

MODEL SK-5208

Installation and Operations Manual

Part Number 151204 Rev L

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Installation Procedure

Adherence to the following will aid in problem-free installation with long-term reliability:

Installation Precautions - Adherence to the following will aid in problem-free installation with long-term reliability: WARNING - Several different sources of power can be connected to the fire alarm control panel. Disconnect all sources of power before servicing. Control unit and associated equipment may be damaged by removing and/or inserting cards, modules, or interconnecting cables while the unit is energized. Do not attempt to install, service, or operate this unit until manuals are read and understood. CAUTION - System Re-acceptance Test after Software Changes: To ensure proper system operation, this product must be tested in accordance with NFPA 72 after any programming operation or change in site-specific software. Re-acceptance testing is required after any change, addition or deletion of system components, or after any modification, repair or adjustment to system hardware or wiring. All components, circuits, system operations, or software functions known to be affected by a change must be 100% tested. In addition, to ensure that other operations are not inadvertently affected, at least 10% of initiating devices that are not directly affected by the change, up to a maximum of 50 devices, must also be tested and proper system operation verified. This system meets NFPA requirements for operation within the range of 0°C-49°C (32°F-120°F) or humidity within the range of 10%-93% at 30°C (86°F) noncondensing. However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15-27° C/60-80° F. Verify that wire sizes are adequate for all initiating and indicating device loops. Most devices cannot tolerate more than a 10% I.R. drop from the specified device voltage. Like all solid state electronic devices, this system may operate erratically or can be damaged when subjected to lightning induced transients. Although no system is completely immune from lightning transients and interference, proper grounding will reduce susceptibility. Overhead or outside aerial wiring is not recommended, due to an increased susceptibility to nearby lightning strikes. Consult with the Technical Services Department if any problems are anticipated or encountered. Disconnect AC power and batteries prior to removing or inserting circuit boards. Failure to do so can damage circuits. Remove all electronic assemblies prior to any drilling, filing, reaming, or punching of the enclosure. When possible, make all cable entries from the sides or rear. Before making modifications, verify that they will not interfere with battery, transformer, or printed circuit board location. Do not tighten screw terminals more than 9 in-lbs. Over-tightening may damage threads, resulting in reduced terminal contact pressure and difficulty with screw terminal removal. Silent Knight fire alarm control panels contain static-sensitive components. Always ground yourself with a proper wrist strap before handling any circuits so that static charges are removed from the body. Use static suppressive packaging to protect electronic assemblies removed from the unit.

Follow the instructions in the installation, operating, and programming manuals. These instructions must be followed to avoid damage to the control panel and associated equipment.

FACP operation and reliability depend upon proper installation.

While installing a fire alarm system may make lower insurance rates possible, it is not a substitute for fire insurance! **An automatic fire alarm system** - typically made up of smoke detectors, heat detectors, manual pull stations, audible warning devices, and a fire alarm control with remote notification capability - can provide early warning of a developing fire. Such a system, however, does not assure protection against property damage or loss of life resulting from a fire. **Any fire alarm system** may fail for a variety of reasons: Smoke detectors may not sense fire where smoke cannot reach the detectors such as in chimneys, in walls, or roofs, or on the other side of closed doors. **Smoke detectors** also may not sense a fire on another level or floor of a building. A second floor detector, for example, may not sense a first floor or basement fire. Furthermore, all types of smoke detectors can sense every kind of fire caused by carelessness and safety hazards like smoking in bed, violent explosions, escaping gas, improper storage of flammable materials, overloaded electrical circuits, children playing with matches, or arson.

IMPORTANT! Smoke detectors must be installed in the same room as the control panel and in rooms used by the system for the connection of alarm transmission wiring, communications, signaling, and/or power. If detectors are not so located, a developing fire may damage the alarm system, crippling its ability to report a fire. Audible warning devices such as bells may not alert people if these devices are located on the other side of closed or partly open doors or are located on another floor of a building. A fire alarm system will not operate without any electrical power. If AC power fails, the system will operate from standby batteries only for a specified time. **Rate-of-Rise heat detectors** may be subject to reduced sensitivity over time. For this reason, the rate-of-rise feature of each detector should be tested at least once per year by a qualified fire protection specialist. Equipment used in the system may not be technically compatible with the control. It is essential to use only equipment listed for service with your control panel. **Telephone lines** needed to transmit alarm signals from a premise to a central monitoring station may be out of service or temporarily disabled. The most common cause of fire alarm malfunctions, however, is inadequate maintenance. All devices and system wiring should be tested and maintained by professional fire alarm installers following written procedures supplied with each device. System inspection and testing should be scheduled monthly or as required by National and/or local fire codes. Adequate written records of all inspections should be kept.

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Silent Knight Fire Product Warranty and Return Policy SK-5208 Plus Basic Operating Instructions P/N 151214 Rev. A

Installation Manual

Section 1 Introduction

The Model SK-5208 is an 24-volt 10-zone fire alarm control panel (expandable up to 30 zones using SK-5217 Zone Expanders) with a digital communicator that meets NFPA 72 requirements. The SK-5208 cabinet can be surface mounted or semi-flush mounted.

1.1 Model SK-5208 Features

- Built-in two-line (16 Character each line) LCD display provides easy to read english language readouts
- 10 Initiation inputs, 8 Class B (Style B) and 2 zones that can be configured as Class B (Style B) or Class A (Style D), expandable to 30 zones
- Supervised zone expanders and I/O modules can be mounted remotely from the main control panel
- UL Listed
- Event History Buffer (approximately 150 events) with Date/Time stamp
- All zones are compatible with 2- and 4-wire detectors
- 8 selectable/programmable output pattern for notification appliance circuits (Including ANSI 3.41)
- Built-in Digital Alarm Communicator Transmitter (DACT)
- 4 Notification appliance circuits
- 4 programmable general purpose relays
- Programmable smoke verification, pre-alarm delay, cross zoning and enhanced verification mode features that can help minimize false alarms
- Capable of single or dual operation for water releasing services.
- Programmable from the built-in control panel touchpad, remote annunciator or Window[®] downloading software
- Built-in walk test

1.2 About This Manual

The *Model SK-5208 Fire Control/Communicator Installation Manual (P/N 151204)* is intended for those persons involved with the installation and maintenance of the SK-5208 panel. It is a comprehensive guide, providing detailed instructions, and should be kept for reference. As much as possible, we have tried to organize the manual chronologically by the tasks that need to be performed.

| 1 | A same graphic replicating the key that you press on a touchpad. |
|---------------------|--|
| LCD DISPLAY MESSAGE | The font shown to the left represents messages that you see on a liquid crystal display (LCD) on the control panel and the remote annunciator. |
| 1-1, 2-3, etc. | This manual is organized into sections. Section numbers are part of the page numbers. For example, 1-1 means Page 1 of Section 1. |

| Table 1-1: Standards | Used in this | Manual |
|----------------------|--------------|--------|
|----------------------|--------------|--------|

1.2.1 Optional Accessories

| Model | What It Does |
|---|--|
| SK-5217 Zone Expander | Adds 10 zones to the SK-5208 for a total expansion of the system to 30 zones. |
| SK-2190 Accessory Cabinet | Used for remote mounting of the SK-5217 Zone Expander. Dimensions: 10-3/8"W x 10-3/16"H x 3"D (26.35 cm W x 25.88 cm H x 7.62 cm D) |
| 5220 Direct Connect Module | For direct alarming and trouble transmission from the SK-5208 to a supervising station. |
| SK-5235 Remote Annunciator | For remote annunciation, operation, and on-site programming. |
| SK-5280 | The Model SK-5280 Status Display module provides outputs and control functions for remote annunciation of alarm, trouble, and supervisories for each zone. |
| 5824 | Provides connectivity to a Serial or Parallel printer. (See Section 4.2.12 for programming.) |
| SK-5499 Signal Power Expander | Notification circuit power for additional notification appliances. Provides additional 9A of 24 VDC, supervised. |
| SK-5495 Signal Power Expander | Notification circuit power for additional notification appliances. Provides additional 6A of 24 VDC, supervised. |
| SKSS Downloading Software Model 5660 | For remote programming of the SK-5208 using a personal computer. |
| PLEX-2 | Optional door accessory for single button operation. (See Section 4.3 for programming.) |

| Table 1-2: | Compatible | Modules | Manufactured | by | Silent Knight |
|------------|-------------------|---------|--------------|----|---------------|
|------------|-------------------|---------|--------------|----|---------------|

Limitations of Fire Alarm Systems

Manufacturer recommends that smoke and/or heat detectors be located throughout a protected premise following the recommendations of the current edition of the National Fire Protection Association Standard 72 (NFPA 72), manufacturer's recommendations, State and local codes, and the recommendations contained in <u>Guide for the Proper Use of System Smoke</u> <u>Detectors</u>, which is made available at no charge to all installing dealers. A study by the Federal Emergency Management Agency (an agency of the United States government) indicated that <u>smoke detectors may not go off or give early warning in as</u> <u>many as 35% of all fires</u>. While fire alarm systems are designed to provide warning against fire, they do not guarantee warning or protection against fire. <u>A fire alarm system may not provide timely or adequate warning, or simply may not function, for a variety of reasons. For example:</u>

- Particles of combustion or smoke from a developing fire may not reach the sensing chambers of smoke detectors because:
 - Barriers such as closed or partially closed doors, walls, or chimneys may inhibit particle or smoke flow.
 - Smoke particles may become cold, stratify, and not reach the ceiling or upper walls where detectors are located.
 - Smoke particles may be blown away from detectors by air outlets
 - Smoke particles may be drawn into air returns before reaching the detector.

In general, smoke detectors on one level of a structure cannot be expected to sense fires developing on another level.

- The amount of smoke present may be insufficient to alarm smoke detectors. Smoke detectors are designed to alarm at various levels of smoke density. If such density levels are not created by a developing fire at the location of detectors, the detectors will not go into alarm.
- Smoke detectors, even when working properly, have sensing limitations. Detectors that have photoelectronic sensing chambers tend to detect smoldering fires better than flaming fires, which have little visible smoke. Detectors that have ionizing-type sensing chambers tend to detect fast flaming fires better than smoldering fires. Because fires develop in different ways and are often unpredictable in their growth, neither type of detector is necessarily best and a given type of detector may not provide adequate warning of a fire.
- Smoke detectors are subject to false alarms and nuisance alarms and may have been disconnected by users. For example, a smoke detector located in or near a kitchen may go into nuisance alarm during normal operation of kitchen appliances. In addition, dusty or steamy environments may cause a smoke detector to falsely alarm. If the location of a smoke detector causes an abundance of false alarms or nuisance alarms, do not disconnect the smoke detector; call a professional to analyze the situation and recommend a solution.
- Smoke detectors cannot be expected to provide adequate warning of fires caused by arson, children playing with matches (especially within bedrooms), smoking in bed, violent explosions (caused by escaping gas, improper storage of flammable materials, etc.).
- Heat detectors do not sense particles of combustion and are designed to alarm only when heat on their sensors increases at a predetermined rate or reaches a predetermined level. Heat detectors are designed to protect property, not life.
- Warning devices (including horns, sirens, and bells) may not alert people or wake up sleepers who are located on the other side of closed or partially open doors. A warning device that activates on a different floor or level of a dwelling or structure is less likely to awaken or alert people. Even persons who are awake may not notice the warning if the alarm is muffled by noise from a stereo, radio, air conditioner or other appliance, or by passing traffic. Audible warning devices may not alert the hearing-impaired (strobes or other devices should be provided to warn these people). Any warning device may fail to alert people with a disability, deep sleepers, people who have recently used alcohol or drugs, or people on medication or sleeping pills.
 - Please note that:
 - i) Strobes can, under certain circumstances, cause seizures in people with conditions such as epilepsy.
 - ii) Studies have shown that certain people, even when they hear a fire alarm signal, do not respond or comprehend the meaning of the signal. It is the property owner's responsibility to conduct fire drills and other training exercises to make people aware of fire alarm signals and instruct on the proper reaction to alarm signals.
 - iii) In rare instances, the sounding of a warning device can cause temporary or permanent hearing loss.
- Telephone lines needed to transmit alarm signals from a premises to a central station may be out of service or temporarily out of service. For added protection against telephone line failure, backup radio transmission systems are recommended.
- System components, though designed to last many years, can fail at any time. As a precautionary measure, it is recommended that smoke detectors be checked, maintained, and replaced per manufacturer's recommendations.
- System components will not work without electrical power. If system batteries are not serviced or replaced regularly, they may not provide battery backup when AC power fails.
- Environments with high air velocity or that are dusty or dirty require more frequent maintenance.

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In general, fire alarm systems and devices will not work without power and <u>will not function properly unless they</u> are maintained and tested regularly.

While installing a fire alarm system may make the owner eligible for a lower insurance rate, <u>an alarm system is</u> <u>not a substitute for insurance</u>. Property owners should continue to act prudently in protecting the premises and the people in their premises and should properly insure life and property and buy sufficient amounts of liability insurance to meet their needs.

Section 2 Agency Listings and Requirements

Install and maintain in accordance with NFPA 72. Detector spacing shall be in accordance to NFPA 72. End-of -line relays and resistors shall be placed within the electrical box located and the end of the initiating circuit. Testing and maintenance should be performed according to NFPA 72.

2.1 Federal Communications Commission (FCC)

1. If requested by the telephone company, the following information must be provided before the SK-5208 can be connected to the phone lines:

| A. | Manufacturer: | Silent Knight |
|----|--|-------------------|
| A. | Model Number: | SK-5208 |
| B. | FCC registration number: | AC6USA-34758-AL-E |
| | Ringer equivalence: | 0.5B |
| C. | Type of jack (to be installed by the telephone company): | RJ31X |

- 4. This device may not be directly connected to coin telephone or party line services.
- 5. This device cannot be adjusted or repaired in the field. In case of trouble with the device, notify the installing company or return to:

Silent Knight 12 Clintonville Road Northford, CT 06472-1610 203-484-7161 800-328-0103

- 6. If the SK-5208 causes harm to the telephone network, the telephone company will notify the user in advance that temporary discontinuance of service may be required. When advance notice is not practical, the telephone company will notify the user as soon as possible. Users have the right to file complaints, if necessary, with the Federal Communications Commission.
- 7. 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 to allow you to make the necessary modifications to maintain uninterrupted service.

Warning

This device has been verified to comply with FCC Rules Part 15. Operation is subject to the two 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.

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2.2 Underwriters Laboratories (UL)

The SK-5208 is UL Listed as a control unit for use in Central Station Protected Premises, Local Protected Fire Alarm Systems, Auxiliary Protected Fire Alarm Systems for Fire Alarm Service (City Box), Remote Station Protected Fire Alarm Systems and water releasing service. If the SK-5208 and its accessories are to be used as part of a UL installation, carefully read the UL requirements in this section.

2.2.1 Requirements for All Installations

General requirements are described below. The sections that follow describe additional requirements for the type of installation (for example, Central Station Fire Alarm systems, Local Protected Fire Alarm systems, and so on).

- 1. Use UL listed smoke detectors compatible with the SK-5208. Refer to Appendix A.
- 2. Use UL listed compatible notification devices. Refer to Appendix A.

Restricted Options:

- The loss of AC signal is defaulted to 3 hours however the system allows settings from 0 30 hours. For UL certified installations this number must be set from 1 to 3 hours.
- Call forwarding shall not be used.
- When cross zoning is used detector spacing shall be cut in half, you shall not use the alarm verification feature, and no delay shall be used.

2.2.2 Requirements for Central Station Fire Alarm Systems

- 1. The Phone Line "Line Dial Type" must be selected for anything other than "Not Used". (See programming Section 4.2.9).
- 2. On class A (style D) zones, the number of waterflow devices is limited to five.
- 3. Auxiliary relays may not be programmed to activate for Pre-Alarm. See programming Section 4.2.5.

2.2.3 Requirements for Auxiliary Protected Fire Alarm Systems for Fire Alarm Service

- 1. Follow the current load restrictions shown in Section 3.6.
- 2. The Model 5220 Direct Connect module must be installed (see Section 3.15.1 for wiring).

2.2.4 Requirements for Remote Station Protected Fire Alarm Systems, for Digital Communication or Polarity Reversal

- 1. Follow the current load restrictions shown in Section 3.6.
- 2. Use the SK-5208's built-in dialer or install the Model 5220 Direct Connect Module (see Section 3.15.1).

3.1 Electrical Specifications

| Primary AC | 120 Vrms at 60 Hz, 3A |
|-------------------------------------|-------------------------------|
| Total DC Load | 6A |
| Accessory Power | 27.4 VDC, 1A |
| Smoke Power | 27.4 VDC, 1A |
| Battery Charging Voltage | 27.4 |
| Battery Charging Current | .75 A max. |
| Class B (Style B) Circuit Current | 95 mA max. |
| Telephone Minimum Input Sensitivity | 35 dB |
| Good Phone Line Voltage | 3 V |
| Maximum Low Battery Detect | 20.4 |
| Minimum Low AC Detect | 98 |
| Notification Power | 3A max. per output (6A total) |

Table 3-1: Electrical Specifications

3.2 Environmental Specifications

It is important to protect the SK-5208 control panel from water. To prevent water damage, the following conditions should be AVOIDED when mounting the units:

- 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 SK-5208 control panel, the unit should be mounted where it will NOT be exposed to temperatures outside the range of $0^{\circ}C-49^{\circ}C$ ($32^{\circ}F-120^{\circ}F$) or humidity equal to or greater than 93% at $30^{\circ}C$ ($89^{\circ}F$) noncondensing.

See also the mounting recommendations in Section 3.5 for additional environmental specifications.

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3.3 Wiring Specifications

To avoid induced noise (transfer of electrical energy from one wire to another), keep input wiring isolated from high current output and power wiring. Induced noise can interfere with telephone communication or even cause false alarms. Avoid pulling one multiconductor cable for the entire panel. Instead, separate the wiring as follows:

| | Input/Output Type | Wiring | |
|--|-------------------|--|--|
| 1/4" spacing must be maintained between each of these circuit types; as well as between power limited and non-power limited circuits. | High Voltage: | AC power | |
| | Low Voltage: | Annunciator, zone circuit wiring, and notification devices | |
| | Audio: | Speaker | |
| | Telco | Separated | |

DO NOT pull wires from different groups through the same conduit. If you must run them together, do so for as short a distance as possible or use shielded cable. Connect the shield to earth ground at the panel only.

For the same reasons, wiring within the cabinet should be routed around the perimeter of the cabinet. It should not cross the printed circuit board where it could induce noise into the sensitive microelectronics or pick up unwanted RF noise from the high speed circuits.

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

a ferrite toroid. Figure 3-1 provides an example.



Figure 3-1 Wire Routing Example

3.4 Control Board Components

Figure 3-2 is a wiring diagram for wiring the Model SK-5208 panel.

Figure 3-2 Model SK-5208 Board Layout

Refer to Section 3.9 for complete description of control panel terminal connections.

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3.5 Mounting the SK-5208

Read the environmental specifications in section 3.2 on page 1 before mounting the SK-5208 panel.

The SK-5208 cabinet dimensions are:

16" W x 26.4" H x 4" D (40.64 cm W x 67.06 cm H x 10.16 cm D).

The SK-5208 panel should be located within a secured area, where it is accessible to main drop wiring runs and where it can be easily tested and serviced. End-users responsible for maintaining the panel should be able to hear alarms and troubles. When selecting a location, keep in mind that the panel itself is the main source of alarm and trouble annunciation.

When mounting on interior walls, use appropriate screw anchors in plaster. When mounting on concrete, especially when moisture can accumulate, the enclosure shall be placed or equipped so as to prevent moisture or water from entering and accumulating within the cabinet, and shall be mounted so there is a least 1/4" space between the enclosure and the concrete wall surface. A piece of plywood, standoffs, or other equivalent material can be used to space the cabinet from the concrete surface and then attach the SK-5208 to that spacing surface. Also mount any other desired components to the 1/4" spacing surface.

DO NOT flush-mount the SK-5208 cabinet in a wall designated as a fire break.

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.

3.6 Current Draw Calculations

3.6.1 Worksheet Requirements

The following steps must be taken when determining SK-5208 current draw and standby battery requirements.

Filling in the Current Draw Worksheet, Table 3-2 (Section 3.6.2)

- 1. For the SK-5208, the worst case current draw is listed for the panel and panel accessories. Fill in the number of devices that will be used in the system and compute the current draw requirements for alarm and standby. Record this information in Table 3-2 at Line A.
- 2. Add up the current draw for all smoke detectors and record in the table at Line B.
- 3. Add up all notification appliance loads and record in the table at Line C.
- 4. For notification appliances and auxiliary devices not mentioned in the manual, refer to the device manual for the current ratings.
- 5. Make sure that the total alarm current you calculated, including current for the panel itself, does not exceed 6.0 A. This is the maximum alarm current for the SK-5208 control panel.

If the current is above 6.0 A you will need to use a notification power expander(s) such as the 5495 to distribute the power loads so that the SK-5208 or the power expanders do not exceed their power rating. Refer to the current draw worksheets provided with the 5495 manuals so you do not exceed their power requirements.

6. Complete the remaining instructions in Table 3-2 for determining battery size requirements.

3.6.2 Current Draw Worksheet

Use Table 3-2 to determine current requirements during alarm/battery standby operation. (Copy the page if additional space is required.)

| Device | # of Devices | Curre | ent per Device | Standby Current | Alarm Current |
|---|---------------------|----------------|---------------------|--------------------|------------------|
| For each device use this formula: | This column | X This co | olumn = C | urrent per numbe | er of devices. |
| SK-5208 Fire Panel (Current draw | 1 | Standby: | 140 mA | 140 mA | |
| from battery) | 1 | Alarm: | **550 mA | | 550 mA |
| Panel Accessories | | | | | |
| SK-5217 Zone Expander | (2 max.) | Standby: | 60 mA | mA | |
| | | Alarm: | 150 mA | | mA |
| 5824 Serial/Parallel Interface | (1 max.) | Standby: | 45 mA | mA | |
| Gateway Module | · · · | Alarm: | 45 mA | | mA |
| 5220 Direct Connect | | Standby: | 15 mA | mA | _ |
| | | Alarm: | 15 mA | | mA |
| SK-5235 Annunciator | (6 max.) | Standby: | 30 mA | mA | |
| | | Alarm: | 50 mA | | mA |
| | | Relay | Standby: 10 mA | mA | |
| SK-5280 Status Display Module | (8 max.) | (max.) | Alarm: 80 mA | | mA |
| | × , | Outputs | Per output 100 mA | | mA |
| | | | Max. 700 mA | | mA |
| | | 1 | otal System Current | | |
| Smoke Detectors | | a 11 | | · · · | |
| | | Standby: | mA | mA | |
| | | Alarm: | mA | | mA |
| | | Standby: | mA | mA | |
| | | Alarm: | mA | | mA |
| | | Standby: | mA | mA | |
| | | Alarm: | mA | | mA |
| | | Standby: | mA | mA | |
| | | Alarm: | mA | | mA |
| | 1 | Smo | ke Detector Current | mA | mA |
| Notification Appliances | | 1 | | | |
| | | Alarm: | mA | | mA |
| | | Alarm: | mA | | mA |
| | | Alarm: | mA | | mA |
| | | Alarm: | mA | | mA |
| | N | otification | Appliances Current | | mA |
| Additional Devices | | L = | | | |
| | | Standby: | mA | | |
| | | Alarm: | mA | | |
| | | Standby: | mA | | |
| | | Alarm: | mA | | |
| | | Additio | nal Devices Current | | mA |
| Total current ratings of all devices in | n system (line A + | - line B + C | +D) | mA | mA |
| Total current ratings converted to an | nperes (line E x .0 | 101): | ~ | A | A |
| Number of standby hours (24 or 60 | tor NFPA 72, cha | pter 1, 1-5.2 | .5): | Н | |
| Multiply lines F and G. | · | | Total standby AH | AH | |
| Alarm sounding period in hours. (Fe | or example, 5 min | utes $= .0833$ | hours) | | Н |
| Multiply lines F and I. | | | Total alarm AH | | AH |
| *Add lines H and J. | | | Total ampere | AH | |
| | | | hours required | | |

Table 3-2: Current Draw Calculations

* Use next size battery with capacity greater than required.

** The SK-5208 and SK-5217 limits alarm current to 95mA per zone. The SK-5208 alarm current includes 10% of zones in alarm, but in no case less then three zones per UL864

А

В

С

D E F G H I J K

3.6.3 Maximum Battery Standby Load

Table 3-3 shows the maximum battery standby load for the SK-5208 based on 24 and 60 hours of standby. The standby load calculations of line D in the Current Draw Calculation Worksheet (Table 3-2) must be less than the number shown in Table 3-3 for the battery size used and standby hours required.

Batteries larger then 18 AH will not fit into the SK-5208 cabinet and must be housed in the RBB remote battery box cabinet. See Section 3.8 for battery installation.

| Rechargeable Battery Size | Max. Load for 24 hrs. Standby, 5 mins. Alarm | *Max. Load for 60 hrs. Standby, 5 mins. Alarm |
|---------------------------|---|--|
| 7 AH | 270 mA | 105 mA |
| 12 AH | 475 mA | 190 mA |
| 18 AH | 685 mA | 270 mA |
| 35 AH | 1.1 A | 450 mA |

Table 3-3: Maximum Battery Standby Load

* Required for NFPA 72 Auxiliary Protected Fire Alarm systems for Fire Alarm Service (City Box) and Remote Station Protected Fire Alarm systems (Polarity Reversal) and Digital Alarm Communicator/Transmitter (DACT).

Warning!

Silent Knight does not support the use of batteries smaller than those listed in Table 3-3. If you use a battery too small for the installation, the system could overload the battery resulting in the installation having less than the required 24 hours standby power. Use Table 3-2 to calculate the correct battery amperes/hour rating needed for your installation.

3.7 AC Wiring

The Model SK-5208 power supply delivers 24 VDC at 6A for smoke detector power, notification device power, and accessory power. Figure 3-3 shows the AC connections to the SK-5208 control panel.







To reduce the risk of electrical shock, make sure that all power has been turned off or disconnected before attempting to connect the Model SK-5208 control panel. Do NOT apply power to this panel until all accessories are properly connected.

Note: Note: All conduit and wiring connected to the SK-5208 must meet the applicable National Electric Code, NFPA Standards, state, and local building code requirements. In all cases, the authority having jurisdiction takes precedence.

3.8 Backup Batteries

The control panel battery charge capacity is 7.0 to 35.0 AH. Use 12V batteries of the same AH rating. Determine the correct AH rating as per your current load calculation (see 3.6.2).

Wire batteries in series to produce a 24-volt equivalent. Do not parallel batteries to increase the AH rating.

Batteries larger than 18 AH (not to exceed 35 AH) use the RBB Remote Battery Box. It is recommended that you replace the batteries every five years. The following steps and diagram explain how to connect the batteries.

- 1. Connect the black wire to the negative (-) side of battery #1.
- 2. Connect the jumper wire provided (P/N 140694) from the positive (+) side of battery #1 to the negative side of battery #2.
- 3. Connect the red wire to the positive (+) side of battery #2



Note: The total current draw on smoke power, accessory power, and notification device outputs must not exceed 6A.

3.9 Terminal Strip Description

The terminal strips on the PC board are non-removable. Table 3-4 lists the functions of each terminal. See Section 3.4 for the board layout.

| Function | Terminal Number | Termina | al Label | Comments |
|----------------------|--------------------|---------|----------|--|
| | 1 | А | | Zone 1 input Class A (Style D) or Class B (Style B). See |
| 7 1 . | 2 | В | 71 | Section 3.11 for wiring configurations. |
| Zone I input. | 3 | С | Ζ1 | |
| | 4 | D | | |
| | 5 | А | | Zone 2 input Class A (Style D) or Class B (Style B). See |
| Zono 2 input | 6 | В | 71 | Section 3.11 for wiring configurations. |
| Zone 2 mput | 7 | С | 22 | |
| | 8 | D | | |
| Ground | 9 | GND | I | |
| Zone 3 input | 10 | Z3 | | Zone input Class B (Style B). Refer to Section 3.11.2. |
| Power (Zone 3 & 4) | 11 | PWR | | Power Limited at 100mA. Voltage 27.4 VDC. |
| Zone 4 input | 12 | Z4 | | |
| Zone 5 input | 13 | Z5 | | |
| Smoke Power | 14 | PWR | | |
| Zone 6 input | 15 | Z6 | | |
| Zone 7 input | 16 | Z7 | | |
| Smoke Power | 17 | PWR | | |
| Zone 8 input | 18 | Z8 | | |
| Zone9 input | 19 | Z9 | | |
| Smoke Power | 20 | PWR | | |
| Zone 10 input | 21 | Z10 | | |
| Ground | 22 | GND | | |
| | 23 | В | | |
| AC Power Connections | 24 | Earth | | |
| | 25 | W | | |
| | 26 | GND | | Used to connect SK-5217 Zone Expanders and 5280 |
| SDUS Compations | 27 | +24DC | | Status Display Modules to the control panel. Accessory |
| SBUS Connections | 28 | А | | current. |
| | 29 | В | | |
| | 30 | SKI | | Used to connect 5235 remote annunciators to the control |
| Remote Annunciator | 31 | SKO | | panel. |
| Connections | 32 | PWR | | 1 |
| | 33 | GND | | 1 |

Table 3-4: Terminal Descriptions

| Function | Terminal Number | Terminal Label | | Comments |
|------------------------|--------------------|----------------|--------|---|
| Notification Appliance | 34 | + | NAC4 | 3 Amp maximum per circuit. Voltage 27.4 VDC, 1.5 |
| Circuit 4 | 35 | _ | - NAC4 | Ohms Maximum. |
| Notification Appliance | 36 | + | NAC3 | Note. Total control panel current is o Amps. |
| Circuit 3 | 37 | _ | - NAC5 | |
| Notification Appliance | 38 | + | NAC2 | |
| Circuit 2 | 39 | _ | NAC2 | |
| Notification Appliance | 40 | + | NAC1 | |
| Circuit 1 | 41 | _ | NACI | |
| | 42 | NO | • | Relay contacts are rated at 2.5 A, 24 VDC/24VAC |
| Auxiliary Relay 4 | 43 | COM | | (inductive rating). 5A, 24 VDC/24 VAC (resistive). |
| | 44 | NC | | connect to power minied source only. |
| | 45 | NO | | |
| Auxiliary Relay 3 | 46 | COM | | |
| | 47 | NC | | |
| | 48 | NO | | |
| Auxiliary Relay 2 | 49 | COM | | |
| | 50 | NC | | |
| | 51 | NO | | |
| Auxiliary Relay 1 | 52 | COM | | |
| | 53 | NC | | |
| | 54 | TIP | D2 | Telephone line 2 connection terminals (see Section 3.10 |
| Talaa Lina 2 | 55 | RING | - F2 | for wiring diagram). |
| Terco Line 2 | 56 | TIP | T2 | |
| | 57 | RING | 12 | |
| | 58 | TIP | D1 | Telephone line 1 connection terminals (see Section 3.10 |
| Talaa Lina 1 | 59 | RING | | for wiring diagram). |
| Teico Line I | 60 | TIP | T1 | 1 |
| | 61 | RING | 11 | |

3.10 Telephone Line Connection

The SK-5208 connects to two separate telephone lines to report data to the central station. An RJ31X jack should be installed by the telephone company for each line. Figure 3-4 shows how to wire the telephone line interconnect cords (not provided) to the SK-5208.

Note: To reduce the possibility of false alarms and transient damage, DO NOT bundle telephone wires together with initiation or notification device wires.



Figure 3-4 Telephone Line Connection

The letter designator on the phone input indicates whether it is the Telco or House side of the phone circuit. For example terminals 60 and 61 are labeled T1, T = Telco side of the phone circuit and terminals 58 and 59 are labeled P1, P = Premise (House) side of the phone circuit.

The SK-5208 has built-in dual phone line monitors. These circuits will detect any fault in the phone lines by monitoring the DC voltage present on the lines. If phone line voltage drops below 3 VDC and is not corrected within approximately 60 seconds, an audible trouble signal will sound and the panel will report a line fault trouble over the remaining phone line.

A situation could occur where both phone lines appear to be good, but the dialer cannot get through to the central station on the first line. In this case, the SK-5208 will switch phone lines and attempt the call again using the second line. Make sure the phone lines are programmed properly (see Section 4).

Note: To comply with industry standards, this product is equipped with line seizure. 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 system. Normally, this condition will last approximately one minute, but under adverse telephone circuit conditions, could last for as long as 15 minutes.

3.11 Detector Installation

3.11.1 Class A (Style D) Zones

Zones 1 and 2 may be selected through programming as Class A (Style D) zones (see Section 4.2.2 for zone style programming). See Section 3.11.2 for Class B (Style B) configuration.

Each class A zone is a four-wire circuit that allows an alarm to be detected even after a single open or ground fault occurs. When a single open or ground fault occurs, the audible trouble signal will sound and the SK-5208 will report the trouble to the central station or remote station (if programmed to report troubles). If reporting to a remote station troubles may be transmitted to a secondary location.

Figure 3-5 shows how to wire a Class A (Style D) circuit. No end-of-line (EOL) resistors are needed for these zones. These zones must be wired using normally open contacts.





| Maximum voltage: | 17.5 to 28 VDC Full Wave Rectified |
|-----------------------------|------------------------------------|
| Circuit Current: | 95 mA |
| Maximum circuit Resistance: | 50 ohms |

3.11.2 Class B (Style B) Zones

Zones 3 through 10 are Class B (Style B) only fire zones. Zones 1 & 2 may also be programmed as Class A (Style D) or Class B (Style B), see Section 4.2.2 for zone 1 & 2 zone programming.

Each Class B zone consists of a two-wire circuit that will detect the occurrence of an open in the circuit, but may not be able to detect an alarm after such an occurrence. The detection of an open will cause the audible trouble signal to sound and the SK-5208 will report the trouble to the central or remote station (if programmed to do so).

Figure 3-6 shows how to wire a Class B (Style B) circuit. One side of each Class B circuit connects to a zone input terminal and the other side of each circuit connects to Smoke power. For each circuit, use a 4.7K-ohm EOL resistor wired in parallel with the normally open contact farthest from the panel.



Figure 3-6 Model SK-5208 Class B (Style B) Circuits

Maximum circuit Resistance - 50 ohms Maximum Total alarm current for all Class B (Style B) zones - 1 A Maximum Standby Current per Zone:3.0 mA Maximum Alarm Current per Zone:95 mA

3.11.3 Four-Wire Smoke Detector Connection

Figure 3-7 illustrates how UL listed four-wire smoke detectors must be connected to Class B (Style B) zones.

When wiring a four-wire smoke detector to the Class B (Style B) zones, you must use a Power Supervision Unit, such as Silent Knight's 160150.

Note: Mount the PAM-2 and the end-of-line resistor at the last device on the circuit.



Figure 3-7 Four-Wire Smoke Detector Wiring

See Appendix A for a list of four-wire smoke detectors that may be used with the SK-5208.

3.11.4 Two-Wire Smoke Detector Connection

Figure 3-8 shows how to connect two-wire smoke detectors to Class B (Style B) zones.



Figure 3-8 Two-Wire Smoke Detector Wiring

See Appendix A for a list of two-wire smoke detectors that may be used with the SK-5208.

Note: Two-wire detectors can be configured for Enhanced Mode. Enhanced mode is smoke verification for zones with 2-wire detectors and contact type devices, such as pull stations, used on the same circuit. If the alarm current is greater than 78 mA, the smoke verification cycle will not occur. See Section 4.2.1 Verify Options under the Zone Options Menu to program initiation circuits for enhanced mode.

3.12 Supervised Notification Appliance Outputs

Note: To reduce the possibility of false alarms and transient damage, DO NOT bundle telephone wires together with notification circuit wires.

The SK-5208 provides four Class B (Style Y) supervised notification circuit outputs to annunciate alarm conditions. For proper operation, you must use polarized sounding devices with a 4.7k ohm end-of-line resistor on each circuit. Figure 3-9 shows how to connect the notification circuits to the SK-5208.



Figure 3-9 Supervised Notification Appliance Wiring

3 Amp maximum current draw from any single NAC output (not to exceed a total current draw of 6 amps for the control panel). See Appendix A for a list of the UL notification appliances that can be used with the SK-5208. Contact Silent Knight if you have any questions about compatible notification circuits.

All circuit are regulated unless used for releasing service in which case they are considered special applications. See Section 5.5 for details on releasing.

3.13 Auxiliary Relays

The SK-5208 provides four programmable auxiliary relay outputs. Relays can be programmed to activate for the following conditions, either for all zones or by individual zone: pre-alarm (not acceptable for NFPA 72 Central Station), fire alarm, auxiliary alarm, alarm by zone, and system or circuit troubles (loss of AC, low battery, failed to communicate, phone line troubles, fire drills, and notification circuit troubles).

Refer to the SK-5208 programming manual for more information. Figure 3-10 shows the relay contact connections using a door holder application as an example.

Note: Relays programmed as "Trouble" will be active during normal state and deactivated during a trouble condition.



Figure 3-10 Auxiliary Relays

3.14 Accessory Devices

The section describes how to install the SK-5235 Remote Annunciator, SK-5217 Zone Expander, the 5824 Serial/Parallel Printer Module, and the SK-5280 Status Display Module. All circuits are 24 VDC regulated.

All S-Bus devices are Style 1 Class B as per NFPA 72.

3.14.1 Setting ID Codes

Before installing the SK-5235, SK-5217, 5824 or SK-5280, you must first set their identification codes. Each device must be given its own identification code. For example: each SK-5235 needs a unique ID code, but a SK-5235 can have the same ID code as a SK-5217. Each type of device has it's own device type programmed into it enabling the control panel to distinguish between the different devices.

On the back of each device is a small 4-position dip switch used to set the ID code. Use the chart below to determine the dip switch positions for each possible ID code.

| ID Number | Switches ¹ | | | | | | |
|-----------|-----------------------|------|------|------|--|--|--|
| | 1 | 2 | 3 | 4 | | | |
| 0 2 | Down | Down | Down | Down | | | |
| 1 | Up | Down | Down | Down | | | |
| 2 | Down | Up | Down | Down | | | |
| 3 | Up | Up | Down | Down | | | |
| 4 | Down | Down | Up | Down | | | |
| 5 | Up | Down | Up | Down | | | |
| 6 | Down | Up | Up | Down | | | |
| 7 | Netword | N | | | | | |
| 8 | Not used | | | | | | |

| T . I . I . | ~ - | | D . | 0 | 0 - 11 |
|--------------------|------|------|------------|--------|----------|
| i able | 3-5: | ו עו | DIP | Switch | Settings |

1. Switch Settings: Up = On Down = Off

2. Not supervised.

3. ID number 7 and 8 are not valid ID settings.

3.14.2 Model SK-5235 Remote Annunciator

The SK-5235 performs all system operation. It also provides trouble and alarm information and can be used for programming. The control panel can support up to six SK-5235 Remote Annunciators.

Upon initial power up, the address of each SK-5235 is displayed on the LCD. (Annunciators with address 0 will not be supervised.)

3.14.2.1 Mounting the SK-5235 Remote Annunciator

The SK-5235 Remote Annunciators must be mounted on a dual gang electrical box.

To mount the annunciator:

1. Remove the rear mounting plate by inserting a #4 flat blade screwdriver into the slots on the bottom edge of the annunciator. See Figure 3-11. Gently turn the screwdriver until the mounting plate pulls away from the frame.



Figure 3-11 Rear Mounting Plate Removal

- 2. Secure it to the wall using #6 or #8 screws. The mounting plate should be oriented so that the word TOP is toward the top of the plate and facing you. A square hole is provided in the mounting plate to run the wiring to the annunciator.
- 3. When all of the wires have been connected to the annunciator, set the top of the annunciator over the tabs on the top of the mounting plate. Make sure the wires do not get pinched between the frame and the mounting plate. Press each corner of the bottom side onto the annunciator mounting plate until you hear it click. You may have to gently squeeze the annunciator (top to bottom) to align it while snapping the bottom edge into place.

3.14.2.2 Wiring the SK-5235

Follow these steps to properly wire the SK-5235 to the control panel.

- 1. Remove power from the control panel.
- 2. Wire the SK-5235s as shown in Figure 3-12.
- 3. Set the ID number. See Table 3-5.

Note: The ID number of 7 is reserved for the built-in touchpad on the SK-5208.

4. Reapply power the the control panel.

When the annunciator powers up, it will display its ID code and current status of the panel.



Figure 3-12 Model SK-5235 Connection

Note: Each 5235 touchpad can be individually supervised. See Section 4.2.2 for programming touchpads as supervised.
3.14.3 Model SK-5280 Status Display Module

The Model SK-5280 Status Display module provides outputs and control functions for remote annunciation of alarm, trouble, and supervisories for each zone. The system can supervise up to eight SK-5280 Status Display Modules.

Note: The driver outputs are non-supervised. Relays must be connected to power limited sources only.



Figure 3-13 Model 5280 Board Layout

The SK-5280 has 1 connector which has 10 outputs for alarms and 10 outputs for trouble annunciation. These outputs are active low. Each output can provide up to 100 mA of current, with a total limitation of 700 mA.

The module has 4 normally open non-dedicated relays that can be wired to be active with any of the outputs.

Wire the SK-5280 as shown in Figure 3-14. Maintain a physical separation of one-half inch or more between field wires and connection points to prevent damage from transients.

Note: SILENCE does not affect SK-5280 outputs. To reset a SK-5280 output, the alarm or trouble condition must be restored.

The SK-5280 can be used to interface to LED annunciator.

The SK-5280 can be programmed to indicate alarms and trouble status for; zones 1 - 10, zones 11 - 20, zones 21 - 30, or system status outputs. See Section 4.2.11.



Figure 3-14 Model SK-5280 Connection to the Control Panel

3.14.3.1 Mounting the SK-5280

The SK-5280 into a metal bracket and standoffs in the SK-5208 cabinet or into SK-2190 accessory cabinet.

Mounting the SK-5280 into SK-5208 Cabinet

Follow these steps to properly mount the SK-5280 into the SK-5208 cabinet:

- 1. Remove power from the control panel.
- 2. Mount the SK-5280 onto the standoffs and bracket located in the cabinet. See Figure 3-15.



Figure 3-15 Installing the 5280 Into the 5208 Cabinet

- 3. Connect the SK-5280 to the SK-5208 control panel as shown in Figure 3-14.
- 4. Set the ID number (see Figure 3-13 for ID DIP switch location). See also Section 3.14.1for information on setting ID numbers.
- 5. Reconnect power to the control panel.

Mounting the SK-5280 into the SK-2190 Accessory Cabinet.

Follow these steps to properly mount the SK-5280 into the SK-2190 cabinet:

- Mount the remote cabinet using the cabinet mounting holes. See Figure 3-16. Refer to Section 3.5 for proper cabinet mounting procedures.
- 2. Remove power from the control panel.
- 3. Mount the SK-5280 onto the standoffs and bracket located in the cabinet. See Figure 3-16.



Figure 3-16 Model SK-5280 Remote Installation

- 4. Connect the SK-5280 to the SK-5208 control panel as shown in Figure 3-14.
- 5. Set the ID number (see Figure 3-13 for ID DIP switch location). See also Section 3.14.1for information on setting ID numbers.
- 6. Reconnect power to the control panel.

3.14.3.2 Wiring Relays

The four on-board relays can be triggered by the active low outputs. For example, the alarm outputs can all be wired to relay 3 and the trouble outputs can be wired to relay 4 (see Figure 3-17).

C1 is the coil for the relay 1, C2 is the coil for relay 2, C3 and C4 are the coils for relays 3 and 4 respectively.



Figure 3-17 Relay Wiring on the SK-5280

Note: Figure 3-17 uses A7 and T7 to activate relays 3 and 4 as an example. However, any of the outputs can be used to trip any of the relays.

3.14.3.3 Wiring LEDs to Outputs

The outputs (A1-A10 and T1-T10) can be used to operate LEDs used in a remote annunciator (see Figure 3-18). Outputs A1-A10 are alarm outputs for the zones corresponding to those outputs. For example, if the SK-5280 is programmed to output for zones 11-20, then outputs A1-A10 will correspond with zones 11 through 20.

Outputs T1-T10 are trouble outputs for the zones corresponding to those outputs. for example, if the SK-5280 is programmed to output for zones 21-30, then outputs T1-T10 will correspond with zones 21-30.



Figure 3-18 LED Wiring on the SK-5280

3.14.4 Model SK-5217 Zone Expander Installation

The Model SK-5217 provides the SK-5208 with ten additional Class B (style B) zones. The SK-5217 connects to the SK-5208 control panel via the SBUS as shown in Figure 3-19.



Figure 3-19 SBUS Connections

3.14.4.1 Zone Inputs

Figure 3-20 and Figure 3-21 shows how to wire detectors to the SK-5217. Use a 4.7k end of line resistor for each Class B circuit. The EOL must be wired in parallel with the normally open contact farthest from the panel. See Appendix A for a list of the smoke detectors that can be used with the SK-5217.



Figure 3-21 4-Wire Detector Connections

P/N 151204

3.14.4.2 Mounting Instructions

The SK-5217 into a metal bracket and standoffs in the SK-5208 cabinet or into SK-2190 accessory cabinet.

Mounting the SK-5217 into SK-5208 Cabinet

Follow these steps to properly mount the SK-5217 zone expander into the SK-5208 cabinet:

- 1. Remove power from the control panel.
- 2. Mount the SK-5217 onto the standoffs and bracket located in the cabinet. See Figure 3-22.



Figure 3-22 Installing the SK-5217 Into the SK-5208 Cabinet

- 3. Connect the SK-5217 to the SK-5208 control panel as shown in Figure 3-19.
- 4. Wire the zone inputs to the zone expander as shown in Figure 3-20.
- 5. Set the ID code (see Section 3.14.1).

If ID code 1 is selected the SK-5217 will input zones 11 - 20.

If ID code 2 is selected the SK-5217 will input zones 21 - 30.

6. Reconnect power to the control panel.

Mounting the SK-5217 into the SK-2190 Accessory Cabinet.

Follow these steps to properly mount the SK-5217 zone expander into the SK-2190 cabinet:

- Mount the remote cabinet using the cabinet mounting holes. See Figure 3-23. Refer to Section 3.5 for proper cabinet mounting procedures.
- 2. Remove power from the control panel.
- 3. Mount the SK-5217 onto the standoffs and bracket located in the cabinet. See Figure 3-23.



Figure 3-23 Model SK-5217 Remote Installation

- 4. Connect the SK-5217 to the SK-5208 control panel as shown in Figure 3-19.
- 5. Set the ID code (see Section 3.14.1).
 If ID code 1 is selected the SK-5217 will input zones 11 20.
 If ID code 2 is selected the SK-5217 will input zones 21 30.
- 6. Wire the zone inputs to the zone expander as shown in Figure 3-20.

3.14.5 Model 5824 Installation Instructions

The Model 5824 provides the 5208 with the ability to communicate to a serial or parallel printer to print the event log. You can use one 5824 on the 5208. The 5824 is for ancillary use only.

3.14.5.1 Mounting the 5824 Module

The 5824 comes in a plastic enclosure, follow these steps to mount the 5824's plastic enclosure:

- 1. Remove the 5824's cover. Use a small screw driver if necessary.
- 2. Remove the 5824 circuit board from the base by pushing outward on the base snap retaining tabs and lifting the circuit board out.



Figure 1: 5824 Circuit Board And Plastic Base

- 3. Mount the plastic base.
- 4. Replace the circuit board in the plastic base.
- *Note: It may be necessary to connect the wiring to the circuit board before the board is replaced in the base. See Section 3.14.5.2.*
- 5. Connect the 5824 to the 5208.
- 6. Set the device ID (see Section 3.14.1). See also Figure 3-25 for ID selector switch location.

3.14.5.2 5824 SBUS Connections

Figure 3-24 illustrates how the 5824 connects to the 5208 control panel.





P/N 151204

3.15 Special Applications

3.15.1 Model 5220 Direct Connect Module

The 5220 Direct Connect module can be used with the SK-5208 to meet NFPA 72 standards. The 5220 requires four connections to the SK-5208 and provides outputs for city box and polarity reversal applications. The 5220 cannot be used for sprinkler supervisory.

The 5220 provides a current that reverses polarity during alarm or removes current during a trouble condition. Maximum voltage 27.3 VDC.

Note: The 5220 Direct Connect Module will activate for alarm and trouble conditions during a Walk Test. To disable alarm activation during Walk Test, bypass the NAC programmed for Direct Connect before entering the Walk Test mode. To bypass the NAC, press; 10 + NAC# + * + Code (repeat to un-bypass NAC). The Direct Connect relay will indicate trouble until the NAC is un-bypassed.

3.15.1.1 City Box Connection

This section describes how to connect the SK-5208 to a municipal fire alarm box or "city box" as required by NFPA 72 Auxiliary Protected Fire Alarm systems for fire alarm service. The city (master) box is an enclosure that contains a manually operated transmitter used to send an alarm to the municipal communication center which houses the central operating part of the fire alarm system.

The maximum coil and wire resistance (combined) must not exceed 30 ohms.

To install the 5220 for city box connection:

- 1. Locate the knockout on the right side of the SK-5208 cabinet to connect the 5220 using a short piece of conduit (must not exceed 20 feet in length).
- 2. Wire the 5220 to the SK-5208 as shown in Figure 3-26. This drawing also shows how to connect the city box coil to terminals 3 and 4 on the 5220.
- 3. Program NAC #4 to be direct connect from the NAC Options menu. Relay #4 will automatically be configured to indicate system troubles.

Note: It is not possible to reset the remote indication until you clear the condition and reset the SK-5208.



Figure 3-26 City Box Connection

3.15.1.2 NFPA 72 Polarity Reversal

When the 5220 is wired and programmed for polarity reversal, it reports alarm and trouble events to a remote site. Alarms will override trouble conditions and it will not be possible to reset the remote indicator until the condition is cleared and the SK-5208 panel is reset.

If an alarm condition occurs, the alarm relay will close, overriding the trouble condition.

To install the 5220 for polarity reversal, follow the steps below:

- 1. Locate the knockout on the right side of the SK-5208 cabinet to connect the 5220 using a short piece of conduit (must not exceed 20 feet in length).
- 2. Wire the 5220 to the SK-5208 using the four-wire pigtail provided as shown in Figure 3-27 (next page). This diagram also shows how to connect the 5220 to the remote indicator.
- 3. Program one of the notification circuits to be Direct Connect (Figure 3-27 uses NAC 4 and Relay 4). The relay and NAC circuits are paired when selected as direct connect. For example, if NAC 4 is programmed as Direct Connect then relay 4 used for the trouble output. Do not program the NAC for Silence or Supervision (NACs with EOL).
- 4. If necessary, adjust circuit current using potentiometer R10 on the 5220 board. Normal circuit current is 4-to-8 mA with a 1k ohm remote station protected premise unit. Maximum circuit resistance is 3k ohm.



Intended for connection to a polarity reversal circuit of a remote station receiving unit having compatible ratings.

Figure 3-27 Polarity Reversal Connection

3.15.2 Keltron 95M3158 Tones Transmitter Module

This section of the manual shows the specific connections you will make when wiring the SK-5208 to the Keltron 95M3158 Tones Transmitter Module (3158). Refer to the installation sheet shipped with the 95M3158 for complete information. (Note: The 3158 is not available from Silent Knight.)

Note: The 3158 Keltron Module must be mounted within 3 feet of the control panel and all wiring must be run in conduit. The Keltron Module shall be enclosed in the TBX1 enclosure.

- 1. Wire the 3158 to the SK-5208 as shown in the Figure 3-28.
- 2. Program NAC 4 for Direct Connect (see Section 4.2.4).
- 3. Program NAC 3 for Supervisory (see Section 4.2.4).
- 4. Program NACs 3 and 4 as unsupervised (NACs With EOL). See Section 4.2.4.
- 5. Program NAC 3 cadence as Steady (see Section 4.2.3).



Note: The term FACP Term. refers to terminals on the SK-5208



3.15.3 Using a MR-201/T Control Relay From Air Products

When the MR-201/T control relay is wired for polarity reversal, it reports alarm and trouble events to a remote site. Alarms will override trouble conditions and it will not be possible to reset the remote indicator until the condition is cleared and the control panel is reset.

If an alarm condition occurs, the alarm relay will close, overriding the trouble condition.

| Current: | 15 mA max. |
|--------------------|----------------|
| Operating Voltage: | 24 VDC nominal |
| Resistance: | 4 KΩ |

To install the MR-201/T for polarity reversal, follow the steps below:

1. Wire the MR-201/T as shown in Figure 3-29.





2. Program the NAC circuit as a non silence NAC (see Section 4.3).

Section 4 Programming

The SK-5208 control panel can be programmed from either the on-board annunciator or the SK-5235 remote annunciator. You must be in Programming Mode to program the control panel.

4.1 Keypad Operation During Programming

This section describes the function of the buttons on the keypad while in program mode.

| Operation/Button | Operation/Description |
|--------------------------------|---|
| Enter Step Programming mode | Press 2 7 ACK <i>ENER</i> , followed by installer level code (the factory programmed code is 123456 or 5208). See Section 4.2.6 for user code programming information. |
| Moving through programming | When you have entered programming correctly, the display will show Zone 1 Options. Press to move to next programming option. See Table 4-4 for list of programming options (column 1) and their menu items (column 2). |
| | When the display shows the option you wish to program press to program items in this option. If you receive a trouble beep and the message TRY AGAIN appears you are not using an installer level code. |
| Exit Step Programming | Press RESET . You are prompted to save programming changes. The default is No. Press the up or down arrow to select Yes to save programming changes. Press Enter to complete the save and return to normal operation mode. |
| Down Arrow 🗸 | Accepts the entered data and scrolls down to the next menu item. |
| Enter Button | Accepts the entered data and scrolls down to the next menu item. |
| Left Arrow | Scrolls backwards through the programmable items list for the currently selected option. |
| Right Arrow | Scrolls forward through the programmable options list or choices for an the selected item. |
| Silence Button SILENCE | Enables extended programming list so you can scroll through lists of items that have multiple components such as, Zone 1 -30. See Section 4.1.2 for an example. |
| Up Arrow 🛆 | Accepts the entered data and scrolls up to the next menu item. |
| * Button 🗶 | Used as shift key when entering special characters (A, B, C, D, or E characters). See Section 4.1.1 for more information. |
| # Button # | Clear entry. |

4.1.1 Special Characters

Special characters are characters used while dialing such as pause, *, #, or 2nd dial tone. Table 4-1 list the Special characters and what they mean.

| To Enter: | Press | LCD Display |
|---------------|-------|-------------|
| Pause | * 1 | А |
| * | * 2 | В |
| # | * 3 | С |
| 2nd Dial Tone | * 4 | D |

Table 4-1: Special Characters

4.1.2 Enabling Extended Programming List

While programming there are several programming options that have multiple components that can be programmed within that menu item, such as Zones, NAC Cadence, User Codes, Accounts, etc. However when you scroll through these options only the first one may be displayed (see Figure 4-1). In order to view and program subsequent items the Silence button must be pressed. This enables you to move through the other Zones, NAC Cadence, etc.

Example:

If the Zone 1 Options is displayed (see Figure 4-1) and you want to program zone 2 options,

press the SILENCE button.



Right Arrow Pressed then Display Moves to Next Zone Number

Figure 4-1 Extended Programming List Access Example

The display will add brackets around the zone number (see Figure 4-1). To move to the next zone number press the right arrow to go forward through the zone numbers or the left arrow to go backward through the zone numbers. Press the Silence button again to remove the bracket and lock the menu on this Zone number, NAC number, or Relay, etc.

This Feature works for the following programming options: Zone Options, NAC Cadence, User Codes, Accounts, Line Options, and SK-5280 Options.

4.2 **Programming Flow**

Figure 4-2 provides an overview of the programming menu flow. Figure 4-3 through Figure 4-13 illustrate the programming flow within each option. The arrows indicate how to maneuver through programming.





4.2.1 Zone Options

Figure 4-3 illustrates, in more detail, the programming flow when in the zone options menu.



Figure 4-3 Zone Options

Programming

4.2.2 Misc System Option

Figure 4-4 illustrates, in more detail, the programming flow when in the misc system menu.





4.2.3 NAC Cadence

Figure 4-5 illustrates, in more detail, the programming flow when in the NAC cadence menu.



Figure 4-5 NAC Cadence

4.2.3.1 Cadence Patterns

The cadence patterns shown in Table 4-2 can be selected for NAC outputs. Each NAC can select an output pattern. Special cadence patterns can be selected for fire drill or an auxiliary input switches used with the system.

| # | Name | Pattern Description (Patterns repeat until condition is cleared) |
|----|-------------------------|--|
| 1 | Constant Output | Continuous sound |
| 2 | March Code Output | .5 sec .5 sec on off |
| 3 | ANSI S-3.41 Code Output | .5 sec off 1.5 sec off .5 sec on |
| 4 | Single Stroke BI | .1 sec on 1.9 sec off .9 sec off |
| 5 | California Code | 5 sec. on 10 sec. off |
| 6 | System Sensor Sync. | Provides Synchronization for visual and audible devices. |
| 7 | Wheelock Sync. | |
| 8 | Gentex Sync. | |
| 9 | Faraday Sync. | |
| 10 | Amseco Sync. | |

Table 4-2: Cadence Patterns

4.2.4 NAC Options





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4.2.5 Relay Options

Figure 4-7 illustrates, in more detail, the programming flow when in the relay options menu.



Figure 4-7 Relay Options Programming Menu

4.2.6 User Code

Figure 4-8 illustrates, in more detail, the programming flow when in the user code menu.



Figure 4-8 User Code Programming Menu

4.2.7 Account

Figure 4-9 illustrates, in more detail, the programming flow when in the account menu.





| Must | The dialer MUST report events in this family to this account. Selecting Must makes an account a primary reporting account. The dialer will try to report the event to the primary account until it exceeds the "Account Tries" value. When the dialer has exceeded the Account Tries retry limit, it will switch to a backup account (a "Can Report" or "Yes" account, see below). If the dialer cannot report the event to any of the backup accounts, it will return to the primary account and repeat the process until it exceeds the a total of 10 attempts. When the Account Tries limit is exceeded, an Account Trouble condition is generated and a local trouble will sound. |
|------|--|
| Yes | Can Report. Selecting Y makes this a backup account for this event family. The dialer will report to this account only if it was previously unable to report the event to a Must account. |
| No | No events in this family will ever be reported to this account. |

Note: CIC and Phone number can also use special characters as described in Section 4.1.1.

4.2.8 Computer Options

Figure 4-10 illustrates, in more detail, the programming flow when in the computer options menu.





Note: Computer CIC & Phone can also use special characters as described in Section 4.1.1.

4.2.8.1 Computer Code

In order to remote download to a control, the computer code programmed in the panel, and the computer code used in the downloading software must match.

! Important!

Remote downloading can only be used for Central Station Signaling Services, if this system does not meet Central Station Signaling requirements, this feature must be set to zero.

4.2.9 Line Options

Figure 4-11 illustrates, in more detail, the programming flow when in the line options menu.



Figure 4-11 Line Options Programming Menu

Note: Line prefix can also use special characters as described in Section 4.1.1.

4.2.10 Misc Reporting

Figure 4-12 illustrates, in more detail, the programming flow when in the miscellaneous reporting menu.



Figure 4-12 Misc Reporting Programming Menu

4.2.11 5280 Outputs

Figure 4-13 illustrates, in more detail, the programming flow when in the SK-5280 outputs menu.



Figure 4-13 5280 Outputs Programming Menu

If Zones 1-10 is selected then the SK-5280 will output when alarms and troubles occur for zones 1 through 10. If Zones 11-20 is selected then SK-5280 will output when alarms and troubles occur for zones 11 through 20. If Zones 21-30 is selected then the SK-5280 will output when alarms and troubles occur for zones 21-30.

If System is selected then the SK-5280 will output as shown in Table 4-3 for the following system conditions:

| SK-5280 Output Terminal | Output For: | |
|----------------------------|---------------------|--|
| A1 | Fire Alarm | |
| A2 | Waterflow Alarm | |
| A3 | Supervisory | |
| A4 | Aux Alarm | |
| A5 | Prealarm | |
| A6 | Trouble | |
| A7 | Communications Fail | |
| A8 | Communicating | |
| A9 | Alarm Silenced | |
| A10 | Trouble Silenced | |
| T1 | Low AC | |
| T2 | Low Battery | |
| T3 | Relay 1 Active | |
| T4 | Relay 2 Active | |
| T5 | Relay 3 Active | |
| T6 | Relay 4 Active | |
| Τ7 | NAC 1 Active | |
| Т8 | NAC 2 Active | |
| T9 | NAC 3 Active | |
| T10 | NAC 4 Active | |

Table 4-3: System Outputs

4-14

4.2.12 5824 Expander Options

Figure 4-14 illustrates, in more detail, the programming flow for the 5824 serial/parallel module.



Figure 4-14 5824 Programming Options Flow Chart

4.2.13 DST/Clk Options

Figure 4-15 illustrates the programming flow for the Daylight Saving Time (DST) and clock source options.



Figure 4-15 DST/Clk Options Flow Chart

4.3 **Programming Options**

Table 4-4 list all the programming options and the items that can be modified within those programming option menus.

Note: Programming options that have a # in the Programming Options column have multiple programmable components. See Section 4.1.2 for additional information.

| Programming Option | Menu Item | Choices | Default | Comments |
|-----------------------|-----------------|--------------|----------|---|
| | Zone # Location | | | Programmable through SKSS downloading software. To program through On-board or remote annunciator: Press * to activate. Press Up or Down arrow to move through character set. Press Left or Right arrow to move cursor to desired character location. Repeat steps 2 and 3 until location name is entered. Press Enter when the desired location name is complete. |
| | | Not Used | | |
| | | Fire | v | |
| | | Waterflow | | |
| | Zone # Type | Supervisory | | |
| | | Undefined | | |
| | | Heat | | |
| Zone (1-30) # | | Cold | | |
| Options | | Water | | |
| | | AC Delay | | Will generate an AC Trouble for either an open or shorted input. The report to the receiver will be delayed until the AC Delay timer expires. (See Section 4.2.10 for AC Delay Time programming.) |
| | | Ext. Reset | | A shorted input will reset active alarms. This type of zone is local only. No troubles will be reported to the central station receiver. |
| | | Ext. Silence | | A shorted input will silence alarms and troubles. This type of zone is local only. No troubles will be reported to the central station receiver. |
| | Zone #Local | No | v | Zone will report when activated. |
| | Lone # Local | Yes | | Local Zone, will not report when activated. |
| | Zono # Disabla | No | | Zone cannot be bypassed. |
| | | Yes | v | Zone can be bypassed. |
| | | 1 Sec | v | |
| | Zone # Response | 4 sec | | |
| | Zone # Response | 16 sec | | |
| | | 40 sec | | |

Table 4-4: Programming Options

| Programming Option | Menu Item | Choices | Default | Comments |
|--------------------------|------------------|----------------------------|------------|--|
| | | None | v | Note: Alarm verification feature must not be used if the FACP is being used for releasing. |
| | | Smoke | | Smoke verification for zones with 2- or 4-wire detectors. Do not use any other type of device on this circuit if Smoke Verification is selected. |
| | | Prealarm | | Activated zone will start a prealarm timer that counts down from a user programmed value (see Section 4.2.2 for prealarm time programming). If the timer reaches zero before the panel is reset, a general alarm will then be sounded. |
| | Verify # Ontions | Crossalert A | | |
| | verify # Options | Crossalert B | | |
| | | Interlock A | | See Section 5.5. |
| | | Interlock B | | - |
| | | Manual Release A | | |
| | | Manual Release B | | See Section 5.5. |
| Zone (1-30) # Options | | Enhanced Smoke | | Smoke verification for zones with 2-wire detectors and contact type devices, such as pull stations, used on the same circuit. If the alarm current is greater than 78 mA, the smoke verification cycle will not occur. |
| | Zone # Auto Sil | No | ~ | Alarm sounds for this zone cannot be automatically silenced. |
| | | Yes | | Alarm sounds for this zone can be automatically silenced. |
| | Zone # Man Sil | No | | Alarm sounds for this zone cannot be manually silenced. |
| | | Yes | • | Alarm sounds for this zone can be manually silenced. |
| | Zone # NAC | | | Select the number of each NAC to operate with this zone in alarm. |
| | Zone # Relay | | | Select the number of each Relay to operate with this zone in alarm. |
| | Prealarm Time | Enter a value from 0 to 60 | 40 seconds | Enter time duration for prealarm verification. |
| Misc System | Sound Prealarm | No | | No on-board or 5235 remote PZT sound for prealarms. |
| | | Yes | ~ | 5235 and on-board PZTs will sound for prealarms. |
| | Auto Silence | Enter a value from 0 to 60 | 8 minutes | This feature selects the time in minutes in which the NAC will automatically silence. $0 = no$ automatic silence |
| | | No | ~ | Supervisory type zones will self restore. |
| | Latch Supervise | Yes | | Supervisory type zones must be reset after any supervisories conditions. |
| | Class A Zona | 1 | Class A | |
| | Class A Zone | 2 | Class A. | |
| | 5235 Keypads | | | Touchpad numbers that are selected here will be supervised. |
| | 5017 Expandence | 1 | | Enables zones 11-20. |
| | 5217 Expanders | 2 | | Enables zones 21-30 |

Table 4-4: Programming Options

| Table 4-4: Programming Options | Table 4-4: | Programming | Options |
|--------------------------------|------------|-------------|---------|
|--------------------------------|------------|-------------|---------|

| Programming Option | Menu Item | Choices | Default | Comments |
|------------------------|-------------------|---------------------|---------------------|---|
| | | No | ~ | If Yes is selected you are not required to enter a |
| Misc System (cont.) | Plex Door | Yes | | Code for operator level functions, such as Reset, Silence, and Display Event History. Note: If this option is enabled, the PLEX-2 accessory must be installed on the control panel. |
| | | Constant | | Additional cadence patterns are programmable |
| | | March Code | | only through down loading software. See also |
| | | | All NACs | Section 4.2.3. |
| | | Single Stroke BI | | |
| | | California Code | | |
| NAC (1-4) # Cade | ence | System Sensor Sync. | | |
| | | Wheelock Sync. | | |
| | | Gentex Svnc. | | - |
| | | Faraday Sync | | |
| | | Amseco Sync | | - |
| | | Aniseeo Syne. | | If number is selected that NAC may be silenced |
| | Silence NAC | | selected | If humber is selected that NAC may be sheliced. |
| | | | All NACs | If number is selected that NAC will activate for |
| | Fire NAC | <u>1234</u> | selected | any fire alarm. |
| | | | No NACs | If number is selected that NAC will activate during |
| | Prealarm NAC | | selected | the prealarm timer countdown. |
| | Aux NAC | | No NACs | If number is selected that NAC will activate for |
| NAC Options | | | selected | undefined, heat, cold, and water alarms. |
| | | <u>1234</u> | All NACs | If number is selected that NAC will activate for |
| | Waterflow NAC | | selected | waterflow alarms. |
| | Same and Same NAC | | No NACs | If number is selected that NAC will activate for |
| | Supervisory NAC | | selected | sprinkler supervisories. |
| | Crossalert A NAC | | No NACs selected | If you have a single zone, that is programmed for crossalarm verification, in alarm, all NAC output select for this option will activate. |
| | Release A NAC | | No NACs selected | Activates during the group "A" releasing action. This circuit would be connected to a UL listed releasing solenoid. See Table 5-4 for compatible solenoids. |
| | Crossalert B NAC | | No NACs selected | If you have a single zone, that is programmed for crossalarm verification, in alarm, all NAC output select for this option will activate. |
| | Release B | | No NACs selected | Activates during the group "B" releasing action. This circuit would be connected to a UL listed releasing solenoid. See Table 5-4 for compatible solenoids. |
| | Trouble NAC | | No NACs selected | If number is selected that NAC will activate for any trouble condition. |
| | Direct Conn NAC | | No NACs selected | for alarms when using the 5220 module for city box or polarity reversal. Corresponding relay number will automatically be selected. |
| | NACs With EOL | 1234 | All NACs selected | If number is selected that NAC output must be supervised with an 4.7 k Ω UL listed EOL. |
| | Fire Drill NAC | 1 2 3 4 | All NACs selected | If number is selected that NAC will activate during a fire drill. |

| Programming Option | Menu Item | Choices | Default | Comments |
|-----------------------|--------------------|------------------------------|-----------------------|--|
| | Silence Relay | | No Relays selected | If a relay is selected, that relay can be silenced for Trouble and Supervisory conditions only. (This includes relays programmed for AC Trbl.) |
| | Fire Relay | 1 | Relay 1 selected | If a relay is selected, that relay will activate for fire alarm conditions. |
| | Prealarm Relay | | No Relays selected | If a relay is selected, that relay will activate for prealarm conditions. |
| | Aux Relay | | No Relays selected | If a relay is selected, that relay will activate for Auxiliary conditions. |
| | Waterflow Relay | | No Relays selected | If a relay is selected, that relay will activate for waterflow conditions. |
| | Superv Relay | | No Relays selected | If a relay is selected, that relay will activate for supervisory conditions. |
| Relay Options | Crossalert A Relay | | No Relays selected | If a relay is selected, that relay will activate for crossalarm conditions. |
| | Release A Relay | | No Relays selected | If selected will activate for releasing group "A". |
| | Crossalert B Relay | | No Relays selected | If a relay is selected, that relay will activate for crossalarm conditions. |
| | Release B Relay | | No Relays selected | If selected will activate for releasing group "B". |
| | Trouble Relay | 4 | 4 | Relay will be activated when no troubles exist and will deactivate when a trouble condition occurs. |
| | Fire Drill Relay | 1 | Relay 1 selected | If a relay is selected, that relay will activate for fire drills. |
| | AC Trbl | | No Relays selected | If a relay is selected, that relay will be activated when AC is normal and will deactivate when a Low AC condition exists. |
| | Codo # Trmo | Installers | 5208 and 123456 | |
| User (1-10) # | Code # Type | Operators | 1111 | |
| Code | | Not Used | | |
| | User # Code | Enter 3 to 6 digit number | | Enter any value from 001 to 999999. |

Table 4-4: Programming Options
| Programming Option | Menu Item | Choices | Default | Comments |
|-----------------------|---------------------|----------------------------|--|--|
| | Account <#> # | Enter a 6-digits number | 1: 105208 2: 205208 3: 305208 4: 405208 | Enter any value from 000001 to 999999. Account numbers with less than 6 digits must use leading zeros. For example, if the code 321 is used, it must be entered as 000321. |
| | CIC <#> # | Enter up to 8 digits | | 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 "2nd dial tone" characters into the phone number. See Section 4.1.1 for special characters. |
| | Phone <#> # | Enter up to 16 digits | | See Section 4.1.1 for special characters. |
| | | SIA8 | v | |
| | | SIA20 | | |
| | A accurat # Ecompot | Contact ID | | |
| | Account # Format | SK4/2 1400 | | |
| | | 3/1 1400 | | |
| | | 3/1 2300 | | |
| | Account # Tries | 1 to 5 | 3 | |
| Account (1-4) # | | No | v | Do not report alarm events. |
| | Report # Alarm | Yes | | Can report alarm events. |
| | | Must | | Must report alarm events. |
| | Report # Restore | No | ~ | Do not report alarm restores. |
| | | Yes | | Can report alarm restores. |
| | | Must | | Must report alarm restores. |
| | Report # Trouble | No | ~ | Do not report sprinkler supervisory, system troubles, zone troubles, zone bypasses, and zone restores. |
| | | Yes | | Can report sprinkler supervisory, system troubles, zone troubles, zone bypasses, and zone restores. |
| | | Must | | Must report sprinkler supervisory, system troubles, zone troubles, zone bypasses, and zone restores. |
| | Report # Test | No | ~ | Do not report manual test, auto test, downloading pass, downloading fail, data lest, and walk test. |
| | | Yes | | Can report manual test, auto test, downloading pass, downloading fail, data lest, and walk test. |
| | | Must | | Must report manual test, auto test, downloading pass, downloading fail, data lest, and walk test. |
| | Computer Account | Enter 6-digit number | 505208 | Enter any value from 000001 to 999999. Account numbers with less than 6 digits must use leading zeros. For example, if the code 321 is used, it must be entered as 000321. |
| Computer Options | Computer CIC | Up to 8 digits. | | 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 Section 4.1.1 for special characters. |
| | Computer Phone | up to 16 digits | | See Section 4.1.1 for special characters. |
| | Computer Code | 1 to 6 digits | 0 | The computer code must match the computer code in the remote downloading computer in order to perform a remote download. See also Section 4.2.8.1. |

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| Programming Option | Menu Item | Choices | Default | Comments |
|-----------------------|------------------|-------------------------------|-------------------------|---|
| | | Not Used | ~ | This disables the phone line. |
| | | DTMF/USA Rotary | | Attempts 1 through 6 will be DTMF, then the dialer will alternate between Rotary and DTMF for attempts 7 through 10, Rotary Make/Break ratio is 40/60. |
| | Line # Dial Type | USA Rotary Only | | Attempts 1 through 10 will be Rotary only, with a Make/Break ratio of 40/60. |
| | Line # Diai Type | DTMF Only | | Attempts 1 through 10 will be DTMF only. |
| | | DTMF/Euro Rotary | | Attempts 1 through 6 will be DTMF, then the dialer will alternate between Rotary and DTMF for attempts 7 through 10, Rotary Make/Break ratio 33/67. |
| | | Euro Rotary Only | | Attempts 1 through 10 will be Rotary only, with a Make/Break ratio of 33/67. |
| Line (1-2) # | | No | ~ | Yes enables Ground Start phone functions. A |
| Options | Line # GS | Yes | | ground start relay (Model 5211) is required if this feature is enabled (see Figure 3-2). |
| | Line # Rings | 0 - 15 | Line 1: 2 Line 2: 10 | Number of rings before the panel will answer an incoming telephone call. |
| | Line # Ans Mach | No | v | This feature is used in installations where an answering machine is on the same phone line that the control panel is on. The answering machine may interfere with a computer download. |
| | | Yes | | When enabled (Yes) the computer calls the control panel and the phone line rings twice, hangs up and calls again (within 10 to 60 seconds). When the control panel see two more rings on the phone line it will answer and acknowledge the calling computer. |
| | Line # Prefix | Up to 8 digits | | See Section 4.1.1 for special characters. |
| | Test Time | 00:00 - 23:59 | 12:00 | Selects the time of day the control will send an automatic test signal to a central station receiver. |
| | AC Delay | 0-30 Hours | 2 | Selects the delay time (in hours) before the control will report an AC power loss to the central station. |
| | Report Walk Test | No | • | No zone information will be reported just test begin and test end. |
| | | By Zone | | Test begin, test end, and all events in between will be reported to central station. |
| Misc Reporting | *3/1 Alarm | 0 - 9 * Event code for 3/1 | 0 | Alarms for Fire, Waterflow, Undefined, Heat, Cold, and Water events. |
| | *3/1 Alarm Rst | and 4/2 reporting formats. | 2 | Alarms restores for Fire, Waterflow, Undefined, Heat, Cold, and Water events. |
| | *3/1 Supervisory | | 6 | Sprinkler supervisories. |
| | *3/1 Restore | | 7 | Restore reports for Troubles, Supervisories, and unbypasses. The only exceptions are the restores listed as alarm restores. |
| | *3/1 Trouble | | 8 | All system and zone troubles, and zone/NAC bypasses, and NACs troubles. |
| | *3/1 Test | 1 | 9 | All test events. |

| Programming Option | Menu Item | Choices | Default | Comments |
|-----------------------|--------------|----------------|----------|--|
| | | Not Used | v | |
| 5290 (1 9) # | | Zones 1_10 | | |
| Outputs | 5280 # | Zones 11_20 | | |
| Outputs | | Zones 21_30 | | |
| | | System | | |
| | 5824 ID | 0 - 7 | 0 | Sets the serial bus address for the 5824. Use a 0 to disable this feature. |
| | Event Log | Yes | ~ | If yes then all events are sent to the printer. |
| | Event Log | No | | |
| | Prn Off Line | 0 - 30 Seconds | 20 | Selects the number of seconds the printer can be off line before a trouble is generated. |
| | | Yes | ~ | If yes is selected then data is sent to the serial port. |
| | Serial Prn | No | | If no is selected then data is sent to the parallel port. |
| | Baud Rate | 9600 | ~ | Select the Baud rate at which your printer requires |
| | | 19.2K | | to communicate properly. Consult installation |
| 5824 Expander | | 75 | | manual for the printer you are using. |
| | | 110 | | |
| | | 134.5 | | |
| | | 150 | | |
| | | 300 | | |
| | | 600 | | |
| | | 1200 | | |
| | | 2000 | | |
| | | 2400 | | |
| | | 4800 | | |
| | | 1800 | | |
| | | 8 | ~ | Select the number of data bits that your printer |
| | Data Bits | 5 | | requires for proper communication. Consult |
| | Dulu Dits | 6 | | installation manual for your printer. |
| | | 7 | | |
| 5824 Expander | | 1 | ~ | Select the number of stop bits that your printer |
| 5024 Expander | Stop Bits | 2 | | requires for proper communication. Consult |
| | | 0 | | instantation manual for your printer. |
| | | None | v | Select the Parity that your printer requires for |
| | Parity | Even | | proper communication. Consult installation |
| | | Odd | | |

| Programming Option | Menu Item | Choices | Default | Comments |
|-----------------------|-----------------|-------------|----------|---|
| | Clock Source | 60 Hz | ~ | The panel's AC line frequency is selectable for 60, 50 Hz, or Internal. AC Frequency feature dictates how the control panel will calculate time based on |
| | | 50 Hz | | the AC line frequency used in the installation site. The "Internal" option can be used in areas where the AC line frequency is not dependable and you want the panel to calculate time from the internal |
| | | Internal | | crystal. The internal crystal is not as accurate as the AC power source and either 60 Hz or 50 Hz should normally be selected. The panel defaults to the 60 Hz. selection |
| | | No | ~ | No automatic clock adjust for Daylight Saving. |
| DST/Clk Options | Auto DST Adjust | Yes | | Automatically changes system clock between Daylight Saving Time (DST) and standard time. Before January 1, 2007, the system clock will switch to DST on the first Sunday in April at 2:00 a.m. and will revert to standard time on the last Sunday in October at 2:00 a.m. On January 1, 2007, the system clock will be adjusted according to the values set in the DST Start (Wk and Mo) and DST End (Wk and Mo) options. Default values for these fields match federal law: DST begins on the second Sunday in March at 2:00 a.m. and reverts to standard time on the first Sunday of November at 2:00 a.m. |
| | | 1st Sunday | | Setting determines the week of the month in which |
| | | 2nd Sunday | ✓ | Daylight Saving Time is to start. If you always |
| | DST Start (Wk)* | 3rd Sunday | | month select the <i>Last Sunday</i> option regardless of |
| | | 4th Sunday | | whether there are four or five Sundays in the |
| | | Last Sunday | | month. |
| | DST Start (Mo)* | Jan – Dec | Mar | Setting determines the month in which Daylight Saving Time is to end. |
| | | 1st Sunday | v | Setting determines the week of the month in which |
| | | 2nd Sunday | | Daylight Saving Time is to end. If you always |
| | DST End (Wk)* | 3rd Sunday | | want the change to occur on the last Sunday of the month select the <i>Last Sunday</i> option regardless of |
| | | 4th Sunday | | whether there are four or five Sundays in the |
| | | Last Sunday | | month. |
| | DST End (Mo)* | Jan – Dec | Nov | Setting determines the month in which Daylight Saving Time is to start. |

* This option is not recognized by the panel until January 1, 2007. Before January 1, 2007, the panel will recognize the values described above in the Auto DST Adjust option.

Section 5 Operation

To operate the SK-5208 you can use either the on-board touchpad or the Model SK-5235 Remote Annunciator.

| • ALARM | • TROUBLE | FI | RE ALARM ANNU | NCIATOR |
|-------------|-----------|----|---------------|-----------|
| SUPERVISORY | | | | |
| | AC | - | | MODEL 523 |
| | | 3 | Δ | |
| RESET | 4 5 | 6 | | |
| SILENCE | 78 | 9 | | C |
| | * 0 | # | \vee | |

Figure 5-1 Model SK-5235 Remote Annunciator

Important! Upon initial power up there is a 45 second delay before the initiation circuits become active. The system will be ready to receive alarms once the display indicates "System Normal"

5.1 Installer & User Keys

An installer key ships with the panel and an operator's key ships with the SK-5235 (Figure 5-2). The installer key opens the panel door and can be used to perform user operations without a user code at the panel and the SK-5235. The operator's key can be used to perform user operations without a user code but will not open the panel door. All installer operations require an installer code. To perform user operations without a user code, insert and turn the key as shown in Figure 5-2. See Table 5-1 for a list of user and installer operations.





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5-1

5.2 On-board Touchpad and SK-5235 Operation

Basic operations for the on-board annunciator (touchpad) and SK-5235 are described in Table 5-1. If you are using an annunciator key or the Flex Door option, you are not required to enter a code for operator level functions.

If no keys are pressed for 4 minutes while in program mode, the system will time out and resume normal operation.

| | Do This | | | | |
|----------------------------------|---|------------------------------|-------------------------|---|--|
| How To | Press | Display Message | Press* | Comments | |
| Test the system | 0 ACK ENTER | System Test Enter Code | Enter Code | System performs a display lamp test, a communication test, and displays the firmware number and revision. See 5.2.1 for an example. | |
| Reset Alarms | 1 ACK ENTER OF RESET | Reset Alarm Enter Code | Enter Code | Resets system. | |
| Clear History | 2 ACK ENTER | Clear History Enter Code | Enter Installer Code | Clears event history of all events. | |
| Reset the Dialer | 3 ACK ENTER | Reset Dialer Enter Code | Enter Code | Resets the dialer and aborts the call to central station. | |
| Call Computer to Up/ Download | 4 ACK ENTER | Call Computer Enter Code | Enter Installer Code | Will dial the programmed phone number for the computer to initiate an up or download. | |
| Display History Events | 5 ACK ENTER | History Events Enter Code | Enter Code | Displays panel history, including alarms, supervisories, troubles, reports, time and date changes, etc. | |
| Show Status | 6 ACK ENTER | Show Status Enter Code | Enter Code | View existing system status. List Alarms first, supervisories and then troubles. | |
| Silence Troubles or Alarms | 7 ACK ENTER OT SILENCE | Silence Enter Code | Enter Code | | |
| Set the Date | 8 ACK ENTER | Set Date Enter Code | Enter Code | Enter 8 digits for the date. For example, to set the date 08/31/1999 enter 08311999. Press # to clear incorrect entries. | |
| Set the Time | 9 ACK ENTER | Set Time Enter Code | Enter Code | Enter the time in 24 hour increments. For example, 1:00 pm = 13:00. | |
| Disable/Enable a Zone | Zone # + 🔀 | Disable Zone Enter Code | Enter Code | Repeat the process to enable the zone. | |
| Disable/Enable NAC | 1 0 NAC # 🗶 | Disable NAC Enter Code | Enter Code | Repeat the process to enable the NAC. | |
| Conduct a Fire Drill | 2 0 ACK ENTER | Fire Drill Enter Code | Enter Code | To End the Fire Drill press RESET then code. | |
| Reset Detectors | 2 1 ACK ENTER | Rst Smk Pwr Enter Code | Enter Code | Resets all smoke detector power. | |
| Walk Test the System | 2 2 ACK ENTER | Walk Test Enter Code | Enter Code | To End the Walk Test press RESET | |
| Menu of Options | Press ∇ or \triangle to scroll through list. | | | To exit press ACK ENTER or wait 15 seconds. | |

 Table 5-1: Basic Panel Operations Using the On-Board Annunciator and the SK-5235

* Code = any valid operator or installer code.

5.2.1 View Control Panel Firmware Number and Revision

When **O EVEN** and the code is entered The system will perform a display lamp test and a communication test. Also displays Firmware number and revision as shown in Figure 5-3.



Figure 5-3 Firmware Numbers and Revisions

5.3 Acknowledge Operation

To display an event, first press the event, while the event is displayed the event can be

acknowledged by pressing the button again. No code is required to acknowledge events. The status LEDs (Alarm, Supervisory and Trouble) will flash when an un-acknowledged alarm, supervisory, or trouble condition exists.

After each event has been acknowledged its associated LED (Alarm, Supervisory, or Trouble LED) stop flashing and turn on steady. When viewing system status the LCD displays "Acked" for each individual event once has been acknowledged. The control panel piezo will silence after all alarms have been acknowledged.

Note: The control panel piezo will continue to sound for Supervisories and Troubles even after the event has been acknowledged. Supervisories and troubles will silence once the event is restored.

After the event is acknowledged an event is added to the event history buffer. Acknowledged events in the history buffer will be preceded with an asterisk "*".

5.4 LED Indicators

Five light emitting diodes (LEDs) appear in the SK-5208 built in annunciator and remote annunciator. The chart below explains the meaning of these LEDs.

| LED | Status | Condition | | | |
|----------------------|----------|--|--|--|--|
| | Off | Normal condition | | | |
| ALARM (red) | On | System in alarm and all alarms have been acknowledged. | | | |
| | Flashing | LED will flash when a alarm condition exists that has not been acknowledged. | | | |
| | Off | Normal condition | | | |
| SUPERVISORY (yellow) | On | f a supervisory condition exist on the system. | | | |
| | Flashing | LED will flash when a supervisory condition exists that has not been acknowledged. | | | |
| | Off | Normal condition | | | |
| TROUBLE (yellow) | On | Trouble condition exists | | | |
| | Flashing | LED will flash when a trouble condition exists that has not been acknowledged. | | | |
| SILENCED (vallow) | Off | Normal condition. | | | |
| SILENCED (yellow) | On | Alarm or trouble condition has been silenced but condition still exists. | | | |
| | On | Panel is running on AC (normal condition); standby battery fully charged. | | | |
| AC (green) | Off | Panel has lost all power. | | | |
| | Flashing | Panel is running on battery power only or AC power only. | | | |

| 1 able 5-2 | Table 5-2 | 2 |
|------------|-----------|---|
|------------|-----------|---|

5.5 Releasing Operation

This system can perform two types of releasing operation, cross alarm releasing, and double interlock releasing operations. Install in accordance with NFPA 72 paragraphs 3-8.3.2.3.3 and 3-8.3.2.3.3.2.

5.5.1 Cross Alarm Operation

The fire alarm control panel has two cross alert groups to select from, Cross Alert A and Cross Alert B that accommodate releasing water systems.

When two or more zones are programmed to one of these groups then a single activation of one zone in the group will cause a cross alert condition at the local annunciator and the prealert signal output for that group. (**Note:** the local annunciator and the pre-alert signal will continue to sound until it is silenced or until another cross alarm zone within the same group activates.) If a second zone in the same group activates then both will become active alarm zones.

If the second zone is not in the same group as the first zone then the cross alert zone will remain in the cross alert condition and the system will signal the second by how it is programmed.

The fire alarm control panel has four NAC and relay options that allow NACs and relays to be selected to indicate the cross alert condition and assign release circuits for each group.

5.5.1.1 Default NAC Settings for Releasing

When "Cross Alert A" is selected in "Zone Options" the NACs are defaulted to the following settings:

| NAC 1 | Releasing Circuit |
|-------|--------------------------|
| NAC 3 | Pre-Alert Signal Circuit |

NAC 4 General Alarm Circuit

When "Cross Alert B" is selected in "Zone Options" the NACs are defaulted to the following settings:

NAC 3 Pre-Alert Signal Circuit

NAC 4 General Alarm Circuit

| Inputs | | | | Output | Result | S | | |
|--------------|--------|-----------|-----------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Cross Zone 1 | | ~ | | ~ | | ~ | | ~ |
| Cross Zone 2 | | | ~ | ~ | | | ~ | ~ |
| Pull Station | | | | | ~ | ~ | ~ | ~ |
| | Normal | Pre-Alert | Pre-Alert | Release and General Alarm |

Table 5-3: Cross Alarm Operation

A Model 7641 EOL resistor/diode assembly is required when connecting the FACP to releasing solenoids. The 7641 allows the FACP to supervise the wiring between its NACs and the releasing solenoid.

| Manufacturer | Part Number | Rating |
|--------------|-------------|----------------|
| Asco | T8210A107 | 24 VDC, 16.8 W |
| ASCO | 8210G207 | 24 VDC, 10.6 W |

Table 5-4: Approved Releasing Solenoids



Figure 5-4 Solenoid Wiring Configuration

Do not mix cross alarming zones with smoke verification zones. There must be at least two automatic detection devices in each protected space. Spacing must be reduced to 0.7 times the linear spacing in accordance with NFPA72. See Section 4.2.1 for zone option programming.

Figure 5-5 is an example of how cross alarming may be programmed.



Highlighted segment shows that no Zone 1 detectors are adjacent to any other Zone 1 detector.

Figure 5-5 Example Showing Smoke Detector Cross Alarm Application

5.5.2 Double Interlock Releasing Operation

A typical double interlock releasing system would be programmed with a minimum of two zones selected for "Cross Alert A", one zone selected as "Man. Release A", and one selected as "Interlock A". Additional zones can be selected as Cross Alert or Manual Release.

This double interlock system requires both cross alert and manual release verification zones. A single manual release and interlock zone can be used without any cross alert zones. In this system configuration an active manual release and the interlock zone is required to initiate the release.

Table 5-5 illustrates what will cause a Pre-alert, General Alarm, and a Release.

| Inputs | | Output Results | | | | | | | | | | | | | | |
|---------------------|--------|----------------|-----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Cross Zone 1 | | ~ | | ~ | | ~ | | ~ | | ~ | | ~ | | ~ | | ~ |
| Cross Zone 2 | | | ~ | ~ | | | ~ | ~ | | | ~ | ~ | | | ~ | ~ |
| Manual Release A | | | | | ~ | ~ | ~ | ~ | | | | | ~ | ~ | ~ | ~ |
| Interlock | | | | | | | | | ~ | ~ | ~ | ~ | ~ | ~ | ~ | ~ |
| | Normal | Pre-Alert | Pre-Alert | General Alarm | Release and General Alarm |

 Table 5-5: Double Interlock Operation

If no zones are selected for "Interlock" verification then the system will operate as a standard cross alarm releasing system (see Section 5.5.1).

See Section 5.5.1.1 for default NAC settings for releasing systems.

5.6 Smoke Alarm Verification

Reset
PeriodRestart PeriodConfirmation Period7 Sec.38 Sec.60 Seconds

Figure 5-6 illustrates how the Smoke Alarm Verification cycle operates.

Figure 5-6 Smoke Verification Cycle

During the Confirmation Period if there is no alarm indication then the system will return to normal operation.

5.7 System Testing

This section describes operation of fire drills, zone testing, and the 24-hour automatic test.

5.7.1 Fire Drills

Fire drills can be run from either the on-board touchpad or the Model SK-5235 Remote

Annunciator. To initiate a fire drill, press **2 0** $\stackrel{\text{ACK}}{\text{EVER}}$ + Code. The system will sound an alarm and report a fire test. To end the fire drill, press **RESET** + Code.

5.7.2 Walk Test

The walk test is designed to be used for on-site testing only.

To enter walk test mode, press **2 2 ACK** ENTER + Installer Code.

Select the following test parameters:

| Test Feature | Enable or Disable | Comments | | | |
|--------------|----------------------|---|--|--|--|
| Use Verify: | Yes or No | If Yes is selected then this option will be enabled duri | | | |
| Mapped Rlys: | Yes or No | walk test. If No is selected this option will be disabled | | | |
| Mapped NACs: | Yes or No | | | | |

The LCD will indicate that you are in walk test mode. When a zone is tripped, the SK-5208 will activate the bell outputs for approximately six second and will cycle smoke power off and on for the programmed time interval. When smoke power is restored, there is a two-second power up delay before the zone will respond to additional test inputs.

The system will time out and resume normal operation in 30 minutes if no keys are pressed or no zones are tripped during the walk test.

To exit walk test mode, press RESET.

5.7.3 Automatic Self Test

The Model SK-5208 lets you select the time of day that the 24-hour automatic test signal will be sent to the central station. See Sections 4.2.10 and 4.3 for additional information on automatic test time.

5.7.4 Watchdog Circuit

During normal operation, the control microprocessor of the SK-5208 is constantly running programs to check inputs and carry out other routine functions. If the program should ever stop running, the watchdog circuit will automatically detect this and attempt to resume normal operation by resetting the microprocessors. Each time the watchdog circuit initiates a reset signal, it will also sound the audible trouble signal for approximately four seconds.

5.8 Communicating with a Programming Computer

An installer at the panel site can initiate communications between the panel and a computer running the Silent Knight Software Suite SKSS. In order for this communication to function properly both the computer (running the software) and the control panel must have matching computer account numbers and computer access codes.

Before you program in this location you should know how your control panel will communicate with the downloading computer, either through direct connect (RS232) or via the phone lines (Internal Modem).

5.8.1 **Programming From a Remote Computer Location**

The panel can communicate with a Up/Downloading computer using two methods. The control panel can call the programming computer or the programming computer can call the control panel.

The programming information for the control panel will be stored in the queue of the downloading software SKSS P/N 5660. This data packet will have been pre-configured for the control panel that you are about to program. For more information see *SKSS Installation Manual* P/N 151240.

5.8.1.1 Having the Control Panel Call the Remote Computer

If the panel initiates the call to a downloading computer, a phone number must be programmed in the computer accounts area (see Section 4.2.8).

To initiate communication:

- 1. Press the \blacksquare \triangleq \triangleq extreme for the ext
- 2. Enter the Installer Code.

The control panel will then begin the communication process with the remote computer.

5.8.1.2 Having Remote Computer Call the Control Panel

If the computer initiates the call then answering machine bypass (see Section 4.2.8) may need to be selected.

To initiate communication:

1. From the SKSS Up/Downloading software File Menu, select the download or upload menu item you want to schedule.

| File Download | × | File Upload | × |
|--|---------|---|---------|
| Elle to Download | | Save Uploaded Eile As: | |
| I | Browse | (Auto-named) | Browse |
| Account Number: Computer Code: Computer Code: Co | | Account Number: | - |
| Select Call Option | | Select Call Option | |
| Call how often | | Call how often | |
| Once | | Once 💌 | |
| Date: 1/ 3/02 x Imme: 8:58:21 AM ************************************ | | Dele: 17.9/02 ▼ Time: 9:00.24 AM ★ | |
| Answering Machine Bypass | | Answeing Machine Bypass | |
| Use Answering Machine Bypass | | Use Answering Machine Bypass | |
| Hang-up delay. 6 | | Bedial delay: 6 | |
| OK Cancel | Ecolomi | OK Cancel | Bewbrit |
| Download Menu | | Upload Menu | |

2. In the appropriate locations in the dialog box, enter your selections for the following options:

| File Name: | To download, select the file that you want to download. To upload assign a name to the file that will be uploaded from the panel. You can use the Browse option to select from the list of available files. If you do not select a name for the file, it will be automatically named with the panel model and the date and time of the download. |
|----------------|--|
| | For downloads, the latest saved version of the file will be sent. This means if the file you want to send is currently open and has been changed, save it before you attempt to download. |
| Account | |
| Number: | Enter the panel account number. |
| Computer Code: | Enter the code that allows access to the panel from a PC. |
| Phone Number: | Enter the panel phone number. |
| Call Option: | Select how often and when the call should be placed. |
| Answering: | Select the preferred options if the phone line used by the control panel has an answering machine installed. This feature is not used when connecting directly to a panel. |

3. Click OK to begin downloading/uploading or to post the job to the Queue.

5.8.2 Directly Connecting to a Programming Computer

The control panel can be up or downloaded from a computer that is directly connected to the control panel.

Note: This connection is to be used as a temporary connection and should be disconnected after programming is completed.

To initiate communication:

1. Connect a serial cable from the control panel to the computer.



- 2. Make sure SKSS software is running and that the up/download task is in the queue.
- 3. Press the \blacksquare \triangleq \triangleq extrement of the the the the display reads the the temperature of t
- 4. Enter the Installer Code.

The control panel will then begin the communication process with the remote computer.

Section 6 Reporting

The SK-5208 can transmit information in four different formats. This section describes the four basic reporting formats of the SK-5208 and the codes that they send to a central station receiver. Of these four formats some of the formats offer a more specific selection for that format. For example, you can select a 3/1 format that requires a 1400 or 2300 Hz handshake, or SIA format that can handle 8 or 20 events per call. Selecting the correct format depends on the type of receiver that will receive calls from the SK-5208.

The SK-5208 DACT is compatible with Silent Knight Model 9800 and 9500 Digital Receivers.

6.1 Reporting Formats

This section gives a description of each of the SK-5208 reporting formats. Refer to Table 6-1.

| Format Name Category Name Name | | | | | |
|--------------------------------|------------|---|--|--|--|
| | | Description | | | |
| 3/1 14 | | Old format, transmits a 3-digit account number and a 1-digit event code. Transmissions are acknowledged at 1400 Hz. | | | |
| 5/1 | 3/1 23 | Old format, transmits a 3-digit account number and a 1-digit event code. Transmissions are acknowledged at 2300 Hz. | | | |
| 4/2 | SK4/2 1400 | Tone burst format, transmits a 4-digit account code and 2-digit event code. Transmissions are acknowledged at 1400 Hz. | | | |
| | SIA8 | Security Industry Association standard communication format which send a maximum of 8 events per call. | | | |
| SIA | SIA20 | Security Industry Association standard communication format which send a maximum of 20 events per call. Up to a 6-digit account number. | | | |
| Contact ID | Contact ID | Ademco Contact ID format. DTMF (Dual Tone Multiple Frequency) format. Send a 4-digit account number. Transmission is acknowledged at both 1400 and 2300 Hz. | | | |

Table 6-1: Reporting Formats Descriptions

6.2 Reporting Codes

Table 6-2 list the events sent by the SK-5208 and the code that is sent for that event by the type of reporting format used.

Note: Codes under in the SK4/2 and 3/1 1400 & 2300 column are the codes programmed for 3/1 reporting formats in Misc Reporting. See Section 4.2.10 for Misc. Reporting options and Table 6-3 for default 3/1 format reporting values.

| Event | SIA8 & 20 | SK4/2 | 3/1 1400 &2300 | Contact ID |
|------------------------------------|-------------|-----------|--------------------|-----------------------|
| AC Trouble | AT0 | T0 | Trouble Code | 1 301 000 |
| AC Restore | AR0 | R0 | Restore Code | 3 301 000 |
| Annunciator Trouble 1-7 | ET17 - ET23 | T7 - T3 | Trouble Code | 1 330 017 - 1 330 023 |
| Annunciator Restore 1-7 | ER17 - ER23 | R7 - R3 | Restore Code | 3 330 017 - 3 330 023 |
| Bell Trouble 1-4 | ET32-ET35 | T2 - T5 | Trouble Code | 1 330 032 - 1 320 035 |
| Bell Restore 1-4 | ER32-ET35 | R2 - R5 | Restore Code | 3 330 032 - 3 320 035 |
| Smoke (Loop) Power Trouble | ET36 | T6 | Trouble Code | 1 320 036 |
| Smoke (Loop) Power Restore | ET36 | R6 | Restore Code | 3 320 036 |
| Aux Power Trouble | ET37 | T7 | Trouble Code | 1 330 037 |
| Aux Power Restore | ER37 | R7 | Restore Code | 3 330 037 |
| Earth Ground Trouble | ET38 | Т8 | Trouble Code | 1 330 038 |
| Earth Ground Restore | ER38 | R8 | Restore Code | 3 330 038 |
| Keypad Power Trouble | ET40 | Т0 | Trouble Code | 1 330 040 |
| Keypad Power Trouble | ET40 | R0 | Restore Code | 3 330 040 |
| 5217 Expander Trouble | ET51-ET52 | T1 - T2 | Trouble Code | 1 330 051 - 1 330 052 |
| 5217 Expander Restore | ER51-ER52 | R1 - R2 | Restore Code | 3 330 051 - 3 330 052 |
| 5280 Expander Trouble | ET61-ET68 | T1 - T8 | Trouble Code | 1-330 061 - 1 330 068 |
| 5280 Expander Restore | ER61-ER68 | R1 - R8 | Restore Code | 3-330 061 - 3 330 068 |
| NAC Bypass | ET101-ET104 | T1 - T4 | Trouble Code | 1-330 101 - 1 330 104 |
| NAC Restore | ER101-ER104 | R1 - R4 | Restore Code | 3-330 101 - 3 330 104 |
| NAC Supervisory (See Note) | SS101-SS104 | S1 - S4 | Supervisory Code | 1 203 101 - 1 203 104 |
| NAC Supervisory Restore (See Note) | SR101-SR104 | R1 - R4 | Restore Code | 3 203 101 - 3 203 104 |
| Fire Alarm 1-30 | FA1 - FA30 | A1 - A0 | Alarm Code | 1 110 001 - 1 110 030 |
| Fire Bypass | FB1-FB30 | T1 - T0 | Trouble Code | 1 571 001 - 1 571 030 |
| Fire Alarm Restore 1-30 | FH1 - FH30 | AR1 - AR0 | Alarm Restore Code | 3 110 001 - 3 110 030 |
| Fire Test Begin | FI1 - FI10 | Test 0 | Test Code | 1 604 000 |
| Fire Trouble Restore 1-30 | FJ1 - FJ30 | R1 - R0 | Restore Code | 3 373 001 - 3 373 030 |
| Fire Test End | FK0 | Test 0 | Test Code | 1 604 000 |
| Fire Restore/Clean-Me Restore | FR1-FR30 | R1 - R0 | Restore Code | 3 110 001 - 3 110 030 |

Table 6-2: Event and Reporting Code by Format

Note: These reports are sent for Notification Appliance Circuits that are programmed for releasing operation.

| Event | SIA8 & 20 | SK4/2 | 3/1 1400 &2300 | Contact ID |
|------------------------------------|------------|-----------------|--------------------|-----------------------|
| Fire Trouble/Clean-Me Trouble 1-30 | FT1 - FT30 | T1 - T0 | Trouble Code | 1 373 001 - 1 373 030 |
| Fire Unbypass | FU1-FU30 | R1 - R9 | Restore Code | 3 571 011 - 3 571 030 |
| Heat Alarm | KA1-KA30 | A1 - A9 | Alarm Code | 1 114 001 - 1 114 030 |
| Heat Bypass | KB1-KB30 | T1 - T0 | Trouble Code | 1 570 011 - 1 570 030 |
| Heat Alarm Restore | KH1-KH30 | AR1 - AR0 | Alarm Restore Code | 3 114 001 - 3 114 030 |
| Heat Trouble | KT1-KT30 | T1 - T0 | Trouble Code | 1 370 001 - 1 370 030 |
| Heat Trouble Restore | KJ1-KJ30 | R1 - R0 | Restore Code | 3 370 001 - 3 370 030 |
| Heat Restoral | KR1-KR30 | R1 - R0 | Restore Code | 3 370 001 - 3 370 030 |
| Heat Unbypass | KU1-KU30 | R1 - R0 | Restore Code | 3 570 001 - 3 570 030 |
| Trouble Phone Line #1 | LT1 | T1 | Trouble Code | 1 351 000 01 |
| Restore Phone Line #1 | LR1 | R1 | Restore Code | 3 351 000 01 |
| Trouble Phone Line #2 | LT2 | T2 | Trouble Code | 1 352 000 02 |
| Restore Phone Line #2 | LR2 | R2 | Restore Code | 3 352 000 02 |
| Automatic Test (Normal) | RP0 | Test 0 | Test Code | 1 602 000 |
| Automatic Test (Abnormal) | RY0 | Test 9 | Test Code | 1 608 000 |
| Power Up | RR0 | TO | Test Code | 1 305 000 |
| Downloading Passed | RS0 | Test 0 | Test Code | 1 412 000 |
| Data Lost | RT0 | Test 0 | Trouble Code | 1 354 000 |
| Downloading Failed | RU0 | Test 0 | Test Code | 1 413 000 |
| Manual Test | RX1-RX10 | Test 1 - Test 0 | Test Code | 1 601 001 - 1 601 010 |
| Sprinkler Alarm | SA1-SA30 | A1 - A0 | Alarm code | 1 113 001 - 1 113 030 |
| Sprinkler Bypass | SB1-SB30 | T1 - T0 | Trouble Code | 1 570 001 - 1 570 030 |
| Sprinkler Alarm Restore | SH1-SH30 | AR1 - AR0 | Alarm Restore Code | 3 113 001 - 3 113 030 |
| Sprinkler Trouble Restore 1-30 | SJ1 - SJ30 | R1 - R0 | Restore Code | 3 370 001 - 3 370 030 |
| Sprinkler Supervisory Restore 1-30 | SR1 - SR30 | R1 - R0 | Restore Code | 3 203 001 - 3 203 030 |
| Sprinkler Supervisory 1-30 | SS1 - SS30 | S1 - S0 | Supervisory Code | 1 203 001 - 1 203 030 |
| Sprinkler Trouble 1-30 | ST1 - ST30 | T1 - T0 | Trouble Code | 1 370 001 - 1 370 030 |
| Sprinkler Unbypass 1-30 | SU1-SU30 | R1 - R0 | Restore Code | 3 570 001 - 3 570 030 |
| Untyped Zone Alarm 1-30 | UA1-UA30 | A1 - A0 | Alarm Code | 1 140 001 - 1 140 030 |
| Untyped Bypass 1-30 | UB1-UB30 | T1 - T0 | Trouble Code | 1 570 001 - 1 570 030 |
| Untyped Alarm Restore 1-30 | UH1-UH30 | AR1 - AR9 | Alarm Restore Code | 3 140 001 - 3 140 030 |
| Untyped Trouble Restore 1-30 | UJ1-UJ30 | R1 - R0 | Restore Code | 3 370 001 - 3 370 030 |
| Untyped Zone Trouble 1-30 | UT1-UT30 | T1 - T0 | Trouble Code | 1 370 001 - 1 370 030 |
| Untyped Zone Unbypass 1-30 | UU1-UU30 | R1 - R0 | Restore Code | 3 570 001 - 3 570 030 |
| Water Alarm 1-30 | WA1-WA30 | A1 - A0 | Alarm Code | 1 154 001 - 1 154 030 |
| Water Bypass 1-30 | WB1-WB30 | T1 - T0 | Trouble Code | 1 570 001 - 1 570 030 |

Table 6-2: Event and Reporting Code by Format

| Event | SIA8 & 20 | SK4/2 | 3/1 1400 &2300 | Contact ID |
|--------------------------------|-----------|-----------|--------------------|-----------------------|
| Water Alarm Restore 1-30 | WH1-WH30 | AR1 - AR0 | Alarm Restore Code | 3 154 001 - 3 154 030 |
| Water Trouble Restore 1-30 | WJ1-WJ30 | R1 - R0 | Restore Code | 3 370 001 - 3 370 030 |
| Water Trouble 1-30 | WT1-WT30 | T1 - T0 | Trouble Code | 1 370 001 - 1 370 030 |
| Water Unbypass 1-30 | WU1-WU30 | R1 - R0 | Restore Code | 3 570 001 - 3 570 030 |
| Communications Failure Line #1 | YC1 | T1 | Trouble Code | 1 354 001 |
| Communications Restore Line #1 | YK1 | R1 | Restore Code | 3 354 001 |
| Communications Failure Line #2 | YC2 | T2 | Trouble Code | 1 354 002 |
| Communications Restore Line #2 | YK2 | R2 | Restore Code | 3 354 002 |
| System Battery Restore | YR0 | R0 | Restore Code | 3 302 000 |
| System Battery Trouble | YT0 | TO | Trouble Code | 1 302 000 |
| Cold Alarm 1-30 | ZA1-ZA30 | A1 - A0 | Alarm Code | 1 153 001 - 1 153 030 |
| Cold Bypass 1-30 | ZB1-ZB30 | T1 - T0 | Trouble Code | 1 570 001 - 1 570 030 |
| Cold Alarm Restore 1-30 | ZH1-ZH30 | AR1 - AR0 | Alarm Restore Code | 3 153 001 - 3 153 030 |
| Cold Trouble Restore 1-30 | ZJ1-ZJ30 | R1 - R0 | Restore Code | 2 370 001 - 3 370 030 |
| Cold Trouble 1-30 | ZT1-ZT30 | T1 - T0 | Trouble Code | 1 370 001 - 1 370 030 |
| Cold Unbypass 1-30 | ZU1-ZU30 | R1 - R0 | Restore Code | 3 570 001 - 3 570 030 |

Table 6-2: Event and Reporting Code by Format

6.2.1 Default Settings for 3/1 Format

Table 6-3 displays the default settings which are set in the Misc. Reporting section of Programming.

| Programming Option | Menu Item | Choices | Default | Comments |
|-----------------------|------------------|-------------------------------|---------|---|
| | Test Time | 00:00 - 23:59 | 12:00 | Selects the time of day the control will send an automatic test signal to a central station receiver. |
| | AC Delay | 0-30 Hours | 2 | Selects the delay time (in hours) before the control will report an AC power loss to the central station. |
| | Report Walk Test | No | ~ | No zone information will be reported just test begin and test end. |
| | Report Walk Test | By Zone | | Test begin, test end, and all events in between will be reported to central station. |
| Misc Reporting | *3/1 Alarm | 0 - 9 * Event code for 3/1 | 0 | Alarms for Fire, Waterflow, Undefined, Heat, Cold, and Water events. |
| | *3/1 Alarm Rst | and 4/2 reporting formats. | 2 | Alarms restores for Fire, Waterflow, Undefined, Heat, Cold, and Water events. |
| | *3/1 Supervisory | | 6 | Sprinkler supervisories. |
| | *3/1 Restore | | 7 | Restore reports for Troubles, Supervisories, and unbypasses. The only exceptions are the restores listed as alarm restores. |
| | *3/1 Trouble | | 8 | All system and zone troubles, and zone/NAC bypasses, and NACs troubles. |
| | *3/1 Test | 1 | 9 | All test events. |

Table 6-3: Default Settings for 3/1 Format

Section 7 Troubleshooting

This section of the manual contains information that can be used to isolate and correct installation problems encountered in the field.

7.1 System Error Messages

Table 7-1 contains a list of possible error messages along with their meaning and possible solution.

| Error Message | Description | Solution |
|-----------------|--|---|
| FLASH Defaulted | On power up the SK-5208 will check the flash for an "option record". | If an "option record" is not found during power up, one will be created and the display will indicate "Flash Defaulted" for approximately one second. |
| Earth Fault Trb | The SK-5208 has built-in earth ground fault detection that will detect an earth ground fault connection between earth and any panel terminal. When an earth ground fault is detected the SK-5208 display will indicate Earth Fault Trb. The SK-5208 will also add two events to the history buffer Expand Trb 38 and Earth ###. The Earth ### is a debug event number between 0 and 255. | See Section 7.2 for earth ground fault troubleshooting procedure. |
| Key BUS Trouble | This message will display when communication is lost between the 5235 and the control panel. | Check for a short or an open on either the SKI or SKO terminals. |
| NAC # Trb | This message indicates that a short or an open is detected on a Notification Appliance Circuit. The # indicates which NAC has the trouble. | Check for a short or an open on the indicated NAC wire run. |
| Remote # Trb | Each 5235 can be programmed to be supervised (see Section 4.2.2). If the SK-5208 is unable to communicate with the 5235 it will indicate this message. # indicates the ID number of the faulted touchpad. | Check the wire connections between the indicated touchpad and the control panel. |
| 5217 Trb # | If the SK-5208 is unable to communicate with a 5217 expander it will display this message. The # indicates the ID number of the expander in trouble. | Check all wire connections between the control panel and the 5217 expander in trouble. |
| 5280 Trb # | If the control panel is unable to communicate with a SK-5280 Status Display Module this message will be displayed. # indicates the ID number of the SK-5280 in trouble. | Check all wire connections between the control panel and the SK-5280 in trouble. |

Table 7-1: Error Messages

| Error Message Description | | Solution |
|---------------------------|--|--|
| Smk Pwr Trb | Smoke power terminals 11, 14, 17, and 20 are supervised. If the voltage between circuit ground (terminals 9, 22, 26, 33) and loop power is less than 20VDC this message will display. | This may occur when the maximum current draw for the initiation circuit is exceeded. See Section 3.11 for initiation circuit current requirements. |
| 5235 Pwr Trb | The power terminal for the 5235 is supervised and a trouble indication will occur if the voltage between circuit ground and terminal 32 drops below 20 VDC. | This may occur if the maximum current rating (1Amp) for this circuit is exceeded. |
| Aux Pwr Trb | The SBUS power terminal (27) is supervised and will display this message when the voltage between SBUS power and circuit ground drops below 20 VDC. | This may occur if the maximum current rating (1Amp) for this circuit is exceeded. |
| AC Trb | This message is displayed when the AC voltage drops below 98 VAC. | Check the AC power connection. This report will be sent to the central station after the AC delay time has expired. See Section 4.2.10 to program AC delay time. |
| Battery Trb | This message will be displayed when the battery voltage drops below 20.4 VDC under load. The control panel performs a load test every minute. | Check battery connection. Verify that the control panel has AC power. |
| Ph Line # Trb | This message is displayed when the phone line voltage drops below 2 VDC or can not supply a minimum of 4 mA of current. The # indicates which phone line is in trouble. | |
| Data Lost | This event will be reported to the central station if the reporting buffer fills. This may occur if more that 24 events need to be reported. When the report buffer is full and additional events are added to the report buffer, the oldest event will be overwritten and the data lost event will be added. | |
| Com # Trb | The SK-5208 must use alternating phone lines (according to NFPA) when reporting auto tests and manual tests. If the control panel can not communicate using the selected phone line, the Com # Trb message will be displayed. The # indicates which line had the trouble. | The trouble condition will clear after the control panel is successful in communicating using the phone line. |

Table 7-1: Error Messages

7.2 Earth Ground Fault Troubleshooting

An Earth Fault Trb indicates that the panel has detected a short between any terminal on the panel and earth ground. To determine the location of the short, place a DC volt meter with ground on terminal 22 (circuit ground) and positive on any of the screws that secure the circuit board to the cabinet (earth ground).

A typical meter reading should alternate between 0 VDC and 11.7 VDC. Any other voltage will put the panel into Earth Fault Trb (see also Table 7-1). Remove and leave off field wiring from the panel until the meter alternates between 0 VDC and 11.7 VDC.

When an Earth Fault is indicated at the touchpad two messages will be added to the event history buffer, Earth Fault 38 and Earth ###. This information can be very helpful to identify where an earth ground fault exists in an intermittent earth ground situation.

If the Earth ### is lower than 133 this typically would indicate an earth ground short to a low voltage source (13.1 VDC or less). For example, any circuit ground terminal or zone input terminal.

If the Earth ### is higher than 134 this typically would indicate an earth ground to a higher voltage source (13.1 VDC or higher). For example, any circuit power, standby battery, phone lines, or AC power.

7.3 Earth Fault Resistance

Table 7-2 list the earth fault resistance values for each applicable terminal on the FACP.

| Function | Terminal Number | Term | inal Label | Earth Fault Resistance Value (in Ohms) | | |
|------------------------|--------------------|-------|------------|---|--|--|
| | 1 | А | | 0K | | |
| Zona 1 input | 2 | В | 71 | 0K | | |
| Zone i input. | 3 | С | Z1 | 0K | | |
| | 4 | D | | 0K | | |
| | 5 | А | | 0K | | |
| Zona Dinnut | 6 | В | 70 | 0K | | |
| Zone 2 mput | 7 | С | <i>L</i> ∠ | 0K | | |
| | 8 | D | | 0K | | |
| Ground | 9 | GND | | 0K | | |
| Zone 3 input | 10 | Z3 | | 0K | | |
| Power (Zone 3 & 4) | 11 | PWR | | 0K | | |
| Zone 4 input | 12 | Z4 | | 0K | | |
| Zone 5 input | 13 | Z5 | | 0K | | |
| Smoke Power | 14 | PWR | | 0K | | |
| Zone 6 input | 15 | Z6 | | 0K | | |
| Zone 7 input | 16 | Z7 | | 0K | | |
| Smoke Power | 17 | PWR | | 0K | | |
| Zone 8 input | 18 | Z8 | | 0K | | |
| Zone9 input | 19 | Z9 | | 0K | | |
| Smoke Power | 20 | PWR | | 0K | | |
| Zone 10 input | 21 | Z10 | | 0K | | |
| Ground | 22 | GND | | 0K | | |
| | 23 | В | | NA | | |
| AC Power Connections | 24 | Earth | | NA | | |
| | 25 | W | | NA | | |
| | 26 | GND | | 0K | | |
| | 27 | +24DC | | 0K | | |
| SBUS Connections | 28 | А | | 0K | | |
| | 29 | В | | 0K | | |
| | 30 | SKI | | 0K | | |
| Remote Annunciator | 31 | SKO | | 0K | | |
| Connections | 32 | PWR | | 0K | | |
| | 33 | GND | | 0K | | |
| Notification Appliance | 34 | + | | 0K | | |
| Circuit 4 | 35 | | NAC4 | 0K | | |
| Notification Appliance | 36 | + | | 0K | | |
| Circuit 3 | 37 | | NAC3 | 0K | | |
| Notification Appliance | 38 | + | | 0K | | |
| Circuit 2 | 39 | | NAC2 | 0K | | |
| Notification Appliance | 40 | + | | 0K | | |
| Circuit 1 | 41 | | NAC1 | 0K | | |

Table 7-2: Earth Fault Resistance Values by Terminal

Appendix A Compatible Devices

This section of the manual lists devices (smoke detectors and notification appliances) that are compatible with the SK-5208. Contact Silent Knight if you have a question about whether a device not listed here is compatible.

A.1 Notification Appliances

For proper operation, you must use polarized devices with a Model 7628 4.7k ohm EOL resistor on each loop. All supervised notification appliances used with the control panel must be polarized. The table below lists notification appliances compatible with the FACP. Appliances which can be synchronized indicate the type of sync available in the columns marked Audio and/or Visual.

Note: Not all devices can use the Sync feature, be sure to check table below to ensure the device you have chosen will work with this feature. Synchronization is UL listed as a single circuit operation.

| Manufacturer | Model | Audio | Visual | Туре |
|--------------|----------------|-----------------------|-----------------------|---------------|
| | SH24W-153075 | ~ | ~ | Horn/Strobe |
| | SAD24-153075 | | ~ | Strobe |
| | SAD24-75110 | | ~ | Strobe |
| | SL24W-75110 | | ~ | Strobe |
| | SL24C-3075110 | | ~ | Strobe |
| | SLB24-75 | | ~ | Strobe |
| | RSD24-153075 | | ~ | Strobe |
| | RSD24-75110 | | ~ | Strobe |
| AMSECO | SH24W-75110 | ~ | ~ | Horn/Strobe |
| | SH24W-3075110 | ~ | ~ | Horn/Strobe |
| | SHB24-75 | ~ | ✓ | Horn/Strobe |
| | SCM24W-153075 | ~ | | Chimes/Strobe |
| | SCM24W-75110 | ~ | | Chimes/Strobe |
| | SCM24C-3075110 | ~ | | Chimes/Strobe |
| | SCM24C-177 | ~ | | Chimes/Strobe |
| | H24W | ~ | | Horn |
| | H24R | ✓ | | Horn |

| Manufacturer | Model | Audio | Visual | Туре |
|--------------|---------------------------|-------|-----------------------|-------------------------------------|
| | 446 | | | Vibrating Bell |
| | 476 | | | Vibrating Bell |
| | 477 | | | Single Stroke Bell |
| | 2700 - M R, - T, - Y, - Z | | | Strobe |
| | 2701 Series | | | Strobe |
| | 2705 Series | | | Strobe |
| | 2820 | ~ | ✓ | Snyc Temporal Horn/Strobe |
| | 2821 | ~ | ~ | Snyc Temporal Horn/Strobe |
| | 2824 | ~ | ✓ | Horn Strobe |
| | 5333 | | | Multi-Tone Horn) |
| | 5336 | | | Multi-Tone Horn/Strobe |
| | 5337 | | | Multi-Tone Horn/Strobe |
| | 5338 | | | Multi-Tone Horn/Strobe |
| | 5343 | | | Single Tone Horn/Strobe |
| | 5346 | | | Electronic Horn with Strobe |
| | 5347 | | | Electronic Horn with Strobe |
| | 5348 | | | Single Tone Horn/Strobe |
| | 5373 | | | 8-Tone Horn/Strobe |
| | 6321 | | | Sync Mini Horn/Strobe |
| | 6322 | | | Mini Horn/Sync Strobe |
| Faraday | 6380 | | | 8-Tone Electronic Signal/Strobe |
| | 5376 | | | 8-Tone Horn/Strobe |
| | 5377 | | | 8-Tone Horn/Strobe |
| | 5378 | | | 8-Tone Horn/Strobe |
| | 5383 | | | 8-Tone Horn/Strobe with Sync Strobe |
| | 5386 | | | 8-Tone Horn/Strobe with Sync Strobe |
| | 5387 | | | 8-Tone Horn/Strobe with Sync Strobe |
| | 5388 | | | 8-Tone Horn/Strobe with Sync Strobe |
| | 5508 | | | Single Gang Sync Strobe |
| | 5509 | | | Strobe |
| | 5510 | | | Strobe |
| | 5511 | | | Strobe |
| | 5512 | | | Strobe |
| | 5516 | | | Strobe |
| | 5517 | | | Strobe |
| | 5518 | | | Strobe |
| | 5519 | | | Strobe |
| | 5521 | | | 4" Square Sync Strobe |
| | 5522 | | | 4" Square Sync Strobe |
| | 6120 | | | Horn |
| | 6140 | | | Horn |

| Manufacturer | Model | Audio | Visual | Туре |
|--------------|--------------------------------|-------|--------|---------------------------------|
| Faraday | 6223 | | | Horn |
| | 6226 | | | Horn/Strobe |
| | 6227 | | | Horn/Strobe |
| | 6228 | | | Horn/Strobe |
| | 6243 | | | Electron-Mechanical Horn |
| | 6244 | | | Electron-Mechanical Horn |
| | 6245 | | | Electron-Mechanical Horn |
| | 6246 | | | Electron-Mechanical Horn/Strobe |
| | 6247 | | | Electron-Mechanical Horn/Strobe |
| | 6248 | | | Electron-Mechanical Horn/Strobe |
| | 6300 | | | Mini-Horn |
| | 6301 | | | Mini-Horn |
| | 6302 | | | Mini-Horn |
| | 6310 | | | Mini-Horn/Strobe |
| | 6311 | | | Mini-Horn/Strobe |
| | 6312 | | | Mini-Horn/Strobe |
| | 6314 Series -M, -R, -T, -Y, -Z | | | Strobe |
| | 6320 | | | Sync Mini Horn/Strobe |
| | S2415-FC | | | Strobe |
| | S241575-FC | | | Strobe |
| | S2430-FC | | | Strobe |
| | 130-3117C | | | Mini Horn |
| | 130-3147C | | | Mini Horn |
| | BLV-6 | | | Vibrating Bell |
| FCI | BLV-10 | | | Vibrating Bell |
| I'CI | BLVCH | | | Vibrating Chime |
| | H12/24-FC | | | Horn |
| | H12/24W-FC | | | Horn |
| | H12/24K-FC | | | Horn |
| | HC12/24-FC | | | Horn |
| | HC12/24W-FC | | | Horn |
| | HC12/24K-FC | | | Horn |

| Manufacturer | Model | Audio | Visual | Туре |
|----------------|--------------|-----------------------|--------|------------------------|
| FCI | P2415-FC | | | Horn/Strobe |
| | P2415W-FC | | | Horn/Strobe |
| | P2415K-FC | | | Horn/Strobe |
| | P241575-FC | | | Horn/Strobe |
| | P241575W-FC | | | Horn/Strobe |
| | P241575F-FC | | | Horn/Strobe |
| | P241575K-FC | | | Horn/Strobe |
| | P2430-FC | | | Horn/Strobe |
| | P2430W-FC | | | Horn/Strobe |
| | P2430K-FC | | | Horn/Strobe |
| | P2475-FC | | | Horn/Strobe |
| | P2475W-FC | | | Horn/Strobe |
| | P2475K-FC | | | Horn/Strobe |
| | P24110-FC | | | Horn/Strobe |
| | P24110W-FC | | | Horn/Strobe |
| | P24110K-FC | | | Horn/Strobe |
| | S2430W-FC | | | Strobe |
| | S2430K-FC | | | Strobe |
| | S2475-FC | | | Strobe |
| | S2475W-FC | | | Strobe |
| | S2475K-FC | | | Strobe |
| | S24110-FC | | | Strobe |
| | S24110W-FC | | | Strobe |
| | S24110K-FC | | | Strobe |
| Federal Signal | 450 | | | Horn |
| rederal Signal | VALS | | | Horn/Strobe |
| Gentex | GEC-24-15 | ~ | ~ | Horn/Strobes |
| | GEC-24-30 | ~ | ~ | Horn/Strobes |
| | GEC-24-60 | ~ | ~ | Horn/Strobes |
| | GEC-24-75 | ~ | ~ | Horn/Strobes |
| | GEC-24-177 | ~ | ~ | Horn/Strobes |
| | GEC-24-110 | ~ | ~ | Horn/Strobe |
| | GEC-24-15/75 | | ~ | Horn/Strobe |
| | GX91 | ✓ | | MiniHorn Steady Tone |
| | GX93 | ✓ | | MiniHorn Temporal Tone |

| Manufacturer | Model | Audio | Visual | Туре |
|--------------|-------------|-------|--------|--|
| Gentex | HG124 | | | Horn |
| | HS24-15 | ~ | ~ | Horn/Strobe |
| | HS24-30 | ~ | ~ | Horn/Strobe |
| | HS24-60 | ~ | ~ | Horn/Strobe |
| | HS24-75 | ~ | ~ | Horn/Strobe |
| | HS24-110 | ~ | ~ | Horn/Strobe |
| | HS24-1575 | ~ | ~ | Horn/Strobe |
| | GCC24 | ~ | ~ | Multi Candella Horn/Strobe Ceiling Mount |
| | GCCR24 | ~ | ~ | Multi Candella Horn/Strobe Ceiling Mount |
| | GCS24 | | ~ | Multi Candella Strobe Ceiling Mount |
| | GCSR24 | | ~ | Multi Candella Strobe Ceiling Mount |
| | GECR-24 | ~ | ~ | Multi Candella Horn/Strobe |
| | GES24-15 | | ~ | Strobes |
| | GES24-30 | | ~ | Strobes |
| | GES24-60 | | ~ | Strobes |
| | GES24-75 | | ~ | Strobes |
| | GES24-110 | | ~ | Strobes |
| | GES24-15/75 | | ~ | Strobes |
| | GES24-177 | | ~ | Strobes |
| | GES3-24 | | ~ | Multi Candella Strobe |
| | GESR-24 | | ~ | Multi Candella Strobe |
| | GEH-24 | ~ | | Horn |
| | ST24-30 | | ~ | Strobe |
| | ST24-60 | | ~ | Strobe |
| | ST24-75 | | ~ | Strobe |
| | ST24-110 | | ~ | Strobe |
| | ST24-1575 | | ~ | Strobe |
| | WGEC24-75W | ~ | ~ | Weatherproof Horn/Strobe |
| | WGES24-75W | | ~ | Weatherproof Strobe |
| | WGMS-24-X | | | Horn/Strobe |

| Manufacturer | Model | Audio | Visual | Туре | | |
|---------------|---------|-------|-----------------------|---------------------------------|--|--|
| | CHR | ~ | | Chime | | |
| | CHW | ~ | | Chime | | |
| | CHSR | ~ | ~ | 2-Wire Chime/Strobe | | |
| | CHSW | ~ | ~ | 2-Wire Chime/Strobe | | |
| | HR | ~ | ~ | Horn | | |
| | HW | | ~ | Horn | | |
| | HRK | | ~ | Horn | | |
| | P2R | ~ | ~ | 2-Wire Horn/Strobe | | |
| | P2R-P | ~ | ~ | 2-Wire Horn/Strobe | | |
| | PC2R | ~ | ~ | 2-Wire Horn/Strobe | | |
| | PC2R-P | ~ | ~ | 2-Wire Horn/Strobe | | |
| | P2RH | ~ | ~ | 2-Wire Horn/Strobe High Candela | | |
| | P2RH-P | ~ | ✓ | 2-Wire Horn/Strobe High Candela | | |
| | PC2RH | ~ | ~ | 2-Wire Horn/Strobe High Candela | | |
| | PC2RH-P | ~ | ✓ | 2-Wire Horn/Strobe High Candela | | |
| System Sensor | P2W | ~ | ✓ | 2-Wire Horn/Strobe | | |
| | P2W-P | ~ | ✓ | 2-Wire Horn/Strobe | | |
| | PC2W | ~ | v | 2-Wire Horn/Strobe | | |
| | PC2W-P | ~ | ✓ | 2-Wire Horn/Strobe | | |
| | P2WH | ~ | ✓ | 2-Wire Horn/Strobe High Candela | | |
| | P2WH-P | ~ | ✓ | 2-Wire Horn/Strobe High Candela | | |
| | PC2WH | ~ | ✓ | 2-Wire Horn/Strobe High Candela | | |
| | PC2WH-P | ~ | ~ | 2-Wire Horn/Strobe High Candela | | |
| | P2RK | ~ | ~ | 2-Wire Horn/Strobe | | |
| | PC2RK | ~ | v | 2-Wire Horn/Strobe | | |
| | P2RHK | ~ | ~ | 2-Wire Horn/Strobe High Candela | | |
| | PC2RHK | ~ | ✓ | 2-Wire Horn/Strobe High Candela | | |
| | P4R | ~ | ~ | 4-Wire Horn/Strobe | | |
| | PC4R | ~ | ✓ | 4-Wire Horn/Strobe | | |
| | P4RH | ~ | ✓ | 4-Wire Horn/Strobe High Candela | | |
| | P4W | ~ | ~ | 4-Wire Horn/Strobe | | |

| Manufacturer | Model | Audio | Visual | Туре |
|---------------|--------|-----------------------|--------|---------------------------------|
| System Sensor | PC4W | ~ | ~ | 4-Wire Horn/Strobe |
| | P4WH | ✓ | ~ | 4-Wire Horn/Strobe High Candela |
| | PC4WH | ✓ | ~ | 4-Wire Horn/Strobe High Candela |
| | P4RK | ✓ | ~ | 4-Wire Horn/Strobe |
| | PC4RK | ✓ | ~ | 4-Wire Horn/Strobe |
| | P4RHK | ✓ | ~ | 4-Wire Horn/Strobe High Candela |
| | PC4RHK | ✓ | ~ | 4-Wire Horn/Strobe High Candela |
| | PC4RH | ✓ | ~ | 4-Wire Horn/Strobe High Candela |
| | SR | | ~ | Strobe |
| | SR-P | | ~ | Strobe |
| | SCR | | ~ | Strobe |
| | SCR-P | | ~ | Strobe |
| | SRH | | ~ | Strobe High Candela |
| | SRH-P | | ~ | Strobe High Candela |
| | SCRH | | ~ | Strobe High Candela |
| | SCRH-P | | ~ | Strobe High Candela |
| | SW | | ~ | Strobe |
| | SW-P | | ~ | Strobe |
| | SCW | | ~ | Strobe |
| | SCW-P | | ~ | Strobe |
| | SWH | | ~ | Strobe High Candela |
| | SWH-P | | ~ | Strobe High Candela |
| | SCWH | | ~ | Strobe High Candela |
| | SCWH-P | | ~ | Strobe High Candela |
| | SRK | | ~ | Strobe |
| | SCRK | | ~ | Strobe |
| | SRHK | | ~ | Strobe High Candela |
| | SCRHK | | ~ | Strobe High Candela |

| Manufacturer | Model | Audio | Visual | Туре |
|--------------|-----------------|-----------------------|-----------------------|--------------------------|
| Wheelock | AH-12 | ~ | | Horn |
| | AH-24 | ~ | | Horn |
| | AH-12WP | ~ | | Horn Weatherproof |
| | AH-24WP | ~ | | Horn Weatherproof |
| | AMT-241575W | ~ | ✓ | Multi-Tone Horn Strobe |
| | AMT-24MCW | | ✓ | Mutli-Tone Horn Strobe |
| | AMT-241575W-NYC | ~ | ~ | Multi-Tone Horn Strobe |
| | AMT-12/24 | ~ | | Multi-tone Horn |
| | AMT-12/24 NYC | ~ | | Multi-tone Horn |
| | AS-121575W | | ~ | Horn/Strobe |
| | NH-12/24 | ~ | | Horn |
| | AS-241575W | ~ | ✓ | Horn/Strobe |
| | AS-24MCC | ~ | ~ | Horn/Strobe |
| | AS-24MCCH | ~ | ✓ | Horn/Strobe |
| | AS-24MCW | ✓ | ✓ | Horn/Strobe |
| | AS-24MCWH | ~ | ✓ | Horn/Strobe |
| | ASWP-2475W | ✓ | ~ | Horn/Strobe Weatherproof |
| | ASWP-2475C | ✓ | ~ | Horn/Strobe Weatherproof |
| | ASWP-24MCWH | ~ | ~ | Horn/Strobe |
| | ASWP-24MCCH | ✓ | ~ | Horn/Strobe |
| | CH-70 | ~ | | Chime |
| | CH-90 | ~ | | Chime |
| | CH70-241575W | | ✓ | Chime/Strobe |
| | CH70-24MCW | | ✓ | Chime/Strobe |
| | CH70-24MCWH | | ~ | Chime/Strobe |
| | CH90-24MCC | | ~ | Chime/Strobe |
| | CH90-24MCCH | | ~ | Chime/Strobe |
| | HS-24 | ~ | | Horn |
| | HS4-241575W | ✓ | ✓ | Horn/Strobe |
| | HS4-24MCW | ✓ | ~ | Horn/Strobe |
| | HS4-24MCWH | ~ | ~ | Horn/Strobe |
| | HS4-24MCC | ✓ | ~ | Horn/Strobe |
| | MIZ-24S | ~ | ~ | Mini Horn Strobe |
| | MT-121575W | | ~ | MultitoneHorn Strobe |
| | MT-241575W | ~ | ~ | Multitone Horn Strobe |
| | MT-24MCW | | ~ | Multitone Horn Strobe |
| | MTWP-2475W | | ~ | Multitone Horn Strobe |
| | MTWP-2475C | | ~ | Multitone Horn Strobe |
| | MTG-121575W | ✓ | ~ | Multitone Horn Strobe |
| | MTR-121575W | ✓ | ✓ | Multitone Horn Strobe |

| Manufacturer | Model | Audio | Visual | Туре |
|--------------|--------------|-----------------------|-----------------------|-----------------------|
| Wheelock | MTWPA-2475W | ~ | ~ | Multitone Horn Strobe |
| Con't | MTWPB-2475W | ~ | ✓ | Multitone Horn Strobe |
| | MTWPG-2475W | ~ | ~ | Multitone Horn Strobe |
| | MTWPR-2475W | ✓ | ~ | Multitone Horn Strobe |
| | MTWPA-24MCCH | ✓ | ~ | Multitone Horn Strobe |
| | ZNH | ~ | | Horn |
| | NS-121575W | ~ | ~ | Horn/Strobe |
| | NS-241575W | ~ | ~ | Horn/Strobe |
| | NS-24MCW | ~ | ~ | Horn/Strobe |
| | NS-24MCC | ~ | ~ | Horn/Strobe |
| | NS-24MCCH | ~ | ~ | Horn/Strobe |
| | ZNS-MCW | ~ | ~ | Horn/Strobe |
| | ZNS-MCWH | ~ | ~ | Horn/Strobe |
| | ZNS-24MCC | ~ | ~ | Horn/Strobe |
| | ZNS-24MCCH | ~ | ~ | Horn/Strobe |
| | RSS-121575W | | ~ | Strobe |
| | RSS-241575W | | ~ | Strobe |
| | RSS-24MCC | | v | Strobe |
| | RSS-24MCCR | | ✓ | Strobe |
| | RSS-24MCCH | | ~ | Strobe |
| | RSS-24MCCHR | | ~ | Strobe |
| | RSS-24MCW | | ~ | Strobe |
| | RSS-24MCWH | | ~ | Strobe |
| | RSSP-121575W | | ~ | Strobe |
| | RSSP-241575W | | ~ | Strobe |
| | RSSR-2415W | | ~ | Strobe |
| | RSSR-2415C | | ~ | Strobe |
| | RSSR-2475W | | ~ | Strobe |
| | RSSR-2475C | | ~ | Strobe |
| | RSSR-24110C | | v | Strobe |
| | RSSA-24110W | | ✓ | Strobe |
| | RSSB-24110W | | v | Strobe |
| | RSSG-24110W | | ~ | Strobe |
| | RSSR-24110W | 1 | ~ | Strobe |
| | RSSA-24MCC | | ~ | Multi-Cd Strobe |
| | RSSB-24MCC | | ~ | Multi-Cd Strobe |
| | RSSG-24MCC | | ~ | Multi-Cd Strobe |
| | RSSR-24MCC | - | ~ | Multi-Cd Strobe |
| | RSSWPA-2475W | | ~ | Strobe Weatherproof |

| Manufacturer | Model | Audio | Visual | Туре |
|--------------|---------------|-------|-----------------------|-----------------------|
| Wheelock | RSSWPA-24MCCH | | ~ | Strobe Weatherproof |
| Con't | RSSWPG-24MCCH | | ✓ | Strobe Weatherproof |
| | RSSWPR-24MCCH | | ✓ | Strobe Weatherproof |
| | RSSWP-2475W | | ✓ | Strobe Weatherproof |
| | RSSWP-2475C | | ✓ | Strobe Weatherproof |
| | RSSWP-24MCWH | | ✓ | Strobe Weatherproof |
| | ZRS-MCWH | | ✓ | Strobe |
| | ZRS-24MCC | | ✓ | Strobe |
| | ZRS-24MCCH | | ✓ | Strobe |
| | MB-G6-24 | | | Motor Bell |
| | MB-G10-24 | | | Motor Bell |
| | MB-G6-12 | | | Motor Bell |
| | MB-G10-12 | | | Motor Bell |
| | MIZ-24-R | | | Mini-Horn |
| | MT-12/24-R | ~ | ✓ | Multitone Horn |
| | MT4-12/24 | ~ | ✓ | Multitone Horn |
| | ZRS-MCW | | ✓ | Strobe |
| | MTWPR-24MCCH | ~ | ✓ | Multitone Horn Strobe |
| | NH-12/24R | ~ | | Horn |
| | HSR | | ✓ | Horn/Strobe |
| | HSW | | ✓ | Horn/Strobe |
| | STR | | ✓ | Strobe |
| | STW | | ✓ | Strobe |
| | HNR | | ✓ | Horn |
| | HNW | | ✓ | Horn |

Smoke Detectors

This section of the manual contains information about smoke detectors that are compatible with the SK-5208.

| | SK-5208 | SK-5217 |
|-----------------|----------|----------|
| Identifier | 24J | 24J |
| Maximum Voltage | 27.4 VDC | 27.4 VDC |

Note: The maximum number of smoke detectors per zone is determined by both the current draw and the impedance of the smoke detector. If too many smoke detectors are used on any zone, false alarms could occur.

Do not mix different models of detectors on any zone; false alarms could occur.

Control unit Smoke Reset Time must be programmed for a number greater than or equal to the maximum reset time of the smoke detector.

A.2 Two-Wire Smoke Detectors

The table below lists two-wire smoke detectors that are compatible with the SK-5208 and SK-5217 zone expander. The table is organized by manufacturer. The columns show the number of detectors per loop that can be used.

| Manufactu | Enhanced | Model Name or Number | Cor | # per Loop | |
|-----------|------------|--------------------------|---------------|----------------------------------|--------------------------------|
| rer | Compatible | parentheses.) | Head | Base | |
| | | 55000-150, 151, 152, 153 | 55000-150, | 45681-200, 220, 230, | 40 |
| | | | 151, 152, 153 | 231, 232 | |
| | 1 | 55000-250 | 55000-350 | 45681-200, 220, 230, | 40 |
| | | | | 231, 232 | |
| Apollo | | 55000-350 | 55000-250 | 45681-200, 220, 230, 231, 232 | 25 |
| | | 55000-380 | 55000-380 | 45681-200, 220, 230, 231, 232 | 15 |
| тропо | 1 | 55000-225 | 55000-225 | 45681-255, 256 | 15 / loop for |
| | 1 | 55000-226 | 55000-226 | | Ion Detectors |
| | 1 | 55000-227 | 55000-227 | 45,601,000,000,000 | 15 (1) 6 |
| | 1 | 55000-325 | 55000-325 | 45681-200, 220, 230, | 15 / loop for Photoelectric |
| | 1 | 55000-328 | 55000-328 | 252, 251, 252 | detectors |
| | 1 | 55000-326 | 55000-326 | | |
| | 1 | 55000-327 | 55000-327 | | |
| | | DS200 (MB200-2W) | В | А | 24 |
| | | DS200HD (MB200-2W) | В | А | 24 |
| Detection | | DS250 (MB2W or MB2WL) | В | А | 18 |
| Systems | | DS250HD (MB2W or MB2WL) | В | А | 18 |
| | | DS250TH (MB2W or MB2WL) | В | А | 18 |
| | 1 | 425 (S10) | N/A | S00 | 30 |
| | 1 | 425C (S10) | N/A | S00 | 30 |
| | 1 | 425CR (S10) | N/A | S00 | 30 |
| | 1 | 425CRT (S10) | N/A | S00 | 30 |
| | 1 | 425CT (S10) | N/A | S00 | 30 |
| | 1 | 429C (S10A) | N/A | S10A | 30 |
| | 1 | 429CRT (S11A) | N/A | S11A | 30 |
| | 1 | 429CST (S11A) | N/A | S11A | 30 |
| FSI | 1 | 429CT (S10A) | N/A | S10A | 30 |
| LSL | 1 | 521B | N/A | S10A/S11A | 40 |
| | 1 | 521BXT | N/A | S10A/S11A | 40 |
| | 1 | 609U01-11 | S10 | S00 | 40 |
| | 1 | 609U02-11 | S10 | S00/S03 | 40 |
| | 1 | 611U (601U or 602U) | S10 | S00/S03 | 40 |
| | 1 | 611UD (601U or 602U) | S10 | S00/S03 | 40 |
| | 1 | 611UT (601U or 602U) | S10 | S00/S03 | 40 |
| | 1 | 612U (601U or 602U) | S10 | S00/S03 | 40 |
| | 1 | 612UD (601U or 602U) | S10 | S00/S03 | 40 |

| Manufactu rer | Enhanced Mode Compatible | Model Name or Number (Base model name or number in parentheses.) | Compatibility ID | | # per Loop |
|--------------------------------|--------------------------------|--|------------------|-------------------|------------|
| | | | Head | Base | |
| ESL | 1 | 711U (701E or 701U) | N/A | S10A | 25 |
| | 1 | 712U (701E or 701U) | N/A | S10A | 25 |
| | 1 | 713-5U (702E or 701U) | N/A | S10A | 25 |
| | 1 | 713-6U (702E or 701U) | N/A | S10A | 25 |
| | 1 | 721-U (S10A) | N/A | S10A | 30 |
| | 1 | 721-UT (S10A) | N/A | S10A | 30 |
| FCI | | 301I (301B) | А | А | 20 |
| | | 301IL (301BL/SS B401BH) | N/A | N/A | 20 |
| | | 301P (301B) | А | N/A | 20 |
| | | 301PL (301BL/SS B401BH) | А | N/A | 20 |
| | | 301PT (301B) | А | N/A | 20 |
| | | 301P (301DH-2) | А | N/A | 20 |
| | | 301I-DH (301DH-2) | А | N/A | 20 |
| | | 2100S | А | N/A | 20 |
| | | 2100TS | А | N/A | 20 |
| | | 2100TR | А | N/A | 20 |
| | | 2100AT | А | N/A | 20 |
| | | SBS-1101 | А | N/A | 20 |
| | | SBS-1201 | А | N/A | 20 |
| | | SBS-1201T | N/A | N/A | 20 |
| | | PSD-7155 (2WB/2WRLT/2WRB) | P55FE1 | FE51A | 40 |
| | | PSD-7155 (CPD-001/-002/-003/-005) | P56FE1 | FE51A | 40 |
| | | PSD-7156 (2WB/2WRLT/2WRB) | P55FE1 | FE01A | 40 |
| | | PSD-7156 (CPD-001/-002/-003/-005) | P56FE1 | FE01A | 40 |
| | | CPD-7051 (2WB/2WRLT/2WRB) | CPD7051 | FE51A | 40 |
| | | CPD-7051 (CPD-001/-002/-003/-005) | CPD7051 | FE51A | 40 |
| | | DH100P (Duct Housing) | N/A | N/A | 40 |
| Grinnell Fire Protection | | 612H (4B, 6B, 612/912) | 612H | 4B, 6B, 612/912 | 15 |
| | | 612HP (4B, 6B, 612/912) | 612HP | 4B, 6B, 612/912 | 15 |
| | | 612I (4B, 6B, 612/912) | 612I 4B | 4B, 6B, 612/912 | 15 |
| | | 612P (4B, 6B, 612/912) | 612P | 4B, 6B, 612/912 | 15 |
| | | 622HP (4B, 6B, 612/912) | 622HP | 4B, 6B, 612/912 | 15 |
| | | 632H(4B, 6B, 612/912) | 632H | 4B, 6B, 612/912 | 15 |
| | | MD612 (4B, 6B, 612/912) | MD612 | 4B, 6B, 612/912 | 15 |
| | | MD622 (4B, 6B, 612/912) | MD622 | 4B, 6B, 612/912 | 15 |
| | | MD632 (4B, 6B, 612/912) | MD632 | 4B, 6B, 612/912 | 15 |
| | | MF612 (4B, 6B, 612/912) | MF612 | 4B, 6B, 612/912 | 15 |
| | | MR612 (4B, 6B, 612/912) | MR612 | 4B, 6B, 612/912 | 15 |
| | | MR612T (4B, 6B, 612/912) | MR612T | 4B, 6B, 612/912 | 15 |
| | | ISC—350I (IBC-350, 351, 353) | ISC—350I | IBC-350, 351, 353 | 24 |
| | | ISC—350P (IBC-350, 351, 353) | ISC—350P | IBC-350, 351, 353 | 24 |
| Hochiki | | SIH-24F (HS-224D or HSB-224) | N/A | N/A | 25 |
| | | SLK-12 | N/A | N/A | 25 |
| | | SLK-24F (HS-224D) | N/A | N/A | 25 |
| | | SLK-24FH (HS-224D) | N/A | N/A | 25 |
| | | (HS224L) Heat Detector base | N/A | N/A | 30 |
| | | SLR-8358B | N/A | N/A | 25 |
| Manufactu rer | Enhanced Mode Compatible | Model Name or Number (Base model name or number in parentheses.) | Со | # per Loop | |
|------------------|--------------------------------|--|---------------------|--------------|----|
| | | | Head | Base | |
| Kidde- Fenwal | | PSD-7155 (70-201000-001) | P55FE1, P56FE1 | FE51A, FE01A | 40 |
| | | PSD-7156 (70-201000-001) | P56FE1 | FE01A | 40 |
| | | CPD-7051 (70-201000-001) | CPD 7051, I51FE1 | FE51A, FE01A | 40 |
| | | 1100T | | | 20 |
| | | 1151 (B110LP) | | | 20 |
| | | 1400 | А | N/A | 20 |
| | | 1451 (B401B) | А | А | 20 |
| | | 2100 | А | N/A | 20 |
| | | 2100AT | А | N/A | 20 |
| | | 2100D | А | N/A | 20 |
| | | 2100T | А | N/A | 20 |
| | | 2100TR | А | N/A | 20 |
| | | 2100TS | А | N/A | 20 |
| | | 2151 (B401) | А | N/A | 16 |
| C | | 2151T (B401) | А | N/A | 16 |
| Sensor | | 2151 (B110LP) | | | 20 |
| Sensor | | 2300 | А | N/A | 20 |
| | | 2300T | А | N/A | 20 |
| | | 2300TB | А | N/A | 20 |
| | | 2400 | А | N/A | 20 |
| | | 2400TH | | | 20 |
| | | 2400 (DH400) | А | N/A | 20 |
| | | 2451 (B401B) | А | N/A | 20 |
| | | 2451DH (DH 400) | А | N/A | 20 |
| | | 2451TH (B401B) | А | N/A | 20 |
| | | 2W-B | А | N/N | 25 |
| | | 2WT-B | А | N/A | 25 |
| | | 2WTR-B | А | N/A | 25 |

A.3 Four Wire Smoke Detectors

| Manufacturer | Model |
|---------------|-------------------------------------|
| Hochiki | SLR-835B with HD-6 Base |
| ESL | 445C Series 449C Series |
| System Sensor | 1851B 2851/2851BTH DH400AC/DC |

General Terms and Conditions

- All new fire products manufactured by Silent Knight have a limited warranty period of 36 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, exposer 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 RMA (Return Authorization) number. Call Silent Knight Customer Service at 800-328-0103 or 203-484-7161 between 8:00 A.M. and 5:00 P.M. EST, Monday through Friday to obtain a return authorization number.
- Silent Knight Technical Support is available at 800-446-6444 between 8:00 A.M. and 5:00 P.M. CST, Monday through Friday.
- All returns for credit are subject to inspection and testing at the factory before actual determination is made to allow credit.
- RMA 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 RMA 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 36 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. These items must be returned with transportation charges prepaid and must be accompanied by a return authorization.
- For advance replacement of a defective board contact your local Silent Knight Distributor or call Silent Knight at 203-484-7161 to obtain a RMA (Return Authorization) number and request advanced 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 / Honeywell Attn: Repair Department 12 Clintonville Road Northford, CT 06472 USA

RMA Number:_____

Limited Warranty

SILENT KNIGHT warrants products manufactured by it to be free from defects in materials and workmanship for thirty-six (36) 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. <u>All returns for credit are subject to inspection and testing at the factory before actual determination is made to allow credit</u>. 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 SILENT KNIGHT 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.

"SILENT KNIGHT" is a registered trademark.

VIP-Series Voice Integration Package Installation/Operation Manual

SK-5208 Plus Basic Operating Instructions P/N 151214 Rev. A

These instructions must be framed and displayed next to the panel in accordance with NFPA 72 fire code for Local Fire Alarm System.

| Herri Te | Do This | | | | |
|-------------------------------|--|------------------------------|------------|--|--|
| How To | Press | Display Message | Press | _ Comments | |
| Test the system | 0 ACK ENTER | System Test Enter Code | Enter Code | The system will perform a display lamp test and a communication test. Displays Firmware Revisions. | |
| Reset Alarms | 1 Or RESET | Reset Alarm Enter Code | Enter Code | Resets system. | |
| Reset the Dialer | 3 ACK ENTER | Reset Dialer Enter Code | Enter Code | Resets the dialer and aborts the call to central station. | |
| Display History Events | 5 ACK ENTER | History Events Enter Code | Enter Code | Displays the panel history, which includes alarms, supervisories, troubles, reports, time and date changes, etc. | |
| Show Status | 6 ACK ENTER | Show Status Enter Code | Enter Code | View existing system status. List Alarms first, supervisories and then troubles. | |
| Silence Troubles or Alarms | 7 ACK ENTER or SILENCE | Silence Enter Code | Enter Code | | |
| Disable/Enable a Zone | Zone # + 🔀 | Disable Zone Enter Code | Enter Code | Repeat the process to enable the zone. | |
| Disable/Enable NAC | 1 0 NAC # + | Disable NAC Enter Code | Enter Code | Repeat the process to enable the NAC. | |
| Conduct a Fire Drill | 2 0 ACK ENTER | Fire Drill Enter Code | Enter Code | To End the Fire Drill press RESET then code. | |
| Reset Detectors | 2 1 ACK ENTER | Rst Smk Pwr Enter Code | Enter Code | Resets all smoke detector power. | |
| Walk Test the System | 2 2 ACK ENTER | Walk Test Enter Code | Enter Code | To End the Walk Test press RESET . | |
| Menu of Options | Press or Δ to scroll through list. | | | To exit press ACK ENTER or wait 15 seconds. | |
| Acknowledge Events | Events can be acknowledged by pressing the button. No code is required to acknowledge events. The status LEDs (Alarm, Supervisory and Trouble) will flash when an un-acknowledged alarm, supervisory, or trouble condition exists. After each event has been acknowledged its associated LED (Alarm, Supervisory, or Trouble LED) stop flashing and turn on steady. When viewing system status the LCD displays "Acked" for each individual event once it has been acknowledged. The control panel piezo will silence after all alarms have been acknowledged. Note: The control panel piezo will continue to sound for Supervisories and Troubles even after the event has been acknowledged. Supervisories and troubles will silence once the event is restored. After the event is acknowledged an event is added to the event history buffer. Acknowledged events in the history buffer will be preceded with an asterisk "*". | | | | |

Ds Meaning

| LED | Status | Condition | | | |
|----------------------|----------|--|--|--|--|
| | Off | Normal condition | | | |
| ALARM (red) | On | System in alarm. | | | |
| | Flashing | LED will flash when a alarm condition exists that has not been acknowledged. | | | |
| | Off | Normal condition | | | |
| SUPERVISORY (yellow) | On | If a supervisory condition exist on the system. | | | |
| | Flashing | LED will flash when a supervisory condition exists that has not been acknowledged. | | | |
| | Off | Normal condition | | | |
| TROUBLE (yellow) | On | Trouble condition exists | | | |
| | Flashing | LED will flash when a trouble condition exists that has not been acknowledged. | | | |
| SIL ENCED (vellow) | Off | Normal condition. | | | |
| SIEENCED (yellow) | On | Alarm or trouble condition has been silenced but condition still exists. | | | |
| | On | Panel is running on AC (normal condition); standby battery fully charged. | | | |
| AC (green) | Off | Panel has lost all power. | | | |
| | Flashing | Panel is running on battery power only or AC power only. | | | |
| | | | | | |

For Service Contact:



by Honeywell

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