



**SILENT  
KNIGHT**

by Honeywell

# **MODEL 5128/29**

**Fire Slave Communicator**

**Installation Manual**

Part Number 150805 Rev E  
11/06



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# SECTION 1

## INTRODUCTION

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The Silent Knight Model 5128/29 is a low-cost slave communicator that meets the requirements for UL 864, NFPA 72 Fire Alarm Systems for Central Station Service and NFPA 72 Remote Supervising Station Fire Alarm Systems.

### 1.1 Features

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- Compatibility with the Security Industry Association (SIA) reporting format and several other standard reporting formats.
- Four channel (zone) inputs for system status reporting: fire alarm (channel or zone 1); system trouble—channel 2 (or zone 2); supervisory—channel 3 (or zone 3); and miscellaneous—channel 4 (or zone 4).
- Optional two-number dialing with same or different account codes and reporting formats. Alarms, troubles, and tests can be programmed to be reported to either or both numbers.
- Programmable as rotary-only or as Touch-Tone/rotary dialing.
- Built-in dual phone line-seizure circuit.
- Dual phone line monitor circuits.
- Transient voltage protection of phone lines.
- Built-in audible trouble buzzer.
- One relay output, programmable for alarm, trouble conditions, or trouble excluding low AC.
- Light-emitting diodes (LEDs), visible from front of enclosure, indicating: trouble condition (yellow); presence of DC power (green), phone line 1 trouble (red); and phone line 2 trouble (red).
- Easy, English-language programming using Model 5230 Remote Annunciator.
- Fuseless design, 24 VDC.
- Electrically erasable read-only memory (EEPROM) for nonvolatile storage of all programmable option data. Eliminates the need to reprogram the communicator if power is lost.
- Built-in watchdog circuit that monitors the operation of the 5128/29 and resets the communicator if a fault is detected.
- Active high or contact closure input.
- Model 5129 can directly monitor control panel's primary power.
- Compatibility with many Underwriters Laboratories (UL) Fire Listed receivers. (See Section 1.3 for list.)
- Model 5128 housed in 8-5/8" x 4" x 1-3/8" enclosure for mounting inside control panel.
- Model 5129 housed in a 10" x 10" metal enclosure.

## 1.2 Optional Devices

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The following accessories are available for use with the Model 5128/29:

- 5230 Remote Annunciator for programming, troubleshooting, and system operation. Only one model 5230 can be used.
- Cable for 5230, P/N 130294.
- 5541 Downloading Software for remote programming. (Must be Revision 3.7 or later.)
- 5530 Modem. Required if the 5541 downloading software is used.

## 1.3 UL Fire Listed Receivers Compatible with the 5128/29

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The following UL Listed receivers are compatible with the 5128/29:

RECEIVER	FORMATS
Silent Knight Model 9000, 9500, or 9800 <b>Note:</b> The Model 9000 receiver does not accept CID format.	BFSK14 BFSK23 SK 3/1 SK 4+2 SIA8 SIA20 Contact ID (CID)
Osborn & Hoffman Quickalert	SK 3/1 SK 4+2 SIA8 SIA20 BFSK14 BFSK23
Ademco 685	SK 3/1 SK 4+2
FBI CP220	SK 3/1 SK 4+2
Radionics D6500	BFSK 1400 BFSK 2300

## 1.4 How to Use this Manual

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This manual is intended for use with Revision P or higher of the 5128/29 printed circuit board. If you are installing or servicing a different revision level and do not have the correct manual, contact Silent Knight for the correct information.

In this manual, a rectangle represents a key that you press if you are using the optional Model 5230 Remote Annunciator. For example, “Press **ENTER**” means “Press the <ENTER> key.”

## 1.5 How to Contact Silent Knight

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For questions and problems with Silent Knight products, contact Silent Knight Technical Support at 800-328-0103 (or 763-493-6455). To order parts, contact Silent Knight Sales at 800-446-6444 (or 763-493-6435).

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# SECTION 2 AGENCY REQUIREMENTS

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## 2.1 Telephone Requirements

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1. If requested by the telephone company, the following information must be provided before connecting this device to the phone lines:
  - A. Manufacturer: Silent Knight
  - B. Model Number: 5128/29
  - C. FCC Registration Number: AC6USA-75160-AL-E  
Ringer equivalence: 0.1B
  - D. Type of jack (to be installed by the telephone company): RJ31X
2. This device may not be directly connected to coin telephone or party line services.
3. This device cannot be adjusted or repaired in the field. In case of trouble with the device, notify the installing company or return:

Silent Knight  
7550 Meridian Circle  
Maple Grove, MN 55369  
763-493-6455  
800-328-0103
4. If the Model 5128/29 causes harm to the telephone network, the telephone company will notify the user in advance that temporary discontinuance of service may be required. If advance notice is not practical, the telephone company will notify the user as soon as possible. The user has the right to file a complaint with the Federal Communications Commission if he or she believes it is necessary.
5. The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice so that you can make the necessary modifications to maintain uninterrupted service.

## 2.2 FCC Warning

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**WARNING:**

This device has been verified to comply with FCC Rules Part 15. Operation is subject to the following conditions: (1) This device may not cause radio interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

## 2.3 UL Listings and Requirements

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Model	Listed As:
5128	Signaling device subassembly for use in Fire Alarm Systems for Central Station Service.
	Signaling device subassembly for use in Remote Supervising Fire Alarm Systems.
5129	Signaling device for use in Fire Alarm Systems for Central Station Service.
	Signaling device for use in Remote Supervising Fire Alarm Systems.

All UL installations must comply with the requirements described below. Refer to the control unit's installation manual for complete information.

### 5128 Requirements:

The 5128 must be mounted within a UL listed compatible fire control panel.

### 5129 Requirements:

The 5129 and the UL listed compatible fire control must be installed in the same room. All wiring between the 5129 and the UL Listed compatible fire control panel must be enclosed in conduit. The 5129 must be mounted within 20 feet of the fire control.

### Requirements for both 5128 and 5129:

All electrical connections must comply with the ratings shown in section 3.3.5. In a remote signaling installation, the control unit, slave dialer, and receiver at the remote site must all be UL listed for remote signaling.

Install in accordance with NFPA 70 and NFPA 72.



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## SECTION 3

# PANEL DESCRIPTION AND INSTALLATION

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**CAUTION:**

To avoid the risk of electrical shock, make sure the main control power is OFF when wiring. DO NOT apply power until wiring is completed following the procedures described in this manual.

### 3.1 Panel Description

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#### 3.1.1 Phone Line Monitors

The 5128/29 dialer has two phone line monitor circuits, which detect phone line faults by monitoring their voltages. These circuits feature a 40 to 90 second delay before a line fault is reported as a trouble. When a fault is detected for longer than this amount of time, the audible trouble signal will sound, the message will be displayed on the 5230 annunciator liquid crystal display (LCD) (if used), and the trouble will be reported to the central station.

**Note:** *To comply with industry standards, this product is equipped with line seizure. This means that any time the system's dialer needs to communicate with the central station, it will NOT be possible to use any telephones that are on the same line(s) as the fire system. Normally this condition will last less than one minute, but could last for as long as 15 minutes under adverse telephone circuit conditions.*

#### 3.1.2 Watchdog Circuit

If the 5128/29 stops running, the watchdog circuit automatically detects the problem and attempts to resume normal operation by resetting the communicator. Each time the watchdog circuit resets the system, it also sounds the trouble signal.

#### 3.1.3 Power Loss Reporting

The 5128/29 will report low AC conditions. It can monitor a contact closure AC failure output. The 5129 can also monitor the control panel's main AC power input.

The AC report delay time is programmable. See Section 5, Step 24.

#### 3.1.4 EEPROM

The electrically erasable read-only memory (EEPROM) is used to store specific information such as system configuration, telephone numbers, reporting format, and account numbers. The EEPROM retains the programmed information even when all electrical power is removed. It can be programmed more than 1,000 times without losing its ability to store information.

### 3.1.5 DC Power

The 5128/29 operates on 18-40 VDC rectified power from the main fire control panel.

### 3.1.6 Indicator Lights

The 5128/29 has four LEDs to indicate status.

#### TROUBLE LED (yellow)

ON - A system trouble condition exists.

OFF - No trouble condition exists.

Flashing - Silenced Trouble

#### DC POWER LED (green)

ON - The panel is running on DC power.

OFF - The panel has lost all power.

Flashing - The panel is reporting.

#### PHONE LINE 1 LED (red)

ON - Phone line 1 has a trouble condition.

OFF - Normal condition.

Flashing - Communication Trouble (Failed to report using this Line)

#### PHONE LINE 2 LED (red)

ON - Phone line 2 has a trouble condition.

OFF - Normal condition.

Flashing - Communication Trouble (Failed to report using this Line)

## 3.2 Environmental

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It is important to protect the Model 5128/29 from water. To prevent water damage, the following conditions should be AVOIDED when installing the units:

- Intended for indoor use only.
- Do not mount directly on exterior walls, especially masonry walls (condensation)
- Do not mount directly on exterior walls below grade (condensation)
- Protect from plumbing leaks
- Protect from splash caused by sprinkler system inspection ports
- Do not mount in areas with humidity-generating equipment (such as dryers, production machinery)

When selecting a location to mount the Model 5128/29, the unit should be mounted where it will NOT be exposed to temperatures outside the range of 0°C-49°C (32°F-120°F) or humidity outside the range of 10%-93% at 30°C (86°F) noncondensing.

## 3.3 Wiring

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### 3.3.1 Wiring Precautions

High and low voltage must be separated by at least one-quarter inch. See Section 3.3.6 for more information.

High current input/output: AC monitoring (if monitored directly)

Low current input/output: 24 VDC power and channel (zone) wiring

Audio input/output: Telephone wiring

High frequency noise, such as that produced by the inductive reactance of a bell, can also be reduced by running the wire through ferrite shield beads or by wrapping it around a ferrite toroid.

### 3.3.2 Connector Descriptions

PIN CONNECTOR	FUNCTION
P1	DC power
P2	Channel (zone) inputs
P4	5230 connect
P5	Low AC channel input

### 3.3.3 Earth Ground Impedance

All circuits on this panel have an earth ground impedance of zero (0) Ohms.

### 3.3.4 Wiring and Board Layout Diagram

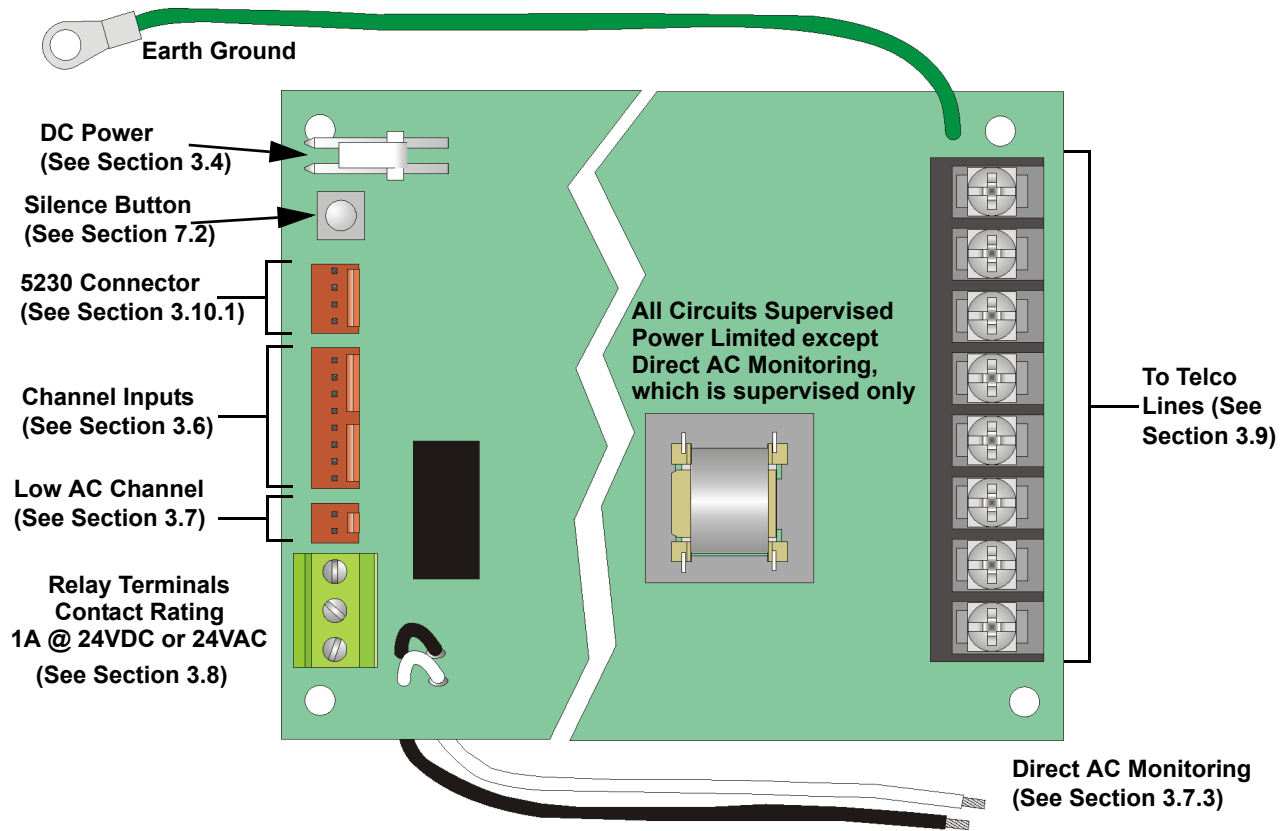


Figure 3-1 Model 5128/29 Wiring and Board Layout

### 3.3.5 Electrical Ratings

PRIMARY DC	VDC: 18 - 40
	<b>Current draw, standby at 24 VDC</b> 143 mA max. with annunciator attached 84 mA max. without annunciator
	<b>Current draw, alarm at 24 VDC</b> 227 mA max. with annunciator attached 154 mA max. without annunciator
AC RATING	120 VAC @ 60Hz, 45 mA max.
CHANNEL (ZONE) INPUTS* Active High Dry Contacts	18 - 30 VDC input 15 mA max. current draw 4.7 VDC, 6 mA max.
MAX. WATCHDOG RESPONSE	50 seconds

\* Supervised for opens only. No ground fault detection is provided.

### 3.3.6 Wire Routing

High voltage and low voltage inputs must be separated by at least one-quarter inch and must be wired through different knockout holes in the fire control cabinet to maintain the separation.

Figure 3-2 below shows an example of how to route the wire if you are using the model 5129. If you are using the 5128, refer to the fire control panel installation manual for wire routing instructions.

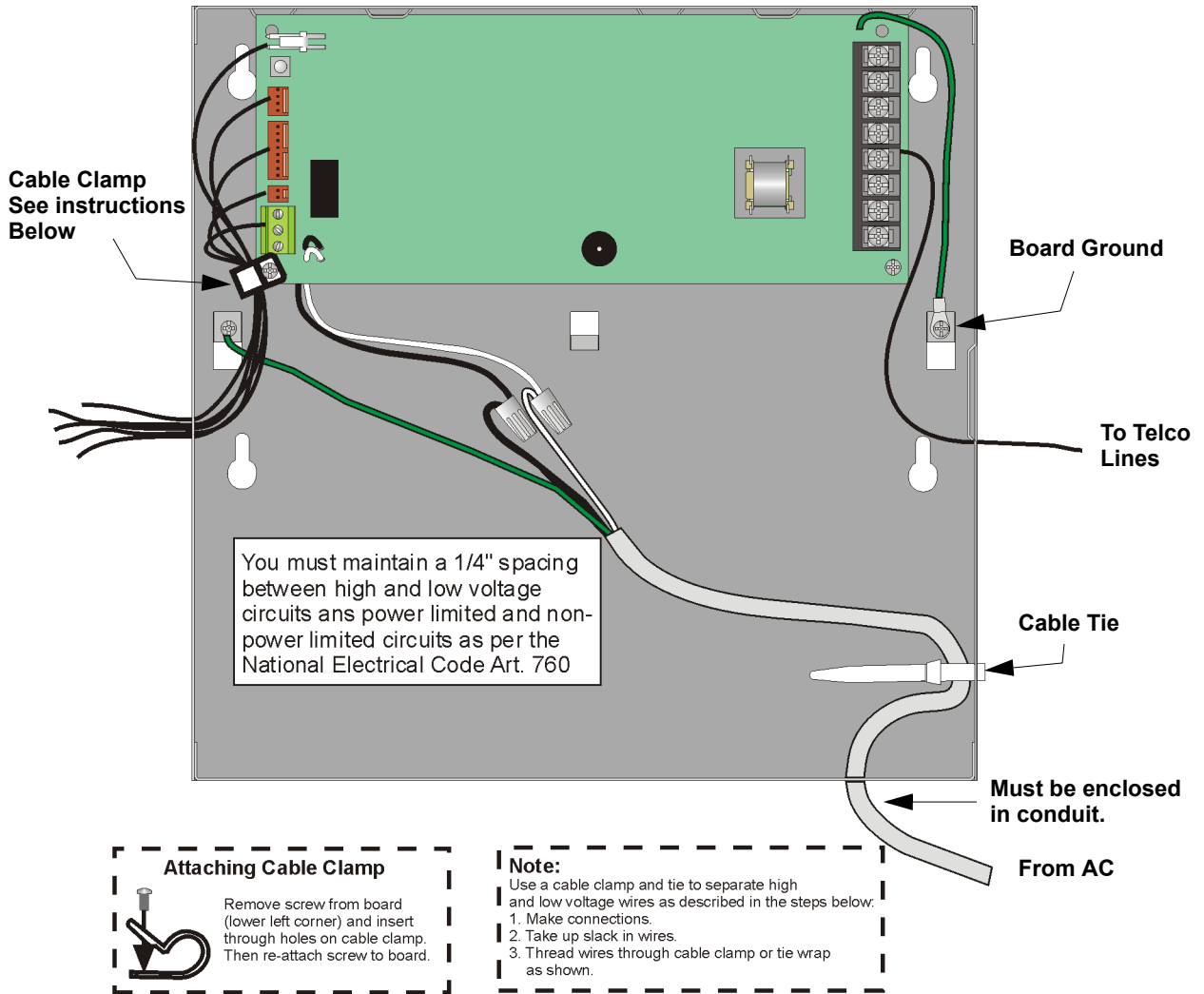


Figure 3-2 Routing Wire for the 5129

### 3.4 DC Power Connection

Connect DC power to the 5128/29 as shown in Figure 3-3.

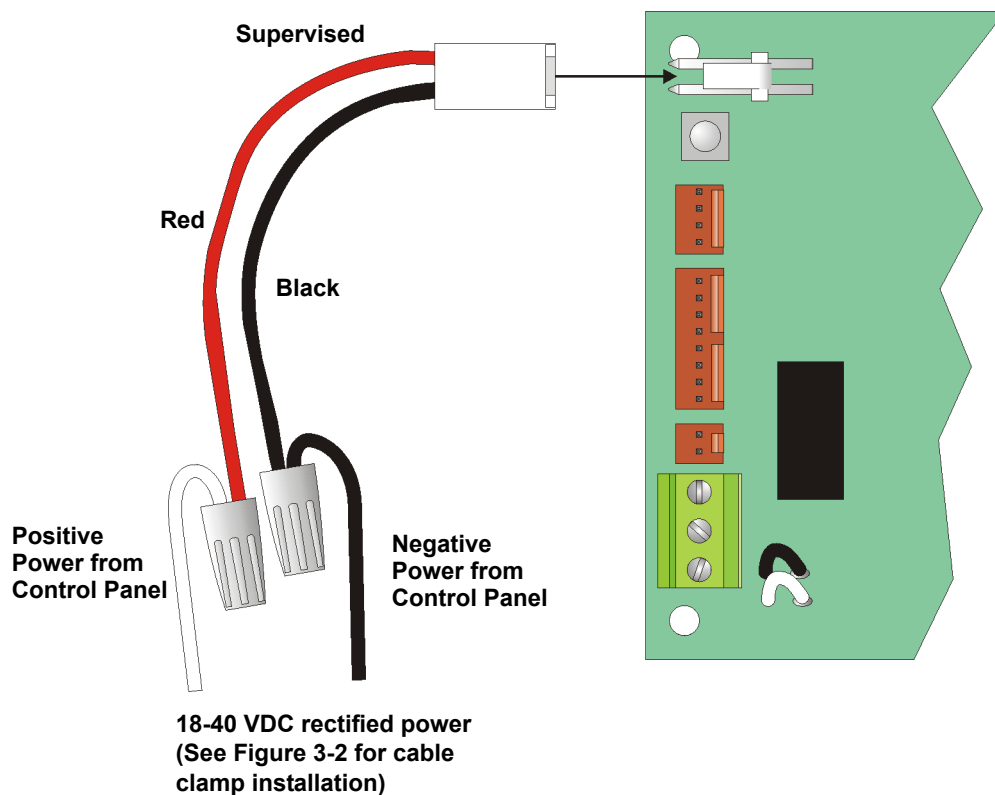


Figure 3-3 DC Power Connections

## 3.5 Mounting and Grounding

The 5129 cabinet should be installed in the same room as the control panel (wire in conduit). Mount the 5129 so it is firmly secured to the wall surface. When mounting on concrete, especially when moisture is expected, attach a piece of  $\frac{3}{4}$ " plywood to the concrete surface before attaching the 5129.

### 3.5.1 Preventing Water Damage

Water damage to the fire system can be caused by moisture entering the cabinet through the conduits. Conduits that are installed to enter the top of the cabinet are most likely to cause water problems. Installers should take reasonable precautions to prevent water from entering the cabinet. Water damage is not covered under warranty.

If you are using the 5128, refer to the fire control panel installation manual for mounting instructions.

### 3.5.2 Grounding the 5129 Board

Ground the 5129 board as shown in Figure 3-2.

### 3.5.3 Grounding the 5129 Cover

Before connecting power to the 5129, connect the earth ground wire to the base and cover. Make sure that the ring lugs are oriented properly. Figure 3-4 shows the proper connection and orientation.

After the 5129's cover and base are attached, make a slight bend to the wire that is attached to the cover. This keeps the wire from getting caught between the cover and base when the cover is closed.

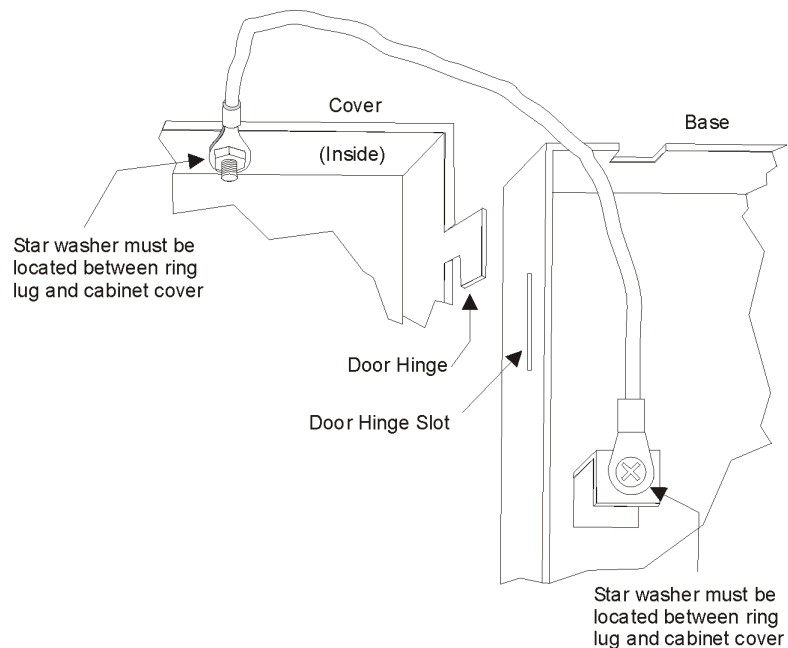


Figure 3-4 Connecting the Ground Wire

## 3.6 Channel Operation and Wiring

The 5128/29 features four fully supervised channel (zone) inputs. They can be programmed to accept two types of inputs. Contact closure, and active high voltage input.

- CHANNEL 1 (ZONE 1): FIRE ALARM
- CHANNEL 2 (ZONE 2): FIRE TROUBLE
- CHANNEL 3 (ZONE 3): SPRINKLER SUPERVISORY
- CHANNEL 4 (ZONE 4): FIRE ALARM

### 3.6.1 Dry Contact

A short across the end-of-line resistor (EOL) causes an active channel (zone). An open loop causes a trouble condition. See Figure 3-5.

### 3.6.2 Voltage Input (Active High)

Figure 3-5 illustrates how to wire the 5128/29 for an active high voltage input. The input must be from a compatible UL listed control panel. A short across the EOL or an open loop causes a trouble condition. Pulling the input high (18 to 30 VDC) causes the channel to activate.

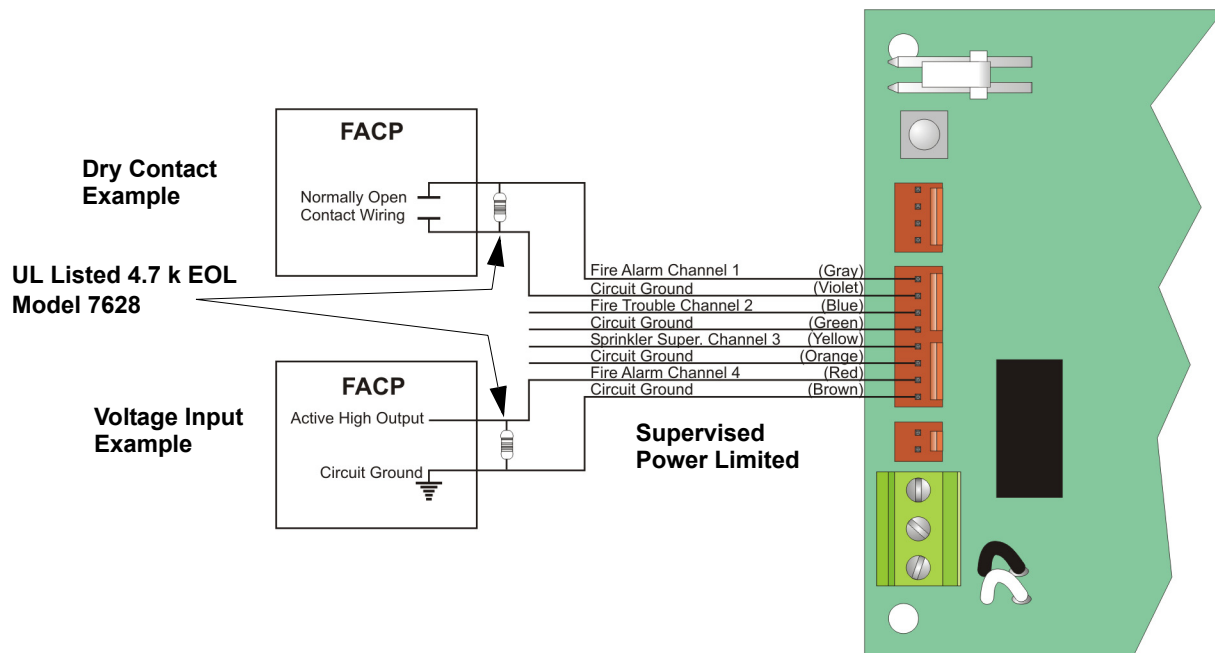


Figure 3-5 P2 Connections



## 3.7 AC Monitoring

The 5128/29 features an AC monitoring circuit. The communicator will report AC trouble when AC has been below 85 percent of nominal for a programmed amount of time. The 5128 AC monitoring can be performed with a dry contact active high voltage input (see Section 3.7.1). The Model 5129 can monitor AC voltage directly (see Section 3.7.3).

### 3.7.1 Voltage Input—Active High

If the fire control panel has an active high AC trouble voltage output (18 to 30 VDC), attach this output directly to the low AC channel input on the 5128/29. (See Figure 3-6.)

### 3.7.2 Dry Contact

If the fire control panel monitors its AC input and has a contact closure AC trouble output, connect the AC monitor input of the 5128/29 through the normally open contacts of the FACP (see Figure 3-6). Select “Active Low” in programming Step 23.

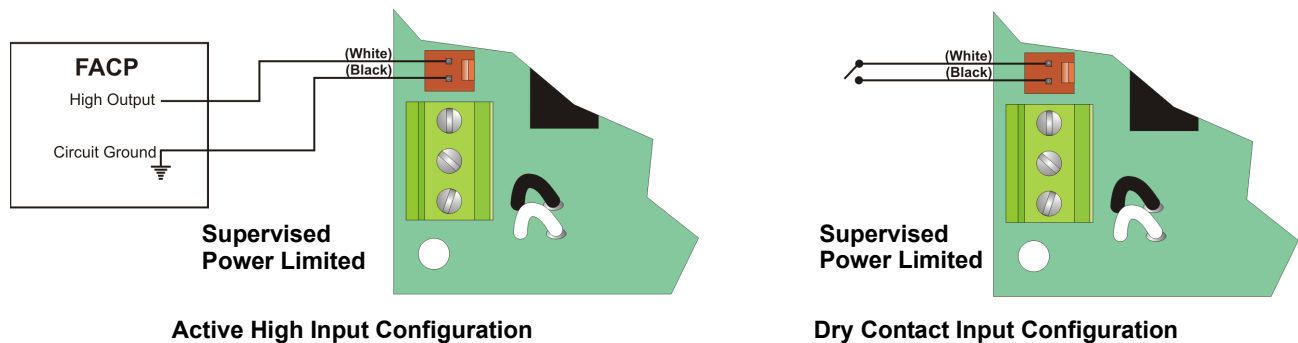


Figure 3-6 AC Monitoring Configurations Through P5

### 3.7.3 Monitor AC (Available with the Model 5129 only)

The 5128/29 can perform direct AC monitoring of the fire control panel's 120 VAC power input. The wires attached to the 5129 board can be connected directly to the AC as shown in Figure 3-7 below. Make sure you do **not** attach the low AC channel input here.

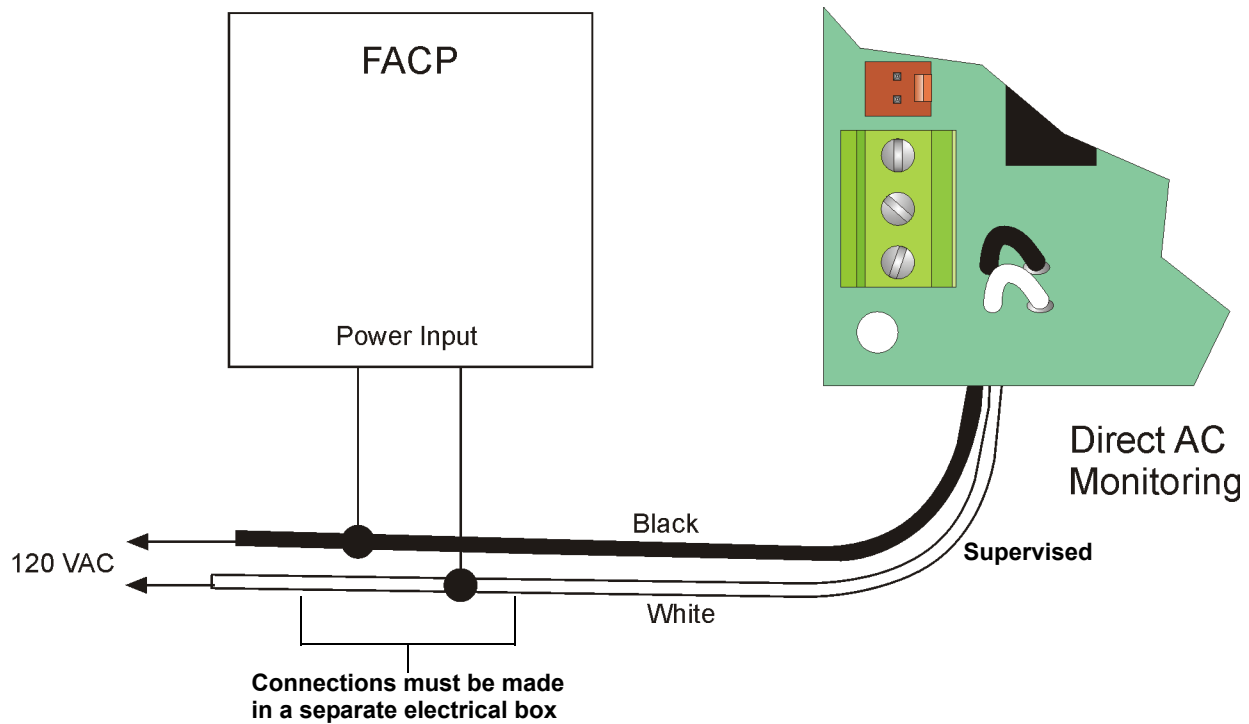


Figure 3-7 Direct AC Input

**Note:** Refer to installation instructions for the fire alarm control panel to determine this interface is compatible with the unit.

## 3.8 Relay Connection

The 5128/29 provides one relay output. You can connect the relay in normally open or normally closed configurations or both. The relay contacts are rated at 1 A, 24 VDC/24 VAC. See Figure 3-8 for relay contact connections.

The relay can be used for either of the following:

- To activate for any alarm.
- To activate for system trouble conditions, loss of AC power, failure of the 5128/29 to communicate, and phone line troubles.
- To activate for system trouble conditions and failure of the 5128/29 to communicate, and phone line troubles.

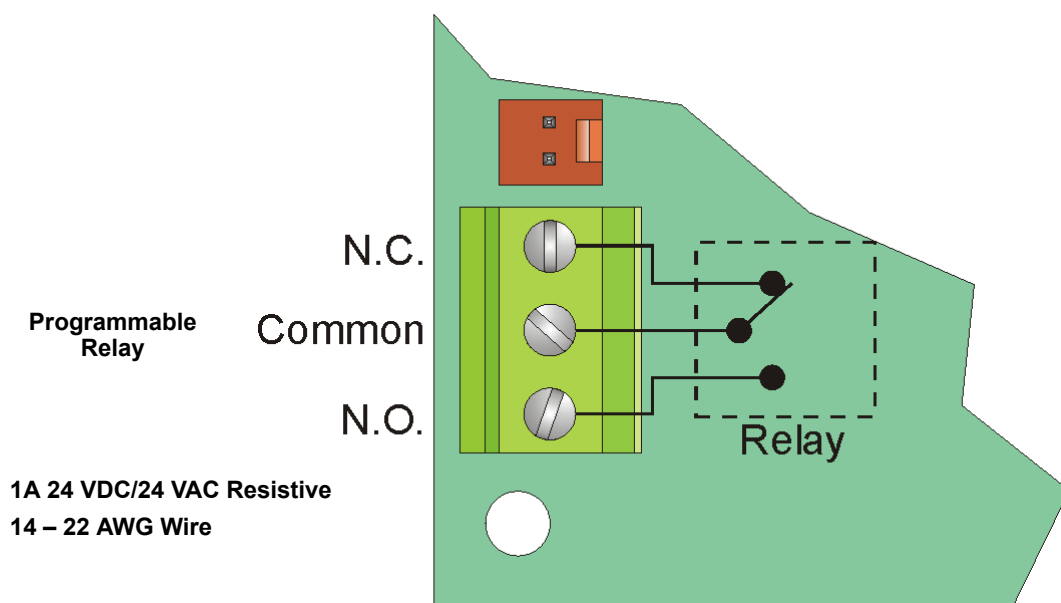


Figure 3-8 Relay Connection

### 3.9 Telephone Line Connection

To meet requirements for NFPA 72 Fire Alarm Systems for Central Station Service or NFPA 72 Remote Supervising Station Fire Alarm Systems, both telephone lines must be installed. Connect the 5128/29 to the phone lines using RJ31X type phone jacks as shown in Figure 3-9. The telephone company will install RJ31X jacks upon request.

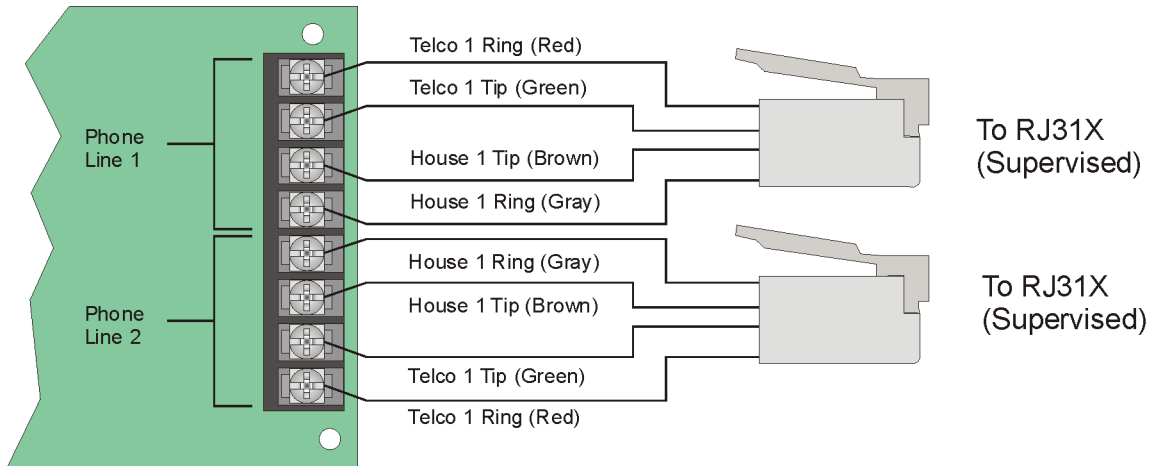


Figure 3-9 Telephone Wiring

### 3.10 Remote Annunciator Installation

The optional Model 5230 Remote Annunciator can be connected to the 5128/29 for system operation, programming, and troubleshooting. Note that only one 5230 can be used. If the 5230 is used, a cable, part number 130294 (ordered separately) is also needed.

Model 5230 key functions are described in Section 4.1.3; programming instructions are in Section 5.

#### 3.10.1 Model 5230 Connection

The table below shows how to make the connections. Figure 3-10 below shows the location of the 5230 terminal block.

5230 TERMINALS	CABLE WIRE COLORS (P/N 130294)
1 GROUND	BROWN
2 POWER	RED
3 OUTPUT	ORANGE
4 INPUT	YELLOW

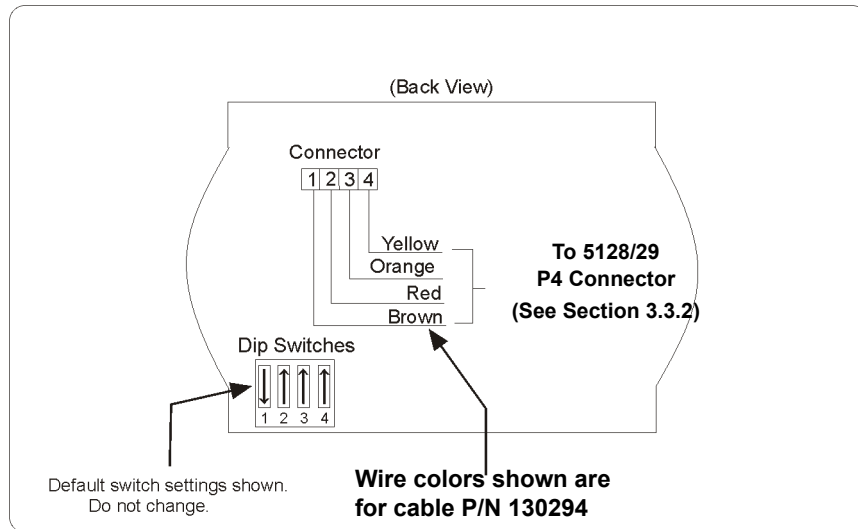


Figure 3-10 Model 5230 Back View

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## SECTION 4

# NORMAL OPERATION

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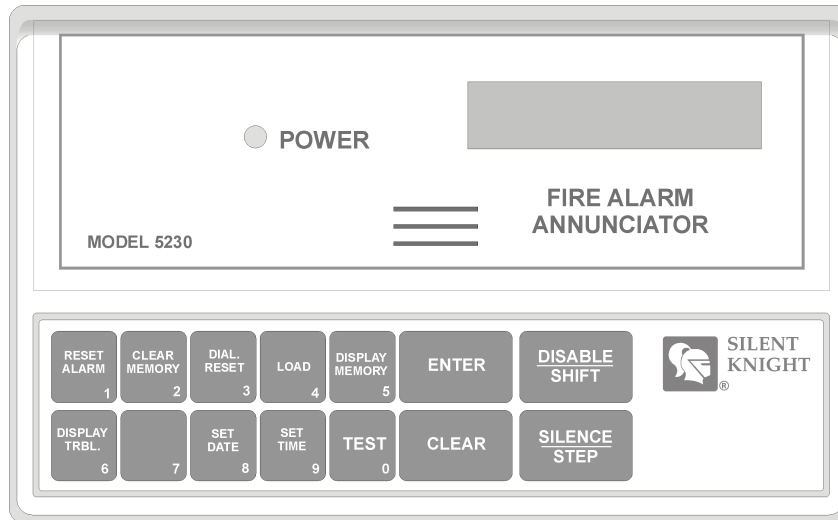
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This section describes normal system operations using the 5230 remote annunciator.

### 4.1 5230 Operation

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The 5230 is equipped with an LCD (liquid crystal display) that displays English-language messages. If the 5128/29 is not being programmed, the LCD cycles through all messages that are applicable at the time, showing a different one every 1.5 seconds. The messages are listed in the troubleshooting section of this manual (Section 7.2).



**For programming and troubleshooting only.  
Do not leave on the system.**

**Figure 4-1 Model 5230 Remote Annunciator (Front)**

#### 4.1.1 Power LED Indicator

When DC power is being supplied, the POWER LED glows steadily. If DC power is not being supplied, the POWER LED is off.

#### 4.1.2 Buzzer

An audio transducer buzzer is built into the 5230 annunciator. It produces short beeps to annunciate keystrokes. It also emits a long, high-pitched tone to indicate a trouble condition or when an annunciator function has been entered incorrectly.

### 4.1.3 5230 Key Functions

The 5230 annunciator function keys are described below. Keys not described here are used only for entering digits.

**Note:** The message “TRY AGAIN” appears if you do not press any keys for five seconds while accessing a function or if you attempt to access a function before exiting from another function.

**Table 4-1: Key Functions**

FUNCTION NAME	EXPLANATION	KEYSTROKES
CLEAR	Corrects mistakes. If you enter a function incorrectly, the 5230 will emit a long, high-pitched tone.	[CLEAR]
SYSTEM TEST	Tests the communicator by sending a test report to the central station.	[0] [ENTER][Installer’s or Operator’s Code]
RESET DIALER	Aborts an in-progress call to the central station.	[3] [ENTER][Installer’s Code]
BEGIN DOWNLOAD	Begin downloading session.	[4] [ENTER][Installer’s Code]
ENTER PROGRAMMING MODE	Enters programming mode where you change programmable options.	[2] [7] [ENTER][Installer’s Code] To exit programming mode, press [STEP] [STEP] [CLEAR] [CLEAR]
SET TIME	To set the time: 1. Press [9] [ENTER] 2. Enter Installer’s or Operator’s Code. The SET MODE LED will turn on. 3. Enter the time in 24-hour military format (include leading zeros). EXAMPLE: To enter SET TIME mode and set the time for 3:30 PM, the keystrokes are: [9] [ENTER] [Code] [1] [5] [3] [0] [ENTER].	

## 4.2 Operating Modes

OPERATING MODE:		ALLOWED DURING ALARM:	CODE REQUIRED:
0	System test	NO	Installer’s or Operator’s
3	Dialer reset	YES	Installer’s
4	Download	NO	Installer’s
9	Set time	NO	Installer’s or Operator’s
27	Program	NO	Installer’s

## SECTION 5 PROGRAMMING

The Model 5128/29 provides a wide variety of features that can be selected for use depending on your needs. These features are stored in an EEPROM (Electrically Erasable Programmable Read-Only Memory) chip which has been factory-programmed. Section 5.1 describes how to change programming options using the 5230 Remote Annunciator. The 5230 Remote Annunciator is required for all programming changes. Section 5.2 explains using the Model 5541 Downloading Software for programming. All programmable options are described in Section 5.3.

### 5.1 UL 864 Programming Requirements

<b>NOTICE TO USERS, INSTALLERS, AUTHORITIES HAVING JURISDICTION, AND OTHER INVOLVED PARTIES:</b> This product incorporates field programmable software. In order for the product to comply with the requirements in the Standard for Control Units and Accessories for Fire Alarm Systems, UL 864, certain programming features or options must be limited to specific values or not used at all as indicated below.			
<b>Programming Option</b>	<b>Permitted in UL 864 (Y/N)</b>	<b>Possible Settings</b>	<b>Settings Permitted in UL 864</b>
AC Loss Hours	Y	0 – 15 hours	1 – 3 hours
Zone Supervised	Y	Y/N	Y
Formats	Y	0–8	0, 5 or 8
Zone Response	Y	0–3	0 or 1
Relay #1	Y	0–2	0 or 1



## 5.2 Programming with the 5230 Remote Annunciator

**Note:** *The system will automatically time out of programming mode if no keys are pressed for four minutes. If you press function keys very quickly, you may get ahead of the LCD display. Wait for the appropriate message to be displayed before you press **ENTER**.*

TO:	KEYSTROKES:
ENTER PROGRAMMING MODE	<p><b>2</b> <b>7</b> <b>ENTER</b> [Installer's Code]</p> <p>The first line of the LCD will show the programming option for Step 1, "ZONE ACTIVE." The second line will show the most recently programmed value for that option.</p>
PROGRAM AN OPTION	Type in your new data and then press <b>ENTER</b> .
SKIP A STEP	<p>Press <b>ENTER</b>.</p> <p>The data in the skipped step will not change. The LCD will show the next option.</p>
GO TO A SPECIFIC STEP	Press <b>STEP</b> . The first line of the LCD will show "ENTER THE STEP #" and the current step number. Type in the new step number, then press <b>ENTER</b> . Line 1 of the LCD will show the option name; line 2 will show the programmed data for the step. (If you try to go to a step that does not exist, the display will go back to the previous step.)
SELECT YES OR NO	Press any digit to toggle Yes and No.
SELECT AN OPTION FROM A MENU	Press the option number. (Option numbers appear next to the option name in Section 5.3.)
ENTER ALPHABETIC DATA OR NUMBERS LARGER THAN 9	<p><b>SHIFT</b> <b>1</b> for A or 10</p> <p><b>SHIFT</b> <b>2</b> for B or 11</p> <p><b>SHIFT</b> <b>3</b> for C or 12</p> <p><b>SHIFT</b> <b>4</b> for D or 13</p> <p><b>SHIFT</b> <b>5</b> for E or 14</p> <p>Note that only the alphabetic characters appear on the display.</p>
CORRECT AN ERROR (If you have not pressed the <b>ENTER</b> key.)	Press <b>CLEAR</b> . Then type in the correct data and press <b>ENTER</b> .
LEAVE PROGRAMMING MODE AT ANY TIME	Press <b>STEP</b> <b>STEP</b> <b>CLEAR</b> <b>CLEAR</b> .

### 5.2.1 Special Characters for Dialing

Use Table 5-1 to determine which special characters to use when setting the Line Prefix options during programming.

**Table 5-1: Special Characters**

To Enter:	Press	LCD Display
Pause	* 1	A
*	* 2	B
#	* 3	C
2nd Dial Tone	* 4	D

## 5.3 Programming with the 5541 Downloading Software

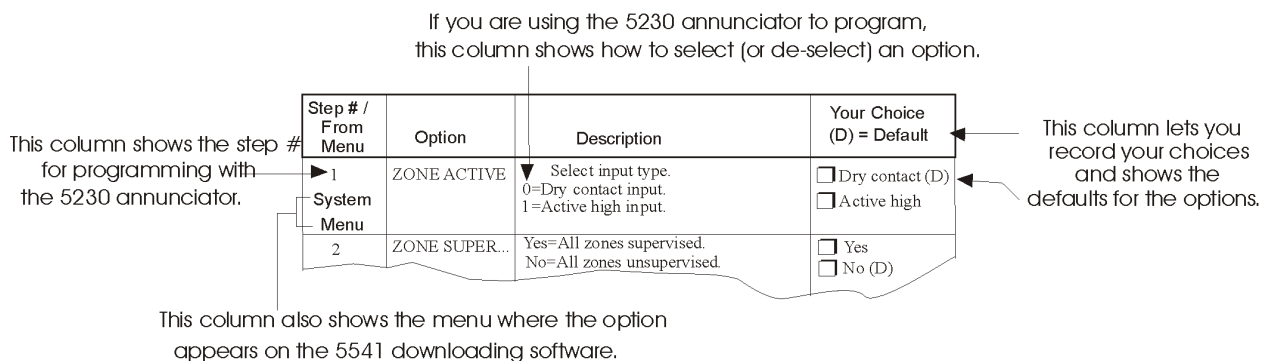
The Model 5541 Remote Downloading Software can be used to program the 5128/29 from a remote site. Note that Revision 3.7 or later of the software is required. The Model 5530 Modem must also be connected to the computer that runs the software.

The downloading software is organized into menus. As you move through the software menus, the screens tell you how to select options. The programming form in Section 5.4 lists the options by step number, that is, in the order they appear if you use the 5230 to program. The form also tells you which 5541 software menu the option appears on. (See Figure 5-1 for an example.)

Refer to the manuals that accompany the downloading software and modem for information about how to set up and run the software and modem.

## 5.4 Programming Options

This section of the manual describes the programming options. Figure 5-1 shows how you can use the programming form, which begins on the next page, to keep a record of how you have programmed an installation by checking off or writing in your choices in Column 4 of the chart. The factory-programmed defaults also appear in Column 4. This form is perforated for your convenience.



**Figure 5-1 Using the Programming Form**

Table 5-2: Programming Form

Step # / From Menu	Option	Description	Your Choice (D) = Default
1 System Menu	ZONE ACTIVATION	Select input type. 0 = Dry contact input 1 = Active high input 2 = Currently not available. Do not select.	<input type="checkbox"/> Dry contact (D) <input type="checkbox"/> Active high
2 System Menu	ZONE SUPERVISED	Yes = All zones supervised No = All zones unsupervised	<input type="checkbox"/> Yes (D) <input type="checkbox"/> No
3 System Menu	LATCH SPRINKLER	Yes = When the sprinkler zone shorts for a duration longer than the Zone Response (set in steps 8 through 11), the annunciator remains active until reported or manually silenced.  No = When the sprinkler zone shorts for a duration longer than the Zone Response (set in steps 8 through 11), the zone will follow system status and indicate a supervisory on that zone for the duration of the faulted condition.	<input type="checkbox"/> Yes (D) <input type="checkbox"/> No
4 System Menu	CHANNEL #1 TYPE	Alarm input 0 = Fire 1 = Sprinkler	<input type="checkbox"/> Fire (D) <input type="checkbox"/> Sprinkler
5 System Menu	CHANNEL #2 TYPE	Trouble input 0 = Fire 1 = Sprinkler	<input type="checkbox"/> Fire (D) <input type="checkbox"/> Sprinkler
6 System Menu	CHANNEL #3 TYPE	Supervisory input 0 = Fire 1 = Sprinkler	<input type="checkbox"/> Fire <input type="checkbox"/> Sprinkler (D)
7 System Menu	CHANNEL #4 TYPE	Alarm input 0 = Fire 1 = Sprinkler 2 = Undefined: For other fire related signalling.	<input type="checkbox"/> Fire (D) <input type="checkbox"/> Sprinkler <input type="checkbox"/> Undefined

**Table 5-2: Programming Form**

Step # / From Menu	Option	Description	Your Choice (D) = Default
<p>NOTES FOR STEPS 8-11:                      Channel response time speeds are not intended to be used as a smoke verification feature. Possible choices for channel response times are 0-3 (described below).</p>			
8 System Menu	ZONE RESPONSE #1	0 = 0.3 to 0.4 seconds 1 = 3 to 4 seconds 2 = 15 to 20 seconds 3 = 30 to 40 seconds NOTE: If you make a mistake and program a number other than 0-3, the resulting zone speed will be: 4 = 0.3 to 0.4 seconds 5 = 3 to 4 seconds 6 = 15 to 20 seconds 7 = 30 to 40 seconds 8 = 0.3 to 0.4 seconds 9 = 3 to 4 seconds	<input type="checkbox"/> 0.3 to 0.4 sec (D) <input type="checkbox"/> 3 to 4 sec <input type="checkbox"/> 15 to 20 sec <input type="checkbox"/> 30 to 40 sec
9 System Menu	ZONE RESPONSE #2	Factory programmed as "1" (3 to 4 seconds). Cannot be changed.	No selection.
10 System Menu	ZONE RESPONSE #3	(See step 8.)	<input type="checkbox"/> 0.3 to 0.4 sec (D) <input type="checkbox"/> 3 to 4 sec <input type="checkbox"/> 15 to 20 sec <input type="checkbox"/> 30 to 40 sec
11 System Menu	ZONE RESPONSE #4	(See step 8.)	<input type="checkbox"/> 0.3 to 0.4 sec (D) <input type="checkbox"/> 3 to 4 sec <input type="checkbox"/> 15 to 20 sec <input type="checkbox"/> 30 to 40 sec
12 System Menu	RELAY #1	0 = Relay activates on alarm 1 = Relay activates on system trouble 2 = Relay activates on system trouble excluding Low AC	<input type="checkbox"/> Alarm <input type="checkbox"/> Trouble <input type="checkbox"/> Trouble excluding low AC (D)
13 System Menu	INSTALLER'S CODE	Installer's code [4 digits]. For programming and other system control functions. Can also perform all the same operations as the operator's code. (See Section 4.2 for specific information about which functions the code can perform.)	_____ Default = 5128
14 Dialer Menu	OPERATOR'S CODE	Operator's code [4 digits]. Used for basic operation. (See Section 4.2 for specific information about which functions the code can perform.) This code must be different from the installer's code.	_____ Default = 1111
15 Dialer Menu	DIALER TYPE	0 = USA 1 = 9000 Direct (Do not use this option.) 2 = European (used for Europe and Asia)	<input type="checkbox"/> USA (D) <input type="checkbox"/> European

Table 5-2: Programming Form

Step # / From Menu	Option	Description	Your Choice (D) = Default
16 Dialer Menu	COMPUTER ENABLE	Yes = Downloading computer used. No = Downloading computer NOT used.	<input type="checkbox"/> Yes (D) <input type="checkbox"/> No
17 Dialer Menu	TOUCHTONE # 1	Yes = Phone #1 will try both TouchTone and rotary. No = Phone #1 will use rotary dialing only.	<input type="checkbox"/> Yes <input type="checkbox"/> No (D)
18 Dialer Menu	LINE 1 PREFIX	Up to eight digits. See section 5.2.1 for information on using special characters for pauses, *, etc.	_____ Default = None
19 Dialer Menu	TOUCHTONE # 2	Yes = Phone #2 will try both TouchTone and rotary. No = Phone #2 will use rotary dialing only.	<input type="checkbox"/> Yes <input type="checkbox"/> No (D)
20 Dialer Menu	LINE 2 PREFIX	Up to eight digits. See section 5.2.1 for information on using special characters for pauses, *, etc.	_____ Default = None
21 Dialer Menu	MUST REPORT #1	Yes = Reports must always be sent to central station phone #1. No = If another phone number is available first, no report to phone #1. <b>Note:</b> If must report is selected for #1 or #2 then the event will report to that account.	<input type="checkbox"/> Yes (D) <input type="checkbox"/> No
22 Dialer Menu	MUST REPORT #2	Yes = Reports must always be sent to central station phone #2. No = If another phone number is available first, no report to phone #1. <b>Note:</b> If must report is selected for #1 or #2 then the event will report to that account.	<input type="checkbox"/> Yes (D) <input type="checkbox"/> No
23 Dialer Menu	AC ACTIVATION	0 = Active high 1 = Active low 2 = AC Monitored	<input type="checkbox"/> Active high <input type="checkbox"/> Active low <input type="checkbox"/> Monitor AC (D)

**Table 5-2: Programming Form**

Step # / From Menu	Option	Description	Your Choice (D) = Default
24 Dialer Menu	AC LOSS HOURS	<p>Enter the number of hours before AC power loss is reported. Set to 0-15 hours for NFPA 72 Fire Alarm Systems for Central Station Service (Chapter 4-3). Set to 15 hours for NFPA 72 Remote Supervising Station Fire Alarm Systems. Set to 0 if you are using a fire control panel that has a built-in delay. (Refer to the panel manual for details.)</p> <p>To program a number larger than 9, use:</p> <p>[SHIFT] [1] for 10</p> <p>[SHIFT] [2] for 11</p> <p>[SHIFT] [3] for 12</p> <p>[SHIFT] [4] for 13</p> <p>[SHIFT] [5] for 14</p> <p>[SHIFT] [6] for 15</p> <p><b>Note:</b> For all UL installations AC power loss report needs to be set from 1-3 hours.</p>	_____ Default = 2
25 Dialer Menu	# RINGS	<p>Enter the number of rings before 5128/29 answers a downloading call. Options are 2-14, minimum is 2. Enter "0" to disable ring detector.</p>	_____ Default = 10
<p><b>NOTES FOR STEPS 26 THROUGH 30.</b></p> <p>Steps 26-30 apply only if the 3/1 format is selected. The 3/1 format is an old format that does not make full use of 5128/29 reporting capabilities. The 3/1 format sends only one digit or letter for an event. It does not send the zone number with the event. Use this format only if required by the receiver.</p> <p>If you are using the 3/1 reporting format, use Steps 26-30 to select the digit (0-9) that will be sent for each event.</p> <p>The letters A through E can be used if the receiver can accept them. Use [SHIFT] [1] for A, [SHIFT] [2] for B and so on.</p> <p>Do not duplicate any digits or letters. For example, do not use "0" for both alarm code (in Step 26) and trouble code (in Step 28). Note that the 3/1 format does not distinguish between "0" and "A", so do not use "0" if you're using "A" and vice versa.</p> <p>See Section 6 for more information about the 3/1 format.</p>			
26 Dialer Menu	3/1 ALARM CODE	<p>Select the digit that will be transmitted to the central station for an alarm. (See "NOTES" above if you need more information.)</p>	_____ Default = 1
27 Dialer Menu	3/1 SPKLR CODE (Feature available with Revision H or later boards.)	<p>3/1 code for sprinkler supervisory conditions. (See "NOTES" above if you need more information.)</p>	_____ Default = 2
28 Dialer Menu	3/1 TROUBLE CODE	<p>3/1 code for trouble conditions. (See "NOTES" above if you need more information.)</p>	_____ Default = 8

Table 5-2: Programming Form

Step # / From Menu	Option	Description	Your Choice (D) = Default
29 Dialer Menu	3/1 RESTORE CODE	3/1 code for restorals of alarm or trouble conditions. (See "NOTES" above if you need more information.)	_____ Default = 7
30 Dialer Menu	3/1 TEST CODE	3/1 code for reporting tests. (See "NOTES" above if you need more information.)	_____ Default = 9
31 Dialer Menu	ALARM #1 1ST	Yes = Report alarms to central station phone #1 first. No = Report alarms to central station phone #2 first.*	<input type="checkbox"/> Yes (D) <input type="checkbox"/> No
32 Dialer Menu	TROUBLE #1 1ST	Yes = Report troubles to central station phone #1 first. No = Report troubles to central station phone #2 first.*	<input type="checkbox"/> Yes (D) <input type="checkbox"/> No
33 Dialer Menu	TEST #1 1ST	Yes = Report tests to central station phone #1 first. No = Report tests to central station phone #2 first.*	<input type="checkbox"/> Yes (D) <input type="checkbox"/> No
* Only if Must Report #1 (Step 21) is selected as "No". If Step 21 is selected as "Yes" and report is complete to account #1, the no attempt is to account #2			
34 Dialer Menu	ACCOUNT #1	Account # for central station phone #1 (6 digits; leading zeros if shorter).	_____ Default = 105128
35 Dialer Menu	ATTEMPTS #1	Number of times phone line #1 will try to dial each central station acct. # before "DIALER FAILED" displays on the 5230 LCD. Range is 3 to 5.	_____ Default = 3
36 Dialer Menu	FORMAT #1	Select reporting format for phone line #1. See Section 6 for descriptions of these formats. 0 = SIA8 1 = Reserved 2 = SK4+2 3 = BFSK14 4 = BFSK23 5 = SIA20 6 = 3/1 14 7 = 3/1 23 8 = Contact ID	<input type="checkbox"/> SIA8 <input type="checkbox"/> Reserved <input type="checkbox"/> SK4+2 <input type="checkbox"/> BFSK14 <input type="checkbox"/> BFSK23 <input type="checkbox"/> SIA20 (D) <input type="checkbox"/> 3/1 14 <input type="checkbox"/> 3/1 23 <input type="checkbox"/> CID

**Table 5-2: Programming Form**

Step # / From Menu	Option	Description	Your Choice (D) = Default
37 Dialer Menu	CIC #1	Carrier Identification Code is the prefix that needs to be dialed before a phone number to access a particular long distance carrier. Use special characters to add pauses, #, *, and "look for second dial tone" characters into the phone number. See STEP 38 for list of special characters.	[blank - no default]
38 Dialer Menu	PHONE #1	Enter the phone number for phone line #1 (up to 16 digits). The following special options and characters can be part of a phone number: pause; look for second dial tone; * (asterisk); and # (number or pound symbol). For "pause", press <b>[SHIFT] [1]</b> . ("A" displays on LCD.) For "*", press <b>[SHIFT] [2]</b> . ("B" displays on the LCD.) For "#", press <b>[SHIFT] [3]</b> . ("C" displays on LCD.) For "look for second dial tone", press <b>[SHIFT] [4]</b> . ("D" displays on LCD.)	[blank - no default]
39 Dialer Menu	ACCOUNT #2	Account number for central station phone #2 (6 digits; leading zeros if shorter).	Default = 205128
40 Dialer Menu	ATTEMPTS #2	Number of times phone line #2 will try to dial each central station acct. # before "DIALER FAILED" displays on the 5230 LCD. Range is 3 to 5.	Default = 3
41 Dialer Menu	FORMAT #2	Select reporting format for phone line #2. See Section 6 for descriptions of these formats. 0 = SIA8 1 = Reserved 2 = SK4+2 3 = BFSK14 4 = BFSK23 5 = SIA20 6 = 3/1 14 7 = 3/1 23 8 = Contact ID	<input type="checkbox"/> SIA8 <input type="checkbox"/> Reserved <input type="checkbox"/> SK4+2 <input type="checkbox"/> BFSK14 <input type="checkbox"/> BFSK23 <input type="checkbox"/> SIA20 (D) <input type="checkbox"/> 3/1 14 <input type="checkbox"/> 3/1 23 <input type="checkbox"/> CID
42 Dialer Menu	CIC #2	Carrier Identification Code is the prefix that needs to be dialed before a phone number to access a particular long distance carrier. Use special characters to add pauses, #, *, and "look for second dial tone" characters into the phone number. See Step 38 for list of special characters.	[blank - no default]
43 Dialer Menu	PHONE #2	Enter phone #2 (up to 16 digits). (See Step 38 for more information.)	Default = 2



Table 5-2: Programming Form

Step # / From Menu	Option	Description	Your Choice (D) = Default
44 Dialer Menu	COMPUTER ACCOUNT	Enter the account number for the downloading computer (6 digits; leading zeros if shorter).	_____ Default = 005128
45 Dialer Menu	COMPUTER CIC	See Step 37 for description.	_____ [blank - no default]
46 Dialer Menu	COMPUTER PHONE	Enter the phone number for the downloading computer (up to 16 digits). (See Step 38 for more information about entering phone numbers.)	_____ Default = 2
47 Dialer Menu	TEST TIME	Enter the test report time using the 24-hour military format (include leading zeros).	_____ Default = 0130
48 Dialer Menu	CURRENT TIME	Set the current time using the 24-hour military format (include leading zeros).  (NOTE: It is recommended that you check the system time every few months and reset it if necessary.)	

## SECTION 6 REPORTING

The Model 5128/29 can transmit information in several different formats (including two types of BFSK and SIA formats). The type of format you select is determined by the type of receiver used at the central station. Note that the SIA formats are recommended for use with the 5128/29. (All formats listed below are compatible with the Silent Knight model 9000, 9500, and 9800 receivers, except the Model 9000 receiver which does not accept CID format.)

**Note:** *Some formats do not distinguish between certain types of reports, such as between waterflow and fire alarms or between supervisory and trouble reports. Central station personnel must keep records of how the various zones are programmed at each account, so they can determine what condition is being reported for a particular zone.*

FORMAT	DESCRIPTION
SIA8	Security Industry Association standard communication format which send a maximum of 8 events per call. Used with the Silent Knight model 9000 Digital Alarm Receiver and model 9004 or model 9004I SIA line card.
SIA20	Security Industry Association standard communication format which send a maximum of 20 events per call. Up to a 6-digit account number. Used with the Silent Knight model 9000 receiver, with a 9004I SIA line card and a 9200 CPU card, Revision E.
SK4+2	Tone burst format, transmits a 4-digit account code and 2-digit alarm code at 20 pps. Transmissions are acknowledged at 1400 Hz.
BFSK14	Radionics format which transmits a high-speed, single-round, 3-digit account number, followed by report information. Transmissions are acknowledged at 1400 Hz.
BFSK23	Radionics format which transmits a high-speed, single-round, 3-digit account number, followed by report information. Transmissions are acknowledged at 2300 Hz.
SK3/1 14	Used with older Silent Knight, Ademco, or Sescoa receivers that can receive at 20 pps and send a 1400-Hz acknowledgment tone.
Sescoa 3/1 23	Used with older Sescoa or other receivers that can receive at 20 pps and send a 2300-Hz acknowledgment tone.
Contact ID	Ademco Contact ID format. DTMF (Dual Tone Multiple Frequency) format. Send a 4-digit account number. Transmission are acknowledged at both 1400 and 2300 Hz.

The tables in the subsections that follow show the digits that are transmitted for each event reported by the 5128/29 dialer, and the message that is printed if the central station uses the Silent Knight model 9000, 9500, or 9800 receiver. A separate table is shown for each format.

## 6.1 Reporting Codes

Table 6-1 list the events sent by the 5128/29 and the code that is sent for that event by the type of reporting format used.

**Table 6-1: Event and Reporting Code by Format**

Event	SIA8 & 20	SK4/2	3/1 1400 & 2300	BFSK14 & 23	Contact ID
Fire Alarm 1-4	FA1 - FA4	*01 - 04	Alarm Code	01 - 04	1 110 001 - 1 110 004
Fire Alarm Restore 1-4	FH1 - FH4	*21 - 24	Restore Code	E1 - E4	3 110 001 - 3 110 004
Fire Trouble 1-4	FT1 - FT4	61 - 64	Trouble Code	F1 - F4	1 373 001 - 1 373 004
Fire Trouble Restore 1-4	FJ1 - FJ4	71 - 74	Restore Code	E1 - E4	3 373 001 - 3 373 004
Sprinkler Supervisory 1-4	SS1 - SS4	01 -04	Sprinkler Code	01 - 04	1 203 001 - 1 203 004
Sprinkler Supervisory Restore 1-4	SR1 - SR4	21 - 24	Restore Code	E1 - E4	3 203 001 - 3 203 004
Sprinkler Trouble 1-4	ST1 - ST4	61 - 64	Trouble Code	F1 - F4	1 203 001 - 1 203 004
Sprinkler Trouble Restore 1-4	SJ1 - SJ4	71 - 74	Restore Code	E1 - E4	3 203 001 - 3 203 004
Untyped Alarm	UA4	04	Alarm Code	04	1 140 004
Untyped Alarm Restore	UH4	24	Restore Code	E4	3 140 004
Untyped Trouble	UT4	64	Trouble Code	F4	1 370 004
Untyped Trouble Restore	UJ4	74	Restore Code	E4	3 370 004
AC Trouble	AT0	60	Trouble Code	FA	1 301 000
AC Restore	AR0	70	Restore Code	EA	3 301 000
Trouble Phone Line #1	LT1	31	Trouble Code	FB	1 351 000
Restore Phone Line #1	LR1	35	Restore Code	EB	3 351 000
Trouble Phone Line #2	LT2	32	Trouble Code	FC	1 352 000
Restore Phone Line #2	LR2	36	Restore Code	EC	3 352 000
Communications Failure Line #1	YC1	31	Trouble Code	FB	1 351 000
Communications Restore Line #1	YK1	35	Restore Code	EB	3 351 000
Communications Failure Line #2	YC2	32	Trouble Code	FC	1 352 000
Communications Restore Line #2	YK2	36	Restore Code	EC	3 352 000
Manual Test	RX0	30	Test Code	EE	1 601 000
Automatic Test (Normal)	RP0	30	Test Code	EE	1 602 000
Automatic Test (Abnormal)	RYO	39	Test Code	EE	1 608 000
Downloading Passed	RS0	30	Test Code	EF	1 412 000
Downloading Failed	RU0	30	Test Code	FF	1 413 000
Data Lost	RT0	39	Trouble Code	FE	1 354 000

\* "02" and "22" will never be reported. Channel/Zone 2 is a trouble indication only that will transmit only "62" and "72."

# SECTION 7

## TROUBLESHOOTING

### 7.1 System Messages

Table 7-1 shows the messages that could appear on the LCD of the model 5230 annunciator. If you have a problem that is not covered here, contact Technical Support at 800-328-0103 for assistance.

**Table 7-1: Explanations of Display Messages**

5230 MESSAGE	EXPLANATION/ACTION TO BE TAKEN
AC LOW	AC power has been lost. Check connection to AC power source.
ALARM ZONE 1-4	An alarm condition exists in the indicated zone.
BAD EEPROM 5230 buzzer goes on and off.	Most likely cause is a bad EEPROM chip, which is not an installer-serviceable part. Contact Technical Support if you need to arrange for a warranty exchange.
Line 2: CALLING COMPUTER	System is calling remote computer (for up- or downloading).
Line 2: REPORTING	The system is reporting to the central station.
REPORTING	An event is being reported to the central station.
SYSTEM NORMAL	No trouble, alarm, or other condition exists.
TIME?	The 5128/29 is in Time Set mode.
TROUBLE (line 1) TROUBLE ZONE # (line 2)	Sprinkler supervisory trouble.
TROUBLE (ZONE 1-4)	A trouble condition exists in the indicated zone.
TROUBLE DIALER	After making the programmed number of attempts, the dialer has not been able to communicate with the central station. (This is a dialer failed condition.)
TROUBLE LINE 1	A trouble condition exists on phone line 1.
TROUBLE LINE 2	A trouble condition exists on phone line 2.
TRY AGAIN	A keystroke error has been made. Press <b>CLEAR</b> and enter the correct keystrokes.

**Note:** When step programming mode is in use and the 5230 annunciator powers up, the LCD displays messages that describe conditions currently in effect.

### 7.2 Silencing Troubles

The built-in audible trouble buzzer can be silenced by pressing the silence button (see Figure 3-1).

**Note:** Silencing a trouble condition does not correct the trouble condition. The trouble buzzer will re-activate every 24 hours if the trouble condition remains uncorrected or if a new trouble condition occurs.

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# Silent Knight Fire Product Warranty and Return Policy

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## General Terms and Conditions

- All new fire products manufactured by Silent Knight have a limited warranty period of 18 months from the date of manufacture against defects in materials and workmanship. See limited warranty statement for details.
- This limited warranty does not apply to those products that are damaged due to misuse, abuse, negligence, exposure to adverse environmental conditions, or have been modified in any manner whatsoever.

## Repair and RA Procedure

- All products that are returned to Silent Knight for credit or repair require a RA (Return Authorization) number. Call Silent Knight Customer Service at 800-446-6444 or 763-493-6435 between 8:00 A.M. and 4:45 P.M. CST, Monday through Friday to obtain a return authorization number. Silent Knight Technical Support is available at 800-328-0103 between 8:00 A.M. and 6:00 P.M. CST, Monday through Friday.
- RA number must be prominently displayed on the outside of the shipping box. See return address example under Advanced Replacement Policy.
- Include a packing slip that has the RA number, a content list, and a detailed description of the problem should be included with each return.
- All products returned to Silent Knight must be sent freight pre-paid. After product is processed, Silent Knight will pay for shipping product back to customer via UPS ground.
- Return the Silent Knight product circuit board only. Products that are returned in cabinets will be charged an additional \$50 to cover the extra shipping and handling costs over board only returns. **Do not return batteries.** Silent Knight has the authority to determine if a product is repairable. Products that are deemed un-repairable will be returned to the customer.
- Product that is returned that has a board date code more than 18 months from date of manufacture will be repaired and the customer will be assessed the standard Silent Knight repair charge for that model.

### **Advanced Replacement Policy**

- Silent Knight offers an option of advance replacement for fire product printed circuit boards that fail during the first 6 months of the warranty period.
- For advance replacement of a defective board contact your local Silent Knight Distributor or call Silent Knight at 800-446-6444 or 763-493-6435 to obtain a RA (Return Authorization) number and request advanced replacement.
- Customers without a Silent Knight account must use a MasterCard, Visa, or American Express credit card to get an advance replacement.
- A new or refurbished board will be shipped to the customer. The customer will initially be billed for the replacement board but a credit will be issued after the repairable board is received at Silent Knight. All returned products must comply with the guidelines described under “General Terms and Conditions”.
- The defective board must be returned within 30 days of shipment of replacement board for customer to receive credit. No credit will be issued if the returned board was damaged due to misuse or abuse.
- Repairs and returns should be sent to:

Silent Knight

Attn: Repair Department

7550 Meridian Circle Suite 100

Maple Grove, MN 55369-4927

RA Number: \_\_\_\_\_

## **Limited Warranty**

Silent Knight warrants products manufactured by it to be free from defects in materials and workmanship for eighteen (18) months from the date of manufacture, under normal use and service. Products are date stamped at time of manufacture. The sole and exclusive obligation of Silent Knight is to repair or replace, at its option, free of charge for parts and labor, any part that is defective in materials or workmanship under normal use and service. All returns for credit are subject to inspection and testing at the factory before actual determination is made to allow credit. Silent Knight does not warrant products not manufactured by it, but assigns to the purchaser any warranty extended by the manufacturer of such products. This warranty is void if the product is altered or repaired by anyone other than Silent Knight or as expressly authorized by Silent Knight in writing, or is serviced by anyone other than Silent Knight or its authorized distributors. This warranty is also void if there is a failure to maintain the products and systems in which they operate in a proper and workable manner. In case of defect, secure a Return Material Authorization form from our Return Authorization Department.

This writing constitutes the only warranty made by Silent Knight , with respect to its products. Silent Knight , does not represent that its products will prevent any loss by fire or otherwise, or that its products will in all cases provide the protection for which they are installed or intended. Buyer acknowledges that Silent Knight , is not an insurer and assumes no risk for loss or damages or the cost of any inconvenience, transportation damage, misuse, abuse, accident or similar incident.

SILENT KNIGHT GIVES NO WARRANTY, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR OTHERWISE WHICH EXTENDS BEYOND THE DESCRIPTION ON THE FACE HEREOF. UNDER NO CIRCUMSTANCES SHALL SILENT KNIGHT BE LIABLE FOR ANY LOSS OF OR DAMAGE TO PROPERTY, DIRECT, INCIDENTAL OR CONSEQUENTIAL, ARISING OUT OF THE USE OF, OR INABILITY TO USE NOTIFIER ALARM'S PRODUCTS. FURTHERMORE, SILENT KNIGHT SHALL NOT BE LIABLE FOR ANY PERSONAL INJURY OR DEATH WHICH MAY ARISE IN THE COURSE OF, OR AS A RESULT OF, PERSONAL, COMMERCIAL OR INDUSTRIAL USE OF ITS PRODUCTS.

This warranty replaces all previous warranties and is the only warranty made by SILENT KNIGHT. No increase or alteration, written or verbal, of the obligation of this warranty is authorized.

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