Security System Control

moose Z1200

*Specifications, Installation
and Programming Guide*

Table Of Contents

Chapter 4. Specifications And Accessories

Chapter 5. UL And NFPA Requirements

Index

Installation And Wiring

1

1.1   Planning The Installation

The first step in any multi-zone security system installation is planning the job.

1.   **Read through this entire manual** to familiarize yourself with all system features and procedures before actually beginning the installation. Chapter 5 contains information regarding Underwriters Laboratories (UL) and NFPA requirements.

2.   Perform a physical survey of the installation site. Use the figure below as a guide in planning the installation.

3.   Discuss the installation requirements and applications with the customer.

4.   Compare the installation requirements and applications with the factory default settings to determine what customized programming is needed to meet the specific installation requirements.

5.   Bench test the system prior to installation.

LEGEND			
C – Control	D – Smoke Detector	K – Contact	P – Panic Button
S – Siren (Steady Output)	● – Thermostat	R – Keypad	RT – Keypad With Tamper
Y – Siren (Yelp Output)	F – Fire Trouble Sounder		

TYPICAL FIRE INSTALLATION LAYOUT

TYPICAL BURGLAR INSTALLATION LAYOUT
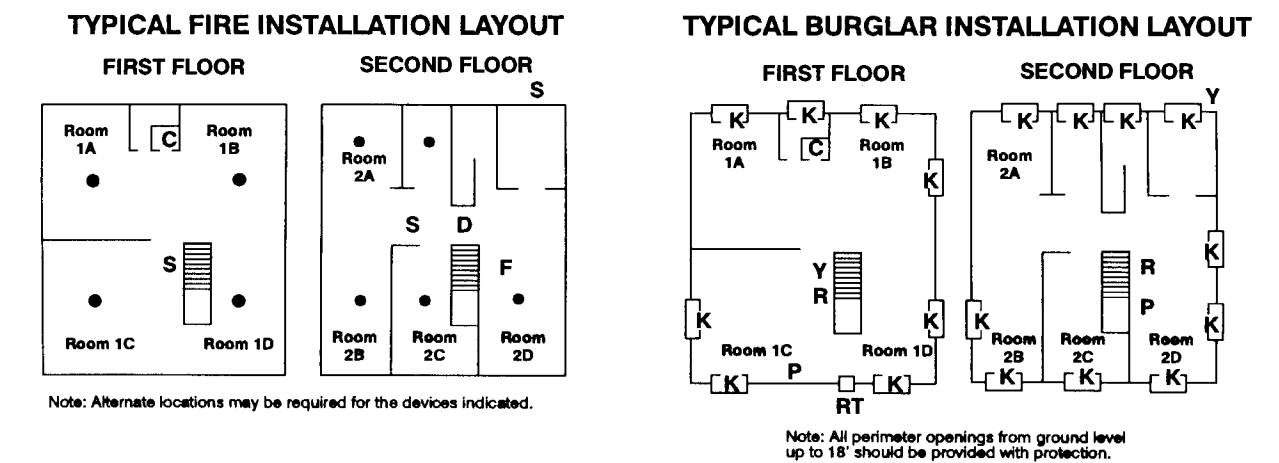
FIGURE 1–1. Typical Installation Layout

1.2   Parts Diagram & Descriptions

FIGURE 1–2 details parts of the Z1200 Control Series and their descriptions. These parts are referenced in later sections of this manual.
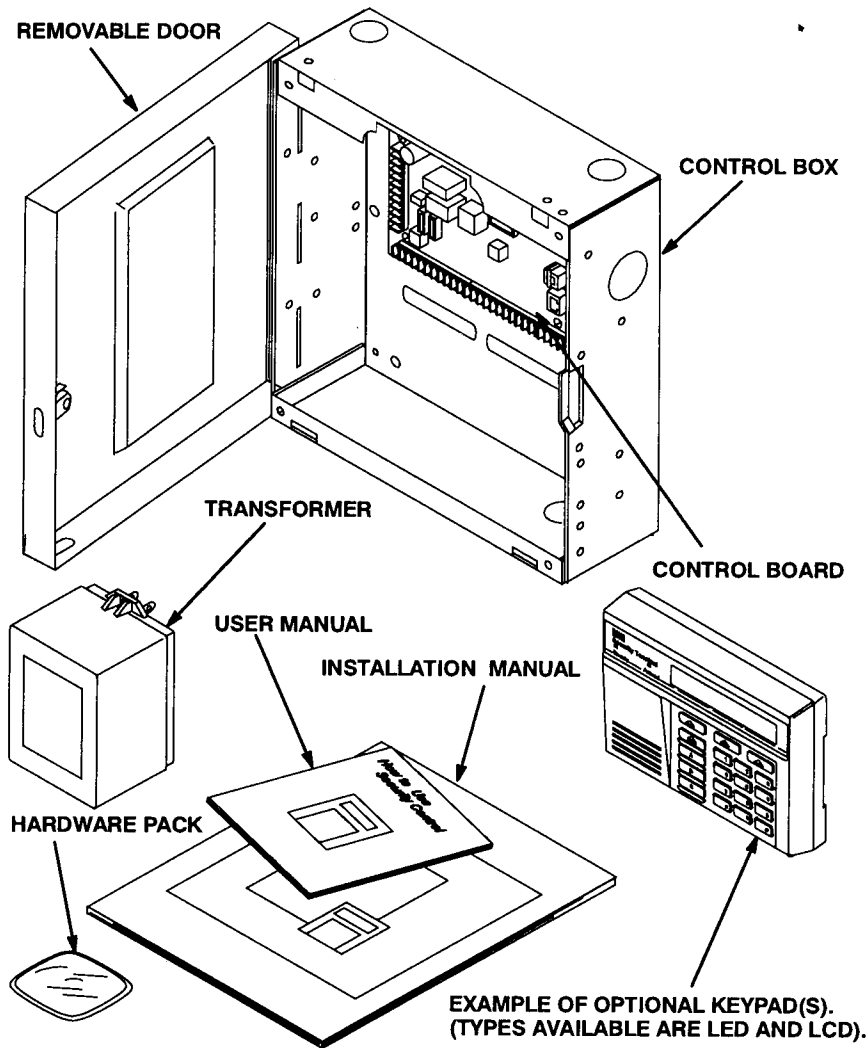
FIGURE 1–2. Z1200 Parts List

1.3   Mounting And Wiring Preparation

System Control Mounting

Remove all packing material and compare the system components with those in the figure above to familiarize yourself with the part names. Mount the control in a secure, dry location where the ambient temperature inside the control box can remain at 32° to 120° Fahrenheit (0° to +49° Celsius). Choose a location that allows easy wiring to an unswitched power outlet and to a grounding conductor for the control. A central location makes running system wiring easier. Remove control box knockouts that best suit your wiring needs. Mount the control using the upper center slotted hole to level. Install and connect all necessary wiring for the power transformer, detection loops, keypads and siren outputs. Refer to FIGURE 1–4, page 1–4.

Control Station Mounting

Select a mounting location 48–52 inches above the floor with an ambient temperature range of 32° – 120° F (0° to +49° C) away from direct sunlight. Run a 22-gauge, four-conductor cable from the control. (Stranded wire provides lower resistance and additional protection from breakage.) The maximum resistance per wire is 25 Ohms. For wire runs between 200' and 1000', a minimum size of 18 awg. is recommended. Device placement beyond 1000' is not recommended. Remove the retaining screw and separate the keypad from the mounting plate. Fasten the mounting plate to the electrical box (or directly to the wall using anchors) with the appropriate screws. Be sure to use flat head or oval head screws to prevent shorting of the circuit board.

<div style="text-align:center">

WARNING

</div>

TO PREVENT INJURY, MAKE SURE THAT POWER IS REMOVED FROM THE CONTROL.

Splice the four conductor cable to the plug-in connector supplied with the keypad. Press the splices back through the hole and seal the hole with insulation to prevent air infiltration and dust. Plug the connector into the keypad and re-install the keypad back onto the mounting plate and secure with the retaining screw. Wire the four-conductor cable to the control. (See Wiring Instructions on page 1–7.) Remove the control station screen protective plastic film after installation is complete.

1.4   Wiring

Earth Ground Connection

In order for the control's lightning and transient protection to be effective, it is essential that the control be connected to an earth ground (ground rod or other grounding electrode). Finding a proper ground path can affect selection of the control mounting location since the ground wire should be as short and straight as possible.

An ideal ground for a security system is a unified earth ground. In this type ground, the power line, telephone, and security system ground rods are bonded together. This reduces the chance for step voltage blowout, a problem frequently occurring during lightning strikes. Refer to the figure below.

Reference NEC Article 250 for proper grounding requirements.
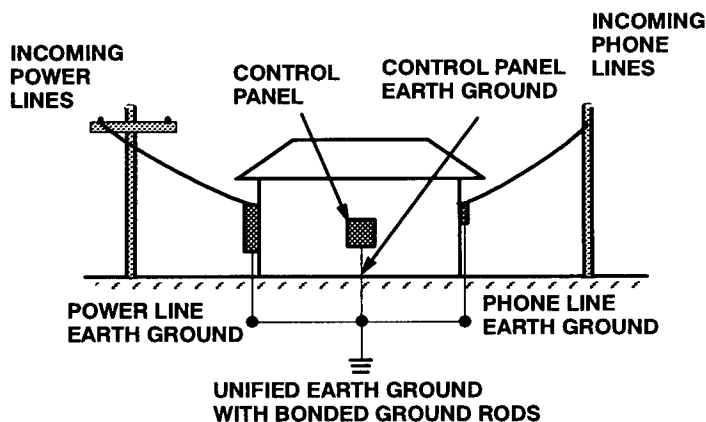
FIGURE 1–3. Unified Earth Ground

Use a minimum 14 gauge solid ground wire. Crimp the wire to the Earth Ground Spade Lug and attach it at one of the Earth Ground points on the control panel. Run the earth ground wire and attach to a bonded earth ground. Be sure to keep wire runs short and avoid 90° or sharp turns. Use a minimum radius of eight inches for bends. Remember, ground wires must be routed separately. Be sure to route toward the earth. Always use eight-foot, copper clad ground rods and never run parallel to metal without properly bonding to that metal.
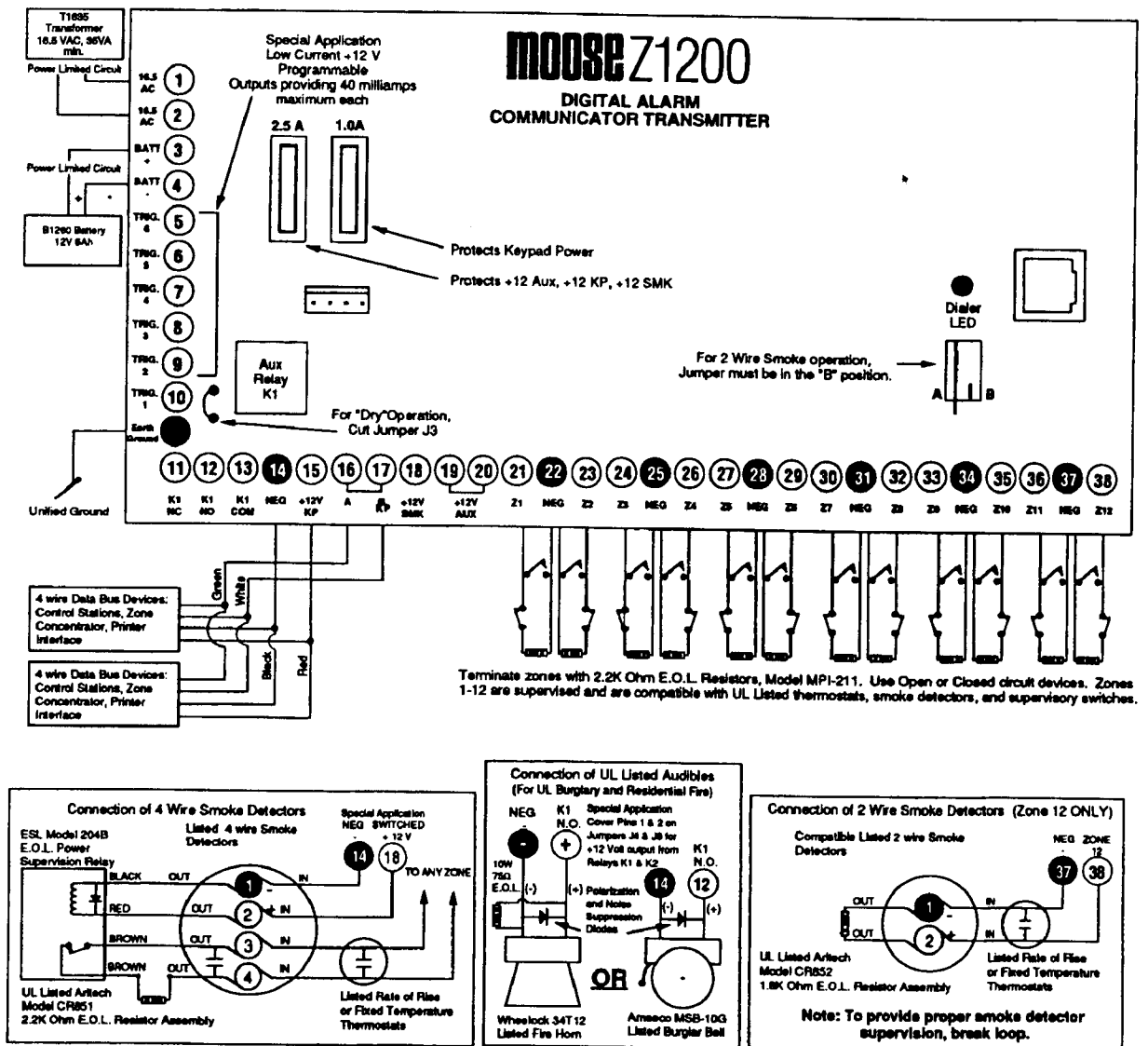
NOTE: See Interconnect Diagram on control inside cover for notes applicable to FIGURE 1–4.

FIGURE 1–4. Suggested UL Burglar Alarm And/Or Alarm Hookup

Standby Battery Connection (Terminals 3 and 4)

To connect the battery, remove the red and black battery leads from the hardware pack. Connect the red wire to the screw terminal marked Bat +12V (Terminal #3). Connect the black lead to the screw terminal marked Bat. Neg. (Terminal #4).

CAUTION

> The control is designed with reverse polarity protection on the battery charging circuit; however, prolonged improper connection of the battery to the control results in damage. The power should remain disconnected until all connections have been made and checked for accuracy.

= Negative to Term #4

= Positive to Term #3

Bat. NEG   Bat. + 12V
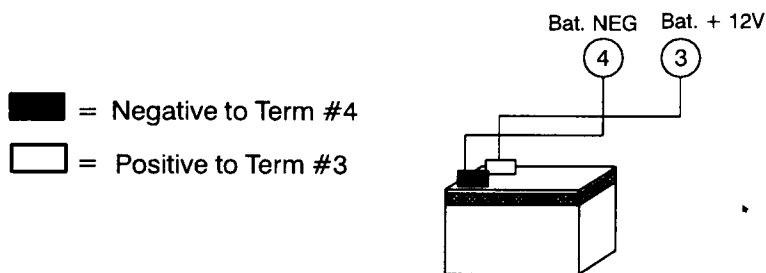
FIGURE 1-5. Battery Connection

Low Battery And AC Failure

The control is designed to operate with and recharge a 12-volt, 7 amp–hour sealed lead acid battery as a backup for the primary power supply. The control maintains a float charge for the battery of 13.8 VDC at 100 mA. This is in addition to the continuous output of 900 mA that the control panel power supply maintains. See Maximum Current Drains for UL Listed Systems on Page 5-2. The battery automatically takes over in the event of an AC power outage. If the AC power fails and the battery voltage drops to 11.2 VDC, the control annunciates a Low Battery trouble condition. The AC Fail trouble condition displays visually at the keypad upon power outage, but is not reported to the central station for a programmable time delay. The trouble prompt for each of these conditions is present until the condition (Low Battery or AC Fail) is corrected. The control performs a battery test every fifteen minutes. The user may activate a manual test of the battery if desired.

A/C Transformer Primary Power Input (Terminals 1 and 2)

The control is powered by an Aritech T-1635 16.5 VAC, 35 VA, internally fused, UL Listed Class II (power limited) transformer, supplied with the control package. The specified transformer must be used to operate this control.

| CAUTION |

Do not short the terminals of the transformer together. This causes the internal fuse to blow. The transformer must be connected to a 120 VAC, 24-hour outlet not controlled by a switch other than an approved over-current protection device.

To prepare the control for primary power connection, connect the screw terminals on the transformer to terminals #1 and #2 of the control using 18 awg. wire not exceeding 50 feet between the transformer and the control. Do not run the AC primary power in a multiconductor with other system circuits. Do not plug the transformer in at this time. Final connection of the transformer and standby battery should be made after all other connections have been made.

AC Input
Terminals

18 awg. min.
Ideally less
than 50'

Primary
115–120V
Sec. 16.5V
35 VA
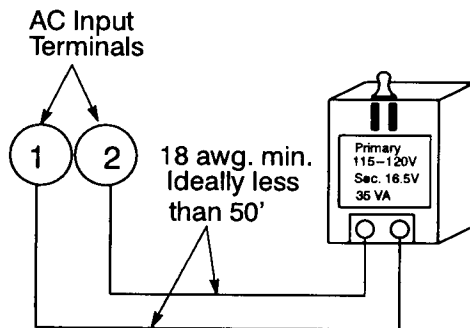
FIGURE 1-6. Transformer Connection

Fuses F1 And F2

Terminals 15, 18, 19, and 20 for keypad, smoke, and auxiliary power, are protected by fuses F1 and F2. F1 is a 2.5 Amp fuse which protects all Smoke and Aux power terminals. F2 is a 1.0 Amp fuse which protects the keypad power circuitry. Replacement fuses are found in the hardware pack.

Zones 1 Thru 12 (Terminals 21 – 38)

The zone wiring is connected to terminals 21–38. Each zone terminal is labeled Z1, Z2, Z3, . . . etc. Each zone pair has a common negative terminal located between the two zone inputs. Example: The negative terminal for Zone 1 (terminal 21) and Zone 2 (terminal 23) is terminal 22. The protective loops are designed so that any closed loop device (a device in which a closed circuit occurs when mounted normally in a non-violated condition) is in series with the EOL resistor and other closed loop devices in the same circuit. Open loop devices (devices which create an open circuit when mounted normally in a non-violated state) must be wired so that they are in parallel with the EOL resistor.

> **NOTE**
>
> **The resistor must be placed at the end of the loop. Fire zones require use of UL Listed Model CR851 2.2 kΩ end-of-line resistor assembly. All other zones take a standard 2.2 kΩ EOL resistor, Aritech PN 31034071A.**

The operation of the protective loop can be checked from the screw terminals with a voltage reading. A Class B protective loop on this control panel should show approximately 6.5 VDC in a normal condition. If the circuit is violated in an open condition, the voltage rises to 13.8 VDC. If the circuit is shorted across the EOL resistor, the voltage is approximately 0 VDC.
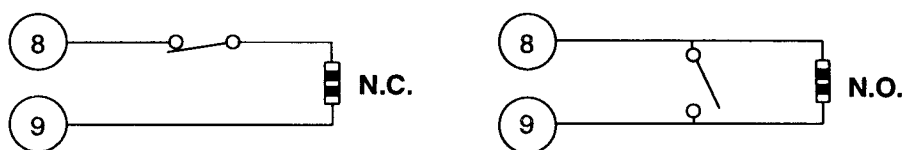
FIGURE 1–7. Typical Wiring Class B Zone
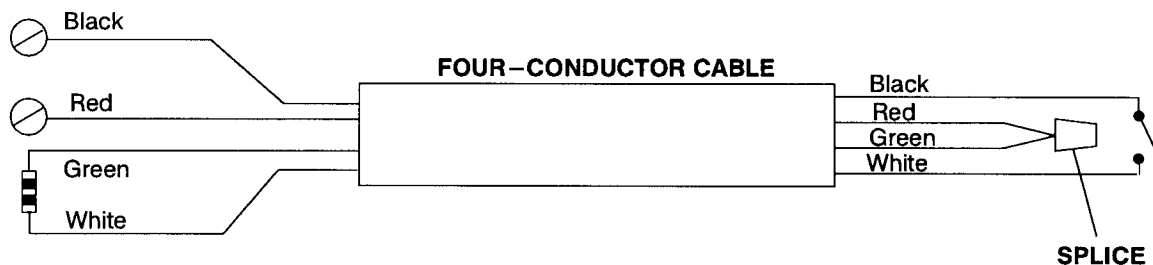
FIGURE 1–8. Special Wiring of Protective Loop

Connect a typical installation configuration as follows:

1. Connect all alarm sensors to the zone wiring per the instructions provided by the sensor manufacturer and FIGURE 1–4 on page 1–4.

2. Connect each zone wire to the terminals according to FIGURE 1–4. Each zone has an input terminal and a common (negative) return. Please note that a negative terminal is shared by two zones and that all negatives are common to each other.

It is possible to wire the protective loop in a way that places the EOL resistor inside the control panel and maintains the supervision of the circuit, utilizing a four-conductor cable as shown in FIGURE 1–8.

Special Zone

This control makes special provisions for two-wire smoke detectors.

Two–Wire Smoke Detector Loop (Zone 12, Terminals 37 and 38)

Zone 12 is designed with an optional feature which allows operation with two–wire loop type smoke detectors. To enable this feature, move the J4 smoke Z12 jumper from position 1 to position 2. Program Zone 12 as a two-wire smoke fire detection loop and connect the smoke detector(s) to Zone 12.

> **NOTE**

For the two-wire smoke detector option, the zone definition (Menu 3) for Zone 12 must be a value of 2007 or 9007 (verified fire). When this option is selected, a CR852 1.8 kΩ EOL resistor must be used instead of the 2.2 kΩ CR851. The CR852 is furnished with the panel.

Maximum loop resistance is 1.9 K Ohm. For this reason the loop wiring resistance must ñot exceed 100 Ohms. No more than six two-wire smoke detectors may be connected to the control. Use only the detectors listed in Compatible Accessories, Chapter 4. Use the same model detector throughout the installation.

Data Bus Device Connections (Terminals 16 and 17)

Devices which use the four–wire data bus are the LCD control stations and LED keypads, Zone Concentrators and the Printer Interface Module. These devices require two conductors for the transfer of data and two conductors for the operating voltage. The data bus connections are terminals #16 and #17, labeled Data A and Data B. These are parallel connections and may be home run or may be branched at a field connection. Power for these devices is supplied from terminals 14 and 15. Terminal 14 is the negative power supply terminal. Terminal 15 supplies the +12 VDC for the data bus devices. The control panel also has a four–pin polarized connector (J–5) which is designed to connect any of the data bus devices directly to the control via the Z–217 four–conductor ribbon cable. This cable may be used when setting up bench testing, programming or servicing devices.

Each zone concentrator adds eight zones and ten outputs. For example:

Concentrator Device ID	1	2	3	4
Zones Added:	13–20	21–28	29–36	37–44
Outputs Added:	7–16	17–26	27–36	37–46

Data Bus Device I.D. Setting

The control stations and the zone concentrators contain a DIP switch bank (Dual In-line Package) where the identification number for the device must be set. The valid settings for all control stations are 1–8. **No more than eight control stations are permitted on the control. No more than one control station may be set to a specific address.** The valid settings for the zone concentrators are 1–4. **No more than four zone concentrators may be connected to the control. No more than one zone concentrator may be set to a specific address.** In all devices a setting of 0 disables the device. The printer interface is self-assigning and requires no set up before operation. Refer to the labels on the silk screen for the concentrators and the enclosed label for the switch settings on the LED keypads and the LCD control stations.

> **CAUTION**

Do not follow the label for the control stations when setting the DIP switches on the concentrators. The switch alignment is different.

The addresses of the control stations are independent of the addresses of the zone concentrators. Set the first device of any type as #1, the second as #2 etc. Do not set the keypad as device #1 and the zone concentrator as device # 2 and so on.

Outputs

The control has six outputs, expandable to 46. The first six outputs are on terminals 5–10. Each output provides 13.8 VDC at 40 mA when active.

All 46 outputs are enabled through programming and may be connected so that multiple outputs activate a common device. The first six outputs must be terminated within the control panel box. No output may trigger a device that draws more than 40 mA. The K1 Relay or auxiliary low current relays (such as the MPI-206) may be triggered to drive higher current demands.

Auxiliary Power Connections (Terminals 19 And 20)

Devices requiring unswitched 24–hour power (motion detectors, glass break detectors, etc.) should be connected to one of the auxiliary terminals (terminals 19 or 20). The negative terminal of the load device should be connected to any convenient negative terminal such as terminal 14 or 22. All negative terminals are at the same reference and may be used whenever a circuit ground is required. Use caution when wiring the control to distribute the load devices among the supply and the negative terminals evenly. No device should share the same negative terminals as a high current consuming device such as a siren driver. The maximum continuous power available is 900 mA. See page 5–2 for maximum current drains allowed in UL Listed systems.

> **NOTE**

> **Circuit ground refers to any negative terminal connection on this control. This does not refer to the earth ground terminal or to the common terminal of the K1 relay. These terminals are not at the same voltage potential and should not be wired so that they are electrically connected to a negative.**

Switched Power Connections (Terminal 18) (For use with UL Listed four-wire smoke detectors)

Some devices require a temporary break in the operating supply voltage to allow reset or unlatch from the alarm state (i.e. smoke detectors, etc.). Connecting the +12 VDC input to terminal 18 may cause a momentary interruption in the operating voltage when a smoke reset is performed by the user.

K1 Hook-up And Operation (Terminals 11, 12, 13)

The control/communicator provides one Form C relay. The contacts of the relay are rated at 28 VAC/VDC at 5A. The K1 relay is already set to provide +12 VDC output activation. Output 1 (terminal 10) triggers the K1 relay internally. To activate K1, enable output #1. The outputs are enabled through programming (discussed later). All outputs on the control board except K1 are limited to 40 mA at 13.8 VDC. The relay may be set to eliminate the +12V output from the contacts (Dry Output) by cutting the J–3 wire jumper. See Chapter 4 for a list of compatible devices.

Telephone Line Connection (Connector J1)

The telephone interface is connected by the use of an approved interconnect jack such as the RJ-31X. These devices allow the subscriber to disconnect the control/communicator from the Public Switched Telephone Network in the event of harm or malfunction. The control is equipped with line seizure so that the premises telephone service is interrupted during communication to the central station. Connection to the approved jack is done with a "plug to plug" (consult your distributor) cord which connects to J1 and the Jack.
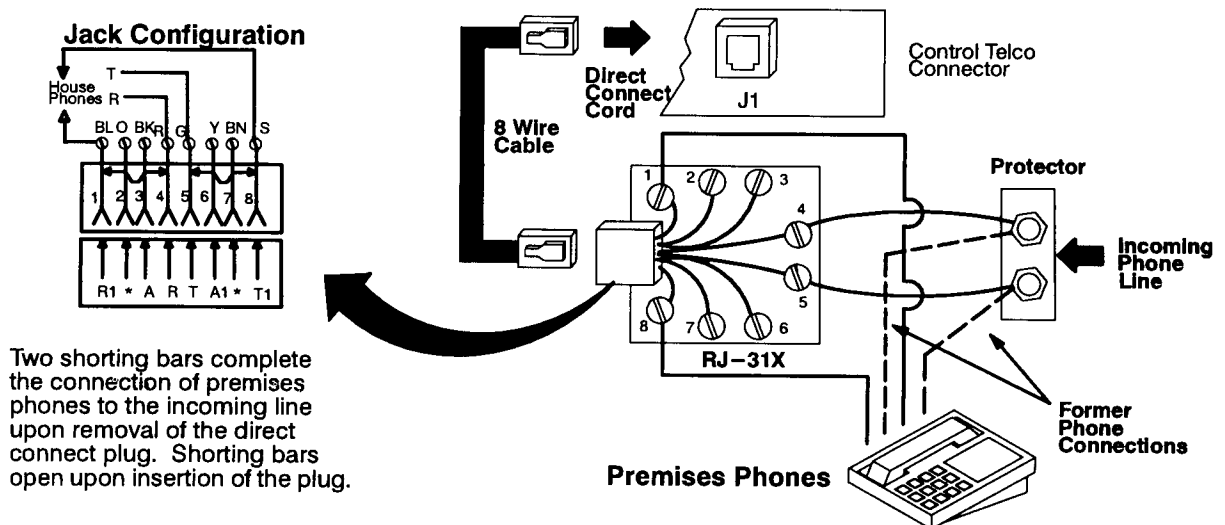
FIGURE 1–9. Telephone System Connection

Operating The System

2.1   Introduction

After all connections have been made and checked thoroughly, the control may be energized by connecting the AC and the battery terminals. For best operation during bench testing, all zones should be terminated with the end of line resistors and the correct transformer and battery should be connected to the unit. The control comes from the manufacturer with a factory set (default) program. The factory set code for user passcode No. 1 is 12345. This code is authorized to operate all user passcode related features on the system. The system is designed to accommodate the grouping of specific zones into partitions called areas. The default program is designed to assign all zones to a single area (#1). This is the most common mode in which the system operates. This section of the manual gives an overview of powering up and basic keypad functioning.

2.2   Powering Up With The Keypad

At initial power-up, the control performs self–diagnostics and establishes contact with all keypads and devices. During this time, each keypad should display its installed ID number.

```
Z1200 REV X.XX
KEYPAD 1 OF 123 . . . . .
```

This identification number corresponds to the DIP switch setting on the back side of the keypad. If a problem arises during power-up, remove power and re–check the position of the DIP switches on the keypads. Up to eight keypads (either LCD or LED) may be used in any combination with the system.

Once the zones are in a secure state, keypad screen displays:

```
Z1200 READY TO ARM
ARM
```

The ARM command appears directly above the soft key required to arm the system.

```
NOTE
```

The word Z1200 in this example is the name given to the area affected by this keypad. An appropriate name is programmed into this field at the time of installation. Detailed descriptions of partitions and alphanumeric entries are discussed in Chapter 3.

Menu Key

One of the guidance tools on the keypad is the Menu Key. The menu key will cause the keypad to display a list of control options that changes with each keypress.

Soft Keys

The keypad is equipped with three soft keys which are centered below the screen and point to areas of the display from which user operation choices are made. Each soft key corresponds to a control option displayed directly above that key. When an item is selected by pressing the corresponding soft key, additional sub–options such as NEXT, CLEAR, QUIT, ENTER, STORE, CHANGE, and PREV appear as necessary.

Nearly every option on the control requires the use of a valid user passcode. The user passcode may be used for functions in a specific area or system–wide. Several of the options may be performed at any time, even while the

control is fully or partially armed. The menu system is designed to be next–step–oriented so that with a brief explanation of the options, the user may begin operating the system immediately. For purposes of discussion, the installer and the end consumer are both be considered users, but have different levels of authorization.
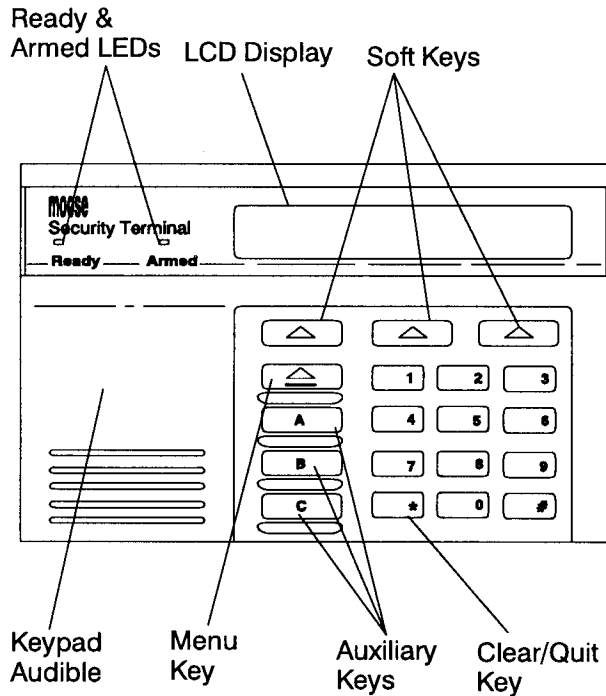
FIGURE 2–1. Z1200 System Keypad

2.3   Keypad Overview

Ready and Armed LED's	These LEDs indicate the status of the burglar zones assigned to the keypad's primary area. The ready LED illuminates when the burglar zones are all secure. The armed LED illuminates when the area has been armed and flashes after an armed burglar zone has been violated, setting off an alarm.
Menu Key	The menu key allows the user to scroll through all available options. Each time the menu key is pressed, a new selection of options appears on the screen. The user can activate/select a function by pressing the soft key directly below that option. After the desired option is selected, the user is prompted for a user passcode. Additional sub–menu options may appear to assist the user. The user may return to the status screen by pressing the * key. Descriptions of each feature in the main user menu can be found in the User's Guide.
Keypad Audible	The piezo resonator activates for conditions including entry and exit notification, alarm, trouble, chime, etc.
Auxiliary Keys	When programmed, these keys activate auxiliary alarms (Panic, Fire, Emergency, etc.).
Clear/Quit Key	The * key is used to reset code entry errors and to allow the user to escape out of a menu. Pressing and holding the * key for 3 seconds acts as the reset key for missing keypad and memory error system troubles.
Soft Keys	The soft keys allow the user to access options directly from the screen.
Keypad Downlighting	The keypad contains recessed lights to provide illumination during operation.

Programming The Control   3

3.1   Introduction

The control may be programmed locally from any Z2100 keypad. Local programming uses a powerful, yet friendly, menu–driven interface. It may also be programmed using RPM/2.

3.2   Local Programming

There are two levels of operation for programming the control locally, user level and installer level.

User level programming provides the ability to add, change, or delete user passcodes and names. It also allows scheduled events and keypad settings to be changed. A master user code is required to access the user programming level. User programming is explained in the User's Guide.

Installer level programming allows total customization of the control's operating features. Only the installer code may access this level. If the installer code is lost or forgotten, it is impossible to program the control locally. Anyone attempting installer level programming should be familiar with the contents of this publication prior to programming the control panel.

If remote programming is being used, then you may "lock out" or prevent takeover of a control by another installation company by deleting the installer code after establishing an RPM/2 account.

3.3   Remote Programming (RPM/2)

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

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

3.4   Area Partitioning

The control may be divided (partitioned) into 1–8 independent areas. To the customer, each area appears to be a full–featured system. This allows one control to be shared by multiple, independent departments within a common structure. Any combination of zones, user codes, and keypads may be assigned to any area up to the maximum number available.

When reporting to the central station, events such as AC Power Failure, Low Battery, automatic tests, etc., are considered system reports and are transmitted as an Area 1 account although they will be displayed on all keypads regardless of area.

Each area can be programmed to control separate outputs with a dedicated audible or annunciator. It is also possible to common the outputs of multiple areas so that a central siren or bell can be used. The burglar alarm audible should be positioned so that it can be heard by all partitions. When partitioning is not desired, simply designate all zones to a single area (Area 1). This is the default or factory setting for zones 1–12.

An example of a partitioning application is a business that is divided into separate departments with each department occupied by a different manager. The control communicator would be installed in a secure area (common utility closet) with dedicated and uninterrupted AC power and telephone service. This must be considered when planning the control panel position as the power and phone service to a tenant may be terminated if that tenant leaves.

Each tenant's compartment is assigned an area with a number of zones, codes, and keypads. When an area experiences an alarm or other event, the adjacent system areas are not alerted to the event since the keypad would be programmed to respond only to events in the assigned areas.

Perhaps the most unique programming feature is the ability to allow crossover between areas. This is called multi–area operation and is an optional feature that allows the user(s) from one area to operate another area from a designated keypad. Programming is discussed in detail later in this manual. By factory default, users are only allowed to see and operate their primary assigned area. Multi–area operation may be useful for applications where the security system is installed in a facility that is divided into departments Each department has a set of users who are responsible for arming and disarming only the security system to which they are assigned. If desired, the system may be set up to allow one or more users to have control over multiple areas.

Another popular feature is common area or vestibule arming. In some installations one area may be set up to be common to other areas, such as a medical or legal commons with a general reception area. The common area or vestibule should arm with the last area out and disarm with the first area opened.
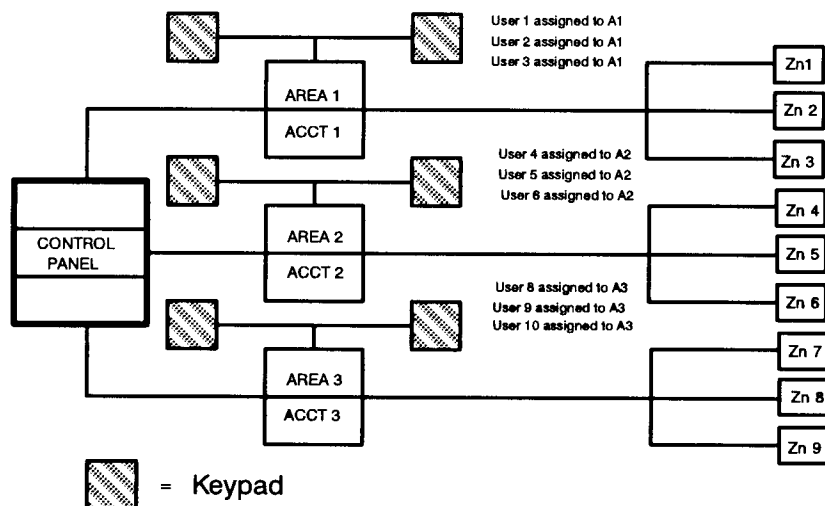
Each area may have a separate account number at the central station and may report to two receivers or just one; or one with the second as backup. The type of activity within a specific area / account may be divided among the two receivers as well. Ex. Open / Close reports may transmit to rec. A and alarm activity may transmit to rec. B.

1. Maximum Zones = 44
Any number of zones
may be assigned to
any area in any sequence

2. Maximum Users = 99
Any number of users
may be assigned to
operate on any combination
of areas.

3. Maximum Keypads = 8
These may be assigned to
any area with ability to
operate in other areas if desired.

FIGURE 3–1. Area Partitioning

3.5   Installer Level Programming

The menu key allows the user to scroll through the available options. Each time the menu key is pressed, a new selection of options will appear on the LCD screen. By pressing the soft key below the desired option, the user can activate that function. After the desired option has been requested, the user is prompted for a user passcode. Additional sub-menu options may appear to assist the user. The user may return to the status screen by pressing the (*) key.

First Menu Key Press:

RESET	VIEW	ENABLE
ALARM	STATUS	CHIME

Second Menu Key Press:

```
┌─────────────────────────────┐
│                             │
│  EVENT     SYSTEM  EXTEND   │
│  HISTORY   TEST    CLOSING  │
│                             │
└─────────────────────────────┘
```

Third Menu Key Press:

```
┌─────────────────────────────┐
│                             │
│  SCHEDULE  PROG     SMOKE   │
│  EVENTS    OPTIONS  RESET   │
│                             │
└─────────────────────────────┘
```

Scroll through the menu options by pressing the menu key repeatedly until PROG OPTIONS appears.

Press the soft key titled PROG OPTIONS. The display changes to:

```
┌─────────────────────────────┐
│                             │
│  ENTER PASSCODE             │
│  CLEAR             ┌───────┐│
│                    │ ENTER ││
│                    └───────┘│
└─────────────────────────────┘
```

Enter the installer code (96321 at default). The installer code is accepted for this menu option only. It is not accepted for any others.

```
┌──────────┐
│   NOTE   │
└──────────┘
```

The manufacturer recommends that the installer code be changed from factory default for security against unauthorized programming changes.

Press the ENTER soft key. The LCD should display:

```
┌─────────────────────────────┐
│                             │
│  KEYPAD    PROG      SET    │
│  OPTIONS   PANEL    CLOCK   │
│                             │
└─────────────────────────────┘
```

Press the PROG PANEL soft key to begin installer control panel programming. The keypad briefly displays the panel's configuration. There are two possible configurations:

1.   Multi-Area

2.   Separate Areas

For configuration 1 (Multi-Area), user codes may be assigned to operate in more than one area and keypads may have a primary and extended areas of operation.

For configuration 2 (Separate Areas), each user code and keypad may only be assigned to operate in one of the areas.

If the panel has not been configured (i.e. it is being programmed for the first time), then the keypad displays the panel configuration question, "Allow Multi-Area Codes?".

If YES is pressed, then the panel is set to configuration 1. If NO is pressed, the panel is set to configuration 2.

Once this question is answered, it is not asked again unless the panel is completely defaulted. Be careful to answer this question correctly.

After the panel configuration has been briefly displayed, the first programming menu, M1: AREA DEFINITIONS is displayed.

```
┌──────────┐
│   NOTE   │
└──────────┘
```

Until the panel has been configured, it may not be programmed remotely with RPM/2.

Programming Menus

MENU 1 AREA DEFINITIONS	MENU 8 COMM TELEPHONE #S
MENU 2 KEYPAD DEFINITIONS	MENU 9 AREA REPORT CODES
MENU 3 ZONE DEFINITIONS	MENU 10 ZONE REPORT CODES
MENU 4 USER CODES	MENU 11 USER REPORT CODES
MENU 5 OUTPUT DEFINITIONS	MENU 12 GLOB SYS REP CODES
MENU 6 GLOBAL SYS OPTIONS	MENU 13 AREA SCHEDULES
MENU 7 COMMUNICATOR OPTIONS	MENU 14 PROGRAMMING OPTIONS
	MENU 15 SYSTEM INFORMATION

FIGURE 3–2. Main Menu Flow Chart

3.6   Soft Keys Used During Programming

> **NOTE**
>
> After becoming familiar with the menu structure, it is recommended to read about the powerful navigation abilities explained in Section 3.9. The control exits program mode after three minutes of inactivity. Pressing the * key twice exits to the normal operations mode.

*	This key is available for all menus and is used to back up one level or exit programming.
NEXT	May be used to step forward from one screen or menu to the next.
SELECT	Used to choose the currently displayed menu or menu item so that it may be programmed.
STORE	After entering a numeric value for a menu item, this key must be pressed to store the data in permanent memory.
CHANGE	Available with options that display either a Yes or No choice. With each press of the key, the currently displayed choice is changed.
CLEAR	Used to erase an incorrect digit entry.
PREV	May be used for backing up one item (level) at a time.
——>	Used to move the blinking cursor (data entry point) when programming menus that have more than one option, and when programming names (characters and words) for areas, zones, etc.

3.7　Programming Names Using The Text Editor

To program the name of an area, keypad, zone, or user, place the flashing cursor inside the quote marks by pressing the arrow -> key. While inside the quote marks, the numeric touchpad keys produce characters. Pressing the 2 key once produces an "A" character. Pressing 2 again produces a "B" and so on. The keys and characters correspond to the alphanumeric association on a telephone touch pad: the 2 key= A, B, and C, the 3 key= D, E, and F, and so on. Once the desired character is displayed, advance the cursor by pressing the arrow -> key. Repeat the character entries until the desired name is complete, then press NEXT to complete the process. It is also possible to use a library of pre–programmed words. The library is accessed by pressing the pound # key after the cursor is placed into the name field. Instead of individual characters, the numeric touchpad keys now produce the words that correspond to each letter. Pressing the pound # key a second time produces soft keys for inserting or deleting spaces or characters.

1 SEE NOTE 1	**2** A B C	**3** D E F
4 G H I	**5** J K L	**6** M N O
7 P Q R S	**8** T U V	**9** W X Y Z
*	**0** SEE NOTE 2	**#**

KEY　　　　　　CHARACTER

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

Note 2 : 0　=　{space} ! " # $ % & ' ( ) * + , – . /

All other keys produce the displayed characters.

CLOSE QUOTES
Moves right side
quotation mark to the
cursor's position.

WORD MODE/ INSERT MODE
Press # key repeatedly
until normal screen appears.
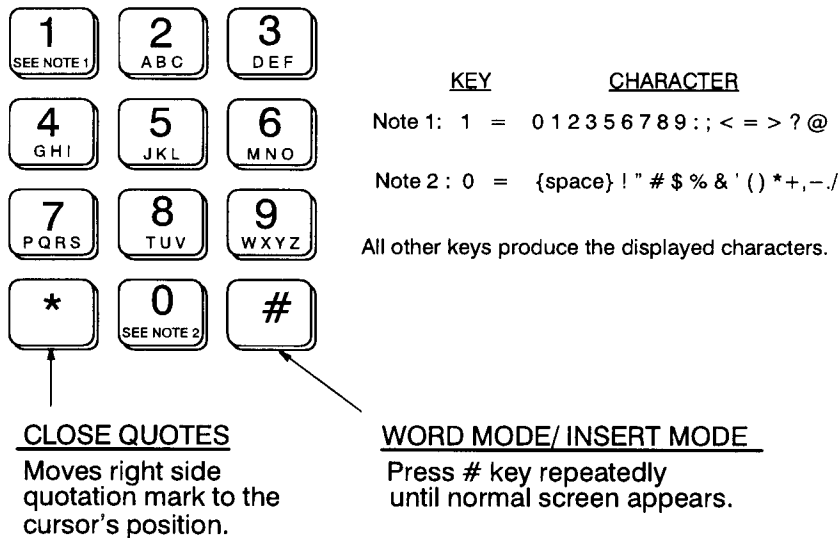
FIGURE 3–3. Text Editor

BUILT–IN LIBRARY OF WORDS

A (2)	D (3)	F	I	M (6)	PHOTO	SKYLIGHT	V
ALARM	DELAY	FAMILY	INFRARED	MAIN	PIR	SLIDING	VALVE
AREA	DEN	FIRE	INSIDE	MASTER	PLAY	SMOKE	VAULT
ATTIC	DETECTOR	FIRST	INTERIOR	MAT	POLICE	SOUTH	
	DINING	FLOOR		MOTION	POOL	SPRINKLER	W (9)
	DOOR	FOYER	J (5)	MICROWAVE	PRESSURE	STORAGE	WALL
B	DOWNSTAIRS	FREEZER	JANITOR			SYSTEM	WAREHOUSE
BACK	DRIVEWAY	FRONT		N	R		WATER
BAR			K	NORTH	REAR	T (8)	WEST
BASEMENT	E	G (4)	KITCHEN		ROOF	TAMPER	WINDOW
BATHROOM	EAST	GARAGE		O	ROOM	TRAP	
BEDROOM	ENTRANCE	GLASS	L	OFFICE			Y
BELL	EXIT	GUEST	LAUNDRY	OUTSIDE	S	U	YARD
	EXTERIOR		LIVING	OVERHEAD	SAFE	ULTRASONIC	
C		H	LOBBY		SECOND	UPPER	Z
CAFETERIA		HALL	LOWER	P (7)	SENSOR	UPSTAIRS	ZONE
CARPORT		HOUSE		PANIC	SHOP	UTILITY	
CEILING				PASSIVE	SIDE		
CLOSET							

( ) INDICATES THE KEY TO PRESS TO BEGIN WORDS WITH THAT LETTER.

FIGURE 3–4. Built-In Library Of Words

3.8   Entering Programming

Menu 1

```
M1: AREA DEFINITIONS
PREV        NEXT     | SELECT |
```

Press Select to program this menu. Press Next to advance to the next menu. Another screen then appears for choosing which area to program.

```
AREA 1 DEFINITIONS
PREV        NEXT     | SELECT |
```

Press Select to program Area #1. Press Next to advance to the next area. Press Prev to back up one area or exit to the top of this menu. Area #1 menu is typical of every area definition menu. Following is a list of the descriptions and factory default settings for Area #1.

```
| NOTE |
```

When entering values into the menu items, it is possible to enter values which exceed the valid range of the programmed option. It is the responsibility of the installer to ensure the correct value of any entry programmed into the control.

ITEM AND DEFAULT	DESCRIPTION
A1: "Z1200" Up To 10 Characters	Area name. Refer to Text Editor on page 3–5.
A1: EXIT TIME = 60	Exit delay time in seconds for delay and interior follower defined burglary zones. Valid range is 0–255.
A1: ENTRY 1 TIME = 20	Amount of time in seconds to enter burglary zones defined as Delay #1. Valid range is 0–255.
A1: ENTRY 2 TIME = 40	Amount of time in seconds to enter burglary zones defined as Delay #2. Valid range is 0–255.
A1: KEY A DEF. = 2	Defines the condition to be activated by Panic Key A on the keypads in this area. Select from the following table.

Available Value Selection		Functional Description
0	=	Key Not Used
1	=	Burglar Alarm
2	=	Fire Alarm
3	=	Holdup Alarm
4	=	Auxiliary Medical Alarm

ITEM AND DEFAULT	DESCRIPTION
A1: KEY B DEF. = 3	Defines the condition to be activated by Panic Key B. See table.
A1: KEY C DEF. = 4	Defines the condition to be activated by Panic Key C. See table.
A1: SIL. KP ON BURG: NO	Eliminates the keypad piezo sounder upon burglar alarm.
A1: SIL. KP ON HOLDUP: YES	Eliminates keypad piezo sounder and visual display upon holdup alarm.
A1: REPORT LOCKOUT = 0	Selects the number of communicator reports allowed by each zone in this area. Valid range is 0–15.

ITEM AND DEFAULT	DESCRIPTION
A1: AUDIBLE LOCKOUT = NO	Determines if the intrusion output should be locked out after the first alarm for this area. Resets with disarm. (Lockout is not timed).
A1: ENABLE BYPASS: YES	Enables selective bypassing of any zone that is defined as bypassable in this area.
A1: ENABLE FORCE ARM: NO	Permits arming of area(s) with 1 or more zones faulted. Zones are temporarily bypassed and can return to operation if the fault is corrected. Only zones defined as bypassable may be force armed.
A1: AUTO INTER. OFF: NO	Automatically turns off interior defined zones at end of exit delay if a delay zone isn't violated (i.e. no exit occurs). Switches the arming mode from Away to Stay as a convenience for LED keypads. Do not use if multi-area arming is going to be performed or if arming is to be performed from RPM/2.
A1: EXCEPTION OPENING: NO	Restricts opening reports upon disarming after an actual alarm only. Prevents regular opening reports.
A1: CLOSING RINGBACK: NO	Provides an audible response at the keypads upon receipt of a closing signal by the Alarm Central Station Receiver.

Menu 2

```
M2: KEYPAD DEFINITIONS
PREV        NEXT      [SELECT]
```

Press Select to program this menu. Press Next to advance to the next menu. Another screen will then appear for choosing keypad definitions.

```
KEYPAD 1 DEFINITIONS
PREV        NEXT      [SELECT]
```

Press Select to program this keypad. Press Next to advance to the next keypad. Press PREV to back up one keypad or exit to the top of this menu.

Every keypad must be assigned a unique data address number. The data address is selected by setting the DIP switch on the keypad (see Chapter 1). In programming or defining each keypad, the address number must correspond with the keypad being programmed.

Each keypad definition has several options.

ITEM AND DEFAULT	DESCRIPTION
KP1:"KEYPAD 1" Up To 10 Characters	Keypad name displayed upon non–silent panic key alarms. Refer to Text Editor on page 3–5.
KP1 A:1 E:1	(A:) Defines the primary area to which the keypad is assigned. (E:) Defines extended area operation and is available only if the multi area codes feature was selected upon first time entry into programming. The primary area assignment is automatically included in the extended area field.
KP1 ENABLE PANIC A: NO	Defines if Panic Key A is to be enabled at this keypad.
KP1 ENABLE PANIC B: NO	Defines if Panic Key B is to be enabled at this keypad.

ITEM AND DEFAULT	DESCRIPTION
KP1 ENABLE PANIC C: NO	Defines if Panic Key C is to be enabled at this keypad.
KP1 SILENT EXIT = NO	Silences the exit alert at the keypad.
KP1 SILENT ENTRY = NO	Silences the entry alert at the keypad.
KP1 ACCESS TIME = 5 Valid Range = 0–255 0 = Toggle	Time in seconds for an access output activated from this keypad. Toggle access feature allows the output to latch ON/OFF. Access is performed at the keypad by entering a 0 prior to a valid passcode with sufficient authorization. Typically used to activate electrically operated door strikes. **Note: This control is not a UL listed Access Control System. The access feature should not be used in UL listed installations.**

All access outputs assigned to this keypad (See Menu 5) are affected when a valid code is entered for this keypad. It is not area dependent.

Press Next after the last item in this menu to advance to the next keypad. Press the * key twice to exit to the user mode.

Menu 3

```
M3: ZONE DEFINITIONS
PREV        NEXT    │SELECT│
```

Press Select to program this menu. Press Next to advance to the next menu.

Every zone has two programming screens. Each screen displays the physical zone number followed by the programmable entry fields.

Screen 1

```
ZN 01: "ZONE 01"
PREV        NEXT        —>
```

Screen 1 of each zone allows a custom zone name (up to 16 characters) to be programmed. The arrow key moves the cursor into the name field and advances one character with each entry. Refer to text editor on page 3–5. Whenever a zone is displayed on the keypad, only the custom name appears. There is no zone number displayed unless programmed as part of the description. This way each partition can essentially display consecutive zone numbers, i.e., Z1 through Z? regardless of the physical zone numbers. The physical zone number is never used except by the installer.

Press Prev to return to the previous display. After the zone name is complete, press Next to store the name. Press Next again to proceed to screen 2.

Screen 2

```
ZN 01: AREA:1 DEF:1100
PREV        NEXT        —>
```

Screen 2 provides two entry fields. The first field (Area:) requires a single digit entry (0–8) to assign the zone to an area. The second field (Def:) requires a four digit entry to define the zone operation. The arrow key moves the cursor into the Def: field. The four digit zone code can be created using the zone definition tables on pages 3–9 and 3–9. Enter four digits until the field is complete, then press Store.

Press Next to proceed to screen 1 of the next zone. Press Clear to erase an incorrect digit entry. Pressing Store completes the entry and stores the data in memory. Entering a number from 1–44 and then pressing Zone quickly navigates (jumps) to the definition screens for that zone (this is only recommended for experienced users). For detailed instructions regarding creating the zone definition value see the following zone definition table.

Digit 1 – Defines The Zone Type

0	Null (Disables The Zone Completely)	7	Tamper (24 Hour Burglary)
1	Burglary	8	Burglary Chime (Always) Regardless Of Area Chime
2	Fire 24 Hour	9	Verified Fire * (2 minute window)
3	Holdup 24 Hour	10 (A)	Fire Supervisory .
4	Auxiliary 24 Hour	11 (B)	Universal ** (Digit 2 selects Univ. 0 or Univ. 1)
5	Keyswitch (Momentary Only)	12 (C)	Burglary With Sentry Test ***
6	Communicator Report 24 Hour (CCM)	13 – 15	Future Use

  *   **Verified Fire**: Upon activation, control removes switched smoke power for 20 seconds. The loop is ignored for an additional 40 seconds. Subsequent activations within the next 60 seconds will cause an alarm.

 ** **Universal**: May be used to activate a programmable output (Non-Reporting).

*** **Sentry Test**: (Ensures that a zone is capable of initiating an alarm by preventing arming until one violation has occurred from the zone during each disarm period.)

     To program an A, B, or C digit, press the # key followed by 0, 1, or 2 respectively.

Digit 2 – Defines The Response

0	Perimeter Instant (Selects Universal 0 when Digit 1 = B)
1	Perimeter Delay 1 (Selects Universal 1 when Digit 1 = B)
2	Perimeter Delay 2
3	Interior Instant (Bypassed when armed in Stay mode)
4	Interior Follower (Entry delayed after a delay zone violation) (Bypassed when armed in Stay mode)
5	Interior Nite (Bypassed when armed in Stay & Nite mode)
6	Interior Delay 1
7	Interior Night Delay 1

NOTE: Digit 2 only applies to Burglar Zones (digit 1 = 1, 8, or C) and Universal Zones (digit 1 = B). Exit time applies to all burglar zones except Perimeter Instant.

Digit 3 – Defines Bypassing (0 or 1 ONLY)

0	Not Bypassable (Any zone can be programmed as bypassable. Fire should not be programmed as bypassable.)
1	Bypassable

Digit 4 – Defines Troubles/Supervision

0	Supervised, no trouble output (Standard for Burglar)
1	24 Hr. Trouble on Loop Open, Alarm on Loop Short (Required for Fire)
2	24 Hr. Trouble on Loop Short, Alarm on Loop Open
3	Burg Day Alert on Loop Open, Alarm on Open/Short When Armed.
4	Burg Day Alert on Loop Short, Alarm on Open/Short When Armed.
5	Non Supervised, (Closed circuit contacts only, no end-of-line resistor)
6	Non Supervised, (Open circuit contacts only, no end-of-line resistor)
7	Two wire Smoke, (Zone 12 Only, Refer to Special Zone)

Burg Day Alert = Trouble When Disarmed

The following table lists factory supplied zone names and definitions of the first 12 zones in the control. The zone definition menu continues up to Zone 44. There are no pre-set factory default values beyond Zone 12.

SCREEN	DESCRIPTION OF ZONE
ZN 01: "ZONE 01" ZN 01 AREA:1 DEF:1110	(BURG., DELAY #1, BYPASSABLE, NO TROUBLE/SUPV)
ZN 02: "ZONE 02" ZN 02 AREA:1 DEF:1210	(BURG., DELAY #2, BYPASSABLE, NO TROUBLE/SUPV)
ZN 03: "ZONE 03" ZN 03 AREA:1 DEF:1310	(BURG., INTERIOR INSTANT, BYPASSABLE, NO TROUBLE/SUPV)
ZN 04: "ZONE 04" ZN 04 AREA:1 DEF:1310	(BURG., INTERIOR INSTANT, BYPASSABLE, NO TROUBLE/SUPV)
ZN 05: "ZONE 05" ZN 05 AREA:1 DEF:1300	(BURG., INTERIOR INSTANT, NON-BYPASS, NO TROUBLE/SUPV)
ZN 06: "ZONE 06" ZN 06 AREA:1 DEF:1300	(BURG., INTERIOR INSTANT, NON-BYPASS, NO TROUBLE/SUPV)
ZN 07: "ZONE 07" ZN 07 AREA:1 DEF:1300	(BURG., INTERIOR INSTANT, NON-BYPASS, NO TROUBLE/SUPV)
ZN 08: "ZONE 08" ZN 08 AREA:1 DEF:1300	(BURG., INTERIOR INSTANT, NON-BYPASS, NO TROUBLE/SUPV)
ZN 09: "ZONE 09" ZN 09 AREA:1 DEF:1000	(BURG., PERIMETER INSTANT, NON-BYPASS, NO TROUBLE/SUPV)
ZN 10 :"ZONE 010" ZN 10 AREA:1 DEF:1000	(BURG., PERIMETER INSTANT, NON-BYPASS, NO TROUBLE/SUPV)
ZN 11: "ZONE 11" ZN 11 AREA:1 DEF:1000	(BURG., PERIMETER INSTANT, NON-BYPASS, NO TROUBLE/SUPV)
ZN 12: "ZONE 12" ZN 12 AREA:1 DEF:2001	(FIRE, 4-WIRE, NON-BYPASS,TROUBLE/OPEN)

Menu 4

```
M4:  USER CODES
PREV        NEXT     | SELECT |
```

Press Select to program this menu. Press Next to advance to the next menu.

Every user code has two programming screens. Each screen displays the physical user code number followed by the programmable entry fields.

Screen 1

```
UC 01  C:12345      "USER 01"
PREV        NEXT        —>
```

Screen 1 allows a 1 to 5 digit passcode and an eight-character name to identify the user. The arrow key moves the cursor into the name field and advances one character with each entry. Refer to text editor on page 3-5. When a code is programmed from the user level, only the custom name appears. No user numbers are displayed. This way, user codes are viewed and retrieved by looking for the user name. **The user code must not begin with 0.**

After the user name is complete, press Next to complete the entry. Press Next again to proceed to screen 2.

For multi-area applications, duplicate passcodes among all user passcodes and the Installer's Passcode (see Programming Database), are not allowed regardless of the area assignments of the passcodes.

For separate area applications, do not enter duplicate passcodes among user passcodes within an area and the installer's passcode.

Screen 2

```
UC 01 L:F A:1 E:1 . . . . . . .
PREV        NEXT            —>
```

Screen 2 is used to assign:

(L:)   The user's authority level (See Table on page 3–11).

(A:)   The **Area Editable From** determines the area in which a user (with a high enough Authority Level) must be operational in to edit the passcode and user name. For example, if Area Editable From is area 2, then a user trying to edit the passcode must be operational in area 2 and he must attempt it from a keypad that is also operational in area 2. All passcodes can be edited from any keypad.

(E:)   **Areas Operational On** is used in combination with the keypad's Areas of Operation to determine the areas suitable for an operation. For example, if a user operational in areas 1, 2 & 3 enters his passcode on keypad operational in areas 2, 3, & 4 to perform an arming operation, then the system attempts to arm areas 2 & 3.

In multi-area applications, Area Editable From and Areas Operational On are completely independent.

In separate area applications, Area Editable From and Area Operational On are the same area and Areas Operational On is not editable.

LEVEL	CODE CAN BE USED TO:
0	Nothing. Code is Non-Operable
1	Operate the Access Feature ONLY (0 key followed by Code activates the output(s) assigned for this keypad).
2	Arm the control Only.
3	Arm the control – Operate the Access feature (0 key followed by Code).
4	Special Arm the control – This code can arm the control but it CANNOT disarm unless the control was armed by this code or another level 4 code. Once a regular user enters their code, the level 4 code no longer disarms.
5	Arm with Restricted Disarm. This code can Disarm ONLY during the scheduled open time +/– time window.
6	Arm with Restricted Disarm + Operate the Access feature.
7	Arm or Disarm only, no restrictions. (Most typically used configuration.)
8	Arm or Disarm + Access.
9	Arm or Disarm + Access + Activate a Duress Alarm by using this code to arm/disarm. (Duress avail. this digit only)
10 (A)	Arm or Disarm + Access + Bypass Zones.
11 (B)	Arm or Disarm + Access + Bypass + Perform a System Test.
12 (C)	Arm or Disarm + Access + Bypass + System Test + View Event History log.
13 (D)	Arm or Disarm + Access + Bypass + System Test + Event History + Modify Schedules
14 (E)	MASTER USER – Arm or Disarm + Access + Bypass + System Test + Event History + Schedule + Program Codes that belong to same primary area.
15 (F)	GRAND MASTER USER – Arm or Disarm + Access + Bypass + System Test + Event History + Schedule + Program Codes + Set Clock.

NOTE: The ability to view status, reset silent holdup alarms, and reset smoke detectors begins with the disarm privilege.

NOTE: Access output requires entering 0 before the codes.

Menu 5

```
┌─────────────────────────────────────┐
│  M5:  OUTPUT DEFINITIONS             │
│                        ┌──────────┐  │
│  PREV        NEXT      │ SELECT   │  │
│                        └──────────┘  │
└─────────────────────────────────────┘
```

This menu is used to assign the programmable outputs. The control is equipped with six programmable, on–board outputs. If more outputs are needed, they can be obtained by the addition of one or more Z2350 Zone Concentrators. The outputs on the control circuit board are assigned to positions 1–6. The outputs on the zone concentrators are assigned to positions 7–46.

Press Select to program this menu. Pressing Next advances to the next menu.

Output 1 is typical of every output. Each output is assigned a condition (i.e. Burglar, Fire, Status, Alarm) and areas to which it should respond when the condition is active in those areas.

```
┌─────────────────────────────────────┐
│  OUT 01  C:1  A:1 . . . . . . .      │
│                                      │
│  PREV        NEXT             —>     │
└─────────────────────────────────────┘
```

Select the desired output condition from the list below. Enter that digit into the C: field. To assign the output to the desired area(s), press the arrow key to move the cursor into the A: field. Then enter the number (s) of the area(s) to which the output should respond and press Store. To remove an area assignment, enter the area and press Store or enter 0 and press Store to erase all area assignments. Each output may be assigned to one or more areas so that for example, a common siren can be assigned to all areas.

```
┌──────────────┐
│     NOTE     │
└──────────────┘
```

If you select access as a condition, the A: changes to K: because access is assigned by keypad rather than by area. If an output is defined for multiple areas, the output becomes active for any single area with the condition present. It does not collectively represent the condition of all the areas.

Output 1 automatically activates the K1 on-board relay.

CONDITION TABLE	OUTPUT BECOMES ACTIVE WHEN:
0 = Not Used	
1 = Burglar Alarm	A burglary defined zone or panic key has been alarmed.
2 = Fire Alarm	A fire defined zone or panic key has been alarmed.
3 = Holdup Alarm	A hold–up defined zone or panic key has been alarmed.
4 = Auxiliary Alarm	An auxiliary defined zone or panic key has been alarmed.
5 = Tamper (24–Hr. Burg.)	A tamper defined zone has been alarmed.
6 = Ready	All burglar zones within the area assignment have returned to a non–violated state (use single area).
7 = Armed	The area assigned has been armed.
8 = Violation	Any of the burglary, fire, auxiliary, or tamper defined zones or panic keys have been alarmed. Remains active until reset at a keypad by an authorized passcode.
9 = Lamp	A key is pressed during entry, exit, and alarm times. (Active for 2 min.) Mostly used to activate line carrier devices such as BSR.
10 = Trouble Indicator	Active with any loop or system trouble. Stays on until the trouble condition is cleared.
11 = Audible Trouble	Same as trouble output. Deactivates when trouble condition is silenced at keypad.

CONDITION TABLE	OUTPUT BECOMES ACTIVE WHEN:
12 = Chime Enabled Indicator	When the chime mode is activated for the area assigned.
13 = Chime Output	Active for 2 sec. when a disarmed chime always zone is violated. Pulses twice when chime is enabled and a disarmed perimeter burglar zone is violated.
14 = Switched Power Interrupt	Active for 20 sec. when a smoke reset occurs either manually or by verified fire. (Special circumstances apply for verified fire, See Zone Def. Menu 3).
15 = Telephone Line Fault	Not available on Z1200.
16 = Pre–alarm	Active during entry time.
17 = Exit Alert	Active with the commencement of exit time after the area has been armed.
18 = Access	A valid passcode is entered after the 0 command. Is keypad assignable and lasts for the time programmed for access time (See Menu 2).
19 = Communication Failure	A communication is unsuccessful in reporting an event after the number of dial attempts.
20 = Universal 0	A universal 0 defined zone is violated. See Menu 6.
21 = Universal 1	A universal 1 defined zone is violated
22 = Special Arm	The system is armed with a Level 4 User Code.
23 = Fire Trouble	A fire, verified fire, or fire supervisory zone indicates a trouble condition. Restores with the correction of the zone fault.
24 = Fire Bell Trouble	Not available on Z1200.
25 = Closing Ringback	Active for 1 second after the central station kissoff of the closing signal.
26 = Auto Arm Warning	Indicates that the system is about to be automatically armed. It is active for the 10 minutes leading up to an arm.
27 = Instant Armed	Indicates that the entry delay has been disabled and all zones are in instant mode.
28 = Armed And Exit Time Expired	Indicates that the system is armed and the exit time has expired.
29 = Fire Supervisory	A zone defined as fire supervisory is in alarm.
30 = Duress	Indicates that a duress code was used to arm or disarm the control. Use for backup reporting only.
31 = Ground Start	Triggers a telco ground start circuit.
32 = Battery Test Screen	The battery test feature is active.
101–144= Zone (1–44) Violated	Allows individual zone status output indication.

```
NOTE
```

Some of the outputs listed are primarily intended for audible annunciators remote from the keypads. These include the entry and exit and chime outputs. Outputs of this type closely mirror the activity of the piezo resonator on the keypad. If the keypad output is pulsed or steady, the programmable output reflects that activity. Other outputs are intended to operate commonly used annunciation devices, such as LEDs and sirens. When the use of any output is considered, the security control terminal delivering the output and the amount of current that it can provide should be compared to the requirements of the load device before operating the output. It may be necessary to activate the device through one of the on–board or separately installed auxiliary relays. The same output type may be programmed for any of the output terminals.

Menu 6

```
M6: GLOBAL SYS OPTIONS
PREV        NEXT      SELECT
```

Press Select to program this menu. Press Next to advance to the next menu. This menu is used to program options that affect the entire system, rather than only one area.

ITEM AND DEFAULT	DESCRIPTION
1 Burg Cut–Off: 10	Time in minutes before a burglar activated output automatically de-activates. Valid range is 0–255 minutes (0= no cut off).

> **NOTE**
>
> **For all cut off times, each area performs its own cut off even though all areas share the same time value setting.**

ITEM AND DEFAULT	DESCRIPTION
2 Pulsing Burg: Yes	Sets the burglar output to pulse at the rate of 1 second on, 1 second off.
3 Fire Cut Off: 0	Time in minutes before a fire activated output automatically de-activates. Valid range is 0–255 minutes (0= no cut off).
4 Pulsing Fire: No	Sets the fire output to pulse at the rate of 1 second on, 1 second off.
5 Holdup Cut-Off: 10	Valid range is 0–255 minutes (0= no cut off).
6 Aux Cut-Off: 10	Valid range is 0–255 minutes (0= no cut off).
7 Enable Comm Abort: No	Allows a burglar alarm to be aborted when it is silenced before the Comm Delay expires. (See Menu 7)
8 Univ 0 Out Time: 0	Valid range is 0–255 seconds (0 = latch). If 0 is programmed, the first violation will activate the output, a subsequent violation will deactivate it.
9 Univ 1 Out Time: 0	Valid range is 0–255 seconds (0=latch).
10 Comm Test Time: 00:00	Sets the hour:minute for the auto communicator test in military format.
11 Days Between Tests: 1	Sets the time intervals in days for the auto communicator test (range = 0–255). A setting of 0 disables Automatic Comm Test Reporting. If two phone lines are being used by the system, the communicator tests will alternate between two lines.
12 Enable Skip Test: No	Allows the auto test to be aborted if any signal has been transmitted since the last auto test.
13 Test On Power–up: No	Causes a communicator test to initiate immediately upon system power up. Does not affect the days between tests counter.
14 AC Trouble Delay: 10	Allows an AC power fail report to be delayed from 0–255 minutes.
15 Wrong Code Lock Out: 8	Sets the number of failed code entry attempts allowed before a 50 second lockout for a particular keypad. (Range = 0 – 15; 0 = No lockout).
16 Common Areas: 1 . . . . Note: **Enter only the areas common to Area 1.** **When last common area is armed, Area 1 arms if it is ready or force arms if force arming is enabled for Area 1.**	Area 1 may automatically arm/disarm according to the condition of other common area(s). If the entry door in a vestibule or lobby application is assigned to Area 1, it arm automatically when the last common area defined by this option is armed. Area 1 arms in AWAY mode, retaining its own exit/entry delay, and automatically disarms when any of the other common areas is disarmed. Area 1 may have its own keypad and be dis-armed by any authorized person not necessarily having access to the other area(s).

ITEM AND DEFAULT	DESCRIPTION
17 Sync Clock To AC: Yes	Synchronizes the internal clock with the local power company's 50 or 60 Hz for accurate time keeping. This feature should always be enabled unless the local primary AC source is unreliable.
18 KP Panic 3 Sec Hold: Yes	Requires all keypad panic keys to be pressed and held for approximately 3 seconds in order to activate an alarm condition.
19 Bell Test On Arm: No	Pulses the burglar defined output for one second upon arming.

Menu 7

```
M7: COMMUNICATOR OPTIONS
PREV          NEXT      SELECT
```

Press Select to program this menu. Press Next to advance to the next menu.

This menu allows the Digital Communicator to be enabled and defines the operating formats and functionality.

ITEM AND DEFAULT	DESCRIPTION
1 Enable Comm: No	Used to enable the control digital communicator.
2 Comm Delay: 0	Time delay in seconds (0–255) that a user has to silence and abort a burglar alarm.
3 T1 Trans Format: 0	Transmission format to be used when the communicator dials telephone #1. (Refer to Transmission Formats Table on page 3–16.)
4 T1 Trans Speed: 0	Transmission speed to be used when the communicator dials telephone #1 and a pulsed format is used. (Refer to Transmission Speeds Table on page 3–16.)
5 T1 Dial Attempts: 5	Maximum number of dial attempts (0–15) when the communicator dials telephone #1.
6 T1 Listen In: 0	Time in minutes (0–15) the listen-in is active after kissoff. Only applicable when the Trans Format is SIA.
7 T2 Trans Format: 0	Transmission format to be used when the communicator dials telephone #2. (Refer to Transmission Formats Table on page 3–16.)
8 T2 Trans Speed: 0	Transmission speed to be used when the communicator dials telephone #2 and a pulsed format is used. (Refer to Transmission Speeds Table on page 3–16.)
9 T2 Dial Attempts: 5	Maximum number of dial attempts (0–15) when the communicator dials telephone #2.
10 T2 Listen In: 0	Time in minutes (0–15) the listen-in is active after kissoff. Only applicable when the Trans Format is SIA.
11 Time Between Calls: 5	Time delay in seconds (0–255) between each dial attempt.
12 L1 Dial Type: 0	Sets the type of dialing. (Refer to Dial Types Table on page 3–17.)
13 L1 On–hook Time: 5	Time in seconds (0–15) the phone remains on–hook (non loaded) after the communicator seizes the phone line. Useful when the control attempts to seize an occupied telephone line.
14 L1 Dial Tone Wait: 0	Time the communicator waits for dial tone before blind dialing or hanging up. (Range 0–2, 0=6 sec, 1=12 sec, 2= 24 sec).
15 L1 Allow Blind Dial: Yes	Allows the communicator to blind dial if no dial tone is detected.

Transmission Formats

VALUE	FORMAT AND DESCRIPTION
0	**Data Format** is "3+1 Non-Extended". The last 3 digits of the account code and the first digit of the report code are sent twice in a row for verification.
1	**Data Format** is "3+1 Two Line Extended". The last 3 digits of the account code and both digits of the report are sent. Line 1 is the account code and the first report code digit. Line 2 is the first report code digit 3 times and the second report code digit. Each line is sent twice in a row for verification.
2	**Data Format** is "3+1 Single Line Extended". The last 3 digits of the account code and the first digit of the report code are sent. If the first digit of the report code is 'B' thru 'F', a second line with the first report code digit 3 times and the second report code digit are also sent twice in a row for verification.
3	**Data Format** is "4+2 Extended". The last 4 digits of the account code and both digits of the report code are sent twice in a row for verification.
4	**Data Format** is "SIA Level 1". All six digits of the account code are sent. The report code is only used to determine if the event is to be sent or not. The reports are generated from a SIA report table. The Transmission Speed is ignored.
5	**Data Format** is "BFSK" (binary frequency shift key). The last 3 digits of the account code and both digits of the report code are sent in one packet. The Transmission Speed is ignored. This is a Radionics developed format.
6	**Data Format** is "Contact ID". The last 4 digits of the account code are sent. The report code is only used to determine if the event is to be sent or not. The reports are generated from a Contact ID report table. The Transmission Speed is ignored. This is an Ademco developed format.
10	**Data Format** is "3+1 Non-Extended (Parity)". The last 3 digits of the account code and the first digit of the report code are sent once with a parity checksum for verification.
11	**Data Format** is "3+1 Two Line Extended (Parity)". The last 3 digits of the account code and both digits of the report code are sent. Line 1 is the account code and the first report code digit. Line 2 is the first report code digit 3 times and the second report code digit. Each line is sent once with a parity checksum for verification.
12	**Data Format** is "3+1 Single Line Extended With Parity". The last 3 digits of the account code and the first digit of the report code are sent. If the first digit of the report code is 'B' thru 'F', then a second line with the first report code digit 3 times and the second report code digit is also sent. Both lines (if used) are sent once with a parity checksum for verification.

Transmission Speeds

VALUE	SPEED AND DESCRIPTION
0	Autobaud = Slow 10 pps, 1900 hz data if receiver handshake is 1400 hz. Fast 20 pps, 1800 hz data if receiver handshake is 2300 hz.
1	Slow 10 baud = 10pps, 1900 hz data, 800 mS. inter–digit time.
2	Fast 20 baud = 20 pps, 1800 hz data, 600 mS. inter–digit time.
3	Fast 15 baud = 15 pps, 1400 hz handshake, 1900 hz data, variable inter–digit time.
4	Fast 20 baud = 20 pps, 2300 hz handshake, 1800 hz data, variable inter–digit time.
5	Superfast = 40 pps, 1400 or 2300 hz handshake, 1800 hz data.

Dial Types

VALUE	TYPE AND DESCRIPTION
0	USP (Pulse US) = "US Rotary" uses North American Standard (60/40) make/break ration pulses.
1	TT (Touchtone®) = Touchtone® uses industry standard DTMF tones. Touchtone® is a trademark of AT & T.
2	Foreign Pulse = "Foreign Rotary" uses 67/33 make/break ratio pulses, typical of foreign countries.

Receiver Compatibility Table

Receivers	Transmission Format	Transmission Speeds (Pulse Reporting Only)
Ademco 685	3/1, 4/2, Contact ID	Auto, 10B, 15B, 20B
FBI CP220	3/1, 4/2, Contact ID	Auto, 10B, 15B, 20B
Osborne–Hoffman (Quick Alert)	3/1, 4/2, Contact ID, BFSK, SIA	Auto, 10B, 15B, 20B
Radionics 6000	3/1, BFSK	Auto, 10B, 15B, 20B
Radionics 6500	3/1, 4/2, BFSK	Auto, 10B, 15B, 20B
Silent Knight 9000	3/1, 4/2, SIA	Auto, 10B, 15B, 20B
Varitech V–300D	3/1, 4/2	Auto, 10B, 15B, 20B

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. The 3/1 formats listed have not been tested with parity bits selected and should not be programmed with parity bits selected on UL Listed systems.

Menu 8

M8: COMM TELEPHONE #s
PREV   NEXT   SELECT

Press Select to program this menu. Press Next to advance to the next menu.

This menu includes entries for 1 (16 digit) long distance or prefix access number and 2 central station telephone numbers (16 digits each).

Event reporting assignments for each telephone number are programmed under the AREA REPORT CODES menu. The assignment of telephone dialing options and reporting formats are programmed under the COMMUNICATOR OPTIONS menu.

PREFIX:	(16 DIGITS) Utilized for dialing long distance access numbers or when more than 16 digits are needed for a telephone number. Programming an A as the first digit of telephone numbers 1 and 2 causes the communicator to automatically dial this prefix before it dials the telephone number.
PHONE 1:	(16 DIGITS) Telephone number for the first receiver.
PHONE 2:	(16 DIGITS) Telephone number for the second receiver.

Dialed Digits Allowed

0–9	Numbers from 0 to 9 dial the appropriate Touchtone® or pulse digit.
A	The communicator can be instructed to dial the prefix number before dialing telephone numbers 1 or 2 by programming the first digit of the telephone number with an A. The communicator can be instructed to switch from Touchtone® dialing to Pulse or vice versa during the dialing of a telephone number by programming an A digit anywhere else within the dial string.
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 3–second pause during dialing.
E	Programming an E into any digit position forces the communicator to pause and wait for a second dial tone.
F	An F may be programmed after the last digit of a telephone number to signify end of dialing.

> **NOTE**
>
> **Conventional pagers cannot receive the digital data transmitted from the communicator. The telephone numbers are of sufficient length to allow pauses and Touchtone digits to be programmed and sent as part of any pager telephone number.**

Menu 9

> M9: AREA REPORT CODES
> PREV   NEXT   SELECT

Press Select to program this menu. Press Next to advance to the next menu.

Another screen then appears for choosing which area report codes to program.

> AREA 1 REPORT CODES
> PREV   NEXT   SELECT

Press Select to program area 1. Press Next to advance to the next area. Press Prev to return to the previous screen.

Each report code requires a two digit entry. The first digit sets the primary event code and the second digit sets the extended code. Each digit has a range from 0–F. If extended reporting is not required, program the second digit as a zero (0). To completely disable a report code, program both digits as zero (0). To enter codes A–F, press the # key followed by a number from 0–5. For example: #+0=A, #+1=B, #+2=C, #+3=D, #+4=E, and #+5=F. When the SIA or Contact ID format is selected, it is only necessary to program a value other than zero into the first digit position to enable that event to be reported, the correct transmitted data is automatically sent.

ITEM AND DEFAULT	DESCRIPTION
1 A1 Tel 1 Acnt No:	Account number used when dialing telephone #1 (up to 6 digits).
2 A1 Tel 2 Acnt No:	Account number used when dialing telephone #2 (up to 6 digits).
3 A1 Key A: 00	Code sent for alarms activated by panic key A.

ITEM AND DEFAULT	DESCRIPTION
4 A1 Key B: 00	Code sent for alarms activated by panic key B.
5 A1 Key C: 00	Code sent for alarms activated by panic key C.
6 A1 Duress: 00	Code sent for alarms activated by duress code arm or disarm.
7 A1 Kp Lockout: 00	Code sent when a keypad is locked out due to failed passcode attempts.
8 A1 Abort: 00	Code sent when an authorized user resets a burglar alarm prior to communication activation. (The comm. abort option and the comm. delay time must have a value and must be enabled).
9 A1 Cancel: 00	Code sent when an authorized user resets a burglar alarm after reporting.
10 A1 Keyswitch Close: 00	Code sent when system is armed with keyswitch zone.
11 A1 Keyswitch Open: 00	Code sent when system is disarmed by keyswitch zone.
12 A1 RPM Close: 00	Code sent when system is armed by RPM.
13 A1 RPM Open: 00	Code sent when system is disarmed by RPM.
14 A1 Auto Close: 00	Code sent when armed by scheduled program.
15 A1 Auto Open: 00	Code sent when disarmed by scheduled program.
16 A1 Late Close/Open: 00	Code sent when scheduled opening or closing is late (after the time window has expired).
17 A1 Early Close/Open: 00	Code sent when scheduled opening or closing is early (before the time window has started).
18 A1 Fail Close/Open: 00	Code sent when a scheduled open or close does not occur (when the time window has expired).
19 A1 Closing Extended: 00	Code sent when the scheduled closing time is extended.
20 A1 BA Phn No: 3 *	Directs which telephone number(s) to report the intrusion alarms and restorals.
21 A1 FA Phn No: 3 *	Directs which telephone number(s) to report the fire alarms and restorals.
22 A1 Holdup Phn No: 3 *	Directs which telephone number(s) to report the holdup alarms an restorals.
23 A1 Aux Phn No: 3 *	Directs which telephone number(s) to report the aux alarms and restorals.
24 A1 CCM Phn No: 3 *	Directs which telephone number(s) to report the critical condition monitoring events.
25 A1 TBL/BYP Phn No: 0 *	Directs which telephone number(s) to report the zone troubles and bypasses.
26 A1 OPN/CLS Phn No: 0 *	Directs which telephone number(s) to report the openings and closings.

* The following table is used in the phone direction options. Each value corresponds to a telephone number and order of operation that the communicator is to follow when reporting events to the central station.

Telephone Number Assignment Table

0	Disables reporting of these conditions.
1	Directs reports to telephone #1 only.
2	Directs reports to telephone #2 only.
3	Directs reports to telephone #1 first with telephone #2 as backup.
4	Directs reports to telephone #2 first with telephone #1 as backup.
5	Directs reports to both telephone #1 and telephone #2.

Menu 10

```
M10: ZONE REPORT CODES
PREV        NEXT    [ SELECT ]
```

Press Select to program this menu. Press Next to advance to the next menu.

Each zone has two programming screens for assigning the report codes. Screen 1 is used to assign the alarm and restore report codes. Screen 2 is used to assign the bypass and trouble report codes.

Each report code requires a two digit entry. The first digit sets the primary event code and the second digit sets the extended code. Each digit has a range from 0–F. If extended reporting is not required, program the second digit as a zero (0). To completely disable a report code, program both digits as zero (0). To enter codes A–F, press the # key followed by a number from 0–5. For example: #+0=A, #+1=B, #+2=C, #+3=D, #+4=E, and #+5=F. When the SIA or Contact ID format is selected, it is only necessary to program a value other than zero into the first digit position to enable that event to be reported, the correct transmitted data is automatically sent.

Defaults for all zones: Screen 1 – ALM: 10 RES: E0
                            Screen 2 – BYP: 00 TBL: F0

Example:

Screen 1

```
Z01    ALM:        RES:
```

Menu 12

```
┌─────────────────────────────────┐
│ M12:  GLOB SYS REP CODES        │
│ PREV          NEXT    ┌────────┐ │
│                       │ SELECT │ │
│                       └────────┘ │
└─────────────────────────────────┘
```

Press Select to program this menu. Press Next to advance to the next menu.

Each report code requires a two digit entry. The first digit sets the primary event code and the second digit sets the extended code. Each digit has a range from 0–F. If extended reporting is not required, program the second digit as a zero (0). To completely disable a report code, program both digits as zero (0). To enter codes A–F, press the # key followed by a number from 0–5. For example: #+0=A, #+1=B, #+2=C, #+3=D, #+4=E, and #+5=F. When the SIA or Contact ID format is selected, it is only necessary to program a value other than zero into the first digit position to enable that event to be reported, the correct transmitted data is automatically sent.

ITEM AND DEFAULT	DESCRIPTION
1 TRBL/RSTR PHN NO: 0	Telephone number directory for trouble/restore system reports. (See Telephone Number Assignment, page 3–19)
2 COMM TEST: 00	Transmitted at regular intervals to the central station. Implies proper operation of the communicator and the telephone line.
3 AC FAIL: 00	Notifies the central station that the control has lost the primary AC input. The delay time before this report is transmitted is located in the global system options menu.
4 AC RESTORE: 00	Notifies the central station that the AC primary power has been restored.
5 LOW BATT: 00	Notifies the central station that the control is experiencing a low battery. The battery fails at a voltage reading of 11.2 VDC or less.
6 BATT RESTORE: 00	Notifies the central station that the low battery condition has been restored.
7 COMM FAIL: 00	When an event report code is unsuccessful in communicating, the fail to communicate (local trouble) displays. If a subsequent report of any type is successful, the control also reports this code. This condition may also be called communication restoral.
8 MEMORY ERROR: 00	If internal memory system check finds an unauthorized change in the value of one or more of the programming options, this code is reported.
9 LOCAL PROG BEGIN: 00	Transmitted when programming mode is initiated at the control site.
10 LOCAL PROG END: 00	Transmitted after programming mode is terminated at the installation site. This occurs approximately 5 minutes after exiting programming mode or by holding the * key 3 seconds.
11 LOCAL PROG DENIED: 00	Transmitted when a user request for programming at the control station is followed by an invalid authorization code.
12 RESERVED FOR FUTURE USE	
13 REM PROG END: 00	Transmitted when an RPM session has been completed normally.
14 REM PROG DENIED: 00	Transmitted when an unauthorized RPM session is attempted (i.e. improper ID code or access device).
15 REM PROG ABORTED: 00	Transmitted when an RPM session has been aborted. If an event requiring a report to the central station occurred during an RPM session, the control may abort the session to report the event.
16 MISSING KEYPAD: 00	Transmitted when a keypad is removed or fails to respond to system polling.
17 RESTORE KEYPAD: 00	Transmitted when the missing keypad is restored to the data bus.

Menu 13

```
┌─────────────────────────────────┐
│  M13: AREA SCHEDULES            │
│  PREV      NEXT    ┌────────┐   │
│                    │ SELECT │   │
│                    └────────┘   │
└─────────────────────────────────┘
```

Press Select to program this menu. Press Next to advance to the next menu. Another screen will then appear for choosing which area schedules to program.

```
┌─────────────────────────────────┐
│  AREA 1 SCHEDULES               │
│  PREV      NEXT    ┌────────┐   │
│                    │ SELECT │   │
│                    └────────┘   │
└─────────────────────────────────┘
```

Press Select to program area 1. Press Next to advance to the next menu. Press Prev to return to the previous screen.

Scheduled Manual Arming And Disarming

This menu is used to set up daily schedules for authorized openings and closings. The schedule indicates when the control expects an area to be armed and disarmed. A programmable time window allows reasonable variation before and after the time set for the user to arm and disarm the control. All arming or disarming that occurs within the programmed time windows is logged locally. If the arming or disarming occurs outside the time window, it may be reported to the central station which responds accordingly. There is no control station warning during this window.

```
┌──────────────┐
│    NOTE      │
└──────────────┘
```

The Late To Close deadline may be extended by one hour, as long as that extension does not go past midnight. Engage this function by selecting the EXTEND CLOSING option.

Automatic Arming And Disarming

If automatic arming is enabled, the control produces a three second audible warning signal at the appropriate keypad(s) once every minute beginning ten minutes prior to the event. During this warning, the same keypad(s) displays a visual indication of the impending action and the amount of time remaining. This allows the user ample warning to exit or override the impending action. The time window is not used for this feature. Scheduled opening and closing and automatic arming must not be enabled at the same time. Time of auto arm may be extended by one hour (or up to midnight) using the extended closing function. Automatic Disarming occurs at the scheduled time with no warning. Auto Arming arms the control in the AWAY mode with normal exit time.

ITEM AND DEFAULT	DESCRIPTION
1 A1 SCH CLS DAYS (SMTWTFS):	Selects the days of the week the panel expects a closing. Not to be confused with the automatic arming feature, this schedule establishes the weekly calendar and timetable for closings to be executed by an authorized user. Each day of the week is selected by entering the number 1–7 corresponding to the day.
2 A1 SCH OPN DAYS (SMTWTFS):	Selects the days of the week the panel expects an opening. Not to be confused with the automatic disarming feature, this schedule establishes the weekly calendar and timetable for openings to be executed by an authorized user. Each day of the week is selected by entering the number 1–7 corresponding to the day.

```
┌──────────────┐
│    NOTE      │
└──────────────┘
```

If items 1 and 2 are selected for a specific day of the week, items 3 and 4 must not be selected for the same day. Programming the area in this manner prevents the area from automatically arming as the scheduled open/close features and the auto-arming/disarming features conflict with each other.

ITEM AND DEFAULT	DESCRIPTION
3 A1 AUT ARM DAYS (SMTWTFS):	Entry (1–7) selects the days of the week that the system automatically arms.
4 A1 AUT DIS DAYS (SMTWTFS):	Entry (1–7) selects the days of the week the system automatically disarms.

> **NOTE**
>
> The following menu items establish the timetable for the events in items 1–4. If scheduled opening and closing events are enabled, the control expects the events to occur within the time parameters set (+/– the time window). If automatic arming is selected, the control arms/disarms the area on schedule. If a zone is violated at the time of the automatic arming, the control arms the area provided force arming is enabled for the area and the zone is programmed as bypassable. If force arming is not enabled or if the zone is not bypassable, the control does not arm the area.

5	A1 TIME WINDOW: 0	Time in minutes that the scheduled opening and closing may deviate +/– from the programmed time table. Valid range = 0–255. (The time window does not extend past midnight).
6	A1 CLOSE TIME SUN: 00:00	Time for automatic arming or scheduled closing on Sunday.
7	A1 CLOSE TIME MON: 00:00	Time for automatic arming or scheduled closing on Monday.
8	A1 CLOSE TIME TUE: 00:00	Time for automatic arming or scheduled closing on Tuesday.
9	A1 CLOSE TIME WED: 00:00	Time for automatic arming or scheduled closing on Wednesday.
10	A1 CLOSE TIME THU: 00:00	Time for automatic arming or scheduled closing on Thursday.
11	A1 CLOSE TIME FRI: 00:00	Time for automatic arming or scheduled closing on Friday.
12	A1 CLOSE TIME SAT: 00:00	Time for automatic arming or scheduled closing on Saturday.
13	A1 OPEN TIME SUN: 00:00	Time for automatic disarming or scheduled opening on Sunday.
14	A1 OPEN TIME MON: 00:00	Time for automatic disarming or scheduled opening on Monday.
15	A1 OPEN TIME TUE: 00:00	Time for automatic disarming or scheduled opening on Tuesday.
16	A1 OPEN TIME WED: 00:00	Time for automatic disarming or scheduled opening on Wednesday.
17	A1 OPEN TIME THU: 00:00	Time for automatic disarming or scheduled opening on Thursday.
18	A1 OPEN TIME FRI: 00:00	Time for automatic disarming or scheduled opening on Friday.
19	A1 OPEN TIME SAT: 00:00	Time for automatic disarming or scheduled opening on Saturday.

Menu 14

```
M14: PROGRAMMING OPTIONS
PREV        NEXT      SELECT
```

Press Select to program this menu. Press NEXT to advance to the next menu.

This section deals with the attributes of the Remote Programming Manager Software. Before programming the specific functions, it is important to understand the following:

ABORT: During a remote programming session, the control is fully functional and can detect and annunciate alarms locally. The control aborts a session with RPM/2 to report an alarm through the digital communicator; however, it does not abort a session with RPM/2 to report any other type of event.

DATALOCK: As a provision of anti–takeover, the control does not permit local programming of the telephone numbers, or the restore factory defaults option to operate when an agency code has been established and programmed by the RPM/2 software. Other installer programming changes are still allowed. When the Datalock (agency code) has been set, the keypad emits an error tone if any attempt is made to change a phone number or to default the control.

This menu includes entries to select:

ITEM AND DEFAULT	DESCRIPTION
1 INSTALLER CODE: 96321	Allows programming at all levels, but not for any other function.
2 EN. REM PROG: YES	Enables operation of the control with the Aritech RPM/2 package.
3 EN. AUTO ANSWER: YES	Allows the control to answer the premises telephone incoming calls for operation with RPM/2. If it is disabled, then RPM/2 may still be performed by manual connect operation. Do not enable Auto Answer unless RPM/2 is to be used.
4 RINGS COUNT: 5	Sets the number of rings that must occur before answering if auto answer is enabled.
5 2 CALL ANSW MACH BYP: NO	Allows the remote programmer to bypass an answering machine by making two calls to the premises. The first call must ring 3 times or less and not be answered. The second call must begin ringing between 10 seconds and the second call time after the last ring of the first call. The second call is answered on the first ring. Auto Answer must also be enabled.
6 2 CALL TIMER: 0	Time in 10 second increments that the control waits for the second incoming call before aborting the search for the incoming call. Time starts with the last ring of the first incoming call. Consider the telephone usage before enabling this feature.
7 EN. POWER UP PROG: NO	A quick way to enter program mode upon power up. Press the menu key and enter 9999 within 60 seconds of power up and the control enters into program mode. Consider disabling this feature for anti-takeover.

Menu 15

```
M15: SYSTEM INFORMATION
PREV        NEXT    SELECT
```

This menu permits permits viewing of specific hardware configurations as well as the revision of software and the number of users programmed. It also displays the system voltage.

Press Select to run this menu. Press next to proceed to the next menu. Press the * key twice to exit to the run mode.
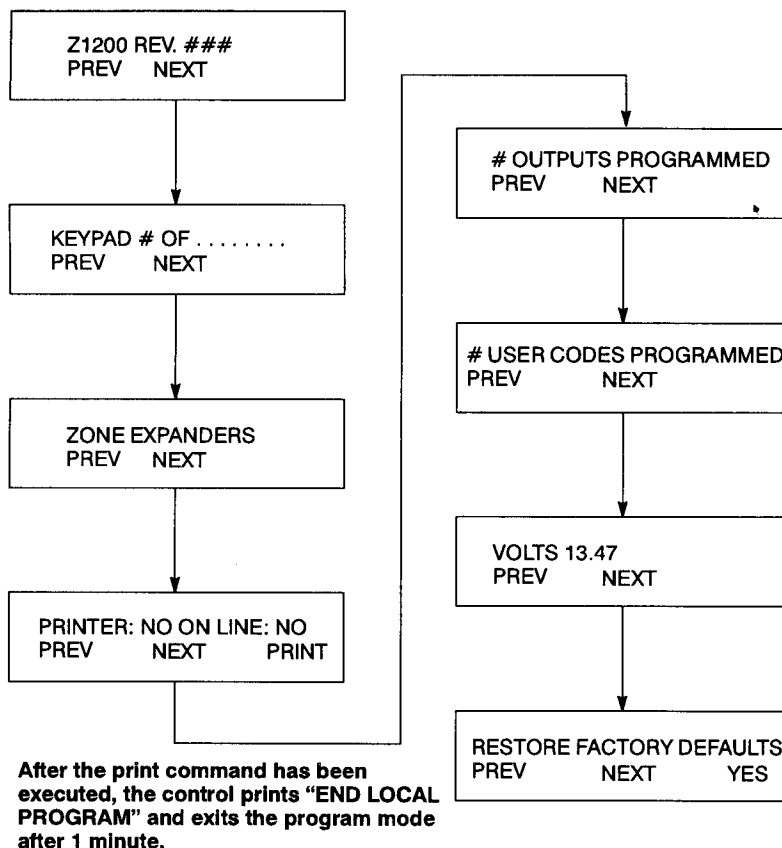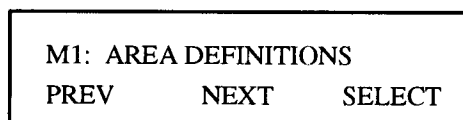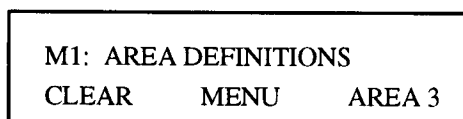
```
┌──────────────────────────┐
│   Z1200 REV. ###         │
│   PREV    NEXT           │
└──────────────────────────┘
            │
            ▼
┌──────────────────────────┐                    ┌──────────────────────────────┐
│   KEYPAD # OF . . . . . . .│                   │   # OUTPUTS PROGRAMMED       │
│   PREV    NEXT           │                     │   PREV      NEXT             │
└──────────────────────────┘                     └──────────────────────────────┘
            │                                                 │
            ▼                                                 ▼
┌──────────────────────────┐                    ┌──────────────────────────────┐
│   ZONE EXPANDERS         │                     │   # USER CODES PROGRAMMED    │
│   PREV    NEXT           │                     │   PREV         NEXT          │
└──────────────────────────┘                     └──────────────────────────────┘
            │                                                 │
            ▼                                                 ▼
┌──────────────────────────┐                    ┌──────────────────────────────┐
│   PRINTER: NO ON LINE: NO│                     │   VOLTS 13.47                │
│   PREV      NEXT    PRINT│                      │   PREV       NEXT            │
└──────────────────────────┘                     └──────────────────────────────┘
                                                              │
                                                              ▼
                                                 ┌──────────────────────────────┐
                                                 │   RESTORE FACTORY DEFAULTS   │
   **After the print command has been**          │   PREV       NEXT      YES   │
   **executed, the control prints "END LOCAL**   └──────────────────────────────┘
   **PROGRAM" and exits the program mode**
   **after 1 minute.**
```

FIGURE 3–5. Menu 15 Flow Chart

3.9   Programming For Experienced Installers

After gaining experience with the menus, a more powerful navigation is achieved by entering the menu or individual item number (item numbers may be used when the programmer is inside the desired menu). Once the number is entered, the prompts change to allow that main programming menu, sub–menu or an item to be directly accessed. See the following example.

```
┌──────────────────────────────────────┐
│   M1:  AREA DEFINITIONS               │
│                                       │
│   PREV         NEXT        SELECT     │
└──────────────────────────────────────┘
```

From this menu, it is possible to jump directly to main programming menu M3 (Zone Definitions). Entering a 3, changes the display.

```
┌──────────────────────────────────────┐
│   M1:  AREA DEFINITIONS               │
│                                       │
│   CLEAR        MENU        AREA 3     │
└──────────────────────────────────────┘
```

In this display, the 3 shown is the entry made by the programmer. Using the soft keys below each of the prompts (CLEAR, MENU, or AREA), it is possible to move around within the menus as follows:

Remove the entry of the digit 3 and return to the previous display by pressing CLEAR. Advance to the M3 main programming menu by pressing the soft key below MENU. Enter into the area definitions menu (as shown in last sample screen) and automatically advance to area 3 sub menu by pressing the soft key below AREA.

This menu and item jumping allows greater freedom to move within the menu hierarchy. It eliminates time consuming steps, especially on existing installations where minor programming changes are required. The jumping option does not function when the display requires a YES or NO response.

Considerations For System Programming

Many options are inter–dependent requiring other variables to be set before the function or feature will work. Following are some examples of these features.

When partitioning, consider the following menus and the extended fields of operation in each.

M1: Area Definitions

M2: Keypad Definitions

M3: Zone Definitions

M4: User Code Definitions

For central station monitoring, the following menus and their fields are involved.

M7: To Enable Communication And Select Format, Speed, Etc.

M8: To Set The Phone Numbers To Dial

M9: To Set Area Account Numbers, Type Of Reporting Split, (i.e., Single, Dual, Backup, Etc.)

M10: To Set Zone Report Codes

M11: To Set User Report Codes

M12: To Set Global Report Codes

Specifications And Accessories 4

4.1   Specifications And Accessories

Control Board:

☐ 12 two—wire zones each supervised with a 2200 Ω end—of—line resistor. Expandable to 44 zones
☐ One of the 12 zones is special; Z12 can be a two—wire smoke loop.
☐ Three keypad activated panic keys
☐ Nominal current drain for board only: 100 milliamps
☐ Watchdog microprocessor monitoring circuit
☐ Superior six stage lightning/transient protection
☐ One general purpose Form C SPDT (5 amp DC) relay
☐ Six alarm and control outputs (expandable to 46)
☐ 24—hour battery monitoring
☐ Automatic system shutdown if voltage falls below 8.5 volts
☐ Operating temperature range inside the enclosure: 32 to 120° F (0 to 49° C)

Power Supply:

☐ Full 1.5 amp (16.5 VAC, 35 VA Transformer)
☐ 13.8 VDC
☐ 900 mA continuous available current
☐ Reverse polarity protection on battery inputs
☐ Float charging circuit: 13.8 VDC
☐ Over—current protection on outputs for keypad power, auxiliary power.

Recommended Battery (not included):

☐ Rechargeable 12 volt, 7 ampere—hour, sealed lead acid

Transformer:

☐ T1635 UL Listed Class II plug—in, 16.5 VAC, 35 VA secondary, 120 volt, 60 Hz primary connected to 24—hour unswitched outlet.

Enclosure:

☐ 20—gauge locking metal cabinet with two keys; Dimensions 14" x 14" x 3.5" (356mm x 356mm x 89mm).

Digital Communicator:

☐ DTMF Touchtone® or Rotary (pulse) dialing; Rotary speed: 10pps, (60/40 make/break or 67/33 make/break).
☐ FCC Registration number: A79USA—60755—AL—E; Ringer equivalence: 0.0B.
☐ Transmission formats include: SIA Level 1; BFSK and Pulse Formats: Slow (10 or 15 baud) and Fast (20 or 40 baud) and Contact ID
☐ Reports to most major central station receivers

☐ Primary phone number up to 16 digits

☐ Secondary phone number up to 16 digits

☐ Prefix for phone number up to 16 digits; special application long distance access

☐ Reporting capabilities: two 6-digit account codes per area; report by zone; 2–line extended, single line extended; 4+2 format; hexadecimal reporting; opening or closing reports; shunted zone(s) reported upon arming; zone restore reporting; cancel reporting; low battery/fuse blown; automatic test every 24–hours; delay before dial, dial attempts

☐ Dial type reversal: reverses dialing method (tone to pulse, pulse to tone) on an in–progress call.

LCD Keypad (Z2100):

☐ Connects to 4–wire data bus

☐ LCD backlighting

☐ 12–button keypad with audible feedback

☐ Surface mountable; mounts to any standard single or double gang electrical box.

☐ 48–character LCD screen

☐ Built–in piezo sounder

☐ Area assignable

☐ Communicates with control independently; addressed with DIP switch

☐ Built–in English vocabulary

☐ Nominal current drain: 75–200 mA (depending on light setting)

☐ Up to eight keypads per system with addition of HCP 12–SULC Auxiliary Power Supply

☐ Size: 6.82" x 4.72" x 0.83" (173mm x 120mm x 21mm)

☐ Color: bone white with gray labeling

Features:

☐ Truly partitionable (up to 8, with optional user overlapping)

☐ Ready to install with a factory basic program

☐ Keypad programming

☐ 99 user authorization codes

☐ Installer programming code

☐ Non–volatile memory retains arm/disarm status and programming after total power loss or board removal.

☐ Self–diagnostics with memory error detection

☐ Hardwire zones programmable as Burglar, 24–hour Auxiliary A (fire), Auxiliary B (Holdup), Auxiliary C, CCM (Communicator Zone), Universal 1 and 2, and 24–hour Burglar (tamper), Verified Fire, Sentry Watch

☐ May be programmed for keyswitch arm/disarm

☐ Burglar zones may be defined as instant or delay (2 delay timers), interior, interior follower, interior night, perimeter.

☐ Programmable timers: Entry Delay 1, Entry Delay 2, Exit Delay, Access, Alarm Cut–off, Universal 0 and 1

☐ Invalid code station lockout (programmable option) and 3–minute programming time out.

☐ Siren/bell test upon arming (programmable option)

☐ Courtesy lamp line carrier trigger output

☐ Timed access (door strike) output

☐ Made in U.S.A.

Optional Accessories:

☐ TC1100 Tamper Resistant Enclosure: extra high security cover.

☐ Z217 Programming Cable: For plugging in a keypad directly to the control board for programming.

☐ Z2100 LCD Keypad: 48–character display with emergency, menu, and soft keys; nominal current drain: 75–200 mA (depends on light setting).

☐ Z2200 LED Keypad: Simple arming station for smaller applications and single area operation; Ready, Armed, Trouble, and Alarm indication and three emergency keys; Nominal current drain: 25 mA.

☐ Z2300/Z2350 Zone Concentrators: Expands the control with 8 additional zones. Z2350 provides 10 additional programmable outputs. Nominal drain: Z2300 consumes 40 mA/Z2350 consumes 45 mA.

☐ Z2400 Printer Interface: Allows connection of a standard parallel printer via interface. Nominal current drain: 65 mA; Power requirements: 13.8 VDC, 85 mA without printer connected.

☐ F2600 Transformer Enclosure: Ensures that the AC plug-in transformer remains securely fixed to the AC wall outlet.

☐ 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 the connection of an additional battery to the control.

Output Provisions:

☐ Low Current Trigger Outputs: Current outputs are 12V, 40 mA each. Six outputs on main board, expandable to 46 with Z2350 zone concentrator.

☐ High Current Output: 900 mA maximum continuous combined current drain.

☐ For alarm conditions, these auxiliary outputs are used to provide high current output up to the rating of the designated fuses.

4.2   List Of Compatible Accessories

ESL (Smoke Detectors):

445 AT: Input Voltage: 6/12 VDC; Standby Voltage: 8.5–44 VDC; Standby Current 50 µA max.

445 C, CR, CT, CRT: Input Voltage: 12/24 VDC; Standby Voltage: 8.5–44 VDC; Standby Current: 50 µA max.

445 CS, CSH, CST, CSR, CSRT: Input Voltage: 12/24 VDC, Standby Voltage: 8.5–44 VDC; Standby Current: 50 µA max.

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) 0.017A

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): 0.025A

AES–EL2–R Multi–tone Electronic Signal: Voltage: 12 VDC; Current (High) 0.100 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

System Sensors:

1412, 1424 Ionization

1551T Ionization

1806 Ionization

1812 Ionization

1824 Ionization

2312/24T Photoelectric

2400 Photoelectric

2412AT Photoelectric

2412AIT Photoelectric

2424AT Photoelectric

2424AIT Photoelectric

2806 Photoelectric

2812, 2824 Photoelectric

2812TH, 2824TH Photoelectric

ASCOA Fire Systems (Smoke Detectors)

Fixed Temp Heat Detector (Passive Devices): Models 503, 503A, 504, 504A, 603, 604, 623, 624, WPB503–M, WPB504, WPB504–M, A, AT, AE, AEC, AE, A, AT, A

Compatible Devices For Auxiliary Power And Programmable Outputs:

- Aritech AE 912 Raucous Sounder
- Aritech HCP12–SULC Auxiliary Power Supply

4.3   Digital Communicator Table For SIA And Contact ID Formats

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

> *Simplified example of data sent in SIA format: XXXXXX EE CCC*
>
> Where: XXXXXX = 1 to 6 decimal digit subscriber #
>
> EE = Event data code
>
> CCC = Zone, sensor, or user ID

Simplified example of data sent in Contact ID format: SSSS 18 Q XYZ 00 CCC

Where: 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)

00 = Group number

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

CONDITION TO BE REPORTED (ENGLISH PRINTOUT)	SIA CODE/SIA RECEIVERS	CONTACT ID CODE/ CONTACT ID RECEIVERS	
ALARM, FIRE ZONE	(FA) FIRE ALARM	1 110	* FIRE * – FIRE ALARM – #
ALARM, HOLDUP ZONE	(HA) HOLDUP ALARM	1 120	* PANIC * – PANIC – #
ALARM, BURGLARY ZONE	(BA) BURGLARY ALARM	1 130	* BURG * – BURGLARY – #
ALARM, AUX. PANIC ZONE	(PA) PANIC ALARM	1 120	* PANIC * – PANIC – #
BURG TAMPER/ COMM. ZONE	(UA) UNTYPED ZONE ALARM	1 140	* ALARM * – GENERAL ALARM – #
RESTORE, FIRE ZONE	(FR) FIRE RESTORAL	3 110	* RESTORE * – FIRE ALARM – #
RESTORE, HOLDUP ZONE	(HR) HOLDUP RESTORAL	3 120	* RESTORE * – PANIC – #
RESTORE, BURGLARY ZONE	(BR) BURGLARY RESTORAL	3 130	* RESTORE * – BURGLARY – #
RESTORE, AUX. PANIC ZONE	(PR) PANIC RESTORAL	3 120	* RESTORE * – PANIC – #
RESTORE BURG/TAMPER COMM. ZONE	(UR) UNTYPED ZONE RESTORAL	3 140	* RESTORE * – GENERAL ALARM – #
TROUBLE, FIRE ZONE	(FT) FIRE TROUBLE	1 373	* TROUBLE * – FIRE LOOP – #
TROUBLE, HOLDUP ZONE	(HT) HOLDUP TROUBLE	1 370	* TROUBLE * – PROT. LOOP – #
TROUBLE, BURGLARY ZONE	(BT) BURGLARY TROUBLE	1 370	* TROUBLE * – PROT. LOOP – #
TROUBLE, AUX. PANIC ZONE	(PT) PANIC TROUBLE	1 370	* TROUBLE * – PROT. LOOP – #
TROUBLE, BURG TAMPER/COMM. ZONE	(UT) UNTYPED ZONE TROUBLE	1 370	* TROUBLE * – PROT. LOOP – #
BYPASS, FIRE ZONE	(FB) FIRE BYPASS	1 571	BYPASS – FIRE BYPASS – #
BYPASS, HOLDUP ZONE	(HB) HOLDUP BYPASS	1 572	BYPASS – 24–HR. ZONE BYPASS – #
BYPASS, BURGLARY ZONE	(BB) BURGLARY BYPASS	1 573	BYPASS – BURG. BYPASS – #
BYPASS, AUX. PANIC ZONE	(PB) PANIC BYPASS	1 572	BYPASS – 24 HR. ZONE BYPASS – #
BYPASS, BURG TAMPER/COMM. ZONE	(UB) UNTYPED ZONE BYPASS	1 570	BYPASS – ZONE BYPASS – #
ALARM, KEYPAD FIRE KEY	(FA) FIRE ALARM	1 110	* FIRE * – FIRE ALARM – #
ALARM, KEYPAD HOLDUP KEY	(HA) HOLDUP ALARM	1 120	* PANIC * – PANIC – #
ALARM, KEYPAD BURG KEY	(BA) BURGLARY ALARM	1 130	* BURG * – BURGLARY – #
ALARM, KEYPAD AUX KEY	(PA) PANIC ALARM	1 120	* PANIC * – PANIC – #
ALARM, FIRE SUPERVISORY ZONE	(FS) FIRE SUPERVISORY	1 200	* FIRE * – FIRE SUPERVISORY – #

CONDITION TO BE REPORTED (ENGLISH PRINTOUT)	SIA CODE/SIA RECEIVERS	CONTACT ID CODE/ CONTACT ID RECEIVERS
DURESS ALARM, BY USER CODE	(HA) HOLDUP ALARM	1 121 * DURESS * – DURESS – #
ARMED, BY USER CODE	(CL) CLOSING REPORT	3 401 CLOSING – USER #
ARMED, BY KEYSWITCH ZONE	(CL) CLOSING REPORT	3 409 CLOSING – KEYSWITCH
ARMED, BY RPM	(CL) CLOSING REPORT	3 407 CLOSING – REMOTE
EARLY ARM (BEFORE SCHEDULE)	(CK) EARLY CLOSE	3 400 CLOSING
LATE ARM (AFTER SCHEDULE)	(CJ) LATE CLOSE	3 404 CLOSING – LATE
AUTO ARMED VIA SCHEDULE	(CA) AUTOMATIC CLOSING	3 403 CLOSING – AUTOMATIC
FAIL TO ARM BY SCHED. TIME	(CI) FAIL TO CLOSE	3 400 CLOSING
USER EXTENDED SCHEDULED ARMING	(CE) CLOSING EXTEND	3 405 DEFERRED O/C
DISARMED, BY USER CODE	(OP) OPENING REPORT	1 401 OPENING – USER #
DISARMED, BY KEYSWITCH ZONE	(OP) OPENING REPORT	1 409 OPENING – KEYSWITCH
DISARMED, BY RPM	(OP) OPENING REPORT	1 407 OPENING – REMOTE
EARLY DISARM (BEFORE SCHEDULE)	(OK) EARLY OPEN	1 400 OPENING
LATE DISARMED (AFTER SCHEDULE)	(OJ) LATE OPEN	1 404 OPENING – LATE
AUTO DISARM VIA SCHED	(OA) AUTO OPEN	1 403 OPENING – AUTOMATIC
FAIL TO DISARM BY SCHED TIME	(OI) FAIL TO OPEN	1 400 OPENING
TROUBLE, MISSING KEYPAD	(ET) EXPANSION TROUBLE	1 300 TROUBLE – SYSTEM TROUBLE
KEYPAD LOCKOUT, FAILED ATTEMPTS	(DK) ACCESS LOCKOUT	1 300 TROUBLE – SYSTEM TROUBLE
TROUBLE, AC FAILURE	(AT) AC TROUBLE	1 301 TROUBLE – AC POWER
TROUBLE, LOW BATTERY	(YT) SYSTEM BATTERY TROUBLE	1 302 TROUBLE – LOW SYSTEM BATTERY
TROUBLE, FUSE/CIRCUIT BREAKER BLOWN	(YP) POWER SUPPLY TROUBLE	1 300 TBL – SYSTEM TROUBLE
RESTORE, COMM. FAILURE	(YK) COMM. RES.	3 354 RES. – FAIL TO COMMUNICATE
LOCAL PROGRAMMING BEGIN	(LB) LOCAL PROGRAM	1 306 TROUBLE – PROG. CHANGED
RESTORE, MISSING KEYPAD	(ER) EXPANSION RESTORAL	3 300 RESTORE – SYSTEM TROUBLE
RESTORE, AC	(AR) AC RESTORAL	3 301 RESTORE – AC POWER
RESTORE, LOW BATTERY	(YR) SYSTEM BATTERY RES.	3 302 RESTORE – LOW SYSTEM BATTERY
RESTORE, FUSE/CIRCUIT BREAKER	(YQ) POWER SUPPLY RES.	3 300 RESTORE – SYSTEM TROUBLE
DIALER AUTO TEST	(RP) AUTOMATIC TEST	1 602 TEST – PERIODIC TEST REPORT
LOCAL PROGRAMMING ENDED	(LX) LOCAL PROG. ENDED	3 306 RESTORE – PROG. CHANGED
REMOTE PROGRAMMING ENDED	(RS) REMOTE PROG. SUCCESS	1 412 REMOTE – SUCCESSFUL ACCESS
LOCAL PROGRAMMING DENIED	(LD) LOCAL PROG. DENIED	0 000 NO DEFINED CONTACT ID CODE
REMOTE PROGRAMMING DENIED	(RD) REMOTE PROG. DENIED	1 413 REM. – UNSUCCESSFUL ACCESS
REMOTE PROG ABORTED	(RU) REMOTE PROGRAMMING FAILED	1 412 REMOTE – SUCCESSFUL ACCESS
MEMORY ERROR	(YF) PARAM. CK. SUM FAIL.	1 303 TROUBLE – BAD RAM CHECKSUM
ABORT ALARM, BY USER CODE	(BC) BURGLARY CANCEL	1 406 OPENING – CANCEL
CANCEL ALARM, BY USER CODE	(BC) BURGLARY CANCEL	1 406 OPENING – CANCEL

UL And NFPA Requirements 5

5.1 Underwriter's Laboratories (UL) Listing

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

APPLICATION	LISTING
Household Burglary (Grade A)	UL 1023
Household Fire	UL 985
Central Station Burglary (Grade C)	UL 1610/1635
Central Station Burglary (Grade B)	UL 1610/1635
Home Health Care Signaling Equipment	UL 1637
Local Burglary (Grade A)	UL 609
Police Station Burglary Connection (Grade A)	UL 365

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.
- Bypassable 24–hour – Fire zones are programmed as non–bypassable in UL listed systems.
- Unsupervised Burglary Zones – UL does not permit the use of unsupervised zones.
- Remote Programming Manager – Shall not be enabled on UL listed systems.

UL Notes About Program Functions

- Entrance Delay Time (1 and 2) – Maximum of 45 seconds.
- 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 systems.
- Fire Cutoff Time – No automatic cutoff permitted. Shall be programmed to "0", no cutoff.
- Holdup Cutoff Time – Four minutes maximum.
- Communicator Enable – Local or police station connected burglar alarm installations: the communicator must be enabled.
- Time 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 – Shall not be programmed for foreign pulse.
- Enable Remote Programming – This function shall be disabled.
- Enable Auto–answer – This function shall be disabled.

- Dial Attempts Before Shutdown – Five dial attempts minimum, ten dial attempts maximum. Do not program a value of "0".

- Opening/Closing Reports – This function shall be enabled by programming report codes.

- Low Battery Reporting – This function shall 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.

- Single Digit Arming – This function shall be disabled. Passcodes shall have a minimum of three digits.

- Enable Force Arming – This function shall be disabled.

- Enable Bypassing – This function shall be disabled.

- Pulsing Burglar Alarm Output – Shall be programmed to "YES" (pulsing).

- Pulsing Fire Alarm Output – Shall be programmed to "NO" (steady).

- Burglar Loop Audible Lockout – This function shall be enabled.

- Enable Bell Test Upon Arming – This function shall be enabled for Grade A Local Central Station Connected installations.

- Enable Keypad Sounder Upon BA – The system shall have an audible alarm output upon alarm.

- Auto–arming – This function shall be disabled.

- Key A, B, or C – When programmed as "Burglar/Police" (1), the key shall be labeled with a blue shield police sticker. When programmed as "Fire" (2) the key shall be labeled with a red flame sticker. When programmed as "Medical/Emergency" (4), the key shall be labeled with a green and white cross medical sticker.

UL Notes About The Zone Planning Guide

- Burglar Loops – Shall be defined as "Supervised, No Trouble" (0).

- Fire, Holdup, and Auxiliary Emergency Zones – Shall not be defined as bypassable.

- Special Functions/Alarms – Burglar zones shall have an audible output.

- Medical Emergency – At least one keypad shall be used as part of the system.

Application	Listing	Maximum Current Drain (milliamps) With 7AH Battery	Minimum Battery Standby Time In Hours	Control Stations	Smoke Detector BRK 1400, 2400 Power Supervision Module ESL 204B	Auxiliary Equipment Required
Home Health Care Household Burglary	UL 1637 UL 1023	700	4	6	N/A	Amseco MSB-10G Bell
Household Fire	UL 985	700	4	6	Required	Wheelock 34T-12 Horn
Household Burglary/ Fire Combination	UL 1023/ UL 985	700	4	6	Required	Amseco MSB-10G Bell and Wheelock 34T-12 Horn
Central Station Burglary (Grade C)	UL 1610 UL 1635	450	4	2	N/A	
Central Station Burglary (Grade B)	UL 1610 UL 1635	450	4	2	N/A	TB1100A Tamper Resistant Enclosure and ADEMCO AB-12 Bell & Housing
Local Burglary (Grade A)	UL 609	450	4	2	N/A	TB1100A Tamper Resistant Enclosure and ADEMCO AB-12 Bell & Housing
Police Station Burglary Connection (Grade A)	UL 365	450	4	2	N/A	TB1100A Tamper Resistant Enclosure and ADEMCO AB-12 Bell & Housing
Maximum combined continuous current drain (standby) refers to terminals 15, 19, 20, and 18. Under alarm conditions, the combined output current drain should not exceed 1.2 amps.						

Fire Alarm, Trouble And Supervisory Conditions

Fire Alarm

If an alarm has occurred and has been silenced but a fire alarm is still activated, one of the following situations may be present.

1. A smoke detector may be latched in alarm. Resetting the smoke detector power remedies the situation.

2. A short may exist in the field wiring. A qualified technician must troubleshoot the wiring to determine the location of the short and repair it.

Fire Circuit Trouble

This indicates a problem with a fire detection circuit. The audible can be silenced by pressing Display and entering a valid passcode, but the visual indication remains until the condition is corrected.

Fire Supervisory

This indicates that a sprinkler device has been tampered with or that a problem exists with the sprinkler system. The audible indication of a fire supervisory can only be silenced by entering a valid code at the LCD keypad. The visual indication remains until the condition is corrected.

Fire Supervisory Trouble

This indicates an open in the fire supervisory circuit.

Local Testing

The control panel is equipped with a local test function. Enable the function by pressing the menu key on the LCD keypad until System Test is displayed.

Press the soft key beneath System Test, then enter a valid code. All outputs become active for approximately three seconds to test the audible and visual devices. The LCD displays:

```
PROCEED WITH LOCAL TEST
QUIT                UNTESTED
```

At the start of the local test, the following is reported to the central station and recorded in the event log:

- Bell Line Trouble
- Trouble conditions from every zone programmed as Fire, Supervised Fire, or Verified Fire
- Restore Bell Trouble

Proceed with the test by faulting each zone one at a time. As each zone is tested, the display changes to reflect the number of zones tested and those yet to be tested as:

```
1 ZONE TESTED          15 LEFT
QUIT       TESTED   UNTESTED
```

Pressing the soft key beneath Tested displays the zones that have been tested. Pressing the soft key beneath Untested displays the zones that have not been tested.

Pressing the soft key beneath Quit causes the simultaneous display of all the pixels of the LCD for three seconds. Then the LCD returns to the normal status display. At the end of the Local Test, Trouble Restore is reported to the central station and recorded in the event log. All smoke detectors are reset when Local Test is exited.

5.2   National Fire Protection Association (NFPA) Requirements

Smoke Detector Locations

For residential applications, install smoke detectors 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. 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 detector on the lower level.

Install ceiling–mounted smoke alarms 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 alarms where normal ambient temperatures are above 100° F. (37.8° C.)

Do not position smoke detectors in front of air conditioners, heating registers, 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 into which heat has difficulty penetrating. Usually, these dead air spaces measure about 4 inches (0.1m) along the ceiling from the corner and 4 inches (0.1m) down the wall. Do not place heat or smoke detectors in these dead air spaces.
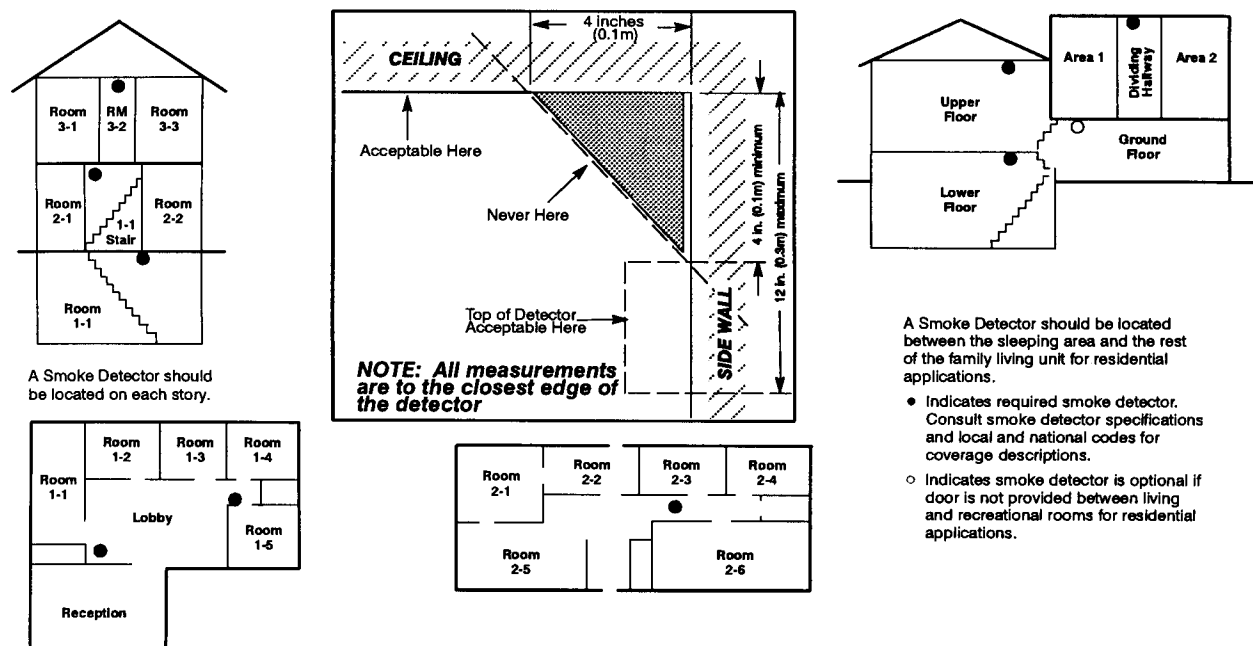
FIGURE 5–6. Smoke Detector Placement

Index

NOTES

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____