

MOOSE ZX200/ZX210

Security System Control

Table of Contents

Feature Overview	5
A New Standard For Value	5
ZX System Advantages	5
"More Than A Security System"	5
"Self-Watch" Fire Zone Features	5
ZX200/ZX210 Wiring Diagram	6
Control Board Terminal Descriptions	7
"2 in 1" Zoning™	8
Conventional Methods of Wiring	10
Class 'B' End-Of-Line Resistor Supervised Zones	10
Non-Supervised Closed Circuit Loop (No EOL Resistor Supervision)	10
Wireless Devices	11
Control Station Addressing and Supervision	12
SSD, LCD, and VFD Control Stations	12
LED Control Stations	12
Control Station Troubleshooting	13
12 VDC Outputs	14
Direct Connection to a PC for Remote Programming	16
Operating the System	17
Powering Up With The Control Station	17
Installer Arming and Disarming	17
Installer On Premises	17
Trouble Conditions	17
Testing	17
Programming the Control	18
Introduction	18
Local Programming	18
Remote Programming (RPM/2 Pro)	18
LED Control Station Programming	18
Programming Zone Names	19

Installer Level Programming	20
Menu Options	20
Remote Connect	20
Edit Function Map	20
Entering a New Value at a Location	20
Programming the Account Code, Report Code, and Telephone Number Digits ..	21
Additional Programming Notes	21
Program User Codes	21
Restore Factory Defaults	21
Hours Until Next Comm Test	22
Call RPM	22
Program RF Data	22
Programming RF Zone Devices Into the RF Gateway	22
Programming RF User Devices Into the RF Gateway	23
Programming RF Devices Into the Control Panel	24
Function Map	24
System Times	25
System Options	26
Keypad Options	27
Zone Definitions	28
User Authority Levels	29
Bell Output Activation	30
Programmable Outputs	30
Programmable Output Activation	31
Communicator Options	32
Event Reporting Phone Selection	33
Telephone Numbers	34
Dialed Digits Allowed	34
Account Numbers	34
Zone Report Code Digits	35
User Report Code Digits	36
Auxiliary Key Alarm Report Code Digits	37
Other Trouble Report Code Digits	37
Other Event Report Code Digits	39
Programming Notes	40
Specifications And Features	43
List of Compatible Accessories	46
Digital Communicator Table For Contact ID Formats	47
Agency Requirements	49
National Fire Protection Association (NFPA) Rules	51
FCC Compliance	54

Feature Overview

- 8 zones
- 2 or 4-wire fire zone capability
- Integrated Sentrol Series 4000 wireless
- Compatible with ESL 521 Smoke Detector for automatic "Clean Me" maintenance reporting
- Four exciting new keypads
- Pager reporting
- Built-in telephone line monitor
- Supervised bell circuit
- Temporal rhythm fire bell coding
- Automatic Smoke Detector Reset feature
- Fuse-Free
- 14" x 14" 'Big Box' enclosure available (model ZX210)

A New Standard For Value

The ZX200/ZX210 Control System sets a new standard for value and end-user benefits. Highlights include 8 zone hardwire/wireless flexibility, unique Lifestyle Enhancement features, and an easy to use family of keypads. The ZX200/ZX210 control is pre-programmed at the factory with eight burglary zones so it's ready to power up and operate out of the box. An optional output driver module provides 10 additional programmable outputs when desired.

ZX System Advantages

The new ZX Control System offers significant benefits for both the installer and end user. Commonality in programming, operation, and accessories mean ZX controls are easier to install and program and reduce inventory and installation costs.

Compatible wireless receivers and sensors overcome installation obstacles and increase sales and profit potential. Sensors have been engineered for long-range stability and reliability and the modular 8-zone receiver, with true diversity antenna, mounts anywhere for improved reception and performance.

Four all-new keypads provide unique features and displays for easy end-user operation. Each keypad features three distinct arming levels (*Away, Stay & Night*) with backlit keys that show system status at a glance and an easy to find *Off* key with automatic "Mute" feature. Arming the system is easy with quick **Two-Button Arming** or **Double Press Arming**. Arming

the system at night can be as easy as saying...or pressing "*Night, Night*".

"More Than A Security System"

The ZX200/ZX210 does more than provide reliable home security - it provides features that complement family lifestyles. **User On Premise** lets you know when someone's arrived.

Pager Reporting notifies users of trouble, alarm conditions, or other reportable conditions on pagers with digital displays.

"Self-Watch" Fire Zone Features

The ZX200/ZX210 ensures optimum fire zone performance and safety with unique "Self Watch" features. The ZX200/ZX210 is compatible with ESL's new 521 series smoke detectors for "**Clean Me**" **Automatic Self-Diagnostic Reporting**. This feature enables the panel to sense when the smoke detector needs cleaning or maintenance over the same two wires used for power and alarm signaling. The control will then signal the Central Station that a smoke detector maintenance trouble signal has occurred - letting you know before a problem occurs.

For added security, the ZX200/ZX210 incorporates **Automatic Smoke Detector Reset** which automatically resets the smoke detectors following a manual disarm of the fire system. The ZX200/ZX210 also complies with new NFPA requirements for residential fire installations by providing **Temporal Rhythm Fire Coding** and a **Supervised Bell Circuit**.

ZX200/ZX210 Wiring Diagram

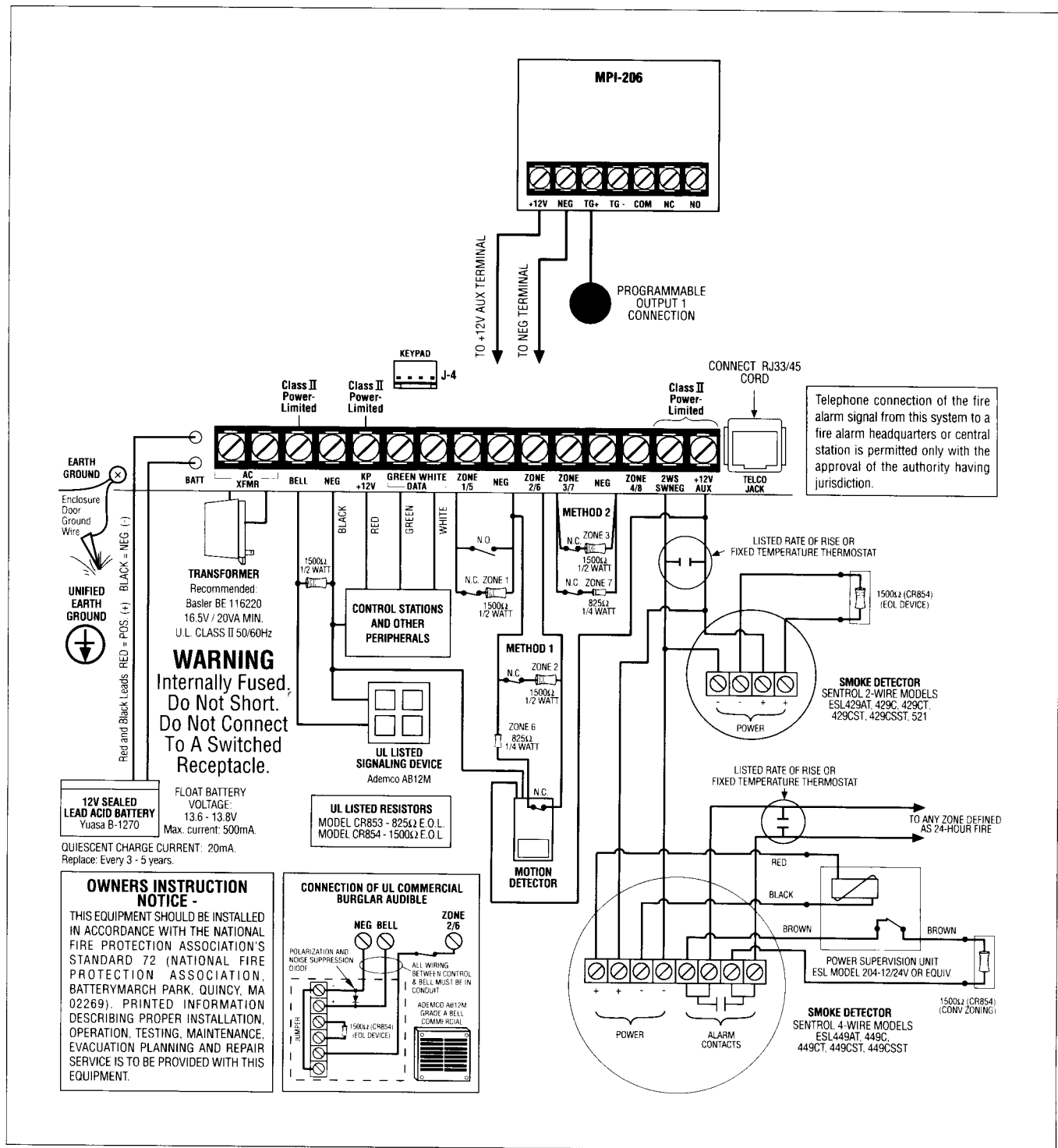


FIGURE 1 Suggested UL Household Burglar Alarm and/or Fire (ff) Alarm Hookup

Control Board Terminal Descriptions

TERMINAL	FUNCTION	DESCRIPTION
AC XFMR	AC Input	Connect a 16.5 VAC 35 VA UL Class II transformer minimum using 18 gauge minimum 2 conductor wire. Do not exceed 50 feet.
BELL	Supervised Bell Output (power-limited)	(+)12 VDC. Combined alarm current should not exceed 1.5 amps. Overcurrent protected at 1.85 amps (PTC2). A 1500 Ohm EOL resistor (CR854) must be connected between the Bell and Neg terminals; otherwise a bell output fault will occur.
NEG	Common Negative	BLACK WIRE - (-)12 VDC. Negative connection for Control Stations, ODM, RF receiver, motion detectors, bell output, and other devices.
KP +12V	Keypad Power (power-limited)	RED WIRE - (+)12 VDC 500 mA continuous power connection for Control Stations, ODM, and RF Gateway. Overcurrent protected at 1.85 amps (PTC1). CAUTION: Use the KP+12V and the +12V AUX terminals when calculating total current drain.
GREEN DATA	Local Data Bus In	GREEN WIRE - Connection for Control Stations, ODM and RF receiver. Use 22 gauge wire up to 1000 ft. Use 18 gauge wire up to 2000 ft.
WHITE DATA	Local Data Bus Out	WHITE WIRE - Connection for Control Stations, ODM and RF receiver. Use 22 gauge wire up to 1000 ft. Use 18 gauge wire up to 2000 ft.
ZONE 1/5 NEG ZONE 2/6 ZONE 3/7 NEG ZONE 4/8	Zone 1/5 Loop (+) Common Negative Zone 2/6 Loop (+) Zone 3/7 Loop (+) Common Negative Zone 4/8 Loop (+)	Each loop requires a 1500 Ohm end-of-line resistor (P/N CR854) for the primary zone and an 825 Ohm end-of-line resistor (P/N CR853) for the secondary zone. A common negative is shared among all zones. The need for end-of-line resistors may be eliminated on all Burglar defined zones through programming. See Figure 2 and 3 for "2 in 1" Zoning™ wiring examples.
2WS SWNEG	Two-Wire/Four-Wire Smoke Switched Negative	(-) Current limited 60 mA terminal. Negative connection for two-wire/four-wire smoke detectors, glass break detectors, and devices requiring resettable power. The maximum series loop resistance for a two-wire smoke loop is 20 ohms. The maximum Alarm Impedance is 500 ohms.
+12V AUX	Auxiliary Power (power-limited)	(+)12 VDC 500 mA continuous power. Overcurrent protected at 1.85 amps (PTC1). Used for powering motion detectors, two-wire/four-wire smoke detectors, glass break detectors, and other accessories. CAUTION: Use the KP+12V and the +12V AUX terminals when calculating total current drain.

"2 in 1" Zoning™

NOTE

If a Normally Open Device (i.e., 4-wire smoke detector) is used with "2 in 1" Zoning™, a short will occur across both zone loops when that device goes into alarm. It is recommended that these types of devices be used with Conventional Zone wiring only.

The ZX200/ZX210 Security Control uses the "2 in 1" Zoning™ method that allows the installer to wire two separate zones in parallel into one set of terminals that will save both time and wire costs.

Each zone is uniquely identified by its end-of-line resistor. The Primary Zone (zones 1-4) in each terminal is identified by a 1500 Ohm EOL resistor. The Secondary Zone (zones 5 - 8) is identified by an 825 Ohm EOL resistor. The Primary and Secondary zones operate as two independent zones to provide separate reporting, programming, and displays. Each zone is fully programmable (See Installer Level Programming). The zones are for Form A, Form B, or Form C sensors. **Maximum total loop wire and contact resistance (not including EOL) must not exceed 100 Ohms for the loop to function properly.**

There are two methods of wiring for "2 in 1" Zoning™. Method 1 wires one zone loop back to the control while a second zone loop is added in parallel off the first. This method may be employed in system retrofits, system expansions, or just simply to save wire cost and labor.

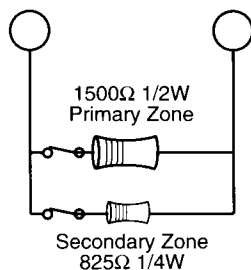


Figure 2 "2 in 1" Zoning™ Wiring - Method 1

Method 2 wires two separate zone loops back into one set of terminals. The panel recognizes each loop independently because two different EOL resistor values are used to differentiate between the Primary Zone (1500 Ohm 1/2 Watt) and the Secondary Zone (825 Ohm 1/4 Watt). This method provides two zones with one set of terminals and is ideal for pre-wire or already installed wiring.

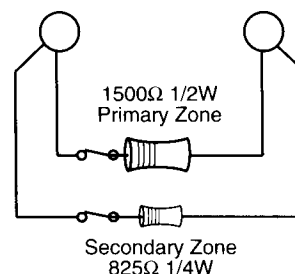


Figure 3 "2 in 1" Zoning™ Wiring - Method 2

NOTE

The resistors in Figures 2 & 3 are 1% values to maintain proper loop resistance values. If replacements are required, please refer to the manufacturer for correct replacements. The 1500 Ohm resistor is color coded **Brown•Green•Black•Brown•Brown**. The 825 Ohm resistor is color coded **Gray•Red•Green•Black•Brown**.

All zones sense five different voltage levels enabling one zone to act as two. Troubleshooting is simple using just a voltmeter at the control. The control monitors the voltage level across the zone and uses the voltage levels in Table 1 to determine whether the zone is normal, open, or shorted.

CONDITION	NOMINAL LOOP RESISTANCE	VOLTAGE READING
Primary Zone and Secondary Zone Open Contacts; Loop Cut or Open	Infinite Ohms	5.24 - 8.25 V
Secondary Zone Open Contact, Primary Zone Normal	1500 Ohms	4.24 - 5.23 V
Primary Zone Open Contact, Secondary Zone Normal	825 Ohms	3.24 - 4.23 V
Primary Zone and Secondary Zone Normal	825 Ohms in parallel with 1500 Ohms = 532 Ohms	2.00 - 3.23 V
Primary Zone and Secondary Zone Shorted	0 Ohms	0 - 1.99 V

Table 1 "2 in 1" Zoning™ Troubleshooting Chart

Conventional Methods of Wiring

Class 'B' End-Of-Line Resistor Supervised Zones

A Class 'B' zone must be supervised with a 1500 Ohm 1/2 Watt end-of-line resistor (P/N CR854). This resistor should be installed in series at the furthest point from the control. This configuration must be used whenever both Form A and Form B devices are connected and provides a high degree of protection against compromise or tampering. The control monitors the voltage level across the Primary zone and uses the Primary zone voltage levels in Table 1 to determine whether the zone is normal, open, or shorted. The operation of a zone is programmable (see Installer Level Programming). **Maximum total loop wire and contact resistance (not including EOLs) must not exceed 100 Ohms for the loop to function properly.** The 1500 Ohm EOL resistor is optional for Form A connections but is required for Form B.

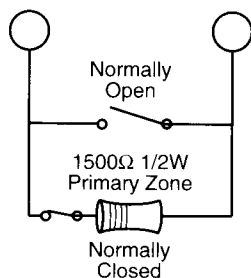


Figure 4 Conventional Zone Wiring Method

NOTE

For UL Listed systems, EOL Supervision is required.

Non-Supervised Closed Circuit Loop (No EOL Resistor Supervision)

The EOL resistor is not required on Burglar zones. A conventional closed circuit loop may be connected directly to a primary zone and the zone will have either a short or an open condition. See Installer Level Programming for programming an unsupervised zone. Fire zones may not be installed as unsupervised. **Only Burglar defined zones may be wired non-supervised. "2 in 1" Zoning™ is not allowed.**

Wireless Devices

The ZX200/ZX210 provides an option for including Wireless (or RF) Devices. The RF Devices may consist of RF Zone Devices (Universals, Door Contacts, Glassbreaks, PIRs and Smoke Detectors) and RF User Devices (Handhelds). These RF Devices require that an RF Gateway be attached to the system. The ZX200/ZX210 is compatible with either a model 4710 or 4720 RF Gateway. If a 4720 RF Gateway is used, it must be set to address '1'. Refer to the RF Gateway instructions for address selection.

Mount the RF Gateway as described in the RF Gateway instructions. Wire the local data bus to the terminals: +12V - RED; DATA A - GREEN; DATA B - WHITE; NEG - BLACK. Set Address switch. Reinstall the cover.

Each of the eight zones on the ZX200/ZX210 may be programmed to be wireless (see Installer Level

Programming - Zone Definitions). If a zone is programmed to be wireless, then its hardwire connection is ignored and the zone's status is retrieved from the RF Gateway.

Up to eight RF Zone Devices and six RF User Devices may be used (see Installer Level Programming - Programming RF Data Into the RF Gateway). An RF Zone must be mapped to a zone by programming. An RF User Device must be mapped to a valid user passcode by programming.

RF Zone Devices should be temporarily mounted in their desired locations until they have been tested with the Control Panel. These devices may need to be re-oriented or moved to achieve optimal reception. After testing has been completed, the RF Zone Devices may be permanently mounted.

Control Station Addressing and Supervision

All Control Stations are shipped from the factory as Control Station #1 and supervised. They may be set to other addresses and to unsupervised as described below.

A supervised Control Station is reported as missing when the system fails to get any response from it. In order to maintain supervision, each supervised Control Station must have its own unique address.

An unsupervised Control Station can be removed from the system without the system detecting that it is missing. The advantage of an unsupervised Control Station is that a system can have as many Control Stations as the power supply can support. By adding additional power supplies, like the HCP-12SUL, Control Stations may be added up to a total of 18 bus devices on the system. For UL listed systems, unsupervised Control Stations are **not** allowed.

SSD, LCD, and VFD Control Stations

These Control Stations have a four position DIP switch on the circuit board to set the address and supervision. To change the Control Station to unsupervised, move DIP switch 4 to the ON position. To change the address, the DIP switch setting must be positioned according to Figure 5.

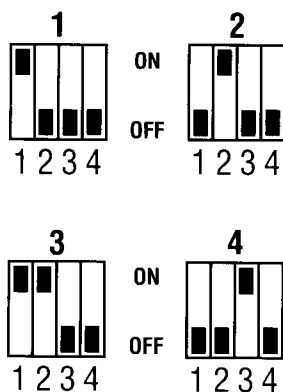


Figure 5 Control Station DIP Switch Settings

NOTE

When unsupervised Control Stations are used, **ALL** unsupervised LED Control Stations **must be** addressed as 1 or 2, **ALL** unsupervised SSD, LCD, and VFD Control Stations **must be** addressed as 3 or 4.

LED Control Stations

These Control Stations have two jumpers on the circuit board to set the address and supervision. To change the address of the Control Station #1 to Control Station #2, remove JP2 (see Figure 6). To change a Control Station to unsupervised, remove JP1 (see Figure 6).

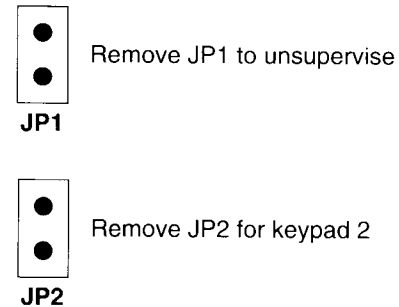


Figure 6 LED Control Station Jumpers

Control Station Troubleshooting

If a Control Station is incorrectly wired, it will not accept keystroke entries. The following symptoms may appear:

SYMPTOM	CONDITION
No Control Station LED's or display	Black or Red Wire removed or cut
No response from key presses	Green Wire removed or cut
LED's flash and may display "No Communication From Control" code	White Wire removed or cut
LED's flash and may display "No Communication From Control" code	Green/White Wires reversed
LED's flash and may display "No Communication From Control" code	Green & White Wires shorted together

The nominal voltage at the control should measure as follows:

TERMINAL	VOLTAGE
from Common Negative to GRN DATA	~ 8.7 VDC
from Common Negative to WHT DATA	~ 3.5 VDC
from Common Negative to KP+12V	~13.8 VDC

12 VDC Outputs

The control is supplied with one keypad power output, one auxiliary power output, one bell output, and one programmable (PGO1) low current output. (See Figure 1). The low current output on the control can supply 10 mA @ 3VDC.

Additional outputs can be added with the ZXODM Output Driver Module. The module receives its data from the local data bus and provides ten additional programmable outputs. The ODM outputs provide +12 VDC on activation and must be limited to 40 mA of current draw.

The ODM must be addressed as ODM1. The ODM comes defaulted from the factory as ODM1. You may use multiple ODMs provided that power restrictions are followed. Connect the ODM to the control as shown in Figure 7. Use the twelve (12) wire cable provided with the ODM for the outputs as shown.

Output conditions can be programmed as one of many conditions. Refer to Installer Level Programming for programming information and restrictions.

J3 CONNECTIONS	
OUTPUT	WIRE COLOR
1	Tan
2	Pink
3	Gray
4	Violet
5	Yellow
6	Orange
7	Blue
8	Dk Brown
9	Green
10	White
NEG	Black
12V*	Red

DATA BUS CONNECTION	
RED	Connect to Control KP+12V
GREEN	Connect to Control GREEN
WHITE	Connect to Control WHITE
BLACK	Connect to Control NEG

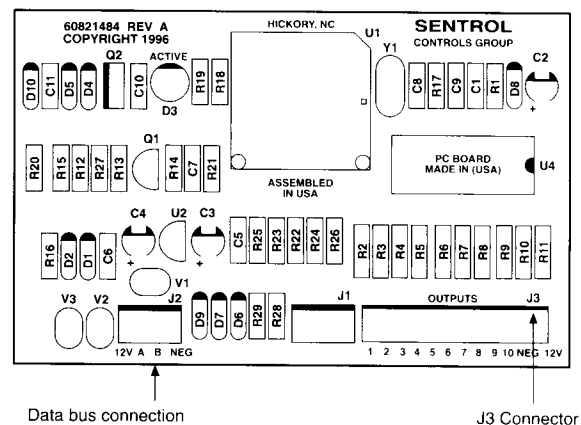


Figure 7 ZXODM Wiring Diagram

NOTE

The outputs on this module have limited transient immunity and should not leave the enclosure. Mount module via the double-sided tape provided on the back of the ODM to the inside of the control enclosure.

Outputs may be wired to indicator devices or relay module triggers (like the MPI-206) provided the 40 mA current draw condition is not exceeded. Figure 8 shows a wiring example for a relay to ODM 1 Output 2. Figure 9 shows a wiring example of ODM 1 Output 1 to trigger an LED.

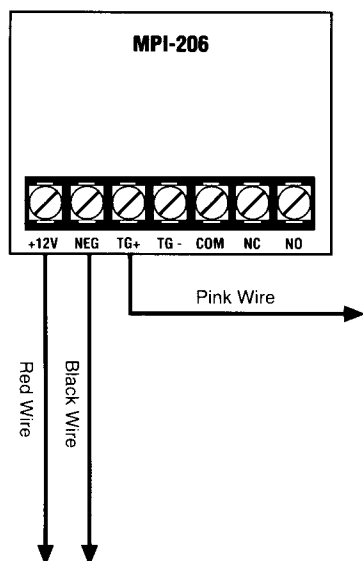


Figure 8 Output Connected to a Relay

NOTE

Do not exceed 250 mA of total current through the Red (+12V) and Black wires (Negative) of the twelve wire cable. Add 18 gauge wire from the appropriate control panel terminals for total current drains in excess of 250 mA.

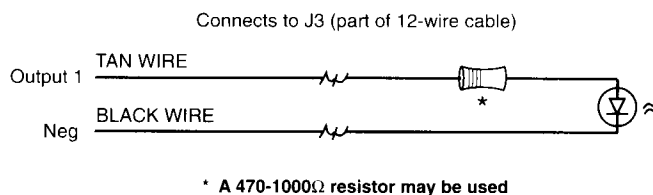


Figure 9 Output Connected to an LED

NOTE

The LED and current limiting resistor shown in Figure 9 are not supplied.

Direct Connection to a PC for Remote Programming

This system requires that a line voltage be provided in order for the telephone interface to operate. This is normally provided via the telephone lines. When performing a direct connection between the system and a modem on a PC, the line voltage must be

provided from the control panel's terminal strip. Connect a cable as shown below. This cable may be purchased (P/N 60800089 - ZX200 PC Direct Connection Cable) from Sentrol.

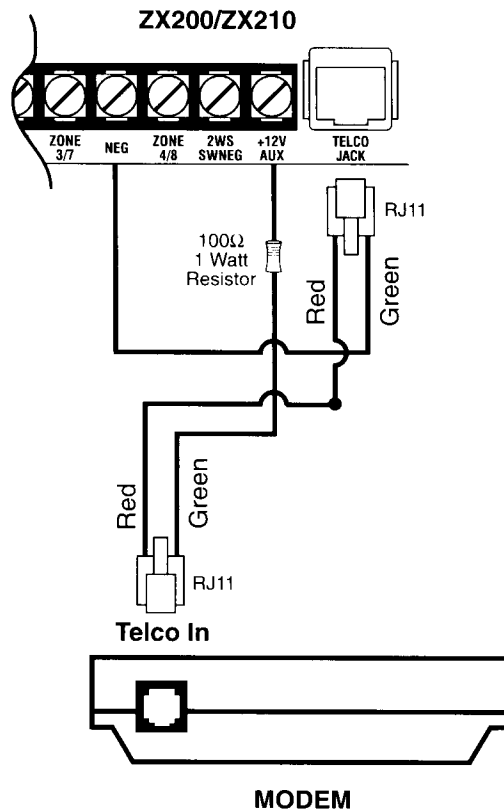


Figure 10 Direct Connection to a PC

Operating the System

Powering Up With The Control Station

The control comes from the manufacturer with a factory set (default) program. The factory default code for user passcode No. 1 is "1234". This passcode is authorized to perform all user level functions. The default setting for the installer passcode is "9632". The installer passcode performs the installer level functions. For purposes of discussion, the installer and the end user are both considered system users, but have different levels of authorization. (See Installer Level Programming - User Authority Levels).

When a Control Station is powered-up, it briefly displays a test pattern followed by its data bus address. The Control Station will then begin displaying information from the control panel. During the first fifteen seconds after power-up, the control panel will instruct the Control Station to display the panel's software revision and flash the AWAY, STAY, NIGHT, READY, and TROUBLE LEDs.

Installer Arming and Disarming

The installer passcode may be used to arm the system. It may be used to disarm, but only if the system was armed by the installer passcode. It may be used to silence alarms and to silence trouble conditions. When it is used to silence a Burglar alarm, it will not disarm or cancel the alarm unless the system was armed by the installer passcode. For a detailed description of arming and disarming procedures, see the appropriate User Guide.

Installer On Premises

The first time that an Installer level passcode is used to perform a function, an "Installer On Premises" event is logged to be reported. Before leaving the premises, press and hold the CLEAR key for three seconds and an "Installer Off Premises" event will be logged to be reported.

Trouble Conditions

The possible trouble conditions are:

AC Power Failure	Zone Trouble
Low Battery	Fire Trouble
Memory Error	Silenced Fire Alarm
Communication Failure	Zone Missing
Missing Keypad	RF Point Not Reporting
RF Jamming	Smoke Trouble
Bell Fault	RF Point Tamper
Telco Line Fault	RF Point Low Battery

Testing

The ZX200/ZX210 provides the following testing capabilities: Walk Test, Battery Test, Bell Test, Communicator Test and Keypad Test. Refer to the appropriate User Guide for instructions on performing these tests. Always ensure that a Walk Test is performed on a new installation.

Programming the Control

Introduction

The control may be programmed locally from any LED, SSD, VFD, or LCD Control Station. It may also be programmed using the remote programming software, RPM/2 Pro.

Local Programming

There are two levels of Control Station programming: User level and Installer level.

User Level

User level programming provides the ability to add, change, or delete user passcodes. A user passcode with authority level 1 is required to access the user level programming (see Installer Level Programming - User Authority Levels). See the appropriate User Guide for more information regarding user level programming.

Installer Level

Installer level programming allows total customization of the control's operating features. A user passcode with authority level 5 is required to access installer level programming. Anyone attempting installer level programming should be familiar with the contents of this publication prior to programming the control panel.

NOTE

If the installer code is lost or forgotten, it may be impossible to program the control locally.

If remote programming is used, it is possible to "lock-out" or prevent takeover of a control by another installation company by selecting "Lockout Local Installer Programming." This prevents the installer passcode from gaining access through local Control Station programming. The installer passcode may still be used for the non-programming functions. (See Installer Level Programming - User Authority Levels). **Lockout Local Prog** does not affect remote programming.

Remote Programming (RPM/2 Pro)

The entire control database can be programmed remotely through a computer and modem using a remote program called RPM/2 Pro. To use RPM/2 Pro with the ZX200/ZX210, you will need RPM2PRO and a panel support module for the ZX200/ZX210 (PRO200). Remote programming utilizes extensive error checking and security safeguards, including data encryption, password log-on, panel IDs and agency codes.

Panel IDs are used by RPM/2 Pro to identify a control during a remote programming session. The agency code is used by the control to identify the remote programmer during initialization of a remote programming session. These codes are loaded into the control by RPM/2 Pro during the first RPM/2 Pro session. They cannot be viewed by local programming.

The panel ID and agency code work together to prevent illegal takeover by another computer with RPM/2 Pro. Once the agency code is programmed, the control also prevents local changing of account codes and telephone numbers and disables the RESTORE DEFAULTS function.

LED Control Station Programming

When in programming mode, an LED Control Station will display all values in hexadecimal (see below).

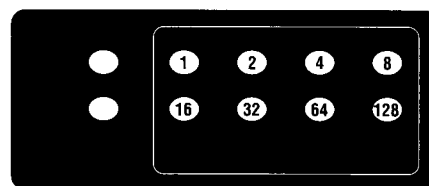


Figure 11 LED Control Station Programming

The hexadecimal value for each zone is displayed inside the LED window above. See example on next page for programming and reading the hexadecimal value.

EXAMPLE:

Upon entering programming mode, the AWAY, STAY, and NIGHT keys will flash and all LEDs will be off. The LED display will show the location number as it is keyed in. After the ENTER key is pressed, the LEDs will display the current value programmed at that location. As you enter in the new value to be programmed, the LEDs will display that value in hexadecimal. To view the location you are at, press and hold the OFF CANCEL key.

If for example, you wish to program location 1 (Away Exit Delay Time) for 30 seconds (default = 60 seconds), enter 1 for location 1 while in programming mode. LED 1 (hexadecimal value = 1) will light until the ENTER key is pressed, then the current value will be displayed. At default, the value is 60. The LEDs with the corresponding hexadecimal value for 60 will be lit:

LED 3 4 5 6
Hex value 4 + 8 + 16 + 32 = 60

Enter 30 to change the programmed value. The LEDs with the corresponding hexadecimal value for 30 will be lit:

LED 2 3 4 5
Hex value 2 + 4 + 8 + 16 = 30

Press the OFF CANCEL key and LED 1 for Location 1 will momentarily light.

Programming Zone Names

Zone names may be programmed on LCD and VFD Control Stations without going into Installer Level Programming. To Program Zone Names:

1. Press the CLEAR and ENTER keys at the same time. The Control Station will prompt you to enter the zone number that you wish to program/change.
2. Enter a number corresponding to the Zone ID and press ENTER. Once a valid Zone ID is selected, the control will display the Zone ID and the current Zone Name with the cursor on the first character. Press the key associated with each character. Each keypress will change the display to the next character listed for that key. A maximum of 12 letters (includes spaces) may be used for each zone name. The characters available for editing the Zone Name are as follows:

Key #1 0 1 2 3 4 5 6 7 8 9 : ; < = > ? @

Key #2 A B C

Key #3 D E F

Key #4 G H I

Key #5 J K L

Key #6 M N O

Key #7 P Q R S

Key #8 T U V

Key #9 W X Y Z [¥] ^ _

Key #0 space ! " # \$ % & ' * + , - . /

'A' Key Used to move the cursor back one position

'C' Key Used to move the cursor forward one position

3. If the ENTER or CLEAR key is pressed and no changes have been made, the Control Station will return to the Zone ID prompt. If the CLEAR key is pressed and changes have been made, all changes will be cleared and the Control Station will return to displaying the original Zone Name. To save any changes made to the Zone Name, press the ENTER key. The Control Station will return to the Zone ID prompt. Press the CLEAR key to return to the Ready mode.

Installer Level Programming

Menu Options

This section will describe Installer Level Programming as performed locally from a Control Station.

To enter Installer Level Programming, press the PROGRAM (9) key and enter the installer passcode (default = 9632). The Control Station will then prompt you to select a programming option from 1 to 9 where:

- 1 = REMOTE CONNECT
- 2 = RESERVED FOR FUTURE USE
- 3 = PROGRAM FUNCTION MAP
- 4 = RESERVED FOR FUTURE USE
- 5 = PROGRAM USER CODES
- 6 = RESTORE FACTORY DEFAULTS
- 7 = SET HOURS UNTIL NEXT COMM TEST
- 8 = CALL RPM
- 9 = PROGRAM RF DATA

Remote Connect

Press the '9' key and enter the installer passcode to enter programming mode. Press the '1' key to perform a Remote Connect. The control will seize the telephone line and the Control Station will return to idle. This feature is used to manually connect the control to a remote programming computer.

Program Function Map

Press the '9' key and enter the installer passcode to enter programming mode. Press the '3' key to enter Program Function Map mode. The Control Station will prompt you for a location to be programmed. See Installer Level Programming - Function Map for location numbers, definitions, and valid entries for the locations. From this mode, you may program the entire Function Map except for User Codes. (See Installer Level Programming - Program User Codes).

From the LOCATION prompt, enter digits for the desired location number. The digits entered will be displayed. If more than three digits are entered, the first digit entered will be discarded. If you make a mistake, you may press the CLEAR key to clear out

the location and start over. When the desired location number is displayed, press the ENTER key. The Control Station will then display the current value programmed at that location.

Entering a New Value at a Location

While the Control Station is displaying the value at a location, you can enter digits to change the value at that location. The new value is displayed as you enter the digits. Other keys work as follows:

- ENTER**
 - if pressed after new digits are entered, the displayed value is stored at the current location.
 - if pressed with no new digits entered, then it will go to the next location.
- 'C' Key**
 - if pressed, it will go back one location and ignore any digits entered.
- CLEAR**
 - if pressed after new digits are entered, the new digits will be erased and the original value will be re-displayed at the location.
 - if pressed with no new digits entered, then it will return to the LOCATION prompt.
- OFF CANCEL** - on an LED or SSD Control Station, it will momentarily display the present location number.

NOTE

When you press the ENTER key to store the new value, the system will store the value as entered. It is the responsibility of the programmer to enter a value within the specified range. If the value entered is out of the range, then undesirable operation may occur.

Programming the Account Code, Report Code, and Telephone Number Digits

When the location being programmed is an account code, report code, or telephone number digit (see Installer Level Programming - Telephone Numbers thru Other Event Code Digits), the value will be displayed as an "H" followed by a single digit. The "H" indicates that this location is a Hexadecimal field. The valid entries for these locations are "0" through "F", where A - F correspond to 10 - 15 respectively.

To program a digit, enter digits as normal. To enter an A - F, enter a '1' followed by a '0' through '5'.

As in programming normal fields, if too many digits are entered, the first digit entered will be discarded. The ENTER, OFF CANCEL, 'C', and CLEAR keys will work the same as described above.

Additional Programming Notes

To exit out of Edit Function Map mode and return the Control Station to the idle state, press the CLEAR key from the LOCATION prompt. (You may need to press the CLEAR key several times to get to the LOCATION prompt). When the installer passcode is used for the first time, an "Installer On Premises" event is logged to be reported. Before leaving, the CLEAR key must be pressed and held for three (3) seconds in order for an "Installer Off Premises" event to be logged to be reported.

When programming the value at the last programming location, the Control Station will return to the LOCATION prompt if the ENTER key is pressed.

If the panel has been programmed from RPM/2 Pro and the Agency Code has been loaded into the panel, then the locations corresponding to the telephone numbers and account codes will not be programmable.

Program User Codes

The installer passcode has the authority to edit user passcodes locally if Lockout Local Installer Programming is disabled. The control may be programmed with up to 9 user passcodes. See Installer Level Programming - User Authority Levels for instructions on setting the authority level for each passcode. To program or change a user passcode:

1. Press the '9' key and enter the installer passcode to enter programming mode.
2. Press the '5' key to Program User Codes. The Control Station will prompt you to enter the User Passcode ID that you wish to program/change.
3. Enter the ID number then press the ENTER key .
4. Enter the new four-digit passcode. The Control Station will beep twice and return to the User Passcode ID prompt.
5. Enter a new ID number or press the CLEAR key to return to the Ready mode.

To view an existing passcode, press the ENTER key after each digit is displayed. If the new passcode being entered is a duplicate of an existing one, the Control Station will sound an error tone and return to the first digit location so that you may try again.

If you wish to make a User ID passcode inoperable, enter "0,0,0,0" as the new four-digit passcode.

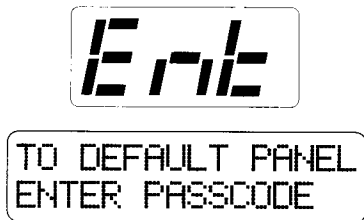
Restore Factory Defaults

This function provides a means to completely wipe out the panel's memory and restore it to a factory default state. If successfully completed, the panel will:

- default the entire Function Map (including User Passcodes and Zone Names)
- clear the Event Log
- clear all alarm, trouble and armed conditions
- not affect RF Data in the RF Gateway

If the panel has been programmed from RPM/2 Pro and the Agency Code has been loaded into the panel, then this function will be disabled.

Press the '9' key and enter the installer passcode to enter programming mode. Press the '6' key to enter Restore Factory Defaults mode. The Control Station will prompt you to re-enter the installer passcode for verification.



If it is entered correctly, the Control Station will go into a locked out state for a few seconds and then may display the No Communication condition and flash all LEDs before displaying the panel revision and returning to the Ready mode.

Hours Until Next Comm Test

The scheduling of Automatic Communications Tests requires programming the number of "Days Between Comm Tests" (see Installer Level Programming - Communicator Options). If "Days Between Comm Tests" is zero, then no automatic comm tests will occur. Otherwise, a comm test will occur on an interval determined by the "Days Between Comm Tests".

The time that an auto comm test occurs will be the same time on each comm test day. That time is automatically set via a random number whenever the system is powered-up. The time can also be adjusted by setting the "Hours Until Next Comm Test".

Press the '9' key and enter the installer passcode to enter programming mode. Press the '7' key to set the Hours Until Next Comm Test. The Control Station will display zero (0).

Enter a number between 1 and 255. If a mistake is made, press the CLEAR key to start over. If a number greater than 255 is entered, the first digit entered will be discarded. When the desired number of hours is displayed, press the ENTER key. The Control Station will return to idle. To exit out of this function without setting the number of hours, press the CLEAR key.

Call RPM

This option is not available at this time.

Program RF Data

In order for an RF Zone Device or RF User Device to be received by the RF Gateway, the address of the RF Device must be programmed into the RF Gateway. The ZX200/ZX210 can support up to eight RF Zones and six RF User Devices. The eight RF Zones are programmed into the RF Gateway at slots 1-8 corresponding to zones 1-8. The six RF User Devices are programmed into the RF Gateway at slots 9-14 in any order (there is no correlation between these slots and the Control Panel's configuration data).

After the RF Devices have been programmed into the RF Gateway, they must also be programmed in the Control Panel (see Installer Level Programming - Programming RF Devices Into the Control Panel).

Programming RF Zone Devices Into the RF Gateway

Press the '9' key and enter the installer passcode to enter programming mode. Press the '9' key to Program RF Data. The Control Station prompts you to select an RF Device to program.

Enter 1 thru 8 to select an RF Zone and press ENTER. The Control Station displays the eight digits that are currently programmed in the RF Gateway for that zone. The digits are displayed one at a time. For each digit, you may program a new value by pressing a digit key. The Control Station will automatically move to the next digit. To move to the next digit without changing the current digit, press the ENTER key.

The first digit to enter is the Supervision setting where:

- 0 = Unsupervised
- 1 = Reserved for future use
- 2 = Reserved for future use
- 3 = 4 Hours
- 4 = 24 Hours

The next seven digits to enter come directly off of a label on the RF Device.

If you make a mistake while entering the eight digits, press the CLEAR key and the Control Station returns to the first digit.

After the last digit is entered, the data is sent to the RF Gateway and is confirmed and the Control Station returns to the RF Device selection prompt. If the data is successfully loaded into the RF Gateway, the Control Station beeps twice. If the RF Gateway does not respond, the Control Station sounds an error tone and briefly displays an error message. Check the data bus connections to the RF Gateway. If the 8 digit number entered for the RF Zone is already stored in the RF Gateway for another zone, the Control Station sounds an error tone and briefly displays a message indicating the duplicate zone.

From the RF Device prompt, select another RF Zone Device or press the CLEAR key to exit.

Programming RF User Devices into the RF Gateway

Press the '9' key and enter the installer passcode to enter programming mode. Press the '9' key to Program RF Data. The Control Station prompts you to select an RF Device to program.

Enter 9 thru 14 to select an RF User Device and press ENTER. The Control Station displays the eight digits that are currently programmed in the RF Gateway for that device. The digits are displayed one at a time. For each digit, you may program a new value by pressing a digit key. The Control Stations will automatically move to the next digit. To move to the next digit with changing the current digit, press the ENTER key.

Enter '1' for the first digit.

The second digit to enter defines the operation of the key(s) on the RF User Device, where:

SEC DIGIT	KEY A	KEY B	KEY C	KEY D
1	AWAY	STAY	NIGHT	OFF/CANCEL
2	AWAY	STAY	ACCESS	OFF/CANCEL
3	AWAY	STAY	PANIC/HOLDUP	OFF/CANCEL
4	AWAY	STAY	AUX/MED	OFF/CANCEL
5	AWAY	STAY	NOT USED	OFF/CANCEL
6	AWAY	PANIC/HOLDUP	NOT USED	OFF/CANCEL
7	STAY	PANIC/HOLDUP	NOT USED	OFF/CANCEL
8	STAY	PANIC/HOLDUP	AUX/MED	OFF/CANCEL
9	AWAY	NOT USED	NOT USED	OFF/CANCEL

The next six digits to enter come directly off of a label on the RF User Device.

If you make a mistake while entering the eight digits, press the CLEAR key and the Control Station returns to the first digit.

After the last digit is entered, the data is sent to the RF Gateway and is confirmed and the Control Station returns to the RF Device selection prompt. If the data is successfully loaded into the RF Gateway, the Control Station beeps twice. If the RF Gateway does not respond, the Control Station sounds an error tone and briefly displays an error message. Check the data bus connections to the RF Gateway. If the 8 digit number entered for the RF User Device is already stored in the RF Gateway for another device, the Control Station sounds an error tone and briefly displays a message indicating the duplicate device.

From the RF Device prompt, select another RF User Device or press the CLEAR key to exit.

Programming RF Devices into the Control Panel

The programming options for the Control Panel's Function Map are described in the next section. When RF Devices are used in an installation, be sure to consider the following:

For an RF Zone Device, the zone data must be programmed for the selected zone (see Installer Level Programming - Zone Definitions). The Zone Type and Burglar Zone Response locations are programmed as usual. The Zone Option location must be set to one of the two Wireless Zone options and the Zone Supervision location doesn't need to be programmed because it is ignored for Wireless Zones.

For an RF User Device, a user passcode must be created (see Installer Level Programming - Program User Codes) that consists of the last four digits of the RF Device's address. An appropriate authority level must also be programmed for that user (see Installer Level Programming - User Authority Levels).

NOTE

Once all the above steps are performed, the Control Station should sound a Trouble tone. The Control Station will display "Trouble-RF Point Not Reporting" for each RF Zone. These conditions are cleared as a proper transmission is received from each wireless Zone Device.

If the Trouble condition does not clear, then there is an error in the programming of the Gateway or control or the RF Gateway is not responding to the RF signal from the sensor.

Function Map

To program the Function Map, press the PROGRAM (9) key, enter the installer passcode, and press the '3' key to select the Program Function Map option. The Control Station will prompt for a location to be programmed. All function map locations can be programmed except for user codes.

NOTE

When entering values into the programming locations, it is possible to enter values which exceed the valid range of the programmed options. It is the responsibility of the installer to ensure the correct value of any entry programmed into the control. The valid entries for each location are detailed in the following sections.

System Times

The following table refers to programming locations 1 through 15.

Note: Default value shown in brackets.

LOC	FEATURE	VALID RANGE & DEFAULT	DESCRIPTION
1	AWAY Exit Delay Time	0 to 255 seconds [60]	Time to exit all burglar zones when the system is armed in the AWAY mode. (See Inst. Level Prog. - Prog. Notes, Note 1).
2	STAY & NIGHT Exit Delay Time	0 to 255 seconds [60]	Time (in seconds) to exit all burglar zones when the system is armed in the STAY or NIGHT mode.
3	Entry Delay Time 1	0 to 255 seconds [20]	Time allowed to enter the premises and disarm the burglar zones defined as Delay #1 before an alarm occurs.
4	Entry Delay Time 2	0 to 255 seconds [40]	Time allowed to enter the premises and disarm the burglar zones defined as Delay #2 before an alarm occurs.
5	Fire Alarm Cutoff Time	0 to 255 seconds [0]	Amount of time the fire alarm bell will sound after a fire alarm has occurred. If the value is set to 0, the bell will not turn off until it is manually reset.
6	Other Alarm Cutoff Time	0 to 255 seconds [10]	Amount of time the alarm bell will sound for alarms other than fire. If the value is set to 0, the bell will ring indefinitely until it is manually reset.
7	Access Time	0 to 255 seconds [5]	Time an access device (i.e.: door strike) will remain activated when the access function is performed. If the value is set to 0, the access device will toggle between ON or OFF when activated.
8	Delay Before Dial Time	0 to 255 seconds [0]	Time that a user has after a burglar, holdup, or auxiliary alarm from a zone occurs to silence the alarm before it is reported to the central station. (See Inst. Level Prog. - Prog. Notes, Note 2).
9	Fire Delay Before Dial Time	0 to 255 seconds [0]	Time that a user has after a fire alarm from a zone occurs to silence the alarm before it is reported to the Central Station. (See Inst. Level Prog. - Prog. Notes, Note 3).
10	AC Failure Delay	0 to 255 seconds [30]	Time that AC power is down before the condition is reported to the Central Station. If time is set with an odd number, it will be silent. If time is set with an even number, it will be audible at the keypad.
11	Burglar Audible Lockout	0 to 15 Alarms [0]	The number of times that a bell output may be activated during an armed cycle. Resets with disarm. If the value is set to 0, no audible lockout will occur.
12	Swinger Shunt	0 to 15 Violations [0]	The number of violations that may occur from an armed burglar zone before that zone is automatically bypassed. If the value is set to 0, no shunt will occur to the zone.
13	Passcode Entry Lockout	0 to 15 attempts [8]	The number of attempts an incorrect passcode may be entered at a Control Station before lockout occurs. If the value is set to 0, there will be no limit to the number of incorrect passcodes that may be entered.
14	Rings Until Answer	0 to 15 Rings [5]	The number of rings that occur before the panel automatically answers the telephone for operation with RPM/2 Pro. If the value is set to 0, automatic answering is disabled, but manual connection may still be used. If Remote Programming is not enabled, then the Rings Until Answer count is ignored and the panel never answers.
15	Second Call Bypass Time	0 to 255 seconds [0]	The amount of time for the answering machine bypass time window. This allows the remote programmer to bypass an answering machine by making two calls to the premises. The first call must ring three times or less and not be answered. The answering machine bypass time window starts ten seconds after the last ring of the first call. If the first ring of the second call occurs within the answering machine bypass time window, the panel answers the second call on the first ring. Remote Programming must be enabled and Rings Until Answer count must be non-zero.

System Options

The following table refers to programming locations 16 through 33.

Note: **Bold Text** is the default value.

LOC	FEATURE	VALID RANGE & DEFAULT	DESCRIPTION
16	Holdup Alarms	0 = No keypad sounder or bell output (invisible) 1 = Keypad sounder only 2 = Keypad sounder and bell output	A Holdup zone or a "B" key is in alarm.
17	Auxiliary Alarms	0 = No keypad sounder or bell output (visible) 1 = Keypad sounder only 2 = Keypad sounder and bell output	An Auxiliary zone or a 'C' key is in alarm.
18	Burglar Alarms	0 = No keypad sounder or bell output (visible) 1 = Keypad sounder only 2 = Keypad sounder and bell output	A Burglar zone is in alarm.
19	Enable Bypassing	0 = No 1 = Yes	Enables selective bypassing of any zone that is defined as bypassable.
20	Enable Force Arming	0 = No 1 = Yes	Enables the system to arm regardless if all zones are secured. Faulted zones are temporarily bypassed and return to normal operation if the fault is corrected. Only zones that are defined as bypassable may be force armed. (See Inst. Level Prog. - Prog. Notes, Note 4).
21	Enable Two-Button Arming	0 = No 1 = Yes	Enables quick arming by pressing AWAY, STAY, or NIGHT followed by the ENTER key. This feature cannot be used with force-arming.
22	Enable Double-Press Arming	0 = No 1 = Yes	Enables Quick arming by pressing AWAY, STAY, or NIGHT twice. This feature cannot be used with force-arming.
23	Report Openings only after Alarms	0 = No 1 = Yes	Enables opening reports to be reported only if they occur after an alarm.
24	Enable Remote Programming	0 = No 1 = Yes	Allows the control to be programmed remotely with RPM/2 Pro software.
25	Programming at Power-Up	0 = No 1 = Yes	Enables you to quickly enter programming mode upon power-up by pressing the 9 key and entering 9999 within the first 60 seconds.
26	Lockout Local Installer Programming	0 = No 1 = Yes	This is provided for anti-takeover protection. If it is enabled, the installer passcode is limited. (See Inst. Level Prog. - User Authority Levels). A user may still be able to perform user level programming and RPM/2 Pro will be fully operational. Do not enable this unless an RPM/2 Pro account has been established for the control.
27	Fire Bell	0 = Steady Tone 1 = Temporal Tone	Determines the operation of the Bell Output during a Fire alarm.
28	Burglar Bell	0 = Steady Tone 1 = Pulsed Tone	Determines the operation of the Bell Output during a Burglar alarm.
29	Holdup Bell	0 = Steady Tone 1 = Pulsed Tone	Determines the operation of the Bell Output during a Holdup alarm.
30	Auxiliary Bell	0 = Steady Tone 1 = Pulsed Tone	Determines the operation of the Bell Output during an Auxiliary alarm.
31	Bell Test On AWAY Arm	0 = No 1 = Yes	If enabled, then the Bell Output(s) will be activated for two seconds when armed in the AWAY mode. (See Inst. Level Prog.-Prog. Notes, Note 9).
32	Display Bypassed Armed	0 = No 1 = Yes	When armed in STAY or NIGHT mode with bypassed or force-armed zones, the Control Station(s) will indicate that there are zones that are bypassed.
33	Use Two-Wire Smoke	0 = No 1 = Yes	Determines whether Zone 8 on the panel is read from terminal 13 or 14. If two-wire smoke is used, then the zone supervision for Zone 8 (location 69) should be set to 5 (Alarm on Short - Trouble on Open).

Keypad Options

The following table refers to programming locations 34 through 37.

Note: **Bold Text** is the default value.

LOC	FEATURE	VALID RANGE & DEFAULT	DESCRIPTION
34	Keypad #1	0 = Panic Keys Disabled 1 = Panic Keys Enabled 2 = Panic Keys Disabled with Silent Entry, Exit & Trouble 3 = Panic Keys Enabled with Silent Entry, Exit & Trouble	Defines if the 'A'-Fire key, 'B'-Police key, and 'C'-Medical/Emergency keys are to be enabled at this keypad. Defines if the exit alert, the entry alert, and the trouble conditions are silent at this keypad.
35	Keypad #2	0 = Panic Keys Disabled 1 = Panic Keys Enabled 2 = Panic Keys Disabled with Silent Entry, Exit & Trouble 3 = Panic Keys Enabled with Silent Entry, Exit & Trouble	Defines if the 'A'-Fire key, 'B'-Police key, and 'C'-Medical/Emergency keys are to be enabled at this keypad. Defines if the exit alert, the entry alert, and the trouble conditions are silent at this keypad.
36	Keypad #3	0 = Panic Keys Disabled 1 = Panic Keys Enabled 2 = Panic Keys Disabled with Silent Entry, Exit & Trouble 3 = Panic Keys Enabled with Silent Entry, Exit & Trouble	Defines if the 'A'-Fire key, 'B'-Police key, and 'C'-Medical/Emergency keys are to be enabled at this keypad. Defines if the exit alert, the entry alert, and the trouble conditions are silent at this keypad.
37	Keypad #4	0 = Panic Keys Disabled 1 = Panic Keys Enabled 2 = Panic Keys Disabled with Silent Entry, Exit & Trouble 3 = Panic Keys Enabled with Silent Entry, Exit & Trouble	Defines if the 'A'-Fire key, 'B'-Police key, and 'C'-Medical/Emergency keys are to be enabled at this keypad. Defines if the exit alert, the entry alert, and the trouble conditions are silent at this keypad.

Zone Definitions

The following table refers to programming locations 38 through 69.

LOC	FEATURE	DEFAULT	VALID RANGE	DESCRIPTION	
Zone Type					
38	Zone 1	[1]	0 = Not Used	Critical Condition Monitor (CCM), no local display	
42	Zone 2	[1]	1 = Burglar		
46	Zone 3	[1]	2 = 24 Hour Fire		
50	Zone 4	[1]	3 = 24 hour Holdup		
54	Zone 5	[1]	4 = 24 Hour Auxiliary		
58	Zone 6	[1]	5 = Momentary Keyswitch (Arm AWAY/Disarm)		
62	Zone 7	[1]	6 = 24 Hour Communicator (CCM)		
66	Zone 8	[1]	7 = Momentary Smoke Reset		
Burglar Zone Response (ignored unless the zone type is 1 (Burglar))					
0 = Instant, Arm AWAY					
1 = Delay 1, Arm AWAY					
2 = Delay 2, Arm AWAY					
3 = Follower, Arm AWAY					
4 = Instant, Arm AWAY & STAY					
39	Zone 1	[13]	5 = Delay 1, Arm AWAY & STAY	Determines when a Burglar zone is armed and how it responds (See Inst. Level Prog. - Prog. Notes, Note 5).	
43	Zone 2	[3]	6 = Delay 2, Arm AWAY & STAY		
47	Zone 3	[3]	7 = Follower, Arm AWAY & STAY		
51	Zone 4	[12]	8 = Instant, Arm AWAY & NIGHT		
55	Zone 5	[12]	9 = Delay 1, Arm AWAY & NIGHT		
59	Zone 6	[12]	10 = Delay 2, Arm AWAY & NIGHT		
63	Zone 7	[12]	11 = Follower, Arm AWAY & NIGHT		
67	Zone 8	[12]	12 = Instant, Arm AWAY, STAY & NIGHT		
13 = Delay 1, Arm AWAY, STAY & NIGHT					
14 = Delay 2, Arm AWAY, STAY & NIGHT					
15 = Follower, Arm AWAY, STAY & NIGHT					
Zone Options					
40	Zone 1	[1]	0 = Hardwire Zone, Not Bypassable	Determines whether the zone is onboard or wireless, if the zone may be bypassed or force-armed (See Inst. Level Prog. - Prog. Notes, Note 6), and if the zone is a fast zone. A Fast zone on zones 1 - 4 has a loop response time of 80 msec. A Fast zone on zones 5 - 8 has a loop response time of 20 msec.	
44	Zone 2	[1]	1 = Hardwire Zone, Bypassable		
48	Zone 3	[1]	2 = Wireless Zone, Not Bypassable		
52	Zone 4	[1]	3 = Wireless Zone, Bypassable		
56	Zone 5	[1]	4 = Hardwire Fast Zone, Not Bypassable		
60	Zone 6	[1]	5 = Hardwire Fast Zone, Bypassable		
64	Zone 7	[1]			
68	Zone 8	[1]			
Zone Supervision					
41	Zone 1	[2]	0 = Alarm on Open - No Trouble (EOL optional)	Determines how opens and shorts are handled.	
45	Zone 2	[2]	1 = Alarm on Short - No Trouble (EOL optional)		
49	Zone 3	[2]	2 = Alarm on Open or Short - No Trouble (with EOL)		
53	Zone 4	[2]	3 = Alarm on Open or Short		
57	Zone 5	[2]	4 = Alarm on Open - Trouble on Short		
61	Zone 6	[2]	5 = Alarm on Short - Trouble on Open		
65	Zone 7	[2]	6 = Alarm on Open or Short - Trouble on Open		
69	Zone 8	[2]	Disarmed (Burglar Only)		

User Authority Levels

The ZX200/ZX210 allows for nine (9) User ID passcodes. Each user is assigned a four digit passcode with a level of authority that determines the level of activity the user can perform on the control. The table below shows the six different authority levels and the capabilities that are assigned to each

level. Any of the nine (9) users may be assigned the Installer Authority Level. Users 1 through 8 are defaulted to Authority Level 1. User 9 is defaulted to Authority Level 5. The passcodes associated with each user may be programmed (See Installer Level Programming - Program User Codes).

CAPABILITIES	AUTHORITY LEVEL					
	0 Disabled	1 Master	2 Duress	3 Maid	4 User On Premise	5 Installer
Access from Keypad		●		●		●
Chime Enable/Disable		●		●	●	●
Arm (AWAY, STAY, NIGHT)		●		●	●	●
Change Arming Level		●		●	●	●
View Alarm Memory		●		●	●	●
Remote Connect		●				●
Silence/Cancel Alarm		●				
Silence Trouble		●		●	●	●
Disarm		●				
Reset Smoke Power		●		●	●	●
Bypass Zones		●			●	●
Force-Arm		●			●	●
Walk Test		●				●
Communication Test		●				●
Bell Test		●				●
Battery Test		●				●
Keypad Test		●				●
Program Function Map						●●
Default Function Map						●●
Adjust Hours Until Next Auto Comm Test						●
Program User Codes		●				●●
Disarm if Armed by a Level 3 User Passcode				●		●
Silence/Cancel Alarm if not Armed or if Armed by a Level 3 Authority else Silence Bell without Disarm				●		●
Access from Keypad with User on Premises Report					●	
Silence/Cancel Alarm with User on Premises Report					●	
Disarm with User on Premises Report					●+	
Access from Keypad with Duress			●			
Arm (AWAY, STAY, NIGHT) with Duress			●			
Change Arming Level with Duress			●			
Force-Arm with Duress			●			
Silence/Cancel Alarm with Duress			●			
Disarm with Duress			●+			
Initiate Call to Remote Programmer						●
Program RF Data						●

●● Disabled if Lockout Local Installer Programming is enabled.

⊕ The OFF CANCEL key followed by a Duress or User On Premises passcode will always provide a "Duress" or "User On Premises" report regardless of whether the system was armed.

The following table refers to programming locations 70 through 78.

LOC	USER NUMBER	DEFAULT AUTHORITY LEVEL
70	1	1
71	2	1
72	3	1
73	4	1
74	5	1
75	6	1
76	7	1
77	8	1
78	9	5

Bell Output Activation

A Fire Alarm, a Burglar Alarm, a Holdup Alarm, or an Auxiliary Alarm may activate the Bell Output.

Each alarm type is programmable for its Bell Output operation (see Installer Level Programming - System Options). If more than one alarm type is active at the same time, the Bell Output will annunciate the highest priority alarm. The priority order is Fire, Auxiliary, Burglar, and Holdup.

Programmable Outputs

The programmable outputs will be activated according to the Output Condition listed. The following table refers to programming locations 79 through 89.

LOC	OUTPUT	DEFAULT & OUTPUT CONDITION
	Control	
79	PGO1	[10] Violation
	ODM	
80	Output 01	[6] Burglar Alarm Indicator
81	Output 02	[1] Fire Alarm Indicator
82	Output 03	[7] Holdup Alarm Indicator
83	Output 04	[8] Auxiliary Alarm Indicator
84	Output 05	[12] Armed
85	Output 06	[14] Chime
86	Output 07	[11] Ready
87	Output 08	[13] Trouble
88	Output 09	[15] Lamp Trigger
89	Output 10	[17] Access

Programmable Output Activation

Unless otherwise specified, the output will go ON STEADY for the following conditions.

OUTPUT NUMBER	OUTPUT CONDITION	OUTPUT BECOMES ACTIVE WHEN:
0	Not Used	The output is not used.
1	Fire Alarm Indicator	A Fire zone is in alarm or the 'A' key has been pressed.
2	Duress	The Duress code has been entered at a Control Station. (See Inst. Level Prog. - Prog. Notes, Note 9).
3	Low Battery	The battery voltage has dropped below 11.3 V.
4	Failed to Communicate	All dial attempts have failed.
5	Telco Line Fault	A Telco Line Fault trouble condition occurs.
6	Burglar Alarm Indicator	A zone defined as Burglar is in alarm.
7	Holdup Alarm Indicator	A zone defined as Holdup is in alarm or the 'B' Panic Key has been pressed.
8	Auxiliary Alarm Indicator	A zone defined as Auxiliary is in alarm or the 'C' Panic Key has been pressed.
9	Bell Output Trigger	See Installer Level Programming - Bell Output Activation.
10	Violation	A Fire, Burglar, Auxiliary or Holdup Alarm is active.
11	Ready	All zones have been secured and the alarm system is ready to be turned ON (armed).
12	Armed	The alarm system has been turned ON (armed).
13	Trouble	A system Trouble condition is present. (See Operating the System - Trouble Conditions).
14	Chime	A disarmed perimeter (Arm on STAY and Arm on NIGHT) burglar zone is violated and Chime is enabled.
15	Lamp Trigger	If activated, the output will go ON steady during exit time and entry time and will stay on five (5) minutes after the entry time has expired or five (5) minutes after disarm, whichever is shortest.
16	RF Annunciator	The output will pulse once for an RF keyfob disarm, twice for a successful RF keyfob arm, and three times for a failed RF keyfob arm.
17	Access Output	Activated from the access operation.

Communicator Options

The following table refers to programming locations 90 through 100.

Note: **Bold Text** is the default value.

LOC	FEATURE	VALID RANGE & DEFAULT	DESCRIPTION
90	Enable Communicator	0 = Disabled 1 = Enabled 2 = Enabled with Line Monitor	Used to enable the control digital communicator for event reporting. If it is disabled, then the remaining items in this section shall be ignored and an existing Comm Failure trouble condition will be cleared. If Telco Line Monitoring is enabled, then it will be performed. If it is disabled, an existing Telco Line Fault trouble condition will be cleared.
91	Disable Call Waiting	0 = No 1 = Yes	If enabled, the system will automatically dial “*70D” (or “1170D” if pulse dialing) prior to dialing a telephone number. This will temporarily disable the Call Waiting beeps during a phone call.
92	Days Between Comm Test	0 to 255 days (1 day)	Sets the time intervals in days for the auto communicator test. A setting of 0 disables Automatic Comm Test Reporting. Hours Until Next Comm Test may be manually adjusted (see Inst. Level Prog. - Hours Until Next Comm Test).
93	Time Between Calls	0 to 255 seconds (5 seconds)	Time in seconds between a failed dial attempt to a Central Station and the next dial attempt.
94	T1 Trans Format	0 = Pulsed 20 Baud - Non-Extended 1 = Pulsed 20 Baud - Extended 2 = Pulsed 40 Baud - Extended 3 = Contact ID	Transmission format to be used when the communicator dials telephone #1 (see Inst. Level Prog. - Prog. Notes, Note 7).
95	T2 Trans Format	0 = Pulsed 20 Baud - Non-Extended 1 = Pulsed 20 Baud - Extended 2 = Pulsed 40 Baud - Extended 3 = Contact ID 4 = Pager	Transmission format to be used when the communicator dials telephone #2 (see Inst. Level Prog. - Prog. Notes, Note 7).
96	Dialer Type	0 = US Pulse 1 = Touchtone 2 = Foreign Pulse	Sets the type of dialing. “US Rotary” uses North American Standard (60/40) make/break ratio pulses. TT (Touchtone®) uses industry standard DTMF tones. Touchtone® is a trademark of AT&T. “Foreign Rotary” uses 67/33 make/break ratio pulses, typical of foreign countries.
97	T1 Dial Attempts	1 to 15 attempts (5 attempts)	Maximum number of dial attempts when the communicator dials telephone #1.
98	T2 Dial Attempts	1 to 15 attempts (5 attempts)	Maximum number of dial attempts when the communicator dials telephone #2.
99	On-Hook Time	1 to 15 seconds (5 seconds)	Before the communicator dials a phone number, it seizes the phone line and goes off-hook for two seconds. It will then go back on-hook for the On-Hook Time to disconnect an existing phone connection. The communicator will then go back off-hook for the Off-Hook Time to acquire dial tone before dialing.
100	Off-Hook Time	1 to 15 seconds (3 seconds)	

RECEIVERS	TRANSMISSION FORMAT	TRANSMISSION SPEEDS (Pulse Reporting Only)
Ademco 685	3/1, 4/2, Contact ID	20B
FBI CP220	3/1, 4/2, Contact ID	20B - 40B
Osborne-Hoffman (Quick Alert)	3/1, 4/2, Contact ID	20B - 40B
Radionics 6000	3/1	20B - 40B
Radionics 6500	3/1, 4/2	20B - 40B
Silent Knight 9000	3/1, 4/2	20B - 40B
Sur-Gard MLR2-DG	3/1, 4/2, Contact ID	20B - 40B

All receivers listed functioned with the listed formats at time of testing. Modifications or programming changes may affect receiver operation. Consult manufacturer of specific receiver for setup and operation.

Table 3 Receiver Compatibility

Event Reporting Phone Selection

The ZX200/ZX210 allows system events to be reported through three different methods: Single,

Dual, and Backup. The following table refers to programming locations 101 through 105.

Note: **Bold Text** is the default value.

LOC	FEATURE	VALID RANGE & DEFAULT	DESCRIPTION
101	Alarm/Restore Phone #	0 = Do Not Report 1 = Phone 1 Only 2 = Phone 2 Only 3 = Phone 1 (2 on Failure) 4 = Phone 2 (1 on Failure) 5 = Phone 1 and 2	Directs which telephone number(s) to report all Alarms, Exit Alarm, Recent Closing, Burglar Alarm Cancelled, Duress, and Alarm Restorals.
102	Bypass/Restore Phone #	0 = Do Not Report 1 = Phone 1 Only 2 = Phone 2 Only 3 = Phone 1 (2 on Failure) 4 = Phone 2 (1 on Failure) 5 = Phone 1 and 2	Directs which telephone number(s) to report Zone Bypasses and Restorals.
103	Open/Close Phone #	0 = Do Not Report 1 = Phone 1 Only 2 = Phone 2 Only 3 = Phone 1 (2 on Failure) 4 = Phone 2 (1 on Failure) 5 = Phone 1 and 2	Directs which telephone number(s) to report Openings and Closings.
104	Trouble/Restore Phone #	0 = Do Not Report 1 = Phone 1 Only 2 = Phone 2 Only 3 = Phone 1 (2 on Failure) 4 = Phone 2 (1 on Failure) 5 = Phone 1 and 2	Directs which telephone number(s) to report Zone Troubles, Restorals, System Troubles, System Restores, Fire Test Mode Begin/End, and Communicator Tests.
105	System Phone #	0 = Do Not Report 1 = Phone 1 Only 2 = Phone 2 Only 3 = Phone 1 (2 on Failure) 4 = Phone 2 (1 on Failure) 5 = Phone 1 and 2	Directs which telephone number(s) to report Critical Condition Monitor Alarm/Restore, User on Premises, Installer On/Off Premises, and RPM End/Aborted.

Telephone Numbers

Event reporting assignments for each telephone number are programmed in Installer Level Programming - Event Reporting Phone Selection. The as-

signment of telephone dialing options and reporting formats are programmed in Installer Level Programming - Communicator Options.

The following table refers to programming locations 106 through 161.

LOC	FEATURE	DESCRIPTION
106 - 121	T1 Telephone Number	16 hex digits
122 - 145	T2 Telephone Number	24 hex digits
146 - 161	RPM/2 Pro Telephone Number	16 hex digits (Available for future use.)

Telephone number 2 has extra digits to allow for pager reporting. All four digits of the account code and two report code digits will be added on to the end of Telephone number 2. The digits in the telephone number will consist of the pager's phone number, a significant delay, and possibly the beginning of the pager message. The telephone number will be dialed for the number of dial attempts programmed and the pager message will be blindly sent

each time. There will be no feedback and, therefore, no failed to communicate.

NOTE

The paging network setup for your area determines if your pager will work with the T2 telephone number.

Dialed Digits Allowed

For information, see Installer Level Programming - Programming the Account Code, Report Code, and Telephone Number Digits.

0 - 9	Numbers from 0 to 9 dial the appropriate Touchtone® or pulse digit.
A	Programming an A into any digit position causes the communicator to respond in the same manner as the 0 key.
B	Programming a B into any digit position causes the communicator to produce a Touchtone® * tone. Useful for unique applications such as voice mail, cellular, or paging applications.
C	Programming a C into any digit position causes the communicator to produce a Touchtone® # tone.
D	Programming a D into any digit position causes a three second pause during dialing.
E	Programming an E into any digit position causes a three second pause during dialing.
F	An F may be programmed after the last digit of a telephone number to signify end of dialing. An 'F' entered as the first digit of a phone number disables that phone number.

Account Numbers

The following table refers to programming locations 162 through 169.

LOC	FEATURE	VALID RANGE	DESCRIPTION
162 - 165	T1 Account Number	4 hex digits 0000 - FFFF	Account number used when dialing telephone #1. See Inst. Level Prog. - Prog. Notes, Note 7.
166 - 169	T2 Account Number	4 hex digits 0000 - FFFF	Account number used when dialing telephone #2. See Inst. Level Prog. - Prog. Notes, Note 7.

Zone Report Code Digits

Programming locations 170 - 181 are the Zone Report Code Digits. Each location is the first Report Code digit (Primary) for a zone event. When a Report Code is generated for one of these events, the second Report Code digit (Extended) shall be the Zone ID that is the source of the event.

If a Report Code Digit is set to '0', then that report shall not be transmitted, regardless of the report format.

An event reported in a pulsed format shall be reported using the Report Code generated from the Report Code digit (see Installer Level Programming - Programming Notes, Note 7). An event reported in the Contact ID Format shall be reported using a fixed Report Code from a table, but the Report Code digit entered shall be used to determine if the event should be reported (i.e. the Report Code digit isn't '0'). An event reported to a Pager shall use the generated Report Code, but a HEX Report Code digit shall be converted to a '0'.

A "Zone Trouble" may result from one of the following conditions:

- Wiring problem,
- No Response (RF Gateway Zone)
- RF Point Not Reporting,
- Fire Trouble,
- Smoke Trouble (2-wire Smoke, RF Gateway Zone)
- RF Sensor Tamper,
- RF Point Low Battery

These events shall be logged differently in the Event Log. If one of these events is reported using a Pulsed format, then the standard "Zone Trouble" report code shall be used. If one of these events is reported using Contact ID, then a more descriptive report code shall be used.

The following table refers to programming locations 170 through 181.

LOC	FEATURE	VALID RANGE & DEFAULT	DESCRIPTION
170	Zone 1 Alarm	0 - F [3]	
171	Zone 2 Alarm	0 - F [3]	
172	Zone 3 Alarm	0 - F [3]	
173	Zone 4 Alarm	0 - F [3]	
174	Zone 5 Alarm	0 - F [3]	
175	Zone 6 Alarm	0 - F [3]	
176	Zone 7 Alarm	0 - F [3]	
177	Zone 8 Alarm	0 - F [3]	
178	Zone Restores	0 - F [E]	Alarm, Bypass & Trouble Restorals.
179	Zone Bypasses	0 - F [A]	
180	Zone Troubles	0 - F [F]	
181	Exit Alarm at Zone	0 - F [0]	Sent in addition to a burglar alarm event if the alarm occurs when the exit time expires.

User Report Code Digits

Programming locations 182 - 187 are the User Report Code Digits. Each location is the first Report Code digit (Primary) for a user event. When a Report Code is generated for one of these events, the second Report Code digit (Extended) shall be the User ID that is the source of the event. If the source of the event is a Keyswitch Zone or the event is a Quick Arm, then the extended digit shall be an 'F'.

If a Report Code Digit is set to '0', then that report shall not be transmitted, regardless of the report format.

An event reported in a pulsed format shall be reported using the Report Code generated from the Report Code digit (see Installer Level Programming - Programming Notes, Note 7). An event reported in the Contact ID Format shall be reported using a fixed Report Code from a table, but the Report Code digit entered shall be used to determine if the event should be reported (i.e. the Report Code digit isn't '0'). An event reported to a Pager shall use the gen-

erated Report Code, but a HEX Report Code digit shall be converted to a '0'.

A Closing event may be:

- AWAY Arm by User
- STAY or NIGHT Arm by User
- Quick Arm (AWAY, STAY or NIGHT, no user)
- Keyswitch Arm by Zone (AWAY)

An Opening event may be:

- Disarm by User
- Keyswitch Disarm by Zone

These events shall be logged differently in the Event Log. If one of these events is reported using a Pulsed format, then a general "Closing" or "Opening" report code shall be used. If one of these events is reported using Contact ID, then a more descriptive report code shall be used.

The following table refers to programming locations 182 through 187.

LOC	FEATURE	VALID RANGE & DEFAULT	DESCRIPTION
182	Closings	0 - F [C]	
183	Openings	0 - F [B]	
184	Duress	0 - F [9]	Sent when a Duress (Authority Level 2) passcode is used to arm, disarm or perform access.
185	Burg Alarm Cancel	0 - F [0]	Sent when an authorized user resets a burglar alarm after reporting and before the alarm's Bell Cutoff timer expires.
186	Recent Closing	0 - F [0]	Sent in addition to a burglar alarm event if the alarm occurs within two minutes after exit time expires.
187	User On Premise	0 - F [0]	Sent when a User on Premise (Authority Level 4) passcode is used to disarm or perform access.

Aux Key Alarm Report Code Digits

Programming locations 188 - 191 are the Aux Key Alarm Report Code Digits. These locations consist of a first Report Code digit (Primary) for all Aux Key Alarm events and a common second Report Code digit (Extended) for the events.

If the common Extended digit is set to '0', then none of these events shall be transmitted, regardless of the report format. If a Primary Report Code Digit is set to '0', then that report shall not be transmitted, regardless of the report format.

An event reported in a pulsed format shall be reported using the Report Code generated from the Primary and Extended Report Code digits (see Installer Level Programming - Programming Notes, Note 7). An event reported in the Contact ID Format shall be reported using a fixed Report Code from a table, but the Report Code digits entered shall be used to determine if the event should be reported (i.e. both Report Code digits aren't '0'). An event reported to a Pager shall use the generated Report Code, but a HEX Report Code digit shall be converted to '0'.

The following table refers to programming locations 188 through 191.

LOC	FEATURE	VALID RANGE & DEFAULT	DESCRIPTION
188	Aux Key Alarms	0 - F [9]	The common Extended report code digit for all aux key alarms.
189	'A' Key Alarm	0 - F [1]	The Primary report code digit for alarms from the Fire panic key.
190	'B' Key Alarm	0 - F [2]	The Primary report code digit for alarms from the Police panic key.
191	'C' Key Alarm	0 - F [4]	The Primary report code digit for alarms from the Medical panic key.

Other Trouble Report Code Digits

Programming locations 192 - 201 are Other Trouble Report Code Digits. These locations consist of a common first Report Code digit (Primary) for the listed trouble events and the second Report Code digit (Extended) for each of the events.

Programming locations 202 - 210 are Trouble Restore Report Code Digits. These locations consist of a common first Report Code digit (Primary) for the listed restoral events and the second Report Code digit (Extended) for each of the events.

If a common Primary digit is set to '0', then none of its events shall be transmitted, regardless of the report format. If an Extended Report Code Digit is set

to '0', then that report shall not be transmitted, regardless of the report format.

An event reported in a pulsed format shall be reported using the Report Code generated from the Primary and Extended Report Code digits (see Installer Level Programming - Programming Notes, Note 7). An event reported in the Contact ID Format shall be reported using a fixed Report Code from a table, but the Report Code digits entered shall be used to determine if the event should be reported (i.e. both Report Code digits are not '0'). An event reported to a Pager shall use the generated Report Code, but a HEX Report Code digit shall be converted to '0'.

INSTALLER LEVEL PROGRAMMING

The following table refers to programming locations 192 through 210.

LOC	FEATURE	VALID RANGE & DEFAULT	DESCRIPTION
192	All Other Troubles	0 - F [F]	The common Primary report code digit for locations 193 - 201.
193	Fire Test Mode Begin	0 - F [0]	The Extended report code digit used when a Walk Test is performed with Fire zones.
194	Keypad Missing	0 - F [0]	The Extended report code digit used when a supervised Control Station is removed or fails to respond to system polling.
195	AC Failure	0 - F [A]	The Extended report code digit used when the control has lost the primary AC input. (See Inst. Level Prog. - System Times for the delay time before this report is transmitted).
196	Panel Low Battery	0 - F [9]	The Extended report code digit used when the control detects a low battery voltage reading of less than 11.3 VDC.
197	Bell Fault	0 - F [0]	The Extended report code digit used when the control detects a Bell Fault.
198	Memory Error	0 - F [0]	The Extended report code digit used when the internal memory check finds an unauthorized change in the value of one or more of the programming options.
199	RF Jamming	0 - F [0]	The Extended report code digit used when the RF Gateway detects an RF Jamming condition.
200	RF Fob Low Battery	0 - F [0]	The Extended report code digit used when the RF Gateway detects a low battery condition on one of its Fobs.
201	Installer On Premises	0 - F [0]	The Extended report code digit used when an Installer passcode is first used to perform any function.
202	Trouble Restores	0 - F [E]	The common Primary report code digit for locations 203 - 210.
203	Fire Test Mode End	0 - F [0]	The Extended report code digit used when a Walk Test is completed with Fire zones.
204	Keypad Restore	0 - F [0]	The Extended report code digit used when a missing Control Station is restored to the data bus.
205	AC Restore	0 - F [A]	The Extended report code digit used when the primary AC power has been restored.
206	Panel Battery Restore	0 - F [9]	The Extended report code digit used when the low battery condition has been restored.
207	Bell Restore	0 - F [0]	The Extended report code digit used when the Bell Fault condition has been restored.
208	Communication Restore	0 - F [0]	When the control is unsuccessful in reporting an event, the fail to communicate condition is displayed. If a subsequent report of any type is successful, this Extended report code digit is used.
209	RF Channel Clear	0 - F [0]	The Extended report code digit used when the RF Gateway detects an RF Jamming condition has cleared.
210	Installer Off Premise	0 - F [0]	The Extended report code digit used when the Installer holds the CLEAR key for three seconds.

Other Event Report Code Digits

Programming locations 211 - 215 are Other Event Report Code Digits. These locations consist of a first Report Code digit (Primary) for all these events and a common second Report Code digit (Extended) for the events.

If the common Extended digit is set to '0', then none of these events shall be transmitted, regardless of the report format. If a Primary Report Code Digit is set to '0', then that report shall not be transmitted, regardless of the report format.

An event reported in a pulsed format shall be reported using the Report Code generated from the Primary and Extended Report Code digits (see Installer Level Programming - Programming Notes, Note 7). An event reported in the Contact ID Format shall be reported using a fixed Report Code from a table, but the Report Code digits entered shall be used to determine if the event should be reported (i.e. both Report Code digits aren't '0'). An event reported to a Pager shall use the generated Report Code, but a HEX Report Code digit shall be converted to '0'.

The following table refers to programming locations 211 through 215.

LOC	FEATURE	VALID RANGE & DEFAULT	DESCRIPTION
211	Other Events	0 - F [0]	The common Extended report code digit for the following events.
212	Comm Test Not Normal	0 - F [0]	The Primary report code digit used when an Auto-Comm Test occurs and a trouble condition is present.
213	Comm Test	0 - F [0]	The Primary report code digit used when an Auto-Comm Test occurs and no trouble condition is present.
214	RPM End	0 - F [0]	The Primary report code digit used when an RPM session is completed normally.
215	RPM Aborted	0 - F [0]	The Primary report code digit used when an RPM session is aborted. If an alarm needs to be reported to the Central Station during an RPM session, the control may abort the session to report the event.

Programming Notes

Note 1: Restarting Exit Time

If an exit time is counting down from an AWAY arming, the exit time may be automatically restarted once to reduce false alarms.

The exit time will be restarted if a Perimeter (arm in STAY mode and arm in NIGHT mode) Burglar zone is violated anytime during the last ten seconds of exit time.

The exit time will also be restarted if it expires and a Perimeter (arm in STAY mode and arm in NIGHT mode) Burglar zone has not been violated during the exit time (i.e.: nobody went out the door).

Note 2: Delay Before Dial

The **Delay Before Dial Time** is used as the time that a user has after a Burglar, Holdup or Auxiliary Alarm from a zone has occurred to silence the alarm with a disarm and abort the Alarm event.

If the Delay Before Dial Time is not zero and the alarm is silenced before the Delay Before Dial Time expires, then no Alarm events are logged to be reported.

If the Delay Before Dial Time is zero or if the Delay Before Dial Time expires before the alarm is silenced with a disarm, then the Alarm event(s) is logged to be reported. If the alarm is a Burglar Alarm and the alarm is silenced with a disarm before the Bell Cutoff Timer expires, then a "Burglar Alarm Canceled" event is logged to be reported.

If an alarm is in Delay Before Dial Time, then when the OFF CANCEL key is pressed on a Control Station, all alarms are muted until the Delay Before Dial Time expires. While an alarm is muted, the Control Stations do not produce the alarm tone for the alarm and the Bell Output(s) are silent. The muting of an alarm does not affect the operation of programmed outputs. If the Delay Before Dial Time expires without the alarm being silenced, then the Control Stations resume the alarm tone and the Bell Output(s) re-activate. The Alarm Cutoff Timer(s) continue to count while the alarm is muted.

Note 3: Fire Delay Before Dial

The **Fire Delay Before Dial Time** is used as the time that a user has after a Fire Alarm from a zone has occurred to silence the alarm and abort the Alarm event.

If the Fire Delay Before Dial Time is not zero and the alarm is silenced before the Fire Delay Before Dial Time expires, then no Alarm events are logged to be reported. If a Fire Alarm is silenced before the Fire Delay Before Dial Time expires, the user has 255 seconds to reset the smoke detectors, otherwise a smoke reset will automatically occur when 255 seconds elapses.

If the Fire Delay Before Dial Time is zero or if Fire Delay Before Dial Time expires before the Fire Alarm is silenced, then the Alarm event(s) is logged to be reported.

If a Fire Alarm is in Fire Delay Before Dial Time, then when the OFF CANCEL key is pressed on a Control Station, all alarms are muted until the Fire Delay Before Dial Time expires. While an alarm is muted, the Control Stations do not produce the alarm tone for the alarm and the Bell Output(s) are silent. The muting of an alarm does not affect the operation of programmed outputs. If the Fire Delay Before Dial Time expires without the alarm being silenced, then the Control Stations resume the alarm tone and the Bell Output(s) re-activate. The Alarm Cutoff Timer(s) continue to count while the alarm is muted.

Note 4: Force-Arming

If Force-Arming is enabled, then an arming from a keyswitch zone will be Force-Armed if necessary.

Note 5: Entry Time Versus Instant Alarms

Assuming Exit and Entry Times are inactive, a violation of an armed Burglar zone will cause the follow-

ing actions depending on the system's arm level and the type of Burglar zone:

	AWAY	STAY	STAY INSTANT	NIGHT	NIGHT INSTANT
Instant Zone	Instant	Instant	Instant	Instant	Instant
Delay Zone	Entry Time	Entry Time	Instant	Entry Time	Instant
Follower Zone	Instant	Instant	Instant	Instant	Instant

Note 6: Bypassable Zones - Fire Trouble Condition

All zones may be programmed as Bypassable. If a Fire zone is bypassable and is bypassed, a Fire Trouble condition is displayed. The condition remains until the zone is unbypassed.

Both the Primary and Extended report code digits are sent. If an account code digit is '0', then that digit is transmitted as an 'A'. Each event is reported in two rounds for verification.

For the 4/2 Extended format, all four digits of the account code and the Primary and Extended report code digits are transmitted in a round.

Note 7: Transmission Formats

If the Data Format is "Pulsed 20 Baud - Non-Extended", then the number of digits in the account code determines how events are reported. If the fourth digit of the account code is '0', then events are reported in the 3/1 Non-Extended format. If the fourth digit of the account code is not '0', then events are reported in the 4/1 Non-Extended format. Only the Primary report code digit is sent. If an account code digit is '0', then that digit is transmitted as an 'A'. Each event is reported in two rounds for verification.

For the 3/1 Non-Extended format, the first three digits of the account code and the Primary report code digit are transmitted in a round. For the 4/1 Non-Extended format, all four digits of the account code and the Primary report code digit are transmitted in a round.

If the Data Format is "Pulsed 20 Baud - Extended" or "Pulsed 40 Baud - Extended", then the number of digits in the account code must be four (4) digits.

If the Data Format is "Contact ID", then all four digits of the account code are sent. The report code digit(s) is only used to determine if the event is sent or not. The reports are generated from a Contact ID report table (see Specifications and Features). This is an Ademco developed format.

If the Data Format is "Pager", all four digits of the account code and the Primary and Extended report code digits are added on to the end of Telephone Number 2. The digits in the telephone number should consist of the pager's phone number, a significant delay, and possibly the beginning of the pager message. The telephone number is dialed for the number of dial attempts programmed and the pager message is blindly sent each time. There is no feedback and, therefore, no failed to communicate.

The Pager format is perfect for the parent who works late and wants to know if their child arrived home safely. By assigning the child a passcode with the User On Premise authority level, the parent is paged when the child disarms the system.

Note 8: Powering Up While Armed

If the system is armed when it is powered up, violations from all the Burglar zones are ignored for three minutes. This allows all armed PIRs to stabilize without causing false alarms.

Note 9: Duress Output

When a duress passcode is used, the Duress Output goes ON. It stays ON until you press and hold the CLEAR key for 3 seconds.

To prevent accidents, the Bell Test on AWAY arm is disabled while the duress output is active.

Specifications And Features

ZX200/ZX210 Control Board

- Four (4) two-wire zones, each supervised with a 1500 Ohm end-of-line resistor. "2 in 1" Zoning™ provides eight (8) fully programmable zones with 1500 and 825 Ohm resistors.
- Two-wire smoke detector zone on control (can be used in place of zone 8).
- Three (3) Control Station activated panic zones.
- Nominal current drain for control board only 50 mA.
- Watchdog microprocessor monitoring.
- Superior six (6) stage lightning/transient protection.
- One assignable high current alarm output. (Supervised Bell Output).
- One assignable low current output (10 mA @ 3 VDC).
- One switched negative output (60 mA); same as two-wire smoke terminal.
- Expandable to eleven (11) low current outputs via an output driver module.
- Continuous battery monitoring.
- Low voltage detection monitoring @ 11.3 volts threshold.
- Automatic system shutdown if voltage falls below 9.8V.
- Operating temperature range inside the enclosure: 32°F to 122°F (0°C to +50°C).
- Two or four-wire smoke zones available.
- Keypad Programmable.
- Upload/Download via RPM/2 Pro.
- Loop response time: 320 msec (general purpose hardwired zones), 1600 msec (two-wire smoke zones).
- Fast zone loop response time: 80 msec (zones 1 - 4), 20 msec (zones 5 - 8).

Power Supply:

- Fully regulated 13.8 volt 900 mA supply available with a 16.5 VAC 35 VA transformer.
- Optional 16.5V 20 VA transformer provides 500 mA power (not UL Listed).
- Reverse polarity protection on battery inputs.
- Float charging circuit: 13.8 volts DC.

Recommended Battery

- Rechargeable 12 VDC 7 Ah sealed lead acid. Use two (2) batteries to meet CSFM and Household Fire requirement of 24-hour standby at 450 mA.
- Rechargeable 12 VDC 17.2 Ah sealed lead acid. Use one (1) battery to meet CSFM requirement of 24 hours of standby at 450 mA.

Recommended Transformer

- UL Listed Class II plug-in; 16.5 VAC 35 VA secondary; 120 V 60 Hz primary connected to 24-hour unswitched outlet.
- Optional UL Listed Class II plug-in 16.5 VAC 20 VA secondary, 120 V 60 Hz primary connected to 24-hour unswitched outlet.
- For UL Commercial Burglary, the transformer to be used is a 16.5 VAC 35 VA UL Class II Basler BE 116220. Transformer is supplied separately.

Enclosure

- Twenty (20) gauge metal cabinet with knock-out for optional cam lock. Dimensions: 9"W x 10"H x 2.875"D (228.6 mm x 254 mm x 73.02 mm).
- Optional EX1414 20 gauge locking metal cabinet with two keys. Dimensions 14"W x 14"H x 3.5"D (356 mm x 356 mm x 89 mm).
- TC1100 Tamper Resistant Enclosure: extra high security cover (uses EX1414 option).
- Optional pre-configured assembly: ZX210 (ZX200 Control Board mounted into the EX1414 enclosure).

Digital Communicator

- DTMF Touchtone™ or Rotary (pulse) dialing. Rotary speed: 10pps, (selectable U.S. style 60% break, 40% make or International style 66% break, 33% make).
- Ringer equivalence: 0.0B.

- Transmission formats include: Contact ID, 20 and 40 baud Pulse Formats (3/1, 4/1, 4/2, Hexadecimal Reporting), Pager.
- Reports to most major Central Station receivers.
- Primary phone number can have up to 16 digits.
- Secondary phone number can have up to 24 digits.
- Remote programming phone number can have up to 16 digits.
- Reporting capabilities: two 4-digit account codes, report by zone, opening and closing reports, force arm/bypass reports, restoral reports, trouble reports, cancel reporting, low battery, AC failure/restoral.
- Dual and split reporting capability.
- Pager capability.
- Moose communication defaults for quick programming.
- Disable call waiting.

Control Stations

- Color-coded four-wire data bus connection.
- 19-Button keypad with audible feedback.
- Three (3) Control Station panic button zones.
- Surface mountable; mounts to any standard single or double gang electrical box.
- Built-in piezo sounder.
- Easy-to-read arming level: AWAY, STAY, and NIGHT backlit LEDs.
- Backlit keys with door.
- Unsupervised Control Stations allows up to 18 Control Stations.

ZXLCD Control Station

- LCD backlighting.
- Two lines x 16 characters LCD display.
- Addressable with DIP switches, supervised/un-supervised.
- Plain English display.
- Nominal current drain: 20mA - 110mA.
- Up to four (4) supervised Control Stations per system.
- Size: 5.33"H x 6.08"W x 1.024"D (135.4 mm x 154.4 mm x 26.0 mm).

ZXVFD Control Station

- Two lines x 16 characters VFD display.
- Addressable with DIP switches, supervised/un-supervised.
- Plain English display.
- Nominal current drain: 150 - 170 mA.
- Up to four (4) supervised Control Stations per system.
- Size: 5.33"H x 6.08"W x 1.024"D (135.4 mm x 154.4 mm x 26.0 mm).

ZXLED8 Control Station

- Eight (8) LEDs annunciate zones 1 through 8.
- Ready & trouble LEDs.
- Addressable as Control Station #1 or #2. Jumper change makes Control Station unsupervised.
- Nominal Current Drain: 23 - 31 mA.
- Size: 5.0"H x 4.5"W x 1.0"D (127 mm x 114.3 mm x 25.4 mm).

ZXSSD Control Station

- Three 0.56" (14.2 mm) seven segment display digits.
- Ready & trouble LEDs.
- Up to four (4) supervised Control Stations per system.
- Addressable with DIP switches, supervised/un-supervised.
- Nominal Current Drain: 23 - 116 mA.
- Size: 5.0"H x 4.5"W x 1.0"D (127 mm x 114.3 mm x 25.4 mm).

Optional Accessories

- ZXODM: Output Driver Module: Provides ten (10) fully programmable 40 mA + 12 VDC outputs. Nominal current drain: 10 - 13 mA with no outputs connected.
- ZX210 - ZX200 Control Board mounted in EX1414 enclosure. (The ZX210 assembly is required for UL Commercial Burglary applications).
- F2600 Transformer Enclosure: Ensures that the AC plug-in transformer remains securely fixed to the AC wall outlet
- T-1620 Transformer: UL Listed Class II plug-in 16.5 VAC 20 VA secondary.

- T-1635 Optional Transformer: UL Listed Class II plug-in 16.5 VAC 35 VA secondary.
- HCP-12SUL Power Supply: Provides a 12 or 24 VDC power limited output with a current rating of 2.0 A continuous while the AC primary power source is present.
- CR860 Dual Battery Harness: Allows for an additional 12 VDC 7 Ah sealed lead acid battery connection to the control to meet additional standby requirements.
- CR861 Battery Harness: Allows for 12 VDC 17.2 Ah sealed lead acid battery connection to the control to meet additional standby requirements.
- EB1511 Auxiliary Enclosure: 15" x 11" x 4" enclosure with cam lock allows wall mounting of accessories and batteries.
- EX1414 Optional Larger Enclosure: 14" X 14" x 3.5".
- AE912 Raucous Sounder: Current consumption: 28 mA @ 12 VDC.
- MPI-266 Battery Cut-Off Module: Disconnects battery from deep discharges.
- MPI-267 Power Disconnect Module: Disconnects battery from deep discharges.
- MPI-268 Earth Ground Fault Detector: Current consumption: less than 20 mA.
- MPI-206 General Purpose Relay Module.
- 4710 RF Gateway (8 RF Zone Devices, 6 RF User Devices)
- 4110 Universal Transmitter and battery
- 4545 Shatter Pro Glassbreak Detector with Transmitter and battery
- 4655 Sharpshooter PIR with Transmitter and battery
- 4004 Four Button Credit Card Style Fob Transmitter and battery
- 4300 ESL Photoelectric Smoke Detector with Transmitter and battery

Output Provisions

- Low Current Trigger Outputs: One output on main board (10 mA), expandable to 11 with ZXODM Output Driver Module (40 mA each).
- Maximum combined continuous current drain at KP+12V, 2WS SWNEG, +12V AUX and PGO1 is 0.6 amps with 16.5 VAC 35 VA transformer.
- Current Limits: The current at Bell Output is limited to 1.85 amps (PTC2). The 12V Auxiliary current is limited by PTC1 to 1.85 amps. Reverse battery protection is limited to 1.85 amps (PTC3).

List Of Compatible Accessories

ESL Two-Wire Smoke Detectors

429 AT, C, CT, CRT, CST: Input voltage: 8.5-33 VDC; Standby Current: 70 μ A max. (Max. of 20 detectors per zone)

521 B, BXT, CRXT: Input Voltage: 6.5-33 VDC; Standby Current: 70 μ A max. (Max. 20 detectors per zone)

711U, 712U, 713-5U, 713-6U: Input Voltage: 8.5-33 VDC; Standby Current: 70 μ A max. (Max. 20 detectors per zone)

721U, 721UT, 721UD, 722U, 722UD: Input Voltage: 8.5-33 VDC; Standby Current: 70 μ A max. (Max. 20 detectors per zone)

731U, 732U: Input Voltage: 8.5-33 VDC; Standby Current: 70 μ A max. (Max. 20 detectors per zone)

ESL Four-Wire Smoke Detectors

445 AT: Input Voltage: 5.1-19.8 VDC; Standby Current: 500 μ A @ 6 V; 1.5 mA @ 15 V

445 C, CR, CRT, CS, CSH, CST, CSR, CSRT: Input Voltage: 8.5-33 VDC; Standby Current: 40 μ A @ 12 V; 100 μ A @ 24 V

System Sensors Two-Wire Smoke Detectors

1100 Ionization	2100T Photoelectric
1400 Ionization	2400 Photoelectric
1400TH Ionization	2400AT Photoelectric
2100 Photoelectric	2400TH Photoelectric

System Sensors Four-Wire Smoke Detectors

1112, 1112 Ionization	2412B Photoelectric
1412B Ionization	2412THB Photoelectric
1451 Ionization	2412AT Photoelectric
2112, 212 Photoelectric	2451 Photoelectric
2112, 2124T Photoelectric	2451TH Photoelectric
2112, 2124TSR Photoelectric	

Wheelock

34T-12R Horn: Input voltage: 9-15.6 VDC; Rated Current: 0.125 A

EH-DL1-R Electronic Horn: Input voltage 12/24 VDC; Input Current; (@ 12 VDC) 0.015 A/(@24 VDC) 0.017 A

EH-DL2-R Electronic Horn: Input voltage: 12 VDC; Input Current: 0.047 A

EH-EL1-R Electronic Horn: Input voltage: 12/24 VDC; Input Current: (@12 VDC) 0.015 A/(@ 24 VDC) 0.017 A

EH-EL2-R Electronic Horn: Input voltage: 12 VDC; Input Current: 0.047 A

AES-DL2-R Multi-tone Electronic Signal: voltage: 12 VDC; Current (High): 0.050 A; Current (Low): 0.025 A

AES-EL2-R Multi-tone Electronic Signal: voltage: 12 VDC; Current (High): 0.0100 A; Current (Low): 0.050 A

MIZ-12-R Mini horn: voltage: 12 VDC; Current: 0.010 A

MIZ-12-W Mini-horn: voltage: 12 VDC; Current 0.010 A

CH-BF2-R Fire Chime: Input voltage: 12 VDC; Input Current: 0.020 A

CH-CF2-W Fire Chime: Input voltage: 12 VDC; Input Current: 0.020 A

CH-DF2-R Fire Chime: Input voltage: 12 VDC; Input Current: 0.020 A

46T-G4-12-R DC Vibrating Bells: Shell Size: 4 Inches; Input voltage: 12 VDC; Input Current: 0.125 A

46T-G6-12-R DC Vibrating Bells: Shell Size: 6 Inches; Input voltage: 12 VDC; Input Current: 0.125 A

46T-G10-12-R DC Vibrating Bells: Shell Size: 10 Inches; Input voltage: 12 VDC; Input Current: 0.080 A

Compatible Central Station Receivers

UL permits communication with the following UL Listed Central Station receivers (see Installer Level Programming - Communicator Options for formats):

<u>Manufacturer</u>	<u>Model Number</u>
Ademco	685
Fire Burglary Instruments	CP-220
Osborne-Hoffman	Quick Alert II
Radionics	6000
Radionics	6500
Silent Knight	9000
Sur-Gard	MLR2-DG

Digital Communicator Table For Contact ID Formats

This section cross-references many of the reporting options and equivalent codes sent by Sentrol-manufactured controls when transmitting in the Contact ID formats.

Simplified example of data sent in Contact ID format:

SSSS 18 Q XYZ AA CCC

SSSS = 4 decimal digit subscriber #

18 = Contact ID que for automation systems

Q = Event qualifier; 1 = new event or opening;
3 = new restore or closing; 6 = previously reported event

XYZ = Event code (3 decimal digits)

AA = Area number (00 for all events)

CCC = Zone, sensor, or user # (3 decimal digits)

EVENT TYPE	CID CODE	EVENT SOURCE
Zone Fire Alarm	1110	Zone (1 - 8)
Zone Burglar Alarm	1130	Zone (1 - 8)
Zone Holdup Alarm	1120	Zone (1 - 8)
Zone Auxiliary Alarm	1100	Zone (1 - 8)
'A' Key Fire Alarm	1115	500 + Keypad (1 - 4)
'B' Key Holdup Alarm	1120	500 + Keypad (1 - 4)
'C' Key Auxiliary Alarm	1100	500 + Keypad (1 - 4)
Duress	1121	User (1 - 9)
Burglar Alarm Cancelled	3406	User (1 - 9) or Keyswitch (11 - 18)
Recent Closing	3459	Quick (0), User (1 - 9), or Keyswitch (11 - 18)
User On Premises	1458	User (1 - 9)
Exit Alarm	1374	Zone (1 - 8)
Zone CCM Alarm	1150	Zone (1 - 8)
Zone Fire Trouble	1373	Zone (1 - 8)
Zone Other Trouble	1370	Zone (1 - 8)
Zone No Response on Bus	1333	Zone (1 - 8)
RF Point Not Reporting	1381	Zone (1 - 8)
Smoke Trouble	1380	Zone (1 - 8)
RF Sensor Tamper	1383	Zone (1 - 8)
RF Point Low Battery	1384	Zone (1 - 8)
Zone Fire bypass	1571	Zone (1 - 8)
Zone Burglar Bypass	1573	Zone (1 - 8)
Zone Holdup Bypass	1572	Zone (1 - 8)
Zone Auxiliary Bypass	1572	Zone (1 - 8)
Zone Other Bypass	1570	Zone (1 - 8)
Zone Fire Alarm Restore	3110	Zone (1 - 8)
Zone Burglar Alarm Restore	3130	Zone (1 - 8)
Zone Holdup Alarm Restore	3120	Zone (1 - 8)
Zone Auxiliary Alarm Restore	3100	Zone (1 - 8)
Zone CCM Alarm Restore	3150	Zone (1 - 8)

CONTACT ID FORMATS

Zone Fire Trouble Restore	3373	Zone (1 - 8)
Zone Other Trouble Restore	3370	Zone (1 - 8)
Zone No Response Restore	3333	Zone (1 - 8)
RF Point Reporting Again	3381	Zone (1 - 8)
Smoke Trouble Restore	3380	Zone (1 - 8)
RF Sensor Tamper Restore	3383	Zone (1 - 8)
RF Point Low Battery Restore	3384	Zone (1 - 8)
Zone Fire Bypass Restore	3571	Zone (1 - 8)
Zone Burglar Bypass Restore	3573	Zone (1 - 8)
Zone Holdup Bypass Restore	3572	Zone (1 - 8)
Zone Auxiliary Bypass Restore	3572	Zone (1 - 8)
Zone Other Bypass Restore	3570	Zone (1 - 8)
User AWAY Arm	3401	User (1 - 9)
User Other Arm	3456	User (1 - 9)
Quick Arm	3408	No Data
Keyswitch Arm	3409	Keyswitch (11 - 18)
User Disarm	1401	User (1 - 9)
Keyswitch Disarm	1409	Keyswitch (11 - 18)
Fire Test Mode Begin	1604	No Data
Keypad Missing	1330	500 + Keypad (1 - 4)
AC Failure	1301	No Data
Panel Low Battery	1302	No Data
Bell Fault	1321	No Data
Memory Error	1303	No Data
RF Jamming	1381	No Data
RF Key Fob Low Battery	1384	No Data
Installer On Premises	1627	No Data
Fire Test Mode End	3604	No Data
Keypad Missing Restore	3330	500 + Keypad (1 - 4)
AC Restore	3301	No Data
Panel Battery Restore	3302	No Data
Bell Restore	3321	No Data
Communication Restore	3354	No Data
RF Channel Clear	3381	No Data
Installer Off Premises	1628	No Data
Auto-Comm Test (Not Normal)	1608	No Data
Auto-Communicator Test	1602	No Data
RPM End	3412	No Data
RPM Aborted	1412	No Data

Agency Requirements

Underwriters Laboratories (UL) Listing

This control is listed by Underwriters Laboratories (UL) as follows:

UL has established certain requirements which pertain to the installation, use, and programming of this equipment. The local Authority Having Jurisdiction (AHJ) and/or UL may have other requirements which apply to the installation of this system that are not detailed in this manual. It is the responsibility of the installing dealer to check with the AHJ and/or UL before installing this system. The following pages detail guidelines that must be followed in order to comply with the UL listings as stated above.

UL Notes In This Manual

- Key "0" (Access) - The control has not been investigated to UL 294 Access Control System requirements.
- Unsupervised Burglary Zones - UL does not permit the use of unsupervised zones.
- For UL Commercial Burglary, minimum transformer should be 16.5 VAC 35 VA.

UL Notes About Program Functions

- Entrance Delay Time (1 and 2) - Maximum of 45 seconds.
- AWAY Exit Delay Time - Maximum of 60 seconds.
- Burglar Alarm Cutoff Time - Four minutes minimum for household BA/FA and 15 minutes for commercial burglar alarm and police station connected burglar alarm system.
- Fire Cutoff Time - No automatic cutoff permitted. Will be programmed to "0", no cutoff.
- Holdup Cutoff Time - maximum of four (4) minutes.
- Communicator Enable - Local or police station connected burglar alarm installations: The communicator must be enabled.

- Days Between Comm. Tests - Commercial installations: automatic test performed every 24 hours.
- Time Between Dial Attempts - UL certified accounts: no more than 45 seconds between attempts.
- Dial Type - Will not be programmed for foreign pulse.
- Dial Attempts Before Shutdown - Five dial attempts minimum, ten dial attempts maximum.
- Arming/Disarming Reports - This function will be enabled by programming report codes.
- Low Battery Reporting - This function will be enabled by programming a report code for Grade A Local Burglar, Grade A Police Connected, and Grade B and C Central Station Burglar installations.
- Two Button/Double Press Arming - These functions will be disabled. Four digit passcodes will be used.
- Enable Force Arming - This function will be disabled.
- Enable Bypassing - This function will be disabled.
- Burglar Alarm Output - Will be programmed to STEADY.
- Fire Alarm Output - Will be programmed to TEMPORAL.
- Burglar Loop Audible Lockout - This function will be disabled.
- Enable Bell Test Upon Arming - This function will be enabled for Grade A Local Central Station Connected installations.
- Enable Keypad Sounder for BA Zones - The system will have an audible alarm output upon alarm.

UL Notes About Zone Planning

- Burglar Loops - Will be defined as Alarm on Open/Alarm on Short.
- Fire, Holdup, and Auxiliary Emergency Zones - Will not be defined as bypassable.
- Special Functions/Alarms - Burglar zones will have an audible output.
- Medical Emergency - At least one Control Station will be used as part of the system.
- Zone will not be defined as Fast.

UL and ULC Listings

APPLICATION	LISTING
Household Burglary	UL 1023
Household Fire	UL 985
Household Burglary/Household Fire Combination	UL 1023 / UL 985
Local Burglar Alarm Grades A, B and C Central Station	UL 609
Police Station Connect Burglar Alarm Unit	UL 365
Digital Alarm Communicator System	UL 1635
Home Health Care Signal System	UL 1637
Central Station Burglar Alarm Unit	UL 1610
California State Fire Marshal	TBD
Residential Burglar System	ULC 5310
Local Burglar Alarm	ULC 5303
Central Station	ULC 5301
Commercial Burglary	ULC 5302
Burglar Alarm Units Central & Monitoring	ULC 5304

Table 4 UL and ULC Listings

UL has established certain requirements which pertain to the installation, use, and programming of this equipment. The local Authority Having Jurisdiction (AHJ) and/or UL may have other requirements which apply to the installation of this system that are not detailed in this manual. It is the responsibility of the installing dealer to check with the AHJ

and/or UL before installing this system. The following table details guidelines that must be followed in order to comply with the UL listings as stated above.

For Home Health Care systems, two (2) Control Stations are required.

Application	Listing	Max. Continuous Current Drain (mA) w/ 7 AH Battery	Minimum Battery Standby Time In Hours	Control Stations	Smoke Detector ESL 429 & 700 series, System Sensors 1400 & 2400 series	Auxiliary Equipment Required
Home Health Care Household Burglary	UL1637 UL1023	400	4	4	N/A	UL listed signaling device
Household Fire	CSFM	400	24	4	Required	UL listed signaling device
Household Fire	CSFM	400	24	4	Required	UL listed signaling device
Household Burglary/ Fire Combination	UL 1023 UL 985	400	4 24	4	Required	UL listed signaling device
Central Station Burglary (Grade C)	UL 1610 UL 1635	400	4	4	N/A	TC 1100 Tamper Resistant cover with a ZX210
Central Station Burglary (Grade B)	UL 1610 UL 1635	400	4	4	N/A	TC 1100 Tamper Resistant cover with a ZX210 and a UL Listed audible device (AB12M recommended)
Local Burglary (Grade A)	UL 609	400	4	4	N/A	TC 1100 Tamper Resistant cover with a ZX210 and a UL Listed audible device (AB12M recommended)
Police Station Burglary Connection (Grade A)	UL 365	400	4	4	N/A	TC 1100 Tamper Resistant cover with a ZX210 and a UL Listed audible device (AB12M recommended)

Maximum combined continuous current drain (standby) refers to terminals KP+12V, 2WS SWNEG, +12V AUX, and PGO1. Under alarm conditions, the combined output current drain should not exceed 950 mA with 16.5 VAC 35 VA transformer. For 24 hr standby, UL Household Fire & CSFM, two 7 Ah batteries are required.

Table 5 Agency Power and Configuration Requirement

National Fire Protection Association (NFPA) Rules

The National Fire and Burglar Alarm Association (NFPA) has established rules to follow pertaining to fire prevention and the installation of fire detection equipment.

Smoke Detector Locations

For residential applications, install smoke detectors in each bedroom and outside each separate sleeping area in the immediate vicinity of the bedrooms and on each additional story of the family living unit including basement and excluding crawl spaces and unfinished attics. In new construction, a smoke detector should also be installed in each sleeping area. For family living units with one or more split levels (i.e.: adjacent levels with less than one full story separation between levels), a smoke detector required by the above is sufficient for an adjacent lower level, including basements. EXCEPTION: Where there is an intervening door between one level and the adjacent lower level, install a smoke detection on the lower level. For commercial applications, install smoke detectors in each separate work area, including hallways and storage areas.

Install ceiling-mounted smoke detectors in the center of the room or hall, not less than 4 inches from any wall. When mounting the detector on a wall, place the top of the detector 4 to 12 inches from the ceiling.

Do not install smoke detectors where normal ambient temperatures are above 100°F. (37.8°C.)

Do not position smoke detectors in front of air conditioners, heating registers, ceiling fans, or other locations where normal air circulation will keep smoke from entering the detector.

Heat from a fire rises to the ceiling, spreads out across the ceiling surface and begins to bank down from the ceiling. Corners where the ceiling and walls meet create air spaces in to which heat has difficulty penetrating. Usually, these dead air spaces measure about four (4) inches (0.1m) along the ceiling from the corner and four (4) inches (0.1m) down the wall. Do not place heat or smoke detectors in these dead air spaces.

Testing

This system should be tested weekly. All switches, contacts, and accessories must be UL Listed devices. This equipment should be installed in accordance with the National Fire Protection Association Standard No. 72 (National Fire Protection Association, Batterymarch Park, Quincy MA 02269). Control panel specifications are subject to change without notice.

Consult smoke detector specifications and local and national codes for coverage descriptions.

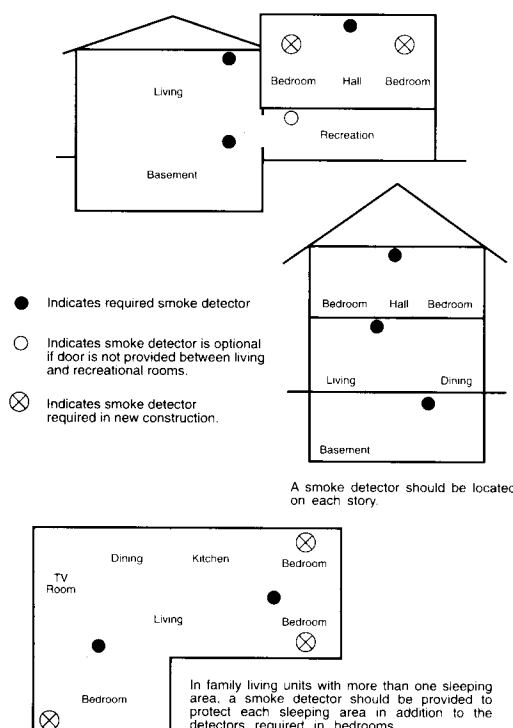
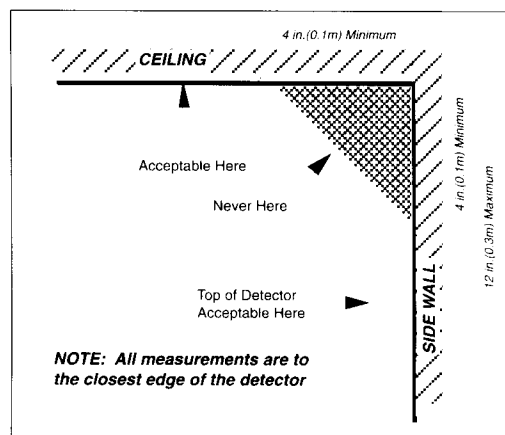


FIGURE 12 Smoke Detector Placement

Notes

[illegible]

Notes

[illegible]

FCC Compliance

Part 68 Notification

This equipment complies with Part 68 of the Federal Communications Commissions (FCC) rules. All connections to the telephone network must be made through standard telephone company plugs and jacks, RJ-31X or equivalent, in such a manner as to allow for easy and immediate disconnection of the equipment. If the connecting cord is unplugged from the jack there shall be no interference to the telephone equipment still connected to the telephone network.

The FCC registration number and Ringer Equivalence Number (REN) can be found printed on the wiring connection label located inside the Control Box Enclosure. If requested, provide this information to your telephone company. The REN is useful to determine the quantity of devices that may be connected to your telephone line and still have all of those devices ring when your number is called. In most, but not all areas, the sum of the RENs of all devices should not exceed five (5.0).

In the unlikely event that the equipment should ever fail to operate properly, it should be disconnected from the telephone jack to determine if the problem is with the telephone network or with the equipment. If a problem is found with the equipment, leave disconnected until it is repaired or replaced.

In the unlikely event that the equipment should ever cause harm to the telephone network, the telephone company may temporarily discontinue your service. If possible, they will notify you in advance. However, if advance notice isn't practical, the telephone company may temporarily discontinue service without prior notification. In the case of temporary discontinuance, the telephone company shall promptly notify the telephone subscriber who will be given the opportunity to correct the situation. The customer also has the right to bring a complaint to the FCC if he feels the disconnection is not warranted.

Your telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the proper operation of your equipment. If they do, you will be given advance notice so as to give you an opportunity to maintain uninterrupted service.

You should notify the telephone company if this equipment is removed from the premises and the telephone jack is no longer needed.

Part 15 Notification

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 when the equipment is operated in a residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, 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 locate 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 experience radio/TV technician for help.

CAUTION: Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Canadian Notice

The Canadian Department of Communications label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements. 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 com-

pany. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). 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 made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause 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 the appropriate electric inspection authority, or electrician, as appropriate.

The LOAD NUMBER (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the total of the Load Numbers of all the devices does not exceed 100. The LOAD NUMBER for the system is 2.

This equipment is a Class B Digital apparatus which complies with the radio interference regulations, CRC c. 1374.

Limitations

The ZX200/ZX210 is part of a system designed to warn against unauthorized entry or of other situations. However, it is not a guarantee of protection against the occurrence of those events. Any alarm system is subject to compromise or failure to warn for various reasons. Unauthorized access can be gained through unprotected points or by disarming or bypassing protected points. Sensing devices are power driven and will not operate without power. Telephone lines over which alarm signals are transmitted may be out of service or rendered inoperable by an intruder. Smoke detectors have limitations and cannot detect all types of fires, or sense smoke which is out of the effective range of the detector.

All Rights Reserved

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form, or by any means - electronic, mechanical, photocopying, recording, or otherwise without the prior written permission of the manufacturer. The material in this publication is for information purposes and subject to change without notice. The manufacturer assumes no responsibility for any errors which may appear in this publication. Printed in USA.

ff SPECIAL NOTE referencing use of the word "Fire" in this manual.

Use of this control for fire detection and/or annunciation may not be permitted by certain states, counties, municipalities, or local jurisdiction. It is the responsibility of the installing alarm company to check with their local AHJ (Authority Having Jurisdiction) or State Fire Marshal's office prior to using this control for fire detection.

This Product is Listed by
UNDERWRITERS LABORATORIES INC.
and Bears the Mark:



See Page 50 for listing information

MOOSE 

A PRODUCT OF SENTROL, INC

SENTROL CONTROLS GROUP

PO Box 2904

1510 Tate Blvd. SE

Hickory, NC 28603

Sales: 800.547.2556

Fax: 503.691.7566

Technical Support: 800.800.2027

Sentrol, Inc. reserves the right
to change specifications
without notice.
©1997 Sentrol, Inc.

64812683A