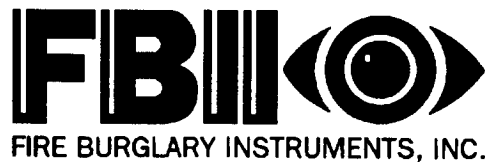


XL-21

Hookup and Installation Instructions



Subsidiary of Pittway Corp.
163 Eileen Way, Syosset, NY 11791

THANK YOU for your purchase of the FBII XL-21.

The purpose of the manual is to give you a brief overview of the XL-21 control panel, and provide instructions for installing a basic system. FBII is always available to serve YOU. Our SALES and TECHNICAL SUPPORT staff are available to assist you in any way possible.

**FOR SALES, REPAIRS
OR
TECHNICAL SERVICE,
CALL TOLL FREE:
(800) 645-5430**

Before you call Technical Service, be sure you:

- ♦ Check the wiring diagram and verify your connections.
- ♦ Check all fuses.
- ♦ Assure that the transformer and backup battery voltages are supplying the proper voltage levels.
- ♦ Verify your programming information.
- ♦ Read this manual thoroughly.
- ♦ Consult the Troubleshooting Section of this Manual.
- ♦ Note the proper model number of this product, and the version level (if known) along with any documentation that came with the product.
- ♦ Have your company name and telephone number ready.

This information will allow us to service you more quickly and effectively. Please, remember to BE PATIENT while waiting on the telephone; your call will be answered as soon as possible.

FOR YOUR CONVENIENCE, a System Planning Worksheet and a Programming Worksheet is included at the back of this manual. These can be removed to help you record account information.

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XL-21/XL-2 COMPARISON

The XL-21 is an enhanced version of the XL-2 control panel. Some new features have been added. The following is a quick comparison.

XL-21 New Features

Unattended Download

On-line Download

2 Entry Times (programming quest. #06)

Swinger Shutdown - Bell and Dialer Lockout
(programming quest. #04)

Call Waiting /PBX Dialing - 1 digit entry
(programming quest. #01 & #02)

Last 2 Alarms Event History - not cleared
by user code

Smoke Power or Programmable Trigger Output
(programming quest. #07)

Quick Bypass - no user code required

CS Test Timer - 1 Day, 7 Day, 27 Day, 60 Day
or 90 Day (programming quest. #07)

Cancel Code (programming quest. #19)

End User Chime ON/OFF Toggle

European Ring Detect (programming quest. #07)

Exit Error Warning

Restores Enabled for All Zones

Stay Instant or Instant Disabled - no Instant
by itself (programming quest. #10 - 15)

Bypass In Stay - Any Controlled Zone can be
Bypassed in Stay Mode (programming quest. #10 - 15)

System Stabilization on Power Up - to Eliminate
Motion Detector False Alarms

XL-2 Similar Features

PC Operator Initiated Download Only

PC Operator Initiated Download Only

1 Entry Time

Bell Lockout

Multiple digits required

Alarm Memory (cleared by user code)

Smoke Power Only

Quick Arming or Quick Bypass Only

CS Test Timer: 1 Day Only

Restore Code Only

NONE

NONE

NONE

Restores Enabled for Each Zone

Both Stay/Instant and Instant Arming

Interior Zones Bypassed Only in Stay Mode

NONE

1. INTRODUCTION

The XL-21 Security System is a state of the art microprocessor-based control/communicator. Programming can be performed through the any of the compatible keypads or the system can be uploaded and downloaded remotely using the EZ-Mate PC Downloader Software. In addition, remote control actions (arming, disarming, bypassing, etc.) can be performed by the software. Programming options are stored in non-volatile reprogrammable EEPROM memory and that information which has been programmed will not be lost in the event of a complete loss of power. Other features of the XL-21 include:

- 7 Zones (6 fully programmable plus a wired panic zone or keyswitch zone)
- 4 types of compatible keypads (LCD & LED, four wire devices with up to four per system)
- 6 user codes with capability for ambush code and an arm only code
- 4 selectable keypad emergency conditions
- English readout keypads available with programmable 12 character zone descriptors
- Upload/Download with remote commands with answering machine override
- Unattended and On-line Downloading
- Default Lockout option to prevent hostile account takeovers
- Quick arming, Quick Forced Arming and Quick Bypass options
- Indications on keypad for AC loss, Low Battery and Communication Failure
- Central Station reporting for Alarms, Troubles, Restores, Bypasses, Openings, Closings, Ambush, Panic, Keypad Fire, Keypad Medical, 24HR. Test, Cancels, AC loss, and Low Battery
- Can be programmed as a Local System (No C.S. Reporting)
- 4 wire smoke detectors with Fire Verification logic plus smoke power reset
- 2 entry and 1 exit time delays
- Swinger Shutdown capability
- Exit Error Warning
- European Ring Detect
- Event Log will store 2 alarms events, all zones that alarmed will be displayed for each event.
- End user chime ON/OFF toggle capability
- 1 programmable trigger output for various functions (including armed/ready indication and glass break detector reset)
- Input Power: 12VAC 20VA; 12VDC, 4 - 7 AH
- Output Power: 11.5 - 13.1VDC, 500mA
- Bell Output Power: 10 - 15.5VDC, 1A

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

Commercial UL applications can be accommodated by the XL-21B configuration. This system is sold in a panel only configuration and can utilize any of the compatible keypads. 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-21 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-21B 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)

2. SYSTEM WIRING AND HOOKUP

2.1. SYSTEM WIRING DIAGRAM

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



XL-21

WARNING

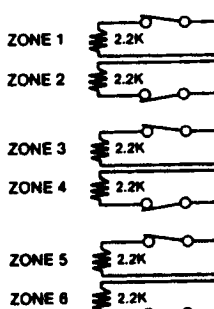
To prevent risk from electrical shock, de-energize the system control unit and disconnect the telephone lines before servicing this unit.

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

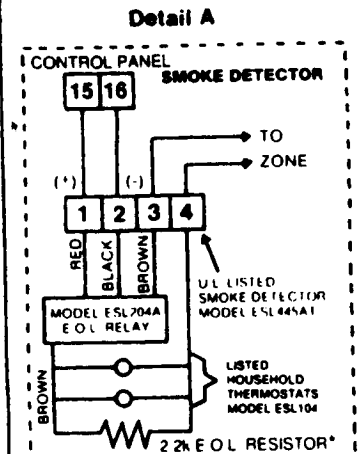
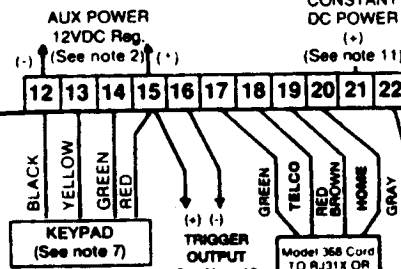
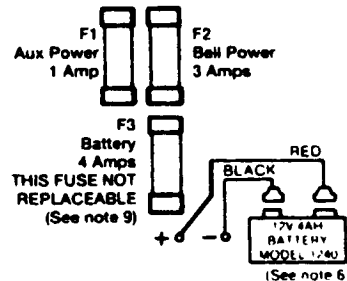
- 1 - Connect to a grounded metal cold water pipe (1/8" at 15 feet).
- 2 - Total AUDL power available (including keypad power) is 500mA max (with 20VA transformer, 300mA max). Used for connection of devices rated from 11.0 to 13.1 VDC.
- 3 - System must be tested on a weekly basis. For information, refer to references.
- 4 - Do not connect the transformer to a switch controlled receptacle. Power varies with transformer (see Note 2).
- 5 - Installation of equipment and wiring methods are required to be in accordance with the National Electrical Code and ANS/NFPA No. 74. More information may be obtained from the NFPA, Batterymarch Park, Quincy, MA 02280.
- 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 XL4000RM, XL4000SM, 6615, 6605.
- 8 - Limited energy cable must be used.
- 9 - Non-replaceable fuse. Return unit to manufacturer if blown. Do not solder fuses in field.
- 10 - Maximum for UL installations: Entry Delay: 45 sec., Exit Delay: 90 sec.
- 11 - For connection of VS-279 or VS-299 Siren Driver. Constant positive (+) unregulated output (10-15.5VDC).
- 12 - The PANIC or KEYSWITCH connected to terminals 8 and 10 is to be no more than 3 feet from the control unit with no barriers in between.
- 13 - Programmable output trigger. If used for smoke detector power reset see Detail A. Consult installation instructions for programming information.



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

FCC Registration Number AE308E-00554 AL-E Pinger Equivalence 0.0B

References: Hookup and Installation Instructions N9254 and Owner's Manual N9253



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	20	

PRODUCT COVERED UNDER US PATENT #4,791,658

N9251 Rev. A 6/94

ADDITIONAL HOOKUP INFORMATION FOR XL-21B 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 UL 681

NOTES: For UL Installation (MERCANTILE)

- 1- Installation of equipment and wiring methods shall be accomplished in accordance with the National Electrical Code and ANS/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.

TO ZONE
COLD WATER PIPE GROUND



See note 5

UL Listed
MODEL MBL-8
MODEL AD10-12
Bell in listed Bell Box,
Model AB ADEMCO

connect with 16 AWG wire

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.

2.2. TERMINAL CONNECTIONS

TERMINALS	DESCRIPTION	
1(+) & 2(-)	Zone 1 (Requires 2.2K EOL resistor)	[Default = DELAY]
3(+) & 2(-)	Zone 2 (Requires 2.2K EOL resistor)	[Default = INTERIOR]
4(+) & 5(-)	Zone 3 (Requires 2.2K EOL resistor)	[Default = PERIMETER]
6(+) & 5(-)	Zone 4 (Requires 2.2K EOL resistor)	[Default = PERIMETER]
7(+) & 8(-)	Zone 5 (Requires 2.2K EOL resistor)	[Default = PERIMETER]
9(+) & 8(-)	Zone 6 (Requires 2.2K EOL resistor)	[Default = PERIMETER]

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 (Refer to the wiring diagram). 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. **NOTE:** Loop response is defined as the minimum time a fault condition occurs before tripping a zone.

8 & 10

PANIC CIRCUIT OR KEYSWITCH :

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 **not** recommended. A momentary 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 (this is a supervision requirement only). If the keyswitch option is selected (see programming question 05, location 2), then each activation of the keyswitch will arm and disarm the system.

NOTE: E.O.L. resistor is not required on this zone and is not supervised. This zone does not report restore codes. If a supervised zone with restore reporting ability is desired, then program one of the 6 zones as a 24Hr. Alarm. If used as a keyswitch, then a trigger is available for either an arming or ready status indication (see programming question 7, location 4).

11

EARTH GROUND:

Connect this grounding lug to a cold water pipe utilizing #18AWG wire at a distance of no greater than 15 ft. Use a non-corrosive metal strap firmly secured to the pipe to which the lead is electrically connected and secured. 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. **NOTE:** In some installations, it may be necessary to use shielded wire to prevent radio frequency interference.

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. The total regulated output capacity of the XL-21 includes the power available from these terminals (15 & 12) as well as the power used by the keypads and smoke detectors. Therefore, to determine the total power available from these terminals subtract the power consumed by the keypads and smoke detectors.

15(+) 16(-)

SMOKE DETECTOR POWER OR TRIGGER OUTPUT:

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 or using the asterisk (*) key if programmed.

TRIGGER OUTPUT: These terminals can be used also for a trigger output. See programming question #07, location 4 for valid trigger types.

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(GRAY = 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.

If this control panel will be used for uploading, downloading or remote command applications, the telephone line connected to the control panel **must not** be shared with a fax machine or modem. 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). **NOTE:** Constant power for these devices can also be obtained by splicing the RED (+) battery lead with an in-line fuse of 3 Amps.

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. **NOTE:** Before connecting sounding devices please consult their specifications for proper current draw. Otherwise, the bell fuse (F3) may be blown.

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:

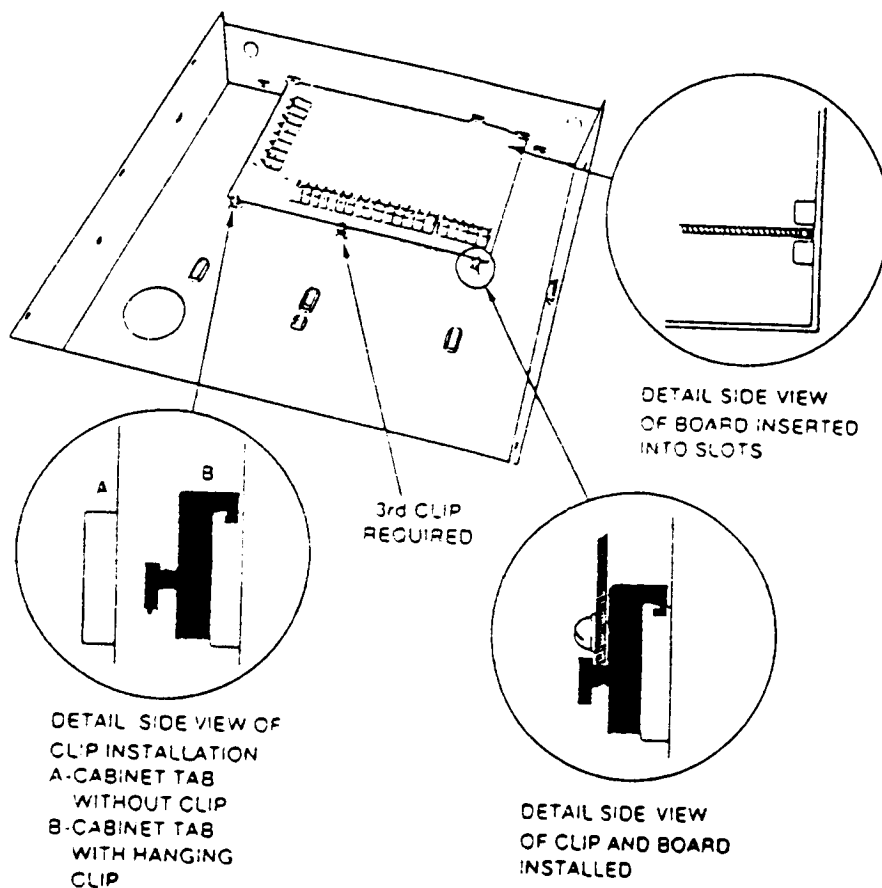
Ground start capability can be added to the system through addition of the FBII Model 117 module. Consult the 117 Installation Instructions for hookup information. With this device some systems can obtain dialtone where it is not available. At the moment telephone line seizure occurs, the Telco Tip is momentary connected to earth ground to access dial tone. **NOTE:** The 117 module has not been tested for use in UL installations.

2.3. 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.



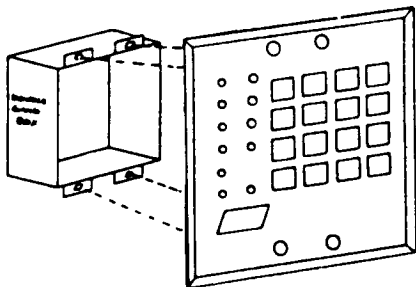
NOTE: The front face of the enclosure can be completely removed from the enclosure to gain unrestricted access to the control panel during installation. The front of the enclosure can be removed as follows:

- 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.

3. KEYPAD MOUNTING

3.1. XL4600RM METAL KEYPAD

FLUSH MOUNTING USING DOUBLE GANG BOX

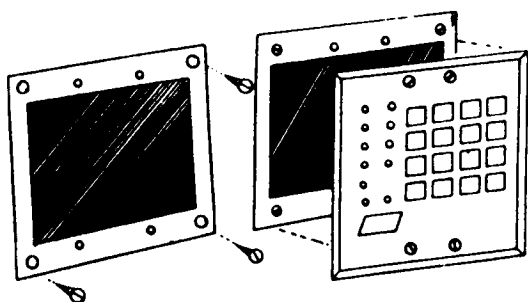


1- Create an opening and mount a standard double gang box.

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)

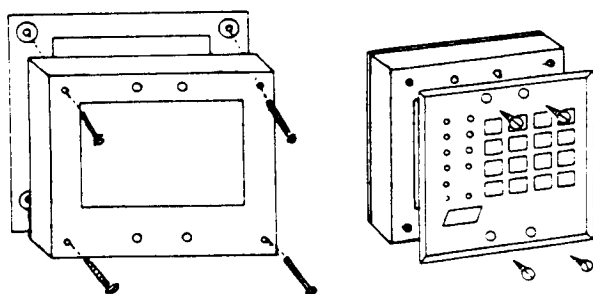


1- Create the desired opening where keypad is to be mounted, using the inside of the mounting ring as a template. **NOTE:** This opening should be made between studs.

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)

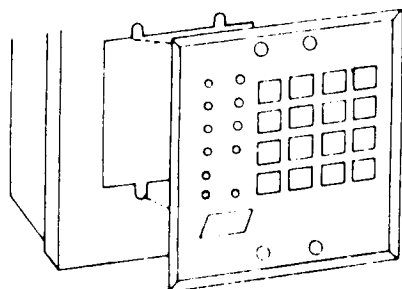


1- Depending on type of installation run the keypad wiring out of the rear, top bottom or sides of the backbox.

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.

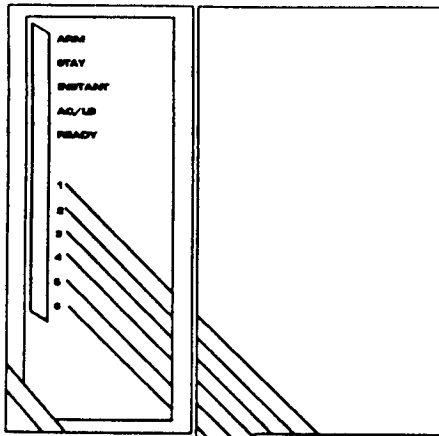
2- Insert XL4600RM into opening from front of enclosure.

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

3.2. XL4600SM KEYPAD

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.



XL4600SM

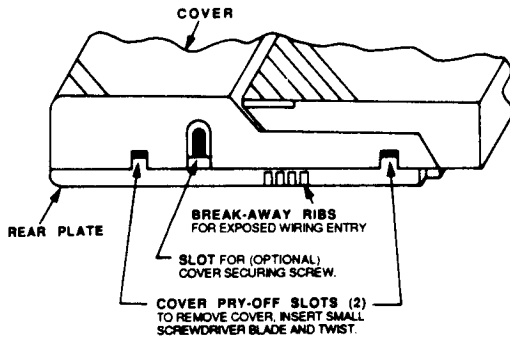


Diagram 2: BOTTOM VIEW OF KEYPAD

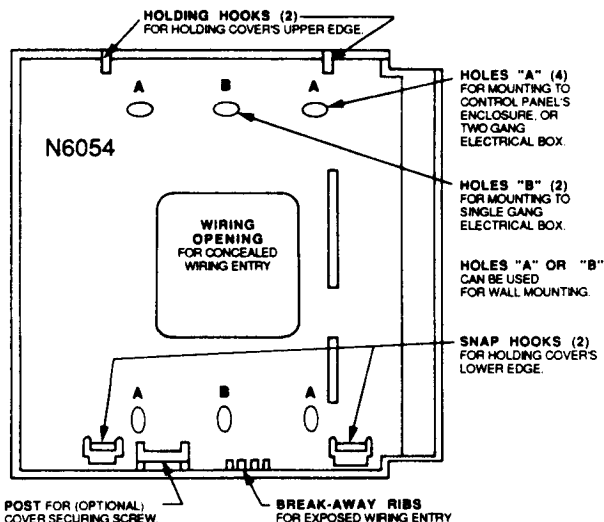


Diagram 3: REAR MOUNTING PLATE

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 XL2B 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 screw holes 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.

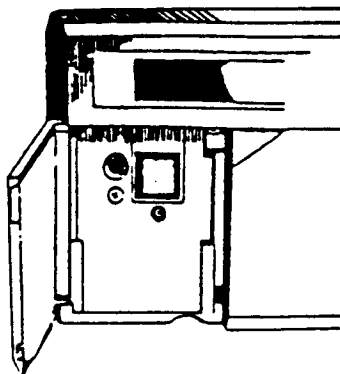
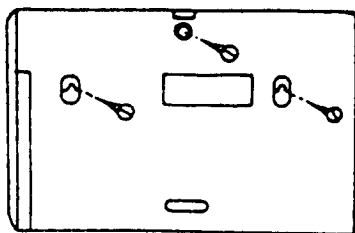
NOTE: (Optional) If desired, cover and plate can be further secured together by inserting a screw (provided) into the SLOT at the keypad's lower edge.

NOTE: When surface mounting the keypad, and using screws with heads larger than the screws provided with the unit, place electrical tape over the screws to prevent them from interfering with the keypad operation. In the future the back plate of the keypad will provide additional countersinking for screws with larger heads.

3.3. MOUNTING 6805 and 6615 KEYPADS

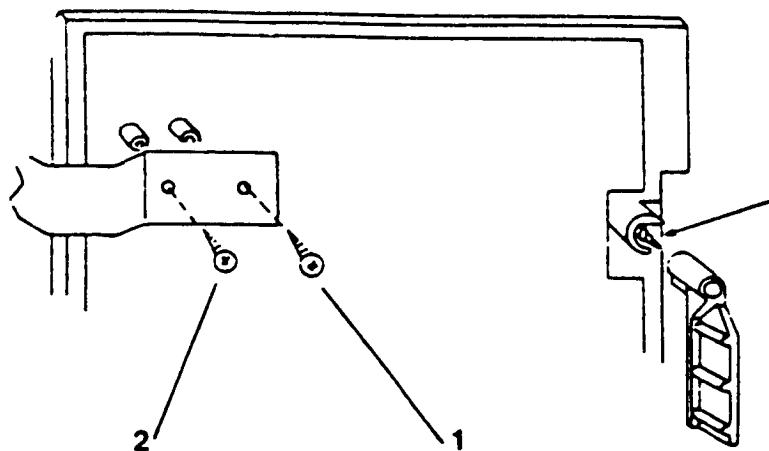
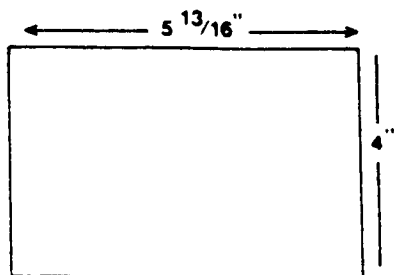
Keypad mounting is identical for both the 6615 LED and 6805 LCD versions. Keypads can be surface mounted or flush mounted as described below. **NOTE:** After mounting the 6805 LCD Keypad at eye level, you can adjust the display intensity level to suit the user by adjusting the intensity control located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

SURFACE MOUNTING



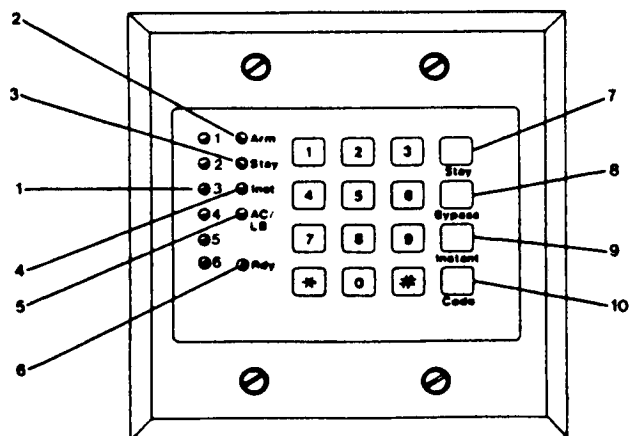
- 1- Select a mounting location and place the rear plate of the keypad on the wall. Mark the location of the cutout for the keypad wiring cable.
- 2- Create a keypad opening . Connect the keypad wiring to the control panel w/ 4-wire connector.
- 3- Place the keypad wiring through the cutout and secure the back plate 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

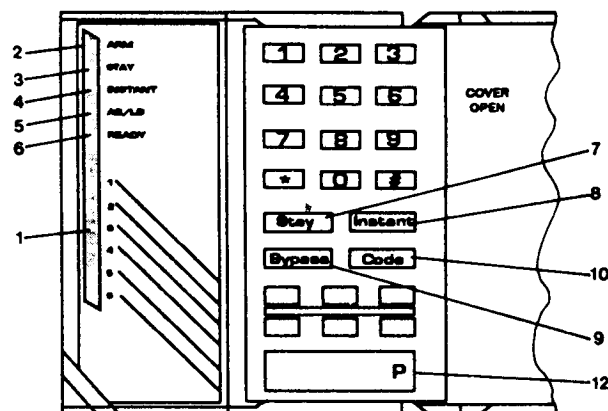


- 1- Select a mounting location. For recessed mounting this must be between two studs. The rear mounting plate is not used for recessed installations.
- 2- Create an opening in the wall exactly 4 inches high by 5 13/16 inches wide.
- 3- Turn over the keypad and remove the Phillips head screw (item 1 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.

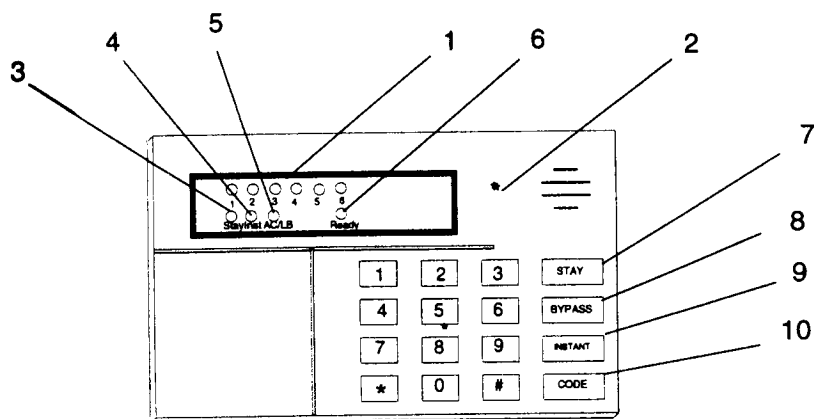
4. KEYPAD LAYOUT



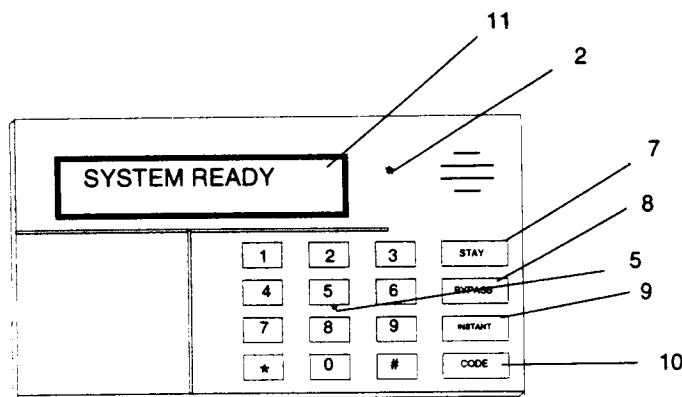
XL4600RM Keypad



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 or the STAY/INSTANT mode. If the INSTANT LED is ON and the STAY LED is ON, then the system is in the STAY/INSTANT mode. If the INSTANT LED is OFF and the STAY LED is ON, then the system is in the STAY mode only. STAY/INSTANT is enabled in programming question 05, location 4. In either mode the STAY LED indicates the following:

ON Interior zones are bypassed
OFF Interior zones are normal

4) INSTANT LED

This LED displays whether the system has been armed in the STAY/INSTANT mode, meaning that the system is currently armed, all delay zones are instant and all interior zones are bypassed. **NOTE:** See programming question 05, location 4. INSTANT mode is not available by itself.

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 button 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 button is used to temporarily exclude protection to a specific zone.

9) INSTANT BUTTON

If enabled (see programming question 05, location 4), then the INSTANT button along with the STAY button enables arming of the system in the STAY/INSTANT mode. **NOTE:** INSTANT mode is not available by itself.

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 twelve format.

12) KEYPAD AUXILIARY KEYS (XL-4600SM KEYPAD ONLY)

Pressing the two keys (top & bottom) labeled "P" at the same time initiates a CS transmission, if programmed, of PANIC, AUXILIARY or FIRE, annunciates the keypad sounder and turns on the bell output. If not programmed to transmit, these keys can only result in a local warning as follows (see question 05, location 1):

Keypad Souder - Steady for PANIC, Pulsing for FIRE and AUXILIARY

Bell Output - Steady for PANIC, Pulsing for FIRE

NOTE: See question 05, location 1 for alternate auxiliary keys.

4.1. KEYPAD SOUNDER

The keypad sounder annunciates differently to indicate the following conditions:

CHIRP - Keypad sounds 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 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 sound 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 may be silenced through entry of a valid user code.

NOTE: 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 an indication that service is required. Consult the troubleshooting section of this manual.

5. SYSTEM OPERATIONS

NOTE: LED keypads include the XL4600RM, XL4600SM and 6615. Also, the 6805 LCD keypad is supported.

5.1. POWER UP/SYSTEM RESET

Upon initial powerup of the system, the LCD keypad will display **STAND BY!** for approximately 2 min. 10 secs. and on the LED keypad all of the lights will go ON and then go OFF for approximately 2 min. 10 secs. 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. The 2 min. 10 secs. interval is used to allow motion detectors (interior zones) to stabilize on power up in order to prevent false alarms. This option can be disabled by putting a jumper between terminal 13 and 12 on power up. If disabled, then the power up reset time is approximately 5 seconds.

5.2. ARMING THE SYSTEM

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

TO ARM: Enter any programmed four digit user. **NOTE:** The factory default for user #1 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

5.3. STAY ARMING

TO ARM: Press 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.

5.4. STAY/INSTANT ARMING

TO ARM: Press 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.

NOTE: This option is enabled in programming question 05, location 4.

LCD keypads will display:

ON: STAY INSTANT

5.5. DISARMING

TO DISARM: Press 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 zone **LED(s)** and the **READY LED** will be blinking rapidly. This **ALARM MEMORY** condition can be cleared by entering a valid user code or using the asterisk (*) key, if programmed.

5.6. RESET

After an alarm occurs, the system enters alarm memory mode either after bell time-out or by a user entering a valid user code silencing the bell and keypad buzzer. **Alarm memory and communications failure can be cleared by entering a valid user code.** If a fire alarm occurs, then clearing alarm memory resets the smoke detectors for approximately 8 seconds.

An option exists, for making the * key to act as a reset in addition to using a valid user code for clearing the alarm memory and communications failure. This programmable option can be obtained through location 3 of question 05.

5.7. BYPASS

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

If Quick Bypass is not enabled, then press 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 pressing 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 sound the acknowledge beep, and the respective zone LED will WINK SLOWLY.

The bypass rules are:

- 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.

5.8. QUICK BYPASS

Quick bypassing is a programmable option (see question 05, location 3 of the programming sequence) and allows the user to bypass zones without using a user code.

Press the BYPASS button followed by a number 1-6, which represents the zone to be bypassed.

Example: To bypass zone 2

BYPASS 2

5.9. 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 05, location 2 of the programming sequence). Auto unbypass option must be selected for all UL applications

5.10. MANUAL UNBYPASS

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

5.11. 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. Therefore, do not misplace this code. Should you misplace you must perform a user code default. Refer to the programming section.

TO ADD or CHANGE USERS: [CODE] [USER] [USER #] [USERID]
where:

[CODE] = Press CODE button

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

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

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

Example:

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

CODE 1234 3 7493

NOTE: An acknowledgment sound (steady tone) verifies a successful user code programming. A negative acknowledgment 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 in question 16 of 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.

NOTE: 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 programmed in location 2 of question 5. If ARM only code is not programmed, then user #5 can be used as an ordinary user code.

5.12. USER DELETION

User codes (2 - 6) can be deleted directly through the keypad. Once deleted their values will be null.

TO DELETE USERS: [CODE] [USER] [USER #] [*]
where:

[CODE] = Press CODE button

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

[USER #] = Represents the user number being deleted.(2-6). **NOTE:** User number 1 cannot be deleted, but it can be changed using the user code programming procedure.

[*] = Press the * (asterisk) button

5.13. KEYPAD EMERGENCY CONDITIONS

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

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

For example, the 24 hr keypad panic can be initiated by pressing the # and * keys at the same time. 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 keypads contain dedicated function keys for the auxiliary conditions. These keys can be activated by pressing both keys at the same time (see section 4).

Audible panic can be RESET BY ENTERING ANY VALID USER CODE or using the asterisk * key, if programmed.

The keypad PANIC, FIRE and AUX conditions are selectable through the question 05, location 1 of the programming sequence and the ambush code will be user #6 if an ambush code is programmed in question #16.

6. INSTALLER MODES

There are 4 installer modes in the panel.

SEQUENCE: [CODE][*][INSTALLER][X]

where:

[CODE] = Press the CODE button
[*] = Press the asterisk (*) button
[INSTALLER] = Enter the 4 digit installer code (default = 2121)
[X] = Press the single digit indicating the installer mode as follows:
1 = Installer Keypad Programming
2 = System Log View
3 = Unattended Download
4 = On-line Download

6.1. INSTALLER MODE 1 (INSTALLER KEYPAD PROGRAMMING)

Enters the installer into keypad programming mode. Refer to the Keypad Programming Section of this Manual. **NOTE:** There exists an option in the EZ-Mate Downloader Software to inhibit keypad programming. If selected, then a negative acknowledgment (4 short beeps) will be heard after attempting to enter this mode. The software has another option (Default Lockout) to inhibit another installer from defaulting the panel and entering keypad programming. This prevents hostile account takeovers.

6.1.1. INSTALLER MODE 1 (SYSTEM DEFAULT)

Any of the system keypads (LED & LCD) can initiate a system default of the system by **pressing the "1" and "3" keys at the same time**, while in the programming mode. The system will then default (revert to factory program values) and go through the reset sequence. A system default can also be done by removing power (AC & DC), shorting JP1 & JP2, reapplying power (with JP1 & JP2 still intact) waiting 8 seconds, and then removing short with power still applied. **NOTE:** A programming option can be selected through the EZ-Mate Downloader Software known as **Default Lockout**. If selected, then a system default reset will change all of the programmable options with the exception of the CSID (a code used by the software to identify the panel during remote connections) and the installer code. This prevents hostile account takeovers.

6.1.2. INSTALLER MODE 1 (USER CODE DEFAULT)

The user codes can be reset to factory default values (User Code 1 = 1234) by pressing the **"7" and "9" keys at the same time**, while in the programming mode. The user codes will default and the system will go through the reset sequence.

6.2. INSTALLER MODE 2 (SYSTEM LOG VIEW)

The system retains the past 2 alarm memory conditions. LED keypads will display alarms as fast blinking zone lights along with a fast blinking ready (RDY) light. In both keypad types (LCD & LED), the display will show the events starting from the oldest event. Pressing of the "#" key will advance the log to the most recent alarm in memory. To exit from the system log view mode press the "*" key. **NOTE:** As the log is advanced, the LCD keypad will scroll through all zones that were in alarm for the event. The system log **cannot** be cleared by the keypad. It can only be cleared by the Downloader Software.

**ALARM MEM: ZN1
FRONT DOOR**

6.3. INSTALLER MODE 3 (UNATTENDED DOWNLOAD)

The unattended download function is intended to allow installation of the control panel and then have the control panel dial the telephone number of CS Downloading Computer to be downloaded without the need to have the operator present. Basically the CS Downloading computer telephone number will be programmed into the callback number (question 03) and an identification number (same as the account # in the Downloader Software) will be programmed into the Secondary Telephone (#question 02). **NOTE:** These are temporary values since they will be reprogrammed after downloading. Unattended download requires the following sequence:

- 1- The PC operator must select UNATTENDED DOWNLOAD in the Downloader Software Main Menu.
- 2- Enter unattended download mode: [CODE][*] [INSTALLER][3].
- 3- The system will now enter keypad programming, question 01. Press the "*" key first followed by the "0" key and then the "3" key. This will go to programming question 03. Enter the telephone number of the Central Station

Downloading computer (each digit followed by the “#” key, ex: 1#2#3#etc.) into this question (12 digits max). This phone number should be the same as the CS Callback number (question #03 from keypad programming if the panel is programmed for callback).

4- Proceed to question 02 through the sequence “* 02”. Next enter the desired account number (each digit followed by the “#” key). This will be used by the CS downloading computer to determine the proper account information to download to this subscriber. The account number must be 6 digits in length and it is the Downloaders Account designator not the account number that will be communicated to the receiver. For ID’s less than 6 digits long you must enter leading 0’s to make the number 6 digits long. Example: for ID 345 enter 0#0#0#3#4#5#.

5- Press the “STAY” key to exit programming mode. The control panel will now dial the telephone number entered into the callback number. The downloading computer must be placed into the Unattended Communications option from the main menu. Upon connection with the computer the customer account number programmed in step 3 will be obtained and the system will perform the desired download operation. **NOTE:** The CS Downloading computer must be waiting in the unattended communications option and preprogrammed with the account information in order for the unattended download to be functional.

6.4. INSTALLER MODE 4 (ON-LINE DOWNLOAD)

In this mode, the installer can initiate a remote communications session with the CS Downloading computer at the control panel location. Typically, a remote communications session is initiated by the CS. On-line Downloading allows the installer to call the office (from the same telephone line as the panel), discuss the action required and allow the CS operator to complete the request while on-line, no additional telephone call is needed. On-line connection can be made as follows:

1- Installer completes installation and attaches a handset to telco terminals (tip & ring) or uses the standard home telephone to dial the CS Downloading modem telephone line. Connection is made with a person at the CS Downloading computer and the account to be downloaded would be verbally identified. The downloading computer operator will select the On-line Remote Operations from the device menu

2- The installer should enter the on-line download sequence: [CODE] [*] [INSTALLER] [4] or use the end-user command of # 9, if enabled. This will cause the control panel to behave as if it received a request for a remote communications session and will look for the standard panel to CS protocol.

3- Once the standard connection is made, the necessary remote communications sessions can take place (upload, download, remote commands).

4- Hang up the telephone or remove headset from the line to prevent interference which may affect upload/download data. The downloader software will automatically terminate the connection after remote communications end.

7. QUICK COMMAND MODES

The end user can perform the following commands (if programmed):

- # 1 = Quick Arming
- # 2 = Quick Force Arming
- # 6 = Toggle Chime
- # 9 = On-line Download

NOTE: On-line Download is not documented in the end user manual because it will only be done when the end user is in communication with someone at the downloading computer.

7.1. QUICK ARMING (# 1)

If programmed (see programming question #05, location 3), then quick arming will be permitted. Quick arming allows arming the system without entry of a user code and will report as user #7 to the CS if a 2 digit transmission format is defined. **NOTE:** The system must be in ready mode. A user code is required to disarm the system.

7.2. QUICK FORCE ARMING (# 2)

If programmed (see programming question #05, location 3), then quick forced arming will be permitted. Quick force arming allows arming the system without entry of a user code and bypass any zones that are not ready. It will report user #7 to the CS if a 2 digit transmission format is defined. **NOTE:** To disarm, the user code is required.

7.3. TOGGLE CHIME (#6)

This quick command is enabled in question 05, location 4 by selecting User On-line Downloading. If any zones are programmed with a chime option (see programming questions #10 - #15), then # 6 will turn the system chime ON or OFF depending on its original state. **NOTE:** This will toggle the chime feature for the entire system. Since there are no

visual indications on the keypads after toggling the chime, you must be aware of its present state. **NOTE:** The installer must first enable the chime option for any zone requiring chime.

7.4. ON-LINE DOWNLOAD (#9)

If programmed (see programming question #05, location 4), then the user can initiate a remote communications session with the CS Downloading computer at the control panel location. Typically, a remote communications session is initiated by the CS. On-line downloading allows the user to call the office, discuss the action required and allow the CS operator to complete the request while on-line, no additional telephone call is needed. On-line connection can be made as follows:

1- User dials the CS Downloading modem telephone line from the premises telephone line that the alarm system uses. Connection would be made with a person at the CS Downloading computer and the account to be downloaded would be verbally identified. The CS computer will be placed into a mode where it is attempting to establish a connection with the site.

2- Next, the user will be instructed to enter #9 on the keypad which will cause the control panel to behave as if it received a request for a remote communications session and will look for the standard panel to CS protocol.

3- Once the standard connection is made, the remote communications session can take place (upload, download, remote commands).

4- User hangs up the telephone to prevent interference which may affect upload/download data. The downloader software will automatically terminate the connection after remote communications end.

8. SYSTEM PROGRAMMING

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 in the back of this manual.

There are 21 total programming questions numbered 00-20. Additional programming questions are available for the programmable zone descriptors when LCD based keypads are used (see programming questions #21 - #26).

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.

9. PROGRAMMING QUESTIONS

This section of the manual defines the programming questions along with the values expected for each question. **BEFORE USING THE PROGRAMMING SHEET, FILL THE SYSTEM PLANNING WORKSHEETS AT THE END OF THIS MANUAL.** Then, Complete the Programming sheet and then enter the data through the keypad as explained in the section titled Data Entry Through the Keypad. DO NOT ATTEMPT TO ENTER DATA BEFORE COMPLETELY FILLING OUT PROGRAM SHEET.

QUESTION 01 PRIMARY TELEPHONE NUMBER

DEFAULT = 234AAAAAAAAA

Enter the telephone number (including area code and/or dialing prefix IF NECESSARY) of the primary central station receiver in L1 - L12. Valid dialing digits are 0-9 , B = * , C = three second pause, and D = #. An entry of the digit A signifies the end of the phone number. All unused locations must be programmed "A".

To disable call waiting for either phone number enter the following single digit into the field:

DIGIT TOUCH-TONE ROTARY

E *70C 1170C

If the Central Station phone number needs an "800" prefix use F.

REPORTING ROUTE:

The system will report all signals to the primary receiver phone number. The panel will alternate between the primary and secondary receivers (if the second phone number is programmed) for a maximum of 8 attempts each until the signal has been acknowledged.

QUESTION 02 SECONDARY TELEPHONE NUMBER

DEFAULT = AAAAAAAAAAAAAA

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

Valid dialing digits are 0-9 , B = * , C = three second pause, and D = #. An entry of the digit A signifies the end of the phone number. The secondary telephone number will be used if the panel is unable to reach the Central Station via the primary number. This is known as BACKUP reporting. If the SPLIT REPORTING feature is programmed, then OPENING and CLOSING signals will be directed to the secondary CS number only, while all other conditions will be reported to the 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 TELEPHONE NUMBER

DEFAULT = AAAAAAAAAAAAAA

Enter the telephone number (including area code and/or dialing prefix if necessary) for this control panel to reach the callback 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.

For no callback capability enter AAAAAAAAAAAAAA.

QUESTION 04 DIALER OPTIONS

DEFAULT = 1601

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, CS 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)

NOTE: If Local Alarm is desired, then no other options are needed to be disabled (Telephone #, CS Codes).

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 or 4312 E
333 1 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 message are only extended for codes B-F.

Examples: Alarm Condition Restore
 853 1 853 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 =	20 PPS, 2300Hz., No Parity	FBI, Franklin, Sescoa, DCI, Quickalert, Varitech, ADEMCO 685
7 =	20 PPS, 2300 Hz, Parity	FBI, Radionics Fast (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, Silent Knight 8520,9000, RADIONICS.

Question 04 L3 - MESSAGE LENGTH / SWINGER SHUTDOWN**DEFAULT = 0**

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

0 = 3 x 1	3 digit account number, 1 digit event code, NO Swinger Shutdown
8 = 3 x 1	3 digit account number, 1 digit event code, with Swinger Shutdown
2 = 4 x 1	4 digit account number, 1 digit event code, NO Swinger Shutdown
A = 4 x 1	4 digit account number, 1 digit event code, with Swinger Shutdown
6 = 4 x 2	4 digit account number, 2 digit event code, NO Swinger Shutdown
E = 4 x 2	4 digit account number, 2 digit event code, with Swinger Shutdown

If Swinger Shutdown is selected, then 3 activations of the same zone within the same arming interval will not activate the bell or the dialer. This applies only to burglary zones as well as 24Hr. Audible zones. For UL installations Swinger Shutdown 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 =	Audible Keypad Panic
2 =	Silent Keypad Panic, Split Reporting
3 =	Audible Keypad Panic, Split Reporting
4 =	Silent Keypad Panic, CS Test
5 =	Audible Keypad Panic, CS Test
6 =	Silent Keypad Panic, Split Reporting, CS Test
7 =	Audible Keypad Panic, Split Reporting, CS 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, CS Test, Bell Test
D =	Audible Keypad Panic, CS Test, Bell Test
E =	Silent Keypad Panic, Split Reporting, CS Test, Bell Test
F =	Audible Keypad Panic, Split Reporting, CS Test, Bell Test

DESCRIPTION OF SYSTEM OPTIONS

KEYPAD SILENT/AUDIBLE PANIC - Determines whether the keypad panic condition (* & # from the keypad) will activate the bell and the keypad buzzer. 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.

CS TEST - If CS Test is enabled then the system will transmit the test code to the Central Station at the interval selected (see programming question #07, location 3) in the absence of any other signal. Transmission of any signal will reset the CS Test clock. For example if a business opened and closed 6 days a week then a test signal will be generated at the interval selected 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 = 1200

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. The conditions are initiated as follows:

CONDITION	TO INITIATE
PANIC	Press * & # at the same time
FIRE	Press 7 & 9 at the same time
AUXILIARY	Press 1 & 3 at the same time

NOTE: For XL-4600SM keypad only see section 4 (Keypad Layout) for alternate auxiliary keys.

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)

NOTE: Aux. Audible/Silent selection refers to keypad buzzer only (not the bell). Keypad Fire is always Audible.

Question 05 L2 - MISC OPTIONS

DEFAULT = 2

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

The valid selections for this digit are shown below:

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

PANIC or KEYSWITCH

This option determines whether connections 8 & 10 on the control panel will be used as a panic input or a keyswitch input. **NOTE :** Add 1 if a keyswitch is used. If keyswitch is selected and the transmission code sends a user code, then user code #7 will be transmitted.

HARDWIRED PANIC SILENT or AUDIBLE

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

AUTO-UNBYPASS ENABLE

Determines whether zones will automatically be unbypassed upon disarm. **NOTE:** Add 4 for auto-unbypass enable.

ARM ONLY CODE [USER #5]

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

Question 05 L3 QUICK COMMANDS - RESET

DEFAULT = 0

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
- 8 = Quick Bypass
- 9 = Quick Forced Arm, Quick Bypass
- A = Quick Arm, Quick Bypass
- B = Quick Forced Arm, Quick Arm, Quick Bypass
- C = Reset Enable, Quick Bypass
- D = Quick Forced Arm, Reset Enable, Quick Bypass
- E = Quick Arm, Reset Enable, Quick Bypass
- F = Quick Forced Arm, Quick Arm, Reset Enable, Quick Bypass

QUICK FORCED ARM ENABLE

Specifies whether quick forced arm (# 2) will be permitted. If quick forced arming is permitted then user #8 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

Specifies whether quick arming (# 1) will be permitted. Quick arming allows arming of the system without entry of a user code and if permitted will report user #8 code to the CS if a two digit transmission is defined.

RESET ENABLE

This option will allow in addition to using a valid user code the * (asterisk) from the keypad to reset the following conditions: communications failure and alarm memory.

QUICK BYPASS

This option allows bypassing a zone without a valid user code.

To bypass a zone with quick bypass enabled: [BYPASS] [ZONE #].

Question 05 L4 - REST FOLL LOOP/USER ON-LINE/CS TST RINGBACK

DEFAULT = 0

This location determines the following options:

- 0 = Restore Follows Bell, Stay/Instant Enabled**
- 1 = Restore Follows Loop, Stay/Instant Enabled
- 2 = Restore Follows Bell, Stay/Instant Enabled, User On-line Enabled
- 3 = Restore Follows Loop, Stay/Instant Enabled, User On-line Enabled
- 4 = Restore Follows Bell, Stay/Instant Enabled, CS Test Ringback Silent
- 5 = Restore Follows Loop, Stay/Instant Enabled, CS Test Ringback Silent
- 6 = Restore Follows Bell, Stay/Instant Enabled, User On-line Enabled, CS Test Ringback Silent
- 7 = Restore Follows Loop, Stay/Instant Enabled, User On-line Enabled, CS Test Ringback Silent
- 8 = Restore Follows Bell, Instant Disabled
- 9 = Restore Follows Loop, Instant Disabled
- A = Restore Follows Bell, User On-line Enabled, Instant Disabled
- B = Restore Follows Loop, User On-line Enabled, Instant Disabled
- C = Restore Follows Bell, CS Test Ringback Silent, Instant Disabled
- D = Restore Follows Loop, CS Test Ringback Silent, Instant Disabled
- E = Restore Follows Bell, User On-line Enabled, CS Test Ringback Silent, Instant Disabled
- F = Restore Follows Loop, User On-line Enabled, CS Test Ringback Silent, Instant Disabled

RESTORE FOLLOWS BELL

Restores will be transmitted after the loop has returned to normal after bell cutoff, or upon system disarming regardless of the loop status.

RESTORE FOLLOWS LOOP

This option will transmit restores immediately upon zone restoral while the system is armed, or upon system disarm regardless of the loop status.

STAY/INSTANT ENABLED

This option permits the STAY/INSTANT arming option to be used.

USER ON-LINE & CHIME TOGGLE ENABLED

This option indicates whether the end user command (#9) for the on-line download will be enabled. This command would allow an end user to be instructed how to initiate an on-line download and possibly prevent a service call. This also controls the user chime toggle enable. If enabled, then the user will be able to toggle the system chime.

CS TEST RINGBACK SILENT

Normally, after a CS Test Report has reached the Central Station, a sounder ringback can be heard from the keypad indicating a successful communication to the CS. If this option is selected, then **NO** sounder ringback will be heard from the keypad after a CS Test Report.

INSTANT DISABLED (STAY ONLY)

If this option is selected, then the INSTANT button will be disabled on the keypads removing the STAY/INSTANT option. If not selected, then the STAY/INSTANT option will be available. **NOTE:** INSTANT is not available by itself.

QUESTION 06 SYSTEM TIMEOUTS

DEFAULT = 665F

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

<u>LOCATION</u>	<u>DEFAULT</u>
L1 = Entry Delay 1	90 seconds
L2 = Exit Delay	90 seconds
L3 = Burglary Bell Cutoff	15 minutes
L4 = Fire Bell Cutoff	No Cutoff

Question 06 L1 - ENTRY DELAY 1

DEFAULT = 6

Enter the desired entry delay time. Refer to Exit/Entry Times below for valid choices. If **zones 1-3 are delay zones, then they follow entry delay 1.** For UL applications the maximum entrance delay shall not exceed 45 seconds for household applications or 15 seconds for commercial burglary applications. **NOTE:** See programming question #07, location 1 for Entry Delay 2.

Question 06 L2 - EXIT DELAY

DEFAULT = 6

Enter the desired exit time. Refer to Exit/Entry Times below for valid choices. For UL applications the maximum exit delay shall not exceed 60 seconds. The valid entry/exit time choices are:

Entry Delay 1 or 2

Exit Delay

0 = 1 sec.	8 = 40 sec.	0 = 1 sec.	8 = 1 min. 20 sec.
1 = 5 sec.	9 = 45 sec.	1 = 10 sec.	9 = 1 min. 30 sec.
2 = 10 sec.	A = 50 sec.	2 = 20 sec.	A = 1 min. 40 sec.
3 = 15 sec.	B = 55 sec.	3 = 30 sec.	B = 1 min. 50 sec.
4 = 20 sec.	C = 1 min.	4 = 40 sec.	C = 2 min.
5 = 25 sec.	D = 1 min. 5 sec.	5 = 50 sec.	D = 2 min. 10 sec.
6 = 30 sec.	E = 1 min. 10 sec.	6 = 1 min.	E = 2 min. 20 sec.
7 = 35 sec.	F = 3 min.	7 = 1 min. 10 sec.	F = 3 min.

Question 06 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 6 minutes for household burglary applications.

Question 06 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 6 minutes.

QUESTION 07 MISCELLANEOUS SYSTEM OPTIONS

DEFAULT = 2C10

Question 07 L1 - ENTRY DELAY 2

DEFAULT = 2

Enter the desired entry delay time Refer to Exit/Entry Times in question #06 for valid choices. If **zones 4-6 are delay zones, then they follow entry delay 2.** For UL applications the maximum entrance delay shall not exceed 45 seconds for household applications or 15 seconds for commercial burglary applications. **NOTE:** See programming question #06, location 1 for table of applicable values.

Question 07 L2 - RING COUNT**DEFAULT = C**

L2 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 12 rings.

NOTE: A value of 0 means that remote programming will be disabled.

Question 07 L3 - CS TEST TIME INTERVAL**DEFAULT = 1**

If CS Test Report is enabled, this option determines the test time interval. The valid choices are:

- 0 = 1 day (24 Hours)
- 1 = 7 days (Weekly)
- 2 = 27 days
- 3 = 60 days
- 4 = 90 days

NOTE: All test time intervals are reset after a successful CS report.

Question 07 L3 Also controls - EURO. RING DETECT**DEFAULT = 1**

Use this option if a European Telephone System is used only. This option changes the ring detection frequency used for automatic answer mode for remote (Downloading) purposes only according to the programmed ring count (see programming question #07, location 2). If selected (add +8 to question #07, location 3), then the ring detection frequency range is 10 - 90Hz. If not selected, then the frequency range is 16 - 90Hz.

The test options with Euro Ring Detect selected are:

- 8 = 1 day (24 Hours), Euro Ring Select
- 9 = 7 days (Weekly), Euro Ring Select
- A = 27 days, Euro Ring Select
- B = 60 days, Euro Ring Select
- C = 90 days, Euro Ring Select

Question 07 L4 - TRIGGER TYPES**DEFAULT = 0**

The smoke power terminals (15 & 16) can be used as a trigger output. If a fire zone is used in the system, the trigger should be programmed as "00". If the fire device does not need a power reset, or no fire zone type is selected, the trigger can be programmed as follows:

VALID ENTRIES	DESCRIPTION OF OPERATION
0 - Smoke Power Output	Used in Fire Verification to reset smoke power
1 - Fire Bell ON	Follows Fire Bell timer
2 - Burg Bell ON	Follows Burg Bell timer
3 - Line Seizure	Follows Line Seizure relay
4 - Ready	Follows Ready LED
5 - Armed	Follows Armed LED (Steady States only)
6 - Exit Time	ON during exit time
7 - Entry Time	ON during entry time
8 - Fire Only Latch	Goes ON w/Fire Bell, OFF w/code
9 - Burg Only Latch	Goes ON w/Burg Bell, OFF w/code
A - Strobe	Goes ON steady w/Burg, Pulse w/Fire & OFF w/code
B - Panic Alarm	Zone 7 (Hardwired Panic): ON w/alarm, OFF w/code
C - Shock Asterisk Reset	"*" Activates for 2-6 sec.
D - Shock Code Reset	Normally sinking current: arming floats for 2-6 sec.

NOTE: Unless otherwise specified, the trigger output is normally floating and actively sinks on activation.

QUESTION 08 ACCOUNT NUMBER 1**DEFAULT = 1234**

Enter the three(3) or four(4) digit subscriber account number for Central Station phone number 1 in locations L1-L4. If a three(3) digit number is used then enter an A in location L4. Valid entries are 0-9, and B-F. The value A is interpreted as the null value for account numbers.

QUESTION 09 ACCOUNT NUMBER 2**DEFAULT = AAAA**

Enter the three(3) or four(4) digit subscriber account number for Central Station phone number 2 in locations L1-L4. If a three(3) digit number is used then enter an A in location L4. Valid entries are 0-9, and B-F. The value A is interpreted as the null value for account numbers. If the second phone number is not used this question can be left as factory defaulted.

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

9.1. ZONE PROGRAMMING

Questions 10-15 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 STAY/INSTANT mode if enabled. Delay zones employ the Exit Error Warning feature described in the note below.

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. Interior zones employ the Exit Error Warning feature described in the note below.

PERIMETER

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

NOTE: Exit Error Warning. At the end of exit time a 1 second window is started. If any delay or interior zones are violated after arming within this window (exit time expires and entry time starts) the burglary bell and keypad sounder will be turned on forcing the user to enter their code preventing a false alarm transmission. This helps avoid the common false alarms that take place after arming the system

BURGLARY ZONE OPTIONS

RESTORE

This option is selected for all burglary zones by enabling the restore report code (question 19, location 2). The programmed restore code will be reported upon bell cutoff, assuming the loop is restored unless Restore Follows Loop is selected in question #05, location 4. The restore code will also be reported if the system is disarmed during an alarm. **NOTE:** Restore is not selectable by zone.

BYPASS IN STAY

This option allows zones to be bypassed when the system is armed in the STAY mode.

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 cannot 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). 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. 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.

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

ZONE TYPE CHART

CONTROLLED ZONES

10 Perimeter
11 Perimeter, Bypass in Stay
12 Perimeter, Day
13 Perimeter, Day, Bypass in Stay
14 Perimeter, Chime
15 Perimeter, Chime, Bypass in Stay
18 Perimeter, Dial Delay
19 Perimeter, Bypass in Stay, Dial Delay
1A Perimeter, Day, Dial Delay
1B Perimeter, Day, Bypass in Stay, Dial Delay
1C Perimeter, Chime, Dial Delay
1D Perimeter, Chime, Bypass in Stay, Dial Delay

20 Delay
21 Delay, Bypass in Stay
24 Delay, Chime
25 Delay, Chime, Bypass in Stay
40 Interior
41 Interior, Bypass in Stay
44 Interior, Chime
45 Interior, Chime, Bypass in Stay
48 Interior, Dial Delay
49 Interior, Bypass in Stay, Dial Delay
4C Interior, Chime, Dial Delay
4D Interior, Chime, Bypass in Stay, Dial Delay

24 HOUR ZONES

81 Alarm Audible
82 Trouble Audible
84 Fire (Always Audible)
89 Alarm Silent (no LED, sounder or bell)
8A Trouble Silent (LED indication only)

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.

Examples: 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.

QUESTIONS 10 - 15 ZONES 1 - 6

There are 4 locations (L1-L4) within each of these questions which define the operation of the zones. 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.

QUESTION 10 ZONE 1 **DEFAULT = 2031**

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

QUESTION 11 ZONE 2 **DEFAULT = 4132**

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

QUESTION 12 ZONE 3 **DEFAULT = 1033**

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

QUESTION 13 ZONE 4 **DEFAULT = 1034**

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

QUESTION 14 ZONE 5 **DEFAULT = 1035**

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

QUESTION 15 ZONE 6 **DEFAULT = 1036**

<u>LOCATION</u>	<u>DEFAULT</u>
L1 - L2 ZONE TYPE	10 PERIMETER
L3 - L4 ZONE ALARM CODE	36

QUESTION 16 AMBUSH/AC LOSS**DEFAULT = AAAA**

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.

LOCATION	DEFAULT
L1 - L2 AMBUSH	AA
L3 - L4 AC LOSS	AA

QUESTION 17 PANIC/LOW BATTERY**DEFAULT = 22AA**

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.

LOCATION	DEFAULT
L1 - L2 PANIC	22
L3 - L4 LOW BATTERY	AA

QUESTION 18 OPEN/CLOSE/CS TEST CODE**DEFAULT = AAAA**

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 CS Test CODE. Entry of AA means that CS Test is not enabled. If CS Test code is selected then ANY valid transmission will reset the CS Test timer.

LOCATION	DEFAULT
L1 OPENING CODE	A
L2 CLOSING CODE	A
L3 L4 CS TEST	AA

QUESTION 19 BYPASS/RESTORE/TROUBLE/CANCEL**DEFAULT = AAF8**

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 all burglary or 24 hour zones by enabling this code (entry of any code except A) . 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. **NOTE:** Restore is not selectable by zone.

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 the single digit system CANCEL CODE reported to the central station. This code will be sent if after a violation of a controlled zone, a user code is entered. If the zone is still violated, entry of a user code will transmit the cancel code. If the zone is programmed for restoral, then the restore code will be transmitted when the loop status has returned to normal. An entry of A in this field indicates that cancel codes are not transmitted. In formats requiring 2 digits, the user number functions as the second digit.

LOCATION	DEFAULT
L1 BYPASS	A
L2 RESTORE	A
L3 TROUBLE	F
L4 CANCEL	8

QUESTION 20 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.

LOCATION	DEFAULT
L1 - L2 KPAD FIRE	AA
L3 - L4 KPAD AUX	AA

QUESTION 00 INSTALLER CODE**DEFAULT = 2121**

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.

10. DATA ENTRY VIA LED BASED KEYPADS

This section describes the physical keystrokes necessary to perform keypad programming and how to interpret the data displayed on the LED based keypads (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.

10.1. HOW TO ENTER PROGRAMMING MODE

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

Press the **CODE** button.

Press the **"*"** (asterisk) button. (asterisk)

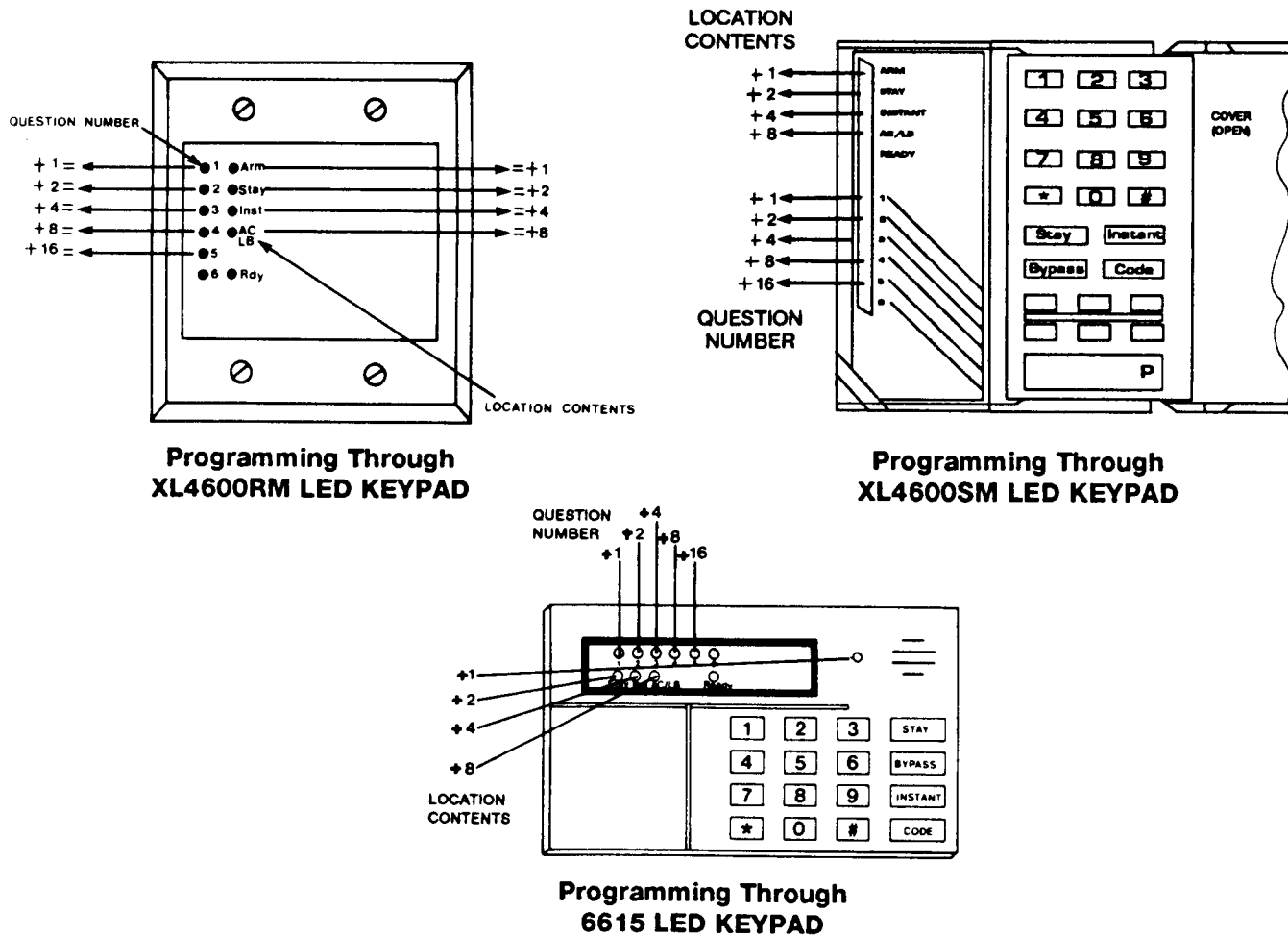
ENTER the four digit **INSTALLER CODE** (default = 2121)

Press **"1"** button. This indicates Installer Mode 1.

10.2. WHAT YOU SEE ON THE KEYPAD

PROGRAM MODE = READY LED:

Upon entering the installer keypad programming mode the READY LED will slowly pulse, and will continue to pulse until leaving this mode. The remaining LEDS display the question number and location contents as indicated below:



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**

QUESTION NUMBERS = ZONE LEDS: There are 21 total questions, with 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 on the following page, the **question number** is the total you get when you ADD 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 which follows 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

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

System program mode starts with question 1 displayed. RANDOM JUMPS TO ANY QUESTION CAN BE MADE BY PRESSING THE * (ASTERISK) BUTTON AND THE 2 DIGIT QUESTION NUMBER.

Questions can be accessed randomly or sequentially.

Example: Jump to question 07 = Press * 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 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 PRESSING THE # (POUND) BUTTON.

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

DATA ENTRY

To alter the value in any location , enter the desired DIGIT from the program sheet,and press the # button.

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

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

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

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

Example: Enter an A = Press CODE followed by 1.

EXIT SYSTEM PROGRAM MODE

After all programming has been completed, PRESS 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 beep between keystrokes. In addition, a beep will be generated confirming advancement between questions numbers.

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

SUMMARY OF SYSTEM PROGRAMMING

FUNCTION	KEYSTROKES
ENTER PROGRAMMING MODE	[CODE][*][installer code][1]
EXIT PROGRAMMING MODE	[STAY]
ADVANCE BETWEEN LOCATIONS (ENTER)	[#]
NOTE: Must press [#] after every digit.	
GO TO SPECIFIC QUESTION	[*] [Question Number]
	Example: * 0 5
	0 - 9
DATA ENTRY	A - F entered as follows:
	A CODE 1
	B CODE 2
	C CODE 3
	D CODE 4
	E CODE 5
	F CODE 6

11. DATA ENTRY THROUGH LCD BASED KEYPADS

Keypad programming can also be accomplished through the LCD based keypads. In addition to the normal 21 programming questions, additional capability is available for entering the zone descriptors directly through the keypad.

11.1. HOW TO ENTER PROGRAMMING MODE

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

Press the **CODE** button.

Press the ******* (asterisk) button. (asterisk)

ENTER the four digit **INSTALLER CODE** (default = 2121)

Press **"1"** button. This indicates Installer Mode 1.

11.2. WHAT YOU SEE ON THE KEYPAD

Upon entering the installer keypad programming following display will appear:

QUES:01	L:01
DATA = 1	

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

11.3. HOW TO ENTER DATA

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

MOVEMENT BETWEEN QUESTIONS

Upon entry into the system program mode question number 1 is displayed. RANDOM JUMPS TO ANY QUESTION CAN BE MADE BY PRESSING THE * (ASTERISK) BUTTON AND THE 2 DIGIT QUESTION NUMBER.

Questions can be accessed randomly or sequentially.

Example: Jump to question 07 = Press * 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 I1 to the next location within any question can be performed by pressing the # (pound) button.**

DATA ENTRY

To **alter the value** in any location , enter the desired DIGIT from the program sheet, and **press the # button.**

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

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

Press 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 = Press **CODE** followed by 1.

EXIT SYSTEM PROGRAM MODE

After all programming has been completed, Press 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 beep between keystrokes. In addition, a beep will sound confirming advancement between questions numbers.

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

11.4. ZONE DESCRIPTOR PROGRAMMING

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

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 button	Moves the cursor to the left one space
INSTANT button	Moves the cursor to the right one space
7	Increments the character at the cursor
* 7	Scrolls forward (UP) through the character set. NOTE: Pressing of any key will stop the scroll
9	Decrements the character at the cursor
# 9	Scrolls backwards through the character set NOTE: Pressing of any key will stop the scroll

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

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

12. SYSTEM DEFAULTS

The system is shipped from the factory programmed 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. The installer can also do a System Default or User Code Default through Installer Mode 1 (refer to the Installer Modes section of this manual). **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 VALUE
00 Installer Code	2121
01 Phone #1	234AAAAAAAAA
02 Phone #2	AAAAAAAAAAAA (none)
03 Callback Number	AAAAAAAAAAAA (none)
04 Dialer Options	Touch Tone, 20PPS, 2300hz, No Parity, 3x1, Audible Keypad Panic
05 Kpad options	Keypad panic, Hardwired panic audible, Restore Follows Bell, Stay/Instant
06 System Timeouts	Entry Delay1 = 90sec., Exit Delay = 90 sec. Burg. Bell Cutoff = 15 min., Fire Bell Cutoff = Infinite
07 Misc. Sys. Options	Entry Delay2 = 20 sec., Ring Count = 12, CS Test Time = Weekly
08 Account #1	1234
09 Account #2	AAAA
10 Zone #1	Delay (20), Code = 31
11 Zone #2	Interior (41), Code = 32
12 Zone #3	Perimeter (10), Code = 33
13 Zone #4	Perimeter (10), Code = 34
14 Zone #5	Perimeter (10), Code = 35
15 Zone #6	Perimeter (10), Code = 36
16 System Codes	Ambush = AA (null), AC Loss = AA (null)
17 System Codes	Panic = 22, Low Battery = AA (null)
18 System Codes	Open = A (null), Close = A (Null), Test Code = AA (null)
19 System Codes	Bypass = A (null), Restore = E, Trouble = F, Cancel = 8
20 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)

USERS

1
2
3
4
5
6

CODES

1234
(null)
(null)
(null)
(null)
(null)

13. SUMMARY OF KEYPAD FUNCTIONS

13.1. USER FUNCTIONS

ARMING/DISARMING:	[Enter any valid four digit user code]
STAY ARMING:	[STAY] [Enter any valid four digit user code]
STAY/INSTANT ARMING:	[STAY] [INSTANT] [Enter any valid four digit user code]
BYPASS:	[BYPASS] [Enter any valid four digit user code] [Zone #]
QUICK BYPASS:	[BYPASS] [Zone #]
USER CODE PROGRAMMING:	[CODE] [Enter master user code] [user #] [Enter 4 digit user code]
USER CODE DELETION:	[CODE] [Enter master user code] [user #] [*]
QUICK ARMING:	[#] [1]
QUICK FORCE ARMING:	[#] [2]
TOGGLE CHIME:	[#] [6]
ON-LINE DOWNLOADING:	[#] [9]
PANIC	[*] & [#] at the same time
FIRE	[7] & [9] at the same time
AUXILIARY	[1] & [3] at the same time
AMBUSH	[Enter user code 6]

13.2. INSTALLER MODES

KEYPAD PROGRAMMING:	[CODE] [*] [Enter installer code] [1]
SYSTEM LOG VIEW:	[CODE] [*] [Enter installer code] [2]
UNATTENDED DOWNLOAD:	[CODE] [*] [Enter installer code] [3]
ON-LINE DOWNLOAD:	[CODE] [*] [Enter installer code] [4]
SYSTEM DEFAULT:	[CODE] [*] [Enter installer code] [1] then press [1] & [3] at the same time
USER CODE DEFAULT:	[CODE] [*] [Enter installer code] [1] then press [7] & [9] at the same time

NOTE: All these functions can be performed from all keypad types (XL4600RM, XL4600SM, 6615 or 6805).

APPENDIX - TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE	REMEDY
1. LED or LCD: Keypad display not lit.	1a. A.C. & D.C. power out. 1b. Keypad not powered.	1a. Check transformer connection & battery connection; check A.C. input volt. & batt. volt. (w/transformer disconnected); check auxiliary fuse. 1b. Check term. 15(+) & 12(-) for 12VDC.
2. LED KP: "AC/LB" light OFF LCD KP: "A.C. LOSS"	2a. A.C. power out 2b. Faulty keypad	2a. Check transformer connection; check A.C. input volt. 2b. Replace keypad.
3. LED KP: "AC/LB" light slowly blinking LCD KP: "LOW BAT"	3a. D.C. power out; no battery connected 3b. Low battery voltage	3a. Check battery connection; check batt. volt. (w/transformer disconnected); check battery fuse. 3b. Same as 3a. except volt. > 11VDC; otherwise let battery charge; replace battery.
4. LED KP: "ARM" light slowly blinking LCD KP: "COMM. FAILURE"	4a. Failure to communicate w/Central Station. 4b. Faulty panel. 4c. Faulty telephone lines.	4a. Telephone lines cut or disconnected; C.S. info. missprogrammed. 4b. Replace panel. 4c. Consult local telephone company.
5. LED KP: "ZONE" light ON & "READY" LIGHT OFF LCD KP: "NOT RDY: ZN # " & "SYSTEM NOT READY"	5a. Zone faulted/System not ready to be armed 5b. Faulty keypad 5c. Faulty panel	5a. Check loop wiring for either an open or short & repair; bad resistor or wrong resistor value. 5b. Replace keypad 5c. Check zone term. for 3.3 VDC; Bypass zone temporarily; replace panel.

For more complicated problems consult our **Technical Service** at (800) 645-5430.

SYSTEM PLANNING WORKSHEET

Name: _____ Address: _____

ZONE NUMBER	AREA PROTECTED	ZONE TYPE *	ZONE DESCRIPTOR (12 CHAR)	SENSORS
1				
2				
3				
4				
5				
6				
7		Panic <input type="checkbox"/> Keyswitch <input type="checkbox"/>	Not Applicable	

* Valid Zone Types are:

Controlled Zones	24 Hour Zones
Instant/Perimeter	24 Hour Alarm
Delay	24 Hour Trouble
Interior	Fire

USER NUMBER	APPLICATION	USER NAME
1	Master User *	
2	Normal User	
3	Normal User	
4	Normal User	
5	Arm Only Y <input type="checkbox"/> N <input type="checkbox"/>	
6	Ambush Y <input type="checkbox"/> N <input type="checkbox"/>	

* Only the master user (1) can add, change or delete other user codes.

KEYPAD NUMBER	KEYPAD TYPE	LOCATION
1	XL4600RM <input type="checkbox"/> XL4600SM <input type="checkbox"/> 6615 <input type="checkbox"/> 6805 <input type="checkbox"/>	
2	XL4600RM <input type="checkbox"/> XL4600SM <input type="checkbox"/> 6615 <input type="checkbox"/> 6805 <input type="checkbox"/>	
3	XL4600RM <input type="checkbox"/> XL4600SM <input type="checkbox"/> 6615 <input type="checkbox"/> 6805 <input type="checkbox"/>	
4	XL4600RM <input type="checkbox"/> XL4600SM <input type="checkbox"/> 6615 <input type="checkbox"/> 6805 <input type="checkbox"/>	

SYSTEM PROGRAMMING WORKSHEET

Name:		Address:												
01	Primary Tele #	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	<input type="checkbox"/> L5	<input type="checkbox"/> L6	<input type="checkbox"/> L7	<input type="checkbox"/> L8	<input type="checkbox"/> L9	<input type="checkbox"/> L10	<input type="checkbox"/> L11	<input type="checkbox"/> L12	234AAAAAAAAA
02	Secondary Tele #	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	<input type="checkbox"/> L5	<input type="checkbox"/> L6	<input type="checkbox"/> L7	<input type="checkbox"/> L8	<input type="checkbox"/> L9	<input type="checkbox"/> L10	<input type="checkbox"/> L11	<input type="checkbox"/> L12	AAAAAAAAAAAA (none)
03	Callback Tele #	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	<input type="checkbox"/> L5	<input type="checkbox"/> L6	<input type="checkbox"/> L7	<input type="checkbox"/> L8	<input type="checkbox"/> L9	<input type="checkbox"/> L10	<input type="checkbox"/> L11	<input type="checkbox"/> L12	AAAAAAAAAAAA (none)
04	Dialer Options	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	Default = Touch Tone, 20PPS, 2300Hz, No Parity, 3x1, Audible Panic								
05	Keypad Options	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	Default = Keypad Panic & Auto unbypass enabled, HW Panic Audible, Restore follows Bell								
06	System Timeouts	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	Default = Entry Delay 1 - 90 sec, Exit Delay - 90 sec, Burg Bell - 15 min, Fire Bell - No Timeout								
07	Misc Sys Options	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	Default = Entry Delay 2 - 20 sec, RingCount = 12, CS Test = 7 days (weekly), Euro Ring off, Smoke not Trigger								
08	Account #1	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	Default = 1234								
09	Account #2	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	Default = AAAA (null)								
10	Zone #1	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	Default = Delay (20)				Code = 31				
11	Zone #2	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	Default = Interior (41)				Code = 32				
12	Zone #3	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	Default = Perimeter (10)				Code = 33				
13	Zone #4	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	Default = Perimeter (10)				Code = 34				
14	Zone #5	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	Default = Perimeter (10)				Code = 35				
15	Zone #6	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	Default = Perimeter (10)				Code = 36				
16	Ambush/AC Loss	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	Default = Ambush - AA (null) AC Loss - AA (null)								
17	Panic/Low Battery	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	Default = Panic - 22 Low Battery - AA (null)								
18	Opn/Cls/Testcode	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	Default = Open - A (null) Close - A (null) Test - AA (null)								
19	Byp/Rest/Trbl/Cncl	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	Default = Bypass - A (null) Restore - E Trouble - F Cancel - 8(null)								
20	Keypad Fire/Aux	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	Default = Keypad Fire - AA (null) Keypad Aux - AA (null)								
00	Installer Code	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	Default = 2121								
21	Zone 1 Descriptor	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	<input type="checkbox"/> L5	<input type="checkbox"/> L6	<input type="checkbox"/> L7	<input type="checkbox"/> L8	<input type="checkbox"/> L9	<input type="checkbox"/> L10	<input type="checkbox"/> L11	<input type="checkbox"/> L12	Default = ZONE 1
22	Zone 2 Descriptor	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	<input type="checkbox"/> L5	<input type="checkbox"/> L6	<input type="checkbox"/> L7	<input type="checkbox"/> L8	<input type="checkbox"/> L9	<input type="checkbox"/> L10	<input type="checkbox"/> L11	<input type="checkbox"/> L12	Default = ZONE 2
23	Zone 3 Descriptor	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	<input type="checkbox"/> L5	<input type="checkbox"/> L6	<input type="checkbox"/> L7	<input type="checkbox"/> L8	<input type="checkbox"/> L9	<input type="checkbox"/> L10	<input type="checkbox"/> L11	<input type="checkbox"/> L12	Default = ZONE 3
24	Zone 4 Descriptor	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	<input type="checkbox"/> L5	<input type="checkbox"/> L6	<input type="checkbox"/> L7	<input type="checkbox"/> L8	<input type="checkbox"/> L9	<input type="checkbox"/> L10	<input type="checkbox"/> L11	<input type="checkbox"/> L12	Default = ZONE 4
25	Zone 5 Descriptor	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	<input type="checkbox"/> L5	<input type="checkbox"/> L6	<input type="checkbox"/> L7	<input type="checkbox"/> L8	<input type="checkbox"/> L9	<input type="checkbox"/> L10	<input type="checkbox"/> L11	<input type="checkbox"/> L12	Default = ZONE 5
26	Zone 6 Descriptor	<input type="checkbox"/> L1	<input type="checkbox"/> L2	<input type="checkbox"/> L3	<input type="checkbox"/> L4	<input type="checkbox"/> L5	<input type="checkbox"/> L6	<input type="checkbox"/> L7	<input type="checkbox"/> L8	<input type="checkbox"/> L9	<input type="checkbox"/> L10	<input type="checkbox"/> L11	<input type="checkbox"/> L12	Default = ZONE 6

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 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 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.

FBI LIMITED WARRANTY

Fire Burglary Instruments, Inc., a Subsidiary of Pittway Corporation, and Pittway Corporation its divisions, subsidiaries and affiliates ("Seller"), 163 Eileen Way, Syosset, New York 11791 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 5 years from the date stamp control on the product, or for products not having a date stamp, for 5 years 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 product 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, 163 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 THE SELLER'S 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, fire, or other events occurring without providing an alarm, 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 BE THE COMPLETE AND EXCLUSIVE REMEDY AGAINST SELLER. This warranty replaces any previous warranties and is the only warranty made by seller on this product. No increase or alteration, written or verbal, on the obligations of this Limited Warranty is authorized.

"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 your 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 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.