

# **XL-2**

## **Hookup and Installation Instructions**



A Subsidiary of Pittway Corporation  
149 Eileen Way • Syosset, NY 11791  
(800) 645-5430 • (516) 921-8666

**N9122 7/92 ©1992, FBX**

# 1. INTRODUCTION

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The XL2 series is a state of the art EEPROM based control/communicator. The system features six fully programmable zones as well as a wired panic zone (or keyswitch zone). Programming can be performed through the keypad or the system can be uploaded and downloaded remotely using the EZ-Mate PC Downloader. In addition, remote control actions can be taken. The system contains up to six user codes with capability for ambush code and an arm only code. All of the keypads are four wire devices, with up to four keypads per system.

The system can be used with the following keypads:

XL4600RM Flush Mount LED Metal Plate Keypad

XL4600SM Surface Mount LED keypad

6615 Surface or recessed mounted LED based keypad

6805 Surface or recessed mounted LCD based keypad

The system is listed by Underwriters Labs for Household Burglary and Fire Applications.

Commercial UL applications can be accommodated by the XL-2B configuration. This system is sold in a panel only configuration and can utilize any of the keypads listed above. The metal enclosure is suitable for UL commercial listings and satisfies the following UL requirements; Grade A Local Alarm, Grade A Police Connect Alarm, Grade B Central Station Burglar Alarm, and Grade AA listing when used with the ADEMCO 698 Derived Channel Unit.

**IMPORTANT - Failure to install and program this unit in accordance with the UL requirement is a violation of the listing mark. For more information on UL listings contact, Underwriters Laboratories, Progress Department, 333 Pfingsten Road, Northbrook IL 60062.**

The XL-2 is the Residential (Household) version of the control panel and has been Listed by Underwriters Laboratories for the following applications:

UL 1023 Household Burglar

UL 985 Household Fire Warning

The model XL-2B is the Commercial Burglary configuration of the control panel and has been Listed by Underwriters Laboratories for the following applications:

UL 365 Police Connected Burglar (Grade AA, Grade a Mercantile, Grade B)

UL 609 Local Burglar (Grade A Mercantile, Grade B)

UL 1610 Central Station Burglar (Grade B, Grade C)

UL 1635 Digital Burglar (Grade A Police Connect, Grade B, Grade C)

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# 3. SYSTEM WIRING AND HOOKUP

## 3.1. SYSTEM WIRING DIAGRAM

CONNECTIONS FOR HOUSEHOLD FIRE/BURGLAR ALARM SYSTEM (PER UL STANDARDS UL985 AND UL1023)



### WARNING

To prevent risk from electrical shock, de-energize the system control unit and disconnect the telephone lines before servicing this unit.

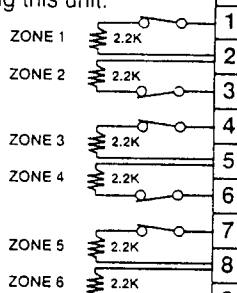
**XL-2**

**DEFAULT RESET:** To reload factory default values, remove all power from system (AC and DC). Next, short JP1 to JP2. With short still intact, reapply power (AC then DC), wait 5 seconds, then remove short with power still applied.

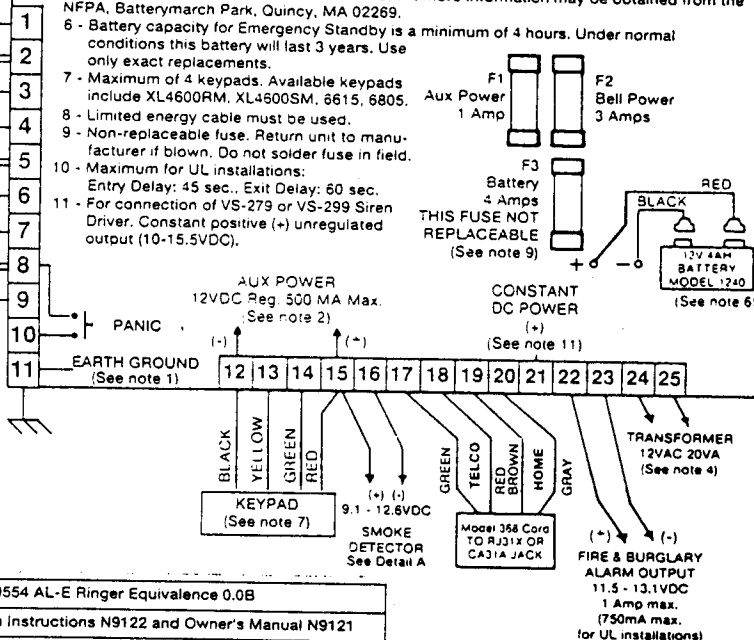


#### NOTES

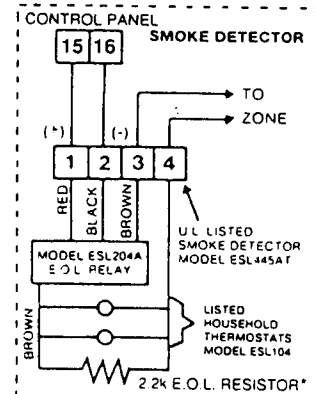
- 1 - Connect to a grounded metal cold water pipe (16 ga at 15 feet).
- 2 - Total AUX. power available (including keypad power) is 500mA max. Used for connection of devices rated from 11.5 to 13.1 VDC.
- 3 - System must be tested on a weekly basis. For information, refer to references.
- 4 - Do not connect the transformer to a switch controlled receptacle.
- 5 - Installation of equipment and wiring methods are required to be in accordance with the National Electrical code and ANSI/NFPA No. 74. More information may be obtained from the NFPA, Batterymarch Park, Quincy, MA 02269.
- 6 - Battery capacity for Emergency Standby is a minimum of 4 hours. Under normal conditions this battery will last 3 years. Use only exact replacements.
- 7 - Maximum of 4 keypads. Available keypads include XL4600RM, XL4600SM, 6615, 6805.
- 8 - Limited energy cable must be used.
- 9 - Non-replaceable fuse. Return unit to manufacturer if blown. Do not solder fuse in field.
- 10 - Maximum for UL installations: Entry Delay: 45 sec., Exit Delay: 60 sec.
- 11 - For connection of VS-279 or VS-299 Siren Driver. Constant positive (+) unregulated output (10-15.5VDC).



ZONE	TERMINALS	
	(+)	(-)
1	1	2
2	3	2
3	4	5
4	6	5
5	7	8
6	9	8
PANIC	10	8



#### Detail A



\* UL INSTALLATIONS REQUIRE LISTED END-OF-LINE DEVICE. USE RESISTOR FROM EOL22 KIT. LOOK FOR LISTING MARK ON ITEM.

#### 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
	20	

PRODUCT COVERED UNDER US PATENT #4,791,658

N9120 7/92  
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FCC Registration Number AE398E-69554 AL-E Ringer Equivalence 0.08

References: Hookup and Installation Instructions N9122 and Owner's Manual N9121

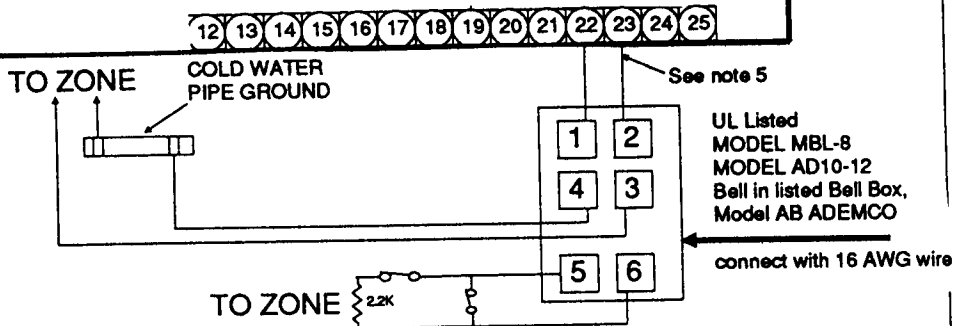
## ADDITIONAL HOOKUP INFORMATION FOR XL-2B CONTROL PANEL

### CONNECTIONS FOR MERCANTILE BURGLAR ALARM SYSTEM UL 365, 609 AND 1635 (Note: All other connections are the same as above.)

FOR ADDITIONAL INFORMATION REFER TO UL 611 AND UL681

#### NOTES: For UL Installation (MERCANTILE)

- 1- Installation of equipment and wiring methods shall be accomplished in accordance with the National Electrical Code and ANSI/NFPA no. 70
- 2- Maximum entrance time is 15 seconds, maximum exit time is 60 seconds.
- 3- For U.L. certified installations, this product shall be connected to a compatible listed Digital Alarm Receiver.
- 4- Installation requires circuit board enclosure tamper. Use either AMSECO type ATS-1 or ADEMCO No. 19, closed circuit tamper switch. Mount using the three holes provided on the side of the enclosure.
- 5- A Burglary Bell attached to terminals 22 & 23 must be rated between 12VDC and 14VDC.



This control unit is intended for use as a Household Fire & Burglary Warning System Control Unit, Grade A Local Alarm Unit, Grade A Police Station Connected Unit with basic line security, and Grade B Central Station Burglar Alarm Unit with compatible bell, or Grade C Central Station Burglar Alarm Unit without compatible bell.

## 3.2. TERMINAL CONNECTIONS

### TERMINALS

1(+) & 2 (-)  
3(+) & 2(-)  
4(+) & 5(-)  
6(+) & 5(-)  
7(+) & 8(-)  
9(+) & 8 (-)

### DESCRIPTION

Zone 1 (Requires 2.2K EOL resistor)  
Zone 2 (Requires 2.2K EOL resistor)  
Zone 3 (Requires 2.2K EOL resistor)  
Zone 4 (Requires 2.2K EOL resistor)  
Zone 5 (Requires 2.2K EOL resistor)  
Zone 6 (Requires 2.2K EOL resistor)

[Default = DELAY]  
[Default = INTERIOR]  
[Default = PERIMETER]  
[Default = PERIMETER]  
[Default = PERIMETER]  
[Default = FIRE]

### ZONE INFORMATION

Normally closed devices may be wired in series, normally open devices in parallel with the 2.2k ohm end of line resistor on all zones. The maximum loop resistance may not exceed 100 ohms. The loop response time is 280 ms on all zones. 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, 24 Hr. Alarm, or 24 Hr. Trouble. Further explanation of the zone types can be found in the System Programming section of this manual.

8 & 10

### PANIC CIRCUIT

Normally open PANIC circuit. This hardwired panic is a 24 hour zone which can be programmed for silent or audible operation. The panic circuit will activate with each violation, therefore a latched device is recommended. For UL installations, the panic switch connected to these terminals is to be located no more than 3 feet from the control unit, with no intervening barriers.

NOTE: E.O.L. resistor is not required on this zone.

11

### EARTH GROUND:

Connect this grounding lug to a cold water pipe utilizing #18AWG 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.

12 13 14 15

### KEYPADS:

A maximum of 4 keypads, either XL4600RM, XL4600SM, 6615, or 6805, may be wired to these terminals. The connections are as follows; 12 (BLACK = negative), 13 (YELLOW = data in), 14 (GREEN = data out) and 15 (RED = positive power). Each keypad draws approximately 30mA. Maximum keypad length is 500 feet using 22 gauge wire.

12 (-) & 15 (+)

### REGULATED POWER (11.5 - 13.1VDC) :

The total regulated output power for motion detectors and other external devices is 500mA at 11.8 - 12.5V for residential applications, or 12.0 - 12.5V for commercial applications, with less than 100 mVPP ripple.

15(+) 16(-)

### SMOKE DETECTOR POWER:

This system will accept 9.5 - 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.

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 entering a valid user code after clearing alarm memory.

17 18 19 20

### TELEPHONE LINE:

Connect the model 368 cord as follows; 17 (GREEN = Telco Tip), 18(RED = Telco Ring), 19(BROWN= Home Tip), 20(GREY= Home Ring). Insert the plug into an 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). The system 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.

**21(+)**

**CONSTANT DC POWER**

This terminal delivers constant unregulated 10.0-15.5VDC power for devices requiring a constant power such as VS279. It is connected to a bell fuse (F3).

**22(+) & 23(-)**

**BELL OUTPUT:**

The total output power available for sounding devices is 1 amp at 10.5 - 15.5 VDC for residential applications, or 12.0 - 14.4 VDC for commercial installations (750 mA for UL installations) . 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. For UL Household Fire Warning System installations, the speaker is required to be mounted indoors for best audibility. Also, for UL installations, use only one speaker.

**24 & 25**

**TRANSFORMER:**

Connect the 12 VAC 20VA 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.

**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.

A battery test occurs approximately every 4.5 minutes. Low battery condition occurs at nominal 11VDC. The keypad AC/LOW BAT LED and buzzer will PULSE SLOWLY when low battery condition is detected. The system reports 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**

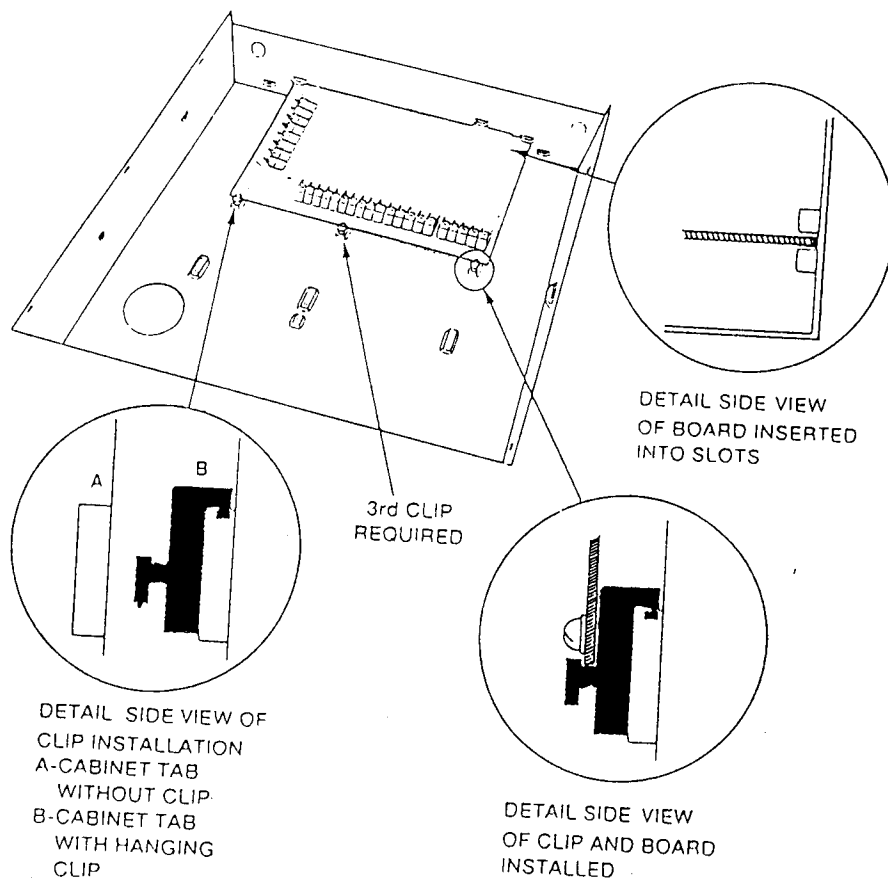
Ground start capability can be added to the system through addition of the FBII Model 117 module. Consult the 117 Installation Instructions for hookup information. NOTE: The 117 module has not been tested for use in UL installations.

### 3.3. PC BOARD MOUNTING

#### Mounting the PC Board

Before mounting the printed circuit board, be certain that the appropriate metal knockouts have been removed. **DO NOT ATTEMPT TO REMOVE THE KNOCKOUTS AFTER THE CIRCUIT BOARD HAS BEEN INSTALLED.**

1. Hang the three mounting clips on the raised cabinet tabs. Observe proper clip orientation to avoid damage to the clip when mounting screws are tightened and to avoid problems with insertion and removal of the PC board.
2. Insert the top of the circuit board into the slots at the top of the cabinet. Make sure that the board rests in the slots as indicated in the diagram shown below.
3. Swing the base of the board onto the mounting clips.
4. Place the washer provided over the wire jumpers located within the middle of the PC board. Secure the PC board to the middle mounting clip of the enclosure through the washer using the screw provided.
5. Secure the remaining sides of the PC board to the enclosure using the screws provided.



**NOTE:** The front face of the enclosure can be completely removed from the enclosure to gain unrestricted access to the control panel during installation. The front of the enclosure can be removed as follows:

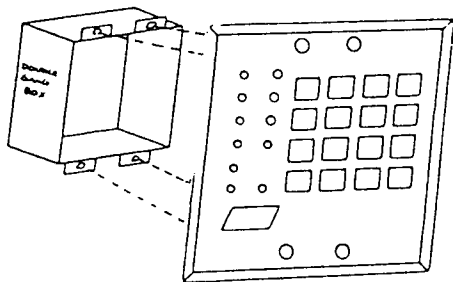
- 1) Open the enclosure to its fully extended position (approx. 90 degrees)
- 2) Lift the control panel door and remove the door from the enclosure.



## 4. KEYPAD MOUNTING

### 4.1. XL4600RM METAL KEYPAD

#### FLUSH MOUNTING USING DOUBLE GANG BOX

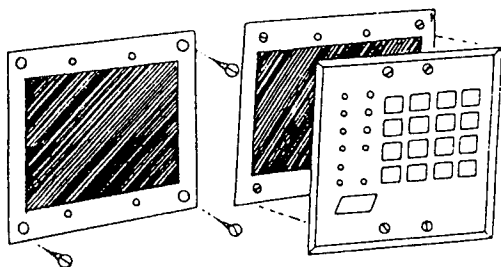


1- Create an opening and mount a standard double gang box.

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 XL4600RM to an earth grounded outlet box.

#### FLUSH MOUNTING WITH MOUNTING RING (Using the XL4600TR)

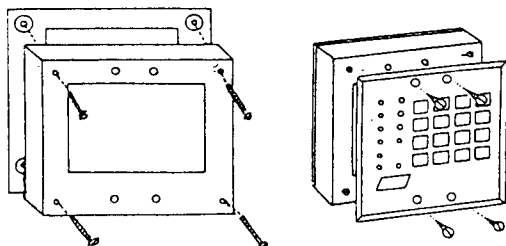


1- Create the desired opening where keypad is to be mounted, using the inside of the mounting ring as a template. NOTE: This opening should be made between studs.

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)

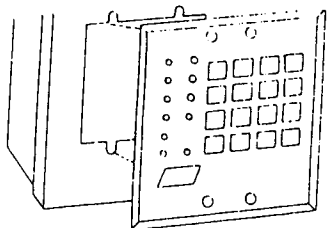


1- Depending on type of installation run the keypad wiring out of the rear, top bottom or sides of the backbox.

2- Attach backbox to wall at desired height

3- Insert XL4600RM 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 XL4600RM into opening from front of enclosure.

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

## 4.2. XL4600SM KEYPAD

The XL4612SM Keypad may be surface mounted in the following ways:

- A. Directly to a control panel having a keypad cutout on the front of its enclosure.
- B. Directly to a single or double gang electrical junction box.
- C. Directly to a wall or other surface.

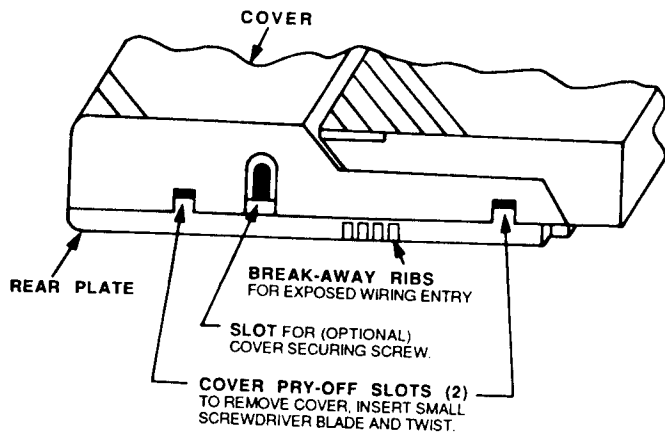


Diagram 2: BOTTOM VIEW OF KEYPAD

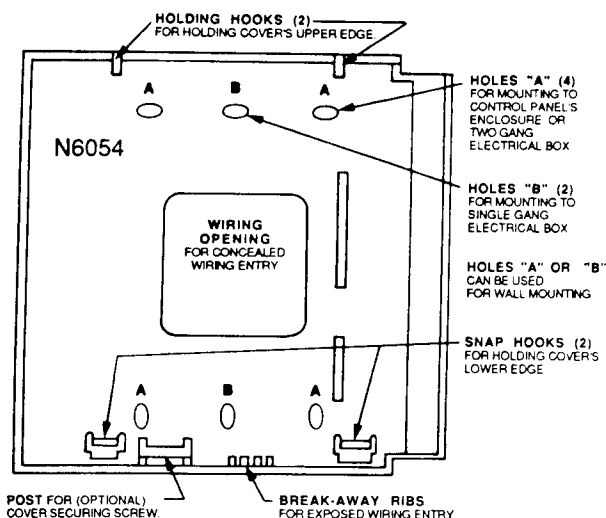


Diagram 3: REAR MOUNTING PLATE

1. Remove the keypad cover assembly from the rear mounting plate. Insert a small screwdriver blade in the COVER PRY-OFF SLOTS at the lower edge of the keypad (see Diagram 2 ) and twist to pry off the cover assembly.

2. Mount the rear plate (see Diagram 3).

Note: The plate is correctly oriented when its part number, molded into the plastic, is upright.

### A. MOUNTING DIRECTLY TO CONTROL PANEL ENCLOSURE:

If the control panel has a keypad cutout on the front face of its enclosure, remove the cutout and mount the plate to the enclosure's face via HOLES "A" ( see diagram 3) and the four screws and nuts provided.

Note: The XL3B attack-proof enclosures does not contain a keypad cutout.

### B. MOUNTING DIRECTLY TO AN ELECTRICAL JUNCTION BOX:

The plate can be mounted directly to a single or double gang electrical junction box. Use the screwholes provided and HOLES "B" for a single gang box or HOLES "A" for a double gang box.

### C. MOUNTING DIRECTLY TO A WALL OR OTHER SURFACE

Provide a wiring hole in the mounting surface. Position the plate's WIRING OPENING over the hole and mounting plate, using HOLES "A" and/or "B" in conjunction with appropriate mounting hardware (not provided) for the type of surface.

3. Complete the keypad wiring as required for the control with which the keypad is to be used.

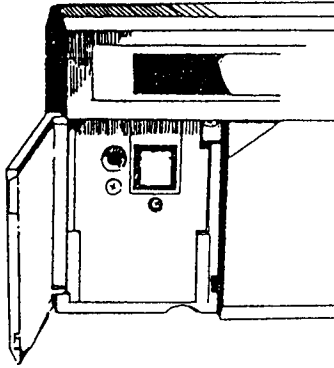
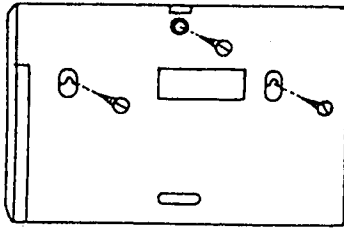
4. Replace the keypad cover assembly on the rear plate. Starting at the upper edge of the plate, engage the plate's two HOLDING HOOKS (see diagram 3) into the recesses provided for them inside the upper edge of the cover assembly and snap the lower edge of the cover assembly and snap the lower edge of the cover onto the two SNAP HOOKS at the lower edge of the plate.

Note: (Optional) If desired, cover and plate can be further secured together by inserting a screw (provided) into the SLOT at the keypad's lower edge.

## 4.2. MOUNTING 6805 and 6615 KEYPADS

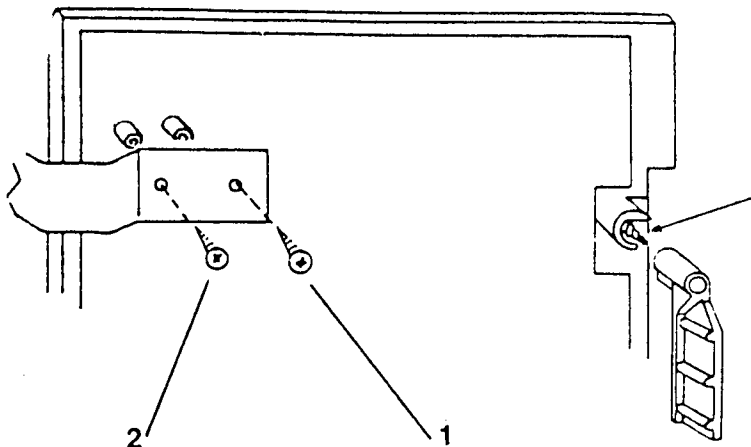
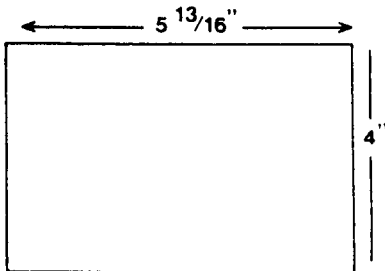
Keypad mounting is identical for both the 6615 LED and 6805 LCD versions. Keypads can be surface mounted or flush mounted as described below. **NOTE:** After mounting the 6805 LCD Keypad at eye level, you can adjust the display intensity level to suit the user by adjusting the intensity control located behind the keypad door.

### SURFACE MOUNTING



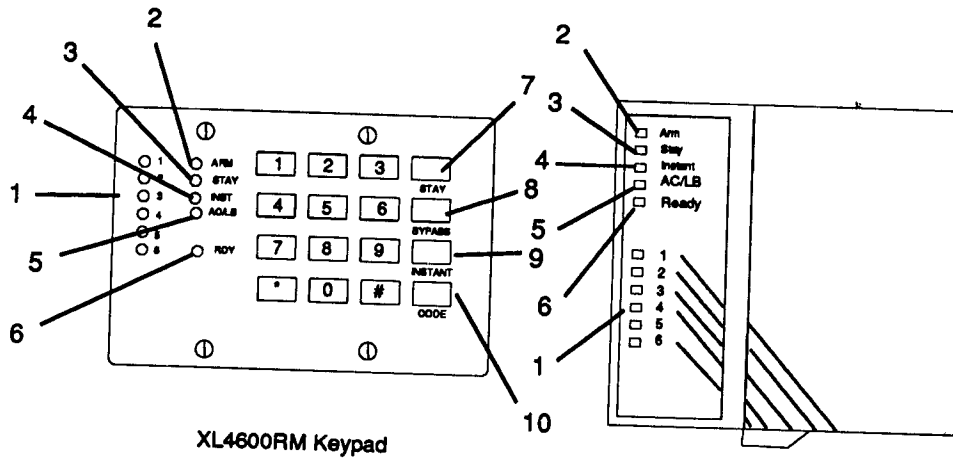
1. Select a mounting location and place the rear plate of the keypad on the wall. Mark the location of the cutout for the keypad wiring cable.
- 2- Create a keypad opening . Connect the keypad wiring to the control panel w/ 4-wire connector.
- 3- Place the keypad wiring through the cutout and secure the backplate to the wall (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 plate by attaching the 5/8 inch screw provided in the lower hole, located behind the keypad door.

### RECESSED MOUNTING



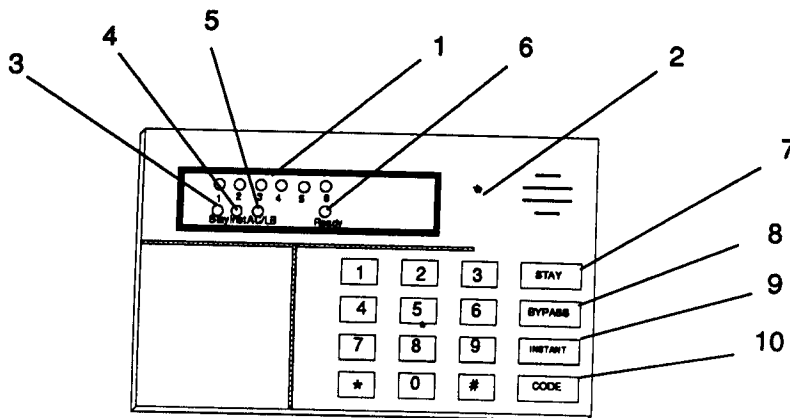
- 1- Select a mounting location. For recessed mounting this must be between two studs. The rear mounting plate is not used for recessed installations.
- 2- Create an opening in the wall exactly 4 inches high by 5 13/16 inches wide.
- 3- Turn over the keypad and remove the Phillips head screw (item 1 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 end of the mounting strap facing the keypad front. 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) 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 (included) through the opening inside the keypad door and begin to tighten the screw. Tighten the screw and leave the tab in a down 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 until it grabs 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.
- 9- Tighten the screw inserted in step 5.

## 5. KEYPAD LAYOUT

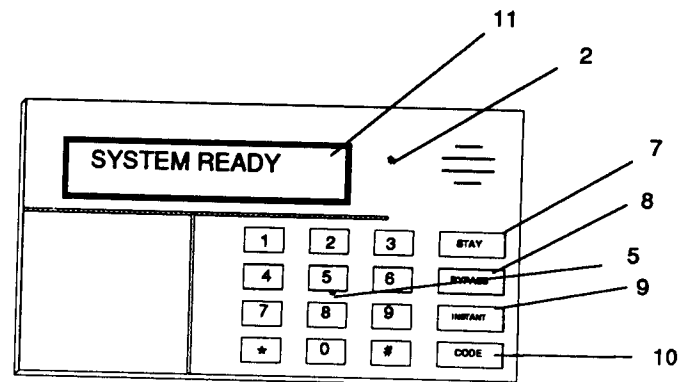


XL4600RM Keypad

XL4600SM Keypad



Model 6615 LED Keypad



Model 6805 LCD 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). This LED will also blink fast to show that alarms have occurred or blink slowly upon failure to communicate with the Central Station.

### 3) STAY LED

This LED displays whether the system has been armed in the STAY mode.

ON Interior zones are bypassed

OFF Interior zones are normal

### 4) INSTANT LED

This LED displays whether the system has been armed in the INSTANT mode, meaning that the system is currently armed and all delay zones are instant.

ON Delay zones are currently instant

OFF Delay zones are normal

### 5) AC/LOW BATTERY LED

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

ON AC is present

OFF No AC, running on battery backup

Slow Blink Low battery condition detected

### 6) READY LED

This LED displays whether the system is ready for arming. The READY light is common to all BURGLARY ZONES with the following indications;

ON System ready to be armed

OFF System not ready to be armed

Slow Blink Indicates Installer programming mode

Fast Blink Alarm Memory Mode

### 7) 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.

### 8) BYPASS BUTTON

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

### 9) INSTANT BUTTON

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

### 10) CODE BUTTON

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

## 5.1. 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.

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.

## 6. SYSTEM OPERATIONS

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NOTE: LED based keypad include the XL4600RM, XL4600SM and 7015. LCD Based keypads include the 6805 and the 7005.

### 6.1. POWER UP/SYSTEM RESET

Upon initial powerup of the system, all of the lights on the LED keypad 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.

### 6.2. ARMING THE SYSTEM

#### FAIL-SAFE ARMING:

The system can be armed only if all burglary zones are good (not faulted). On LED based keypads this requires that the READY LED is on.

On LCD keypads the following message will appear:

**SYSTEM READY**

#### ARMING:

Enter any programmed four digit user code.

NOTE: The factory default user #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.

LCD Based keypads will display:

**ON AWAY**

### 6.3. STAY ARMING

Depress the STAY BUTTON followed by a four digit user code.

The ARMED and STAY LEDs will light on LED based keypads.

LCD based keypads will display;

**ON STAY**

The system is armed at this time with all programmed interior zones excluded.

### 6.4. INSTANT ARMING

Depress the INSTANT BUTTON followed by a four digit user code.

The ARMED and INSTANT LEDs will light on LED based keypads.

LCD Based keypads will display;

**ON INSTANT**

The system is armed at this time with all programmed delay zones instant.

### 6.5. 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.

LED keypads will have the ARMED, STAY and INSTANT LEDS lit.

LCD keypads will display;

**ON STAY INSTANT**

## 6.6. DISARMING

Depress any valid four(4) digit user code and ARMED LED will extinguish.

If an alarm condition exists or had occurred while the system was armed, the respective zone(s) LED(s) and the READY LED will be blinking rapidly. This ALARM MEMORY condition can be cleared by entering a valid user code.

## 6.7. 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 3 of question 05.

## 6.8. 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 a number 1-6, which represents the respective zone to be bypassed.

EXAMPLE: BYPASS ZONE 2 (Assume user code of 1234)

BYPASS 1234 2

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 are 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.

## 6.9. AUTO UNBYPASS

All burglary zones which are bypassed can be automatically unbypassed upon system disarm, assuming no other zone(s) had been in alarm. 24 hour zones which have been bypassed will be unbypassed only if they are normal.

The auto-unbypass feature is a programmable option (see question 5 of the programming sequence). Auto unbypass option must be selected for all UL applications

## 6.10. MANUAL UNBYPASS

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

## 6.11. USER CODE PROGRAMMING

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

The system contains up to six user codes (4 digits each) with the following applications;

<u>USER NUMBER</u>	<u>APPLICATION</u>
1	Master User [Default = 1234]
2	User #2 [Default = null]
3	User #3 [Default = null]
4	User #4 [Default = null]
5	User #5 [Default = null] NOTE: Can be an ARM only code
6	Ambush Code or User #6 [Default = null]

NOTE: Only the master user (user number 1) can program or modify other users.

## USER DEFINITION PROCEDURE:

**CODE [USER] [USER#] [USERID]**

where:

**CODE** Code button on keypad

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

**[USER#]** Desired user to be programmed (1-6)

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

Example:

Define operator #3 with an ID of 7493. (Assume master user code is 1234).

**CODE 1234 3 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.

### 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 #6 code will be used as an AMBUSH code. In this mode, entry of the user #6 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 6 will be reported along with the ambush code.

If ambush has not been programmed then user #6 can be used as an ordinary user code.

### ARM ONLY CODE [USER 5 CODE]

A programming option exists to make user #5 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 5.

## 6.12. USER DELETION

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

### USER DELETION PROCEDURE

**CODE [USER] [User #] \***

Where:

**[USER]** Master user code

**[User #]** Represents the user number being deleted.(2-6). Note: User number 1 cannot be deleted.

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

## 6.13. KEYPAD AUXILIARY CONDITIONS

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

<u>CONDITION</u>	<u>KEYSTROKES</u>
PANIC	# *
FIRE	7 9
AUX.	1 3
AMBUSH	[USER CODE #6]

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.

In addition to the keystrokes, the XL4600SM keypad contains dedicated function keys for the auxiliary conditions. These keys can be actvated through simultaneous depression of the two keys.

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 #6 if an ambush code is programmed in question #15.



## 7. SYSTEM PROGRAMMING

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The system can be programmed in any one of the following methods;

- Directly through keypad (XL4600RM, XL4600SM, 6805 or 6615)
- EZ-MATE PC DOWNLOADER model 7700 remotely

NOTE: The EZ-Mate downloader has not been tested for UL applications.

This manual describes system programming via the **keypad**. The other programming devices 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 19 total programming questions numbered 00-18. Additional programming questions are available for the programmable zone descriptors when LCD based keypads are used.

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

The system 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.

## 8. PROGRAMMING QUESTIONS

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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. An entry of the digit A signifies the end of the phone number.

#### 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.

### 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. 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 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.

## QUESTION 04- 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 = Message length (ie:3x1,4x1,4x2)

L4 = System Options (Panic Type, Split Reporting, 24 Hr Test, Bell Test)

### Question 04 L1 DIALER FORMATS

DEFAULT: 1

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

- 0 Pulse Dialing, Standard Format or 4X2
- 1 Touch Tone Dialing, Standard format or 4X2**
- 2 Pulse Dialing, Extended Format
- 3 Touch Tone Dialing, Extended Format
- 4 Pulse Dialing, Partial Extended Format
- 5 Touch Tone Dialing, Partial Extended Format
- 8 No Dialer (Local Alarm only)

### 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

853 1

Restore

853 E

EEE 1

#### Question 04 L2 RECEIVER TYPE DEFAULT = 6

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 =	10 PPS, 1400 Hz, Parity	FBI
2 =	10 PPS, 2300 Hz, No Parity	FBI
3 =	10 PPS, 2300 Hz, Parity	FBI
4 =	20 PPS, 1400 Hz, No Parity	FBI, Silent Knight Fast, ADCOR, ADEMCO 685
5 =	20 PPS, 1400 Hz, Parity	FBI, Radionics Slow (1400)
6 =	<b>20 PPS, 2300Hz., No Parity</b>	FBI, Franklin, Sescoa, DCI, Quickalert, Varitech, ADEMCO 685
7 =	20 PPS, 2300 Hz, Parity	FBI, Radionics Slow (2300)
8 =	40 PPS, 1400 Hz, No Parity	FBI
A =	40 PPS, 2300 Hz, No Parity	FBI
B =	40 PPS, 2300 Hz, Parity	FBI, Radionics Fast (2300)

UL compatible receivers: FBI CP220 (all formats), ADEMCO 685 (all formats without parity), Silent Knight 8520,,9000.

#### Question 04 L3 - MESSAGE LENGTH / BELL LOCKOUT Default = 0

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

0 =	3 x 1	3 digit account, 1 digit event code, no bell lockout	8 = 3x1, with bell lockout
2 =	4 x 1	4 digit account number, 1 digit event code, no bell lockout	A = 4x1, with bell lockout
6 =	4 x 2	4 digit account number, 2 digit event code, no bell lockout	E = 4x2, with bell lockout

If bell lockout is selected then subsequent activations of the same zone within the same arming interval will not activate the bell. This applies only to burglary (non 24 hour) zones. For UL installations bell lockout must not be selected. NOTE: Please consult your Central Station manager to determine the formats and message lengths which are accepted by the receiver. To select European dialing format, add 1 to the value selected for this digit. NOTE: European dialing format has not been tested by UL.

#### Question 04 L4- SYSTEM OPTIONS

Default = 1

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

0 =	Silent Keypad Panic
1 =	<b>Audible Keypad Panic</b>
2 =	Silent Keypad Panic, Split Reporting
3 =	Audible Keypad Panic, Split Reporting
4 =	Silent Keypad Panic, 24 Hr Test
5 =	Audible Keypad Panic, 24 Hr Test
6 =	Silent Keypad Panic, Split Reporting, 24 Hr Test
7 =	Audible Keypad Panic, Split Reporting, 24 hr Test
8 =	Silent Keypad Panic, Bell Test
9 =	Audible Keypad Panic, Bell Test
A =	Silent Keypad Panic, Split Reporting, Bell Test
B =	Audible Keypad Panic, Split Reporting, Bell Test
C =	Silent Keypad Panic, 24 Hr Test, Bell Test
D =	Audible Keypad Panic, 24 hr Test, Bell Test
E =	Silent Keypad Panic, Split Reporting, 24 Hr Test, Bell Test
F =	Audible Keypad Panic, Split Reporting, 24 Hr Test, Bell Test

#### DESCRIPTION OF SYSTEM OPTIONS

**Keypad Silent/Audible Panic** - Determines whether the keypad panic condition ( \* & # from the keypad) will activate the bell. In either case a signal will be transmitted to the Central Station if a panic code has been programmed. NOTE: The keypad panic condition can be activated through location 1 of question 05.

**Split Reporting** - The split reporting option will direct all opening and closing signals to the secondary receiver telephone number. All other conditions (alarms, troubles, restores etc.) will adhere to the reporting route described in question 01. If split reporting is selected then the secondary receiver telephone number MUST be programmed.

**24 Hour Test** - If 24 hour test is enabled then the system will transmit the test code to the Central Station every 24 hours in the absence of any other signal. Transmission of any signal will reset the 24 hour test clock. For example if a business opened and closed 6 days a week then a test signal will be generated 24 hours after the last closing signal. NOTE: This option is required for UL Commercial Burglary applications.

**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.

## QUESTION 05 KEYPAD CONDITIONS DEFAULT = 1400

This question contains four locations for various keypad definable options

### Question 05 L1 - KEYPAD EMERGENCY CONDITIONS DEFAULT = 1

This location specifies which of the keypad emergency conditions are active. To determine the value for this location add the values for the desired conditions as shown in the chart below:

VALUE	CONDITION
+1	Keypad Panic ( * & #) Enable
+2	Keypad Fire (7 & 9) Enable
+4	Keypad Aux (1 & 3) Enable
+8	Keypad Aux = Audible

For example, if you wanted the keypad panic and fire conditions only then add +1 and +2 , and enter a 3 into this location.

The valid selections for this digit are shown below;

- 0 = Keypad Emergency Conditions Disabled
- 1 = **Keypad Panic**
- 2 = Keypad Fire
- 3 = Keypad Panic, Keypad Fire
- 4 = Keypad Aux (Silent)
- 5 = Keypad Panic, Aux (Silent)
- 6 = Keypad Fire, Aux. (Silent)
- 7 = Keypad Panic, Fire, Aux (Silent)
- C = Keypad Aux. (Audible)
- D = Keypad Panic, Aux. (Audible)
- E = Keypad Fire, Aux. (Audible)
- F = Keypad Panic, Fire, Aux (Audible)

### Question 05 L2 - MISC OPTIONS DEFAULT = 4

To obtain the value for this location add the values corresponding to the desired options or consult the table:

#### **PANIC or KEYSWITCH (+1)**

This option determines whether connections 10 & 13 on the control panel will be used as a panic input or a keyswitch input. Note : Add 1 if a keyswitch is desired.

#### **HARDWIRED PANIC SILENT or AUDIBLE (+2)**

Determines whether the hardwired panic circuit will be audible or silent. NOTE: Add 2 if audible.

#### **AUTO-UNBYPASS ENABLE (+4)**

Determines whether zones will automatically be unbypassed upon disarm. Add 4 for autounbypass enable.

#### **ARM ONLY CODE [USER #5] (+8)**

If user number 5 should be used as an arm only code (maid code) then add 8 to this digit.

The valid selections for this digit are shown below:

- 0 = Panic Input Silent
- 1 = Keyswitch Input
- 2 = Panic Input Enabled Audible
- 4 = **Panic Input Silent, Auto-unbypass**
- 5 = Keyswitch Input , Auto-unbypass
- 6 = Panic Input Audible, Auto-unbypass
- 8 = Panic Input Silent, Arm Only User 5
- 9 = Keyswitch Input, Arm Only User 5
- A = Panic Input Audible, Arm Only User 5
- C = Panic Input Silent , Auto-unbypass, Arm Only User 5
- D = Keyswitch Input, Auto-unbypass, Arm Only User 5
- E = Panic Input Audible, Auto-unbypass, Arm Only User 5

### Question 05 L3 QUICK COMMANDS - RESET

This location determines whether the quick commands are enabled as shown below:

- 0 = Quick Commands Disabled
- 1 = Quick Forced Arm
- 2 = Quick Arm
- 3 = Quick Forced Arm, Quick Arm
- 4 = Reset Enable
- 5 = Quick Forced Arm, Reset Enable
- 6 = Quick Arm, Reset Enable
- 7 = Quick Forced Arm, Quick Arm, Reset Enable

#### QUICK FORCED ARM ENABLE (+1)

Specifies whether quick forced arm ( # key followed by the 2 key from the keypad) will be permitted. If quick forced arming is permitted then user #7 code will be reported to the CS if a two digit transmission is defined. Note: Do not program this option for UL installations.

#### QUICK ARM (+ 2)

Specifies whether quick arming ( # key followed by the 1 key from the keypad) will be permitted. Quick arming allows arming of the system without entry of a user code and if permitted will report user #7 code to the CS if a two digit transmission is defined.

#### RESET ENABLE (+4)

This option will allow entry of a \* from the keypad to reset the following conditions: sounder, communications failure , alarm memory.

### QUESTION 06 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 07 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 08 SYSTEM TIMEOUTS

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

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

#### Question 08 L1 - ENTRY DELAY      Default = 2

Enter the desired entry delay time in 15 second increments. The valid range of input is 1 - F, with 1 indicating a 15 second entry delay and F indicating 225 seconds. For UL applications the maximum entrance delay shall not exceed 45 seconds for household applications or 15 seconds for commercial burglary applications.

#### Question 08 L2 - EXIT DELAY      Default = 4

Enter the desired exit time in 15 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 225 seconds.

#### Question 08 L3 - BURGLARY BELL CUTOFF      Default = 5

Enter the desired bell cutoff time on alarm conditions for burglary and panic in 3 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.

#### Question 08 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.

**8.1. ZONE PROGRAMMING**

Questions 09-14 represent all the options related to programmable zones 1-6. Each question contains four(4) locations L1-L4. The first two locations (L1-L2) define the zone type. The second two locations (L3-L4) define the alarm code transmitted to the Central Station for that zone.

**ZONE TYPES**

Zones 1-6 can be programmed for any one of the following zone types:

**BURGLARY 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 are bypassed if the system is armed in the STAY MODE.

**PERIMETER** This zone type (sometimes known as INSTANT) 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 system 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, bell and reset smoke detector power. 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.

Note: 24 hour trouble is not to be used for fire and burglary detection zones. 24 Hour silent alarm zones are not to be used for perimeter protection.

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

## ZONE CHART

The following table contains the entries required for locations L1 and L2 of the zone type questions;

<u>ZONE TYPES</u>		
CONTROLLED ZONES	24 HOUR ZONES	
10 Perimeter	20 Delay	81 Alarm Audible
11 Perimeter, Restore	21 Delay, Restore	89 Alarm Silent
12 Perimeter, Day	24 Delay, Chime	(no LED , sounder, bell)
13 Perimeter, Day, Restore	25 Delay, Chime, Restore	91 Alarm, Restore
14 Perimeter, Chime	40 Interior	99 Hold-Up, Restore
15 Perimeter, Chime, Restore	41 Interior, Restore	8A Trouble, Silent
18 Perimeter, Dial Delay	44 Interior Chime	(LED indication only)
19 Perimeter, Restore, Dial Delay	45 Interior, Chime, Restore	92 Trouble,Audible,Restore
1A Perimeter, Day, Dial Delay	48 Interior, Dial Delay	84 Fire
1B Perimeter, Day, Restore, Dial Delay	49 Interior, Restore, Dial Delay	94 Fire, Restore
1C Perimeter, Chime, Dial Delay	4C Interior, Chime, Dial Delay	
1D Perimeter, Chime, Restore, Dial Delay	4D Interior, Chime,Restore, Dial Delay	

## **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 03. 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 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.

### **QUESTION 09 ZONE 1**

There are 4 locations (L1-L4) within this question which define the operation of zone 1.

Enter a 2 digit number in locations L1 and L2 from the zone chart for the desired type for this zone.

Enter the desired alarm code in locations L3 and L4 for this zone relative to the dialer format selected.

<b><u>LOCATIONS</u></b>		<b><u>DEFAULTS</u></b>	
L1 - L2	ZONE TYPE	20	DELAY
L3 - L4	ZONE ALARM CODE	31	

### **QUESTION 10 ZONE 2**

There are 4 locations (L1-L4) within this question which define the operation of zone 2.

Enter a 2 digit number in locations L1 and L2 from the chart above that represents the desired type for this zone.

Enter the desired alarm code in locations L3 and L4 for this zone relative to the dialer format selected.

<b><u>LOCATIONS</u></b>		<b><u>DEFAULTS</u></b>	
L1 - L2	ZONE TYPE	40	INTERIOR FOLLOWER
L3 - L4	ZONE ALARM CODE	32	

### **QUESTION 11 ZONE 3**

There are 4 locations (L1-L4) within this question which define the operation of zone 3.

Enter a 2 digit number in locations L1 and L2 from the chart above that represents the desired type for this zone.

Enter the desired alarm code in locations L3 and L4 for this zone relative to the dialer format selected.

<b><u>LOCATIONS</u></b>		<b><u>DEFAULTS</u></b>	
L1 - L2	ZONE TYPE	10	PERIMETER
L3 - L4	ZONE ALARM CODE	33	



#### QUESTION 12 ZONE 4

There are 4 locations (L1-L4) within this question which define the operation of zone 4.

Enter a 2 digit number in locations L1 and L2 from the chart above that represents the desired type for this zone.

Enter the desired alarm code in locations L3 and L4 for this zone relative to the dialer format selected.

<u>LOCATIONS</u>		<u>DEFAULTS</u>	
L1 - L2	ZONE TYPE	10	PERIMETER
L3 - L4	ZONE ALARM CODE	34	

#### QUESTION 13 ZONE 5

There are 4 locations (L1-L4) within this question which define the operation of zone 5.

Enter a 2 digit number in locations L1 and L2 from the chart above that represents the desired type for this zone.

Enter the desired alarm code in locations L3 and L4 for this zone relative to the dialer format selected.

<u>LOCATIONS</u>		<u>DEFAULTS</u>	
L1 - L2	ZONE TYPE	10	PERIMETER
L3 - L4	ZONE ALARM CODE	35	

#### QUESTION 14 ZONE 6

There are 4 locations (L1-L4) within this question which define the operation of zone 6.

Enter a 2 digit number in locations L1 and L2 from the zone chart that represents the desired type for this zone.

Enter the desired alarm code in locations L3 and L4 for this zone relative to the dialer format selected.

<u>LOCATIONS</u>		<u>DEFAULTS</u>	
L1 - L2	ZONE TYPE	84	FIRE
L3 - L4	ZONE ALARM CODE	16	

#### QUESTION 15 AMBUSH/AC LOSS

There are 4 locations L1-L4 in this question. L1 - L2 is the alarm code that will be transmitted on AMBUSH. 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.

<u>LOCATIONS</u>		<u>DEFAULTS</u>	
L1 - L2	AMBUSH	AA	
L3 - L4	AC LOSS	AA	

#### QUESTION 16 PANIC/LOW BATTERY

There are 4 locations L1-L4 in this question. L1 - L2 is the alarm code that will be transmitted on PANIC. This code will be transmitted for KEYPAD as well as HARDWIRE 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.

<u>LOCATIONS</u>		<u>DEFAULTS</u>	
L1 - L2	PANIC	22	
L3 - L4	LOW BATTERY	AA	

## QUESTION 17 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 24 HR TEST CODE. Entry of AA means that 24 hour test is not enabled. If 24 hour test code is selected then ANY valid transmission will reset the 24 hour test timer.

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

## QUESTION 18 BYPASS/RESTORE/TROUBLE/# RINGS

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.

L4 is a the *number of rings* for the control panel to pickup for a remote communications session. This should be selected to a value that does not interfere with normal operation of the panel location. the default value is 8 rings. NOTE: A value of 0 means that remote programming will be disabled.

LOCATIONS		DEFAULTS
L1	BYPASS	A
L2	RESTORE	A
L3	TROUBLE	F
L4	# OF RINGS	8

## QUESTION 19 KEYPAD FIRE/ KEYPAD AUX. DEFAULT : AAAA

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	AA
L3 - L4	KPAD AUX	AA

## Question 00 INSTALLER CODE

There are 4 locations L1 - L4 in this question.

Enter any 4 digit (0-9 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 4600 in locations L1-L4 respectively.

## 9. 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 (XL4600RM, XL4600SM or 6615) during programming operations.

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

NOTE: For information regarding programming through the LCD based keypads consult the next section of this manual.

### 9.1. 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)

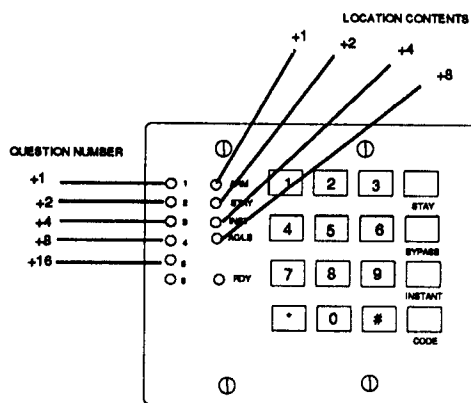
ENTER the four digit INSTALLER CODE (default = 4600)

### 9.2. WHAT YOU SEE ON THE KEYPAD

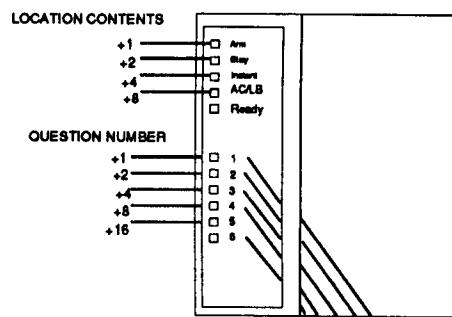
**PROGRAM MODE = READY LED:**

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

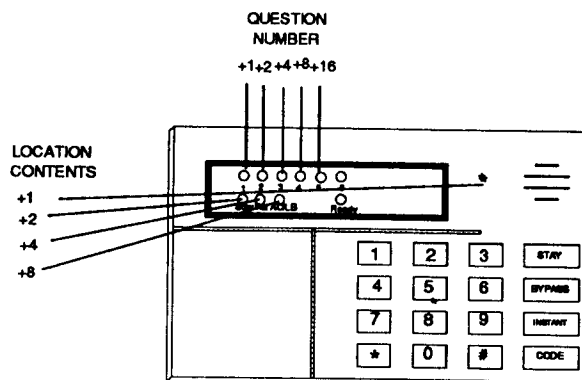
The remaining LEDS display the question number and location contents as indicated below:



XL4600RM KEYPAD PROGRAMMING



KEYPAD PROGRAMMING XL4600SM



6615 Keypad Programming

### QUESTION NUMBERS = ZONE LEDS:

As previously stated there are 17 total questions, each of which contains multiple data entry locations.

Zone LEDS 1 through 5 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.

#### 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 = SYSTEM STATUS LEDS

The remaining status LEDS (ARM,STAY,INSTANT,AC/LB) display 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.

#### EXAMPLES:

Arm ON, Stay,Instant,and AC/LB OFF, = 1  
Arm ON, Stay ON, Instant and AC/LB OFF = 3

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	Stay & AC/LB = ON
B	11	Arm,Stay, & AC/LB = ON
C	12	Instant, & AC/LB = ON
D	13	Arm,Instant, & AC/LB = ON
E	14	Stay,Instant, & AC/LB = ON
F	15	Arm,Stay,Instant, & AC/LB = ON

## 9.3. 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 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.

## 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

<u>FUNCTION</u>	<u>KEYSTROKES</u>
ENTER PROGRAMMING MODE	CODE * [INSTALLER CODE]
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

# 10. DATA ENTRY THROUGH LCD BASED KEYPADS

Keypad programming can also be accomplished through the LCD based keypads. In addition to the normal 19 programming questions, additional capability is available for entering the zone descriptors directly through the keypad.

## 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 = 4600)

## 10.2. 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.

## 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

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 press the # key. 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.

## 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.

## 10.4. 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 21 - 26.

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	
21	Zone 1 Descriptor	[Default = ZONE 1]
22	Zone 2 Descriptor	[Default = ZONE 2]
23	Zone 3 Descriptor	[Default = ZONE 3]
24	Zone 4 Descriptor	[Default = ZONE 4]
25	Zone 5 Descriptor	[Default = ZONE 5]
26	Zone 6 Descriptor	[Default = ZONE 6]

For example, to program the descriptor for zone 3 enter \* 2 3, to access question 23.

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 based keypads are as follows:

!"#\$%&'()\*+,-./0123456789;=@ABCDEFGHIJKLMN O P Q R S T U V W X Y Z

### SYSTEM DEFAULT (LCD based keypads only)

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

### ZONE DESCRIPTOR DEFAULT (LCD Based keypads only)

The English language zone descriptors 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 zone descriptors back to the original default settings for that keypad only. NOTE: The default zone descriptors are ZONE 1, ZONE 2, ... etc.

# 11. SYSTEM DEFAULTS

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The system 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 JP1 to JP2, 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 PC Downloader 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	4600
01 Phone #1	234AAAAAAAAA
02 Phone #2	AAAAAAAAAAAA (none)
03 Callback Number	AAAAAAAAAAAA (none)
04 Dialer Options	Touch Tone, 20PPS, 2300hz, 3x1, Audible Panic
05 Kpad options	Keypad panic & Auto unbypass enabled
06 Account #1	1234
07 Account #2	AAAA (null)
08 Timeouts	Entry Delay = 30 sec., Exit Delay = 60 seconds Burg Bell Cutoff = 15 minutes, Fire Bell Cutoff = No Timeout
09 Zone #1	Delay (20) Code = 31
10 Zone #2	Interior (40) Code = 32
11 Zone #3	Perimeter (10) Code = 33
12 Zone #4	Perimeter (10) Code = 34
13 Zone #5	Perimeter (10) Code = 35
14 Zone #6	Fire (84) Code = 16
15 System Codes	Ambush = AA (null) AC Loss = AA (null)
16 System Codes	Panic = 22 Low Battery = AA (null)
17 System Codes	Open = A (null) Close = A (Null) Test Code = AA (null)
18 System Codes	Bypass = A (null) Restore = E Trouble = F
19 System codes	Keypad fire = AA (null) Keypad Aux = AA (null)
21 Zone 1 Descriptor	ZONE 1 (LCD Keypads Only)
22 Zone 2 Descriptor	ZONE 2 (LCD Keypads Only)
23 Zone 3 Descriptor	ZONE 3 (LCD Keypads Only)
24 Zone 4 Descriptor	ZONE 4 (LCD Keypads Only)
25 Zone 5 Descriptor	ZONE 5 (LCD Keypads Only)
26 Zone 6 Descriptor	ZONE 6 (LCD Keypads Only)

## USER CODES

1	1234
2	(null)
3	(null)
4	(null)
5	(null)
6	(null)



## **WARNING LIMITATIONS OF THIS ALARM SYSTEM**

While this system is an advanced design security system, it does not offer guaranteed protection against burglary, fire or other emergency. Any alarm system, whether commercial or residential, is subject to compromise or failure to warn for a variety of reasons. For example:

- Intruders may gain access through unprotected openings or have the technical sophistication to bypass an alarm sensor or disconnect an alarm warning device.
- Intrusion detectors (e.g., passive infrared detectors), smoke detectors, and many other sensing devices will not work without power. Battery operated devices will not work without batteries, with dead batteries or if the batteries are not put in properly. Devices powered solely by AC will not work if their AC power supply is cut off for any reason, however briefly.
- Signals sent by wireless transmitters may be blocked or reflected by metal before they reach the alarm receiver. Even if the signal path has been recently checked during a weekly test, blockage can occur if a metal object is moved into the path.
- A user may not be able to reach a panic or emergency button quickly enough.
- While smoke detectors have played a key role in reducing residential fire deaths in the United States, they may not activate or provide early warning for a variety of reasons in as many as 35% of all fires, according to data published by the Federal Emergency Management Agency. Some of the reasons smoke detectors used in conjunction with this System may not work are as follows: Smoke detectors may have been improperly installed and positioned. Smoke detectors may not sense fires that start where smoke cannot reach the detectors, such as in chimneys, in walls, or roofs, or on the other side of closed doors. Smoke detectors may not sense a fire on another level of a residence or building. A second floor detector, for example, may not sense a first floor or basement fire. Moreover, smoke detectors have sensing limitations. No smoke detector can sense every kind of fire every time. In general, detectors may not always warn about fires caused by carelessness and safety hazards like smoking in bed, violent explosions, escaping gas, improper storage of flammable materials, overloaded electrical circuits, children playing with matches, or arson. Depending on the nature of the fire and/or the location of the smoke detectors, the detector, even if it operates as anticipated, may not provide sufficient warning to allow all occupants to escape in time to prevent injury or death.
- Passive Infrared Motion Detectors can only detect intrusion within the designed ranges as diagramed in their installation manual. Passive Infrared Detectors do not provide volumetric area protection. They do create multiple beams of protection, and intrusion can only be detected in unobstructed areas covered by the beams. They cannot detect motion or intrusion that takes place behind walls, ceilings, floors, closed doors, glass partitions, glass doors, or window. Mechanical tampering, masking, painting, or spraying of any material on the mirrors, windows or any part of the optical system can reduce their detection ability. Passive Infrared Detectors sense changes in temperature; however, as the ambient temperature of the protected area approaches the temperature range of 90 to 150F, the detection performance can decrease.
- Alarm warning devices such as sirens, bells or horns may not alert people or wake up sleepers who are located on the other side of closed or partly open doors. If warning devices sound on a different level of the residence from the bedrooms, then they are less likely to waken or alert people inside the bedrooms. Even persons who are awake may not hear the warning if the alarm is muffled by noise from a stereo, radio, air conditioner or other appliances, or by passing traffic. Finally, alarm warning devices, however loud, may not warn hearing-impaired people or waken deep sleepers.
- Telephone lines needed to transmit alarm signals from a premises to a central monitoring station may be out of service or temporarily out of service. Telephone lines are also subject to compromise by sophisticated intruders.
- Even if the system responds to the emergency as intended, however, occupants may have insufficient time to protect themselves from the emergency situation. In the case of a monitored alarm system, authorities may not respond appropriately.
- This equipment, like other electrical devices, is subject to component failure. Even though this equipment is designed to last as long as 10 years, the electronic components could fail at any time.

The most common cause of an alarm system not functioning when an intrusion or fire occurs is inadequate maintenance. This alarm system should be tested weekly to make sure all sensors are working properly.

Installing an alarm system may make one eligible for lower insurance rates, but an alarm system is not a substitute for insurance. Homeowners, property owners and renters should continue to act prudently in protecting themselves and continue to insure their lives and property.

We continue to develop new and improved protection devices. Users of alarm systems owe it to themselves and their loved ones to learn about these developments.

12. XL-2 PROGRAMMING WORKSHEET

01	Primary Telco. Number	<input type="text"/> L1	<input type="text"/> L2	<input type="text"/> L3	<input type="text"/> L4	<input type="text"/> L5	<input type="text"/> L6	<input type="text"/> L7	<input type="text"/> L8	<input type="text"/> L9	<input type="text"/> L10	<input type="text"/> L11	<input type="text"/> L12
02	Secondary Telco. Number	<input type="text"/> L1	<input type="text"/> L2	<input type="text"/> L3	<input type="text"/> L4	<input type="text"/> L5	<input type="text"/> L6	<input type="text"/> L7	<input type="text"/> L8	<input type="text"/> L9	<input type="text"/> L10	<input type="text"/> L11	<input type="text"/> L12
03	Callback Number	<input type="text"/> L1	<input type="text"/> L2	<input type="text"/> L3	<input type="text"/> L4	<input type="text"/> L5	<input type="text"/> L6	<input type="text"/> L7	<input type="text"/> L8	<input type="text"/> L9	<input type="text"/> L10	<input type="text"/> L11	<input type="text"/> L12
04	Dialer Information	<input type="text"/> L1 Format	<input type="text"/> L2 Rcvr	<input type="text"/> L3 Msg	<input type="text"/> L4 Misc	18	Bypass Restore Trouble	<input type="text"/> L1 Byp.	<input type="text"/> L2 Rest	<input type="text"/> L3 Troub.	<input type="text"/> L4 Ring Count		
05	Keypad Conditions	<input type="text"/> L1	<input type="text"/> L2	<input type="text"/> L3	<input type="text"/> L4 Spare	19	Keypad Fire/Aux.	<input type="text"/> L1 KP	<input type="text"/> L2 Fire	<input type="text"/> L3	<input type="text"/> L4 Aux		
06	Account 1	<input type="text"/> L1 3 or 4 Digit	<input type="text"/> L2	<input type="text"/> L3	<input type="text"/> L4	00	Installer Code	<input type="text"/> L1 4 Digit	<input type="text"/> L2	<input type="text"/> L3	<input type="text"/> L4		
07	Account 2	<input type="text"/> L1 3 or 4 Digit	<input type="text"/> L2	<input type="text"/> L3	<input type="text"/> L4								
08	System Timeouts	<input type="text"/> L1 Entry	<input type="text"/> L2 Exit	<input type="text"/> L3 Burg Bell	<input type="text"/> L4 Fire Bell								
09	Zone 1	<input type="text"/> L1 Zone	<input type="text"/> L2 Type	<input type="text"/> L3 CS	<input type="text"/> L4 Code								
10	Zone 2	<input type="text"/> L1 Zone	<input type="text"/> L2 Type	<input type="text"/> L3 CS	<input type="text"/> L4 Code								
11	Zone 3	<input type="text"/> L1 Zone	<input type="text"/> L2 Type	<input type="text"/> L3 CS	<input type="text"/> L4 Code								
12	Zone 4	<input type="text"/> L1 Zone	<input type="text"/> L2 Type	<input type="text"/> L3 CS	<input type="text"/> L4 Code								
13	Zone 5	<input type="text"/> L1 Zone	<input type="text"/> L2 Type	<input type="text"/> L3 CS	<input type="text"/> L4 Code								
14	Zone 6	<input type="text"/> L1 Zone	<input type="text"/> L2 Type	<input type="text"/> L3 CS	<input type="text"/> L4 Code								
15	Ambush/AC Loss	<input type="text"/> L1 Ambush	<input type="text"/> L2	<input type="text"/> L3 AC Loss	<input type="text"/> L4								
16	Panic/Low Battery	<input type="text"/> L1 Panic	<input type="text"/> L2	<input type="text"/> L3 Low Battery	<input type="text"/> L4								
17	Open Close Test	<input type="text"/> L1 Open	<input type="text"/> L2 Close	<input type="text"/> L3	<input type="text"/> L4 Test								

- CONTROLLED ZONES**
- 10 Perimeter
  - 11 Perimeter, Restore
  - 12 Perimeter, Day
  - 13 Perimeter, Day, Restore
  - 14 Perimeter, Chime
  - 15 Perimeter, Chime, Restore
  - 18 Perimeter, Dial Delay
  - 19 Perimeter, Restore, Dial Delay
  - 1A Perimeter, Day, Dial Delay
  - 1B Perimeter, Day, Restore, Dial Delay
  - 1C Perimeter, Chime, Dial Delay
  - 1D Perimeter, Chime, Restore, Dial Delay

- SYSTEM DEFAULTS**
- QUESTION**
- 00 Installer Code
  - 01 Phone #1
  - 02 Phone #2
  - 03 Callback Number
  - 04 Dialer Options
  - 05 Kpad options
  - 06 Account #1
  - 07 Account #2
  - 08 Timeouts
  - 09 Zone #1
  - 10 Zone #2
  - 11 Zone #3
  - 12 Zone #4
  - 13 Zone #5
  - 14 Zone #6
  - 15 System Codes
  - 16 System Codes
  - 17 System Codes
  - 18 System Codes
  - 19 System codes
  - 21 Zone 1 Descriptor
  - 22 Zone 2 Descriptor
  - 23 Zone 3 Descriptor
  - 24 Zone 4 Descriptor
  - 25 Zone 5 Descriptor
  - 26 Zone 6 Descriptor

### L1 - DIALER FORMATS

DEFAULT: 1

- 0 Pulse Dialing, Standard Format or 4X2
- 1 Touch Tone Dialing, Standard format or 4X2
- 2 Pulse Dialing, Extended Format
- 3 Touch Tone Dialing, Extended Format
- 4 Pulse Dialing, Partial Extended Format
- 5 Touch Tone Dialing, Partial Extended Format
- 8 No Dialer (Local Alarm only)

### L2 - RECEIVER TYPE

DEFAULT: 6

VALUE	DESCRIPTION
0 =	10 PPS, 1400 Hz., No Parity
1 =	10 PPS, 1400 Hz, Parity
2 =	10 PPS, 2300 Hz, No Parity
3 =	10 PPS, 2300 Hz, Parity
4 =	20 PPS, 1400 Hz, No Parity
5 =	20 PPS, 1400 Hz, Parity
6 =	20 PPS, 2300Hz., No Parity
7 =	20 PPS, 2300 Hz, Parity
8 =	40 PPS, 1400 Hz, No Parity
A =	40 PPS, 2300 Hz, No Parity
B =	40 PPS, 2300 Hz, Parity

### TYPICAL CS RECEIVERS

FBI, Ademco Slow, Silent Knight Slow  
FBI  
FBI  
FBI, Silent Knight Fast, ADCOR, ADEMCO 685  
FBI, Radionics Slow (1400)  
FBI, Franklin, SESCO, DCI, Quikcalert, Varitech  
FBI, Radionics Slow (2300)  
FBI  
FBI  
FBI, Radionics Fast (2300)

### L4 - SYSTEM OPTIONS

Default = 1

- 0 = Silent Panic
- 1 = Audible Panic
- 2 = Silent Panic, Split Reporting
- 3 = Audible Panic, Split Reporting
- 4 = Silent Panic, 24 Hr Test
- 5 = Audible Panic, 24 Hr Test
- 6 = Silent Panic, Split Reporting, 24 Hr Test
- 7 = Audible Panic, Split Reporting, 24 hr Test
- 8 = Silent Panic, Bell Test
- 9 = Audible Panic, Bell Test
- A = Silent Panic, Split Reporting, Bell Test
- B = Audible Panic, Split Reporting, Bell Test
- C = Silent Panic, 24 Hr Test, Bell Test
- D = Audible Panic, 24 hr Test, Bell Test

### L3 - MESSAGE LENGTH

- 0 = 3 x 1 3 digit account, 1 digit event code, no bell lockout
- 2 = 4 x 1 4 digit account number, 1 digit event code, no bell lockout
- 6 = 4 x 2 4 digit account number, 2 digit event code, no bell lockout
- 8 = 3x1, with bell lockout
- A = 4x1, with bell lockout
- E = 4x2, with bell lockout

### 24 HOUR ZONES

- 20 Delay
- 21 Delay, Restore
- 24 Delay, Chime
- 25 Delay, Chime, Restore
- 40 Interior
- 41 Interior, Restore
- 44 Interior Chime
- 45 Interior, Chime, Restore
- 48 Interior, Dial Delay
- 49 Interior, Restore, Dial Delay
- 4C Interior, Chime, Dial Delay
- 4D Interior, Chime, Restore, Dial Delay
- 81 Alarm Audible
- 89 Alarm Silent (no LED, sounder, bell)
- 91 Alarm, Restore
- 99 Hold-Up, Restore
- 8A Trouble, Silent (LED indication only)
- 92 Trouble, Audible, Restore
- 84 Fire
- 94 Fire, Restore

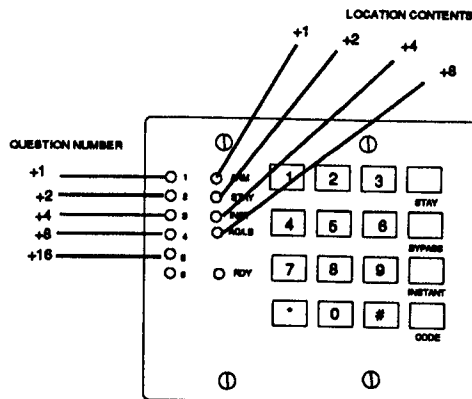
### SUMMARY OF SYSTEM PROGRAMMING

FUNCTION	KEYSTROKES
ENTER PROGRAMMING MODE	CODE * [INSTALLER CODE]
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

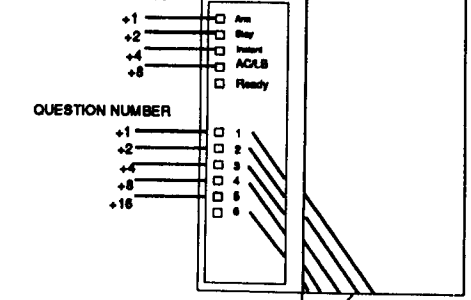
### DEFAULT

4600  
234AAAAAAAAA  
AAAAAAAAAAAA (none)  
AAAAAAAAAAAA (none)  
Touch Tone, 20PPS, 2300hz, 3x1, Audible Panic  
Keypad panic & Auto unbyypass enabled  
1234  
AAAA (null)  
Entry Delay = 30 sec., Exit Delay = 60 seconds  
Burg Bell Cutoff = 15 minutes, Fire Bell Cutoff = No Timeout  
Delay (20) Code = 31  
Interior (40) Code = 32  
Perimeter (10) Code = 33  
Perimeter (10) Code = 34  
Perimeter (10) Code = 35  
Fire (84) Code = 16  
Ambush = AA (null) AC Loss = AA (null)  
Panic = 22 Low Battery = AA (null)  
Open = A (null) Close = A (null) Test Code = AA (null)  
Bypass = A (null) Restore = E Trouble = F  
Keypad fire = AA (null) Keypad Aux = AA (null)

- ZONE 1 (LCDP Keypad Only)
- ZONE 2 (LCDP Keypad Only)
- ZONE 3 (LCDP Keypad Only)
- ZONE 4 (LCDP Keypad Only)
- ZONE 5 (LCDP Keypad Only)
- ZONE 6 (LCDP Keypad Only)



### LOCATION CONTENTS



In the diagrams above 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
- Zone 1 ON, Zone 2 ON, Zones 3-5 OFF
- Zone 2 ON, Zone 3 ON, Zone 4 ON, Zones 1 and 5 OFF

- = QUESTION 01
- = QUESTION 03
- = QUESTION 14

## **FBI LIMITED WARRANTY**

Fire Burglary Instruments, Inc., a Subsidiary of Pittway Corporation, and Pittway Corporation its parents, subsidiaries, divisions and affiliates ("Seller") warrants its products to be in conformance with its own plans and specifications and to be free from defects in materials and workmanship under normal use and service for 18 months from the date stamp control on the product, or for products not having a date stamp, for twelve months from the date of original purchase unless the installation instructions or catalog sets forth a shorter period, in which case the shorter period shall apply. Seller's obligation shall be limited to repairing or replacing, at its option, free of charge for materials or labor, any part which is proved not in compliance with Seller's specifications or proves defective in materials or workmanship under normal use and service. Seller shall have no obligation under this Limited Warranty or otherwise if the product is altered or improperly repaired or serviced by anyone other than Seller. For warranty service, return transportation prepaid, to Factory Service, 149 Eileen Way, Syosset, New York 11791.

THERE ARE NO WARRANTIES, EXPRESSED OR IMPLIED, OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. IN NO CASE SHALL SELLER BE LIABLE TO ANYONE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, OR UPON ANY OTHER BASIS OF LIABILITY WHATSOEVER, EVEN THE LOSS OR DAMAGE IS CAUSED BY ITS OWN NEGLIGENCE OR FAULT.

Seller does not represent that the products it sells may not be compromised or circumvented; that the products will prevent any personal injury or property loss by burglary, robbery, fire or otherwise; or that the products will in all cases provide adequate warning or protection. Customer understands that a properly installed and maintained alarm system may only reduce the risk of a burglary, robbery, or fire without warning, but it is not insurance or a guarantee that such will not occur or that there will be no personal injury or property loss as a result. CONSEQUENTLY, SELLER SHALL HAVE NO LIABILITY FOR ANY PERSONAL INJURY, PROPERTY DAMAGE OR OTHER LOSS BASED ON A CLAIM THE PRODUCT FAILED TO GIVE ANY WARNING. However, if Seller is held liable, whether directly or indirectly, for any loss or damage arising under this Limited Warranty or otherwise, regardless of cause or origin, Seller's maximum liability shall not in any case exceed the purchase price of the product, which shall in no case exceed the purchase price of the product, which shall be the complete and exclusive remedy against Seller.

### **"FEDERAL COMMUNICATIONS COMMISSION (FCC) STATEMENT"**

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

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

- Reorient the receiving antenna until interference is reduced or eliminated.
- Move the radio or television receiver away from the control/communicator.
- Move the antenna leads away from any wire runs to the control/communicator.
- Plug the control/communicator into a different outlet so that it and the radio or television receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions.

The user may find the following booklet prepared by the Federal Communications Commission helpful:

"Interference Handbook"

This booklet is available from the U.S. Government Printing Office, Washington, DC 20402. Stock No. 004-000-00450-7.

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

### **IN THE EVENT OF TELEPHONE OPERATIONAL PROBLEMS**

In the event of telephone operational problems, disconnect the communicator by removing the plug from the RJ31x jack. Do not disconnect the phone connection inside the communicator. Doing so will result in the loss of the phone works correctly after the communicator has been disconnected from the phone lines, the communicator has a problem and should be returned for repair.

If upon disconnecting the communicator, there is still a problem on your line, notify the telephone company that they have a problem and request prompt repair service. The user may not under any circumstances (in or out of warranty) attempt any service or repairs on the system. It must be returned to the factory or an authorized service agency for all repairs.