

**Honeywell**

**5110XM**  
**Control / Communicator**

**Installation and Setup Guide**



# UL864 Compliance Requirements

## General Information

The 5110XM provides features that allow the system to comply with UL864 installation requirements. The following features must be set accordingly in order for the system to comply with UL864 installation requirements:

- The reporting of bypassed points to the central station must be enabled
- Fire alarm notification circuits must be supervised
- Fire installations require the use of a synchronization module to synchronize the sounders and strobes on the system
- Supervision must be enabled for both the main and backup phone lines
- The delay water flow points must not exceed 90 seconds
- The test report interval must be set for a maximum of 24 hours

## Non-Compliant UL864 Features

The following features are not UL864 compliant and may not be used in a UL864 installation:

- Ring Detection Count must be set to 0 (disabled)

## Programming Field Settings for UL864 Compliance

NOTICE TO USERS, INSTALLERS, AUTHORITIES HAVING JURISDICTION, AND OTHER INVOLVED PARTIES			
This product incorporates field-programmable software. In order for the product to comply with the requirements in the Standard for Control Units and Accessories for Fire Alarm Systems, UL 864, certain programming features or options must be limited to specific values or not used at all as indicated below.			
Program feature or option	Permitted in UL864? Y/N	Possible settings	Settings permitted in UL 864
*30 ALARM BELL TIMEOUT	Y	0 = no timeout 1 = 4 minutes 2 = 8 minutes 3 = 12 minutes 4 = 16 minutes.	Must be a minimum of 6 minutes.
*31 AUXILIARY RELAY TIMEOUT	Y	0 = no timeout 1 = 4 minutes 2 = 8 minutes 3 = 12 minutes 4 = 16 minutes.	Must be a minimum of 6 minutes.
*95 RING DETECTION COUNT	Y	Enter 0 to disable ring detection. Enter 1-9, #10, #11, #12, #13, #14 for ring counts of 1-14. Enter #15 to select Answering Machine Defeat Mode	Must be set to "0" (disable).

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# Conventions Used in This Manual

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Before you begin using this manual, it is important that you understand the meaning of the following symbols (icons).

**UL**

These notes include specific information that must be followed if you are installing this system for a UL Listed application.

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These notes include information that you should be aware of before continuing with the installation, and that, if not observed, could result in operational difficulties.

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This symbol indicates a critical note that could seriously affect the operation of the system, or could cause damage to the system. Please read each warning carefully. This symbol also denotes warnings about physical harm to the user.

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<p><b>ZONE PROG?</b> 1 = YES 0 = NO 0</p>
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Many system options are programmed in an interactive mode by responding to alpha keypad display prompts. These prompts are shown in a single-line box.

**\*00**

Additional system options are programmed via data fields, which are indicated by a “star” (\*) followed by the data field number.

**PRODUCT MODEL NUMBERS:**

Unless noted otherwise, references to specific model numbers represent HONEYWELL products.

# General Description

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## About the 5110XM

The 5110XM is a fire alarm control/communicator that supports 5 style B (for further explanation of style B, refer to NFPA 72 National Fire Alarm Code Chapter 3: Protected Premises Fire Alarm Systems) hardwired zones. It may be used as a slave Digital Alarm Communicator Transmitter (DACT) providing central station or remote station service for a listed Fire Alarm Control Panel (FACP). It may also be used as a stand-alone non-coded local, central station or remote station control.

## Features

### Hardwire Zones

- Provides 5 style B hardwire zones
- Supports up to 16 2-wire smoke detectors each on zone 5
- Provides 300 – 500ms response time
- Supports 4-wire smoke detectors on any zone (power to these should be supplied from the control's auxiliary relay power output)

### Remote Keypads

The following keypads may be used:

- Fixed-Word Keypads: 6150
- Alpha Keypad: 6160




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When used as a DACT only, a keypad is not required, but may be used to provide supplementary status annunciation.

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When used as a control, optional keypads may be used in conjunction with the control panel's LED indicators and SILENCE/RESET button. If used, one optional keypad must be mounted within 3 feet of the control with the wiring run in conduit.

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### User Codes (for use with remote keypads)

- 1 Installer code for entire system (user 1– intended for use by installer)
- 5 Secondary user codes (users 2–6; user 2 intended for use by principle end user)

### Backup Dialer

Has built-in backup dialer for connecting to a second supervised telephone line.

### Bell Output

Provides one 12VDC (nominal), 1A output, which may be configured for Style Y (for further explanation of style Y, refer to NFPA 72 National Fire Alarm Code Chapter 3: Protected Premises Fire Alarm Systems), EOLR supervision (for use with polarized alarm sounding devices) or for no supervision (no EOLR used).

### Auxiliary Relay

Provides a built-in 12V wet or dry (jumper selectable) "Form C" relay which can be used for one of the following:

- Alarm activation on selected zones, silenced by User Code + [OFF]
- Trouble/Supervisory activation
- 4-wire smoke detector reset
- Battery saving feature (disconnects power from non-critical loads 4 hours after AC power loss)
- Alarm activation on selected zones, silenced by Code + [#] + [67] (can be used for elevator recall)

**Built-in Indicators and Switches**

- A built-in warning sounder (Piezo) that provides alarm, supervisory, and trouble sounds
- 10 LED indicators provide visual status of (1) AC Power, (2) Battery Trouble, (3) Communication Failure, (4) Telco Line Fault, (5) Silenced Audible Conditions, (6) Supervisory, (7) Alarm, (8) Trouble, (9) Main Dialer Line Seize, and (10) Backup Dialer Line Seize
- A Silence/Reset push-button allows audible warnings to be silenced and smoke detectors to be reset

**Programming**

Programmed options are stored in electrically erasable, non-volatile EEROM memory (information can be reprogrammed at any time and will not be lost in the event of a power loss). The system can be programmed by one of the following methods:

- On-site using an alpha keypad
- From a remote location via an IBM compatible computer using the Compass Downloading software

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**UL** Remote programming may only be used when a service technician is at the site during downloading

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**Communication Formats Supported**

- ADEMCO Low Speed (Standard or Expanded)
- SESCOA/RADIONICS (Standard or Expanded)
- ADEMCO Express
- ADEMCO Contact ID

**AC Power Input**

Uses an enclosed, permanently-wired, 120VAC transformer rated @ 18VAC, 40VA (supplied) with manually resettable circuit breaker.

**Auxiliary Power Output**

- Provides 12VDC, 350mA maximum for peripherals such as keypads.
- Uses Positive Temperature Coefficient Thermistors (PTCs) for protection. There are no replaceable fuses.

**Back-Up Battery**

Uses a rechargeable 12VDC, 7AH/14AH maximum lead acid (gel cell) battery for back-up power (dual battery cable supplied)

# Installing the Control

This section describes the procedures for mounting and wiring the control panel and all the peripheral devices.

## Mounting the Control Cabinet

To mount the control cabinet, perform the following steps:

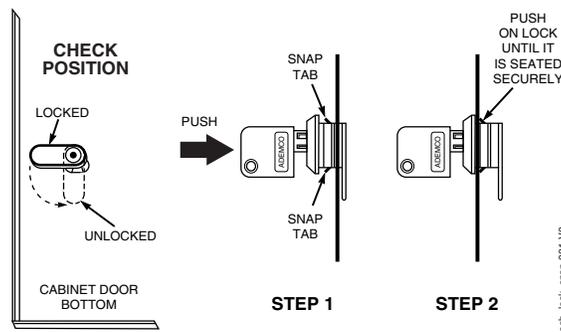
Step	Action
1	Before mounting the circuit board, remove the metal knockouts for the wiring entry that you will be using. <b>DO NOT ATTEMPT TO REMOVE THE KNOCKOUTS AFTER THE CIRCUIT BOARD HAS BEEN INSTALLED.</b>
2	Using fasteners or anchors (not supplied), mount the control cabinet to a sturdy wall in a clean, dry area that is not readily accessible to the general public. The back of the cabinet has 4 holes for this purpose.

## Installing the Cabinet Lock

To install the lock, perform the following steps:

Step	Action
1	Remove the cabinet door, and the lock knockout from the door. Insert the key into the lock.
2	Position the lock in the hole, making certain that the latch will make contact with the latch bracket when the door is closed.
3	When correctly positioned, push the lock until it is held securely by its snap tabs.

Use the supplied lock (Honeywell No. K4445).



*Figure 2-1: Installing the Lock*

## Installing the Control's Circuit Board

To install the circuit board in the cabinet, perform the following steps:

Step	Action
1	<b>If an optional rear tamper switch is going to be used</b> , remove the 4 screws securing the back plate to the cabinet, then remove the knockout from the back plate. Install the rear tamper switch, then replace the back plate.
2	Ensure the back plate mounting screws (4) are tight.
3	Install the 3 lower Standoffs with their screws and lock washers along the bottom of the back plate. Refer to Figure 2-2. Leave the screws loose to allow the circuit board to slip in.
4	Install the 2 upper Standoffs on the back plate. Refer to Figure 2-3 for their location.

5	Slip the bottom part of the circuit board onto the 3 lower Standoffs ensuring it is under the lock washers. Then snap the top part of the circuit board onto the 2 upper Standoffs.
6	Tighten the 3 screws securing the circuit board to the 3 lower Standoffs.
7	Install the LED Indicator board and connect its cable to J5 on the printed circuit board.
8	<b>ENSURE FACILITY POWER IS OFF.</b> Remove the Power Supply's cover plate (4 screws). Refer to Figure 2-3 and the Simplified Wiring Diagram (inside of back cover) and install the earth ground connections.
9	Use wire nuts (not supplied) to connect the facility power wiring to the power supply transformer's black and white wires. Replace the power supply cover plate.
10	Connect the transformer's 18VAC BLUE flying leads which emerge from the top of the enclosure to the circuit board's AC terminals (Terminals 1 and 2). Replace the power supply cover plate.

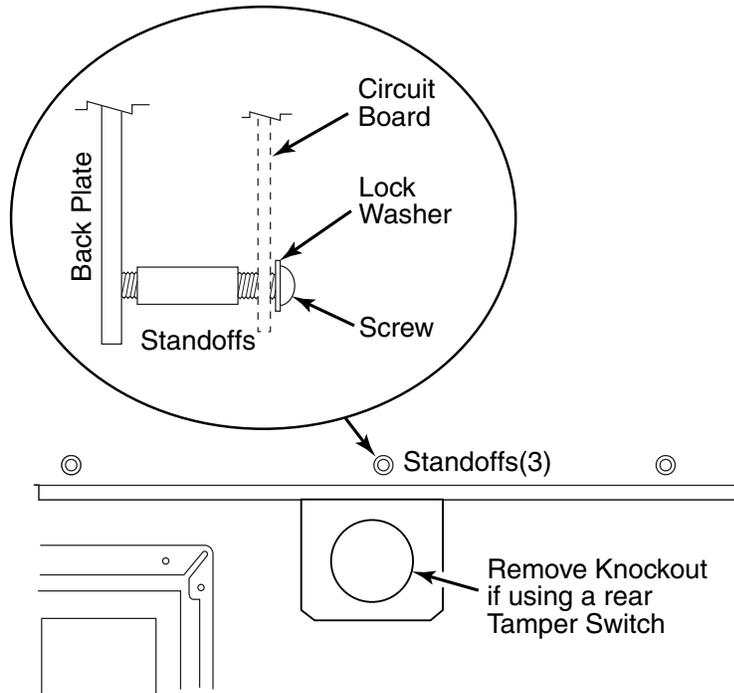


Figure 2-2: Circuit Board Mounting Details



The control panel requires connection to a good earth ground in order to provide proper 120VAC shock hazard protection, lightning transient protection, and earth ground fault detection.

Refer to the National Electrical Code for proper earth grounding methods.



- A dedicated 120VAC circuit must be used for fire applications.
- Wires must be rated for 90 degrees C or higher operation.



Make sure that the dedicated AC circuit is not powered at this time.

**Apply AC power only after all other wiring, except the backup battery wiring, has been completed.**

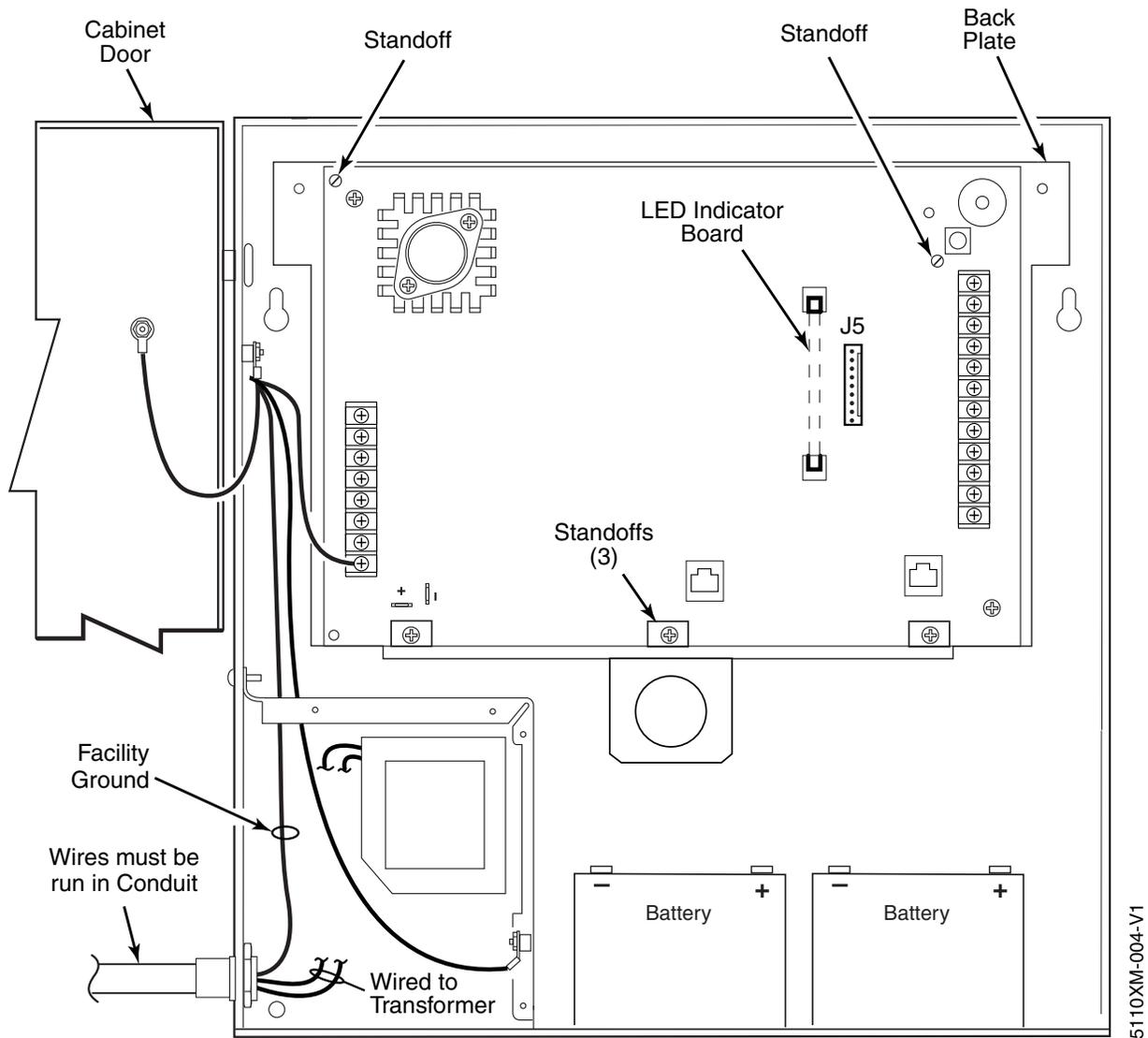


Figure 2-3: Circuit Board Installation

### Commercial Fire Installation Guidelines

- Dress field wiring away from the microprocessor (center) section of the PC board. Dress wiring to the left and right sides of the cabinet and secure using tie wraps.
- Separate all power-limited wiring from other wiring by at least ¼-inch (6.4mm).
- Non-power-limited wiring that exits the control panel (i.e., facility power) must be run in conduit.
- All unused knockouts must be plugged.
- All wiring that exits the control panel must be strain-relieved (e.g., tie-wrapped).

## Installing the Keypads

The following keypads may be used in conjunction with the control panel's LED indicators and SILENCE/RESET button:

- Fixed-Word Display: 6150, and/or Alpha Display: 6160
- Independent of the restrictions on keypads for stand-alone control usage, the 5110XM supports up to 4 keypads provided that the 350mA current rating is not exceeded for aux. power and for the system as a whole. Fixed word and alpha keypads may be used in the same installation.



Many municipalities require that fire alarm annunciators be red in color. Check with the authority having jurisdiction before choosing a keypad color for your installation.

### Wiring to the Keypads

If optional keypads are used, one must be mounted within 3 feet of the control panel with the wiring (#22AWG) run in conduit. When used as a slave DACT, there are no restrictions. Remote keypads may be wired to a single run or individual keypads may be wired to separate wire runs. To wire the keypads, perform the following steps:

Step	Action																									
1	Use the table below to determine the length of any single wire run based on the total loading on that run. The length of all wire runs combined must not exceed 900 feet if unshielded cable is used. If shielded cable is used, the combined wire run length must not exceed 450 feet. <table border="1" style="margin: 10px auto;"> <thead> <tr> <th>Wire Size</th> <th>100mA</th> <th>200mA</th> <th>300mA</th> <th>350mA</th> </tr> </thead> <tbody> <tr> <td>#22</td> <td>200'</td> <td>125'</td> <td>80'</td> <td>71'</td> </tr> <tr> <td>#20</td> <td>400'</td> <td>200'</td> <td>130'</td> <td>110'</td> </tr> <tr> <td>#18</td> <td>625'</td> <td>310'</td> <td>200'</td> <td>170'</td> </tr> <tr> <td>#16</td> <td>900'</td> <td>450'</td> <td>300'</td> <td>250'</td> </tr> </tbody> </table>	Wire Size	100mA	200mA	300mA	350mA	#22	200'	125'	80'	71'	#20	400'	200'	130'	110'	#18	625'	310'	200'	170'	#16	900'	450'	300'	250'
Wire Size	100mA	200mA	300mA	350mA																						
#22	200'	125'	80'	71'																						
#20	400'	200'	130'	110'																						
#18	625'	310'	200'	170'																						
#16	900'	450'	300'	250'																						
2	Run field wiring from the control to the keypads (using standard 4-conductor twisted wire cable using the wire gauge determined in step 1).																									
3	Connect the wires to terminals 17, 18, 19 and 20 on the control panel (see Figure 2-4).																									

KEYPAD CONNECTOR CABLE  
(supplied with keypads)

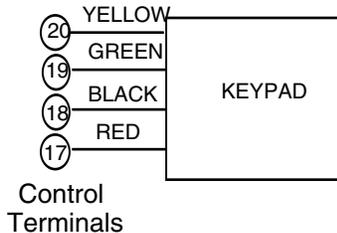


Figure 2-4: Keypad Connections to the Control Board

### Mounting the Keypads

To mount the keypads, perform the following steps:

Step	Action
1	<b>Make sure addressable type keypads</b> (6150, 6160) are set to the non-addressable mode (address 31), which is the factory default setting. Refer to the instructions provided with the keypad for address setting procedure.
2	<b>Mount the keypads</b> at a height that is convenient for the user. Refer to the instructions provided with the keypad for mounting procedure.

## Installing External Sounders

The 5110XM provides one notification appliance circuit output rated 12VDC nominal (10-14VDC), 1A maximum, which may be connected to 12V alarm indicating devices (horns, bells, sirens, etc.). This output may be configured for Style Y EOLR supervision or no supervision and is intended for use as a supervised fire alarm indicating circuit.



- The bell output must be used for fire alarm annunciation when the 5110XM is used as a stand alone local control. Unless otherwise specified by the local AHJ, use of the bell output is not required for all other DACT and stand alone control installations. When used, the bell should be configured for supervision. 24 hour non-fire alarms (ex. type 07) must be programmed to activate the auxiliary relay output and not the bell output.
- The total alarm current that can be drawn from the bell, auxiliary relay, and auxiliary power outputs combined must not exceed 1A.



- Commercial fire alarm systems require Notification Appliance Circuit to be supervised.
- This control complies with National Fire Protection Association (NFPA) requirements for temporal pulse sounding of fire notification appliances.

### Notification Appliance Circuit Supervision

When supervision is enabled, the 5110XM monitors the Notification Appliance Circuit wiring for open and short circuit faults while the output is inactive. The system provides a trouble indication on Zone 6 (Zone 6 must be programmed for a 24-hour response type) when an open occurs; or when a short occurs between the Bell (+) and Bell (-) terminal wiring, or between the Bell (+) terminal wiring and earth ground.

### Wiring the Alarm Output

The wiring of the Notification Appliance Circuit depends upon whether you are going to supervise the circuit or not. Use the appropriate procedure below for your application.



Use only UL Listed sounding devices for UL installations.

### Compatible Alarm Indicating Devices

SOUNDER TYPE	MANUFACTURER	MODEL #	SOUNDER TYPE	MANUFACTURER	MODEL #
UL listed Grade A Bell in Housing	Honeywell/ ADEMCO	AB12M-ADT	4-Wire Ceiling Mount Horn/Strobe, 12/24V, Standard Candela, Red, Outdoor	SYSTEM SENSOR	PC4RK
RX7 UL Indoor Sounder, 12V	ADT	875936B	4-Wire Ceiling Mount Horn/Strobe, 12/24V, High Candela, Red, Outdoor	SYSTEM SENSOR	PC4RHK
Chime, 12/24V, Selectable Tone & Volume, Red	SYSTEM SENSOR	CHR	4-Wire Ceiling Mount Horn/Strobe, 12/24V, Standard Candela, White	SYSTEM SENSOR	PC4W
Chime, 12/24V, Selectable Tone & Volume, White	SYSTEM SENSOR	CHW	4-Wire Ceiling Mount Horn/Strobe, 12/24V, High Candela, White	SYSTEM SENSOR	PC4WH
Chime/Strobe, 12/24V, Selectable Candela, Tone & Volume, Red	SYSTEM SENSOR	CHSR	2-Wire Wall Mount Strobe, 12/24V, Standard Candela, Red	SYSTEM SENSOR	SR
Chime/Strobe, 12/24V, Selectable Candela, Tone & Volume, White	SYSTEM SENSOR	CHSW	2-Wire Wall Mount Strobe, 12/24V, High Candela, Red	SYSTEM SENSOR	SRH
Horn, 12/24V, Red	SYSTEM SENSOR	HR	Wall Mount Strobe, 12/24V, Standard Candela, Red, Outdoor	SYSTEM SENSOR	SRK
Horn, 12/24V, White	SYSTEM SENSOR	HW	Wall Mount Strobe, 12/24V, High Candela, Red, Outdoor	SYSTEM SENSOR	SRHK
Horn, 12/24V, Outdoor, Red	SYSTEM SENSOR	HRK	Wall Mount Strobe, 12/24V, Standard Candela, White	SYSTEM SENSOR	SW
2-Wire Wall Mount Horn/Strobe, 12/24V, Standard Candela, Red	SYSTEM SENSOR	P2R	Wall Mount Strobe, 12/24V, High Candela, White	SYSTEM SENSOR	SWH
2-Wire Wall Mount Horn/Strobe, 12/24V, High Candela, Red	SYSTEM SENSOR	P2RH	Ceiling Mount Strobe, 12/24V, Standard Candela, Red	SYSTEM SENSOR	SCR

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SOUNDER TYPE	MANUFACTURER	MODEL #	SOUNDER TYPE	MANUFACTURER	MODEL #
2-Wire Wall Mount Horn/Strobe, 12/24V, Standard Candela, Red, Outdoor	SYSTEM SENSOR	P2RK	Ceiling Mount Strobe, 12/24V, High Candela, Red	SYSTEM SENSOR	SCRH
2-Wire Wall Mount Horn/Strobe, 12/24V, High Candela, Red, Outdoor	SYSTEM SENSOR	P2RHK	Ceiling Mount Strobe, 12/24V, Standard Candela, Red, Outdoor	SYSTEM SENSOR	SCRK
2-Wire Wall Mount Horn/Strobe, 12/24V, Standard Candela, White	SYSTEM SENSOR	P2W	Ceiling Mount Strobe, 12/24V, High Candela, Red, Outdoor	SYSTEM SENSOR	SCRHK
2-Wire Wall Mount Horn/Strobe, 12/24V, High Candela, White	SYSTEM SENSOR	P2WH	Ceiling Mount Strobe, 12/24V, Standard Candela, White	SYSTEM SENSOR	SCW
4-Wire Wall Mount Horn/Strobe, 12/24V, Standard Candela, Red	SYSTEM SENSOR	P4R	Ceiling Mount Strobe, 12/24V, High Candela, White	SYSTEM SENSOR	SCWH
4-Wire Wall Mount Horn/Strobe, 12/24V, High Candela, Red	SYSTEM SENSOR	P4RH	Sync-Circuit Module, White	SYSTEM SENSOR	MDLW
4-Wire Wall Mount Horn/Strobe, 12/24V, Standard Candela, Red, Outdoor	SYSTEM SENSOR	P4RK			
4-Wire Wall Mount Horn/Strobe, 12/24V, High Candela, Red, Outdoor	SYSTEM SENSOR	P4RHK			
4-Wire Wall Mount Horn/Strobe, 12/24V, Standard Candela, White	SYSTEM SENSOR	P4W			
4-Wire Wall Mount Horn/Strobe, 12/24V, High Candela, White	SYSTEM SENSOR	P4WH			
2-Wire Ceiling Mount Horn/Strobe, 12/24V, Standard Candela, Red	SYSTEM SENSOR	PC2R			
2-Wire Ceiling Mount Horn/Strobe, 12/24V, High Candela, Red	SYSTEM SENSOR	PC2RH			
2-Wire Ceiling Mount Horn/Strobe, 12/24V, Standard Candela, Red, Outdoor	SYSTEM SENSOR	PC2RK			
2-Wire Ceiling Mount Horn/Strobe, 12/24V, High Candela, Red, Outdoor	SYSTEM SENSOR	PC2RHK			
2-Wire Ceiling Mount Horn/Strobe, 12/24V, Standard Candela, White	SYSTEM SENSOR	PC2W			
2-Wire Ceiling Mount Horn/Strobe, 12/24V, High Candela, Red	SYSTEM SENSOR	PC2WH			
4-Wire Ceiling Mount Horn/Strobe, 12/24V, Standard Candela, Red	SYSTEM SENSOR	PC4R			
4-Wire Ceiling Mount Horn/Strobe, 12/24V, High Candela, Red	SYSTEM SENSOR	PC4RH			

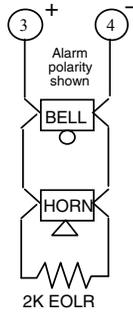


Figure 2-5: External Sounder Connections

**Supervising the Notification Appliance Circuits**

To wire the NAC using the supervision feature, perform the following steps:

Step	Action
1	Install a 2K EOL resistor (Model EOLR20, supplied) across the last notification appliance on the Notification Appliance Circuit.
2	Program Zone 6 with a 24-hour response type.



**IMPORTANT – Supervision must be enabled.**



The Notification Appliance Circuits will not respond unless the zones are assigned to them. For fire alarms, the system displays “FIRE ALARM SILENCED.” This message also displays if the Notification Appliance Circuit is not supervised.

**Auxiliary Relay Connections**

The 5110XM provides on auxiliary relay output which may be configured as one of the following:

- Wet 12VDC form C relay output
- Dry, unsupervised form C relay with contacts rated at 30VAC/VDC, 2A max. resistive loads

The relay (terminal 6) is set at the factory for a 12V nominal (10-14VDC) output, providing 350mA max standby current/1A max alarm current.



The total standby current that can be drawn from the auxiliary relay and auxiliary power outputs cannot exceed 350mA. The total alarm current that can be drawn from these outputs plus the bell output cannot exceed 1A.

If configuring the relay as a dry, form C relay output, cut the red jumper labeled W3 on the PC board.

**Wiring the Auxiliary Relay**

The figures that follow show how to wire the auxiliary relay output for unsupervised alarm output and for 4-wire smoke detector power usage.

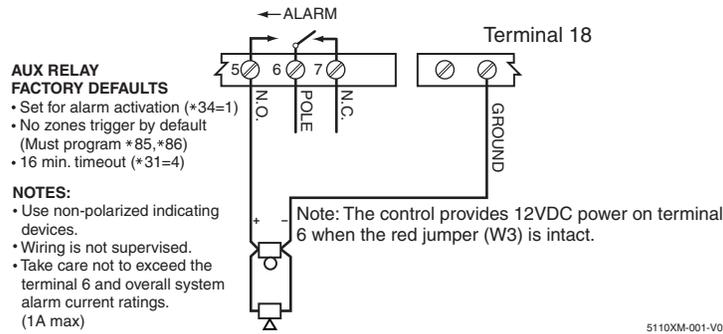


Figure 2-6: Wiring the Auxiliary Relay Output For Unsupervised Alarm Output.

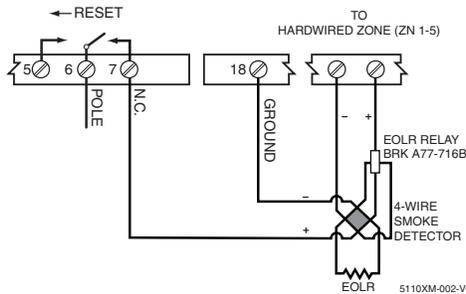


Figure 2-7: Wiring the Auxiliary Relay Output For 4-Wire Smoke Detector Power Usage.

### Programming the Auxiliary Relay

The auxiliary relay may be programmed for one of the following options:

- Trouble/Supervisory Activation
- Alarm Activation, silenced by [user code] + OFF
- 4-Wire Smoke Detector Reset
- Battery Saver
- Alarm Activation, silenced by [user code] + [#] + [67]

These options are described as follows:

**Trouble/Supervisory Activation (\*34 = 0):** Steady activation in response to any zone or system related trouble condition or to any fire supervisory condition. Remains activated until all fault conditions have been corrected and the Silence/Reset button has been pressed or the user code + [OFF] has been entered.

**Alarm Activation, silenced by [user code] + [OFF] (\*34 = 1):** Steady activation in response to an alarm on one, some or all zones, as selected in fields \*85 and \*86. If selected, the auxiliary relay remains activated until Aux. Relay Timeout (\*31) or until the Silence/Reset button has been pressed or until the User Code + [OFF] has been entered.

**4-Wire Smoke Detector Reset (\*34 = 2):** Momentary (6 second) activation at second entry of User Code + [OFF] sequence which interrupts power to 4-wire smoke detectors connected to hard-wired zones (zones 1-5), allowing the detectors to be reset following an alarm. Power to 4-wire smoke detectors should be wired to the auxiliary relay as shown above.

**Battery Saver Option (\*34 = 3):** When this function is selected, the auxiliary relay will normally be activated (i.e. N.O. and pole contacts will be connected, N.C. contact will be open) and will de-activate 4 hours after the start of an AC power failure. Using this feature, non-critical loads (such as supplementary keypads) which do not need to be supported for the full 24 hour battery backup period can be disconnected from the auxiliary outputs, allowing a smaller capacity battery to be used. The relay re-activates within a few seconds after AC power restores.

**Alarm Activation, silenced by [user code] + [#] + [67] (\*34 = 4):** Steady activation in response to an alarm on one, some or all zones, as selected in fields \*85 and \*86. If selected, the auxiliary relay remains activated until the User Code + [#] + [67] has been entered. When this function is used, the auxiliary relay can be used for elevator recall or ventilator shutdown on fire alarms.

### Telephone Line Connections

The 5110XM provides two supervised dialer outputs: the main dialer and the back-up dialer. In fire installations, both outputs must be connected to separate telephone lines providing loop start service.

Connect the main dialer and back-up dialer (if used) outputs to telephone company lines using the RJ31X cables

supplied. *Do not* connect to telephone company lines, which provide ground start service.



**DO NOT** connect both outputs to the same telephone line. A secondary phone line is required in case of primary phone line failure.



To prevent the risk of shock disconnect the telephone lines at the Telco jack prior to servicing this control.



If the control is connected to a PBX telephone line, make sure that the PBX system has a backup power supply that can support it for at least 24 hours (central station usage) or 60 hours (remote station usage). Many PBX systems **DO NOT** have power backup and will cause communication failures when power is lost.

### Enabling the Dialer Outputs

To enable the dialer outputs, entries must be made in field \*79. Enter 1 in the first entry space to enable main dialer. Enter 1 in the second entry space to enable backup dialer.

### Telephone Line Supervision

The supervision circuits on both the main and backup dialer outputs will indicate a fault when the tip/ring voltage falls below 2 volts, provided that their supervisory zones are enabled (zones 11 and 12, respectively). Enable these zones in field \*56 and assign a response type of 19 (24-hr. trouble).



In fire installations, both outputs must be configured for line fault supervision.

### Dialer Operation

When only the main dialer is enabled (1, 0 in field \*79), the 5110XM will attempt to route all calls over the main output. When both main and back-up dialers are enabled (1,1 in field \*79), the 5110XM will attempt to route all calls over the main output unless a fault is detected, at which time it will attempt to use the back-up output. Line faults will light the line fault indicator and, if a keypad is installed, will result in a zone 11 main dialer fault or zone 12 back-up dialer fault display.

The control will make up to ten attempts to transmit a report. (Ten attempts will be made to primary number when only this number is programmed. Otherwise, five attempts will be made to the primary number followed by five attempts to the secondary number when both numbers are programmed.)

After the tenth attempt, if the message is not transmitted successfully, the control will hang-up and will light the built-in Comm Fail indicator. A Comm Fail message is also displayed at the keypads (if installed).



The system will not switch to the backup dialer unless it detects a fault (less than 2 volts) on the main telephone line. This means that if a report does not go through on the main phone line due to a programming error, the backup dialer will **not** be activated.

The 5110XM will transmit reports in the following order: alarms (fire, emergency), fire supervisory and troubles, then the remaining types of messages.

### Reporting Formats

The system supports ADEMCO Low Speed 3+1; 4+1; 4+2; SESCOA/RADIONICS 3+1; 4+1; 4+2; ADEMCO 4+2 Express; ADEMCO Contact ID formats.

### Wiring Devices to Zones 1-5



The maximum zone resistance is 300 ohms for zones 1-4, and 100 ohms for zone 5 (excluding the 2K EOL resistor).

When used as a slave DACT for a listed FACP, wire the FACP's alarm, supervisory and trouble contacts to the 5110XM's hardwired zones (terminals 9-16). Fire alarm initiating devices such as smoke detectors should be wired to the FACP and not the 5110XM. When used as a stand alone control, wire alarm initiating devices to the 5110XM's hardwired zones. See the summary of connections diagram.

- Connect closed circuit devices in series in the high (+) side the loop. The 2,000 ohm EOL resistor must be connected in series with the devices, following the last device. See the Summary of Connections diagram.
- Connect open circuit devices in parallel across the loop. The 2,000 ohm EOL resistor must be connected across the loop wires *at the last device*.



If the EOLR is not at the end of the loop, the zone will not be properly supervised, and the system may not respond to an open circuit on the zone.

#### Wiring 4-Wire Smoke Detectors on Zones 1-5

The system will support as many 4-wire detectors as can be powered from Auxiliary Relay Power on the control. Refer to the detector's instructions for complete details regarding its proper installation and operation.

#### Compatible 4-Wire Smoke Detectors

Use any UL Listed 4-wire smoke detector that is rated for 12VDC operation and that has alarm reset time not exceeding 6 seconds. Some compatible 4-wire smoke detectors are listed below.

DETECTOR TYPE	MANUFACTURER	MODEL #
4-Wire Photoelectric Smoke Detector	DSC	FSA-410B
4-Wier Photoelectric Smoke Detector w/Heat Detector	DSC	FSA-410BT
4-Wire Photoelectric Smoke Detector w/Sounder & Heat Detector	DSC	FSA-410BST
4-Wire Photoelectric Smoke Detector w/Aux. Relay & Heat Detector	DSC	FSA-410BRT
4-Wire Photoelectric Smoke w/Aux. Relay, Sounder & Heat Detector	DSC	FSA-410BRST
End of Line Power Supervision Relay for FSA-410 Series Smoke Detectors	DSC	RM-2
Polarity reversal module for FSA-410 series Smoke Detectors	DSC	PRM-4WC
4-Wire Photoelectric Smoke Detector	System Sensor	4W-B
4-Wire Photoelectric Smoke Detector w/Heat Detector	System Sensor	4WT-B
4-Wire Photoelectric Smoke Detector w/Sounder & Heat Detector	System Sensor	4WTA-B
4-Wire Photoelectric Smoke Detector w/Aux. Relay & Heat Detector	System Sensor	4WTR-B
4-Wire Photoelectric Smoke Detector w/Aux. Relay, Sounder & Heat Detector	System Sensor	4WTAR-B
4-Wire Photoelectric Smoke Detector w/Aux. Relay, Sounder & Isolated Heat Detector	System Sensor	4WITAR-B
4-Wire Photoelectric Air Duct Smoke Detector, Extended Air Speed Range	System Sensor	DH100ACDCLP
4-Wire Ionization Air Duct Smoke Detector	System Sensor	DH100ACDCI



- Power to 4-wire smoke detectors must be supervised with an EOL device relay module connected as shown in *Figure 2-8*.
- A combination of heat detectors and smoke detectors is not permitted on a zone programmed for fire verification.
- Fire installations require the use of a synchronization module to synchronize the sounders and strobes on the system.

Connect 12 volt power for the detectors from Auxiliary Relay Power terminals **7 (+)** and **18 (-)**. Be sure to program the Aux Power Relay for the smoke detector reset function in program field \*34. Observe proper polarity when connecting detectors.

Connect detectors (including heat detectors, if used) across zone terminals. All detectors must be wired in parallel with the 2,000 ohm resistor wired in parallel at the last device in the loop.



Remove 2000 ohm EOL resistor if connected across the zone terminals, and connect it across the loop wires at the last detector.

To supervise power, you *MUST* use a UL listed End-Of-Line Power Supervision Relay (i.e. System Sensor No. ELOR-1).

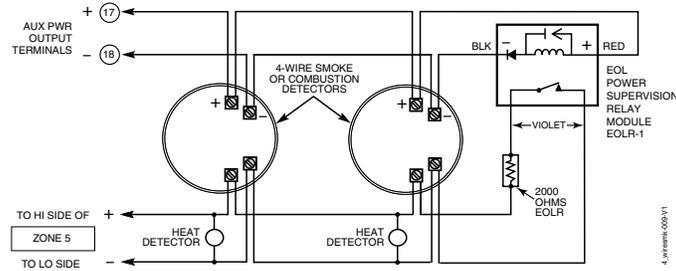


Figure 2-8: 4-Wire Smoke Detector Connections

**Wiring 2-Wire Smoke Detectors to Zone 5**

Connect up to 16 of the 2-wire smoke detectors listed below across zone 5 terminals 15 (+) and 16 (-). Observe proper polarity when connecting the detectors. Connect the EOL resistor at the last detector.



Due to the alarm current available on zone 5, only one smoke detector at a time can be supported in the alarmed state.

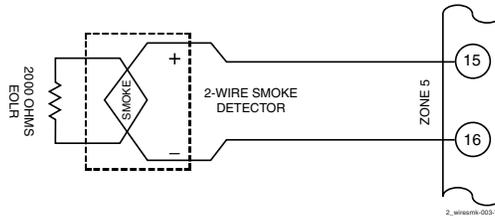


Figure 2-9: 2-Wire Smoke Detector Connected to Zone 5

**Compatible 2-Wire Smoke Detectors**

DETECTOR TYPE	MANUFACTURER	MODEL #
2-Wire Photoelectric Smoke Detector	DSC	FSA-210B
2-Wire Photoelectric Smoke Detector w/Heat Detector	DSC	FSA-210BT
2-Wire Photoelectric Smoke Detector	System Sensor	2W-B
2-Wire Photoelectric Smoke Detector w/Heat Detector	System Sensor	2WT-B
2-Wire Ionization Smoke Detector	System Sensor	1451 w/B401B base
2-Wire Photoelectric Low-Profile Smoke Detector	System Sensor	2151 w/B401 base *
2-Wire Photoelectric Smoke Detector	ESL	521B
2-Wire Photoelectric Smoke Detector w/Heat Detector	ESL	521BXT
2-Wire Photoelectric Smoke Detector w/Heat Detector	ESL	429AT

\* This model may not be used on zones designated as Zone Type 16: Fire with Verification.



- These smoke detectors are UL Listed for use with the 5110XM, and are the **only** 2-wire smoke detectors that may be used.
- A combination of heat detectors and smoke detectors is not permitted on a zone programmed for fire verification.
- UL Fire installations require the use of a synchronization module to synchronize the sounders and strobes on the system.

**Fire Alarm Verification for Smoke Detectors**

This feature applies to 2-wire smoke detectors wired to zone 5 when zone 5 is set to response type 16. This feature also applies to 4-wire smoke detectors wired to any zone when the zone is set to response type 16 and the detectors are powered from the Aux relay power output (field \*34 must be set to 2).

The control will verify any alarm by resetting the smoke detectors after the first alarm trigger and then waiting 90 seconds for a second alarm trigger. If the smoke detector does not trigger again, the control will disregard the first trigger and no alarm signal will occur. This feature eliminates false alarms due to electrical or physical transients.

**Turning Off Fire Alarm Sounding**

You can turn off Fire alarm sounding by pressing the Silence/Reset key on the control's pc board or by entering the user's code + [OFF] key on any keypad. To clear the "Alarm Silenced" message and to reset the detector's alarm, press the Silence/Reset key or enter the User's Code + [OFF] again.

**Determining the Control's Power Supply Load**

In the event of an AC power loss the 5110XM must be supported by a backup, rechargeable 12VDC 7AH min./14AH max. battery.

The battery's capacity must be sized to provide 24 hours (UL Central Station Fire) or 60 hours (UL Remote Station Fire) of standby time followed by 6 minutes of alarm time. Use the steps below to calculate the required battery capacity.

Use the worksheets below to determine the total standby and alarm loads and the required battery capacity. In each worksheet, multiply each device's standby and/or alarm current by the number of units used.

1. In Worksheet 1, enter devices used on Auxiliary Power. Calculate standby and alarm currents, then add to get Auxiliary Power current subtotal.

**Worksheet 1: Auxiliary Power Current Load**

Device Model #	Device Current X	# of Units =	Total Current	
			Standby	Alarm
<b>Auxiliary Power Subtotal</b> (terminals 17 & 18)			350mA max.	350mA max.

2. In Worksheet 2, enter devices connected to the Bell Output. Calculate alarm currents, then add to get the Bell Output current subtotal.

**Worksheet 2: Bell Output Current Load**

Device Model #	Device Current X	# of Units =	Total Current	
			Standby	Alarm
			XXXXXX	
<b>Bell Output Subtotal</b> (terminals 3 & 4 – 1.0A max.)				

3. In Worksheet 3, enter devices connected to the Auxiliary Relay Output. Calculate alarm currents, then add to get the Auxiliary Relay Output current subtotal.

**NOTE: No entries are necessary when the red jumper (W3) is cut.**

**Worksheet 3: Auxiliary Relay Output Current Load**

Device Model #	Device Current X # of Units =	Total Current	
		Standby	Alarm
		XXXXXX	
<b>Auxiliary Relay Output Subtotal</b> (terminals 5, 6, or 7 & 18 – 350mA max.)			

- In Worksheet 4, enter the total calculated subtotals of all listed outputs from Worksheets 1 through 3, then add to get the combined current.

**Worksheet 4: Total 5110XM Current Load**

	Total Current	
	Standby	Alarm
Auxiliary Power Subtotal		
Bell Output Subtotal		
Auxiliary Relay Output Subtotal		
5110XM PCB Current (Includes 2-wire smoke detector and LED indicator PCB currents)	155mA	235mA
<b>Total Current Load</b> (350mA max. standby; 1.0A max. alarm)		

**NOTE:** Limit the total power supply standby current to 210mA when a 60-hour standby time is desired.

**Determining the Size of the Standby Battery**

Use the worksheet below to calculate the required battery capacity.



**DO NOT** use Gates batteries (sealed lead-acid type). These batteries require a different charging voltage than is supplied by the panel.

Use Worksheet 5 to determine the required backup battery capacity and use the Battery Selection Table to determine the battery model number. **A dual battery harness is supplied** that allows two batteries to be wired in parallel for increased capacity.

- Using the total calculated from Worksheet 5, calculate the battery capacity required for the installation.

**Worksheet 5: Battery Capacity Calculation Worksheet**

Capacity	Formula	Calculated Value
<b>Standby Capacity</b>	Total standby current X 24 or 60 hours X 1.1 contingency factor.	
<b>Alarm Capacity</b>	Total alarm curr. X 0.1 (6 min)	
<b>Total Capacity</b>	<b>Add standby and alarm capacities (14AH max.)</b>	

- Use the Battery Selection Table to select the appropriate battery for the installation.

**Battery Selection Table**

Capacity	Recommended Battery	Comment
7AH	Yuasa NP7-12	
14AH	Yuasa NP7-12	Connect two in parallel.

7. Connect the battery, referring to *Figure 2-10*.



The 5110XM runs a brief battery test once a minute to determine if battery leads are connected and runs an extended battery test every 24 hours to determine if battery capacity is low (less than approximately 11.5VDC). If a low battery condition exists the 5110XM's built-in Battery Trouble LED will light and a rapid beeping sound will be heard from its built-in warning sounder. In addition, if a keypad is on the system, it will be displayed at the control's keypad(s). These indications will stop when the low battery condition has been restored to normal (for several minutes).

The 5110XM control comes with a dual battery harness, which allows up to two 12VDC lead acid batteries to be connected in parallel to the control. Connect the battery(s) to the control using the dual battery harness as shown in the figure below.

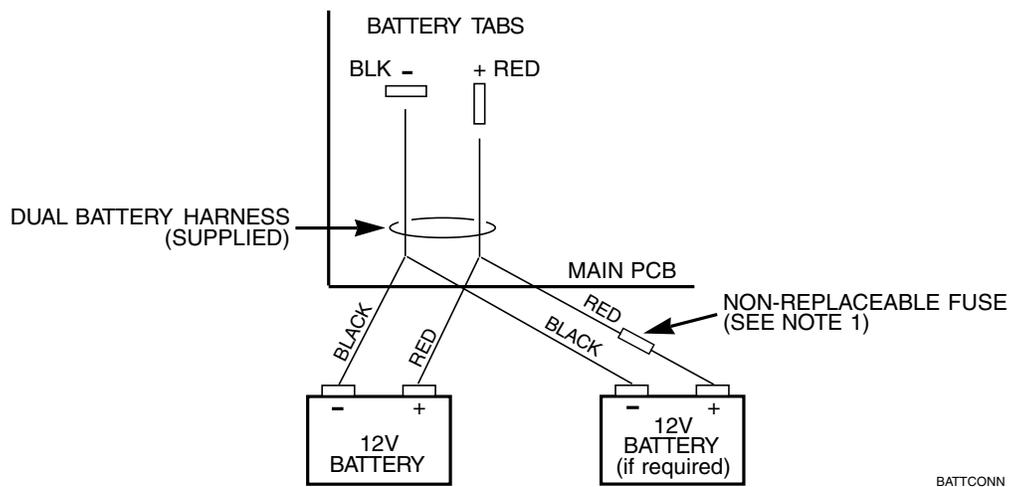


When connecting batteries in parallel:

- Use batteries from the same manufacturer and with the same voltage and capacity rating.
- Use batteries with approximately the same age and state of charge.
- Use cables provided and observe polarity.
- It is recommended that all batteries be replaced at the same time, even if only one battery has become weak.



The system provides monitoring of the system battery's charger circuit. Program field \*75 with the charger circuit failure report code



**Figure 2-10: Connecting the Backup Batteries**

**NOTE:** This fuse is intended to prevent the risk of battery harness flame-out when two batteries are used and one battery is connected with proper polarity and the other battery is connected with reversed polarity. This fuse will not open circuit under any other condition. Observe proper polarity when making connections!

# Programming

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## Entering and Exiting Programming Mode

Enter Programming mode using either method a or b:

- a. Press both the [\*] and [#] keys at the same time within 30 seconds after power is applied to the control.
- b. Enter the **Installer Code + [8] + [0]** keys.

Exit the Programming mode by either method a or b:

- a. Press [\*] + [9] + [8]. Exiting by this method prevents the Installer Code from being used to re-enter Programming mode. Only entry method “a” can be used to re-enter the Programming mode.
- b. Press [\*] + [9] + [9]. Exiting by this method permits the installer code to re-enter the Programming mode.

### NOTE:

The system sends Program Mode Entry and Program Mode Exit report codes to the central station upon entering and exiting the program mode.

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## Data Field Programming Mode

In the Programming Mode you may access any field simply by entering either [\*] or [#] + the field number:

- To write or change information in a field press [\*] + the field number (\*27).
- To read the information in a field press [#] + the field number (#27).

When the entries for a field are completed, the keypad beeps three times and advances to the next field.

**NOTE:** If the number of digits that you enter in a data field is fewer than the maximum permitted (for example, a phone number), the keypad displays the last entry and waits. To proceed, enter [\*] + the next data field you wish to program.

## Menu Mode Programming

The Menu Mode is an interactive mode through which much of the system's programming is done. In this mode, there are "question and answer" prompts. These prompts require a 2-line alpha keypad (6160).

### Menu Mode Programming Key Commands

The following is a list of commands used while in Menu Mode Programming.

<b>[*]</b>	Serves as ENTER key. Press to have the keypad the accept entry.	<b>1</b>	Press to answer YES
<b>[#]</b>	Backs up to the previous screen.	<b>01-09</b>	All data entries are 2-digit entries.
<b>0</b>	Press to answer NO	<b>00+[*]</b>	Exits menu mode, back into field programming mode, when entered at the first question for each category.

## Zone Number Designations

The 5110XM supports up to 5 zones. The following table lists the zone numbers, their functions and the default.

Zone	Function	Default
1-5	Traditional Hardwired Zones	09
6	Bell Supervision	19
7	Keypad Emergency (* + #) (DO NOT USE)	00

Zone	Function	Default
11 & 12	Main and Backup Dialer Supervision	19
13	Auxiliary Relay Disable	-
95	Keypad Emergency (* + 1) (DO NOT USE)	00
96	Keypad Emergency (# + 3) (DO NOT USE)	00

## Zone Response Type Definitions

Each zone must be assigned a zone type, which defines the way in which the system responds to faults in that zone. Zone types are defined below.

### Type 00: Zone Not Used

Program with this zone type if the zone is not used.

### Type 06: 24-Hour Silent Alarm (DO NOT USE)

Sends a report to the central station but provides no keypad display or sounding. Assign this zone type to a zone containing an Emergency button.

### Type 07: 24-Hour Audible Alarm (DO NOT USE)

Sends a report to the central station and provides an alarm sound at the keypad and an audible external alarm. Assign this zone type to a zone containing an Emergency button.

### Type 08: 24-Hour Auxiliary Alarm (DO NOT USE)

Sends a report to central station and provides an alarm sound at the keypad only. (No other Notification Appliance Circuit is activated.) Assign this zone type to a zone an Emergency button or one containing monitoring devices such as water sensors or temperature sensors.

### Type 09: Supervised Fire (Without Verification)

Provides a fire alarm on a short circuit and a trouble condition on open circuit. A fire alarm produces a three pulse temporal pattern of the Notification Appliance Circuit. A zone of this type is always active and can only be bypassed by using the Installer Code.

### Type 16: Fire With Verification

Provides a fire alarm on short circuit and a trouble condition on open circuit. An initial short causes 7-second smoke detector power reset. Any subsequent short within 90 seconds causes a fire alarm. A fire alarm produces a three pulse temporal pattern of the Notification Appliance Circuit. This type is always active and can only be bypassed by the Installer Code.

### Type 17: Fire Waterflow

Provides a trouble condition (field \*32=0) or a supervisory condition (field \*32=1) on open circuit and an alarm on a short circuit that remains longer than the programmed time delay (field \*78). The alarm can be silenced by either an entry of **User Code + [OFF]** or when the zone restores (field \*76). This type is always active.

### Type 18: Fire Supervisory

Provides a supervisory response on a short circuit. Open circuit can be programmed for either a trouble or supervisory response (field \*32). The zone must be shorted or open longer than the programmed delay time (field \*78) when the delay is enabled (field \*57). This type is always active and can only be bypassed by the Installer Code. No bell output is activated. This zone type is usually assigned to a zone containing fire sprinkler supervisory sensors such as Post-Indicator-Value sensors.

### Type 19: 24-Hour Trouble

Provides a trouble response on a short or open circuit. No alarm sounders are activated.

# Data Field Descriptions

## About Data Field Programming

The following pages list this control's data fields in numerical order. Field numbers are listed in the left column, followed by a "Title and Data Entries" column, which lists the valid entries for each field. Experienced installers can simply follow this column when programming the data fields. The "Explanation" column provides explanatory information and special notes where applicable.

**NOTE:** Refer to the *Programming Form* for the default values. They are not listed in this section.



Use the *Programming Form* to record the data for this installation.

## UL

The system sends Program Mode Entry and Program Mode Exit report codes to the central station upon entering and exiting the program mode. (Field programmed in \*54 and \*55 respectively.)

## Programming Data Fields

Data field programming involves making the appropriate entries for each of the data fields. Start Data Field programming by entering the Installer Code + [8] + [0].

FIELD	TITLE and DATA ENTRIES	EXPLANATION
<b>*20</b>	<b>Installer Code</b> Enter 4 digits, 0-9	The Installer Code is a 4-digit code reserved for installation company use. This is the only code that can be used to enter the Program Mode from the keypad. This code cannot be used to re-enter Program Mode if Program Mode is exited by the *98 command. <b>(For security purposes the default Installer Code should be changed.)</b>
<b>*27</b>	<b>Output to AlarmNet Communicator</b> Enter 0 to Disable, 1 to Enable	If the output to the Communicator is selected here, all messages that are programmed to go to the primary telephone line receiver will also be sent to the AlarmNet Communicator connected to the keypad terminals.  These messages will always be in Contact ID format (not affected by entry in field *46). The data line is supervised as well as certain functions in the radio. If communication is lost or a trouble develops, a message is sent via both radio and telephone to the central station.  <b>NOTES:</b> Normal trouble restore report (*71) is sent on restore of the condition. The Radio should be programmed for device address 3.
<b>*30</b>	<b>Alarm Bell Timeout</b> 0 = no timeout, 1 = 4 minutes 2 = 8 minutes, 3 = 12 minutes 4 = 16 minutes	Defines the length of time the Alarm Bell Output and the keypad's sounder will sound for all audible alarms. Must be a minimum 6 minutes for UL commercial fire installations.
<b>*31</b>	<b>Auxiliary Relay Timeout</b> 0 = no timeout 1 = 4 minutes 2 = 8 minutes 3 = 12 minutes 4 = 16 minutes	Defines the length of time the Auxiliary Relay Output will sound for audible alarms. Must be a minimum 6 minutes for UL commercial fire installations.

FIELD	TITLE and DATA ENTRIES	EXPLANATION
<b>*32</b>	<b>Supervisory on Open/Short</b> 0 = trouble on open/supervisory on short 1 = supervisory on open/supervisory on short	If <b>1</b> , the system produces a supervisory condition on both an open and a short. If <b>0</b> , the system produces a trouble condition on an open and a supervisory condition on a short.
<b>*33</b>	<b>Backup TouchTone (Backup Dialer)</b> 0 = pulse 1 = touchtone	Select the dialing method for the backup dialer.
<b>*34</b>	<b>Auxiliary Relay Function Selection</b> 0 = trouble/supervisory 1 = alarm, silenced by <b>Silence/Reset Button or User Code + OFF</b> 2 = smoke detector reset 3 = battery save 4 = alarm, silenced by <b>User Code + # + 67</b>	Select the condition that will trigger the auxiliary relay. <b>NOTES:</b> Smoke detector reset triggers the relay momentarily (approximately 6 seconds) on the second <b>User Code + OFF</b> entry. Battery save is used to disconnect power from non-critical loads 4 hours after AC loss. When option 1 or 4 is selected, program fields <b>*85</b> and <b>*86</b> to select which zones will trigger the auxiliary relay. When option 1 is selected, program auxiliary relay timeout in field <b>*31</b> .
<b>*40</b>	<b>PABX Access Code</b> Enter 0-9; #11 for <b>*</b> , #12 for #, #13 for a 2.5-second pause.	This field is used to enter up to four numbers representing the prefix needed to obtain an outside Telco line. If not required, enter nothing and proceed to next field.
<b>*41</b>	<b>Primary Phone Number</b> Enter 0-9; #11 for <b>*</b> , #12 for #, #13 for a 2.5-second pause.	Enter the primary central station phone number, up to 12 digits. This is the phone number the control will use to transmit Alarm and status messages to the central station. Do not fill unused spaces. <b>NOTE:</b> Backup reporting is automatic only if a secondary phone number is entered.
<b>*42</b>	<b>Secondary Phone Number</b> Enter 0-9; #11 for <b>*</b> , #12 for #, #13 for a 2.5-second pause.	Enter the secondary phone number, up to 12 digits. The secondary phone number is used if communication on the primary number is unsuccessful, or if split/dual reporting is desired. Do not fill unused spaces.
<b>*43</b>	<b>Subscriber's Account Number</b> Enter 0-9; #11 for <b>B</b> , #12 for <b>C</b> , #13 for <b>D</b> , #14 for <b>E</b> , or #15 for <b>F</b>	Enter a 3- or 4-digit (depending on report format) primary subscriber account number. If a 3-digit account number is to be used, enter data only in the first 3 locations, and enter <b>*</b> in the fourth location.
<b>*45</b>	<b>Phone Sys (Main Dialer)</b> 0 = pulse 1 = touchtone	Select the dialing method for the main dialer.
<b>*46</b>	<b>Report Format</b> 0 = 3+1, 4+1 ADEMCO Low Speed; 1 = 3+1, 4+1 Radionics Standard; 2 = 4+2 ADEMCO Low Speed; 3 = 4+2 Radionics Standard; 6 = 4+2 Express; 7 = Contact ID; 8 = 3+1, 4+1 ADEMCO Low Speed Expanded; 9 = 3+1, 4+1 Radionics Expanded	Enter the reporting format for both the primary and secondary telephone numbers. <b>NOTE:</b> The Fire Bell Silence message is always sent in Contact ID regardless of the choice selected for this field.

FIELD	TITLE and DATA ENTRIES	EXPLANATION
<b>*47</b>	<b>Split/Dual Reporting</b> 0 = backup reporting only 1 = alarm, alarm restore, reports to primary, all others to secondary 2 = all except test reports to primary, test to secondary 3 = alarm, alarm restore, reports to primary, all reports to secondary 4 = all except test reports to primary, all reports to secondary 5 = all reports to both primary and secondary	Select the type of split/dual reporting for system communication.
<b>*49</b>	<b>Periodic Test Report</b> 0 = none 1 = 24 hours 2 = weekly 3 = 30 days	Select the desired test report interval. Must be a 1 for UL commercial fire installations. <b>NOTES:</b> Program the Test Report Code in field *64 and the Off-Normal Test Report Code in field *84.
<b>*50</b>	<b>Sescoa/Radionics Select</b> 0 = disable 1 = enable	If disabled, selects Radionics, which uses hexadecimal 0-9, B-F reporting. If enabled, selects Sescoa, which uses only numeric reporting (0-9). <b>NOTE:</b> The selection applies to both primary and secondary phone numbers.
<b>*54</b>	<b>Program Mode Entry Report Code</b>	Enter the report code when the program mode is accessed.
<b>*55</b>	<b>Program Mode Exit Report Code</b>	Enter the report code when the program mode is exited.
<b>*56</b>	<b>Zone Assignment/Alarm Report Codes</b>	See the <i>SECTION 5: Menu Mode Programming</i> for detailed information on zone programming.
<b>*57</b>	<b>Zone Type 18 Delay Enable</b> 0 = disable, ignore delay in field *78 1 = enable, use delay in field *78	If enabled, the system uses the delay programmed in field *78 before a supervisory condition is annunciated for zone type 18. The fault condition must be present for the entire delay.
<b>To Program System Status, Trouble, and Restore Report Codes (*54, *55, *58 – *74)</b>		
The following is a set of guidelines to be used for programming report codes. The actual digits that you enter depend upon the particular installation, and should be in agreement with you and the central station office receiving the signals. Use these guidelines to program this entire section.		
<b>With a 3+1 or 4+1 Standard Format:</b> Enter a code in the <i>first</i> box: 1–9, A, B, C, D, E, or F. Enter "#+10" for A (this reports a "0" on some receivers), "#+11" for B, "#+12" for C, "#+13" for D, "#+14" for E, "#+15" for F.		
<ul style="list-style-type: none"> <li>• An entry of "0" in the <i>first</i> box will disable a report.</li> <li>• An entry of "0" in the <i>second</i> box will result in automatic advance to the next field when programming.</li> </ul>		
<b>With an Expanded or 4+2 Format:</b> Enter codes in <i>both</i> boxes (1st and 2nd digits) for 1–9, or A–F, as described above.		
<ul style="list-style-type: none"> <li>• An entry of "0" in the <i>first</i> box will disable a report.</li> <li>• An entry of "0" in the <i>second</i> box will eliminate the expanded message for that report.</li> </ul>		
<b>With ADEMCO Contact ID Reporting:</b> Enter a digit in the <i>first</i> box to enable the zone to report. Use a different digit for each zone until you have used up available digits. If the number of zones exceeds the number of available digits, begin with digit 1 again. This is an "enabling" code only and is not the actual code sent to the central station office. Entries in the <i>second</i> boxes will be ignored. For system status (non-alarm) codes, enter a "1" in the first box for all the system conditions you want to send to the central station.		
<ul style="list-style-type: none"> <li>• An entry of "0" in the <i>first</i> box will disable a report.</li> </ul>		
<b>*58</b>	<b>Supervisory Report Code</b>	Enter the report code for a supervisory condition. <b>Note:</b> In Low Speed format (4+2), the field *58 Supervisory Report Code is sent for a Zone Type 18. The values entered in *56 Zone Programming are overridden.
<b>*59</b>	<b>Supervisory Restore Report Code</b>	Enter the report code for the restore of a supervisory condition.

FIELD	TITLE and DATA ENTRIES	EXPLANATION
<b>*60</b>	<b>Trouble Report Code</b>	Enter the report code for a trouble condition.
<b>*61</b>	<b>Bypass Report Code</b>	Enter the report code when a zone is manually bypassed.
<b>*62</b>	<b>AC Loss Report Code</b>	Enter the report code for an AC power loss condition. This report is sent at a random time between 1 and 3 hours after AC power is lost. If the AC restores before the report is sent, no AC loss report is sent.
<b>*63</b>	<b>Low Battery Report Code</b>	Enter the report code for a system low battery condition.
<b>*64</b>	<b>Normal Test Report Code</b>	Enter the report code for a normal test report.
<b>*69</b>	<b>Group Restores for Trouble, Bypass</b> 0 = disable 1 = enable	<p>If enabled, the system sends the restore report only after all zones are restored. If disabled, the system sends the report after each individual zone restores.</p> <p>In the event that multiple zone or system troubles have occurred after all zones are restored, a single Trouble Restore (CID R380 or for Low Speed whatever is programmed in *71) will be sent. These conditions include ZT18, ZT19, AC Loss, Low Bat, Dialer, Ground Fault. Alarms are not affected.</p>
<b>*70</b>	<b>Alarm Restore Report Code (1st digit)</b>	Enter the first digit of the alarm restore report code. The second digit is automatically sent as the 2nd digit of the zone alarm report code programmed in field *56 for that zone, if expanded or 4+2 format is selected.
<b>*71</b>	<b>Trouble Restore Report Code</b>	Enter the restore report code for a restoral of a trouble condition.
<b>*72</b>	<b>Bypass Restore Report Code</b>	Enter the restore report code when the bypass of a zone is removed.
<b>*73</b>	<b>AC Loss Restore Report Code</b>	Enter the restore report code for a restoral of an AC loss condition.
<b>*74</b>	<b>Low Battery Restore Report Code</b>	Enter the restore report code for a restoral of a system low battery condition.
<b>*75</b>	<b>Charger Fail Report Code</b>	<p>Enter the report code when the system detects a system battery's charger circuit failure.</p> <p><b>NOTES:</b></p> <p>The system sends the Trouble Restore report code (field *71) upon restoral of the charger circuit.</p> <p>The system displays "CHARGER FAIL" when the system detects a system battery's charger circuit failure.</p>
<b>*76</b>	<b>Waterflow Alarm Silencing</b> 0 = silenced by User Code + OFF 1 = silenced when zone restores	<p>Select how the Waterflow zone type will be silenced.</p> <p><b>NOTE:</b> This feature may be set to 1 only by permission of the local authority.</p>
<b>*77</b>	<b>Alarm Bell Sound</b> 0 = temporal pulse 1 = steady	<p>Select the alarm output sounding.</p> <p><b>NOTE:</b> For certain applications (ex. using a Sync module), a steady output must be selected.</p>
<b>*78</b>	<b>Zone Types 17 &amp; 18 Delay</b> Enter 01-99 seconds Enter 00 for no delay	<p>Select the delay time for zone types 17 and 18. The zone must be faulted for entire delay time before an alarm or supervisory condition occurs. This may prevent alarms due to minor fluctuations in waterflow.</p> <p><b>NOTES:</b></p> <p>For type 18, enable the delay in field *57.</p> <p>The combined sensor and programmed delay must not exceed 90 seconds.</p>

FIELD	TITLE and DATA ENTRIES	EXPLANATION
<b>*79</b>	<b>Main/Backup Dialer Enable</b> 0 = disable 1 = enable	This field has two entries, one for each dialer (main and backup). Enter 1 if the dialer is being used.
<b>*82</b>	<b>Alpha Programming</b>	See the <i>SECTION 5: Menu Mode Programming</i> for detailed information on alpha programming. Alpha programming can also be done in field <b>*56</b> .
<b>*84</b>	<b>Miscellaneous Report Codes</b>	This field has three 2-digit entries. The first is for Fire Walk Test Start, the second for Fire walk Test End, the third for Off-Normal Dialer Test. See the box above field <b>*57</b> for programming information.
<b>*85</b>	<b>Zones 1-7 Bell &amp; Auxiliary Relay Activation</b> 0 = none 1 = bell only 2 = auxiliary relay only 3 = bell and auxiliary relay	Select which output, if any, each zone activates upon an alarm, trouble or supervisory condition. There are seven entries in this field, one for each zone.
<b>*86</b>	<b>Zones 10-12, 95 and 96 Bell &amp; Auxiliary Relay Activation</b> 0 = none 1 = bell only 2 = auxiliary relay only 3 = bell and auxiliary relay	Select which output, if any, each zone activates upon an alarm, trouble or supervisory condition. There are six entries in this field, one for each zone. <b>NOTE:</b> The first entry does not pertain to any zone and must always be programmed with a 0. The second entry pertains to zone 10.
<b>*94</b>	<b>Download Phone Number</b> Enter 0-9; #11 for *, #12 for #, #13 for a 2.5-second pause.	Enter the download phone number, up to 12 digits. This is the phone number the control will use to connect to the central computer for downloading. Do not fill unused spaces.
<b>*95</b>	<b>Ring Detection Count</b> Enter 0 to disable ring detection. Enter 1-9, #10, #11, #12, #13, #14 for ring counts of 1-14. Enter #15 to select Answering Machine Defeat Mode	Enter the number of rings before the control panel picks up the phone line. In the Answering Machine Mode, the caller should let the phone ring once, wait for a hang up, and call again within 30 seconds. The system, upon hearing one ring followed by nothing, does not answer the first call, but readies itself to pick up on the first ring of the next incoming call that is received within 30 seconds (i.e., the downloader calling again). Must be 0 for UL commercial fire installations.
<b>*96</b>	<b>Initializes Download ID and Subscriber Account Number for Downloading</b>	No entry is required.



# Menu Mode Programming

## General Information

The Menu Mode Programming is an interactive mode through which much of the system's zone and alpha programming is done. In this mode, there are "question and answer" prompts. These require a 2-line alpha keypad (6160).

Fields \*56 is used to program zone numbers, zone types, and alarm report codes. This field can also be used for entering alpha descriptors for zones (however, we recommend entering descriptors in menu mode \*82.

## Field \*56 Zone Programming

Enter the programming mode and press \*56. The following prompt displays:

PROMPT	EXPLANATION									
Enter Zn Num. (00 = Quit)            01	<b>Zone Number (Zn):</b> Enter the zone number that you wish to program (or [0][0] to leave zone programming).									
Zone 01 entered										
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Zn</td> <td style="width: 33%;">ZT</td> <td style="width: 33%;">RC</td> </tr> <tr> <td>01</td> <td>09</td> <td>10</td> </tr> </table>	Zn	ZT	RC	01	09	10	Press [*]. A summary display will come up, showing the status of that zone's program. If it is programmed satisfactorily, press [#] to back up one step and enter another zone number, if desired.  If the zone is not programmed, or you want to change it, press [*]. A prompt for Zone Type will appear.			
Zn	ZT	RC								
01	09	10								
Zone Type	<b>Zone Type (ZT):</b> Each zone must be assigned to a zone type, which defines the way in which the system responds to faults in that zone.									
01 Zone Type Fire                      09	Enter the zone type code (or change it, if necessary). Zone types are listed below.									
Zone Type 09 entered	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">00 = Not Used</td> <td style="width: 33%;">08 = 24 Hr Auxiliary Alarm (DO NOT USE)</td> <td style="width: 33%;">17 = Fire Waterflow</td> </tr> <tr> <td>06 = 24 Hr Silent (DO NOT USE)</td> <td>09 = Fire, no verification.</td> <td>18 = Fire Supervisory</td> </tr> <tr> <td>07 = 24 Hr Audible Alarm (DO NOT USE)</td> <td>16 = Fire, with verification</td> <td>19 = 24 Hour Trouble</td> </tr> </table>	00 = Not Used	08 = 24 Hr Auxiliary Alarm (DO NOT USE)	17 = Fire Waterflow	06 = 24 Hr Silent (DO NOT USE)	09 = Fire, no verification.	18 = Fire Supervisory	07 = 24 Hr Audible Alarm (DO NOT USE)	16 = Fire, with verification	19 = 24 Hour Trouble
00 = Not Used	08 = 24 Hr Auxiliary Alarm (DO NOT USE)	17 = Fire Waterflow								
06 = 24 Hr Silent (DO NOT USE)	09 = Fire, no verification.	18 = Fire Supervisory								
07 = 24 Hr Audible Alarm (DO NOT USE)	16 = Fire, with verification	19 = 24 Hour Trouble								
	When the display shows the zone type you want, press [*] to advance.									
01 Report Code 1st 00 2nd 00	<b>Report Code (RC):</b> The report code consists of 2 hexadecimal digits, each in turn consisting of 2 numerical digits. For example, for a report code of "3C", enter [0][3] for "3" and [1][2] for "C". Enter the numbers and press [*] to advance to the Summary Display.									
	<b>NOTE:</b> Report codes for Fire Alarms cannot be disabled and are always sent to the central station regardless of the report code entered.									
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Zn</td> <td style="width: 33%;">ZT</td> <td style="width: 33%;">RC</td> </tr> <tr> <td>01</td> <td>09</td> <td>3C</td> </tr> </table>	Zn	ZT	RC	01	09	3C	Typical Summary Display. A summary of the programmed values for the selected zone will be displayed. If all is okay, press [*].			
Zn	ZT	RC								
01	09	3C								
Accepted report code										
Program Alpha? 0 = No 1 = Yes	<b>Alpha Programming:</b> For all zone types, the next request is to enter Alpha descriptors for the zones. The entry may be done now (enter 1), or may be done at a later time via *82 mode (enter 0).									
	See <i>Field *82 Alpha Programming</i> for the detailed procedure later in this section.									

PROMPT	EXPLANATION
<div style="border: 1px solid black; padding: 5px;">                     Enter Zn Num. (00 = Quit)                 </div>	When all entries to be made for the zone at this time are complete, the next zone number can be entered for programming, or zone programming can be ended by entering [0][0] as the next "zone number".  <b>NOTES:</b> 1. <i>In field *56, at the summary line for each zone, the entered values can be checked.</i> If it is desired to change anything, press [#] to move to the previous entry. Press [#] a number of times to move to earlier entries. Press [*] to move to later entries again. 2. <i>Zone entries can be reviewed</i> by pressing [#][5][6]. Changes cannot be made here, so this is safer for review. Enter the first zone number to be viewed and press [#]. To view each zone, press [#] and the zone number will advance to the next programmed zone. When the end of the list is reached, press [0][0] to exit. This method of exiting may also be done at any time during the review.
<div style="border: 1px solid black; padding: 5px;">                     01 Zone Type Not Used            00                 </div>	To either temporarily or permanently remove a zone from the system go into programming mode and press [*][5][6]. Enter the zone number and press [*]. At the "Zone Type" prompt, enter [0][0] and [*]. This sets the type of the zone to "Not Used". The next prompt will be "Delete Zone?".
<div style="border: 1px solid black; padding: 5px;">                     01 Delete Zone? 1 = Yes 0 = No                 </div>	"Yes" will permanently remove the zone from the system, while "No" will disable it but retain all data except the original zone type. You can then go back to this zone later and put back an active Zone Type to re-enable it.

### Field \*82 Alpha Programming

The alpha keypad used with the 5110XM can have a user-friendly English language description/location of all protection zones and keypad emergency zones programmed into the system. Each description can be composed of a combination of words (up to a maximum of 3) selected from a vocabulary of 249 words stored in memory (listed later in this section). In addition, up to 5 installer-defined words can be added to those already in memory. Thus, when an alarm or trouble occurs in a zone, an appropriate description for that zone's location will be displayed at the keypad.

**NOTE:** Alpha descriptor entry can be done locally at the alpha keypad or remotely using downloading software. The alpha keypad procedure is described below.

The descriptor can be entered when the zone is being defined in field \*56 but we recommend that it be done in field \*82.

There are two methods that can be used to enter alpha descriptors via the alpha keypad. The easiest method requires that you simply enter the 3-digit reference number for the desired word(s). The 3-digit number for each word is provided in the alpha vocabulary list. An alternate method allows you to pick the desired words by scrolling through the alpha vocabulary list.

Enter the programming mode and press \*56. The following prompt displays:

PROMPT	EXPLANATION
<div style="border: 1px solid black; padding: 5px;">                     Program Alpha ? 0=No, 1=Yes 00                 </div>	Press *82. The "Program Alpha ?" prompt will appear.
<div style="border: 1px solid black; padding: 5px;">                     Custom Words ? 0=No, 1=Yes 00                 </div>	Press "1" (Yes). The "Custom Words" prompt will appear. Press "0" (No). The system will then automatically display the descriptor for zone 1. <b>NOTE:</b> The procedure for adding custom words to the built-in vocabulary will be found later under "Adding Custom Words".
<div style="border: 1px solid black; padding: 5px;">                     Default Descriptor  * ZN 01 ZONE 01                 </div>	If a descriptor was not entered previously for zone 1, the default descriptor for zone 1 will be displayed. <b>NOTE:</b> This is a "summary mode", and no entries can be made. Entries can be made only when the display contains a flashing cursor, which signifies the "entry mode".

PROMPT	EXPLANATION
<p>Flashing Cursor (system is ready for entry of word).</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;">* ZN 01 <span style="border: 1px solid black; padding: 0 2px;">A</span></div>	<p>To delete or change the default descriptor for zone 1, press * plus the same zone number (01). This will clear that descriptor and gain access to the entry mode with flashing cursor, allowing changes to be made.</p> <p><b>NOTE:</b> If you do not wish to change the existing descriptor for zone 1, enter * plus the next zone number for which you wish to enter (or check) a descriptor. A summary display for that zone will appear. You must then press * plus the same zone number again to gain access to the entry mode (flashing cursor) for that zone.</p>
<p>Flashing Cursor</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;">* ZN 01 <span style="border: 1px solid black; padding: 0 2px;">B</span> ACK</div>	<p>Press # plus 3-digit number for the first word from the “Alpha Vocabulary List”. Example: The descriptor that we wish to enter for zone 1 is BACK DOOR. From the list, BACK = 015. Therefore, you would enter # 0 1 5.</p> <p><b>NOTE:</b> If you accidentally enter the wrong word, simply press # plus the correct 3-digit number for the word you want.</p>
<div style="border: 1px solid black; padding: 5px; width: fit-content;">* ZN 01 BACK <span style="border: 1px solid black; padding: 0 2px;">A</span></div> <p>Flashing Cursor if “6” is pressed (system is ready for next word).</p>	<p>Press “6” to accept the selected word and continue.</p> <p><b>NOTE:</b> If this is the only word you are using for the descriptor, press “8” instead of “6” to save that word in memory. The system displays the summary screen.</p>
<div style="border: 1px solid black; padding: 5px; width: fit-content;">* ZN 01 BACK <span style="border: 1px solid black; padding: 0 2px;">D</span> OOR</div> <p>Flashing Cursor</p>	<p>Enter the 3-digit number for the next word. In our example, the word is DOOR, whose number is “061”.</p> <p>Enter # 0 6 1. This display will appear:</p>
<div style="border: 1px solid black; padding: 5px; width: fit-content;">* ZN 01 BACK DOOR <span style="border: 1px solid black; padding: 0 2px;">A</span></div> <p>Flashing Cursor if “6” is pressed (system ready for next word).</p>	<p>Press “6” to accept the selected word.</p> <p><b>NOTE:</b> If these are the only words you are using for the descriptor, press “8” instead of “6” to save them in memory.</p> <p>The two words in our example have now been entered. Note, however, that up to three words may be entered (provided the number of characters will fit on the screen). Press “8” to save all words in memory.</p>
<p>Summary Display</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;">* ZN 01 BACK DOOR</div>	<p>The “A” with the flashing cursor over it will disappear, indicating that the word(s) are stored in memory for that zone, as shown in the summary display at the left.</p> <p>To enter a descriptor for the next zone, press * plus the desired zone number (e.g., *02). The summary display following step 4 previously will appear. Now repeat steps 5 through 10 for the descriptor for the next zone.</p>
<div style="border: 1px solid black; padding: 5px; width: fit-content;">Program Alpha ? 0=No, 1=Yes 00</div>	<p>To exit the Alpha programming mode, press “*+0+0” at the summary display. This prompt will be displayed.</p>
<div style="border: 1px solid black; padding: 5px; width: fit-content;">Alpha Pgm 82</div>	<p>Press “0”. This will be displayed.</p> <p>Press *99 to exit the programming mode.</p>

## Adding Custom Words

You can add up to five installer-defined words to the built-in vocabulary. Each of the five "words" can actually consist of a "word string" of one or more words, but no more than *ten* characters can be used for each word or word string.



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Custom words must begin with an *alphabetic* character. If a number or symbol is used as the first character, the word will not be saved.

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Enter the programming mode, press **\*82** and then press **1**. The **CUSTOM WORD ?** is displayed  
Press **1** to select the CUSTOM WORD mode (enter "1") when the prompt **CUSTOM WORD ?** is displayed.



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When adding Custom Words, the keypad keys perform the following functions:

- [3]** Advances through the alphabet in ascending order.
  - [1]** Moves through the alphabet in descending order.
  - [6]** Selects desired letter; moves cursor one space to right.
  - [4]** Moves cursor one space to left.
  - [7]** Inserts a space at the cursor location, erasing any character located there.
  - [8]** Saves the new word in the system's memory.
- 

Enter the number ([1]–[5]) of the custom word or word string to be created (for example, if you are creating the *first* custom word or word-string, enter [1], for the *second*, enter [2], etc.). A cursor will now appear at the beginning of the second line.

**One of two methods of entering the custom word's characters can now be used** (refer to the *CHARACTER LIST of letters, numbers, and symbols on a following page*):

**Method 1:**

Press the [#] key, followed by the two-digit entry for the first letter you would like to display (e.g., [6][5] for "A"), **or...**

**Method 2:**

Use the [3] key to advance through the list of symbols, numbers, and letters. Use the [1] key to move back through the list.

When you have reached the desired character, press [6] to select it. The cursor will then move to the right, in position for the next character.

Repeat the previous steps to create the desired word(s). Note, that the [4] key can be used to move the cursor to the left, if necessary, and that key [7] can be used to enter a blank (or erase an existing character). Remember, no word or word-string can exceed 10 characters.

Press the [8] key to save the custom word(s) and return to the "CUSTOM WORD?" display.

Repeat the steps for other custom words to be entered. To change a custom word, just overwrite it. If no more are to be entered now, press [0] to return to the Descriptor entry. The custom word(s) will be automatically added to the built-in vocabulary.

When zone descriptors are being programmed for the zones, the custom word numbers are 250 to 254 for words 1 to 5, respectively.

### Alpha Vocabulary List (For Entering Zone Descriptors)

000 (Word Space)	054 DESK	I	154 PHONE	208 TRAP
<b>A</b>	055 DETECTOR	106 INFRARED	155 PHOTO	209 TRIGGERS
001 AIR	056 DIALER	107 INSIDE	156 POINT	<b>U</b>
002 ALARM	057 DINING	108 INTERIOR	157 POLICE	210 UP
003 ALCOVE		109 INTRUSION	158 POOL	211 UPPER
004 ALLEY	058	<b>J</b>	159 POWER	212 UPSTAIRS
005 AMBUSH	DISCRIMINATOR	110 JEWELRY	<b>Q</b>	213 UTILITY
006 ANTENNA	059 DISPLAY		160 QUAD	
007 AREA	060 DOCK	<b>K</b>	<b>R</b>	<b>V</b>
008 APARTMENT	061 DOOR	111 KITCHEN	161 RADIO	214 VALVE
009 ART	062 DORMER	<b>L</b>	162 REAR	215 VAULT
010 ATTIC	063 DOWN	112 LAUNDRY	163 RECREATION	216 VIBRATION
011 AUDIO	064 DOWNSTAIRS	113 LEFT	164 REFRIG	217 VOLTAGE
012 AUX	065 DRAWER	114 LEVEL	165 REFRIGERATION	<b>W</b>
013 AUXILIARY	066 DRIVEWAY	115 LIBRARY	166 RELAY	218 WALL
<b>B</b>	067 DRUG	116 LIGHT	167 RF	219 WAREHOUSE
014 BABY	068 DUCT	117 LINE	168 RIGHT	220 WASH
015 BACK	<b>E</b>	118 LIQUOR	169 ROOM	221 WEST
016 BACKUP	069 EARTH	119 LIVING	170 ROOF	222 WINDOW
017 BAR	070 EAST	120 LOADING	<b>S</b>	223 WINE
018 BARN	071 ELECTRIC	121 LOCK	171 SAFE	224 WING
019 BASEMENT	072 EMERGENCY	122 LOOP	172 SCREEN	225 WIRELESS
020 BATHROOM	072 ENTRY	123 LORRA	173 SENSOR	226 WORK
021 BED	074 EQUIPMENT	124 LOW	174 SERVICE	<b>X</b>
022 BEDROOM	075 EXECUTIVE	125 LOWER	175 SHED	227 XMITTER
023 BELL	076 EXIT	<b>M</b>	176 SHOCK	<b>Y</b>
024 BLOWER	077 EXTERIOR	126 MACHINE	177 SHOP	228 YARD
025 BOILER	<b>F</b>	127 MAGNETIC	178 SHORT	<b>Z</b>
026 BOTTOM	078 FACTORY	128 MAIDS	179 SHOW	229 ZONE (No.)
027 BOX	079 FAILURE	129 MAIN	180 SIDE	230 ZONE
028 BREAK	080 FAMILY	130 MASTER	181 SKYLIGHT	
029 BUILDING	081 FATHERS	131 MAT	182 SLIDING	231 0
030 BURNER	082 FENCE	132 MEDICAL	183 SMOKE	232 1
<b>C</b>	083 FILE	133 MEDICINE	184 SONIC	233 1ST
031 CABINET	084 FIRE	134 MICROWAVE	185 SONS	234 2
032 CALL	085 FLOOR	135 MONEY	186 SOUTH	235 2ND
033 CAMERA	086 FLOW	136 MONITOR	187 SPRINKLER	236 3
034 CAR	087 FOIL	137 MOTHERS	188 STATION	237 3RD
035 CASE	088 FOYER	138 MOTION	189 STEREO	238 4
036 CASH	089 FREEZER	139 MOTOR	190 STORE	239 4TH
037 CCTV	090 FRONT		191 STORAGE	240 5
038 CEILING	091 FUR	<b>N</b>	192 STORY	241 5TH
039 CELLAR	092 FURNACE	140 NORTH	193 STRIKE	242 6
040 CENTRAL	<b>G</b>	141 NURSERY	194 SUMP	243 6TH
041 CIRCUIT	093 GALLERY	<b>O</b>	195 SUPERVISED	244 7
042 CLIP	094 GARAGE	142 OFFICE	196 SUPERVISION	245 7TH
043 CLOSED	095 GAS	143 OIL	197 SWIMMING	246 8
044 COIN	096 GATE	144 OPEN	198 SWITCH	247 8TH
045 COLD	097 GLASS	145 OPENING	<b>T</b>	248 9
046 COATROOM	098 GROUND	146 OUTSIDE	199 TAMPER	249 9TH
047 COLLECTION	099 GUEST	147 OVERFLOW	200 TAPE	
048 COMBUSTION	100 GUN	148 OVERHEAD	201 TELCO	250 Custom Word #1
049 COMPUTER	<b>H</b>	<b>P</b>	202 TELEPHONE	251 Custom Word #2
050 CONTACT	101 HALL	149 PAINTING	203 TELLER	252 Custom Word #3
<b>D</b>	102 HEAT	150 PANIC	204 TEMPERATURE	253 Custom Word #4
051 DAUGHTERS	103 HIGH	151 PASSIVE	205 THERMOSTAT	254 Custom Word #5
052 DELAYED	104 HOLDUP	152 PATIO	206 TOOL	
053 DEN	105 HOUSE	153 PERIMETER	207 TRANSMITTER	

### Character (ASCII) Chart (For Adding Custom Words)

32 (space)	44 ,	57 9	69 E	81 Q
33 !	45 -	58 :	70 F	82 R
34 "	46 .	59 ;	71 G	83 S
35 #	47 /	60 <	72 H	84 T
36 \$	48 0	61 =	73 I	85 U
37 %	49 1	62 >	74 J	86 V
38 &	51 3	63 ?	75 K	87 W
39 '	52 4	64 @	76 L	88 X
40 (	53 5	65 A	77 M	89 Y
41 )	54 6	66 B	78 N	90 Z
42 *	55 7	67 C	79 O	
43 +	56 8	68 D	80 P	



# System Communication

## General Information

The process of a successful transmission consists of both the method of communication between the control and the central station receiver and the actual way the information is sent and displayed at the central station.

When the control calls the central station receiver, it waits to hear a “handshake” frequency from the receiver to confirm that the receiver is on-line and ready to receive its message. Once the control hears the handshake it is programmed to listen for, it sends its message. The control then waits for a “kissoff” frequency from the receiver acknowledging that the message was received and understood.

If the handshake frequency is not given or is not understood by the control, the control will not send its message. Once the handshake frequency is received and understood by the control, the control will send its message. If there is an error in the transmission (the receiver does not receive a “valid” message), the kissoff frequency will not be given by the central station receiver.

The 5110XM has two dialers – a main and a back-up dialer. Each of these is enabled separately in program field \*79 (both are enabled by default). If enabled, the back-up dialer will only become active when a line fault (voltage on the main dialer drops below 2 volts) is sensed. The main and backup dialers are supervised by system zones 11 and 12, respectively. The control will make up to ten attempts to get a valid message through. (Ten attempts will be made to the primary number when only this number is programmed, and five attempts will be made to the primary number followed by five attempts to the secondary number when both numbers are programmed). If the control is not successful after its numerous attempts, the **Comm Fail** LED will light. If an optional keypad is installed it will display “Communication Failure” (alpha keypad) or “FC” (fixed-word keypad). Regardless of the format chosen the 5110XM will transmit reports in the following priority order:

1. Alarms (Fire and emergency)
2. Fire Supervisories and Troubles
3. All remaining reports

## Report Code Formats

The following formats are supported by the 5110XM:

- 3+1, 4+1, 4+2 ADEMCO Standard Low Speed
- 3+1, 4+1, 4+2 Radionics Standard
- ADEMCO 4+2 Express
- ADEMCO Contact ID
- 3+1, 4+1 ADEMCO Low Speed Expanded
- 3+1, 4+1 Radionics Expanded

### Table of Contact ID Event Codes

Code	Definition
110	Fire Alarm Without Verification
111	Smoke Alarm With Verification
113	Waterflow Alarm
122	Silent Panic
123	Audible Panic
150	24 Hour Auxiliary
200	Fire Supervisory
301	AC Power
302	Low System Battery/Battery Test Fail
310	Ground Fault
314	Charger Circuit Fail
321	Bell Trouble
351	Main Dialer Trouble
352	Backup Dialer Trouble

Code	Definition
353	LORRA Trouble
373	Fire Zone Trouble
380	Trouble (global)
521	Bell Bypass
524	Auxiliary Relay Bypass
551	Main/Backup Dialer Bypass
570	Zone Bypass
602	Normal Dialer Test
607	Fire Walk Test
608	Off-Normal Dialer Test
627	Program Mode Entry
628	Program Mode Exit
912	Fire Silence



# Downloading Primer

(Remote Downloading is not a UL Listed feature)

## General Information

Downloading allows the operator to remotely access, program, and control the security system over normal telephone lines, IP, or GSM Communicators. Anything that can be done directly from the keypad can be done remotely, using Honeywell's COMPASS downloading software. To communicate with the control panel, the following is required:

1. PC that meets the requirements of the COMPASS software. Refer to the COMPASS documentation for those requirements.
2. One of the following modems:
  - Honeywell CIA
  - Hayes Smartmodem 1200 (external: level 1.2 or higher; internal: level 1.1 or higher)
  - Hayes Optima 24 + Fax 96 external
  - Hayes Optima 336
  - BizComp Intellimodem 1200 w/volume
  - BizComp Intellimodem 2400

*Other brands are not compatible, even if claimed to be 100% compatible.*



Internal modems must have a 4-position DIP switch. Modems with a 6-position DIP switch will not work.

3. Compass Downloading software revision 1.5.8 or later.
4. For IP/GSM downloading, revision 4.0 and above panels can be downloaded via the ECP bus over the following Communicators:
  - 7845GSMCF – Revision 2.0.7 or higher
  - 7845iGSMCF – Revision 2.0.7 or higher
  - 7847i – Revision 2.0.7 or higher
  - 8132i – Revision 2.0.91 or higher

## Access Security

The following four levels of protection guard the control against compromise while it is being accessed from a remote location:

1. Security code handshake: The subscriber's account number as well as an 8-digit ID number (known only to the office) must be matched between the control and computer.
2. Data encryption: All data that is exchanged between the computer and control is encrypted to reduce the possibility of anyone "tapping" the line and corrupting data.
3. Operator access levels: Operators may be assigned various levels of access to the downloader, each having its own log-on code. The access levels allow the operators read/write capabilities of the customers' account information. For a detailed explanation of the access levels, see the downloading software User Manual.

## NOTES:

- When the system is downloading, the keypad displays "MODEM COMM."
- After each download or save an automatic time stamp is done, to indicate the last download (or save) and the operator ID number.
- A complete hard copy of each individual account can be obtained by connecting a printer to the computer. Refer to your computer Owner's Manual or contact your dealer for printer recommendations.

## Getting On-Line with a Control Panel

**NOTES:**

- The Installer must be on premises during a download.
- The control panel must be connected to the existing telephone line (refer to the SECTION 3: Installing the Control).
- For the initial download to occur, the following fields must be programmed in the control panel:  
 \*95 Ring Count and \*96 Initialize DL ID and Acct #.

When establishing a connection between the computer and the control panel, the following occurs:

Stage	First Communication
1	The computer calls the control panel. (The phone number for each customer must be entered into the customer's account file on the computer.)
2	The control panel answers the phone call at the pre-programmed ring count (*95) and executes a handshake with the computer.
3	The panel acknowledges the request and establishes the session without having to call back.
4	Once the control panel has been successfully downloaded, the Central Station operator may disconnect; once disconnected the panel will again call the Central Station to report the Program Mode Exit (UL864 required).
<b>Connecting after the First Communication</b>	
1	After the initial data exchange with Compass, the panel (and Compass) hangs up.
2	Compass goes into a "Waiting For Callback" mode (regardless of the "Waiting For Callback" setting) see UL note below.
3	The control panel then calls the Primary Phone (*41) to report the "System-Program Entry" report. After kissoff the panel then hangs up.
4	The panel then calls back Compass (*94) to complete the session.

**UL**

It is a UL864 requirement that the panel notify the Central Station whenever an attempt to enter the program mode is made.

This is why only the initial session allows an immediate connection to occur. Disabling the "System-Program Entry" report (\*54) will allow sessions without callback to be made, but violate the UL864 Standard and should not be done.



Alarms and Trouble responses and reports are disabled while you are on-line. All central station reports are delayed until you complete the session.

**On-Line Control Functions**

The following functions can be performed while on-line with a control panel:

- Bypass a zone
- Force the system to accept a new program download
- Shut down communication (dialer) functions (for nonpayment of monitoring fees in an owned system)
- Shut down all system functions (for nonpayment for a leased system)
- Inhibit local keypad programming (prevents takeover of your accounts)
- Command the system to upload a copy of its resident program to the office
- Read: system status, AC power status, list of bypassed zones, list of zones currently in alarm, list of zones currently in trouble

# System Operation

## User Codes

This system provides 1 Installer Code and 5 Secondary Codes (Users 2-6). These are described below.



User codes are required only if a keypad is installed on the control.

### Installer Code

The installer programs the 4-digit Installer Code initially as part of the programming procedure. The Installer Code is the only code that can allow re-entry into programming mode and also, in normal operation mode, is used to enter the 4-digit code for the main user (user #2), which allows access to the normal functions of the system (The main user {#2} may also enter additional users, 3-6).

### Adding, Changing, and Deleting Secondary User Codes

In normal operation mode, the Installer Code (and user code #2) may be used to assign up to 5 additional 4-digit user codes. It can also be used to remove Secondary Codes from the system (individually).

*To assign (or change) a Secondary user code, enter (via keypad):*

Installer Code + [CODE key] + User # (2–6) + desired Secondary Code (4-digits)

The system will emit a single beep when each Secondary Code has been successfully entered.

*To delete a Secondary user code, enter (via keypad):*

Installer Code + [CODE key] + User # (2–6)

### NOTES:

- All Installer and Secondary user codes permit access to the system for silencing and resetting alarms.
- The Installer Code may assign user codes 2-6.
- User 2 may assign user codes 3-6.
- The Installer Code may bypass ALL zones while users 2-6 may bypass 24 hour non-fire zones only.
- The Installer Code may initiate both the Walk Test and Fire Drill Test.
- User 2 may initiate the Fire Drill Test only.
- Users 3-6 may NOT initiate any of the test modes.
- If a Secondary Code is inadvertently repeated for different users, the lower user number will take priority.

**User Code Function Summary Table**

User #	Enter Program Mode	Silence Alm, Trbl, Supv	Add/Change Users	Bypass Zones	Enter Test Modes
1 Installer	Yes	Yes	1-6	All	All
2 Main User	No	Yes	2-6	24 hour only	Fire Drill only
3-6	No	Yes	No	24 hour only	None

## Keypad Functions

The keypad, if used, allows the user to silence alarm and trouble sounders and perform other system functions, such as bypassing zones, and display zone descriptors. Zone and system conditions (alarm, trouble, and bypass) are displayed in the Display Window. The system is in the "System Normal" condition when all zones are intact. If NOT, faulted zones are displayed in numerical order.

### System Commands

The following is a brief list of system commands. For detailed information concerning system functions, refer to the User's Manual.

#### Summary of System Commands

<b>Silencing Sounders</b>	Code + [OFF] or press Silence/Reset button	
<b>Resetting Smoke Detectors and Clearing Alarm Memory</b>	Code + [OFF] or press Silence/Reset button Twice	
<b>Bypassing Zones (installer only function)</b>	Code + [BYPASS] + Zone number(s)	
<b>Un-bypassing Zones (installer only function)</b>	Code + [BYPASS] + Zone Number(s)	
<b>Fire Walk Test Mode</b>	Installer Code + [#] + [68]	To exit, Code + [OFF]
<b>Fire Drill Mode</b>	Installer or User 2 Code + [#] + [69]	To exit, Code + [OFF]

### Emergency Keys

The emergency keys are not programmed or used.

### Fixed-Word Keypad Displays

The following is a brief list of fixed-word keypad displays. For detailed information concerning fixed-word keypad displays, refer to the User's Manual.

<b>Display</b>	<b>Description</b>
<b>FC</b>	Fail Communication – A message to the central station (alarm, trouble, etc.) was not properly received.
<b>CC</b>	Site Initiated Download – A site initiated download occurred.
<b>OC</b>	Open Circuit – The keypad has lost communication with the control panel.
<b>dF</b>	Fire Drill – Displays while the Fire Drill test is in progress.
<b>CF</b>	Fire Walk Test Mode - Displays while the Fire Walk Test is in progress
<b>AA</b>	Program Mode Communicating – Displays while the system communicates the Program Mode Entry message to the central station.

# Testing the System

## Fire Walk Test

After installation is completed, the 5110XM System should be carefully tested, as follows:

With the System in the "SYSTEM NORMAL" state all zones should be intact. If a fault message is displayed, press the [\*] key to display the faulted zone(s). Restore faulted zone(s) if necessary, so that "SYSTEM NORMAL" message is displayed. 2. Perform the FIRE WALK TEST. This test causes the keypad sounder to beep and the optional alarm sounders (if connected) to sound momentarily in response to short circuits on zones programmed as types 09, 16, or 17 only. The control will NOT be active during this test

To initiate the ONE MAN FIRE WALK TEST enter the Installer Code + [#] + [68] on any remote keypad. When first activated alarm sounders (if used) will sound for 3 seconds and all keypad segments will light to verify proper operation. The control will send a walk test start report to the central station. The following will be displayed on an alpha keypad:

**Fire Walk Test  
In Progress**

### NOTE: The system displays [TEST CF] on fixed-word keypads

Fault and restore each fire alarm sensor one at a time. Each fault will cause keypads to beep and fire bells (if used) to sound. (Auxiliary relay will also ding if set for alarm function 1 in field \*34 and if assigned in field \*85 to the fire zone that was faulted.) The keypads will also display the faulted zone for as long as the fault remains. The 5110XM will initiate an automatic smoke detector reset 10 seconds after a smoke detector has been faulted in order to reset that smoke. Once reset, the keypad display for that zone should clear.

To exit this test enter ANY User Code + [OFF], or the test will automatically terminate after 30 minutes if no faults are sensed. The control will send a walk test end report to the central station.

**Alarm messages will be sent to the central station during the following tests 3 and 4. Notify them *in advance* that tests will be in progress.**

With the System in the "SYSTEM NORMAL" state, fault one or more zones. Silence alarm sounder(s) by pressing the silence/reset button or entering the **code** and pressing **OFF** (if a keypad is being used).

Check the keypad-initiated alarms (if used) by pressing the appropriate emergency key(s). If the system has been programmed for audible emergency, the keypad and built-in warning sounder will emit a steady alarm sound, and **ALARM and zone number** will be displayed. Silence alarm sounder(s) by pressing the silence/reset button (or entering the **code** and pressing **OFF**). If the control has been programmed for silent alarm, there will be no audible alarms or displays, but a report will be sent to the central station.

Notify the central station when all tests are finished, and verify results with them.

## Dialer Test

The 5110XM may be programmed to send periodic test reports ranging from every 24 hours, weekly, or monthly, as determined in field \*49. The first test report will be sent 12 hours after initial powerup, after exiting the program mode, or after a download session, whichever is applicable. As long as there are no existing alarm, supervisory, or trouble conditions present the normal test report will be sent (as programmed in field \*64). If alarm, supervisory or trouble conditions are present at the time of the test report an *OFF-NORMAL* report will be sent instead (\*84).

## Trouble Conditions

A rapid beeping at the built-in warning sounder (or if used, at the keypad sounder accompanied by the word "CHECK" on the keypad's display) indicates that there is a trouble condition in the system. The audible warning sound can be silenced by pressing the Silence/Reset button, or by entering code + [OFF]. Instruct users to call for service immediately upon seeing any of the following messages. (Also refer to the topic on Troubleshooting.)

**"Check" and "Battery" Displays**

When the problem has been corrected, the display can be cleared by pressing the Silence/Reset key or by entering code plus off a second time.

A display of "CHECK" accompanied by a zone number means there is an open circuit condition on a fire zone, or that there is a system trouble.

**NOTE: Fire troubles will activate the warning sounder and the keypad every 24 hours until the trouble condition is fixed.**

A display of "BAT" (Fixed-word keypads) or "SYSTEM LO BAT" (Alpha keypads) with no zone number indicates that the system's main standby battery is weak. The built-in battery trouble LED also lights.

**Telephone Line Failure**

A display of "check 11" or "check 12" (Fixed-word keypads), or "check 11 main dialer" or "check 12 back-up dialer" (Alpha keypads), indicates that a monitored telephone line has been cut (or disconnected). The keypad will also produce a trouble sound, (silence by pressing the reset key or entering code plus OFF). The built-in Telco Fault LED also lights.

**Power Failure**

Power failure may be exhibited in one of the following ways:

**If there is no keypad display at all**, operating power for the system has stopped and the system is inoperative. The built-in AC Power LED also goes off.

**If the message "AC LOSS" (Alpha keypads) or "NO AC" (Fixed-word keypads) is displayed**, the keypad is operating on battery power only.

**Other Displays (Fixed Word displays are in parenthesis)**

**Busy-Standby (dI)** If this remains displayed for more than 1 minute, the system is disabled.

**Modem Comm (CC)** The system is in communication with the central station for change of function or status verification.

**Comm. Failure (FC)** A communication failure has occurred.

**Open Circuit (OC)** The keypad is not receiving signals from the control and sees an open circuit.

**Long Rng Trbl (bF)** Back-up LRR communication failure.

**TO THE INSTALLER**

Regular maintenance and inspection (at least annually) by the installer and frequent testing by the user are vital to continuous satisfactory operation of any alarm system.

The installer should assume the responsibility of developing and offering a regular maintenance program to the user as well as acquainting the user with the proper operation and limitations of the alarm system and its component parts. Recommendations must be included for a specific program of frequent testing (at least weekly) to insure the system's proper operation at all times.

**Troubleshooting**

**SYSTEM**

SYMPTOM	POSSIBLE CAUSE	REMEDY
1. Low Battery message on keypad or battery trouble LED lit.	1. "Bat" or "System Low Bat".	1. System battery is low or missing.
2. Nuisance or phantom alarm.	2. Sensors not properly installed, wired, or monitored.	2. Check installation to see if in accordance with established procedure.
3. "AC POWER" light off.	3. Interrupted AC power supply.	3. Check transformer connection and Power line circuit breaker.
4. "CHECK" and zone number 1-5 is displayed.	4. Control has sensed an open circuit on one or more zones.	4. Check the sensor or the loop wiring in the affected zone. The system will not display "System Normal" until this condition is corrected (or the affected zone is bypassed).

**CONTROL**

<b>SYMPTOM</b>	<b>POSSIBLE CAUSE</b>	<b>REMEDY</b>
<b>1. Digital control message not being received.</b>	1a. 5110XM in FIRE WALK TEST mode. 1b. Telephone connection is not secure. 1c. Digital control malfunctioning. 1d. Telephone number in program needs prefix or access code. 1e. Telephone call to central monitoring station requires operator assistance.	1a. Remove from TEST mode. 1b. Check all connections. 1c. Check with a different 5110XM. 1d. Program prefix or access code into the 5110XM. 1e. 5110XM system cannot work in this situation.
<b>2. 5110XM doesn't respond to keystrokes on keypad.</b>	2a. "CC" or "MODEM COMM" displayed.  2b. "d1" or "System Busy" displayed.  2c. Keypad address setting incorrect.	2a. System is in communication with downloader at central station. Wait until download session is finished. 2b. System has just been powered and is in its 1 minute initialization. To bypass this time, press '#' + '0'. 2c. Keypads must be set for address 31 (non-addressable mode).

**SMOKE DETECTOR**

<b>SYMPTOM</b>	<b>POSSIBLE CAUSE</b>	<b>REMEDY</b>
<b>1. Detector alarms, no apparent reason.</b>	1a. Dust, dirt in sensing chamber.  1b. Improper location.  1c. Unit malfunctioning.	1a. Clean unit's sensing chamber with vacuum cleaner per unit's instructions. 1b. See unit's instructions for locations to avoid. Relocate as necessary. 1c. Replace detector.

**Contacting Technical Support**

**PLEASE, before you call Technical Support, be sure you:**

- READ THE INSTRUCTIONS!
- Check all wiring connections.
- Determine that the power supply and/or backup battery are supplying proper voltages.
- Verify your programming information where applicable.
- Verify that all keypads and devices are addressed properly.
- Note the proper model number of this product, and the version level (if known) along with any documentation that came with the product.
- Note your Honeywell customer number and/or company name.

Having this information handy will make it easier for us to serve you quickly and effectively.

You may contact Technical Support via Toll-Free Fax. Please include your return fax number. You will receive a reply within 24 hours.

Technical Support:..... 1-800-645-7492 (8 a.m.-8 p.m. EST)  
 MyWeb Tech: ..... <http://www.security.honeywell.com/hsc/resources/MyWebTech/>



# Regulatory Agency Statements

The 5110XM may be used as a slave DACT providing central or remote station service for a central or remote station listed local FACP. The 5110XM may also be used as a stand-alone local, central station or remote station control. Some comments that apply to these installations are listed below:

**When used as a slave DACT:**

- Wire the 5110XM's hard-wired zones to the FACP alarm, supervisory and trouble contacts. Each zone must have a 2k EOLR installed at the FACP. Program these zones for fire alarm (type 9), fire supervisory (type 18) or trouble (type 19) response, respectively, as required.
- Both dialers must be used. Connect both dialers to separate telephone lines and enable supervision for each dialer.
- Program the 5110XM to send fire alarm, supervisory (if used), trouble, AC loss, low battery, normal dialer test and off-normal dialer test reports. Program dialer test reports to be sent every 24 hours.
- Size the back up battery to provide 24-hour standby time for central station installation and 60 hour standby time for remote station installations.

**When used as a stand-alone control:**

- Wire fire alarm and sprinkler supervisory sensors to the 5110XM's hard wired zones. Each zone must have a 2K EOLR installed at the last device on the zone wire run. Program these zones for the required response.
- Mount one keypad within 3 feet of the control and run wires to the control in conduit.
- For local installations wire polarized indicating devices to the bell output and enable the bell supervision.
- For central and remote station installations, both dialers must be used. Connect both dialers to separate telephone lines and enable supervision for each dialer.
- Program the 5110XM to send fire alarm, supervisory (if used), trouble, AC loss, low battery, normal dialer test and off-normal dialer test reports. Program dialer test reports to be sent every 24 hours.
- Size the back-up battery to provide 24-hour standby time for local and central station installations and 60 hour standby time for remote station installations.

**Agency Listings**

- UL864-NFPA 72 Central Station and Remote Station DACT and local, central station and remote station control.
- FM pending
- CSFM pending

**FEDERAL COMMUNICATIONS COMMISSION (FCC) STATEMENTS**

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

**CLASS B DIGITAL DEVICE STATEMENT**

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful 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:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**INDUSTRY CANADA (IC) STATEMENTS**

This device complies with RSS210 of Industry Canada. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

### IN THE EVENT OF TELEPHONE OPERATIONAL PROBLEMS

In the event of telephone operational problems, disconnect the control panel by removing the plug from the RJ31X (CA38A in Canada) wall jack. We recommend that you demonstrate disconnecting the phones on installation of the system. Do not disconnect the phone connection inside the control panel. Doing so will result in the loss of your phone lines. If the regular phone works correctly after the control panel has been disconnected from the phone lines, the control panel has a problem and should be returned for repair. If upon disconnection of the control panel, there is still a problem on the line, notify the telephone company that it has a problem and request prompt repair service. The user may not under any circumstances (in or out of warranty) attempt any service or repairs to the system. It must be returned to the factory or an authorized service agency for all repairs.

#### FCC PART 68 NOTICE

This equipment complies with Part 68 of the FCC rules. On the front cover of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

This equipment uses the following jacks:

An RJ31X is used to connect this equipment to the telephone network.

The REN is used to determine the quantity of devices that may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area.

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is experienced with this equipment, please contact the manufacturer for repair and warranty information. If the trouble is causing harm to the telephone network, the telephone company may request that you remove the equipment from the network until the problem is resolved.

There are no user serviceable components in this product and all necessary repairs must be made by the manufacturer. Other repair methods may invalidate the FCC registration on this product.

This equipment cannot be used on telephone company-provided coin service. Connection to Party Line Service is subject to state tariffs.

This equipment is hearing-aid compatible.

When programming or making test calls to an emergency number, briefly explain to the dispatcher the reason for the call. Perform such activities in the off-peak hours, such as early morning or late evening.

## CANADIAN EMISSIONS STATEMENTS

This Class B digital apparatus complies with Canadian ICES-003

### NOTICE

The Industry Canada Label identifies certified equipment. This certification means that the equipment meets telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may cause the telecommunications company to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

**Caution:** Users should not attempt to make such connections themselves, but should contact an appropriate electric inspection authority, or electrician, as appropriate.

**NOTICE:** The **Ringer Equivalence Number (REN)** assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.

### AVIS

L'étiquette d'Industrie Canada identifie le matériel homologué. Cette étiquette certifie que le matériel est conforme aux normes de protection, d'exploitation et de sécurité des réseaux de télécommunications, comme le prescrivent les documents concernant les exigences techniques relatives au matériel terminal. Le Ministère n'assure toutefois pas que le matériel fonctionnera à la satisfaction de l'utilisateur. Avant d'installer ce matériel, l'utilisateur doit s'assurer qu'il est permis de le raccorder aux installations de l'entreprise locale de télécommunication. Le matériel doit également être installé en suivant une méthode acceptée de raccordement. L'abonné ne doit pas oublier qu'il est possible que la conformité aux conditions énoncées ci-dessus n'empêche pas la dégradation du service dans certaines situations.

Les réparations de matériel homologué doivent être coordonnées par un représentant désigné par le fournisseur. L'entreprise de télécommunications peut demander à l'utilisateur de débrancher un appareil à la suite de réparations ou de modifications effectuées par l'utilisateur ou à cause de mauvais fonctionnement.

Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils de mise à la terre de la source d'énergie électrique, de lignes téléphoniques et des canalisations d'eau métalliques, s'il y en a, sont raccordés ensemble. Cette précaution est particulièrement importante dans les régions rurales.

**Avertissement :** L'utilisateur ne doit pas tenter de faire ces raccordements lui-même; il doit avoir recours à un service d'inspection des installations électriques, ou à un électricien, selon le cas.

**AVIS :** L'**indice d'équivalence de la sonnerie (IES)** assigné à chaque dispositif terminal indique le nombre maximal de terminaux qui peuvent être raccordés à une interface. La terminaison d'une interface téléphonique peut consister en une combinaison de quelques dispositifs, à la seule condition que la somme d'indices d'équivalence de la sonnerie de tous les dispositifs n'excède pas 5.



# Specifications

## 5110XM Control

### Physical:

12-1/2" W x 14-1/2" H x 3" D (318mm x 368mm x 76mm)

### Electrical:

<b>Voltage Input:</b>	From built-in transformer supplying 18VAC at 40VA to 5110XM. Transformer requires nominal 120VAC, 600mA input.
<b>Rechargeable Back-Up Battery:</b>	12VDC, 7AH min., 14AH, max. (Gel type).
<b>Battery Charging Output:</b>	Charging Voltage: 13.65VDC, minimum to fully charge battery(s).
<b>Bell Output:</b>	12VDC, 1.0A output. Selectable for style Y EOLR supervision (using EOLR20) or no supervision.
<b>Auxiliary Power Output:</b>	12VDC, 350mA max.
<b>Auxiliary Relay Output:</b>	Selectable for wet form C output rated at 12VDC, 350mA standby max/1A alarm max or dry form C output with contacts rated at 30VAC/VDC, 2A max, resistive loads.
<b>Total Output Power:</b>	Combined aux power and aux relay power standby currents cannot exceed 350mA. Combined aux power, aux relay power and bell alarm currents cannot exceed 1A.
<b>Standby Time:</b>	(see Table in Final Powerup section)
<b>Fusing:</b>	PTC circuit protectors on battery input and on aux. power, aux. relay, and bell outputs.

### Communication:

#### Formats Supported:

ADEMCO 4+2 Express (DTMF, 10 characters per second)  
 ADEMCO Contact ID Reporting (DTMF, 10 characters per second)  
 ADEMCO Low Speed 3+1, 4+1, 4+2 (10 pulses per second)  
 Radionics/SESCO 3+1, 4+1, 4+2 (20 pulses per second)

#### Line Seize:

Double Pole

#### TLM Threshold:

Good line when Tip-Ring voltage exceeds 2V; Bad line when less than 2V

#### Ringer Equivalence:

0.7B

#### FCC Registration No.

AC398U-68192-AI-E

### Maximum Zone Resistance:

Zones 1-4 = 300 ohms excluding EOLR; Zone 5 = 100 ohms excluding EOLR

### Built-in Indicators:

#### Seven LEDs:

AC Power, Comm Fail, Line Fault, Silence Audible, Main Dialer Line Seize, Backup Dialer Line Seize

#### Warning Sounder:

Piezo-electric sounder for Alarm, Trouble and Supervisory conditions. Silenced by pressing the Silence/Reset button, or by Code + [OFF] on a keypad, if used.

### Remote Keypads:

Supports up to four 6150 (gray) fixed word and 6160 (gray) alpha keypads depending on system usage and current loading. When used as a slave DACT, keypads are optional, but may be used for supplemental DACT status annunciation. When used as a stand-alone control, one keypad, mounted within 3 feet of the control, with the wiring run in conduit, must be used.



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## **WARNING!**

### **THE LIMITATIONS OF THIS ALARM SYSTEM**

While this System is an advanced wireless 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 also may not sense a fire on another level of a residence or building. A second floor detector, for example, may not sense a first floor or basement fire. Finally, smoke detectors have sensing 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 location of the smoke detectors, the detector, even if it operates as anticipated, may not provide sufficient warning to allow all occupants to escape in time to prevent injury or death.
- Passive Infrared Motion Detectors can only detect intrusion within the designed ranges as diagrammed in their installation manual. Passive Infrared Detectors do not provide volumetric area protection. They do create multiple beams of protection, and intrusion can only be detected in unobstructed areas covered by those beams. They cannot detect motion or intrusion that takes place behind walls, ceilings, floors, closed doors, glass partitions, glass doors, or windows. Mechanical tampering, masking, painting or spraying of any material on the mirrors, windows or any part of the optical system can reduce their detection ability. Passive Infrared Detectors sense changes in temperature; however, as the ambient temperature of the protected area approaches the temperature range of 90° to 105°F (32° to 40°C), the detection performance can decrease.
- Alarm warning devices such as sirens, bells or horns may not alert people or wake up sleepers if they are located on the other side of closed or partly open doors. If warning devices are located on a different level of the residence from the bedrooms, then they are less likely to waken or alert people inside the bedrooms. Even persons who are awake may not hear the warning if the alarm is muffled by noise from a stereo, radio, air conditioner or other appliance, or by passing traffic. Finally, alarm warning devices, however loud, may not warn hearing-impaired people.
- Telephone lines needed to transmit alarm signals from a premises to a central monitoring station may be out of service or temporarily out of service. Telephone lines are also subject to compromise by sophisticated intruders.
- Even if the system responds to the emergency as intended, however, occupants may have insufficient time to protect themselves from the emergency situation. In the case of a monitored alarm system, authorities may not respond appropriately.
- This equipment, like other electrical devices, is subject to component failure. Even though this equipment is designed to last as long as 20 years, the electronic components could fail at any time.

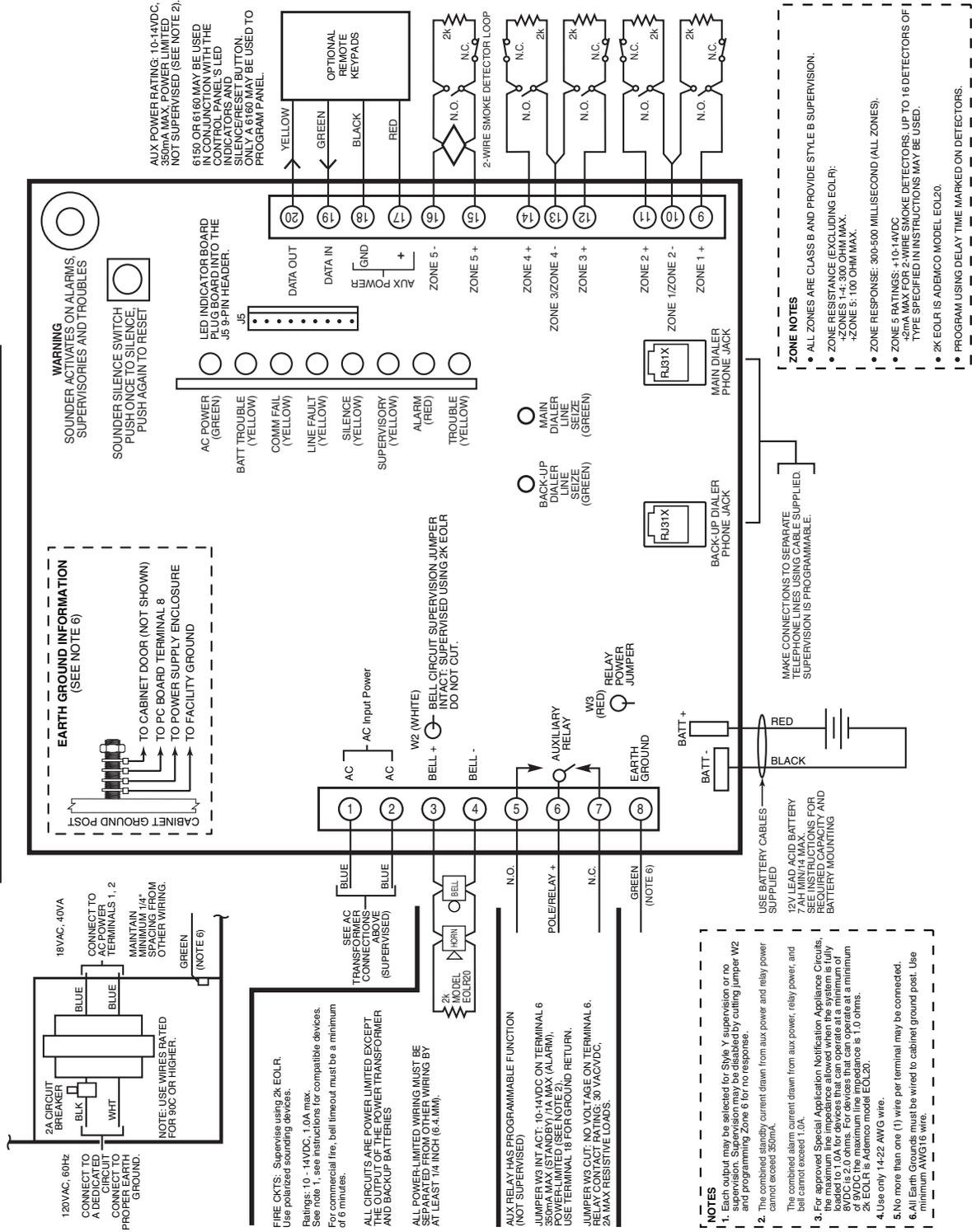
The most common cause of an alarm system not functioning when an intrusion or fire occurs is inadequate maintenance. This alarm system should be tested weekly to make sure all sensors and transmitters are working properly. The security keypad (and remote keypad) should be tested as well.

Wireless transmitters (used in some systems) are designed to provide long battery life under normal operating conditions. Longevity of batteries may be as much as 4 to 7 years, depending on the environment, usage, and the specific wireless device being used. External factors such as humidity, high or low temperatures, as well as large swings in temperature, may all reduce the actual battery life in a given installation. This wireless system, however, can identify a true low battery situation, thus allowing time to arrange a change of battery to maintain protection for that given point within the system.

Installing an alarm system may make the owner eligible for a lower insurance rate, but an alarm system is not a substitute for insurance. Homeowners, property owners and renters should continue to act prudently in protecting themselves and continue to insure their lives and property. We continue to develop new and improved protection devices. Users of alarm systems owe it to themselves and their loved ones to learn about these developments.

## NOTES

**REFER TO SOC LABEL FOR DETAILED INFORMATION**



**ADEMCO 5110XM SIMPLIFIED WIRING DIAGRAM**

DOCUMENTATION AND ONLINE SUPPORT

For the latest documentation and online support information, please go to:  
<http://www.security.honeywell.com/hsc/resources/MyWebTech/>

WARRANTY

For the latest warranty information, please go to:  
<http://www.security.honeywell.com/hsc/resources/wa/>

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