STAR XL4600 XL4605

Hookup and Installation Instructions

Fire Burglary Instruments, Inc.

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

REV. B FI2384 8/89

STAR XL4600 XL4605

TABLE OF CONTENTS

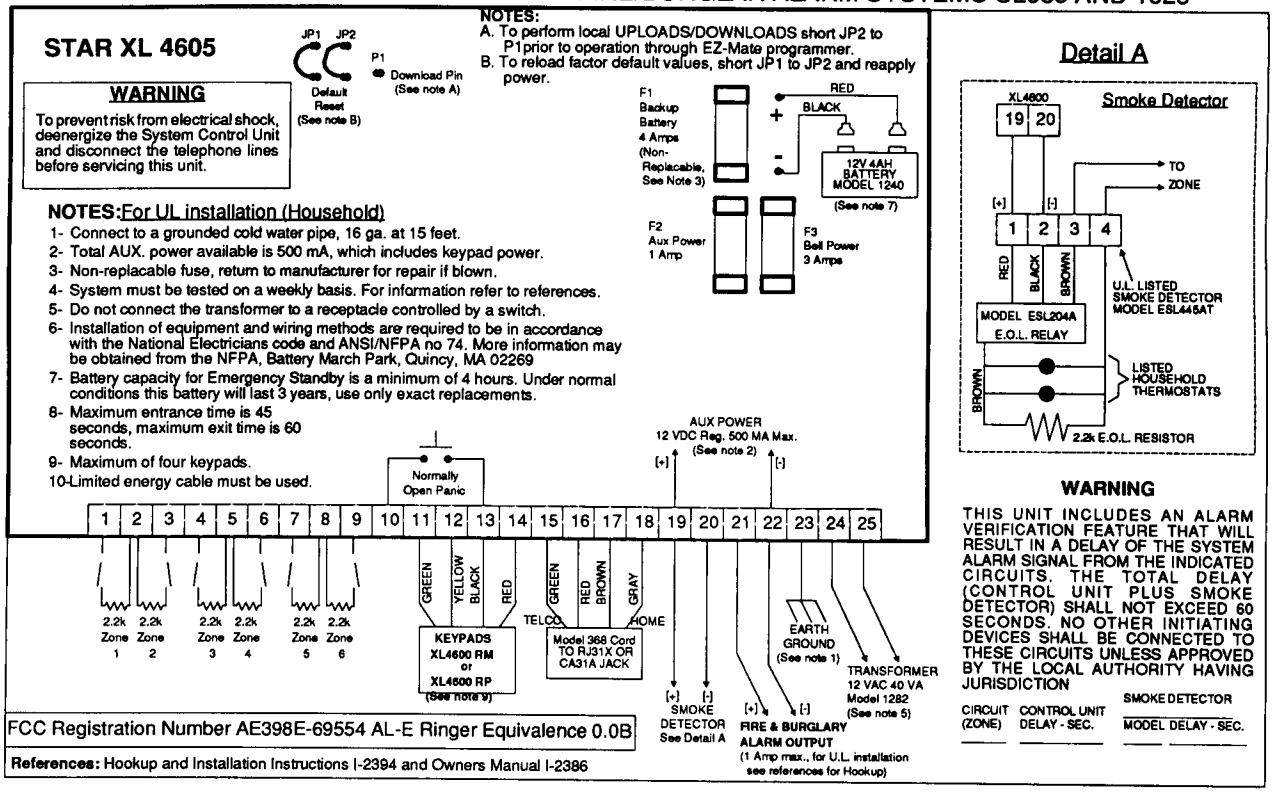
1. INTRODUCTION

The STAR XL-4600 is a state of the art EEPROM based control/communicator. The system features six fully programmable zones as well as a wired panic zone. Programming can be performed through the keypad or the system can be uploaded and downloaded locally using the EZ-Mate Programmer. The STAR XL-4600 contains up to six user codes with an ambush code capability. All of the keypads are four wire devices, with up to four keypads per system. The XL4605 is the commercial UL version of the XL4600.

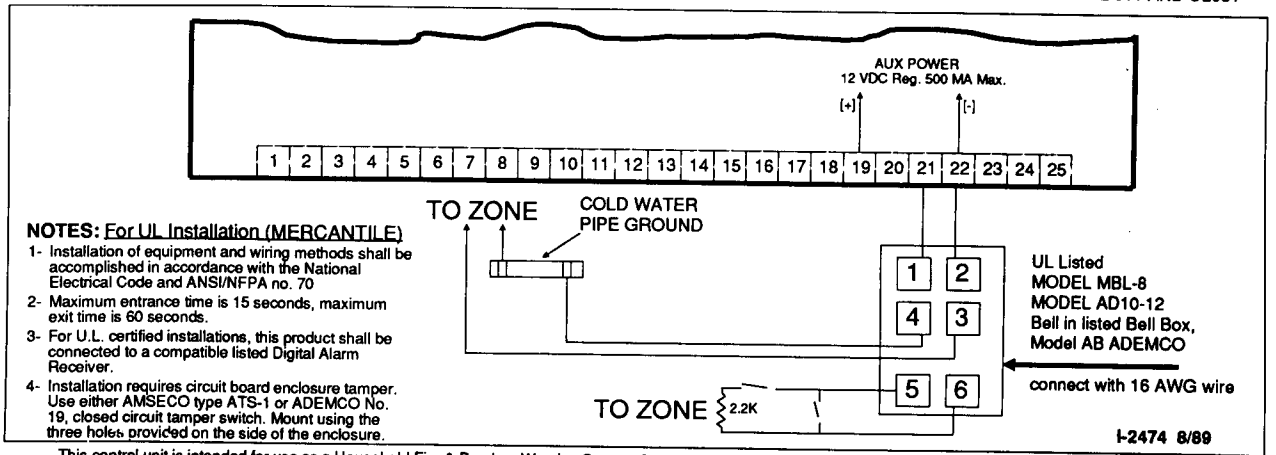
2. SYSTEM WIRING AND HOOKUP

2.1. SYSTEM WIRING DIAGRAM

CONNECTIONS FOR HOUSEHOLD FIRE/BURGLAR ALARM SYSTEMS UL985 AND 1023



CONNECTIONS FOR MERCHANTILE BURGLAR ALARMSYSTEM UL 365, 609 AND 1635
(Note: All other connections are the same as above.) FOR ADDITIONAL INFORMATION REFER TO UL 611 AND UL681



NOTES: For UL Installation (MERCANTILE)
1- Installation of equipment and wiring methods shall be accomplished in accordance with the National Electrical Code and ANSI/NFPA no. 70
2- Maximum entrance time is 15 seconds, maximum exit time is 60 seconds.
3- For U.L. certified installations, this product shall be connected to a compatible listed Digital Alarm Receiver.
4- Installation requires circuit board enclosure tamper. Use either AMSECO type ATS-1 or ADEMCO No. 19, closed circuit tamper switch. Mount using the three holes provided on the side of the enclosure.

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 campatiblebell, 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]
2(-) & 3	Zone 2 (Requires 2.2K EOL resistor)	[Default = INTERIOR]
4 & 5(-)	Zone 3 (Requires 2.2K EOL resistor)	[Default = PERIMETER]
5(-) & 6	Zone 4 (Requires 2.2K EOL resistor)	[Default = PERIMETER]
7 & 8(-)	Zone 5 (Requires 2.2K EOL resistor)	[Default = PERIMETER]
8(-) & 9	Zone 6 (Requires 2.2K EOL resistor)	[Default = FIRE]

ZONE INFORMATION

Normally closed devices may be wired in series, and/or normally open devices in parallel with the 2.2k ohm end of line resistor on all zones. The maximum loop resistance may not exceed 100 ohms. The loop response time is **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.

10 & 13 **PANIC CIRCUIT**

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

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

11 12 13 14 **KEYPADS:**

A maximum of 4 keypads, either XL4600RM or XL4600RP, may be wired to these terminals. The connections are as follows; 11 (GREEN = data out), 12 (YELLOW = data in), 13 (BLACK = negative), and 14 (RED = positive power). Each keypad draws approximately 30mA. Maximum keypad length is 500 feet using 22 gauge wire.

15 16 17 18 **TELEPHONE LINE:**

Connect the FBII model 368 cord as follows; 15 (GREEN = Telco Tip), 16(RED = Telco Ring), 17(BROWN= Home Tip), 18(GREY= Home Ring). Insert the modular plug into an approved USOCRJ31X jack (or a CA31A jack for Canadian installations).

The FCC registration number is (AE398E-69554 AL-E), and the ringer equivalence is (0.0B). This STAR XL4600 should not be connected to party lines, or coin operated phones.

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

19(+) 20(-) **SMOKE DETECTOR POWER:**

This system will accept 12VDC four(4) wire smoke detectors only. Approximately 50mA of current is available at these terminals for powering all detectors and an E.O.L. relay FBII model 620. For UL installations see wiring diagram for hookup.

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

19(+) & 22(-) **REGULATED POWER (13.8VDC):**

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

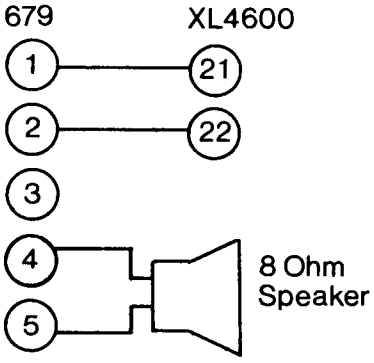
The total regulated output capacity of the XL4600 includes the power available from these terminals (19 & 22) as well as the power used by the keypads and

smoke detectors. Therefore, to determine the total power available from these terminals subtract the power consumed by the keypads and smoke detectors.

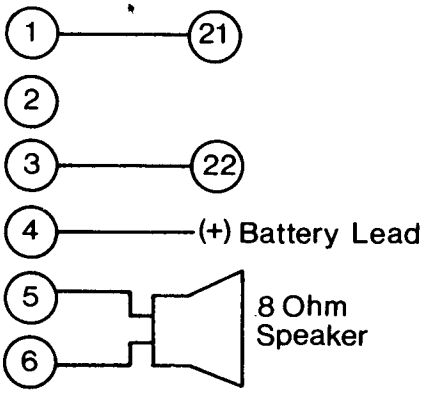
21(+) & 22(-) **BELL OUTPUT:**

The total output power available for sounding devices is 1.5 amps (1 Amp for UL installations) at 13.8VDC. These terminals will deliver CONSTANT output on BURGLARY, AUDIBLE PANIC and BELL TEST. On a FIRE condition, a PULSED output will be generated. There are separate bell cutoff times programmable for Burglary and Fire conditions within the programming sequence.

679 Connection



VS 279 Connection



References: Model 679 I-2231 Model VS 279 I-2292

23 **EARTH GROUND:**

Connect this terminal to a cold water pipe utilizing #18AWG wire at a distance of no greater than 15 ft.. If the premises pipes terminate in PVC, this terminal **must** be connected to a six(6) foot grounding rod.

24 & 25 **TRANSFORMER:**

Connect an FBII model 1282 12 VAC 40VA transformer, utilizing 18awg wire at a distance not to exceed 15 feet from the panel, to an **unswitched** 120 VAC outlet.

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

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

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

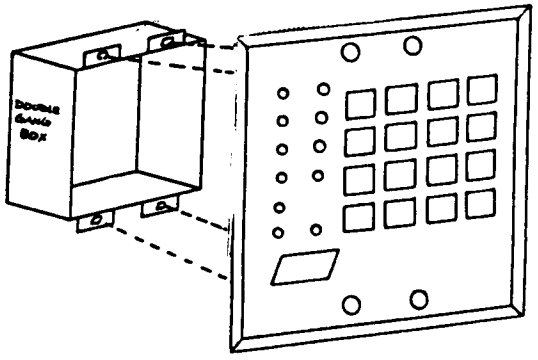
The XL4600 performs a battery test approximately every 4.5 minutes. Low battery condition occurs at nominal 11VDC during this test. The keypad AC/LOW BAT LED and buzzer will PULSE SLOWLY when low battery condition is detected. The system will report this condition to the CS if programmed. Battery restoral will occur WITHIN 4.5 minutes, at the NEXT battery test. THE BUZZER MAY BE SILENCED by entry of any valid user code.

GROUND FAULT Ground fault capability can be added to the XL4600 or XL4605 through addition of the FBII Model 117 module. Consult the 117 Installation Instructions for hookup information.

3. KEYPAD MOUNTING

3.1. XL4600RM METAL KEYPAD

FLUSH MOUNTING USING DOUBLE GANG BOX

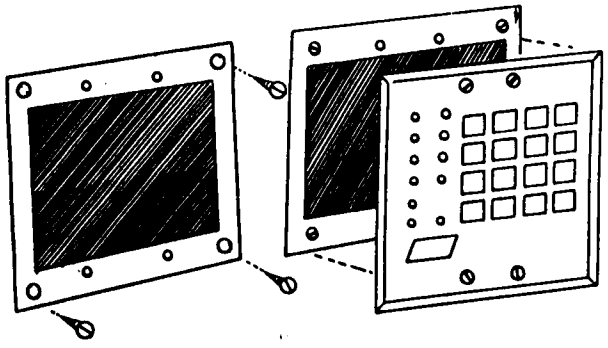


1- Create an opening and mount a standard double gang box.

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 optional XL4600TR)

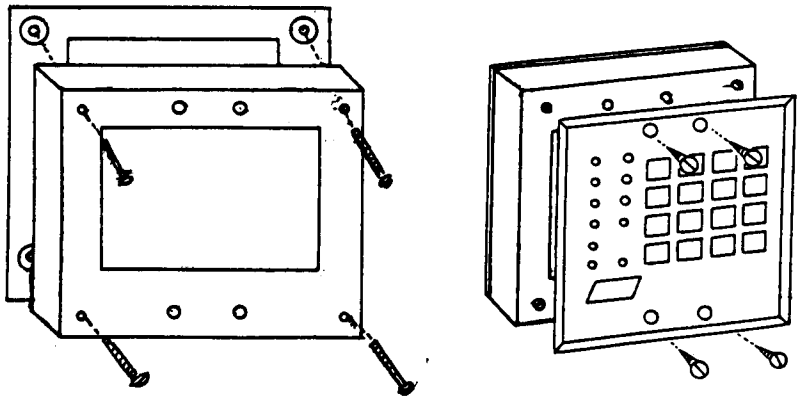


1- Create the desired opening where keypad is to be mounted, using the inside of the mounting ring as a template. NOTE: This opening should be made between studs.

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

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

SURFACE MOUNTING (Using optional XL4600RMBX)

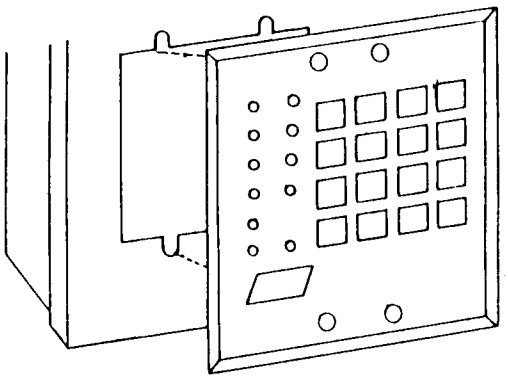


1- Depending on type of installation run the keypad wiring out of the rear, top bottom or sides of the backbox.

2- Attach backbox to wall at desired height

3- Insert 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.

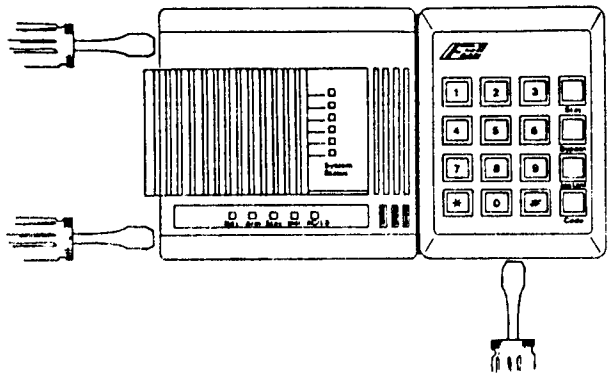
2- Insert XL4600RM into opening from front of enclosure.

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

3.2. XL4600RP PLASTIC KEYPAD

SURFACE MOUNTING

XL4600 PLASTIC KEYPAD-SURFACE MOUNT



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

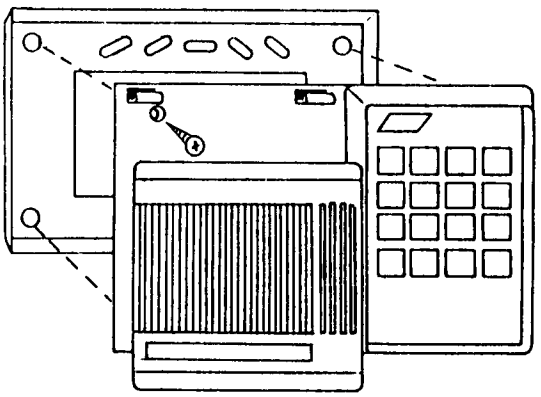
2- Remove the zone indicator (left side) portion of the keypad using a screwdriver in the slots located on the left side of the keypad.

3- Connect keypad wiring to main control panel.

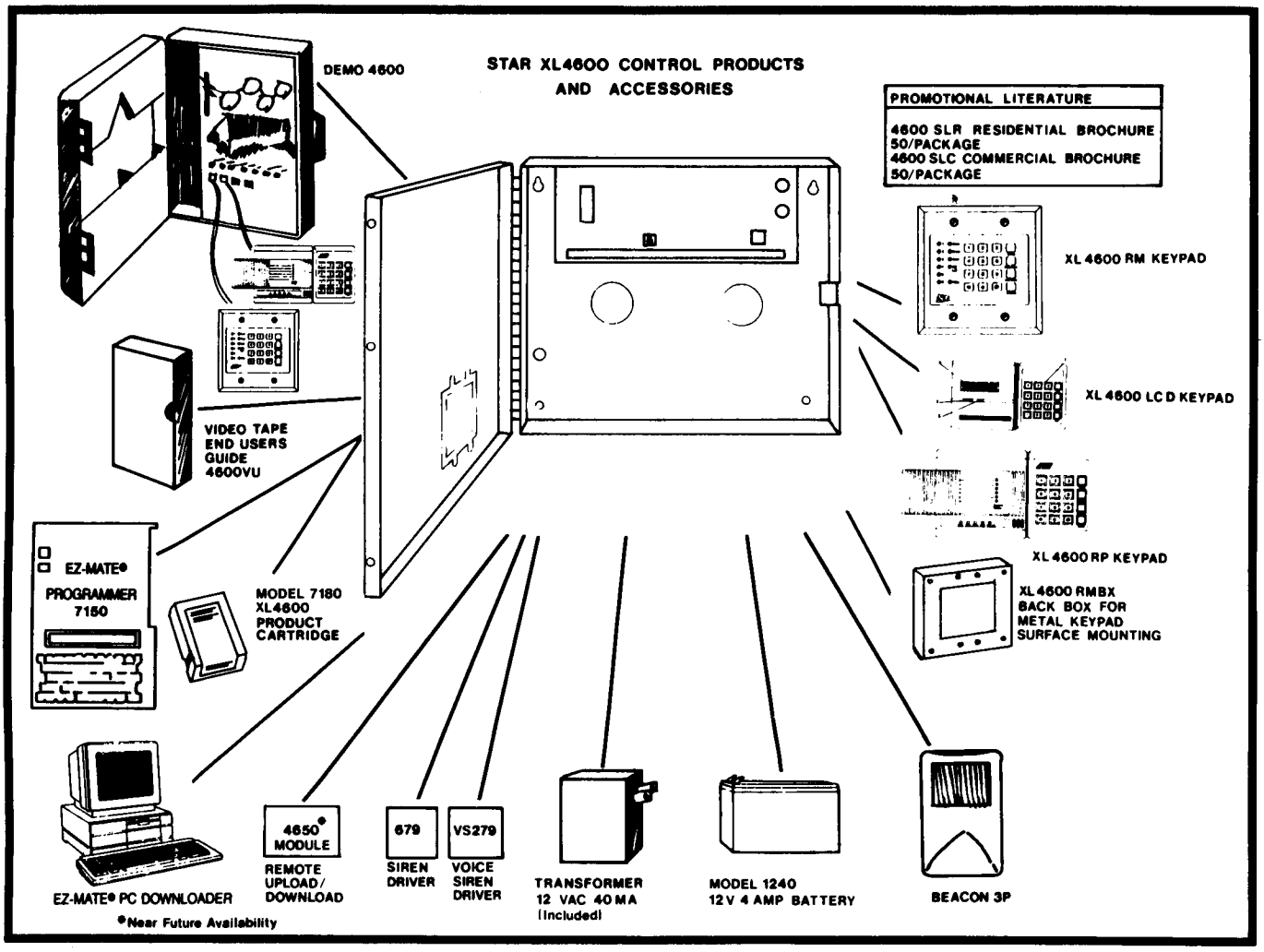
4- Remove the four screws which secure the keypad to the rear mounting plate.

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

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

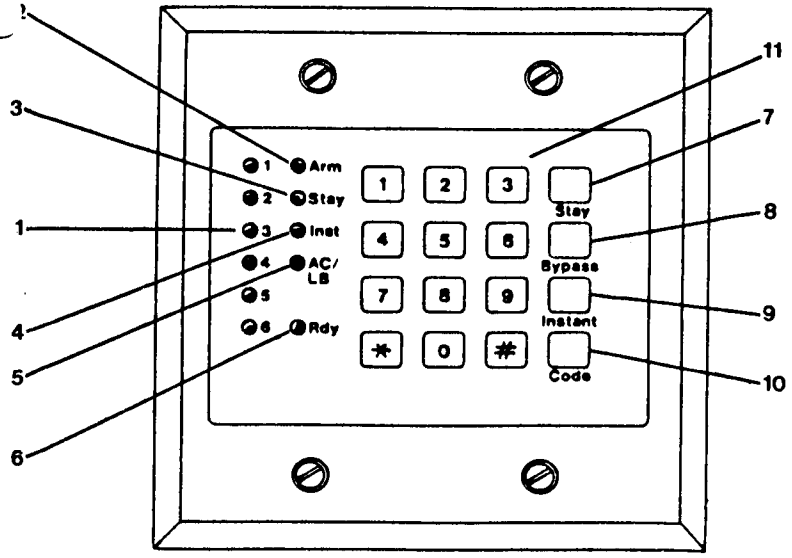


4. SYSTEM COMPONENTS AND ACCESSORIES

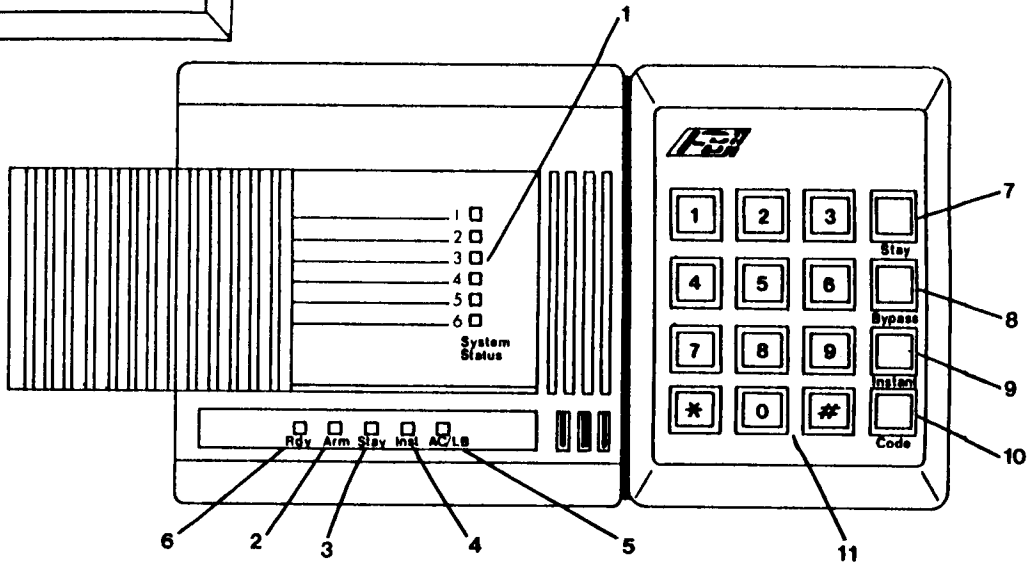


XL4600	Includes XL4600 control panel, metal keypad (XL4600RM) and transformer.
XL4600P	Includes XL4600 control panel, plastic keypad (XL4600RP) and transformer.
XL4600PO	Includes XL4600 control communicator and transformer, (keypads additional)
XL4605BX	Enclosure for Commercial UL listing for the XL4600 (requires an XL4600 control panel).
XL4600RM	Additional metal plate keypad for XL4600 system.
XL4600RP	Additional surface mount keypad for XL4600 system.
XL4600LCD	Liquid Crystal Display (LCD) for the XL4600 system.
XL4600TR	Mounting Ring for flush mounting the XL4600RM keypad.
XL4600RMBX	Back box to surface mount the XL4600RM metal keypad.
XL4600PKM	Value Pak consisting of XL4600, metal keypad (XL4600RM), transformer, backup battery, 679 siren driver, Beacon 3P Passive, and siren.
XL4600PKP	Value Pak consisting of XL4600, plastic keypad (XL4600RP), transformer, backup battery, 679 siren driver, Beacon 3P Passive, and siren.
XL4650	Add-on module for the XL4600 system providing remote uploading and downloading capabilities.(Call for availability)
DEMO4600	Sales Demonstration kit for the STAR XL 4600 system. This includes a working 4600 system, 4600RM and 4600RP keypads, and can be used to demonstrate both residential and commercial applications.
4600SLR	Sales literature for residential applications. These brochures are 4 page, full color, and available in packages of 50.
4600SLC	Sales literature for commercial applications. These brochures are 4 page, full color, and available in packages of 50.
4600VU	End User Video tape for end user detailing the operation of the STAR XL-4600 system

5. KEYPAD LAYOUT



XL4600 RM Keypad



XL4600 RP Keypad

1) ZONE STATUS LEDS

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

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

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

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

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

NORMAL OFF

2) ARM/DISARM LED

This LED indicates whether the system is currently armed (ON) or disarmed (OFF). This LED will also blink fast to show that alarms have occurred or blink slowly upon failure to communicate with the Central Station.

3) STAY LED

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

ON Interior zones are bypassed

OFF Interior zones are normal

4) INSTANT LED

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

ON Delay zones are currently instant

OFF Delay zones are normal

5) AC/LOW BATTERY LED

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

ON AC is present

OFF No AC, running on battery backup

Slow Blink Low battery condition detected

6) READY LED

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

ON System ready to be armed

OFF System not ready to be armed

Slow Blink Indicates Installer programming mode

Fast Blink Alarm Memory Mode

7) STAY BUTTON

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

8) BYPASS BUTTON

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

9) INSTANT BUTTON

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

10) CODE BUTTON

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

5.1. KEYPAD SOUNDER

The keypad sounder annunciates differently to indicate the following conditions:

CHIRP Keypad emits a short chirp to confirm each keystroke.

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

CHIME - steady 1 second tone.

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

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

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

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

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

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

6. SYSTEM OPERATIONS

6.1. POWER UP/SYSTEM RESET

Upon initial powerup of the XL4600 , all of the lights on the keypad will go on and the sounder will operate for approximately 10 seconds. This occurs on a total powerup , system reset or after completion of system programming. If the total system power is lost then upon power restoral, the XL4600 will return to the previous arming state.

6.2. ARMING THE SYSTEM

FAIL-SAFE ARMING:

The XL4600 can be armed only if all burglary zones are good (not faulted) and the READY LED is on.

ARMING:

Enter any programmed four digit user code.

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

The ARMED LED will light and the user may exit through an exit/entry zone for the time period programmed as the exit delay. The XL4600 can be armed without the backup battery being connected, however the AC/LB light will flash.

6.3. STAY ARMING

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

The ARMED and STAY LEDs will light. The system is armed at this time with all programmed interior zones excluded.

6.4. INSTANT ARMING

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

The ARMED and INSTANT LEDs will light. The system is armed at this time with all programmed delay zones instant.

6.5. INSTANT-STAY ARMING

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

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

6.6. DISARMING

Depress any valid four(4) digit user code.

The ARMED LED will extinguish.

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

6.7. RESET

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

6.8. BYPASS

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

Depress the BYPASS button followed by any valid four(4) digit user code, followed a number 1-6, which represents the respective zone to be bypassed.

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

BYPASS 1234 2

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

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

In addition the following rules for bypass exist;

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

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

6.9. AUTO UNBYPASS

All burglary zones which are bypassed will 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.

6.10. MANUAL UNBYPASS

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

6.11. USER CODE PROGRAMMING

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

The STAR XL-4600 contains up to six user codes (4 digits each) with the following applications; o7 3

USER NUMBER	APPLICATION
1	Master User [Default = 1234]
2	User #2 [Default = null]
3	User #3 [Default = null]
4	User #4 [Default = null]
5	User #5 [Default = null]
6	Ambush Code or User #6 [Default = null]

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

USER DEFINITION PROCEDURE:

CODE [USER] [USER#] [USERID]

where:

CODE Code button on keypad
[USER] Master User ID code (user #1)
[USER#] Desired user to be programmed (1-6)
[USERID] Four digit user code. Valid digits are 0-9

Example:

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

CODE 1234 3 7493

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

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

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

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

If a dialing format is programmed which transmits opening/closing by user ID, each user will report the respective user number.

DURESS/AMBUSH

If ambush capability is required then an ambush transmission code must be entered within the programming sequence. When ambush has been enabled then the user #6 code will be used as an AMBUSH code. In this mode, entry of the user #6 code will ARM or DISARM the system and transmit the ambush code to the Central Station. Furthermore if opening/closing by user reporting is programmed, user number 6 will be reported along with the ambush code.

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

6.12. USER DELETION

Removal of users from the 4600 can be performed as follows;

USER DELETION PROCEDURE

CODE [USER] [User #] *

Where:

[USER] Master user code

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

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

6.13. KEYPAD PANIC

The 24 hr keypad panic can be initiated through simultaneous depression of the # and * keys.

The panic condition can be silent (no bell output) or audible based on the programming option. NOTE: The default value for panic is audible.

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

7. SYSTEM PROGRAMMING

The STAR XL-4600 system can be programmed in any one of four methods;

- Directly through keypad (XL4600RM or XL4600RP)
- EZ-MATE PROGRAMMER model 7150 on-site. [Using model 7180 Cartridge and the 7180J connector]
- EZ-MATE PROGRAMMER model 7150 remotely * [Using model 7180 Cartridge]
- EZ-MATE PC DOWNLOADER model 7700 remotely *

* requires addition of model 4650 module to the XL4600 panel.

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

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

There are 17 total programming questions numbered 00-16.

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

The XL4600 is shipped from the factory with SPECIFIC DEFAULT VALUES which were selected for a typical installation. If the default values are suitable for your installation then programming can be simplified. The default values are listed with each programming question and in the SYSTEM DEFAULT section of this manual.

8. PROGRAMMING QUESTIONS STAR XL4600

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

QUESTION 01 PRIMARY TELEPHONE NUMBER **DEFAULT:234AAAAAAAAAAAA**

Enter the telephone number (including area code or dialing prefix IF NECESSARY) of the primary central station receiver in L1 - L16.

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

REPORTING ROUTE:

The XL4600 will report all signals to the primary receiver phone number. Furthermore the panel will alternate between the primary and secondary receivers (if the second phone number is programmed) for a maximum of 8 attempts each in the event the signal has not been acknowledged.

QUESTION 02 SECONDARY TELEPHONE NUMBER **DEFAULT:AAAAAAAAAAAAAAA**

Enter the telephone number (including area code or dialing prefix IF NECESSARY) of the secondary central station receiver in L1 - L16.

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

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

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

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

QUESTION 03- DIALER OPTIONS

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

L1 = Dialer Formats
L2 = Receiver Type
L3 = Message length (ie:3x1,4x1,4x2)
L4 = System Options (Panic Type, Split Reporting, 24 Hr Test, Bell Test)

L1 DIALER FORMATS DEFAULT: 1

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

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

FORMAT EXPLANATIONS

Standard

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

123 3
or
6548 2

Extended

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

For example;

123 3
333 1
or
4312 E
EEEE 7

PARTIAL EXTENDED

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

Example:
Alarm Condition
853 1

Restore
853 E
EEE 1

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**	Franklin, Sescoa, DCI, Quickalert, Varitech, ADEMCO 685
7 =	20 PPS, 2300 Hz, Parity	FBI, Radionics Slow (2300)
8 =	40 PPS, 1400 Hz, No Parity	FBI
A =	40 PPS, 2300 Hz, No Parity	FBI
B =	40 PPS, 2300 Hz, Parity	FBI, Radionics Fast (2300)

NOTE: For UL installations the acceptable receivers are FBI CP220 (all formats), ADEMCO 685 (all formats without parity), Silent Knight 8520 or 9000.

L3 - MESSAGE LENGTH / BELL LOCKOUT **Default = 1**

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

1 =	3 x 1	**3 digit account, 1 digit event code**, no bell lockout	9 = 3x1, with bell lockout
2 =	4 x 1	4 digit account number, 1 digit event code, no bell lockout	A = 4x1, with bell lockout
4 =	4 x 2	4 digit account number, 2 digit event code, no bell lockout	C = 4x2, with bell lockout

If bell lockout is selected then subsequent activations of the same zone within the same arming interval will not activate the bell. This applies only to burglary (non 24 hour) zones. For UL installations bell lockout must not be selected.

NOTE: Please consult your Central Station manager to determine the formats message lengths which are accepted by the receiver.

L4- SYSTEM OPTIONS **Default = 1**

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

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

DESCRIPTION OF SYSTEM OPTIONS

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

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

24 Hour Test - If 24 hour test is enabled then the XL4600 will transmit the test code to the Central Station every 24 hours in the absence of any other signal. Transmission of any signal will reset the 24 hour test clock. For example if a business opened and closed 6 days a week then a test signal will be generated 24 hours after the last closing signal. NOTE: This option is required for UL Commercial Burglary applications.

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

QUESTION 04 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 05 ACCOUNT NUMBER 2 DEFAULT = AAAA

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

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

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

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

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

QUESTION 06 SYSTEM TIMEOUTS

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

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

L1 - ENTRY DELAY DEFAULT = 2

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

L2 - EXIT DELAY Default = 4

Enter the desired exit time in 15 second increments. For UL applications the maximum exit delay shall not exceed 60 seconds.

The valid range of input is 1 - F, with 1 indicating a 15 second exit delay and F indicating 225 seconds.

L3 - BURGLARY BELL CUTOFF Default = 5

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

L4 - FIRE BELL CUTOFF Default = F

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

8.1. ZONE PROGRAMMING

Questions 07-12 represent all the options related to programmable zones 1-6. Each question contains four(4) locations L1-L4. The first two locations (L1-L2) define the zone type. The second two locations (L3-L4) define the alarm code transmitted to the Central Station for that zone.

ZONE TYPES

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

BURGLARY ZONES

DELAY

This is the industry standard exit/entry zone. When the system is armed exit time begins. After exit expires, any subsequent violation of this zone will begin entry time. If the system is not disarmed within the programmed entry time an alarm will occur. The keypad sounder will annunciate steadily during entry time, unless there had been an alarm condition, at which time it will pulse. Delay zones will activate instantly when the system is armed using the INSTANT mode.

INTERIOR

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

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

PERIMETER

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

BURGLARY ZONE OPTIONS

RESTORE

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

CHIME

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

DIALER DELAY

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

DAY FEATURE

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

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

24 HR ZONES

FIRE

FIRE zones on the XL4600 contain Fire Verification Logic. Upon detection of the first violation, smoke detector power will be reset for a period of 8 seconds. After this time period, power is restored. For a period of 5 seconds the fire zone will not be scanned allowing the smoke detectors to settle. Future violations within a two minute period will result in a PULSING BELL OUTPUT, RAPID PULSING ZONE LED,and IMMEDIATE transmission to the CS. Fire signals cannot be aborted.

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

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

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

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

24 HR ALARM

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

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

24 HR TROUBLE

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

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

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

ZONE CHART

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

ZONE TYPES

CONTROLLED ZONES

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

20 Delay
21 Delay, Restore
24 Delay, Chime
25 Delay, Chime, Restore

40 Interior
41 Interior, Restore
44 Interior, Chime
45 Interior, Chime, Restore
48 Interior, Dial Delay
49 Interior, Restore, Dial Delay
4C Interior, Chime, Dial Delay
4D Interior, Chime, Restore, Dial Delay

24 HOUR ZONES

81 Alarm
82 24 Hour Trouble
84 Fire
89 Hold-Up Alarm
(no LED,sounder,bell)
8A Silent Trouble
(LED indication only)

91 Alarm, Restore
92 24 Hour Trouble, Restore
94 Fire, Restore
99 Hold-Up, Restore
9A Silent Trouble, Restore

ZONE ALARM CODES

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

All zones will transmit to the Central Station unless the local dialer option is selected in question 03. Based on the dialer format selected enter the alarm code as follows;

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

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

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

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

Example: Desired transmission 123 3
333 4

Enter 3 in L3, 4 in L4.

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

Example: Alarm 123 3
Restore 123 E
EEE 3
Enter 3 in L3 and L4.

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

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

QUESTION 07 ZONE 1

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

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

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

LOCATIONS		DEFAULTS	
L1 - L2	ZONE TYPE	20	DELAY
L3 - L4	ZONE ALARM CODE	31	

QUESTION 08 ZONE 2

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

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

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

LOCATIONS		DEFAULTS	
L1 - L2	ZONE TYPE	40	INTERIOR FOLLOWER
L3 - L4	ZONE ALARM CODE	32	

QUESTION 09 ZONE 3

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

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

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

LOCATIONS		DEFAULTS	
L1 - L2	ZONE TYPE	10	PERIMETER
L3 - L4	ZONE ALARM CODE	33	

QUESTION 10 ZONE 4

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

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

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

LOCATIONS		DEFAULTS	
L1 - L2	ZONE TYPE	10	PERIMETER
L3 - L4	ZONE ALARM CODE	34	

QUESTION 11 ZONE 5

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

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

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

LOCATIONS		DEFAULTS	
L1 - L2	ZONE TYPE	10	PERIMETER
L3 - L4	ZONE ALARM CODE	35	

QUESTION 12 ZONE 6

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

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

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

LOCATIONS		DEFAULTS	
L1 - L2	ZONE TYPE	84	FIRE
L3 - L4	ZONE ALARM CODE	16	

QUESTION 13 AMBUSH/AC LOSS

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

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

AMBUSH transmissions are immediate and not abortable.

AC LOSS transmissions will be reported 15 minutes after detection.

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

QUESTION 14 PANIC/LOW BATTERY

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

L3 - L4 is the LOW BATTERY CODE. The same rules for programming regarding dialer format apply here.

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

PANIC transmissions are immediate and not abortable.

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

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

QUESTION 15 OPEN/CLOSE,24 HR.TEST CODE

There are 4 locations L1-L4 in this question.

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

L3 - L4 is the 24 HR TEST CODE. Entry of AA means that 24 hour test is not enabled. If 24 hour test code is selected then ANY valid transmission will reset the 24 hour test timer.

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

QUESTION 16 BYPASS/RESTORE/TROUBLE/FUTURE

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

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

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

L3 is the single digit system TROUBLE CODE reported to the central station. This code will be reported on DAY TROUBLE and any FIRE TROUBLE. If a two digit format has been programmed then this code will be followed by the second digit of the respective zones code.

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

LOCATIONS		DEFAULTS
L1	BYPASS	A
L2	RESTORE	A
L3	TROUBLE	F
L4	SPARE/FUTURE	A

Question 00 INSTALLER CODE

There are 4 locations L1 - L4 in this question.

Enter any 4 digit (0-9 installer code desired. This code is used to ENTER the system programming mode via the keypad.

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

9. DATA ENTRY VIA KEYPAD

This section describes the physical keystrokes necessary to perform keypad programming and how to interpret the data dis played on the keypad during programming operations.

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

9.1. HOW TO ENTER PROGRAMMING MODE

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

DEPRESS the **CODE** button.

DEPRESS the * button. (asterisk)

ENTER the four digit INSTALLER CODE (default = 4600)

9.2. WHAT YOU SEE ON THE KEYPAD

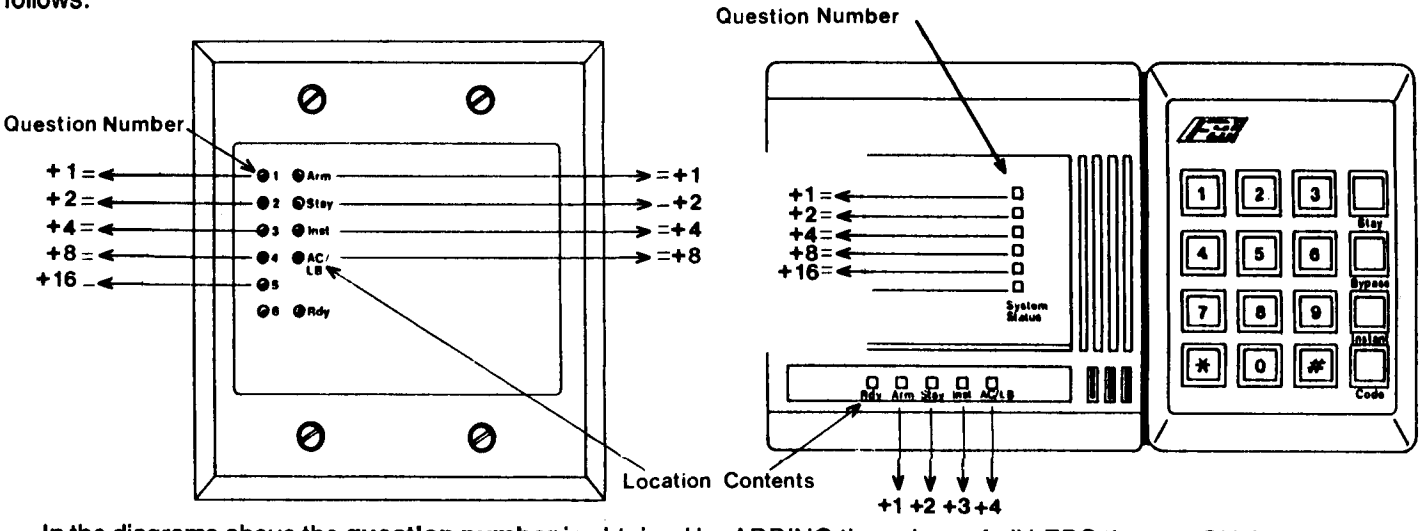
PROGRAM MODE = READY LED:

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

QUESTION NUMBERS = ZONE LEDS:

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

Zone LEDS 1 through 5 display the current QUESTION NUMBER (not the specific location within each question) as follows:



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

EXAMPLES:

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

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

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

LOCATION CONTENTS = SYSTEM STATUS LEDS

The remaining status LEDS (ARM,STAY,INSTANT,AC/LB) display the DATA that resides in EACH location within the **current** question. As per the diagram and explanation above, the value located next to each LED must be ADDED to calculate the total data, for each location.

EXAMPLES:

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

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

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

A	10	Stay & AC/LB = ON
B	11	Arm,Stay, & AC/LB = ON
C	12	Instant, & AC/LB = ON
D	13	Arm,Instant, & AC/LB = ON
E	14	Stay,Instant, & AC/LB = ON
F	15	Arm,Stay,Instant, & AC/LB = ON

9.3. HOW TO ENTER DATA

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

MOVEMENT BETWEEN QUESTIONS

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

Questions can be accessed randomly or sequentially.

Example:

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

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

MOVEMENT WITHIN QUESTIONS

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

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

DATA ENTRY

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

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

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

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

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

Example:

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

EXIT SYSTEM PROGRAM MODE

After all programming has been completed, depress the **STAY** button to exit the system program mode. All the LEDS will turn ON for approximately 10 seconds, before the system returns to normal daily operation.

QUESTION ACKNOWLEDGMENT

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

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

SUMMARY OF SYSTEM PROGRAMMING

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

EXIT SYSTEM PROGRAM MODE

After all programming has been completed, depress the **STAY** button to exit the system program mode. All the LEDS will turn ON for approximately 10 seconds, before the system returns to normal daily operation.

QUESTION ACKNOWLEDGMENT

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

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

SUMMARY OF SYSTEM PROGRAMMING

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

10. SYSTEM DEFAULTS

The STAR XL4600 is preprogrammed from the factory with default values. These values have been selected to me the requirements of a common installation and may suit your needs.

The panel can be forced to reload the default values be shorting pins JP1 and JP2 on the circuit board while and reapplying power.

QUESTION	DEFAULT
00 Installer Code	4600
01 Phone #1	234AAAAAAAAAAAA
02 Phone #2	AAAAAAAAAAAAAAA (none)
03 Dialer Options	Touch Tone, 20PPS, 2300hz, 3x1, Audible Panic
04 Account #1	1234
05 Account #2	AAAA (null)
06 Timeouts	Entry Delay = 30 sec., Exit Delay = 60 seconds Burg Bell Cutoff = 15 minutes, Fire Bell Cutoff = No Timeout
07 Zone #1	Delay (20) Code = 31
08 Zone #2	Interior (40) Code = 32
09 Zone #3	Perimeter (10) Code = 33
10 Zone #4	Perimeter (10) Code = 34
11 Zone #5	Perimeter (10) Code = 35
12 Zone #6	Fire (84) Code = 16
13 System Codes	Ambush = AA (null) AC Loss = AA (null)
14 System Codes	Panic = 22 Low Battery = AA (null)
15 System Codes	Open = A (null) Close = A (Null) Test Code = AA (null)
16 System Codes	Bypass = A (null) Restore = E Trouble = F

USER CODES

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

STAR XL4600 PROGRAMMING WORKSHEET

01	Primary Telco. Number	☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ L1 L2 L3 L4 L5 L6 L7 L8 L9 L10 L11 L12 L13 L14 L15 L16
02	Secondary Telco. Number	☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ L1 L2 L3 L4 L5 L6 L7 L8 L9 L10 L11 L12 L13 L14 L15 L16
03	Dialer Information	☐☐☐☐ L1 L2 L3 L4 Format Rcvr Msg Misc
04	Account Number 1	☐☐☐☐ L1 L2 L3 L4 3 or 4 Digit
05	Account Number 2	☐☐☐☐ L1 L2 L3 L4 3 or 4 Digit
06	System Timeouts	☐☐☐☐ L1 L2 L3 L4 Entry Exit BurgBell Fire Bell
07	Zone 1	☐☐☐☐ L1 L2 L3 L4 Zone Type CS Code
08	Zone 2	☐☐☐☐ L1 L2 L3 L4 Zone Type CS Code
09	Zone 3	☐☐☐☐ L1 L2 L3 L4 Zone Type CS Code
10	Zone 4	☐☐☐☐ L1 L2 L3 L4 Zone Type CS Code
11	Zone 5	☐☐☐☐ L1 L2 L3 L4 Zone Type CS Code
12	Zone 6	☐☐☐☐ L1 L2 L3 L4 Zone Type CS Code
13	Ambush/AC Loss	☐☐☐☐ L1 L2 L3 L4 Ambush AC Loss
14	Panic/Low Battery	☐☐☐☐ L1 L2 L3 L4 Panic Low Battery
15	Open Close Test	☐☐☐☐ L1 L2 L3 L4 Open Close Test
16	Bypass Restore Trouble	☐☐☐☐ L1 L2 L3 L4 Byp. Rest Troub. Spare
00	Installer Code	☐☐☐☐ L1 L2 L3 L4 4 Digit

CONTROLLED ZONES

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

SYSTEM DEFAULTS

QUESTION

00 Installer Code
01 Phone #1
02 Phone #2
03 Dialer Options
04 Account #1
05 Account #2
06 Timeouts

07 Zone #1
08 Zone #2
09 Zone #3
10 Zone #4
11 Zone #5
12 Zone #6
13 System Codes
14 System Codes
15 System Codes
16 System Codes

L1 DIALER FORMATS DEFAULT: 1

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

L2 - RECEIVER TYPE DEFAULT: 6

VALUE	DESCRIPTION	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
5 =	20 PPS, 1400 Hz, Parity	FBI, Radionics Slow (1400)
6 =	**20 PPS, 2300Hz., No Parity**	Franklin, Sescoa, DCI, Quickalert, Varitech
7 =	20 PPS, 2300 Hz, Parity	FBI, Radionics Slow (2300)
8 =	40 PPS, 1400 Hz, No Parity	FBI
A =	40 PPS, 2300 Hz, No Parity	FBI
B =	40 PPS, 2300 Hz, Parity	FBI, Radionics Fast (2300)

L4- SYSTEM OPTIONS **Default = 1**

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

L3 - MESSAGE LENGTH **Default = 1**

1 =	3 x 1	**3 digit account, 1 digit event code**
2 =	4 x 1	4 digit account number, 1 digit event code
4 =	4 x 2	4 digit account number, 2 digit event code

ZONE TYPES

20 Delay
21 Delay, Restore
24 Delay, Chime
25 Delay, Chime, Restore

40 Interior
41 Interior, Restore
44 Interior, Chime
45 Interior, Chime, Restore
48 Interior, Dial Delay
49 Interior, Restore, Dial Delay
4C Interior, Chime, Dial Delay
4D Interior, Chime, Restore, Dial Delay

24 HOUR ZONES

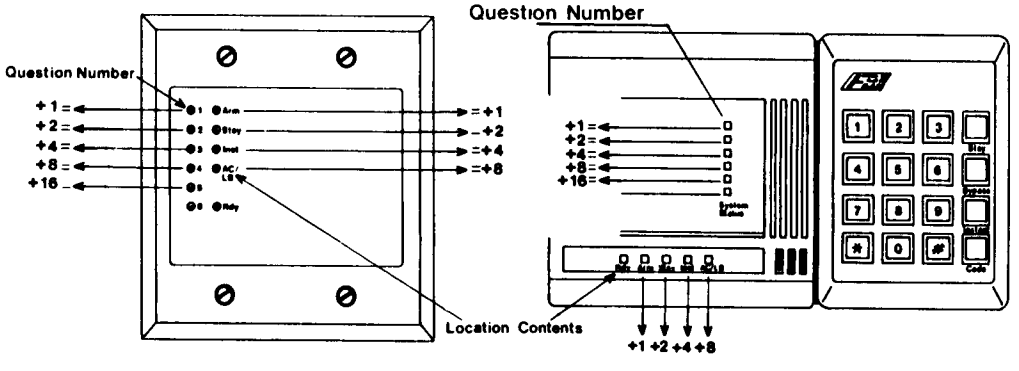
81 Alarm
82 24 Hour Trouble
84 Fire
89 Hold-Up Alarm
(no LED,sounder,bell)
8A Silent Trouble
(LED indication only)

91 Alarm, Restore
92 24 Hour Trouble, Restore
94 Fire, Restore
99 Hold-Up, Restore
9A Silent Trouble, Restore

SUMMARY OF SYSTEM PROGRAMMING

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

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



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

EXAMPLES:

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