**11 ZONE
SECURITY CONTROL/
COMMUNICATOR**

Z1100

SPECIFICATIONS & INSTRUCTIONS

MOOSE

System II

ARITECH®

TABLE OF CONTENTS

APPLICATION

The Z1100 System II is a multi-zone keypad programmable security control having a built-in digital communicator. The control is equally suitable for commercial or residential applications.

SPECIFICATIONS

- Eight two-wire zones, each supervised with a 2200 ohm end-of-line resistor
- Three keypad-activated zones
- Attractive four-wire control station (Z1100R)
  Flush or surface mountable
  Built-in sounder for audible system signaling
  Eight LEDs provide total system and zone status
  Twelve button keypad with tactile and audible feedback
  Up to seven control stations may be used with the system
  See Table 2-1 for U.L. installations
  Current drain:
    70 milliamps per control station under normal conditions:
    (POWER, READY, INTERIOR ON, and DELAY LEDs lit)

    96 milliamps per control station under alarm conditions

  Dimensions: 6.82" x 4.72" x 0.83" (173mm x 120mm x 21mm)
  Color: Bone white with gray labeling

- Digital communicator
  Transmits to all major receivers, including:
    Adcor, Ademco, FBI, Franklin, Osborne Hoffman, Radionics, Sescoa, Silent Knight, Varitech and Vertex
  Transmission formats include slow, fast, Radionics superfast and Radionics BFSK®
  Account codes may be either three (3) or four (4) digits
  Alarm codes may be either one (1) or two (2) digits
  Hexidecimal reporting
  DPDT line seizure
  True dial tone detection
  Secondary dial tone detection
  Pulse or Touchtone® dialing
  Primary & secondary phone numbers: Up to 26 digits each

- Heavy duty 1.5 Amp power supply
  Regulated at 13.8 volts DC
  900 milliamps for powering auxiliary devices
  (See Table 2-1 for UL and CSFM installations)
  12 volt, 6 amp-hour sealed lead-acid battery
  Battery float-charge circuit at 13.8 VDC
  Automatic system shutdown below 7.5 volts
  18 volt, 35 VA U.L. listed class 2 transformer
  Fused outputs provided for: KEYPAD, SMOKE DETECTORS, FIRE and AUXILIARY POWER

- Two (2) general-purpose 5-Amp SPDT relays
- Metal cabinet dimensions: 14" x 14" x 3.5" (356mm x 356mm x 89mm)
- Operating ambient temperature range: 32 to 122 degrees F (0 to 50 degrees C)
- California State Fire Marshal approved
- Canadian Department of Communication approved
- "U.L Residential Burglar-Alarm/Fire Warning System Listed"
- "U.L. Commercial Grade A Local Burglar Alarm, Grade A Police Station Connected Burglar Alarm, Grade B & C Central-Station Burglar Alarm System Listed"

FEATURES

- Comes factory ready with a basic program. No programming required to bench test
- All functions keypad programmable
- Nine (9) user codes available
- Removable plug-in control board
- EEPROM memory does not lose programmed features or arm/disarm status, during total power loss
- Watchdog microprocessor monitoring
- Dynamic 24-hour battery load test
- Continuous low battery monitoring
- Continuous monitoring of fuses for auxiliary and fire power
- Six-stage lightning/transient protection

- Zones programmable for: BURGLARY, FIRE, POLICE, MEDICAL, and COMMUNICATOR trip
  Single zone programmable for keyswitch arm & disarm function, with tamper
  Burglar zones programmable for: INSTANT, DELAY, INTERIOR, DAY SUPERVISORY, SILENT, PRIORITY (non-shuntable)
  Two separate entrance timers available
  Programmable loop response times
  Latching or auto resetting DAY SUPERVISORY
  Shunt by zone from keypad

- Zone auto-shunt or auto-restore after alarm
- Retained alarm memory
- Fail-safe arming

- Digital communicator
  Report by zone
  Single or two line extended reporting
  Two (2) account codes
  Split reporting
  Opening and closing reports by user code
  Closing ringback
  Zone restoral and system restoral
  Programmable abort
  Supervisory/trouble reporting
  Programmable delay before dialing
  Programmable dial attempts and delay between attempts
  Programmable test reporting for intervals of: 12 hours, 24 hours, and up to 7 days
  Shunt by zone reporting
  AC failure and AC restoral reporting
  Low battery and battery restoral reporting
  Memory error reporting
  Listen-in capabilities

- Optional bell test on arming
- Auxiliary light output
- Door strike output timed or toggled (on/off)
- Optional keypad tamper
- Option to upload memory contents to IBM PC or compatible computers for diagnostic purposes

®BFSK is a registered trademark of Radionics Inc.

®Touchtone is a registered trademark of AT&T.

ACCESSORIES

- Z1100P Programmer. This handheld programmer uploads/downloads system parameters to and from the control. It features an easy to read LCD screen, rugged travel case and all necessary hardware.
- Z217 Z1100R Control Station programming cable.
- Z229 Output Expansion Module. Expands outputs of the Z1100 System II to the following:
  First Z229 Output Expansion Module
  - Constant Zone Status Output
  - Supervisory/Trouble Output
  - Fail to Communicate Output

  Second Z229 Output Expansion Module
  - Alarm Output By Zone 1 thru 8
  - Ground Start Trigger
  - Listen-In Trigger

- Z230 3 Zone and BCD Keypad Interface module.
  The Z230 module allows the 3 control station activated zones to be hardwired into the Z1100. It also allows BCD (binary coded decimal) keypads and computers to be connected to the Z1100.

- Z232 Ground Start Module. The Z232 provides an interface to telephone lines requiring ground start to get dial tone.

- Z239 8 Zone LED Display Plate. The Z239 is a surface mount 8 zone display plate to be used with the Z229 for displaying constant zone status.

SPECIAL NOTE: FOR UL LISTED AND CALIFORNIA FIRE MARSHAL INSTALLATIONS

Some equipment and assemblies referenced in this manual are not UL listed and therefore should not be used in UL and California State Fire Marshal (CSFM) installations. For UL and CSFM installations, all equipment and assemblies must be UL listed or CSFM approved and installed by a skilled security professional in accordance with the NFPA Standard 74, available from the:

National Fire Prevention Association,
Batterymarch Park, Quincy, MA 02269.

UL Listed Residential systems must comply with the following additional standards:

UL 1023 Household Burglar Alarm Systems
UL 985 Household Fire Warning Systems.

"For Merchantile and other reporting alarm systems, compliance with UL 365 Police Station Connected Burglar Alarm, UL 609 Local Burglar Alarm, UL 1610 Central-Station Burglar-Alarm and UL 1635 Digital Burglar Alarm Communicator system standards is also required."

"The UL listed control/communicator units will have a UL Label affixed to the OPTION CHART sticker which is affixed to the inside surface of the control system metal box enclosure door."

INTRODUCTION

The Z1100 System II Security Control represents the latest technological advances in the security electronics industry. It has been designed to minimize operator confusion through the use of a simple, yet powerful, Keypad Command Center.

The Z1100 System II utilizes a microprocessor design combining all control and communications electronics on a single plug-in printed circuit board. This design enables the Z1100 System II to deliver superior, competitive performance. All program options are stored in a NON-VOLATILE EEPROM (Electrically Erasable Programmable Read Only Memory), which maintains its data even with power disconnected. This EEPROM may be reprogrammed over and over for changing the system characteristics. The microprocessor is constantly monitored by a "WATCHDOG TIMER", which maintains the operational integrity of the system.

Proper installation and regular maintenance by the installing company and frequent testing by the user is essential to insure continuous satisfactory operation of any alarm security system. The installing company is also responsible for offering a maintenance program and acquainting the user with the correct procedure for use and testing of the security system.

1. SYSTEM OVERVIEW

1.1 GENERAL

The Z1100 System II is ready to use from the factory. It is shipped pre-programmed with factory basic (default) settings of seven burglar zones, one fire zone, and three dedicated keypad zones. The system can be reprogrammed from the keypad to meet a variety of needs. Each zone is individually programmable for burglar, fire, police, medical or communicator trip. A single zone may be programmed for keyswitch arm/disarm function with tamper. Separate timers are programmable for alarm cutoffs, entrance and exit timers (2 entrance timers), loop response time and access on time. The built-in digital communicator is programmable for most popular receiver formats including 4/2 format and extended reporting.

The Z1100R Control Station "Commands" the system through the use of "command" keys followed by one of nine programmable "user authorization" codes. Each code can be from 1 to 5 digits in length and may be assigned a specific level of security. The system allows the option of single, 2 digit, or full code arming with the full code required for disarming. User authorization code 9 may be programmed for a specified number of uses.

NOTE: Appendix A lists the additions and differences between the Z1100 System I and the Z1100 System II.

1.2 FACTORY DEFAULT SETTINGS AND OPTIONS SUMMARY

Table 1-1 provides a list of the Z1100 System II pre-defined (default) settings as supplied from the factory. If the default settings do not meet your installation requirements, they can be easily reprogrammed from the Z1100R Control Station.

NOTE: At any time the Z1100 System II may be returned to the factory default program. This can be helpful for initial bench testing or training. See Section 5.6.11 for the procedure to return to the factory default settings.

USER AUTHORIZATION CODE 1	2-4-5
USER AUTHORIZATION CODE 2	NOT ACTIVE
USER AUTHORIZATION CODE 3	NOT ACTIVE
USER AUTHORIZATION CODE 4	NOT ACTIVE
USER AUTHORIZATION CODE 5	NOT ACTIVE
USER AUTHORIZATION CODE 6	NOT ACTIVE
USER AUTHORIZATION CODE 7	NOT ACTIVE
USER AUTHORIZATION CODE 8	NOT ACTIVE
USER AUTHORIZATION CODE 9	NOT ACTIVE
PROGRAM AUTHORIZATION CODE	9-8-7-6-5

CONFIGURATION DIGIT CODES 1-9...3
ZONE DEFINITIONS:
1 BURGLAR DELAY 1 PERIMETER.................... SLOW LOOP RESPONSE
2 BURGLAR DELAY 2 PERIMETER.................... SLOW LOOP RESPONSE
3 BURGLAR INSTANT INTERIOR.................... SLOW LOOP RESPONSE
4 BURGLAR INSTANT PERIMETER.................... SLOW LOOP RESPONSE
5 BURGLAR INSTANT PERIMETER.................... SLOW LOOP RESPONSE
6 BURGLAR INSTANT PERIMETER.................... SLOW LOOP RESPONSE
7 BURGLAR INSTANT PERIMETER.................... SLOW LOOP RESPONSE
8 FIRE.................... SLOW LOOP RESPONSE

EXIT TIME	60 SECONDS
ENTRANCE TIME (DELAY 1)	30 SECONDS
ENTRANCE TIME (DELAY 2)	45 SECONDS
BURGLAR ALARM CUTOFF TIME	10 MINUTES
FIRE ALARM CUTOFF TIME	NO CUTOFF
POLICE/AUX 1 ALARM CUTOFF TIME	10 MINUTES
MEDICAL/AUX 2 ALARM CUTOFF TIME	10 MINUTES
SLOW LOOP RESPONSE TIME	320 MILLISECONDS
FAST LOOP RESPONSE TIME	80 MILLISECONDS
ACCESS ON TIME	5 SECONDS
BATTERY TEST TIME	24 HOURS
DIGITAL COMMUNICATOR	DISABLED
DIAL ATTEMPTS	8
TRANSMISSION FORMAT	0 (AUTOBAUD)
ACCOUNT CODE	888
ZONE 1 REPORTING CODE	3
ZONE 2 REPORTING CODE	3
ZONE 3 REPORTING CODE	3
ZONE 4 REPORTING CODE	3
ZONE 5 REPORTING CODE	3
ZONE 6 REPORTING CODE	3
ZONE 7 REPORTING CODE	3
ZONE 8 REPORTING CODE	1
KEYPAD FIRE CODE	1
KEYPAD POLICE CODE	2

TABLE 1-1 FACTORY PRE-DEFINED (DEFAULT) SETTINGS

1.3 PROGRAMMABLE ZONE OPTIONS

The Z1100 has eight (8) end-of-line resistor supervised zones. Each may be wired with a combination of normally open and normally closed devices. Multiple zones may be programmed for burglar, fire, police, medical and communicator trip. Any one zone may be programmed as a momentary key zone, but only one key zone may exist per system. Sub options exist for each zone. The ZONE PLANNING GUIDE, Appendix B, provides a table for assisting in zone planning. The zone options and suboptions are given in Table 1-2.

Zone Type	Option	Sub Option
Burglar	Instant Entrance Delay 1 Entrance Delay 2 Interior Perimeter Silent Perimeter Priority (non-shuntable)	Slow or Fast Loop Response Time Supervisory/Trouble
Fire		Slow or Fast Loop Response Time
Police		Slow or Fast Loop Response Time Silent or Audible Supervisory/Trouble
Medical		Slow or Fast Loop Response Time Supervisory/Trouble
Communicator		Slow or Fast Loop Response Time Supervisory/Trouble
Key (Momentary Only)		Supervisory/Trouble Shuntable

TABLE 1-2 PROGRAMMABLE ZONE OPTIONS

1.4 CONTROL STATION ZONES

Three auxiliary zones (FIRE, POLICE/AUX 1 and MEDICAL/AUX 2) may be activated from the control station by pressing, and holding, for one second a combination of two (2) keypad digits. When a keypad alarm is activated, the control station begins beeping and an LED illuminates or flashes to annunciate the type of alarm activated. Police/Aux 1 may be programmed for either silent or audible alarm. The digital communicator may be programmed to transmit a code for each alarm type. An add-on module (Z230) is available for activating these zones using individual N/O hardwire inputs. It is possible to disable any one or all of these control station auxiliary zones by programming. See section 4.6.

Control station alarm activation combinations are:
Keys 1 and 7 for FIRE.
Keys 3 and 9 for MEDICAL/AUX 2.
Keys "*" and "#" or 1 and 3 for POLICE/AUX 1.

1.5 TIMER OPTIONS

The system has many timers which may be programmed to provide the desired system performance. Table 1-1 listed the factory default values for each timer. Table 1-3 gives the programming range, and U.L. limits for each timer.

```
BURGLAR ALARM CUTOFF ............................
.............. 1-255 MINUTES OR NO CUTOFF
POLICE ALARM CUTOFF ...............................
.............. 1-255 MINUTES OR NO CUTOFF
FIRE ALARM CUTOFF ................................
.............. 1-255 MINUTES OR NO CUTOFF
MEDICAL ALARM CUTOFF ...........................
.............. 1-255 MINUTES OR NO CUTOFF
EXIT TIME ........................... 1-255 SECONDS
ENTRANCE DELAY 1 ................... 1-255 SECONDS
ENTRANCE DELAY 2 ................... 1-255 SECONDS
SLOW LOOP RESPONSE ....... 1-255 x 40 MILLISECONDS
FAST LOOP RESPONSE........ 1-255 x 40 MILLISECONDS
ACCESS ON TIME .......... 1-255 SECONDS OR ON/OFF
BATTERY TEST TIME ........... 12 HRS. OR 1 TO 7 DAYS
```

NOTE: For U.L. installations, the following minimum and maximums are required:

```
BURGLAR ALARM CUTOFF ......... 4 MINUTES MINIMUM
BURGLAR ALARM CUTOFF ........ 15 MINUTES MAXIMUM
FIRE ALARM CUTOFF .................. NEVER CUTOFF
EXIT TIME .....................60 SECONDS MAXIMUM
ENTRANCE DELAY 1 .............45 SECONDS MAXIMUM
ENTRANCE DELAY 2 .............45 SECONDS MAXIMUM
LOOP RESPONSE TIME ............1 SECOND MAXIMUM
TIME BETWEEN DIAL ATTEMPTS ......................
.................... 45 SECONDS MAXIMUM
```

TABLE 1-3 TIMER OPTIONS

2. INSTALLATION

2.1 PLANNING THE INSTALLATION

The first step in the installation of any multi-zone system is planning the job. Figure 2-1 provides a typical fire and burglary installation layout. This may be used as a guide in planning the specific installation for the Z1100 System II.

TYPICAL FIRE INSTALLATION LAYOUT

FIRST FLOOR   SECOND FLOOR

| DEN | BATH | KITCHEN |
| LIVING ROOM | DINING ROOM |

NOTE: Alternate locations may be required for the devices indicated.

| BEDROOM | BATH | BATH |
| BEDROOM | BEDROOM | BEDROOM |

TYPICAL BURGLARY INSTALLATION LAYOUT

NOTE: All perimeter openings below 18' should be provided with protection.

LEGEND:
C-Control   ●-Thermostats   **P**-Panic Button
S-Siren (Steady Output)   **F**-Fire Trouble Remote   **RT**-Remote on/off w/Tamper
Y-Siren (Yelp Output)   **K**-Contacts
D-Smoke Detector   **R**-Remote on/off

NOTE: Installation of fire detection equipment in all rooms and areas of the household is suggested for early warning fire detection.

A smoke detector should be installed in each separate sleeping area (the vicinity of, but outside of the bedrooms),and heat or smoke detectors in living rooms, dining rooms, bedrooms, kitchens, hallways, attics, furnace rooms, closets, utility and storage rooms, basements and attached garages.

PREPARATION AND EDUCATION ARE OF PRIME IMPORTANCE IN FIRE PREVENTION. ESTABLISH A HOUSEHOLD EMERGENCY EVACUATION PLAN IN THE EVENT OF FIRE.

1. Evaluate all possible escape routes from your home and draw a floor plan.
2. Select two exit escapes routes from each room.
3. Rooms on the second floor should have a rope ladder. (Be sure it will reach the ground.)
4. Draw a rough sketch of your escape plan so that everyone is familiar with it.
5. Practice your escape plan to assure that everyone knows what they have to do.
6. Establish a meeting place outside where your family is to report.
7. Advise the local fire authority that you have installed a fire alarm system.
   NOTE: The following should be discussed with the family:
   1. Status of bedroom doors.
   2. Familiarity with alarm signal.
   3. Testing of door during a fire and use of alternate escape routes if HOT to touch.
   4. Crawling and holding breath.
   5. Escape FAST, NO STOPPING for packing.
   6. Emphasize that no one is to return to a burning house.
   7. Fire department notification from a neighbor's telephone.

Figure 2-1 Typical Installation Layouts

2.2 HARDWARE INSTALLATION

1. Remove the electronics pack from the Z1100 System II control box. Set aside until all prewiring is completed.

NOTE: For U.L. Grade A local installations the Moose Z11TB Tamper Resistant Kit and the Ademco AB-12 Bell in a Box must be installed. See Figure 2-4, Appendix G and Appendix H.

2. Remove control box knockouts as necessary for wiring. The inside knockout is for ½ inch EMT conduit or romex connector. The outside knockout is for ¾ inch EMT. The rear knockouts are for 1¼ inch EMT.

3. Mount the control box in a secure, dry location with a operating temperature environment of 32 to 122 degrees Farenheit (0 to +50 degrees Celcius.) The control box has six mounting holes. Use the top center hole to temporarily mount and provide a reference for leveling the box and aligning the other five holes.

4. Turn master power switch off (down position). This switch is located below terminal 19. (See Figure 2-2.)

   NOTE: This switch removes AC and DC power.

5. Connect all wiring to the box mounted terminal strips as described in Section 2.3. Reference Figures 2-3 through 2-6.

NOTE: For U.L. Grade A local installations reference Appendix G and Appendix H.

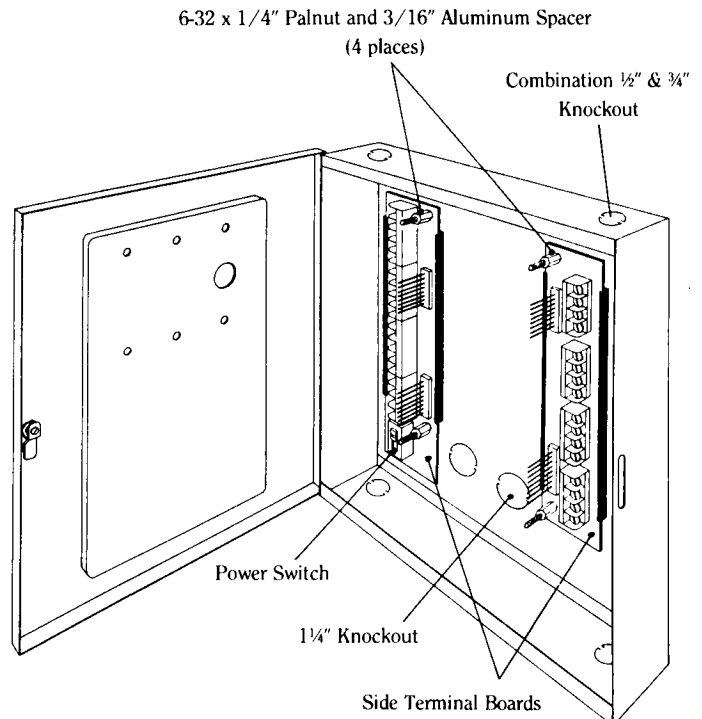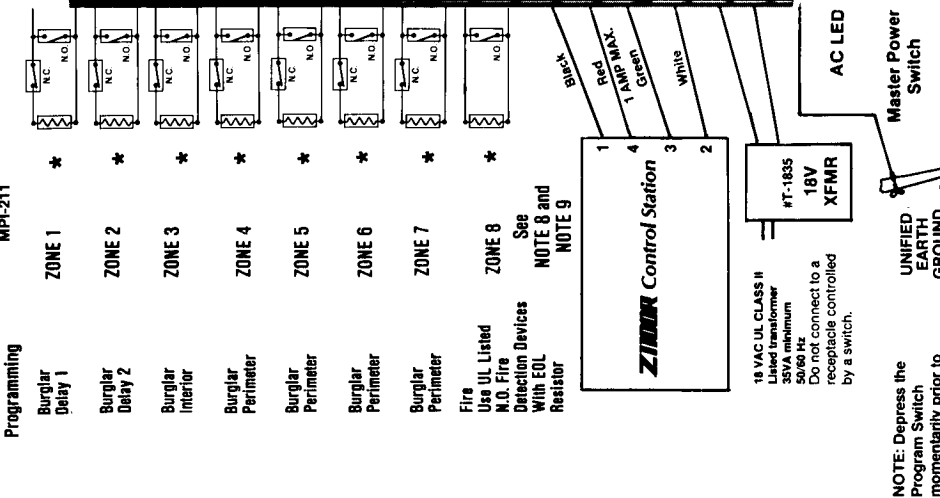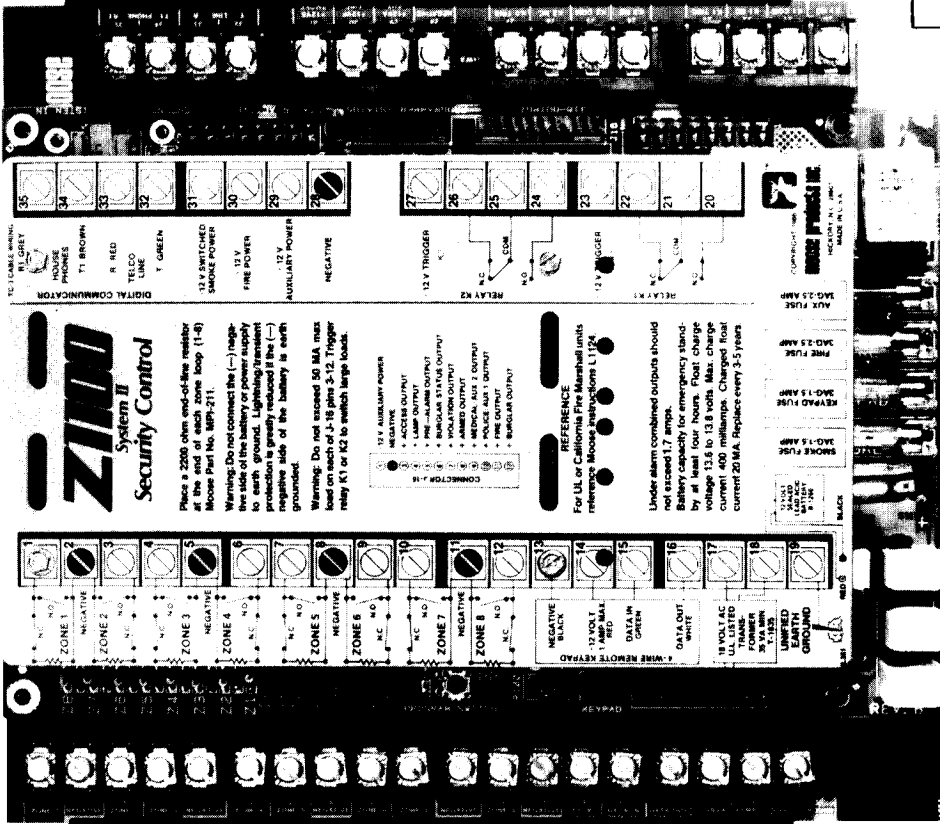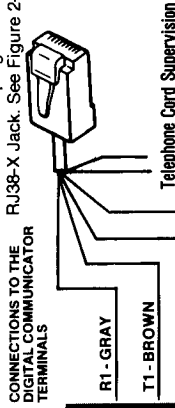6-32 x 1/4" Palnut and 3/16" Aluminum Spacer (4 places)

Combination ½" & ¾" Knockout

Power Switch

1¼" Knockout

Side Terminal Boards

Figure 2-2 Control Box Diagram

Figure 2-3 Suggested U.L. Household Burglar Alarm and/or Household Fire Alarm Hookup.

8

CONNECTIONS TO THE DIGITAL COMMUNICATOR TERMINALS

RJ31-X OR RJ38-X JACK MATES WITH PHONE PLUG.

HOUSE PHONES	1
	8
TELCO LINE	4
	5

(See Figure 2-12)

R1 - GRAY
T1 - BROWN
R - RED
T - GREEN

CONNECTOR J-16

- +12 V AUXILIARY POWER (RED)
- NEGATIVE (BLACK)
- ACCESS OUTPUT (GREEN)
- LAMP OUTPUT (WHITE)
- PRE—ALARM OUTPUT (BROWN)
- BURGLAR STATUS OUTPUT (BLUE)
- VIOLATION OUTPUT (ORANGE)
- ARMED OUTPUT (YELLOW)
- MEDICAL/AUX. 2 (PURPLE)
- POLICE/AUX. 1 (GRAY)
- FIRE OUTPUT (PINK)
- BURGLAR OUTPUT (TAN)

U.L. and CSFM NOTES:

1. All wiring must be not less than No. 22 AWG and must be listed energy limited cable.
2. Use Fire Marshal approved wire for California installations.
3. Diode IN4003 (across the Burglar bell is for noise suppression.
4. Motion Detectors must operate over a voltage range of eleven (11) to fourteen (14) volts.
5. Alarm sounding devices must be installed so that they are clearly heard in all sleeping areas and must operate over a voltage supply range of eleven (11) to fourteen (14) volts.
6. Rating of K1 and K2 relay contacts: 5A at 28VDC
7. Reprogram zone 8 to a Burglar type zone function.
8. Disable interior command button. Function 73.
9. Disable delay command button. Function 74.
9. For Grade A Local installations the Z11TB Tamper Resistant Kit must be installed in the Z1100 Metal enclosure. Refer to Appendix H.
10. For Grade A Local installations program Function 34 for Automatic Bell Test on Arming.
11. Maximum continuous current drain from terminals 14, 29, 30, 31, and connectors J-15 and J-16 (combined) should not exceed 400 milliamps. The Alarm-condition (combined) current drain should not exceed 1700 milliamps (1.7 AMPS).

ZII00 System II Security Control

NOTE FUSES: Use only fast blow type 3 AG fuse of the appropriate voltage and amperage rating.

NOTE: Float-charge voltage: 13.6 to 13.8 Volts Maximum charge-current: 400 milliamps Quiescent charge-current: 20 milliamps. Replace every 3 to 5 years.

NOTE: This system should be tested weekly. All switches, contacts, and accessories must be UL-listed devices. This equipment should be installed in accordance with the National Fire Protection Association's standard #74 (National Fire Protection Association, Batterymarch Park, Quincy, MA 02269). Control panel specifications subject to change without notice.
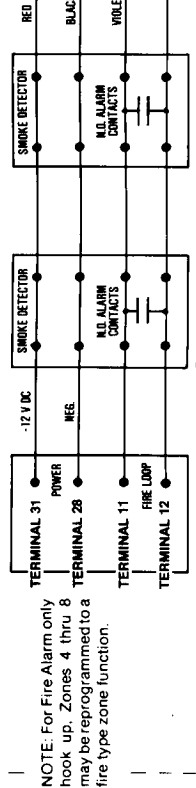
12-Volt Sealed lead-acid Battery 8 AH #B1260 Y

LIGHTNING PROTECTION NOTE: The control panel must be earth-grounded in order for lightning/transient protection to be effective. The ground-connection should be made to a dedicated metal-stake as close to the control as possible. DO NOT use conduit, gas pipe, or telephone-equipment grounds.

Factory Default Programming

* 2200 OHM EOL RESISTOR MPI-211

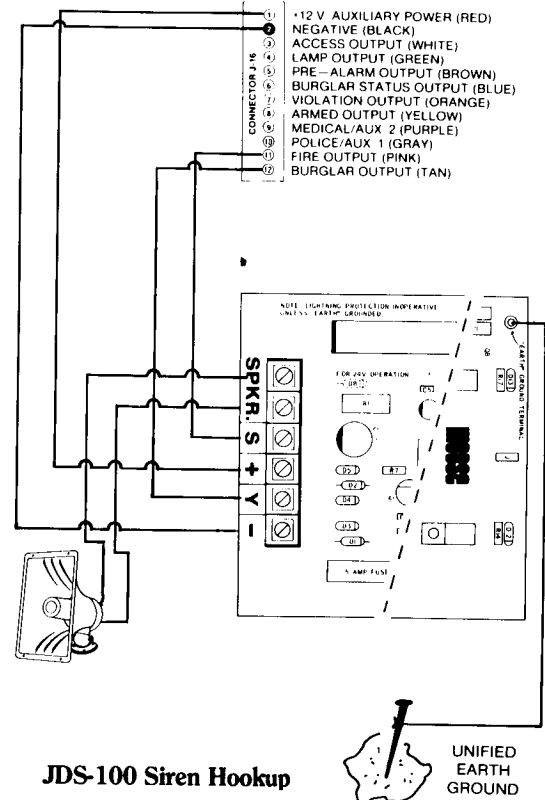|		
Burglar Delay 1	ZONE 1	*
Burglar Delay 2	ZONE 2	*
Burglar Interior	ZONE 3	*
Burglar Perimeter	ZONE 4	*
Burglar Perimeter	ZONE 5	*
Burglar Perimeter	ZONE 6	
Burglar Perimeter	ZONE 7	
See Note 7	ZONE 8	

WINDOW FOIL (If Applicable)

NOTE: Tamper Switches IN THE Z1100 METAL ENCLOSURE (TWO AMSECO TSW-2) See Note 9.

NOTE: Depress the Program switch momentarily prior to Function Programming.

NOTE: All wiring between the Control/Communicator Metal Box Enclosure and the Bell Metal Box Enclosure must be in conduit.

Burglar Alarm Audible Bell in a Box ADEMCO AB-12 (See Note 3) (See Appendix G)

NOTE: The AB-12 metal box and the metal conduit must be electrically insulated from the Unified Earth Ground.

ZI00 Control Station

#T-1835 18V XFMR

18 VAC UL Class II Listed transformer 35VA minimum 50/60 Hz Do not connect to a receptacle controlled by a switch.

AC LED
Master Power Switch

UNIFIED EARTH GROUND

Black
Red 1 AMP MAX.
Green
White

1.5 AMP Max.

EOLR MPI-211

IN4003

Figure 2-4 Suggested U.L. Commercial Grade A Local Burglar Alarm or Grade B or C Central Station Burglar Alarm Hookup.

9

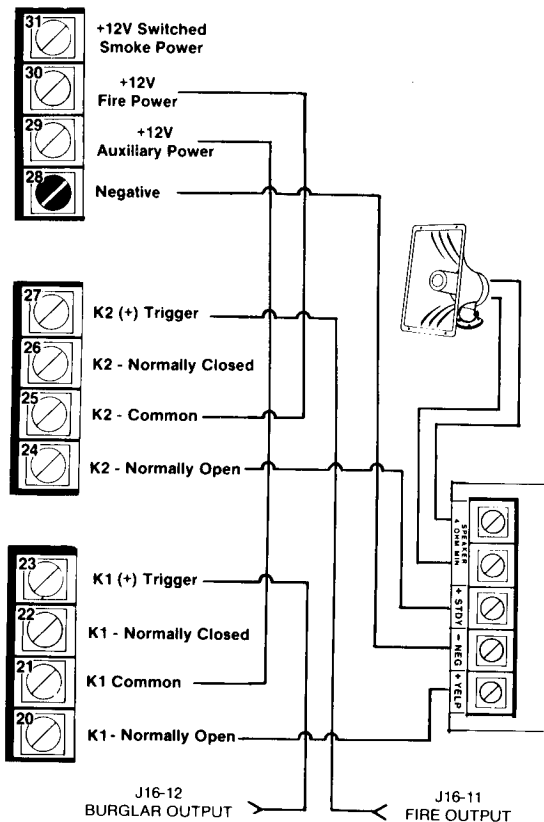**JDS-108 Siren Hookup**

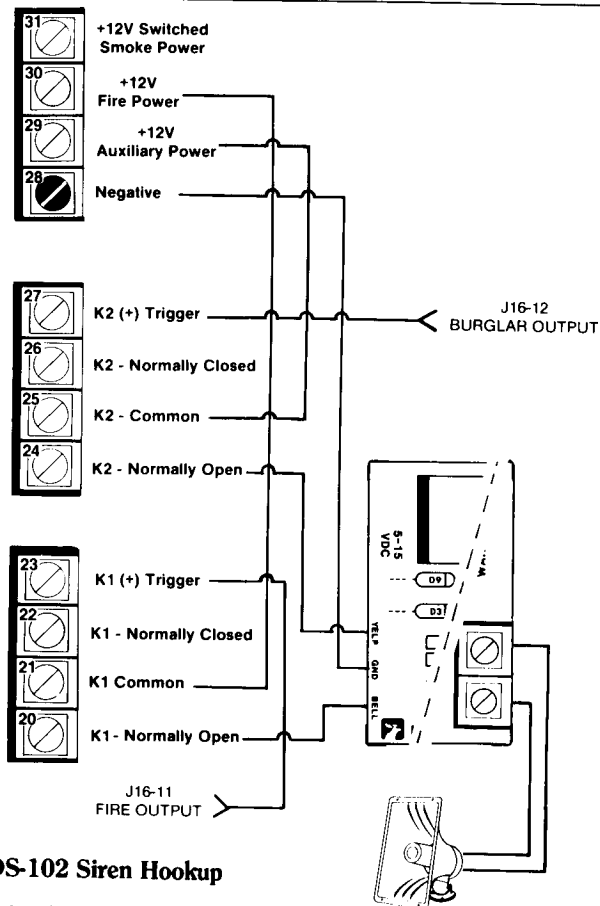**JDS-100 Siren Hookup**

NOTE: Non-U.L. Listed Hookups. (See figures 2-3, 2-4 for U.L. Listed hookups.)

Figure 2-5 Low Current Triggered Hookups

MPI-11 Siren Hookup

JDS-102 Siren Hookup

NOTE: Non-U.L. Listed Hookups. (See Figures 2-3, 2-4 for U.L. Listed hookups.)

Figure 2-6 Direct Powered Non-Triggered Hookups Using Relays K1 and K2

10

2.3 TERMINAL DESCRIPTION & HOOKUP

This section describes all of the terminals and connectors which are necessary to install the Z1100 System II. In order to become familiar with the system and its capabilities, we recommend that the system be bench tested prior to final installation. This usually consists of connecting the appropriate accessories, together with the control and then testing the system for a period of time.

To bench test the Z1100 System II, proceed through Sections 2 thru 4. Then follow the procedures in Section 5 to test the system.

NOTE: For bench testing, the end-of-line resistors, MPI-211, may be placed directly across each zone input.

2.3.1 ZONE INPUTS - TERMINALS 1-12

The Z1100 System II provides eight (8) end-of-line (EOL) resistor supervised protective zones. These zones may be connected to door switches, window switches, motion detectors, fire detectors, or other devices throughout the premise. Areas or individual detection devices may be divided up into zones so that violated detection devices may be easily found.

Normally open and normally closed contact devices may be wired into an end-of-line resistor supervised zone as in Figure 2-7.
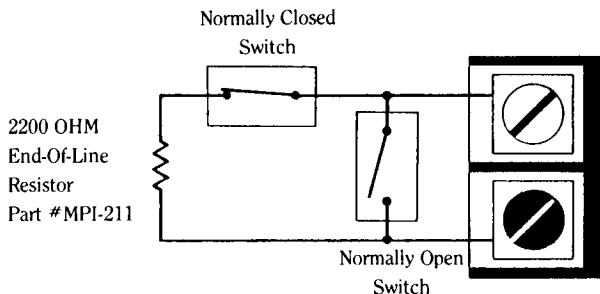

Figure 2-7 Supervised Protective Zone Hookup

Provided the resistor is installed in series with the loop at the furthest most remote end, any opening or shorting of the loop between the resistor and the control terminals will violate the zone. By utilizing the end-of-line resistor in its intended manner, the overall versatility and security of the installation will be enhanced. Fire defined zones must have the end-of-line resistor installed in the loop after the last fire detection device, in order to detect troubles or breaks in the fire loop.

If end-of-line resistor supervision is not desired in burglar defined zones, normally closed loops may be configured by cutting the corresponding zone jumpers Z1 thru Z8. (See Figure 2-8).
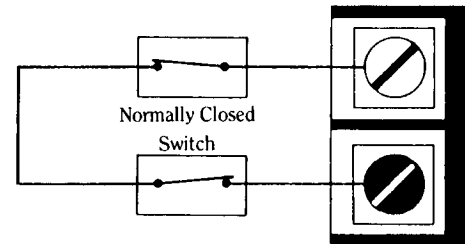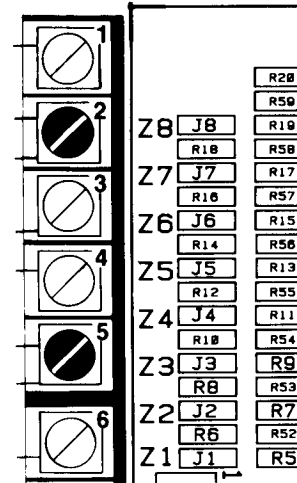
Figure 2-8
Non-Supervised Closed Loop Zone Tampers and Hookup

NOTE: End-of-line supervision must be used in a fire zone. Do not cut the corresponding zone jumper.

2.3.2 Z1100R CONTROL STATION - TERMINALS 13-16

The Z1100R Control Station connects with a 4 wire telephone type cable. Two wires are for power (+12V and negative) and two wires are for data in and data out on a serial data bus. Standard 22 gauge wire is ideal for most cable runs up to 1000 feet. Cable runs up to 3000 feet are possible using twisted pair or shielded cable. Long cable runs should only have one control station per cable run back to the Z1100 control.

All control stations are wired in parallel as follows:

Z1100R	Wire Color	Function	Control Terminal
Pin 1	Black	Negative	13
Pin 2	White	Data Out Remote	16
Pin 3	Green	Data In Remote	15
Pin 4	Red	Positive +12VDC	14

A maximum of seven (7) control stations may be connected to the Z1100 System II. Each control station draws 70 milliamps in normal operation, and up to 96 milliamps in alarm condition.

2.3.3 AC TRANSFORMER - TERMINALS 17 & 18

The Z1100 System II is powered by an 18 Volt 35 VA minimum, internally fused, UL listed, Class II transformer (Moose part #T-1835). This transformer is included as part of the complete package with the Z1100 System II.

CAUTION: Never short the terminals of the transformer together. This will cause the internal fuse to blow. Never replace with or substitute a transformer of less than minimum stated rating. The transformer must be connected to a 120 VAC 50/60Hz 24 hour power outlet not controlled by a wall switch.

Step 1. Verify that the master power switch is turned off. (Figure 2-2).

Step 2. Connect the transformer to terminals 17 & 18 of the control using 18 gauge minimum, 2 conductor wire (maximum length 50 feet).

Step 3. Do not plug the transformer in at this time.

The AC power circuit is protected from transients by spark gaps and MOV transient suppressors. If AC power is lost, the Z1100 System II immediately switches to the standby battery power.

2.3.4 UNIFIED EARTH GROUND - TERMINAL 19

Connect a ground wire from terminal 19 to a "UNIFIED EARTH GROUND STAKE".

An ideal earth ground for security equipment is a "UNIFIED EARTH GROUND." This is an earth ground system that connects the power line, telephone, and security system grounds to a common bonded earth ground stake. See Figure 2-9.
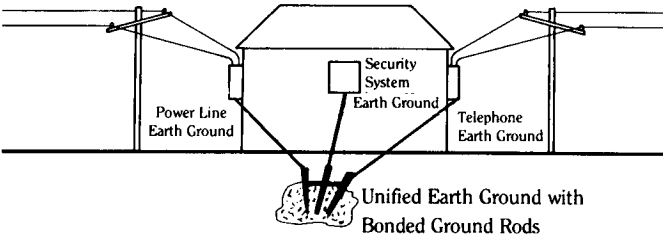
Figure 2-9 Unified Earth Ground Hookup

Grounds which are connected far from the earth ground stake often have numerous 90 degree turns which cause an undesired inductance in the earth ground path. This inductance blocks the lightning path to earth ground causing the lightning current to run through the security equipment. When running ground wires never run the wire so that it runs toward earth then away from the earth. Run ground wires toward or parallel to earth, but never away from earth. Simply stated: NEVER run a ground wire up a wall.
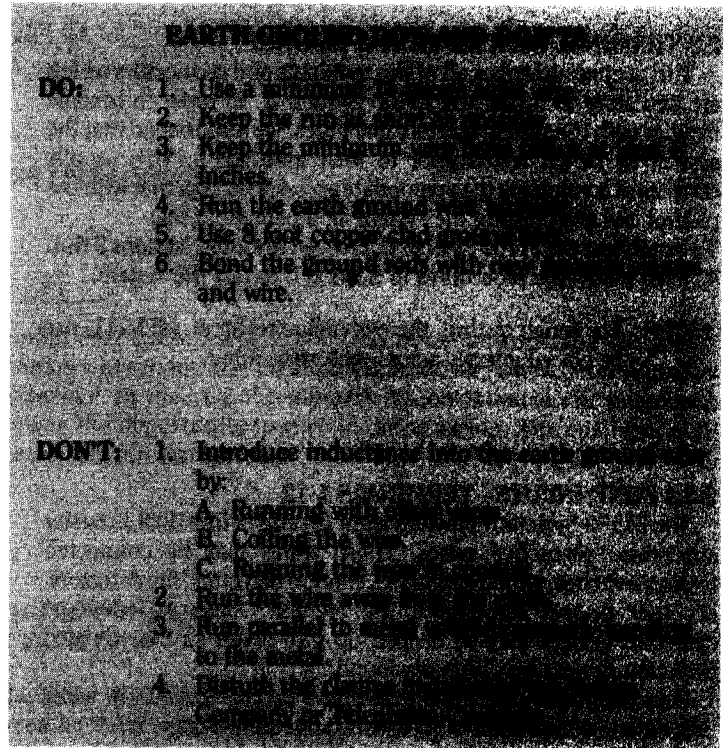
A "UNIFIED EARTH GROUND" eliminates a common problem in security systems during lightning strikes known as "STEP VOLTAGE BLOWOUT." "STEP VOLTAGE" is a voltage potential between different earth ground stakes during a lightning strike. The voltage potential results in a destructive current flow path through the security equipment. See Figure 2-10.
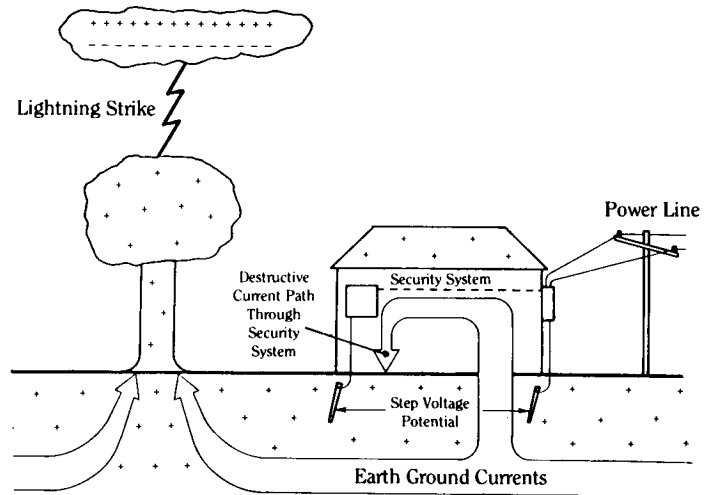
Figure 2-10 Lightning Step Voltage Blowout

2.3.5 BATTERY - RED AND BLACK LEADS

The Z1100 System II was designed to operate with a 12 Volt 6 Amp hour rechargeable sealed lead acid battery (MPI part #B-1260) as a primary power back up. The power supply within the Z1100 System II provides a 13.8 Volt float charge to the battery through the red and black power leads. A reverse current diode will provide some protection to the electronics if the power leads are accidentally reversed. DO NOT LEAVE THE LEADS REVERSED. OVERHEATING OF RESISTOR R39 WILL RESULT.

2.3.5.1 BATTERY INSTALLATION

Place the battery in the enclosure. Make sure that the power switch is on OFF position. Connect the black wire to the black terminal marked "-". Connect the red lead to the red terminal marked "+". Leave the power switch in the off position.

### 2.3.5.2 BATTERY SUPERVISION

The Z1100 System II performs a dynamic load test on the battery at each communicator/battery test time. A relay places a 2.5 Amp load across the battery for 5 seconds and the battery voltage is detected at the end of the test. If the voltage falls below 11.2 Volts, the power LED will flash and the prealarm will sound. The prealarm can be silenced with the "∗" key. The LED will flash until the battery is retested and passes the test. If the digital communicator is so programmed, it will report the low battery condition to the central station.

2.3.5.3 BATTERY CHARGING/POWER SHUTDOWN

The float charge voltage for the Z1100 System II is set for 13.8 Volts at 400 milliamps (mA) maximum, while the system is delivering its rated continuous output current. (See Table 2-1). Current in excess of 400 mA can be delivered to the battery if the system is delivering less than the rated power. The battery charging current is limited through a 5 Ohm resistor.

If AC fails for an extended period and the battery voltage drops below 11.2 volts, the low battery detector will activate and cause the prealarm to beep, blink the power LED and the digital communicator will report to the central station if so programmed. The beep can be silenced with the "∗" key. If the voltage drops below 7.5 Volts, the microprocessor will shut down, but there will still be auxiliary equipment current drain on the battery. A MPI-266 low battery cutoff module may be added to disconnect the battery and protect it against deep discharge.

2.3.6 ALARM/FUNCTION OUTPUTS (Connector J-16)

Outputs of the Z1100 System II are present at connector J-16 on the control board. See Figure 2-14. An unpluggable 12 pin flying lead connector is provided to plug into connector J-16. The function of each output is shown in Table 2-2. Each of these outputs (3 thru 12) are capable of triggering relay K1, K2, an MPI-206 Relay Board or auxiliary devices such as the JDS-108 which require less than 50 milliamps at 12 Volts DC. More than one of these outputs can be connected to the same low current trigger terminal. For example, police and medical outputs (J-16, 9 and 10) can both be connected to terminal 23.

CAUTION: J-16 outputs 3 thru 12 cannot drive the MPI-11 or similiar devices which require more than 50 milliamps directly. Damage to the control will result. High current devices must be swtiched through relays such as K1, K2 or MPI-206.

Application	UL Listing	Maximum Current Drain (Milliamps) With 6Ah Battery	Min. Battery Standby Time (hours)	Z1100R Control Stations	Pyrotector Smoke Detector Head-305942 Base-R2942 Pyrotector 20-40-12 Power Supervision Module	Required Auxiliary Equipment
Household Burglary	UL 1023	800	4	6	N/A	AMSECO MSB-10G Bell
Household Fire	UL 985	800	4	6	Required	Wheelock 34T-12 Horn
Household Burglary/ Fire Combination	UL 1023/ UL 985	800	4	6	Required	AMSECO MSB-10G Bell & 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	Z11TB Cabinet Tamper Liner & ADEMCO AB-12 UL Listed Bell & Housing
Local Burglary (Grade A)	UL 609	450	4	2	N/A	Z11TB Cabinet Tamper Liner & ADEMCO AB-12 Bell & Housing
Police Station Connected Burglary (Grade A)	UL 365	450	4	2	N/A	Z11TB Cabinet Tamper Liner & ADEMCO AB-12 Bell & Housing
Non UL or CSFM Listed		900	3	7	N/A	

Maximum Combined constant current drain refers to terminals 14, 29, 30, 31, and connector J-15 and J-16.

NOTE: Under Alarm conditions, the combined output drain should not exceed 1.7 amps.

TABLE 2-1 Z1100 SYSTEM II UL AND CSFM SYSTEM OPTION CHART

Terminal	Function	Description
1. Red (+)	+12 Volt DC (Positive)	For powering accessories, this output is fused at 2.5 Amps. Maximum combined continuous current drain from terminals 14, 29, 30, 31 and connector J-15 and J-16 outputs should not exceed the limits as specified in Table 2-1. Combined alarm condition current drain should not exceed 1.7 amps.
2. Black(-)	Negative	Common power supply negative.
3. White	Access Output	Provides a positive output when an ACCESS code is entered at the keypad. Program Function 20 sets the amount of time that this output is active.
4. Green	Lamp Output	Provides a 2 minute output when any keypad key is pressed, entry or exit delay begins, AC power fails, or when any type of alarm occurs.
5. Brown	Pre-Alarm	Output for a remote or auxiliary pre-alarm. This output is also active for all control station beeps.
6. Blue	Burglar Zone Ready	Output for remote burglar zone ready indicator.
7. Orange	Violation	Output upon activation of burglar, fire, police or medical alarm. May be used for a strobe or auxiliary indicator. This output stays active until the system is reset or disarmed.
8. Yellow	Armed	Output for remote burglar armed status indicator. If closing reports are being transmitted to the central station, this output becomes active after the closing kissoff from the central station, which allows a remote indication of ring back.
9. Purple	Medical	Alarm output upon activation of either a keypad or hardwired medical alarm.
10. Gray	Police	Alarm output upon activation of either a keypad or hardwired police alarm.
11. Pink	Fire	Alarm output upon activation of either a keypad or hardwired fire alarm.
12. Tan	Burglar	Alarm output upon activation of any burglar defined zone.

TABLE 2-2 CONNECTOR J16 DESCRIPTIONS

2.3.7 AUXILIARY RELAY K1 - TERMINALS 20 thru 23
AUXILIARY RELAY K2 - TERMINALS 24 thru 27

Auxiliary relays K1 and K2 are general purpose 5 Amp contacts which may be triggered by 12 Volt DC applied to terminal 23 for relay K1 or terminal 27 for relay K2. These relays allow the low current outputs of connector J-16 to activate high current loads such as sirens, bells, strobe, door strikes, etc. See Figures 2-3, 2-4, 2-5, 2-6, and 2-11 for suggested uses and Table 2-1 for U.L. listed devices.

2.3.8 POWER SUPPLY OUTPUTS - TERMINALS 14, 28, 29, 30 AND 31

2.3.8.1 AUXILIARY POWER (Terminal 29 is positive and 28 is negative.)

12 Volts DC for powering motion detectors, relay boards and other accessories (See Table 2-1) Fuse F4 protects this output at 2.5 amps. Should this fuse ever blow, the power LED will blink and the control station will beep. If the communicator is programmed for low battery/fuse reporting, a signal will be transmitted to the Central Station.

2.3.8.2 FIRE POWER (Terminal 30 is positive and 28 is negative.)

12 Volts DC for powering Fire Alarm audible devices. (See Table 2-1) Fuse F3 protects this output at 2.5 Amps. Should this fuse ever blow, the power LED will blink and the control station will beep. If the communicator is programmed for low battery/fuse reporting, a signal will be transmitted to the Central Station.

2.3.8.3 SMOKE POWER (Terminal 31 is positive and 28 is negative.)

12 Volts DC for powering smoke detectors. Smoke detectors can be reset (unlatched) from the keypad with command 7. Each time the control does an automatic load test on the battery, smoke power will be removed for 5 seconds. Fuse F1 protects this output at 1.5 amps. A U.L. listed power supervision module is required (See Table 2-1).

NOTE: Do not attach motion detectors or other burglar sensors to terminals 28 and 31.

2.3.8.4 KEYPAD POWER (Terminal 14 is positive and 13 is negative.)

Used to supply power to keypads. Current limited to 1.5 Amps through Fuse F2.

NOTE: Maximum continuous combined current drain from terminals 14, 29, 30, 31, and connector J-15 and J-16 should not exceed the limits as specified in Table 2-1. Alarm condition current drain should not exceed 1.7 amps. When replacing fuses, always use 3AG type with the proper current and voltage rating. A blinking power LED may be reset by performing a manual battery test (command 7) if the battery is recharged.

+ 12V
Strobe
− +

+ 12V Door
Strike
− +

31 +12V Switched Smoke Power
30 +12V Fire Power
29 +12V Auxiliary Power
28 Negative

27 K2 (+) Trigger
26 K2 - Normally Closed
25 K2 - Common
24 K2 - Normally Open

MPI-11

23 K1 (+) Trigger
22 K1 - Normally Closed
21 K1 Common
20 K1 - Normally Open

31 +12V Switched Smoke Power
30 +12V Fire Power
29 +12V Auxiliary Power
28 Negative

27 K2 (+) Trigger
26 K2 - Normally Closed
25 K2 - Common
24 K2 - Normally Open

JDS-102
5-15 VDC

23 K1 (+) Trigger
22 K1 - Normally Closed
21 K1 Common
20 K1 - Normally Open

CONNECTOR J-16
① +12 V. AUXILIARY POWER (RED)
❷ NEGATIVE (BLACK)
③ ACCESS OUTPUT (WHITE)
④ LAMP OUTPUT (GREEN)
⑤ PRE—ALARM OUTPUT (BROWN)
⑥ BURGLAR STATUS OUTPUT (BLUE)
⑦ VIOLATION OUTPUT (ORANGE)
⑧ ARMED OUTPUT (YELLOW)
⑨ MEDICAL/AUX. 2 (PURPLE)
⑩ POLICE/AUX. 1 (GRAY)
⑪ FIRE OUTPUT (PINK)
⑫ BURGLAR OUTPUT (TAN)

CONNECTOR J-16
① +12 V. AUXILIARY POWER (RED)
❷ NEGATIVE (BLACK)
③ ACCESS OUTPUT (WHITE)
④ LAMP OUTPUT (GREEN)
⑤ PRE—ALARM OUTPUT (BROWN)
⑥ BURGLAR STATUS OUTPUT (BLUE)
⑦ VIOLATION OUTPUT (ORANGE)
⑧ ARMED OUTPUT (YELLOW)
⑨ MEDICAL/AUX. 2 (PURPLE)
⑩ POLICE/AUX. 1 (GRAY)
⑪ FIRE OUTPUT (PINK)
⑫ BURGLAR OUTPUT (TAN)

NOTE: Non-U.L. Listed Hookups. (See Figures 2-3, 2-4 for U.L. Listed Hookups.)

Figure 2-11 Other Typical Uses of Auxiliary Relays K1 and K2

15

2.3.9 TELEPHONE CONNECTIONS -
TERMINALS 32, 33, 34 AND 35

Telephone Line - Terminal 32 - T (Green wire from the telephone cord)

Terminal 33 - R (Red wire from the telephone cord)

House Line - Terminal 34 - T1 (Brown wire from the telephone cord)

Terminal 35 - R1 (Grey wire from the telephone cord)

Terminals 32 and 33 are the telephone line connection to the Z1100 System II. Terminals 34 and 35 connect to all the house telephones. (See Figure 2-12). When the communicator activates, all the house telephones will be disconnected to prevent someone from picking up and blocking the communicator from calling out.

NOTE: When the RJ31-X or RJ38-X jack is properly wired, Z1100 System II terminals 34 and 35 should read 48 volts when the communicator is inactive and 0 volts when the communicator is active. Telephone company information may be found in Appendix D.
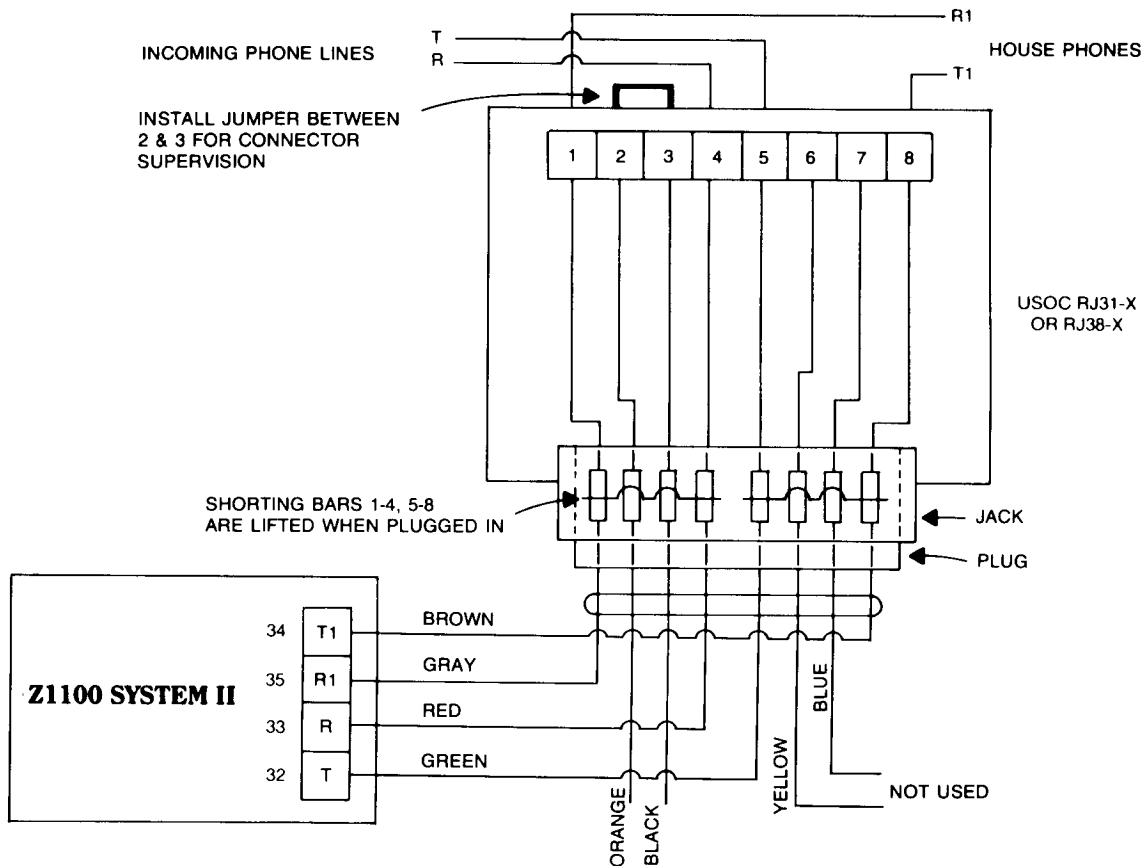
Figure 2-12 Telephone Hookup Diagram

16

2.4 Z1100 SYSTEM II CONTROL BOARD INSTALLATION

1. Turn the Master Power Switch off (down position). This switch is located below terminal 19.
2. Plug in the Z1100 System II control board and secure. (See Figure 2-13)

NOTE: For U.L. Grade A local installations the Z11TB Tamper Resistant Kit must be installed.
See Figure 2-4, Appendix G and Appendix H.

3. Plug in the J-16 wiring harness. Wiring connector J-16 is a 12 wire female connector.
4. Do not turn power on at this time.

NOTE: Figure 2-14 gives the Control Board Component layout.

(4) 6-32 x 1/4" PALNUT AND 3/16" ALUMINUM SPACER

Z1100 SYSTEM II
CONTROL BOARD

(4) 6-32 x ¼ THREADED STANDOFFS

Figure 2-13 Control Board Installation

17

Figure 2-14 Control Board Component Layout

18

3. Z1100 SYSTEM II CONTROL BOARD DESCRIPTION

3.1 GENERAL

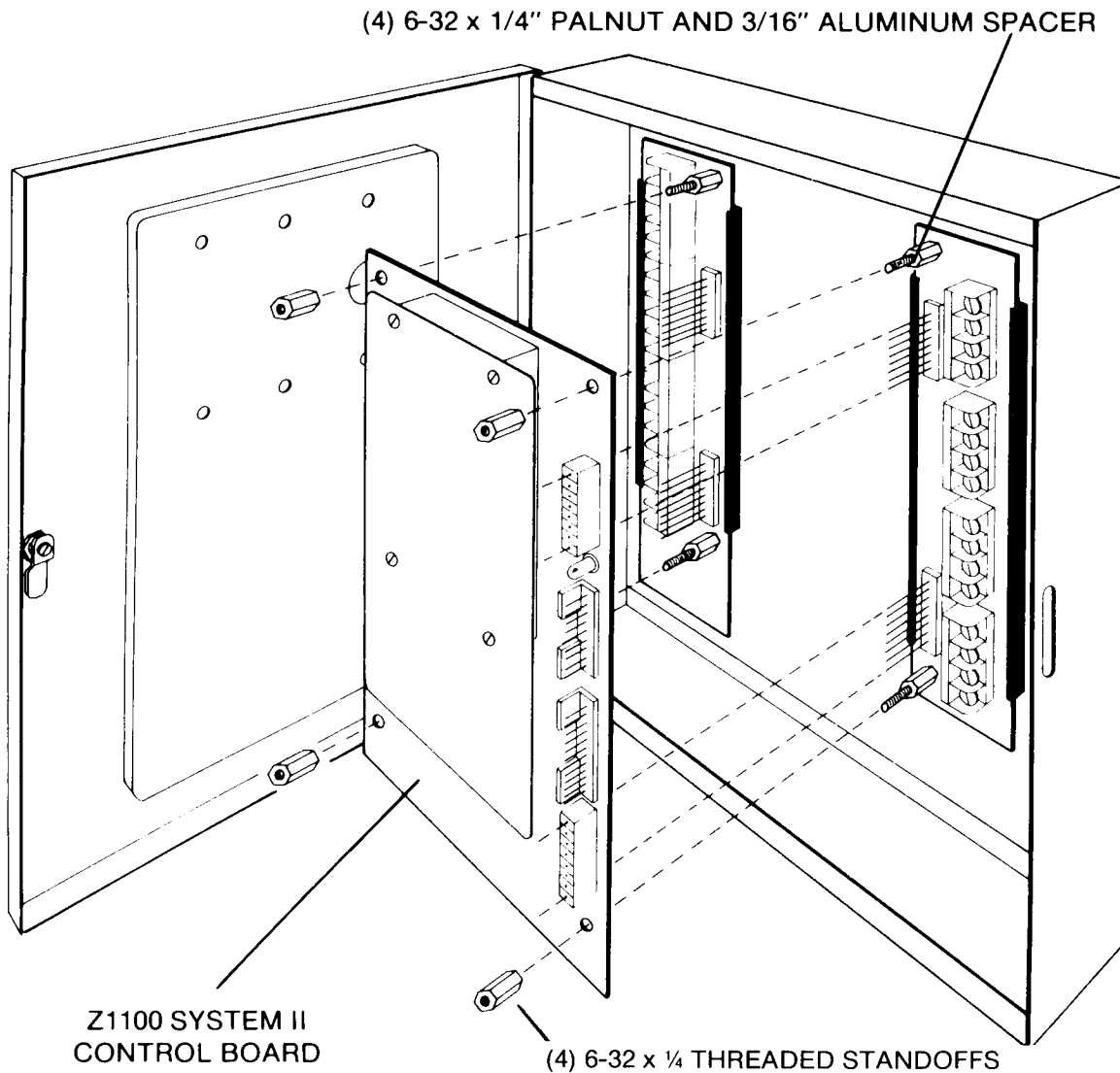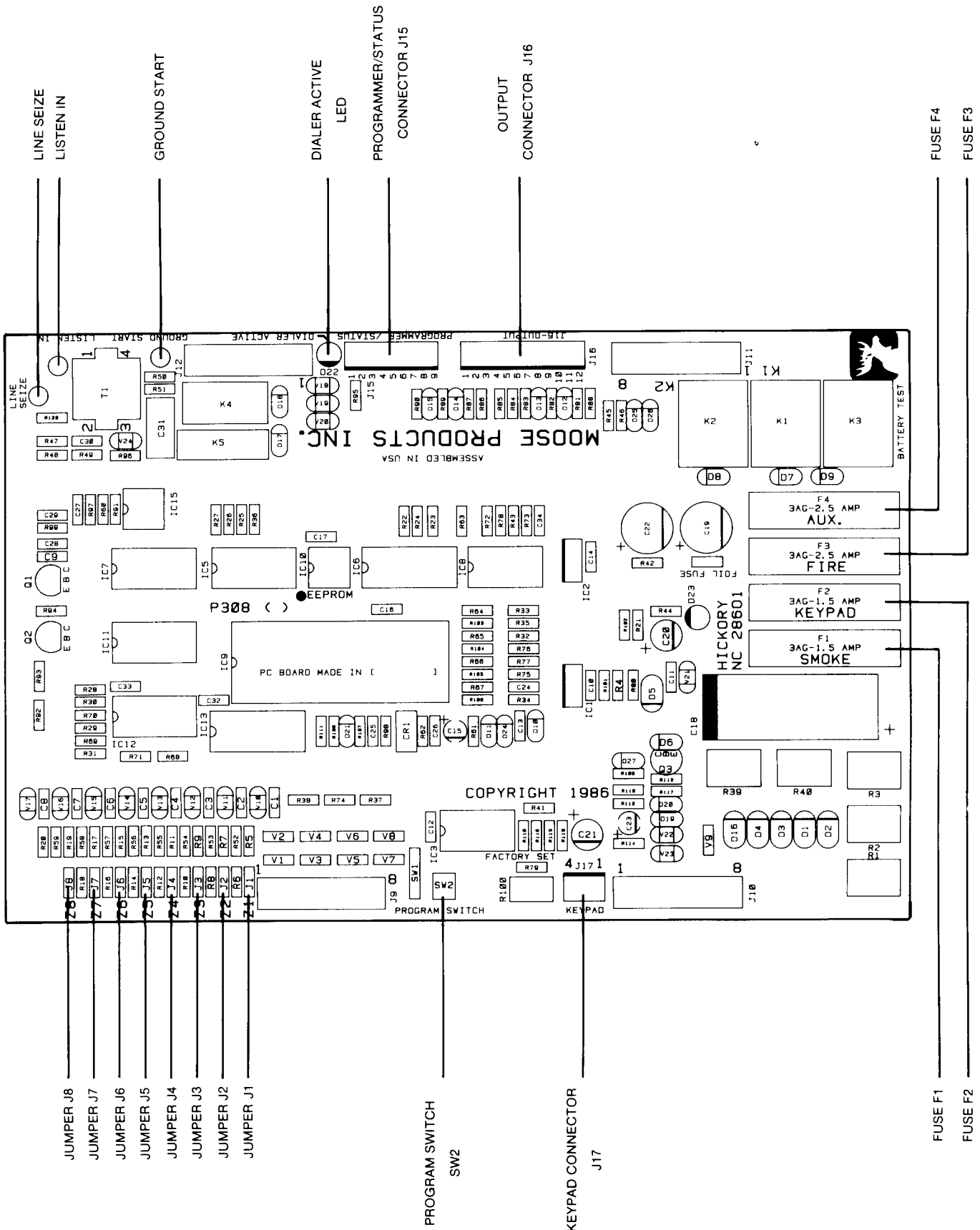The Z1100 System II Control Board is an unpluggable printed circuit board holding most all active components. If any component should ever fail, the control board may easily be unplugged and replaced without disconnecting any field wiring.

The heat sink design protects the sensitive integrated circuits from mechanical damage, provides heat dissipation for the voltage regulators, and electrostatically shields the circuitry.

3.2 NORMALLY CLOSED PROTECTIVE LOOP JUMPERS Z1-Z8

If any of the zones 1-8 are to be used as normally closed loops with no end-of-line resistor, the corresponding jumper Z1-Z8 should be cut. These jumpers resemble white resistors. The parts locations are marked J1 thru J8 under the part and Z1 thru Z8 to the left of the part. Z1 thru Z8 are arranged in reverse order from zones 1 thru 8 on the terminal strips. See Figure 2-14 for the location of the normally closed protective loop jumpers.

3.3 PROGRAM SWITCH

The program switch, which allows entry into installer function programming, is located on the left side of the Z1100 System II control board. Momentarily depressing the program switch starts a 3 minute timer, allowing entry to installer level programming. See Figure 2-14 for the location of the program switch. Each time a key is depressed in the program mode, the 3 minute timer is restarted. The control station will beep as long as the program switch is held closed.

3.4 FUSES

The fusing system of the Z1100 System II protects the control board from over current demands. The fuses are located at the bottom middle of the Z1100 System II control board and are labeled F1 - SMOKE, F2 -KEYPAD, F3 - FIRE, and F4 - AUX. The F3 - FIRE and F4 - AUX. fuses are constantly monitored by the control. If F-3 or F-4 should blow, the keypad POWER lamp will blink and the control station will beep. The beeping may be silenced by pressing the "∗" key. After replacing the fuse, the power lamp will continue to blink until a manual battery test (command 7) is performed or the control performs an automatic battery test.

Replace the fuses with only fast blow, type 3AG of the same amperage and voltage rating. Fuses F1 and F2 are 1.5 amp. Fuses F3 and F4 are 2.5 amp.

There is a factory replaceable foil fuse that protects the controls internal +12 volt and +5 volt circuits.

3.5 J-15 PROGRAMMER/STATUS CONNECTOR

The J-15 Programmer/Status connector is located on the upper right side of the control board (See Figure 2-14). It provides a serial data bus and +12V power for the Z1100P Programmer, or the Z229 output expansion modules.

3.6 DIALER ACTIVE LED

The Dialer Active LED is located on the upper right side of the control board (See Figure 2-14). It lights when the communicator seizes the telephone line and starts the dialing process. The LED goes out when the communicator completes the dialing and receives a kissoff from the Central Station receiver.

3.7 GROUND START OUTPUT

The Ground Start output is located on the upper right side of the control board (See Figure 2-14). It provides a low current output going from +12V to ground (0 volts) when the pulse dial relay is active. The Z232 ground start module trigger input connects to this point.

3.8 COMMUNICATOR LISTEN-IN INPUT

The Communicator Listen-In input is located on the upper right corner of the control board (See Figure 2-14). It is an input to inject the audio signal from a listen-in microphone, amplifier and line filter onto the telephone line. A listen-in output trigger is located on the second Z229 output expansion module. (See Figure 3-1 for a suggested listen-in hookup.)
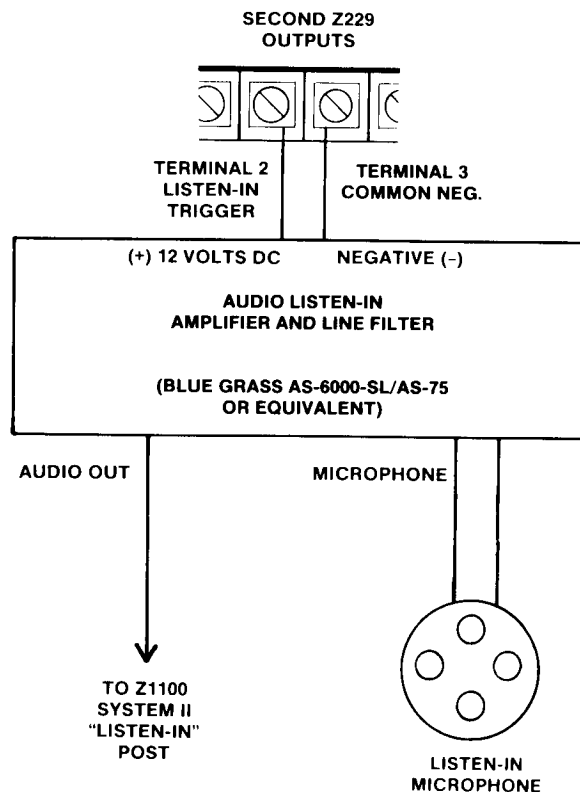

Figure 3-1 Listen-in Hookup

3.9 CONNECTOR J-17

Connector J-17, located on the left side of the control board (See Figure 2-14), provides a quick way to plug-in a Z1100R Control Station in order to program the Z1100 Control at the control box. A two-ended connector cable, Moose part #Z217, should be ordered for this purpose.

4.0 Z1100R CONTROL STATION DESCRIPTION

4.1 INTRODUCTION

The Z1100R Control Station is a total "Command Center." Eight multi-function LEDs indicate system status, zone status, alarm memory, and also provide a "window" into the more advanced features of the system. A door on the keypad lifts up to reveal an inside label. This label provides a space for marking each zone description and also lists the various commands and LED functions.

The commands include: ARM, disarm, display zone STATUS, display ALARM MEMORY, turn INTERIOR zones on or off, switch to DELAY or INSTANT mode, activate day MONITOR, reset SMOKE power and test BATTERY, activate loop TEST, enter PROGRAM mode, RESET keypad, activate ACCESS, and SHUNT (bypass) zones. The Z1100R requires only four wires to take advantage of its many features. Up to 7 Z1100R Control Stations may be connected in parallel to the system.

4.2 CONTROL STATION WIRING HOOKUP

The Z1100R Control Station has a 4 wire unpluggable connector with 12 inches of wire. The connector will only plug-in in one direction. Reference Paragraph 2.3.2, Figure 2-3 and Figure 2-4 for wiring hookup to the control.

4.3 CONTROL STATION MOUNTING

4.3.1 SURFACE MOUNTING

The Z1100R Control Station surface mounts to a 1, 2, or 3 gang electrical box, directly to sheet rock or paneling. See Figure 4-1 for mounting details.

4.3.2 FLUSH MOUNTING

The Z1100R Control Station may be flush mounted into sheetrock or paneling. A flush mount hole cutout template is provided in Appendix C. Assemble a #6 x 1¼ inch screw, flush mount adapter, and clamp arm to the four corners of the front plate. After inserting the Z1100R into the hole cut into the wall, begin tightening the #6 x 1¼ inch screws. The clamp arm should fold out and clamp against the back of the sheetrock or paneling.

NOTE: It is sometimes easier to put soap or wax on the screw and run the clamp arm down and back up before inserting the Z1100R into the wall cutout.
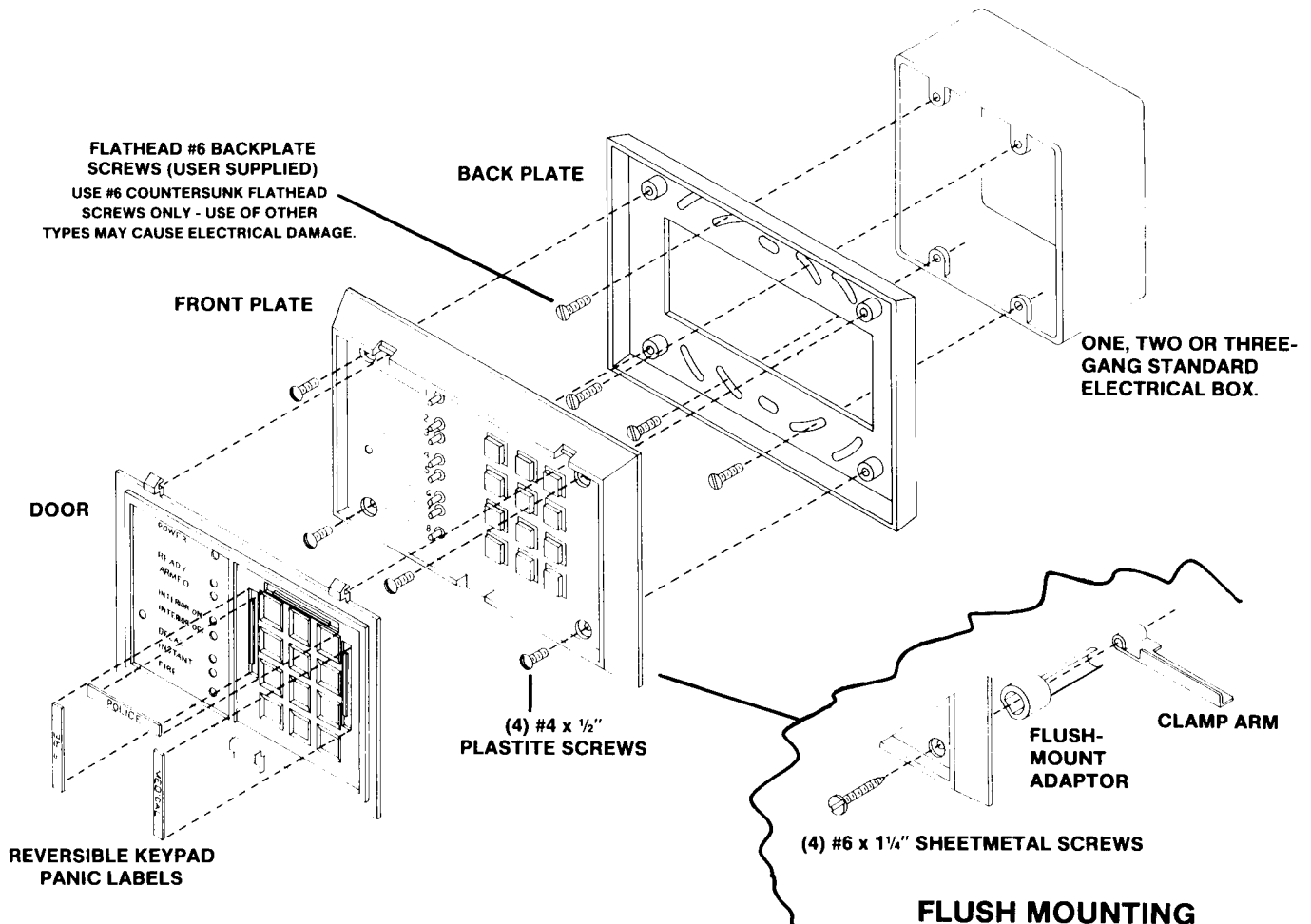

Figure 4-1 Control Station Mounting

4.4 Z1100R CONTROL STATION LED'S

The Z1100R Control Station has eight (8) LED's to indicate the status and program values of the system. The eight (8) LED display is capable of displaying 3 "pages" or modes of LED status. See Figure 4-2.

"Page 1" is the normal LED function described when the hinged door is down. When any of the LED's are blinking on page 1, the description may be found on the inside label of the Z1100R by lifting the hinged door open.

"Page 2" is the zone status and zone shunted display accessed thru keypad command digit 2 and described with the hinged door open. An LED illuminated indicates a zone is violated. A blinking LED indicates that the zone is shunted.

"Page 3" is the alarm memory accessed thru keypad command digit 3 and described with the hinged door open. An LED illuminated indicates the zone(s) triggered an alarm. All zones triggered will be displayed.
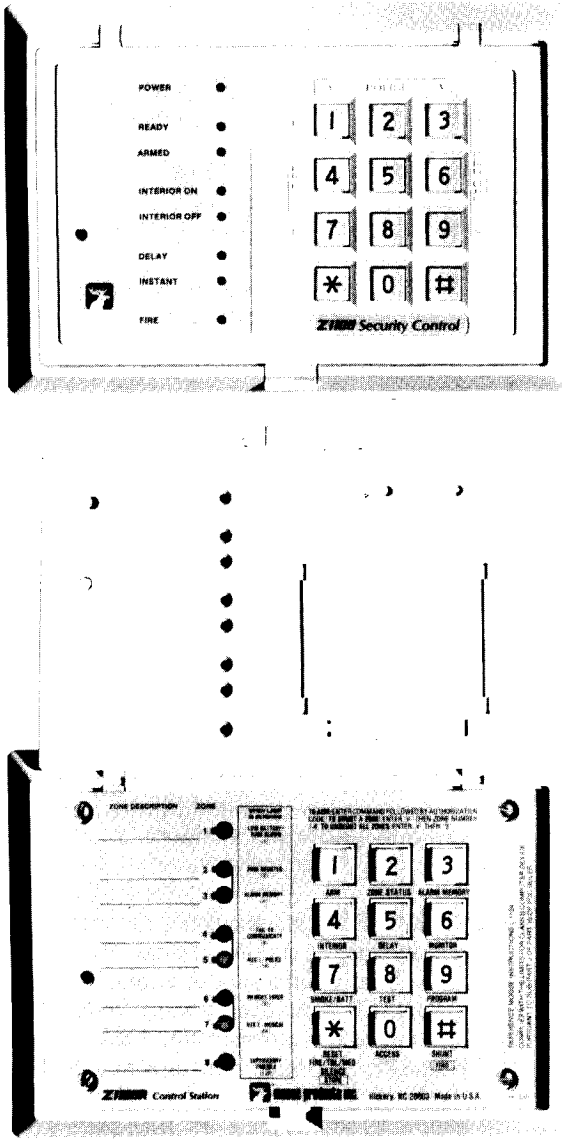
Figure 4-2 Control Station LEDs

POWER LED...ON	= AC power is supplied to the Z1100 Control.
BLINKING	= Low battery or blown auxiliary or fire fuse. (See Section 2.3.5.2)
READY LED...ON	= Burglar system ready to be armed. All zones are secure.
BLINKING	= One or more zones have been manually shunted.
ARMED LED...ON	= Burglar system is turned on or armed.
BLINKING	= Alarm memory. The system has been triggered. Alarm memory information may be accessed by keypad command 3.
INTERIOR...ON	= All interior defined burglar zones are working.
BLINKING	= Fail to communicate. The digital communicator was unable to reach the central station.
INTERIOR...OFF	= All interior defined burglar zones are not working.
BLINKING	= Police/Aux 1 alarm has been activated.
DELAY LED...ON	= All delay defined burglar zones have the entrance timer working.
BLINKING	= An EEPROM memory error has been detected.
INSTANT LED...ON	= All delay defined burglar zones have no entrance time and will activate the burglar alarm instantly.
BLINKING	= Medical/Aux 2 alarm has been activated.
FIRE LED...ON	= The Fire alarm system has been activated.
BLINKING	= Supervisory/Trouble. A zone defined with a supervisory option or a fire zone is in a trouble condition. The zone in the supervisory/trouble condition may be viewed with the keypad command 2 (Zone Status).

TABLE 4-1 CONTROL STATION INDICATOR LIGHTS

4.5 KEYPAD COMMANDS

A thorough understanding of the keypad is necessary for successful operation of the system. The following COMMAND examples use the factory default USER AUTHORIZATION code (245). Commands 1, 2, 3, and 0 will work while the burglar system is armed.

FORMAT: Press a Command key followed by a USER AUTHORIZATION code. For example, to "Command" the Z1100 System II to display ZONE STATUS, press 2 -2-4-5.

COMMAND 1: ARM/DISARM. This command will ARM/DISARM burglar zones and acknowledge (reset) Fire, Police, or Medical alarms.
FORMAT: 1 - USER AUTHORIZATION code.
ARM: Press 1 -2-4-5.
DISARM: Press 1 -2-4-5.

1 ARM

COMMAND 2: ZONE STATUS. This command may be used to check the status of zones. Lighted LEDs indicate zone(s) violated (not secure).
Blinking LEDs indicate zone(s) shunted.
Dark LEDs indicate zone(s) normal (secure).
This command latches for 8 seconds. The latch time can be extended 8 seconds by pressing any key except the "*" or indefinitely (if the system is disarmed) by pressing the "#" then "0". The "*" key will restore normal operation.
FORMAT: 2 - USER AUTHORIZATION code.
Display ZONE STATUS: Press 2 -2-4-5.

2 ZONE STATUS

COMMAND 3: ALARM MEMORY. Use this command to determine which hardwire zone(s) caused the last alarm.
Lighted LEDs indicate zones(s) that caused most recent alarm. This command latches for 8 seconds. The latch time can be extended by pressing any key, except the "*" key.
FORMAT: 3 - USER AUTHORIZATION code.
Display ALARM MEMORY: Press 3 -2-4-5.

3 ALARM MEMORY

COMMAND 4: Turn INTERIOR zones ON or OFF. All zones defined as interior may be turned OFF (shunted) prior to arming by using this command.
FORMAT: 4 - USER AUTHORIZATION code.
INTERIOR OFF: Press 4 -2-4-5.
INTERIOR ON: Press 4 -2-4-5.

4 INTERIOR

NOTE: The INTERIOR and the DELAY/INSTANT modes both revert back to default (INTERIOR ON and DELAY active) when the system is disarmed. The default setting for these two modes may be modified by programming a value into program FUNCTION 65. This is explained in Programming Section 7.8.

COMMAND 5: DELAY or INSTANT. This command will switch between DELAY and INSTANT modes before arming. "INSTANT" means no entrance delay time for any burglar delay zone. "DELAY" means delay zones have entrance delay time. All burglar "delay" and "interior" zones have exit delay regardless of mode.
FORMAT: 5 - USER AUTHORIZATION code.
INSTANT: Press 5 -2-4-5.
DELAY: Press 5 -2-4-5.

5 DELAY

COMMAND 6: Day MONITOR. This command will turn the MONITOR mode on or off. When the MONITOR mode is on, the keypad will momentarily beep when any burglar zone is violated while the system is disarmed. Shunted zones will not annunciate.
FORMAT: 6-USER AUTHORIZATION code.
MONITOR ON: Press 6 -2-4-5. 3 beeps.
MONITOR OFF: Press 6 -2-4-5. 2 beeps.

6 MONITOR

COMMAND 7: SMOKE reset and BATTERY load test. This command resets smoke power and manually load tests the system battery. Smoke power output is reset during manual or automatic battery test. DO NOT power BURGLAR sensors from smoke power output terminal 31. A blinking power LED indicates a low battery or blown fuse. See Section 2.3.5.2 and 2.3.8 for more information.
FORMAT: 7 - USER AUTHORIZATION code.
SMOKE reset/BATTERY test: Press 7 -2-4-5.

7 SMOKE/BATT

COMMAND 8: TEST mode. The TEST mode provides a means for walk testing burglar loops. When TEST is activated, the control station beeps continuously when any burglar zone is violated.
FORMAT: 8 - USER AUTHORIZATION code.
TEST mode ON: Press 8 -2-4-5.
TEST mode OFF: Press "*".

8 TEST

NOTE: Zone status is displayed on the LEDs when Command 8 is active.

COMMAND 9: PROGRAM. See Section 7.8 for further information.
FORMAT: 9 - PROGRAM AUTHORIZATION code.
PROGRAM mode: Press 9 9-8-7-6-5.

9 PROGRAM

COMMAND 0: ACCESS. This command followed by an access defined USER AUTHORIZATION code will activate J-16 pin 3 for a door release device. See Table 2-2.
FORMAT: 0 - USER AUTHORIZATION code.
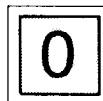
0 ACCESS

COMMAND *: RESET/STORE. The "*" key is used to clear keypad entries, silence the keypad, acknowledge Fire and Medical/Aux. 2 alarms, return to page 1 LED display, or exit the programming mode. During the programming mode, this also functions as a store key.
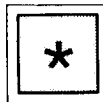
* RESET FIRE/TBL/MED SILENCE [STORE]

COMMAND #: SHUNT/FIND. Burglar zones, not programmed as priority, may be shunted (by-passed). The READY LED blinks when a zone is shunted.
COMMAND 2 will display which zone is shunted by blinking the corresponding LED.
FORMAT: "#" - number of the zone to be shunted. To shunt zone 3 press "#" and then press 3. To remove all shunts press "#" then press 9. During the programming mode, this also functions as a find key.
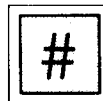
SHUNT [FIND]

NOTE: All shunts are removed when the system is disarmed after the exit delay time has expired. Zone shunting may be totally disabled by programming a value into program Function 69.

22

4.6 Z1100R CONTROL STATION ZONES

The Z1100R has three 24 hour keypad activated auxiliary zones: FIRE, POLICE/AUX 1, AND MEDICAL/ AUX 2. The zones are independent of the "hardwire" zones and can be activated at any time. It is not necessary for the system to be armed.

The three auxiliary zones may be activated from the control station by pressing, and holding, for one second a combination of two (2) keypad digits. When a keypad alarm is activated, the control station begins beeping and an LED illuminates or flashes to annunciate the type of alarm activated. Police/Aux 1 may be programmed for either silent or audible alarm. The digital communicator may be programmed to transmit a code for each alarm type. An add-on module (Z230) is available for activating these zones using individual N/O hardwire inputs. It is possible to disable any one or all of these control station auxiliary zones by programming.

- Fire - Keys 1 and 7 - Fire LED on the control station lights, control station sounder beeps, J-16 pin 11 (Fire Output) activates for the fire cutoff time (program function 23). Keypad fire may be disabled with programming function 66.

- Police - Keys 1 and 3 or "*" and "#" - Interior off LED (Police/AUX 1) blinks, control station sounder beeps, J-16 pin 10 activates for the police cutoff time (program function 24). The police sounder and LED may be de-activated with programming function 71. Keypad police may be disabled with programming function 67.

- Medical - Keys 3 and 9 - Instant LED (Medical/AUX 2) blinks, control station sounder beeps once each second, J-16 pin 9 activates for the medical cutoff time (programming function 25). Keypad medical may be disabled with programming function 68.

Fire and Medical alarm conditions may be silenced by pressing the "*" key and may be reset using the arm/disarm code. Police alarm may only be silenced by resetting, using the arm/disarm code.

4.7 KEYPAD TIME RESTRICTIONS

There are two timers to prevent tampering or accidental changing of the programmed data base within the Z1100 System II. One is an 8 second timer and the other is a 3 minute timer.

4.7.1 THE 8 SECOND TIMER.

The purpose of the 8 second timer is to automatically reset the keypad 8 seconds after an improper key stroke is entered. The 8 second timer resets each time a key is pressed. A two second error tone will sound, and the keypad will reset whenever the 8 second timer runs out. If an improper digit is entered, the Z1100 System II will ignore the entry and all further entries, even a proper sequence, until the keypad is reset manually with the "*" key or automatically by the 8 second timer.

4.7.2 THE 3 MINUTE TIMER.

The purpose of the 3 minute timer is to take the system out of the programming mode automatically 3 minutes after programming has ceased. The system allows 3 minutes between program steps. When the 3 minute timer runs out, a two second tone will sound and the system returns to the normal running mode.

5.0 Z1100 SYSTEM II POWER-UP AND OPERATIONAL TEST

5.1 GENERAL

The following power-up and operation test paragraphs assume that the system has either been installed per Section 2 and wired per Paragraphs 2.3 or that it has been wired for bench test. The control board should be plugged in and the power switch in the off position.

5.2 FACTORY PROGRAM AT INITIAL POWER-UP

The Z1100 System II comes ready to use from the factory with basic local system program settings. The Z1100R Control Station or optional handheld Z1100P programmer may be used to customize or change the programmable functions. See Section 7 for programming procedures.

NOTE: The Z1100 System II factory program may be restored at any time. See Section 5.6.11 for the procedure to return to the factory program.

5.3 Z1100 SYSTEM II POWER-UP

To power-up the Z1100, verify that the AC transformer and battery are plugged in and connected. Switch the Master Power Switch on (up) located below terminal 19. The adjacent AC LED should light. There should be a 2 second constant tone and the following LEDs should light on the Z1100R Control Station.
- Power
- Ready
- Interior On
- Delay

If the control does not power-up properly, the watchdog monitor system will automatically perform a new system power-up. Reference Section 5.6.7. If a Z1100R Control Station does not power-up properly, pressing the "*" key will reset the control station microprocessor and allow it to begin working properly.

5.3.1 POWER-UP DIAGNOSTICS

Each time power is applied to the Z1100 System II, the power-up diagnostics check the Read Only Memory (ROM) and the Electrically Erasable Programmable Read Only Memory (EEPROM).

The ROM check consists of compiling a checksum of all the ROM bits and comparing the result with the check-sum produced when the ROM was manufactured. A difference in the checksum will lockup the microprocessor and cause the control station LEDs to blink in a rotating top-to-bottom fashion. If this should occur, the microprocessor is defective and the control must be sent back to the factory for replacement.

The EEPROM check consists of compiling a checksum of all the bits in the EEPROM and comparing this with the checksum generated when the EEPROM was last programmed. A difference in the checksums will result in a Memory Error LED blinking and an audible beep of the control station sounder. If this should occur, the beeping may be silenced by pressing the "*" key. Reference Section 5.6.10 for further details.

NOTE: In addition to power-up, EEPROM test is also performed during arming/disarming and at the automatic/manual battery test.

5.4 TESTING BURGLAR ZONES

Use the following procedure to test each zone and to become familiar with the performance of the Z1100 System II. For convenience a Z1100R Control Station may be connected to the control using a Z217 Programming Cable for the following test.

1. Violate zone 1.
2. The READY LED will be off.
3. Try to arm the system with the factory user authorization code. Press 1 -2-4-5.
   NOTE: If you make a mistake while pressing keypad digits, press the "*" key and start over.
4. The control station will emit a 2 second error tone indicating that the system is not ready to be armed. Zone 1 is not secure.
5. Use the zone status command to identify the violated zone(s). Press 2 -2-4-5.
6. LED 1 will be on, indicating that Zone 1 is not secure. Zone status display normally latches for eight (8) seconds.
7. Shunt the violated zone. Press # -1. This will extend indefinitely the zone status display provided this action occurred within 8 seconds.
8. LED 1 will now blink indicating that Zone 1 is shunted.
9. Press "*" to return to the normal LED display.
10. The READY LED will be blinking. A blinking READY LED indicates that a zone(s) is shunted.
11. Arm the system. Press 1 -2-4-5.
12. The ARMED LED will be on and the READY LED will be blinking.
13. The control station will beep until the exit time expires (60 seconds). Wait for the exit time to expire.
14. Violate zone 3.
15. The control station will beep rapidly and the ARMED LED will blink indicating alarm memory.
    NOTE: If the digital communicator is enabled, the ARMED LED will not blink until the communicator receives a kissoff signal.
16. Press the "*" key to silence the control station only.
17. The ARMED LED and the READY LED will be blinking.
18. Disarm the system. Press 1 -2-4-5.
19. The ARMED LED will be blinking and the READY LED will be off. All shunts are removed when the system is disarmed.
    NOTE: All shunted zones are restored (shunts removed) when the system is disarmed after the exit delay time expires.
20. Clear the blinking ALARM MEMORY LED with the "*" key.
21. Which zone caused the alarm? Use command 3 to check. Press 3 -2-4-5. LED 3 is ON. Zone 3 caused the alarm. The alarm memory display latches for eight (8) seconds.
    NOTE: The contents of alarm memory display is retained in EEPROM until another alarm occurs. The EEPROM alarm memory may be cleared with programming function 13.
22. Which zone(s) are violated? Use command 2 to check. Press 2 -2-4-5. LEDs 1 and 3 will be on, indicating they are violated.
23. Restore violated zones.
24. READY LED will be on.
25. Use the above procedure to test other burglar zones.

5.5 TESTING FIRE ZONES

Fire zones, when programmed, are 24 hour zones. If the circuit opens, a supervisory trouble signal is generated. If the circuit shorts, a fire alarm is sounded. Test a fire zone (factory zone 8) as follows:

5.5.1 FIRE SUPERVISORY TROUBLE

1. Open either side of the fire zone. (Zone 8).
2. The control station will beep rapidly.
3. FIRE LED will blink. Supervisory/Fire trouble indication.
4. Press the "∗" key to silence the control station.
5. FIRE LED still blinking.
6. Restore fire zone to normal condition.
7. FIRE LED will be off.

5.5.2 FIRE ALARM

1. Connect a smoke detector or fire sensor (see Figure 2-3).
2. Violate the fire sensor or short across the loop.
3. The control station will beep rapidly.
4. Fire alarm output (J16-pin 11) will activate.
5. FIRE LED will be on. Fire alarm indication.
6. Press the "∗" key to silence audible devices.
7. FIRE LED still on.
8. Reset fire alarm with command 1 and a user authorization code. Press 1 -2-4-5.
9. The FIRE LED will blink if detectors are latched or if the loop is still shorted. Remove all shorts.
10. To reset latched detectors, reset smoke power with command 7 and a user authorization code. Press 7 -2-4-5.
11. FIRE LED will be off. See section 4.4 if the POWER LED begins blinking.

5.6 SELECTED PROGRAM OPTIONS AND OPERATION

5.6.1 EXIT BEEP

The exit beep is disabled when the interior off mode is selected with keypad command 4. The exit beep may be totally disabled by programming an odd exit time value into programming function 17.

5.6.2 LOOP FOLLOWER

The loop follower feature bypasses all interior defined zones during entrance delay when entering thru a delay defined zone first. Perimeter defined zones have no exit delay, entrance delay, or loop follower feature. The loop follower option may be disabled with programming function 33.

5.6.3 SUPERVISORY/TROUBLE ZONE SUB-OPTION

Supervisory/trouble is a programmable zone sub option which allows burglar, medical, communicator trip and key defined zones to be supervised and to respond specifically to loop opens vs loop shorts. See Appendix B. Either an alarm or trouble response will be generated depending on the loop conditioning.

In order for the supervisory function to work, the zone loop must be wired properly with an end-of-line resistor as per Section 2.3.1 and Figure 2-7.

Open loop supervisory is the factory standard when the sub option is selected. Upon detection of a supervisory condition, the control station beeps and the supervisory (Fire) LED blinks. Press the "∗" key to silence the control station. The LED will continue to blink for as long as the condition exists. The digital communicator may be programmed to transmit a supervisory report code. (Programming function 111 and 146). When the supervisory condition-is cleared, the control station will automatically reset. Supervisory can be programmed to latch with the "∗" required to reset by programming function 30.

5.6.4 KEY DEFINED ZONE

Any one of the hardwire zones 1 thru 8 may be defined as a momentary key zone. When the key zone is violated and held violated for one second, the pre-alarm will beep to indicate the key contact debounce time has expired. When the key zone is released, the control will arm/disarm. If programming function 29 is enabled, holding the key zone violated will change the interior on/off and delay/instant modes once each second. When the desired interior on/off and delay/instant combination is displayed, release the key to arm the system. If a key zone is also defined as a supervisory zone, any supervisory/trouble on the key zone will disable the key zone from arming or disarming the control.

5.6.5 USER AUTHORIZATION CODE CONFIGURATION DIGIT

Up to 9 user authorization codes may be programmed (programming functions 1 thru 9). A configuration digit is associated with each code (programming functions 54 thru 62) which tells the system how the user authorization codes may be used. Table 5-1 describes each level of use.

0- NO ARM/DISARM OR ACCESS ACTIVATION. USED WITH A USER AUTHORIZATION CODE OF "00000" TO ALLOW SINGLE DIGIT KEYPAD COMMANDS 2 THRU 8.

1- CODE MAY BE USED TO ARM/DISARM.

2- CODE MAY ONLY BE USED TO ACTIVATE THE ACCESS OUTPUT J16-PIN 3.

3- CODE MAY BE USED TO ARM/DISARM WITH KEYPAD COMMAND 1 OR ACTIVATE THE ACCESS OUTPUT, J16-PIN 3, WITH KEYPAD COMMAND 0.

4- NOT USED.

5- CODE ACTIVATES THE ACCESS OUTPUT, J16-PIN 3, WHEN THE CONTROL IS ARM/DISARMED USING KEYPAD COMMAND 1. COMMAND 0 DOES NOT WORK WITH THIS CODE CONFIGURATION.

6- NOT USED.

7- CODE ACTIVATES THE ACCESS OUTPUT, J16-PIN 3, WHEN ARMING/DISARMING USING WITH KEYPAD COMMAND 1 AND MAY BE USED TO ACTIVATE THE ACCESS OUTPUT USING KEYPAD COMMAND 0.

8- USED TO ASSIGN A USER AUTHORIZATION CODE AS A SUBZONE ARM/DISARM CODE. SEE SUBZONING SECTION 5.6.6.

9- THE USER AUTHORIZATION CODE ARMS/DISARMS AS NORMAL AND ACTIVATES THE COMMUNICATOR DURESS ALARM (PROGRAMMING FUNCTION 105 AND 140) WHICH SENDS A SILENT SIGNAL TO THE CENTRAL STATION.

TABLE 5-1 CONFIGURATION DIGIT VALUES

5.6.6 Z1100 SYSTEM II SUBZONING

The Z1100 System II provides the ability to disarm/re-arm individual zones of an armed burglar system without disarming the entire system. A unique code configured for each zone must be entered at the control station to disarm/re-arm each subzone. Any time the main control is disarmed, all subzones are disarmed.

The Z1100 System II is capable of subzoning up to 8 zones. User authorization codes 1 thru 8 correspond to the zone(s) that are to be subzoned. The corresponding configuration digit (programming functions 54 - 62) for each code must be programmed with a value of 8.

User authorization code 1 subzones zone 1, user authorization code 2 subzones zone 2, etc. User authorization code 9 could be used as the master arm/disarm code if all 8 zones are subzoned. A single user authorization code can subzone only 1 zone. If more than 1 zone is to be subzoned, then separate codes must be used to disarm each zone.

EXAMPLE: A warehouse wants to allow delivery men to enter a specific zone to make deliveries after hours. The keypad will be placed within the protected area so entrance/exit delay time is required.

1. Zone 2 was selected for an example. Zone 2 should be defined as a burglar delay zone (programming function 39).

2. Configuration digit for user authorization code 2 is programmed to an 8 (programming function 55).

3. User authorization code 2 is programmed to 4-5-6-0-0 (programming function 2).

4. A remote constant status LED for zone 2 is remoted to the keypad area by using a Z229 output expansion module and Z239 zone annunciator plate. The LED will blink when the zone is disarmed (shunted).

5. After the Z1100 System II is armed with any code other than user authorization code 2, the subzone 2 may be disarmed/re-armed with user authorization code 2. Since zone 2 is defined as a delay zone, the entry and exit timers will work for Zone 2. If open/closing communicator reports are programmed, the communicator will report by user in extended format.

5.6.7 WATCHDOG MONITOR

The purpose of the watchdog monitor is to keep the micro-processor operating. It accomplishes this by continuously monitoring an output from the microprocessor which resets a timer. If the output for the microprocessor ceases, then upon time out, the watchdog removes the +5 volts from the microprocessor and effectively goes through a power-up sequence or "resets" the microprocessor. Following reset, a ROM and EEPROM check is made (Paragraph 5.3) and the system is restored to the same operating condition as was previously set. There are a few exceptions to system restoration which are as follows:

1. If the entry or exit alert is sounding and the entry zone is still violated, the system will shunt the violated zone and re-arm. Entry and exit time is lost.

2. If the system is in alarm and resets, the alarm ceases. All violated zones are auto shunted upon system re-arm.

3. If the system is making a report through the digital communicator, the report is lost.

4. The normal communicator/battery test time is reset to zero. If test reporting is programmed, the test report will be sent when the system is reset; thus notifying the central station of an out of sequence test. An option allows disabling this function (programming function 81).

5.6.8 AUTOMATIC INTERIOR OFF

The Z1100 System II may be programmed to automatically bypass (turn off) Interior defined zones depending upon the user activity. This feature simplifies operation by eliminating the need for additional commands when the user wishes to arm only the perimeter zones and still move freely within the interior of the premises. A value of "1" in programming Function 31 enables this feature which then operates as follows:

1. Arm the control by pressing Command 1 plus a user authorization code (2 - 4 - 5).

2. Move around freely but DO NOT violate (open) the delay zone.

3. During the last second of exit delay time, the system will switch to "Interior Off" automatically since no exit was detected.

5.6.9 AUTOMATIC SWITCH TO INSTANT MODE

This feature is similar in operation to automatic Interior Off in that the Instant Mode may be switched automatically dependant upon the user activity.

A value of "1" in programming Function 32 enables this feature. If no exit is detected following normal arming, the system will switch automatically to "Instant" mode thereby eliminating ALL entrance delay times.

5.6.10 EEPROM MEMORY ERROR

The EEPROM memory check is performed each time the control is powered-up, reset, armed, disarmed, and when the battery is manually or automatically load tested. The EEPROM check consists of compiling a checksum of all the bits in the EEPROM and comparing this with the checksum generated when the EEPROM was last programmed. A difference in the checksums will result in a memory error. If an EEPROM memory error is detected, the control station will beep, the MEMORY ERROR LED will blink and the digital communicator, if programmed, will send a memory error signal to the central station. The control station beeping may be silenced by pressing the "*" key. All EEPROM functions should be reviewed to determine the location of the function where data has been changed. Upon reviewing the EEPROM data and exiting from the program mode, the EEPROM checksum will be re-calculated and the blinking MEMORY ERROR LED will be reset. If power to the control is switched off while programming, a memory error will occur upon power up and it will be necessary to re-enter, then properly exit the programming mode to clear the error.

5.6.11 RETURNING TO THE FACTORY DEFAULT PROGRAM

The Z1100 System II may be returned to the factory default program at any time. This action may be desirable during training on the system or when the program values are unknown. Returning to the factory defaults will cancel both telephone numbers. Use the following procedure to restore the factory default program settings.

NOTE: All previous programming will be lost.

1. Slide master power switch off (down).

2. Depress and hold the program switch and slide master power switch on (up).

3. Release program switch. All control station LEDs will be flashing.

4. Press "1-5-6-#" to find programming function 156.

5. Press "1-*-*" to store 1 in programming function 156 and return to the running mode.

6. Slide master power switch off. Wait 5 seconds. Slide master power switch on.

7. The Z1100 System II is now reset to factory default programming.

6.0 DIGITAL COMMUNICATOR

6.1 OVERVIEW

The Z1100 System II's built-in digital communicator can dial two (2) different 26 digit telephone numbers using either rotary or Touchtone® dialing. The reporting codes for all zones and transmitted conditions are programmable for each telephone number. Thus, each telephone number can back-up the other if unsuccessful, or the reporting of certain zones or conditions may be "split" between each telephone number. All communicator programming is done through the Z1100R Control Station in the installer programming mode or with the optional Z1100P Programmer. The data is permanently stored in the EEPROM memory. The communicator is factory programmed with basic default features and formats. Table 6-1 provides a listing of these factory default settings.

6.2 COMMUNICATOR DELAY BEFORE DIALING (PROGRAMMING FUNCTION 78)

The delay before dialing feature sets the time between the actual alarm input and when the digital communicator starts the dialing sequence. This time can be set from 1 to 255 seconds. "0", which is the factory default value, disables the digital communicator. The delay before dialing gives the user a time period to reset the system and abort a report following an accidental alarm. If programming function 80 is set to "1", all alarms may be aborted when the system is disarmed. See section 7 for programming information.

6.3 TELEPHONE LINE SEIZURE

When the communicator is triggered, the telephone line is seized, disconnecting the house telephones. Dial tone detection is then enabled. If detected, the dialing sequence immediately begins with either rotary or Touchtone® dialing, depending upon the programming of functions 93 or 128. If no dial tone is detected within 10 seconds, the communicator hangs up for the time set in programming function 159 (factory default 3 seconds). The telephone line is again picked up and dial tone detection is re-enabled. If no dial tone after 10 seconds, the dialing process will begin anyway.

6.4 DIAL ATTEMPTS BEFORE SHUTDOWN

If the digital communicator cannot complete its transmission or fails to reach the central station, it will hang up and redial up to the maximum attempts value set in programming function 79. Each new attempt will alternate between telephone numbers 1 and 2. The attempts counter is decremented each time, even if only one of the telephone numbers is programmed. A value of "1 to 255" attempts may be programmed for function 79 (factory default is 8).

6.5 REPORTING CODES

The reporting codes for all zones and transmitted conditions are programmable for each telephone number. By programming both telephone numbers with identical codes, each telephone number will serve as a backup for the other if the other is unsuccessful.

When the digital communicator is triggered, telephone #1 attempts to dial and report first. If telephone #1 is not programmed or if the report code for telephone #1 equals "0", telephone #2 is attempted. A value of "0" disables a reporting code and may be used to prevent codes from reporting to specific telephone numbers. This is a new feature called "SPLIT REPORTING". If the report code for both telephone numbers equals "0", no report will be transmitted.

COMMUNICATOR DELAY		
BEFORE DIALING ....0 SECONDS		
(COMMUNICATOR DISABLED)		
DATA FORMAT .... 3 DIGIT ACCOUNT CODE,		
1 DIGIT REPORT CODE, NON-EXTENDED.		
TRANSMISSION FORMAT 0		
(AUTOBAUD FOR FORMAT 1 OR 2)		
COMMUNICATOR DIAL ATTEMPTS .... 8 TRIES		

COMMUNICATOR CODES	TELEPHONE #1	TELEPHONE #2
ACCOUNT CODE	888	888
ZONE 1 REPORT CODE	3	3
ZONE 2 REPORT CODE	3	3
ZONE 3 REPORT CODE	3	3
ZONE 4 REPORT CODE	3	3
ZONE 5 REPORT CODE	3	3
ZONE 6 REPORT CODE	3	3
ZONE 7 REPORT CODE	3	3
ZONE 8 REPORT CODE	1	1
KEYPAD FIRE REPORT CODE	1	1
KEYPAD POLICE REPORT CODE	2	2
ALL OTHER REPORTING CODES DISABLED		

TELEPHONE #1 .... NOT PROGRAMMED
TELEPHONE #2 .... NOT PROGRAMMED

TABLE 6-1 FACTORY DEFAULT COMMUNICATOR SETTINGS

6.6 SPLIT REPORTING

Split reporting is enabled by programming different telephone numbers for telephone 1 and 2, then selectively programming only certain reporting codes for each telephone number. This feature is valuable for sending all reports requiring response to one central station receiver (tel #1) and all routine maintenance codes to another central station receiver (tel #2).

EXAMPLE	Telephone #1	Telephone #2
Reporting Code	5	0
	(Only telephone #1 is dialed)	
Reporting Code	0	5
	(Only telephone #2 is dialed)	
Reporting Code	5	5
	(Backup telephone #1 & #2)	
Reporting Code	0	0
	(Codes disabled for both #'s)	

NOTE: The Z1100 System II supports backup reporting and split reporting but cannot send the same report to both telephone numbers. ie: (dual reporting.

CAUTION: IF SPLIT REPORTING is enabled, with telephone #1 reporting code for a zone or transmitted condition programmed as "0" (reporting disabled), and telephone #2 reporting code for the same zone or condition programmed as "1 to 15" (reporting enabled), then the actual number of dial attempts for programming function 79 MUST be calculated and programmed according to the following formula.

Actual number of desired dial attempts	(	)
Multiplied by	X 2	
Plus	+ 2	

EXAMPLE:

Actual number of desired dial attempts	= 8
Multiplied by	X 2
Plus	+ 2
Calculated number of dial attempts	=18

Program function 79 (dial attempts) with 18

6.7 COMMUNICATOR TRANSMISSION FORMAT

The Z1100 System II communicator is capable of transmitting 5 different formats. Each telephone number may be programmed with a different transmission format. The formats are:

FORMAT

0 = Autobaud. Format 1 or 2 is automatically selected based upon the handshake tone from the receiver.

1 = 1400 Hz. handshake, 1900 Hz. data, 10 baud. (Ademco, Adcor, FBI, Osborne Hoffman, Radionics, Silent Knight, Varitech, and Vertex slow format).

2 = 2300 Hz. handshake, 1800 Hz. data, 20 baud. (DCI, FBI, Franklin, Osborne Hoffman, Sescoa, Varitech, and Vertex fast format).

3 = 1400 Hz. or 2300 Hz. handshake, 1800 Hz. data, 40 baud. (Radionics superfast no parity. For parity, program function 92 and/or 127).

4 = 1400 Hz. handshake, 1900 Hz. data, 15 baud. (Silent Knight fast format).

5 = Radionics BFSK® (1400 Hz. or 2300 Hz. handshake). (FBI, Radionics, and Varitech).

NOTE: The Osborne Hoffman, Quick Alert Receiver is not compatible with Formats 3, 4, and 5.

6.8 HEXIDECIMAL REPORTING

When reporting to a Radionics receiver, zone reporting codes 1 thru 8 should be programmed with a value from "1" to "8" respectively. For proper Radionics receiver printout program the appropriate reporting codes as follows:

11 ("B" hexadecimal) for opening report code.
12 ("C" hexadecimal) for closing report code.
13 ("D" hexadecimal) for cancel report code.
14 ("E" hexadecimal) for restoral report code.
15 ("F" hexadecimal) for trouble report code.

6.9 COMMUNICATOR EXTENDED REPORTING

The Z1100 System II is capable of several types of extended reporting. The advantages of extended reporting are: individual alarm, restore and cancels by zone, opening/closings by user code, shunt by zone, and supervisory/trouble by zone. The report code is programmed by the installer. The extended code in most cases is automatically added by the system. See section 7 for programming instructions.

6.9.1 STANDARD TWO LINE EXTENDED

Standard extended reporting is enabled in programming function 90 for telephone #1 and in function 125 for telephone #2. The following is an example of an "alarm" triggered from zone 6. Zone 6 reporting code (functions 99 & 134) has been programmed with a code "3". The account code (functions 83 & 118) has been programmed as '987'.

1st line	987	3
	(account code)	(report code)
2nd line	333	6
	(report code 3 times)	(extended code)

The central station will identify this as: Account 987, report code 3 (burglary) from zone 6.

6.9.2 SINGLE LINE EXTENDED

Radionics A+ format or single line extended is enabled with programming function 91 for telephone #1 and function 126 for telephone #2. This is similiar to the standard extended with the exception that report codes from 1 to 10 are not extended, while all codes from 11 ("B" hex) to 15 ("F" hex) are extended. When transmitted to a Radionics or compatible equipped central station, the full report will be received and printed on a single line. In order for alarms, restores, etc. to be transmitted properly with this format, zones 1 thru 8 must be programmed as report codes 1 thru 8 respectively. Appendix F outlines a system programmed to report single line extended.

6.9.3 4/2 EXTENDED FORMAT

Another form of extended reporting is 4/2. The first 4 digits transmitted are the account code followed by 2 digits which consist of the report code and the extended code. The entire report is transmitted and printed on a single line. 4/2 format is enabled with programming function 89 for telephone #1 and function 124 for telephone #2. The Z1100 System II is also capable of reporting 3/2 format. See section 7 for programming instructions.

NOTE: With opening/closings in extended format, the extended code will identify the user authorization code that was used to arm or disarm the system.

When opening or closing using a keyswitch zone, the system will report an extended code of "10" or "0".

6.10 PARITY CHECKSUM

This feature is enabled by programming function 92 for telephone #1 and function 127 for telephone #2. It is most commonly used when transmitted to Radionics receivers. Rather than sending each line of data twice for transmission verification, this option sends only one line of the account and report code, followed by a parity checksum digit for verification. The system calculates the parity digit automatically by summing the total of the account and report codes. The transmission speed is generally faster and the telephone connect time is less when using this feature.

6.11 CLOSING WITH RINGBACK

The Z1100 System II, if programmed for closing reports, will automatically provide a signal when the central station receives the closing report. After the kissoff has been received from the central station, the control station will beep 6 times, followed by a 2 second error tone. Exit delay will then be restarted and the armed output, J-16 pin 8 will activate. This output may be used to remote an LED.

7.0 PROGRAMMING THE Z1100 SYSTEM II

7.1 OVERVIEW

Programming is the principle means used to configure and tell a computer based system what to do and how to do it. The Z1100 System II stores all programming options in a nonvolatile EEPROM device. All programmable options are referred to as "functions". There are more than 200 programmable functions available in the Z1100 System II.

7.2 ENTERING THE PROGRAMMING MODE OF OPERATION

When programming using the Z1100R Control Station there are two separate programming levels. The USER LEVEL allows the user to program only the first 15 functions. These functions include the user authorization codes, the program authorization code, code nine usage count, time till next automatic test, clear alarm memory, delete a code, and upload data. The INSTALLER LEVEL of programming allows the installer to program all functions. The end user is locked out of programming any functions greater than function 15.

To enter the USER LEVEL of programming, press the keypad command digit "9" plus the program authorization code. This code is factory programmed as 9-8-7-6-5, and should be changed by programming function 10.

The INSTALLER LEVEL of programming may be entered by either of the following ways:

1. Momentarily press the program switch (SW2), then press the keypad command digit "9" followed by the user program authorization code.

2. If the user program code is not known, turn off power to the control, hold down the program switch (SW2), restore power, and release the program switch.

Upon entry into either user or installer level programming, all LED's on the keypad will blink indicating the program mode has been entered. These LEDs will continue to blink until the actual programming has begun or until the "*" key is pressed. A three minute timer is started with each keypress while in the programming mode. If, during three minutes, no key is pressed, the system will automatically return to the normal running mode of operation. For example, suppose the installer, in the midst of programming the control, is temporarily distracted. If he is away from the control for more than three minutes, the system will automatically exit the programming mode and return to the normal running mode.

When the installer manually exits the INSTALLER LEVEL, he may, within three minutes, re-enter the INSTALLER LEVEL provided no other keypad commands have been performed.

It is possible to program a special installer program code (function 16). The installer level of programming may then be entered at any time by pressing "9" plus the special installer program code. This special code should be erased (programming function 14, code 0) after the system programming is complete and will be automatically erased when the next automatic battery/communicator test occurs.

7.3 FINDING A FUNCTION

Finding a particular function may be accomplished by entering the programming mode, followed by entering the desired function number and pressing the FIND key "#". The FIND key may be pressed again to step forward to the next consecutive function. To skip to a non-consecutive or previous function, enter the new function number then press FIND. Once function 17 or higher is found, it is not possible to skip back to functions 1 thru 15 without exiting the programming mode.

7.4 READING THE VALUE OF A FUNCTION

The LEDs will display the contents of the EEPROM memory in binary format for most functions. The binary number stored in each function can be calculated by adding up the value of all illuminated LEDs. See Table 7-1.

DISPLAY LED #	LIT LED	POSITIONAL VALUE	VALUES ADDED
1	( )	1	
2	( )	2	
3	(•)	4	4
4	(•)	8	8
5	(•)	16	16
6	(•)	32	32
7	( )	64	
8	( )	128	
Total			60

EXAMPLE LEDs 3, 4, 5 and 6 are lit after accessing function 17 (exit time). The values for each LED are 4, 8, 16 and 32 respectively. Adding these values together gives a total of "60". The value stored for function 17 is 60. Exit time is therefore 60 seconds.

TABLE 7-1 BINARY LED VALUES

7.5 CHANGING THE VALUE OF A FUNCTION

The value stored in memory for a particular function is changed by finding the function as described above, then entering the new value and pressing the STORE key "*". The new value will then be displayed on the LEDs. The STORE key "*" need not be pressed after entering a new value for functions 1 - 10 and 16, because the system automatically returns to the normal run mode of operation when all five digits have been entered.

The range of possible entries for each function varies with the function. Some functions require that only a value of "0" or "1" be programmed, while others may be programmed with values of up to "255". It is important to observe this range of values for each function. See section 7.8 for the range of values for each function.

7.6 EXITING FROM THE PROGRAM MODE

Pressing the STORE key without entering any previous digits 0-9 will result in the system returning to the normal run mode. Pressing the "*" key twice will exit the program mode at any time.

7.7 HOW TO USE THE Z1100 SYSTEM II FUNCTION MAP

The function map (Appendix E) makes programming of the Z1100 System II simpler. Write the information to be programmed on the function map, and use it while programming.

Look at the programming function map. The numbers to the left of each column are the programmable function numbers of the Z1100 System II. A brief description of each function is listed beside each function number. For a more detailed description of each function, refer to section 7.8 "Program Function Descriptions." Write the programming information in the boxes immediately to the right of the descriptions on the function map. When entering the information, note the range of each entry listed to the right of the boxes for each function.

Note the differences between the functions on the map (i.e. functions 1, 11, 13, 26, 83 and 168). The following paragraphs explain the different types of function programming.

7.7.1 FUNCTIONS 1 - 10 AND 16

Functions 1 - 10 and 16 require five digits for each code. Each digit may have a value of between "0" and "9". Decide on the codes to be used, and write them into the appropriate blocks on the map. If a code is less than five digits long, trailing zeros must be added.

EXAMPLE: To program user authorization code 1 as "3-2-1", write a "3" in the first block of the code followed by "2", "1", "0", and "0".

| 001 | USER AUTH.
CODE 1 | 3 | 2 | 1 | 0 | 0 |

7.7.2 FUNCTION 11

This type of function requires that a value of "0" to "255" be entered. Preceeding zeros are not required when entering a value into the keypad.

EXAMPLE: To program function 11 with a value of "12", write "12" in the blocks beside that function.

| 011 | USAGE COUNT
CODE 9 | | 1 | 2 |

7.7.3 FUNCTION 13

This type of function cannot be programmed with a value. These functions are shaded in to show that no value may be entered. These functions perform a specific duty when accessed. For example, when function 13 is accessed, all alarm memory zones are cleared.

7.7.4 FUNCTION 26

This type of function should be programmed with only one of two values: "0" or "1". Both values are shown on the memory map. Circle the desired value.

EXAMPLE: If the audible burglar alarm output should be pulsed (one second on, one second second off), circle answer "YES" for function 26.

| 026 | PULSING
BURGLAR | 0 | 0 | 0 | | 0 | 0 | 1 |
| | | | NO | | | | YES | |

7.7.5 FUNCTIONS 83 - 86 (ACCOUNT CODE 1)
FUNCTIONS 118 - 121 (ACCOUNT CODE 2)

Each digit of the account code is a function. Each function must be programmed with a value. The range of each value is from "0" to "15". If a four digit account code is used, program the first, second, third, and fourth digits in functions 83 - 86 and 118 - 121 respectively. If a three digit account code is used, program functions 83 and 118 (thousands digit of the account codes) with a value of "0" and enter the three digit account code in functions 84 - 86 and 119 - 121.

EXAMPLE: If a three digit account code of "789" is to be programmed, enter "0" for function 83, "7" for function 84, "8" for function 85 and "9" for function 86.

ACCOUNT CODE:

| | 0 | | 7 | | 8 | | 9 |
| 083
Digit 1 | | 084
Digit 2 | | 085
Digit 3 | | 086
Digit 4 | |

7.7.6 FUNCTIONS 168 - 220

Functions 168 - 220 (excluding 194) are programmed with the telephone numbers to dial. Each digit of the telephone number is programmed as an individual function. Enter a value from "0" to "15" for each digit of the telephone number. The function following the last digit of the telephone number must be programmed with the value "15". Write in "15" following the last digit.

7.8 USER LEVEL PROGRAM FUNCTION DESCRIPTIONS

1 User Authorization Code 1 -
First of 9 independent user authorization codes. Each user authorization code may consist of up to five digits. They may be used to arm or disarm the system, as an access code, or as a duress arm/disarm code. If a code of less than 5 digits is desired, the trailing digits must be programmed with a value of "0". Function 14 may be used to disable any of the user codes or the installer programming code. Function 14 will disable the code by storing a 15 ("F" Hexadecimal) in the first digit of the code.
Range of each digit: 0 to 9
Factory default value: 2-4-5-0-0

2 User Authorization Code 2 -
Factory default value: 15-15-15-15-15
("FFFFF" Hexadecimal - code is disabled until programmed)

3 User Authorization Code 3 -
Factory default value: 15-15-15-15-15
(Disabled)

4 User Authorization Code 4 -
Factory default value: 15-15-15-15-15
(Disabled)

5 User Authroization Code 5 -
Factory default value: 15-15-15-15-15
(Disabled)

6 User Authorization Code 6 -
Factory default value: 15-15-15-15-15
(Disabled)

7 User Authorization Code 7 -
Factory default value: 15-15-15-15-15
(Disabled)

8 User Authorization Code 8 -
Factory default value: 15-15-15-15-15
(Disabled)

9 User Authorization Code 9 -
Whereas user authorization codes 1 - 8 may be used any number of times, code 9 may only be used the number of times specified by programming function 11.
Factory default value: 15-15-15-15-15
(Disabled)

10 User Program Authorization Code -
The program authorization code is used to enter the programming mode. One should always use five (5) digits in the program authorization code for better security although shorter codes may actually be entered by the use of trailing "0's".
Factory default value: 9-8-7-6-5

11 Code 9 Temporary Usage Count -
This function may be programmed to assign a specific number of times that user code 9 may be used for purposes such as temporary help (maid code). User authorization code 9 is not erased after the specified number of uses, however, function 11 must be programmed with a new value greater than zero before code 9 may be used again. If a value of 255 is programmed, the code may be used indefinitely.
Range: 0 to 254 uses or 255 (indefinite number of uses)
Factory default value: 255 (code 9 used indefinitely)

12 Time Till Next Communicator/Battery Test -
This feature may be used to reset the time of day that the next battery test and a test report to the central station (if so programmed) is performed. The test is performed after the programmed time has expired. The test is then performed routinely according to the time programmed for function 35. Programming function 12 in no way affects the value programmed for function 35. When accessed, this function does not display the value stored in memory on the LED's.

Value: 0 - Immediate
        1 - One Hour
        2 - Two Hours
        .   .
        .   .
      24 - Twenty-Four Hours

Range: 1 to 24 hours, 0= immediate
Factory default value: 24 hours

NOTE: As a safety feature, once the test is performed, the installer program authorization code is deleted.

13 Clear Alarm Memory
Accessing this function clears the alarm memory of the previous violated zones.

14 Delete User Authorization Code -
Disable user authorization codes by finding function 14, then entering the function number of the code to be deleted (1-9). Entering a "0" will delete the installer program authorization code.
Range: 1-9, 0= Delete installer code

15 Upload Data -
This function allows uploading of EEPROM memory data to a remote location via telephone lines. This function requires that a computer with special software be installed at the remote location that is to receive the data. Telephone contact with the remote location must be established before function 15 may be activated. When this function is activated, the telephone line is seized while the data is uploaded. To interrupt the data upload, hold the RESET key "*" down for 5 seconds or until the system releases the telephone line. Contact Moose Products technical services for additional information.

NOTE: INSTALLER LEVEL OF PROGRAMMING IS REQUIRED TO PROGRAM BEYOND THIS POINT (See "Entering the Programming Mode of Operation" - Section 7.2)

7.9 INSTALLER LEVEL PROGRAM FUNCTION DESCRIPTIONS

16 Installer Program Authorization Code -
The Installer Program Authorization Code allows the installer a quick means of entering the Installer Programming level without pressing the installer program switch (SW2).
Range of each digit: 0 to 9
Factory default value: 15-15-15-15-15
(Disabled)

17 Exit Time -
Allowable time in seconds for the user to exit through delay and interior zone(s). An even number (20, 40) will cause the control station to beep each second during exit time. An odd number (19, 39) will eliminate the exit beep. U.L. allows a maximum exit time of 60 seconds.
Range: 0 to 255 seconds
Factory default value: 60 seconds

18 Entrance Delay 1 Time -
Allowable time in seconds for the user to enter zones defined as "entry delay 1" and disarm the system before an alarm. Entrance delay 1 is assigned when programming the zone definition (Functions 38-45). U.L. allows a maximum entry time of 45 seconds.
Range: 0 to 255 seconds
Factory default value: 30 seconds

19 Entrance Delay 2 Time -
Allowable time in seconds for the user to enter zones defined as "entry delay 2" and disarm the system before an alarm. Entrance delay 2 is assigned when programming the zone definition (Functions 38-45).
U.L. allows a maximum entry time of 45 seconds.
Range: 0 to 255 seconds
Factory default value: 45 seconds

20 Access On Time -
Access output (J16 - pin 3) hold time in seconds after a keypad access command. A value of "0" causes the output to toggle (turn on or turn off) each time the access code is used.
Range: 1 to 255 seconds, 0 = Toggle
Factory default value: 5 seconds

21 Delay Burglar Alarm Output -
Time in seconds after a burglar zone violation before the burglar output (J16 - pin 12) is turned on.
U.L. allows a maximum combined total entrance delay and delay burglar alarm output time of 45 seconds.
Range: 0 to 255 seconds
Factory default value: 0 seconds

22 Burglar Cutoff Time -
Time in minutes that burglar output (J16 - pin 12) will be active before automatic cutoff. A value of "0" or "255" equals 255 minutes.
U.L. allows minimum burglar alarm time of four minutes.
U.L. allows a maximum of 15 minutes for local burglar alarm applications.
Range: 1 to 254 minutes, 0 or 255 = 255 minutes
Factory default value: 10 minutes

23 Fire Cutoff Time -
Time in minutes that fire output (J16 - pin 11) will be active before automatic cutoff. A value of "0" or "255" eliminates automatic cutoff.
U.L. allows no automatic cutoff.
Range: 1 to 254 minutes, 0 or 255 = no cutoff
Factory default value: 255 (no automatic cutoff)

24 Police/Auxiliary 1 Cutoff Time -
Time in minutes that police/aux. 1 output (J16 - pin 10) will be active before automatic cutoff. A value of "0" or "255" eliminates automatic cutoff.
Range: 1 to 254 minutes, 0 or 255 = no cutoff
Factory default value: 10 minutes

25 Medical/Auxiliary 2 Cutoff Time -
Time in minutes that medical/aux. 2 output (J16 - pin 9) will be active before automatic cutoff. A value of "0" or "255" eliminates automatic cutoff.
Range: 1 to 254 minutes, 0 or 255 = no cutoff
Factory default value: 10 minutes

26 Pulsing Burglar Alarm -
A value of "1", causes burglar alarm output (J16 - pin 12) to pulse - one second on, one second off. A value of "0" causes steady burglar alarm output.
Range: 0 or 1
Factory default value: 0 (steady burglar alarm output)

27 Pulsing Fire Alarm -
A value of "1", causes fire output (J16 - pin 11) to pulse - one second on, one second off. A value of "0" causes steady fire alarm output.
Range: 0 or 1
Factory default value: 0 (steady fire alarm output)

28 Burglar Audible Alarm Lockout -
A value of "1", allows only one burglar alarm output (J16 -pin 12) cycle during an arm/disarm cycle. The digital communicator will continue to send reports as each zone is violated.
Range: 0 or 1
Factory default value: 0 (multiple alarm outputs allowed in the same arm/disarm cycle)

29 Keyswitch Mode Change -
A value of "1" enables a KEY defined zone to change the Interior On/Off and Delay/Instant modes. See section 5.6.4.
Range: 0 or 1
Factory default value: 0 (keyswitch will not change the Interior/Delay modes)

30 Day Supervisory Latch -
A value of "1" allows a day supervisory condition to latch (remain on) until cleared by the RESET ("*") key or the arm/disarm code.
Range: 0 or 1
Factory default value: 0 (no supervisory latch)

31 Automatic Interior Off -
A value of "1" enables the system to automatically turn off the interior zone(s) at the expiration of exit delay if no delay zone was violated. (See Section 5.6.8)
Range: 0 or 1
Factory default value: 0 (No automatic interior off)

32 Automatic Instant -
A value of "1" enables the system to automatically convert all delay zones into instant zones at the expiration of exit delay if no delay zone was violated. (See Section 5.6.9)
Range: 0 or 1
Factory default value: 0 (No automatic change to instant)

33 No Interior Follower -
A value of "1" disables the "interior follower" and allows all interior zones to remain instant during the entrance delay time. (See Section 5.6.2)
Range: 0 or 1
Factory default value: 0 ("interior follower" enabled)

34 Siren Test On Arming -
A value of "1" enables a one second burglar alarm output (J16 - pin 12) whenever the control is armed. A value of "0" disables this feature.
U.L. requires a burglar alarm bell test for Grade A local installations.
Value of 1 = siren test.
Range: 0 or 1
Factory default value: 0 (no siren test)

35 Time Between Communicator/Battery Tests -
This function specifies the amount of time between automatic communicator and battery load tests. Values that may be entered are as follows:

Value	Time
0	12 hours
1	1 day
2	2 days
3	3 days
4	4 days
5	5 days
6	6 days
7	7 days

U.L. requires the automatic test to be performed at least once every 24 hours on commercial installations.
Range: 1 to 7 Days, 0 = 12 Hours
Factory default value: 1 day

36 Loop Response Time - 2 (FAST)
Loop response time is the time a zone must remain violated before the control sees the violation. Longer loop response times help to eliminate false alarms caused by window foil and loose fitting doors. The time is measured in 40 millisecond (0.040 second) increments. A programmed value of "1" equals 40 milliseconds, "2" equals 80 milliseconds, "25" equals 1,000 milliseconds,. . ."255" equals 10,200 milliseconds or 10.2 seconds. A loop response value of 2 should be the minimum value programmed. Fast acting devices such as vibration contacts and some glass break detectors may require pulse extenders for proper operation.
U.L. requires that the loop response time not exceed one second.
Range: 1 to 255 increments (40 milliseconds to 10.2 seconds)
Factory default value: 2 (80 milliseconds)

37 Loop Response Time - 1 (SLOW)
See function 36.
Range: 1 to 255 (40 milliseconds to 10.2 seconds)
Factory default value: 8 (320 milliseconds)

DO NOT program for shuntable fire zones.
Functions 38 through 45 (Zones 1 through 8) MUST NOT be programmed with "10" or "74". These values provide for shuntable fire zones.
This function does not operate properly.

38 Zone 1 Definition -
Each zone may be individually defined for use as a burglar, fire, police, medical, communicator trip or key zone. Refer to Appendix B for calculating the definition for each zone. Enter the value calculated for zone 1 in function 38, the value for zone 2 in function 39, etc.
Range: 0 to 255
Factory default value: 64 (Burglar, Entrance Delay 1, Perimeter, Slow loop response).

39 Zone 2 Definition -
Refer to function 38.
Factory default value: 72 (Burglar, Entrance Delay 2, Perimeter, Slow loop response).

40 Zone 3 Definition -
Refer to function 38.
Factory default value: 81 (Burglar, Instant, Interior, Slow loop response).

41 Zone 4 Definition -
Refer to function 38.
Factory default value: 65 (Burglar, Instant, Perimeter, Slow loop response).

42 Zone 5 Definition -
Refer to function 38.
Factory default value: 65 (Burglar, Instant, Perimeter, Slow loop response).

43 Zone 6 Definition -
Refer to function 38.
Factory default value: 65 (Burglar, Instant, Perimeter, Slow loop response).

44 Zone 7 Definition -
Refer to function 38.
Factory default value: 65 (Burglar, Instant, Perimeter, Slow loop response).

45 Zone 8 Definition -
Refer to function 38.
Factory default value: 66 (Fire, Slow loop response).

46 Zone 1 Supervisory -
A value of "0" configures the zone for supervisory trouble signals upon loop open.
A value of "1" configures the zone for supervisory trouble signals upon loop short. (See Section 5.6.3).
Range: 0 or 1
Factory default value: 0 (supervisory trouble on loop open)

47 Zone 2 Supervisory -
Refer to function 46.
Factory default value: 0 (supervisory trouble on loop open)

48 Zone 3 Supervisory -
Refer to function 46.
Factory default value: 0 (supervisory trouble on loop open)

49 Zone 4 Supervisory -
Refer to function 46.
Factory default value: 0 (supervisory trouble on loop open)

50 Zone 5 Supervisory -
Refer to function 46.
Factory default value: 0 (supervisory trouble on loop open)

51 Zone 6 Supervisory -
Refer to function 46.
Factory default value: 0 (supervisory trouble on loop open)

52 Zone 7 Supervisory -
Refer to function 46.
Factory default value: 0 (supervisory trouble on loop open)

53 Zone 8 Supervisory -
Refer to function 46.
Factory default value: 0 (supervisory trouble on loop open)

54 Configuration Digit Code 1 -
The configuration digit allows the installer to assign a different level of security for each user authorization code. (See Section 5.6.5)
Range: 0 to 9
Factory default value: 3 (Arm/Disarm or Access with code)

55 Configuration Digit Code 2 -
Refer to function 54.
Factory default value: 3

56 Configuration Digit Code 3 -
Refer to function 54.
Factory default value: 3

57 Configuration Digit Code 4 -
Refer to function 54.
Factory default value: 3

58 Configuration Digit Code 5 -
Refer to function 54.
Factory default value: 3

59 Configuration Digit Code 6 -
Refer to function 54.
Factory default value: 3

60 Configuration Digit Code 7 -
Refer to function 54.
Factory default value: 3

61 Configuration Digit Code 8 -
Refer to function 54.
Factory default value: 3

62 Configuration Digit Code 9 -
Refer to function 54.
Factory default value: 3

63 Two Digit Arm -
Programming a value of "1", allows the use of just the keypad command digit and the first digit of the arm/disarm code to arm the system. The entire code must be used to disarm. A value of "0" requires the entire code for both arming and disarming the system.
Range: 0 or 1
Factory default value: 0 (Entire code required)

NOTE: If this feature is selected the first digit of a program code cannot be the same as the first digit of any user code.

64 Command 4 & 5 Work While System Armed -
If a "1" is programmed for this function, keypad commands 4 and 5 may be used while the system is armed.
Range: 0 or 1
Factory default value: 0 (commands 4 & 5 may not be used when armed)

65 Interior/Delay Mode -
The Interior and Delay modes change to a programmed configuration when disarmed. The configuration is determined by the value entered for function 65:

Value	Interior	Delay
0	On	On
1	Off	On
2	On	Off
3	Off	Off

Range: 0 to 3
Factory default value: 0 (Interior On, Delay On)

66 Disable Keypad Fire (keys 1 & 7) -
A "1" disables keypad fire alarm activation.
Range: 0 or 1
Factory default value: 0 (keypad fire enabled)

67 Disable Keypad Police/Aux 1 (keys 1 & 3) -
A "1" disables keypad police/aux. 1 alarm activation.
Range: 0 or 1
Factory default value: 0 (keypad police/aux. 1 enabled)

68 Disable Keypad Medical/Aux 2 (keys 3 & 9) -
A "1" disables keypad medical/aux. 2 alarm activation.
Range: 0 or 1
Factory default value: 0 (keypad medical/aux. 2 enabled)

NOTE: Disabling keypad Fire/Police, or Medical with Functions 66, 67, 68 also disables corresponding activations from Z230 3 zone expander and BCD interface.

69 Disable Keypad Shunting -
A "1" disables keypad shunting.
Range: 0 or 1
Factory default value: 0 (keypad shunting enabled)

70 No Control Station Keypad Beep On Burglar Activation -
A "1" silences the control station beep on burglar alarm activation.
Range: 0 or 1
Factory default value: 0 (control station beeps on burglar alarm activation)

71 No Control Station Keypad Beep or LED On Police/ Auxiliary 1 Activation -
Program this function with a "1" for a silent police alarm. The police output (J-16, pin 10) must NOT be connected to an audible device.
Range: 0 or 1
Factory default value: 0 (control station beep and LED on police/aux. 1 alarm activation)

72 Start Entrance Delay 1 From Keypad -
A value of "1" causes an armed control to start entry delay 1 any time a keypad digit is pressed. The control will alarm if not disarmed before the entrance delay 1 time has expired. This feature can be used in high security areas to detect keypad tampering.
Range: 0 or 1
Factory default value: 0 (Factory disabled)

73 Disable Keypad Command 4 (Interior Mode Change) -
A "1" disables keypad command 4.
Range: 0 or 1
Factory default value: 0 (keypad command 4 active)

74 Disable Keypad Command 5 (Delay Mode Change) -
A "1" disables keypad command 5.
Range: 0 or 1
Factory default value: 0 (keypad command 5 active)

75 Disable Keypad Command 6 (Monitor On/Off) -
A "1" disables keypad command 6.
Range: 0 or 1
Factory default value: 0 (keypad command 6 active)

76 Disable Keypad Command 7 (Battery Test/Smoke Reset) -
A "1" disables keypad command 7.
Range: 0 or 1
Factory default value: 0 (keypad command 7 active)

77 Disable Keypad Command 8 (Test) -
A "1" disables keypad command 8.
Range: 0 or 1
Factory default value: 0 (keypad command 8 active)

78 Communicator Disable Or Delay Before Report -
A value of "0" disables the communicator. A value of 1 to 255 is the time in seconds the communicator will wait after activation and before dialing to allow aborting of alarms.
Range: 1 to 255 seconds, 0 = disabled
Factory default value: 0 (communicator disabled)

NOTE: U.L. requires that the communicator not be disabled in either Local or Police Station Connected Burglar Alarm installations.

79 Dial Attempts Before Shutdown -
A value of "1 to 255" sets the number of dial attempts before the communicator automatically shuts down. The dial attempts counter is decremented each time the communicator switches telephone numbers, even when only one of the two telephone numbers is programmed.
U.L. requires 5 dial attempts minimum, 10 dial attempts maximum.
Range: 1 to 255 attempts (DO NOT PROGRAM WITH A VALUE OF 0)
Factory default value: 8 (dial attempts before shutdown)

80 Abort Communicator If Disarmed -
A value of "1" allows the communicator to abort any alarm reports when the arm/disarm code is entered. Upon abort, a cancel report may be sent by programming function 109 and 144.
Range: 0 or 1
Factory default value: 0 (No communicator abort)

81 Disable Dialer Test On Power-up -
If a test reporting code (Function 117 and 152) is programmed, a value of "0" allows the communicator to dial the central station with a test report code whenever the system is powered up or reset by the watchdog timer. A value of "1" disables this feature preventing a dialer test on power-up.
Range: 0 or 1
Factory default value: 0 (send test report on power-up)

82 Exception Opening/System Restore -
A value of "1" causes the communicator to report the opening code (functions 106 and 141) ONLY when the system has been disarmed (reset) after an alarm.
Range: 0 or 1
Factory default value: 0 (no exception opening/system restore). Opening reports if programmed, will be sent after every disarm cycle.

TELEPHONE WORKSPACE

TELEPHONE #1	TELEPHONE #2	
83	118	**Account Code, Digit 1 -** Thousands digit of the account code used in four digit account codes only. Enter a "0" to disable this digit if a three digit account code is used. Range: 1 to 15, 0 = digit disabled Factory default value: 0 (digit disabled) NOTE: 010 = Zero (0) digit
84	119	**Account Code, Digit 2 -** Hundreds digit of the account code. Range: 1 to 15, 0 = digit disabled Factory default value: 8 NOTE: 010 = zero (0) digit

TELEPHONE #1	TELEPHONE #2	
85	120	**Account Code, Digit 3 -** Tens digit of the account code. Range: 1 to 15, 0 = digit disabled Factory default value: 8 NOTE: 010 = zero (0) digit
86	121	**Account Code, Digit 4 -** Ones digit of the account code. Range: 1 to 15, 0 = digit disabled Factory default value: 8 NOTE: 010 = zero (0) digit
87	122	**Transmission Format -** A value of "0" to "5" may be entered to select the transmission format. See Section 6.7. Range: 0 to 5 Factory default value: 0 (autobaud to format 1 or 2) NOTE: Functions 87 and 122 MUST be programmed BEFORE functions 88 and 123. When reviewing the values of functions 87 and 122, use the zones 1, 2, & 3 LEDS only to determine programmed values. The zone 4 LED is associated with a different program function.
88	123	**Single Round Report -** Some older central station equipment can receive only a single report per telephone call. A value of "1" instructs the communicator to hangup after each single report and redial the central station for additional reports. NOTE: Extended format (functions 90-91) can NOT be used with single round reporting. Range: 0 or 1 Factory default value: 0 (single round reporting disabled)
89	124	**4/2 Transmission Format -** A value of "1" enables 4/2 transmission format which is a form of extended reporting. This format sends a four digit account code and a two digit report code. See Section 6.9.3 which explains 4/2 and extended format. Range: 0 or 1 Factory default value: 0 (4/2 format disabled)

TELEPHONE #1	TELEPHONE #2	
90	125	**Standard Extended -** A value of "1" enables the communicator to transmit all reports in extended two line format. See Section 6.9.1 Range: 0 or 1 Factory default value: 0 (standard two line extended disabled)
91	126	**Single Line Extended -** A value of "1" enables Single Line extended format. See Section 6.9.2 for information concerning Single Line extended format. Range: 0 or 1 Factory default value: 0 (Single Line extended disabled)
92	127	**Parity Checksum (Radionics) -** A value of "1" enables the communicator to transmit a parity checksum digit. See Section 6.10. Range: 0 or 1 Factory default value: 0 (no parity checksum) (Radionics)
93	128	**Touchtone® Dialing -** A value of "1" enables the communicator to dial the telephone number using touchtone. A value of "0" enables rotary (pulse) dialing. Range: 0 or 1 Factory default value: 0 (rotary dialing)
94	129	**Zone 1 Reporting Code -** This is the communicator code reported when zone 1 is activated. A zero (0) is entered to disable communicator reporting of the zone. A true reporting code of "0" (corresponding to "operator" on a telephone) is truly a 10 and must be entered as a 10. Some systems report a 10 as a hexidecimal A. Range: 1 to 15, 0 = disabled Factory default code: 3
95	130	**Zone 2 Reporting Code -** See Function 94. Factory default code: 3

TELEPHONE #1	TELEPHONE #2	
96	131	**Zone 3 Reporting Code -** See Function 94. Factory default code: 3
97	132	**Zone 4 Reporting Code -** See Function 94. Factory default code: 3
98	133	**Zone 5 Reporting Code -** See Function 94. Factory default code: 3
99	134	**Zone 6 Reporting Code -** See Function 94. Factory default code: 3
100	135	**Zone 7 Reporting Code -** See Function 94. Factory default code: 3
101	136	**Zone 8 Reporting Code -** See Function 94. Factory default code: 1
102	137	**Keypad Fire Reporting Code -** Code reported when keypad fire is activated. The keypad extended reporting code is programmed with Function 165. Range: 1 to 15, 0 = disabled Factory default code: 1
103	138	**Keypad Police/Aux 1 Reporting Code -** Code reported when keypad police/aux. 1 is activated. The keypad extended reporting code is programmed with Function 165. Range: 1 to 15, 0 = disabled Factory default code: 2
104	139	**Keypad Medical/Aux 2 Reporting Code -** Code reported when keypad medical/aux. 2 is activated. The keypad extended reporting code is programmed with Function 165. Range: 1 to 15, 0 = disabled Factory default code: 0 (reporting disabled)

105	140	**Duress Reporting Code -** Code reported when a duress arm/disarm code is entered. The extended reporting code is the user code number. Range: 1 to 15, 0 = disabled Factory default code: 0 (reporting disabled)
106	141	**Opening Reporting Code -** Code reported when disarming the control. For exception opening see Function 82. The extended reporting code is the user code number. Range: 1 to 15, 0 = disabled Factory default code: 0 (reporting disabled)
107	142	**Closing Reporting Code With Ringback -** Code reported when arming the control. The extended reporting code is the user code number. See section 6.11. Range: 1 to 15, 0 = disabled Factory default code: 0 (reporting disabled)
108	143	**Shunted Reporting Code -** Code reported when the control is armed with a zone shunted. This code will be transmitted for each shunted zone. The extended reporting code is the zone number. Range: 1 to 15, 0 = disabled Factory default code: 0 (reporting disabled)
109	144	**Cancel Reporting Code -** Code reported when an alarm transmission is aborted. The extended reporting code is the zone number. Function 80 must be enabled for the cancel reporting code to work. Range: 1 to 15, 0 = disabled Factory default code: 0 (reporting disabled)

110	145	**Restore Reporting Code -** Code reported when a zone which caused an alarm is restored to operation. The extended reporting is the zone number. Range: 1 to 15, 0 = disabled Factory default code: 0 (reporting disabled)
111	146	**Supervisory Reporting Code -** Code reported when a zone programmed for supervisory is activated. The extended reporting code is the zone number. Range: 1 to 15, 0 = disabled Factory default code: 0 (reporting disabled)
112	147	**Low Battery/Fuse Blown Reporting Code -** Code reported when a low battery voltage or blown fuse is detected. The extended battery/fuse reporting code is programmed with function 162. Range: 1 to 15, 0 = disabled Factory default code: 0 (reporting disabled) **NOTE:** U.L. requires low battery reporting for Grade A Local Burglar, Grade A Police Station Connected Burglar and Grade B & C Central Station Burglar installations. Therefore DO NOT DISABLE Functions 112, 113, 147 and 148.
113	148	**Battery/Fuse Restore Reporting Code -** Code reported after the restoral of a low battery or blown fuse. The battery/fuse extended reporting code is programmed with function 162. Range: 1 to 15, 0 = disabled Factory default code: 0 (reporting disabled)

114	149	**AC Failure Reporting Code** -

Code reported when AC power is interrupted for more than approximately 20 seconds. The AC extended reporting code is programmed with function 161.
Range: 1 to 15, 0 = disabled
Factory default code: 0 (reporting disabled)

| 115 | 150 | **AC Restored Reporting Code** - |

Code reported when AC power is restored to the control. The AC extended reporting code is programmed with function 161.
Range: 1 to 15, 0 = disabled
Factory default code: 0 (reporting disabled)

| 116 | 151 | **Memory Error Reporting Code** - |

Code reported when an error is detected in the EEPROM (memory). The memory error extended reporting code is programmed with function 163.
Range: 1 to 15, 0 = disabled
Factory default code: 0 (reporting disabled)

| 117 | 152 | **Communicator Test Reporting Code** - |

Code reported for a communicator test. See Function 35. The communicator test extended reporting code is programmed with function 164.
Range: 1 to 15, 0 = disabled
Factory default code: 0 (reporting disabled)

153 Return To Run Mode -
This function is placed here as a safety stop. If this function is accessed, the system returns to the normal running mode.

154 Copy Dialer Codes For Telephone #1 to Telephone #2 -
No value may be entered for this function. This function copies telephone #1 reporting codes into telephone #2 reporting codes. To copy the codes, enter "154" followed by the FIND key ("#").

155 Copy Telephone #1 to Telephone #2 -
No value may be entered for this function. This function copies the telephone number programmed for telephone #1 into telephone #2. To copy the telephone number, enter "155" followed by the FIND Key ("#").

156 New EEPROM Values -
Reload factory default values back into memory, by programming this function with a "1". Turn off the power switch, wait five seconds, then turn power back on. WARNING: This function replaces all data programmed by the user or installer with factory values and disables telephone #1 and #2.
Range: 0 or 1

157 Listen-In Telephone #1 -
A value of "1" enables a listen-in module connected to the communicator to be turned on for 60 seconds after final kissoff. See Section 3.8.
Range: 0 or 1
Factory default value: 0 (listen-in telephone #1 disabled)

158 Listen-In Telephone #2 -
A value of "1" enables a listen-in module connected to the communicator to be turned on for 60 seconds after final kissoff. See Section 3.8.
Range: 0 or 1
Factory default value: 0 (listen-in telephone #2 disabled)

159 Line Seize Hangup Time -
Communicator hang up time in seconds if no dial tone is detected. See Section 6.3.
Range: 0 to 255 seconds
Factory default value: 3 seconds

160 Time Between Dial Attempts -
Time in seconds between subsequent dial attempts if previous attempt was not successful.
U.L. requires no more than 45 seconds for U.L. certified accounts.
Range: 0 to 255 seconds
Factory default value: 10 seconds

161 Extended AC Code -
AC reporting code used in extended reporting.
Range: 1 to 15
Factory default value: 10

162 Extended Battery/Fuse Code -
Battery/blown fuse reporting code used in extended reporting.
Range: 1 to 15
Factory default value: 9

163 Extended Memory Error Code -
Memory error reporting code used in extended reporting.
Range: 1 to 15
Factory default value: 15

164 Extended Communicator Test Code -
Communicator test reporting code used in extended reporting.
Range: 1 to 15
Factory default value: 9

165 Extended Keypad Panic Code -
Keypad panic reporting code used in extended reporting.
Range: 1 to 15
Factory default value: 9

166 Parity Checksum (Radionics) On Formats 0, 1, & 2 -
A value of "1" allows transmission of parity checksum on transmission formats 0, 1, and 2. Normally, parity checksum works only with format 3 (Radionics).
Range: 0 or 1
Factory default value: 0 (No parity checksum on formats 0, 1, and 2)

167 Factory Touchtone® Generation Test -
This test function allows the communicator to seize the telephone line without dialing any number and to generate for four seconds the corresponding tones for any keypad digit pressed. Press the "#" or "*" key to return to the normal running mode of operation.

TELEPHONE NUMBERS

A dialable digit may be any value from 1 to 9 or 0. If using touchtone, an "11" represents a star digit (*) and a "12" represents a number sign digit (#). Entering a "13" instructs the communicator to wait three seconds before dialing the next digit. Entering a "14" causes the communicator to wait up to 10 seconds for a second dial tone. The digit following the last digit of the telephone number must be programmed with a value of "15" signifying end of dial. Table 7-2 lists the telephone number programming value.
Range of each digit: 0 to 15
Factory default value of each digit: 15 (no telephone number programmed)

Value Programmed	Function
0	0 Converts to 10
1 thru 9	1 thru 9
10	0 - disable zero
11	* (Only in touchtone)
12	# (Only in touchtone)
13	3 second wait
14	Wait up to 10 seconds for second dial tone
15	End of telephone number (must follow the last digit of the telephone number)

TABLE 7-2 TELEPHONE NUMBER PROGRAMMING VALUES

TELEPHONE NUMBER 1	TELEPHONE NUMBER 2	
168	195	**Digit 1 -** First digit of telephone number.
169	196	**Digit 2 -** Second digit of telephone number.
170	197	**Digit 3 -** Third digit of telephone number.
.	.	
.	.	
.	.	
.	.	
193	220	**Digit 26 -** Twenty-sixth digit of telephone number.
194	221	**Return To Run Mode -** See function 153

Appendix A

DIFFERENCES BETWEEN Z1100 SYSTEM I AND SYSTEM II

- APPROVALS OR LISTINGS
  Canadian DOC Approval
  California State Fire Marshall
  UL Residential Burglar and Fire pending
  UL Commercial Grade A Local Burglar, Grade B Central
  Station Burglar pending

- PRINTED CIRCUIT BOARD
  Program Switch on Left Side On PC Board
  Momentary Program Switch
  Improved Telephone Line Interface for Better Audio Levels
  Auxiliary and Fire Fuse Supervision
  4 Pin Male Plug on board for Programming Keypad

- CONTROL OPERATION
  Detects Faulty Read Only Memory (ROM) On Power Up
  Detects Any Unauthorized Changes In EEPROM Memory or
    Faulty EEPROM
  9 User Codes Transmittable to Central Station By User
  Priority (Non-Shuntable) Zones
  Silent Instant Burglar Zones Switch to Audible If Communi-
    cator Fails
  Communicator Trigger Only Zones
  Open or Short Supervisory/Trouble Zones
  Key Zone Disabled If In Supervisory Condition
  Key Zone Shuntable
  Installer Code- Erased At First Automatic Test or By Delete
    Code Function
  Page 2 and Page 3 May Be Seen If Armed
  Option To Start Entrance Delay 1 By Pressing Any Keypad
    Key
  Shunt From Page 2 and Not Returned to Page 1
  Option For Pulsing Fire
  Option To Allow Keypad Commands 4 & 5 To Function When
    Armed
  Option To Disable Interior Follower Operation
  Access Output Toggles If Access Time = 0
  Subzoning By Zone Option
  Alarm Memory Held In EEPROM And Cleared By Function
    Code
  Automatic Test Timer From 12 Hours, 24 Hours To 7 Days
  No Exit Beep If Interior Is Off
  Optional Delay Before Burglar Alarm Audible Output
  Optional Supervisory Latch
  No Exit Delay on Perimeter Zones
  Option To Switch To Interior Off If No Delay Door Violated On
    Exit
  Option To Switch To Instant Mode If No Delay Violated On
    Exit
  Option For Audible Lockout After Alarm
  Test Mode Displays Page 2 Zone Status

- KEYPAD OPERATIONS
  LED 4 Blinks Plus Beep On Fail To Communicate
  LED 7 Blinks Plus Beep On EEPROM Memory Error
  Option To Disable Zone Shunting
  Option To Disable Keypad Commands 4, 5, 6, 7, & 8
  Option To Disable Keypad FIRE, POLICE, Or MEDICAL

- DIGITAL COMMUNICATOR
  4 Digit Account Code
  Different Account Code For Each Telephone Number
  Different Reporting Codes For Each Telephone Number
  Assignable Reporting Codes To Specific Telephone Number
  Radionics BFSK Transmission Format
  Radionics A+ Transmission Format
  Radionics Parity Transmission Format
  Autobaud Format To Automatically Select Format To Send
    Central Station
  400 MS Tone Detect Time For Valid Tone Detection
  Ringback Signal After Closing (6 Beeps + Error Tone, Armed
    LED Lights)
  Transmits Zone Shunts By Zone On Closing
  Programmable Extended AC, Battery, Memory Error, And
    Test Codes
  Transmits EEPROM Memory Error to Central Station
  AC Fail Reporting
  AC Restore Reporting
  Battery Restore Reporting
  Upload All EEPROM Memory Data To Remote Location
  Two 26 Digit Telephone Numbers
  Wait for Second Dial Tone Option
  Separate Duress Code
  Anti-Jam Telephone Line Seizure
  Programmable Telephone Line Seizure Time
  Programmable Time Between Dial Attempts
  Compatible With Radionics Automation and Most All Other
    Digital Receivers
  Acknowledge/Kissoff Tone Must Go Away Before Dialer
    Proceeds
  Option To Abort Communicator Alarm Reporting On
    Arming/Disarming

- PROGRAMMING
  Keypad LED's Flash On Entering Program Mode
  Momentary Closure On Program Switch Starts 3 Minute
    Timer to Enter Program Mode
  # = Find Function Anywhere In Function Map
  * = Store Value In Function Location Or Return To Run
    Mode If No Value Entered
  Configuration Digit Programmed Separately From Authoriza-
    tion Code
  Option To Copy Telephone #1 To Telephone #2
  Option To Copy Telephone #1 Reporting Codes To Tele-
    phone #2 Reporting Codes

- Z229 OUTPUT EXPANSION MODULE OPTIONS
  Alarm Outputs By Zone
  Constant Zone Status Outputs
  Supervisory/Trouble Output
  Ground Start Output
  Listen-In Trigger Output
  Fail to Communicate Output

Appendix B
Z1100 SYSTEM II ZONE PLANNING GUIDE

PROCEDURE FOR ZONE PLANNING:

1. Plan each ZONE individually.
2. Select the ZONE TYPE from left column. Using the DEFINITION COLUMN, select characteristics for each ZONE TYPE and enter appropriate VALUE in the block under the ZONE number for which you are programming.
4. Add vertically the values selected for each ZONE and place the total value in the ZONE VALUE TOTAL block.
5. When programming the control, enter the ZONE VALUE TOTAL of each zone into the FUNCTION number designated under each ZONE number column.

ZONE TYPE	DEFINITION	VALUE	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8
BURGLAR	ENTRY DELAY 1	= 0								
LOOPS	INSTANT	= 1								
	SILENT INSTANT	= 7								
	ENTRY DELAY 2	= 8								
	PERIMETER	= 0								
	INTERIOR	= 16								
	SHUNTABLE	= 0								
	NON SHUNTABLE	= 32								
	FAST LOOP	= 0								
	SLOW LOOP	= 64								
	SUPERVISORY	= 128								
TOTAL VALUE FOR A BURGLAR ZONE										

ZONE TYPE	DEFINITION	VALUE	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8
FIRE	STANDARD	= 2								
	FAST LOOP	= 0								
	SLOW LOOP	= 64								
TOTAL VALUE FOR A FIRE ZONE										

ZONE TYPE	DEFINITION	VALUE	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8
POLICE/AUX 1	AUDIBLE	= 3								
	SILENT	= 11								
	CONTROL STATION									
	FAST LOOP	= 0								
	SLOW LOOP	= 64								
	SUPERVISORY	= 128								
TOTAL FOR A POLICE/AUX 1 ZONE										

ZONE TYPE	DEFINITION	VALUE	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8
MEDICAL/AUX 2		= 4								
	FAST LOOP	= 0								
	SLOW LOOP	= 64								
	SUPERVISORY	= 128								
TOTAL FOR A MEDICAL/AUX 2 ZONE										

ZONE TYPE	DEFINITION	VALUE	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8
KEYSWITCH		= 5								
(ONLY 1 KEY	SHUNTABLE	= 8								
ZONE PER										
SYSTEM)	SUPERVISORY	= 128								
TOTAL FOR A KEYSWITCH ZONE										

ZONE TYPE	DEFINITION	VALUE	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6	ZONE 7	ZONE 8
COMMUNICATOR		= 6								
	FAST LOOP	= 0								
	SLOW LOOP	= 64								
	SUPERVISORY	= 128								
TOTAL FOR A COMMUNICATOR ZONE										
FUNCTION # FOR ENTERING TOTALS			038	039	040	041	042	043	044	045

Z1100R FLUSH-MOUNT TEMPLATE
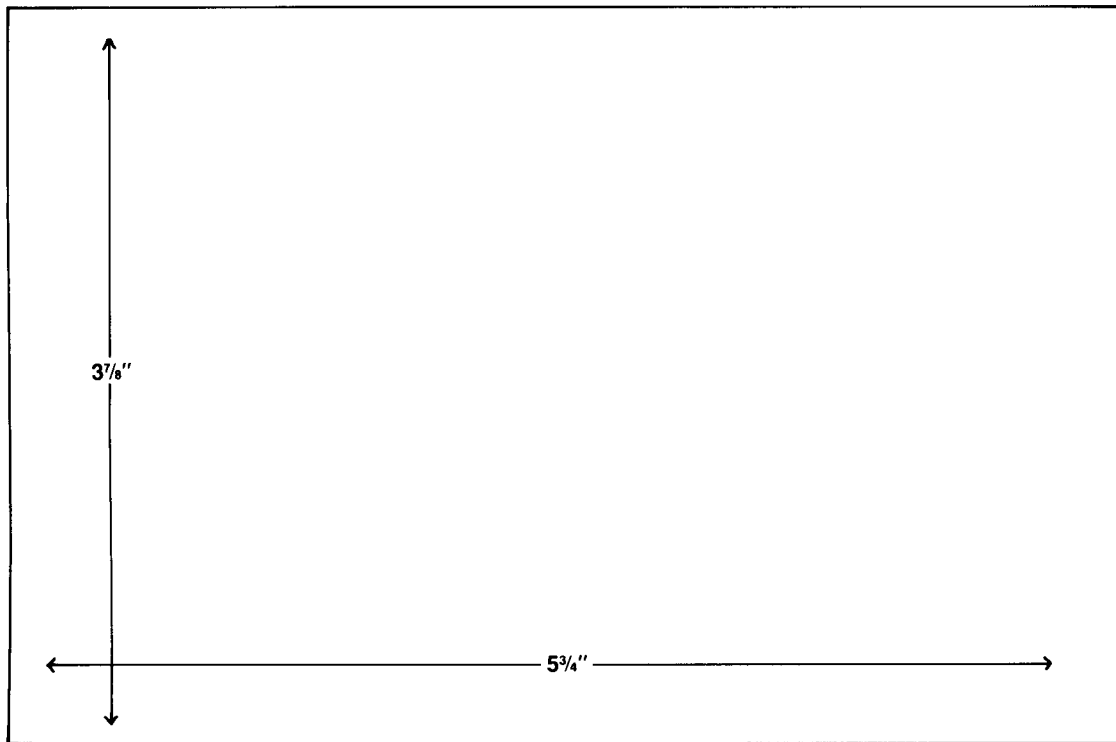
1. Cut Hole 3⅞″ x 5¾″.
2. Assemble hardware as indicated in Figure 4-1.

APPENDIX D

TELEPHONE COMPANY INFORMATION

INCIDENCE OF HARM

In the unlikely event that the Z1100 System II communicator should ever cause harm to the telephone network, the telephone company will notify the telephone subscriber that temporary discontinuance of service may be required; however, where prior notice is not practicable, the telephone company may temporarily discontinue service. In the case of temporary discontinuance, the telephone company shall promptly notify the telephone subscriber who will be given the opportunity to correct the situation. The customer also has the right to bring a complaint to the FCC if he feels the disconnection is not warranted.

CHANGES IN TELEPHONE COMPANY
EQUIPMENT OR FACILITIES

The telephone company may make changes in its communications facilities, equipment, operations or procedures, where such action is reasonably required and proper in its business. Should any changes render the Z1100 System II communicator incompatible with the telephone company facilities, the customer shall be given adequate notice to make modifications to maintain uninterrupted service.

TELEPHONE COMPANY REQUIREMENTS

NOTIFICATION

This equipment complies with Part 68 of the FCC rules. All connections to the telephone network must be made through standard plugs and standard telephone company jacks, or equivalent, in such a manner as to allow for easy and immediate disconnection of the alarm equipment. If the connecting cord is unplugged from the jack there shall be no interference to the telephone equipment still connected to the telephone network. Before connecting the Z1100 to the telephone network the telephone company must be notified for the installation of an USOC RJ31-X or RJ38-X jack. The telephone company will need the following information:
1. The phone number to which the Z1100 System II will be connected.
2. The FCC registration number: DLH66Y-12286-AL-E.
3. The ringer equivalence: 0.0B
4. The manufacturer: Moose Products, Inc.

The Ringer Equivalance Number (REN) is useful to determine the quantity of devices you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most, but not all areas, the sum of the REN's of all devices to one line should not exceed five (5.0). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company to determine the maximum REN for your calling area.

Notify the telephone company if the Z1100 System II is removed from the premises and the RJ31-X or RJ38-X jack is no longer needed.

MALFUNCTIONS OF EQUIPMENT

In the unlikely event that the Z1100 System II should ever fail to operate properly, it should be disconnected from the RJ31-X or RJ38-X jack to determine if the problem is with the telephone network or with the Z1100 System II. If a problem is found with the communicator, leave disconnected until repaired or replaced.

The FCC prohibits customer-provided terminal equipment be connected to party lines or to be used in conjunction with coin telephone service. Inter-connect rules may vary from state to state.

APPENDIX E   FUNCTION MAP

NOTE: DEFAULT VALUES ARE SHOWN IN GRAY.

001	USER AUTH. CODE 1	☐☐☐☐☐	FIVE DIGITS 0 - 9
002	USER AUTH. CODE 2	☐☐☐☐☐	FIVE DIGITS 0 - 9
003	USER AUTH. CODE 3	☐☐☐☐☐	FIVE DIGITS 0 - 9
004	USER AUTH. CODE 4	☐☐☐☐☐	FIVE DIGITS 0 - 9
005	USER AUTH. CODE 5	☐☐☐☐☐	FIVE DIGITS 0 - 9
006	USER AUTH. CODE 6	☐☐☐☐☐	FIVE DIGITS 0 - 9
007	USER AUTH. CODE 7	☐☐☐☐☐	FIVE DIGITS 0 - 9
008	USER AUTH. CODE 8	☐☐☐☐☐	FIVE DIGITS 0 - 9
009	USER AUTH. CODE 9	☐☐☐☐☐	FIVE DIGITS 0 - 9
010	USER PROGRAM AUTH. CODE	☐☐☐☐☐	FIVE DIGITS 0 - 9
011	USAGE COUNT CODE 9	☐☐☐	000 - 254 USES 255 = INDEFINITE
012	TIME TILL NEXT COMM/BATT TEST	☐☐☐	1 - 24 HOURS 00 = IMMEDIATE
013	CLEAR ALARM MEMORY ZONES	▨▨▨	
014	DELETE CODE	☐☐☐	1 - 9 = DELETE USER CODE 0 = DELETE INSTALLER CODE
015	UPLOAD DATA	▨▨▨	

SYSTEM MUST BE IN INSTALLER LEVEL TO PROGRAM BEYOND THIS POINT

016	INSTALLER PROGRAM CODE	☐☐☐☐☐	FIVE DIGITS RANGE: 0 - 9
017	EXIT TIME	☐☐☐	000 - 255 SECONDS
018	ENTRANCE DELAY 1 TIME	☐☐☐	000 - 255 SECONDS
019	ENTRANCE DELAY 2 TIME	☐☐☐	000 - 255 SECONDS
020	ACCESS ON TIME	☐☐☐	001 - 255 SECONDS 000 = TOGGLE

021	DELAY BURGLAR ALARM OUTPUT	☐☐☐	000 - 255 SECONDS
022	BURGLAR CUTOFF TIME	☐☐☐	001 - 254 MINUTES 000 OR 255 = 255 MINUTES
023	FIRE CUTOFF TIME	☐☐☐	001 - 254 MINUTES 000 OR 255 = NO CUTOFF
024	POLICE CUTOFF TIME	☐☐☐	001 - 254 MINUTES 000 OR 255 = NO CUTOFF
025	MEDICAL CUTOFF TIME	☐☐☐	001 - 254 MINUTES 000 OR 255 = NO CUTOFF
026	PULSING BURGLAR ALARM	☐☐☐ ☐☐☐	0 = NO 1 = YES
027	PULSING FIRE ALARM	☐☐☐ ☐☐☐	0 = NO 1 = YES
028	BURGLAR AUDIBLE ALARM LOCKOUT	☐☐☐ ☐☐☐	0 = NO 1 = YES
029	KEYSWITCH MODE CHANGE	☐☐☐ ☐☐☐	0 = NO 1 = YES
030	DAY SUPERVISORY LATCH	☐☐☐ ☐☐☐	0 = NO 1 = YES
031	AUTOMATIC INTERIOR OFF	☐☐☐ ☐☐☐	0 = NO 1 = YES
032	AUTOMATIC INSTANT	☐☐☐ ☐☐☐	0 = NO 1 = YES
033	NO INTERIOR FOLLOWER	☐☐☐ ☐☐☐	0 = NO 1 = YES
034	SIREN TEST ON ARMING	☐☐☐ ☐☐☐	0 = NO 1 = YES
035	TIME BETWEEN COMM/BATT TESTS	☐☐	1 - 7 DAYS 0 = 12 HOURS
036	(FAST) LOOP RESPONSE TIME 2	☐☐	001 - 255 IN 40 MILLISECOND INCREMENTS
037	(SLOW) LOOP RESPONSE TIME 1	☐☐	001 - 255 IN 40 MILLISECOND INCREMENTS
038	ZONE 1 DEFINITION	☐☐☐	000 - 255
039	ZONE 2 DEFINITION	☐☐☐	000 - 255

47

Code	Description	Field 1	Field 2	Range/Options
040	ZONE 3 DEFINITION	☐☐☐		000 - 255
041	ZONE 4 DEFINITION	☐☐☐		000 - 255
042	ZONE 5 DEFINITION	☐☐☐		000 - 255
043	ZONE 6 DEFINITION	☐☐☐		000 - 255
044	ZONE 7 DEFINITION	☐☐☐		000 - 255
045	ZONE 8 DEFINITION	☐☐☐		000 - 255
046	ZONE 1 SUPERVISORY	☐☐☐	☐☐☐	0 = OPEN / 1 = SHORT
047	ZONE 2 SUPERVISORY	☐☐☐	☐☐☐	0 = OPEN / 1 = SHORT
048	ZONE 3 SUPERVISORY	☐☐☐	☐☐☐	0 = OPEN / 1 = SHORT
049	ZONE 4 SUPERVISORY	☐☐☐	☐☐☐	0 = OPEN / 1 = SHORT
050	ZONE 5 SUPERVISORY	☐☐☐	☐☐☐	0 = OPEN / 1 = SHORT
051	ZONE 6 SUPERVISORY	☐☐☐	☐☐☐	0 = OPEN / 1 = SHORT
052	ZONE 7 SUPERVISORY	☐☐☐	☐☐☐	0 = OPEN / 1 = SHORT
053	ZONE 8 SUPERVISORY	☐☐☐	☐☐☐	0 = OPEN / 1 = SHORT
054	CONFIGURATION DIGIT CODE 1	☐☐☐		0 - 9
055	CONFIGURATION DIGIT CODE 2	☐☐☐		0 - 9
056	CONFIGURATION DIGIT CODE 3	☐☐☐		0 - 9
057	CONFIGURATION DIGIT CODE 4	☐☐☐		0 - 9
058	CONFIGURATION DIGIT CODE 5	☐☐☐		0 - 9
059	CONFIGURATION DIGIT CODE 6	☐☐☐		0 - 9
060	CONFIGURATION DIGIT CODE 7	☐☐☐		0 - 9
061	CONFIGURATION DIGIT CODE 8	☐☐☐		0 - 9
062	CONFIGURATION DIGIT CODE 9	☐☐☐		0 - 9
063	TWO DIGIT ARM	☐☐☐	☐☐☐	0 = NO / 1 = YES
064	COMMANDS 4 & 5 WORK WHILE SYSTEM ARMED	☐☐☐	☐☐☐	0 = NO / 1 = YES
065	INTERIOR/DELAY MODE	☐☐☐		0 - 3
066	DISABLE KEYPAD FIRE	☐☐☐	☐☐☐	0 = NO / 1 = YES
067	DISABLE KEYPAD POLICE	☐☐☐	☐☐☐	0 = NO / 1 = YES
068	DISABLE KEYPAD MEDICAL	☐☐☐	☐☐☐	0 = NO / 1 = YES
069	DISABLE KEYPAD SHUNTING	☐☐☐	☐☐☐	0 = NO / 1 = YES
070	SILENT KEYPAD ON BURGLAR ACTIVATION	☐☐☐	☐☐☐	0 = NO / 1 = YES
071	SILENT KEYPAD ON POLICE ACTIVATION	☐☐☐	☐☐☐	0 = NO / 1 = YES
072	START ENTRANCE DELAY 1 FROM KEYPAD	☐☐☐	☐☐☐	0 = NO / 1 = YES
073	DISABLE KEYPAD COMMAND 4	☐☐☐	☐☐☐	0 = NO / 1 = YES
074	DISABLE KEYPAD COMMAND 5	☐☐☐	☐☐☐	0 = NO / 1 = YES
075	DISABLE KEYPAD COMMAND 6	☐☐☐	☐☐☐	0 = NO / 1 = YES
076	DISABLE KEYPAD COMMAND 7	☐☐☐	☐☐☐	0 = NO / 1 = YES
077	DISABLE KEYPAD COMMAND 8	☐☐☐	☐☐☐	0 = NO / 1 = YES
078	COMMUNICATOR DISABLE/DELAY BEFORE REPORT	☐☐☐		1 - 255 SECONDS / 000 = DISABLED
079	DIAL ATTEMPTS	☐☐☐		1 - 255
080	COMMUNICATOR ALARM ABORT	☐☐☐	☐☐☐	0 = NO / 1 = YES
081	DISABLE DIALER TEST ON POWER UP	☐☐☐	☐☐☐	0 = NO / 1 = YES
082	EXCEPTION OPENING/ SYSTEM RESTORE	☐☐☐	☐☐☐	0 = NO / 1 = YES

TELEPHONE #1 WORKSPACE

ACCOUNT CODE

083 DIGIT 1		084 DIGIT 2		085 DIGIT 3		086 DIGIT 4

RANGE OF EACH DIGIT: 1 - 15
00 = DIGIT DISABLED
10 = ZERO (0) DIGIT

087 TRANSMISSION FORMAT   0 - 5

088 SINGLE ROUND REPORT   0 = NO / 1 = YES

089 4/2 TRANSMISSION FORMAT   0 = NO / 1 = YES

090 STANDARD EXTENDED   0 = NO / 1 = YES

091 SINGLE LINE EXTENDED (RADIONICS A+)   0 = NO / 1 = YES

092 PARITY CHECKSUM (RADIONICS)   0 = NO / 1 = YES

093 TOUCHTONE DIALING   0 = NO / 1 = YES

094 ZONE 1 REPORTING CODE   1 - 15 / 000 = DISABLED

095 ZONE 2 REPORTING CODE   1 - 15 / 000 = DISABLED

096 ZONE 3 REPORTING CODE   1 - 15 / 000 = DISABLED

097 ZONE 4 REPORTING CODE   1 - 15 / 000 = DISABLED

098 ZONE 5 REPORTING CODE   1 - 15 / 000 = DISABLED

099 ZONE 6 REPORTING CODE   1 - 15 / 000 = DISABLED

100 ZONE 7 REPORTING CODE   1 - 15 / 000 = DISABLED

101 ZONE 8 REPORTING CODE   1 - 15 / 000 = DISABLED

102 KEYPAD FIRE REPORTING CODE   1 - 15 / 000 = DISABLED

103 KEYPAD POLICE REPORTING CODE   1 - 15 / 000 = DISABLED

104 KEYPAD MEDICAL REPORTING CODE   1 - 15 / 000 = DISABLED

105 DURESS REPORTING CODE   1 - 15 / 000 = DISABLED

106 OPENING REPORTING CODE   1 - 15 / 000 = DISABLED

107 CLOSING REPORTING CODE   1 - 15 / 000 = DISABLED

108 SHUNTED REPORTING CODE   1 - 15 / 000 = DISABLED

109 CANCEL REPORTING CODE   1 - 15 / 000 = DISABLED

110 RESTORE REPORTING CODE   1 - 15 / 000 = DISABLED

111 SUPERVISORY REPORTING CODE   1 - 15 / 000 = DISABLED

112 LOW BATTERY/ FUSE BLOWN REPORTING CODE   1 - 15 / 000 = DISABLED

113 BATTERY/FUSE RESTORED REPORTING CODE   1 - 15 / 000 = DISABLED

114 AC FAILURE REPORTING CODE   1 - 15 / 000 = DISABLED

115 AC RESTORED REPORTING CODE   1 - 15 / 000 = DISABLED

116 MEMORY ERROR REPORTING CODE   1 - 15 / 000 = DISABLED

117 COMMUNICATOR TEST REPORTING CODE   1 - 15 / 000 = DISABLED

TELEPHONE #2 WORKSPACE

ACCOUNT CODE

118 DIGIT 1		119 DIGIT 2		120 DIGIT 3		121 DIGIT 4

RANGE OF EACH DIGIT: 1 - 15
00 = DIGIT DISABLED
10 = ZERO (0) DIGIT

122 TRANSMISSION FORMAT   0 - 5

123 SINGLE ROUND REPORT   0 = NO / 1 = YES

124 4/2 TRANSMISSION FORMAT   0 = NO / 1 = YES

125 STANDARD EXTENDED   0 = NO / 1 = YES

126 SINGLELINE EXTENDED (RADIONICS A+)   0 = NO / 1 = YES

127 PARITY CHECKSUM (RADIONICS)   0 = NO / 1 = YES

128 TOUCHTONE DIALING   0 = NO / 1 = YES

129	ZONE 1 REPORTING CODE	□□□	1 - 15 000 = DISABLED
130	ZONE 2 REPORTING CODE	□□□	1 - 15 000 = DISABLED
131	ZONE 3 REPORTING CODE	□□□	1 - 15 000 = DISABLED
132	ZONE 4 REPORTING CODE	□□□	1 - 15 000 = DISABLED
133	ZONE 5 REPORTING CODE	□□□	1 - 15 000 = DISABLED
134	ZONE 6 REPORTING CODE	□□□	1 - 15 000 = DISABLED
135	ZONE 7 REPORTING CODE	□□□	1 - 15 000 = DISABLED
136	ZONE 8 REPORTING CODE	□□□	1 - 15 000 = DISABLED
137	KEYPAD FIRE REPORTING CODE	□□□	1 - 15 000 = DISABLED
138	KEYPAD POLICE REPORTING CODE	□□□	1 - 15 000 = DISABLED
139	KEYPAD MEDICAL REPORTING CODE	□□□	1 - 15 000 = DISABLED
140	DURESS REPORTING CODE	□□□	1 - 15 000 = DISABLED
141	OPENING REPORTING CODE	□□□	1 - 15 000 = DISABLED
142	CLOSING REPORTING CODE WITH RINGBACK	□□□	1 - 15 000 = DISABLED

143	SHUNTED REPORTING CODE	□□□	1 - 15 000 = DISABLED
144	CANCEL REPORTING CODE	□□□	1 - 15 000 = DISABLED
145	RESTORE REPORTING CODE	□□□	1 - 15 000 = DISABLED
146	SUPERVISORY REPORTING CODE	□□□	1 - 15 000 = DISABLED
147	LOW BATTERY REPORTING CODE	□□□	1 - 15 000 = DISABLED
148	BATT. RESTORED REPORTING CODE	□□□	1 - 15 000 = DISABLED
149	AC FAILURE REPORTING CODE	□□□	1 - 15 000 = DISABLED
150	AC RESTORED REPORTING CODE	□□□	1 - 15 000 = DISABLED
151	MEMORY ERROR REPORTING CODE	□□□	1 - 15 000 = DISABLED
152	TEST REPORTING CODE	□□□	1 - 15 000 = DISABLED
153	RETURN TO RUN MODE		

COMMON TELEPHONE WORKSPACE

154	COPY DIALER CODES FOR TELEPHONE #1 TO TELEPHONE #2	
155	COPY TELEPHONE #1 TO TELEPHONE #2	

156	NEW EEPROM VALUE FLAG	□□□ □□□	0 = NO 1 = YES
157	LISTEN-IN TELEPHONE #1	□□□ □□□	0 = NO 1 = YES
158	LISTEN—IN TELEPHONE #2	□□□ □□□	0 = NO 1 = YES
159	LINE SEIZE HANGUP TIME	□□□	000 - 255 SECONDS
160	TIME BETWEEN DIAL ATTEMPTS	□□□	000 - 255 SECONDS
161	EXTENDED AC CODE	□□□	1 - 15
162	EXTENDED BATTERY/FUSE CODE	□□□	1 - 15
163	EXTENDED MEMORY ERROR	□□□	1 - 15
164	EXTENDED COMMUNICATOR TEST CODE	□□□	1 - 15
165	EXTENDED KEYPAD PANIC CODE	□□□	1 - 15
166	PARITY CHECKSUM (RADIONICS) ON FORMATS 0, 1 & 2	□□□ □□□	0 = NO 1 = YES
167	FACTORY TOUCHTONE® GENERATION TEST		TONES 0 THROUGH 9

TELEPHONE NUMBER ONE:

000 = 0 CONVERTS TO 10
001 THRU 009 = 1 - 9
010 = 0 (DISABLE ZERO)

11 = *, 12 = #, 13 = 3 SECOND WAIT
14 = WAIT FOR SECOND DIAL TONE
15 = END OF TELEPHONE NUMBER

168 DIGIT 1	169 DIGIT 2	170 DIGIT 3	171 DIGIT 4	172 DIGIT 5	173 DIGIT 6	174 DIGIT 7	175 DIGIT 8	176 DIGIT 9
177 DIGIT 10	178 DIGIT 11	179 DIGIT 12	180 DIGIT 13	181 DIGIT 14	182 DIGIT 15	183 DIGIT 16	184 DIGIT 17	185 DIGIT 18
186 DIGIT 19	187 DIGIT 20	188 DIGIT 21	189 DIGIT 22	190 DIGIT 23	191 DIGIT 24	192 DIGIT 25	193 DIGIT 26	194 RETURN TO RUN MODE

TELEPHONE NUMBER TWO

195 DIGIT 1	196 DIGIT 2	197 DIGIT 3	198 DIGIT 4	199 DIGIT 5	200 DIGIT 6	201 DIGIT 7	202 DIGIT 8	203 DIGIT 9
204 DIGIT 10	205 DIGIT 11	206 DIGIT 12	207 DIGIT 13	208 DIGIT 14	209 DIGIT 15	210 DIGIT 16	211 DIGIT 17	212 DIGIT 18
213 DIGIT 19	214 DIGIT 20	215 DIGIT 21	216 DIGIT 22	217 DIGIT 23	218 DIGIT 24	219 DIGIT 25	220 DIGIT 26	221 RETURN TO RUN MODE

APPENDIX F

OUTLINE FOR SINGLE LINE EXTENDED
(Communicator Programming Typically Used With Radionics Receivers)

Example: 3 digit account code: Account 888
Full alarm, restoral and shunt reports by zone
Opening/closings, low battery and AC failure reporting

	Telephone	Functions #1 / #2	Programmed Value	
Account #: First digit		084 / 119	008	
Second digit		085 / 120	008	
Third digit		086 / 121	008	
Transmission Format		087 / 122	003	For Radionics Superfast = 3
				For Radionics BFSK = 5
Single Round Report		088 / 123	000 = No	
4/2 Transmission Format		089 / 124	000 = No	
Extended Standard		090 / 125	001 = Yes	
Extended Radionics A+		091 / 126	001 = Yes	
Parity Checksum (Radionics)		092 / 127	001 = Yes	
Zone 1 Reporting Code		094 / 129	001	
Zone 2 Reporting Code		095 / 130	002	
Zone 3 Reporting Code		096 / 131	003	
Zone 4 Reporting Code		097 / 132	004	
Zone 5 Reporting Code		098 / 133	005	
Zone 6 Reporting Code		099 / 134	006	
Zone 7 Reporting Code		100 / 135	007	
Zone 8 Reporting Code		101 / 136	008	
Keypad Fire Reporting Code		102 / 137	008	
Opening Reporting Code		106 / 141	011	
Closing Reporting Code		107 / 142	012	
Shunted Reporting Code		108 / 143	015	
Cancel Reporting Code		109 / 144	013	
Restore Reporting Code		110 / 145	014	
Supervisory Reporting Code		111 / 146	015	
Low Battery Reporting Code		112 / 147	015	
Batt. Restored Reporting Code		113 / 148	014	
AC Failure Reporting Code		114 / 149	015	
AC Restored Reporting Code		115 / 150	014	
Test Reporting Code		117 / 152	014	
Extended AC Code		161	010	
Extended Battery Code		162	009	
Extended Test Code		164	009	

NOTE: When programming for Radionics Superfast (3) format, EITHER Extended Standard function 90 and 125 OR Extended Radionics A+ function 91 and 126 may be programmed. "NOT BOTH!"

NOTE: When programming for Radionics BFSK (5) format, one CANNOT select Extended Standard, Extended Radionics A+ or Parity Checksum (Radionics)."
"Functions 90, 125, 91, 126, 92, and 127 MUST equal zero."

Note: When sending to Radionics type receivers values programmed as 11 - 15 will be printed as:

11 = Opening   12 = Closing   13 = Cancel (abort)   14 = Restoral   15 = Trouble

Bell In A Box
ADEMCO AB-12

NOTE: The bell in the box consists of a partial metal box insulated from, but inside, a second larger metal box, with insulator standoffs, two tamper switches, an Ademco AD10-12 Bell, and a six-lug terminal strip. Portions of the AB-12 are prewired.

IN4003

ADEMCO
AD 10-12
BELL

2200 OHM
¼ W EOLR
MPI-211

N.C.
*(1)

N.C.
*(2)

N.C.
*(3)

INNER METAL
BOX OF AB-12

METAL CONDUIT

OUTER METAL
BOX OF AB-12

TAMPER SWITCHES
IN THE Z1100 METAL
ENCLOSURE (TWO
AMSECO TSW-2)

ZONE 7
BURG. PERIMETER

10

NOTE:
TAMPER SWITCHES
SHOWN IN NORMAL
POSITION WITH
ENCLOSURE DOORS
AND BOLTS IN PLACE.

+12V AUX. 29

NEGATIVE 28

K2-COM. 25

K2-N.O 24

Z1100
SYSTEM II
CONTROL
BOARD

LEFT TERMINAL
BOARD

RIGHT TERMINAL
BOARD

*(1) TAMPER SWITCH FOR
FRONT PLATE BOLT #1

*(2) TAMPER SWITCH FOR
BACK WALL

*(3) TAMPER SWITCH FOR
FRONT PLATE BOLT #3

Moose Z11TB Tamper
Resistant Liner and
MPI-1000 Metal Box
Enclosure

NOTE: The AB-12 metal box and
the metal conduit must be
electrically insulated from
the Unified Earth Ground.
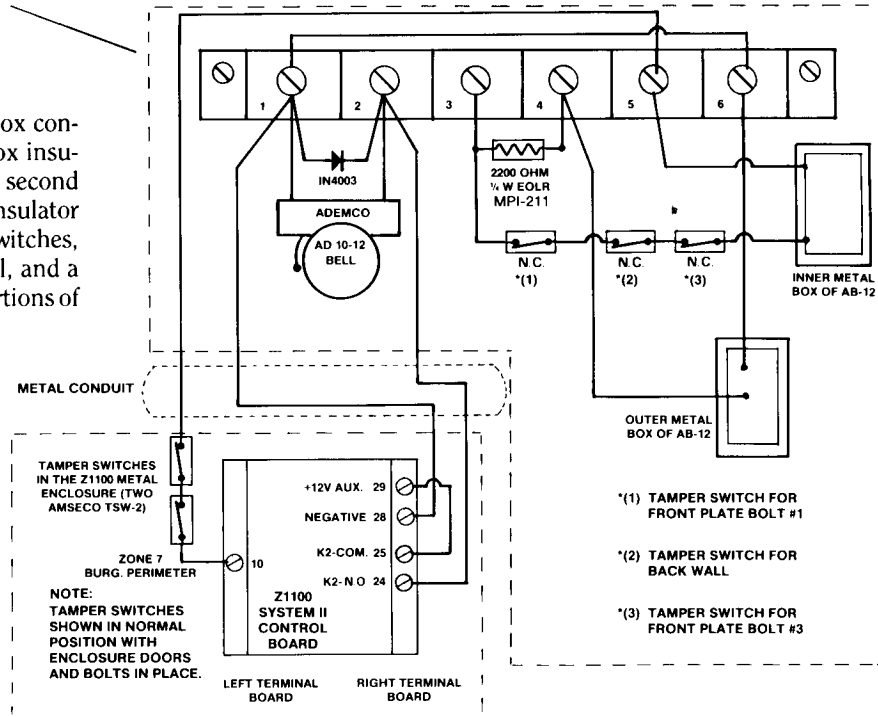
APPENDIX G WIRING AND CONNECTION DIAGRAM OF THE ADEMCO BELL IN A BOX MODEL AB-12
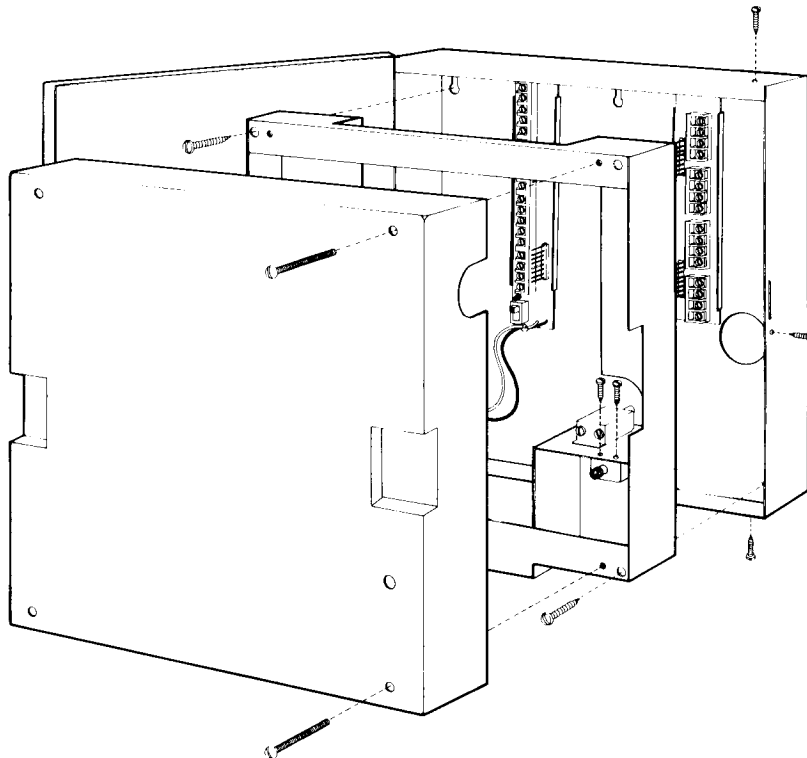
APPENDIX H Z1100TB TAMPER LINER MOUNTING

GLOSSARY

Acknowledge. Respond to an alarm condition by entering an AUTHORIZATION Code.

Authorization code. A programmable code that is used with a Command. For example, Command 1 and an Authorization code arms/disarms the Z1100 System II. Authorization codes must be preceded by a Command Key.

Checksum. A sum of program digits which is compared to a previously calculated value to insure program integrity.

Command. Instruction. Tell the system to perform a function.

Command Key. A single keypad digit (0-9) pressed before an Authorization code.

Configuration digit. A programmable digit which is assigned to each User Authorization Code to instruct the system what the code may be used for, ie., arm/disarm, access, subzoning or duress.

Default. Pre set values. The Z1100 System II comes with default exit time, entrance times, cutoff times, zone definitions, and other features. The default program makes installation and testing easier.

Disabled. Turned off. Not active.

Dynamic load test. Active test. The Z1100 System II battery is dynamically tested. A load is placed across the battery for 5 seconds and the battery voltage is measured.

EEPROM. Special type of "non-volatile" memory chip used in the Z1100 System II. EEPROMs retain programmed information without backup power.

Enabled. Turned on. Activated.

Enter. To press a keypad key for entry of information.

Function Programming. This level of programming is used for custom designing the Z1100 System II.

Fail-safe Arming. All Burglar zones must be secure (or shunted) before the system will Arm

Interior Follower. When entering thru a delay zone, the interior zones are automatically converted to delay zones.

Loop response time. The amount of time (in milliseconds) that a zone has to remain violated in order to cause an alarm.

Program code. The code used with Command 9 to program features of the Z1100 System II.

Prompt. Cue. The Z1100R keypad beeps after each programming step. These beeps are a "prompt", or instruction, to continue with the next step.

Supervisory/Trouble. A zone violated condition that is not an alarm condition, ie., fire zone open (fire zone shorts for alarm).

Trigger. A low current signal less than 50 milliamps. Connector J-16 outputs can be used to trigger relay K1 or relay K2.

User programming. This level of programming is used to set Authorization codes, the Program code as well as Entrance times and the Communicator test time offset.

Watchdog. A circuit in the Z1100 System II that prevents microprocessor latch up. The watchdog minimizes the harmful effects of lightning and high voltage transients.

Zone Definitions. How a zone responds. Zones can be burglar, fire, police, medical, or key.