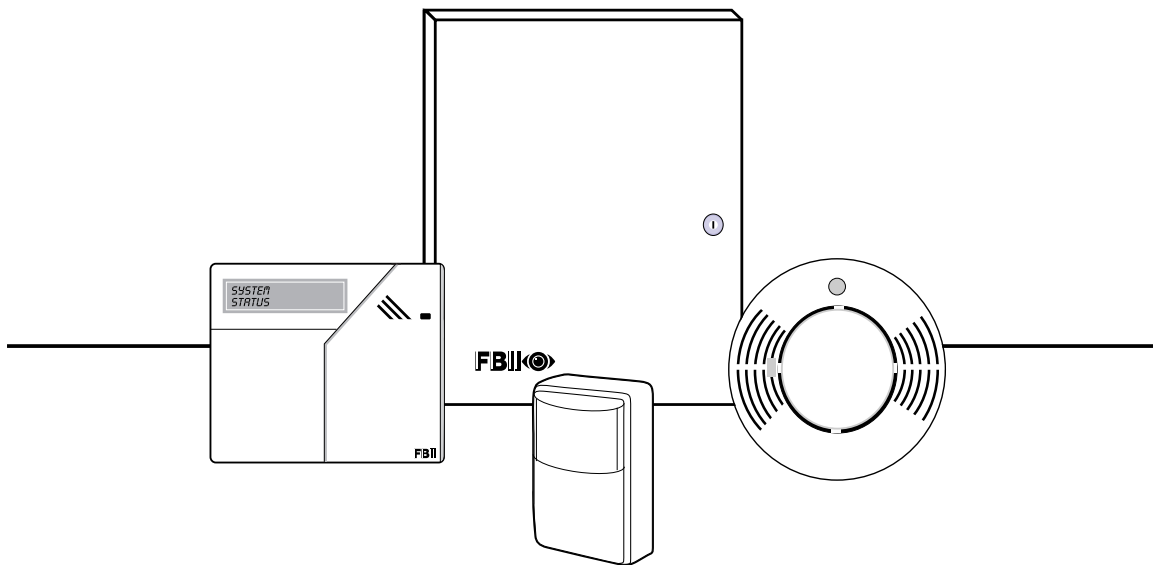


XL-4, XL-5 Security System

User Guide



Version 4

N9146-1 10/98

FBI®
FIRE BURGLARY INSTRUMENTS INC.

Table Of Contents

Introduction	4
LCD Keypad Layout	5
LED Keypad Layout	8
System Operation	12
Arming The System	13
System Ready	13
System Not Ready	14
Stay	16
Stay Procedure	16
Auto-Stay Mode (optional).....	16
Instant	18
Instant Procedure.....	18
Instant - Stay	19
Instant - Stay Procedure	19
Bypass	20
Bypass Procedure	20
Forced Arming	22
Forced Arming Procedure	22
Unbypass	23
Unbypass Procedure	23
Group Bypass (Optional)	24
Group Bypass Procedure	24
Group Unbypass	25
Group Unbypass Procedure.....	25
User Code Definition	26
User Definition Procedure	27
User Deletion	29
User Deletion Procedure.....	29
Disarming	30
Disarm Procedure	30
Keypad Auxiliary Conditions	32
Duress	33
Quick Commands	34
Common Partition Display [# 0].....	34
Quick Arming [# 1].....	36
Quick Forced Arming [# 2].....	36
Time Set [# 3]	36
Zone Directory [# 4].....	39
Quick Bypassing [# 5]	39
Chime Mode [# 6]	39

Table Of Contents (cont'd)

Partition Assignment [# 7]	40
Glossary	42
Recommendations For Proper Protection.....	45
Recommendations For Smoke And Heat Detectors	45
Recommendations For Proper Intrusion Protection	46
Emergency Evacuation.....	47
System Testing.....	48
Battery Test.....	49
Owners Information	50
About The Manufacturer.....	51
Statements - Problems - Warnings.....	52
Warranty.....	55

Introduction

Congratulations on your decision to protect your home or business with this Security System. The system has been designed with reliability and ease of operation in mind.

Please take a few minutes to review the contents of this manual. In order to realize the full potential of this system it is important that you feel comfortable with its operation. The following pages will familiarize you with the procedures for operating the Security System.

The system can be operated from different styles of keypads: model XK-716 and XK-516 LED keypads containing indicator lights or model XK-7LC and XK-5LC LCD keypads containing a two-line readout. Please determine the type of keypads present within your system.

This manual covers the XL-4, XL-4B, XL-4C and XL-5 systems. The systems differ with the following Underwriters applications:

- XL-4 Household Burglary and Fire
- XL-4B Commercial Burglary
- XL-4C Commercial Fire and Burglary

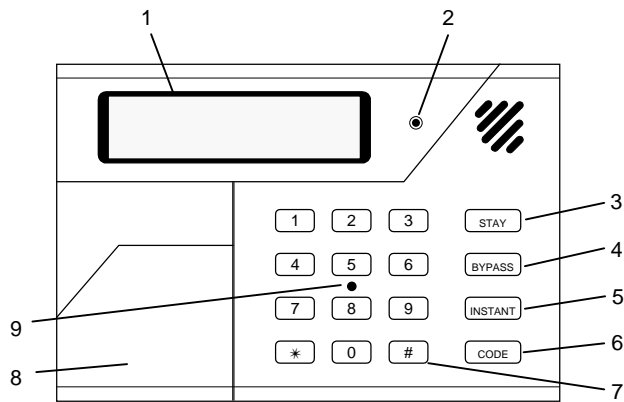
Thank You,

FIRE BURGLARY INSTRUMENTS

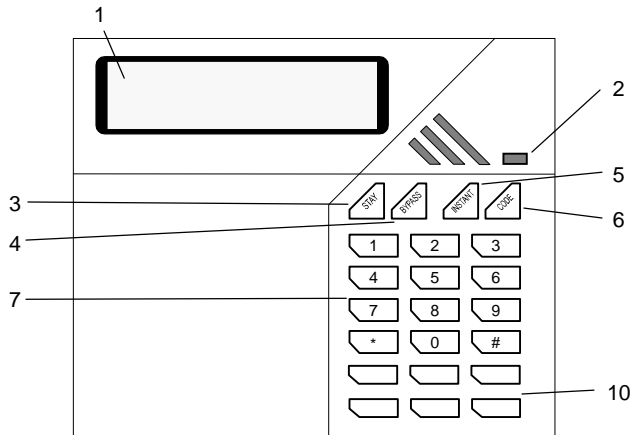
NOTE: This owner's manual contains important information and is not to be removed by anyone but the occupant of the premise.
--

LCD Keypad Layout

The XK-7LC or XK-5LC keypad contains everything necessary to operate the Security System. The LCD (liquid crystal display) provides a two line by sixteen-character English readout display to show the current system status. The keypads appear as follows:



Model XK-7LC LCD Keypad



Model XK-5LC LCD Keypad
(Shown with Cover Open)

LCD KEYPAD LAYOUT

LCD Keypad Layout (cont'd)

1 - DISPLAY AREA

Two line by sixteen-character liquid crystal display. This area contains the current system status using easy to read English language descriptions programmed by your installer.

2 - ARM/DISARM INDICATOR

This light indicates whether the system is currently armed (activated) or disarmed (deactivated). In addition to this constant visual indication, the display area will provide additional information concerning the current system status. This indicator will blink when an alarm has occurred.

3 - STAY

The STAY key is used to activate (arm) the system with the exception of interior protection. This will provide exterior protection of your location while allowing full access through the premise. This mode would be used when arming the system and you might be walking through protected interior zones.

4 - BYPASS

The BYPASS key will be used to temporarily turn off protection to a portion of your Security System. This could be performed, for example, to ignore an open window that would prevent the arming of your system. Certain zones such as FIRE detection zones are always active and cannot be bypassed.

5 - INSTANT

The INSTANT key is used to activate (arm) the system and eliminates the entry time delay. This would cause an immediate alarm if someone came through an exit/entry zone.

6 - CODE

Function key used when entering or changing the User access codes of your Security System.

LCD Keypad Layout (cont)

7 - NUMERICAL SECTION

The numerical section of the keypad operates similar to a telephone or calculator. The digits 0 - 9, # and * are clearly marked and are used to operate the system.

8 - PULL OPEN DOOR

The front of the XK-7LC keypad contains a door that pulls open. Behind this door is a card which can be filled out to describe the areas protected (zones) by your Security System.

9 - AC INDICATOR

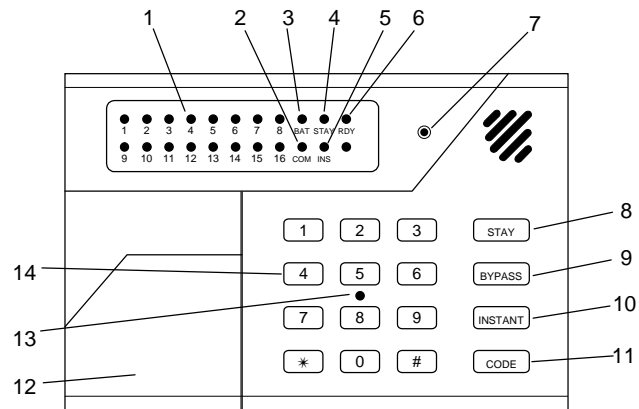
This light indicates that AC power is connected to the Security System. The system also contains battery backup to operate the system in the event of a power failure.

10 - EMERGENCY KEYS

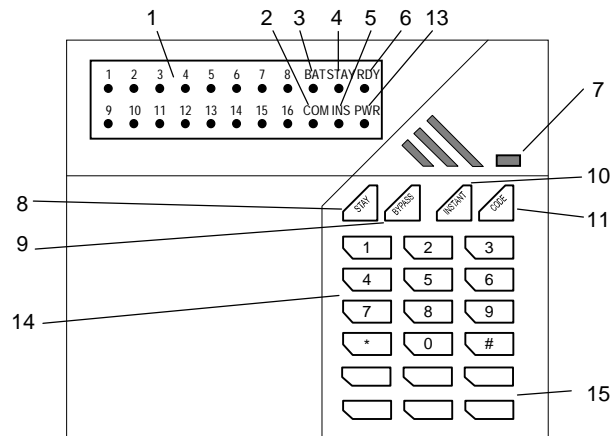
These keys generate Fire, Medical, or Panic signals when certain key combinations are entered.

LED Keypad Layout

The LED based system contains indicator lights to display the current status of your Security System. NOTE: The LED keypads can only be used to display the status of the first sixteen zones. NOTE: This style of keypad cannot be used with the XL-4C control panel. The keypad has the following appearance:



Model XK-716 LED Keypad



Model XK-516 LED Keypad
(Shown with Cover Open)

LED KEYPAD LAYOUT

LED Keypad Layout (cont'd)

1 - ZONE STATUS

The indicator lights marked 1-16 display the current status of the first sixteen zones connected to your Security System. The lights show whether any zones are currently in alarm, bypassed, in trouble, or faulted (not ready) status. The status of each zone is represented as follows:

ALARM	Fast Blinking
TROUBLE	Slow Pulse
BYPASSED	Slow Low Intensity Blinking
NOT READY	Solid ON

Each light will only reflect one condition at a time. If a zone contains multiple conditions at the same time the highest priority status from the above list will appear.

2 - COMMUNICATIONS FAILURE

If the COM light BLINKS then there has been a communications error with the Central Station.

3 - LOW BATTERY

If the BAT indicator BLINKS then the backup battery within the system is low.

4 - STAY

The STAY light will be ON when the system has been armed in the stay mode, which means that the system has been activated with the exception of interior zones.

5 - INSTANT

The INS indicator will be ON when the system has been armed in the INSTANT mode. This means that the system has been activated and the entry delay has been eliminated.

LED Keypad Layout (cont'd)

6 - READY INDICATOR

The light marked RDY shows whether the system is ready to be armed. If the light is off then a condition exists within at least one of the zones preventing system arming.

7 - ARM/DISARM INDICATOR

This light indicates whether the system is currently ARMED (ON) or DISARMED (OFF). In addition to this constant visual indication, the zone indicator lights will provide additional information concerning the current zone status. This light will also blink if there is an alarm condition present.

8 - STAY

The STAY key is used to activate (arm) the system with the exception of interior protection. This will provide exterior protection of your location while allowing full access through the location. This mode would be used when arming the system and you might be walking through protected interior zones.

9 - BYPASS

The BYPASS key will be used to temporarily turn off protection of a portion of your burglary protection. This could be performed, for example, to ignore an open window that would prevent the arming of your system.

10 - INSTANT

The INSTANT key is used to activate (arm) the system and eliminates the entry delay. This would cause an immediate alarm if someone came through an exit/entry zone.

11 - CODE

Function key used when entering or changing the User access codes of your system.

LED Keypad Layout (cont'd)

12 - PULL OPEN DOOR

The front of the XK-716 keypad contains a door that pulls open. Behind this door is a card which can be filled out to describe the areas protected (zones) of your Security System.

13 - AC INDICATOR

This light indicates that AC power is connected to the Security System. Battery backup exists to operate the system in the event of a power failure.

14 - NUMERICAL SECTION

The numerical section of the keypad operates similar to a telephone or calculator. The digits 0 - 9, # and * are clearly marked and are used to enter commands to the Security System.


15 - EMERGENCY KEYS

These keys generate Fire, Medical, or Panic signals when certain key combinations are entered.

System Operation

Throughout this manual the following notation will be used to describe action taken at the keypads:

BYPASS	Depression of the Function Key labeled BYPASS
INSTANT	Depression of the Function Key labeled INSTANT
STAY	Depression of the Function Key labeled STAY
CODE	Depression of the Function Key labeled CODE
[USER]	Entry of your user code (see note below)
*	Key labeled * (located to the left of 0)
#	Key labeled # (located to the right of 0)
+	Indicates the simultaneous depression of two keys. For example, # + 3 indicates that the # and 3 keys should be pressed at the same time.

 **USER CODE NOTE:** The [USER] code can be selected by your installer to be either a four or seven digit code. If a seven-digit user code is selected then the user code will be the three-digit user number followed by the four-digit user code. For example, if user number 3 has a code of 6429 then the seven digit user code would be 0036429.

Arming The System

ARMING the system will activate all portions of your Security System. Arming can only be performed if all zones are READY. For example, if a protected door is open the system cannot be armed.

☞ Note: Your installer can program your system to be armed if certain zones are not ready. Contact your installer to determine whether this applies to your system.

System Ready

Ready Indications

LCD Based Keypads

If the system is ready to be armed the following message will appear in the display area of the LCD keypad:

SYSTEM READY

The second line of the display can display a system wide descriptor (example SMITH RESIDENCE) and may scroll through other system conditions that are present.

LED Based Keypads

On LED keypads the READY indicator must be ON.

Arming Procedure

Enter your user code into the keypad:

[USER]

On LCD keypads the following display appears:

ON:AWAY
... Exit Now

The ARMED indicator light will now be lit (LED and LCD keypads) and you may exit through a door designated by your installer as an exit/entry zone for a fixed time period known as the exit delay. Once the exit time period has expired the EXIT NOW indication will disappear.

Your exit time is _____

Your entry time is _____

Arming The System (cont'd)

System Not Ready

Ready Indications

LCD Based Keypads

If the system is not ready to be armed the LCD display will display the zone or zones not ready as follows. For example:

NOT READY Zne 012 Master Bedroom

This display indicates that zone number 12 is not ready. This might mean that a window or door remains open. When the problem with zone 12 has been resolved, the READY display will appear. The zones correspond to the areas of protection set up by your installer.

☞ Note: If more than one zone is not ready then the display will scroll through the zones approximately every 2 seconds.

LED Based Keypads

On the LED keypads the individual zone lights display the zones which are not ready as follows:

ALARM	Fast Blinking
BYPASS	Slow blinking low intensity
TROUBLE	Slow Pulse
NOT READY	Solid ON

Action Required

If the system is NOT READY, one of the following actions is required if you want to ARM the system:

- Make the zone(s) ready. Determine which zones are not ready by looking at the keypad and perform what is necessary to ready the zone(s). For example if zone 12 represents the Bedroom Window, then closing the window should make that zone ready.

or

- Bypass the zone(s) not ready. Bypassing should only be performed if the zone cannot be made ready or intentionally will remain not

Arming The System (cont'd)

ready. Zones that are bypassed are **not** protected when the system is armed.

NOTE: It is possible to arm the system without the back-up battery connected.

NOTE: In a commercial burglary alarm installation (model XL-4B or XL-4C) a brief pulsing audible output is provided by the keypad to indicate successful receipt of the closing signal at the Central Station. If not heard, CALL FOR SERVICE.

In a commercial burglary installation (model XL-4B) the bell will energize briefly after entry of the user code during arming. If not heard, CALL FOR SERVICE.

Stay

The STAY mode is another way to ARM your system while you remain in the location. The STAY mode will deactivate any interior protection zones, which means that you will be free to walk throughout your location without activating the alarm system.

In order to enter the STAY mode, the system must be ready. (See previous description).

Stay Procedure

Stay [USER]

Depress the STAY key followed by your user code.

☞ Remember that you must **DISARM** the system to leave the premise.

Note: The STAY option will automatically be reset after the system is disarmed.

Indications

LCD Keypads

After a successful STAY arming the following display will appear:

ON: STAY

In addition, the ARMED indicator will be lit. In the STAY mode only the external or perimeter burglary protection is active. You are free to walk around the location without activating any of the interior protection zones.

LED Keypads

On LED keypads both the ARMED and STAY lights will be lit.

Auto-Stay Mode (optional)

Another option that can be programmed by your installer is the Auto-Stay mode. This feature will arm the system and will bypass *only those interior zones preselected by your installer*. For example, you

Stay (cont'd)

can stay in your location and walk freely through the living section of your location and have certain portions of the interior protection active in the rest of your home.

To auto stay arm simply enter your user code [**USER**] and remain within the location (do not leave through the exit/entry door). This will arm the system and only bypass those interior zones selected by your installer. LCD keypads will contain the following display:

ON: AUTO STAY

Instant

The INSTANT mode arms the system and eliminates the entry and exit time delay intervals. If anyone enters or exits through an entry/exit zone the alarm system will instantly activate.

The system must be READY to select the INSTANT option.

Instant Procedure

Instant [USER]

Depress the INSTANT key followed by your user code.

Note: The INSTANT option will automatically be reset after the system is disarmed.

Indications

LCD Keypads

Upon successful INSTANT ARMING of the system the ARMED indicator will be lit and the following display appears:

ON: AWAY INSTANT

LED Keypads

Upon successful INSTANT arming of the system the ARMED and INSTANT indicators will be lit.

Instant – Stay

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 portions bypassed and the entry delay will be suspended.

The system must be READY in order to enter this mode.

Instant – Stay Procedure

INSTANT STAY [USER]

or

STAY INSTANT [USER]

Depress the INSTANT and STAY keys in any order followed by your user code.

Indications

LCD Keypads

ON: STAY INSTANT

LED Keypads

After a successful INSTANT STAY arming the ARMED, STAY and INSTANT indicators will be lit.

Bypass

Bypasses are performed to eliminate burglary zones that are not ready or faulty from activating the Security System.

Bypass Procedure

BYPASS [USER] ZN

Depress the BYPASS key followed by your user code and the **three** digit zone number (000 - 072) to be bypassed.

The zone number to be bypassed is shown as ZN. For example, if your user code is 7356 and you want to bypass zone 16 enter:

BYPASS 7 3 5 6 0 1 6

Press the bypass key followed by 7 3 5 6 (your user code), and 0 1 6 (desired zone to be bypassed).

Multiple zones may be bypassed by repeating the sequence for the desired zones within a fifteen-second time period as follows:

EXAMPLE:

BYPASS [USER] 002 BYPASS 056 BYPASS 071

The sequence displayed above would have bypassed zones 2, 56 and 71.

Zones can be bypassed if the user performing the bypass is authorized to perform bypasses and the zone has been defined by your installer as bypassable.

If the zone has already been bypassed, the sequence will unbyypass the zone except if the system is armed and the unbyypassed zone is still not ready. Unbyypass means that the zone returns as an active burglary zone.

After the bypass (or unbyypass) command has been accepted the unit will emit a continuous beep and keypads will display the bypassed zones as follows:

Bypass (cont'd)

LCD Keypads

BYPASSED Zne 002 Upstairs Bedroom

or

UNBYPASS Zne 002 Upstairs Bedroom

LED Keypads

On LED keypads the zone number bypassed will blink slowly in a low intensity. Note: This only applies to the first 16 zones on LED keypads.

Immediately Arm

To immediately ARM the system enter **[USER]** after the last zone bypass.

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

Forced Arming

Forced Arming is a method that will automatically bypass all faulted zones and ARM the system. NOTE: This capability must be selected by your installer at the time of system installation.

Forced Arming Procedure

BYPASS [USER] BYPASS

Depress the BYPASS key followed by your user code and the BYPASS key.

If any of the zones currently faulted are not bypassable, then the command will not succeed, and a long interrupted beep will follow.

Following a successful forced arming the ARMED indicator will be lit and the ON:AWAY display will appear on LCD keypads.

NOTE: This feature is NOT enabled for UL applications.

Unbypass

The UNBYPASS function removes an existing bypass from a currently bypassed zone.

The procedure is similar to a bypass.

Unbypass Procedure

BYPASS [USER] ZN

To remove a bypass from a zone already bypassed press the BYPASS key, followed by your user code and the three digit zone number.

See bypass description.

NOTE: In UL Listed systems, bypasses are automatically removed upon disarming.

Group Bypass (Optional)

Your installer can designate multiple zones within your location to be known as a group. For example, if your location has two floors, the zones on the upper level can be a separate group from the lower level. Each zone within the group will display an individual zone identification on the keypad, however there are commands to bypass the entire group at once. Consult with your installer to determine whether groups exist within your location.

Group Bypass Procedure

BYPASS [USER] * 1 Group

Press the BYPASS key, followed by your user code, the digits * 1, and the group number (01 - 24) as designated by your installer.

Example: Perform a group bypass on group 3 (assume a user code of 2468)

BYPASS 2 4 6 8 * 1 0 3

The system will bypass all of the zones within that group, and the keypad will display the bypassed zones as described in the BYPASS section.

Remember that zones bypassed are not protected when the system is armed.

Group Unbypass

To remove bypasses from all of the zones within a group, the group unbypass command can be performed. This will remove the bypasses from all of the zones within a group. See group bypass section for more details.

Group Unbypass Procedure

BYPASS [USER] * 2 Group

Press the BYPASS key, followed by your user code, the digits * 2, and the group number (01 - 24) as designated by your installer.

Example: Perform a group unbypass on group 3 (assume a user code of 2468):

BYPASS 2 4 6 8 * 2 0 3

User Code Definition

User codes are required to operate your Security System. Users can be entered or modified directly through the keypad. The Security System contains up to 64 (XL-4) or 128 (XL-5) separate user codes. Authorized users can modify user codes directly through the keypad. Each of the User codes have the following characteristics:

USER ID- This is the code entered at the keypad to operate the Security System. Each separate user must be assigned a **unique** user code. The user ID has been displayed as **[USER]** throughout this manual.

USER NUMBER- Sequence number identifying the user being modified or entered. The user numbers range from 001 to 064 (XL-4) or from 001 to 128 (XL-5).

AUTHORIZATION LEVEL- The control panel contains authorization levels to control the users permitted to perform various system functions. This allows users to be restricted to certain functions. The levels are shown below:

LEVEL 1 - ARM, DISARM, BYPASS, PROGRAM USERS,
CHANGE PARTITION ASSIGNMENTS IN ALL PARTITIONS

This would be the **highest** level user and would be able to perform all functions within all partitions (subsystems).

☞ User Code 1 should always be set to a Level 1.

LEVEL 2 - ARM, DISARM, BYPASS, PROGRAM USERS,
CHANGE PARTITION ASSIGNMENTS IN OWN PARTITION

This level of user would be able to perform all functions and would be able to change user partition access only within the partitions (subsystems) where the user is assigned.

LEVEL 3 - ARM, DISARM, BYPASS, PROGRAM USERS

LEVEL 4 - ARM, DISARM, BYPASS

LEVEL 5 - ARM, DISARM

User Code Definition (cont'd)

LEVEL 6 - DURESS CODE

A DURESS code is a special user code that will ARM the system and transmit a special emergency signal.

LEVEL 7 - ARM ONLY

This level of user code could be assigned to a maid, babysitter, or maintenance worker and would only be able to ARM the system.

User Definition Procedure

Code [USER]

Depress the CODE key followed by your user access code. Assuming that the user is valid for user definition the following displays will appear on LCD keypads:

XL-4	XL-5
ENTER USER # 001-064, * to Exit	ENTER USER # 001-128, * to Exit

Enter the user number to be entered or modified. The user number must be entered as a three-digit value: for example user #3 will be entered as 003.

ENTER User CODE * exit, # erase

Enter the desired four-digit user code. The user code entered (0001 - 9999) must be unique and cannot be duplicated with another user code within the system. If an invalid code is entered, the keypad will beep four times and the keypad will repeat the question. NOTE: If a seven digit user code has been selected by your installer then the user code will be the user number followed by this four digit user code. For example, user number 015 with a code of 9876 would require entry of 0159876 when operating the Security System.

User Code Definition (cont'd)

ENTER Authority 1 - 7, * to Exit

Enter the authorization level of the user being defined from the list provided above.

If an error is detected after any of the user questions the keypad will beep rapidly four times and repeat the question.

☞ NOTE: To exit from the User definition displays press the * key.

The procedure for defining users from an LED keypad is identical except that the display prompts will not appear.

User Deletion

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

User Deletion Procedure

CODE [USER] [User #] #

Where:

[USER] User code (must be level 1 or 2 authorization level)

[User #] Represents the user number being deleted. [000 - 064]

User deletion can only be performed by a level 1 or level 2 authorization user.

Example: Delete user number 4. (Assume a level 1 user code of 2468)

CODE 2468 004 #

The deletion procedure should be used only when the user being removed is not being replaced with another user code.

Disarming

Disarming the Security System will deactivate the burglary portions of the system.

Disarm Procedure

[USER]

Enter your user code.

If No Alarms Have Taken Place

The system will be disarmed and the ARMING indicator will go off.

The system display will reflect the current status.

If Alarms Have Taken Place

If alarms or other conditions such as system troubles have taken place since the initial system arming, they will appear on the keypad as follows:

LCD Keypads

If more than one condition has occurred then they will scroll on the display approximately every two seconds. For example,

BURGLARY	zn 012
MASTER BEDROOM	

BURGLARY	zn 005
LIVING ROOM	

FIRE	zn 064
Basement Smoke	

To silence the keypad enter your USER code. You can also use the reset command (depression of the 3 and 1 keys together, or the * key) if your installer has enabled the function.

Disarming (cont'd)

After scrolling through the alarms or troubles, the display will contain the first alarm and repeat the sequence of condition signals until the display has been cleared.

To clear the display of the conditions enter your **user code** again.

☞ **IMPORTANT:** If there have been alarms DO NOT ENTER THE PREMISE, call for help from a neighbor's telephone.

LED Keypads

If alarms or other system conditions such as troubles have occurred since the initial system arming, they will appear in the zone display portion of the keypad as follows:

ALARM	Fast Blinking
TROUBLE	Slow pulse
BYPASS	Slow Low intensity blinking
NOT READY	Solid ON

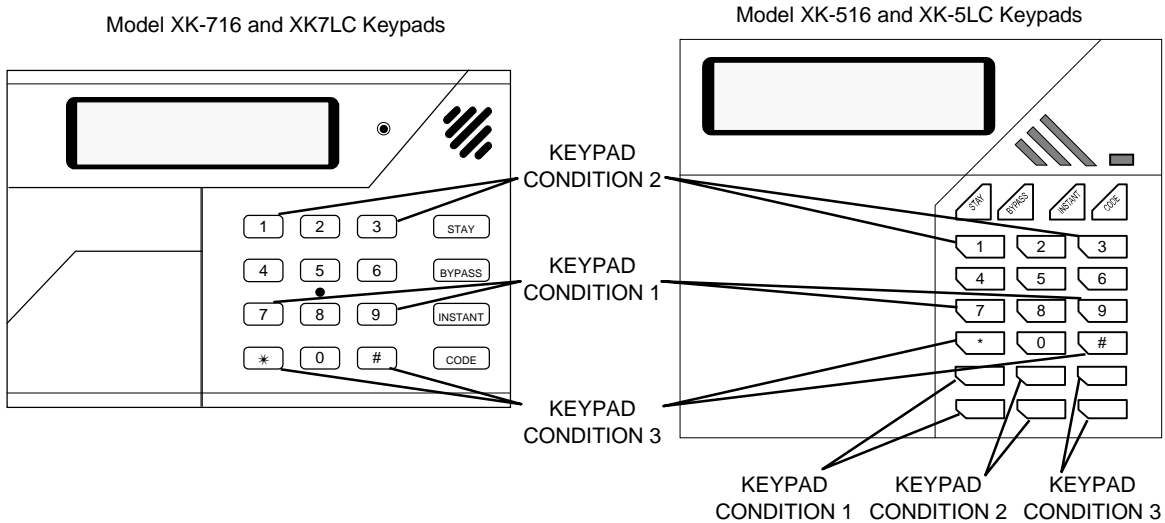
To silence the keypad sounder enter your user code.

To clear the keypad of the alarm conditions enter your user code a second time.

Keypad Auxiliary Conditions

In addition to individual zone alarms various conditions can be transmitted directly through the keypad. These conditions are initiated through the simultaneous depression of two keys, as listed below:

☞ **NOTE:** The keypad conditions are active 24 hours a day, whether the system is armed or disarmed.



KEYPAD CONDITION	CONDITION	KEYSTROKES (ALL KEYPADS)	ADDITIONAL COMBINATIONS USING XK-516 or XK-5LC EMERGENCY KEYS
1	_____	7 + 9	Left 2 Keys
2	_____	1 + 3	Middle 2 Keys
3	_____	* + #	Right 2 Keys

Note: + indicates the simultaneous depression of the two keys shown. For example, 7 + 9 indicates pressing the 7 and 9 keys at the same time.

The keypad functions can be defined as silent or audible response.

Duress

The Security System contains capability to transmit a DURESS (or AMBUSH) signal to the Central Station. The DURESS capability is meant to be used as an emergency condition if you are forced to disarm the system. When used, the DURESS capability will transmit a special emergency signal to the Central Station.

Upon entry of the duress code, the system will disarm in a normal fashion and optionally transmit the duress signal to the Central Station.

NOTE: The DURESS capability is **only** available if activated by your installer. Please contact your installer to determine whether duress has been activated and the method used.

The DURESS capability must be enabled by your installer and can be defined by creating a user code with an authorization level of 6. Special care should be exercised when defining a user code as ambush since use of this code to arm/disarm the system will transmit a special code to the Central Station.

Quick Commands

In addition to the functions already described, the Security System also contains some quick commands which can be initiated through depression of the # key followed by the numbers 0 through 7.

Please ask your installer to explain which of the QUICK commands are applicable to your system.

The QUICK Commands are summarized below:

COMMAND DESCRIPTION

# 0	Common Partition Display
# 1	Quick Arming
# 2	Quick Forced Arm
# 3	Time Set
# 4	Zone Directory *
# 5	Quick Bypassing
# 6	Chime Mode
# 7	User Partition Assignment *

* LCD Keypads Only

Common Partition Display [# 0]

The Security System can be configured to appear as multiple separate security systems. Each subgroup is known as a **partition** and authorized users can be valid in different partitions. For example, your home may be partitioned into one partition for the main living area and another partition for an apartment. Each partition would contain its own zones and keypads and would normally be operated independently.

The Common Partition Display mode allows **authorized users** to perform functions from any keypad within the entire system.

To enter the Common Partition Display mode enter # 0 and a valid User code. The user code must be valid and will only be able to perform the functions authorized for that user. LCD keypads will display:

Quick Commands (cont'd)

ENTER Part (0 - 9) # View, * Exit

Next enter the partition that you wish to operate. Entry of 1 - 8 will return with the keypad displaying the status of the requested partition. At this point you can perform any of the regular keypad functions, within your authorization level, for the requested partition.

In addition to the normal partition requests (1 - 8) the following special functions are available:

Arm All Partitions (0)

To arm all of the partitions that you are authorized enter a 0 into the partition request. This function will arm all of the partitions in the AWAY mode from the single keypad. A message "ALL SYSTEMS ARMED AND SECURED" will appear to confirm the arming. If any of the partitions are NOT READY, then the partitions that are NOT READY will display one at a time on the keypad. Upon viewing the partitions, which are not ready, you may take the appropriate action to make the zones ready (or force arm the partition).

View Mode (#)

The View mode allows an authorized user to view the armed status of all partitions through the keypad. Simply enter a # from the partition selection display and the keypad will display the armed status for all active partitions that the user has been authorized. A typical LCD keypad display may appear as:

SYSTEM STATUS ARMED 12 8

On LED keypads, the partitions that are disarmed illuminate LEDs 9-16 and partitions that are armed illuminate LEDs 1-8. The Bat, Stay, Rdy, Com, and Ins LEDs perform their normal function.

Quick Commands (cont'd)

Disarm All Partitions (9)

To disarm all partitions from a single keypad enter 9 into the partition selection display. This command will disarm all partitions where that user is authorized that are currently armed.

NOTE: The keypad will return to the original partition after approximately 20 seconds.

Quick Arming [# 1]

Depression of the # key followed by the digit 1 will ARM the system without the need for entry of a user code. This is known as QUICK ARMING and will arm the system in the AWAY mode. This is identical to the ARMING command previously described. NOTE: You will still be required to enter a user code to disarm the system.

Quick Forced Arming [# 2]

You may also FORCE ARM the system, which will arm the system and bypass any burglary zones which are not ready, without entry of a user code. Simply press the # key followed by the digit 2.

Time Set [# 3]

The Security System contains a built in system time clock. The clock can be set as follows:

1) Press # 3

Enter # 3

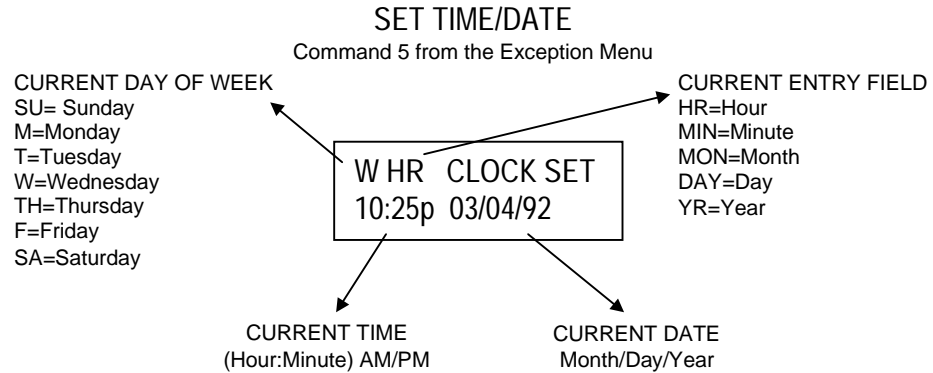
If partition auto arming is enabled, the system will display the following message. If auto arming is not enabled, advance to step 2).

(1) clock (2) arm

To set the system clock, enter 1 on the keypad.

2) The system will display the current time as follows:

Quick Commands (cont'd)



The top line shows the current time and the field being defined. The *INSTANT* key will be used to move between the fields and the *CODE* key is used to change between AM/PM.

- 3) Enter the current hour (00 - 12)
- 4) Press the *INSTANT* key and enter minutes (00 - 59). To change AM/PM, press the *CODE* key if necessary.
 - ☞ **NOTE:** The *CODE* key must be depressed at least once during this procedure so that you may exit in step 8. If AM/PM is correct without depressing the *CODE* key, simply depress it twice.
- 5) Press the *INSTANT* key and enter the month (01 - 12)
- 6) Press the *INSTANT* key and enter the date (01 - 29)
- 7) Press the *INSTANT* key and enter the year (00 - 99)
- 8) Press * to exit

Quick Commands (cont'd)

TIME SET EXAMPLE:

Example: Set clock to 11:21 PM, December 21,1992.

3

11 INSTANT 21 CODE

INSTANT 12 INSTANT 21 INSTANT 92 *

The system will automatically determine the day of the week and will adjust for leap year and daylight savings time if applicable. The system time must be reset if the AC power and battery have been removed for a long period of time.

Partition Auto Arming By Day

An auto-arming schedule must be entered into the system when this function is enabled. To enter an auto arming schedule proceed as follows:

- 1) Enter # 3 from the keypad. The keypad will display:

(1) clock (2) arm

☞ NOTE: The clock must be set prior to entering an auto-arming schedule.

- 2) Enter 2. The keypad will display:

Su Autoarm HR
12:00 a Part 1

☞ NOTE: The Part number will be the partition number the keypad is enabled in.

- 3) Set the hour by entering a number from 1 to 12 for the desired hour (HR).
- 4) Press the INSTANT key. The HR portion of the display will change to MIN.
5. Set the minute by entering a number from 0 to 59 for the desired minute (MIN).

Quick Commands (cont'd)

6) Press the CODE key to change from AM (a) to PM (p).

☞ NOTE: The CODE key must be depressed at least once during this procedure so that you may exit in step 8. If AM/PM is correct without depressing the CODE key, simply depress it twice.

7) Press the STAY key to advance to the desired day of the week. Note that if the # key is pressed while in the auto arm mode, the display will show --:-- meaning that the time is disabled and there will be no auto arm for that day.

8) Press * to exit

Zone Directory [# 4]

The LCD keypad can display descriptors of the zones connected to the Security System. To view the zone descriptors for your system simply press # 4 and the system will scroll the descriptors on the keypad. This command will display the descriptors for the zones associated with your partition only. To exit from the zone directory function press any key from the keypad.

Quick Bypassing [# 5]

Bypassing can also be performed without entry of a user code through entry of # 5 followed by the three digit zone number (001 - 072 for XL-4 or 001-128 for XL-5). For example to bypass zone 13 enter # 5 0 1 3. This function must be enabled by your installer and is only applicable for certain zones.

NOTE: The quick bypass option must be enabled by your installer.

Chime Mode [# 6]

The Security System contains an optional chime mode which causes the keypad sounder to activate for one second every time selected zones such as an entrance door are opened while the system is disarmed. For example, this could inform you each time that the front door was opened while you were home. To activate the chime feature

Quick Commands (cont'd)

Press # 6 then 0 to turn the chime mode on or off. The LCD display shows the current CHIME status as follows:

CHIME is now ON 0 = OFF, * = exit

In this example entry of a 0 will turn the system chime mode off, or the * key will exit from the function.

Partition Assignment [# 7]

The Security System has the ability to be broken into separate independent subsystems known as partitions. Each user code can be valid in more than one partition. For example, an apartment manager may have access to all of the apartments.

The partition assignment function allows authorized users (level 1 & 2) to change the partition access of the various user codes. Note: A level 1 user will be able to change the partition assignment for users within all partitions, while a level 2 user can only change partition assignments within the partitions that they are permitted access.

To enter the partition access section enter # 7 and your user code. Note: The user must have an authorization level of 1 or 2 in order to access this function.

XL-4

ENTER US# to MAP 001-064, * to exit
--

XL-5

ENTER US# to MAP 001-128, * to exit
--

Enter the user number (001 - 064; XL-4 or 001-128; XL-5) to be mapped to various partitions.

Set 1-8 * = ex xxx PART 12345678

This display allows assignment or removal of users from each of the 8 partitions. The first line displays the user being modified (displayed as xxx). The second line shows the partitions where the user is currently

Quick Commands (cont'd)

active. For example, if the keypad shows 1 345 then the user is active in partitions 1 3 4 and 5. To add (or remove) partitions from the user profile simply enter the partition number. The display will reflect the entered value. Upon completion press the * key.

Glossary

The following terminology will be helpful in operating your Security System.

Arm/Disarm

ARMING indicates that the burglary portion of your Security System has been turned on. DISARMED indicates that the burglary portion has been turned off. The FIRE protection and emergency portions, if present in your system, remain active at all times.

Bypass

Allows certain burglary zones to be disarmed while the remainder of the system remains armed. For example, a bypass would allow you to arm your system while a window is still open.

Central Station

Your Security System has built in capability to transmit alarm and emergency signals over your telephone line to a Central Station. The Central Station processes the signals from your system and takes the appropriate action. If your Security System has been connected to a Central Station please contact your Installing Company for further information.

Control Panel

The control panel is the brain of the Security System. All of the protected areas and keypads are connected to the control panel, which is contained in a metal enclosure and generally mounted in a hidden secure location by your installer.

Entry/Exit Delay

Certain protected points of your location can be designated as entry/exit zones. Delay times have been programmed into your system allowing sufficient time to walk through your front door when activating (ARMING) or deactivating (DISARMING) your Security System.

Glossary (cont'd)

Instant

Method of activating the Security System that eliminates the entry and exit time delays. This arming mode will INSTANTLY activate when any burglary zone is violated. The INSTANT mode will generally be used when the system is activated and all occupants are home.

Interior

Protection supplied to the interior sections of your home. Generally, interior zones will be equipped with motion sensing devices that detect an intruder as they enter the protected area. Interior zones will be deactivated in the STAY mode, allowing you and your family to walk through your home without activating the Security System.

Keypad

Station used to perform arming, disarming and other control functions to the Security System. The keypad will display the current system status and appears similar to a touch tone telephone. Your Security System can contain more than one keypad.

Partition

The Security System can be segmented into independent subsystems known as partitions. Each partition will have specified keypads and zones associated with the subsystems. Certain user codes may be valid in more than one partition.

Stay

Arms the Security System when you and your family are home. In the STAY mode, any interior protection will be disabled, allowing your family to walk freely throughout your home without activating the Security System.

User Code

User codes are used to identify authorized users of the Security System. The codes are required to perform functions to your system. The user codes can be changed at any time, through the keypad, by an

Glossary (cont'd)

authorized user. In addition, different levels of users can be defined to restrict functionality within your protected location.

Zone

Indicates a protected area of your home.

Recommendations For Proper Protection

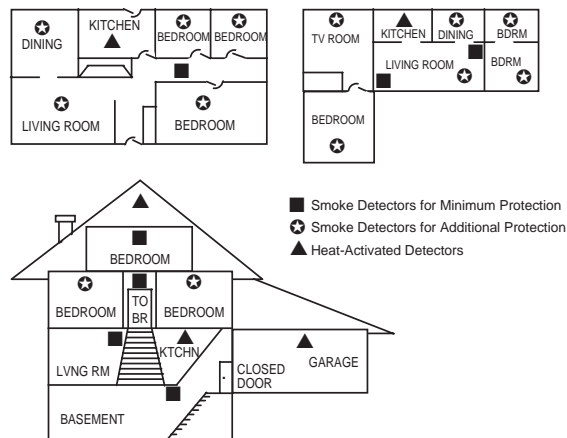
THE FOLLOWING RECOMMENDATIONS FOR THE LOCATION OF FIRE AND BURGLARY DETECTION DEVICES HELP PROVIDE PROPER COVERAGE FOR THE PROTECTED PREMISES.

Recommendations For Smoke And Heat Detectors

With regard to the number and placement of smoke/heat detectors, we subscribe to the recommendations contained in the National Fire Protection Association's (NFPA) Standard #72 noted below.

Early warning fire detection is best achieved by the installation of fire detection equipment in all rooms and areas of the household as follows: For minimum protection a smoke detector should be installed outside of each separate sleeping area, and on each additional floor of a multi-floor family living unit, including basements. The installation of smoke detectors in kitchens, attics (finished or unfinished), or in garages is not normally recommended.

For additional protection the NFPA recommends that you install heat or smoke detectors in the living room, dining room, bedroom(s), kitchen, hallway(s), attic, furnace room, utility and storage rooms, basements and attached garages.



Recommendations For Proper Protection (cont'd)

In addition, we recommend the following:

- Install a smoke detector inside every bedroom where a smoker sleeps.
- Install a smoke detector inside every bedroom where someone sleeps with the door partly or completely closed. Smoke could be blocked by the closed door. Also, an alarm in the hallway outside may not wake up the sleeper if the door is closed.
- Install a smoke detector inside bedrooms where electrical appliances (such as portable heaters, air conditioners or humidifiers) are used.
- Install a smoke detector at both ends of a hallway if the hallway is more than 40 feet (12 meters) long.
- Install smoke detectors in any room where an alarm control is located, or in any room where alarm control connections to an AC source or phone lines are made. If detectors are not so located, a fire within the room could prevent the control from reporting a fire or an intrusion.

Recommendations For Proper Intrusion Protection

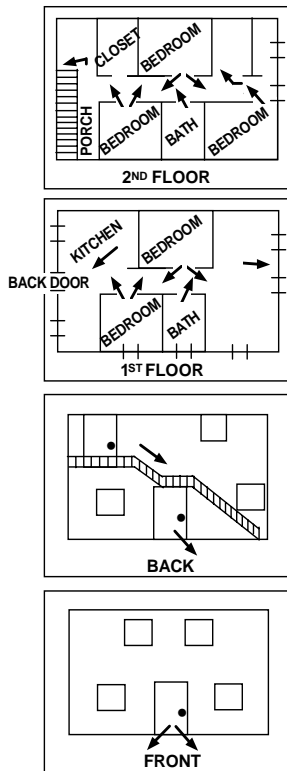
For proper intrusion coverage, sensors should be located at every possible point of entry to a home or commercial premises. This would include any skylights that may be present, and the upper windows in a multi-level building.

In addition, we recommend that radio backup be used in a security system so that alarm signals can still be sent to the alarm monitoring station in the event that the telephone lines are out of order (alarm signals are normally sent over the phone lines, if connected to an alarm monitoring station).

Emergency Evacuation

Establish and regularly practice a plan of escape in the event of fire. The following steps are recommended by the National Fire Protection Association:

1. Position your detector or your interior and/or exterior sounders so that they can be heard by all occupants.
2. Determine two means of escape from each room. One path of escape should lead to the door that permits normal exit from the building. The other may be a window, should your path be impassable. Station an escape ladder at such windows if there is a long drop to the ground.
3. Sketch a floor plan of the building. Show windows, doors, stairs and rooftops that can be used to escape. Indicate escape routes for each room. Keep these routes free from obstruction and post copies of the escape routes in every room.
4. Assure that all bedroom doors are shut while you are asleep. This will prevent deadly smoke from entering while you escape.
5. Try the door. If the door is hot, check your alternate escape route. If the door is cool, open it cautiously. Be prepared to slam the door if smoke or heat rushes in.
6. Where smoke is present, crawl on the ground; do not walk upright. Smoke rises and may overcome you. Clearer air is near the floor.
7. Escape quickly; don't panic.
8. Establish a common meeting place outdoors, away from your house, where everyone can meet and then take steps to contact the authorities and account for those missing. Choose someone to assure that nobody returns to the house — many die going back.



System Testing

This control unit was manufactured under rigid quality standards and complies with all UL requirements for its intended use. Maintenance is best performed by your installing company with trained service personnel.

Installing Company: _____

Telephone Number: _____

It is recommended that you test your system once a week using the following procedure:

Note: If a Central Station monitors your system then contact them **prior** to performing this test.

1. Arm your Security System.
2. Activate the system by opening a protected zone (example, window, or door).
3. Confirm that the alarm sounding device (bell or siren) activates. If your system is connected to a Central Station then the keypad will emit a ringback sound to confirm that the signal was received.
4. Disarm the system to silence the system and return to normal status.

System Testing (cont'd)

Battery Test

In order to test the backup battery the following procedure should be performed:

1. Remove the AC transformer from the AC outlet by removing the retaining screw that secures the transformer to the wall. (Note: the screw is not present in models sold in Canada).
2. Observe that the AC light goes off on the keypad.
3. Activate your alarm system using steps 1-4 listed above.
4. Replace the AC transformer to the AC outlet and secure using the retaining screw (Note: The retaining screw is not present in models sold in Canada).

The National Fire Protection Association publishes a standard for household fire warning equipment (NFPA #74). Further information can be obtained by contacting; NFPA Public Affairs Dept., Batterymarch Park, Quincy, MA 02269.

If you have any further questions about the operation of your system, call your installer.

Owners Information

NAME: _____

ADDRESS: _____

CITY, STATE, ZIP: _____

TELEPHONE NUMBER: _____

Date of Installation: _____

EMERGENCY NUMBERS:

CENTRAL STATION: _____

FIRE DEPARTMENT: _____

POLICE DEPARTMENT: _____

NEIGHBOR: _____

GAS/ELECTRIC DEPT: _____

DOCTOR: _____

HOSPITAL: _____

EMERGENCY: _____

SERVICE INFORMATION:

ALARM INSTALLING COMPANY: _____

About The Manufacturer

Your new control panel and keypads are manufactured by Fire Burglary Instruments Inc, leading manufacturer of quality reliable security control products since 1971. Fire Burglary Instruments is a subsidiary of Pittway Corporation. This product has been manufactured using the latest advances in electronic and computer technology. Thorough testing, by computer as well as quality control experts, has occurred several times during the manufacturing process.

Fire Burglary Instruments warrants its products through your installing company. Product reliability and ease of operation are two of the major factors in the design of all Fire Burglary products. You can look forward to many years of trouble free service from your Security System.

Statements – Problems – Warnings

FEDERAL COMMUNICATIONS COMMISSION (FCC) STATEMENT

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

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

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

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user or installer may find the following booklet prepared by the Federal Communications Commission helpful: "Interference Handbook". This booklet is available from the U.S. Government Printing Office, Washington, DC 20402. Stock No. 004-000-00450-7.

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

IN THE EVENT OF TELEPHONE OPERATIONAL PROBLEMS

In the event of telephone operational problems, disconnect the communicator by removing the plug from the RJ31X jack. We recommend that the installer demonstrate disconnecting the phones on installation of the system. Do not disconnect the phone connection inside the communicator. Doing so will result in the loss of the phone lines. If the regular phone works correctly after the communicator has been disconnected from the phone lines, the communicator has a problem and should be returned for repair.

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

Statements – Problems – Warnings (cont'd)

WARNING LIMITATIONS OF THIS ALARM SYSTEM

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

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

Statements – Problems – Warnings (cont'd)

radio, air conditioner or other appliances, or by passing traffic. Finally, alarm warning devices, however loud, may not warn hearing-impaired people or waken deep sleepers.

- Telephone lines needed to transmit alarm signals from a premises to a central monitoring station may be out of service or temporarily out of service. Telephone lines are also subject to compromise by sophisticated intruders.
- Even if the system responds to the emergency as intended, however, occupants may have insufficient time to protect themselves from the emergency situation. In the case of a monitored alarm system, authorities may not respond appropriately.
- This equipment, like other electrical devices, is subject to component failure. Even though this equipment is designed to last as long as 20 years, the electronic components could fail at any time.

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

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

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

Warranty

FIRE BURGLARY INSTRUMENTS, INC. ONE YEAR LIMITED WARRANTY

Fire Burglary Instruments, Inc., a subsidiary of Pittway Corporation, and Pittway Corporation its divisions subsidiaries and affiliates ("Seller"), 163 Eileen Way, Syosset New York 11791, warrants its security equipment ("the product") to be free from defects in materials and workmanship for one year from the date of original purchase, under normal use and service. Seller's obligation is limited to repairing or replacing, at its option, free of charge for parts, labor, or transportation, any product proven to be defective in materials or workmanship under normal use and service. Seller shall have no obligation under this warranty or otherwise if the product is altered or improperly repaired or serviced by anyone other than Seller. In case of defect, contact the security professional who installed and maintains your security equipment or the Seller for product repair.

This one year Limited Warranty is in lieu of all other express warranties, obligations or liabilities. THERE ARE NO EXPRESS WARRANTIES, WHICH EXTEND BEYOND THE FACE HEREOF. ANY IMPLIED WARRANTIES, OBLIGATIONS OR LIABILITIES MADE BY SELLER IN CONNECTION WITH THIS PRODUCT, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, ARE LIMITED IN DURATION TO A PERIOD OF ONE YEAR FROM THE DATE OF ORIGINAL PURCHASE. ANY ACTION FOR BREACH OF ANY WARRANTY, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY, MUST BE BROUGHT WITHIN 18 MONTHS FROM DATE OF ORIGINAL PURCHASE. IN NO CASE SHALL SELLER BE LIABLE TO ANYONE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, OR UPON ANY OTHER BASIS OF LIABILITY WHATSOEVER, EVEN IF THE LOSS OR DAMAGE IS CAUSED BY THE SELLER'S OWN NEGLIGENCE OR FAULT.

Some states do not allow limitation on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. Seller does not represent that the product may not be compromised or circumvented; that the product will prevent any personal injury or property loss by burglary, robbery, fire or otherwise; or that the product will in all cases provide adequate warning or protection. Buyer understands that a properly installed and maintained alarm may only reduce the risk of a burglary, robbery, or fire or other events occurring without providing an alarm, but it is not insurance or a guarantee that such will not occur or that there will be no personal injury or property loss as a result. CONSEQUENTLY, SELLER SHALL HAVE NO LIABILITY FOR ANY PERSONAL INJURY, PROPERTY DAMAGE OR OTHER LOSS BASED ON A CLAIM THE PRODUCT FAILED TO GIVE WARNING. HOWEVER, IF SELLER IS HELD LIABLE, WHETHER DIRECTLY OR INDIRECTLY, FOR ANY LOSS OR DAMAGE ARISING UNDER THIS LIMITED WARRANTY OR OTHERWISE, REGARDLESS OF CAUSE OR ORIGIN, SELLER'S MAXIMUM LIABILITY SHALL NOT IN ANY CASE EXCEED THE PURCHASE PRICE OF THE PRODUCT, WHICH SHALL BE THE COMPLETE AND EXCLUSIVE REMEDY AGAINST SELLER. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. No increase or alteration, written or verbal, of the obligations of this Limited Warranty is authorized.



FIRE BURGLARY INSTRUMENTS INC.
Subsidiary of Pittway Corp.

149 Eileen Way, Syosset, New York 11791

Copyright © 1998 PITTPWAY CORPORATION



N9144-1 10-98