STAR XL4612

LEGEND 85

Hookup and Installation Instructions

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STAR XL4612 Legend 85

TABLE OF CONTENTS

1. INTRODUCTION

The STAR XL4612/Legend 85 systems are state of the art EEPROM based control/communicators. The system features twelve fully programmable zones, full uploading/downloading and remote control, a built in siren driver and four programmable trigger outputs. Programming can be performed through the keypad or the system can be uploaded and downloaded locally or remotely using the EZ-Mate programming devices. The STAR XL4612 contains up to thirty user codes, with the capability for user codes to also activate an access trigger. All of the keypads are four wire devices, with up to four keypads per system.

The XL4612 and Legend 85 systems are functionally equivalent. The features, capability and operation are similar. The difference between the systems is the keypads, the XL4612 is supplied with the XL4612RM keypad while the Legend 85 system includes the 7005 LCD keypad.

The XL4612/Legend 85 can be used with the following keypads:

XL4612RM * Flush Mount LED Metal Plate Keypad

or

XL4800LED Surface Mount LED keypad

XL4800LCD Surface Mount Plastic Keypad featuring two line LCD keypad with programmable zone descriptors.

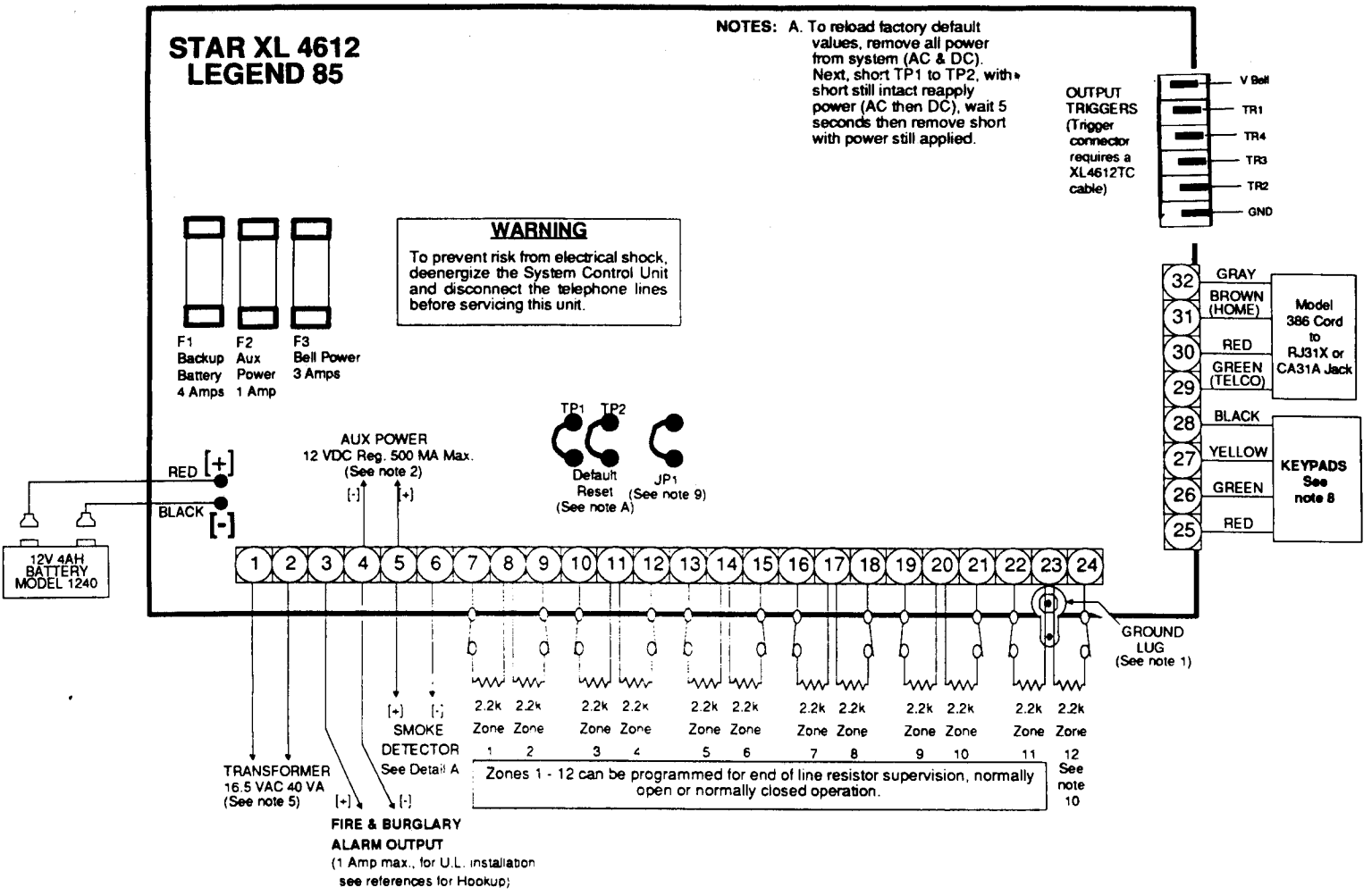
7005 Legend LCD Keypad

7015 Legend LED Based keypad

* NOTE: The XL4612RM keypad cannot be mixed with the other types of keypads on the same system.

2. SYSTEM WIRING AND HOOKUP

2.1. SYSTEM WIRING DIAGRAM



NOTES:

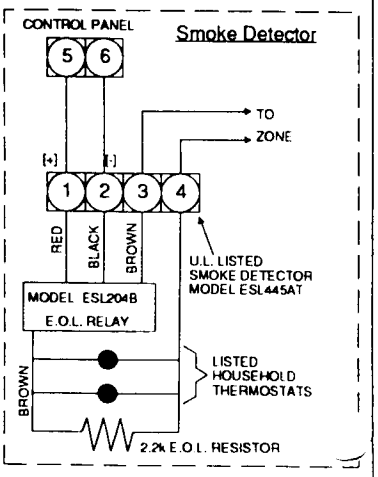
1- Connect to a grounded cold water pipe, 16 ga. at 15 feet.
2- Total AUX. power available is 500 mA, which includes keypad power.
3- Limited energy cable must be used.
4- System must be tested on a weekly basis. For information refer to references.
5- Do not connect the transformer to a receptacle controlled by a switch.
6- Installation of equipment and wiring methods are required to be in accordance with the National Electricians code and ANSI/NFPA no 74. More information may be obtained from the NFPA, Battery March Park, Quincy, MA 02269
7- Battery capacity for Emergency Standby is a minimum of 4 hours. Under normal circumstances this battery will last 3 years, use only exact replacements.
8- Maximum of four keypads. Keypads can consist of the following: XL4612 RM or XL4800 LCD, XL4800 LED, 7005 and 7015.
CAUTION: XL4612 RM keypads CANNOT be used on the same system with any other type of keypad
9- Cut this jumper if trigger #4 desired and Zone 12 is used for standard loop response.
10-Zone 12 can be programmed for fast loop response (approx. 8mSec).

WARNING

THIS UNIT INCLUDES AN ALARM VERIFICATION FEATURE THAT WILL RESULT IN A DELAY OF THE SYSTEM ALARM SIGNAL FROM THE INDICATED CIRCUITS. THE TOTAL DELAY (CONTROL UNIT PLUS SMOKE DETECTOR) SHALL NOT EXCEED 60 SECONDS. NO OTHER INITIATING DEVICES SHALL BE CONNECTED TO THESE CIRCUITS UNLESS APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION

CIRCUIT (ZONE)	CONTROL UNIT DELAY - SEC.	SMOKE DETECTOR MODEL DELAY - SEC.

Detail A



FCC Registration Number AE398E-69554 AL-E Ringer Equivalence

References: Legend 85 Hookup and Installation Instructions I-2653 and Owners Manual I-2697
XL 4612 Hookup and Installation Instructions I-2653 and Owners Manual I-2654

2.2. TERMINAL CONNECTIONS

TERMINALS — **DESCRIPTION**

1 & 2 — **TRANSFORMER:**

Connect an FBII 16.5 VAC 40VA transformer, utilizing 18awg wire at a distance not to exceed 15 feet from the panel, to an **unswitched** 120 VAC outlet.

Do not use any other transformer since this may result in improper operation or damage to the unit.

The AC/LOW BAT LED on the keypad will remain ON, while AC power is present. If an AC loss occurs the AC/LOW BAT LED will turn off immediately. If AC remains OFF for 15 minutes, the system will pulse the keypad buzzer and transmit to the central station, if programmed. THE KEYPAD BUZZER CAN BE SILENCED by entry of any valid user code. When AC restores the AC/LOW BAT LED will light immediately, and a restore code will be reported, if programmed.

3(+) & 4(-) — **SIREN/BELL OUTPUT:**

The control panel contains a built in siren driver which is selected within question number 07 of the programming sequence. If the siren driver is selected then the programmed sounds will be generated for fire and burglary conditions. If programmed as a bell output then the total output power available for sounding devices is 1.5 amps (1 Amp for UL installations) at 13.8VDC. These terminals will deliver CONSTANT output on BURGLARY, AUDIBLE PANIC and BELL TEST. On a FIRE condition, a PULSED output will be generated. There are separate bell cutoff times programmable for Burglary and Fire conditions within the programming sequence.

5(+) & 4(-) — **REGULATED POWER (13.8VDC):**

The total regulated output power for motion detectors and other external devices is 500mA at 13.8VDC, with less than 100 mVPP ripple.

The total regulated output capacity of the control system includes the power available from these terminals as well as the power used by the keypads and smoke detectors. Therefore, to determine the total power available from these terminals subtract the power consumed by the keypads and smoke detectors.

5(+) 6(-) — **SMOKE DETECTOR POWER:**

This system will accept 12VDC four(4) wire smoke detectors only. Approximately 50mA of current is available at these terminals for powering all detectors and an E.O.L. relay FBII model 620. For UL installations see wiring diagram for hookup. Due to the different power requirements of smoke detectors, the system may only support 2 or 3 smoke detectors.

These terminals adhere to the fire verification and reset logic which is explained in the Zone types section of this manual. Manual reset of smoke detector power can be accomplished by entry of any valid user code after clearing alarm memory.

7 & 8 (-)	Zone 1 (Optional 2.2K EOL resistor)	[Default = DELAY]
8(-) & 9	Zone 2 (Optional 2.2K EOL resistor)	[Default = INTERIOR]
10 & 11(-)	Zone 3 (Optional 2.2K EOL resistor)	[Default = PERIMETER]
11(-) & 12	Zone 4 (Optional 2.2K EOL resistor)	[Default = PERIMETER]
13 & 14(-)	Zone 5 (Optional 2.2K EOL resistor)	[Default = PERIMETER]
14(-) & 15	Zone 6 (Optional 2.2K EOL resistor)	[Default = PERIMETER]
16 & 17 (-)	Zone 7 (Optional 2.2K EOL resistor)	[Default = PERIMETER]
17(-) & 18	Zone 8 (Optional 2.2K EOL resistor)	[Default = FIRE]
19 & 20(-)	Zone 9 (Optional 2.2K EOL resistor)	[Default = PERIMETER]
20(-) & 21	Zone 10 (Optional 2.2K EOL resistor)	[Default = PERIMETER]
22 & 23(-)	Zone 11 (Optional 2.2K EOL resistor)	[Default = PERIMETER]
23(-) & 24	Zone 12 (Optional 2.2K EOL resistor)	[Default = PERIMETER]

NOTE: Zone 12 can be configured as a fast loop response zone. If fast response is selected then zone response will be 8 - 10 msec. If fast response is selected then trigger number 4 cannot be used. Also the fast response zone must be an alarm on open type of device. If fast zone response is desired then JP1 on the board must be connected. If trigger number 3 is used then cut JP1.

ZONE INFORMATION

Normally closed devices may be wired in series, and/or normally open devices in parallel with the 2.2k ohm end of line resistor on all zones (EOL supervision optional per zone). The maximum loop resistance may not exceed 100 ohms. The loop response time is **280** ms on all zones, except for zone 12 which can be programmed for fast response (8 - 10 msec). The factory default values for each zone is listed in the table above, however **any** zone can be programmed for the following types: Delay, Perimeter, Interior, Fire, Keyswitch, 24 Hr. Alarm, or 24 Hr. Trouble. Further explanation of the zone types can be found in the System Programming section of this manual.

GROUNDING LUG **EARTH GROUND:**

Connect this grounding lug to a cold water pipe utilizing #16AWG wire at a distance of no greater than 15 ft.. If the premises pipes terminate in PVC, this terminal **must** be connected to a six(6) foot grounding rod.

25 26 27 28 **KEYPADS:**

A maximum of 4 keypads may be wired to these terminals. The connections are as follows; 25 (RED = positive power), 26 (GREEN = data out), 27 (YELLOW = data in), 28 (BLACK = negative),. Each XL4612RM keypad draws approximately 30mA, others draw approx. 60mA. Maximum keypad length is 500 feet using 22 gauge wire. NOTE: XL4612RM keypads cannot appear on the same system with the XL4800LED, XL4800LCD, 7005 or 7015 keypads.

29 30 31 32 **TELEPHONE LINE:**

Connect the FBII model 368 cord as follows; 29 (GREEN = Telco Tip), 30(RED = Telco Ring), 31(BROWN= Home Tip), 32(GREY= Home Ring). Insert the modular plug into an approved USOCRJ31X jack (or a CA31A jack for Canadian installations).

The FCC registration number is (AE398E-69554 AL-E), and the ringer equivalence is (0.0B). This STAR XL4612 should not be connected to party lines, or coin operated phones.

Furthermore, this device should not be connected to a phone line which has call waiting, unless the call waiting interrupt numbers are programmed into the panel dialing sequence.

TRIGGER OUTPUTS The control panel contains four programmable outputs. These utilization of these outputs are selectable within the programming sequence (questions 29 & 30). In order to connect devices to the triggers use connector XL4612TC (trigger cable). The output triggers supply 12VDC at 50mA. Trigger outputs are switched negative.

The trigger output labeled VBELL is an **unregulated** power supply. This output is protected by the BELL fuse and should only be used with devices requiring constant unregulated voltage (12VDC).

BACKUP BATTERY: The RED(+) and BLACK(-) flying leads must be connected to a 12 VDC 4-6AH GELL CELL, to serve as backup power in the event of AC loss.

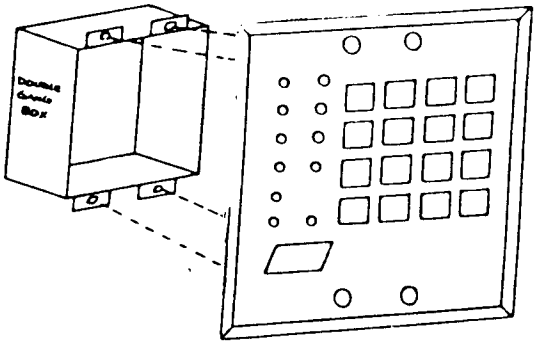
The system performs a battery test approximately every 4.5 minutes. Low battery condition occurs at nominal 11VDC during this test. The keypad AC/LOW BAT LED and buzzer will PULSE SLOWLY when low battery condition is detected. The system will report this condition to the CS if programmed. Battery restoral will occur WITHIN 4.5 minutes, at the NEXT battery test. THE BUZZER MAY BE SILENCED by entry of any valid user code.

GROUND START Ground start capability can be added to the system through the output triggers of the control panel. Ground start must be programmed for one of the output triggers for this purpose.

3. KEYPAD MOUNTING

3.1. XL4612RM METAL KEYPAD

FLUSH MOUNTING USING DOUBLE GANG BOX

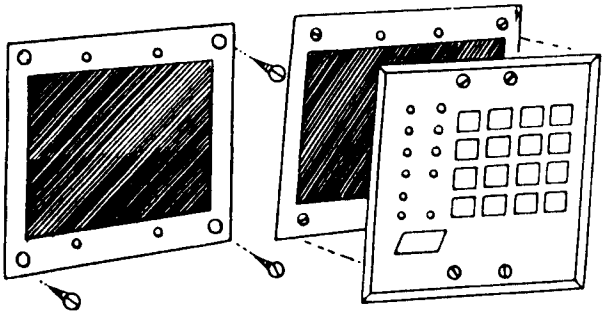


1- Create an opening and mount a standard double gang box.

2- Secure keypad to double gang box as shown in diagram below. Note: The double gang box should be mounted flush with the wall in order for the keypad screws to fit.

NOTE: For UL installations, mount the XL4612RM to an earth grounded outlet box.

FLUSH MOUNTING WITH MOUNTING RING (Using the optional XL4600TR)

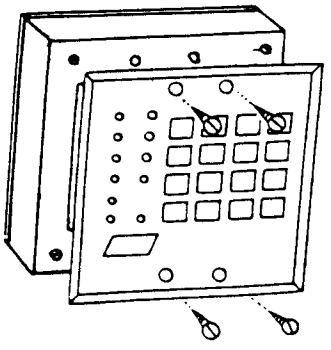


1- Create the desired opening where keypad is to be mounted, using the inside of the mounting ring as a template. NOTE: This opening should be made between studs.

2- Secure mounting plate to wall through the four outer holes using suitable mounting hardware (not provided).

3- Connect keypad wiring to control panel and secure the keypad to the mounting ring using the four painted screws provided.

SURFACE MOUNTING (Using optional XL4600RMBX)

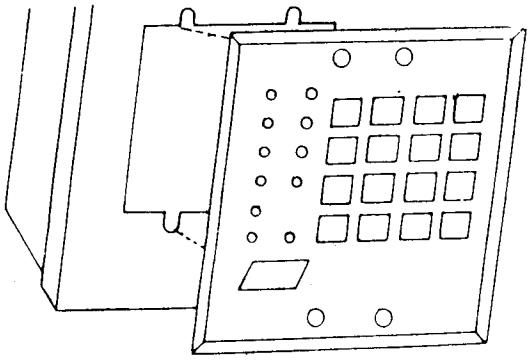


1- Depending on type of installation run the keypad wiring out of the rear, top bottom or sides of the backbox.

2- Attach backbox to wall at desired height

3- Insert XL4612RM keypad into backbox and secure with the four screws provided.

MOUNTING KEYPAD IN CONTROL PANEL ENCLOSURE



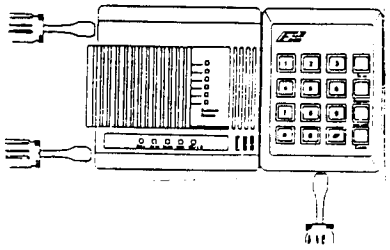
1- Remove keypad knockout from front of metal box enclosure as shown.

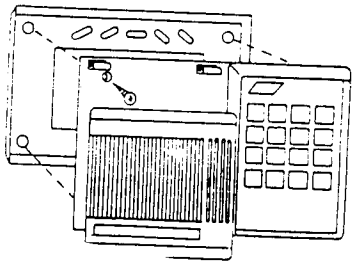
2- Insert XL4612RM into opening from front c. enclosure.

3- Secure keypad to enclosure using the four painted metal screws and nuts provided.

3.2. XL4800LCD or XL4800LED PLASTIC KEYPADS

SURFACE MOUNTING





1- Remove the plastic keypad section of the keypad (right side) using a screwdriver in the slot at the bottom of the keypad (see diagram).

2- Remove the zone indicator (left side) portion of the keypad using a screwdriver in the slots located on the left side of the keypad.

3- Connect keypad wiring to main control panel.

4- Remove the four screws which secure the keypad to the rear mounting plate.

5- Secure the rear mounting plate to the wall through any of the mounting holes provided.

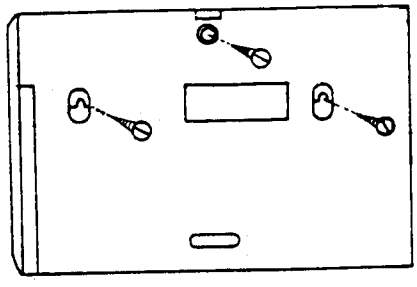
6- Connect the 4600RP keypad to the mountir plate through the four screws provided.

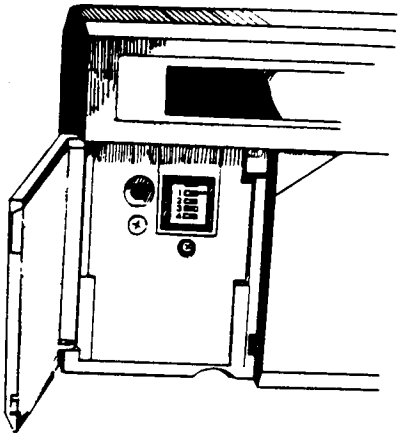
3.3. MOUNTING 7005 7015 KEYPADS

Keypad mounting is identical for both the 7015 LED and 7005 LCD versions. Keypads can be surface mounted or flush mounted as described below.

NOTE: When selecting the mounting height for the LCD keypad (model 7005) it is important to note that the LCD display used is a top view display. This means that the display is best viewed when looking down at the display. For optimum viewing the LCD keypad should be placed in a location where the user will be looking down at the display. In addition there is an adjustment located behind the door of the keypad to vary the angle of view.

SURFACE MOUNTING





1. Select the desired keypad mounting location and place the plastic rear plate of the keypad on the wall. Mark the location of the cutout for the keypad wiring cable.

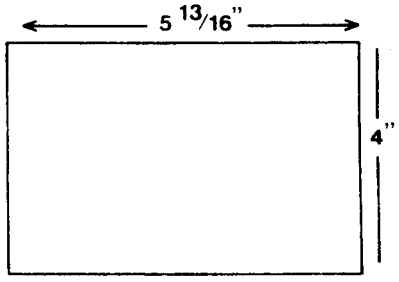
2- Create an opening for the keypad wiring in the location previously marked. Run the keypad wiring using the four wire connector provided to the control panel.

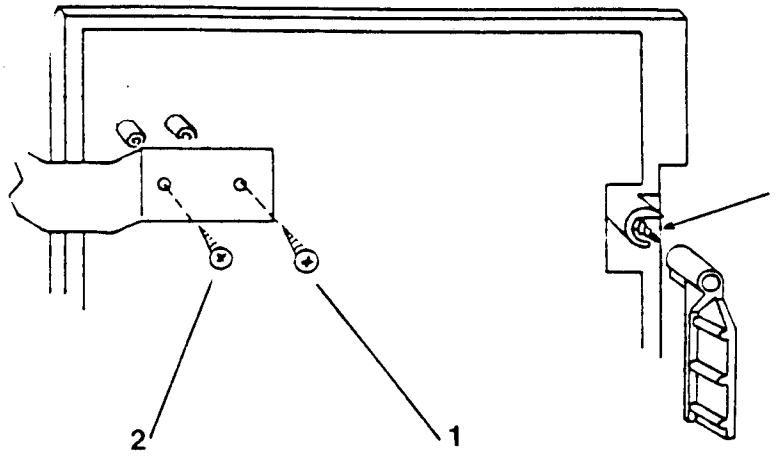
3- Place the keypad wiring through the cutout provided and secure the keypad backplate to the wall through the holes provided (see diagram).

4- Connect the keypad wiring connector to the keypad and place the keypad on the mounting plate attached to the wall.

5- Secure the keypad to the rear mounting pla by attaching the 5/8 inch screw provided in the lower hole, located behind the keypad door.

RECESSED MOUNTING





1- Select the desired location for mounting the keypad. Note: For recessed mounting this must be between two studs. Note: The rear plastic mounting plate is not used for recessed installations.

2- Create an opening in the wall exactly 4 inches high by 5 13/16 inches wide.

3- Turn over the keypad and remove the Phillips head screw (item 1 on diagram) in the upper left hand side of the keypad printed circuit board. Note: This screw is located immediately to the left of the keypad connector.

4- Attach the black metal mounting strap to the rear of the keypad as follows (see diagram);

- Face the pointed section of the mounting strap facing the front of the keypad. This will be used to latch onto the inside of the wall.

- Place the small white plastic spacer underneath the mounting strap. Secure the mounting strap using the 5/8 inch Phillips head screw (supplied with the keypad mounting hardware) and the plastic spacer to location 1.

- Secure the other end of the strap (location 2 on diagram) to the white plastic opening using the Phillips head screw removed in step 2.

5- Connect the white plastic tab into the round opening immediately behind the keypad door. Place the longer Phillips head screw located with the keypad mounting hardware through the opening inside the keypad door and begin to tighten the screw. At this point, **loosely** tighten the screw and leave the tab in a downright position.

6- Run the keypad wiring to the control panel and attach the wiring to the keypad.

7- Place the keypad into the wall opening with the side containing the black metal strap first. The black metal strap with the hook will act as a spring and grab the inside of the wall.

8- After inserting the side of the keypad with the metal strap, insert the other side into the opening until the entire keypad is firmly in the wall. Straighten out the keypad to the desired position.

9- Open the keypad door and completely tighten the screw inserted in step 5. This will cause the plastic piece previously inserted into the back to flip up and tightly grab the inside of the wall.

4. KEYPAD ADDRESSING

The XL4800 LCD, XL4800LED, 7005 and 7015 keypads contain dip switches to set the address of the keypad. This identifies the keypad to the system. **NOTE:** There is no switch on the XL4612RM keypad.

This switch contains 4 locations and is numbered SW1 - SW4 and is located as follows:

7005 7015 Keypads	Inside of open door on left hand side of keypad
XL4800LED,XL4800LCD	Located behind left hand plastic cover of keypad.

Each keypad **must** be assigned a unique sequential keypad address from the table below. For example, if there are 4 keypads (2 LCD and 2 LED) then the LCD keypads should be numbered 1 & 2, and the LED keypads should be numbered 1 & 2.

KEYPAD NUMBER	SW1	SW2	SW3
1	ON	ON	ON
2	OFF	ON	ON
3	ON	OFF	ON
4	OFF	OFF	ON

NOTE: SW4 is not used on these keypads.

5. SYSTEM COMPONENTS AND ACCESSORIES

The following configurations and accessories are available for the STAR XL4612 and Legend 85 systems:

SYSTEMS

XL4612PO	Includes XL4612 control panel, and transformer. Keypads are sold separately

KEYPADS

XL4612RM	Additional metal plate LED based keypad for XL4612 system. Note This keypad cannot be placed on the same system with the other available keypads.
7005	Legend style LCD based keypad, surface or recessed mount with two line LCD display.
7015	Legend style LED based keypad
XL4800LED	Surface mounted LED keypad for XL4612 or Legend 85 system.
XL4800LCD	Liquid Crystal Display (LCD) for the XL4612/Legend 85 system. This keypad contains a two line display which can be programmed with customized 12 character zone descriptors.

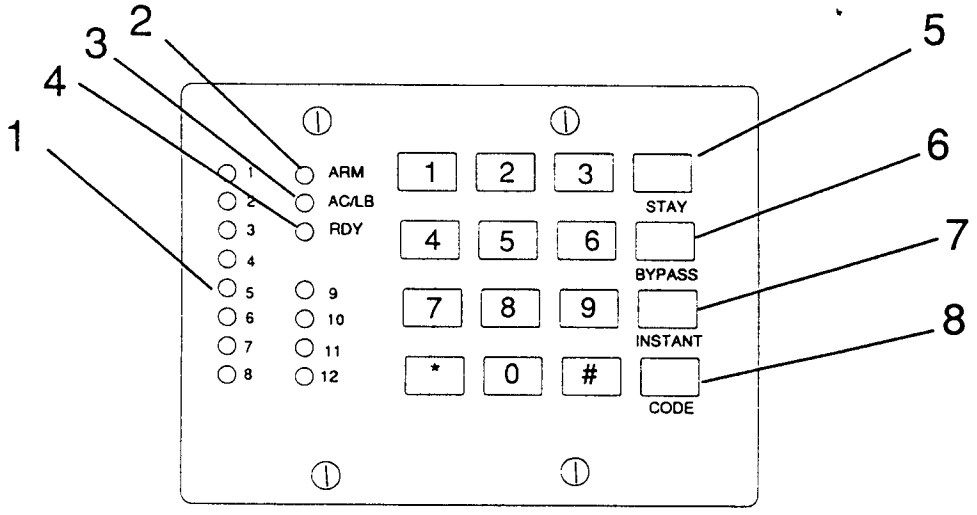
ACCESSORY PRODUCTS

XL4612TC	Trigger cable connector for 4612/Legend 85.
XL4600TR	Mounting Ring for flush mounting the XL4612RM keypad.
XL4600RMBX	Back box to surface mount the XL4612RM metal keypad.

PROGRAMMING ACCESSORIES

7150	EZ-Mate Programmer. Portable programming tool for the STAR product line (requires 7182 programming cartridge)
7182	Product cartridge for the XL4612 series providing local and remote uploading and downloading. In addition this cartridge performs remote commands (arm disarm bypass, system status etc). Includes 7180J connector.
7180J	Extra connector between the XL4612 control panel amd the 7150 EZ-Mate Programmer
7700	EZ-Mate Downloader Software written for IBM compatible systems for remote uploading/downloading and device commands of Fire Burglary Instruments downloadable products.

6. KEYPAD LAYOUT



XL4612RM KEYPAD

1) ZONE STATUS LEDS

These LEDS display the current zone status including alarms, bypasses, troubles and faults. Each condition will cause these LEDS to operate differently as follows:

ALARMS Fast Blink (approx. 150 ms. ON - 150 ms. OFF).

TROUBLES Slow Pulse (approx. 600 ms. ON - 600 ms. OFF).

BYPASSES Wink (100 ms. ON - 900 ms. OFF). Zone bypasses are displayed as a very slow wink of the zone LED light.

FAULTED ZONES Solid ON. Faulted zones are the lowest priority indication. Faulted burglary zones are displayed with the LED solidly ON while the system is disarmed.

NORMAL OFF

2) ARM/DISARM LED

This LED indicates whether the system is currently armed (ON) or disarmed (OFF).

Fast Blink = Alarm Mode

Slow Blink = Fail to Communicate with Central Station

3) AC/LOW BATTERY LED

This indicator light displays the current power status of the panel as follows;

ON = AC is present, Battery condition normal

OFF = No AC, running on battery backup

Slow Blink = Low battery condition detected

Fast Blink = Telephone Line failure

4) READY LED

This ready LED displays the current ready status of the system while disarmed, and displays the arming status when the system is armed as follows:

DISARMED STATUS (Armed LED OFF)

ON = System ready to be armed

OFF = System not ready to be armed

Slow Blink = Indicates Installer programming mode

ARMED STATUS (Armed LED ON)

OFF = Armed in AWAY mode

Slow Blink = Armed in STAY mode

Fast Blink = Armed in INSTANT mode

Slow & Fast Blink = Armed in STAY-INSTANT mode

5) STAY BUTTON

The STAY mode enables arming the system, excluding zones programmed as interior zones. This will provide exterior protection of the location while allowing full access throughout the interior.

6) BYPASS BUTTON

The BYPASS key is used to temporarily exclude protection to a specific zone.

7) INSTANT BUTTON

The INSTANT button enables arming of the system, eliminating the entry/exit delay.

8) CODE BUTTON

The CODE button is used to enter the installer programming mode and entry of user codes.

6.1. KEYPAD SOUNDER

The keypad sounder annunciates differently to indicate the following conditions:

CHIRP Keypad emits a short chirp to confirm each keystroke.

STEADY The keypad will make a steady sound during entry time, and/or during burglary alarm.

CHIME - steady 1 second tone.

ACKNOWLEDGE - Upon successful entry of a certain commands the system will emit a sound for approximately half a second.

PULSING - A pulsing sound (approximately half a second ON then OFF) indicates a trouble condition such as AC loss, Low Battery, or Fire Zone.

NEGATIVE ACKNOWLEDGMENT - Upon entry of an illegal command the keypad will emit four short beeps. For example, if attempting to define a new user and the master user is not entered, four short beeps will be made indicating that the command was unsuccessful.

SOUNDER RINGBACK - Several short beeps to indicate successful communication to the Central Station. This occurs for all signals, excluding ambush and silent zones.

FAST PULSING SOUNDER- Sound generated during entry time period AFTER an alarm condition has occurred and the system reached bell cutoff. A pulsing sounder will follow the bell output on Fire conditions. Trouble conditions also generate a pulsing sounder and will follow the loop or be silenced through entry of a valid user code.

AUTO ARM WARNING - If the auto arming function has been selected then the keypad will emit a sound two minutes prior to the auto-arming time period. In addition the lights will scroll on the LED based keypads.

The keypad is non-operational if none of the LED's are lit and the keypad does not beep when keys are pressed. This is indication that service is required.

7. SYSTEM OPERATIONS

7.1. POWER UP/SYSTEM RESET

Upon initial system powerup all of the lights on LED based keypads will go on and the sounder will operate for approximately 10 seconds. This occurs on a total powerup , system reset or after completion of system programming. If the total system power is lost then upon power restoral, the system will return to the previous arming state.

7.2. ARMING THE SYSTEM

FAIL-SAFE ARMING:

The system can be armed only if all burglary zones are good (not faulted) and the READY LED is on.

ARMING:

Enter any programmed four digit user code.

NOTE: The factory default user **number 1** arming code is 1234.

The ARMED LED will light and the user may exit through an exit/entry zone for the time period programmed as the exit delay. The system can be armed without the backup battery being connected, however the AC/LB light will flash.

7.3. STAY ARMING

Depress the STAY BUTTON followed by a four digit user code. This will arm the system with all programmed interior zones excluded.

KEYPAD RESPONSES:

XL4612RM	ARM = ON	RDY = Slow Blink
XL4800LED, 7015	ARM = ON STAY = ON.	
XL4800LCD, 7005		

ON STAY

7.4. INSTANT ARMING

Depress the INSTANT BUTTON followed by a four digit user code. The system is armed at this time with all programmed delay zones instant.

KEYPAD RESPONSES:

XL4612RM	ARM = ON	RDY = Fast Blink
XL4800LED, 7015	ARM = ON	INSTANT = ON.
XL4800LCD, 7005		

ON INSTANT

7.5. INSTANT-STAY ARMING

Depress the INSTANT then STAY buttons and a four digit user code.

The INSTANT STAY mode will arm the system with the characteristics of both the INSTANT and STAY modes. The system will be armed with the interior zones bypassed and the delay zones instant.

KEYPAD RESPONSES:

XL4612RM	ARM = ON	RDY = Fast & Slow Blink
XL4800LED, 7015	ARM = ON	INSTANT = ON STAY = ON.
XL4800LCD, 7005		

ON STAY INSTANT

7.6. DISARMING

Depress any valid four(4) digit user code.

The ARMED LED will extinguish.

If an alarm condition exists or had occurred while the system was armed, the respective zone(s) LED(s) will blink rapidly. On the XL4612RM keypad the ARMED LED will blink rapidly , on the other keypads the READY LED will be blinking rapidly. This condition is classified as ALARM MEMORY and can be cleared through entry of a valid user code.

7.7. RESET

Reset is accomplished through the entry of any valid user code. This can be used to reset the smoke detectors attached to the system, silence any bells, or clear the keypad display or sounder.

In addition an option exists, for making the * key to act as a reset for clearing the sounder, communications failure, and alarm memory. This programmable option can be obtained through location 1 of question 06.

7.8. BYPASS

Bypassing is performed to temporarily exclude zones which are faulty or not ready from activating the system.

Depress the BYPASS button followed by any valid four(4) digit user code, followed the zone number (01 - 12).

EXAMPLE: BYPASS ZONE 6 (Assume user code of 1234)

BYPASS 1234 06

Subsequent bypasses can be made by depressing the BYPASS button followed by another zone number within a ten second period. After this ten second period it will be necessary to enter the entire command including the user code.

After a successful bypass the keypad sounder will emit the acknowledge beep, and the respective zone LED will WINK SLOWLY.

In addition the following rules for bypass exist;

- FIRE zones cannot be bypassed
- 24 hour zones can be bypassed, however they CANNOT be unbypassed if they are violated.
- Zones can only be bypassed while the system is disarmed, at which time visual indication will be displayed.
- Bypass signals will be transmitted to the Central Station UPON ARMING if a bypass code has been programmed.

NOTE: Zones which are bypassed are not protected when the system is armed.

Programmable options exist to determine whether bypassed zones are automatically unbypassed after disarm and whether bypasses are displayed on the keypad when the system is armed. Both of these options can be programmed within location 4 of question 06.

7.9. AUTO UNBYPASS

All burglary zones which are bypassed can be automatically unbypassed upon system disarm. 24 hour zones which have been bypassed will be unbypassed only if they are normal. The autounbypass feature is a programmable option (see question 06 of the programming sequence).

7.10. MANUAL UNBYPASS

The UNBYPASS function removes an existing bypass from a currently bypassed zone. The procedure is the same as bypass.

7.11. USER CODE PROGRAMMING

Users codes can be entered or modified directly through the keypad.

The STAR XL4612/Legend 85 system contains up to thirty user codes (4 digits each) with the following applications;

USER NUMBER	APPLICATION
01 & 02	Master User [Default = 1234 User #1] (See note 1)
03 - 27	User Number 03 - 27 [Default = null]
28	User Number 28 Door strike (See note 2)
29	User Number 29 [Default = null] ARM only code, see note 3
30	Ambush Code [Default = null] See note 4

NOTES:

1. Only the master users (user number 1 & 2) can program or modify other users.

2. **User number 28** will be the system "door strike" code if any of the triggers is defined as a door strike trigger. If the trigger is defined then entry of this user code will activate that trigger for a period of 5 seconds. If a door strike (or access) trigger is not defined then this user code can be utilized as another user code.

In addition there is an option to allow **all** user codes to act as a door strike code. If this option is selected (question 07, location 3) then all users can activate the door strike through the #0 command. (See command modes)

3. User **number 29** will be a system wide arm only (maid) code if the ARM only code option is programmed into question 07 location 3.

4. User **number 30** will be the systemwide ambush code if there is an ambush CS transmission code programmed into question number 22. If no code is defined then this user **number 30** will be another available user code.

USER DEFINITION PROCEDURE:

CODE [USER] [USER number] [USERID]

where:

CODE Code button on keypad

[USER] Master User ID code (user #1 or #2)

[USER number] Desired user to be programmed (01-30)

[USERID] Four digit user code. Valid digits are 0-9

Example:

Define user number 03 with an ID of 7493. (Assume master user code is 1234).

CODE 1234 03 7493

An acknowledge sound (steady tone) verifies a successful user code programming.

A negative acknowledge sound (4 short tones) indicates unsuccessful programming.

If additional user programming is necessary, repeat the procedure listed above.

User programming can be performed while the system is DISARMED ONLY.

If a dialing format is programmed which transmits opening/closing by user ID, each user will report the respective user number. **User numbers greater than 16 will only be correctly reported if the FBI Superfast or ADEMCO point ID formats are used.**

DURESS/AMBUSH

If ambush capability is required then an ambush transmission code must be entered within the programming sequence. When ambush has been enabled then the user **number 30** code will be used as an AMBUSH code. In this mode, entry of the user number 30 code will ARM or DISARM the system and transmit the ambush code to the Central Station. Furthermore if opening/closing by user reporting is programmed, user number 30 will be reported along with the ambush code.

If ambush has not been programmed then user number 30 can be used as an ordinary user code.

ARM ONLY CODE [USER 29 CODE]

A programming option exists to make user number 29 an ARM only code. This means that the code can only arm the system and would be used for a user such as a maid or temporary user of the system. This is obtained through location 2 of question 05.

7.12. USER DELETION

Removal of users from the system can be performed as follows;

USER DELETION PROCEDURE

CODE [USER] [User number] *

Where:

[USER] Master user code

[User number] Represents the user number being deleted.(03-30). Note: User number 1 & 2 (master user codes) cannot be deleted, however they can be modified..

* is the * (asterisk) key from the keypad.

7.13. KEYPAD EMERGENCY CONDITIONS

The system has the ability to transmit four separate keypad emergency conditions as follows:

CONDITION	KEYSTROKES
PANIC	# *
FIRE	7 9
AUX.	1 3
AMBUSH	[USER CODE number 30] If an ambush code has been programmed

For example, the 24 hr keypad panic can be initiated through simultaneous depression of the # and * keys. The panic condition can be silent (no bell output) or audible based on the programming option. NOTE: The default value for panic is audible.

Audible panic can be RESET BY ENTERING ANY VALID USER CODE.

The keypad FIRE and AUX conditions are selectable through the programming sequence.

The ambush code will be user **number 30** if an ambush code is programmed in question **number 23**.

7.14. INSTALLER MODES

The panel contains the following installer commands:

SEQUENCE:

CODE * [INSTALLER] [1-4]

Where:

CODE = Depression of the CODE key

* = Depression of the * Key

[INSTALLER] = Entry of the four digit installer code. Note The default installer code is 4612.

[1-4] Entry of 1 - 4 as follows:

1 = Installer Keypad Programming

2 = Walk Test

3 = Walk Test with bell

4 = System log view

WALK TEST

Upon entry to the installer walk test mode the keypad will emit a sound upon activation of each zone. The keypads will display the zone violated based on the type of keypad. To exit out of walk test mode press the * key. This will restart the control panel and return to the prior panel status.

WALK TEST WITH BELL

Similar to walk test except that the bell will be tested upon entering the walk test mode.

SYSTEM LOG VIEW

The system retains history the past 5 events (alarms and troubles).

Upon entry to the system log view, LED based keypads will display alarms as fast blinking lights and zone troubles as slow blinking lights. On LCD based keypads the display will show the events one at a time starting from oldest event. Depression of any key (except * or bypass) will scroll backwards through the events. To **exit** from the system log view function press the * key. To **clear** the system log press the **BYPASS** key.

7.15. COMMAND MODES

The end user can perform the following commands:

QUICK ARM [# 1] — If quick arming has been enabled then entry of # 1 will arm the system without the need for a user code.

QUICK FORCED ARMING [# 2] — If quick forced arming has been enabled then entry of # 2 will arm the system and bypass any bypassable zones that are not ready.

SET CLOCK [# 3] — To set the time of the system clock enter:

3 [USER] HR MIN

where:

[USER] valid user code

HR = Hour of day (24 hour time, example 3 PM = 15)

MIN = Minute (00 - 59)

The system time clock is used for the system test transmission as well as the auto-arming function. NOTE: An option exists (question 06 location 4) which

determines whether a user code is required to set the system time. If no user code is required then simply enter # 3 HR MIN.

ZONE DIRECTORY (LCD Keypads) [# 4] To scroll through the zone descriptions on the LCD keypad enter # 4.

AUTO ARM TIME - [# 5] To set the time of day for auto-arming on a permanent basis enter:

5 [USER] HR TIME

where:

[USER] valid user code

HR = Hour of day (24 hour time, example 3 PM = 15)

MIN = Minute (00 - 59)

The permanent time represents the time of day that the system will automatically arm if the system is not already armed.

CHIME [# 6] To turn the system chime on and off enter # 6. If chime had been ON, this will turn it off. NOTE: The chime feature can be selected by zone and the #6 function will activate the chime feature for the entire system.

DOOR STRIKE [# 9] If all users have been enabled to activate the door strike trigger (question 07) then entry of the following command will activate the door strike trigger:

9 [USER] [Trigger number]

NOTE: The trigger number (1 - 4) is only necessary if there is more than one trigger programmed for door strike capability.

7.16. AUTO-ARMING

The system contains an auto arming feature. If an auto-arming time is entered then the system will automatically arm (if disarmed) at the time specified.

AUTO-ARMING TIME

The normal auto-arming time can be entered or modified by the user through the # 5 sequence. This represents the desired time of day for auto-arming.

WARNING PERIOD

An optional audible warning can be generated two minutes prior to the auto-arming time. This signal will warn the residents that the system will auto-arm in two minutes. If a user code is entered within this warning period and the system is disarmed, then the auto-arm time for that day will be suspended. The system will generate an audible acknowledgement and the lights on the LED display will scroll to show that the auto arm time was suspended.

NOTE: If the system is armed or there are any system conditions existing, then entry of a user code during the auto-arming warning period will react as entry of a user code and the auto- arm time will not be affected.

7.17. LOSS OF TIME WARNING

If auto-arming has been enabled then a warning will appear on the keypads if there is no time defined. This can occur if time (#3 command) has never been entered or if the system has totally lost power (AC & DC) and the time is probably incorrect. The loss of time warning consists of the LEDs on the LED keypads scrolling in sequence or a text message on LCD keypads. This will occur every 30 seconds until the time is set (#3 command)

7.18. KEYPAD TAMPER

Upon entry of 21 keystrokes in succession without entry of a valid command, the system will initiate a keypad tamper condition. This condition can only be silenced through entry of a valid user code. In addition, a code can be programmed for transmission to the Central Station. NOTE: In two digit transmission formats the system trouble code will be transmitted as the first digit.

8. SYSTEM PROGRAMMING

The STAR XL4612 system can be programmed in any one of four methods;

- Directly through keypad (XL4612RM, XL4800LED, XL4800LCD, 7005, or 7015)
- EZ-MATE PROGRAMMER model 7150 on-site. [Using model 7182 Cartridge and the 7180J connector]
- EZ-MATE PROGRAMMER model 7150 remotely [Using model 7182 Cartridge] .
- EZ-MATE PC DOWNLOADER model 7700 remotely

This manual describes system programming via the **keypad.** The other programming products include documentation describing their programming procedures.

Keypad programming is accomplished by understanding and completing the PROGRAMMING SHEET located on the **inside cover** of this manual.

There are 30 total programming questions numbered 00-29. Additional programming questions are available for the programmable zone descriptors when LCD based keypads (XL4800LCD or 7005) are used.

Within each question there are several locations labeled L1,L2, etc. for data entry.

The XL4612/Legend 85 is shipped from the factory with SPECIFIC DEFAULT VALUES which were selected for a typical installation. If the default values are suitable for your installation then programming can be simplified. The default values are listed with each programming question and in the SYSTEM DEFAULT section of this manual.

9. PROGRAMMING QUESTIONS STAR XL4612 LEGEND 85

This section of the manual defines the programming questions along with the values expected for each question. Complete the Programming sheet and then enter the data through the keypad as explained in the section titled Data Entry Through the Keypad.

QUESTION 01 PRIMARY TELEPHONE NUMBER DEFAULT:234AAAAAAAAA

Enter the telephone number (including area code or dialing prefix IF NECESSARY) of the primary central station receiver in L1 - L12.

Valid dialing digits are 0-9 , B= * , and C= three second pause, D = #. An entry of the digit A signifies the end of the phone number. NOTE: Use B and D only if touchtone dialing is selected in question 05 location 3.

REPORTING ROUTE:

The system will report all signals to the primary receiver phone number. Furthermore the panel will alternate between the primary and secondary receivers (if the second phone number is programmed) for a maximum of 8 attempts each in the event the signal has not been acknowledged. All unused locations within this question must be programmed "A".

QUESTION 02 SECONDARY TELEPHONE NUMBER DEFAULT:AAAAAAAAAAAA

Enter the telephone number (including area code or dialing prefix IF NECESSARY) of the secondary central station receiver in L1 - L12.

Valid dialing digits are 0-9 , B= * , and C= three second pause, D=#. An entry of the digit A signifies the end of the phone number.

The secondary telephone number will be used if the panel is unable to reach the Central Station via the primary number. This is known as backup reporting.

If the SPLIT REPORTING feature is programmed, then OPENING and CLOSING signals will be directed to the secondary CS number only, while all other conditions will be reported to primary number.

If neither split or backup reporting is necessary then this question may be left as factory defaulted and all conditions will be routed to the Primary Telephone number only.

QUESTION 03 CALLBACK NUMBER DEFAULT: AAAAAAAAAAAA

Enter the telephone number (including area code or dialing prefix if necessary) for this control panel to reach the callback number location . The callback number is the optional location of the EZ-Mate Programmer or Downloader where the control panel will call during a remote communications (upload/download etc) session.

During remote communications the programming device and the control panel will first confirm the CS security code. If valid, communications can begin. If a callback number is defined, the control panel will the hang up and dial the callback number.

For no callback capability enter AAAAAAAAAAAA.

QUESTION 04 - PBX PREFIX Default = AAAA

This four digit dialing prefix will be added before the primary and secondary telephone numbers. This could be used to if there are some common prefix numbers to be used on a PBX system. Enter AAAA if there is no dialing prefix. Note: The valid dialing digits are identical to the other telephone numbers.

QUESTION 05- DIALER OPTIONS

There are 4 locations (L1-L4) within this question which define various dialer and system options as follows:

L1 = Dialer Formats
L2 = Receiver Type
L3 = Pulse Type/System Test
L4 = Misc System Options

L1 DIALER FORMATS DEFAULT: 0

Enter the digit for the desired dialer format from the chart below in location L1;

0 = 3x1, Standard Format
1 = 4x1, Standard Format
2 = 3x1, Extended Format
3 = 4x1, Extended Format
4 = 3x1, Partial Extended
5 = 4x1, Partial Extended Format
6 = 3x2 Format
7 = 4x2 Format
8 = FBI Superfast Format
9 = ADEMCO 4x1 Express Format
A = ADEMCO 4x2 Express Format
B = ADEMCO High Speed (8 channel)
C = ADEMCO High Speed (Dual Account)
D = ADEMCO High Speed (Duress format)

Note: The FBI Superfast and ADEMCO Express and igh Speed formats require a high/low handshake from the receiver.

FORMAT EXPLANATIONS

Standard

Standard format involves a 3 or 4 digit account number followed by a single round event code. Examples:

123 3
or
6548 2

Extended

Extended format (sometimes known as universal or expanded format) transmits two rounds of information. The first round includes the account number and an expansion character while the second round repeats the expansion digit as account number before identifying the zone code.

For example;

123 3
333 1
or
4312 E
EEEE 7

PARTIAL EXTENDED

The partial extended format transmits a standard signal for alarm conditions and an extended message for restores and other system conditions. NOTE: The extended message codes must be B-F).

Example:

Alarm Condition	Restore Condition
853 1	853 E
	EEE 1

FBI Superfast

DTMF format transmitting the following information:

ACCT AZZ S

Where:

ACCT = four digit account number

A = Alarm type

ZZ= Zone number (or User Number)

S= Signal Type (Alarm, Restore etc).

ADEMCO 4x1 Express

DTMF format transmitting a four digit account number followed by a single digit alarm code

ADEMCO 4x2 Express

DTMF format transmitting a four digit account number followed by a two digit alarm code

ADEMCO High SPEED (8 Channel)

DTMF format transmitting a four digit account number followed by eight channels of alarm information. The ninth channel contains a status value which determines the meaning of the message. Since there are only eight channels of information in this format some of the twelve zones may have to transmit the same zone number for transmitting purposes.

General format:

AAAA ZZZZ ZZZZ S

Where:

AAAA Four digit account number

ZZZZ ZZZZ Zone status as follows:

1 = New Event (Alarm)

3 = Restore

5 = No Event

6 = Previously reported alarm

Note: The position indicates the channel (zone) number

S Status Channel indicates the meaning of the message:

1 = Duress [Channel number 1 will contain user #]

2 = Opening [Channel number 1 will contain user #]

3 = Bypass [Channel number indicates zone bypassed]

4 = Closing [Channel number 1 contains user #]

7 = Alarm [Channel shows zone status]

8 = Low Battery

9 = System test

ADEMCO High Speed 2 ACCTS

Similar to the ADEMCO high speed listed above except that channels 1 - 8 will report using account number 1 and channels 9 - 12 will report using account number 2. This format allows unique zone annunciation for each of the 12 zones except that there will be two separate account numbers reported to the Central Station.

ADEMCO High Speed DURESS Format

Similar to ADEMCO High speed format except that channels 9 - 12 will be reported to the CS as the secondary message as follows:

ACCT ZZZZ ZZZZ 7 1SSS SSSS 1

The first eight channels represents the first eight zones, while the second transmission (channels 2 -5) contains the zone status for zones 9 - 12.

L2 RECEIVER TYPE DEFAULT = 5

Enter the digit for the desired receiver type from the chart below in location L2.

VALUE	DESCRIPTION	TYPICAL CS RECEIVERS
0 =	10 PPS, 1400 Hz., No Parity	FBI, Ademco Slow, Silent Knight Slow
1 =	20 PPS, 1400 Hz, No Parity	FBI, Radionics ADEMCO
2 =	40 PPS, 1400 Hz, No Parity	FBI
4 =	10 PPS, 2300 Hz, No Parity	FBI, Radionics
5 =	**20 PPS, 2300 Hz, No Parity**	**FBI**
6 =	40 PPS, 2300Hz., No Parity	FBI, Radionics
8 =	10 PPS, 1400 Hz, Parity	FBI, Radionics
9 =	20 PPS, 1400 Hz, Parity	FBI
A =	40 PPS, 1400 Hz, Parity	FBI
C =	10 PPS, 2300 Hz, Parity	FBI
D =	20 PPS, 2300 Hz, Parity	FBI
E =	40 PPS, 2300 Hz, Parity	FBI, Radionics

NOTE: This digit is not used if transmitting in one of the DTMF formats (FBI Superfast, ADEMCO High Speed, ADEMCO Express). For UL installations the acceptable receivers are FBI CP220 (all formats), ADEMCO 685 (all formats without parity), Silent Knight 8520 or 9000.

L3 - PULSE TYPE / SYSTEM TEST Default = 1

Enter the digit for the desired message length from the chart below in location L3.

0 = US Pulse, 24 Hour Test Signal
1 = Touch Tone, 24 Hour Test Signal
2 = European Pulse, 24 Hour Test Signal
3 = Superfast Touch-tone, 24 Hour Test Signal
4 = US Pulse, Weekly Test Signal (168 Hour)
5 = Touch Tone, Weekly Test Signal (168 Hour)
6 = European Pulse, Weekly Test Signal (168 Hour)
7 = Superfast Touch Tone, Weekly Test Signal (168 Hour)
8 = US Pulse, 24 Hour Test Signal, Split Reporting
9 = Touch Tone, 24 Hour Test Signal, Split Reporting
A = European Pulse, 24 Hour Test Signal, Split Reporting
B = Superfast Touchtone, 24 Hour Test Signal, Split Reporting
C = US Pulse,Weekly Test Signal (168 Hour), Split Reporting
D = Touch Tone,Weekly Test Signal (168 Hour), Split Reporting
E = European Pulse,Weekly Test Signal (168 Hour), Split Reporting
F = Superfast Touchtone, Weekly Test Signal (168 Hour), Split Reporting

WHERE:

DIALING FORMAT - Specifies how this control panel will perform outgoing dialing over the telephone line connected to the control panel (touch-tone, US Pulse, or European pulse format). Note Superfast Touchtone is a faster transmission of the touch tone frequencies and may not be accepted in all telephone exchanges.

TEST SIGNAL FORMAT - Indicates whether test signals are transmitted daily (every 24 hours) or weekly (168 hours). NOTE:A test signal will only be sent if a CS code is defined (question number 25)

SPLIT REPORTING - If split reporting is enabled then alarms, restores and troubles will be reported to CS#1, and openings/closings will be transmitted to CS#2.

L4- SYSTEM OPTIONS Default = 3

Enter the digit for the desired system options from the chart below in location L4.

0 = Test by event
1 = Test by event, Chime enabled
2 = Test by time
3 = Test by time, Chime enabled
4 = Test by event, Dialer Disable (Local only)
5 = Test by event, Chime enabled, Dialer Disable (Local only)
6 = Test by time,, Dialer Disable (Local only)
7 = Test by time, Chime enabled, Dialer Disable (Local only)

DESCRIPTION OF SYSTEM OPTIONS

Test By Time -Indicates that system test signals (daily or weekly) will be sent at the same time each as specified in question 28. The testing frequency will be weekly or daily as indicated in question 05 location 3.

Test by Event - This indicates that each event transmitted will restart the test timer. For example if a daily test is programmed and a signal was sent at 2:15 AM then a test signal will be transmitted at 2:15 AM the next day if there were no other events transmitted. Each subsequent transmission will reset the test timer.

CHIME enabled - Indicates that the system keypad chime capability can be used. Note: Each zone has an option to select chime operation, and the end user can turn the chime option ON and OFF .

DIALER DISABLED This option will turn the dialer OFF making the control a local panel

QUESTION 06 KEYPAD CONDITIONS DEFAULT = F0C3

This question contains four locations for various keypad definable options

L1 - KEYPAD EMERGENCY CONDITIONS DEFAULT = F

This location specifies which of the keypad emergency conditions are active as shown in the chart below:

0 = Keypad Emergency Conditions Disabled
1 = Keypad Panic
2 = Keypad Fire
3 = Keypad Panic, Keypad Fire
4 = Keypad Aux
5 = Keypad Panic, Keypad Aux
6 = Keypad Fire, Keypad Aux
7 = Keypad Panic, Keypad Fire, Keypad Aux
8 = Keypad Emergency Conditions Disabled, * Reset
9 = Keypad Panic, * Reset
A = Keypad Fire, * Reset
B = Keypad Panic, Keypad Fire, * Reset
C = Keypad Aux , * Reset
D = Keypad Panic, Keypad Aux, * Reset
E = Keypad Fire, Keypad Aux, * Reset
F = Keypad Panic, Keypad Fire, Keypad Aux, * Reset

Where: Keypad Panic (* & #)
Keypad Fire (7 & 9)
Keypad Aux. (1 & 3)
* Reset Indicates that depression of * from the keypad can reset the following conditions: sounder,communications failure , alarm memory.

L2 - PHONE LINE FAILURE OPTIONS DEFAULT = C

This digit determines the amount of time required for detection of telephone line failure and whether the keypad sounder and bell will be activated.

0 = Disable Phone Line Detection
1 = 30 Second Phone line failure, Bell on failure
2 = 30 second phone line failure, sounder on failure
3 = 30 second phone line failure, Bell & sounder on failure
4 = 60 Second Phone line failure
5 = 60 Second Phone line failure, Bell on failure
6 = 60 second phone line failure, sounder on failure
7 = 60 second phone line failure, Bell & sounder on failure
8 = 90 Second Phone line failure
9 = 90 Second Phone line failure, Bell on failure
A = 90 second phone line failure, sounder on failure
B = 90 second phone line failure, Bell & sounder on failure
C = 120 Second Phone line failure
D = 120 Second Phone line failure, Bell on failure
E = 120 second phone line failure, sounder on failure
F = 120 second phone line failure, Bell & sounder on failure

L3 QUICK COMMANDS Default = C

This location determines whether the quick commands are enabled and whether the keypad panic and auxiliary conditions should be silent or audible.

0 = Silent Panic & Aux.
1 = Quick Forced Arm/Bypass, Silent Panic & Aux.
2 = Quick Arm, Silent Panic & Aux.
3 = Quick Forced Arm/Bypass, Quick Arm, Silent Panic & Aux.
4 = Audible Panic, Silent Aux.
5 = Quick Forced Arm/Bypass, Silent Aux, Audible Panic
6 = Quick Arm, Audible Panic, Silent Aux.
7 = Quick Forced Arm/Bypass, Quick Arm, Audible Panic, Silent Aux.
8 = Silent Panic, Audible Aux.
9 = Quick Forced Arm/Bypass, Silent Panic Audible Aux.
A = Quick Arm, Silent Panic Audible Aux.
B = Quick Forced Arm/Bypass, Quick Arm, Silent Panic Audible Aux.
C = Audible Panic, Audible Aux.
D = Quick Forced Arm/Bypass, Audible Aux.
E = Quick Arm, Audible Panic, Audible Aux.
F = Quick Forced Arm/Bypass, Quick Arm, Audible Panic, Audible Aux.

L4 MISC.OPTIONS Default = 3

This digit defines the following system parameters:

AUTO-UNBYPASS If this option is selected then all system bypasses will automatically be removed upon disarming the system.

BYPASS DISPLAY- This option defines whether bypasses will be displayed on keypads when the system is armed.

ZONE 12 FAST - Indicates whether zone 12 will be a fast loop response zone. If selected then the response of zone 12 will be approx. 8 - 10 Msec. If zone 12 is defined as a fast zone then trigger number 4 cannot be used.

USER CODE REQUIRED FOR TIME ENTRY This option indicates whether the #3 command (time entry) requires entry of a valid user code.

0 = Zone 12 Slow, User Code required to SET Time
1 = Zone 12 Slow, Auto- Unbypass, User Code required to SET Time
2 = Zone 12 Slow, Bypass Display, User Code required to SET Time
3 = Zone 12 Slow, Bypass Display, Auto-Unbypass, User Code required to SET Time
4 = Zone 12 Fast, User Code required to SET Time
5 = Zone 12 Fast, Auto- Unbypass, User Code required to SET Time
6 = Zone 12 Fast, Bypass Display, User Code required to SET Time
7 = Zone 12 Fast, Bypass Display, Auto-Unbypass, User Code required to SET Time
8 = Zone 12 Slow, User Code required to SET Time
9 = Zone 12 Slow, Auto- Unbypass, No User Code required to SET Time
A = Zone 12 Slow, Bypass Display, No User Code required to SET Time
B = Zone 12 Slow, Bypass Display, Auto-Unbypass, No User Code required to SET Time
C = Zone 12 Fast, No User Code required to SET Time
D = Zone 12 Fast, Auto- Unbypass, No User Code required to SET Time
E = Zone 12 Fast, Bypass Display, No User Code required to SET Time
F = Zone 12 Fast, Bypass Display, Auto-Unbypass, No User Code required to SET Time

QUESTION 07 MISC OPTIONS DEFAULT = 300C

L1 Siren Driver/Bell Output

This digit defines whether the system will utilize the built in siren driver or have a conventional bell output. If the siren driver is selected then the sounds for fire and burglary conditions will be selected as shown below:

0 = Bell Output

1 = Steady Burg, Steady Fire
3 = Sweep Burg, Steady Fire
5 = Steady Burg, sweep Fire
7 = Sweep Burg, Sweep Fire
B = Euro Sweep Burg, Steady Fire
D = Steady Burg, Euro Sweep Fire
F = Euro Sweep Burg, Euro Sweep Fire

NOTE: If the built in siren driver does not provide sufficient sound for the installation, then program this option for bell output and utilize an external siren driver.

L2 AUTO-ARMING OPTIONS DEFAULT = 0

This digit indicates various auto-arming options. If the system is auto armed, this digit will select whether the system will arm in the AWAY, STAY INSTANT or STAY INSTANT modes. In addition, an optional audible warning can be generated two minutes prior to the auto-arming time.

0 = Auto Arming Disabled
1 = Auto Arm AWAY, No audible warning
3 = Auto Arm AWAY, Audible warning
5 = Auto Arm INSTANT, No audible warning
7 = Auto Arm INSTANT, Audible warning
9 = Auto Arm STAY, No audible warning
B = Auto Arm STAY, Audible warning
D = Auto Arm INSTANT/STAY, No audible warning
F = Auto Arm INSTANT/STAY, Audible warning

L3 USER CODES, BELL LOCKOUT, BELL TEST Default = 0

This digit defines the following options:

ARM ONLY CODE - If this option is selected then user **number 29** will be dedicated as an arm only (maid) code. this means that this user code is capable of arming the system only. The user code cannot be used to disarm the system, If thi. option is not selected then user **number 29** will act as a normal user code.

ALL USERS DOOR STRIKE - If this option is selected then all of the user codes can be used to activate any triggers defined as a door strike trigger. If this option is selected then any user can activate a door strike trigger through the following command , # 9 [USER] [Trigger number].

If this option is not selected then **user number 28** will be the dedicated system door strike code, if any of the triggers are defined for door strike. In this mode, entry of user code 28 will activate the first trigger defined as door strike. In addition, user 28 cannot be used as an ordinary user code (unless there are no door strike triggers defined).

BELL LOCKOUT - Defines whether the bell will activate for subsequent alarms within the same arming interval.

BELL TEST If this option is selected the bell will be activated for one second upon successful arming. This option is required for UL Commercial Burglary applications.

Select the desired options from the chart below:

0 = Single User Door Strike (User number 28)
1 = Arm Only User
2 = All User Door Strike
3 = Arm Only User, All Users Door Strike
4 = Bell Lockout
5 = Arm Only User, Bell Lockout
6 = All User Door Strike, Bell Lockout
7 = Arm Only User, All Users Door Strike, Bell Lockout
8 = Bell Test
9 = Arm Only User, Bell Test
A = All User Door Strike, Bell Test
B = Arm Only User, All Users Door Strike, Bell Test
C = Bell Lockout, Bell Test
D = Arm Only User, Bell Lockout, Bell Test
E = All User Door Strike, Bell Lockout, Bell Test
F = Arm Only User, All Users Door Strike, Bell Lockout, Bell Test

L4 NUMBER OF RINGS Default = C

Enter the number of rings for this panel to pickup for remote communications purposes. The number of rings should be set to a value which will not interfere with the telephone at the panel; location. If remote communications should not occur enter 0. NOTE: A = 10, B=11, C=12, D=13 E=14, F=15 rings to pickup.

QUESTION 08 ACCOUNT NUMBER 1 DEFAULT = 1234

Enter the three (3) or four (4) digit subscriber account number for Central Station phone number 1 in locations L1-L4.

If a three(3) digit number is used then enter an A in location L4.

Valid entries are 0-9, and B-F. The value A is interpreted as the null value for account numbers.

QUESTION 09 ACCOUNT NUMBER 2 DEFAULT = AAAA

Enter the three(3) or four(4) digit subscriber account number for Central Station phone number 2 in locations L1-L4.

If a three(3) digit number is used then enter an A in location L4.

Valid entries are 0-9, and B-F. The value A is interpreted as the null value for account numbers.

If the second phone number is not used this question can be left as factory defaulted.

THIS ACCOUNT NUMBER **MUST** BE ENTERED IF YOU HAVE PROGRAMMED A SECOND RECEIVER PHONE NUMBER FOR BACKUP OR SPLIT REPORTING.

QUESTION 10 SYSTEM TIMEOUTS

There are 4 locations (L1-L4) within this question which define various system timing options as follows:

LOCATIONS	DEFAULTS
L1 = Entry Delay	30 seconds
L2 = Exit Delay	60 seconds
L3 = Burglary Bell Cutoff	15 minutes
L4 = Fire Bell Cutoff	No Cutoff

L1 - ENTRY DELAY Default = 3

Enter the desired entry delay time in 10 second increments. The valid range of input is 1 - F, with 1 indicating a 10 second entry delay and F indicating 150 seconds. For UL applications the maximum entrance delay shall not exceed 45 seconds for household applications or 15 seconds for commercial burglary applications.

L2 - EXIT DELAY ***Default = 6***

Enter the desired exit time in 10 second increments. For UL applications the maximum exit delay shall not exceed 60 seconds.

The valid range of input is 1 - F, with 1 indicating a 15 second exit delay and F indicating 150 seconds.

L3 - BURGLARY BELL CUTOFF Default = 5

Enter the desired bell cutoff time on alarm conditions for burglary and panic in three minute intervals. The valid range of input is 1 - F, with F indicating an infinite burg bell cutoff. Example 3 = 9 minutes. For UL installations in commercial applications the minimum bell cutoff shall be 15 minutes, or 4 minutes for household burglary applications.

L4 - FIRE BELL CUTOFF Default = F

Enter the desired bell cutoff time for fire conditions in three minute intervals. The valid range of input is 1 - F, with F indicating an infinite fire bell cutoff. Example 3 = 9 minutes. For UL installations the minimum fire bell cutoff time shall be 4 minutes.

9.1. ZONE PROGRAMMING

Questions 11-22 represent all the options related to programmable zones 1-12. The digits are described below:

L1 Zone Supervision Type
L2 Zone Type
L3 L4 CS Transmission Codes

L1 Zone Supervision Type

0 = EOL Supervised Interior Zone
1 = Normally Open (NO) Interior Zone
2 = Normally Closed (NC) Interior Zone

4 = EOL Supervised Instant Zone
5 = Normally Open (NO) Instant Zone
6 = Normally Closed (NC) Instant Zone

8 = EOL Supervised, 24 Hour Zone or Keyswitch
9 = Normally Open (NO), 24 Hour Zone or Keyswitch
A = Normally Closed (NC), 24 Hour Zone or Keyswitch

C = EOL Supervised Delay Zone
D = Normally Open (NO) Delay Zone
E = Normally Closed (NC) Delay Zone

NOTE: If EOL Supervision is specified then the end of line resistors supplied with the control panel must be used on these zones.

L2 ZONE TYPE -

Select the zone type based on whether the zone is a controlled (burglary) zone or 24 hour zone.

CONTROLLED ZONES

0 = Burg. Zone (No Other Options)
1 = Restore
2 = Day Zone
3 = Restore, Day Zone
4 = Chime
5 = Restore, Chime
6 = Day Zone, Chime
7 = Restore, Day zone, Chime
8 = Dialer Delay
9 = Restore, Dialer Delay
A = Day Zone, Dialer Delay
B = Restore, Day Zone, Dialer Delay
C = Chime, Dialer Delay
D = Restore, Chime, Dialer Delay
E = Day Zone, Chime, Dialer Delay
F = Restore, Day zone, Chime, Dialer Delay

24 HOUR ZONES

0 = Audible 24 Hour Alarm
1 = FIRE
2 = Audible 24 Hour Trouble
3 = Keyswitch
4 = Audible 24 hour alarm, restore
5 = Fire, Restore
6 = Audible 24 hour trouble, Restore
8 = Silent 24 hour alarm
A = Silent 24 hour trouble
C = Silent 24 hour alarm , Restore
E = Silent 24 hour trouble, restore

ZONE TYPE DESCRIPTIONS

Zones 1-12 can be programmed for any one of the following zone types:

BURGLARY (CONTROLLED) ZONES

DELAY

This is the industry standard exit/entry zone. When the system is armed exit time begins. After exit expires, any subsequent violation of this zone will begin entry time. If the system is not disarmed within the programmed entry time an alarm will occur. The keypad sounder will annunciate steadily during entry time,

unless there had been an alarm condition, at which time it will pulse. Delay zones will activate instantly when the system is armed using the INSTANT mode.

INTERIOR

All interior zones have exit delay time upon system arming. Furthermore, all interior zones will have entry delay time if a delay zone is violated first. If this zone is violated first however,it will generate an immediate alarm.

Interior zones will automatically be bypassed if the system is armed in the STAY MODE.

INSTANT

This zone type (sometimes known as PERIMETER) will generate an alarm when violated while the system is armed.

BURGLARY ZONE OPTIONS

RESTORE

If this option is selected on a burglary zone, then the programmed restore code will be reported upon bell cutoff, assuming the loop is restored. The restore code will also be reported if the system is disarmed during an alarm.

CHIME

If this option is selected the keypad sounder will annunciate for 1 second when this zone is violated in the disarmed mode.

DIALER DELAY

If this option is selected the system will allow a 15 second delay before dialing, allowing the end user to ABORT the transmission. If this option is not selected, any alarm condition will result in an immediate transmission that cannot be aborted. **NOTE:** For UL installations dialer delay may not be used.

DAY FEATURE

If a zone with this option is violated while the system is DISARMED, the keypad sounder and zone LED will pulse for as long as the violation remains. In addition, the SYSTEM TROUBLE CODE will be transmitted to the central station. THE SOUNDER CAN BE SILENCED through entry operation of any valid user code.

While the system is armed, a DAY zone will act as an alarm when violated.

24 HR ZONES

FIRE

FIRE zones on the XL4612/Legend 85 contain Fire Verification Logic. Upon detection of the first violation, smoke detector power will be reset for a period of 8 seconds. After this time period, power is restored. For a period of 5 seconds the fire zone will not be scanned allowing the smoke detectors to settle. Future violations within a two minute period will result in a PULSING BELL OUTPUT, RAPID PULSING ZONE LED,and IMMEDIATE transmission to the CS. Fire signals cannot be aborted.

Entry of any valid user code will silence the sounder and bell. Entry of a valid user code for a second time will reset smoke detector power and clear alarm memory. If the system detects that the fire zone is still violated within 2 minutes of power reset, the zone LED will pulse slowly to indicate a fire trouble. Thereafter, smoke detector power will be reset every 4 minutes automatically in an attempt to clear the fire zone.

In the event the fire zone experiences an open, the system indicates fire trouble by pulsing the keypad zone LED and sounder slowly. The system trouble code (followed by the zone code) will be reported to the CS.

The keypad sounder can be SILENCED through entry of ANY VALID USER CODE.

NOTE: FIRE ZONES **can not** be bypassed.

24 HR ALARM

This zone type is always active, independent of the system arming status. Programming options include audible (STEADY BELL) or silent (NO BELL or keypad indications), with or without restore codes. Upon violation the zone LEDS will pulse rapidly (audible zones only) and an immediate CS transmission will occur which cannot be aborted.

24 Hour Alarm zones can be bypassed, however they cannot be unbypassed if a violation exists on the zone terminals.

24 HR TROUBLE

This zone type is always active, independent of the system arming status. Programming options include audible (PULSING KEYPAD SOUNDER) or silent, with or without restore codes. Upon violation the zone LED will pulse slowly. Trouble condition must exist for 15 seconds before a transmission will occur. The keypad display and sounder will clear upon zone restoral.

24 Hour Trouble zones can be bypassed, however they cannot be unbypassed if a violation exists on the zone terminals.

THE SOUNDER MAY BE SILENCED THROUGH ENTRY OF ANY VALID USER CODE.

KEYSWITCH Keyswitch zones will toggle the arming status of the system.

ZONE ALARM CODES

As previously specified locations L3 and L4 of the zone questions represent the alarm code that will be reported to the central station.

Zones will transmit to the Central Station unless these digits are defined as AA for any individual zone, or the local dialer option is selected in question 05. Based on the dialer format selected enter the alarm code as follows;

STANDARD FORMAT: Enter the desired single digit alarm code in location L3. The value placed in L4 will not be used.

Example: Desired transmission 123 2 (account 123, alarm code 2).

Enter a 2 in location L3 of the zone. Any value placed in L4 will be not be used.

EXTENDED: Enter the desired first digit of the alarm code in location L3. The second digit in L4.

Example: Desired transmission 123 3
333 4

Enter 3 in L3, 4 in L4.

PARTIAL EXTENDED: Enter the desired digit in both locations L3 **and** L4. This will generate a single round alarm transmission and an extended transmission for all system conditions such as restores.

Example: Alarm 123 3
Restore 123 E
EEE 3

Enter 3 in L3 and L4.

4x2:Enter the desired first digit of the alarm code in location L3. The second digit in L4.

Example: 4765 32 Enter 3 in L3, 2 in L4.

FBI SUPERFAST

The two digits L3 L4 will be transmitted as the zone code

ADEMCO HIGH SPEED

The value placed into L4 will indicate the channel number desired for the zone transmission. For example if zone 5 should transmit as channel 5 then enter A5.

ADEMCO EXPRESS FORMATS

In the 4x2 format L3 - L4 will be transmitted, in the 3x1 format only L3 will be transmitted.

QUESTION 11 ZONE 1 Default = C031

QUESTION 12 ZONE 2 Default = 0032

QUESTION 13 ZONE 3 Default = 4033

QUESTION 14 ZONE 4 Default = 4034

QUESTION 15 ZONE 5 Default = 4035

QUESTION 16 ZONE 6 Default = 4036

QUESTION 17 ZONE 7 Default = 4037

QUESTION 18 ZONE 8 Default = 8118

QUESTION 19 ZONE 9 Default = 4039

QUESTION 20 ZONE 10 Default = 4030

QUESTION 21 ZONE 11 Default = 403B

QUESTION 22 ZONE 12 Default = 403C

Note: Zone 12 can be programmed for fast zone response

QUESTION 23 AMBUSH/AC LOSS

There are 4 locations L1-L4 in this question. L1 - L2 is the alarm code that will be transmitted on AMBUSH. If an ambush code is defined then user number 30 will be the dedicated ambush code. L3 - L4 is the AC LOSS CODE. The same rules for programming regarding dialer format apply here.

If either, or both of these transmissions are not desired, program their respective locations AA

AMBUSH transmissions are immediate and not abortable.

AC LOSS transmissions will be reported 15 minutes after detection.

LOCATIONS		DEFAULTS
L1 - L2	AMBUSH	AA
L3 - L4	AC LOSS	AA

QUESTION 24 PANIC/LOW BATTERY

There are 4 locations L1-L4 in this question. L1 - L2 is the alarm code that will be transmitted on keypad PANIC. L3 - L4 is the LOW BATTERY CODE. The same rules for programming regarding dialer format apply here.

If either or both of these transmissions are not desired, program their respective locations AA

PANIC transmissions are immediate and not abortable.

LOW BATTERY transmissions will be reported 4 minutes after detection. LOW BATTERY RESTORE CODE will be reported WITHIN 4 minutes after detection of GOOD BATTERY condition.

LOCATIONS		DEFAULTS
L1 - L2	PANIC	22
L3 - L4	LOW BATTERY	AA

QUESTION 25 OPEN/CLOSE,24 HR.TEST CODE

There are 4 locations L1-L4 in this question.

L1 is the single digit OPENING CODE. L2 is the single digit CLOSING CODE. Entry of AA into these two locations means that openings and closings are not desired. If a dialer format other than standard is programmed then the second digit transmitted will be the user number.

L3 - L4 is the TEST CODE (24 Hour or 168 hour as previously programmed). Entry of AA means that 24 hour test is not enabled.

LOCATIONS		DEFAULTS
L1	OPENING CODE	A
L2	CLOSING CODE	A
L3 - L4	24 HR TEST	AA

QUESTION 26 BYPASS/RESTORE/TROUBLE/TAMPER CODE

There are four(4) locations L1 - L4 in this question

L1 is the single digit system *BYPASS CODE* that will be reported to the central station if a zone is bypassed, UPON ARMING.Entry of an A means that bypasses are not transmitted. If a two digit dialing format has been selected then the Bypass code will be followed by the programmed second digit of the zones code.

L2 is the single digit system *RESTORE CODE* reported to the central station. Restores will be reported for burglary or 24 hour zones which have been programmed with the restore option. Entry of an A means that restores are not transmitted. If a two digit dialer format has been programmed then the restore code will be followed by the programmed second digit of the zones code.

L3 is the single digit system *TROUBLE CODE* reported to the central station. This code will be reported on DAY TROUBLE and any FIRE TROUBLE. If a two digit format has been programmed then this code will be followed by the second digit of the respective zones code. Entry of A indicates that troubles are not transmitted.

L4 is the keypad tamper code. If 21 digits are entered through the keypad without entry of a valid user code, then the keypad sounder will activate until a valid user code is entered. If a keypad tamper code is entered then it will be transmitted to the Central Station. If a two digit CS transmission code is selected (example 4x2 or extended) then the trouble code will be the first digit transmitted.

LOCATIONS		DEFAULTS
L1	BYPASS	A
L2	RESTORE	E
L3	TROUBLE	F
L4	KEYPAD TAMPER	A

QUESTION 27 KEYPAD FIRE/ KEYPAD AUX. DEFAULT : 1123

There are 4 locations L1-L4 in this question. L1 - L2 is the alarm code that will be transmitted upon activation of the keypad fire condition (pressing the 7 & 9 keys on the keypad). This code can vary from any of the zones which are programmed as fire.

L3 - L4 is the code transmitted to the CS for keypad aux. condition (1 & 3 from the keypad) .

NOTE: These keypad emergency conditions are optional and can be enabled within question 05 of the programming sequence. If either or both of these transmissions are not desired, program their respective locations AA

LOCATIONS		DEFAULTS
L1 - L2	KPAD FIRE	11
L3 - L4	KPAD AUX	23

QUESTION 28 TEST TIME Default = 00 00

If the system test is transmitted at a specific time of day enter the hour and minute in military time (24 hour Clock) as follows:

L1 L2 Hour of day [00 - 24] example 5:00 PM = 17 00

L3 L4 Minute within hour [00 - 59]

QUESTION 29 Trigger 1 & 2 DEFAULT = 0F01

The control panel contains 4 voltage level output triggers. Enter the desired trigger type for each output trigger.

L1 L2 Defines Trigger #1 Default = ARMING

L3 L4 Defines Trigger #2 Default = Burglary

QUESTION 30 Trigger 3 & 4 DEFAULT = 020B

The control panel contains 4 voltage level output triggers. Enter the desired trigger type for each output trigger.

L1 L2 Defines Trigger #3 Default = Fire

L3 L4 Defines Trigger #4 Default = Keypad Panic

NOTE: Trigger #4 cannot be used if zone 12 is being used for fast response.

TRIGGER TYPES

CODE	DESCRIPTION	ACTION
00	Trigger Disable	None
01	Burglary	Steady follows Burglary timeout
02	Fire	Steady follows Fire timeout
03	Duress	2 Second momentary following duress code
04	Keypad Tamper	Follows Trouble sounder
05	24 Hour Trouble	Follows 24 Hour trouble
06	Fire Trouble	Follows fire trouble
07	Day Trouble	Follows day trouble zone
08	24 Hour Alarm	Follows bell, 2 second pulse
09	Keypad Fire	Follows bell, 2 sec. pulse
0A	Keypad Medical	Follows bell, 2 sec. pulse
0B	Keypad Panic	Follows bell, 2 sec. pulse
0C	Strobe	Follows arming light, until system disarm
0D	AC Loss	Follows AC
0E	Low Battery	Follows Low battery
0F	Arming	Follows arming state
10	Bypass	Follows any zone bypassed
11	Entry	Follows entry time
12	Exit	Follows exit time
13	Instant	Follows Instant State
14	STAY	Follows STAY state
15	Ready	Follows ready state
16	DOOR STRIKE (Access trigger)	5 Second Pulse on entry of door strike code
17	Comm Failure	Follows comm failure light
18	Phone failure	Follows phone failure light
19	Sounder	Follows keypad sounder
1A	Ground Start	Follows dialing (Trigger #1 only)

Question 00 INSTALLER CODE Default = 4612

There are 4 locations L1 - L4 in this question.

Enter any 4 digit installer code desired. This code is used to ENTER the system programming mode via the keypad.

Typically each installing company would use a unique installer code in order to prevent unauthorized people from gaining access to their panels. Note: The factory default value for the installer code is 4612 in locations L1-L4 respectively.

10. DATA ENTRY VIA LED BASED KEYPADS

This section describes the physical keystrokes necessary to perform keypad programming and how to interpret the data displayed on the LED based keypads during programming operations. This section describes operation through either the XL4612RM, XL4800LED or 7015 keypads.

Actual keypad programming should be performed after completion of the programming sheet.

10.1. HOW TO ENTER PROGRAMMING MODE

The SYSTEM programming mode can be entered WHILE DISARMED ONLY as follows:

DEPRESS the **CODE** button.

DEPRESS the * button. (asterisk)

ENTER the four digit INSTALLER CODE (default value= 4612)

ENTER the digit 1 (Installer mode 1 = Keypad programming)

10.2. WHAT YOU SEE ON THE KEYPAD

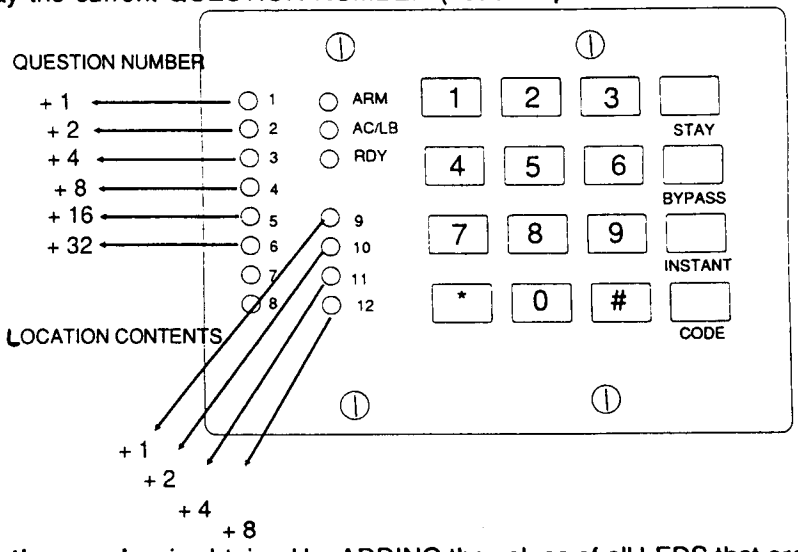
PROGRAM MODE = READY LED:

Upon entering the installer keypad programming mode the READY LED will slowly pulse, and will continue to pulse until leaving this mode.

QUESTION NUMBERS = ZONE LEDS:

As previously stated there are 42 total questions, each of which contains multiple data entry locations.

Zone LEDS 1 through 6 display the current QUESTION NUMBER (not the specific location within each question) as follows:



In the diagram shown the **question number** is obtained by ADDING the values of all LEDS that are ON. This applies to both the metal and plastic versions of the keypad.

EXAMPLES:

Zone 1 ON, Zones 2-5 OFF = **QUESTION 01**

Zone 1 ON, Zone 2 ON, Zones 3-5 OFF = **QUESTION 03**

Zone 2 ON, Zone 3 ON, Zone 4 ON, Zones 1 and 5 OFF = **QUESTION 14**

LOCATION CONTENTS = Zones 9 - 12 Status

The zone LEDS 9 - 12 displays the DATA that resides in EACH location within the **current** question. As per the diagram and explanation above, the value located next to each LED must be ADDED to calculate the total data, for each location.

The following chart displays binary values that you will see on these LEDS for the letters A-F which may be entered in some locations of the program sheet.

A	10	Zone 10 & 12 = ON
B	11	Zone 9 10 12 = ON
C	12	Zone 11 & 12 = ON
D	13	Zone 9 11 12 = ON
E	14	Zone 10 11 12 = ON
F	15	Zone 9 10 11 12 = ON

10.3. HOW TO ENTER DATA

This section of the manual describes the physical keystrokes to enter the data written on the program sheet.

MOVEMENT BETWEEN QUESTIONS

Upon entry into the system program mode question number 1 is displayed. Random jumps to any question can be made by depressing the * (asterisk) button and the 2 digit question number.

Questions can be accessed randomly or sequentially.

Example:

Jump to question 07 = depress * **0 7**

The proper question number will be displayed by the zone LEDS and the other status LEDS will display the contents of the FIRST location in that question.

MOVEMENT WITHIN QUESTIONS

As previously stated the zone LEDS display the question number and the other status LEDS display the contents (data) within each location. Movement from location L1 to the next location within any question can be performed by depressing the # POUND BUTTON.

The other status LEDS will display the contents of each location as this button is depressed.

DATA ENTRY

To alter the value in ANY location , enter the desired DIGIT from the prograi sheet, then DEPRESS THE # BUTTON.

NOTE: THE # BUTTON **MUST** BE DEPRESSED AFTER ENTRY OF DESIRED DIGIT. THE SYSTEM WILL NOT PROGRAM THE DIGIT UNTIL THE POUND (#) BUTTON IS DEPRESSED, THEREFORE IF A MISTAKE IS MADE IT CAN BE CHANGED.

Numeric entries 0-9 can be performed by depressing the respective keypad button. However, entries of A-F require 2 keystrokes as follows:

Depress the **CODE** button followed by 1-6 for values A-F.

VALUE	**KEYSTROKES**
A	CODE 1
B	CODE 2
C	CODE 3
D	CODE 4
E	CODE 5
F	CODE 6

Example:

Enter an A = depress **CODE** followed by 1.

EXIT SYSTEM PROGRAM MODE

After all programming has been completed, depress the **STAY** button to exit the system program mode. All the LEDS will turn ON for approximately 10 seconds, before the system returns to normal daily operation. NOTE:Keypad programming will automatically terminate after 10 minutes and no keystrokes have been entered.

QUESTION ACKNOWLEDGMENT

The keypad will emit a beep between keystrokes. In addition a beep will be generated confirming advancement between questions numbers.

Four beeps will be generated if an invalid input is entered. Upon entry of invalid input you are positioned at the same question number and location as prior to the input error.

SUMMARY OF SYSTEM PROGRAMMING

FUNCTION	KEYSTROKES
ENTER PROGRAMMING MODE	CODE * [INSTALLER CODE] 1
EXIT PROGRAMMING MODE	STAY
ADVANCE BETWEEN LOCATIONS (ENTER)	#
GO TO SPECIFIC QUESTION	* [Question Number] Example: * 0 5
Data Entry	0 - 9 A - F entered as follows; A CODE 1 B CODE 2 C CODE 3 D CODE 4 E CODE 5 F CODE 6

11. DATA ENTRY THROUGH LCD KEYPADS

Keypad programming can also be accomplished through the XL4800LCD or 7005 keypads. In addition to the normal 30 programming questions, additional capability is available for entering the zone descriptors directly through the keypad.

11.1. HOW TO ENTER PROGRAMMING MODE

The SYSTEM programming mode can be entered WHILE DISARMED ONLY as follows:

DEPRESS the **CODE** button.

DEPRESS the * button. (asterisk)

ENTER the four digit INSTALLER CODE (default = 4612)

ENTER the digit 1 (Installer mode 1 = Keypad Programming)

11.2. WHAT YOU SEE ON THE KEYPAD

Upon entering the installer keypad programming following display will appear:

```
QUES:01    L:01
DATA= 1
```

The display shows the current question number (QUES), the location within the question (L:) and the current value within that location (DATA =). This corresponds to the programming worksheet.

11.3. HOW TO ENTER DATA

This section of the manual describes the physical keystrokes to enter the data written on the program sheet.

MOVEMENT BETWEEN QUESTIONS

Upon entry into the system program mode question number 1 is displayed. Random jumps to any question can be made by depressing the * (asterisk) button and the 2 digit question number.

Questions can be accessed randomly or sequentially.

Example:

Jump to question 07 = depress * **0 7**

The proper question number will be displayed by the zone LEDS and the other status LEDS will display the contents of the FIRST location in that question.

MOVEMENT WITHIN QUESTIONS

The display shows the current location within each programming question. Movement from location L1 to the next location within any question can be performed by depressing the # POUND BUTTON.

DATA ENTRY

To alter the value in ANY location , enter the desired DIGIT from the program sheet, then DEPRESS THE # BUTTON.

NOTE: THE # BUTTON **MUST** BE DEPRESSED AFTER ENTRY OF DESIRED DIGIT. THE SYSTEM WILL NOT PROGRAM THE DIGIT UNTIL THE POUND (#) BUTTON IS DEPRESSED, THEREFORE IF A MISTAKE IS MADE IT CAN BE CHANGED.

Numeric entries 0-9 can be performed by depressing the respective keypad button. However, entries of A-F require 2 keystrokes as follows:

Depress the **CODE** button followed by 1-6 for values A-F.

VALUE	**KEYSTROKES**
A	CODE 1
B	CODE 2
C	CODE 3
D	CODE 4
E	CODE 5
F	CODE 6

Example:

Enter an A = depress **CODE** followed by 1.

EXIT SYSTEM PROGRAM MODE

After all programming has been completed, depress the **STAY** button to exit the system program mode. All the LEDS will turn ON for approximately 10 seconds, before the system returns to normal daily operation. Keypad programming will automatically be terminated after 10 minutes and no keypad activity.

QUESTION ACKNOWLEDGMENT

The keypad will emit a beep between keystrokes. In addition a beep will be generated confirming advancement between questions numbers.

Four beeps will be generated if an invalid input is entered. Upon entry of invalid input you are positioned at the same question number and location as prior to the input error.

11.4. ZONE DESCRIPTOR PROGRAMMING

The LCD based keypads have the capability to display 12 character zone descriptors which can be programmed directly through the keypad. These descriptors are entered as programming questions 31 - 42.

NOTE: These questions can only be accessed by an LCD keypad, or the EZ-Mate Programming Devices.

The zone descriptor questions are as follows:

QUESTION	DESCRIPTOR	
31	Zone 1 Descriptor	[Default = ZONE 1]
32	Zone 2 Descriptor	[Default = ZONE 2]
33	Zone 3 Descriptor	[Default = ZONE 3]
34	Zone 4 Descriptor	[Default = ZONE 4]
35	Zone 5 Descriptor	[Default = ZONE 5]
36	Zone 6 Descriptor	[Default = ZONE 6]
37	Zone 7 Descriptor	[Default = ZONE 7]
38	Zone 8 Descriptor	[Default = ZONE 8]
39	Zone 9 Descriptor	[Default = ZONE 9]
40	Zone 10 Descriptor	[Default = ZONE 10]
41	Zone 11 Descriptor	[Default = ZONE 11]
42	Zone 12 Descriptor	[Default = ZONE 12]

For example to program the descriptor for zone 3 enter * 3 3, to access question 33.

When programming the English zone descriptors the following techniques are used to program the characters:

KEYSTROKE	ACTION
0	Inserts a space and advances the cursor
CODE key	Moves the cursor to the left one space
INSTANT key	Moves the cursor to the right one space
7	Increments the character at the cursor
* 7	Scrolls forward (UP) through the character set.
	NOTE: Depression of any key will stop the scroll
9	Decrements the character at the cursor
# 9	Scrolls backwards through the character set
	NOTE: Depression of any key will stop the scroll

NOTE: The characters available through the LCD keypads are as follows:

!"#$%&'()*+-./0123456789;=@ABCDEFGHIJKLMNOPQRSTUVWXYZ

SYSTEM DEFAULT (LCD keypad only)

The LCD keypads can initiate a system default by pressing the 1 & 3 keys together, while in programming mode. The system will then default and go through the reset sequence.

USER CODE DEFAULT (LCD keypads only)

The User codes can be reset to the default state by pressing the 7 & 9 keys on the LCD keypad at the same time, while in programming mode. This will bring the user codes back to the original default settings for that keypad only.

12. SYSTEM DEFAULTS

The STAR XL4612/Legend 85 is preprogrammed from the factory with default values. These values have been selected to meet the requirements of a common installation and may suit your needs.

To reload the factory default values, remove all power from the system (AC & DC). Next short TP1 to TP2, with short still intact reapply power (AC then DC), wait 5 seconds then remove short with the power still applied. NOTE: A programming option exists within the EZ-Mate programming devices known as DEFAULT LOCKOUT. If this option is selected then a system default will not overwrite the CSID or installer code portion of the program. This will prevent an installer other than the original installer from taking over an account without cooperation.

QUESTION	DEFAULT
00 Installer Code	4612
01 Phone #1	234AAAAAAAAA
02 Phone #2	AAAAAAAAAAAA (none)
03 Callback Number	AAAAAAAAAAAA (none)
04 PBX Prefix	AAAA (none)
05 Dialer Options	3x1 Standard, 20 PPS,2300HZ, No Parity, Touch Tone, Weekly Test Signal, Test by Time, Chime enabled
06 Kpad options	Keypad panic, fire, Aux, *Reset, 120 Sec PL fail, Aud. Panic,, Zone 12 slow, Bypass Display, Auto-Unbypass
07 Misc	Sweep Burg, Steady Fire, No Auto-Arming, Single Door strike, # Rings = 12
08 Account #1	1234
09 Account #2	AAAA (null)
10 Timeouts	Entry Delay = 30 sec., Exit Delay = 60 seconds Burg Bell Cutoff = 15 minutes, Fire Bell Cutoff = No Timeout
11 Zone #1	Delay EOL Code = 31
12 Zone #2	Interior EOL Code = 32
13 Zone #3	Perimeter EOL Code = 33
14 Zone #4	Perimeter EOL Code = 34
15 Zone #5	Perimeter EOL Code = 35
16 Zone #6	Perimeter EOL Code = 36
17 Zone #7	Perimeter EOL Code = 37
18 Zone #8	FIRE EOL Code = 18
19 Zone #9	Perimeter EOL Code = 39
20 Zone #10	Perimeter Code = 30
21 Zone #11	Perimeter Code = 3B
22 Zone #12	Perimeter EOL Code = 3C
23 System Codes	Ambush = AA (null) AC Loss = AA (null)
24 System Codes	Panic = 22 Low Battery = AA (null)
25 System Codes	Open = A (null) Close = A (Null) Test Code = AA (null)
26 System Codes	Bypass = A (null) Restore = E Trouble = F Keypad Tamper = A (null)
27 System codes	Keypad fire = 11 Keypad Aux = 23
28 Test Time	4:00 AM (04 00)
29 Triggers	Trigger 1 = Arming (0F) Trigger 2 = BURG (01)
30 Triggers	Trigger 3 = Fire(02) Trigger 4 = Panic (0B)
31 Zone 1 Descriptor	ZONE 1 (LCD Keypads Only)
32 Zone 2 Descriptor	ZONE 2 (LCD Keypads Only)
33 Zone 3 Descriptor	ZONE 3 (LCD Keypads Only)
34 Zone 4 Descriptor	ZONE 4 (LCD Keypads Only)
35 Zone 5 Descriptor	ZONE 5 (LCD Keypads Only)
36 Zone 6 Descriptor	ZONE 6 (LCD Keypads Only)
37 Zone 1 Descriptor	ZONE 7 (LCD Keypads Only)
38 Zone 2 Descriptor	ZONE 8 (LCD Keypads Only)
39 Zone 3 Descriptor	ZONE 9 (LCD Keypads Only)
40 Zone 4 Descriptor	ZONE 10 (LCD Keypads Only)
41 Zone 5 Descriptor	ZONE 11 (LCD Keypads Only)
42 Zone 6 Descriptor	ZONE 12 (LCD Keypads Only)

ZONE DESCRIPTIONS

31	Zone 1	❑ L1	❑ L2	❑ L3	❑ L4	❑ L5	❑ L6	❑ L7	❑ L8	❑ L9	❑ L10	❑ L11	❑ L12
32	Zone 2	❑ L1	❑ L2	❑ L3	❑ L4	❑ L5	❑ L6	❑ L7	❑ L8	❑ L9	❑ L10	❑ L11	❑ L12
33	Zone 3	❑ L1	❑ L2	❑ L3	❑ L4	❑ L5	❑ L6	❑ L7	❑ L8	❑ L9	❑ L10	❑ L11	❑ L12
34	Zone 4	❑ L1	❑ L2	❑ L3	❑ L4	❑ L5	❑ L6	❑ L7	❑ L8	❑ L9	❑ L10	❑ L11	❑ L12
35	Zone 5	❑ L1	❑ L2	❑ L3	❑ L4	❑ L5	❑ L6	❑ L7	❑ L8	❑ L9	❑ L10	❑ L11	❑ L12
36	Zone 6	❑ L1	❑ L2	❑ L3	❑ L4	❑ L5	❑ L6	❑ L7	❑ L8	❑ L9	❑ L10	❑ L11	❑ L12
37	Zone 7	❑ L1	❑ L2	❑ L3	❑ L4	❑ L5	❑ L6	❑ L7	❑ L8	❑ L9	❑ L10	❑ L11	❑ L12
38	Zone 8	❑ L1	❑ L2	❑ L3	❑ L4	❑ L5	❑ L6	❑ L7	❑ L8	❑ L9	❑ L10	❑ L11	❑ L12
39	Zone 9	❑ L1	❑ L2	❑ L3	❑ L4	❑ L5	❑ L6	❑ L7	❑ L8	❑ L9	❑ L10	❑ L11	❑ L12
40	Zone 10	❑ L1	❑ L2	❑ L3	❑ L4	❑ L5	❑ L6	❑ L7	❑ L8	❑ L9	❑ L10	❑ L11	❑ L12
41	Zone 11	❑ L1	❑ L2	❑ L3	❑ L4	❑ L5	❑ L6	❑ L7	❑ L8	❑ L9	❑ L10	❑ L11	❑ L12
42	Zone 12	❑ L1	❑ L2	❑ L3	❑ L4	❑ L5	❑ L6	❑ L7	❑ L8	❑ L9	❑ L10	❑ L11	❑ L12

01	Primary Telco. Number												
		L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12
02	Secondary Telco. Number												
		L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12
03	Callback Number	1	8	0	0	7	6	2	7	8	3	1	
		L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12
04	PBX Prefix	A	A	A	A								
		L1	L2	L3	L4								
05	Dialer Information	2	5	1	3								
		L1 Format	L2 Rcvr	L3 Pulse	L4 Misc								
06	Keypad Conditions	9	0	1	3								
		L1 Emer.	L2 Phone	L3 Quick	L4 Misc.								
07	Miscellanous	3	0	0	C								
		L1 Siren Driver	L2 Auto Arming	L3 User Codes	L4 # Rings								
08	Account 1												
		L1	L2	L3	L4								
		3 or 4 Digit											
09	Account 2												
		L1	L2	L3	L4								
		3 or 4 Digit											
10	System Timeouts	3	6	2	F								
		L1 Entry	L2 Exit	L3 Burg Bell	L4 Fire Bell								
11	Zone 1	C	4	2	1								
		L1 Super-vision	L2 Type	L3 CS	L4 Code								
12	Zone 2												
		L1 Super-vision	L2 Type	L3 CS	L4 Code								
13	Zone 3	4	4	2	2								
		L1 Super-vision	L2 Type	L3 CS	L4 Code								
14	Zone 4												
		L1 Super-vision	L2 Type	L3 CS	L4 Code								
15	Zone 5												
		L1 Super-vision	L2 Type	L3 CS	L4 Code								
16	Zone 6												
		L1 Super-vision	L2 Type	L3 CS	L4 Code								

PROGRAMMING WORKSHEET

17	Zone 7	L1 Super-vision	L2 Type	L3 CS	L4 Code
18	Zone 8	L1 Super-vision	L2 Type	L3 CS	L4 Code
19	Zone 9	L1 Super-vision	L2 Type	L3 CS	L4 Code
20	Zone 10	L1 Super-vision	L2 Type	L3 CS	L4 Code
21	Zone 11	L1 Super-vision	L2 Type	L3 CS	L4 Code
22	Zone 12	L1 Super-vision	L2 Type	L3 CS	L4 Code
23	Ambush/AC Loss	L1 Ambush	L2	L3 AC Loss	L4
24	Panic/Low Battery	L1 Panic	L2	L3 Low Battery	L4
25	Open Close Test	L1 Open	L2 Close	L3	L4 Test
26	Bypass Restore Trouble, Tamper	L1 Byp.	L2 Rest	L3 Troub.	L4 Tamper Code
27	Keypad Fire/Aux.	L1 KP	L2 Fire	L3 Fire	L4 Aux
28	Test Time	L1 Hour	L2	L3 Minute	L4
29	Triggers	L1 Trigger #1	L2	L3 Trigger #2	L4
30	Triggers	L1 Trigger #3	L2	L3 Trigger #4	L4
00	Installer Code	L1 4 Digit	L2	L3	L4