell Fault Times. The system configurations are not suitable as a Dual Line Signal transmission system.

Modes of Operation

The communicator provides four modes of operation so it can be used with various types of control panels, as summarized below.

ECP Mode

- This mode is for use with Honeywell control panels that support ECP communication
- The communicator connects to the control panel's keypad terminals and provides 2-way communication with the control panel using ECP messaging
- The control panel treats the communicator as an ECP device, so ensure to program the control panel with the communicator's device address
- Reports are sent in Contact ID format
- The communicator also supports two hardwire zone trigger inputs (zones 6 and 7)
Options include; V+, V-, EOL, inverted, and non-inverted.
UL – For the communicator, only the V+ inverted, V- non-inverted, and EOL options have been evaluated.

UL

Ring back is fully supported for closing messages.

Zone Trigger Mode

- This mode is for use with control panels that do not support ECP communication.
- The communicator provides six input zones and each zone can be configured for +V, -V, or EOLR triggering.
UL – For the communicator, only the V+ inverted, V– non-inverted, and EOL options have been evaluated.
- Each zone can be programmed for inverted operation, delayed reporting, and restoral reporting
- Zone 1 input can distinguish between pulsed and steady signals and report fire or burglary alarms respectively
- Zone 1 can be programmed to report a LYNX panic (if used with LYNX control)
UL – This feature has not been evaluated by UL.
- Reports are sent in ADEMCO High-Speed format

UL The digital dialer will support ring back for closing messages.

Supervision Features

The communicator provides the following types of supervision and fault detection:

- Network communication failure: In the event the AlarmNet network does not hear a supervisory message from the communicator within a specified time, AlarmNet notifies the central station of a communication failure.
- Communication path failure: In the event the module detects a communication path failure, both the Central Station and the control panel can be notified of the trouble condition. Both failures are considered true faults when the respective fault times have expired ("Cell Fault Time" and "IP Fault Time" options) provided it has been set to a non-zero value. Notification is sent to the central station upon this expiration. Notification to the panel is controlled by the "Notify Panel Of" option.
(Note, if the "Cell Fault Time" and "IP Fault Time" options are set to zero, faults will not be reported.)
- Fault output: Terminal 11 can serve as a fail-safe trigger for communicator fault conditions. If used, the fault relay will trip when the following conditions occur: tamper*, power loss*, low battery*, battery charger fault*, loss of network connectivity*, the communicator is not registered and the communicator is remotely disabled by AlarmNet.
* Alarm reporting for the noted conditions must be enabled for it to trigger the fault relay.
- Primary power loss and low battery conditions.
- Cover tamper condition.

Antenna

The communicator comes equipped with two internal antennas. This feature provides additional security to the installation by making the communicator tamper resistant.

UL External antenna options have not been evaluated by UL.

Specifications

Mechanical:	Dimensions: 8.4" x 8.0" x 1.5" Weight: 2.4 lbs., with battery.
Input Power:	16.5VAC, 40VA transformer. (Honeywell transformer # 1361-GT included.)
Current Drain:	319mA (rms) standby, 380mA (rms) active
Backup Battery:	6V, 3.1AH, (Honeywell # K14139 included.) Expected Battery Life: 5 Years (approx.) NOTE: The sealed lead acid battery used for backup will have reduced life expectancy when exposed to elevated temperatures. The useful life of the battery at 25°C (77°F) is approximately 4 years. At 35°C (95°F) this will drop to 2 years and at 45°C (113°F) 1 year. Battery life expectancy should be taken into account when locating the radio.
Fault Relay Output:	Open collector, 12VDC, 0.25W max.
Positive Trigger Level:	6V or greater = positive trigger. (4V or less = restore.)
Negative Trigger Level:	4V or less = negative trigger. (6V or greater = restore.)
Ethernet:	Network Standard: IEEE 802.3u compliant Data Rate: 10Base-T / 100Base-T with auto detect Ethernet Cable: Cat. 5 (min), MDI / MDI-X auto crossover
Environmental:	Operating temperature: -20° to +55°C, for UL installations 0°C to +49°C Storage temperature: -40° to +70°C Humidity: 0 to 95% relative humidity, non-condensing for UL installations 0% to 85% Altitude: to 10,000 ft. operating, to 40,000 ft. storage

Frequency Bands							
	LTE Band 2	LTE Band 4	LTE Band 5	LTE Band 12	LTE Band 13	WCDMA Band II	WCDMA Band V
LTE-HSV	X	X			X		
Output Power							
LTE,	Class 3	23dBm					
WCDMA	Class 3	24dBm					

Compatibility

For a list of control panels that are compatible with various features of this communicator, go to:

<http://www.security.honeywell.com/hsc/resources/MyWebTech>.

After logging on, select the applicable communication product, and then select “Compatibility Chart” under Essential Docs.

For UL installations, compatible control panels are:

For UL installations, any UL Listed control panel may be used. Note, that any control panel that does not communicate via Honeywell’s ECP data bus is compatible using the communicator’s Zone Trigger mode.

For UL installations, compatible receivers are:

- MX8000 (UL – can be used for supplemental reporting in ECP mode when connected to model 7810iR-ENT; must be used for opening/closing ring back in Zone Trigger mode when connected to control panel’s DACT.)
- 7810PC (UL – PC based software receiver can be use as a primary alarm receiver. Refer to the *Installation and User Guide* for requirements.)
- 7810iR-ENT (UL – can be used as a primary alarm receiver.)
- 8810iR-ENT (UL – can be used as a primary alarm receiver.)
- Ademco 685 (UL – Ademco 685 has not been evaluated by UL.)

UL

The Automation System must be UL1981 Listed.

The LTE-HS has been evaluated for connection to police station receivers.

Mounting and Wiring

Determine the Signal Strength and Select a Location

The communicator must be mounted indoors within the protected premises. When choosing a suitable mounting location, understand that signal strength is very important for proper operation. For most installations using the supplied antennas, mounting the unit as high as practical, and avoiding large metal components provides adequate signal strength for proper operation.

You will use the communicator to determine signal strength in order to find a suitable mounting location.

RF Exposure

Warning – The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter.

NOTE: The communicator must be installed in accordance with the National Electrical Code, ANSI/NFPA 70.



Unshielded, 22 AWG cable is recommended for the communicator power/data wires.

* **LTE-HS Initial Power Up:** Upon initial power up, the communicator LEDs blink in repeated sequence from top to bottom indicating network initialization.

Green (REG) → Yellow (TX/RX) → Red (FAULT)

This sequence may take up to 15 minutes. **Do not reset power during this time.**

When initialization is complete, the Signal Quality display LEDs will light and the yellow and red LEDs may blink (per their respective functions).

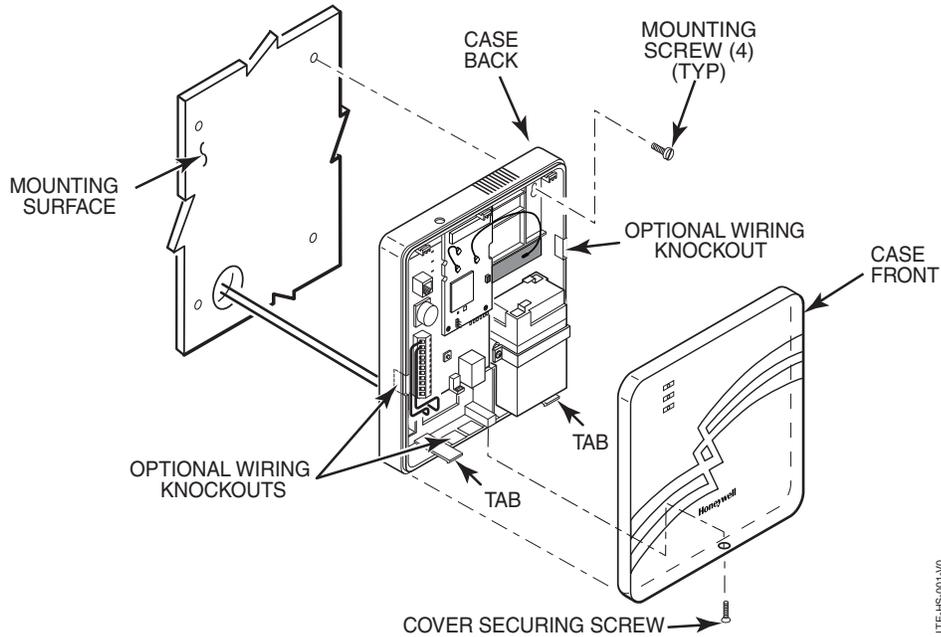
After initial network setup, subsequent resets or power ups can take up to 90 seconds.

1. Unpack the communicator and open the case by pushing in the two bottom tabs with a screwdriver while separating the case front.
2. Temporarily connect the communicator to the AC transformer or battery.
3. Choose the installation site with the **best signal quality** by observing the signal quality bar graph (refer to *Appendix A* for information about signal quality and status indications). Signal quality should be within 2-5 bars. The best signal quality is usually found at the highest point in the building, near a window.
4. Mark the location for the communicator.

Mounting the Communicator

UL The cover must be secured with the supplied screw.

1. Locate the case back over selected mounting position such that the opening in the case back is aligned with the wire/cable opening on the mounting surface.
2. Pass the wire/cable through the opening in the case back, or route through the removable knockouts located on the back cover.
3. Secure the case back to the mounting surface using four screws (supplied).
4. When all wiring is completed, attach the case front. Position the top first, then press the bottom section until it snaps in place. Secure bottom using the supplied cover screw. (This is required for UL installations.)



Typical Mounting

LTE-HS-001-Y0

Wiring the Communicator

UL

- Installation must be in accordance with; the National Electrical Code, UL681 Installation and Classification for Burglary and Hold-Up Alarm Systems, and UL827 for Central-Station Alarm Services.
- The communicator must be connected to a UL Listed dry contact or voltage trigger outputs of a UL Listed compatible control panel.
- The UL Listed control panel and the communicator must be within 3 feet of each other and contained in the same room. Use a minimum of 22AWG wire. All interconnecting wiring must be installed in rigid or EMT (where exposed on interior walls) or in flexible metal tubing if run in the walls or ceiling.
- A UL Listed control panel must monitor the radio fault output of the communicator. Premises openings and closings should be sent via the UL Listed control panel.

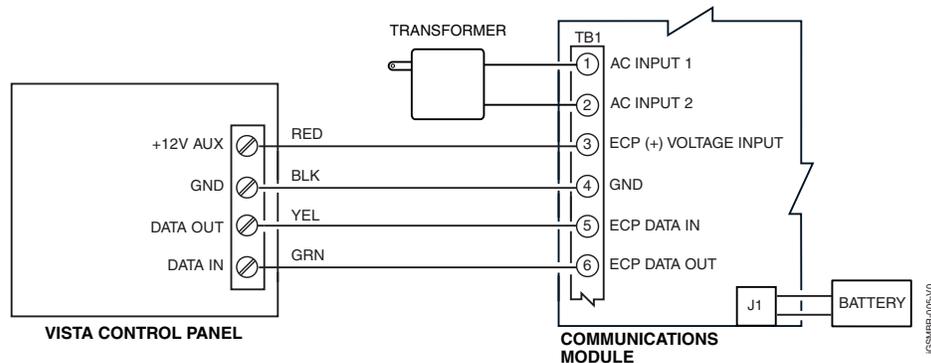
Wiring for ECP

Most Honeywell control panels support ECP data communication. Check the Installation and Setup Guide for the control panel you are using to see if it supports ECP communication.

Connect the communicator to a compatible Honeywell VISTA control panel's ECP terminals, in parallel with keypads and other peripheral devices such as RF receiver, VIP module, etc. To wire the communicator for ECP mode, see the figure below and make the following connections:

UL

Use minimum 22AWG wire, with maximum length of 450 feet.



Wiring a VISTA for ECP Mode

Wiring for Zone Trigger Mode

To trip a zone using a positive trigger, the voltage level must be:

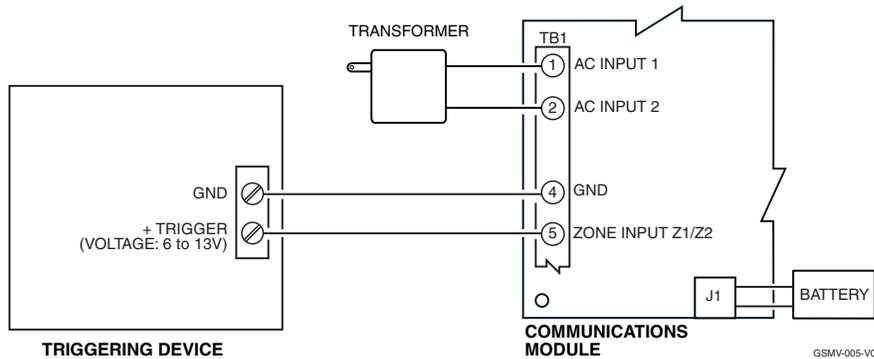
- 6V or greater = positive trigger. (Levels above +14V may cause damage to the unit.)
- 4V or less = restore.

To trip a zone using a negative trigger, the voltage level must be:

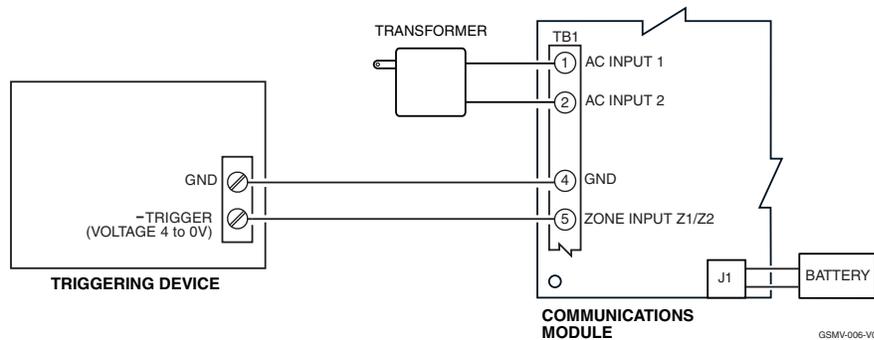
- 4V or less = negative trigger.
- 6V or greater = restore. (Levels above +14V may cause damage to the unit.)

NOTE: Remember to program the communicator zone for the desired trigger type.

Connect a wire from the triggering source (bell output, voltage trigger, etc.) of the control panel to the zone input of the communicator, and connect a common ground between the communicator and control panel. Examples of zone connections follow:



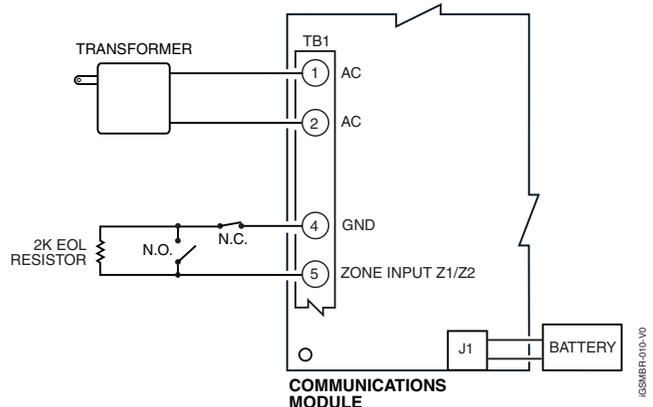
Wiring Zone 1 Input for a Positive (+) Trigger



Wiring Zone 1 Input for a Ground (-V) Trigger

UL

- Zones should use EOL resistors, and be programmed as V+ Inverted or V- Inverted operation such that a cut line results in an alarm.
- EOL resistors must be UL Listed.
- Do not use zones 1 and 2 for UL installations.



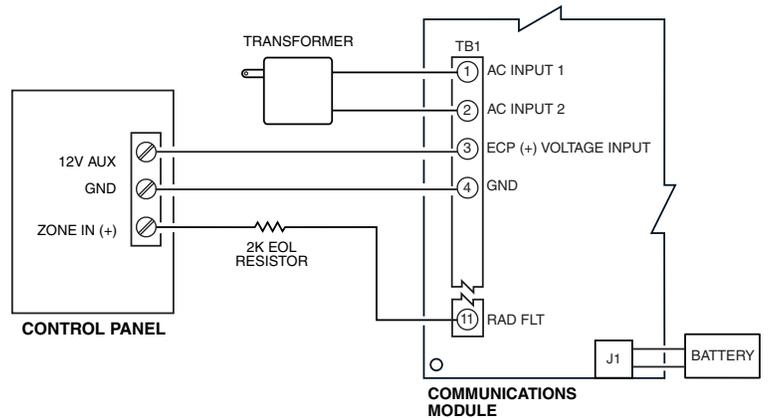
Wiring Zone 1 Input for EOL Supervised N.O./N.C. Triggers

Wiring the Fault Relay

You may wire and program the communicator's fault output trigger for fail-safe mode (see the prompt "FLT REL ON Y/N").

To sense a communicator fault at the control panel, see the figure below and make the following connections. Include the proper EOL resistor required by the control panel.

UL For Commercial Burglary, a 24-hour zone (supervisory) must be assigned on the control panel, with the communicator's fault relay wired to that zone.

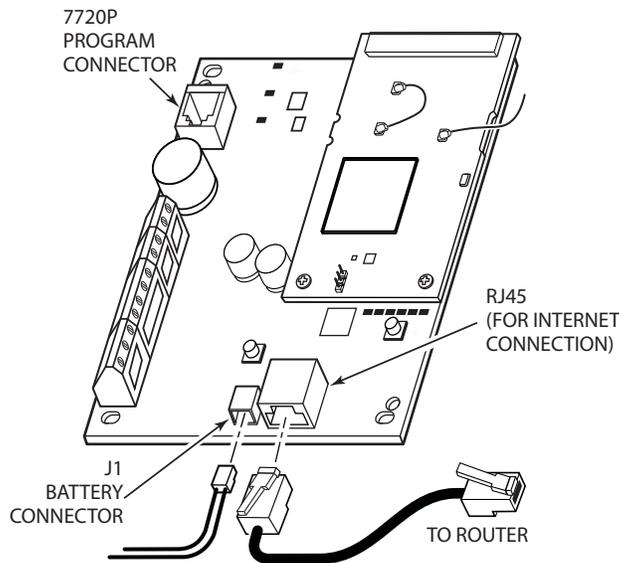


Wiring the Fault Relay to a Control Panel Zone for Normally Closed Fault

Internet Connection

- For UL installations, the Ethernet connection between the communicator and the router cannot exceed 12 feet with both the communicator and the router located within the same room.
- Use a Listed cable/DSL router suited for the application.

Connect one end of the Ethernet cable to the communicator's RJ45 Ethernet connector and the other end to the cable/DSL router as shown in the figure below.



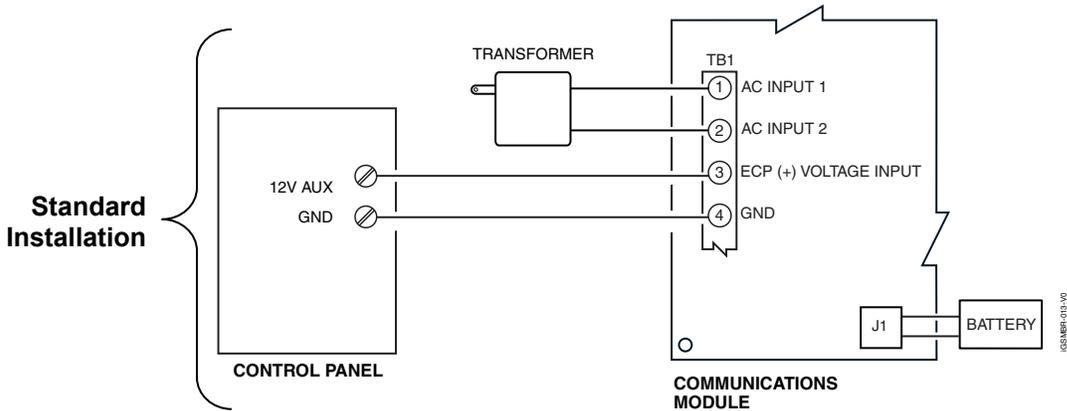
Internet Connection

Power Connections and Options

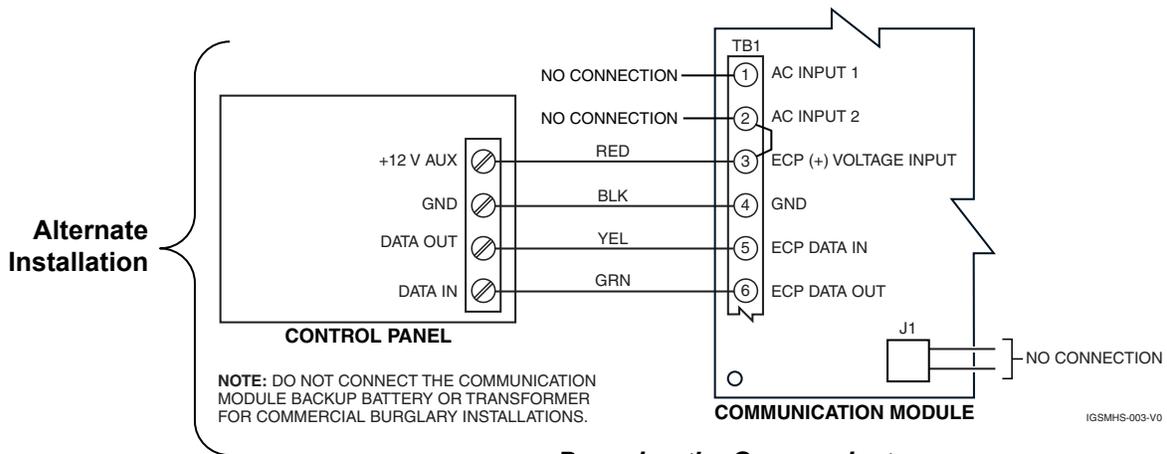
Powering the Communicator

For a standard installation, primary power is provided by the AC plug-in transformer. For ECP communication, you must also connect the +12VDC AUX voltage output of the control panel (9.6V-13.8V typical) see below.

In all installations, TB1-4 GND must be connected to ground (GND) on the control panel.



UL The alternate installation shown below has not been evaluated by UL.



Powering the Communicator

NOTE: When calculating the total load on the auxiliary power output of the control panel, budget 10mA for the communicator when using ECP mode.

Backup Battery Connection

The included battery (K14139) is used for backup in the event of power loss to the communicator. It does not provide power to the control panel.

- The battery can provide over 24 hours of system life in the event of a power failure.
- A programmable power loss message can alert the AlarmNet Control Center when system power is lost (power loss messages are reported within 1-3 hours of actual loss).
- The communicator transmits a low-battery message (programmable) when the battery reaches $5.7V \pm 5\%$, indicating subsequent messages may not be transmitted.
- The system shuts down when the battery falls below 5.1V, and radio transmissions are no longer possible.
- If system power is restored before the communicator shuts down, a power restore message is sent within 1-3 hours after power is restored, and the battery is recharged using the communicator's built-in battery charger. If system power is restored after the communicator has shut down, a power-on reset condition exists, the communicator initializes itself and the battery will recharge.

NOTE: Do not plug the battery in until after you have powered-up the communicator.

Refer to the *Summary of Connections* diagram, and install the battery as follows:

1. Place the battery inside the case back.
2. Snap the right side of the battery clip onto the inside of the case back and secure the left side with the screw provided.

WARNING!

Be careful not to damage the antenna mounted above the battery. Do not bend up the battery tabs.

Programming the Communicator

General Information

The communicator is designed to deliver alarms via the Internet to an AlarmNet central station or via the cell network, using cell technology when the Internet is not available.

The communicator uses 256 bit AES (Rijndael) encryption which is required for certain government installations.



The LTE-HSV requires an AlarmNet account. For new installations, please obtain the account information from the central station prior to programming.

You can program the communicator by one of the following methods:

- Using the AlarmNet 360 website.
- Using the 7720P Programming Tool.
- Using the control panel's programming mode (for panels that support this option) to access the communicator's programming.

NOTE: The prompts in this document reflect use of the 7720P Programming Tool.

Using the AlarmNet 360 Website

To program the communicator via the website (if you are already signed up for this service), go to: www.alarmnet360.com. Log in and follow the on-screen prompts. Please have the following information available when programming the communicator:

- Primary City ID (two-digit number), obtained from your monitoring station.
- Primary Central Station ID (two-digit number), obtained from your monitoring station.
- Primary Subscriber ID (four-digit number), obtained from your monitoring station.
- Communicator's MAC ID and MAC CRC number (located on the box and inside the communicator).

After programming is complete, the communicator must be registered. Refer to the **Register the Module** topic.

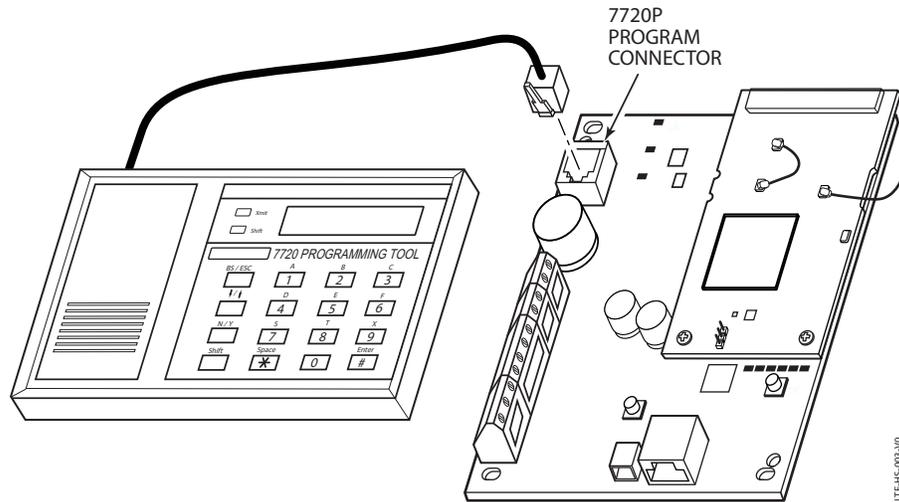
Programming the Control Panel to work with the LTE-HS

For Commercial control panels, there are certain programming field settings that must be adhered to for using the communicator. (For programming information, please refer to the appropriate control panel guides.) Ensure the following programming fields are set:

COMMERCIAL Control Panels	
UL: For compatible control panels, refer to the "Compatibility" topic in section 1.	
Programming Field	Setting
*32 Primary Subscriber's Acct No.	nnnn (Required for the communicator to report.)
*56 Dynamic Signaling Delay	00 (Dialer and LRR reports go out at the same time.)
*57 Dynamic Signaling Priority	1 (Communicator, as first reporting.)
*58 Comm Central Station #1 Category Enable	111111 (All events will be reported to the primary Central Station.)
*59 Comm Central Station #2 Category Enable	000000 (If Central Station #2 is not used.) 111111 (If Central Station #2 is used.)
#93 Menu Mode	Zone programming – set Zone 803 for Type 05. Device programming – set Address 03 for Type 06 (LRR).

Using a 7720P Programming Tool

Connect the 7720P Programming Tool as shown below. The communicator powers the 7720P Programming Tool via the programming jack, and automatically senses the presence of the 7720P when it is plugged in.



7720P Programming Tool Connection

Each key of the 7720P has two possible functions: a normal function and a Shift function. To perform a normal key function, simply press the desired key.

To perform a Shift function, press the [shift] key, and then press the appropriate key.

The prompts in this document reflect use of the 7720P Programming Tool. The table below lists each normal and shift key function.

Table 3-1. 7720P Normal and Shift Key (shift LED lit) Functions

KEY	NORMAL KEY FUNCTION	SHIFT KEY FUNCTION
BS/ESC	[BS]: Press to delete entry	[ESC]: Press to quit program mode; also can reset programming defaults*
↓/↑	[↓]: Scroll down programming	[↑]: Scroll up programming
N/Y	[N]: Press for "NO" answer	[Y]: Press SHIFT-Y for "YES" answer
SHIFT	Press before pressing a SHIFT key function. Will light SHIFT LED. LED goes out once a key is pressed. Press again for each SHIFT function desired.	
1/A	[1]: For entering the number 1	[A]: For entering letter A
2/B	[2]: For entering the number 2	[B]: For entering letter B
3/C	[3]: For entering the number 3	[C]: For entering letter C
4/D	[4]: For entering the number 4	[D]: For entering letter D
5/E	[5]: For entering the number 5	[E]: For entering letter E
6/F	[6]: For entering the number 6	[F]: For entering letter F
7/S	[7]: For entering the number 7	[S]: For entering letter S
8/T	[8]: For entering the number 8	[T]: For entering letter T
9/X	[9]: For entering the number 9	[X]: For entering letter X
SPACE	[SPACE]: For scrolling option list	No SHIFT function
0	[0]: For entering the number 0	No SHIFT function
#/ENTER	[#/ENTER]: Starts programming mode; Press to accept entries	No SHIFT function

* Active only when the "Exit Programming Mode" prompt is displayed.

Using the Control Panel Programming Mode

Most control panels support programming of the communicator through the control panel programming mode (refer to the control panel's installation guide). If programming through the control panel, only the ECP Mode programming options are available. The "mode" prompts will not be displayed, and the mode cannot be changed. For a description of key functions on the control panel keypad, and how they map to the 7720P Programming tool, refer to the control panel's Programming Guide.

Programming Conventions

Programming is accomplished by answering a series of prompts. Most prompts require only a [Y]es or [N]o response, while others require a numerical response (ID numbers, etc.).

The current value is displayed on the second line in parentheses (). A "?" indicates an invalid entry.

Use the [ENTER] key to accept the current entry and proceed to the next prompt. If the entered value is invalid, pressing [ENTER] re-displays the prompt; the next prompt is not displayed until a valid answer is entered.

Use the up/down arrow keys to scroll through the programming prompts without changing any values. Press the [ESC] key to go to the end of the list of prompts.

ECP Mode Programming

The communicator supports ECP messaging via the control panel's ECP bus. These messages are in Contact ID format. (Not all control panels support the ECP bus, so be sure to check the control panel's Installation and Setup Guide to see if it supports this feature.)

Press the [ENTER] key to begin programming.

NOTE: The central station can remotely block access to local device programming. If this has been done, the following prompt appears:

**Access to Prog
Mode Denied**

Table 3-2: Programming the communicator for ECP mode only.

	PROMPTS	OPTIONS	DESCRIPTION
1	Strt Prog Mode? (Y/N)_	[Y], [N]	Enters programming mode.
2	Enter Password:	[0-9, A-F, N, S, T, X, Y]	If a password has been previously assigned, this prompt appears. Enter a 4-digit password (0-9, A-F, N, S, T, X, Y). The next prompt appears.
3	Program Device? (Y/N)_	[Y], [N]	To begin programming the communicator, press [Y] and go to Prompt 10: "Device Mode." To create a password if none has been assigned, press [N] and go to Prompt 4: "Create Password." To change an existing password, press [N] and go to Prompt 5: "Change Password."
4	Create Password? (Y/N)_	[Y], [N]	Passwords can be used to protect account and programming information. If no password has been assigned, this prompt appears after pressing [N] at the "Program Device?" prompt. If a password is desired, press [Y] and go to "Enter Password."
5	Change Password? (Y/N)_	[Y], [N]	If a password has already been assigned, this prompt appears after pressing [N] at the "Program Device?" prompt. Press [Y] if you want to change the password. NOTE: To clear an existing password, without entering a new one, answer [Y] to the "Change Password?" prompt, then press the [Enter] key when prompted for the new password and its confirmation.

	PROMPTS	OPTIONS	DESCRIPTION
6	Enter Password	[0-9, A-F, N, S, T, X, Y]	This prompt is displayed if [Y] was pressed in Prompt 4 or 5. Enter a 4-digit password (0-9, A-F, N, S, T, X, Y).
7	Verify Password	[0-9, A-F, N, S, T, X, Y]	Re-enter the password as confirmation. If the password doesn't match the first entry, the following is displayed followed by the "Exit Prog. Mode?" prompt: Verify Not OK PSWD not created Otherwise, the "Exit Prog. Mode?" prompt is displayed directly.
8	Exit Prog. Mode? (Y/N)_	[Y], [N] [ESC]	Exits program mode. Press [N] to go back to Prompt 3. Press [ESC] to load factory defaults. Refer to the <i>Exiting Programming Mode</i> paragraph in this section.
9	Comm Path Choice (IP&Cell)_	• IP&Cell • IP • Cell	Press the [space] key to scroll through the communication path choices. Press [ENTER] to select. For maximum reliability, select IP&Cell, and ensure the Internet is connected using the Ethernet cable. NOTE: After going from a "Cell" only com path choice to an "IP" only choice, Prompt 41: "DHCP" will default to No.
10	Device Mode (ECP)_	• ECP • Zone Triggers	Press the [space] key to scroll through the modes of operation. Press [ENTER] to select ECP mode. IMPORTANT , if Zone Trig device mode is desired, use <i>Table 3-4</i> for programming.
Important Information Regarding Primary and Secondary Accounts (Prompts 11-17)			
Account information is provided by the central station administrator. If the control panel supports secondary account reporting, you will need secondary account information. The City ID, CS ID or Subscriber ID of the secondary account must differ from that of the primary account.			
11	Primary City ID (??)_	[01-99]	Enter the 2-digit primary city ID, 01-99 (decimal).
12	Primary CS ID (??)	[01-FE]	Enter the 2-digit primary central station ID number, 01-FE (HEX).
13	Primary Sub ID (????)	[0001-9999]	Enter the 4-digit subscriber account number, 0001-9999 (decimal).
14	En. 2nd CS Y/N (N)_	[Y], [N]	Applicable only if control panel supports Central Station #1 and #2 Category Enable reporting for the communicator device (e.g., VISTA-128BP, FA1660C). Used if reporting to a second central station is desired. If [N], go to Prompt 18: "Device Address."
15	2nd City ID (??)_	[01-99]	Enter the 2-digit secondary city ID, 01-99 (decimal).
16	2nd CS ID (??)_	[01-FE]	Enter the 2-digit second central station's ID number, 01-FE (HEX).
17	2nd Sub ID (????)_	[0001-9999]	Enter the 4-digit subscriber account number for the second central station, 0001-9999.
18	Device Address (03)_	[01-30]	In ECP mode, the LTE-HS communicates with the control panel using the ECP bus. Enter the appropriate ECP device address. For VISTA-10 and VISTA-20 series control panels, use address 03. For other control panels, see their Installation and Setup Guide. NOTES: 1. When programming the control panel, enable the communicator (or LRR) output. 2. The device address must be unique from the "Keypad Address" entered in Prompt 20.

	PROMPTS	OPTIONS	DESCRIPTION
19	Direct Wire Y/N (N)_	[Y], [N]	Enables Direct Wire Downloading over IP. This applies only to the Vista-32FB and VISTA BP and FBP series control panels with revision 3.x. BP and FBP panels rev 4.x and higher support Downloading via IP over ECP. If [N], skip to Prompt 21: "Supervision."
20	Keypad Address (28)_	[01-30]	Must be programmed if using Direct Wire downloading. NOTES: 1. This address must also be programmed as an alpha keypad in the control panel or an AUI (advanced user interface) type device, if a full enhanced graphic interface to the system is desired and the control panel supports it. DO NOT connect an actual keypad (or any other device) assigned to this address. 2. This address must be unique from the "Device Address" entered in Prompt 18.
21	Supervision (UL Hi Line Sec)_	<ul style="list-style-type: none"> • UL Hi Line Sec • 3 Minutes • 6 Minutes 	<p>The AlarmNet network must hear at least one supervisory message from the communicator during this supervision period; otherwise, AlarmNet notifies the central station that a communication failure has occurred. (If the supervision period is changed after registration, you must re-register the communicator.)</p> <p>Press the [space] key to scroll through choices.</p> <p>NOTE: When "UL Hi Line Sec" is selected, a loss of communications is treated as an alarm condition by the central station.</p> <p>UL: Must be set to "UL Hi Line Sec" (200 sec).</p>
NOTE: The next prompt only appears if the Comm Path Choice is IP&Cell.			
22	Cell 24Hr Tst Y/N (N)_	[Y], [N]	<p>If enabled a message is sent every 24 hrs over cell to verify proper operation. If it fails, a Periodic Comm Test Failure message will be sent over Ethernet.</p> <p>UL: Must be set to "Y".</p>
23	Old Alarm Time 10 Minutes_	<ul style="list-style-type: none"> • 10 Minutes • 4 Hours • 15 Minutes • 8 Hours • 30 Minutes • 12 Hours • 1 Hour • 24 Hours • 2 Hours • 4 Hours • 8 Hours • 12 Hours • 24 Hours 	<p>Sets how long an undeliverable alarm is retried for delivery to the central station. If the message is not validated, it is retried until the old alarm time is reached or the message is validated.</p> <p>Press the [space] key to scroll through choices.</p> <p>UL: Must be 10 minutes.</p>
NOTE: The next prompt only appears if the Comm Path Choice is IP&Cell, or IP.			
24	IP Flt Time (01 mins)_	[00-99]	<p>In the event there is a loss of contact with the network over the Ethernet connection, enter the time delay (in minutes) before the communicator notifies the central station. IP failure will always be sent to the central station as Primary Communication Path Failure.</p> <p>UL: Must be one (01) minute.</p>
NOTE: The next prompt only appears if the Comm Path Choice is IP&Cell, or Cell.			
25	Cell Flt Time (01 mins)_	[00-99]	<p>In the event the communicator detects a communication path failure, enter the time delay (in minutes) before the communicator notifies the central station. A cell failure will always be sent to the central station as Secondary Communication Path Failure.</p> <p>UL: Must be one (01) minute.</p>
NOTE: The next prompt only appears if the Comm Path Choice is IP&Cell.			

	PROMPTS	OPTIONS	DESCRIPTION
26	Notify Panel Of_ (Both IP&Cell Flts)	[Both IP and Cell Faults] [Neither fault]	If "Both IP and Cell Faults" is selected, the device will only notify the control panel if both communication paths fail, but will always send notification of either failure to the central station. NOTE: The fault relay output (if programmed) will be triggered only if "Both IP and Cell Faults" is selected. (If the "Cell Fault Time" and "IP Fault Time" options are set to zero, faults will not be reported.) Press the [space] key to scroll through choices. UL: Must be set to "Both IP and Cell Faults".
27	Fit Rel ON Y/N (N)_	[Y], [N]	If enabled, the fault open collector output is normally energized to ground, and de-energizes (open circuit) in the event of a communicator fault. For conditions that trip the fault relay refer to <i>Supervision Features</i> in Section 1. Set to [Y] if fail-safe mode is desired. See <i>Wiring the Fault Relay</i> in Section 2. UL: Must be set to "Y."
28	Pwr Loss Rpt Y/N (Y)_	[Y], [N]	Sends a primary power loss report to the central station within 1-3 hours after its detection. A restore report is sent within 1-3 hours after power is restored. UL Standard Installations (using transformer and battery): Must be set to "Y".
29	Low Bat Rpt Y/N (Y)_	[Y], [N]	Sends a low-battery report when a low battery condition exists. A low battery restore is automatically sent when the low battery condition clears. UL Standard Installations (using transformer and battery): Must be set to "Y".
30	Tamper Rpt Y/N (Y)_	[Y], [N]	Sends a tamper report when the communicator detects a tamper condition. A tamper restore is automatically sent when the tamper condition clears. UL: Must be set to "Y."

Important Information Regarding Zone Input Options

ECP mode supports two optional hardwire zone input triggers by making connections to the communicator's zone 6 and/or zone 7 terminals and programming the appropriate zone trigger options below.

Each zone input can be programmed to cause an alarm under one of the following conditions:

- (V+), where a positive voltage causes an alarm for normally low connections (voltage trigger, NO, NC)
- (V-), where a ground trigger causes an alarm for normally high connections (open collector, NO, NC)
- (EOLR) End of Line Resistor, where the input is supervised by a 2K EOL resistor. The zone can be triggered by open collector, voltage trigger, NO, NC.

UL: Set V+ to inverted, and V- as non-inverted.

In addition to the above, zones can be programmed for an Inverted Trigger, where the alarm and normal states of the zones are inverted; this can serve a fail-safe supervisory purpose for certain installations.

These zone inputs can also be programmed for restore reporting, and for delayed reporting (NOT for UL installations), which allows time for the user to abort false alarms.

NOTE: Optional hardwire zones report in ADEMCO High-Speed format.

31	Enable Zn6 Y/N (N)_	[Y], [N]	Enables alarm reporting for zone 6. If [N], skip to Prompt 36: "Enable Zn7."
32	Zn6 Trigger Type (V+)_	<ul style="list-style-type: none"> • (V+) • (V-) • (EOLR) 	Selects the triggering method for this zone input. Press the [space] key to scroll through choices. UL: V+ must be set as inverted and V- as non-inverted.

	PROMPTS	OPTIONS	DESCRIPTION
33	Invert Zn6 Y/N (N)_	[Y], [N]	Inverts the alarm and normal states of the zone 6 trigger; otherwise uses normal input signal.
34	Restore Zn6 Y/N (Y)_	[Y], [N]	Enables restore reporting for zone 6.
35	Delay Zn6 (secs) (00)_	[01-15] [00] = no delay	Defines the reporting delay in seconds for zone 6. UL: Must be set to 00.
36	Enable Zn7 Y/N (N)_	[Y], [N]	Enables alarm reporting for zone 7. If [N], skip to Prompt 41: "Use DHCP."
37	Zn7 Trigger Type (V+)_	<ul style="list-style-type: none"> • (V+) • (V-) • (EOLR) 	Selects the triggering method for this zone input. Press the [space] key to scroll choices. UL: V+ must be set as inverted and V- as non-inverted.
38	Invert Zn7 Y/N (N)_	[Y], [N]	Inverts the alarm and normal states of the zone 7 trigger; otherwise, uses normal input signal.
39	Restore Zn7 Y/N (Y)_	[Y], [N]	Enables restore reporting for zone 7.
40	Delay Zn7 (secs) (00)_	[01-15] [00] = no delay	Defines the reporting delay in seconds for zone 7. UL: Must be set to 00.
NOTE: Prompts 41 through 46 only appear if the Comm Path Choice is IP, or IP&Cell.			
41	Use DHCP Y/N (Y)_	[Y], [N]	Dynamically allocates the IP addresses (recommended); then skip to Prompt 46: "Enable Pwr Save". If [N], uses fixed IP addresses.
42	NIC IP Address: 255.255.255.255_	12 digit: xxx.xxx.xxx.xxx	Enter the 4-part address for this device. The 4 parts of the address must be separated by spaces (displayed as periods in Review mode).
43	Subnet Mask: 255.255.255.255_	12 digit: xxx.xxx.xxx.xxx	Enter the 32-bit address mask used to indicate the portion (bits) of the IP address that is being used for the subnet address. The 4 parts of the address must be separated by spaces (displayed as periods in Review mode).
44	Gateway IP Addr: 255.255.255.255_	12 digit: xxx.xxx.xxx.xxx	Enter the 4-part address assigned to the Gateway. The 4 parts of the address must be separated by spaces (displayed as periods in Review mode).
45	DNS Serv IP Addr: 255.255.255.255_	12 digit: xxx.xxx.xxx.xxx	Enter the 4-part IP address assigned to the DNS (Domain Name System) server. The 4 parts of the address must be separated by spaces (displayed as periods in Review mode).
46	Enable Pwr Save (N)_	[Y], [N]	To meet the 24 hour UL battery backup requirement, choose "Y" to enable this feature. If this causes connectivity problems with certain routers or switches, then choose "N" and wire the communicator so it is plugged into a UL Listed UPS. UL: Must be set to Y.
47	IP Connection (Present)	<ul style="list-style-type: none"> • Present • Auto Detect 	Press the [space] key to toggle between the options. Press [ENTER] to select the configuration. If "Present" is chosen, it is assumed that an IP is connected to the device. If it is not detected, a Primary Comm Path Failure message will be delivered after the programmed fault time expires. If "Auto Detect" is chosen, the device will always try to use IP to communicate but it will not generate a Primary Comm Path Failure unless it previously detected the presence of IP. As soon as the presence of IP is detected, a Primary Comm Path Restore message is generated and the value of IP Connectivity programming parameter is changed from "Auto Detect" to "Detected". From this point on, the software expects connectivity. The auto detect logic will resume only when the parameter is changed back to "Auto

	PROMPTS	OPTIONS	DESCRIPTION
			Detect".
48	Review? Y/N	[Y] = review [N] = exit	<p>Reviewing Programming Mode Entries To review the programming options (to ensure that the correct entries have been made), press [Y]. The programming prompts are displayed again. Use the up/down arrow keys to scroll through the program fields without changing any of the values. If a value requires change, simply type in the correct value. When the last field is displayed, the "REVIEW?" prompt again appears.</p> <p>To exit the programming mode, press [N] in response to the "REVIEW?" prompt, and refer to <i>Exiting Programming Mode</i> at the end of this section.</p>

ECP Status Codes

When the communicator is configured for ECP mode, it sends status messages to the control panels for battery, power, tamper, and network connectivity failures. Some control panels display these on the keypad as "LngRng Radio" followed by a 4-digit code (listed in the table below). In addition, the Contact ID codes (listed in Appendix B) for these conditions are sent to the central station by the communicator.

UL The information in the following table is based on the VISTA-20 which has not been evaluated with this communicator.

Table 3-3. Common ECP Keypad Display Status Codes

STATUS CODE	DESCRIPTION
0000	Control panel lost communication with the communicator.
0880	Communicator tamper detected (cover removed).
4005	Communicator has lost contact with AlarmNet.
000F	Communicator is not registered; account not activated.
0019	Communicator shutdown.
0400	Communicator power on / reset AND the control panel lost communications with communicator.
0C80	Communicator power on / reset AND tamper detected.
0C8F	Communicator power on / reset AND tamper detected AND not registered.
08E0	Communicator tamper detected and communicator battery low.
3000	Primary power loss (will only be displayed in conjunction with another event).
8000	Battery charger failure (will only be displayed in conjunction with another event).
0060	Low battery (will only be displayed in conjunction with another event).

Zone Trigger Mode

UL The LYNX controls have not been evaluated with this communicator.

There are six input zones available on the communicator. Each zone is selectable for +V, -V, or EOLR trigger. The first zone input can detect both pulsed and steady signals if connected to a bell output. Additionally, the first zone input can be programmed to detect a single pulse (characteristic of a Panic indication on the Lynx, LynxR or LynxR-EN control by enabling the Lynx Panic option). If the programming option "Lynx Panic" is enabled, the communicator reports an alarm on zone 3. No restores are reported for this zone. If this option is selected, the second physical zone input is ignored.

When using Zone Trigger mode, messages are sent in ADEMCO High-Speed format.

Zones 3, 4, 5, 6 and 7 are voltage trigger inputs located on TB1 pins 6-10. If the Lynx Panic feature is being used, do not connect zone 3 (the second physical zone input).

Refer to Table 3-4 for Zone Trigger Mode programming and follow the prompts that pertain to Zone Trigger Mode. A check mark (✓) indicates whether the prompt applies to that mode.

Alternative Mode Programming

Press the [ENTER] key to begin programming and follow the prompts for the mode of operation being programmed.

NOTE: The central station can remotely block access to local device programming. If this has been done, the following prompt appears:

Access to Prog Mode Denied

Table 3-4: Programming for Zone Trigger mode.

	PROMPTS	OPTIONS	DESCRIPTION
1	Strt Prog Mode? Y/N_	[Y], [N]	Enters programming mode.
2	Enter Password	[0-9, A-F, N, S, T, X, Y]	If a password has been previously assigned, this prompt appears. Enter a 4-digit password (0-9, A-F, N, S, T, X, Y). The next prompt appears.
3	Program Device? Y/N_	[Y], [N]	To begin programming the communicator, press [Y] and go to Prompt 10: "Device Mode." To create a password if none has been assigned, press [N] and go to Prompt 4: Create Password. To change an existing password, press [N] and go to Prompt 5: "Change Password."
4	Create Password? Y/N_	[Y], [N]	Passwords can be used to protect account and programming information. If no password has been assigned, this prompt appears after pressing [N] at the "Program Device?" prompt. If a password is desired, press [Y] and go to Prompt 6: "Enter Password."
5	Change Password? Y/N_	[Y], [N]	If a password has already been assigned, this prompt appears after pressing [N] at the "Program Device?" prompt. Press [Y] if you want to change the password. NOTE: To clear an existing password, without entering a new one, answer [Y] to the "Change Password?" prompt, then press the [Enter] key when prompted for the new password and its confirmation.

	PROMPTS	OPTIONS	DESCRIPTION
6	Enter Password	[0-9, A-F, N, S, T, X, Y]	This prompt is displayed if [Y] was pressed in Prompt 4 or 5. Enter a 4-digit password (0-9, A-F, N, S, T, X, Y).
7	Verify Password	[0-9, A-F, N, S, T, X, Y]	Re-enter the password as confirmation. If the password doesn't match the first entry, the following is displayed followed by the "Exit Prog. Mode?" prompt: Verify Not OK PSWD not created Otherwise, the "Exit Prog. Mode?" prompt is displayed directly.
8	Exit Prog. Mode? Y/N_	[Y], [N] [ESC]	Exits program mode. Press [N] to go back to Prompt 3. Press [ESC] to load factory defaults. Refer to the <i>Exiting Programming Mode</i> paragraph in this section.
9	Comm Path Choice (IP&Cell)_	<ul style="list-style-type: none"> • IP&Cell • IP • Cell 	Press the [space] key to scroll through the communication path choices. Press [ENTER] to select. For maximum reliability, select IP&Cell, and ensure the Internet is connected using the Ethernet cable. NOTE: After going from a "Cell" only com path choice to an "IP" only choice, Prompt 68: "DHCP" will default to No.
10	Device Mode (ECP)_	<ul style="list-style-type: none"> • ECP • Zone Trig. 	Press the [space] key to scroll through the modes of operation. Press [ENTER] to select mode. IMPORTANT , if ECP device mode is desired, use <i>Table 3-2</i> for programming.
Important Information Regarding Primary Account (Prompts 11-13)			
Account information is provided by the central station administrator.			
11	Primary City ID (??)_	[01-99]	Enter the 2-digit primary city ID, 01-99 (decimal).
12	Primary CS ID (??)	[01-FE]	Enter the 2-digit primary central station ID number, 01-FE (HEX).
13	Primary Sub ID (????)	[0001-9999]	Enter the 4-digit subscriber account number, 0001-9999 (decimal).
14	Device Address (12)_	[01-15]	The device address must be unique from the "Keypad Address" entered in Prompt 16 and any other address used on the control panel.
15	Direct Wire Y/N (N)_	[Y], [N]	Enables Direct Wire Downloading over IP. This applies only to the Vista-32FB and VISTA BP and FBP series control panels with revision 3.x. BP and FBP panels rev 4.x and higher support Downloading via IP over ECP. If [N], skip to Prompt 17: "Supervision."
16	Keypad Address (28)_	[01-30]	Must be programmed if using Direct Wire downloading. Enter the appropriate device address. NOTES: 1. This address must also be programmed as an alpha keypad in the control panel or an AUI (Advanced User Interface) type device, if a full enhanced graphic interface to the system is desired and the control panel supports it. DO NOT connect an actual keypad (or any other device) assigned to this address. 2. This address must be unique from the "Device Address" entered in Prompt 14.

	PROMPTS	OPTIONS	DESCRIPTION
17	Supervision (UL Hi Line Sec)_	<ul style="list-style-type: none"> • UL Hi Line Sec • 3 Minutes • 6 Minutes 	<p>The AlarmNet network must hear at least one supervisory message from the communicator during this supervision period; otherwise, AlarmNet notifies the central station that a communication failure has occurred. (If the supervision period is changed after registration, you must re-register the communicator.)</p> <p>Press the [space] key to scroll through choices.</p> <p>NOTE: When "UL Hi Line Sec" is selected, a loss of communications is treated as an alarm condition by the central station.</p> <p>UL: Must be set to "UL Hi Line Sec" (200 sec).</p>
NOTE: The next prompt only appears if the Comm Path Choice is IP&Cell.			
18	Cell 24Hr Tst Y/N (N)_	[Y], [N]	<p>If enabled a message is sent every 24 hrs over Cell to verify proper operation. If it fails, a Periodic Comm Test Failure message will be sent over Ethernet.</p> <p>UL: Must be set to "Y".</p>
19	Old Alarm Time 10 Minutes_	<ul style="list-style-type: none"> • 10 Min • 15 Min • 30 Min • 1 Hr • 2 Hrs • 4 Hrs • 8 Hrs • 12 Hrs • 24 Hrs 	<p>Sets how long an undeliverable alarm is retried for delivery to the central station. If the message is not validated, it is retried until the old alarm time is reached or the message is validated.</p> <p>Press the [space] key to scroll through choices.</p> <p>UL: Must be set to 10 minutes.</p>
NOTE: The next prompt only appears if the Comm Path Choice is IP&Cell, or IP.			
20	IP Fit Time (01 mins)_	[00-99]	<p>In the event there is a loss of contact with the network over the Ethernet connection, enter the time delay (in minutes) before the communicator notifies the central station. IP failure will always be sent to the central station as Primary Communication Path Failure.</p> <p>UL: Must be one (01) minute.</p>
NOTE: The next prompt only appears if the Comm Path Choice is IP&Cell, or Cell.			
21	Cell Fit Time (01 mins)_	[00-99]	<p>In the event the communicator detects a communication path failure, enter the time delay (in minutes) before the communicator notifies the central station. A cell failure will always be sent to the central station as Secondary Communication Path Failure.</p> <p>UL: Must be one (01) minute.</p>
NOTE: The next prompt only appears if the Comm Path Choice is IP&Cell.			
22	Notify Panel Of_ (Both IP&Cell FIts)_	<p>[Both IP and Cell Faults]</p> <p>[Neither fault]</p>	<p>If "Both IP and Cell Faults" is selected, the device will only notify the control panel if both communication paths fail, but will always send notification of either failure to the central station.</p> <p>NOTE: The fault relay output (if programmed) will be triggered only if "Both IP and Cell Faults" is selected. (If the "Cell Fault Time" and "IP Fault Time" options are set to zero, faults will not be reported.)</p> <p>Press the [space] key to scroll through choices.</p> <p>UL: Must be set to "Both IP and Cell Faults".</p>

	PROMPTS	OPTIONS	DESCRIPTION
23	Fit Rel ON Y/N (N)_	[Y], [N]	If enabled, the fault open collector output is normally energized to ground, and de-energizes (open circuit) in the event of a communicator fault. For conditions that trip the fault relay refer to <i>Supervision Features</i> in Section 1. Set to [Y] if fail-safe mode is desired. See <i>Wiring the Fault Relay</i> in Section 2. UL: Must be set to "Y".
24	Pwr Loss Rpt Y/N (Y)_	[Y], [N]	Sends a primary power loss report to the central station within 1-3 hours after its detection. A restore report is sent within 1-3 hours after power is restored. UL: Must be set to "Y".
25	Low Bat Rpt Y/N (Y)_	[Y], [N]	Sends a low-battery report when a low battery condition exists. A low-battery restore is automatically sent when the low battery condition clears. UL: Must be set to "Y".
26	Tamper Rpt Y/N (Y)_	[Y], [N]	Sends a tamper report when the communicator detects a tamper condition. A tamper restore is automatically sent when the tamper condition clears. UL: Must be set to "Y".
27	Lynx Panic Y/N (N)_	[Y], [N]	Applies only if used with a Lynx, LynxR or LynxR-EN controls where the communicator (or LRR) trigger is connected to the communicator's zone terminal. Reports a Panic alarm on zone 3 when the communicator detects a single pulse on zone 1. No restores are generated for a Panic alarm.

Important Information Regarding Zone Input Options

Zone Trigger Mode provides six hardwire zone input triggers by making connections to the communicator's zone terminals and programming the appropriate zone trigger options below. Zones are numbered 1-7, with zone 2 serving as a reporting zone only (see Bell Output Zone below).

Bell Output Zone 1 (and 2): The zone 1 terminal can detect both pulsed and steady signals. If connecting the bell output to the communicator zone causes a bell fault on the control panel, enable the "Trip Inputs 1 or 2" option. The communicator reports an alarm on zone 1 (fire) when it detects a pulsed signal and an alarm on zone 2 (burglary) when it detects a steady signal.

UL: Use of the Bell output is not supported.

Telco Zone and Open/Close Zone: Dedicated zones can be assigned as the Telco fault zone and/or an open/close (arm/disarm) reporting zone. When triggered, these zones report a Telco line fault or open/close report respectively, in ADEMCO High-Speed format. Connect the appropriate trigger from the control panel to the selected zone input for each of these options.

Input Trigger Types: Triggering of each zone input can be programmed to cause an alarm under one of the following conditions:

- (V+), where a positive voltage causes an alarm for normally low connections (voltage trigger, NO, NC)
- (V-), where a ground trigger causes an alarm for normally high connections (open collector, NO, NC)
- (EOLR) End of Line Resistor, where the input is supervised by a 2K EOL resistor. The zone can be triggered by open collector, voltage trigger, NO, NC.

UL: Set V+ to inverted, and V- as non-inverted.

Inverted Trigger: Zones can be programmed for inverted trigger, where the alarm and normal states of the zones are inverted; this can serve a fail-safe supervisory purpose for certain installations.

Restore and Delayed Reports: Zone inputs can be programmed for restore reporting, and for delayed reporting (NOT for UL installations) which allows time for the user to abort false alarms.

UL: Zone restoral must be enabled.

Report Only if Armed option: To help eliminate redundant reports, zone alarms can be restricted to report only if a

	PROMPTS	OPTIONS	DESCRIPTION				
	<p>conditional zone is triggered (armed). If this feature is desired, the conditional zone is automatically used as the "arming" zone. Connect the appropriate control panel trigger to the conditional (arming) zone. The trigger must be programmed as necessary in the control panel.</p> <p>The conditional (arming) zone on the communicator is a different dedicated zone for each programming mode, as follows:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Mode</th> <th>Conditional (Arming) Zone</th> </tr> </thead> <tbody> <tr> <td>Zone Trigger</td> <td>7</td> </tr> </tbody> </table> <p>IMPORTANT: If any zone (zones 1-6 in zone trigger mode) is set for Report Only if Armed, the conditional (arming) zone becomes unavailable for reporting (as it is reserved for the "arming" trigger connection).</p>			Mode	Conditional (Arming) Zone	Zone Trigger	7
Mode	Conditional (Arming) Zone						
Zone Trigger	7						
28	Trip Inputs 1or2 w/Bell Out (N)_	[Y], [N]	<p>Use if the zone 1 connection to the control panel's bell output causes a bell fault on the control panel.</p> <p>NOTES:</p> <ol style="list-style-type: none"> If used, EOLR trigger type is not available for zones 1 and 3. Do not use with Lynx controls. 				
29	Telco Zone (0)_	<p>Zone Trig: [3-7]</p> <p>[0] = not used</p>	<p>See Important Information above, Regarding Zone Input Options.</p> <p>Enter the zone number to be used for Telco line fault reports. This zone assignment must be unique from the open/close zone selected in Prompt 30.</p> <p>Zone Trigger Mode: If any zone is programmed for "report only if armed," zone 7 cannot be used. If Lynx Panic is enabled, zone 3 cannot be used.</p> <p>NOTE: Connect the Telco line fault output (or relay output programmed for "Telco line fault") to the Telco zone.</p>				
30	Open/Close Zone (0)_	<p>Zone Trig: [3-7]</p> <p>[0] = not used</p>	<p>Enter the zone number to be used for open/close (arm/disarm) reports.</p> <p>This zone assignment must be unique from the Telco zone selected in Prompt 29.</p> <p>Zone Trigger Mode: If any zone is programmed for "report only if armed," zone 7 cannot be used as an open/close zone. If Lynx Panic is enabled, zone 3 cannot be used.</p> <p>NOTE: Connect an open/close (arm/disarm) trigger (or relay output) from the control panel to the open/close zone.</p>				
31	Zn1 Trigger Type (V+)_	<ul style="list-style-type: none"> • (EOLR) • (V+) • (V-) 	<p>Selects the triggering method for this zone input. Press the [space] key to scroll through choices.</p> <p>UL: V+ must be set as inverted and V- as non-inverted.</p>				
32	Restore Zn1 Y/N (Y)_	[Y], [N]	<p>Enables restore reporting for zone 1.</p> <p>UL: Must be set to "Y."</p>				
33	Delay Zn1 (secs) (00)_	<p>[01-15]</p> <p>[00] = no delay</p>	<p>Defines the reporting delay in seconds for zone 1.</p> <p>UL: Must be set to 00.</p>				
34	Rpt Zn1 ONLY if Armed (N)_	[Y], [N]	<p>Report alarms on zone 1 ONLY if the conditional zone (zone 7 in zone trigger mode) is triggered (armed). If [N], always reports alarms on zone 1.</p>				
35	Invert Zn2 Y/N (N)_	[Y], [N]	<p>Inverts the alarm and normal states of the zone 2 trigger; otherwise uses normal input signal.</p>				
36	Restore Zn2 Y/N (Y)_	[Y], [N]	<p>Enables restore reporting for zone 2.</p> <p>UL: Must be set to "Y."</p>				
37	Delay Zn2 (secs) (00)_	<p>[01-15]</p> <p>[00] = no delay</p>	<p>Defines the reporting delay in seconds for zone 2.</p> <p>UL: Must be set to 00.</p>				
38	Rpt Zn2 ONLY if Armed (N)_	[Y], [N]	<p>Reports alarms on zone 2 ONLY if the conditional zone (zone 7 in zone trigger mode) is triggered (armed). If [N], always reports alarms on zone 2.</p>				
<p>If Lynx Panic is enabled, then skip to Prompt 43: "Rpt Zn3 ONLY if Armed."</p>							

	PROMPTS	OPTIONS	DESCRIPTION
39	Zn3 Trigger Type (V+)_	<ul style="list-style-type: none"> • (EOLR) • (V+) • (V-) 	Selects the triggering method for this zone input. Press the [space] key to scroll through choices. UL: V+ must be set as inverted and V- as non-inverted.
40	Invert Zn3 Y/N (N)_	[Y], [N]	Inverts the alarm and normal states of the zone 3 trigger; otherwise uses normal input signal.
41	Restore Zn3 Y/N (Y)_	[Y], [N]	Enables restore reporting for zone 3. UL: Must be set to "Y."
42	Delay Zn3 (secs) (00)	[01-15] [00] = no delay	Defines the reporting delay in seconds for zone 3. UL: Must be set to 00.
43	Rpt Zn3 ONLY if Armed (N)_	[Y], [N]	Reports alarms on zone 3 ONLY if the conditional zone (zone 7 in zone trigger mode) is triggered (armed). If [N], always reports alarms on zone 3.
44	Zn4 Trigger Type (V+)_	<ul style="list-style-type: none"> • (EOLR) • (V+) • (V-) 	Selects the triggering method for this zone input. Press the [space] key to scroll through choices. UL: V+ must be set as inverted and V- as non-inverted.
45	Invert Zn4 Y/N (N)_	[Y], [N]	Inverts the alarm and normal states of the zone 4 trigger; otherwise uses normal input signal.
46	Restore Zn4 Y/N (Y)_	[Y], [N]	Enables restore reporting for zone 4. UL: Must be set to "Y."
47	Delay Zn4 (secs) (00)	[01-15] [00] = no delay	Defines the reporting delay in seconds for zone 4. UL: Must be set to 00.
48	Rpt Zn4 ONLY if Armed (N)_	[Y], [N]	Reports alarms on zone 4 ONLY if the conditional zone (zone 7 in zone trigger mode) is triggered (armed). If [N], always reports alarms on zone 4.
49	Zn5 Trigger Type (V+)_	<ul style="list-style-type: none"> • (EOLR) • (V+) • (V-) 	Selects the triggering method for this zone input. Press the [space] key to scroll through choices. UL: V+ must be set as inverted and V- as non-inverted.
50	Invert Zn5 Y/N (N)_	[Y], [N]	Inverts the alarm and normal states of the zone 5 trigger; otherwise uses normal input signal.
51	Restore Zn5 Y/N (Y)_	[Y], [N]	Enables restore reporting for zone 5. UL: Must be set to "Y."
52	Delay Zn5 (secs) (00)_	[01-15] [00] = no delay	Defines the reporting delay in seconds for zone 5. UL: Must be set to 00.
53	Rpt Zn5 ONLY if Armed (N)_	[Y], [N]	Reports alarms on zone 5 ONLY if the conditional zone (zone 7 in zone trigger mode) is triggered (armed). If [N], always reports alarms on zone 5.
54	Enable Zn6 Y/N (N)_	[Y], [N]	Enables alarm reporting for zone 6. If [N], skip to Prompt 60: "Enable Zn7."
55	Zn6 Trigger Type (V+)_	<ul style="list-style-type: none"> • (EOLR) • (V+) • (V-) 	Selects the triggering method for this zone input. Press the [space] key to scroll through choices. UL: V+ must be set as inverted and V- as non-inverted.
56	Invert Zn6 Y/N (N)_	[Y], [N]	Inverts the alarm and normal states of the zone 6 trigger; otherwise uses normal input signal.

	PROMPTS	OPTIONS	DESCRIPTION
57	Restore Zn6 Y/N (Y)_	[Y], [N]	Enables restore reporting for zone 6. UL: Must be set to "Y."
58	Delay Zn6 (secs) (00)_	[01-15] [00] = no delay	Defines the reporting delay in seconds for zone 6. UL: Must be set to 00.
59	Rpt Zn6 ONLY if Armed (N)_	[Y], [N]	Reports alarms on zone 6 ONLY if the conditional zone (zone 7 in zone trigger mode) is triggered (armed). If [N], always reports alarms on zone 6.
60	Enable Zn7 Y/N (N)_	[Y], [N]	Enables alarm reporting for zone 7. If [N], skip to Prompt 68: "Use DHCP."
61	Zn7 Trigger Type (V+)_	<ul style="list-style-type: none"> • (EOLR) • (V+) • (V-) 	Selects the triggering method for this zone input. Press the [space] key to scroll through choices. UL: V+ must be set as inverted and V- as non-inverted.
62	Invert Zn7 Y/N (N)_	[Y], [N]	Inverts the alarm and normal states of the zone 7 trigger; otherwise uses normal input signal.
63	Restore Zn7 Y/N (Y)_	[Y], [N]	Enables restore reporting for zone 7. Zone Trigger mode: This prompt will only be displayed if zone 7 is not used as the conditional (arming) trigger zone. UL: Must be set to "Y."
64	Delay Zn7 (secs) (00)_	[01-15] [00] = no delay	Defines the reporting delay in seconds for zone 7. Zone Trigger mode: This prompt will only be displayed if zone 7 is not used as the conditional (arming) trigger zone. UL: Must be set to 00.
65	Rpt Zn7 ONLY if Armed (N)_	[Y], [N]	Reports alarms on zone 7 ONLY if the conditional zone is triggered (armed). If [N], always reports alarms on zone 7.
NOTE: The next two prompts are available ONLY when option "Tamper Rpt" is DISABLED.			
66	Restore Zn8 Y/N (Y)_	[Y], [N]	Enables restore reporting for zone 8. UL: Must be set to "Y."
67	Delay Zn8 (secs) (00)_	[01-15] [00] = no delay	Defines the reporting delay in seconds for zone 8. UL: Must be set to 00.
NOTE: Prompts 68 through 73 only appear if the Comm Path Choice is IP, or IP&Cell.			
68	Use DHCP Y/N (Y)_	[Y], [N]	Dynamically allocates the IP addresses (recommended); then skip to Prompt 73: "Enable Pwr Save". If [N], uses fixed IP addresses.
69	NIC IP Address: 255.255.255.255_	12 digit: xxx.xxx.xxx.xxx	Enter the 4-part address for this device. The 4 parts of the address must be separated by spaces (displayed as periods in Review mode).
70	Subnet Mask: 255.255.255.255_	12 digit: xxx.xxx.xxx.xxx	Enter the 32-bit address mask used to indicate the portion (bits) of the IP address that is being used for the subnet address. The 4 parts of the address must be separated by spaces (displayed as periods in Review mode).
71	Gateway IP Addr: 255.255.255.255_	12 digit: xxx.xxx.xxx.xxx	Enter the 4-part address assigned to the Gateway. The 4 parts of the address must be separated by spaces (displayed as periods in Review mode).
72	DNS Serv IP Addr: 255.255.255.255_	12 digit: xxx.xxx.xxx.xxx	Enter the 4-part IP address assigned to the DNS (Domain Name System) server. The 4 parts of the address must be separated by spaces (displayed as periods in Review mode).

	PROMPTS	OPTIONS	DESCRIPTION
73	Enable Pwr Save (N)_	[Y], [N]	To meet the 24 hour UL battery backup requirement, choose "Y" to enable this feature. If this causes connectivity problems with certain routers or switches, then choose "N" and wire the communicator so it is plugged into a UL Listed UPS. UL: Must be set to Y.
74	IP Connection (Present)	<ul style="list-style-type: none"> • Present • Auto Detect 	<p>Press the [space] key to toggle between the options. Press [ENTER] to select the configuration.</p> <p>If "Present" is chosen, it is assumed that an IP is connected to the device. If it is not detected, a Primary Comm Path Failure message will be delivered after the programmed fault time expires.</p> <p>If "Auto Detect" is chosen, the device will always try to use IP to communicate but it will not generate a Primary Comm Path Failure unless it previously detected the presence of IP. As soon as the presence of IP is detected, a Primary Comm Path Restore message is generated and the value of IP Connectivity programming parameter is changed from "Auto Detect" to "Detected".</p> <p>From this point on, the software expects connectivity. The auto detect logic will resume only when the parameter is changed back to "Auto Detect".</p>
75	Review? Y/N	[Y] = review [N] = exit	<p>Reviewing Programming Mode Entries</p> <p>To review the programming options (to ensure that the correct entries have been made), press [Y]. The programming prompts are displayed again. Use the up/down arrow keys to scroll through the program fields without changing any of the values. If a value requires change, simply type in the correct value. When the last field is displayed, the "REVIEW?" prompt again appears.</p> <p>To exit the programming mode, press [N] in response to the "REVIEW?" prompt, and refer to <i>Exiting Programming Mode</i> below.</p>

Exiting Programming Mode

To exit the programming mode, press [N] in response to the "REVIEW?" prompt. Then press [Y] to the "Exit Prog Mode?" prompt. Upon exiting, the root file is updated to log the changes made. A message is displayed telling the user that this step is being executed. When complete, the message "DONE" is displayed to indicate the file was successfully uploaded.



If critical configuration changes were made, such as the mode of operation, the communicator will reset to ensure that the programming features are enabled.

If the file is not successfully uploaded, one of the following prompts will be displayed. Follow the steps shown below until the upload is successful.

Display	Description	What to do
Cannot Upload Try Again? Y/N_	Communicator is not yet initialized.	Wait for signal quality LEDs to be lit. Press [Y].
Failed to Update Root File!	Network problem, or you answered "N" to "Cannot Upload Try Again?" prompt.	Initiate the Force Server Update Command by pressing the [0] key; refer to <i>Section 5: Programmer Keyboard Commands</i> .

Setting Factory Defaults

To reset the programming options to factory-default values, press [ESC] at the "Exit Prog Mode?" prompt.

Set Default?
 Y/N_

Press [Y] to reset factory default values.

Press [N] to cancel this function.

If you press [Y], all programmed values are reset to the original factory settings. PLEASE NOTE THAT THIS WILL ERASE ANY PASSWORD THAT MAY HAVE BEEN ENTERED. After pressing [Y], the Create Password prompt appears (see Prompt 4).

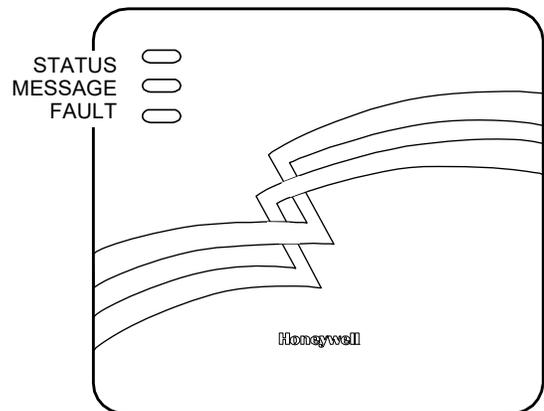
Registration

Registering the Communicator

Once you have programmed the communicator, it must be registered to enable the AlarmNet account. Registering the communicator activates the account with AlarmNet and enables the security system's control panel to send reports. You can register by using one of the following methods:

- AlarmNet 360 website
- 7720P Programming Tool
- Test Message/Registration switch
- Phone

LED	DESCRIPTION
STATUS (green)	ON – Is NOT registered with AlarmNet. OFF – Is registered with AlarmNet.
MESSAGE (yellow)	ON – Message transmission pending. QUICK PERIODIC BLINK - Normal SLOW BLINK – In unison with green LED, Registration in progress.
FAULT (red)	OFF – No fault present.



You can monitor the registration process by viewing the display LEDs. The TX/RX (yellow) LED and the REG (green) LED will blink slowly in unison while registration is in progress.

When the registration successfully completes, the communicator enters a normal operating mode; the REG (green) LED goes out and the TX/RX (yellow) LED is lit to indicate that the power-on / reset message is waiting to be sent. This message will appear at the receiving station as “E339 803”. The description may read “Trouble – Exp. Mod. Reset”. If registration is not validated within 90 seconds, the communicator times out, and the REG (green) LED will be lit solid.

Registering through the AlarmNet 360 Website

To register the communicator via the website, go to: AlarmNet360.com

Log in and follow the on-screen prompts.

Please have the following information available:

- Primary City ID (two-digit number).
- Primary Central Station ID (two-digit hexadecimal number).
- Primary Subscriber ID (four-digit number).
- MAC ID and MAC CRC number (located on the box and inside the communicator).

After the communicator is registered, you may log out of the AlarmNet 360 website.

Register using the Tamper Switch

Initiate the registration sequence by clicking the Tamper Switch three times.

You can monitor the registration process by viewing the Status Display. The Message (yellow) LED and the Status (green) LED will blink slowly in unison while registration is in progress.

Once the registration has been completed successfully, the communicator enters normal operating mode; the Status (green) LED goes out and the Message (yellow) LED is lit to indicate that the Power On / Reset message is waiting to be sent. This message will appear at the receiving station as “E339 C08xx”, where “xx” is the ECP device address. The description may read “Trouble – Exp. Mod. Reset”. If registration is not validated within 90 seconds, the communicator times out, and the (green) LED will be lit (solid).

The Power On / Reset message will be sent in ADEMCO High-Speed format if the communicator is programmed for zone trigger.

If repeated registration attempts time out, check your Internet connection and signal quality level, and verify the account information has been entered correctly.

Register using the Programming Tool

The interactive registration feature allows the installer to register the communicator through a series of keyboard commands on the 7720P Programming Tool. This method of registration lets the installer monitor the registration process.

Registering ...

Once the installation is complete, press the [Shift] and the up arrow [↑] key on the 7720P. The registration message is sent and the unit waits for the acknowledgment.

Registration
SUCCESS

If this is a new installation and the city, central station, and customer numbers have been correctly entered, the communicator is registered and this message is displayed. The communicator is now in full service and available for alarm reporting to the central station.

Possible Errors

Registration BAD
Timed Out

Displayed if no response to the registration request is received.

Registration BAD
Pri Sub ID BAD

Indicates the city, central station, or customer number for the labeled account(s) is not accepted. The ID information was either entered incorrectly, or the central station failed to pre-authorize programmed ID numbers with AlarmNet customer service.

Registration BAD
2nd Sub ID BAD

Indicates the city, central station, or customer number for the Secondary account is not accepted. The ID information was either entered incorrectly, or the central station failed to pre-authorize programmed ID numbers with AlarmNet customer service.

Registration BAD
Pri&Sec – IDs BAD

Displayed when both primary and secondary subscriber IDs are invalid.

Registration BAD
Pri ID – Need PIN

Displayed if this is a repair/replacement, or an error was made in programming the Primary account information of the communicator for an existing account. This prompt appears for 2 seconds. See the *Replacing an existing communicator* section below for further displays.

Registration BAD
2nd ID – Need PIN

This prompt is displayed if this is a repair/replacement, or an error was made in programming the Secondary account information of the communicator for an existing account. This prompt appears for 2 seconds. See the *Replacing an existing communicator* section below for further displays.

Registration BAD
Pri&2nd – Need PIN

This prompt is displayed if this is a repair/replacement, or an error was made in programming BOTH the Primary and Secondary account information of the communicator for an existing account. This prompt appears for 2 seconds. See the *Replacing an existing communicator* section below for further displays.

Replacing an existing communicator

Enter PIN#

This prompt appears after pressing the [Shift] and down arrow [↓] on the 7720P.

NOTE: If it is necessary to exit registration mode, press ESC from the 7720P programming tool.

Enter a 4-digit alphanumeric PIN number provided by your central station, your dealer or an authorized AlarmNet representative.

Press the [Enter] key.

Registering ...

The registration message is sent and the unit waits for acknowledgement.

Registration
SUCCESS

If the PIN is valid, the new communicator is registered and the old unit unregistered. Additionally, AlarmNet sends a substitution alarm to the central station.

Registration BAD

If you entered an invalid PIN, the appropriate message is displayed depending on which account number is being replaced (see above for exact wording). The registration process is repeated.

NOTE: Each attempt causes a substitution alarm to be sent to the central station.

Register by Phone

You can register the communicator by calling the AlarmNet Technical Assistance Center (TAC) at 1-800-222-6525. You will need the following information:

- MAC number (found on the label).
- Subscriber information (provided by the central station), including a city code, CSID, and a subscriber ID.
- When instructed to do so, triple-click the tamper switch to complete the registration.

Programmer Keyboard Commands

Programmer keyboard commands can be used to quickly view your connectivity settings and options. Most commands require you to press the [Shift] key and then the designated command key. (See the keys designated in red on the 7720P Programming Tool.)

[A]

LTE-HSV x.x.xx mm/dd/yy

Software Revision
"x.x.xx" indicates the installed software Revision.
Mm/dd/yy indicates month, day and year of the revision.

- If the IP & Cell comm path is selected, the sign-on will be "LTE-HSV"
- If the IP comm path is selected, the sign-on will be "LTE-HSV"
- If the Cell comm path is selected, the sign-on will be "LTE-HSV"

Identification Displays

[B]

MAC xxxxxxxxxxxx MAC CRC yyyy
--

MAC Address
"xxxxxxxxxxxx" indicates the communicator's unique identification number.
"yyyy" indicates the MAC CRC number. This number is found on the box and inside the communicator.
Press the [Space] key to go to the next field if Cell is one of the comm path choices. Otherwise the display will remain unchanged.
Press the backspace [BS] key to go to the IMEI display if Cell is one of the comm path choices. Otherwise the display will remain unchanged.

NOTE: The SCID and IMEI are only displayed if the Comm Path Choice is "IP&Cell" or "Cell".

SCID xxxxx xxxxx xxxxx xxxxx
--

SCID Display
Displays the identification number assigned to the SIM card (SCID) in this device.
Press the [Space] key to go to the next field.
Press the backspace [BS] key to go to the previous field.

IMEI xxxxxxxx xxxxxx x

IMEI Display
Displays the identification number assigned to the cell module in this communicator.
Press the [Space] key to get the MAC Address.
Press the backspace [BS] key to go to the previous field.

[C]

Mon 01 Jan 2011 05:48:39 am

Time
Retrieves the current date and time from the AlarmNet network in Greenwich Mean Time (GMT). This display confirms the communicator is in sync with network.

[D] **NOTE:** The Physical Link and NIC IP Address is only displayed if the Comm Path Choice is "IP&Cell" or "IP".

Physical Link Good/Bad

Network Diagnostics Display
Indicates whether the device has detected a physical connection to the internet.
Press the [Space] key to go to the next field.

NIC IP Address xxx.xxx.xxx.xxx	IP Information Display Displays the IP address assigned to this device. Press the [Space] key to go to the next field.
NOTE: The Subnet Mask, Gateway IP Addr, DSN Serv IP and DHCP are only displayed if the Comm Path Choice is "IP&Cell" or "IP".	
Subnet Mask xxx.xxx.xxx.xxx	Displays the 32-bit address mask used to indicate the portion (bits) of the IP address that is being used for the subnet address. Press the [Space] key to go to the next field. Press the backspace [BS] key to go to the previous field.
Gateway IP Addr xxx.xxx.xxx.xxx	Displays the IP address assigned to the Gateway. Press the [Space] key to go to the next field. Press the backspace [BS] key to go to the previous field.
DNS Serv IP xxx.xxx.xxx.xxx	Displays the IP address assigned to the DNS (Domain Name System) server. Press the [Space] key to go to the next field. Press the backspace [BS] key to go to the previous field.
Encryption Test AES Passed!	Performs a self-test of the AES encryption algorithm. Press the [Space] key to go to the next field. Press the backspace [BS] key to go to the previous field.
DHCP OK	DHCP (Dynamic Host Configuration Protocol) indicates server is performing satisfactorily. Press the [Space] key to go to the Physical Link display.

Cell Status Displays

NOTE: The Status Displays are available only if the Comm Path Choice is "IP&Cell" or "Cell".

[E] **Operating with Cellular Service**

<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px;">RAT</td> <td style="border: 1px solid black; padding: 2px;">SigQual</td> <td style="border: 1px solid black; padding: 2px;">REG</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">LTE</td> <td style="border: 1px solid black; padding: 2px;">*****</td> <td style="border: 1px solid black; padding: 2px;">x</td> </tr> </table>	RAT	SigQual	REG	LTE	*****	x	Cellular Status Display Screen 1 RAT – Radio Access Technology. – LTE SigQual – Signal Quality (1-5 ‘*’) REG – Registration status where “x” can be: N – Not Registered H – Registered Home S – Searching D – Registration Denied R – Registered Roaming ? – Unknown Registration State The number of stars is derived from received power (RSRP) and the received quality (RSRQ). The lower number of stars of the two ratings is what is displayed as overall quality. NOTE: For adequate signal strength, must be 2 stars or more. <table style="width: 100%; border: none;"> <tr> <td style="border: none;"><u>RSRP:</u></td> <td style="border: none;"><u>RSRQ:</u></td> </tr> <tr> <td style="border: none;">Greater than -85dBm = 5 stars</td> <td style="border: none;">Greater than -10dB = 5 stars</td> </tr> <tr> <td style="border: none;">-86dBm to -95dBm = 4 stars</td> <td style="border: none;">-11dB to -12dB = 4 stars</td> </tr> <tr> <td style="border: none;">-96dBm to -105dBm = 3 stars</td> <td style="border: none;">-13dB to -14dB = 3 stars</td> </tr> <tr> <td style="border: none;">-106dBm to -115dBm = 2 stars</td> <td style="border: none;">-15dB to -16dB = 2 stars</td> </tr> <tr> <td style="border: none;">-116dBm and lower = 1 star</td> <td style="border: none;">-17dB and lower = 1 star</td> </tr> </table>	<u>RSRP:</u>	<u>RSRQ:</u>	Greater than -85dBm = 5 stars	Greater than -10dB = 5 stars	-86dBm to -95dBm = 4 stars	-11dB to -12dB = 4 stars	-96dBm to -105dBm = 3 stars	-13dB to -14dB = 3 stars	-106dBm to -115dBm = 2 stars	-15dB to -16dB = 2 stars	-116dBm and lower = 1 star	-17dB and lower = 1 star
RAT	SigQual	REG																	
LTE	*****	x																	
<u>RSRP:</u>	<u>RSRQ:</u>																		
Greater than -85dBm = 5 stars	Greater than -10dB = 5 stars																		
-86dBm to -95dBm = 4 stars	-11dB to -12dB = 4 stars																		
-96dBm to -105dBm = 3 stars	-13dB to -14dB = 3 stars																		
-106dBm to -115dBm = 2 stars	-15dB to -16dB = 2 stars																		
-116dBm and lower = 1 star	-17dB and lower = 1 star																		

Press the [space] key to go to the next screen.
Press the [backspace] key to go to the last screen.

RAT	RSRP	RSRQ
LTE	xxxx	xxxx

Signal Display for LTE

RAT – Radio Access Technology.
 RSRP – Reference Signal Received Power
 RSRQ – Reference Signal Received Quality
 Press the [space] key to get to the next screen.
 Press the [backspace] key to go to the previous field.

RSRP	MIN	MAX
xxxx	xxxx	xxxx

Min/Max Signal Display for LTE

RSRP – Current Reference Signal Received Power
 MIN – Minimum Receive Signal Level
 MAX – Maximum Receive Signal Level
 Press the [space] key to get to the next screen.
 Press the [backspace] key to go to the previous field.

RSRQ	MIN	MAX
xxxx	xxxx	xxxx

Min/Max Signal Quality Display for LTE

RSRQ – Current Reference Signal Received Quality
 MIN – Minimum Receive Signal Quality
 MAX – Maximum Receive Signal Quality
 Press the [space] key to get to the next screen.
 Press the [backspace] key to go to the previous field.

Cntry	Netw	TAC
xxx	xxx	xxxxx

Location Display for LTE

Cntry – Country Code
 Netw – Network Code
 TAC – Tracking area code
 Press the [space] key to get to the next screen.
 Press the [backspace] key to go to the previous field.

GCell	Chan
xxxxxx	xxxx

Cell Display for LTE

GCell – Global Cell ID
 Chan – RF Channel number (EURFCN)
 Press the [space] key to go to the next screen.
 Press the [backspace] key to go to the previous field.

Band	Mode
xxx	xxxx

LTE Status Display Screen 5

Band – LTE Band Number
 Mode – LTE Mode either FDD or TDD
 Press the [space] key to go to Status Display Screen 1.
 Press the [backspace] key to go to the previous field.

[F] **NOTE:** The Network Diagnostic Test is available only if the Comm Path Choice is “IP&Cell” or “IP”.

Testing Gateway
Redir 1

Run Network Diagnostic Test

Performs a set of network diagnostics that tests the integrity of the links between the communicator and the various connection points (Redirs) to AlarmNet. Refer to Section 6: *Network Diagnostics*.

System Status Displays

[S]

ECP 67	TmPB	Flt
xx	5 ++	OK

ECP Mode

Displays the zone and system fault status.
 Press the [Space] key to go to the next field.
 Press the backspace [BS] key to go to the Line Voltage display.

1234567	TmPB	Flt
5555555	5 ++	OK

Zone Trigger Mode

The status display includes:
Zone input status (1234567) – the numbers 1-7 represent the 7 mappings of the zone input, and follow Honeywell's ADEMCO high-speed format codes:

- 1** = New Event
- 5** = Normal
- X** = Not Enabled

Tm – Tamper status follows high-speed format codes above.

P – Represents line voltage as follows:

- +** = Power line voltage OK
- = Power line voltage bad and reported
- V** = Power line voltage bad, not reported (reporting window not expired)
- ^** = Power voltage restored, not yet reported

B – Represents battery condition as follows:

- +** = Battery voltage acceptable
- = Battery voltage below 5.7V ±5%

Flt – Represents radio faults:

- OK** = Normal ; No fault
- I** – No network connectivity over IP and fault time has expired
- i** – No network connectivity over IP and fault time has NOT yet expired.
- G** = No network connectivity over cell and fault time has expired.
- g** = No network connectivity over cell and fault time has NOT yet expired.

Bat NLd: x.xxV
Bat Ld: x.xxV

Battery Voltage Display

The voltage levels of the battery connected to the communicator can be viewed on the 7720P. The first line of the display shows the voltage level of the battery with no load. The second line of the display shows loaded battery voltage. An asterisk (*) next to the voltage indicates that this is below the accepted level.

Press the [Space] key to go to the next field.
 Press the backspace [BS] key to go to the previous field.

Battery Charger
OK

Battery Charger Status Display

Indicates the battery charger circuit status (either OK or NOT OK).

Press the [Space] key to go to the next field.
 Press the backspace [BS] key to go to the previous field.

Line Voltage
xx.xxV

Line Voltage Display

The line voltage [this value is the peak voltage from the power transformer or RMS x 1.414] of the communicator can be viewed on the 7720P. An asterisk (*) next to the voltage indicates that this is below the accepted level.

Press the [Space] key to go back to the System Status Display.
 Press the backspace [BS] key to go to the previous field.

[T]

Test Msg Sent

Test Alarm

Sends a Test alarm to AlarmNet. Functional for a *registered* communicator only. If the device is not registered, a message is displayed indicating that the command cannot be executed.

[X]	Reset CPU Y/N	<p>Reset the Communicator. Pressing [N] returns to diagnostic mode (blank screen = enter next command or escape). Pressing [Y] resets the communicator (blank screen = reset complete).</p>
[↑] (UP arrow)	Registering ...	<p>Registration Registers a programmed communicator with AlarmNet.</p>
[↓] (DN arrow)	Enter PIN#	<p>Registration with PIN for Replacement Communicator Registers a replacement communicator with AlarmNet, once programmed, using the existing PIN #.</p>
[0]	Force Server Update? Y/N	<p>Force Upload of Configuration File to Server Pressing [Y] will force the device to upload its entire configuration file to the server. Pressing [N] cancels the operation. NOTE: If the internet is not available, and the communicator is not initialized when you enter this command, the following screen will be displayed:</p> <div data-bbox="600 772 898 842" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> Cannot Upload Try Later! _ </div> <p>Wait for the signal quality LEDs to light, indicating the communicator has completed its initialization, and try again.</p>
[ENTER]	Strt Prog Mode? Y/N_	<p>Enter Program Mode Press [Y] to enter program mode; otherwise, press [N].</p>

Network Diagnostics

Running Network Diagnostics

The network diagnostic process tests the integrity of the links between the communicator and the various connection points of AlarmNet Control that are known as "Redirects" (Redirs or RDR).

To initiate the network diagnostics, press the [F] key on the 7720P Programming Tool.

NOTES:

- The Network Diagnostics is available only if the Comm Path Choice is "IP&Cell" or "IP".
- The test is performed ONLY if a physical link is detected. If no physical link is detected, the test is aborted and the following is displayed:

NO PHYSICAL LINK

If a physical link is detected, the diagnostics are performed. The following shows the progression of the test:

Testing Redir 1

The first step of the test traces the connection to Redir 1 at AlarmNet Control.

Testing Redir 2
Reached Gateway

A successful trace to Redir 1 is indicated here. See below for possible errors that may occur at this stage of testing.

Redir 1
Service OK

The service at AlarmNet Control on Redir 1 is functioning. See below for possible errors that may occur at this stage of testing.

Testing Redir 2

The first step of the test traces the connection to Redir 2 at AlarmNet Control.

Redir 2
Service OK

The service at AlarmNet Control on Redir 2 is functioning. See below for possible errors that may occur at this stage of testing.

Testing Redir 3

The first step of the test traces the connection to Redir 3 at AlarmNet Control.

Redir 3
Service OK

The service at AlarmNet Control on Redir 3 is functioning. See below for possible errors that may occur at this stage of testing.

RDR1 RDR2 RDR3
OK OK OK

A summary of the tests is displayed after Redir 3 is tested. The example shows that the tests of all three connection points, or Redirs, were successful. If an error occurred at any point, the summary will display "FAIL" under the faulty Redir.

Possible Errors Running Network Diagnostics

Errors may occur either while tracing the connection to a given Redir or while testing the service at a given Redir. The following list highlights the most common errors. Please contact the AlarmNet Technical Assistance Center (TAC) for help regarding any errors NOT listed below:

Possible Errors

Testing Redir x FAIL before Gtwy	While tracing the connection to Redir x, the trace fails before ever reaching the local gateway (router).
Testing Redir x FAIL at Gtwy	While tracing the connection to Redir x, the trace fails after reaching the local gateway (router).
Testing Redir x FAIL at Pvt IP	While tracing the connection to Redir x, the trace fails after reaching the private IP.
Testing Redir x FAIL on IP Addr	While tracing the connection to Redir x, the trace fails after reaching the public IP.
Redir x ERR:Proxy 18	After a successful trace to Redir x, the test of the network service timed out without a response.

Appendix A: Summary of LED Operation

Note: If all LEDs FAST BLINK in unison with the RSSI LEDs this indicates a Hardware Error.

GRN	ON – NOT registered with AlarmNet. OFF – Registered with AlarmNet. FAST BLINK – Download session with Compass in progress. SLOW BLINK – In unison with yellow LED, registration in progress.
YEL	ON – Message transmission pending. QUICK PERIODIC BLINK – Normal. FAST BLINK – Message waiting for network ACK. SLOW BLINK – Idle power abnormal. SLOW BLINK – In unison with green LED, registration in progress.
RED	ON – No contact with network. OFF – Normal. SLOW BLINK – Loss of communication with the panel (ECP fault). FAST BLINK – No network contact AND loss of communication with the panel.

MODULE'S RECEIVED SIGNAL STRENGTH (RSSI)	
When the Mode Switch is NOT depressed, LED 1 will illuminate red.	
<ul style="list-style-type: none"> The remaining LEDs indicate Signal Quality. 	
MODULE'S OPERATION MODE	
When the Mode Switch IS depressed, LED 1 will be OFF.	
<ul style="list-style-type: none"> LEDs 2 and 3 indicate the module's communication mode with the control panel. 	
Mode	LED 2 (yellow)
ECP	OFF
Zone	ON
LED 3 (green)	OFF
ECP	OFF
Zone	OFF

MODULE'S STATUS	
When the Mode Switch IS depressed, LED 1 will be OFF.	
<ul style="list-style-type: none"> LEDs 4, 5, and 6 indicate the module's Status. 	
LED 4 (green)	LED 5 (green)
ON - Connected to Internet.	ON - Cell service available.
OFF - Not connected to Internet.	OFF - No Cell service available.
Note: This LED is Functional on the Internet models only.	FAST BLINK - Cell in use.
LED 6 (green)	LED 6 (green)
ON - Module registered, no second site available.	ON - Module registered, no second site available.
OFF - Module not registered with network carrier.	OFF - Module not registered with network carrier.
SLOW BLINK - Module registered, second site available, and low signal strength.	SLOW BLINK - Module registered, second site available, and low signal strength.
NORMAL BLINK - Module registered, second site available, acceptable signal strength.	NORMAL BLINK - Module registered, second site available, acceptable signal strength.
FAST BLINK - Module registered, second site available, excellent signal strength.	FAST BLINK - Module registered, second site available, excellent signal strength.

Ethernet Link/Activity GREEN	ON – Link detected. OFF – No link detected. BLINKS – Network activity.
Link Speed GREEN	ON – 100 MB/S link to Internet. OFF – 10 MB/S link to Internet.

Appendix B: Central Station Messages

Alarm Condition	ECP Mode		Zone Mode	
	Alarm Code	Restore Code	Alarm Code	Restore Code
Power On / Reset	E339 C08xx*		5551 5555 6	
Tamper (Compromise Indication)	E341 C08xx*	R341 C08xx*	5555 5551 7	5555 5553 7
Power Loss	E337 C08xx*	R337 C08xx*	1555 5555 6	3555 5555 6
Low Battery	E338 C08xx*	R338 C08xx*	5155 5555 6	5355 5555 6
Battery Charger Failure	E314 C08xx*	R314 C08xx*	5155 5555 1	5355 5555 1
ECP Supervision (Compromise Indication)	E355 C0000	R355 C0000	5555 5515 5	5555 5535 5
Primary Comm Path Supervision	E350 C0951	R350 C0951	5555 5551 5	5555 5553 5
Secondary Comm Path Supervision	E350 C0952	R350 C0952	5555 5551 1	5555 5553 1
Application Code Update	E903 C08xx	R903 C08xx (success)		
Application Code Update Failure	E904 C08xx			
Module Firmware Update	E365 C08xx	R365 C08xx (success)		
Module Firmware Update Failure	E366 C08xx			
Telco (Compromise Indication)			5555 5155 6	5555 5355 6
Open / Close			2 sent in selected zone	4 sent in selected zone
Periodic Cell Comm Test Failure	E358 C0803			
Test	5555 5555 9		5555 5555 9	
Specific to RESIDENTIAL / COMMERCIAL Control Panels (Such as the VISTA-10P, 15P, and 20P series.)				
<p>UL The information provided in this section for the VISTA-10P, 15P, and 20P series control panels has not been evaluated with this communicator.</p>				
Communicator Trouble (low battery, ECP bus, network) (Possible Compromise Indication)	E353 C08xx* ◊	R353 C08xx* ‡		
Radio Fault	E353 0 1xx* ‡	R353 0 1xx* ‡		
Specific to COMMERCIAL Control Panels (Such as the VISTA-128 / 250 series.)				
Communicator Trouble (low battery, ECP bus, network) (Possible Compromise Indication)	E333 C08xx* ‡	R333 C08xx* ‡		
Radio Loss of Signal (Possible Compromise Indication)	E357 0 8xx* †	R357 0 8xx* ‡ or R380 0 8xx* ‡		
Radio Fault (low battery, tamper, ECP Bus)	E333 0 8xx* ‡	R333 0 8xx* ‡		
AlarmNet Messages				
Communication failure. (Possible Compromise Indication)	E359 0 C350	R359 0 C350		
Authorized Radio Substitution	00D0 010C 0			
Unauthorized Radio Substitution Attempt	00D0 010E 0			
Service Termination	00D0 020E 0			

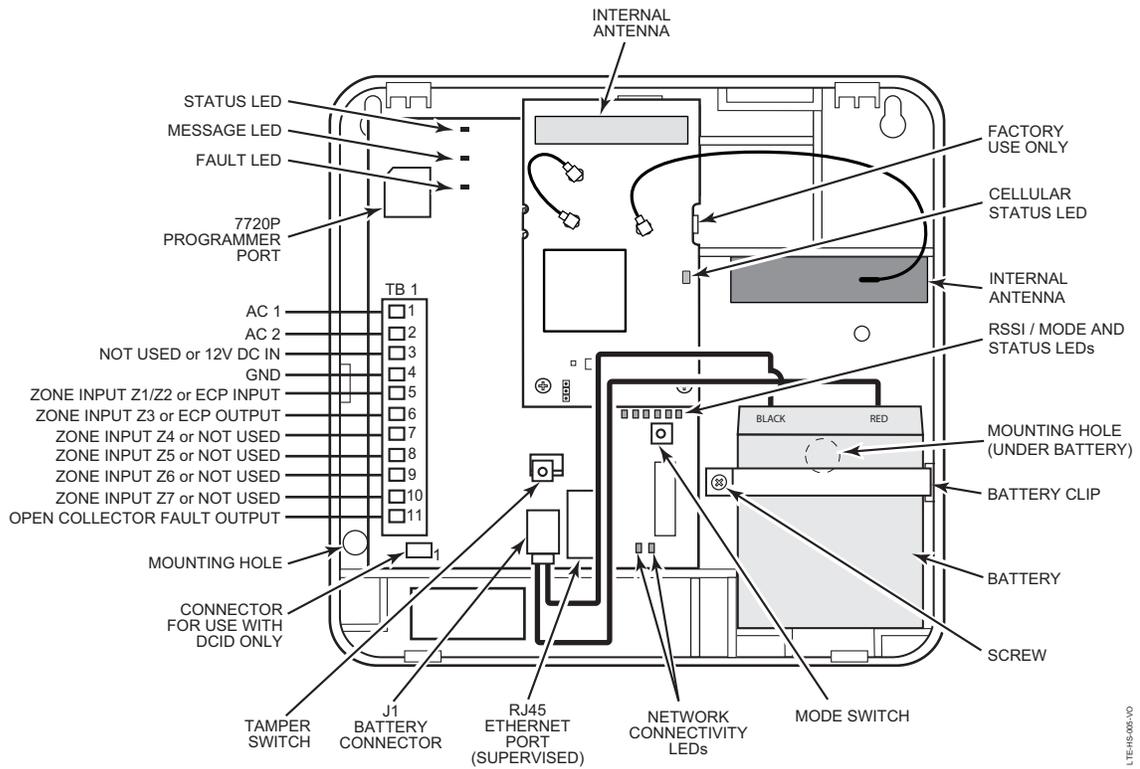
* xx = Communicator Device Address
† = Message is sent by dialer only.

‡ = Message is sent by dialer and radio.
◊ = Message is sent by dialer only, or dialer and radio, depending on failure.

Appendix C: Glossary

4G LTE	Refers to the fourth generation of cellular wireless standards. It is a successor to 3G and 2G families of standards. 4G provides up to 10 times the data transfer speeds of 3G.
AES	Advanced Encryption Standard
DACT	Digital Automated Communications Terminal
DHCP	Dynamic Host Configuration Protocol, which provides a mechanism for allocating IP addresses dynamically so that addresses can be reused when hosts no longer need them.
DNS	Domain Name System, which is a distributed hierarchical naming system used to resolve domain names (e.g., www.yahoo.com) into numerical IP addresses (e.g., 204.17.25.1.).
DSL	Digital Subscriber Line.
ECP	Enhanced Console Protocol, which is a proprietary bus used in Honeywell control panels to communicate with keypads and peripheral devices. It uses four wires; power, ground, data in, data out.
Gateway IP Address	A gateway (sometimes called a router) is a computer and/or software used to connect two or more networks (including incompatible networks) and translates information from one network to the other. The Gateway IP address is the IP address for the gateway.
IMEI	International Mobile Equipment Identity number.
IP	Internet Protocol.
IP Address	A unique number consisting of four parts separated by periods (for example: 204.17.29.11). An IP Address can be fixed or "static", or "dynamic," where the IP Address is assigned via DHCP at every startup.
ISDN	Integrated Services Digital Network.
ISP	Internet Service Provider.
LAN	Local Area Network.
LRR	Long Range Radio, an older term now referred to as communicator. A broader term communications module or communications device may also be used.
MAC ID	Media Access Code, this is a unique address assigned to every network communications device. This is located on the box, and inside the communicator.
Subnet Mask	A Subnet is a portion of a network that shares a network address with other portions of the network, and is distinguished by a subnet number. The Subnet Mask is a 32-bit address mask used in IP to indicate the bits of an IP address that are being used for the subnet address.
TCP/IP	Transmission Control Protocol / Internet protocol.

Summary of Connections



NOTE: All circuits are supervised and all circuits are power limited except the battery.

Communicator TB1 Wiring

TB1	ECP Mode	Zone Trigger Mode
1	AC 1	AC 1
2	AC 2	AC 2
3	ECP V+ (RED)	NOT USED
4	GND (BLK)	GND (BLK)
5	ECP IN (YEL)	Z1 / Z2
6	ECP OUT (GRN)	Z3
7	NOT USED	Z4
8	NOT USED	Z5
9	Z6	Z6
10	Z7	Z7
11	FLT OUT	FLT OUT

FEDERAL COMMUNICATIONS COMMISSION STATEMENTS

The user shall not make any changes or modifications to the equipment unless authorized by the Installation Instructions or User's Manual. Unauthorized changes or modifications could void the user's authority to operate the equipment.

CLASS B DIGITAL DEVICE STATEMENT

This equipment has been tested to FCC requirements and has been found acceptable for use. The FCC requires the following statement for your information:

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- If using an indoor antenna, have a quality outdoor antenna installed.
- Reorient the receiving antenna until interference is reduced or eliminated.
- Move the radio or television receiver away from the receiver/control.
- Move the antenna leads away from any wire runs to the receiver/control.
- Plug the receiver/control into a different outlet so that it and the radio or television receiver are on different branch circuits.
- Consult the dealer or an experienced radio/TV technician for help.

FCC STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Responsible Party / Issuer of Supplier's Declaration of Conformity: Honeywell International, 2 Corporate Center Drive., Melville, NY 11747, Ph: 516-577-2000

RF Exposure

Warning – The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter.

IMPORTANT NOTE ABOUT EXTERNAL ANTENNAS

Antenna may only be installed or replaced ONLY by a professional installer.

TO THE INSTALLER

The external antenna gain shall not exceed 6.94 dBi for 700 MHz 6.00 dBi for 1700 MHz, and 9.01 dBi for 1900 MHz. Under no conditions may an antenna gain be used that would exceed the ERP and EIRP power limits as specified in FCC Parts 22H, 24E and 27.

SUPPORT, WARRANTY, & PATENT INFORMATION

For the latest documentation and online support information, please go to:
<https://mywebtech.honeywellhome.com/>

For the latest warranty information, please go to:
www.honeywell.com/security/hsc/resources/wa.

For patent information, see www.honeywell.com/patents



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Warranty



Patents



800-24455 9/18 Rev A

Honeywell

2 Corporate Center Drive, Suite 100
P.O. Box 9040, Melville, NY 11747
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www.security.honeywell.com