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THE POWER OF **CONNECTED**
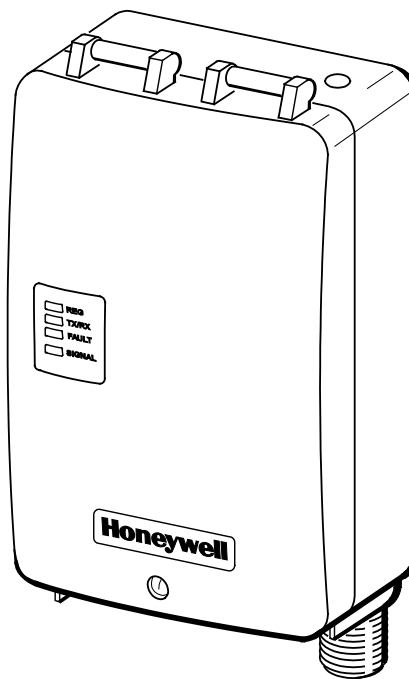
LTE-X Series Communicators

LTE-XV
LTE-XA
LTE-XC

Installation and Setup Guide

REG
TX/RX
FAULT
SIGNAL

Honeywell

800-23340 10/17 Rev B

Contents

General Information

The LTE-X Series Communicator, herein referred to as the communicator, easily connects to your security system's control panel and sends alarms and messages to AlarmNet for subsequent transfer to the central monitoring station. It can be mounted directly on the control panel or remotely.

The LTE-X Series includes the following models:

• LTE-XV (US, Verizon network)

• LTE-XA (US, AT&T network)

• LTE-XC (Canada)

> The communicator requires an AlarmNet 360 account. For new installations, please obtain the account information from the central station prior to programming.

The LTE-X communicates with AlarmNet over the LTE network. If a data connection cannot be established, it will attempt to send a transmission via SMS.

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

NOTE: Due to Honeywell's continuing effort to improve our products, your device may look slightly different than pictured.

Features

- Reports fire, burg, and status message.
- Internal MIMO antennas provide additional security.
- Simple programming using the 7720P programming tool or via the AlarmNet 360 website.
- Uses 2 way ECP communication with the control panel.
- Sends reports in Contact ID format.
- Supports remote control of alarm system via Remote Services feature.
- Allows uploading and downloading of control panel data.
- Fully powered (primary and backup battery) from the control panel.
- The LTE-X is for control panels that support ECP communication.

NOTE: The control panel treats the communicator as an ECP device, so ensure the control panel is programmed with the communicator's device address.

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 ("Supervision" option, 24 hours, 30 days, or none), AlarmNet notifies the central station of a communication failure.
- Communication path failure – In the event the module detects a communication path failure, a trouble condition is sent to the control panel. The failure is considered a true fault when the fault time has expired ("Cell Fault Time" option) provided it has been set to a non-zero value. Notification can be sent to the central station upon this expiration via the control panel's alternate means of communication (if available).

Specifications

Dimensions:	4 x 7 x 1.75 inches
Input Voltage:	12VDC (powered via the ECP bus.)
Current:	Standby 25mA, Transmit 250mA
Operating temperature:	–20º to +55ºC, for UL/ULC installations 0ºC to +49ºC
Storage temperature:	–40º to +70ºC
Humidity:	0 to 95% relative humidity, non-condensing (UL installations 0% to 85%; for ULC installations 0% to 93%)
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-XV	X	X			X		
LTE-XA	X	X	X	X	X	X	X
LTE-XC	X	X	X	X	X	X	X

Output Power		
LTE,	Class 3	23dBm
WCDMA	Class 3	24dBm

Data 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 "Certificate number 979.

Remote Services Features

UL	Remote Access has not been evaluated by UL.

Honeywell offers secure web based services that enable users to remotely monitor and control their security system. These web services enable
users to:

- Monitor and control their security system from a website
- Receive e-mail and text message notifications of system events
- Control the system and receive confirmations using text messages
- Monitor and control IP video cameras

Dealers can enroll their customers for "Remote Services" by using the AlarmNet 360 website. Once enabled, the specific programming fields associated with these features can be programmed into the communications device either remotely using the AlarmNet 360 website or locally using the 7720P programming tool.

	E-mail notification (Multi Mode) is intended as a convenience for the user, and does not replace Central Station reporting of critical events (alarms, troubles, etc.).

Testing the System

After installation the security system should be tested. Refer to the control panel installation instructions for procedures to test the entire system.

Compatibility

The communicator functions with any control panel that utilizes a Honeywell ECP bus and supports a communicator.

Compliance

This device has been tested by ETL to meet the following standards:

- UL985 – Residential Fire
- Canadian ULC Compliance
- UL1023 – Residential Burg

Mount and Wire the Module

## _Select a Mounting Location_

When choosing a suitable mounting location, understand that it <u>must be mounted indoors</u>, and for best signal strength it <u>should be mounted vertically</u>. Signal strength is very important for proper operation. For most installations, mounting the unit on the control panel provides adequate signal strength and we suggest that this method is tried first. Especially if the control panel is not in a basement location or in an area that contains large metal objects.

If the control panel location does not provide adequate signal strength, then the communicator can be mounted remotely.

Verify Satisfactory Signal Strength

This procedure checks for satisfactory signal strength at the communicator. You can temporarily power the communicator from a 12V battery or from the control panel's AUX PWR terminals. In buildings where reception may be a problem, powering from a battery would allow the communicator to be portable. The following procedure assumes the control panel will be used for power. (If satisfactory signal strength is present at the control panel that is the preferred mounting location.)

1. Ensure power to the control panel (both AC and battery) is off. Open the enclosure and connect the ECP cable connector to the communicator. Connect the cable wires to the control's ECP terminals.

2. Turn power on and wait for the communicator to initialize*. Position the communicator near a suitable mounting position. Verify the SIGNAL LED (green) lights steady. This indicates satisfactory signal strength.
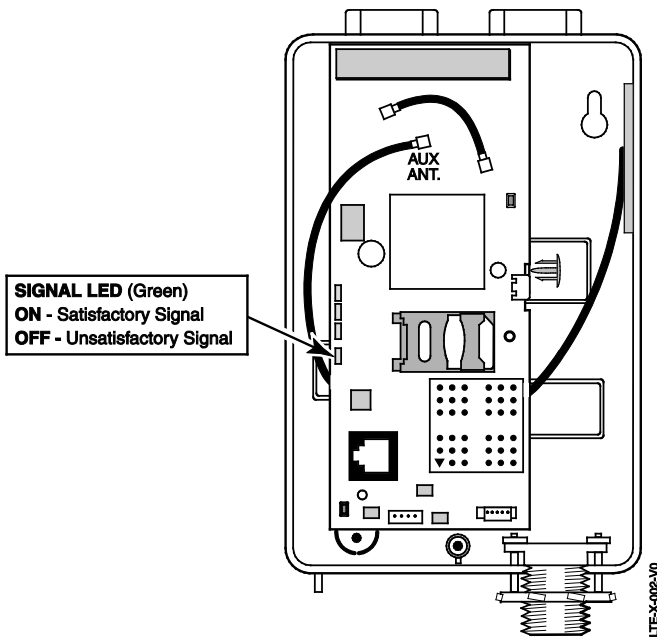
> *** LTE-XV Initial Power Up**: Upon initial power up, the communicator LEDs blink in repeated sequence from top to bottom indicating network initialization.
>
> Green (REG) → Yellow (TX/RX) → Red (FAULT) → Green (SIGNAL)
>
> This sequence may take up to 15 minutes. **Do not reset power during this time.**
>
> During the final stages of initialization, the Green REG LED lights solid while the Red FAULT LED lights solid on or flashes rapidly (if module not connected to the control panel ECP).
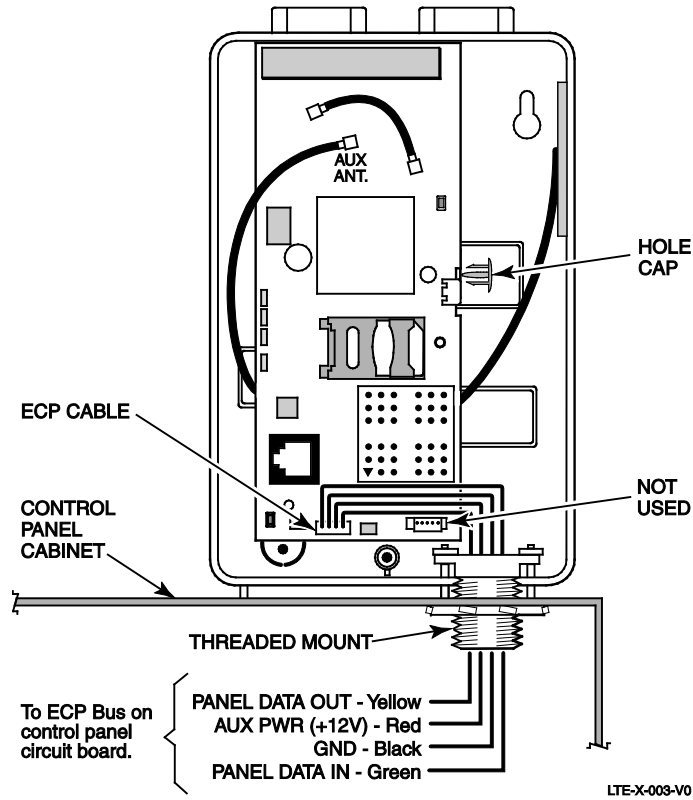>
> When initialization is complete, the Green signal strength LED lights solid (the yellow and red LEDs may also blink, per their respective functions).
>
> After initial network setup, subsequent resets or power ups can take up to 90 seconds.

3. Verify the SIGNAL LED (green) remains steady for a few minutes, then mark that mounting position. Turn power off.

Mounting the Module on the Control Panel

1. Ensure power to the control panel (both AC and battery) is off, then remove the knockout on the top right of the control panel cabinet.
2. Open the communicator cover. Remove the Hole Cap attached to the plastic (trim as necessary), and snap it into the top opening of the enclosure.
3. Remove the bottom knockout on the enclosure for the threaded mount. Then install the threaded mount so it snaps into the plastic retaining tabs. Mount the communicator assembly on the cabinet's knockout, and fasten with the locking nut.

AUX ANT.

HOLE CAP

ECP CABLE

NOT USED

CONTROL PANEL CABINET

THREADED MOUNT

To ECP Bus on control panel circuit board.

PANEL DATA OUT - Yellow
AUX PWR (+12V) - Red
GND - Black
PANEL DATA IN - Green

LTE-X-003-V0

4. Connect the ECP cable to the communicator circuit board and thread the wires through the threaded mounting adapter.
5. Refer to the control panel's installation guide, and complete the ECP cable wiring.
6. Secure the wiring with ties as necessary.

Mounting the Module on the Wall

1. Ensure control panel power (both AC and battery) is off, then remove a suitable knockout on the top or side of the control panel cabinet.
   NOTES:
   - If in the wall wiring will be used, route the wiring through the communicator's rear wiring access hole.
   - If surface mounted wiring will be used, remove the communicator's bottom knockout and use that to route the wiring.
2. Open the communicator's cover. Remove the Hole Cap attached to the plastic (trim as necessary), and snap it into the top opening of the enclosure.
3. Secure the enclosure to the wall using both mounting holes.

– 4 –
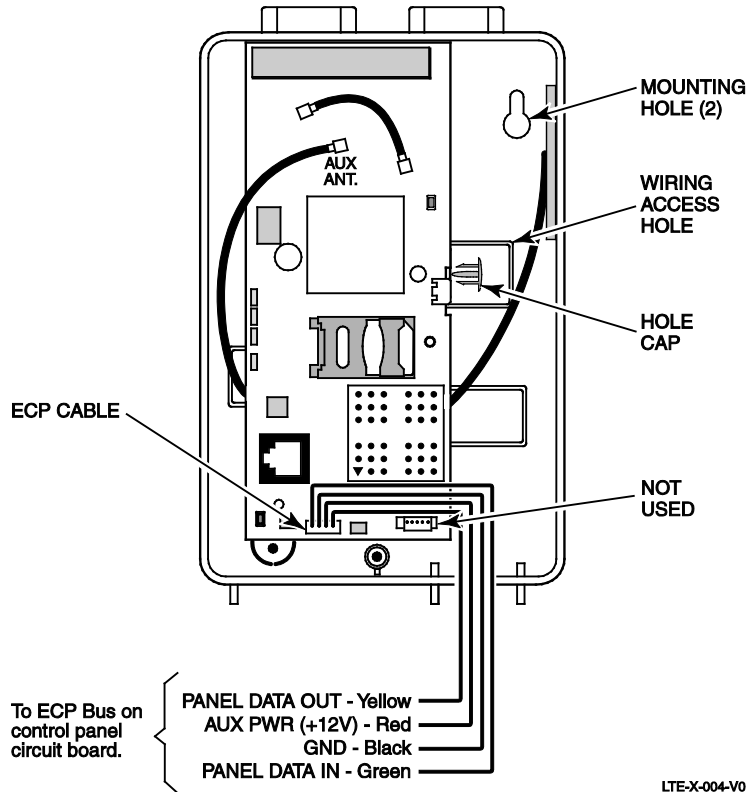
LTE-X-004-V0

4. Connect the ECP cable to the communicator circuit board. When mounting the communicator off the cabinet, the length of the supplied ECP cable will have to be spliced to a four-wire extender cable. **Ensure the splices are located within the communicator's enclosure.**

Use the table below to determine the minimum wire gauge for the extender cable.

Minimum Wire Gauge	Distance from Control Panel
#22	75 ft (23m)
#20	120 ft (37m)
#18	170 ft (52m)
#16	270 ft (82m)

5. Route the wires through the rear wiring access hole or bottom knockout on the communicator. Continue routing the wiring to the control panel. A control panel knockout that is presently used can be utilized, however DO NOT utilize a control panel knockout that is being used for primary power.

6. Refer to the installation guide for the control panel, and complete the ECP cable wiring.

7. Secure the wiring with ties as necessary.

Programming the Module

The LTE-X 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: Alarmnet360.com (https://services.alarmnet.com/AlarmNet360/AlarmNetDirectV)

If you are not signed up for this service, click on "Dealer Sign-Up" and follow the instructions. 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.

Using the 7720P Programming Tool

Ensure the communicator is powered, and connect the 7720P Programming Tool.

Each key 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, then press the appropriate key.
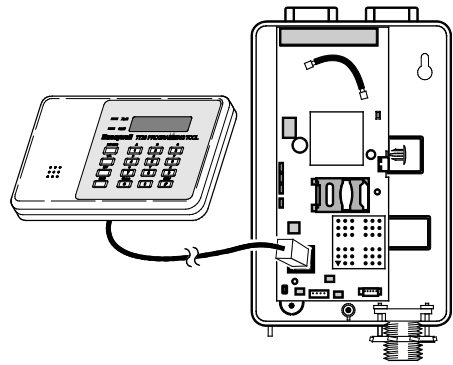
The following table lists each normal and shift key function.

KEY	NORMAL KEY FUNCTION	SHIFT + KEY FUNCTION
7720P Normal and Shift Key (shift LED lit) Functions		
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 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.

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 [✱] key to scroll through options.
- 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.

Using the Control Panel

Some control panels support programming of the communicator through the control panel programming mode. 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

The communicator supports ECP messaging to communicate with the control panel. Likewise the control panel sends Contact ID format alarms to the communicator via the ECP bus. Not all control panels support the communicator interface on ECP, 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, prompt on the right appears.	**Access to Prog** **Mode Denied**

The default programming values for each prompt are shown in parentheses in the PROMPTS column. Further, the "*Programming Options*" table (next page) shows all the prompts for this programming mode. Depending on your answers, unnecessary prompts will be bypassed and you will advance to the next appropriate prompt.

Programming Options

	PROMPTS	ENTRY	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 9: " Multi 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."

	PROMPTS	ENTRY	OPTIONS	DESCRIPTION
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.
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 ***Exiting the Programming Mode*** topic.
9	**Multi Mode** **(Disabled)_**		• Disabled • Enhanced Reports	Disable for normal alarm processing and go to Prompt 11 "Primary City ID" prompt. Select "Enhanced Reports" if you want system events sent by e-mail to the user. Enhanced Reports enables reporting to Total Connect 2.0 web services. **NOTE**: To use "Enhanced Reports" ensure the control panel is Total Connect 2.0 Ready.
10	**Multi Mode Addr** **(25)**		[01-30]	This address must be programmed if using the Multi-Mode (e-mail notification) feature. The device address must be unique from the normal communicator (or LRR) device address and the Keypad Address used for Remote Access or Direct Wire downloading. The address used must also be enabled as a 4204 relay module in VISTA control panels.
NOTE: 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).

	PROMPTS	ENTRY	OPTIONS	DESCRIPTION
14	**En. 2nd CS Y/N** **(N)**		[Y], [N]	Applicable only if the control panel supports Central Station #1 and #2 Category Enable reporting for the communicator (or LRR) device (e.g., VISTA-128BPT, VISTA-250BPT, etc.). Used if reporting to a second central station is desired.
15	**Device Address** **(03)_**		[01-30]	The LTE-X communicates with the control panel as a communicator (or LRR) device. Enter the ECP device address. **NOTE:** When programming the control panel, enable the communicator's (or LRR) output.
	Setting up the Remote Access Feature Remote Access enables the user to control the security system using Total Connect from a web browser or TC2 app. This feature must be configured at the AlarmNet 360 website as follows: • Enable Total Connect. • Enable Remote Access by selecting "Enabled" at the Remote Access prompt. • A keypad address must be enabled in the communicator in order for it to communicate with the control panel.			
16	**Remote Access Y/N (N)_**		[Y], [N]	Press [Y] to allow the end user to access their system via a website. Availability of this service is controlled by the dealer via the web-based programming tool on the AlarmNet 360 website.
17	**Keypad Address** **(28)_**		[01-30]	**NOTE:** This prompt will only appear if the Remote Access feature has been enabled. Must be programmed if using the Remote Access feature. Enter the appropriate device address.
18	**Supervision** **(24 Hours)_**		• 30 Day • 24 Hour • None	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.) Press the [space] key to scroll through choices. **UL/ULC NOTE:** Must be 24 hour.
19	**Old Alarm Time** **(10 Minutes)_**		• 10 Minutes • 15 Minutes • 30 Minutes • 1 Hour • 2 Hours • 4 Hours • 8 Hours • 12 Hours • 24 Hours	The old alarm time 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. Press the [space] key to scroll through choices. **UL/ULC NOTE:** Must be 10 minutes.
20	**Cell Fault Time** **(60 mins)_**		[00-99] [00] = not used	In the event the communicator detects a communication path failure, enter the time delay (in minutes) before the communicator notifies the control panel with a trouble message. The control panel can then notify the central station. **UL/ULC NOTE:** Must be one (01) minute.

	PROMPTS	ENTRY	OPTIONS	DESCRIPTION
21	Review? Y/N		[Y] = review [N] = exit	**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. **To exit the programming mode**, press [N] in response to the "REVIEW?" prompt, and refer to *Exiting Programming Mode* topic.

ECP Status Codes

The communicator sends status messages to the control panel to report various failures. Some control panels, (e.g., VISTA-10P, VISTA-15P and VISTA-20P Series) display these status codes on the keypad as "LngRng Radio" followed by a 4-digit code. Commercial panels can supervise the communicator by way of its ECP address, ex: 03. For example, if the communicator is disconnected, if it's not registered, or the SIM is deactivated, a "Check 803" will be displayed for VISTA-15P/20P series panels.

The control panel will display a fault message if any of the events listed below occur.

- Module lost communications with the control panel.
- Module lost contact with AlarmNet.
- Module is not registered; account not activated.
- Module shutdown.

In addition, the Contact ID codes for some of these conditions are reported by the control panel and sent by AlarmNet to the central station.

Exiting the Programming Mode

To exit the programming mode, press [N] in response to the "REVIEW?" question. Then press [Y] to the "Exit Prog Mode?" question. Upon exiting, the message "Updating Root File" will be displayed, and the configuration file at the server is updated to log the changes made. 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 has not yet initialized.	Wait for SIGNAL (green) LED 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.

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 and password** are reset to the original factory settings.

After pressing [Y], the Create Password prompt appears (see Programming step 4).

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
- Test Message/Registration switch
- 7720P Programming Tool
- Phone

The top display LED will indicate the communicator's registration status as follows: (Refer to the **Summary of Connections** topic.)

LED	Indication
REG	ON – Module is NOT registered with AlarmNet.
(green)	OFF – Module is registered with AlarmNet.

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. If you are not signed up for this service, click on "Dealer Signup" from the login screen to create an account. You will be instructed how to proceed upon completing the sign-up form. Only one sign-up per dealer is required. Once an initial user is established, additional logins may be created by that user.

NOTE: Central Stations can sign up by contacting AlarmNet Customer Service at
1 (800) 323-4576 and selecting option 1, then Option 1 again for Cloud Services;.
(Monday–Friday 8:30 am to 9:00 pm, Saturday 9:00 am to 5:30 pm ET)
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.

Remote Services (Total Connect)

The dealer/installer will set up the customer account and define the events to be notified of.

> At the AlarmNet 360 website, refer to the online "*AlarmNet 360 User Guide*" for information on configuring the hardware and creating a Total Connect web account for the customer.
>
> For TC2 compatible communicators, Enhanced Reports must be enabled.

Once the dealer assigns a login name and password, the customer will receive a "Welcome" e-mail message with their login name along with some helpful information. The customer will receive another e-mail message with their password. They will then be able to receive notifications, and access their system via the Total Connect website or using their cell phone/Smartphone.

Registering Using the Test Message/Registration Switch

Initiate the registration sequence by clicking the TEST MESSAGE/REGISTRATION switch three times.
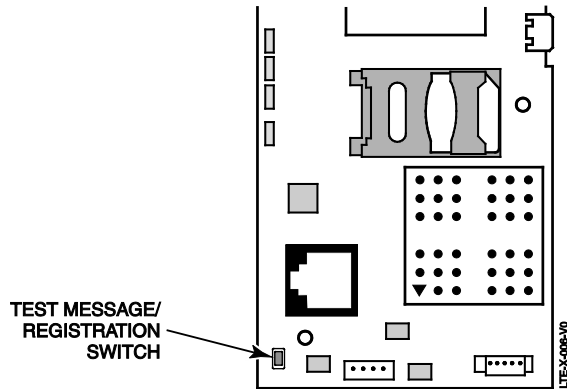
Registering Using the 7720P Programming Tool

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] plus the up arrow [↑]** 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 in error, or the central station failed to pre-authorize programmed ID numbers with AlarmNet customer service.
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*** topic.

Replacing an existing communicator

Enter PIN#	This prompt appears after pressing the **down arrow [↓]** on the 7720P. 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.

Registering by Phone

You can register the communicator by calling the AlarmNet Support at 1-800-323-4576 (Monday–Friday 8:30 am to 9:00 pm, Saturday 9:00 am to 5:30 pm ET). You will need the following information:

- MAC ID and CRC (located on the box and inside the communicator).
- Subscriber information (provided by the central station), including a city code, CSID, and subscriber ID.
- When instructed to do so, triple click the TEST MESSAGE/REGISTRATION switch.

Diagnostic Commands

The 7720P programming tool can be used to view the connectivity settings and options. To invoke diagnostic commands; such as [A], [B], [C], etc., the [shift] key MUST used. For example, [shift] + [A] displays the software revision.

Module Identification Displays

[A]	LTE-X 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.
[B]	MAC xxxxxxxxxxxx MAC CRC yyyy	**MAC Address** "xxxxxxxxxxxx" indicates the communicator's unique identification number. "yyyy" indicates the MAC CRC number. These numbers are located on the box and inside the communicator. Press the [Space] key to go to the next field. Press the [BS] key to go to the previous field.
	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 [BS] key to go to the previous field.
	IMEI xxxxxxxx xxxxxx x	**IMEI Display** Displays the identification number assigned to the cellular module in this device. Press the [Space] key to get the MAC Address. Press the [BS] key to go to the previous field.
[C]	Mon 01 Jan 2001 05:48:39 am	**Time** Retrieves the current date and time from the AlarmNet network in Greenwich Mean Time (GMT). This display confirms that the communicator is in sync with network.
[D]	Encryption Test AES Passed!	**Encryption Test** Performs a self-test of the AES encryption algorithm.

LTE Status Displays

[E]   **Operating with Cellular service**

RAT	SigQual	REG
LTE/3G	*****	x

Cellular Status Display Screen 1

RAT – Radio Access Technology. – LTE or 3G

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

If the RAT is LTE, 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.

> RSRP:
> Greater than -85dBm = 5 stars
> -86dBm to -95dBm = 4 stars
> -96dBm to -105dBm = 3 stars
> -106dBm to -115dBm = 2 stars
> -116dBm and lower = 1 star

> RSRQ:
> Greater than -10dB = 5 stars
> -11dB to -12dB = 4 stars
> -13dB to -14dB = 3 stars
> -15dB to -16dB = 2 stars
> -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.

LTE Displays

.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.

– 15 –

```
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.

3G Displays

```
RAT  RSCP   EC/No
3G    -xxx  -xxxxxx
```

Signal Display for 3G
RAT – Radio Access Technology.
RSCP –Received Signal Code Power
Ec/N0 – Carrier Noise Ratio (CNR)
Press the [space] key to get to the next screen.
Press the [backspace] key to go to the previous field.

```
RSCP  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.

```
Cntry  Netw  LAC
xxx    xxx   xxxxx
```

Location Display for 3G
Cntry – Country Code
Netw – Network Code
LAC – Local area code
Press the [space] key to get to the next screen.
Press the [backspace] key to go to the previous field.

```
Cell    Chan  PSC
xxxxxx  xxxx  xxx
```

Cell Display for 3G
Cell – Global Cell ID
Chan – Control Channel in use
PSC – Primary Sync Code
Press the [space] key to go to the next screen.
Press the [backspace] key to go to the previous field.

```
Second  Site  RSSI
Available
```

3G Status Display Screen 5
Secondary Site RSSI availability. Available or Not Available will be displayed.
Press the [space] key to go to Status Display Screen 1.
Press the [backspace] key to go to the previous field.

[S]	ECP Flt OK	**ECP Mode** Displays the mode of operation and system fault status. Flt – Represents communicator faults: OK = Normal, No fault. G = No network connectivity over cellular network and fault time has expired. g = No network connectivity over cellular network and fault time has NOT yet expired.
[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	**Reset the communicator.** Pressing [N] returns to normal mode. Pressing [Y] resets the device.
[Shift] [↑] (UP arrow)	Registering …	**Registration** Registers a programmed communicator with AlarmNet.
[↓] (DN arrow)	Enter PIN#	**Registration with PIN for Replacement Module** Registers a replacement communicator with AlarmNet, once programmed, using the existing PIN #.
[0]	Force Server Update? Y/N	**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 communicator is not initialized when you enter this command, the following screen will be displayed: Cannot Upload Try Later! _ Wait for the SIGNAL (green) LED to light, indicating the communicator has completed its initialization, and try again.
[ENTER]	Strt Prog Mode? Y/N_	**Enter Program Mode** Press [Y] to enter program mode; otherwise, press [N].

Central Station Messages

The following messages are sent to the Central Station by AlarmNet for the conditions listed below. **NOTE:** The control panel sends its own general code (E353) for a trouble condition.

Alarm Condition	Alarm Code	Restore Code
Power On / Reset (xx=device address)	E339 C08xx	
ECP Supervision	E355 C0000	R355 C0000
Communication Path Supervision		R350 C0951
Test	5555 5555 9	
Status Application Code Update	E903	R903
Application Code Update Fail	E904	
Module Firmware Update	E365	R365 (success)
Module Firmware update Fail	E366	

Glossary
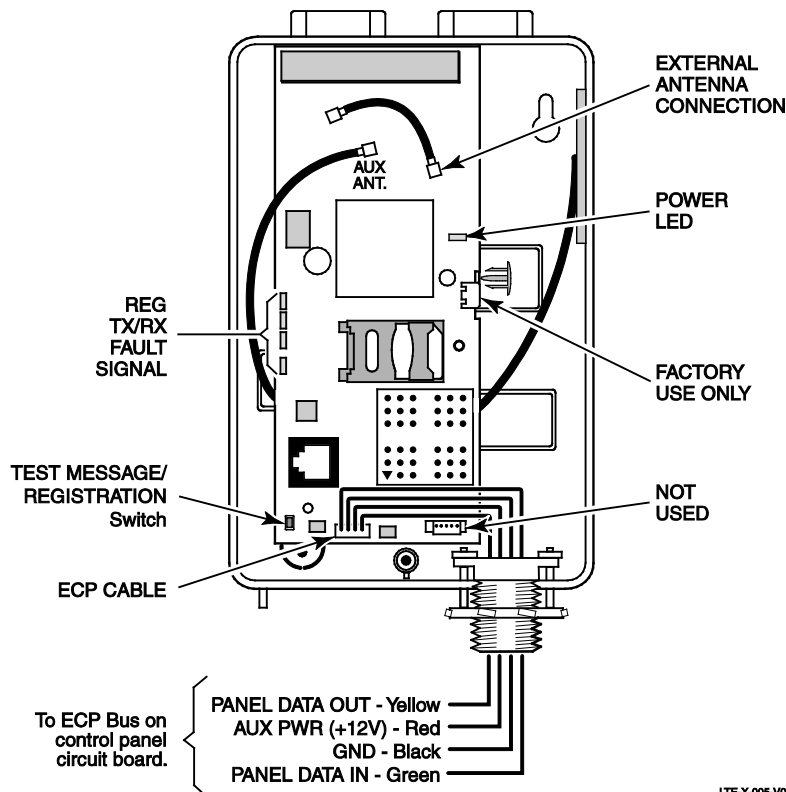
4G LTE	Refers to the fourth generation Long Term Evolution cellular wireless standards.
AES	Advanced Encryption Standard
CRC	Cyclic Redundancy Check used to confirm validity of MAC ID.
ECP	Enhanced Console Protocol, is a proprietary bus used in Honeywell control panels to communicate with keypads and peripheral devices. It uses four wires; power, ground, data in, data out.
IMEI	International Mobile Equipment Identity number.
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. Typically it is located on the communicator label, and on the box.

– NOTES –

– NOTES –

LED and Wiring Information

LED	DESCRIPTION	
REG (green)	ON	Module is NOT registered with AlarmNet.
	OFF	Module is registered with AlarmNet.
	FAST BLINK	Download session with Compass in progress.
	SLOW BLINK	In unison with yellow LED – Registration in progress.
TX/RX (yellow)	ON	Message transmission pending.
	QUICK PERIODIC BLINK	Normal
	FAST BLINK	Message waiting for network ACK.
	SLOW BLINK	In unison with green LED – Registration in progress.
FAULT (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 control panel.
SIGNAL (green)	ON	Minimum required signal strength is present.
	OFF	Installation is not recommended.
ALL	IN UNISON FAST BLINK – Hardware Error. IN SEQUENCE – Power Up sequence	

EXTERNAL ANTENNA CONNECTION

AUX ANT.

POWER LED

REG TX/RX FAULT SIGNAL

FACTORY USE ONLY

TEST MESSAGE/ REGISTRATION Switch

NOT USED

ECP CABLE

To ECP Bus on control panel circuit board.

PANEL DATA OUT - Yellow
AUX PWR (+12V) - Red
GND - Black
PANEL DATA IN - Green

LTE-X-005-V0

FEDERAL COMMUNICATIONS COMMISSION & ISED 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.

ISED CLASS B STATEMENT

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

FCC / ISED STATEMENT

This device complies with Part 15 of the FCC Rules, and ISED's license-exempt RSSs. 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.

Cet appareil est conforme à la partie 15 des règles de la FCC et exempt de licence RSS d'ISED. Son fonctionnement est soumis aux conditions suivantes: (1) Cet appareil ne doit pas causer d'interférences nuisibles. (2) Cet appareil doit accepter toute interférence reçue y compris les interférences causant une réception indésirable.

RF EXPOSURE

Warning – The antenna(s) used for this device must be installed to provide a separation distance of at least 7.8 inches (20 cm) from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with FCC and ISED multi-transmitter product procedures.

Mise en Garde

Exposition aux Fréquences Radio : La/les antenne(s) utilisée(s) pour cet émetteur doit/doivent être installée(s) à une distance de séparation d'au moins 20 cm (7,8 pouces) de toute personne et ne pas être située(s) ni fonctionner parallèlement à tout autre transmetteur ou antenne, excepté en conformité avec les procédures de produit multi transmetteur FCC et ISED.

Important Note About External Antennas

If an external cellular radio antenna is used, the antenna may be installed or replaced ONLY by a professional installer.

To the Installer

LTE-XV: The external antenna gain shall not exceed 6.94 dBi for 700 MHz, 6.00 dBi for 1700 MHz, 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.

LTE-XC, LTE-XA: The external antenna gain shall not exceed 6.63 dBi for 700MHz & 850MHz, 6 dBi for 1700MHz and 8.51 dBi for 1900MHz. 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, or ISED RSS-130, RSS-132, RSS-133, and RSS-139.

Support and Warranty

For online support information, please go to: https://mywebtech.honeywell.com/

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

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

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Honeywell

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