STAR XL4600DL

Hookup and Installation Instructions

FBii Fire Burglary Instruments, Inc.

STAR XL4600DL

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1. INTRODUCTION

The STAR XL4600DL is a state of the art EEPROM based control/communicator. The system features six fully programmable zones as well as a wired panic zone (or keyswitch zone). Programming can be performed through the keypad or the system can be uploaded and downloaded locally or remotely using the EZ-Mate programming devices. In addition, remote control actions can be taken The STAR XL4600DL contains up to six user codes with capability for ambush code and an arm only code. All of the keypads are four wire devices, with up to four keypads per system.

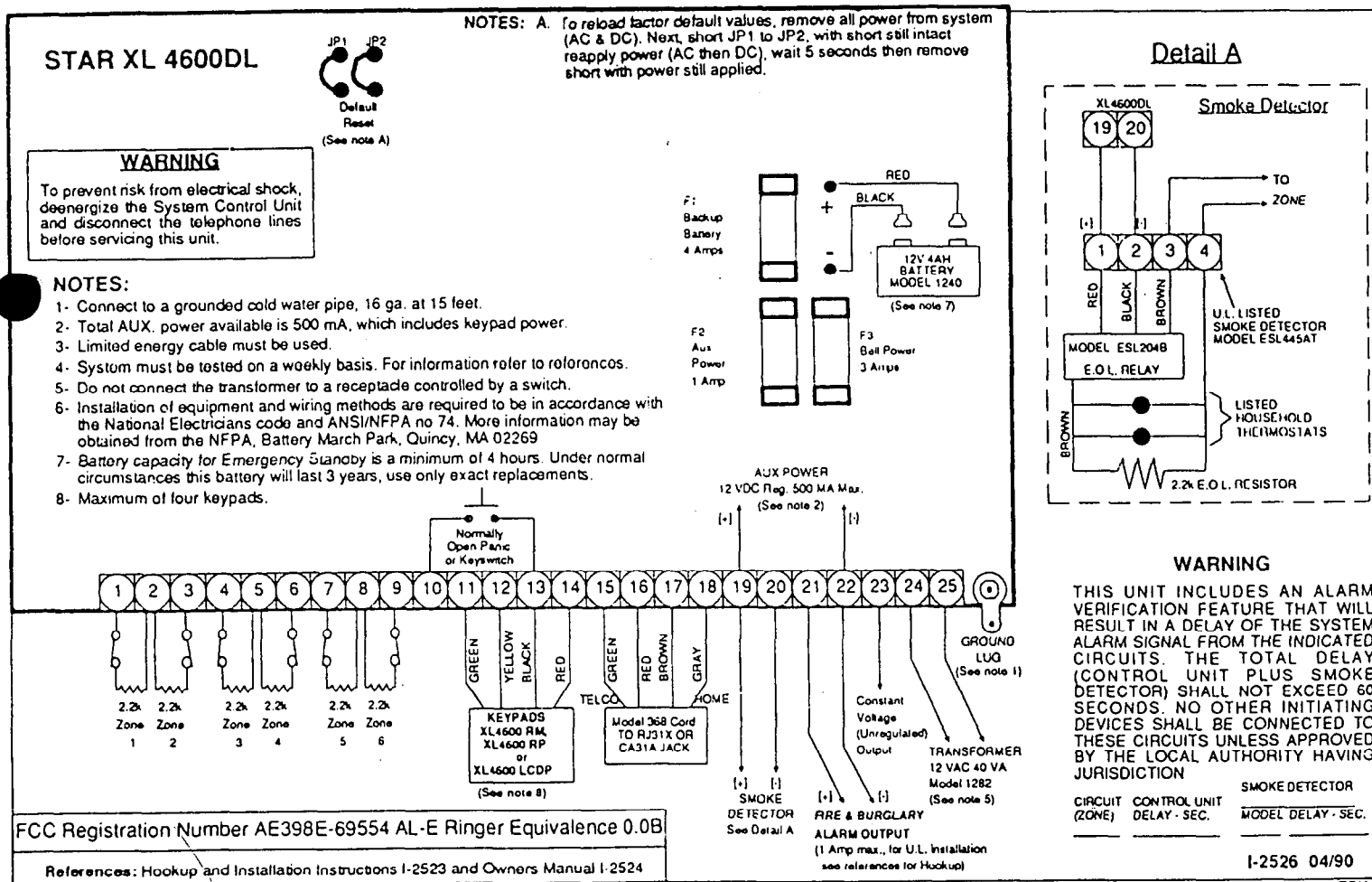The XL4600DL can be used with the following keypads:

XL4600RM Flush Mount LED Metal Plate Keypad

XL4600RP Surface Mount LED keypad

XL4600LCDP Surface Mount Plastic Keypad featuring two line LCD keypad with programmable zone descriptors.

2. SYSTEM WIRING AND HOOKUP

2.1. SYSTEM WIRING DIAGRAM

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 OR KEYSWITCH

Normally open circuit which can be programmed for use as either a panic circuit or keyswitch input. If hardwired panic is programmed then this zone acts as 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. If the keyswitch option is selected then each activation of the keyswitch will arm and disarm the system.

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

11 12 13 14

KEYPADS:

A maximum of 4 keypads, either XL4600RM, XL4600RP or XL4600LCDP, 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 XL4600DL 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 XL4600DL 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
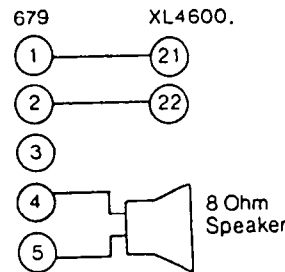
VS 279 Connection
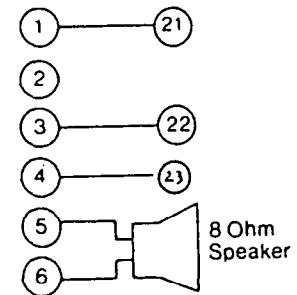
References: Model 679 I-2231   Model VS 279 I-2292

23 — CONSTANT VOLTAGE OUTPUT

This terminal will deliver a constant unregulated voltage output (12VDC) for devices requiring constant power such as the VS279 voice siren driver.

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.

GROUNDING LUG — EARTH GROUND:

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

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 XL4600DL 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 XL4600DL 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
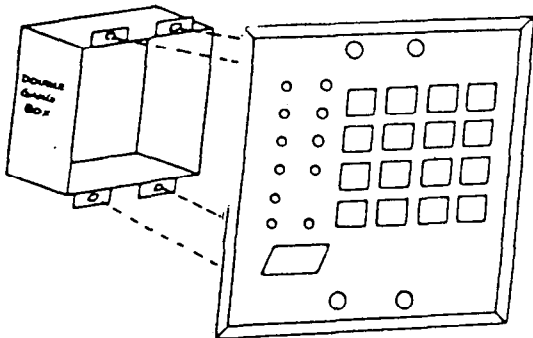
1- Create an opening and mount a standard double gang box.

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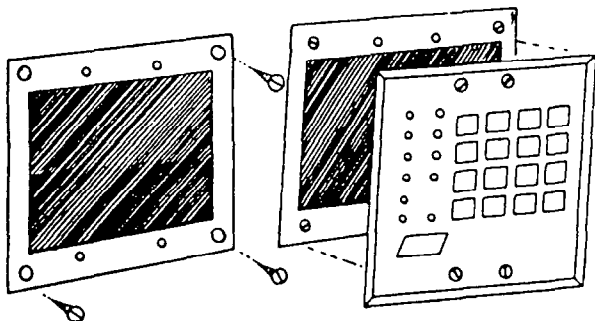
1- Create the desired opening where keypad is to be mounted, using the inside of the mounting ring as a template. NOTE: This opening should be made between studs.

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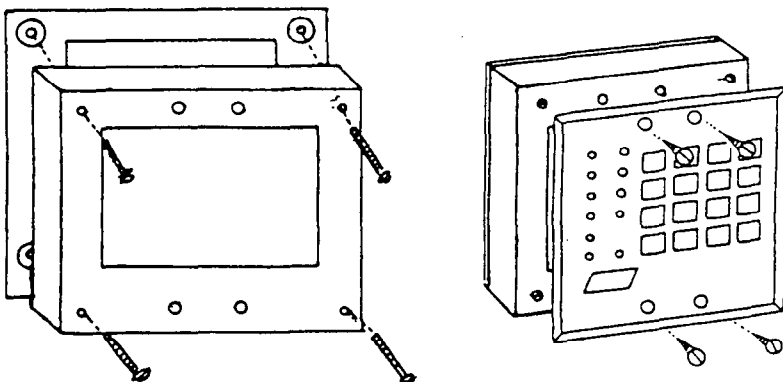
1- Depending on type of installation run the keypad wiring out of the rear, top bottom or sides of the backbox.

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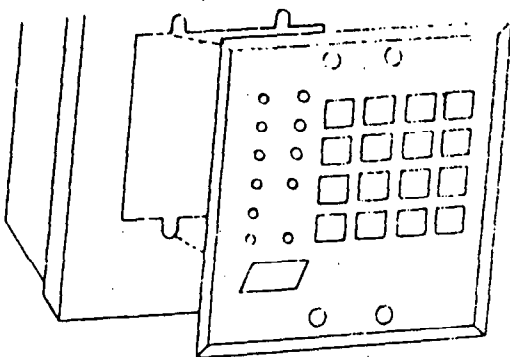
1- Remove keypad knockout from front of metal box enclosure as shown.

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 or XL4600LCDP PLASTIC KEYPADS

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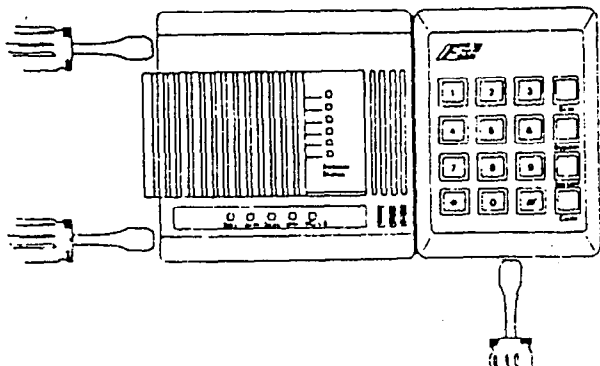
1- Remove the plastic keypad section of the keypad (right side) using a screwdriver in the slot at the bottom of the keypad (see diagram).

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

3- Connect keypad wiring to main control panel.

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

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

6- Connect the 4600RP keypad to the mounting plate through the four screws provided.
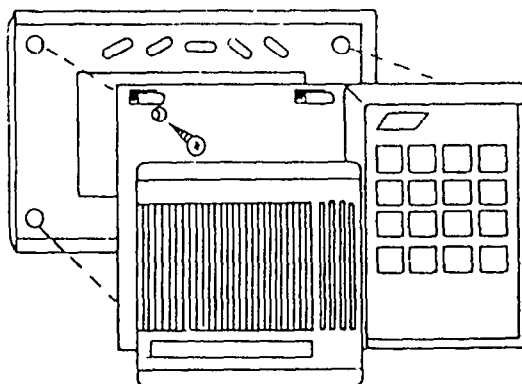
4. SYSTEM COMPONENTS AND ACCESSORIES

The following configurations and accessories are available for the STAR XL4600DL system:

XL4600DL   Includes XL4600DL control panel, metal keypad (XL4600RM) and transformer.

XL4600RM   Additional metal plate keypad for XL4600 system.

XL4600RP   Additional surface mount keypad for XL4600 system.

XL4600LCDP   Liquid Crystal Display (LCD) for the XL4600 system. This keypad contains a two line display which can be programmed with customized 12 character zone descriptors.

XL4600TR   Mounting Ring for flush mounting the XL4600RM keypad.

XL4600RMBX   Back box to surface mount the XL4600RM metal keypad.

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

7150   EZ-Mate Programmer. Portable programming tool for the STAR product line (requires 7180DL cartridge)

7180DL   Product cartridge for the XL4600DL providing local and remote uploading and downloading. In addition this cartridge performs remote commands (arm disarm bypass, system status etc).

7700   EZ-Mate Downloader Software written for IBM compatible systems for remote uploading/downloading and device commands of Fire Burglary Instruments downloadable products.

5. KEYPAD LAYOUT

XL 4600 RM Keypad

XL 4600 RP Keypad
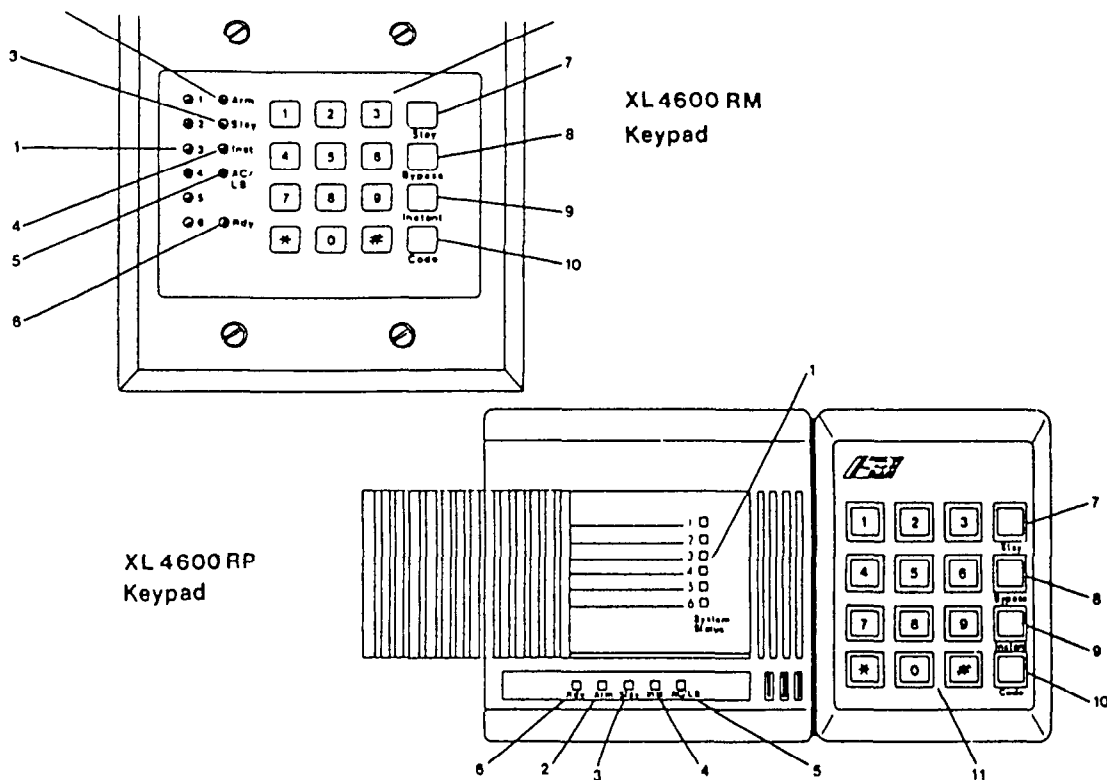
1) ZONE STATUS LEDS

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 XL4600DL , all of the lights on the LED keypad will go on and the sounder will operate for approximately 10 seconds. This occurs on a total powerup , system reset or after completion of system programming. If the total system power is lost then upon power restoral, the XL4600DL will return to the previous arming state.

6.2. ARMING THE SYSTEM

FAIL-SAFE ARMING:

The XL4600DL 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 XL4600DL 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.

In addition an option exists, for making the * key to act as a reset for clearing the sounder, communications failure, and alarm memory. This programmable option can be obtained through location 3 of question 05.

6.8. BYPASS

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

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

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

BYPASS 1234 2

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

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

In addition the following rules for bypass exist;

- FIRE zones cannot be bypassed
- 24 hour zones can be bypassed, however they CANNOT be unbypassed if they are violated.
- Zones can only be bypassed while the system is disarmed, at which time visual indication will be displayed.
- Bypass signals 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 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 autounbypass feature is a programmable option (see question 5 of the programming sequence.

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 XL4600DL contains up to six user codes (4 digits each) with the following applications;

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

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

USER DEFINITION PROCEDURE:

CODE [USER] [USER#] [USERID]

where:

CODE   Code button on keypad

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

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

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

Example:

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

CODE 1234 3 7493

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

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

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

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

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

DURESS/AMBUSH

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

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

ARM ONLY CODE [USER 5 CODE]

A programming option exists to make user #5 an ARM only code. This means that the code can only arm the system and would be used for a user such as a maid or temporary user of the system. This is obtained through location 2 of question 5.

6.12. USER DELETION

Removal of users from the 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 EMERGENCY CONDITIONS

The XL4600DL 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 through simultaneous depression of the # and * keys. The panic condition can be silent (no bell output) or audible based on the programming option. NOTE: The default value for panic is audible.

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

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

The ambush code will be user #6 if an ambush code is programmed in question #15.

7. SYSTEM PROGRAMMING

The STAR XL4600DL system can be programmed in any one of four methods;

- Directly through keypad (XL4600RM, XL4600RP, or XL4600LCDP)
- EZ-MATE PROGRAMMER model 7150 on-site. [Using model 7180DL Cartridge and the 7180J connector]
- EZ-MATE PROGRAMMER model 7150 remotely [Using model 7180DL Cartridge]
- EZ-MATE PC DOWNLOADER model 7700 remotely

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

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

There are 19 total programming questions numbered 00-18. Additional programming questions are available for the programmable zone descriptors when the XL4600LCDP is used.

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

The XL4600DL 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 XL4600DL

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:234AAAAAAAA
Enter the telephone number (including area code or dialing prefix IF NECESSARY) of the primary central station receiver in L1 - L12.

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

REPORTING ROUTE:

The XL4600DL will report all signals to the primary receiver phone number. Furthermore the panel will alternate between the primary and secondary receivers (if the second phone number is programmed) for a maximum of 8 attempts each in the event the signal has not been acknowledged.

QUESTION 02 SECONDARY TELEPHONE NUMBER   DEFAULT:AAAAAAAAAAAA
Enter the telephone number (including area code or dialing prefix IF NECESSARY) of the secondary central station receiver in L1 - L12.

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

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

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

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

QUESTION 03 CALLBACK NUMBER   DEFAULT: AAAAAAAAAAAA
Enter the telephone number (including area code or dialing prefix if necessary) for this control panel to reach the callback number location . The callback number is the optional location of the EZ-Mate Programmer or Downloader where the control panel will call during a remote communications (upload/download etc) session.

During remote communications the programming device and the 4600DL control panel will first confirm the CS security code. If valid, communications can begin. If a callback number is defined, the control panel will the hang up and dial the callback number.

For no callback capability enter AAAAAAAAAAAA.

QUESTION 04- 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**	FBI, Franklin, Sescoa, DCI, Quickalert, Varitech, ADEMCO 685
7 =	20 PPS, 2300 Hz, Parity	FBI, Radionics Slow (2300)
8 =	40 PPS, 1400 Hz, No Parity	FBI
A =	40 PPS, 2300 Hz, No Parity	FBI
B =	40 PPS, 2300 Hz, Parity	FBI, Radionics Fast (2300)

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.

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

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

NOTE: Please consult your Central Station manager to determine the formats and message lengths which are accepted by the receiver. To select European dialing format, add 1 to the value selected for this digit.

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, 24 Hr Test
5 =	Audible Keypad Panic, 24 Hr Test
6=	Silent Keypad Panic, Split Reporting, 24 Hr Test
7 =	Audible Keypad Panic, Split Reporting, 24 hr Test
8=	Silent Keypad Panic, Bell Test
9 =	Audible Keypad Panic, Bell Test
A=	Silent Keypad Panic, Split Reporting, Bell Test
B =	Audible Keypad Panic, Split Reporting, Bell Test
C =	Silent Keypad Panic, 24 Hr Test, Bell Test
D =	Audible Keypad Panic, 24 hr Test, Bell Test
E =	Silent Keypad Panic, Split Reporting, 24 Hr Test, Bell Test
F =	Audible Keypad Panic, Split Reporting, 24 Hr Test, Bell Test

DESCRIPTION OF SYSTEM OPTIONS

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

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

24 Hour Test - If 24 hour test is enabled then the XL4600DL will transmit the test code to the Central Station every 24 hours in the absence of any other signal. Transmission of any signal will reset the 24 hour test clock. For example if a business opened and closed 6 days a week then a test signal will be generated 24 hours after the last closing signal. NOTE: This option is required for UL Commercial Burglary applications.

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

QUESTION 05 KEYPAD CONDITIONS DEFAULT = 1400

This question contains four locations for various keypad definable options

L1 - KEYPAD EMERGENCY CONDITIONS DEFAULT = 1

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

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

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

The valid selections for this digit are shown below;

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

L2 - MISC OPTIONS DEFAULT = 4

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

PANIC or KEYSWITCH (+1)

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

HARDWIRED PANIC SILENT or AUDIBLE (+2)

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

AUTO-UNBYPASS ENABLE (+4)

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

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

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

The valid selections for this digit are shown below:

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

L3 QUICK COMMANDS - RESET

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

0 = Quick Commands Disabled

1 = Quick Forced Arm

2 = Quick Arm

3 = Quick Forced Arm, Quick Arm

4 = Reset Enable

5 = Quick Forced Arm, Reset Enable

6 = Quick Arm, Reset Enable

7 = Quick Forced Arm, Quick Arm, Reset Enable

QUICK FORCED ARM ENABLE (+1)

Specifies whether quick forced arm (# key followed by the 2 key from the keypad) will be permitted. If quick forced arming is permitted then user #7 code will be reported to the CS if a two digit transmission is defined.

QUICK ARM (+ 2)

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

RESET ENABLE (+4)

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

QUESTION 06 ACCOUNT NUMBER 1   DEFAULT = 1234

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

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

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

QUESTION 07 ACCOUNT NUMBER 2   DEFAULT = AAAA

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

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

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

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

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

QUESTION 08 SYSTEM TIMEOUTS

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

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 household burglary applications.

L4 - FIRE BELL CUTOFF   Default = F

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

8.1. ZONE PROGRAMMING

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

ZONE TYPES

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

BURGLARY ZONES

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

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

Interior zones 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 XL4600DL 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.

24 HR ALARM

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

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

ZONE ALARM CODES

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

Zones will transmit to the Central Station unless these digits are defined as AA for any individual zone, or the local dialer option is selected in question 03. Based on the dialer format selected enter the alarm code as follows;

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

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

Enter a 2 in location L3 of the zone. Any value placed in L4 will 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.

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

Example: Alarm   123 3

Restore   123 E

EEE 3

Enter 3 in L3 and L4.

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

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

QUESTION 09 ZONE 1

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

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

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

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

QUESTION 10 ZONE 2

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

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

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

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

QUESTION 11 ZONE 3

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

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

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

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

QUESTION 12 ZONE 4

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

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

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

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

QUESTION 13 ZONE 5

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

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

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

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

QUESTION 14 ZONE 6

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

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

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

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

QUESTION 15 AMBUSH/AC LOSS

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

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

AMBUSH transmissions are immediate and not abortable.

AC LOSS transmissions will be reported 15 minutes after detection.

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

QUESTION 16 PANIC/LOW BATTERY

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

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

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

PANIC transmissions are immediate and not abortable.

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

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

QUESTION 17 OPEN/CLOSE,24 HR.TEST CODE

There are 4 locations L1-L4 in this question.

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

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

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

QUESTION 18 BYPASS/RESTORE/TROUBLE/# RINGS

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

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

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

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

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

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

QUESTION 19 KEYPAD FIRE/ KEYPAD AUX. DEFAULT : AAAA

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

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

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

LOCATIONS	DEFAULTS	
L1 - L2	KPAD FIRE	AA
L3 - L4	KPAD AUX	AA

Question 00 INSTALLER CODE

There are 4 locations L1 - L4 in this question.

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

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

9. DATA ENTRY VIA LED KEYPAD

This section describes the physical keystrokes necessary to perform keypad programming and how to interpret the data displayed on the LED based keypads (XL4600RM or XL4600RP) during programming operations.

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

NOTE: For information regarding programming through the LCD keypad consult the next section of this manual or the instructions for the XL4600LCDP.

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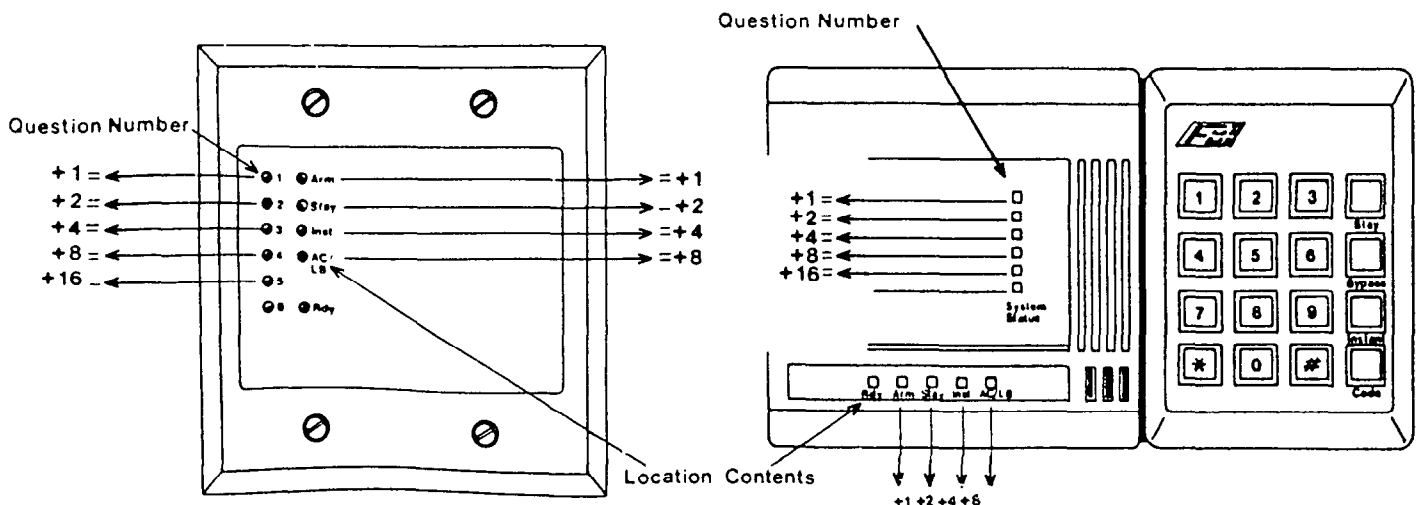
In the diagram shown the **question number** is obtained by ADDING the values of all LEDS that are ON. This applies to both the metal and plastic versions of the keypad.

EXAMPLES:

Zone 1 ON, Zones 2-5 OFF	**= QUESTION 01**
Zone 1 ON, Zone 2 ON, Zones 3-5 OFF	**= QUESTION 03**
Zone 2 ON, Zone 3 ON, Zone 4 ON, Zones 1 and 5 OFF	**= QUESTION 14**

LOCATION CONTENTS = 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

10. DATA ENTRY THROUGH XL4600LCDP KEYPADS

Keypad programming can also be accomplished through the XL4600LCDP keypad. In addition to the normal 19 programming questions, additional capability is available for entering the zone descriptors directly through the keypad.

10.1. HOW TO ENTER PROGRAMMING MODE

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

DEPRESS the **CODE** button.

DEPRESS the * button. (asterisk)

ENTER the four digit INSTALLER CODE (default = 4600)

10.2. WHAT YOU SEE ON THE KEYPAD

Upon entering the installer keypad programming following display will appear:

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

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

10.3. HOW TO ENTER DATA

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

MOVEMENT BETWEEN QUESTIONS

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

Questions can be accessed randomly or sequentially.

Example:

Jump to question 07 = depress * 0 7

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

MOVEMENT WITHIN QUESTIONS

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

DATA ENTRY

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

10.4. ZONE DESCRIPTOR PROGRAMMING

The XL4600LCDP has capability to display 12 character zone descriptors which can be programmed directly through the keypad. These descriptors are entered as programming questions 21 - 26.

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

The zone descriptor questions are as follows:

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

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

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

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

NOTE: The characters available through the 4600LCDP keypas are as follows:

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

SYSTEM DEFAULT (4600LCDP keypad only)

The 4600LCDP keypad can initiate a system default of the XL4600DL by pressing the 1 & 3 keys together, while in programming mode. The system will then default and go through the reset sequence.

ZONE DESCRIPTOR DEFAULT (4600LCDP keypad only)

The English language zone descriptors can be reset to the default state by pressing the 7 & 9 keys on the LCD keypad at the same time, while in programming mode. This will bring the zone descriptors back to the original default settings for that keypad only. NOTE: The default zone descriptors are ZONE 1, ZONE 2, ... etc.

11. SYSTEM DEFAULTS

The STAR XL4600DL is preprogrammed from the factory with default values. These values have been selected to meet the requirements of a common installation and may suit your needs.

To relaod 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 apllied. NOTE: A programming option exists within the EZ-Mate programming devices known as DEFAULT LOCKOUT. If this option is selected then a system default will not overwrite the CSID or installer code portion of the program. This will prevent an installer other than the original installer from taking over an account without cooperation.

QUESTION	DEFAULT
00 Installer Code	4600
01 Phone #1	234AAAAAAAAA
02 Phone #2	AAAAAAAAAAAA (none)
03 Callback Number	AAAAAAAAAAAA (none)
04 Dialer Options	Touch Tone, 20PPS, 2300hz, 3x1, Audible Panic
05 Kpad options	1400 Keypad panic & Auto unbypass enabled
06 Account #1	1234
07 Account #2	AAAA (null)
08 Timeouts	Entry Delay = 30 sec., Exit Delay = 60 seconds
	Burg Bell Cutoff = 15 minutes, Fire Bell Cutoff = No Timeout
09 Zone #1	Delay (20) Code = 31
10 Zone #2	Interior (40) Code = 32
11 Zone #3	Perimeter (10) Code = 33
12 Zone #4	Perimeter (10) Code = 34
13 Zone #5	Perimeter (10) Code = 35
14 Zone #6	Fire (84) Code = 16
15 System Codes	Ambush = AA (null) AC Loss = AA (null)
16 System Codes	Panic = 22 Low Battery = AA (null)
17 System Codes	Open = A (null) Close = A (Null) Test Code = AA (null)
18 System Codes	Bypass = A (null) Restore = E Trouble = F
19 System codes	Keypad fire = AA (null) Keypad Aux = AA (null)
21 Zone 1 Descriptor	ZONE 1 (LCDP Keypad Only)
22 Zone 2 Descriptor	ZONE 2 (LCDP Keypad Only)
23 Zone 3 Descriptor	ZONE 3 (LCDP Keypad Only)
24 Zone 4 Descriptor	ZONE 4 (LCDP Keypad Only)
25 Zone 5 Descriptor	ZONE 5 (LCDP Keypad Only)
26 Zone 6 Descriptor	ZONE 6 (LCDP Keypad Only)

USER CODES

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

STAR XL4600DL PROGAMMING WORKSHEET

01 Primary Telco. Number

☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12

02 Secondary Telco. Number

☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12

03 Callback Number

☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12

04 Dialer Information
☐ L1 Format ☐ L2 Rcvr ☐ L3 Msg ☐ L4 Misc

18 Bypass Restore Trouble
☐ L1 Byp. ☐ L2 Rest ☐ L3 Troub. ☐ L4 Ring Count

05 Keypad Conditions
☐ L1 ☐ L2 ☐ L3 ☐ L4 Spare

19 Keypad Fire/Aux.
☐ L1 KP ☐ L2 Fire ☐ L3 ☐ L4 Aux

06 Account 1
☐ L1 ☐ L2 ☐ L3 ☐ L4
3 or 4 Digit

00 Installer Code
☐ L1 ☐ L2 ☐ L3 ☐ L4
4 Digit

07 Account 2
☐ L1 ☐ L2 ☐ L3 ☐ L4
3 or 4 Digit

08 System Timeouts
☐ L1 Entry ☐ L2 Exit ☐ L3 Burg Bell ☐ L4 Fire Bell

09 Zone 1
☐ L1 Zone ☐ L2 Type ☐ L3 CS ☐ L4 Code

10 Zone 2
☐ L1 Zone ☐ L2 Type ☐ L3 CS ☐ L4 Code

11 Zone 3
☐ L1 Zone ☐ L2 Type ☐ L3 CS ☐ L4 Code

12 Zone 4
☐ L1 Zone ☐ L2 Type ☐ L3 CS ☐ L4 Code

13 Zone 5
☐ L1 Zone ☐ L2 Type ☐ L3 CS ☐ L4 Code

14 Zone 6
☐ L1 Zone ☐ L2 Type ☐ L3 CS ☐ L4 Code

15 Ambush/AC Loss
☐ L1 Ambush ☐ L2 ☐ L3 AC Loss ☐ L4

16 Panic/Low Battery
☐ L1 Panic ☐ L2 ☐ L3 Low Battery ☐ L4

17 Open Close Test
☐ L1 Open ☐ L2 Close ☐ L3 ☐ L4 Test

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

SYSTEM DEFAULTS
QUESTION
00 Installer Code
01 Phone #1
02 Phone #2
03 Callback Number
04 Dialer Options
05 Kpad options
06 Account #1
07 Account #2
08 Timeouts

09 Zone #1
10 Zone #2
11 Zone #3
12 Zone #4
13 Zone #5
14 Zone #6
15 System Codes
16 System Codes
17 System Codes
18 System Codes
19 System codes

21 Zone 1 Descriptor
22 Zone 2 Descriptor
23 Zone 3 Descriptor
24 Zone 4 Descriptor
25 Zone 5 Descriptor
26 Zone 6 Descriptor

L1 DIALER FORMATS DEFAULT: 1

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

L2 - RECEIVER TYPE DEFAULT: 6

VALUE	DESCRIPTION	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

- 0 = 3 x 1 3 digit account, 1 digit event code, no bell lockout
- 2 = 4 x 1 4 digit account number, 1 digit event code, no bell lockout
- 6 = 4 x 2 4 digit account number, 2 digit event code, no bell lockout

24 HOUR ZONES

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

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
234AAAAAAAA
AAAAAAAAAAAAA (none)
AAAAAAAAAAAAA (none)
Touch Tone, 20PPS, 2300hz, 3x1, Audible Panic
1400  Keypad panic & Auto unbypass enabled
1234
AAAA (null)
Entry Delay = 30 sec., Exit Delay = 60 seconds
Burg Bell Cutoff = 15 minutes, Fire Bell Cutoff = No Timeout
Delay (20)    Code = 31
Interior (40)  Code = 32
Perimeter (10)  Code = 33
Perimeter (10)  Code = 34
Perimeter (10)  Code = 35
Fire (84)    Code = 16
Ambush = AA (null)  AC Loss = AA (null)
Panic = 22  Low Battery = AA (null)
Open = A (null) Close = A (Null) Test Code = AA (null)
Bypass = A (null) Restore = E  Trouble = F
Keypad fire = AA (null)  Keypad Aux = AA (null)
```

- ZONE 1 (LCDP Keypad Only)
- ZONE 2 (LCDP Keypad Only)
- ZONE 3 (LCDP Keypad Only)
- ZONE 4 (LCDP Keypad Only)
- ZONE 5 (LCDP Keypad Only)
- ZONE 6 (LCDP Keypad Only)
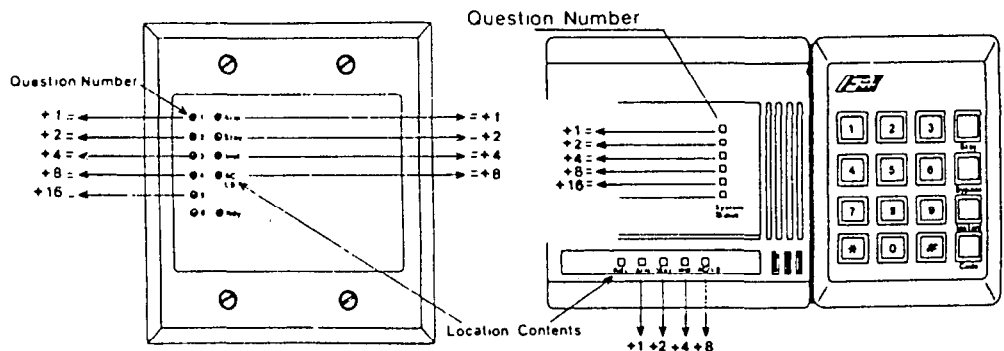
In the diagrams above the question number is obtained by ADDING the values of all LEDS that are ON. This applies to both the metal and plastic versions of the keypad.

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

FBI
Limited Warranty

Fire Burglary Instruments, Inc., its parents, subsidiaries, divisions and affiliates ("Seller") warrants its products to be in conformance with its own plans and specifications and to be free from defects in materials and workmanship under normal use and service for 18 months from the date stamp control on the product, or for products not having a date stamp, for 12 months from date of original purchase unless the installation instructions or catalog sets forth a shorter period, in which case the shorter period shall apply. Seller's obligation shall be limited to repairing or replacing, at its option, free of charge for materials or labor, any part which is proved not in compliance with Seller's specifications or proves defective in materials or workmanship under normal use and service. Seller shall have no obligation under this Limited Warranty or otherwise, if the product is altered or improperly repaired or serviced by anyone other than Seller. For warranty service, return product transportation prepaid, to Factory Service, 163 Eileen Way, Syosset, New York 11791.

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