

XL-I

Hookup and Installation Instructions



FIRE BURGLARY INSTRUMENTS, INC.

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N9112VI 12/92
O 1992 FBX

XL-1

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IMPORTANT

For UL installations, failure to install and program this unit in accordance with UL requirements is a violation of the Listing Mark. For more information on the UL Listing, contact Underwriters Laboratories, Inc., Progress Dept., 333 Pfingsten Rd., Northbrook, IL 60062, (312) 272-8800.

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1. INTRODUCTION

The XL-I is a state-of-the-art EEPROM based control/communicator. It is UL Listed for Household Fire and Burglar Alarm installations per UL Standards UL985 and UL1023. The system features six fully programmable zones as well as a wired panic zone. Programming can be performed through the keypad. The XL-I contains up to six user codes with an ambush code capability. A variety of LED and LCD keypads are available, with a maximum of four keypads per system.

2. SYSTEM WIRING AND HOOKUP

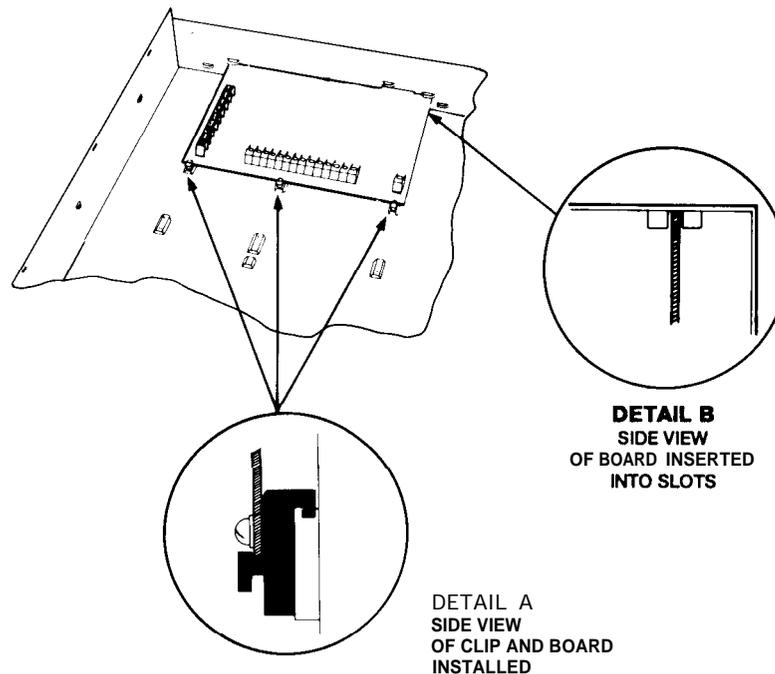
2.1. PC BOARD MOUNTING

Note: During installation, the door of the enclosure can be removed temporarily to gain unrestricted access to the interior of the control panel:

- 1) Open the door to its fully extended position (approximately 90 degrees).
- 2) Lift the door to remove it from the enclosure.

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 (provided) on the raised cabinet tabs, as shown in Detail A below. 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 correct row of slots as indicated in Detail B below.
3. Swing the base of the board onto the mounting clips and secure the board to the cabinet, using the screws provided, as shown in Detail A.

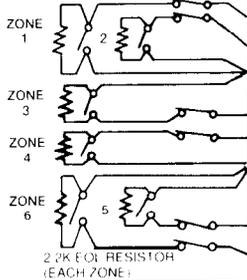




XL-1 →

WARNING

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



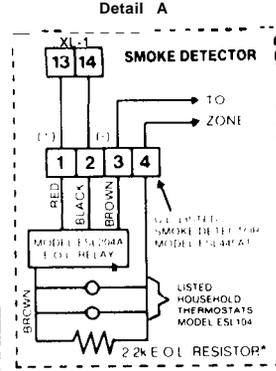
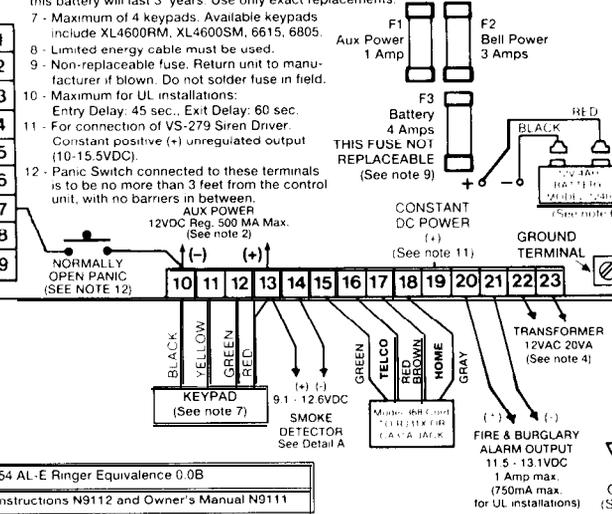
ZONE	TERMINALS	
	(+)	(-)
1	1	3
2	2	3
3	4	3
4	5	6
5	8	6
6	9	6
PANIC	7	10

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.



DOWNLOAD PIN: To perform local UPLOADS/ DOWNLOADS, short JP2 to P1 prior to operation through EZ-Mate programmer.

- NOTES**
- 1 - Connect to a grounded metal cold water pipe (1/6 ga at 15 feet).
 - 2 - Total **AUX power** available (including keypad power) is 500mA max. (for UL installations, 200mA max with 20VA transformer). 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 Siren Driver. Constant positive (+) unregulated output (10-15.5VDC).
 - 12 - Panic Switch connected to these terminals is to be no more than 3 feet from the control unit, with no barriers in between.



* 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.

CONTROL UNIT	20
SMOKE DETECTOR	20
ZONE	20

PRODUCT COVERED UNDER US PATENT 4,791,658

FCC Registration Number AE398E-69554 AL-E Ringer Equivalence 0.0B
References: Hookup and Installation Instructions N9112 and Owner's Manual N9111

2.2. TERMINAL CONNECTIONS

- 1 & 3 (-) Zone 1 (Requires 2.2K EOL resistor) [Default=DELAY]
- 2 & 3 (-) Zone 2 (Requires 2.2K EOL resistor) [Default=INTERIOR]
- 4 & 3 (-) Zone 3 (Requires 2.2K EOL resistor) [Default=PERIMETER]
- 5 & 6 (-) Zone 4 (Requires 2.2K EOL resistor) [Default=PERIMETER]
- 8 & 6 (-) Zone 5 (Requires 2.2K EOL resistor) [Default=PERIMETER]
- 9 & 6 (-) Zone 6 (Requires 2.2K EOL resistor) [Default=FIRE]

ZONE INFORMATION

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

7 & 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.
NOTE: E.O.L. resistor is not required on this zone.

10 11 12 13 KEYPADS:

A maximum of 4 keypads, either XL4600SM, 6805 or 6615 may be wired to these terminals. The connections are as follows: 10 (BLACK = negative power) 11 (YELLOW = Data In), 12 (GREEN = Data Out), 13 (RED = Positive Power). Each LED based keypad draws approximately 30mA. Maximum keypad wiring length is 500 feet total using 22 gauge wire.

10 (-) & 13 (+) REGULATED POWER (13.8VDC):

The total regulated output power for motion detectors and other external devices is 500mA at 13.8VDC (200mA for UL installations), with less than 100 mVPP ripple. The total regulated output capacity of the XL-I includes the power available to the keypads, auxiliary devices, and smoke detectors. NOTE: This output is connected to the aux fuse (F1).

13 (+) 14 (-) SMOKE DETECTOR POWER:

This system will accept 12VDC four (4) wire smokedetectors only. Approximately 50mA of current is available at these terminals for powering all detectors and an E.O.L. relay FBI model 620. These terminals adhere to the fire verification and reset logic which is explained in the Zone types section of this manual. Manual reset of smoke detector power can be accomplished by entry of any valid user code after clearing alarm memory. NOTE: If a fire protection is desired then zones used for fire protection must be programmed as fire zones.

15 16 17 18 TELEPHONE LINE:

Connect the FBI model 368 cord as follows: 15 (GREEN = Telco Tip), 16 (RED = Telco Ring), 17 (BROWN = Home Tip), 18 (GREY = Home Ring). Insert the modular plug into an approved USOCRJBIX jack (or a CA31A jack for Canadian installations).

The FCC registration number is (AE398E-69554 AL-E), and the ringer equivalence is (0.0B). This XL-1 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.

19 (+) CONSTANT DC POWER

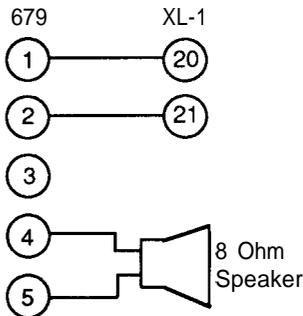
This terminal delivers constant unregulated 10.0-15.5VDC power for devices requiring a constant power such as a VS279 or VS299. This terminal is connected to the bell fuse (F3).

20 (+) & 21 (-) BELL OUTPUT

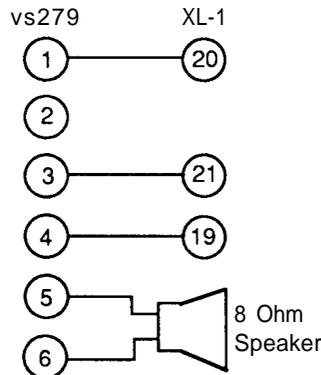
The total output power available for sounding devices is 1 amp at 10.5-15.5VDC (750mA for UL installations). These terminals will deliver constant output on BURGLARY, AUDIBLE PANIC and BELL TEST. On a FIRE condition, a PULSED output will be generated. There are separate bell cutoff times programmable for BURGLARY and FIRE conditions within the programming sequence.

NOTE: For UL applications, use only one speaker. For UL Household Fire Warning System, the speaker is required to be mounted indoors, for best audibility.

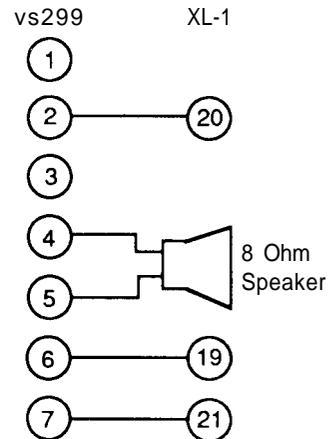
Model 679 Connections (See Hookup and Installation: FI-2231)



Model VS279 Connections (See Hookup and Installation: FI-2292)



Model VS299 Connections (See Hookup and Installation: N9080)



GROUND EARTH GROUND:

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

22 & 23 TRANSFORMER:

Connect an FBII 12VAC, 20VA transformer, utilizing 18 AWG 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 GEL CELL, to serve as backup power in case of AC loss.

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

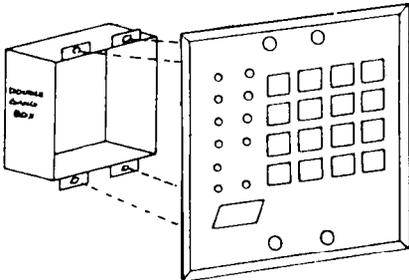
GROUND START TELCO SERVICE

Ground fault capability can be added to the system by the addition of FBI Model 117 module. Consult the 117 Installation Instructions for hookup information. NOTE: Model 117 has not been tested for UL applications.

3. KEYPAD MOUNTING

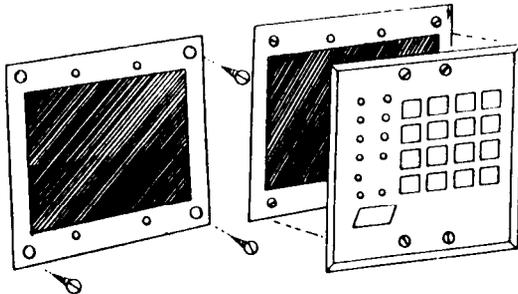
3.1. XL4600RM METAL KEYPAD INSTALLATION

FLUSH MOUNTING USING DOUBLE GANG BOX



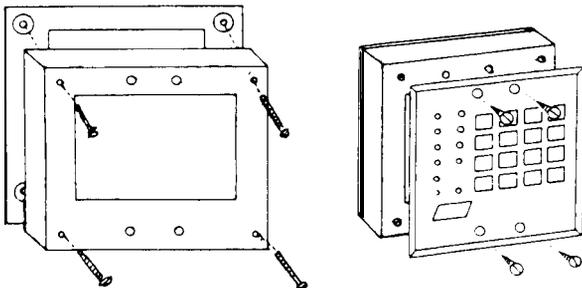
- 1- Create an opening and mount a standard double gang box.
- 2- Secure keypad to double gang box as shown in diagram below. Note: The double gang box should be mounted flush with the wall in order for the keypad screws to fit.

FLUSH MOUNTING WITH MOUNTING RING (Using the XL4600TR)



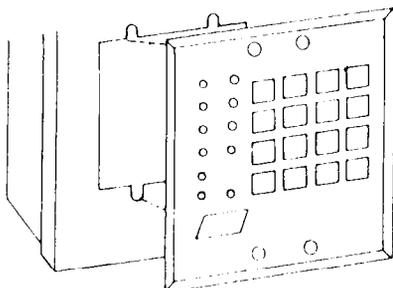
- 1- Create the desired opening where keypad is to be mounted, using the inside of the mounting ring as a template. NOTE: The opening should be made between the studs.
- 2- Secure mounting plate to wall through the four outer holes using suitable mounting hardware (not provided).
- 3- Connect keypad wiring to control panel and secure the keypad to the mounting ring using the four painted screws provided with the keypad.

SURFACE FLUSH MOUNTING (Using the optional XL4600RMBX)



- 1- Depending upon the type of installation, run the keypad wiring out of the rear, top, bottom, or sides of the backbox.
- 2- Attach the backbox to the wall at the 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 the front of the metal box enclosure as shown.
- 2- Insert the XL4600RM into the opening from front of the enclosure.
- 3- Secure the keypad to the enclosure using the four painted metal screws and nuts provided.

3.2. XL4600SM KEYPAD INSTALLATION

The XL4600SM 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.

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

2. **Mount the rear plate (see REAR PLATE Diagram).**
 Note: The plate is correctly oriented when its part number (N6054), 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 REAR PLATE Diagram) and the four screws and nuts provided.

Note: Certain attack-proof enclosures are not provided with 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 screws provided and HOLES "B" for a single gang box or HOLES "A" for a double gang box.

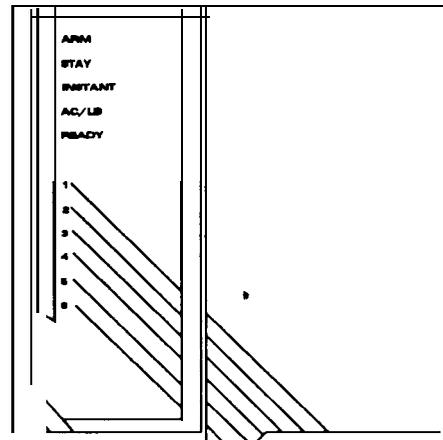
C. **MOUNTING DIRECTLY TO WALL OR OTHER SURFACE:**
 For *exposed wiring*, BREAK-AWAY RIBS are provided along the lower edge of the plate, to facilitate wiring entry (see Diagrams).

For *concealed wiring*, provide a wiring hole in the mounting surface at position the plate's WIRING OPENING over the hole when mounting.

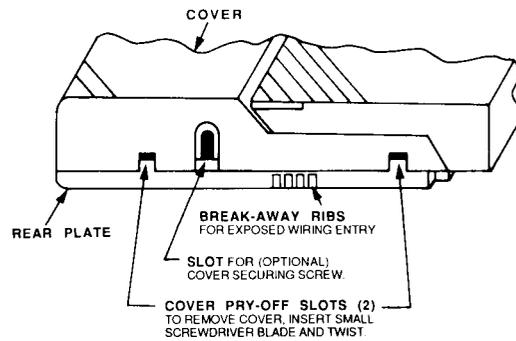
Mount the plate, using HOLES "A" and/or "B" in conjunction with appropriate mounting hardware (not provided) for the type of surface.

3. **Complete the keypad wiring** as required for the control.

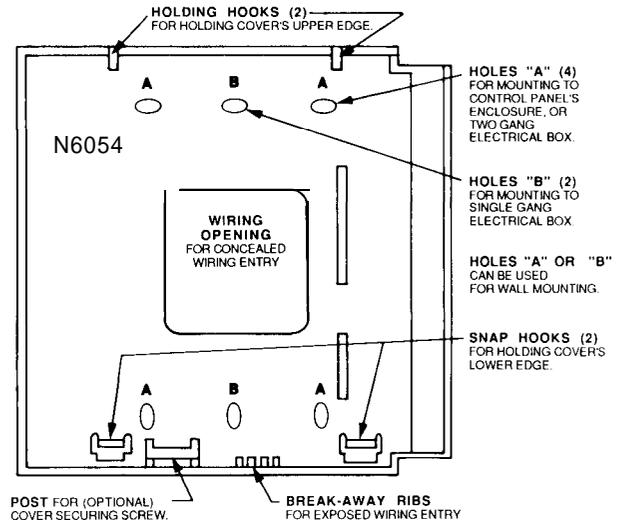
4. **Replace the keypad cover assembly on the rear plate.** Starting at the upper edge of the plate, engage the plate's two HOLDING HOOKS (see REAR PLATE Diagram) into the recesses provided for them inside the upper edge of the cover assembly and snap the lower edge of the cover on to the two SNAP HOOKS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



XL4600SM



BOTTOM VIEW OF KEYPAD



REAR MOUNTING PLATE

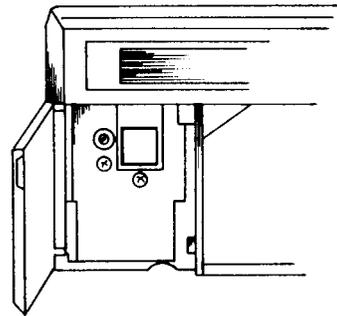
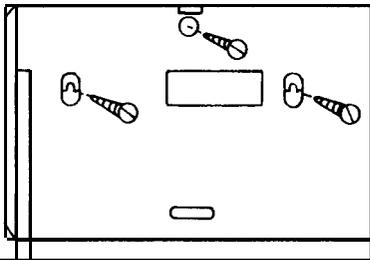
3.3. 6615/6805 KEY PAD INSTALLATION

Mounting is identical for both the LED keypad (model 6615) and the LCD keypad (model 6805). The key pads can either be surface mounted or recessed mounted as shown below:

NOTE: The LCD keypad (model 6805) contains an adjustment screw which controls the intensity of the display. After system installation, adjust this screw (located behind the keypad' s door) to maximize display readability.

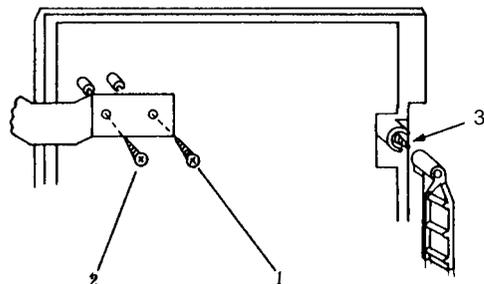
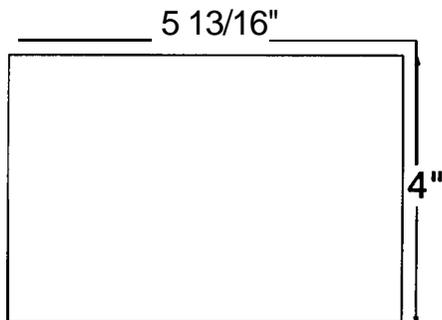
SURFACE MOUNTING

1. Select the desired keypad location and place the plastic rear plate of the keypad on the wall. Mark the location of the cutout for the keypad wiring cable.
2. Create an opening for the keypad wiring in the location previously marked. Run the keypad wiring using the four wire connector provided with the control panel.
3. Place the keypad wiring through the cutout provided and secure the keypad backplate to the wall through the holes provided (see diagram).
4. Connect the keypad wiring connector to the keypad and place the keypad on the mounting plate attached to the wall.
5. Secure the keypad to the rear mounting plate by attaching the 5/8 inch screw (provided) in the lower hole, located behind the keypad door.

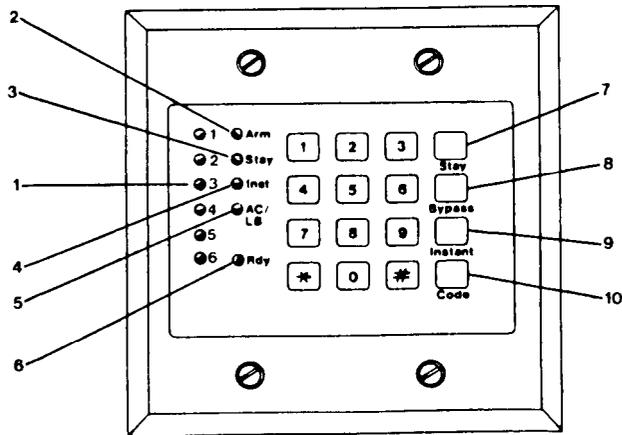


RECESSED MOUNTING

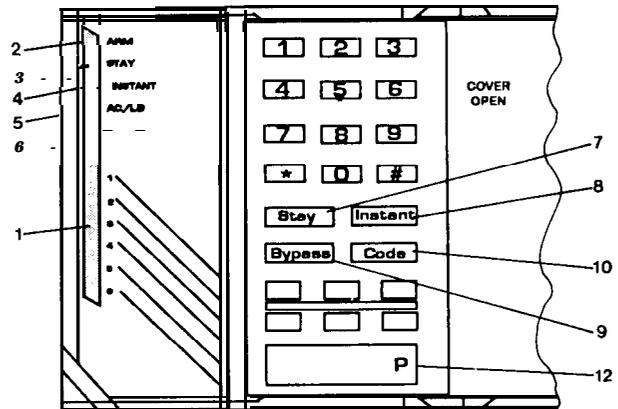
1. Select the desired location for mounting the keypad. For recessed mounting, this must be between two studs. *The rear plastic mounting plate is not used for recessed installations.*
2. Create an opening in the wall exactly 4 inches high by 5-1 3/16 inches wide.
3. Turn over the keypad and remove the Phillips head screw (item 1 on diagram) at the upper left hand corner of the keypad' s printed circuit board. *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 hook section of the mounting strap toward the front of the keypad. This will later be used to grip the inside of the wall.
 - Place a small white plastic spacer underneath the mounting strap. Secure the mounting strap, using the 5/8 inch Phillips head screw (supplied with the keypad mounting hardware) and the plastic spacer at location 1.
5. Insert the white plastic tab into the round opening immediately behind the keypad door. (diagram location 3) Place the longer Phillips head screw (provided) into the hole in the tab from the front of the keypad (behind the door) and just begin to tighten the screw, leaving the tab loose and pointing downward.
6. Attach the keypad' s wiring.
7. Place the keypad into the wall opening. Insert the edge with the black metal strap first, using the strap' s hook as a spring to grab the inside of the wall.
8. Insert the other edge of the keypad, straighten the keypad, and hold it in place.
9. Open the keypad door and completely tighten the screws inserted in step 5. The tab behind the keypad will flip up and tightly grab the inside of the wall.



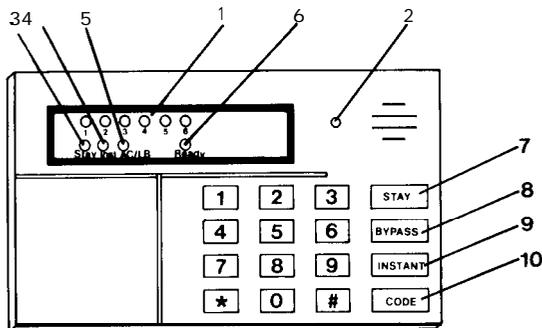
4. KEYPAD LAYOUT



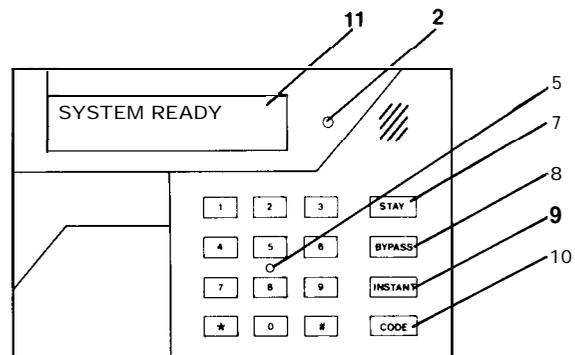
XL4600RM Keypad



XL4600SM Keypad



6615 LED Keypad



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. OFF).

TROUBLES

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

BYPASSES

Wink (1 00 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 = All delay zones are currently INSTANT; OFF = All delay zones are currently 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 BUT-I-ON

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.

11) LCD DISPLAY

The LCD display shows the current status in a two line by sixteen character format.

12) KEYPAD AUXILIARY KEYS

Simultaneous depression of the two keys labeled "P" can initiate transmission of a silent or audible panic, as programmed.

4.1 KEYPAD SOUNDER

The keypad sounder annunciates differently to indicate the following conditions:

CHIRP Keypad will make a steady sound during entry time, and/or during burglary alarm.

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 command, 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 SOUNDERS 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 the keys are pressed. This is an indication that service is required.

5. SYSTEM OPERATIONS

5.1. POWER UP/SYSTEM RESET

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

5.2. ARMING THE SYSTEM

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

ARMING:

Enter any programmed four digit user code. NOTE: The factory default user #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.

5.3. STAY ARMING

Depress the STAY button followed by a four digit user code. The ARMED and the STAY LEDs will light. The system is armed at this time with all programmed interior zones excluded.

5.4. INSTANT ARMING

Depress the INSTANT button followed by a four digit user code. The ARMED and the INSTANT LEDs will light. The system is armed at this time with all programmed delay zones instant.

5.5. INSTANT-STAY ARMING

Depress the INSTANT then STAY buttons followed by a four digit user code. The INSTANT-STAY mode will arm the system with the characteristics of both the INSTANT and the STAY modes. The system will be armed with the interior zones bypassed and the delay zones instant.

5.6. DISARMING

Depress any four digit user code. The ARMED LED will extinguish. If an alarm condition exists or had occurred while the system was armed, the respective zones LEDs and the READY LED will be blinking rapidly. This condition is classified as ALARM MEMORY and can be cleared through entry of a valid user code.

5.7. 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.

5.8. BY PASS

Bypassing is performed to temporarily exclude zones which are faulty or not ready from activating the system. Depress the BYPASS button followed by a valid four digit user code, followed by 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 within a 10 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 exist for Bypass:

- FIRE zones cannot be bypassed.
- 24 hour zones can be bypassed, however they CANNOT be unbypassed if they are violated.
- Zones can only be bypassed while the system is disarmed, at which time visual indication will be displayed.
- Bypass signals will be transmitted to the Central Station UPON ARMING if a bypass code has been programmed.
- **IMPORTANT:** ZONES WHICH ARE BYPASSED ARE NOT PROTECTED WHEN THE SYSTEM IS ARMED.

5.9. AUTO UNBYPASS

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

5.10. MANUAL UNBYPASS

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

5.11. USER CODE PROGRAMMING

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

The XL-I contains up to six user codes (4 digits each) with the following applications:

USER NUMBER	APPLICATION
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]
6	Ambush Code or User #6 [Default = null]

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

USER DEFINITION PROCEDURE:

CODE [USER] [USER#] [USER ID]

where:

CODE	Code button on keypad
[USER]	Master User ID code (user #1)
[USER#]	Desired user to be programmed (1-6)
[USER ID]	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.

5.12. USER DELETION

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

USER DELETION PROCEDURE: CODE key [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.

5.13. KEYPAD PANIC

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 upon the programming option. NOTE: The default value for panic is audible. Audible panic can be RESET BY ENTERING ANY VALID USER CODE.

On the XL4600SM keypad, simultaneous depression of the two keys marked "P" will produce the same results.

6. SYSTEM PROGRAMMING

The system can be programmed through the LED or LCD keypads.

Keypad programming is accomplished by understanding and completing the PROGRAMMING SHEET located on the back cover of this manual. There are 17 total programming questions numbered 00-16. 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.

7. PROGRAMMING QUESTIONS XL-1

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 (Section 9).

QUESTION 01 PRIMARY TELEPHONE NUMBER DEFAULT: 234AAAAAAAAAAAAA

Enter the telephone number (including area code or prefix IF NECESSARY) of the primary central station receiver in L1 -L16. Valid dialing digits are O-9, B=*, and C= three second pause. An entry of the digit A signifies the end of a 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: AAAAAAAAAAAAAA

Enter the telephone number (including area code or prefix IF NECESSARY) of the secondary central station receiver in L1 -L16. Valid dialing digits are O-9, B=*, and C= three second pause. An entry of the digit A signifies the end of a phone number.

A 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 is programmed, then OPENING and CLOSING signals will be directed to the secondary CS number only, while all other conditions are reported to the primary telephone number only.

If neither split nor 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 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 Formats

L3 = Message length (ie: 3x1, 4x1,4x2)

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

DESCRIPTION OF SYSTEM OPTIONS

Silent/Audible Panic - Determines whether the panic zones (keypad panic and the hardwired panic) will activate the bell. In either case a signal will be transmitted to the Central Station if a panic code has been programmed.

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.

Bell Test - If this option is selected, the bell will be activated for one second upon successful arming.

QUESTION 04 ACCOUNT NUMBER 1 DEFAULT :1234

Enter the three (3) or four (4) digit subscriber acct 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 O-9, and B-F. The value A is interpreted as the null value for account numbers.

QUESTION 05 ACCOUNT NUMBER 2 DEFAULT : AAAA

Enter the three (3) or four (4) digit subscriber acct 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 O-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 06 SYSTEM TIMEOUTS

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

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 installations, the entry delay shall not exceed 45 seconds.

L2 EXIT DELAY DEFAULT : 4

Enter the desired exit 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 installations, the exit delay shall not exceed 60 seconds.

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 infinite burg bell cutoff. For example 3 = 9 minutes. For UL installations, the burglary bell cutoff shall not be less than 4 minutes.

L4 FIRE BELL CUTOFF

DEFAULT : F

Enter the desired Fire Bell Cutoff time for fire conditions in three minute intervals. The valid range of input is 1 - F, with F indicating infinite fire bell cutoff. For example 3 = 9 minutes. For UL installations, the fire bell cutoff shall not be less than 4 minutes.

7.1. ZONE PROGRAMMING

Questions 07 - 12 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.

PERIMETER Interior zones will automatically be bypassed if the system is armed in the STAY mode. 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 program 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, the 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 a zone LED will pulse as long as the violation remains. In addition, the SYSTEMTROUBLE CODE will be transmitted to the central station. THE SOUNDER CAN BE SILENCED through entry operation of any valid user code.

24 HOUR ZONES

FIRE FIRE zones 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 two 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 cannot be bypassed.

24 HOUR ZONES

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. NOTE: 24Hr silent alarm zones are not to be used for perimeter protection.

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 must exist for 15 seconds before a transmission will occur. The keypad display and sounder will clear upon zone restoral. Hour Trouble zones can be bypassed , however they cannot be unbypassed if a violation exists on the zone terminals. THE SOUNDER MAY BE SILENCED THROUGH ENTRY OF ANY VALID USER CODE. NOTE: 24 Hr trouble zones are not to be used for fire or burglary detection.

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
13 Perimeter, Day, Restore	40 Interior	99 Hold-Up, Restore
14 Perimeter, Chime	41 Interior, Restore	8A Trouble, Silent
15 Perimeter, Chime, Restore	44 Interior Chime	(LED indication only)
18 Perimeter, Dial Delay	45 Interior, Chime, Restore	92 Trouble, Audible, Restore
19 Perimeter, Restore, Dial Delay	48 Interior, Dial Delay	9A Silent Trouble, Restore
1A Perimeter, Day, Dial Delay	49 Interior, Restore, Dial Delay	84 Fire
1B Perimeter, Day, Restore, Dial Delay	4C Interior, Chime, Dial Delay	94 Fire, Restore
1 C Perimeter, Chime, Dial Delay	4D Interior, Chime, Restore, Dial Delay	
1 D Perimeter, 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. All zones will transmit to the Central Station unless 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 (acct 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 123 3 333 4 Enter 3 in L3,4 in L4.

PARTIAL EXTENDED: Enter the desired first digit of the alarm code in location 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 4 in 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 and 2 in L4.

QUESTION 07 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.

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

QUESTION 08 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 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.

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

QUESTION 09 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 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.

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

QUESTION 10 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 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.

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

QUESTION 11 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 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.

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

QUESTION 12 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 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.

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

QUESTION 13 AMBUSH/AC LOSS

There are 4 locations 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 14 PANIC/LOW BATTERY

There are 4 locations in this question. L1-L2 is the alarm code that will be transmitted on PANIC. The code will be transmitted for KEYPAD as well as HARDWIRE PANIC. 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
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 15 OPEN/CLOSE, 24 HR. TEST CODE

There are 4 locations in this question. L1 is the single digit OPENING CODE. L2 is the single digit closing code. Entry of AA into these 2 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.

<u>LOCATIONS</u>		<u>DEFAULTS</u>
L1	OPENING CODE	A
L2	CLOSING CODE	A
L3-L4	24 HR TEST	AA

QUESTION 16 BYPASS/RESTORE/TROUBLE/FUTURE

There are 4 locations (L1-L4) in this question. L1 is the single digit BYPASS CODE that, upon arming, will be reported to the central station if a zone is bypassed. Entry of an A means that bypasses are not desired. If a two digit dialing has been selected then the Bypass code will be followed by the second digit of the zones code.

L2 is the 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 dialer format has been programmed then this code will be followed by the programmed second digit of the respective zones code.

L4 is a spare location at this time that may be used in the future.

<u>LOCATIONS</u>		<u>DEFAULTS</u>
L1	BY PASS	A
L2	RESTORE	A
L3	TROUBLE	F
L4	SPARE/FUTURE	A

QUESTION 00 INSTALLER CODE

There are 4 locations (L1-L4) in this question. Enter any 4 digit installer code desired. This code is used to ENTER the system program mode via the keypad.

Typically, each installing company would use a unique installer code in order to prevent unauthorized access to their panels. NOTE: The factory default value for the installer code is 4600 in locations L1-L4 respectively.

8. DATA ENTRY VIA KEYPAD

This section describes the physical keystrokes necessary to perform keypad programming and how to interpret the data displayed on the 'LED or LCD keypad during programming operations. Actual keypad programming should be performed **after** completion of the programming sheet.

8.1. HOW TO ENTER PROGRAMMING MODE

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

DEPRESS the CODE button.

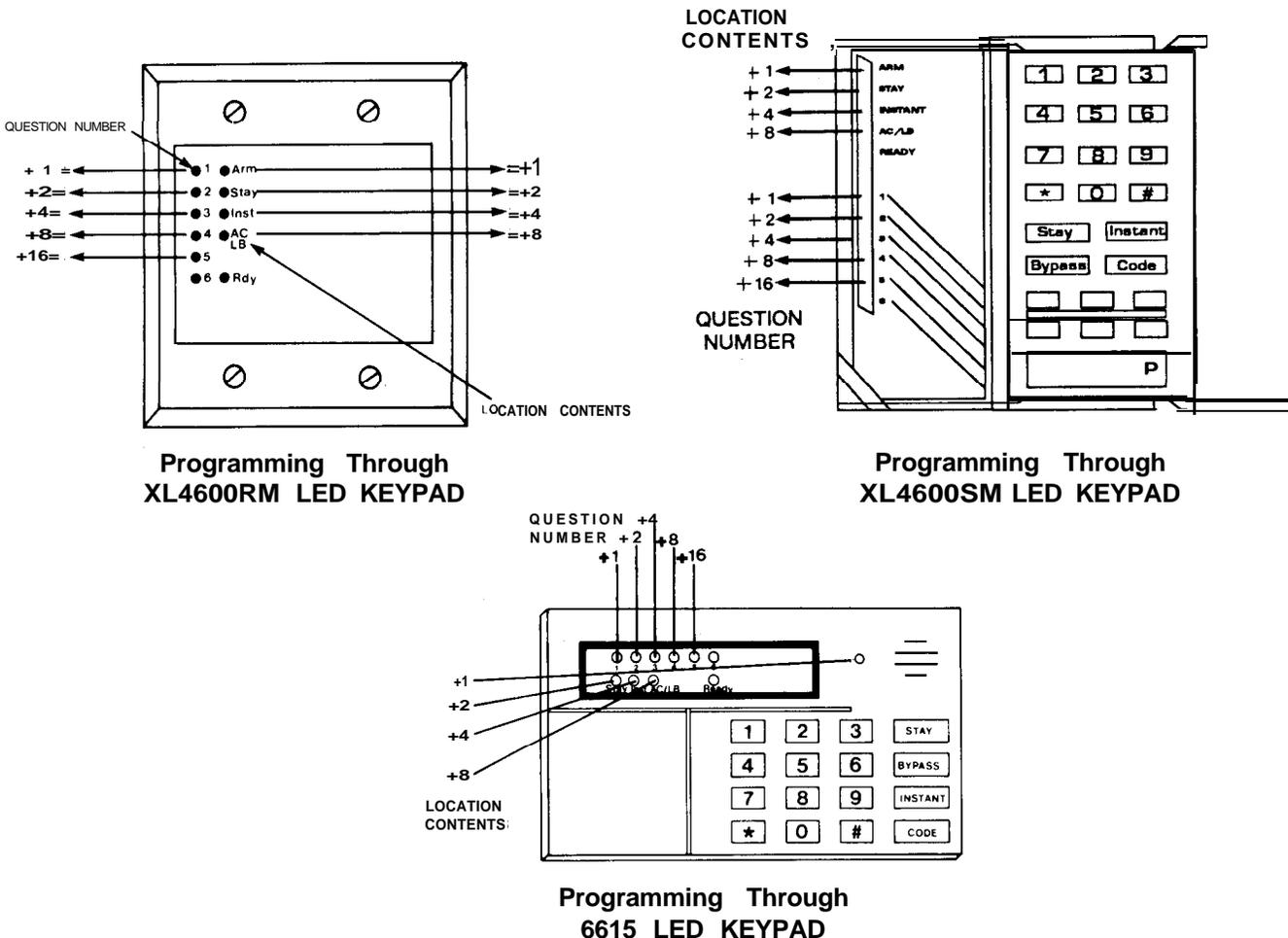
DEPRESS the * button. (asterisk)

ENTER the four digit INSTALLER CODE (default= 4600)

8.2. WHAT YOU SEE ON THE LED KEYPAD

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

QUESTION NUMBERS = **ZONE LEDS**: As previously stated, there are 17 total questions, each of which contains multiple data entry locations. Zone LEDS 1-5 display the current QUESTION NUMBER (not the specific location within each question) as follows:



In the diagrams above the **question number** is obtained by **ADDING** the values of all zone 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 1 ON, Zone 3 ON, Zone 4 ON, Zones 2 and 5 OFF = QUESTION 13

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

8.3. WHAT YOU SEE ON THE LCD KEYPAD

Upon entering the installer keypad programming mode, the following display will appear on the LCD keypad:

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.

8.4 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 *07

On an LED keypad, the proper question number will be displayed by the zone LEDS and other status LEDS will display the contents of the FIRST location in that question.

On an LCD keypad, the question number and location will be displayed as described in the previous section.

MOVEMENT WITHIN QUESTIONS Movement from location L1 to the next location within any question can be performed by depressing the # (POUND) BUTTON.

DATA ENTRY

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

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

Numeric entries 1-9 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: To enter an A, depress the CODE key followed by 1.

**LOCATION CONTENTS = SYSTEM STATUS LEDS ON LED KEYPAD,
OR AS SHOWN ON LINE 2 OF LCD KEYPAD DISPLAY**

EXIT SYSTEM PROGRAM MODE After all programming has been completed, depress the STAY button to exit the system programming mode. After approximately 10 seconds the system will return to normal daily operation.

QUESTION ACKNOWLEDGMENT The keypad will emit a beep between keystrokes. In addition, a beep will be generated confirming advancement between question 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: ● 05				
DATA ENTRY O-9	A-F entered as follows:				
A: CODE 1	B: CODE 2	C: CODE 3	D: CODE 4	E: CODE 5	F: CODE 6

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 type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- If using an indoor antenna, have a quality outdoor antenna installed.
- Reorient the receiving antenna until interference is reduced or eliminated.
- **Move** the radio or television receiver away from the 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 or installer may find the following booklet prepared by the Federal Communications Commission helpful:

"Interference Handbook"

This booklet is available under Stock No. 004-000-00450-7 from the U.S. Government Printing Office, Washington, DC 20402. *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 control panel by removing the plug from the RJ31X wall jack. We recommend that the installer demonstrate disconnecting the phones on installation of the system. Do not disconnect the phone connection inside the communicator. Doing so will result in the loss of the phone lines. If the regular 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 disconnection of the communicator, there is still a problem on the 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 to the system. It must be returned to the factory or an authorized service agency for all repairs.

WARNING!
THE 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 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 also 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. Finally, smoke detectors have sensing limitation. 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 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 diagrammed 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 those beams. They cannot detect motion or intrusion that takes place behind walls, ceilings, floors, closed doors, glass partitions, glass doors, or windows. 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 150°F, the detection performance can decrease.
- Alarm warning devices such as sirens, bells or horns may not alert people or wake up sleepers if they are located on the other side of closed or partly opened doors. If warning devices are located 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 appliance, or by passing traffic. Finally, alarm warning devices, however loud, may not warn hearing-impaired people.
- 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 20 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 the owner eligible for a lower insurance rate, 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.

XL-1 PROGRAMMING WORKSHEET

01 Primary Telco Number

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18				

02 Secondary Telco Number

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18				

03 Dialer Information

1	2	3	4

04 Account Number 1

1	2	3	4

05 Account Number 2

1	2	3	4

06 System Timeouts

1	2	3	4

07 Zone 1

1	2	3	4

08 Zone 2

1	2	3	4

09 Zone 3

1	2	3	4

10 Zone 4

1	2	3	4

11 Zone 5

1	2	3	4

12 Zone 6

1	2	3	4

13 Ambush/AC Loss

1	2	3	4

14 Panic/Low Battery

1	2	3	4

15 Open/Close Test

1	2	3	4

16 Bypass Rstr Trbl

1	2	3	4

00 Installer Code

1	2	3	4

Quest. 03 L1 DIALER FORMATS

- 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

Quest. 03 L2 RECEIVER TYPE

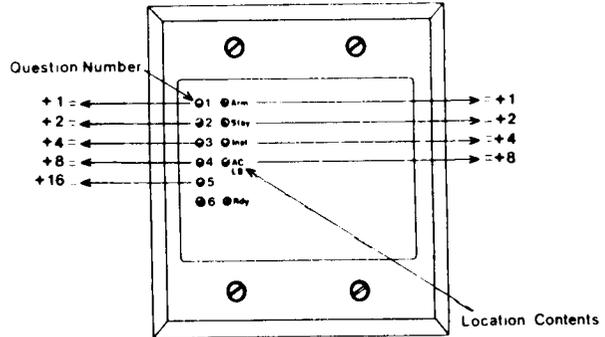
VALUE	DESCRIPTION	TYPICAL CS RECEIVERS
0=	10PPS, 1400Hz, No Parity	FBI, Ademco slow, Silent Knight Slow
1=	10PPS, 1400Hz, Parity	FBI
2=	10PPS, 2300Hz, No Parity	FBI
3=	10PPS, 2300Hz, Parity	FBI
4=	20PPS, 1400Hz, No Parity	FBI, Silent Knight Fast, ADCOR
5=	20PPS, 1400Hz, Parity	FBI, Radionics Slow (1400)
6=	20PPS, 2300Hz, No Parity	FBI, Frnkln, SESCOA, DCI, Quicalert, Varitech
7=	20PPS, 2300Hz, Parity	FBI, Radionics Slow (2300)
8=	40PPS, 1400Hz, No Parity	FBI
A=	40PPS, 1400Hz, No Parity	FBI
B=	40PPS, 2300Hz, Parity	FBI, Radionics Fast (2300)

Quest. 03 L3 MESSAGE LENGTH

- 1= 3x1: 3 digit account, 1 digit event code*
 - 2= 4x1: 4 digit account, 1 digit event code*
 - 4= 4x2: 4 digit account, 2 digit event code*
- *Add 8 to entry for Bell Lockout

Quest. 03 L4 SYSTEM OPTIONS

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



In the diagram above, the question number is obtained by adding the values of all lit zone LEDs. EX: Zn 1 ON, 2-5 OFF= Quest. 01

- D = Audible Panic, 24hr Test, Bell Test
- E = Silent Panic, Split Rptng, 24hr Test, Bell Test
- F = Audible Panic, Split Rptng, 24hr Test, Bell Test

ZONE TYPES

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

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

SYSTEM DEFAULTS

- | | |
|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| 00 Installer Code = 4600 | 07 Zone #1 = Delay (20) Code 31 |
| 01 Phone #1 = 234AAAAAAAAAAAAA | 08 Zone #2 = Interior (40) Code 32 |
| 02 Phone #2 = AAAAAAAAAAAAAAAAAA | 09 Zone #3 = Perimeter (10) Code = 33 |
| 03 Dialer Options = TTone, 20PPS, 2300hz, 3x1, Audible Panic | 10 Zone #4 = Perimeter (10) Code = 34 |
| 04 Acct #1 = 1234 | 11 Zone #5 = Perimeter (10) Code = 35 |
| 05 Acct #2 = AAAA | 12 Zone #6 = Fire (84) Code = 16 |
| 06 Timeout = Entry Delay = 30 sec, Exit Delay = 60 sec, Burg Bell cutoff = 15 min, Fire Bell = Infinite | 13 System Codes Ambush = AA (null) AC Loss = AA (null) |
| | 14 System Codes Panic = 22 Low Bat = AA (null) |
| | 15 System Codes Open = A (null) Close = A (null) |
| | 16 System Codes Bypass = A (null) Restore = E Trouble = F |

SUMMARY OF SYSTEM PROGRAMMING

Enter Prog Mode = Code* [Installer Code] Advance Between Locations = # Exit Prog Mode = Stay Go to Specific Question = * no. Data Entry = A-F as follows: A= CODE 1; B= CODE 2; C= CODE 3; D= CODE 4; E= CODE 5; F= CODE 6