

IFP-2000 / IFP-2000ECS / RPS-2000

Analog/ Addressable Fire System
Emergency Communication System

Fire Alarm & Emergency Communication System Limitations

While a life safety system may lower insurance rates, it is not a substitute for life and property 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 panel (FACP) 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.

An emergency communication system—typically made up of an automatic fire alarm system (as described above) and a life safety communication system that may include an autonomous control unit (ACU), local operating console (LOC), voice communication, and other various interoperable communication methods—can broadcast a mass notification message. Such a system, however, does not assure protection against property damage or loss of life resulting from a fire or life safety event.

The Manufacturer recommends that smoke and/or heat detectors be located throughout a protected premises 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 the Guide for Proper Use of System Smoke Detectors, which is made available at no charge to all installing dealers. This document can be found at <http://www.systemsensor.com/appguides/>. A study by the Federal Emergency Management Agency (an agency of the United States government) indicated that smoke detectors may not go off in as many as 35% of all fires. While fire alarm systems are designed to provide early warning against fire, they do not guarantee warning or protection against fire. A fire alarm system may not provide timely or adequate warning, or simply may not function, for a variety of reasons:

Smoke detectors may not sense fire where smoke cannot reach the detectors such as in chimneys, in or behind walls, on 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.

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, chimneys, even wet or humid areas 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, such as air conditioning vents.
- Smoke particles may be drawn into air returns before reaching the detector.

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 cannot be expected to provide adequate warning of fires caused by arson, children playing with matches (especially in bedrooms), smoking in bed, and violent explosions (caused by escaping gas, improper storage of flammable materials, etc.).

Heat detectors do not sense particles of combustion and alarm only when heat on their sensors increases at a predetermined rate or reaches a predetermined level. 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. Heat detectors are designed to protect property, not life.

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, compromising its ability to report a fire.

Audible warning devices such as bells, horns, strobes, speakers and displays 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. Any warning device may fail to alert people with a disability or those who have recently consumed drugs, alcohol, or medication. Please note that:

- An emergency communication system may take priority over a fire alarm system in the event of a life safety emergency.
- Voice messaging systems must be designed to meet intelligibility requirements as defined by NFPA, local codes, and Authorities Having Jurisdiction (AHJ).
- Language and instructional requirements must be clearly disseminated on any local displays.
- Strobes can, under certain circumstances, cause seizures in people with conditions such as epilepsy.
- Studies have shown that certain people, even when they hear a fire alarm signal, do not respond to or comprehend the meaning of the signal. Audible devices, such as horns and bells, can have different tonal patterns and frequencies. 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 them on the proper reaction to alarm signals.
- In rare instances, the sounding of a warning device can cause temporary or permanent hearing loss.

A life safety system will not operate without any electrical power. If AC power fails, the system will operate from standby batteries only for a specified time and only if the batteries have been properly maintained and replaced regularly.

Equipment used in the system may not be technically compatible with the control panel. It is essential to use only equipment listed for service with your control panel.

Telephone lines needed to transmit alarm signals from a premises to a central monitoring station may be out of service or temporarily disabled. For added protection against telephone line failure, backup radio transmission systems are recommended.

The most common cause of life safety system malfunction is inadequate maintenance. To keep the entire life safety system in excellent working order, ongoing maintenance is required per the manufacturer's recommendations, and UL and NFPA standards. At a minimum, the requirements of NFPA 72 shall be followed. Environments with large amounts of dust, dirt, or high air velocity require more frequent maintenance. A maintenance agreement should be arranged through the local manufacturer's representative. Maintenance should be scheduled as required by National and/or local fire codes and should be performed by authorized professional life safety system installers only. Adequate written records of all inspections should be kept.

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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 inter-connecting 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 at 0-49° C/ 32-120° F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). 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.

This system contains 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.

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FCC Warning

WARNING: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual may cause interference to radio communications. It has been tested and found to comply with the limits for class A computing devices pursuant to Subpart B of Part 15 of FCC Rules, which is designed to provide reasonable protection against such interference when devices are operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user will be required to correct the interference at his or her own expense.

Canadian Requirements

This digital apparatus does not exceed the Class A limits for radiation noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

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Software Downloads

In order to supply the latest features and functionality in fire alarm and life safety technology to our customers, we make frequent upgrades to the embedded software in our products. To ensure that you are installing and programming the latest features, we strongly recommend that you download the most current version of software for each product prior to commissioning any system. Contact Technical Support with any questions about software and the appropriate version for a specific application.

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Model IFP-2000 Basic Operating Instructions

Model IFP-2000ECS / ECS-RCU2000 Basic Operating Instructions

Section 1

Introduction

The IFP-2000 Fire Alarm Control/Communicator is an analog addressable fire control system that meets the requirements of UL 864. The RPS-2000 is used in a networked system where there is at least one IFP-2000 in the system. The RPS-2000 is the same as the IFP-2000 without the display. When using the RPS-2000 as a stand alone local unit, one RA-2000 must be connected, and the RA-2000 must be wired in conduit within 20' of the RPS-2000.

The IFP-2000ECS Fire Alarm Control/Communicator is an analog addressable fire control system combined with an Emergency Communication System that meets the requirements of UL standard 2572.

1.1 Overview of Basic System

The IFP-2000 base system is packaged as an assembled stack of 3 circuit boards mounted to an aluminum housing.

1.1.1 Hardware Features

- The basic IFP-2000 panel contains one built in signaling line circuit (SLC), which supports up to 159 IDP sensors and 159 IDP modules or 127 SD SLC devices. Additional SLC loops can be added using the model 5815XL SLC expander to increase overall point capacity to a maximum of 636 points. The SLC(s) supports both the SD Protocol and Intelligent Device Protocol (IDP).
- Each SLC supports 159 IDP sensors and 159 IDP modules or 127 SD devices to a maximum of 636 points per IFP-2000 control panel.
- 9.0A of output power is available through 8 sets of terminals for notification and auxiliary applications. Each circuit is power limited per UL 864 and can source up to 3.0A (total output power must not exceed 9.0A). The constant auxiliary power load must not exceed 6.0A for normal standby.
- Built-in dual phone line, digital alarm communicator/transmitter (DACT).
- Reports events to central station by point or by zone.
- UL Listed for pre-action and deluge releasing systems.
- Dedicated Form C trouble relay and two general purpose Form C programmable relays.
- Can be used with Model RA-2000 remote annunciators (sold separately).
- Supports the 5865-3, 5865-4, and 5880 LED annunciators. See sections 4.8 and 4.9 for additional information on these models (sold separately).
- Printing of event log available through the Model 5824 serial/parallel printer interface module (sold separately).
- Supports conventional 2-wire & 4-wire detectors using the 8 Flexput™ circuits or SLC zone modules.
- 999 software zones, 999 output groups.
- Add four notification/auxiliary power circuits with each 5496 Intelligent Power Module.
- Add six Flexput™ circuits with each RPS-1000 Remote Power Supply.
- Interconnection capability for up to eight panels.

1.1.2 Network System Hardware Features

- The default network setup can contain up to eight IFP-2000 / RPS-2000 panels connected within a networked system providing a maximum addressable point capacity of 5,088.
- The networked system can be configured to emulate a large virtual system or can be segmented into separate

sites for multiple building applications.

- Each building is referred to as a “site”. All panels in a site operate as a single panel.
- Panels can be interconnected using a BUS or CLASS A (style 7) topology.
- Panels can be connected cost effectively via shielded twisted pair copper wire within conduit when the panels are located no more than 20 feet apart and within the same room.
- Panels separated by more than 20 feet or located in multiple buildings use IFP-RPT network repeater hardware to provide up to 3000 ft. of separation with twisted pair copper wire or up to 8dB loss of signal separation for fiber optic cable. Both methods of panel connectivity can be used within the same networked system.
- The network architecture provides true peer to peer capability allowing network survivability for all hardware that remains operational in the event of partial system failure.

1.1.3 Software Features

- Advanced analog smoke detector features:
 - Three sensitivity settings (high, medium, low)
 - Automatic drift compensation
 - Maintenance alert region
 - Point status meets calibrated smoke test requirements for NFPA 72
 - Automatic day/night sensitivity adjustment
- “JumpStart AutoProgramming” feature for easy programming
- Non-volatile event history stores 1000 events per panel
- A choice of output patterns available for notification outputs, including ANSI 3.41 temporal signal
- Built-in synchronization appliance support for AMSECO, Gentex[®], System Sensor[®], and Wheelock[®]

1.1.4 IFP-2000ECS Features

- 15 Recordable one minute messages that can be mapped to eight ECS buttons.
- ECS messages can be selected as priority over fire.
- Support of up to 15 ECS-RCU2000's. The ECS-RCU2000 meets the requirements for an LOC.
- Programmable trigger inputs from an external source, such as a Monaco system, to either the ECS-VCM, ECS-RVM or 5880. Up to eight inputs available on the 5880 module.
- Support for up to 16 SBUS addressable amplifiers using a combination of ECS-50W, ECS-125W, ECS-INT50W or ECS-DUAL50W for a maximum of 2000 watts per system and up to 128 mappable speaker circuits.
- Support for dual channel and backup audio using the ECS-DUAL50W amplifier and ECS-50WBU back-up amplifier.
- Single enclosure for both Fire and Emergency Control System components.

1.2 About this Manual

This manual is intended to be a complete reference for all installation and operation tasks for the IFP-2000, IFP-2000ECS*, IFP-2000HV, IFP-2000ECSHV**, RPS-2000, and RPS-2000HV.

Please let us know if the manual does not meet your needs in any way. We value your feedback!

* All references to IFP-2000 within this manual are applicable to the IFP-2000ECS.

** All references to IFP-2000HV within this manual are applicable to the IFP-2000ECSHV.

1.2.1 Terms Used in this Manual

The following terminology is used with the above mentioned control panels:

| Term | Description |
|---------------------------------------|---|
| SLC | Signaling line circuit |
| Module | The term module is used for all hardware devices except for SLC addressable devices and notification appliances. This includes the IFP-2000/RPS-2000 panels itself and the built-in power supply. It also refers to any (optional) 5815XL SLC expansion module. |
| Input Point | An addressable sensing device, such as a smoke, heat detector or a contact monitor device |
| Input Zone | A protected area made up of input points |
| Output Point (or "Output Circuit") | A notification point or circuit for notification appliances. Relay circuits and auxiliary power circuits are also considered output points |
| Group (or "Output Group" or OPG) | A group of output points. Operating characteristics are common to all output points in a group |
| Mapping | Mapping is the process of specifying which outputs are activated when certain events occur in the system. Section 8.3 explains mapping in detail |
| Networking | Up to 8 panels can be networked to sites that act like one panel |
| ECS | Emergency Communication System |

1.3 Compatible Products

Table 1-1 lists the products available from Silent Knight for use with the IFP-2000.

Table 1-1: IFP-2000 Compatible Products

| Type of Device | Model | Description | |
|-----------------------------|--|--|---|
| IDP Addressable SLC Devices | See Section 7.1 for a list of compatible devices | | |
| SD Addressable SLC Devices | See Section 7.2 for a list of compatible devices | | |
| Other Modules | 5815XL SLC Expander | Each 5815XL allows up to 159 IDP sensors and 159 IDP modules or up to 127 SD devices to be added to the system. The number of 5815XLs that can be added to the system is limited only by the maximum number of SBUS devices. However the maximum point count is limited to 636 per panel. This allows the installer to distribute the 636 points on more than two SLC loops and also allows all 636 points to be all sensors or all modules or any combination of sensors and modules. | |
| | RPS-2000 Addressable Power Supply w/no display | Same operation as IFP-2000 without display | |
| | 5824 Serial/Parallel Printer Interface Module | Allows a printer to be attached for the on-site event logging. Maximum of two 5824s per control panel. | |
| | RPS-1000 Intelligent Power Module | Provides additional power, six Flexput™ circuits, and two Form C relays. See <i>Model RPS-1000 Installation Instructions P/N 151024</i> . | |
| | 5496 Intelligent Power Module | Provides four additional Notification Appliance Circuits/Auxiliary power | |
| | RA-2000 Remote Fire Alarm Annunciator | Same operation, similar appearance as on-board annunciator | |
| | 5865-3 and 5865-4 LED Annunciator | LED annunciator can display up to 30 LEDs (15 red and 15 yellow). 5865-4 has key switches for silence and reset, and a system trouble LED. | |
| | 5880 LED I/O Module | Driver for up to 40 LEDs. Interfaces with customized annunciator boards. In addition, the 5880 has eight generic switch input points. | |
| | 5883 General Purpose Relay Module | Provides 10 Form C relays. Designed to be driven by the 5880. Up to four, 5883s can be used with each 5880 module. | |
| | VIP-50* | 50 watt audio amplifier | |
| | VIP-125** | 125 wall audio amplifier | |
| | ECS-VCN | Voice Control Module used with the IFP-2000ECS | Refer to the ECS-Series installation manual PN 151455 for more info on these accessories. |
| | ECS-SW24 | 24 Switch expander | |
| | ECS-50W | 50 watt audio amplifier | |
| | ECS-125W | 125 watt audio amplifier | |
| | ECS-INT50W | 50 watt Internal amplifier | |
| | ECS-CE4 | Provides 4 additional audio circuits for the ECS-50W or the ECS-125W | |
| | ECS-RVM | Remote Voice Microphone used with the IFP-2000ECS | |
| | ECS-DUAL50W | Dual Channel amplifier | |
| | ECS-50WBU | Backup daughter card | |
| | IFP-2000ECS | Contains IFP-2000 and ECS-VCN in single cabinet. | |
| Other Modules (cont.) | IFP-RCU2000ECS | Contains RA-2000 and ECS-RVM in single cabinet. | |

Table 1-1: IFP-2000 Compatible Products

| Type of Device | Model | Description |
|---|--|--|
| Misc. | 7860 Telephone Cord | RJ31X cord for connecting phone line to the IFP-2000. |
| | Silent Knight 5655 Software Suite (SKSS-2) | For communication and panel programming with a Windows-based computer and modem (not sold by Silent Knight, see Table 1-2 for compatible modems). Enables remote viewing of detector status and event history. |
| | RBB | Remote Battery Box for mounting backup batteries up to 35AH that are too large to fit into the main control panel cabinet. Dimensions: 16" W x 10" H x 6" D (40.64 cm W x 25.4 cm H x 15.24 cm D) |
| | AB-55 | Remote Battery Box for mounting backup batteries up to 55AH that are too large to fit into the main control panel cabinet. Dimensions: 20" W x 12" H x 7.5" D (50.8 cm W x 30.48 cm H x 19.05 cm D) |
| <i>Note: *All references to ECS-50W within this manual will be applicable to VIP-50.</i> | | |
| <i>Note: ** All references to ECS-125W within this manual will be applicable to VIP-125</i> | | |

The following modems have been tested by Silent Knight for compatibility with the Silent Knight Software Suite software packages:

Table 1-2: Compatible Modems

| Manufacturer | Model |
|--------------|-------------------|
| US Robotics | 28.8 |
| Motorola | LifeStyle |
| | 28.8, 3400 series |
| | Premier 33.6 |
| MultiTech | MT19321ZDX |

Section 2

Agency Listings, Approvals, and Requirements

2.1 Federal Communications Commission (FCC)

1. The following information must be provided to the telephone company before the IFP-2000 can be connected to the phone lines:

| | | |
|---|---------------------------|----------------------------|
| A | Manufacturer: | Silent Knight by Honeywell |
| B | Model Number: | IFP-2000 / IFP-2000ECS |
| C | FCC registration number: | AC6AL11B6820 |
| | Ringer equivalence: | 0.8B |
| D | Type of jack: | RJ31X |
| E | Facility Interface Codes: | Loop Start: 02LS2 |
| F | Service Order Code: | 9.0F |

This equipment complies with Part 68 of the FCC rules and the requirements adopted by ACTA. On the inside cover of this equipment is a label that contains, among other information, a product identifier. If requested, this information must be provided to the telephone company.

A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. A compliant telephone cord (not provided) and modular jack must be utilized with this product. It is designed to be used with a modular jack that is also compliant.

The REN (ringer equivalence number) provided on this installation sheet is used to determine the number of devices that may be connected to the public switched telephone network. This number must not exceed 5.0. Since this product has an REN of 0.8, the number of devices is limited. The REN number is embedded in the FCC registration number as 11B.

If the IFP-2000 / IFP-2000HV / IFP-2000ECS / IFP-2000ECSHV causes harm to the telephone network, the telephone company will notify you in advance that the temporarily discontinuance of service may be required. But if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

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 in order for you to make necessary modifications to maintain uninterrupted service.

If trouble is experienced with the IFP-2000 / IFP-2000HV / IFP-2000ECS / IFP-2000ECSHV, for repair or warranty information, please contact Silent Knight at 1-800-328-0103 or www.silentknight.com. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the IFP-2000 / IFP-2000HV / IFP-2000ECS / IFP-2000ECSHV until the problem has been resolved.

This product cannot be adjusted or repaired in the field. It must be returned to the factory for service.

This equipment is not designed for use with party line service. Connection to party line service is subject to state tariffs. You may contact the state public utility commission, public service commission or corporation commission for information.

Since the IFP-2000, IFP-2000HV, IFP-2000ECS, or IFP-2000ECSHV is a commercial fire alarm panel, it must be connected upstream of all other equipment utilizing the phone lines. If you have questions about the

installation, contact your telephone company or a qualified installer.

Warning

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

2.2 Underwriters Laboratories (UL)

2.2.1 Requirements for All Installations

General requirements are described in this section. When installing an individual device, refer to the specific section of the manual for additional requirements. The following subsections list specific requirements for each type of installation (for example, Central Station Fire Alarm systems, Local Protected Fire Alarm systems, and so on). See Section 10.7 for information on releasing operation.

1. All field wiring must be installed in accordance with NFPA 70 National Electric Code.
2. Use the addressable smoke detectors specified in Section 7.1 (IDP devices) or Section 7.2 (SD devices) of this manual and/or conventional detectors listed in the compatibility chart in Appendix A.
3. Use UL listed notification appliances compatible with the IFP-2000 from those specified in Appendix A of this manual.
4. A full system checkout must be performed any time the panel is programmed.

Restricted Options:

- The loss of AC signal is defaulted to 3 hours, but the system still allows settings from 0 - 30 hours. For UL certified installations, this number must be set from 1 to 3 hours.
- The system allows the use of non-latching, spot type smoke detectors. This feature may not be used in commercial applications whereby a general alarm is sounded. It is intended for elevator recall, door holding applications, and hotel/motel room applications.
- The system allows the Alarm Verification confirmation time to be set from 1 to 250 seconds. For UL certified installations the setting must be a minimum of 60 seconds.
- Call forwarding shall not be used.
- When two count is used: detector spacing shall be cut in half, you shall not use the alarm verification feature, and no delay shall be used.
- P.A.S. (positive alarm sequence) feature shall be used only with automatic detectors.
- No ECS initiating devices on SLC loops.

2.2.2 Requirements for Central Station Fire Alarm Systems

1. Use both phone lines. Enable phone line monitors for both lines.
2. You must program a phone number and a test time so that the IFP-2000 sends an automatic daily test to the central station.
3. The AC Loss Hours option must be set from 1-3 hours.

2.2.3 Requirements for Local Protected Fire Alarm Systems

At least one UL listed supervised notification appliance must be used.

2.2.4 Requirements for Remote Station Protected Fire Alarm Systems - (DACT)

1. Do not exceed the current draw load restrictions shown in Section 3.6.
2. The AC Loss Hours option must be set from 1-3 hours.

Section 3

Before You Begin Installation

This section of the manual is intended to help you plan your tasks to facilitate a smooth installation. Please read this section thoroughly, especially if you are installing a IFP-2000 or RPS-2000 panel for the first time.

3.1 What's in the Box?

The IFP-2000 or RPS-2000 ships with the following hardware:

- A cabinet with all hardware assembled
- Two keys for the front door
- Ten 4.7K ohm end-of-line resistors
- A battery cable for batteries wired in series

3.2 Environmental Specifications

It is important to protect the IFP-2000 control panel from water. To prevent water damage, the following precautions should be FOLLOWED when installing the units:

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

When selecting a location to mount the IFP-2000 control panel, the unit should be mounted where it will NOT be exposed to: temperatures outside the range of 0°C- 49°C (32°F-120°F) or humidity exceeding 93% noncondensing.

3.3 Electrical Specifications

| Terminal Label | | Description | Rating | | Earth Ground Faults |
|----------------|--------|--------------------|--------------------------|---|---------------------|
| | | | Voltage | Current | |
| B | | AC input (hot) | 120/240 VAC, 50/60 Hz | 5A for the IFP-2000, 2.5A for the IFP-2000HV | N/A |
| G | | Earth ground | N/A | N/A | N/A |
| W | | AC input (neutral) | 120/240 VAC, 50/60 Hz | 5A for the IFP-2000, 2.5A for the IFP-2000HV | N/A |
| X | *I/O 1 | Flexput™ Circuits | 24 VDC | 3.0A notification and auxiliary power circuits | 0Ω |
| O | | | | 100 mA for initiation circuits | |

| Terminal Label | | Description | Rating | | Earth Ground Faults |
|----------------|-----------|--------------------------------|---------|--|---------------------|
| | | | Voltage | Current | |
| X | *I/O 2 | Flexput™ Circuits | 24 VDC | 3.0A notification and auxiliary power circuits | 0Ω |
| O | | | | 100 mA for initiation circuits | |
| X | *I/O 3 | Flexput™ Circuits | 24 VDC | 3.0A notification and auxiliary power circuits | 0Ω |
| O | | | | 100 mA for initiation circuits | |
| X | *I/O 4 | Flexput™ Circuits | 24 VDC | 3.0A notification and auxiliary power circuits | 0Ω |
| O | | | | 100 mA for initiation circuits | |
| X | *I/O 5 | Flexput™ Circuits | 24 VDC | 3.0A notification and auxiliary power circuits | 0Ω |
| O | | | | 100 mA for initiation circuits | |
| X | *I/O 6 | Flexput™ Circuits | 24 VDC | 3.0A notification and auxiliary power circuits | 0Ω |
| O | | | | 100 mA for initiation circuits | |
| X | *I/O 7 | Flexput™ Circuits | 24 VDC | 3.0A notification and auxiliary power circuits | 0Ω |
| O | | | | 100 mA for initiation circuits | |
| X | *I/O 8 | Flexput™ Circuits | 24 VDC | 3.0A notification and auxiliary power circuits | 0Ω |
| O | | | | 100 mA for initiation circuits | |
| B | SBUS1 OUT | SBUS communication | 5 VDC | 100 mA | 0Ω |
| A | | | | | |
| + | | SBUS power | 24 VDC | 1.0 A | |
| - | | | | | |
| B | SBUS1 IN | Used for Class A installations | | | 0Ω |
| A | | | | | |
| + | | | | | |
| - | | | | | |
| B | SBUS2 OUT | SBUS communication | 5 VDC | 100 mA | 0Ω |
| A | | | | | |
| + | | SBUS power | 24 VDC | 1.0 A | |
| - | | | | | |
| B | SBUS2 IN | Used for Class A installations | | | 0Ω |
| A | | | | | |
| + | | | | | |
| - | | | | | |
| A | NETWORK | NETWORKING CONNECTION | 5V | 100mA | N/A |
| B | | | | | |
| GND | | | | | |
| N.C. | RELAY 1 | General Purpose Relay 1 | 24 VDC | 2.5 A, resistive | N/A |
| C | | | | | |
| N.O. | | | | | |

* Regulated for NAC circuits, special application when used for releasing or auxiliary power circuits.

| Terminal Label | | Description | Rating | | Earth Ground Faults |
|----------------|---------|--------------------------------|---------|------------------|---------------------|
| | | | Voltage | Current | |
| N.C. | RELAY 2 | General Purpose Relay 2 | 24 VDC | 2.5 A, resistive | N/A |
| C | | | | | |
| N.O. | | | | | |
| N.C. | TROUBLE | Trouble Relay | 24 VDC | 2.5 A, resistive | N/A |
| C | | | | | |
| N.O. | | | | | |
| S- | SLC OUT | SLC terminals | 32 VDC | 150 mA | 0Ω |
| S+ | | | | | |
| SC- | SLC IN | Used for Class A installations | | | 0Ω |
| SC+ | | | | | |
| Ring | | Phone Line 1 Telco Ring | N/A | | 0Ω |
| Tip | | Phone Line 1 Telco Tip | | | |
| Ring | | Phone Line 1 Premises Ring | | | |
| Tip | | Phone Line 1 Premises Tip | | | |
| Ring | | Phone Line 2 Telco Ring | N/A | | 0Ω |
| Tip | | Phone Line 2 Telco Tip | | | |
| Ring | | Phone Line 2 Premises Ring | | | |
| Tip | | Phone Line 2 Premises Tip | | | |
| + | Battery | Battery Connection | 24 VDC | 1.12 A | N/A |
| – | | | | | |

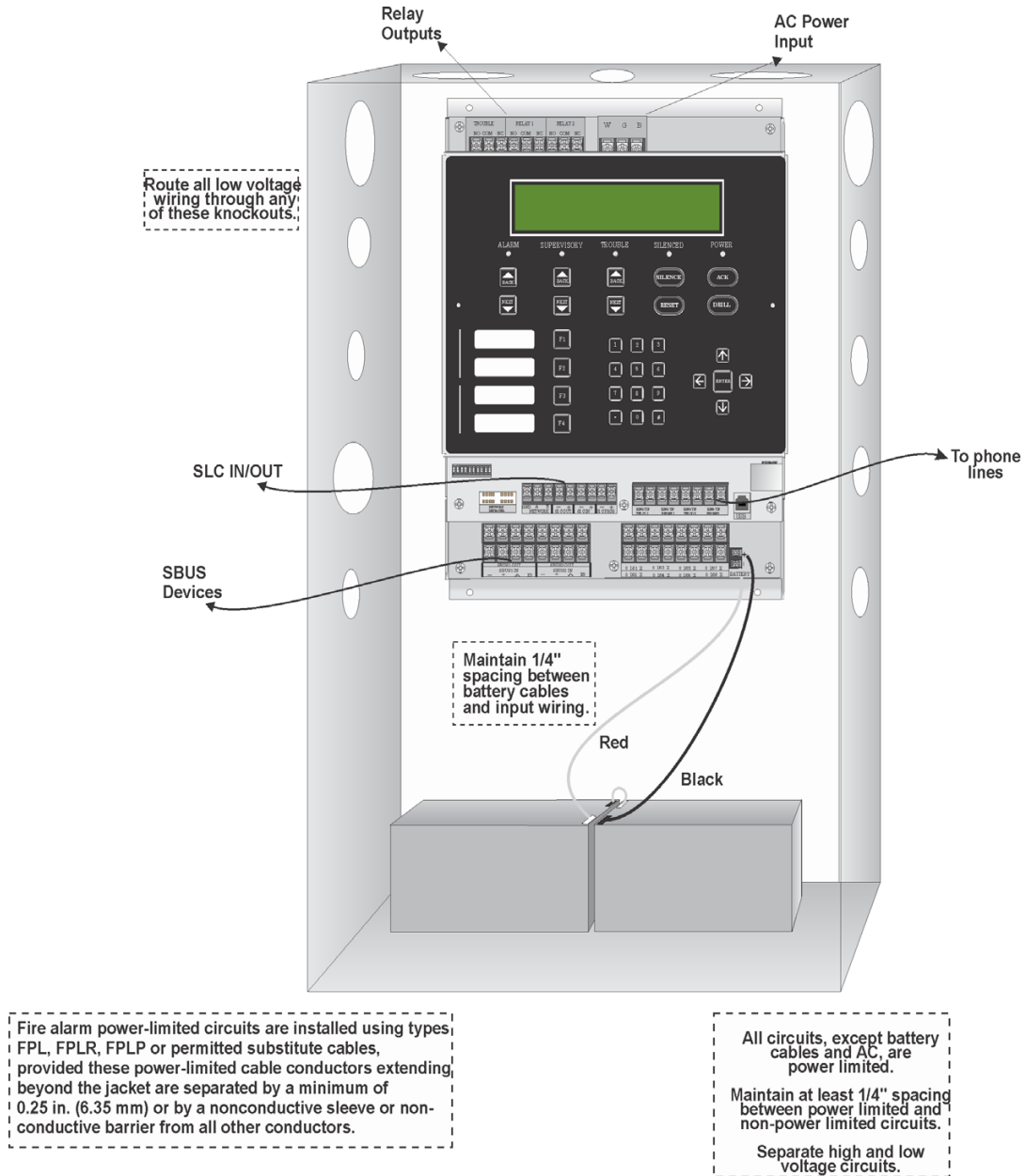
3.4 Wiring Specifications

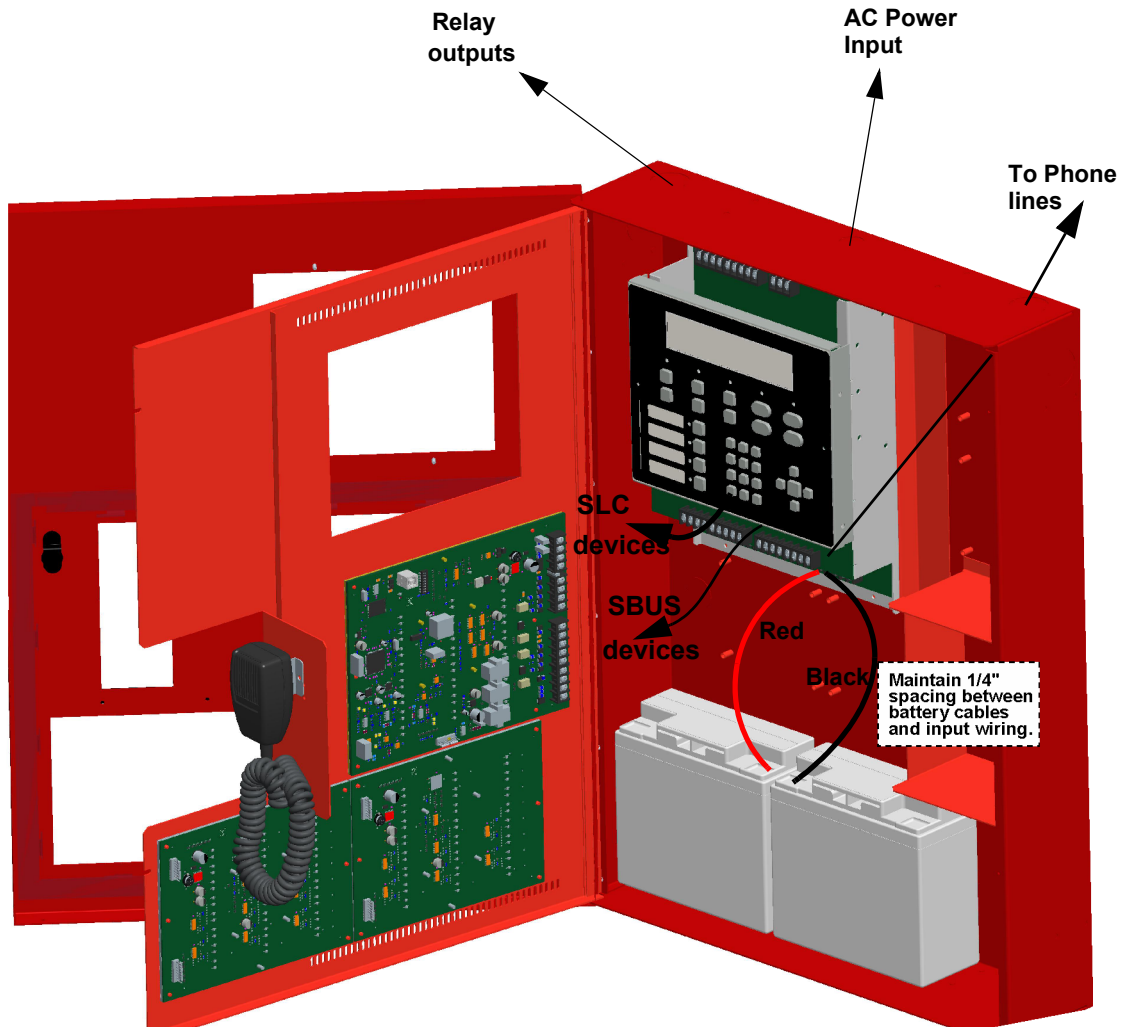
Induced noise (transfer of electrical energy from one wire to another) can interfere with telephone communication or cause false alarms. To avoid induced noise, follow these guidelines:

- Isolate input wiring from high current output and power wiring. Do not pull one multi-conductor cable for the entire panel. Instead, separate the wiring as follows:

| | |
|-----------------------|--|
| High voltage | AC power terminal |
| SLC loops | SLC In/Out Terminals |
| Audio input/output | Phone line circuits, Ring Tip Telco, Phone Terminals |
| Notification circuits | I/01-I/08 Terminals |
| SBUS | SBUS1 In/Out Terminals, SBUS 2 In/Out Terminals |
| Relay circuits | Trouble, Relay 1, Relay 2 Terminals |
| Network Communication | Local Connection, IFP-RPT twisted pair |

- 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. You must route high and low voltages separately.
- Route the wiring around the inside perimeter of the cabinet. It should not cross the circuit board where it could induce noise into the sensitive microelectronics or pick up unwanted RF noise from the high speed circuits. See Figure 3-1 for an example.
- 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.





Fire alarm power-limited circuits are installed using types FPL, FPLR, FPLP or permitted substitute cables, provided these power-limited cable conductors extending beyond the jacket are separated by a minimum of 0.25 in. (6.35 mm) or by a nonconductive sleeve or nonconductive barrier from all other conductors.

All circuits, except battery cables and AC, are power limited.

Maintain at least 1/4" spacing between power limited and non-power limited circuits.

Separate high and low voltage circuits.

Figure 3-1 Wire Routing Example for IFP-2000ECS

3.5 Board Assembly Diagram

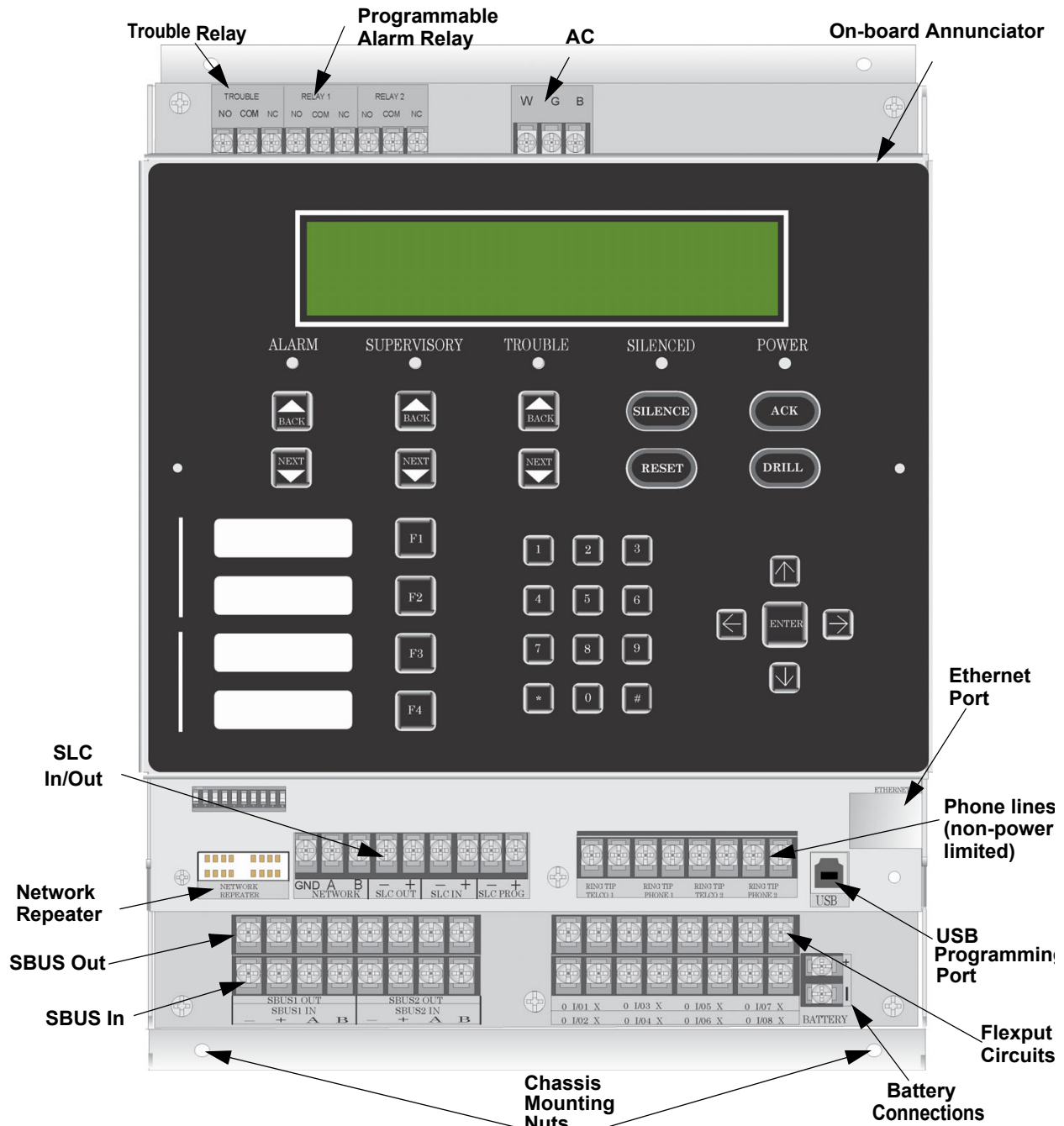


Figure 3-2 Model IFP-2000 Assembly

Figure 3-2 shows the circuit boards, metal housing and annunciator that attach the IFP-2000 assembly to the cabinet. If you should need to remove the board assembly for repair, remove the four mounting nuts which hold the assembly in the cabinet. Then lift the entire assembly out of the cabinet. Do not attempt to remove the circuit boards from the metal bracket.

3.6 Calculating Current Draw and Standby Battery

This section is for helping you determine the current draw and standby battery needs for your installation.

3.6.1 Current Draw Worksheet Requirements

The following steps must be taken when determining IFP-2000 current draw and standby battery requirements.

1. You will use the Current Draw Worksheet to determine current draw and standby battery requirements. Use Table 3-1 if installing IDP SLC Devices or use Table 3-2 if installing SD SLC Devices. For the IFP-2000, the worst case current draw is listed for the panel, addressable devices, and all SBUS expanders. Fill in the number of addressable devices and expanders that will be used in the system and compute the current draw requirements for alarm and standby. Record this information in the current draw worksheet on Line A.
2. Add up the current draw for all auxiliary devices and record in the table on Line B.
3. Add up the current draw for all notification appliance loads and record in the table on 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 9.0 A. This is the maximum alarm current for the IFP-2000 control panel. If the current is above 9.0 A you will need to use a notification power expander(s) such as the Silent Knight 5496 or the RPS-1000 intelligent power expander, to distribute the power loads so that the IFP-2000 or the power expanders do not exceed their power ratings. Refer to the current draw worksheets provided with the 5496 or the RPS-1000 manuals so you do not exceed their power ratings.
6. Alternatively, you may network additional IFP-2000s or RPS-2000s to get additional power.
7. Complete the remaining instructions in the appropriate current draw worksheet for determining battery size requirements.

3.6.2 Current Draw Worksheet for IDP SLC Devices

Use Table 3-1 to determine current requirements during alarm/battery standby operation when IDP SLC devices are installed. You can install up to 159 IDP sensors per loop (636 points max per panel) *and* 159 IDP modules per loop (636 points max per panel). Copy this section if additional space is required.

Table 3-1: Current Draw Worksheet for IDP SLC Devices

| Device | # of Devices | Current per Device | Standby Current | Alarm Current |
|--|--------------|--------------------|-----------------|---------------|
| For each device use this formula: This column X This column = Current per number of devices. | | | | |
| Fire Panel (Battery current draw) | 1 | Standby: 290 mA | 290 mA | |
| | | Alarm: 570 mA | | 570 mA |

Table 3-1: Current Draw Worksheet for IDP SLC Devices

| Device | # of Devices | Current per Device | | Standby Current | Alarm Current |
|--|--|---|---------------------|-----------------|---------------|
| Addressable SLC Devices | | | | | |
| IDP-Photo | (159 max/loop & 636 max/ panel) ¹ | Standby: .30 mA ⁸ | | mA | mA |
| IDP-Photo-T | | | | mA | mA |
| IDP-PhotoR | | | | mA | mA |
| IDP-Ion (obsolete) | | | | mA | mA |
| IDP-Heat | | | | mA | mA |
| IDP-Heat-HT | | | | mA | mA |
| IDP-Acclimate | | | | mA | mA |
| IDP-Heat-ROR | | | | mA | mA |
| IDP-Photo-W/IV | | SLC | Standby: 200µA | mA | |
| | | | Alarm: 4.5mA | | mA |
| IDP-Photo-R-W/IV | | SLC | Standby: 200µA | mA | |
| | | | Alarm: 4.5mA | | mA |
| IDP-Photo-T-W/IV | | SLC | Standby: 200µA | mA | |
| | | | Alarm: 4.5mA | | mA |
| IDP-Heat-W/IV | | SLC | Standby: 200µA | mA | |
| | | | Alarm: 4.5mA | | mA |
| IDP-Heat-ROR-W/IV | | SLC | Standby: 200µA | mA | |
| | | | Alarm: 4.5mA | | mA |
| IDP-Heat-HT-W/IV | | SLC | Standby: 200µA | mA | |
| | | | Alarm: 4.5mA | | mA |
| IDP-Beam (without integral test) | | SLC | Standby/Alarm: 2 mA | mA | mA |
| | | Aux. Pwr | Standby: 2 mA | mA | |
| | | | Alarm: 8.5 mA | | mA |
| | | | | | |
| IDP-Beam-T ⁵ (with integral test) | | SLC | Standby/Alarm: 2 mA | mA | mA |
| | | Aux. Pwr | Standby: 2 mA | mA | |
| | | | Alarm: 8.5 mA | | mA |
| | | | | | |
| DNR (non-relay) | | None, included with IDP-PhotoR ⁶ | | | |
| DNR (with relay) | | None, included with IDP-PhotoR & IDP-Relay ⁷ | | | |
| IDP-CO-Fire | | SLC | Standby: .30 mA | mA | |
| | | | Alarm: 7.2 mA | | mA |
| IDP-Monitor | | Standby/Alarm .375mA | | mA | mA |
| IDP-Minimon | | | | mA | mA |
| IDP-Pull-SA/IDP-Pull-DA | | | | mA | mA |
| IDP-Monitor-2 | | Standby/Alarm: .75 mA | | mA | mA |
| IDP-Monitor-10 | | Standby/Alarm: 3.5 mA | | mA | mA |
| IDP-Control | | SLC | Standby .375mA | mA | |
| | | | Alarm: .375mA | | mA |
| | | Aux Pwr | Standby 1.7mA | mA | |
| | | | Alarm: 7mA | | mA |

Table 3-1: Current Draw Worksheet for IDP SLC Devices

| Device | # of Devices | Current per Device | | Standby Current | Alarm Current |
|---|--|---------------------------------|-------------------------|-----------------|---------------|
| IDP-Control-6 | (159 max/loop & 636 max/ panel) ¹ | SLC | Standby 2.25 mA | mA | |
| | | | Alarm: 2.25 mA | | mA |
| | | Aux Pwr | Standby 8 mA | mA | |
| | | | Alarm: 20 mA | | mA |
| IDP-Relay | | Standby/Alarm: .255 mA | | mA | mA |
| IDP-Relay-6 | | Standby/Alarm: 1.45 mA | | mA | mA |
| IDP-RelayMon-2 | | Standby: 1.3 mA | | mA | |
| | | Alarm: 24 mA | | | mA |
| IDP-Zone | | Aux Pwr | Standby 12 mA | mA | |
| | | | Alarm: 90 mA | | mA |
| IDP-Zone-6 | | SLC | Standby/Alarm .27 mA | mA | mA |
| | | Aux Pwr | Standby 50 mA | mA | |
| | | | Alarm: 70 mA | | mA |
| | | SLC | Standby/Alarm 2 mA | mA | mA |
| | | SLC Accessories | | | |
| B200SR/IV Sounder Base | | (159 max/loop & 636 max/ panel) | Aux Pwr | Standby: .5 mA | mA |
| | Alarm: 35 mA | | | | mA |
| SLC | Standby .3 mA | | mA | | |
| | | | | | |
| B200S/IV Intelligent Sounder Base | Aux Pwr | | Standby: .5 mA | mA | |
| | | | Alarm: (high vol) 35 mA | | mA |
| SLC | Standby .3 mA | | mA | | |
| | | | | | |
| B200SR-LF/IV Low Frequency Sounder Base | Aux Pwr | | Standby: 1 mA | mA | |
| | | | Alarm: 125 mA | | mA |
| B200S-LF/IV Low Frequency Sounder Base | Aux Pwr | | Standby .55 mA | mA | |
| | | | Alarm (high vol) 140 mA | | mA |
| SLC | Standby .30 mA | | mA | | |
| | | | | | |
| B224RB/IV Relay Base | Standby/Alarm: .5 mA | | mA | mA | |
| RT151/151 KEY | Alarm: 7.5 mA | | | mA | |
| RA100Z | Alarm: 10 mA | | | mA | |
| SLC Isolator Devices | | | | | |
| IDP-ISO (Isolator Module) | (318 max/loop & 636 max/ panel) | Standby/Alarm: .45 mA | | mA | mA |
| ISO-6 (6 Fault Isolator Module) | | Standby: (per circuit) .45 mA | | mA | |
| | | Alarm: (per circuit) 17 mA | | | mA |
| B224BI/IV Isolator Base | | Standby/Alarm: 0.5 mA | | mA | mA |
| Accessories Modules | | | | | |
| 5815XL SLC Expander | (63 max) ⁴ | Standby: 55 mA | | mA | |
| | | Alarm: 125mA | | | mA |
| RA-2000 Remote Fire Alarm Annunciator | (63 max) ⁴ | Standby: 25 mA | | mA | |
| | | Alarm: 50 mA | | | mA |
| 5824 Serial/Parallel Module | (2 max.) | Standby/Alarm: 45 mA | | mA | mA |
| 5496 Intelligent Power Module | (63 max) ⁴ | Standby/Alarm: 10 mA | | mA | mA |
| RPS-1000 IntelliKnight Power Module | (63 max) ⁴ | Standby/Alarm: 10 mA | | mA | mA |

Table 3-1: Current Draw Worksheet for IDP SLC Devices

| Device | # of Devices | Current per Device | Standby Current | Alarm Current |
|---|---|---|-----------------|---------------|
| 5865-4 LED Annunciator (with reset and silence switches) | (63 max) ⁴ | Standby: 35 mA | mA | |
| | | Alarm: 145 mA | | mA |
| 5865-3 LED Annunciator | (63 max) ⁴ | Standby: 35 mA | mA | |
| | | Alarm: 145 mA | | mA |
| 5880 I/O Module | (63 max) ⁴ | Standby: 35 mA | mA | |
| | | Alarm: 200 mA | | mA |
| 5883 Relay Interface | (63 max) ⁴ | Standby: 0 mA | mA | |
| | | Alarm: (22 mA/relay) 220 mA | | mA |
| ECS-VCM Voice Control Module | (1 max.) | Standby: 70 mA | mA | |
| | | Alarm: 100 mA | | mA |
| ECS-SW24 Switch Expander | (32 max.) | Standby: 10 mA | mA | |
| | | Alarm: 25 mA | | mA |
| VIP-50 or VIP-125 Audio Amplifier with/without VIP-CE4 | (16 max.) | Standby: 10 mA | mA | |
| | | Alarm: 10 mA | | mA |
| ECS-RVM Remote Voice Module | (15 max.) | Standby: 70 mA | mA | |
| | | Alarm: 100 mA | | mA |
| ESC-50W or ECS-125W Audio Amplifier with/without ECS-CE4 | (16 max.) | Standby 10 mA | mA | |
| | | Alarm 10 mA | | mA |
| ECS-INT-50W Internal Amplifier | (16 max.) | Standby: 52 mA | mA | |
| | | Alarm @ 25V: 275 mA | | mA |
| | | Alarm @ 70V: 310 mA | | mA |
| ECS-RPU Remote Paging Unit | (7 max.) | Standby: 70 mA | mA | |
| | | Alarm: 100 mA | | mA |
| ECS-RCU Remote Command Unit (includes RA-100, RVM & SW-24) | (7 max.) | Standby: 100 mA | mA | |
| | | Alarm: 150 mA | | mA |
| ECS-DUAL50W | (8 max.) | Standby/Alarm: 10 mA | mA | mA |
| ECS-50WBU | (8 max.) | Standby/Alarm: 10 mA | mA | mA |
| Notification Devices | Refer to devices manual for number of devices and current rating. | | | |
| IFP-RPT-FO Network Repeater | (1 max.) | Standby: 24 mA | mA | |
| IFP-RPT-UTP Network Repeater | | Alarm: 24 mA | | mA |
| Total System Current | | | | |
| Auxiliary Devices ² | | Refer to devices manual for current rating. | | |
| IPDACT-2 IP Communicator | (1 max.) | Standby: 93 mA | mA | |
| | | Alarm: 136 mA | | mA |
| IPDACT-2UD IP Communicator | (1 max.) | Standby: 98 mA | mA | |
| | | Alarm: 155 mA | | mA |
| | | Alarm/Standby: mA | mA | mA |
| | | Alarm/Standby: mA | mA | mA |
| | | Alarm/Standby: mA | mA | mA |
| Auxiliary Devices Current | | | | |
| Notification Appliance Circuits | | Refer to device manual for current rating. | | |

Table 3-1: Current Draw Worksheet for IDP SLC Devices

| Device | | # of Devices | Current per Device | Standby Current | Alarm Current |
|--|--|--------------|----------------------------|-----------------|---------------|
| 5495/5499 Power Supply | | 24 VDC | One input circuit: 15 mA | | mA |
| | | | Both input circuits: 30 mA | | mA |
| | | Alarm: | mA | | mA |
| | | Alarm: | mA | | mA |
| | | Alarm: | mA | | mA |
| | | Alarm: | mA | | mA |
| C Notification Appliances Current | | | | | mA |
| D Total current ratings of all devices in system (line A + line B + C) | | | | mA | mA |
| E Total current ratings converted to amperes (line D x .001): | | | | A | A |
| F Number of standby hours | | | | H | |
| G Multiply lines E and F. Total standby AH | | | | AH | |
| H Alarm sounding period in hours. (For example, 5 minutes = .0833 hours) | | | | | H |
| I Multiply lines E and H. Total alarm AH | | | | | AH |
| J Add lines G and I. ³ Total ampere hours required | | | | AH | |

1. Total does not include isolator devices or accessory bases.
2. If using door holders, you do not need to consider door holder current for alarm/battery standby, because power is removed during that time. However, during normal operation, door holders draw current and must be included in the 9.0A total current that can be drawn from the panel.
3. Use next size battery with capacity greater than required.
4. Maximum SBUS address capacity is 63 SBUS modules. The practical limit is determined by the amount of SBUS bandwidth consumed by each SBUS module. See section 4.10.2.
5. The IDP-Beam-T draws a maximum of 500mA from auxiliary power when the test feature is used. This should be considered when determining auxiliary power capacity but not calculated into current requirements for day to day operation.
6. The IDP-PhotoR is sold separately from the DNR. Current draw for the DNR + IDP-PhotoR is calculated by increasing the "Number of Devices" column for each IDP-PhotoR used with a DNR.
7. The DNR housing does not include a Relay circuit board. If a relay is needed, be sure to add one to the IDP-Relay & IDP-PhotoR "Number of Devices" column for each DNR used for correct current calculations.
8. The FACP can only support 5 devices w/LED's on. The current draw has been added to the panels alarm current.

3.6.3 Current Draw Worksheet for SD SLC Devices

Use Table 3-2 to determine current requirements during alarm/battery standby operation when SD SLC devices are installed. You can install up to 127 SD devices per loop (636 max per panel). Copy this section if additional space is required.

Table 3-2: Current Draw Worksheet for SD SLC Devices

| Device | # of Devices | Current per Device | Standby Current | Alarm Current |
|--|--------------|--------------------|-----------------|---------------|
| For each device use this formula: This column X This column = Current per number of devices. | | | | |
| Fire Panel (Battery current draw) | 1 | Standby: 290 mA | 290 mA | |
| | | Alarm: 570 mA | | 570 mA |

Table 3-2: Current Draw Worksheet for SD SLC Devices

| | Device | # of Devices | Current per Device | | Standby Current | Alarm Current |
|--|--|-------------------------|------------------------------------|---|-----------------|---------------|
| | SD500-AIM | (636 max.) ¹ | Standby/Alarm: .55 mA ⁶ | | mA | mA |
| | SD500-MIM | | | | mA | mA |
| | SD500-PS | | | | mA | mA |
| | SD500-ARM | | | | mA | mA |
| | SD505-HEAT | | | | mA | mA |
| | SD505-PHOTO | | | | mA | mA |
| | SD500-ANM | (636 max.) ¹ | Aux. Pwr | Standby: 8 mA | mA | |
| | | | | Alarm: 60 mA | | mA |
| | | | SLC | Standby/Alarm: .55 mA | mA | mA |
| | SD500-SDM | (636 max.) ¹ | SLC | Standby/Alarm: .55 mA | mA | mA |
| | | | Aux. Pwr | Standby: 20 mA | mA | |
| | | | | Alarm: 106 mA | | mA |
| | SLC Accessory Base | | | | | |
| | SD505-6RB | (636 max.) | Standby/Alram: .082 mA | | mA | mA |
| | SD505-6SB | (636 max.) | Aux. Pwr | Standby: 1 mA | mA | |
| | | | | Alarm: 32 mA | | mA |
| | | | SLC | Standby/Alarm: .082 mA | mA | mA |
| | SD505-DUCTR | (636 max.) | Aux. Pwr | Standby: 20 mA ² | mA | |
| | | | | Alarm: 62 mA ² | | mA |
| | | | SLC | Standby/Alarm: .5 mA | mA | mA |
| | SD505-DTS-K | (636 max.) | | None, included with SD505-DUCTR worst case. | | |
| | SD505-DUCT | (636 max.) | SLC | Standby/Alarm .5 mA | mA | mA |
| | SLC Isolator Devices | | | | | |
| | SD505-LIM | (1272 max.) | Standby/Alarm .092 mA | | mA | mA |
| | SD505-6IB | (636 max.) | | | | |
| | Accessories Modules | | | | | |
| | 5815XL SLC Expander | (63 max.) ⁵ | Standby/Alarm: 55 mA | | mA | mA |
| | RA-2000 Remote Fire Alarm Annunciator | (63 max.) ⁵ | Standby: 25 mA | | mA | |
| | | | | Alarm: 50 mA | | |
| | 5824 Serial/Parallel Printer Interface Module | (2 max.) | Standby/Alarm: 45 mA | | mA | mA |
| | 5496 Intelligent Power Module | (63 max.) ⁵ | Standby/Alarm: 10 mA | | mA | mA |
| | RPS-1000 IntelliKnight Power Expander | (63 max.) ⁵ | Standby/Alarm: 10 mA | | mA | mA |
| | 5865-4 LED Annunciator (with reset and silence switches) | (63 max.) ⁵ | Standby: 35 mA | | mA | |
| | | | | Alarm: 145 mA | | |
| | 5865-3 LED Annunciator | (63 max.) ⁵ | Standby: 35 mA | | mA | |
| | | | | Alarm: 145 mA | | |

Table 3-2: Current Draw Worksheet for SD SLC Devices

| | Device | # of Devices | Current per Device | Standby Current | Alarm Current |
|---|--|---|---------------------------------|-----------------|---------------|
| | 5880 LED I/O Module | (63 max.) ⁵ | Standby: 35 mA | mA | |
| | | | Alarm: 200 mA | | mA |
| | 5883 Relay Interface | (63 max.) ⁵ | Standby: 0 mA | mA | |
| | | | Alarm: 220 mA (22 mA per relay) | | mA |
| | VIP-50 Audio Amplifier with/without VIP-CE4 | (16 max.) | Standby: 10 mA | mA | |
| | | | Alarm: 10 mA | | mA |
| | ECS-VCM Voice Control Module | (1 max.) | Standby: 70 mA | mA | |
| | | | Alarm: 100 mA | | mA |
| | ECS-SW24 Switch Expander | (32 max.) | Standby: 10 mA | mA | |
| | | | Alarm: 25 mA | | mA |
| | ECS-50W or ECS-125W Audio Amplifier with/without ECS-CE4 | (16 max.) | Standby: 10 mA | mA | |
| | | | Alarm: 10 mA | | mA |
| | ECS-INT-50W Internal Amplifier | (16 max.) | Standby: 52 mA | mA | |
| | | | Alarm @ 25V: 275 mA | | mA |
| | | | Alarm @ 70V: 310 mA | | mA |
| | ECS-RPU Remote Paging Unit | (7 max.) | Standby: 70 mA | mA | |
| | | | Alarm: 100 mA | | mA |
| | ECS-RCU Remote Command Unit (includes RA-100, RVM & SW-24) | (7 max.) | Standby: 100 mA | mA | |
| | | | Alarm: 150 mA | | mA |
| | ECS-DUAL50W | (8 max.) | Standby/Alarm: 10 mA | mA | mA |
| | ECS-50WBU | (8 max.) | Standby/Alarm: 10 mA | mA | mA |
| | Notification Devices | Refer to devices manual for number of devices and current rating. | | | |
| | IFP-RPT-FO | (1 max.) | Standby: 24 mA | mA | |
| | IFP-RPT-UTP | (1 max.) | Alarm: 24 mA | | mA |
| A | Total System Current | | | | |
| | Auxiliary Devices³ | Refer to devices manual for current rating. | | | |
| | IPDACT-2 IP Communicator | (1 max.) | Standby: 93 mA | mA | |
| | | | Alarm: 136 mA | | mA |
| | IPDACT-2UD IP Communicator | (1 max.) | Standby: 98 mA | mA | |
| | | | Alarm: 155 mA | | mA |
| | | | Alarm/Standby: mA | mA | mA |
| | | | Alarm/Standby: mA | mA | mA |
| | | | Alarm/Standby: mA | mA | mA |
| B | Auxiliary Devices Current | | | | |
| | Notification Appliance Circuits | Refer to device manual for current rating. | | | |
| | 5495/5499 Power Supply | 24 VDC | One input circuit: 15 mA | | mA |
| | | | Both input circuits: 30 mA | | mA |
| | | | Alarm: mA | | mA |
| | | | Alarm: mA | | mA |
| | | | Alarm: mA | | mA |
| C | Notification Appliances Current | | | | mA |

Table 3-2: Current Draw Worksheet for SD SLC Devices

| | Device | # of Devices | Current per Device | Standby Current | Alarm Current |
|---|--|--------------|-----------------------------|-----------------|---------------|
| D | Total current ratings of all devices in system (line A + line B + C) | | | mA | mA |
| E | Total current ratings converted to amperes (line D x .001): | | | A | A |
| F | Number of standby hours | | | H | |
| G | Multiply lines E and F. | | Total standby AH | AH | |
| H | Alarm sounding period in hours. (For example, 5 minutes = .0833 hours) | | | | H |
| I | Multiply lines E and H. | | Total alarm AH | | AH |
| J | Add lines G and I. ⁴ | | Total ampere hours required | AH | |

1. Total does not include isolator devices or accessory bases.
2. If using 24 VDC aux power only. No standby or alarm current for battery calculation if using 24 VAC, 120 VAC or 240 VAC.
3. If using door holders, you do not need to consider door holder current for alarm/battery standby, because power is removed during that time. However, during normal operation, door holders draw current and must be included in the 9.0A total current that can be drawn from the panel.
4. Use next size battery with capacity greater than required.
5. Maximum SBUS address capacity is 63 SBUS modules. The practical limit is determined by the amount of SBUS bandwidth consumed by each SBUS module. See section 4.10.2.
6. The FACP can only support 2 devices w/LED's on. The current draw has been added to the panels alarm current.

3.6.4 Maximum Battery Standby Load

Table 3-3 and Table 3-4 show the standby load calculations for the IFP-2000 based on 24 and 90 hours of standby. The standby load calculations of line D in the Current Draw Calculation Worksheet (Table 3-1 for IDP devices and Table 3-2 for SD devices) must be less than the number shown in Table 3-3 and Table 3-4 for the selected battery size, standby hour and alarm time. The numbers below have a built in 20% derating factor for the battery amp-hour capacity

Table 3-3: Maximum Battery Standby Loads for 24 Hour Standby

| Rechargeable Battery Size | 24 hr Standby, 5 mins. Alarm | 24 hr Standby, 15 min alarm | 24 hr Standby, 20 min alarm |
|---------------------------|------------------------------|-----------------------------|-----------------------------|
| 17AH | 535 mA | 473mA | 442mA |
| 18AH | 569mA | 506mA | 475mA |
| 24AH | 769 mA | 706mA | 675mA |
| 33AH | 1.07A | 1.01A | 975mA |
| 35AH | 1.14A | 1.07A | 1.04A |
| 40AH | 1.30A | 1.24A | 1.21A |
| 55AH | 1.80A | 1.74A | 1.71A |

Table 3-4: Maximum Battery Standby Loads for 90 Hour Standby*

| Rechargeable Battery Size | 90 hr Standby, 5 min alarm | 90 hr Standby, 15 min alarm | 90 hr Standby, 20 min alarm |
|---------------------------|----------------------------|-----------------------------|-----------------------------|
| 33 AH | N/A | N/A | N/A |
| 40 AH | 347mA | 331mA | 322mA |
| 55 AH | 480mA | 464mA | 456mA |

Warning!

Silent Knight does not support the use of batteries smaller than those listed in Table 3-3 and Table 3-4. 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 3-3 and Table 3-4 to calculate the correct battery amp hour rating needed for your installation. It is recommended that you replace batteries every five years.

*For FM Installation only

3.7 Installation Task Overview

This section provides a chart listing tasks that need to be performed when installing the IFP-2000/ECS system. The chart is intended to be another way for you to make sure you have completed all necessary tasks. Unless noted, these tasks do not have to be performed in the order they are listed here.

Important: Connect and address SLC devices before running JumpStart AutoProgramming.

| Task | See Section (for more info.) |
|---|---------------------------------|
| Main Panel Hardware Installation | |

| Task | See Section (for more info.) |
|--|--|
| Mount the control panel cabinet. | 4.1 |
| Connect AC. | 4.2 |
| Connect phone lines. | 4.11 |
| Install 5815XL SLC expander modules. | 4.6 |
| Install RA-2000 Remote Fire Alarm Annunciator modules. | 4.5 |
| Install 5865 or LED Annunciator modules. | 4.9 |
| Install 5880 LED I/O modules. | 4.8 |
| Install notification appliances. | 4.12.1 |
| Install auxiliary power devices. | 4.12.5 |
| Install 5824 Serial/Parallel Printer Interface Module. | 4.7 |
| Connect batteries (typically last step). | 4.3 |
| SLC Device Hardware Installation Perform these steps before running JumpStart AutoProgramming. | |
| Connect device bases to the loop. | IDP 7.5 SD 7.7 |
| Set device addresses. | IDP 7.6 SD 7.8 |
| Physically connect detectors to their bases. Connect relay and contact monitor modules. | 7.4 & see device install instructions |
| JumpStart AutoProgramming | |
| JumpStart AutoProgramming searches for expanders and SLC devices connected to the panel but not programmed into the system. JumpStart AutoProgramming automatically selects some options for SLC devices. See "Input Point (SLC Device) Configuration" section of this chart for other options. JumpStart AutoProgramming makes selections for the following options. You can customize options, if necessary. | 8.2 & 9.7 |
| Device type (detector or switch) configured by JumpStart AutoProgramming. | To change, see 9.7 |
| Program type of detector (heat, photoelectric, or ionization) selected by JumpStart AutoProgramming. | To change, see 9.7 |
| System Software Configuration | |
| Select low AC hours report time (3 hours by default). | 9.6.5.3 |
| Enable/disable automatic DST adjustment feature (enabled by default). | 9.6.7.1 |
| Change clock display format (12-hour with AM/PM by default). | 9.6.5.5 |
| Enable/disable day/night sensitivity (disabled by default). | 9.6.3 |
| Select holiday schedule (up to 18 days) if installation is using day/night sensitivity. | 9.6.4 |
| Select options for phone lines. | 9.6.2 |
| Customize banner message (message that displays on LCD in normal mode) if desired. | 9.6.8 |
| Input Point (SLC Device) Configuration | |
| JumpStart AutoProgramming automatically selects some options for SLC devices (see "JumpStart AutoProgramming" section of this chart). You can change options selected by JumpStart AutoProgramming, if necessary and further customize input point options. | |
| Select device family (IDP or SD). Only one device family can be used per control panel. | 9.6.9 |

| Task | See Section (for more info.) |
|---|---------------------------------|
| Program type of switch (manual pull, fire drill, and so on), if necessary. (JumpStart AutoProgramming assigns all switches as Manual Pull type.) | 9.5 |
| If the installation includes duct detectors, program detector type. (JumpStart AutoProgramming does not distinguish duct detectors from ordinary smoke detectors.) | 9.5 |
| Assign input points to zones, if necessary. (JumpStart AutoProgramming assigns all input points to Zone 1.) | 9.5 |
| Zone Configuration | |
| Select alarm delay options (detection characteristics) for zone. | 9.3.1.2 |
| Select heat detector trip temperature and/or smoke sensitivity level for photoelectric smoke detectors. | 9.3.1.2 |
| Output Point Configuration | |
| Conventional notification circuits (circuits 1-8): | |
| Enable circuits used for notification appliances through programming, (if necessary). | 9.5 |
| Conventional relay circuits (circuits 9-10): | |
| Select options for relay circuits, if desired. Note: Relay circuits will always output continuously (constant pattern), even if assigned to an Output Group that uses a different output pattern. | 9.5 |
| Auxiliary power circuits (circuits 1-8): | |
| Enable any circuit used for auxiliary power devices through programming. | 9.5 |
| Select type of power (door holder, constant, or resettable) | 9.5 |
| Addressable relay modules | |
| Assign addressable relay modules to output groups through programming. (JumpStart AutoProgramming assigns all relay modules to Group 1.) | 9.5 |
| LED output points (from the 5880 LED I/O module or 5865 LED Annunciator) | |
| Assign LED modules to output groups through programming. | 9.5.3 |
| All output circuits (1-8): | |
| Disable (set to UNUSED) any unused circuits. If you do not disable unused output circuits, they will cause a trouble condition (unless an EOL resistor is used). | 9.5 |
| Select a name for the point. | 9.5.2 |
| Output Group Configuration | |
| Add a group to the system if it does not already exist. | 9.4.2 |
| Assign output points to a group. | 9.5 |
| Assign a name (or description) for a group. | 9.4.1.1 |
| Select "group properties" (see below). | |
| Select options for activation with system switches. | 9.4.1.2 |
| Emergency Communication System | |
| Edit Lockout and Relinquish Timers. | 6.5.1 |
| Edit Auto Reset for ECS events. | 6.5.1.2 |
| Edit Voice Commands for events. | 6.5.2 |
| Edit VCM/RVM properties, including name, switch expanders, associating keypads, and priorities. Creating an LOC. | 11.2 |

| Task | See Section (for more info.) |
|---|---------------------------------|
| Edit amp properties, including name, voltage, and circuit expander. | 11.5.2 |

Section 4

Control Panel Installation

Caution!

To avoid the risk of electrical shock and damage to the unit, power should be OFF to the control panel while installing or servicing.

4.1 Mounting the Control Panel Cabinet

Read the environmental specifications in Section 3.2 before mounting the control panel cabinet. This will ensure that you select a suitable location.

The panel should be accessible to main drop wiring runs. It should be mounted as close to the center of the building as possible and located within a secured area, but should be accessible for testing and servicing.

Mount the control panel cabinet so it is firmly secured to the wall surface. When mounting on concrete, especially when moisture is expected, attach a piece of 3/4 inch plywood to the concrete surface and then attach the cabinet to the plywood. Also mount any other modules to the plywood.

The IFP-2000 cabinet can be surface or flush mounted. Cabinet dimensions are 26.4"H x 16" W x 4.65"D. If you flush mount the cabinet, the hole for the enclosure should be 15" W x 25" H. There should be 1.5" to 1.75" of cabinet extruding from the wall, this should be measured from either the top edge or bottom edge to the exterior side of the sheet rock. Do NOT flush mount in a wall designated as a fire break.

The IFP-2000ECS cabinet can be surface or flush mounted. Cabinet dimensions are 27"H x 20.362"W x 5.054"D. If you flush mount the cabinet, the hole for the enclosure should be 20 1/4" W x 26 1/2" H. There should be 1.5" to 1.75" of cabinet extruding from the wall, this should be measured from either the top edge or bottom edge to the exterior side of the sheet rock. Do NOT flush mount in a wall designated as a fire break.

4.1.1 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.

4.1.2 Removing the IFP-2000 Assembly from the Housing

Should it ever be necessary to remove the control panel assembly from the cabinet for repair, do so by unscrewing the nuts that connect the control panel assembly to the cabinet. Do not attempt to disassemble the circuit boards. See Section 3.5 for location of the nuts.

4.1.3 Ethernet Connection

Ethernet connection is not used at this time. For port location see Figure 3-2.

4.2 AC Connection

At installation, connect the AC terminals to the power source as shown in Figure 4-1 or Figure 4-2. It may be necessary for a professional electrician to make this connection.

The AC terminals are rated at 120 VAC, 50 or 60 Hz, 5A (for the IFP-2000) or 240 VAC 50 or 60 Hz, 2.5A (for the IFP-2000HV).

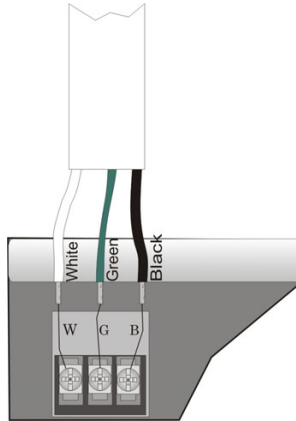


Figure 4-1 120 VAC Power Connection for the IFP-2000

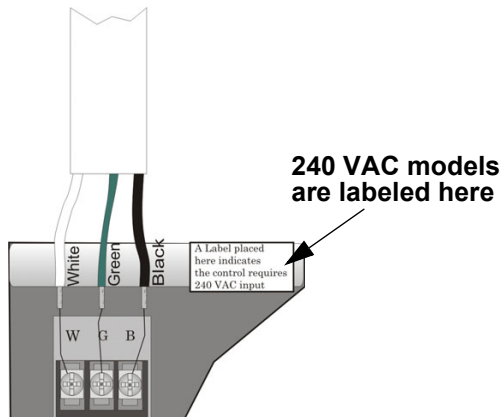


Figure 4-2 240 VAC Power Connection for the IFP-2000/ECSHV

4.3 Battery Connection

The control panel battery charge capacity is 17 to 55 AH. Use 12V batteries of the same AH rating. Determine the correct AH rating as per your standby load calculation (see Section 3.6).

Wire batteries in series to produce a 24-volt equivalent. Do not parallel batteries to increase the AH rating. It is recommended that you replace batteries every five years.

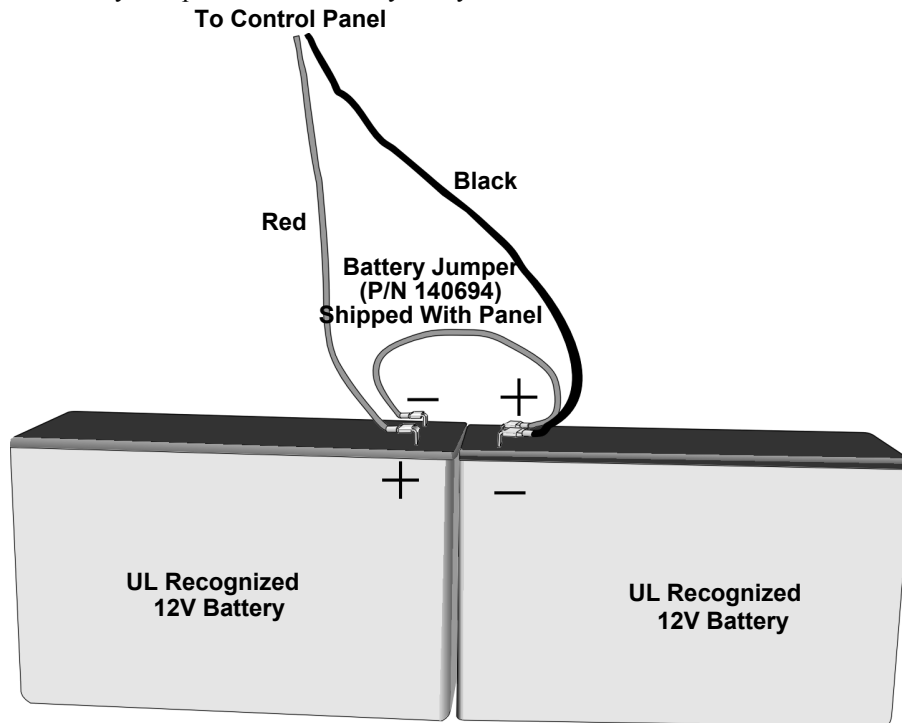


Figure 4-3 Battery Connection

4.3.1 Battery Accessory Cabinets

The Model RBB or AB-55 Accessory cabinets can be used when you are required to use backup batteries that are too large to fit into the main control panel cabinet.

The RBB cabinet holds batteries up to the 35 AH size. The RBB dimensions are 16" W x 10" H x 6" D (40.64 cm W x 25.4 cm H x 15.24 cm D).

The AB-55 Accessory cabinet holds batteries up to the 55AH size. The AB-55 dimensions are 20" W x 11.5" H x 7.5" D (50.8 cm W x 30.48 cm H x 19.05 cm D).

4.3.1.1 Installing the RBB or AB-55 Accessory Cabinet and Batteries

To properly install the accessory cabinet and backup batteries, follow these steps:

1. Mount the accessory cabinet. See Figure 4-4 for the four cabinet mounting holes.
 - If mounting onto drywall the accessory cabinet must be mounted onto 3/4-inch plywood. This is necessary because the weight of the batteries inside the accessory cabinet could cause the cabinet to pull away from the drywall.
 - When mounting on concrete, especially when moisture is expected, attach a piece of 3/4-inch plywood to the concrete surface and then attach the RBB or AB-55 cabinet to the plywood.

- If using the battery cable extenders provided (P/N 140643), mount the RBB or AB-55 cabinet no more than 18" away from the main control panel cabinet. This will ensure that the battery cables reach the battery terminals.

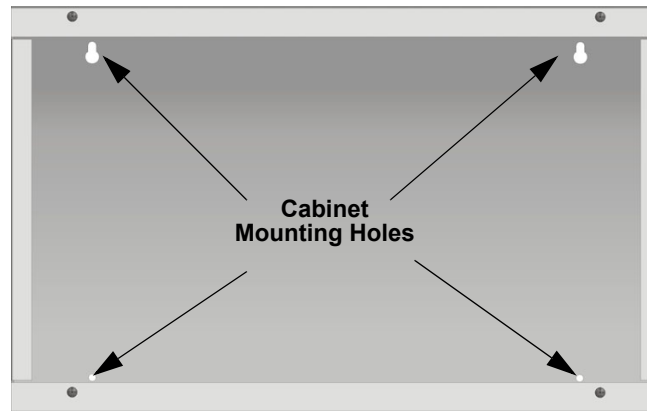


Figure 4-4 RBB or AB-55 Cabinet Mounting Holes

2. Connect the main control panel battery cables to the battery cable extenders as shown in Figure 4-5.

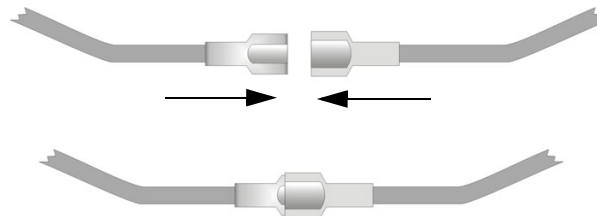


Figure 4-5 Splicing Control panel Battery Cable to RBB or AB-55 Battery Cable Extenders

3. Run extended battery cable from control panel cabinet through conduit to RBB or AB-55 cabinet. See Figure 4-6.

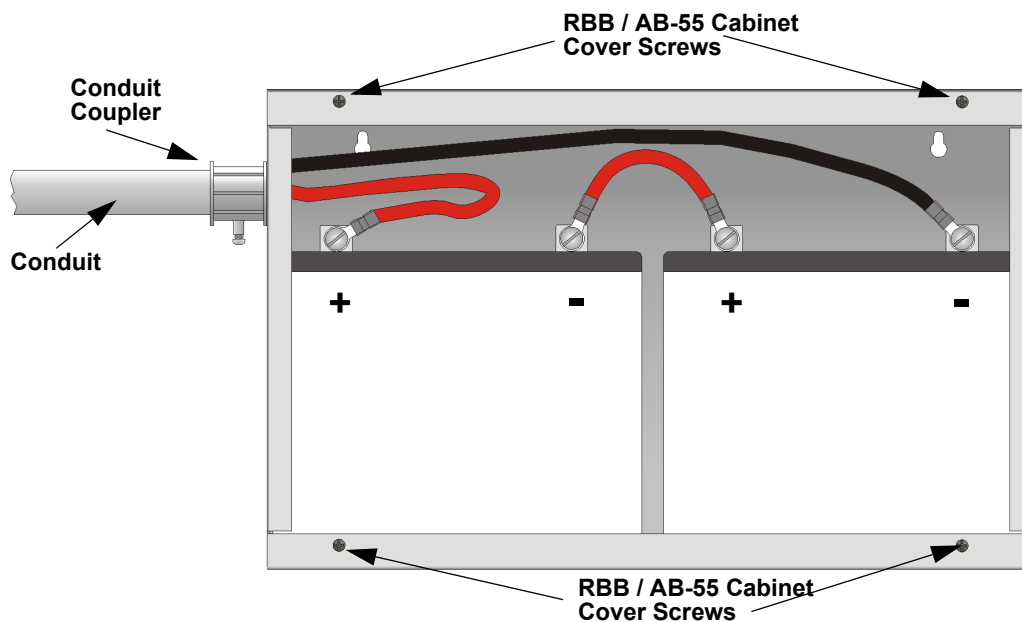


Figure 4-6 Battery Connections in the RBB or AB-55 Cabinet

Note: Figure 4-6 is an example of how the wire connections can be routed. However, any other cabinet knock-outs (on either the main control panel or the RBB/AB-55 cabinet), that are not previously being used may be utilized to connect conduit between the two cabinets.

4. Connect battery leads to the backup battery terminals. See Figure 4-6.
 - Observe the proper polarity to prevent damage to the batteries or the control panel.
5. Insert the RBB or AB-55 cover screws into the cover mounting holes. See Figure 4-6.
 - Screw the cover screw $\frac{3}{4}$ of the way into the cover mounting hole.
6. Align the cover plate mounting keyhole over the cover mounting screws. See Figure 4-7.

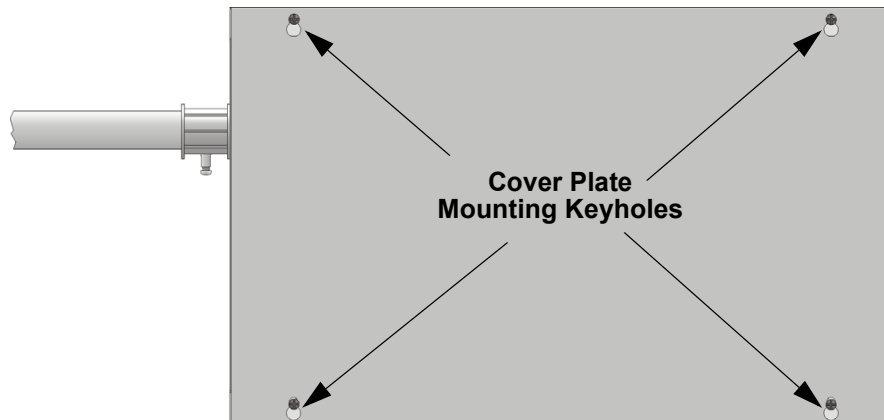


Figure 4-7 Cover Plate Mounting Keyholes and Cover Mounting Screws Alignment

7. Slide the cover into place and tighten the cover mounting screws. See Figure 4-7.

4.4 SBUS Wiring

This section contains information on calculating SBUS wire distances and the types of wiring configurations (Class A and B).

4.4.1 Calculating Wiring Distance for SBUS Modules

The IFP-2000 panel has two SBUS circuits which can support up to 1.0A of module load per SBUS circuit. When determining the type of wire and the maximum wiring distance that can be used, you will need to calculate loads for each SBUS to ensure that each SBUS does not exceed 1.0A.

To calculate the wire gauge that must be used to connect SBUS modules to the control panel, it is necessary to calculate the total worst case current draw for all modules on a single SBUS circuit. The total worst case current draw is calculated by adding the individual worst case currents for each module. The individual worst case values are shown in the table below.

Note: Total worst case current draw on a single SBUS cannot exceed 1 amp. If a large number of accessory modules are required, and the worst case current draw will exceed the 2 amps total, then the current draw must be distributed using RPS-1000 Power Expanders. Each RPS-1000 Power Expander provides an additional SBUS, with an additional 1 amp of SBUS current. Wiring distance calculations are done separately for each RPS-1000, and separately for each control panel SBUS.

| Model Number | Worst Case Current Draw |
|---|-------------------------|
| RA-2000 Fire Annunciator | .120 amps |
| 5815XL | .150 amps |
| 5824 Serial/Parallel Printer Interface Module | .040 amps |
| 5880 LED I/O Module | .250 amps |
| 5865 LED Annunciator | .200 amps |
| RPS-1000 Intelligent Power Supply | .010 amps |
| 5496 Intelligent Power Supply | .010 amps |
| ECS-50W | .010 amps |
| ECS-125W | .010 amps |
| ECS-VCM / ECS-VCM with ECS-SW24* | .115 amps /.185 amps |
| ECS-RCU2000 / ECS-RCU2000 with ECS-SW24* | .210 amps /.325 amps |
| ECS-DUAL50W | .010 amps |
| ECS-DUAL50W WITH ECS-50WBU | .010 amps |

Note: Refer to Table 3-2 if using SD SLC devices and Table 3-1 if using IDP SLC devices for maximum number of each type of device that can be used per system.

* All devices must use the same SBUS and VBUS.

After calculating the total worst case current draw, refer to Table 4-1 for the maximum distance the modules can be located from the panel on a single wire run. The table ensures 6.0 volts of line drop maximum. In general, the wire length is limited by resistance, but for heavier wire gauges, capacitance is the limiting factor.

These cases are marked in the chart with an asterisk (*). Maximum length can never be more than 6,000 feet, regardless of gauge used. The formula used to generate this chart is shown in the note below.

Table 4-1: Wire Distances Per Wire Gauge Using Copper Wire

| Wiring Distance: SBUS Modules to Panel | | | | |
|--|----------|----------|------------|------------|
| Total Worst Case Current Draw (amps) | 22 Gauge | 18 Gauge | 16 Gauge | 14 Gauge |
| 0.100 | 1852 ft. | 4688 ft. | * 6000 ft. | * 6000 ft. |
| 0.200 | 926 ft. | 2344 ft. | 3731 ft. | 5906 ft. |
| 0.300 | 617 ft. | 1563 ft. | 2488 ft. | 3937 ft. |
| 0.400 | 463 ft. | 1172 ft. | 1866 ft. | 2953 ft. |
| 0.500 | 370 ft. | 938 ft. | 1493 ft. | 2362 ft. |
| 0.600 | 309 ft. | 781 ft. | 1244 ft. | 1969 ft. |
| 0.700 | 265 ft. | 670 ft. | 1066 ft. | 1687 ft. |
| 0.800 | 231 ft. | 586 ft. | 933 ft. | 1476 ft. |
| 0.900 | 206 ft. | 521 ft. | 829 ft. | 1312 ft. |
| 1.000 (Max) | 185 ft. | 469 ft. | 746 ft. | 1181 ft. |

Note: The following formulas were used to generate the wire distance chart:

$$\text{Maximum Resistance (Ohms)} = \frac{6.0 \text{ Volts}}{\text{Total Worst Case Current Draw (amps)}}$$

$$\text{Maximum Wire Length (Feet)} = \frac{\text{Maximum Resistance (Ohms)}}{\text{Rpu}} * 500$$

(6000 feet maximum)

where: Rpu = Ohms per 1000 feet for various wire gauges (see table below)

Table 4-2: Typical Wire Resistance Per 1000 ft. Using Copper Wire

| Wire Gauge | Ohms per 1000 feet (Rpu) |
|------------|--------------------------|
| 22 | 16.2 |
| 18 | 6.4 |
| 16 | 4.02 |
| 14 | 2.54 |

Wiring Distance calculation example:

Suppose a system is configured with the following SBUS modules:

2 - Module RA-2000 Fire Annunciator

1 - RPS-1000 Intelligent Power Expander

1 - 5865 LED Annunciator

1 - 5824 Serial/Parallel Interface Module

The total worst case current is calculated as follows:

| | | |
|-------------------------------|-----------------|-------------|
| RA-2000 Current Draw | = 2 x .120 amps | = .240 amps |
| RPS-1000 Current Draw | = 1 x .010 amps | = .010 amps |
| 5865 Current Draw | = 1 x .200 amps | = .200 amps |
| 5824 Current Draw | = 1 x .040 amps | = .040 amps |
| Total Worst Case Current Draw | | = .490 amps |

Using this value, and referring to the Wiring Distance table, it can be found that the available options are:

370 feet maximum using 22 Gauge wire

938 feet maximum using 18 Gauge wire

1493 feet maximum using 16 Gauge wire

2362 feet maximum using 14 Gauge wire

4.4.2 Wiring Configurations

Figure 4-8 illustrates SBUS 1, Class A wiring configuration and Figure 4-9 illustrates SBUS1 Class B configuration. SBUS 2 wiring configurations are the same as SBUS1.

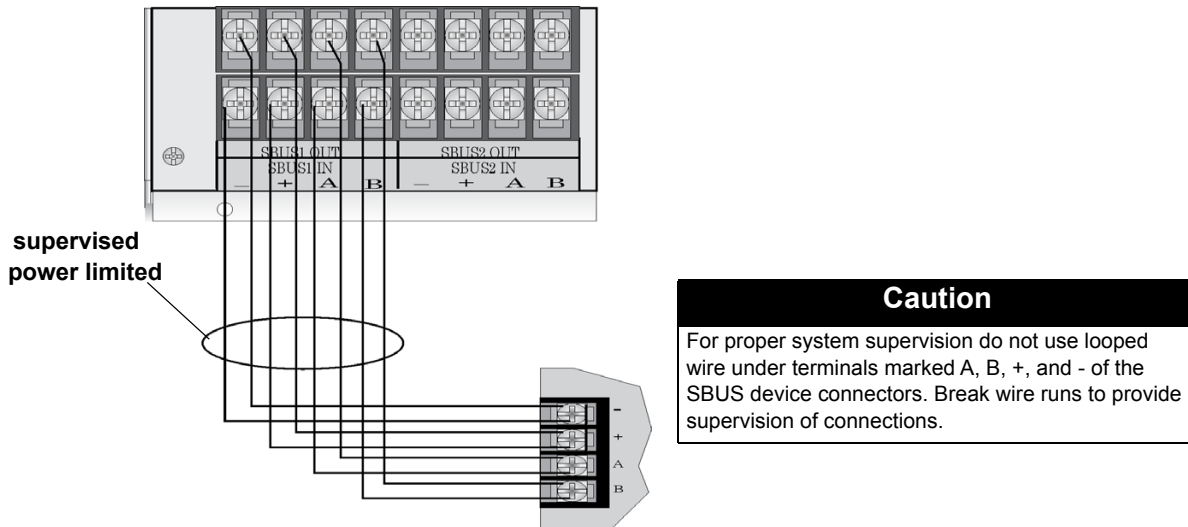


Figure 4-8 SBUS Class A Wiring

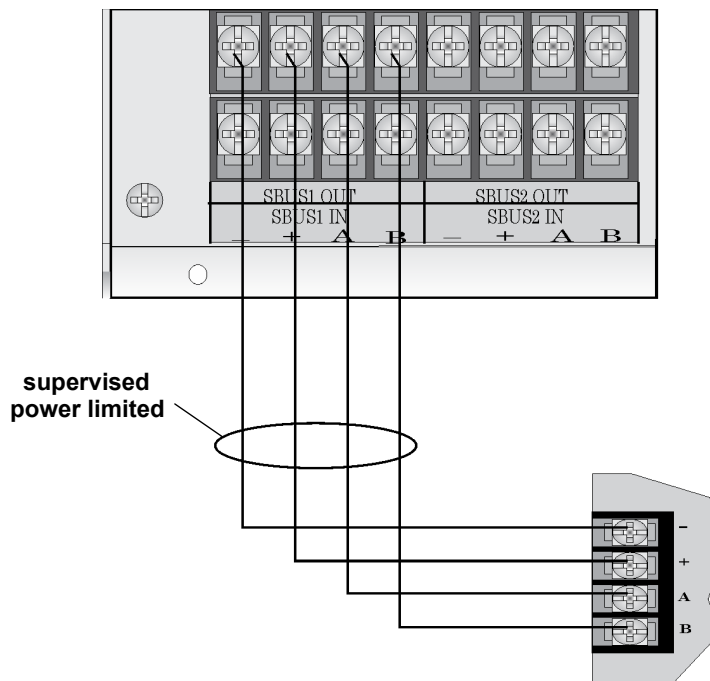


Figure 4-9 SBUS Class B Wiring

4.5 RA-2000 Remote Annunciator Installation

The optional Model RA-2000 Remote Annunciator, shown in Figure 4-10, performs the same functions as the on-board annunciator. The RA-2000 can be surface or flush mounted. It is also available in gray color as RA-2000GRAY.

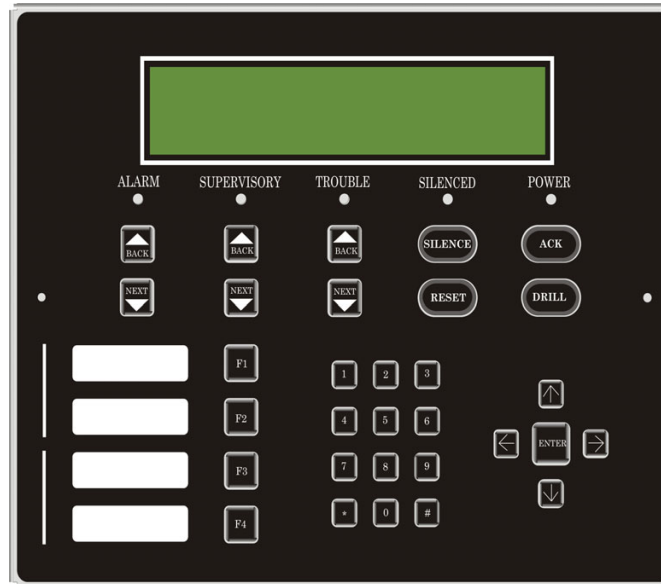


Figure 4-10 Model RA-2000 Remote Annunciator, Front View

RA-2000 installation involves the following steps:

1. Make sure power is off at the panel.
2. Mount the RA-2000 in the desired location (see Section 4.5.1).
3. Connect the RA-2000 to the panel (see Section 4.5.2).
4. Use the DIP switches on the back of the RA-2000 to assign an SBUS ID# to the RA-2000 (see Section 4.10.1).
5. The RA-2000 module must be added to the system through programming. JumpStart AutoProgramming will add the module automatically (see Section 8.2.3). You can also add it manually (see Section 9.2.2). Select a name, if desired (see Section 9.2.1.2).

4.5.1 Mounting the RA-2000

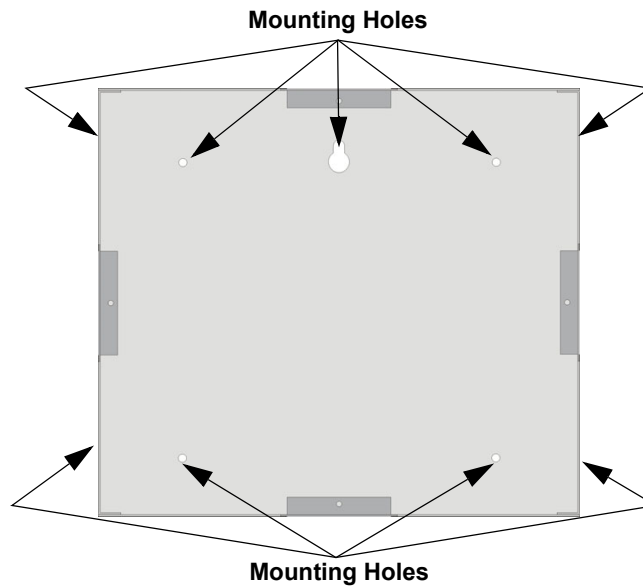
This section of the manual describes mounting the remote annunciator. The annunciator can be flush or surface mounted.

4.5.1.1 Flush Mounting

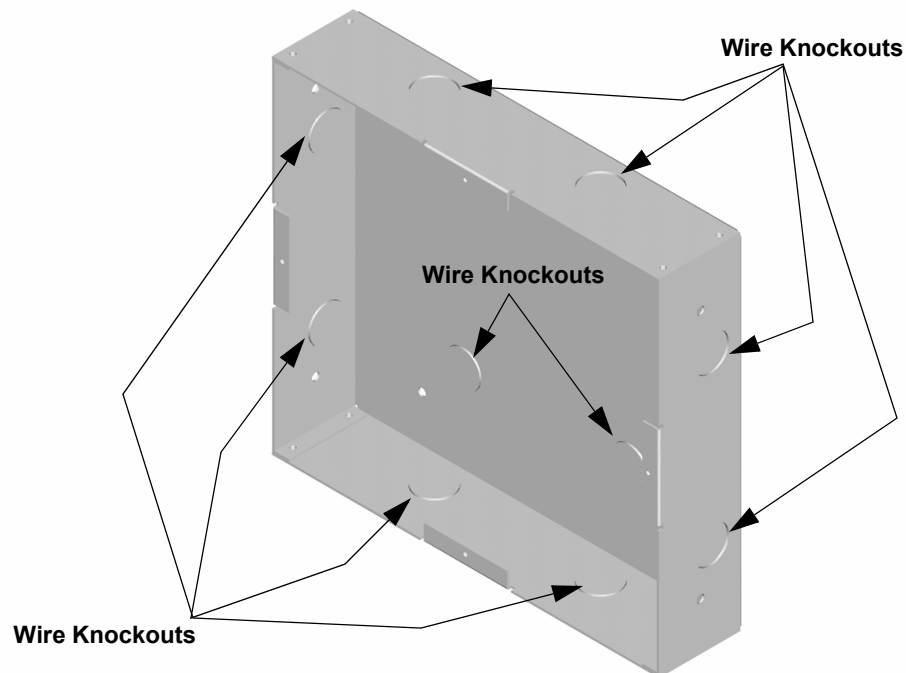
This section of the manual describes flush mounting.

Follow these steps to flush mount the RA-2000

1. The back box dimensions are 9 9/32" W x 8 3/8" H. The minimum depth required is 2". The back box can be mounted prior to the complete installation of the RA-2000 using any of the mounting holes shown in Figure 4-11.

**Figure 4-11 Back Box Mounting Holes**

2. Remove knockout holes as needed for wires. See Figure 4-12 for backbox knockout locations.

**Figure 4-12 Back Box Knockout Locations**

3. Wire the annunciator board to the main control panel. As described in Section 4.5.2.

4. Attach the annunciator and door assembly to back box as shown in Figure 4-13 using the supplied screws.

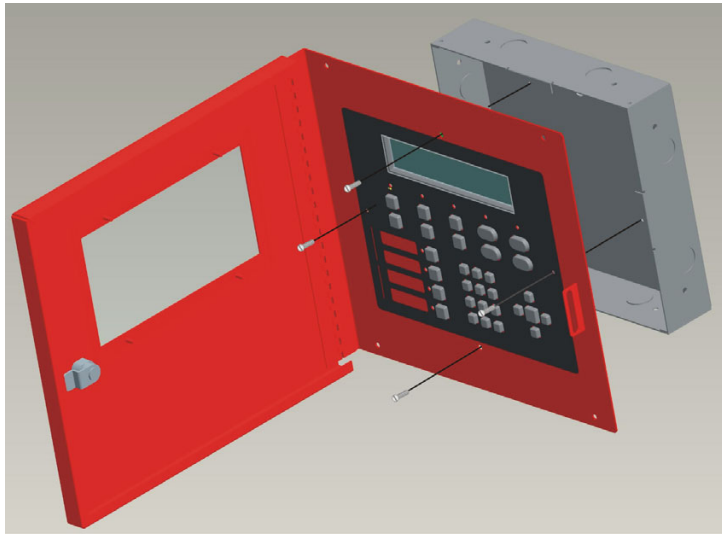


Figure 4-13 Attaching Annunciator / Door Assembly to Backbox

4.5.1.2 Surface Mounting

The Model RA-100TR red trim ring and RA-2000GRAYTR gray trim ring kits are available for use when surface mounting the RA-2000.

1. Remove the desired knock out. See Figure 4-12.
2. To properly mount the back box, insert a single screw into the key shaped mounting hole. Do not tighten all the way. See Figure 4-14. Place a level on top of the back box, with the back box level insert the rest of the mounting screws.

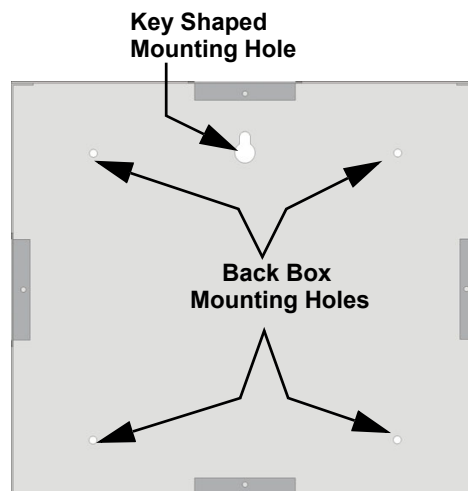


Figure 4-14 Back Box Surface Mount Holes

3. Run wires to the control panel.

4. Place the trim ring over the back box as shown in Figure 4-15.

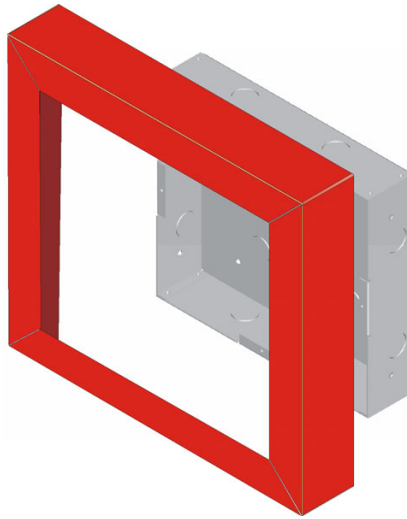


Figure 4-15 Installing Trim Ring

5. Attach the door assembly to the back box using screws provided.
6. After the SBUS wiring to the annunciator is complete (described in Section 4.5.2), replace the electronic assembly in the back box.

4.5.2 RA-2000 Connection to the Panel

Connect the RA-2000 to the panel as shown in Figure 4-16.

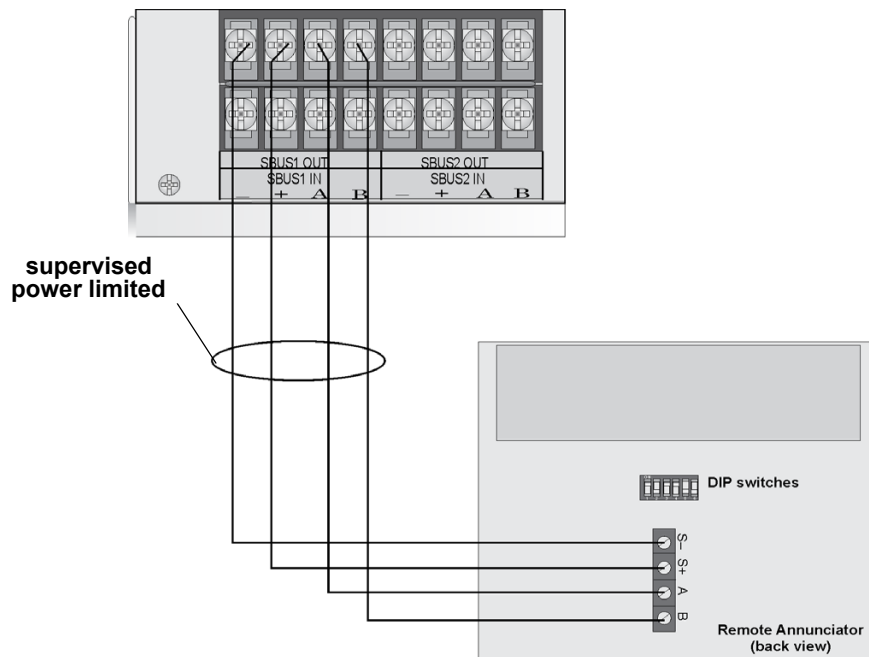


Figure 4-16 Model RA-2000 Connection to the Panel

4.5.3 Temporary Programming Display

When an RPS-2000 is being initially setup, place an RA-2000 on the panel at address 63 and power up the panel. This will initiate the Temporary Programming Display feature. This allows the RA-2000 to act as the main annunciator for the RPS-2000 panel and allows access to the idle screen and menu system for programming. While in this mode, a trouble will be annunciated through the system to indicate the feature is being utilized. This is only available when no other annunciators are programmed into the system. When running JumpStart Auto-programming, the system will ask if the intention is to keep the display or remove it after programming.

When using the Temporary Display is no longer necessary; power the panel off, remove the display, and re-power the panel.

4.6 5815XL Installation

The 5815XL SLC expander lets you add additional addressable devices. The maximum number of SLC devices per panel is 636. The number of 5815XL's is limited by the maximum number of SBUS devices.

To install the 5815XL:

1. Make sure power is off at the panel.
2. Mount the 5815XL in the IFP-2000 cabinet, the RPS-1000 cabinet, or the 5815RMK remote mounting kit. Use the standoffs located under the control panel board assembly and secure with screws provided with the 5815XL. For additional information see Model RPS-1000 Installation Instructions (P/N 151153) or 5815RMK Remote Mounting Kit Installation Instructions (P/N 151391).
3. Connect the 5815XL to the control panel. (See Section 4.6.1.)
4. Use on-board DIP switches to select an SBUS ID#. (See Section 4.10.1.)
5. Add the 5815XL module to the system through programming. JumpStart will add the module automatically (see Section 8.2). You can also add it manually (see Section 9.2.2). Select a name, if desired (see Section 9.2.1.2).

You are now ready to connect SLC devices to the 5815XL (see Section 7.4).

Figure 4-17 is a drawing of the 5815XL board, showing the location of terminals and DIP switches.

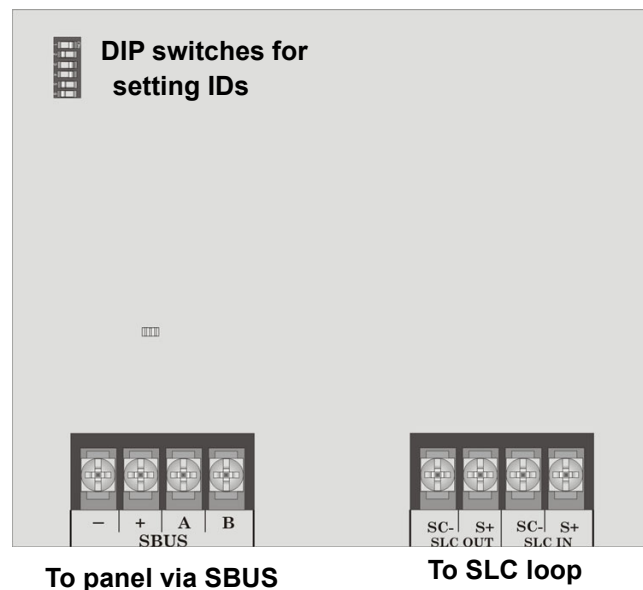


Figure 4-17 5815XL Board

4.6.1 5815XL Connection to the Panel

Connect the 5815XL to the control panel as shown in Figure 4-18. After the 5815XL is connected to the panel, it must be added to the system. This programming steps are described in Section 9.2.2.

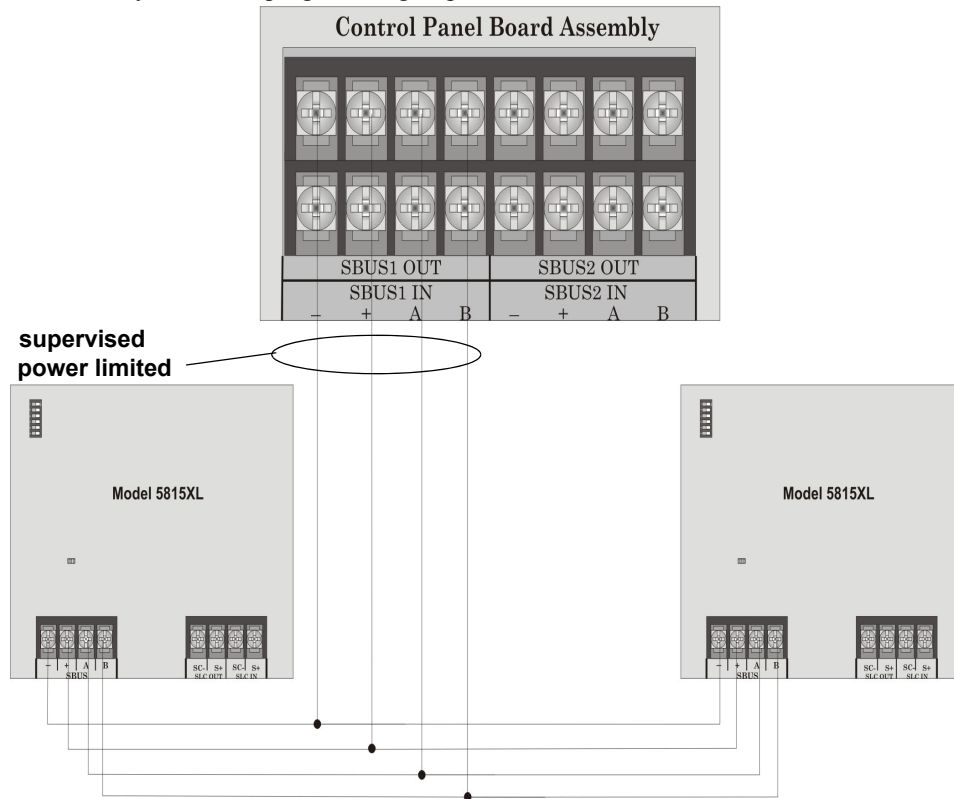


Figure 4-18 5815XL Connection to Main Panel Assembly

4.7 5824 Serial/Parallel Interface Module Installation

The 5824 serial/parallel interface module allows you to connect a printer to the panel, so you can print a real-time log of system events. Instructions for installing the 5824 appear below. The 5824 is for ancillary use only.

5824 installation involves the following steps:

1. Make sure power is off at the panel.
2. Connect the 5824 to the panel as shown in Figure 4-19.

Note: Two 5824s per panel maximum.

3. Use the DIP switches on the 5824 board to assign an SBUS ID# to the 5824 (see Section 4.10.1).
4. Configure the 5824 device through programming. See Section 4.7.1.

5. Connect a printer to the 5824 as shown in Figure 4-20.

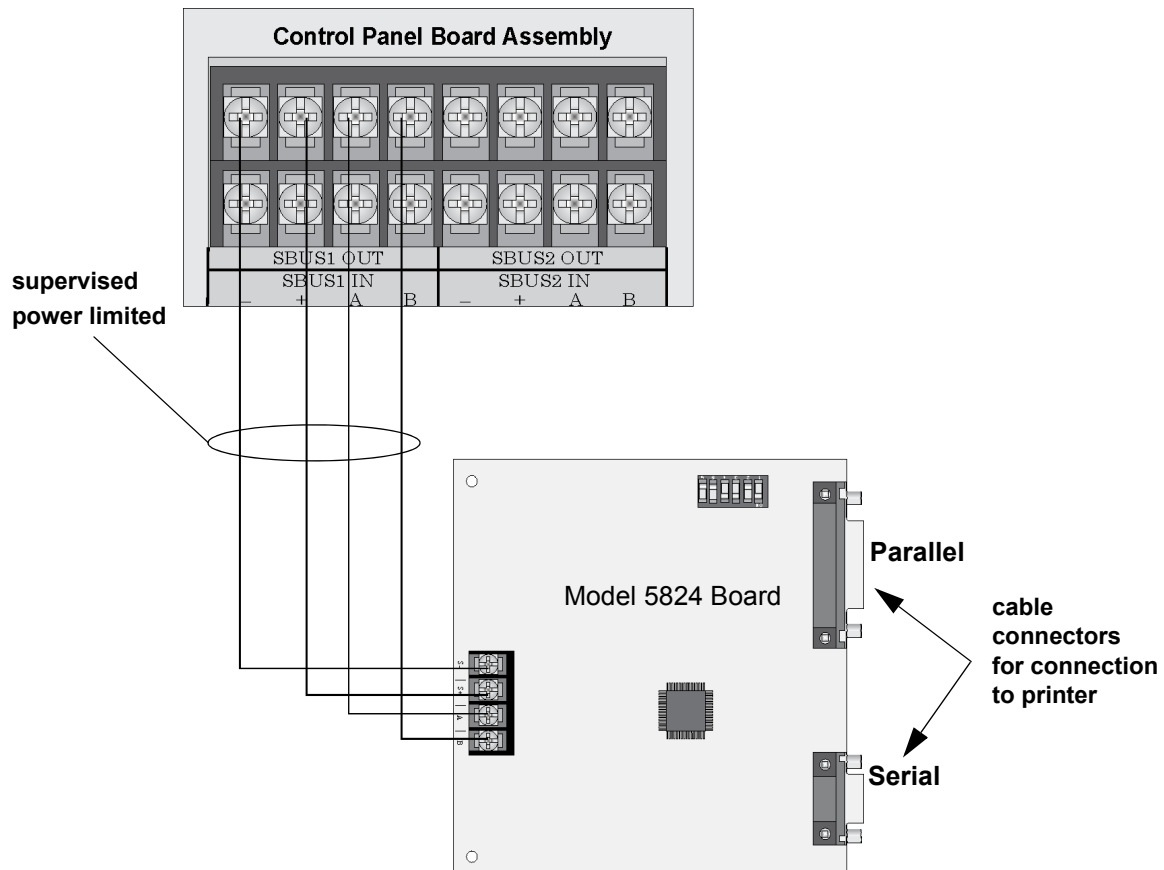


Figure 4-19 5824 Connection to the Panel

Model 5824 (with housing)

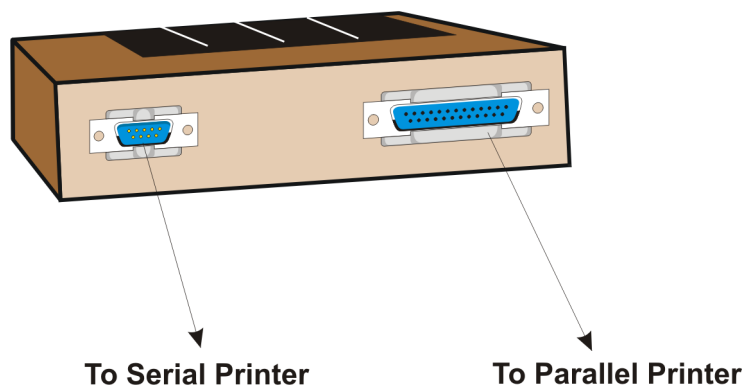


Figure 4-20 Printer Connection

4.7.1 Selecting 5824 Options

Configuring the 5824 includes the following steps:

- Add the module to the system. JumpStart will add the module automatically (see Section 8.2). You can also add it manually (see Section 9.2.2).
- Select a name, if desired (see Section 9.2.1.2).
- Select options for the printer and the output port. See below.

Printer and Output Port Options

1. From the Main Menu, select 7 for Panel Programming.
2. Select 1 for Module.
3. Select 1 for Edit Module.
4. From the list that displays, select the 5824 module you want to configure.
5. Press the right arrow twice to skip over the Enter Module ID and Enter Module Name options. A screen similar to the one shown in Figure 4-21 will display.

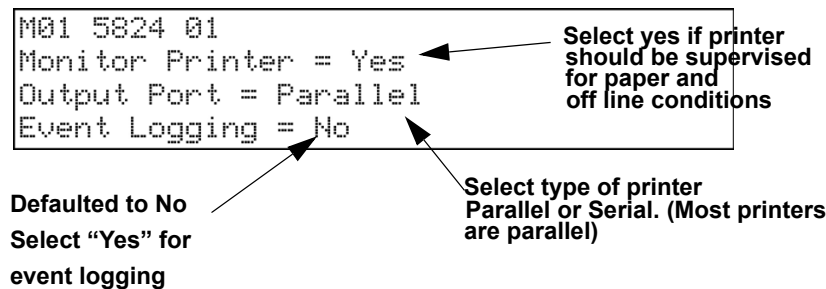


Figure 4-21 Selecting Printer and Output Port Options

6. Select options for the printer as needed for your installation. Most printers are parallel.

Note: When setting Monitor Printer to "Yes" the system defaults to printing only for the connected panels site. Use SKSS-2 to configure the 5824 to print for multiple sites.

7. If you are using a serial printer, use the next screen to select serial port options as required for your printer. Refer to your printer manual if you need more information.

| Option | Choices |
|------------|-----------------|
| Baud Rate: | 75 - 19200 |
| Data Bits: | 5 - 8 |
| Stop Bits: | .5, 1, 2 |
| Parity: | None, Even, Odd |

4.8 5880 LED I/O Module

The 5880 is an LED driver board that can be used in a wide variety of applications, including as an interface with most customized floor plan annunciator boards. The 5880 can drive up to 40 LEDs and has one PZT controller. The 5880 also has eight inputs for dry contact monitoring. The following sub-sections describe hardware installation. Refer to Section 9 for programming information.

4.8.1 5880 Board Layout

Figure 4-22 shows the locations of screw terminals for connection to the panel and contact monitor wiring, pin connectors for connecting LEDs and the DIP switch for selecting an SBUS ID number for the 5880.

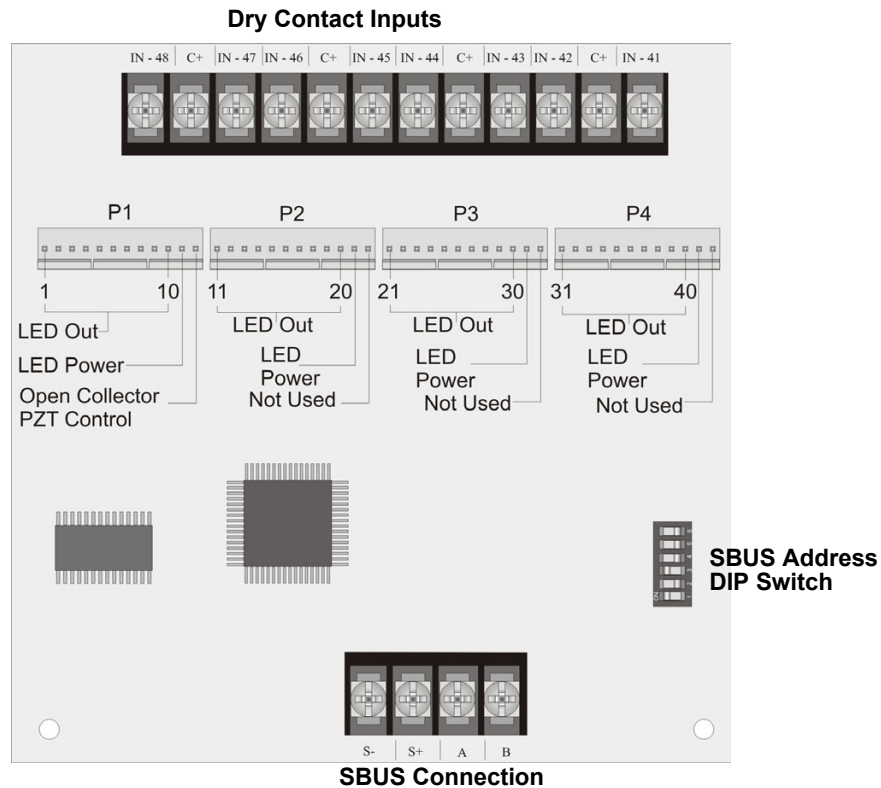


Figure 4-22 5880 Board Layout

4.8.2 FACP Connection

The 5880 connects to the panel via the SBUS. Make connections as shown in Figure 4-23. After the 5880 is connected to the panel, it must be added to the system. This programming step is described in Section 9.2.2.

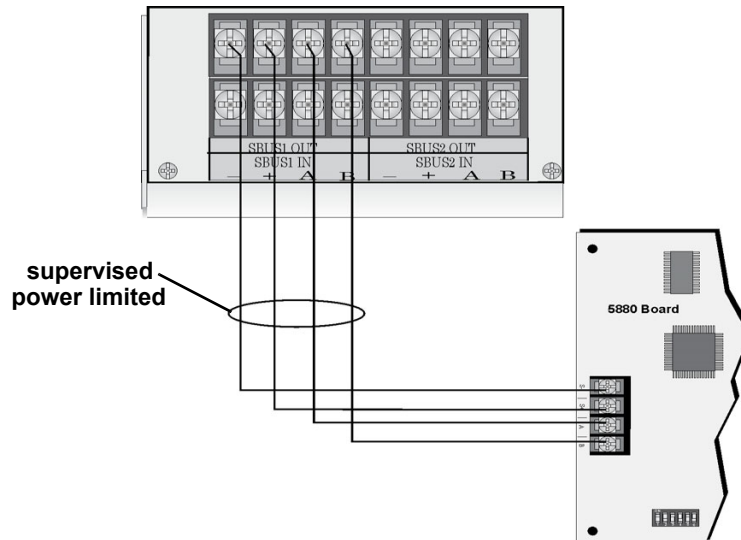


Figure 4-23 5880 Connection to Main Control Panel Assembly

4.8.3 LED Wiring

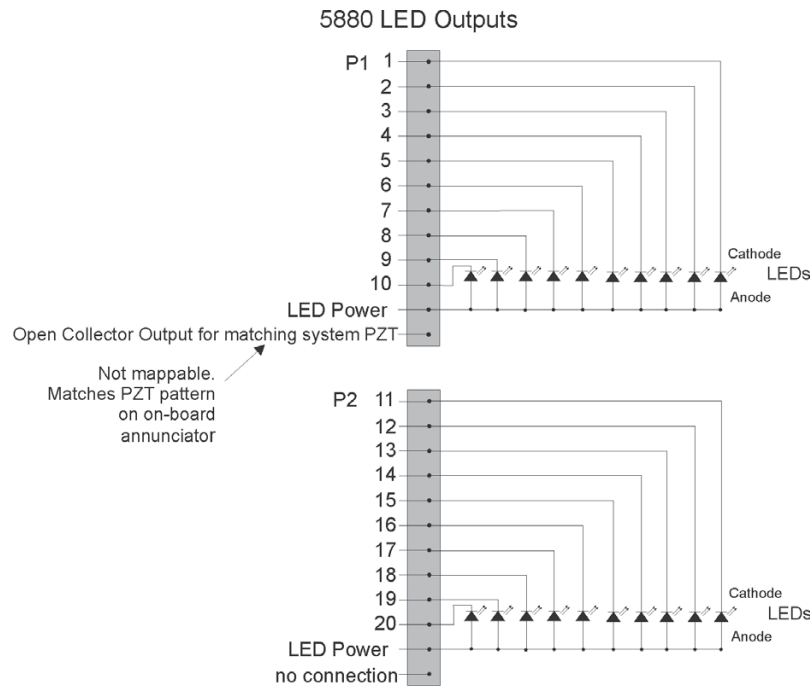
There are four 12-pin connectors on the 5880 board for connecting LEDs. Each LED gets its power from Pin 11. Internal resistors are sized so that there is approximately 10 mA of current for each LED; no series resistors are required. LED outputs can be mapped to output circuits. See Section 9.5.3 for programming details.

Wire the LEDs as shown in Figure 4-24.

On connector P1, Pin 12 is an open collector output for controlling a PZT. If used, the 5880 PZT will match the PZT pattern of the on-board (or RA-2000) annunciator.

Note: The circuit connected to "Open Collector Output" (last pin on P1) must be current limited so that no more

than 100 mA of current is allowed to flow into the open collector transistor.



Connectors P3 and P4 wired same as P2.

Figure 4-24 5880 Board Layout

4.8.4 Dry Contact Wiring

The 8 input circuits on the 5880 board are for monitoring switch inputs. Any type of switch supported by the control panel can be used with the 5880. For example, you can use a 5880 to monitor pull stations, water flow, tamper, reset, or silence switches.

Wire dry contacts as shown in Figure 4-25. Notice grouping of terminals; power terminals are shared by two inputs.

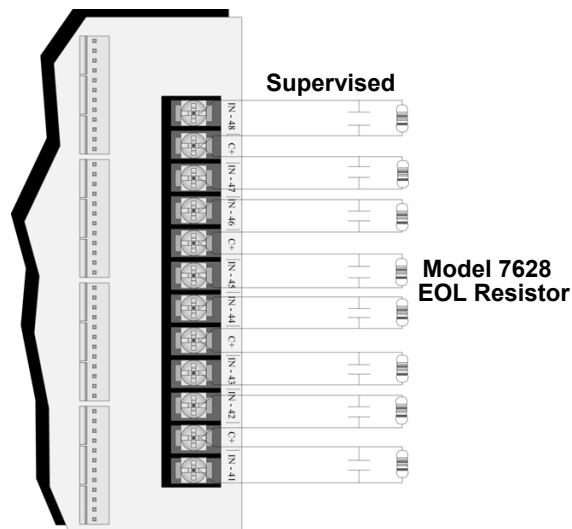


Figure 4-25 Dry Contact Wiring

4.9 5865-3 / 5865-4 LED Annunciator Installation

The 5865-3 and 5865-4 are LED annunciators. The 5865-4 has 30 mappable LEDs, remote fire system silence and fire system reset key switches, and a general system trouble LED. The 5865-3 has 30 mappable LEDs only. These are arranged as 15 pairs of red (typically used for alarm) and yellow (typically used for trouble) LEDs.

Installation of the 5865-3 and 5865-4 is identical. The key switches and the trouble LED follow the behavior of other system annunciators and do not require any installation steps. The following sub-sections describe how to install the 5865-3 and 5865-4 hardware. Refer to Section 9 for programming information.

Note: This manual uses “5865” when referring to aspects of the 5865-3 and 5865-4 that are common to both models.

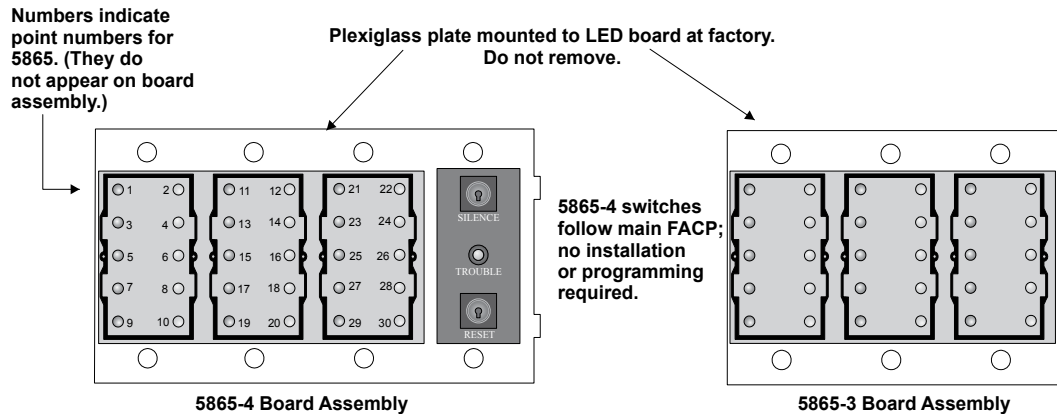


Figure 4-26 5865-3 and 5865-4 Assembly (front view)

4.9.1 FACP Connection

The 5865 connects to the panel via the SBUS. Make connections as shown in Figure 4-27. After the 5865 is connected to the panel, it must be added to the system. This programming step is described in Section 9.2.2.

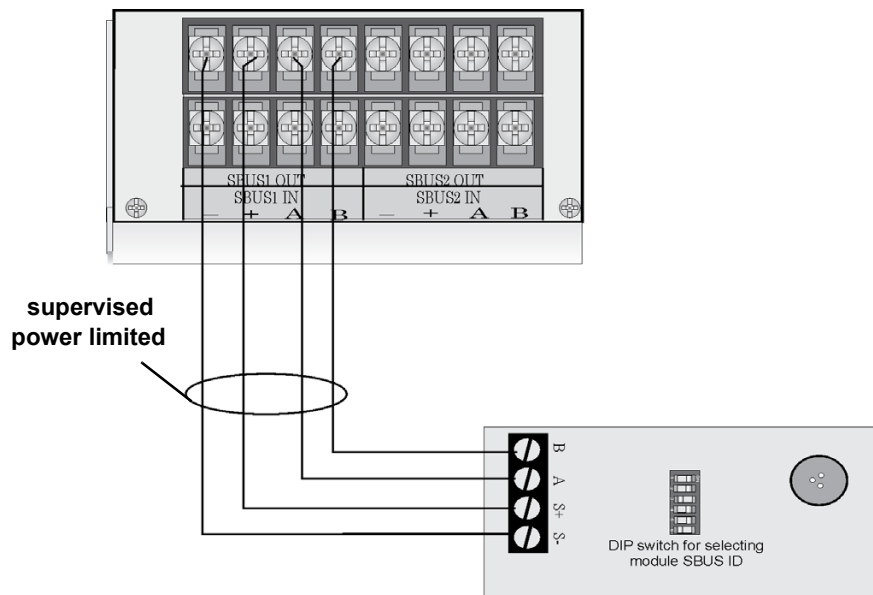


Figure 4-27 5865 Connection to the FACP

4.9.2 5865 Mounting

Mount the 5865-4 to a standard 4-gang electrical box. Mount the 5865-3 to a standard 3-gang electrical box. In Figure 4-28, the 5865-4 attached to a 4-gang box is used as an example.

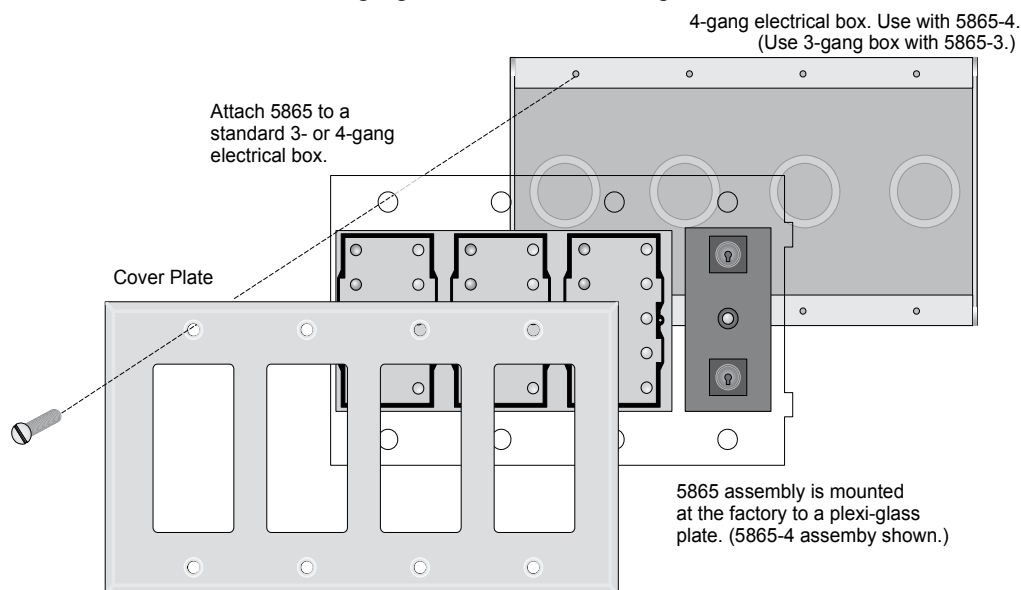


Figure 4-28 5865 Mounting Example

The 5865 ships with a set of zone description labels that can be inserted into the 5865 board assembly. These labels can be used in a typewriter or can be written on by hand. Slide the labels under the plexiglass as shown in Figure 4-29. The LEDs will show through the label when illuminated.

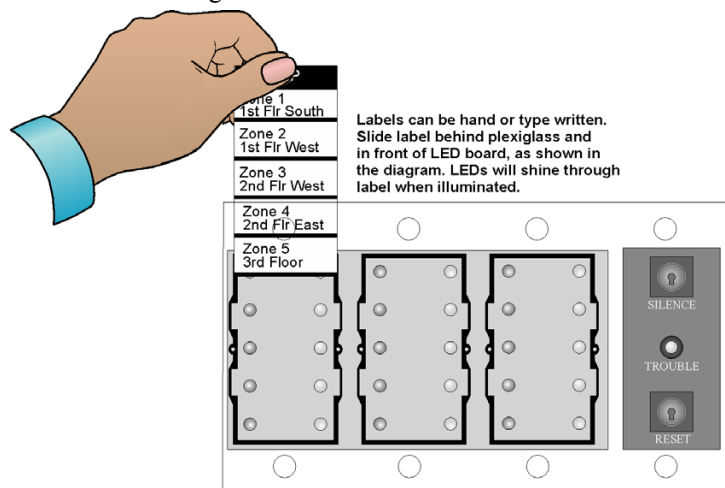


Figure 4-29 Inserting Zone Description Labels

4.10 Configuring SBUS Modules

This section describes how to configure any system hardware modules that have been added to the system.

4.10.1 Assigning SBUS Module IDs

SBUS devices on a panel are addressed from 1 to 63 and are connected to either SBUS 1 or SBUS 2. Although the addressing scheme allows 63 SBUS devices to be connected to a panel, the actual number is limited by current draw and SBUS bandwidth usage as discussed below. When installing a hardware module (such as 5815XL, 5824, RA-2000, 5496, RPS-1000, 5865-3 or 5865-4), you must use the DIP switches on the module to assign an ID# to the module. Address zero is an invalid address and is not allowed.

Figure 4-30 shows all possible DIP switch positions and their correlation to a numerical ID. For example, to select ID 2, place DIP switch 2 in the up or on position.

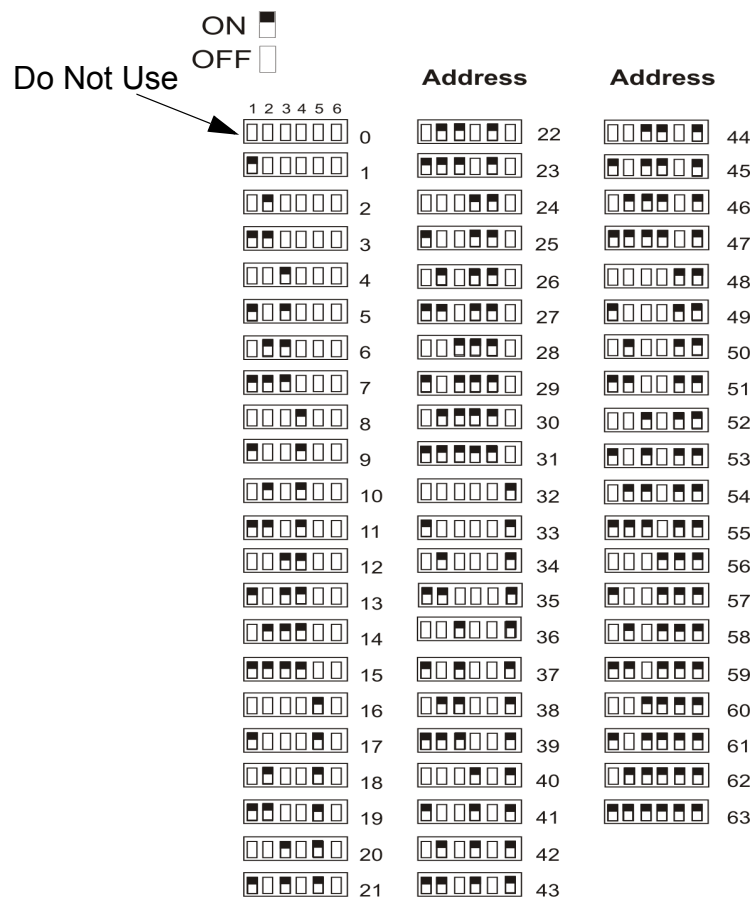


Figure 4-30 Possible SBUS module addresses

Refer to Section 9.2 to edit, add, delete, and view module list.

4.10.2 SBUS Bandwidth Considerations

Each SBUS device generates a certain amount of traffic on the SBUS. Generally, the amount of traffic generated depends on the type of SBUS device. To help you figure out the SBUS bandwidth usage of a given collection of devices, a tool is available on the Farenhyt website (www.farenhyt.com). The tool will serve as a guide to help determine how heavily loaded an SBUS is with respect to bandwidth. We recommend you use this tool if you

plan to have more than eight SBUS devices per SBUS. Remember to include devices that are on RPS-1000 SBUS repeaters in your list of devices for SBUS bandwidth calculations.

4.11 Telephone Connection

Connect the telephone lines as shown in Figure 4-31. The Model 7860 phone cord is available from Silent Knight for this purpose.

If you do not use the model 7860 to connect to the phone lines, the wire used for the connection must be 26 AWG or larger diameter wire.

A number of programmable options are available for customizing telephone lines. These options are described in Section 9.6.2.

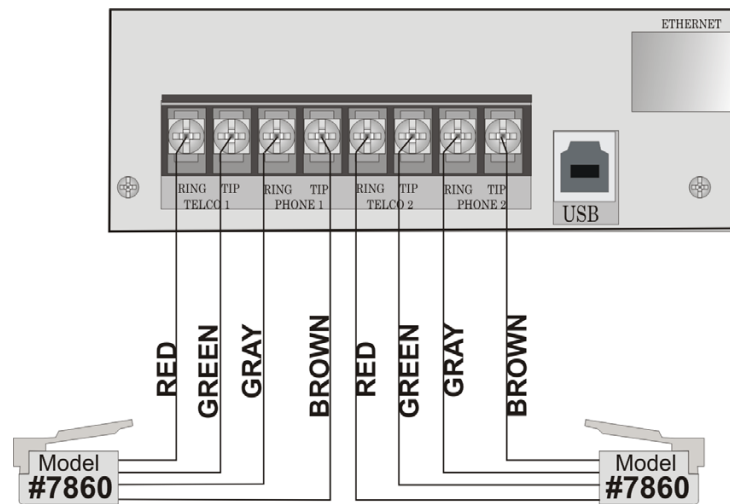


Figure 4-31 Connection of Telephone Lines

4.12 Flexputs™ I/O Circuits

The eight Flexput™ circuits are an innovative and versatile feature of the control panel. They can be used as: Class A or B notification circuits, Class A or B initiation circuits (either 2 or 4 wire detectors), or as auxiliary power (resettable, continuous, or door holder).

The polarity of the Flexput terminals differs depending on whether the circuit is programmed as an input or an output circuit. If the circuit is programmed as an input circuit (for a detector or normally open contact) the X terminal is negative and O terminal is positive. If the circuit is programmed as an output circuit (Aux power or NAC) then the X terminal is positive and the O terminal is negative.

4.12.1 Conventional Notification Appliance

This sub-section of the manual explains how to install conventional notification appliances for Class A (Style Z) and Class B (Style Y) configurations.

4.12.1.1 Class B Notification Wiring

You must use an appliance from the list of compatible appliances in the Appendix A at the back of this manual. To install a circuit:

1. Wire Class B Notification appliances as shown in Figure 4-32.

2. Configure the circuit through programming (see Section 9.5)

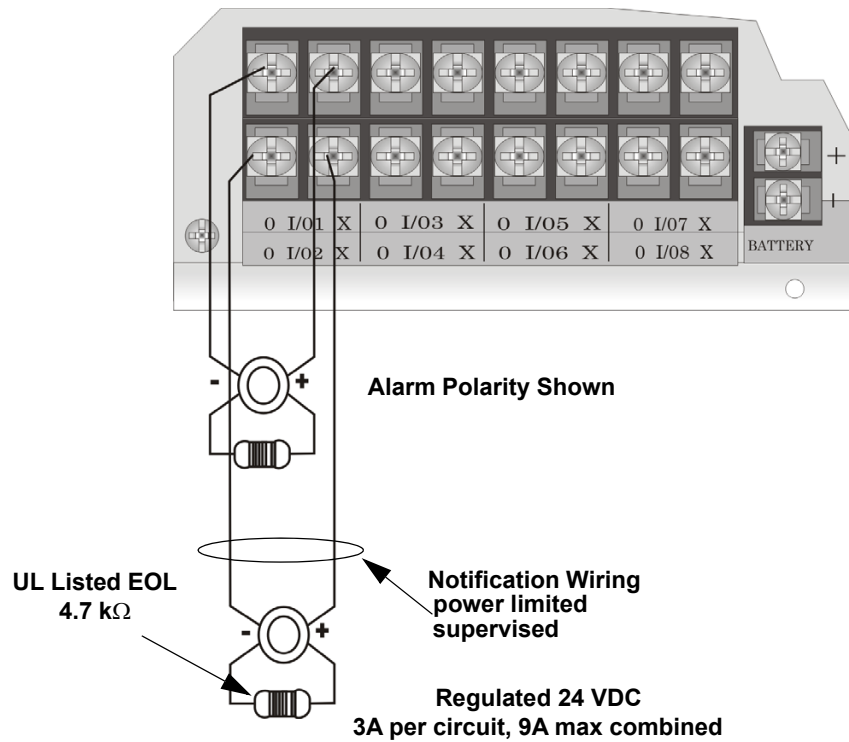


Figure 4-32 Class B Notification Appliance Circuit Wiring

Maximum voltage drop is 3V per Class B notification. See Table 4-3.

Table 4-3: Maximum Impedance Class B

| Current | Maximum Impedance |
|---------|-------------------|
| 1.0A | 3Ω |
| 1.5A | 2Ω |
| 2.0A | 1.5Ω |
| 2.5A | 1.2Ω |
| 3.0A | 1.0Ω |

4.12.1.2 Class A Notification Wiring

You must use an appliance from the list of compatible appliances in Appendix A at the back of this manual.

To install a Class A notification appliance circuit:

1. Wire the Class A notification appliances as shown in Figure 4-33.

Caution

For proper system supervision do not use looped wire under terminals marked O and X of the Flexput connectors. Break wire runs to provide supervision of connections.

- Configure the circuit for Class A in programming (see Section 9.5).

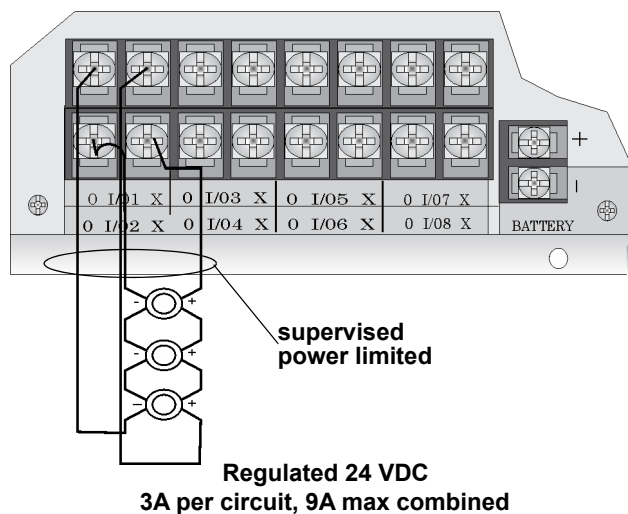


Figure 4-33 Class A Notification Appliance Circuit Configuration

Note: In programming any point that uses multiple Flexput circuits, the lowest Flexput circuit number is used to refer to the circuit pair. For example, Figure 4-33 uses both Flexput circuit 1 and 2, so in programming it would be referred to as point 1.

Maximum voltage drop is 3V per Class A circuit. See Table 4-4.

Table 4-4: Maximum Impedance Class A

| Current | Maximum Impedance |
|---------|-------------------|
| 1.0A | 3Ω |
| 1.5A | 2Ω |
| 2.0A | 1.5Ω |
| 2.5A | 1.2Ω |
| 3.0A | 1.0Ω |

4.12.2 Conventional Input Switch Circuits

This section of the manual explains how to install conventional initiating devices for Class A (Style D) or Class B (Style B) configurations.

4.12.2.1 Class B Inputs

You can connect conventional Class B switches, such as waterflow switches and pull stations, directly to the Flexput circuits of the control panel.

To install a Class B switch:

- Wire the Class B switch as shown in Figure 4-34.

2. Configure the circuit through programming (see Section 9.5).

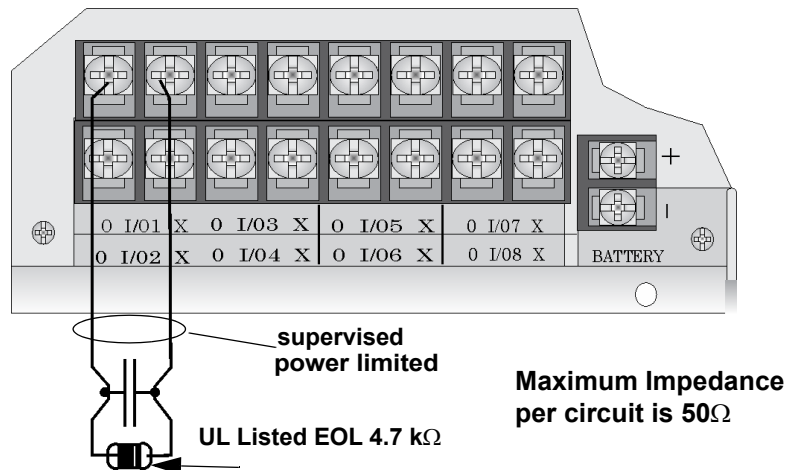


Figure 4-34 Class B Input Switches

4.12.2.2 Class A Inputs

You can connect conventional Class A switches, such as waterflow switches and pull stations, directly to the Flexput circuits of the control panel.

To install a Class A switch:

1. Wire the Class A switch as shown in Figure 4-35.
2. Configure the circuit through programming (see Section 9.5).

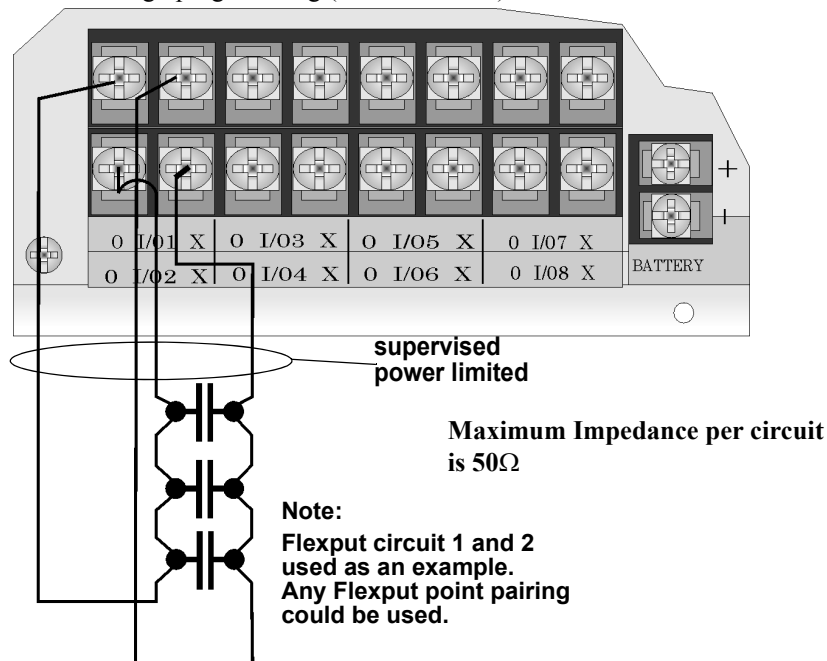


Figure 4-35 Class A initiating Switches

Note: In programming any point that uses multiple Flexput circuits, the lowest Flexput circuit number is used to refer to the circuit pair. For example, Figure 4-35 uses both Flexput circuit 1 and 2, so in programming it would be referred to as point 1.

4.12.3 Installing 2-Wire Smoke Detectors

Any compatible UL listed two-wire smoke detector can be used with the control panel (see Appendix A for list of compatible smoke detectors). Figure 4-36 and Figure 4-37 illustrate how to connect a UL listed 2-wire detector to the control panel.

4.12.3.1 Installing 2-Wire Class B Smoke Detectors

To install a Class B two-wire smoke detector, wire as shown in Figure 4-36.

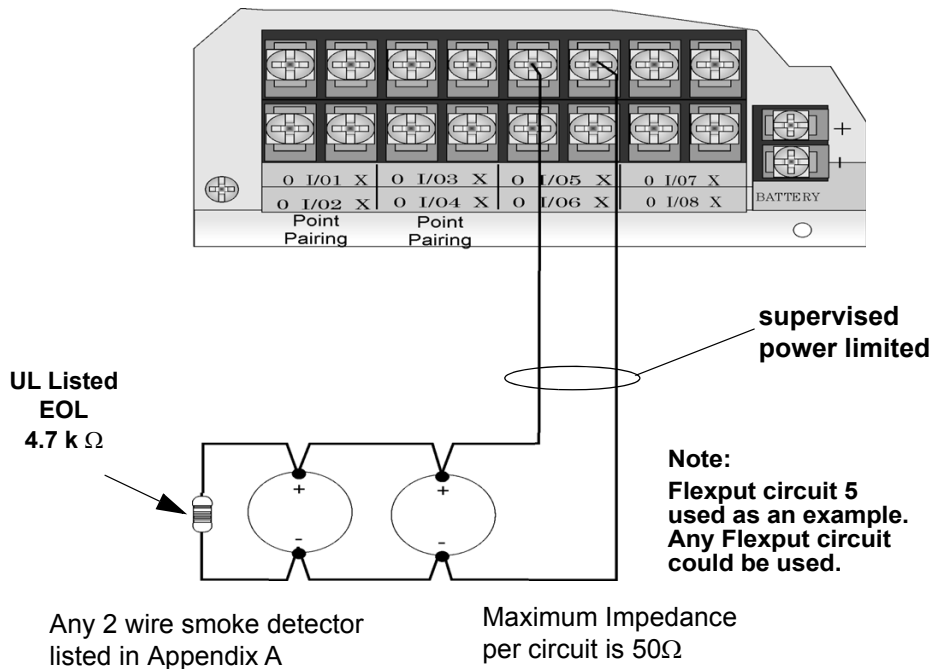


Figure 4-36 Two-Wire Class B Smoke Detector

4.12.3.2 Installing 2-Wire Class A Smoke Detectors

To install a Class A two-wire smoke detector, wire as shown in Figure 4-37.

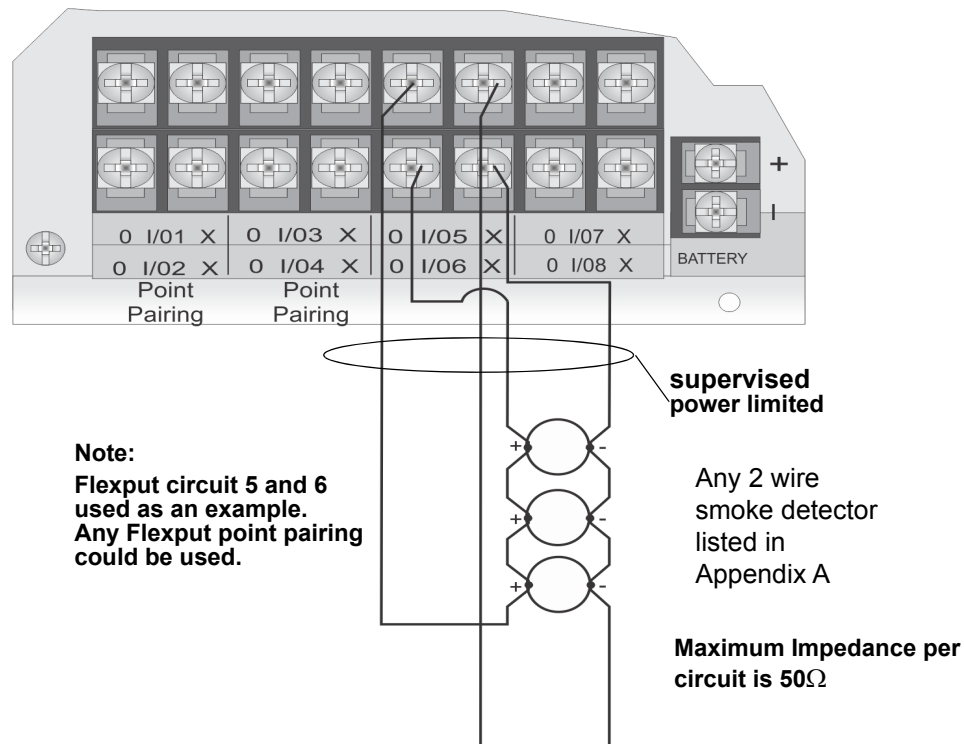


Figure 4-37 Two-Wire Class A Smoke Detector Connections

Note: In programming any point that uses multiple Flexput circuits, the lowest Flexput circuit number is used to refer to the circuit pair. For example, Figure 4-37 uses both Flexput circuit 5 and 6, so in programming it would be referred to as point 5.

4.12.4 Installing 4-Wire Smoke Detectors

Any compatible UL listed four-wire smoke detector can be used with the control panel (see Appendix A for list of compatible smoke detectors). Figure 4-38 and Figure 4-39 illustrate how to connect a UL listed four-wire detector to the control panel.

4.12.4.1 Installing a Class B 4-Wire Smoke Detectors

Figure 4-38 illustrates how to install a 4-wire Class B smoke detector.

Conventions used for wiring 4-wire Class B loops:

1. Up to four Class B 4-wire smoke detector loops can be connected to the control panel at once.
2. Each Class B loop input is paired with a unique power source as shown in Figure 4-38.

- Each loop gets smoke power from the even numbered Flexput circuit and the contact input is connected to the odd numbered Flexput circuit.

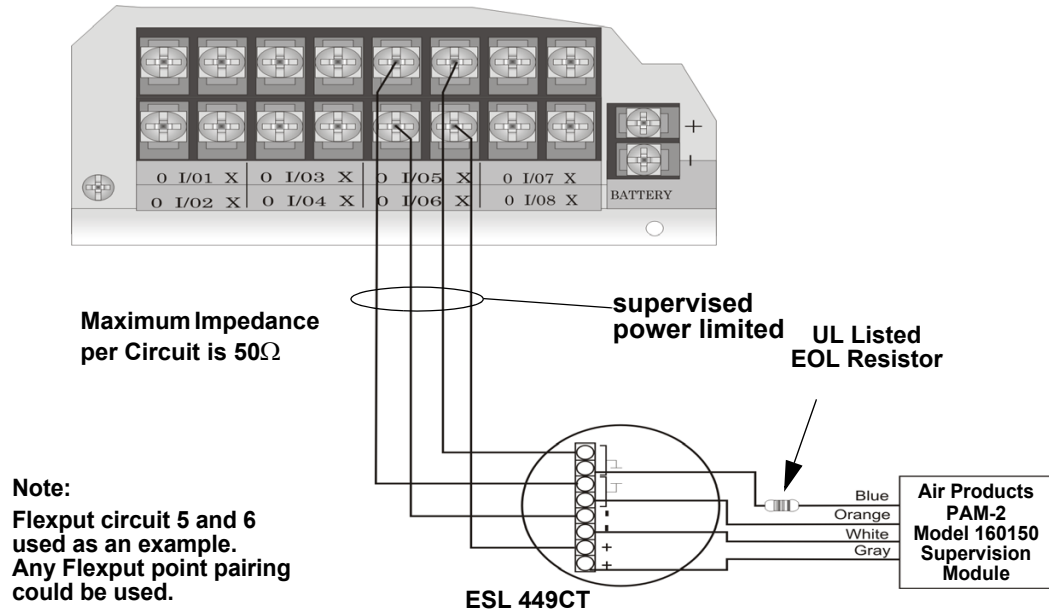


Figure 4-38 Class B 4-Wire Smoke Detector Connections

Note: In programming any point that uses multiple Flexput circuits, the lowest Flexput circuit number is used to refer to the circuit pair. For example, Figure 4-38 uses both Flexput circuit 5 and 6, so in programming it would be referred to as point 5.

4.12.4.2 Installing 4-Wire Class A Smoke Detectors

Figure 4-39 illustrates how to install 4-wire Class A detectors.

Conventions used for wiring 4-wire Class A loops:

- Up to two Class A 4-wire loops can be connected to the control panel at once.

2. Smoke power is supplied to each Class A loop as shown in Figure 4-39.

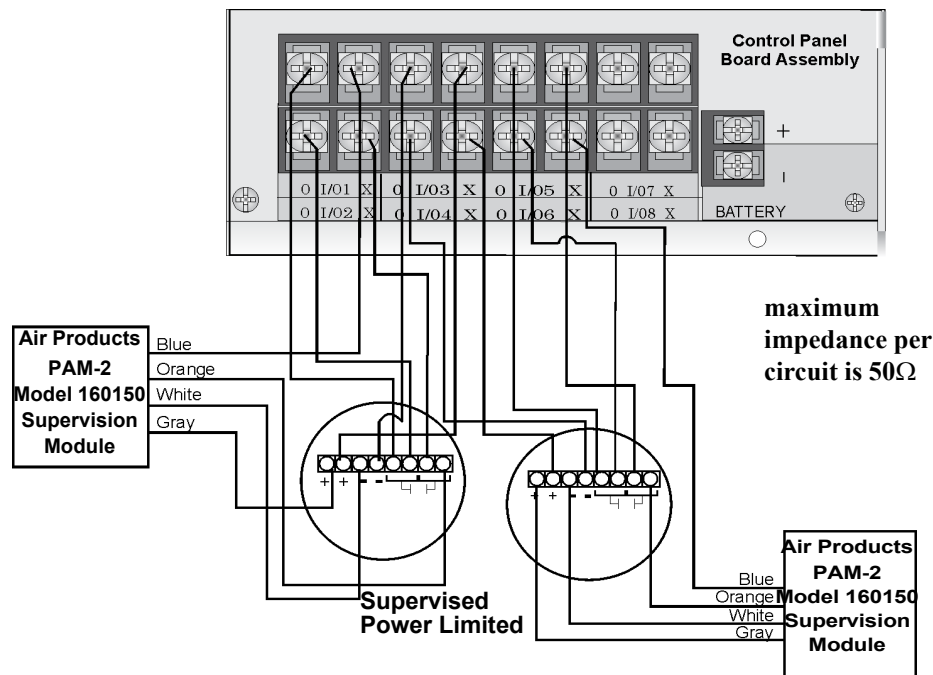


Figure 4-39 Class A 4-Wire Smoke Detector Connections

Note: In programming any point that uses multiple Flexput circuits are always referred to as the lowest Flexput circuit number used. For example, Figure 4-39 uses Flexput circuits 1, 2, 3 together and 4, 5, 6 together. In programming (1, 2, 3) would be referred to as point 1, and (4, 5, 6) would be referred to as point 4.

4.12.5 Auxiliary Power Installation

Flexput Circuits 1-8 on the control panel can be used as auxiliary power circuits. The three types of auxiliary power available are:

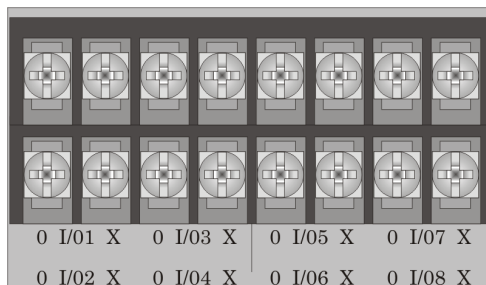
- Door Holder Power (see Section 4.12.5.1)
- Constant Power (see Section 4.12.5.2)
- Resettable Power (see Section 4.12.5.3)
- Sounder Sync Power (see Section 4.12.5.4)

Auxiliary power circuits are power limited. Each circuit can source up to 3A (total current for all Flexput circuits must not exceed 9.0 A in alarm, and 6A when used as constant auxiliary power in normal standby).

To install an auxiliary power circuit:

1. Wire the Flexput circuit(s) that will be used for auxiliary power. See Figure 4-40 for location of Flexput circuits.

2. Configure the auxiliary power output through programming (see Section 9.5).



When used as auxiliary power, terminals labeled “O” are negative, terminals labeled “X” are positive

Figure 4-40 Flexput Circuit Location

4.12.5.1 Door Holder Power

Door holder power is intended for fire door applications. When there are no fire system alarms in the system and the panel has AC power, door holder circuits have 24 volt power present at their terminals. Any fire system alarm will cause power to disconnect. Power will be re-applied when the fire system is reset. If AC power is not present, the auxiliary door holder power will be disconnected to conserve the battery backup. When AC power is restored, power is immediately restored to the door holder circuits.

Use a UL listed door holder such as ESL DHX-1224, for this application. See Table A-5 for compatible door holder list.

4.12.5.2 Constant Power

Use constant power for applications that require a constant auxiliary power source. Power is always present at constant circuits.

4.12.5.3 Resettable Power

Resettable power is typically used to power beam detectors, flame detectors and conventional 4-wire smoke detectors. For circuits selected as Resettable, 24 volt power is always present at the terminals unless a fire system reset occurs. If a fire system reset occurs, power is disconnected from the terminals for 30 seconds, then re-applied. See Table A-4 for compatible four wire smoke detectors.

4.12.5.4 Sounder Sync Power

Sounder Sync Power continuously outputs the System Sensor synchronization pattern and is intended for use with B200S sounder bases.

4.13 On-Board Relays (Conventional)

The control panel has two built-in programmable relays and a built-in trouble relay. All relays are Form C rated at 2.5 A @ 24VDC.

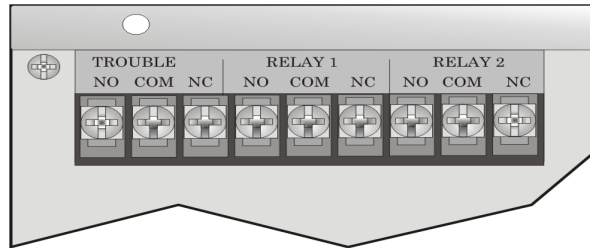


Figure 4-41 Location of Conventional Relay Circuits

4.13.1 Trouble Relay

The control panel has a dedicated Form C trouble relay built in. The relay provides a normally open and a normally closed contact. The trouble relay will deactivate under any trouble condition.

Note: The NC contact is the relay contact that is closed when the panel has power and there are no trouble conditions.

4.13.2 Programmable Relays

The control panel has two Form C programmable relays built in. Each relay provides a normally open and a normally closed contact.

To install one or two programmable relays, follow these steps.

1. Wire Relay 1 and/or Relay 2 as needed for your application. See Figure 4-41 for the location of the relay terminals.
2. Configure the relay through programming (see Section 9.5).

4.14 Remote Station Applications

4.14.1 Keltron Model 3158 Installation

The control panel is compatible with Keltron Model 3158, used for direct connection to a Keltron receiver. The 3158 reports alarms, supervisories, and troubles.

The steps for connecting the 3158 to the control panel. Refer to the 3158 installation instructions for complete information.

1. Wire the 3158 to the control panel as shown in the connection list and Figure 4-42.
2. Wire the 3158 within 20 feet of the control panel. Wiring must be enclosed in conduit.
3. Program control panel Relay 1 for alarm.
4. Program Flexput circuit 5 for alarm.
5. Program Flexput circuit 6 for supervisory non latching.

Table 4-5: Keltron 3158 to Control Panel Connections

| Terminal # | Connects To |
|--------------|--------------------------------|
| 3158 Term. 1 | To Keltron receiving equipment |
| 3158 Term. 2 | To Keltron receiving equipment |
| 3158 Term. 3 | Earth ground |
| 3158 Term. 4 | Not used; no connection. |
| 3158 Term. 5 | Control panel SBUS OUT + |
| 3158 Term. 6 | Control panel SBUS OUT – |
| 3158 Term. 7 | Control panel I/O5 O |

| Terminal # | Connects To |
|---------------------------|---------------------------|
| 3158 Term. 8 | Control panel Relay 1 COM |
| 3158 Term. 9 | Control panel I/O6 O |
| 3158 Term. 10 | Control panel I/O6 X |
| Control panel I/O5 X | Control panel Relay 1 NO |
| Control panel Relay 1 COM | Control panel Trouble COM |
| Control panel Relay 1 NO | Control panel Trouble NC |

Not suitable for remote station protected premise service where separate transmission circuits are required for fire supervisory (if applicable), and trouble signals.

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

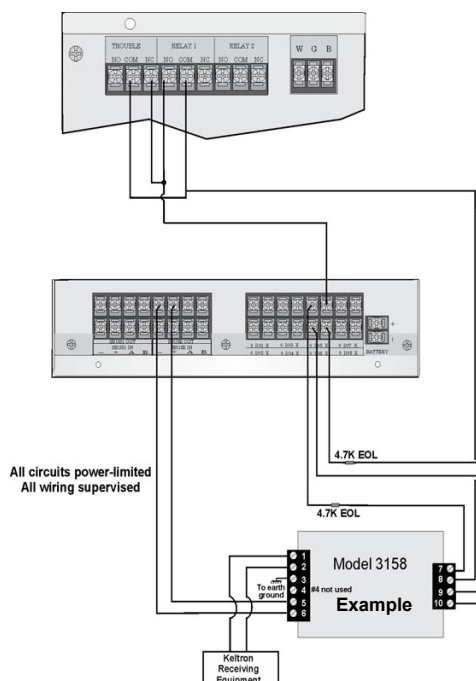


Figure 4-42 Keltron 3158 Connection to Control Panel

4.14.2 City Box Connection Using the 5220 Module

This section describes how to connect the control panel to a local energy 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.

City Box Standby Current: 0 (Notification supervision current accounted for in control panel draw.)

Alarm Current: 1 Amp for 1 second 27.2 VDC max. The maximum coil and wire resistance (combined) must not exceed 30 ohms.

To install the 5220 for city box connection:

1. Use one of the knockouts on the right side of the control panel to connect the 5220 using a short piece of conduit (must not exceed 20 feet in length).
2. Wire the 5220 to the control panel as shown in Figure 4-43. This drawing also shows how to connect the city box coil to terminals 3 and 4 on the 5220. Do not install an EOL resistor in the terminals of the Flexput circuit used for this application.
3. Connect earth ground wire to the 5220 chassis with mounting screw.
4. Program the Flexput circuit as a notification circuit, Refer to Section 9.5.2. Assign this Flexput to an output group that is mapped to activate with non silenceable constant output in response to a system general alarm condition.

It is not possible to reset the remote indication until you clear the condition and reset the control panel.

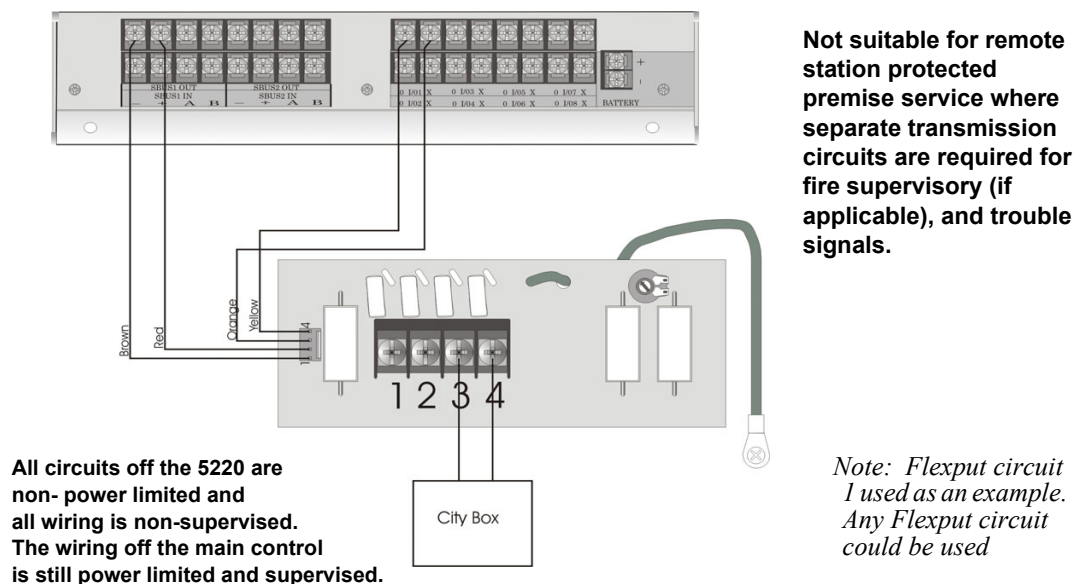


Figure 4-43 City Box Connection

4.14.3 Using the IDP-Relay Addressable Relay Module for City Box Connection

Wire the IDP-Relay as shown in Figure 4-44.

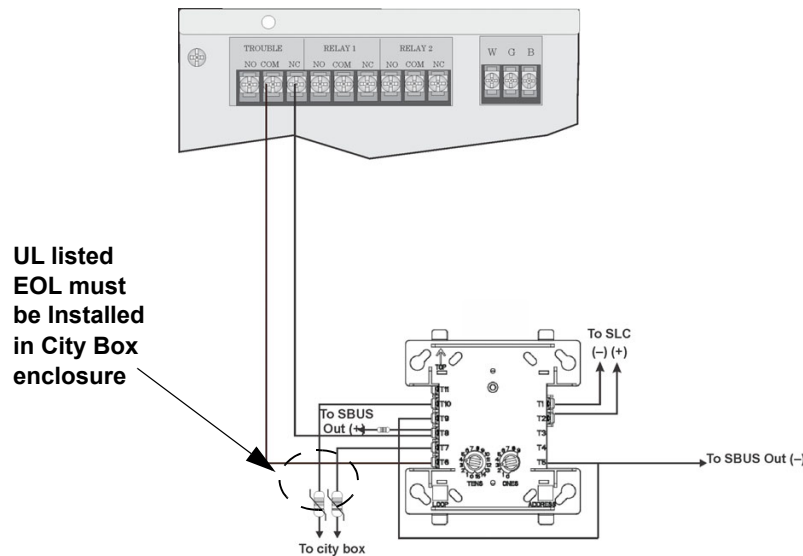


Figure 4-44 IDP-Relay Module for City Box Connection

4.14.4 NFPA 72 Polarity Reversal

Note: Intended for connection to a polarity reversal circuit of a control unit at the protected premises having compatible rating.

4.14.4.1 Using the 5220 Module

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 control panel is reset.

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

Standby Current: 100 mA, 24 VDC

Alarm: 100 mA, 24 VDC

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

1. Locate the knockout on the right side of the control panel cabinet to connect the 5220 using a short piece of conduit (must not exceed 20 feet in length).
2. Wire the 5220 to the control panel using the four-wire pigtail provided as shown in Figure 4-45. This diagram also shows how to connect the 5220 to the remote indicator. Do not install an EOL resistor in the terminals of the Flexput circuit used for this application.
3. Connect earth ground wire to the 5220 chassis with mounting screw.
4. Program the Flexput circuit as a notification circuit, refer to Section 9.5.2. Assign this Flexput to an output group that is mapped to activate with non silenceable constant output in response to a system general alarm condition.

5. If necessary, adjust loop current using the potentiometer (R10) on the 5220 board. Normal loop current is 2-to-8 mA with a 1k ohm remote station receiving unit. Maximum loop resistance is 3k ohm.

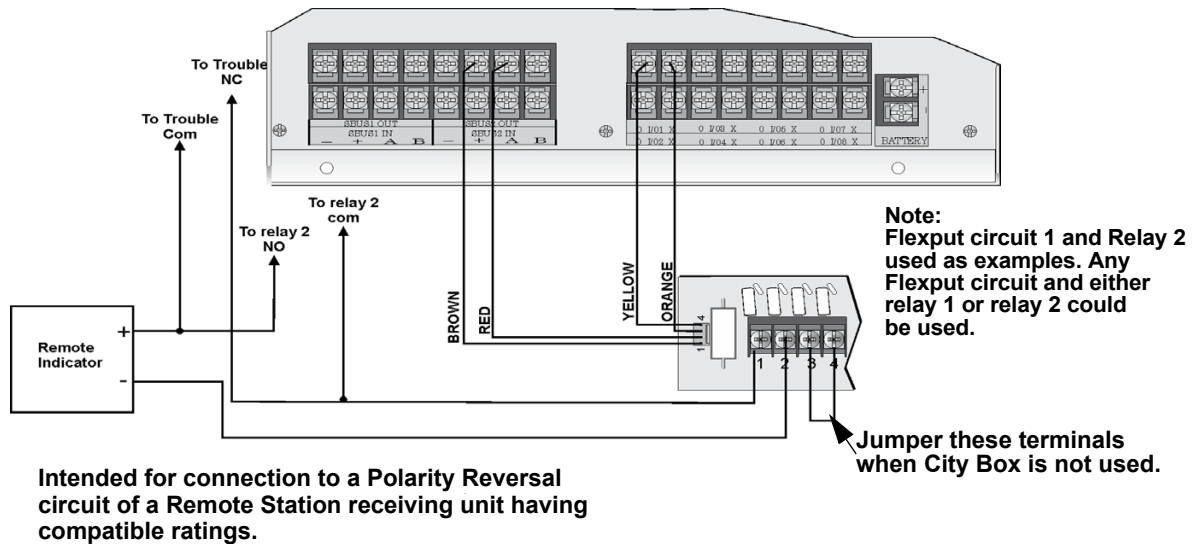


Figure 4-45 Polarity Reversal Connection Using the 5220 Module

4.14.4.2 Using the 7644-L8* Module

When the 7644-L8 is used for polarity reversal, it allows alarm and trouble events to be reported 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.

To install the 7644-L8* for polarity reversal:

1. Wire the 7644-L8 to the control panel as shown in Figure 4-46. Do not install an EOL resistor on the terminals of the Flexput circuit used.
- Note: Use only Flexput circuits on the control panel for reverse polarity.*
2. Program the Flexput circuit as a notification circuit. See Section 9.5.2.
3. Map the group to activate non silenceable, constant on in response to a system general alarm, and to disconnect in response to a system trouble.

*Note: *When ordering, use PN 7644-L8*

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

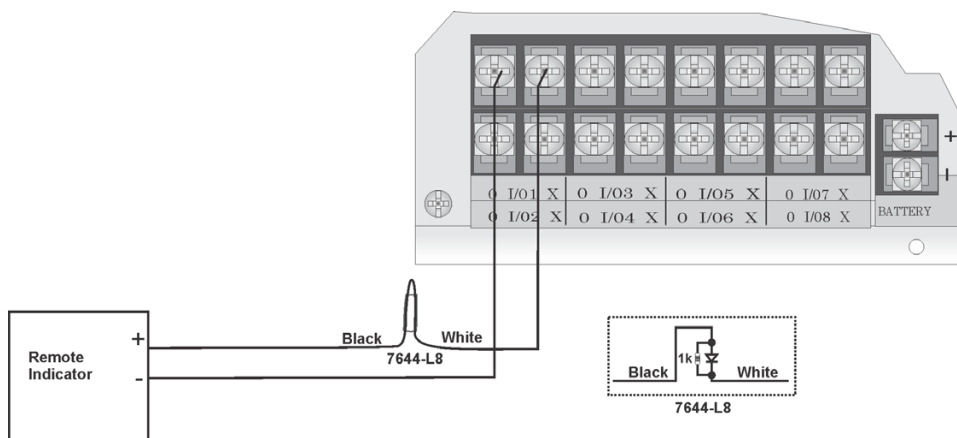


Figure 4-46 Polarity Reversal Connection Using the 7644

4.14.5 Transmitter Activated by Dry Contacts

This section describes the connection of a UL 864 listed remote station transmitter to the IFP-2000 dry relay contacts. The IFP-2000 FACP contacts must be supervised by the remote station transmitter module using end-of-line resistors (ELRs) with a value determined by the transmitter manufacturer. Power is also provided by the remote station transmitter manufacturer. Refer to the remote station transmitter manufacturer's manual for details.

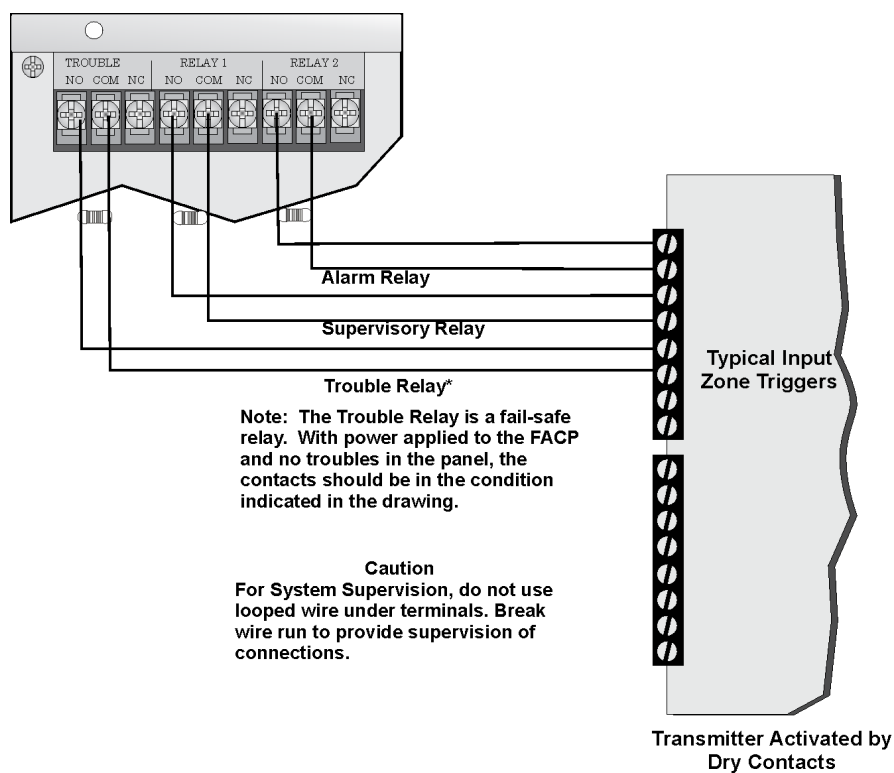


Figure 4-47 Transmitter Activated by Dry Contacts

Section 5

Networking

5.1 Network System Hardware Features

IFP-2000 panels can be networked to create a virtual system that is larger than 636 addressable points. Each additional IFP-2000/RPS-2000 provides another 636 addressable points to the network total. For example, a network of eight panels provides a maximum addressable point capacity of 5,088 points ($636 \times 8 = 5,088$).

5.1.1 Networked Sites

A networked site is a logical group of IFP-2000 and/or RPS-2000 panels that behave as though the logical group is one large control panel. Each building is referred to as a “site.” All panels in a site operate as a single panel. The control functions like reset, silence and alarm activation operate across the entire site. There can be one or more logical sites within a networked system. Taken to the extreme, the maximum number of sites within a network system is limited to the number of panels in the network with each site comprised of only one panel.

5.1.2 Wiring Options to Connect Networked Panels

1. Direct Connect - Panels can be connected cost effectively via shielded twisted pair copper wire within conduit when the panels are located no more than 20 feet apart and in the same room.
2. Repeater Connection - Panels separated by more than 20 feet or located in multiple buildings, must use the IFP-RPT network repeater hardware to provide up to 3000 feet of separation with twisted pair copper wire or up to 8dB loss of signal separation for fiber optic cable.

All methods of panel connectivity can be used within the same networked system. The network architecture provides true peer to peer capability allowing network survivability for all hardware that remains operational in the event of partial system failure.

5.2 Model RPS-2000

The model RPS-2000 provides the same power and point capacity of an IFP-2000 panel, but does not include any user interface. It is used in networked systems where added power and/or point capacity is required but where additional user interface is not needed.

5.3 Direct Connect Wiring Option

When networking a group of IFP-2000s and/or RPS-2000s within a 20 foot radius of each other, you may use the direct connect method to link the panels together in the site. The cable used must be shielded twisted pair communication grade cable. See Figure 5-1 on page 2, direct connect wiring option. The direct connect wiring option uses a BUS configuration. There are no T-taps or class A wiring options.

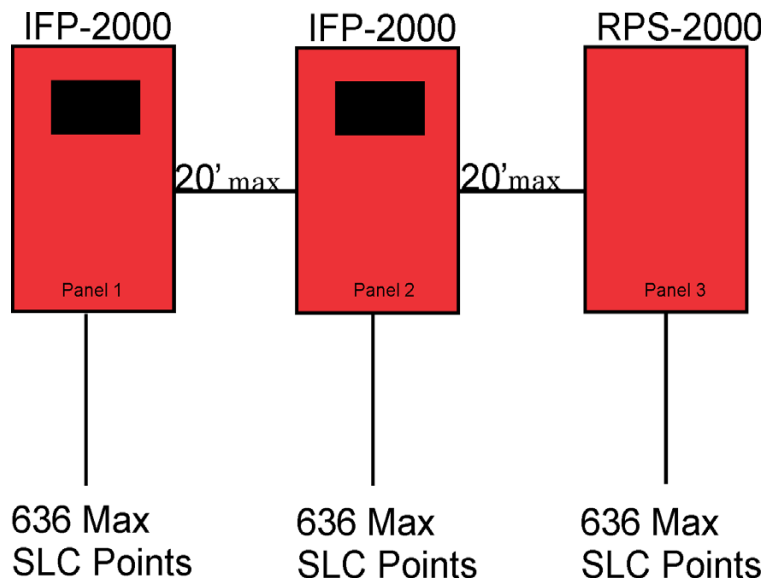


Figure 5-1 Direct Connect Wiring Option

5.3.1 Installing using Direct Connection within a Site:

1. Mount the IFP-2000 and/or RPS-2000 panels within 20 feet of conduit run distance from each other. Place the conduit for routing the direct connect networking cable between panels in a bus configuration as shown above in Figure 5-1 on page 2.
2. Make the network wiring connections. The cable used must be shielded twisted pair 18 gauge or larger wire. See Figure 5-2 on page 2 for the DIP switch termination settings for Direct Connect wire option. Run one of the twisted pair wires from the NETWORK A terminal on one panel to the NETWORK A terminal on the next panel. Use the other wire of the twisted pair to connect the NETWORK B terminals together. Run the network ground connection using the twisted pair shield between the NETWORK GND terminal on both panels. Repeat this for each additional panel until all A, B and GND terminals are wired together as a BUS.
3. Configure the network terminators. The panels at both ends of the network bus must have DIP switches 8, 9, and 10 set to the "ON" position. All panels that are not at the BUS ends must have the terminators set to the OFF position. See Figure 5-2 on page 2.
4. T-Tapping is not allowed; wire must be run in a BUS configuration.

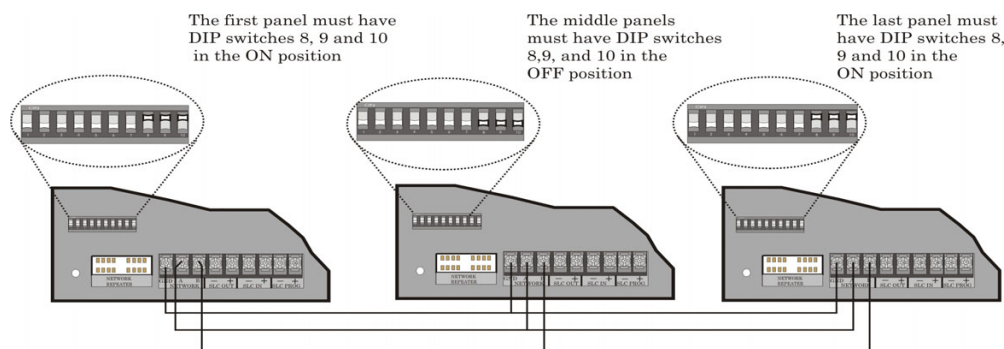


Figure 5-2 DIP Switch Terminations Settings for Direct Connect Wiring Option

5.4 Repeater Wiring Options

Networking a group of IFP-2000 and/or RPS-2000 at a distance greater than 20 feet requires the use of a network repeater with each panel. Repeaters are used to travel long distances and/or between buildings. Figure on page 3 Figure 5-3 on page 3 shows the repeater wiring connection for style 4, class B as a solid line. For style 7, class A the dotted line would be used in addition to the solid lines.

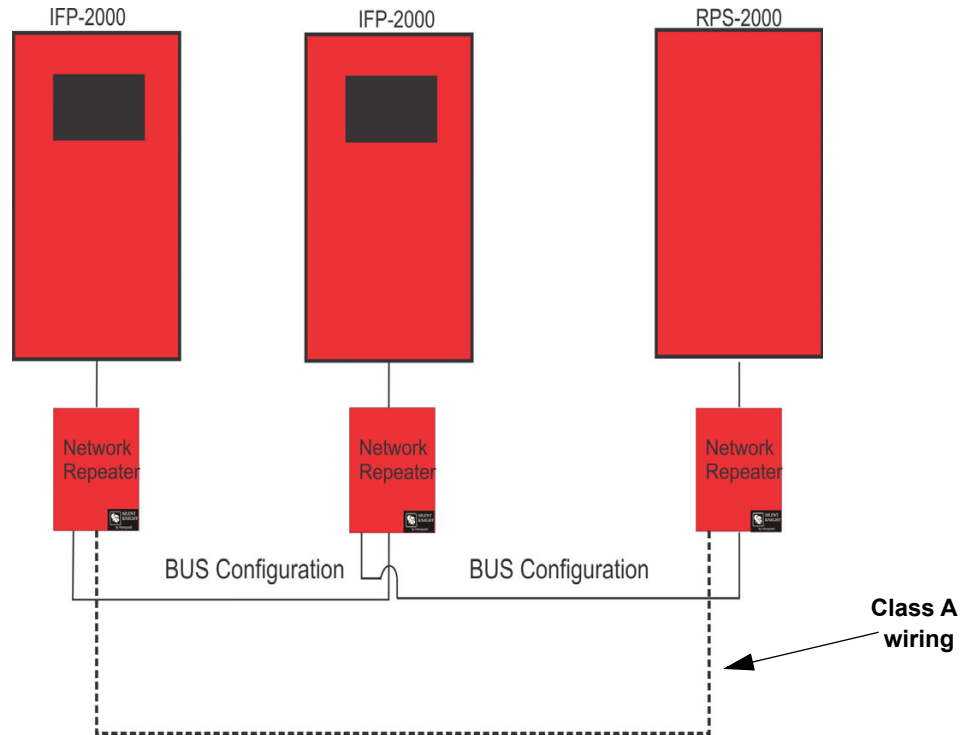


Figure 5-3 Repeater Networking Connections

5.4.1 Network Repeater Types

Network repeaters are available in two configurations. See Figure 5-4 on page 3.

1. P/N IFP-RPT-UTP is used for twisted pair copper wiring up to 3000 ft. between panels.
2. P/N IFP-RPT-FO is used for fiber optic cable or twisted pair wiring between panels.

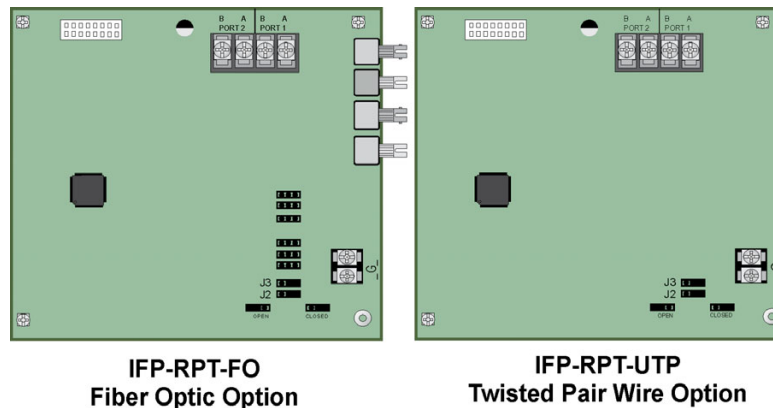


Figure 5-4 Types of Network Repeaters

The IFP-RPT-UTP repeater is used for connecting panels via unshielded twisted pair wiring up to a maximum wiring distance of 3000 feet. The IFP-RPT-FO repeater is used for connecting panels via fiber optic cable up to a maximum signal loss of 8dB. The IFP-RPT-FO repeater also has connections for unshielded twisted pair wiring so that either fiber optic cable or unshielded twisted pair wiring can be used for connecting panels.

5.4.1.1 Accessory Mounting Kits

Repeaters can be mounted within the IFP-2000 cabinet or in an accessory cabinet. Accessory kits are available that include a small cabinet with door, key, mounting hardware, 5 foot ribbon cable to connect the repeater to the control panel and the repeater printed circuit board. The accessory kits are available if you want to install the repeater outside of the IFP-2000 cabinet.

The accessory kit part numbers are:

1. IFP-RPT-UTP-KIT which includes the IFP-RPT-UTP repeater card and SK2190 enclosure.
2. IFP-RPT-FO-KIT which includes the IFP-RPT-FO repeater card and SK2190 enclosure.

5.4.2 Network Repeater Installation

The network repeater is designed to mount on one of the 5815XL standoff sets.

Use the following steps to properly mount the network repeater to the IFP-2000.

1. Place the network repeater on one of the 5815XL standoff sets. Use the standoff extenders provided for better access to the fiber optic cables if there is a clearance issue.
2. Use the 20" ribbon cable to connect the IFP-2000 to the repeater board. Run an insulated wire from the screw terminal labeled G (TB2) on the repeater to an earth screw terminal on the control panel.

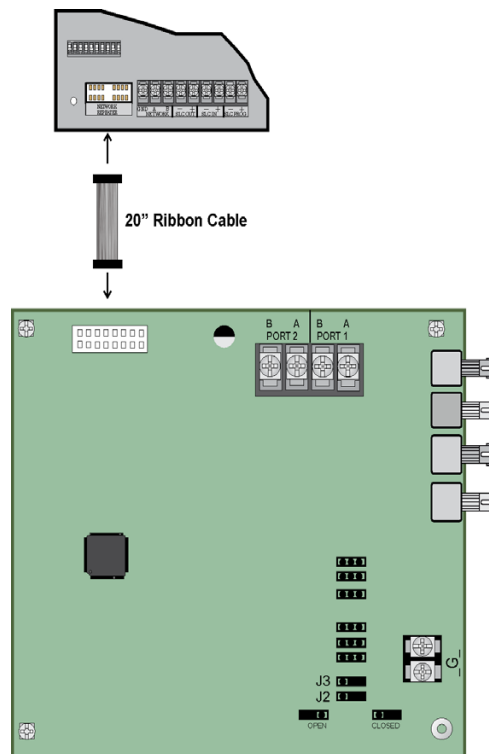


Figure 5-5 Panel to Networked repeater connection

- Place Jumpers J2 and J3 in the CLOSED position when there is a twisted pair cable connected to port 1 of terminal block TB1. Each repeater has the ability to monitor for earth ground faults on the twisted pairs connected to port 1 of its terminal block TB1. Earth fault detection for any wiring at Port 2 of TB1 is done at the next/previous repeater due to these wiring connections being connected to Port 1 of TB1 at the next/previous repeater. When no twisted pair wiring is made to Port 1 of TB1 jumpers J2 and J3 must be left OPEN at the repeater. This would be the case when using fiber optic cable or when Port 2 of TB1 is only being used.
- On fiber optic repeaters, jumpers J4 through J9 are normally left OPEN. See IFP-RPT installation instruction (PN 9001-0061) for determining when to use J4 through J9. Fiber optic ports that are not used must have their dust caps placed on the port.
- Based on the type of network repeater board chosen, run the twisted pair wiring /fiber optic cable to the next network repeater using a BUS or style 7 (class A) wiring method. A combination of both repeater types can be used. See Figure 5-6 on page 5, Figure 5-7 on page 6, Figure 5-8 on page 7, and Figure 5-9 on page 8 for repeater wiring examples.

5.4.2.1 Network Repeater Cable Requirements

Cable requirements for wire runs between repeaters.

- All fiber cable must be multimode 62.5/125 micron cable with ST type connectors. It is important that the cable be verified to contain no more than 8dB of loss including the connectors.
- Twisted pair wiring must be UNSHIELDED twisted pair conductor cable. The wire gauge must be 18 AWG or larger. The maximum wire length is 3000 ft. between repeaters.

5.4.2.2 Unshielded Twisted Pair Wiring between Multiple Panels

Unshielded twisted pair wiring between multiple panels is shown in Figure 5-6. Class A wiring is shown with a dotted line.

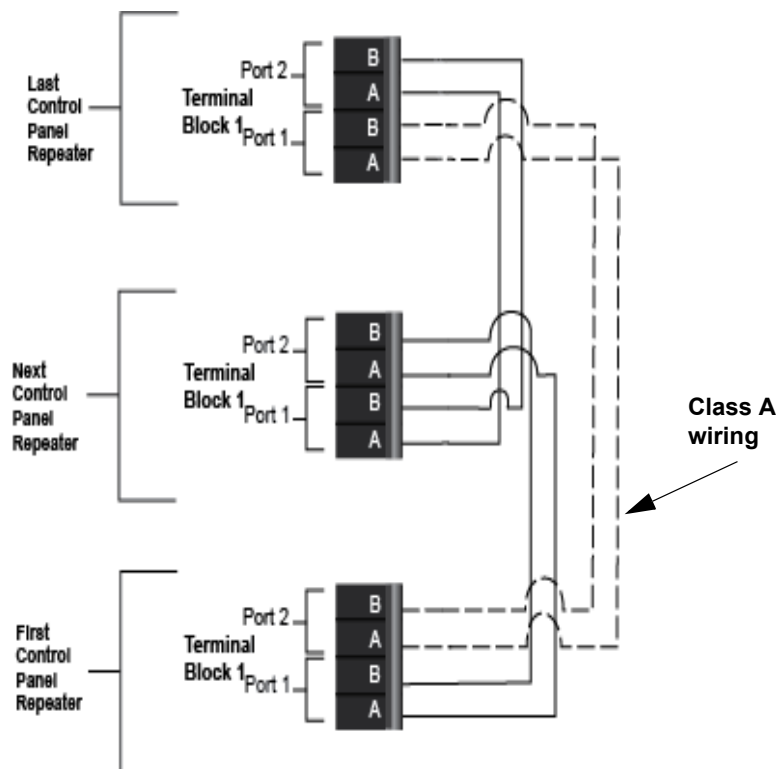


Figure 5-6 Twisted Pair Wiring Configuration

5.4.2.3 Fiber Optic Repeater Wiring between Multiple Panels

Fiber optic cable between multiple panels is shown in Figure 5-7 on page 6. Class A is shown with a dotted line.

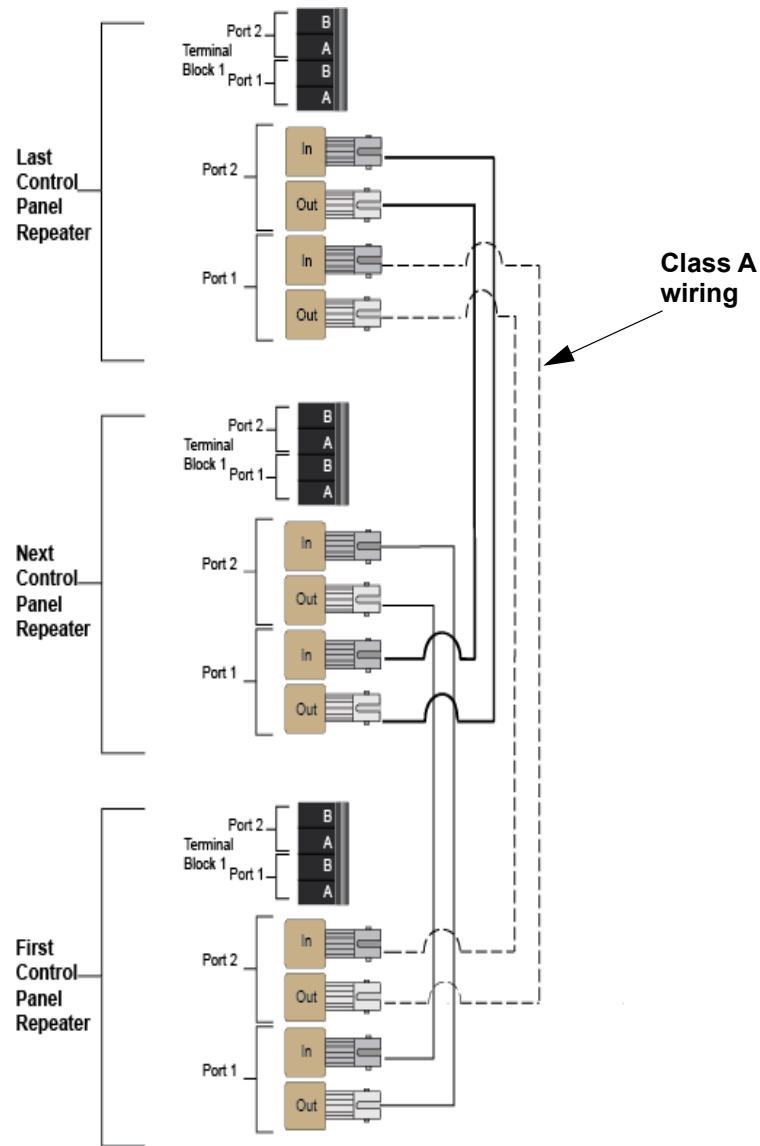


Figure 5-7 Fiber Optic Wiring Example

5.4.2.4 Fiber Optic and Twisted Pair Repeater Wiring between Multiple Panels

A mixture of fiber optic cable and twisted pair wiring between multiple panels is shown in Figure 5-8 on page 7.

Class A cabling is shown with dotted line.

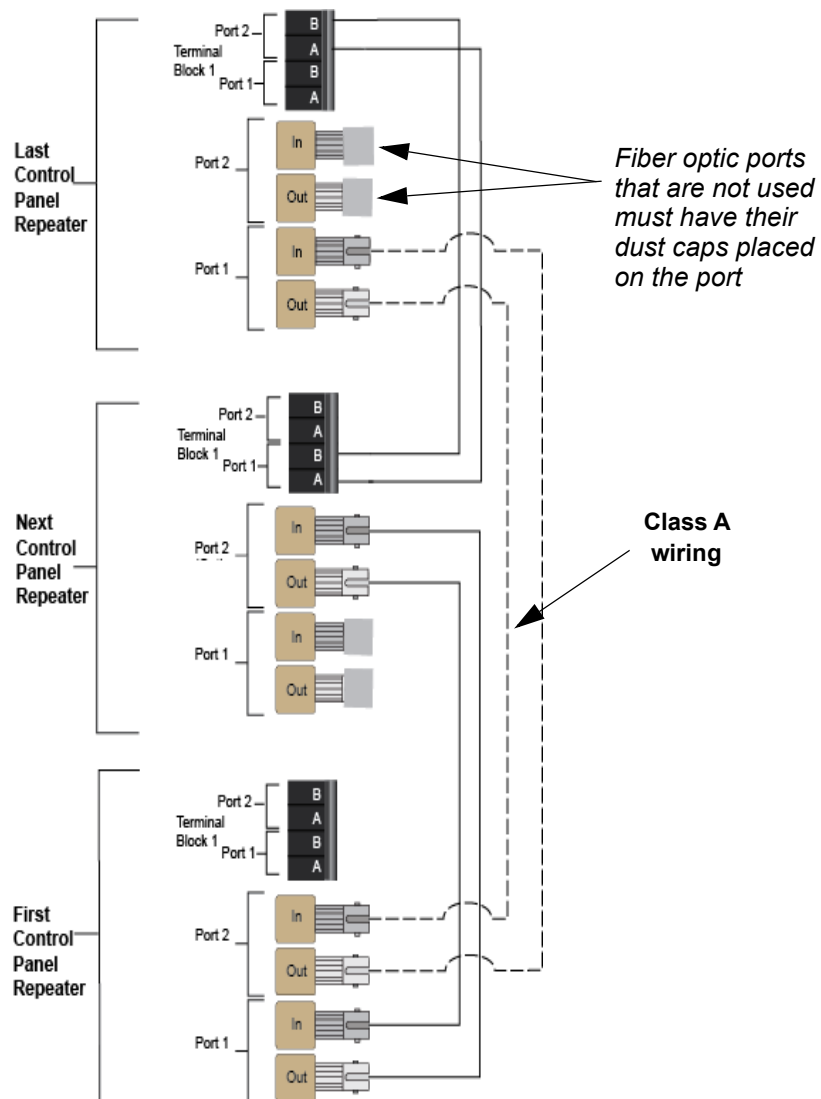


Figure 5-8 Twisted Pair and Fiber Optic Combination Wiring Example

5.5 Using Both Repeaters and Direct Connect Wiring on a Networked System

Figure 5-9 on page 8 below shows a network wiring example using both repeaters and direct connect wiring. All repeaters in the system must be placed only on panels that are at the ends of a direct connect BUS or connected to panels with no direct connect network wiring.

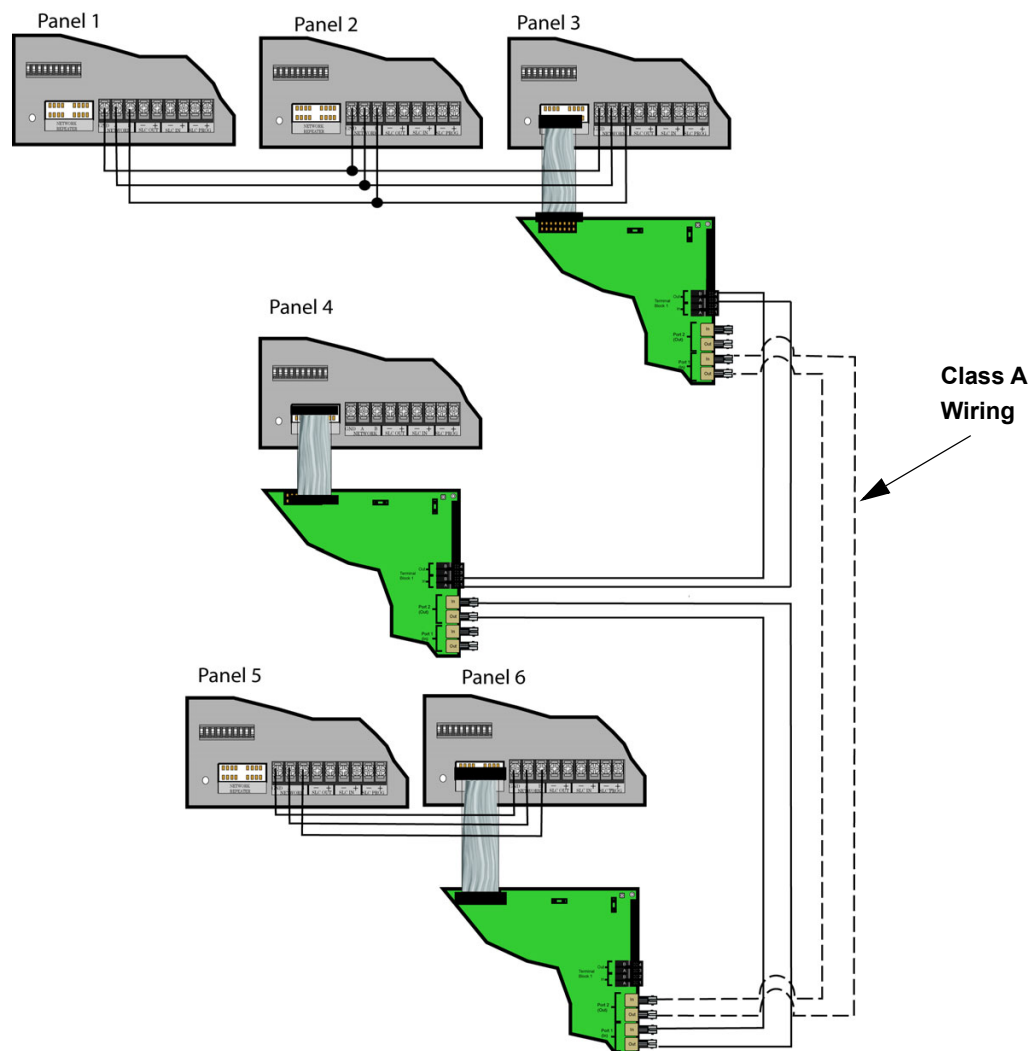


Figure 5-9 Network Wiring Example Using Both Repeaters and Direct Connect Wiring

5.5.1 Setting the Network Terminators at Panel DIP Switches and Repeater Jumpers

Use the following steps for determining DIP switch and jumper settings.

1. DIP switch positions 8 through 10 on the control panel are used for direct connect network BUS termination. When a panel is located at the end of a direct connect BUS and it does NOT have a repeater connected, DIP switches 8, 9 and 10 must be ON. When a panel is not direct connected to other panels, but a repeater is used

to network the panel, its DIP switches 8, 9, and 10 must be ON. Otherwise, DIP switches 8, 9 and 10 are always OFF.

2. Jumper J1 on the network repeater is always CLOSED. Newer designs have this jumper permanently CLOSED. On older designs you had to physically install the jumper CLOSED.
3. Jumpers J2 and J3 for the network repeater should be present (jumper is CLOSED) only when a twisted pair is connected to Port 1 of terminal block TB1. Jumpers J2 and J3 are used to enable earth ground fault monitoring at Port 1 of terminal block TB1.
4. It is a requirement that an insulated wire be run between the network repeater terminal G (TB2) and an earth grounding screw at the control panel for all network repeater installations.

The following text details how the panel and repeater terminators must be set for the network example in Figure 5-9 on page 8.

Panel 1 is at the end of a direct connect BUS and it does not have a repeater, so its DIP switches 8, 9 and 10 must be ON to provide direct connect BUS termination.

Panel 2 is NOT at the end of a direct connect BUS so its DIP switches 8, 9 and 10 must be OFF.

Note: A repeater would not be allowed to be connected to panel 2 in this example because it is not at the end of a direct connect BUS.

Panel 3 looks like it is at the end of a direct connect BUS, but because it has a repeater connected to it, DIP switches 8, 9 and 10 at panel 3 must be OFF. The direct connect BUS termination is provided by the repeater through jumper J1. Recall that jumper J1 must be placed (CLOSED) as this is the rule for ALL repeaters. Jumpers J2 and J3 on the repeater of panel 3 must be OPEN because no wires are connected to the repeater twisted pair terminals 1 and 2 of TB1.

Panel 4 is not directly connected to other panels but it is effectively direct connected to its repeater which electrically behaves the same as a direct connected BUS between panels. Because panel 4 is connected only to its repeater its DIP switches 8, 9 and 10 at panel 4 must be ON to provide direct connect BUS termination. Jumper J1 of the repeater must also be placed (CLOSED) to provide the other direct connect BUS termination and because the rule for repeaters is that Jumper J1 must always be placed (CLOSED). Repeater jumpers J2 and J3 must be placed (CLOSED) because a wired twisted pair is connected to terminals 1 and 2 of TB1. Connecting these jumpers enables earth ground fault monitoring of the twisted pair wire between the repeater of panel 4 and panel 3.

Panel 5 is at the end of a direct connect BUS so its DIP switches 8, 9 and 10 must be ON to provide the direct connect BUS termination.

Panel 6 looks like it is at the end of a direct connect BUS, but because it is also using a repeater its DIP switches 8, 9 and 10 must be OFF. In this example, panel 6 is actually in the middle of a direct connect BUS between panel 5 and the repeater of panel 6. Jumper J1 of the repeater is placed (CLOSED) and provides the termination. Jumpers J2 and J3 for the repeater must be OPEN because no wires are connected to the twisted pair Port 1 of TB1.

5.6 Setting the Network ID for each Panel

Note: It is important that much thought is given when choosing the network IDs for each panel. It is difficult to change the IDs once panel programming has begun.

The network ID for each panel is set using DIP switch positions 1 through 7. See Figure 5-10 on page 10 below for possible DIP switch settings.

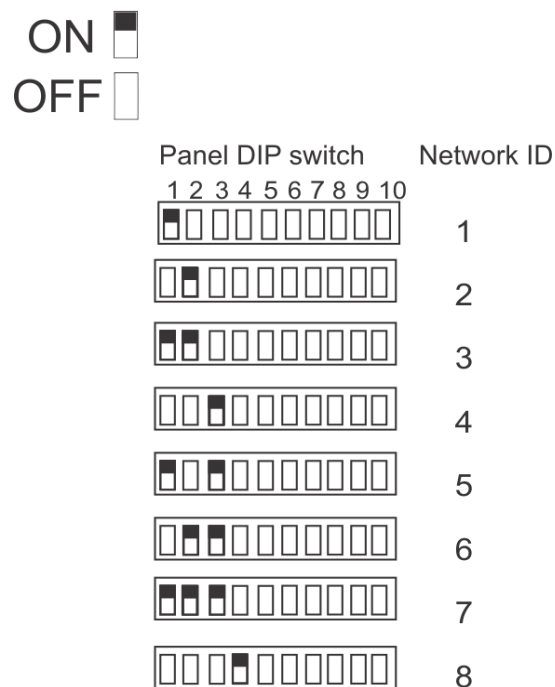


Figure 5-10 Network ID Settings

Section 6

Network Management

6.1 Network Diagnostics

6.1.1 Ping Panel

The Ping Panel menu allows you to continually ping any panel programmed into the network. As the selected panel is being pinged, the Ping Panel screen will display the reply time, minimum and maximum reply times, and sent and received counters.

1. Enter the Installer Code. The panel will automatically go to the main menu.
2. Select 5 for Network Diagnostics.
3. Press 1 to enter the Ping Panel Menu.
4. Press the Up or Down arrow to select Network Panel ID. Press ENTER to Ping panel.

6.1.2 Network Status

The Network Status screen will display statistics that are indicators of network performance.

1. Enter the Installer Code. The panel will automatically go to the main menu.
2. Select 5 for Network Diagnostics.
3. Press 2 to enter the Network Status menu.

6.1.3 Repeater Power

1. Enter the Installer Code. The panel will automatically go to the main menu.
2. Select 5 for Network Diagnostics.
3. Press 3 to enter the Repeater Power menu. The following message will appear:

```
Powering OFF repeater port will stop  
traffic to other communicating panels.  
Are you sure you want to continue?  
ENTER - Accept    LEFT ARROW - Abort
```

6.2 Network Programming

This section of the manual describes how to program network options using the built-in annunciator. All options described in this section can be programmed using the Silent Knight Software Suite (SKSS-2). To edit site assignments, SKSS-2 must be utilized.

6.2.1 Learn Network

The Learn Network menu shows you all of the panels connected to the network. Any panel that has been

programmed into the network will appear as a “member.” Any panel that is connected to the network but not programmed into the network will appear as a “guest.” You can add guest panels to the network by changing their status to member in this menu. Panels showing OK are currently responding on the network. Panels not showing OK have either been removed or are not responding due to networking problems. See Section Figure 6.1 on page 1 for Network Diagnostics.

1. Enter the Installer Code. The panel will automatically go to the main menu.
2. Select 6 for Network Programming.
3. Press 1 to enter the Learn Network menu.
4. Press ENTER to add or remove panels connected to the network as member or guest.

Note: If adding panels to network, the system will automatically run the Sync Network Options. you will be required to select which panel to distribute network options from. See Section 6.6.

6.2.2 Edit Network Names

The Edit Network menu allows you to edit the panel name and edit the panels site name.

To Edit Panel Names:

1. Enter the Installer Code. The panel will automatically go to the main menu.
2. Select 6 for Network Programming.
3. Press 2 to enter the Edit Network Names menu.
4. Press 1 to Edit Panel Name. Choose Panel to edit. See Figure 6-1.

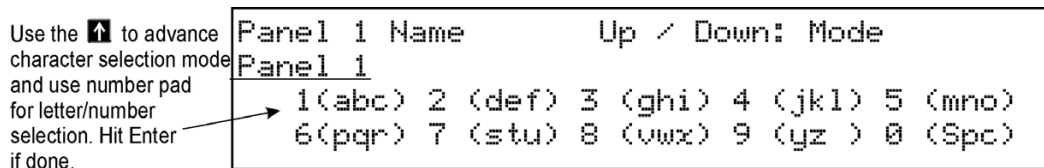


Figure 6-1 Edit Panel Name

To Edit Site Names:

5. Press 2 to Edit Site Name. Choose Site to edit. See Figure 6-2.

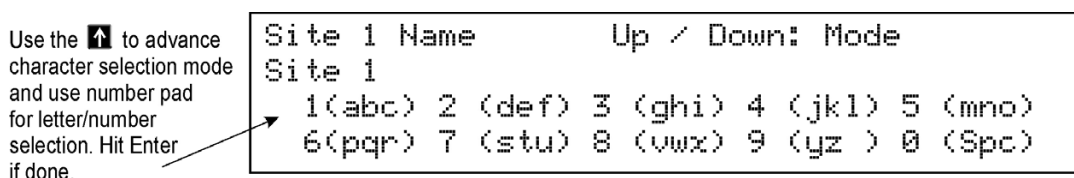


Figure 6-2 Edit Site Name

See Appendix B for a list of available characters and their numeric designators.

6.2.3 Edit Panel ID

This menu option allows you to change the current Network Panel ID. It is best to carefully consider the network ID setting for each panel. Take into account any future panels that will be added to the network (future wiring of two buildings together). The Network Panel ID setting has to be unique for each panel on the network.

This menu will allow you to change the currently assigned Network Panel ID to the current Network ID dip

switch setting. The system will be down as the panel needs to reboot in order to complete the transition.

When using the PC configuration software to program the panels, the Network Panel ID will be locked from future editing. The only way to change it will be to restore defaults and use this menu again.

To Edit the Network Panel ID:

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 6 for Network Programming.
3. Press 3 to enter the Edit Panel ID menu.
4. If the Network Panel ID is changed and valid, the system will ask you to confirm the change. If it is not correct, you can change the dip switches at this time.
5. Press up to select YES and press ENTER to confirm.

6.2.4 Computer Access

An installer at the panel site can initiate communications between the panel and a computer running the SKSS-2 (see also Section 10.4.14). In order for this communication to function properly, both the computer (running the software) and the control panel must have matching computer access numbers and computer codes.

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

If the panel initiates the call to a downloading computer, a computer phone number must be programmed in the computer access area. If the computer initiates the call, answering machine bypass may need to be selected (see Section 9.6.2.7).

To program computer access information:

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 6 for Network Programming.
3. Press 4 to enter the Computer Access menu.
4. Enter the computer access number (up to 6-digits), then press ENTER.
5. Enter the computer code, then press ENTER.
6. Enter the computer phone number, the panel will dial to connect to a downloading computer (up to 40-digits), then press ENTER.

6.3 Access Codes

Access codes provide the user access to the control panel functions. Each access code can be customized for each user. This allows some users the ability to access programming and other higher level panel functions, while other users may only need access to lower level functions such as performing fire drills, or acknowledging trouble conditions.

Profile 1 is the profile that dictates what functions the Fire Fighter Key has access to. Because this is the profile for a key, the user name and the access code can not be edited for this profile.

Profile 2 is the profile for the installer and is referred to as the “Installer Code”. This profile’s user name and panel functions can not be edited. Table 7-9 lists the panel functions that can be selected for each user profile.

Table 6-1: User Profile Selectable Panel Functions

| Type of Function | Selectable Functions |
|------------------|------------------------------|
| Panel Operations | System Reset |
| | System Silence |
| | System Ack |
| | Fire Drill Key |
| | Multi-site |
| | F1 Function Key |
| | F2 Function Key |
| | F3 Function Key |
| | F4 Function Key |
| | ECS Control Request Function |
| | ECS Super User Function |

Table 6-1: User Profile Selectable Panel Functions

| Type of Function | Selectable Functions |
|------------------|-----------------------------|
| Panel Menus | System Tests |
| | Fire Drill Menu |
| | Indicator Test |
| | Walk Test-No Report |
| | Walk Test -With Report |
| | Dialer Test |
| | Clear History Buffer |
| | Point Functions |
| | Disable/Enable Point |
| | Point Status |
| | Set SLC Device Address |
| | SLC Single Device Locator |
| | SLC Multiple Device Locator |
| | I/O Point Control |
| | Event History |
| | Set Time & Date |
| | System Information |
| | Upload/Download |
| | Network Diagnostics |
| | Network Programming |
| | Panel Programming |

To change an access code:

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 6 for Network Programming Menu.
3. Select 5 for Access Codes.

Display reads:

Select Profile 01

Fire Fighter's Key

4. Select the access code you wish to edit by pressing the Up or Down arrow.
5. Then press ENTER.

Profile Edit Menu

From the Profile Edit Menu you can change the users name, access code, and the panel functions that the user will have access to with their code.

Note: Profile 1 (Fire Fighter's Key) the user name and access code can not be edited. Profile 2 (Installer) the user name and panel functions can not be edited. Profile 3 (Multi-Site Installer) is defaulted with the Multi-Site access option, but the entire profile can be edited.

6.3.1 Edit Name

6. See Appendix B for a list of available characters and their numeric designators.
7. Then press ENTER to finish.

6.3.2 Edit Access Code

8. Enter new access code (minimum of 4 digits, maximum of 7 digit).
9. Press ENTER.
10. Enter code again. Press ENTER.

6.3.3 Panel Functions

11. Press the Up or Down arrow to move through the list of available functions.
12. Then press the right arrow to move to Y (yes) or N (no) selection column.
13. Press the Up or Down arrow to select Y or N.
14. Press ENTER.
15. Repeat steps 12 through 15 until user profile is complete.

6.4 Dialer

Dialer Options

To edit Dialer Options, follow these steps:

1. Enter the installer code. The panel will automatically go to the main menu.
Note: See Section 12 for reporting events.
2. Select 6 for Network Programming.
3. Press 6 for Dialer.

6.4.1 Dialer Assignments

Each panel on the IFP-2000 network specifies which network dialer is used for reporting. The network dialer capability of the IFP-2000 system allows all panels to use the same dialer providing an economical solution for reducing the number of phone lines required for reporting purposes. A dialer is specified by panel number. The network dialers will be used to report events according to the dialer report table.

6.4.2 Dialer Miscellaneous

When using the SIA reporting format, the dialer sends modifier information according to the SIA Modifier option. The selections for this option are enable pi SIA Modifier, Yes or No. The default selection is Yes. If set to "No", the panel ID will be included as part of the SIA event string.

6.4.3 Receiver Configuration

The IFP-2000 network can report events to as many as four receivers. Each receiver is assigned a phone number and reporting format. Phone numbers can be up to forty digits long. Format choices are SIA, Contact ID, or Unused.

6.4.4 Dialer Report Table

The Dialer Report Table specifies event reporting for each panel on the network. Each row in the table specifies a panel, event types to report, primary and backup reporting channel, and report by point or zone. Associated with the receivers are account number and daily test option. The table can have up to 99 rows.

6.5 Voice Options

6.5.1 Edit Timers

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 6 for Network Programming.
3. Select 7 for Voice Options.
4. Choose Site.
5. Select 1 for Edit Timers

6.5.1.1 Control Lockout

The Control Lockout countdown timer is set to the programmed value when an LOC gains ECS Control. The timer starts over upon any key press at the ECS Control LOC. While the Control Lockout timer is active, an LOC of equal priority must request ECS control. The Control Lockout timer is cleared when ECS Control is relinquished. The Control Lockout timer does not apply to ECS Super User control.

Select Immediate/Timer/Never

Range 0-720 min/0-59 sec

6.5.1.2 Auto Reset ECS Custom Event/Auto Reset ECS Event

If the Timer is selected, the event will automatically reset after being active for the programmed time. If Event Disabled is selected, the event will not be allowed to be activate from an LOC Station. Selecting Never will require an emergency system reset to be performed to reset the event.

Select Never/Timer/Event Disabled, Range from 1-240 min

Table 6-2 Auto Reset ECS Custom Event ECS Timer Menu

| ECS Timer | Option |
|-----------------------------|----------------------------|
| Control Lockout | Immediate/Timer/Never |
| Auto Reset ECS Custom Event | Never/Timer/Event Disabled |
| Auto Reset ECS Event 1 | Never/Timer/Event Disabled |
| Auto Reset ECS Event 2 | Never/Timer/Event Disabled |
| Auto Reset ECS Event 3 | Never/Timer/Event Disabled |
| Auto Reset ECS Event 4 | Never/Timer/Event Disabled |
| Auto Reset ECS Event 5 | Never/Timer/Event Disabled |
| Auto Reset ECS Event 6 | Never/Timer/Event Disabled |
| Auto Reset ECS Event 7 | Never/Timer/Event Disabled |
| Auto Reset ECS Event 8 | Never/Timer/Event Disabled |

6.5.2 Edit Voice Commands

When a voice output group is selected to be activated by a zone, the cadence pattern choice does not apply. For voice output groups, one of six system wide voice commands will activate instead of the cadence pattern.

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 6 for Network Programming Menu.
3. Select 7 for Voice Options.
4. Choose Site.
5. Select 2 for Edit Voice Commands.
6. Select the command you wish to edit:

Table 6-3 Voice Command Mapping

| System Event | System Event |
|---------------------------|---------------------------|
| Fire Alarm | Emergency Communication 7 |
| Fire System Aux 1 | Emergency Communication 8 |
| Fire System Aux 2 | Fire Supervisory |
| Fire Zone Aux 1 | System Alert 1-5 |
| Fire Zone Aux 2 | Trouble |
| Fire Pre Alarm | Fire Interlock Release |
| Emergency Communication 1 | Fire Interlock Alert |
| Emergency Communication 2 | Custom Emergency Comm |
| Emergency Communication 3 | Emergency Supervisory |
| Emergency Communication 4 | CO Alarm |
| Emergency Communication 5 | CO Supervisory |
| Emergency Communication 6 | |

7. Select whether a Message or Tone Only should be played. If Message is selected, choose the desired message for the command.
8. Select the tone to be played between messages. (High-Lo, ANSI Whoop, Cont. Whoop, ANSI, March Code, California, Steady, Alert Tone, or No Tones).

Note: 520Hz tones are available when using ECS-VCM, ECS-INT50W or ECS-Dual50W AMP's. These include ANSI 520, Temp 4 520, Steady 520. See Table A-7 for a list of compatible speakers.

9. Select how many times you wish the message to repeat. (None, 1 - 14, or Continuous).
10. Select the initial delay time (0 to 28 seconds, in 4 second increments).
11. Select the inter message delay time (4 to 32 seconds, in 4 second increments).
12. Select Y or N to allow message to continue to play after Mic release.
13. Select Y or N to allow message to restart on a new activation.

6.6 Sync Network Options

If after making changes to network programming, the distribution of network options fail, the system will report a trouble of network options out of sync. Use this menu to redistribute changed options to the rest of the network. The user will be required to choose a panel to source the options from. Scroll down through the informational message and press ENTER to view the Select Source screen.

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 6 for Network Programming Menu.
3. Select 8 for Sync Network Options.
4. Select which panel to source the options from.

Last time the date & time were updated on panel.

| Select Source | Last Modified | Chk sum |
|---------------|----------------|---------|
| 01 = Panel 1 | 04/12/13 12:20 | 0F8B |
| 02 = Panel 2 | 04/15/13 09:45 | 0F8A |
| 03 = Panel 3 | 04/15/13 09:46 | 0F8A |

If 2 panels have the same chk sum, network options are in sync.

6.7 Network Management Quick Reference

| | Menu | Options/Defaults | | | Comments |
|-----------------------|--------------------------|-----------------------------|---|------------------------------|--|
| Network Programing | Learn Network | Guest or member | Add or remove panels into the network | | See Section 6.2.1 |
| | Edit Network Names | Panel Names | Network Panel ID | Edit Panel Names | See Section 6.2.2 |
| | | Site Names | Edit Site Member | Edit Site Names | |
| | Edit Panel ID | Change current panel ID | | | See Section Figure 6.2.3 on page 2 |
| | Computer Access | Computer Access Number | *123456 | | See Section 6.2.4 |
| | | Computer Code | *0 | | |
| | | Computer Phone Number | Up to 40 digits | | |
| | Access Codes | Select Profile (01 - 20) | Edit Name | | Profile 1 is the profile that dictates what functions the Firefighter Key has access to. Because this is the profile for a keys, the user name and the access code can not be edited for this profile. |
| | | | Edit Access Code | | |
| | | | Panel Functions | System Reset | |
| | | | | System Silence | |
| | | | | System ACK | |
| | | | | Fire Drill Key | |
| | | | | System Tests | Profile 2 is the profile for the installer and is referred to as the "Installer Code". This profile's user name and panel functions can not be edited. |
| | | | | Fire Drill Menu | |
| | | | | Indicator Test | |
| | | | | Walk Test-No Report | |
| | | | | Walk Test-With Report | |
| | | | | Dialer Test | See Section 6.3. |
| | | | | Clear History Buffer | |
| | | | | Point Functions | |
| | | | | Disable/Enable Buffer | |
| | | | | Point Status | |
| | | | | Set SLC Device Address | |
| | | | | SLC Single Device Locator | |
| | | | | SLC Multi-Device Locator | |
| | | | | I/O Point Control | |
| | | | | Event History | |
| | | | | Set Time & Date | |
| | | | | Network Diagnostics | |

| | Menu | Options/Defaults | | | Comments | |
|-----------------------------|--------------|--------------------------|------------------------|------------------------------|--|-------------------|
| Network Programming (cont.) | Access Codes | Select Profile (01 - 20) | Panel Functions | Network Programming | Profile 1 is the profile that dictates what functions the Firefighter Key has access to. Because this is the profile for a keys, the user name and the access code can not be edited for this profile. | |
| | | | | Panel Programming | | |
| | | | | System Information | | |
| | | | | Upload/Download | | |
| | | | | Multi-Site | | |
| | | | | Upload/Download | Profile 2 is the profile for the installer and is referred to as the "Installer Code". This profile's user name and panel functions can not be edited. See Section 6.3. | |
| | | | | F1 Function Key | | |
| | | | | F2 Function Key | | |
| | | | | F3 Function Key | | |
| | | | | F4 Function Key | | |
| | | | | ECS Control Request Function | | |
| | | | | ECS Super User Function | | |
| | Dialer | Dialer Assignments | Select Panel | Primary | 0= unused | See Section 6.4.1 |
| | | Dialer Miscellaneous | Enable pi SIA Modifier | Yes | See Section 6.4.2 | |
| | | | | No | | |
| | | Receiver Configuration | Select Receiver | Receiver Number (1-4) | See Section 6.4.3 | |
| | | | Receiver Format | Contact ID | | |
| | | | | SIA500 | | |
| | | | | SIA8 | | |
| | | | | SIA20 | | |
| | | | | UNUSED | | |
| | | | PHONE Number | | | |
| | | Dialer Report Table | | Panel | See Section 6.4.4 | |
| | | | | Report Alarms | | |
| | | | | Report Supervisory | | |
| | | | | Report Troubles | | |
| | | | | Report Events by Point | | |
| | | | | Primary Receiver | | |
| | | | | Primary Account | | |
| | | | | Test Primary Account | | |
| | | | | Secondary Receiver | | |
| | | | | Secondary Account | | |
| | | | | Test Secondary Account | | |

| | Menu | Options/Defaults | | | Comments | |
|-----------------------------|----------------------|------------------|---------------------|-----------------------------|----------------------------|-------------------|
| Network Programming (cont.) | Voice Options | Choose Site | Edit Timers | Control Lockout | Immediate/Timer/Never | See Section 6.5.1 |
| | | | | Auto Reset ECS Event 1-8 | Never/Timer/Event Disabled | |
| | | | | Auto Reset ECS Custom Event | | |
| | | | Edit Voice Commands | Fire Alarm | See Section 6.5.2 | |
| | | | | Fire System Aux 1 | | |
| | | | | Fire System Aux 2 | | |
| | | | | Fire Zone Aux 1 | | |
| | | | | Fire Zone Aux 2 | | |
| | | | | Fire Supervisory | | |
| | | | | Fire Pre Alarm | | |
| | | | | Custom Emergency Comm | | |
| | | | | Emergency Communication 1-8 | | |
| | | | | System Alert 1-5 | | |
| | | | | Trouble | | |
| | | | | Fire Interlock Release | | |
| | | | | Fire Interlock Alert | | |
| | | | | Emergency Supervisory | | |
| | | | | CO Alarm | | |
| | | | | CO Supervisory | | |
| | Sync Network Options | | | See Section 6.6 | | |

Section 7

IDP and SD SLC Device Installation

Caution!

To avoid the risk of electrical shock and damage to the unit, power should be OFF at the control panel while installing or servicing.

7.1 List of IDP SLC Devices

The following IDP SLC devices can be used with the control panel. See the device installation instructions (packaged with the device) for more information.

Note: The control panel supports the use of either IDP SLC devices or SD SLC devices. You cannot install both SLC device types on the control panel.

| Part Numbers | Model Name/Description | Installation Sheet PN |
|----------------|---|-----------------------|
| IDP-Photo | Photoelectric smoke detector | I56-3611-000 |
| IDP-Photo-T | Photoelectric smoke detector with thermal (135°F) | |
| IDP-Acclimate | Multi-criteria photoelectric smoke detector with thermal (135°F) | |
| IDP-PhotoR | Photoelectric replacement smoke detector with remote test capability in DNR | I56-3569-000 |
| IDP-Beam | Reflected beam smoke detector without test feature | I56-2735-00 |
| IDP-Beam-T | Reflected beam smoke detector with test feature | |
| DNR/DNRW | Duct smoke detector housing. Non-relay (photo sold separately) | I56-3051-000 |
| IDP-Heat | Fixed temperature thermal detector (135°F) | I56-3608-000 |
| IDP-Heat-ROR | Rate-of-rise thermal detector with 135° fixed temperature | |
| IDP-Heat-HT | Fixed high temperature thermal detector (190°F) | |
| IDP-Pull-SA | Addressable single action pull station | I56-3606-000 |
| IDP-Pull-DA | Addressable dual action pull station | I56-3605-000 |
| IDP-ISO | Fault isolator module | I56-2729-000 |
| ISO-6 | Six Fault isolator module | I56-4096-000 |
| IDP-Monitor | Monitor module | I56-3603-000 |
| IDP-Minimon | Mini monitor module | I56-2726-002 |
| IDP-Monitor-2 | Dual input monitor module | I56-2730-000 |
| IDP-Monitor-10 | 10 input monitor module | I56-2731-000 |
| IDP-Relay | Relay module | I56-2729-000 |
| IDP-Relay-6 | Six circuit relay module | I56-2729-000 |
| IDP-RelayMon-2 | Multi module with 2 relay outputs & 2 monitor inputs | I56-3734-000 |
| IDP-Zone | Zone interface module | I56-3602-000 |
| IDP-Zone-6 | Six zone interface module | I56-2733-000 |
| IDP-Control | Supervised control module | I56-3600-000 |
| IDP-Control-6 | Six circuit supervised control module | I56-2734-000 |
| IDP-FIRE-CO | CO Smoke Detector | I56-3946-00 |
| B200S/IV | Intelligent sounder base. White or Ivory | I56-3387-00 |
| B200SR/IV | Intelligent sounder base. White or Ivory | I56-3392-00 |

| Part Numbers | Model Name/Description | Installation Sheet PN |
|-------------------|---|-----------------------|
| B210LP | 6" mounting base | 156-3739-00 |
| B224BI/IV | 6" isolator base. White or Ivory | 156-0725-00 |
| B224RB/IV | 6" relay base. White or Ivory | 156-3737-00 |
| B501 | 4" mounting base | 156-3738-00 |
| B200SR-LF/IV | Low Frequency Sounder Base. White or Ivory | 156-4152-00 |
| B200S-LF/IV | Low Frequency Sounder Base. White or Ivory | 156-4151-00 |
| IDP-PHOTO-W/IV | Photoelectric smoke detector. White or Ivory | 156-6531-00 |
| IDP-PHOTO-R-W/IV | Photoelectric replacement smoke detector with remote test capability in DNR. White or Ivory | 156-6532-00 |
| IDP-PHOTO-T-W/IV | Photoelectric smoke detector with thermal (135°F) White or Ivory | 156-6534-00 |
| IDP-HEAT-W/IV | Fixed temperature thermal detector (135°F). White or Ivory | 156-6533-00 |
| IDP-HEAT-ROR-W/IV | Rate-of-rise thermal detector with 135° fixed temperature. White or Ivory | 156-6533-00 |
| IDP-HEAT-HT-W/IV | Fixed high temperature thermal detector (190°F). White or Ivory | 156-6533-00 |

7.2 List of SD SLC Devices

The following SLC devices can be used with the control panel. See the appropriate section number in this manual or the device installation instructions (packaged with the device) for more information.

| MODEL NUMBER | MODEL NAME/DESCRIPTION | Installation Sheet PN |
|----------------|--|-----------------------|
| SD505-PHOTO | Photoelectric smoke detector | 150955 |
| SD505-HEAT | Absolute temperature heat detector. Trip point range from 135°F-150°F (0°-30°C) | |
| SD505-6AB | 6" base for use with the SD505-HEAT, SD505-AIS, and SD505-PHOTO. | |
| SD505-6IB | 6" short circuit isolator base for use with the SD505-HEAT, SD505-AIS, and SD505-PHOTO. | 151175 |
| SD505-6RB | 6" base for use with the SD505-HEAT, SD505-AIS, and SD505-PHOTO. | 151192 |
| SD505-6SB | 6" base for use with the SD505-HEAT, SD505-AIS, and SD505-PHOTO. | 151191 |
| SD505-DUCT | Duct Housing including the SD505-PHOTO Analog Photoelectric Smoke Sensor. Intake tubing for duct available in three lengths: SD505-T2 (2.5 foot); SD505-T5 (5 foot); SD505-T10 (10 foot) | 1700-098 |
| SD505-DUCTR | Duct housing with relay base including SD505-PHOTO Analog PhotoElectric Smoke Sensor | |
| SD500-PS/-PSDA | Single or dual action addressable pull station | 151177 |
| SD500-AIM | Addressable input module (switch input), standard size, DIP switch configurable | 151071 |
| SD500-MIM | Mini input monitor module (switch input), small size, DIP switch configurable. Fits in single-gang box with manual pull station switch. | 151071 |
| SD500-ANM | Addressable notification module | 151109 |
| SD500-ARM | Addressable relay module DIP switch configurable. | 151091 |
| SD500-SDM | Addressable smoke detector module. Use to assign an address to a loop of conventional devices. | 151193 |
| SD500-LIM | Line isolator module. Fits in a double gang box. | 151125 |
| SD505-DTS-K | Remote test switch & LED indicator for the SD505-DUCTR | 1700-09882 |

7.3 Maximum Number of SLC Devices

The IFP-2000 supports IDP or SD SLC devices. The maximum number of SLC devices per panel is 636. The number of 5815XL is limited only by the SBUS bandwidth, 636 point count, and 1A SBUS current limit. Device support is as follows:

IDP Devices - The IFP-2000 supports a total of 636 IDP points. The SLC points can be all sensors or all modules or any combination of modules and sensors.

or

SD Devices - The IFP-2000 system can support a total of 636 SD SLC detectors and modules, in any combination.

7.4 Wiring Requirements for SLC Devices

The following information applies to all SLC devices. Refer to the section that describes the type of device you are installing for details.

7.4.1 Wiring 5815XL in Style 4 (Class B) Configuration

No special wire is required for addressable loops. The wire can be untwisted, unshielded, solid or stranded as long as it meets the National Electric Code 760-51 requirements for power limited fire protective signaling cables. Wire distances are computed using copper wire.

Maximum wiring resistance is 40 ohms for IDP devices and 50 ohms for SD devices.

Maximum loop length depends on the wire gauge. See Table 7-1 for IDP and Table 7-2 for SD.

Table 7-1 Maximum wiring distance for IDP modules

| Wire Gauge | Max. Distance for IDP |
|------------|-----------------------|
| 22 AWG | 1200 feet |
| 18 AWG | 3100 feet |
| 16 AWG | 4900 feet |
| 14 AWG | 7900 feet |
| 12 AWG | 10,000 feet |

Table 7-2 Maximum wiring distance for SD devices

| Wire Gauge | Max. Distance for SD |
|------------|----------------------|
| 22 AWG | 1500 feet |
| 18 AWG | 3900 feet |
| 16 AWG | 6200 feet |
| 14 AWG | 10,000 feet |

Figure 7-1 and Figure 7-2 show how wire length is determined for out-and-back tap and T-tap style wiring.

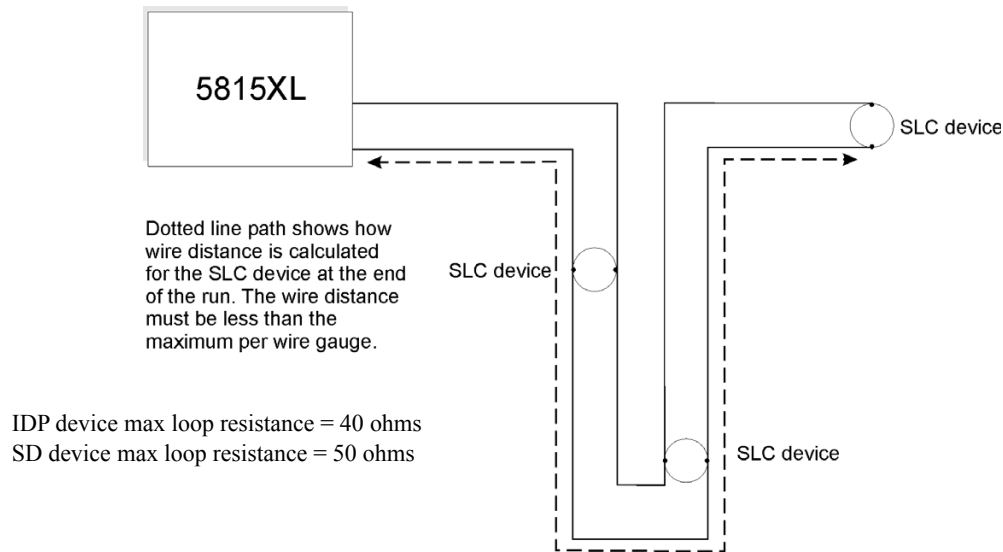


Figure 7-1 Calculating wire run length for a simple out and back tap

When using T-taps, the total length of all taps and the main bus must not exceed 40,000 feet. This requirement must be met in addition to the maximum distance requirements for the various wire gauges.

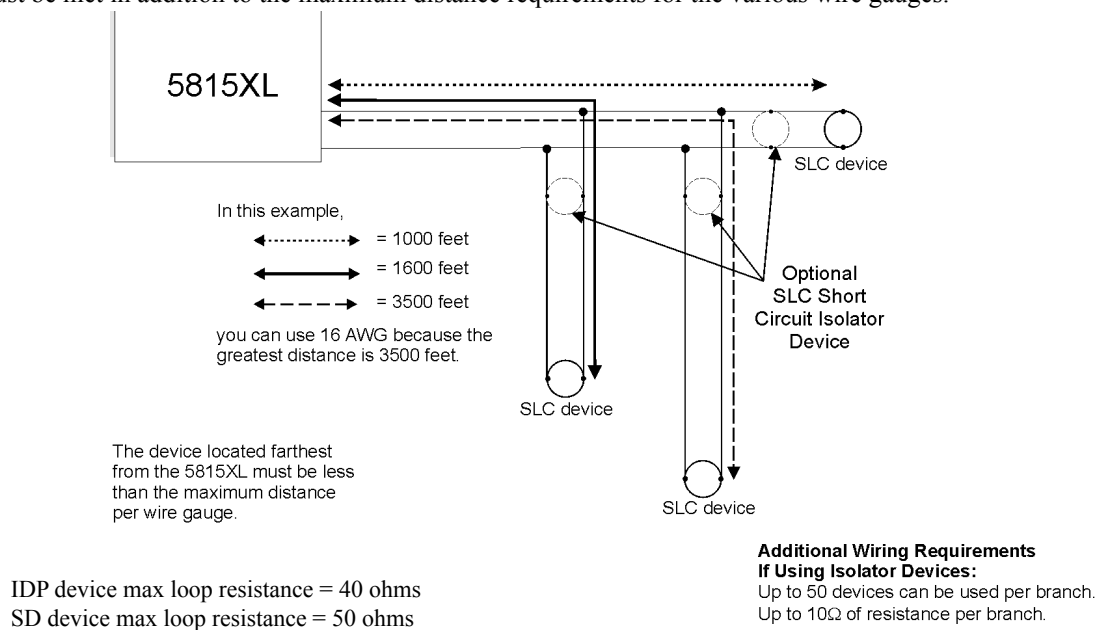


Figure 7-2 Calculating Wire Run Length for a T-tap

7.4.2 Wiring 5815XL in Style 6 & 7 (Class A) Configuration

Figure 7-3 on page 5 illustrates how to wire the SLC loop for Style 6 or Style 7 Class A installations.

Note: Style 6 does not use short circuit isolator devices

Note: Style 7 requires an isolator module as the first device on the in and the out loops.

Note: No t-taps allowed on Class A SLC loops

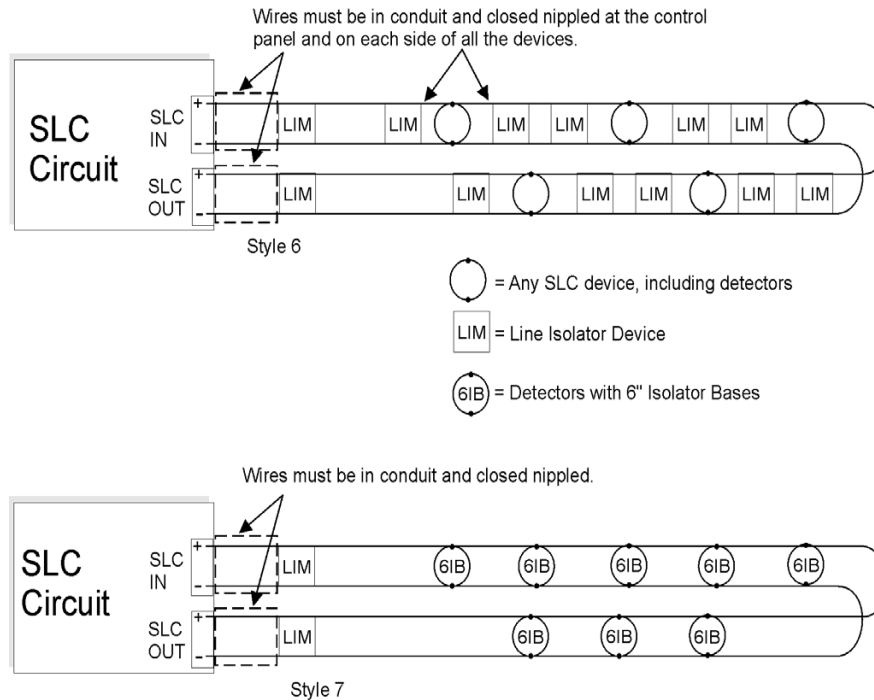


Figure 7-3 Class A SLC Configuration

Caution

For proper system supervision do not use looped wire under terminals marked SLC + and – of the SLC device connectors. Break wire runs to provide supervision of connections.

7.5 Wiring IDP SLC Detectors

This section describes how to install IDP heat and smoke detectors. All detectors ship with installation instructions. Refer to each detector's installation instructions for more detailed information.

To wire IDP detectors:

1. Wire device bases as shown in Figure 7-4.
2. Set the address for each device as described in Section 7.6.

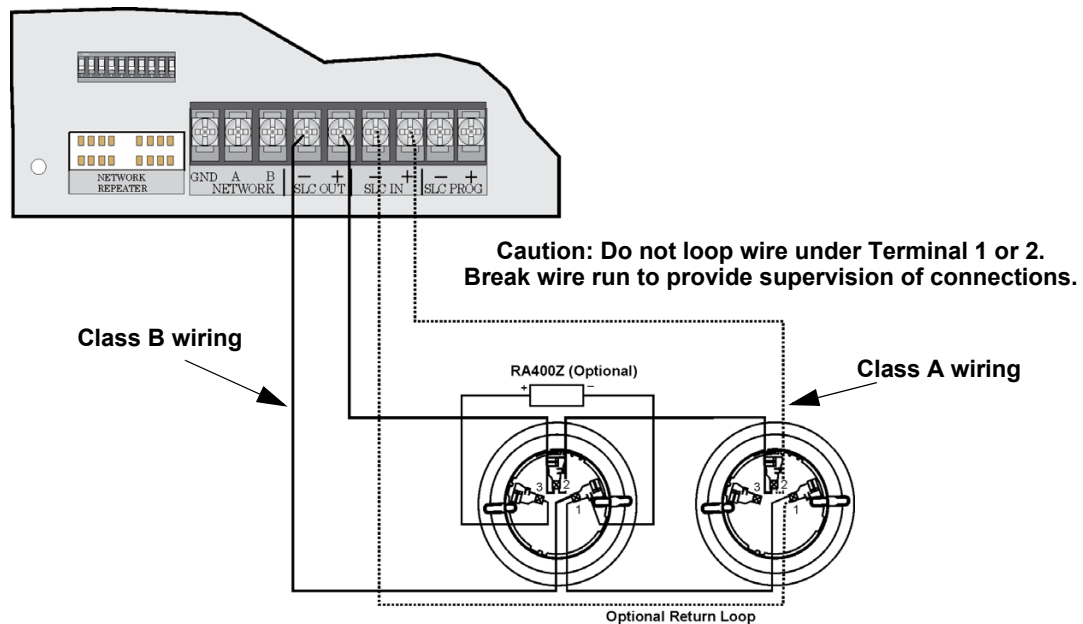


Figure 7-4 Heat and Smoke Detector Connection to the Panel.

7.6 Addressing IDP SLC Devices

All IDP devices are addressed using the two rotary dials that appear on the device board. Use the *ONES* rotary dial to set the ones place in a one or two digit number, and use the *TENS* rotary dial to set the tens place in a two or three digit number.

The control panel recognizes when an IDP detector or IDP module is installed. For this reason, IDP detectors can be assigned any unique address from 1 to 159, and IDP modules can be assigned any unique address from 1 to 159. There can be an IDP detector using address 1 and an IDP module using address 1.

0 is an invalid address. In order to set the sensor above address 99, carefully remove the stop on the upper rotary switch with thumb as shown in Example 2.

Example 1: To select device address 35, turn the *ONES* rotary dial to **5** and the *TENS* rotary dial to **3** as shown in Figure 7-5.

Example 2: To select device address 105, turn the *ONES* rotary dial to **5** and the *TENS* rotary dial to **10** as shown in Figure 7-5.

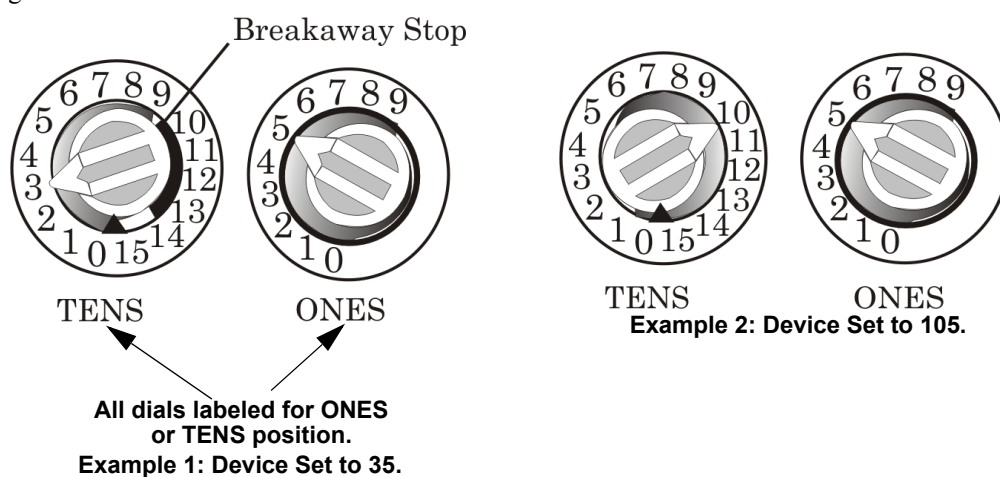


Figure 7-5 IDP SLC Device Addressing Using Rotary Dials

7.7 Wiring SD Detectors

This section describes how to install SD heat and smoke detectors. All detectors ship with installation instructions. Refer to each detectors' installation instructions for more detailed information.

This information applies to the following SD models:

SD505-HEAT Heat Detector

SD505-PHOTO Photoelectric Smoke Detector

To wire SD505-PHOTO or SD505-HEAT detectors:

1. Wire device bases as shown in Figure 7-6.
2. Set the address for each device as described in Section 7.8.

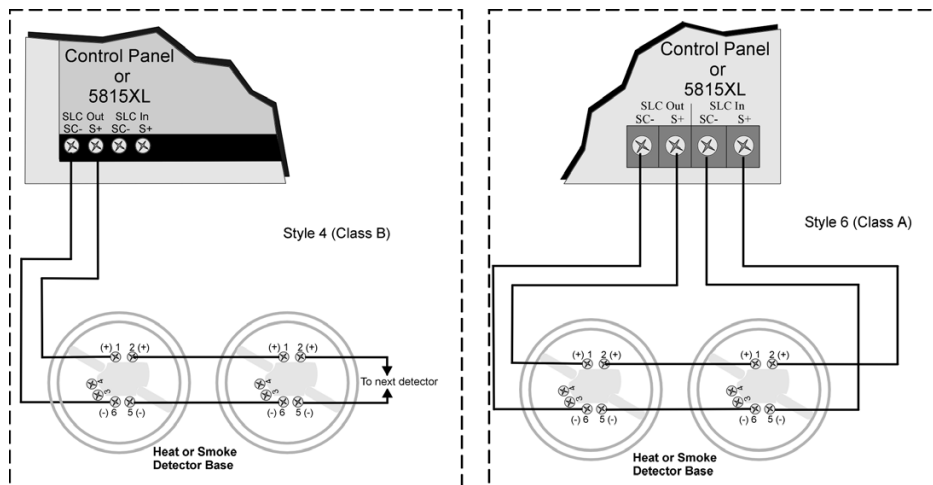


Figure 7-6 Heat or Smoke Detector Connection to the FACP

7.8 Addressing SD Devices

This section explains how to address SD detectors and modules.

7.8.1 SD505-PHOTO & SD505-HEAT

The SD505-PHOTO photoelectric smoke detector and SD505-HEAT heat detector are easily addressed at the FACP. An access code with the option to set SLC Device Address enabled is required to perform this task.

To address a SD505-PHOTO or SD505-HEAT:

1. Connect a detector base temporarily to the programming terminals as shown in Figure 7-7. (You can use the same base for each detector.)

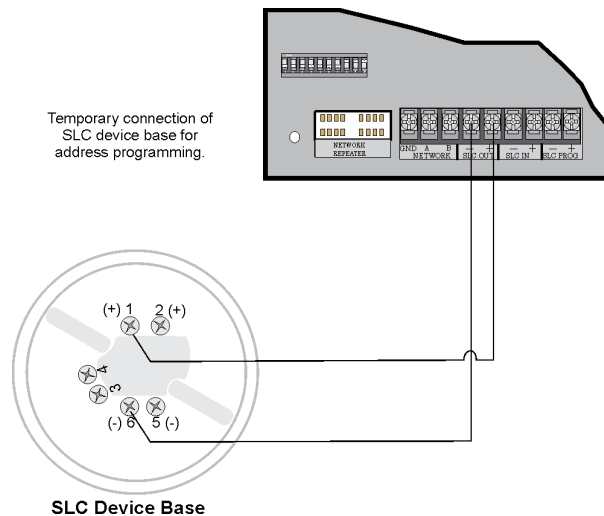


Figure 7-7 Temporary Connection of Detector Base to Panel for Addressing

2. Enter the Installer Code. The panel will automatically go to the main menu.
3. Select 2 for Point Functions.
4. Select 3 for Set SLC Dev Addr.
5. Select “Yes” by pressing the up arrow, then press ENTER. (The panel will go into trouble at this point. You can use the SILENCE key to stop the PZT. The trouble will clear automatically when the panel re-initializes when you finish programming.)
6. When the wait message clears, the following options display:
 - 1 for Read Address. Use to read (or check) a single detector’s address.
 - 2 for Write Address. Use to program a single detector’s address.
 - 3 for Seq. Programming. Use to program more than one detector in sequential order.
7. If you are changing addresses, write the programmed address on the back of the device.
8. To exit press left arrow until fully exited.

7.8.2 SLC Devices with DIP Switches

Input and relay module addresses are set using the dip switches on the module board. The chart below shows the available addresses. For example, to select address 3, place dip switches 1 and 2 in the up position. The range of valid addresses is 1-127. 0 is an invalid address.

ON 

OFF  Note: DIP switch 8 must always be OFF.





























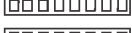


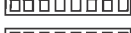
































































































| 1 2 3 4 5 6 7 8 | Address | 1 2 3 4 5 6 7 8 | Address | 1 2 3 4 5 6 7 8 | Address | 1 2 3 4 5 6 7 8 | Address |
|---|---------|---|---------|--|---------|---|---------|
|  | 0 |  | 32 |  | 64 |  | 96 |
|  | 1 |  | 33 |  | 65 |  | 97 |
|  | 2 |  | 34 |  | 66 |  | 98 |
|  | 3 |  | 35 |  | 67 |  | 99 |
|  | 4 |  | 36 |  | 68 |  | 100 |
|  | 5 |  | 37 |  | 69 |  | 101 |
|  | 6 |  | 38 |  | 70 |  | 102 |
|  | 7 |  | 39 |  | 71 |  | 103 |
|  | 8 |  | 40 |  | 72 |  | 104 |
|  | 9 |  | 41 |  | 73 |  | 105 |
|  | 10 |  | 42 |  | 74 |  | 106 |
|  | 11 |  | 43 |  | 75 |  | 107 |
|  | 12 |  | 44 |  | 76 |  | 108 |
|  | 13 |  | 45 |  | 77 |  | 109 |
|  | 14 |  | 46 |  | 78 |  | 110 |
|  | 15 |  | 47 |  | 79 |  | 111 |
|  | 16 |  | 48 |  | 80 |  | 112 |
|  | 17 |  | 49 |  | 81 |  | 113 |
|  | 18 |  | 50 |  | 82 |  | 114 |
|  | 19 |  | 51 |  | 83 |  | 115 |
|  | 20 |  | 52 |  | 84 |  | 116 |
|  | 21 |  | 53 |  | 85 |  | 117 |
|  | 22 |  | 54 |  | 86 |  | 118 |
|  | 23 |  | 55 |  | 87 |  | 119 |
|  | 24 |  | 56 |  | 88 |  | 120 |
|  | 25 |  | 57 |  | 89 |  | 121 |
|  | 26 |  | 58 |  | 90 |  | 122 |
|  | 27 |  | 59 |  | 91 |  | 123 |
|  | 28 |  | 60 |  | 92 |  | 124 |
|  | 29 |  | 61 |  | 93 |  | 125 |
|  | 30 |  | 62 |  | 94 |  | 126 |
|  | 31 |  | 63 |  | 95 |  | 127 |

Figure 7-8 Device Addressing using Dip Switches

Section 8

Programming Overview

This section of the manual is intended to give you an overview of the programming process. Please read this section of the manual carefully, especially if you are programming the control panel for the first time.

The JumpStart Autoprogramming feature automates many programming tasks and selects default options for the system. You should run JumpStart at least once when you are installing the system. See 8.2 for details. After you run JumpStart, you may need to do some additional programming depending on your installation. Section 9 of this manual covers manual programmable options in detail.

Programming the panel can be thought of as a four part process. You must program:

- Network options. These affect how all panels in the network work together. (see Section 6 Network Management for details).
- System options. These are options that affect general operation of the panel. (see Section 9.6 for details).
- Options for input points and zones. These are primarily options that control the detection behavior of devices. (see Section 9.3 and Section 9.5 for details).
- Options for output points and groups. This includes selecting characteristics for output groups and mapping output circuits to output groups. (see Section 9.4 for details).

8.1 Security and Data Protection

Communication Security - Level 1

Stored Data Security - Level 0

Physical Security - Level 1

Access Control Security - Level 1

8.2 JumpStart AutoProgramming

The JumpStart AutoProgramming feature allows for faster system setup. When you run JumpStart AutoProgramming, the panel searches for expanders and SLC devices not currently in the system. The new devices are added in their default configuration. At the end of the JumpStart AutoProgramming you can choose to not accept the new devices and go back to the configuration you had before. JumpStart AutoProgramming saves the installer from having to program options for each device. Depending on the application, the installer may need to make some changes after JumpStart AutoProgramming completes.

See Section 8.2.3 for complete details about running JumpStart AutoProgramming.

IMPORTANT!

JumpStart is intended to be run one time only, immediately after SLC devices have been addressed and connected. JumpStart will reset all manually programmed options to default settings. Do not run JumpStart after you have configured the system.

8.2.1 Input Points

The first JumpStart AutoProgramming on the panel in default configuration will determine the number and type of input points (detectors or contact monitor modules) on each SLC loop. JumpStart AutoProgramming assigns the correct detector type (heat, ionization or photoelectric), so the installer does not need to edit the device type for detectors. Any contact monitor modules on the system will be assigned type "Manual Pull." The installer will

need to manually change the switch type if manual pull is not correct.

The first JumpStart AutoProgramming creates one zone (Zone 1) and assigns all input points to Zone 1. Zone 1 is mapped to Output Group 1.

8.2.2 Output Points

The first JumpStart AutoProgramming on a panel in default configuration creates three output groups and assigns output circuits as follows:

Internal Power Supply Circuits 1-8:

Configured as Notification and assigned to Group 1.

Internal Power Supply Circuit 9 (Relay 1):

Assigned to Group 998.

Internal Power Supply Circuit 10 (Relay 2):

Assigned to Group 999.

Addressable output points (Relay modules):

All addressable relay devices will be configured as “Output Pt” (general purpose output point) and assigned to Group 1.

Note: Relay output is constant even if the zone activating the relay is programmed with an output pattern.

8.2.3 Running JumpStart AutoProgramming




Run JumpStart AutoProgramming immediately after you have addressed and connected all input devices (detectors, pull stations, and so on) and output devices (notification appliances, relays, and so on).

Note: If you need to install a few devices after you have run JumpStart AutoProgramming, you can install them manually or run JumpStart again at a later time. JumpStart will keep user options, such as names, for devices already installed. Follow instructions in Section 8 for configuration.

To run JumpStart AutoProgramming, follow these steps.

1. Press ENTER to view Main Menu.
2. Select 7 for Panel Programming. Enter Access Code.
3. Select 6 for JumpStart AutoProgramming.
4. The message “System will be shut down during JumpStart.” Press ENTER to accept.
5. When the “SLC Family” message appears, two options are presented; either IDP or SD. Select the appropriate option based on the type of SLC devices the panel is using and press ENTER to accept.
6. A series of messages displays as JumpStart scans the system for expander modules and SLC loops for point devices. This can take several minutes, depending on the number of devices attached.
7. If a Temp Programming Display is being used to initially setup an RPS-2000, a menu will appear for selecting to install the display or not. If the display is to stay in the system for normal annunciation, select “Yes, Configure display for system.” Otherwise select “No, Display will be removed.” See Section 4.5.3.
8. When the message “Configuring System Done” displays, press any key to continue.

9. Select one of the following options from the menu that displays.

| | |
|----------------------|---|
| 1 - Review System | Press 1 if you need to review the JumpStart configuration. The Review System menu will appear. Press 1 to review Entire System or Press 2 for Changes Only. |
| 2 - Repeat JumpStart | Press 2 if you need to rerun JumpStart for any reason. |
| 3 - Accept Changes | <p>If you are ready to make the JumpStart configuration permanent, select 3.</p> <p>The system will ask you if the installation contains any addressable duct detectors. If there are none, select 2 for No and skip to Step 8. If the system contains duct detectors, select 1 for Yes and continue with Step 3.</p> <p>From the list that displays, select the SLC that contains the duct detectors.</p> <p>The first photoelectric or ionization detector on the system will display. Select 1 for DUCT and 2 for NonDUCT.</p> <p>Press  to select the next detector. Select 1 for DUCT and 2 for NonDUCT.</p> <p>Continue until all duct detectors have been selected. (Note: You can move backwards through the list with .</p> <p>When you reach the last detector on this device, press .</p> <p>The system will ask you if there are more duct detectors in the system. If there are, select 1 for Yes and repeat from Step 3. If there are no more duct detectors, select 2 for No and continue with Step 8.</p> <p>The system will restart in 10 seconds. You can press 1 to restart immediately.</p> <p>After the system resets, it will use the new JumpStart configuration.</p> |
| 4 - Discard Changes | If you want to discard the changes, and keep the configuration you had before running this JumpStart press 4. |

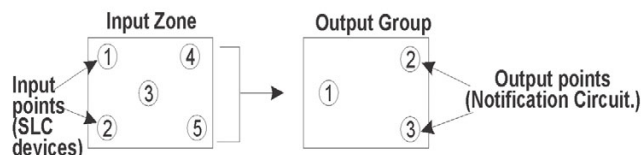
8.3 Mapping Overview

This section of the manual is a high level overview of mapping.

Mapping is an important concept with the control panel. In general terms, mapping is assigning or linking events to outputs that should activate when events occur. You do this by assigning input points to input zones, output points to output groups and then linking or mapping zones and output groups.

Figure 8-1 is a brief overview of the concept of mapping. The next several pages of the manual show these subjects in detail.

In its simplest application, mapping is determining which outputs are activated by which inputs.



Because the Control Panel programming is so flexible, there are a number of uses for mapping, as shown in the diagram below.

Input zones are mapped by event type to output groups. Cadence patterns are assigned as part of the mapping information.

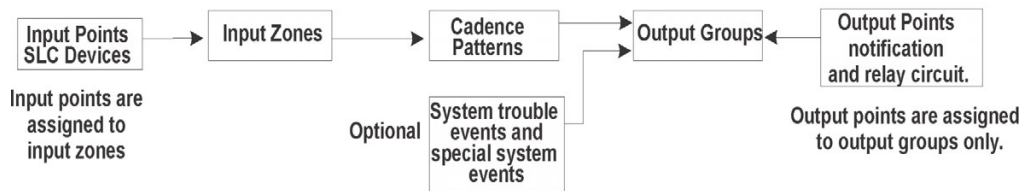


Figure 8-1 Mapping Overview

8.3.1 Input Point Mapping

Input points are assigned to input zones, as the example in Figure 8-2 shows. Any input point can be assigned to any input zone. (Input points can be assigned to one zone only. An input point can be designated as “Unused,” which means it has not been assigned to a zone).

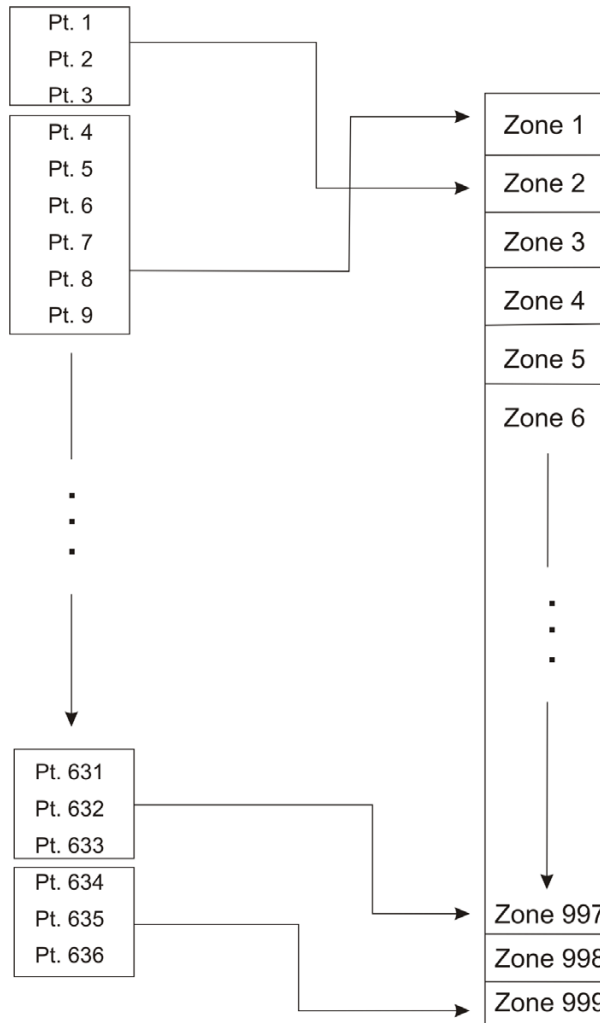


Figure 8-2 Example of Input Point Assignment

8.3.2 Output Circuit Mapping

Figure 8-3 is a simple example showing how to assign notification and relay output circuits to groups.

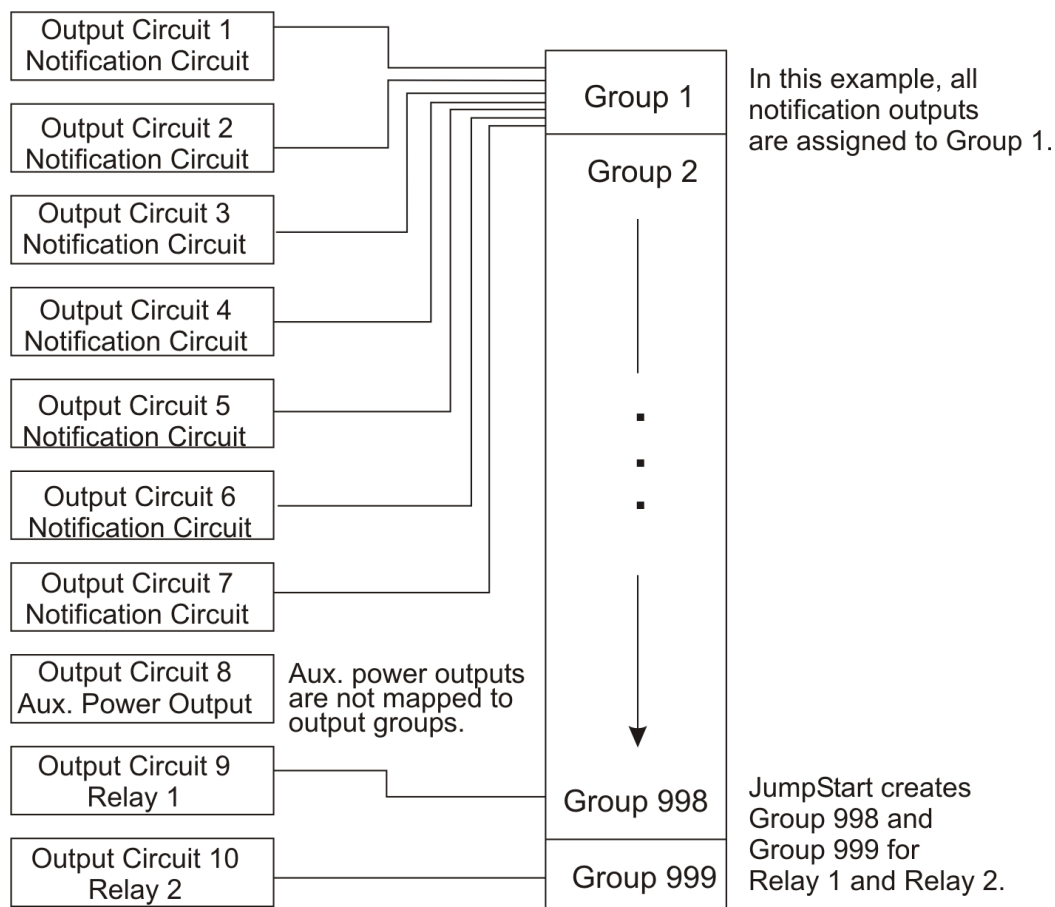


Figure 8-3 Example of Assigning Output Circuits to Groups

8.3.3 Event Mapping

There are 11 types of Zone events, 14 types of Panel events, and 40 types of Site events that can be mapped (see Table 8-1). For each event type, you can activate the output groups with specific output patterns. Mapping examples are shown in Figure 8-4, Figure 8-5, & Figure 8-6.

Table 8-1: Event Types

| System | Zone | Panel | Site |
|-----------|---|---------------------------|--------------------------|
| Fire | Manual Pull Alarm | System Aux 1 Alarm | Fire Drill |
| | Water Flow Alarm | System Aux 2 Alarm | General Fire Alarm |
| | Detector Alarm (heat or smoke detectors) | | General Fire Supervisory |
| | Zone Aux 1 Alarm | | General Fire Pre-Alarm |
| | Zone Aux 2 Alarm | | |
| | Interlock Alert | | |
| | Interlock Release | | |
| | Pre-Alarm | | |
| | Fire Supervisory | | |
| | Status Point | | |
| | CO Alarm | | |
| | CO Supervisory | | |
| Emergency | | | LOC ECS 1-8 Alarm |
| | | | General ECS Alarm |
| | | | General ECS Supervisory |
| | | | Point ECS 1-8 Alarm |
| Advisory | Trouble | SBUS Expander Trouble | General Trouble |
| | Status Point Active | SBUS Class A Trouble | Site Silenced |
| | | SLC Loop Trouble | Voice Aux In 1-8 Alarm |
| | | AC Loss Trouble | F1 Key Active |
| | | Battery Trouble | F2 Key Active |
| | | Ground Fault Trouble | F3 Key Active |
| | | Phone Line Trouble | F4 Key Active |
| | | Reporting Account Trouble | Voice Aux in 1-2 |
| | | Printer Trouble | System Mic Active |
| | | Aux Power Trouble | Background Music |
| | | System Switch Trouble | F1 Key Active |
| | | Output Group Trouble | |

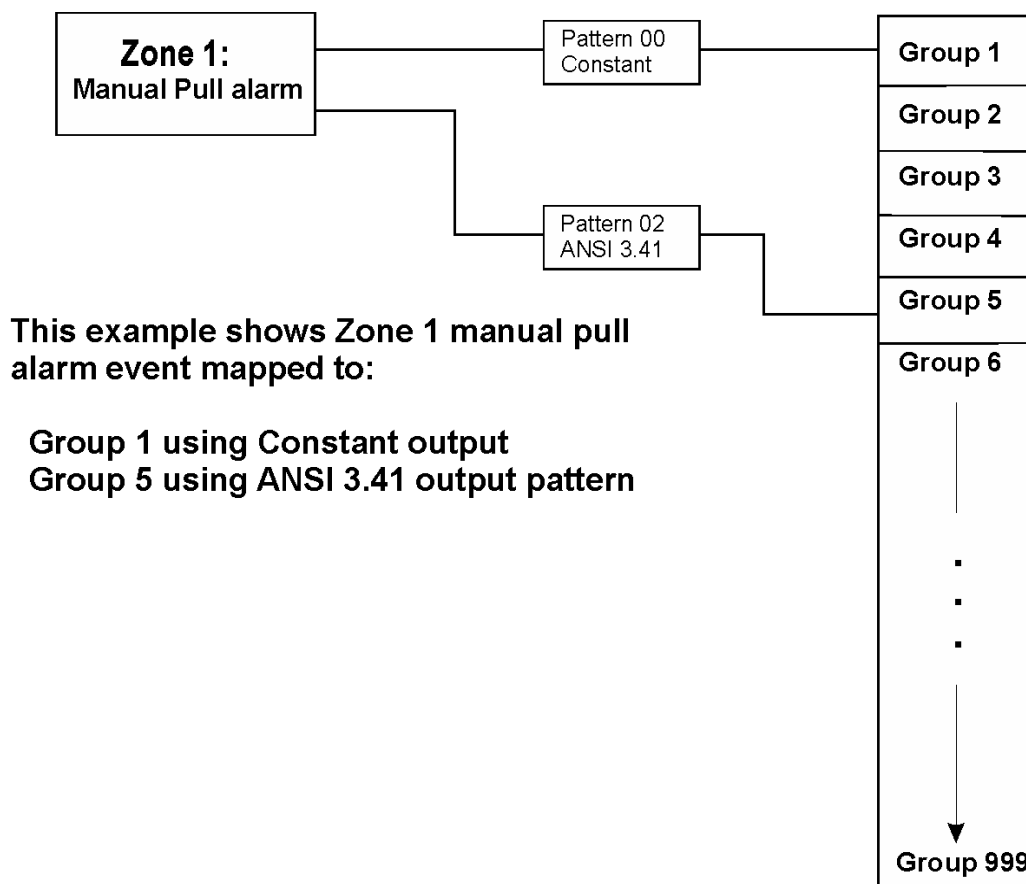


Figure 8-4 Example of Zone Events Mapped to output Groups and Patterns

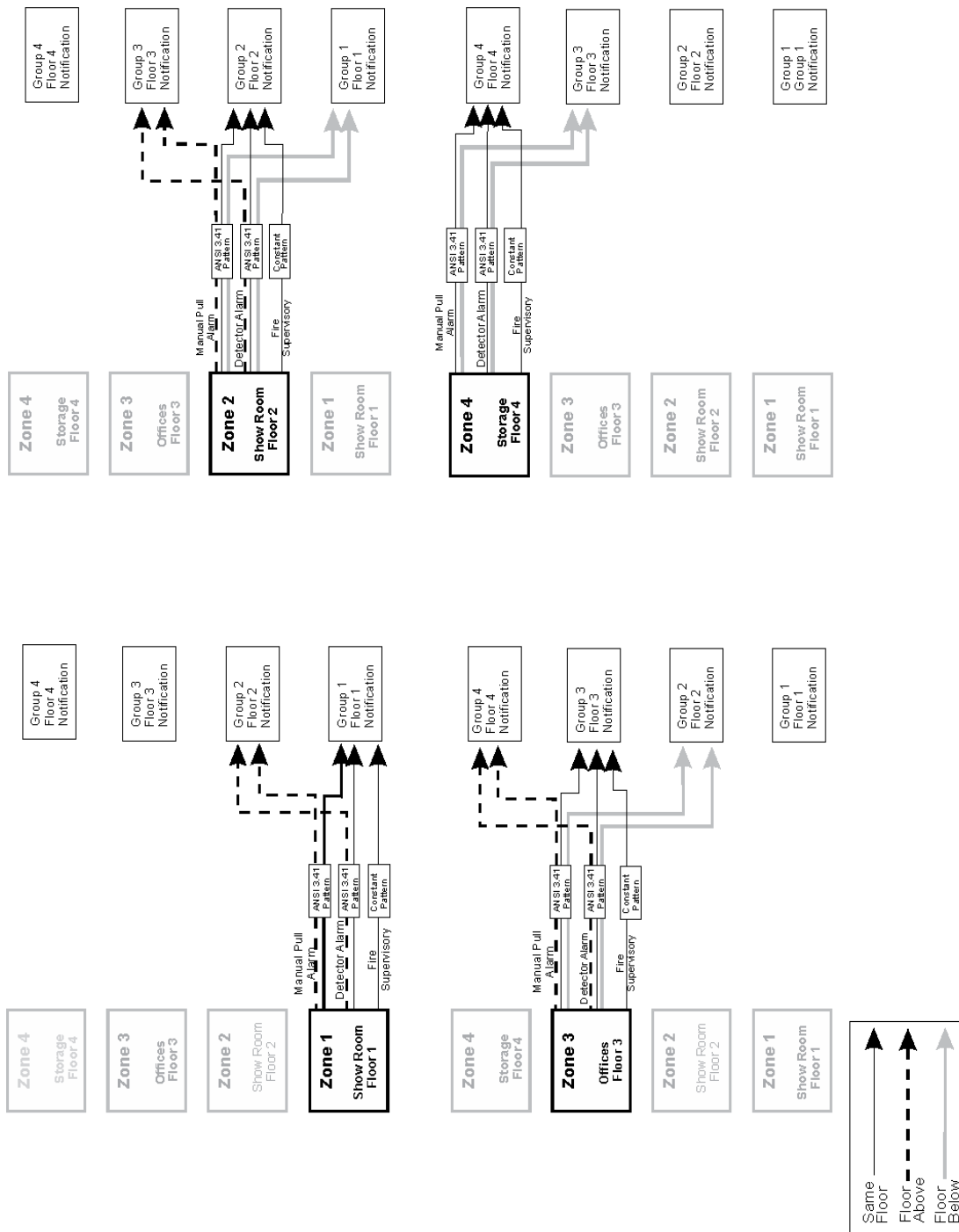


Figure 8-5 Example of Zone Events Mapped to Output Groups and Patterns on a Single Panel

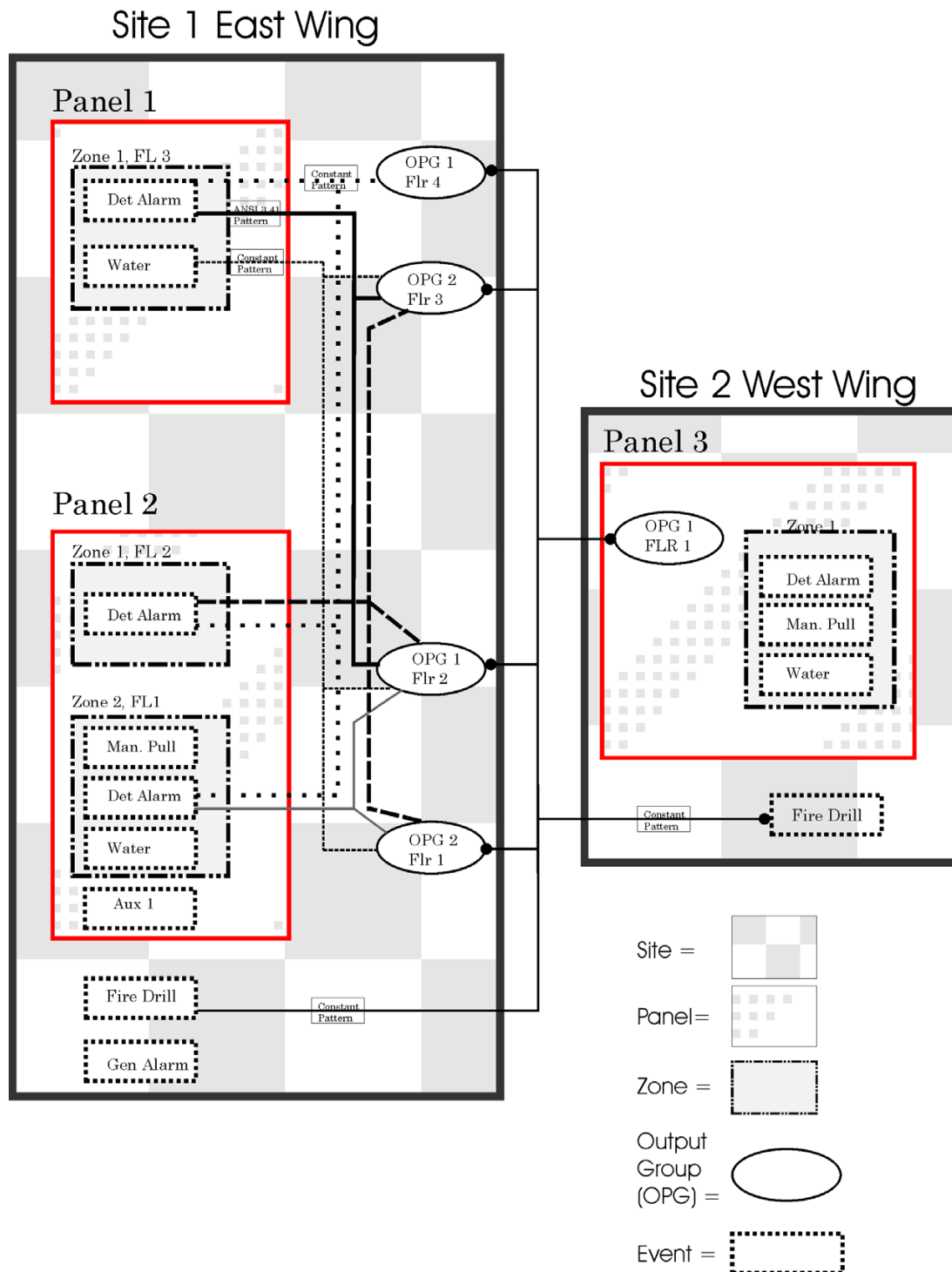


Figure 8-6 Example of Events Mapped to Output Groups and Patterns within a Networked Site

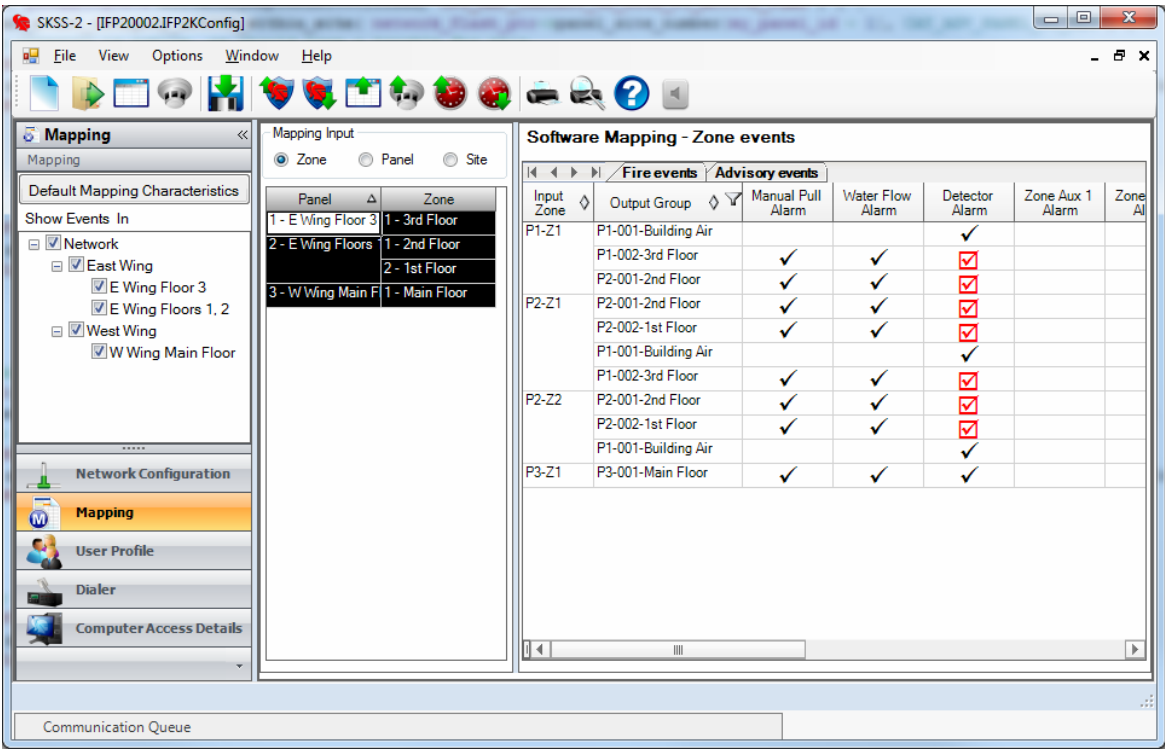


Figure 8-7 Example of SKSS-2 Software Mapping - Zone Events

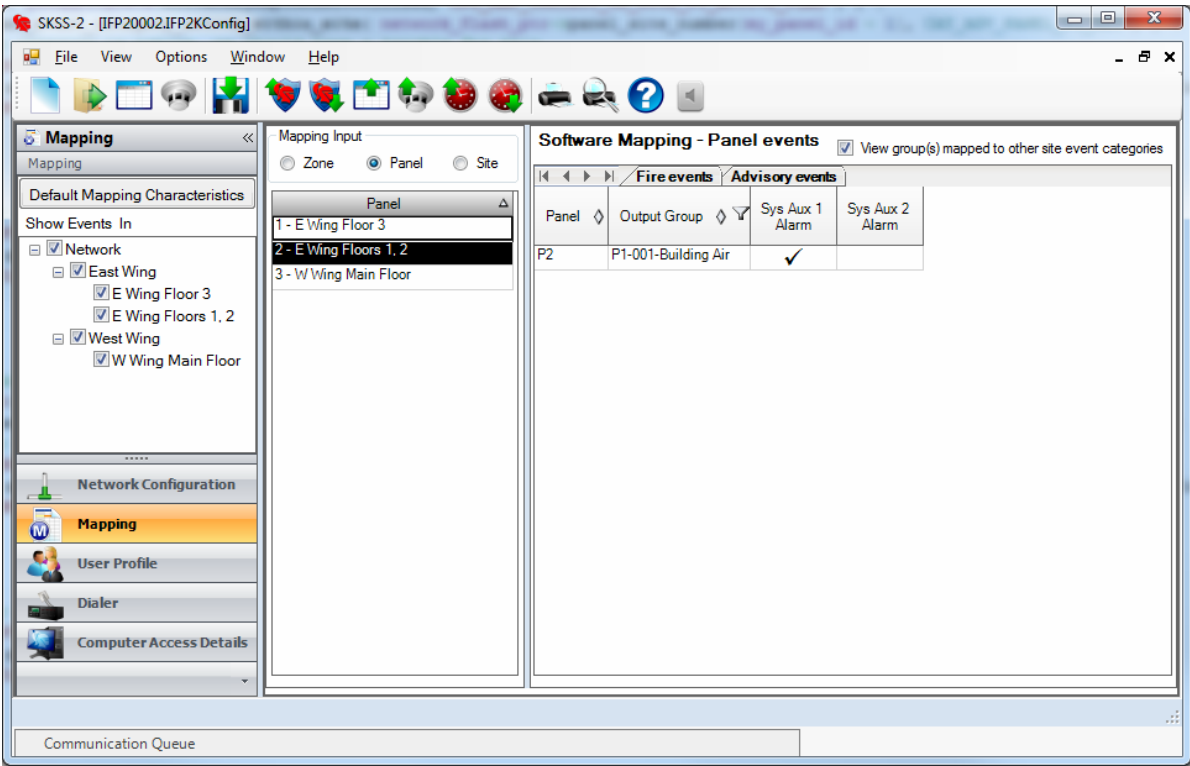


Figure 8-8 Example of SKSS-2 Software Mapping - Panel events

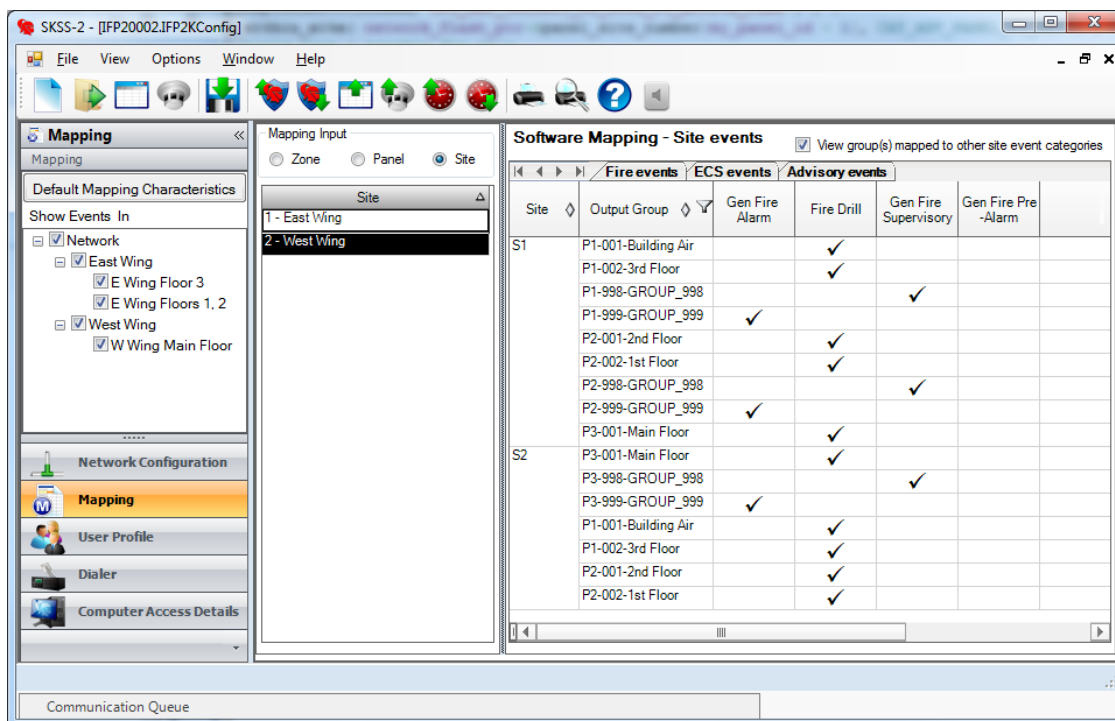
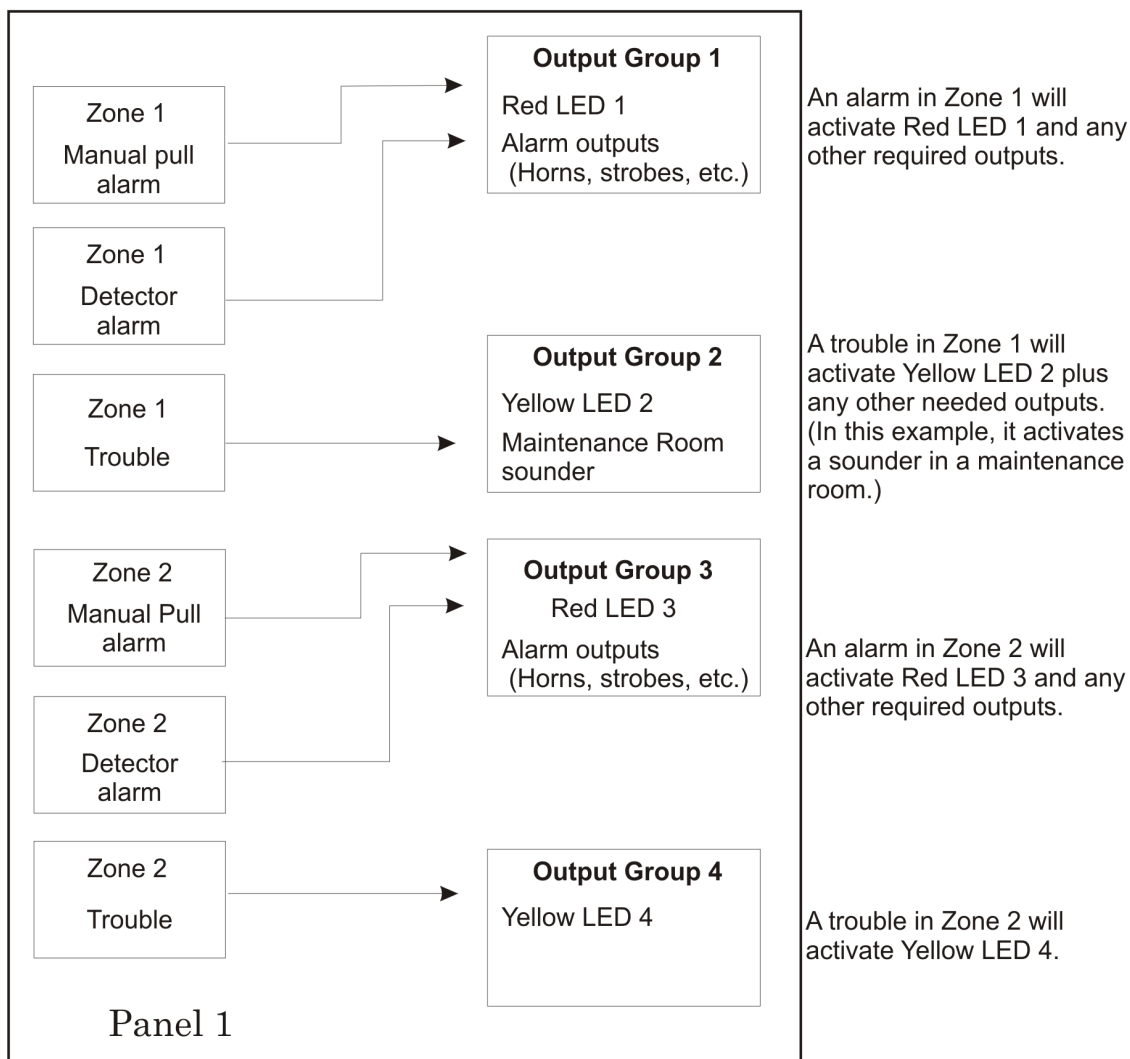


Figure 8-9 Example of SKSS-2 Software Mapping - Site Events

8.3.4 Mapping LED Points

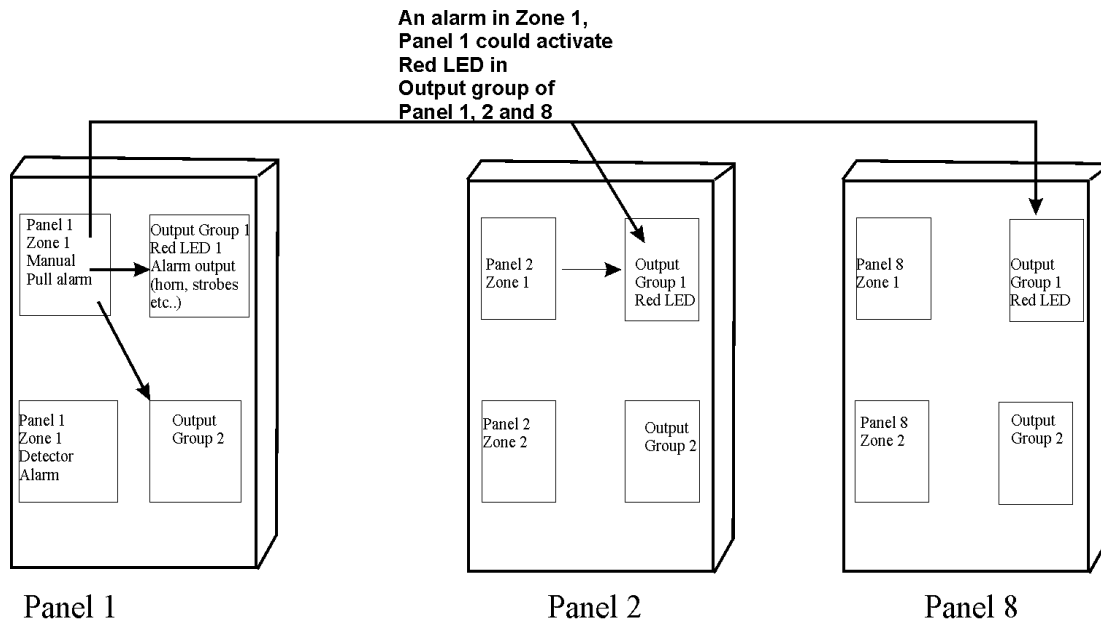
Figure 8-10 is a simple example showing how LED points are mapped to zones and output groups. Typically you would create two output groups for each zone, one for alarms and one for troubles. (LED points are available when models 5865-3/4 and/or 5880 are used with the system).

Mapping LEDs to Zones and Output Groups



**Figure 8-10 Example of LED Points Mapped to Output Groups
(Applies to Models 5865-3/4 and 5880)**

8.3.5 Mapping LED Points for a Networked System



Note: If the panels are not in the same site, the mapping must be set to non-latching to disable the LED when the Trouble/Alarm is cleared

Figure 8-11 Example of Expanding Mapping of LED Points Across Panels

8.4 Programming Using the 5655 Silent Knight PC Configuration Software

You can use the 5655 Silent Knight PC configuration software to program the control panel onsite or remotely (personnel will need to be onsite during the upload or download process). SKSS-2 is a software package that lets you easily program the control panel using a Windows-based computer and a modem*. SKSS-2 is needed for Mapping. When using SKSS-2, you can set up the programming options for the panel, save the options in a file, then download the file to the panel. You can connect to the control panel directly using the onboard USB or remotely using a modem.

*Modems not sold by Silent Knight. See Table 1-2 for a list of modems that have been tested for compatibility with the control panel and SKSS-2.

8.5 Programming Using an Annunciator

Many of the IFP-2000 features can be programmed through the system annunciator, using either the control panel's on-board annunciator or a RA-2000 remote annunciator.

The following subsections describe programming basics, including a description of editing keys available for programming and how to move through programming menus. Section 9 contains specific information about individual programming options.

8.5.1 Entering & Exiting Panel Programming

To enter Program Mode:

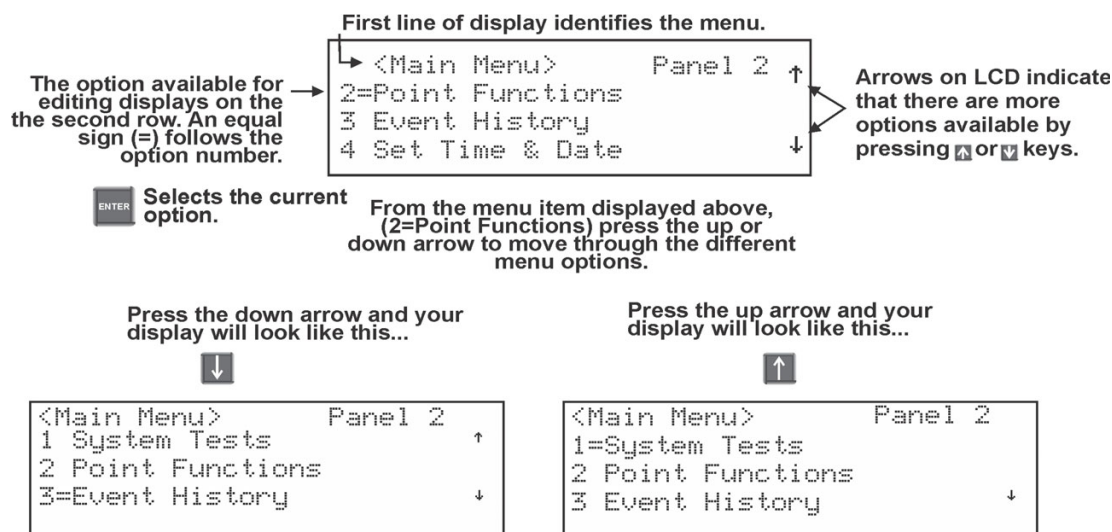
1. Enter the Installer Code (factory programmed default code is 123456).
2. Then press 7. The programming menu option displays. See Section 9 for detailed menu information and Section 8.6 for a quick reference listing all programmable options and JumpStart defaults.

To exit Program Mode:

When you have completed working with the menus, press left arrow several times until you are exited from programming mode. Two prompts will display. The first prompt is to make sure you intended to leave the panel programming (select Yes or No as appropriate). The second prompt is for accepting all changes. If you select No, any changes you have made since you entered panel programming will have no effect.

8.5.1.1 Moving through the Menus

Figure 8-12 shows how to move through the menu screens, using the main menu screen as an example.



**Figure 8-12 Moving through Main Menu
(Main Menu used as an Example)**

8.5.1.2 Selecting Options and Entering Data

There are several ways to make programming selections using the control panel depending on which screen you are currently viewing. The chart below is a generic explanation.

| To | Press |
|---------------------------------|---|
| Select from a menu. | The corresponding number on the annunciator. |
| Enter numeric data. | The appropriate number on the annunciator. |
| Enter text (alphanumeric data). | See Figure B on page 1 for complete list of characters. |
| Select from a scrolling list. | The up arrow or down arrow to move through the list of available options. When the option you want to select is displayed, press ENTER. |

8.5.1.3 Editing Keys

The keys shown in Figure 8-13 are available for use when you are in the Panel Programming menu.

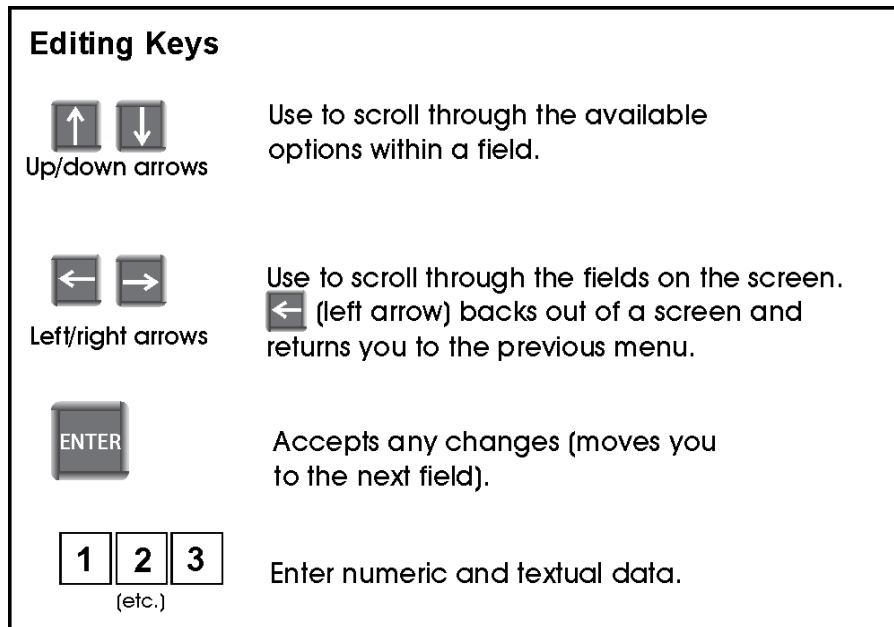


Figure 8-13 Editing Keys Available from the Panel Programming Menu

8.6 Programming Menu Quick Reference

This section of the manual lists all Panel Programming options in the order they appear on the sub-menus. Default settings are indicated in text or marked with an asterisk (*). The comments column provide quick information and a reference to a section (if applicable) which has more detailed information.

| Menu | | Options/Defaults | | | | Comments |
|------------------|---------------|-------------------------------|------------------------------|-------------------|-------------------------------|--------------------------------|
| Module | Edit Module | Select Module | Edit Module ID | | | Section 9.2.1 |
| | | | Enter Module Name | | | |
| | | | Edit Module specific options | | | |
| | Add Module | 5824-Serial/Parallel/IO | | | | Section 9.2.2 |
| | | RA-2000 LCD Annunciator | | | | |
| | | 5815XL-SLC Loop Expander | | | | |
| | | RPS-1000 Power Supply | | | | |
| | | 5496 Nac Expander | | | | |
| | | 5880-LED/IO Module | | | | |
| | | 5865-LED Annunc. Module | | | | |
| | | ECS-50W -Voice Amplifier | | | | |
| | | ECS-125W-Voice Amplifier | | | | |
| | | ECS-INT50W Internal Amplifier | | | | |
| | | ECS-DUAL50W -Voice Amplifier | | | | |
| | | ECS-VCM -Voice Control Module | | | | |
| | | ECS-RVM - Remote Voice Module | | | | |
| | | VIP-VCM-Voice Control Module | | | | |
| | | VIP-RM Remote Voice Module | | | | |
| Delete Module | Select Module | | | | Section 9.2.3 | |
| View Module List | Select Module | | | | Section 9.2.4 | |
| Zone | Edit Zone | Select Zone | Edit Zone Name | | | Section 9.3.1.1 |
| | | | Zone Properties | Verification Type | *1-Count | Section 9.3.1.2 |
| | | | | | 2-Count | |
| | | | | | Alarm Ver. | |
| | | | | | PAS | |
| | | | | | SNGL ILOCK | |
| | | | | | DBL ILOCK | |
| | | | Heat Temp Set | 135° to 150°F | SD devices Section 9.3.1.2 | |
| | | | | | 135° to 190°F | IDP devices Section 9.3.1.2 |
| | | | Zone Properties | Smoke Sensitivity | Low | Section 9.3.1.2 |
| | | | | | Medium | |
| | | | | | High | |

| Menu | | Options/Defaults | | | | | Comments | |
|--------------------|--|------------------------|--|----------------------------------|---------------|-----------------|---------------|--|
| Zone | Edit Zone | Select Zone | Zone Accessory Opt | Single/Multi-station Cadence | 00-23 | Section 9.3.1.3 | | |
| | | | | CO Single/ Multi station Cadence | 00-23 | | | |
| | | | | Local Zone | Yes | | | |
| | | No | | | | | | |
| | View Zone Points | Select Zone | | | | | Section 9.3.2 | |
| Group ¹ | Edit Group | Select Group | Group Name | | | Section 9.4.1.1 | | |
| | | | Group Properties | Voice Group | Y or N | Section 9.4.1.2 | | |
| | | | | Switch | 1-64 | | | |
| | | | | Template Override | Y or N | | | |
| | | | | Allow Sys Override | Y or N | | | |
| | Dynamic Act/ Template Override Cadence | 00-23 (See Appendix C) | | | | | | |
| | View Group Points | Select Group | | | | | Section 9.4.2 | |
| | Edit OPG Template | Select template | Modify name and which OPGs are in template | | | Section 9.4.3 | | |
| Point | SD and IDP Devices on Internal and External 5815XL | Enter Pt | Select Module | UNUSED | | | Section 9.5 | |
| | | | | SWITCH | MANUAL PULL | | | |
| | | | | | WATER FLOW | *LATCH | | |
| | | | | | | NON-LATCH | | |
| | | | | | FIRE SUPERVSY | *LATCH | | |
| | | | | | | NON-LATCH | | |
| | | | | | FIRE DRILL | | | |
| | | | | | SILENCE | | | |
| | | | | | RESET | | | |
| | | | | | P.A.S. ACK | | | |
| | | | | | ZONE AUX1 | *LATCH | | |
| | | | | | | NON-LATCH | | |
| | | | | | ZONE AUX2 | LATCH | | |
| | | | | | | NON-LATCH | | |
| | | | | | SYSTEM AUX1 | LATCH | | |
| | | | | | | NON-LATCH | | |
| | | | | | SYSTEM AUX2 | LATCH | | |
| | | | | | | NON-LATCH | | |
| | | | | | DETECTOR | | | |

| Menu | | Options/Defaults | | | | | Comments | |
|------------------|--|------------------|-----------------------------------|---------------|-------------------------|-----------------|-------------|--|
| Point (cont.) | SD and IDP Devices on Internal and External 5815XL (cont.) | Enter Pt | Select Module | SWITCH | FIRE TAMPER | LATCH | Section 9.5 | |
| | | | | | | NON- LATCH | | |
| | | | | | MANUAL RELEASE | | | |
| | | | | | INTERLOCK | | | |
| | | | | | STATUS POINT | | | |
| | | | | | CO DETECTOR SWITCH | | | |
| | | | | | ECS INPUT | LATCH | | |
| | | | | | | NON- LATCH | | |
| | | | | | ECS TAMPER | LATCH | | |
| | | | | | | NON- LATCH | | |
| | | | | | ECS SUPER- VISORY | LATCH | | |
| | | | | | | NON- LATCH | | |
| | | | | NOTIF | OUTPUT PT | Select Group | | |
| | | | | | | AUX CONST | | |
| | | | | | AUX RESET | | | |
| | | | | | AUX DOOR | | | |
| | | | | | OUTPUT PT | Select Group | | |
| | | | | RELAY | AUX RESET | | | |
| | | | | | AUX DOOR | | | |
| | | | | DETECTOR | 2-WIRE SMOKE | Select Zone | | |
| | | | Select Sensor (IDP ONLY) | UNUSED | | | | |
| | | | | DETECTOR | PHOTO | No Accessory | | |
| | | | | | | SDR BAS | | |
| | | | | | | RLY BAS | | |
| | | | | | ION | No Accessory | | |
| | | | | | | SDR BAS | | |
| | | | | | | RLY BAS | | |
| | | | | | HEAT | No Accessory | | |
| | | | | | | SDR BAS | | |
| | | | | | | RLY BAS | | |
| | | | | PHOTO DUCT | No Accessory | | | |
| | | | | | DCT RLY | | | |
| | | | | ACCLI-MATE | No Accessory | | | |
| | | | | | SDR BAS | | | |
| | | | | | RLY BAS | | | |

| Menu | | Options/Defaults | | | | | Comments |
|------------------|--|------------------|-----------------------------------|----------|---------------------------------|---|---|
| Point (cont.) | SD and IDP Devices on Internal and External 5815XL (cont.) | Enter Pt | Select Sensor (IDP ONLY) | DETECTOR | HEAT HT | No Accessory | Section 9.5 |
| | | | | | | SDR base | |
| | | | | | | RLY base | |
| | | | | | PHOT-HEAT | No Accessory | |
| | | | | | | SDR BAS | |
| | | | | | | RLY BAS | |
| | | | | | BEAM | | |
| | | | | SUP DET | Same function as DETECTOR | LATCH | |
| | | | | | | NON- LATCH | |
| | | | | CO FIRE | CO ALARM/ FIRE ALARM | No Accessory | Single station or Multi station Silence or Non-Silence |
| | | | | | | SDR BAS | |
| | | | | | | RLY BAS | |
| | | | | | | I-SdrBA (Intelligent Sounder Base) | Latch or non- latch Single station or Multi station Silence or Non-Silence |
| | | | | | CO ALARM/ FIRE SUPR | No Accessory | Single station or Multi station Silence or Non-Silence |
| | | | | | | SDR BAS | |
| | | | | | | RLY BAS | |
| | | | | | | I-SdrBA (Intelligent Sounder Base) | Latch or non- latch Single station or Multi station Silence or Non-Silence |
| | | | | | CO SUPR/ FIRE ALARM | No Accessory | Single station or Multi station Silence or Non-Silence |
| | | | | | | SDR BAS | |
| | | | | | | RLY BAS | |
| | | | | | | I-SdrBA (Intelligent Sounder Base) | Latch or non- latch Single station or Multi station Silence or Non-Silence |

| Menu | | Options/Defaults | | | | | Comments |
|------------------|--|---------------------------|--|----------------------|--------------------------|---|---|
| Point (cont.) | SD and IDP Devices on Internal and External 5815XL (cont.) | Enter Pt | Select Sensor (IDP ONLY) (cont.) | CO FIRE | CO SUPR/ FIRE SUPR | No Accessory | Single station or Multi station |
| | | | | | | SDR BAS | |
| | | | | | | RLY BAS | |
| | | | | | | I-SdrBA (Intelligent Sounder Base) | Latch or non- latch. Single station or Multi station. Silence or Non-Silence |
| | Internal Power and External Power | Enter Pt /Select Function | | SLC LED (SD only) | LED Output | LED Function | Section Figure 9.5 on page 10 |
| | | | | UNUSED | | | |
| | | | | B NOTIF | NOTIF OUTPUT | Select Group | |
| | | | | | CONTROL CIRCUIT | Super- vised Yes or No | |
| | | | | A NOTIF | NOTIF OUTPUT | Select Group | |
| | | | | | CONTROL CIRCUIT | Super- vised Yes or No | |
| | | | | AUX PWR | CON-STANT | | |
| | | | | | AUX RESET | | |
| | | | | | AUX DOOR | | |
| | | | | | AUX POWER SYNC* | | |
| | | | | B SWITCH | MANUAL PULL | Latch and Non-Latch feature only appear for WATERFLOW,FIRE SUPERVISORY, FIRE TAMPER, ZONE AUX1, ZONE AUX2, SYSTEM AUX1, SYSTEM AUX2., ECS INPUT, ECS TAMPER, and ECS SUPERVISORY. | |
| | | | | | WATER- FLOW | | |
| | | | | | FIRE SUPER- VISORY | | |
| | | | | | FIRE TAMPER | | |
| | | | | | FIRE DRILL | | |
| | | | | | SILENCE | | |
| | | | | | RESET | | |
| | | | | | P.A.S. ACK | | |
| | | | | ZONE AUX 1 | | | |

*Aux Power Sync setting is only applicable for the B200S Sounder Base.

*Aux Power Sync setting is only applicable for the B200S Sounder Base.

| Menu | | Options/Defaults | | | | Comments |
|------------------|---|-----------------------------------|-------------|-------------------------|---|--|
| Point (cont.) | Internal Power and External Power (cont.) | Enter Pt /Select Function (cont.) | B SWITCH | ZONE AUX2 | Latch and Non-Latch feature only appear for WATERFLOW,FIRE SUPERVISORY, FIRE TAMPER, ZONE AUX1, ZONE AUX2, SYSTEM AUX1, SYSTEM AUX2., ECS INPUT, ECS TAMPER, and ECS SUPERVISORY. | |
| | | | | SYSTEM AUX1 | | |
| | | | | SYSTEM AUX2 | | |
| | | | | MANUAL RELEASE | | |
| | | | | INTER-LOCK | | |
| | | | | ECS INPUT | If ECS INPUT is selected choose associated EVENT | |
| | | | | ECS TAMPER | Latch and Non-Latch feature only appear for WATERFLOW,FIRE SUPERVISORY, FIRE TAMPER, ZONE AUX1, ZONE AUX2, SYSTEM AUX1, SYSTEM AUX2., ECS INPUT, ECS TAMPER, and ECS SUPERVISORY | |
| | | | | ECS SUPER- VISORY | | |
| | | | | STATUS POINT | | |
| | | | A SWITCH | Same as B SWITCH | | |
| | | | B DETECT | 2-WIRE SMOKE | | |
| | | | | 4-WIRE SMOKE | | |
| | | | | CO 4 WIRE DET | | |
| | | | A DETECT | 2-WIRE SMOKE | | |
| | | | | 4-WIRE SMOKE | | |
| | | | | CO 4 WIRE DET | | |
| | Select Group or Zone Number | | | | | Group or Zone selection will appear depending on the function selected |
| | Edit Name | | | Enter Name | | |
| | 5880/5865/ECS- Series Amplifiers | Enter Point # | | UNUSED | | Section 9.5.3 |
| | | | | NOTIF | | |
| | | Select Group | | | | |
| | | Edit Name | | Enter Name | | |

| Menu | | Options/Defaults | | | | Comments |
|----------------|------------------|-------------------------|-------------------------------------|----------------|---|--|
| System Options | Auto Time Test | | Set the Hour | *02:00AM | Section 9.6.1 | |
| | | | Set the Minutes | | | |
| | | | Select AM/PM | | | |
| | Phone Lines | Select Phone Line | For each phone line (1 & 2) select: | | | |
| | | | Dialing Prefix | Up to 9 digits | *none | Section 9.6.1 |
| | | | # of Answer Rings | Range: 00-15 | *06 | Number of rings before panel answers a call from a computer Section 9.6.2.2 |
| | | | Select Dialing Option | TT | *TT | Touch Tone |
| | | | | TT/PL | | TouchTone alternating with pulse see Section 9.6.2.3 |
| | | | | PULSE | | Pulse dialing |
| | | | Rotary Pulse Format | U = 60/40 | *U | Section 9.6.2.4 |
| | | | | E = 66/34 | | |
| | | | Dial Tone Disabled | Y or N | *N | |
| | | | Monitor Line | Y or N | *N | Section 9.6.2.6 |
| | | | Answering Machine Bypass | Y or N | *N | Section 9.6.2.7 |
| | | | Phone Line Unused | Y or N | *N | Section Figure 9.6.2.8 on page 22 |
| | | | Daytime/Nighttime Sensitivity | Enable/Disable | Yes | |
| | No | | | | | |
| | Day Start | Enter time | | *6:00AM | | |
| | Night Start | Enter time | | *6:00PM | | |
| | Days of the Week | Select days | | *-MTWTF- | | |
| | Holiday Days | Holidays 1 to 18 | Enter dates | | *01/01, 07/04, 12/24, 12/25 | Section 9.6.4 |
| | Time Options | Water Flow Delay | 0 - 90 Seconds | *1 sec | Water Flow delay is the number of seconds before a water flow alarm is generated. Section 9.6.5.1 | |
| | | Alarm Verification Time | 1 to 250 seconds | *60 sec | Alarm Verification time section 9.6.5.2 | |
| | | Low AC Report Time | 0 - 30 hours | *3 hrs | Low AC Report Delay. Section 9.6.5.3 | |

| Menu | | Options/Defaults | | | | | Comments |
|---------------------------|-------------------------|----------------------------|---|--|--------------|--|-------------------|
| System Options (cont.) | Time Options (cont.) | AC Freq: | 50 Hz | | *60Hz | Section 9.6.5.4 | |
| | | | 60 Hz | | | | |
| | | | Neither | | | | |
| | | Clock Display Format | AM/PM | | *AM/PM | System Clock Format (AM/PM or military). Section 9.6.5.5 | |
| | | | MIL | | | | |
| | Miscellaneous Options | SYNC Strokes when Silenced | Y | | *N | Section 9.6.6.1 | |
| | | | N | | | | |
| | | Auto Display Events | Y | | *N | Section 9.6.6.2 | |
| | | | N | | | | |
| | | IFP-RPT Installed | Y | | | Section 9.6.6.3 | |
| | | | N | | | | |
| | | IFP-RPT Both Ports Used | Y | | | Section 9.6.6.4 | |
| | | | N | | | | |
| | Daylight Saving Options | Auto Daylight Saving Time | Y | | *Y | Section 9.6.7.1 | |
| | | | N | | | | |
| | | DST Start | Select week: 1st, 2nd, 3rd, 4th or Last | | Select month | | Section 9.6.7.2 |
| | DST End | | | | | | |
| | Edit Banner | Refer to Appendix B | | | | | Section 9.6.8 |
| | SLC Family | IDP | | | | | Section 9.6.9 |
| | | SD | | | | | |
| | Edit Ethernet | IP Address | | | | | Section 9.79.6.10 |
| | | Subnet Mask | | | | | |
| | | Default Gateway | | | | | |
| | | DCHP Enable | Y | | *N | | |
| | | | N | | | | |
| Jump Start AutoPrg | Y (Yes) N (No) | | | | | | See Section 9.7 |
| Restore Defaults | Y (Yes) N (No) | | | | | | See Section 9.8 |
| Voice Options | ECS-VCM Maintenance | PC Connection | | | | Section 9.6.9 | |
| | | Local Recording | | | | | |
| | Edit Voice Settings | Enable Dual Channel System | | | | | |

1. Use of multiple notification groups may not synchronize with each other.

Section 9

Programming

This section of the manual describes how to manually program the control panel from the built-in annunciator. Each subsection discusses these menu options in detail. All options described in this section can be performed using Silent Knight Software Suite (SKSS-2).

Before any customized programming is done, JumpStart AutoProgramming should be run first. After JumpStart is run, thoroughly test the system. The reason the system should be tested after JumpStart AutoProgramming is because JumpStart AutoProgramming automatically programs the system, searching for and configuring all SLC and SBUS devices it finds. JumpStart allows you to confirm the integrity of the installation prior to performing any custom programming. After determining that the hardware is properly installed, custom programming can be performed. Refer to Section 8.

9.1 UL 864 / UL 2572 Programming Requirements

NOTICE TO USERS, INSTALLERS, AUTHORITIES HAVING JURISDICTION, AND OTHER INVOLVED PARTIES:

This product incorporates field programmable software. In order for the product to comply with the requirements in the Standard for Control Units and Accessories for Fire Alarm Systems, UL 864, and Standard for Mass Notifications Systems, UL 2572, certain programming features or options must be limited to specific values or not used at all as indicated below.

| Programming Option | Menu Item | Permitted in UL 864 (Y/N) | Permitted in UL 2572 (Y/N) | Possible Settings | Settings Permitted in UL 864 | Settings Permitted in UL 2572 |
|-----------------------------|-----------------------------|---------------------------|----------------------------|-------------------------------|-------------------------------|-------------------------------|
| Time Options | Low AC Report Delay | Yes | Yes | 0–30 hours | 1–3 | 1–3 |
| Display Oldest Event | Y (Enabled) | Yes | Yes | Yes & No | Yes | Yes |
| | N (Disabled) | No | No | Yes & No | No | No |
| Initial Delay | 0-28 | Yes | Yes | 0-28 | 3-10 | 4-28 |
| Inter Message Delay | 4-32 | Yes | Yes | 4-32 | 4-32 | 4-28 |
| Alarm Verification | Alarm Verification | Yes | Yes | 1-250 | 1-60 | 1-60 |
| Auto Reset ECS Custom Event | Auto Reset ECS Custom Event | Yes | Yes | Never Timer Event Disabled | Never Timer Event Disabled | Never Timer Event Disabled |
| ECS Input | ECS Input | Yes | Yes | Latching Non-Latching | Latching | Latching |
| Event Priority | CO Alarm | No | No | Yes & No | No | No |

9.2 Modules

This section lists the options available under the module option in the Panel Programming. The following modules are available for the control panel: 5824 serial/parallel/IO printer interface module, RA-2000 remote fire alarm annunciator, 5815XL SLC expander, RPS-1000 intelligent power module, 5496 intelligent power

module, 5880 LED I/O module, 5865 LED annunciator, ECS-50W or ECS-125W watt audio amplifier, ECS-AMP audio/voice amplifier, ECS-VCN voice control module, ECS-INT50W 50 watt internal amplifier, ECS-RVM remote voice module, and ECS-DUAL50W dual channel amplifier.

9.2.1 Edit Modules

The features that can be edited when this option is selected are module ID, module name, or features that are specific to the module to be edited.

To edit an existing module:

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Panel Programming.

Note: If you are working on a networked system you will need to select which panel you want to program

3. Press 1 to enter module menu.
4. Press 1 to edit a module.
5. Use the Up or Down arrow to select the module you wish to edit.
6. Press the right arrow or ENTER to move to next selection.

9.2.1.1 Editing Module ID

7. Press the Up or Down arrow to modify the module ID.

Note: Internal devices are not able to have their module ID edited.

9.2.1.2 Naming Modules



You can assign an English name to a system hardware module to make it easier to recognize on a display.

8. If you wish to edit the module's name, press ENTER on the module's name. Then, press the number keys corresponding to the character for the module's name (or press the right arrow to bypass editing the name).

Note: See Appendix B for editing names.

Default name for the Int
5815XL module
(no customization)

```
<ENTER MODULE NAME>
M97 Internal SLC Loop
INTERNAL SLC_____
```

Use   to select
Mode. Press the number until
the character wanted is
shown. Press left/rt arrow

```
<ENTER MODULE NAME> Enter: Accept
Internal SLC
 1[abc] 2[def] 3[ghi] 4[jkl] 5[mno]
 6[pqr] 7[stu] 8[vwx] 9[yz ] 0[Spc]
```

Figure 9-1 Edit module Name Programming Screen Example

9.2.1.3 Changing Module Options

Each module has a unique set of options that specifically applies to the functionality of the module being edited.

9. Use the left and right arrow keys to move between available options.
10. Option settings are edited by pressing the Up or Down arrow or using the keypad for numerical entry.

9.2.2 Adding a Module

To add a new hardware module to the system, follow these steps:

You must be in the Main Menu to perform this task. If necessary, enter the Installer Code.

1. Select 7 for Panel Programming.
2. Press 1 to enter module menu.
3. Press 2 to add a module.
4. From the next screen, select the number that corresponds to the type of module you are adding from the <New Module Type> screen.

The screen will display “Adding module [#]...” for a few moments. You will be returned to the <New Module Type> screen where you can add additional modules if desired.

You must save changes when you exit the Panel Programming or the new module will not be added.

Note: If you Add a Module that has not been physically connected, the panel will go into trouble after it reinitializes (when you exit the Panel Programming). When the new module is attached, the trouble will correct itself automatically the next time you power up the system.

9.2.3 Deleting a Module

To delete a module, follow these steps:

You must be in the Main Menu to perform this task. If necessary, enter the Installer Code.

1. Select 7 for Panel Programming.
2. Press 1 to enter module menu.
3. Press 3 to delete a module.
4. Select the module to be deleted.
5. A warning screen will display. If you want to proceed with deleting the module, select Yes. To cancel, select No.

9.2.4 View Module List

To view a list of all modules, follow these steps:

You must be in the Main Menu to perform this task. If necessary, enter the Installer Code.

1. Select 7 for Panel Programming.
2. Press 1 to enter module menu.
3. Press 4 to view list. Use the Up or Down arrow to scroll though list.

9.3 Zone

Through the zone option in Panel Programming you can edit, add, delete, and view zone points. Selections made here affect all detectors and switches in the zone. Up to 999 zones can be used in each panel.

Note: Adding a Zone or Deleting a Zone can only be done using SKSS-2 (Silent Knight Software Suite PN 5655).

9.3.1 Edit Zone

Features that can be edited through the edit zone option are, edit zone name, zone properties (which includes zone type and detector sensitivity), and zone accessory options.

To edit a zone, follow these steps:

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Panel Programming.
3. Press 2 to enter zone menu.
4. Press 1 to edit a zone.
5. Enter the zone number, then press ENTER.

9.3.1.1 Edit Zone Name

6. Press 1 to edit the selected zone name.

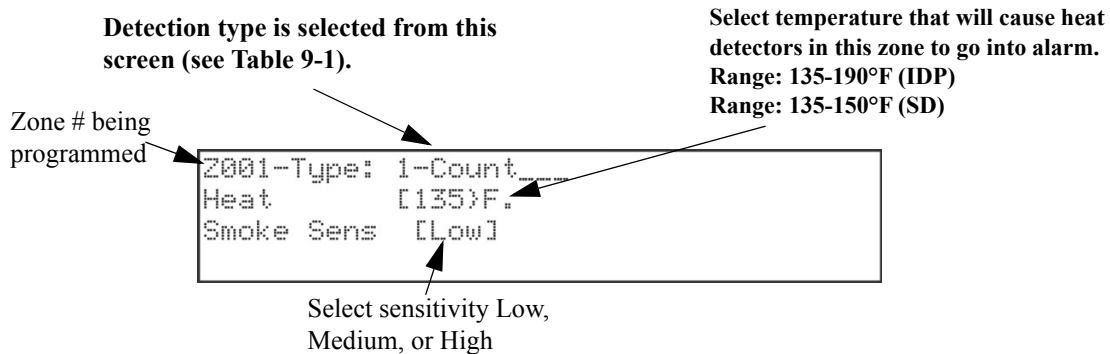
You can use words to display a descriptive name for a zone.

Note: See Appendix B for editing names.

9.3.1.2 Edit Zone Properties

Zone properties consist of alarm delay characteristics, heat detector sensitivity, and smoke detector sensitivity.

1. Do steps 1 through 5 of Section 9.3.1.
2. Press 2 to edit the properties of the selected zone.



Alarm Delay Characteristics

The programmed zone type is provided for user reference only. To modify the zone type use the SKSS-2 Silent Knight Software Suite

Table 9-1 list the detector characteristics and a description of each.

Table 9-1: Detector Characteristics

| Type of Delay | Description |
|---------------------------------|---|
| 1-Count | One Count (No Delay). When this option is enabled, an alarm occurs immediately when a single device of any of the following types goes into alarm: detector, manual pull, water flow, Zone Aux1 or Zone Aux2. This is considered the most typical operation and is the default for all zones. |
| 2-Count | When this type of alarm delay is used, two or more detectors within the zone must go into alarm in order for the zone to report an alarm. Switches of type manual pull, water flow, Zone Aux1 and Zone Aux2 are an exception; they will cause an alarm when only one switch is in alarm. When a single detector is in alarm in a 2-Count zone, the system enters a prealarm condition. In a prealarm condition, the touchpad PZT beeps and the annunciator display indicates that a prealarm has occurred. If the zone has been mapped to an output group for the prealarm event, the output group will activate. The prealarm will not be reported to the central station. When two count is used detector spacing shall be cut in half, you shall not use the alarm verification feature, and no delay shall be used. IDP-Fire-CO detectors can be installed in a 1 or 2 count zone but will operate as a 1-count point in that zone. |
| Alarm Verification | Alarm verification is an optional false alarm prevention feature that verifies an alarm condition by resetting the smoke detector. If the alarm condition still exists by the time the reset cycle has completed, the detector will go into alarm. If the detector is no longer in alarm, no report will go to the central station. The alarm verification sequence is ignored if the zone is already in alarm. |
| P.A.S.- Positive Alarm Sequence | This option is intended to be used with an acknowledge switch. An alarm is delayed for 15 seconds, giving on-site personnel a chance to investigate the alarm. If the acknowledge switch is not activated within 15 seconds, an alarm occurs automatically. If this option is enabled for a zone, the zone will respond to an alarm condition as follows: <ul style="list-style-type: none"> • The zone will not go into alarm for 15 seconds to allow an on-site operator to activate the acknowledge switch. • If the operator does not press the acknowledge switch within 15 seconds, the zone will go into alarm. • If the operator presses the acknowledge switch within 15 seconds, a 180-second time-frame will begin counting down. This time-frame allows the operator to investigate the cause of the alarm. If the operator performs a reset within 180 seconds, the alarm will not occur. If the operator does not perform a reset within 180 seconds, an alarm will occur automatically. <ul style="list-style-type: none"> • The P.A.S. feature will be overridden if another alarm occurs. |
| Single Interlock | See Section 10.7.1 for single interlock releasing operation. |
| Double Interlock | See Section 10.7.2 for double interlock releasing operation. |

Heat Detector Sensitivity

Use this feature to set the temperature at which high temperature detectors will respond. All detectors in the zone will respond in the same way. The range for IDP-Heat-HT heat detector is from 135°F to 190°F.

The high temperature IDP heat detectors are absolute temperature devices. This means that they respond to an alarm immediately if the temperature in the zone goes above the programmed temperature.

3. Enter the temperature at which the heat detector will respond, or use the Up or Down arrow to scroll through the range, or enter directly from the number keys on the annunciator, then press ENTER.

Smoke Detector Sensitivity

Drift compensation is automatic for all smoke detectors (photoelectric and ionization). The feature is always in effect, no programming is required. See Section 10.4.10 for information about how to check if a detector is in UL compliance.

All detectors in the zone will respond as programmed in this menu location.

Table 9-2: IDP and SD Sensitivity Choices*

| Detector Protocol | Type of Smoke Detector | Choices | Comments |
|-------------------|---|-------------------------|---|
| IDP | IDP-Photo, IDP-Acclimate, & IDP-Photo-T | Low (3.5% obscurity) | If the day/night sensitivity option is selected, you can have different sensitivity settings during the day and at night. You can program the days of the week that Day/Night Sensitivity will automatically adjust. You can also designate specific days as holidays. Holiday and weekend days use night sensitivity for the entire day. |
| | | Medium (2.5% obscurity) | |
| | | High (1.5% obscurity) | |
| | IDP-Ion (obsolete) | Low (55 pA) | |
| | | Medium (68 pA) | |
| | | High (80 pA) | |
| | DNR with IDP-PhotoR or Photo | Low (2.5% obscurity) | |
| | | Medium (2.0% obscurity) | |
| | | High (1.5% obscurity) | |
| SD | SD505-PHOTO | Low | If the day/night sensitivity option is selected, you can have different sensitivity settings during the day and at night. You can program the days of the week that Day/night sensitivity will automatically adjust. You can also designate specific days as holidays. Holiday and weekend days use night sensitivity for the entire day. |
| | | Medium | |
| | | High | |
| | SD505-AIS (obsolete) | Fixed | Sensitivity for ionization detectors is always 64 MIC (1.1% obscurity per foot) regardless of Low, Medium or High setting. Day and night settings also have no effect on these detectors. |
| | SD505-DUCT with SD505-DUCTR | Fixed | Low, Medium and High settings have no effect for photoelectric duct detectors. Photoelectric duct detector sensitivity is always 1.1% per foot. Day and night settings also have no effect on these detectors. |
| | SD505-DUCT with SD505-DUCTR | Fixed | Low, Medium, or High settings have no effect for ionization duct detectors. Ionization duct detector sensitivity is always 75 MIC (0.8%) regardless of Low, Medium or High setting. Day and night settings also have no effect on these detectors. |
| | | | |

* Automatic drift compensation is always in effect for all detectors. Detectors are sampled every 3 hours. See Section 10.4.10 for information about how to check if a detector is in compliance.

- Use the Up or Down arrow to scroll through the range or enter directly from the number keys on the annunciator, then press ENTER.

9.3.1.3 Zone Accessory Options

- Do steps 1 through 5 of Section 9.3.1.
- Press 3 to edit the Zone's Accessory options.

Single or Multi-Station cadence pattern (choose from Patterns 00 to 23).

See Appendix C.

Fire Cadence and CO Cadence pattern (choose from Cadence Patterns 00 to 23).

Note: The B200S Sounder base is intended to be used along with the CO cadence setting.

Local Zone (choose Y or N, for Yes or No).

9.3.2 View Zone Points

To view the points in a zone, follow these steps:

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Panel Programming.
3. Press 2 to enter zone menu.
4. Press 2 to view zone points.
5. Enter the number of the zone you wish to view, then press ENTER.

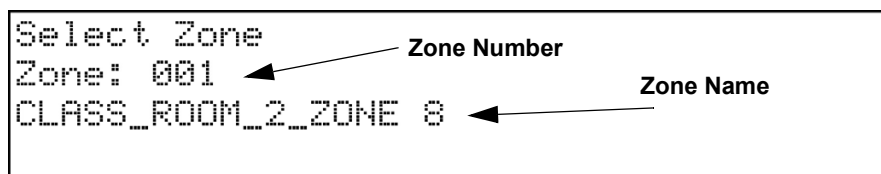


Figure 9-2 View Zone Points Screen

9.4 Group

An output group is made up of output points that have been programmed to respond in the same way. Output groups simplify programming because you only have to program the output characteristics that are common to all of the group points once, instead of programming each individual point. Once you have defined the characteristics of output groups, you can assign each point to the appropriate group. All valid output points are assigned to only one output group. Unused points are not assigned to any output group. Up to 999 output groups can be defined per panel.

Each output group is defined as either a voice output group or a non-voice output group. Output points that are audio circuits (all circuits on the ECS-50W, ECS-125W, ECS-INT50W, ECS-DUAL50W, and ECS-CE4) can only be assigned to voice output groups. Output points that are non-voice circuits (all other points and circuits that are on all modules except the ECS-50W, ECS-125W, ECS-INT50W, ECS-DUAL50W, and ECS-CE4) are assigned to non-voice output groups.

Note: Adding a Group or Deleting a Group can only be done using **SKSS-2**. (Silent Knight Software Suite PN 5655).

9.4.1 Edit Group

In the edit group option you can program the name of an output group (Section 9.4.1.1) and change the properties (Section 9.4.1.2) of that group.

To edit a group, follow these steps:

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Panel Programming.
3. Press 3 to enter group menu.
4. Press 1 to edit group.
5. Enter the number of the group you wish to edit, then press ENTER.

9.4.1.1 Edit Group Name

6. To edit the group name, press 1.

You can use words to display a descriptive name for a group.

Note: See Appendix B for editing names.

9.4.1.2 Edit Group Properties

7. To edit the group properties, Press 2 from the edit group menu.

The Edit Group Menu allows you to select options for each group for the following items:

- Define output group type as voice or non-voice group. Select Y for voice group and N for non-voice group.
- Select / Dynamic Activation switch number: used when the group is defined as a voice group; or as a non-voice group where Dynamic Activation is used.
- Template Override: Y or N.
- Allow Sys Override: Y of N.
- Dynamic Activation / Template Override Cadence. (This is shown when the Template override is set to Yes).

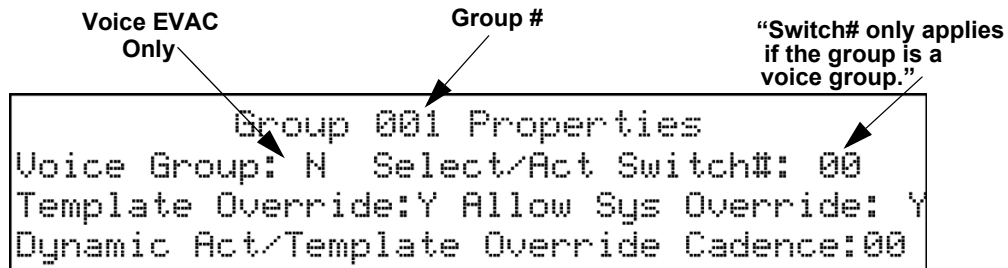


Figure 9-3 Group Properties Screen Programming Options

Defining Output Group Type

Each output group is defined as either a voice output group or a non-voice output group. Output points that are audio circuits (all circuits on the ECS-50W, ECS-125W, ECS-INT50W, ECS-DUAL50W and ECS-CE4) can only be assigned to voice output groups. Output points that are non-voice circuits (all other points and circuits that are on all modules except the ECS-DUAL50W, ECS-50W, ECS-125W, ECS-INT50W and ECS-CE4) are assigned to non-voice output groups.

Each of the output groups defined as voice can be mapped to a particular switch and LED on the ECS-VCN, ECS-RVM or ECS-SW24. This allows the user to see the state of the voice groups assigned to the switches. This also lets the user individually select which areas they want to do a live page.

Output groups not defined as voice groups can also be assigned to these switches as long as there is a voice group already assigned to the switch. This allows for dynamically activating both voice and strobes/other outputs in an

area with a single button press.

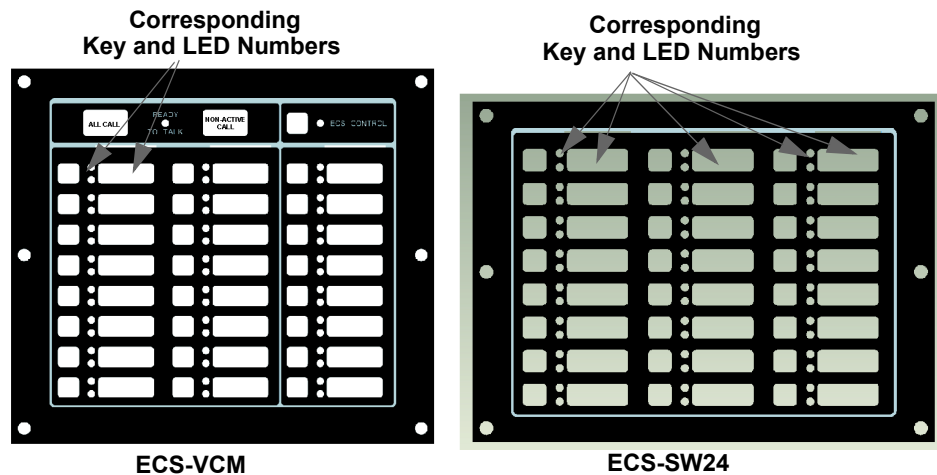


Figure 9-4 Corresponding Key and LED for Mapping Output Groups

9.4.2 View Group Points

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Panel Programming.
3. Press 3 to enter group menu.
4. Press 2 to view group points.
5. Enter the group number, then press ENTER.

```
Select Group
Output Group: 001
Number 1 of 15
```

9.4.3 Edit OPG Template

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Panel Programming.
3. Press 3 to enter group menu.
4. Press 3 to edit OPG Template.
5. Enter the Template number, then press ENTER
6. Press ENTER on the template name to edit the name.

You can use words to display a descriptive name for a group.

Note: See Appendix B for editing names.

7. Right arrow to the OPG and select YES or NO to select which output groups to include in the template.

9.5 Point

You may need to change characteristics of individual input points (detectors and switches) even after using JumpStart AutoProgramming. This section explains how to change options for: type of input point; latching/non-latching status (switches); and name and zone/group assignment of a point.

9.5.1 Point Programming For 5815XL Module

To program for points on an 5815XL module, follow these steps:





1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Panel Programming.
3. Press 4 to enter point menu.
4. Press the  or  arrows to select the desired module. Refer to Section 8.6 Quick Reference Table for available choices. Then press ENTER.
5. Select S for sensor or M for module. (IDP Only)
6. Enter the number of the point you wish to edit, then press ENTER.
7. Select the type of device by pressing  or  arrows. Refer to Table 9-3 under the column heading “Type Selection” for a list of choices.

Table 9-3: Programming Options for 5815XL Modules

| Type Selection | Function | Latching Option | Comments |
|-------------------|---------------------|--------------------------|---|
| UNUSED | | | Select for SLC points that are unused. |
| DETECTOR | PHOTO | | Spot photoelectric detectors. |
| | ION | | Spot ionization detector. |
| | HEAT | | Spot heat detector. |
| | PHOTO DUCT | | Duct photoelectric detector. |
| | ION DUCT | | Duct Ion detector. |
| | ACCLIMATE | | Acclimate photoelectric detector. |
| | HEAT HT | | High temperature heat detector. |
| | PHOTO-HEAT | | Photoelectric detector with heat sensor. |
| | BEAM | | Beam smoke detector. |
| | 2-WIRE SMOKE | | 2-wire smoke detector. |
| SUP DET | PHOTO | Latching Non Latching | Use this option when you want a detector to indicate a supervisory alarm. |
| | ION | | |
| | HEAT | | |
| | PHOTO DUCT | | |
| | ION DUCT | | |
| | ACCLIMATE | | |
| | HEAT HT | | |
| | PHOTO-HEAT | | |
| | BEAM | | |
| | | | |
| CO SMOKE DETECTOR | CO ALRM / FIRE ALRM | | |
| | CO ALRM / FIRE SUPR | | |
| | CO SUPR / FIRE ALRM | | |
| | CO SUPR / FIRE SUPR | Latching Non Latching | Supervisory switches can be latching or non-latching. |

Table 9-3: Programming Options for 5815XL Modules

| Type Selection | Function | Latching Option | Comments |
|-----------------------------|------------------|--------------------|--|
| SWITCH Switch (cont.) | MANUAL PULL | | Use this switch type for manual pull stations. This input is always latched. The switch can clear only when an alarm is reset. This switch type has the highest fire priority; it overrides any other type of fire alarm. |
| | WATERFLOW | Latching (default) | Use this switch type for monitoring water flow in a sprinkler system. Switch closure will cause a sprinkler alarm. Water flow switches can be programmed as latching or non-latching. You can program a delay of up to 90 seconds to be used with a water flow switch. The delay allows for normal, brief changes in sprinkler system water pressure. The water flow alarm will not activate unless the switch is active for the programmed delay time. If a delay is used, the system begins counting down when the switch closes. If the switch opens (restores) before the timer expires, a water flow alarm is not generated. If the water flow switch remains closed after the timer expires, a water flow alarm will be generated. |
| | | Non Latching | |
| | FIRE SUPERVISORY | Latching | Use this switch type for tamper monitoring of sprinklers and other fire protection devices. If a contact closes, a sprinkler supervisory event will be generated. Supervisory switches can be latching or non-latching. |
| | | Non Latching | |
| | FIRE DRILL | | System-level, non latching switch. This switch is an alternative way of causing a fire drill. It has the same operation as the fire drill option available from the annunciator. When the switch is activated, a fire drill begins; when the switch is de-activated, the fire drill ends. |
| | SILENCE | | This system-level switch is an alternative way to silence the fire system. It has the same effect as pressing the SILENCE key. |
| | RESET | | This system-level switch is an alternative way to reset the fire system. It has the same effect as pressing the RESET key. |
| | P.A.S. ACK | | Positive acknowledge switch. This switch must be used in zones programmed as Positive Alarm Sequence (see 9.3.1.2). If an acknowledge switch closes when an alarm or trouble condition is not already in progress, a trouble will occur. You must use a UL listed normally open, momentary switch type. The switch must be rated at 5V, 100 mA (minimum) and be used with an EOL resistor for supervision. |
| | ZONE AUX1 | Latching | Use these switch types if you want to monitor special zone-level conditions (such as dry contact from a remote power supply). |
| | | Non Latching | |
| | ZONE AUX2 | Latching | |
| | | Non Latching | |
| | SYSTEM AUX1 | Latching | Use these switch types if you want to monitor special system-wide conditions (such as dry contact from a remote power supply). |
| | | Non Latching | |
| | SYSTEM AUX2 | Latching | |
| | | Non Latching | |
| | DETECTOR | | Used to monitor conventional 4-wire detectors, a contact closure will generate a detector alarm event. |
| | FIRE TAMPER | Latching | Performs identically to a supervisory switch, but will be indicated as a tamper switch on the LCD annunciator. |
| | | Non Latching | |
| | MANUAL RELEASE | | Manual release switch |
| | INTERLOCK | | Interlock release switch input. |

Table 9-3: Programming Options for 5815XL Modules

| Type Selection | Function | Latching Option | Comments |
|------------------------|------------------|-----------------|--|
| SWITCH (cont.) | STATUS POINT | | |
| | ECS INPUT | Latching | User also has ECS Event Number 1-8 option for ECS INPUT. Only available when an ECS-VCN is installed in the system. |
| | | Non Latching | |
| | ECS TAMPER | Latching | |
| | | Non Latching | |
| | ECS SUPER-VISORY | Non Latching | |
| | CO DETECT SW | | CO Detector Switch |
| NOTIF | OUTPUT PT | Select Group | Output point, a general use notification type. Use for driving standard notification appliances. |
| | AUX CONST | | Use constant power for applications that require a constant auxiliary power source. Power is always present at constant circuits. |
| | AUX RESET | | Use for auxiliary power, resettable applications. See Section 4.12.5.3 for a description of how this option operates. |
| | AUX DOOR | | Use for auxiliary power, door holder applications. For example, if you were using an auxiliary power supply for door holders, you would use this option. See Section 4.12.5.1 for a description of how this option operates. |
| RELAY | OUTPUT PT | Select Group | Output point, a general use relay type. Use for applications requiring a relay, such as fan shutdown, elevator recall, and so on. |
| | AUX RESET | | Use for auxiliary power, resettable applications. See Section 4.12.5.3 for a description of how this option operates. |
| | AUX DOOR | | Use for auxiliary power, door holder applications. For example, if you were using an auxiliary power supply for door holders, you would use this option. See Section 4.12.5.1 for a description of how this option operates. |
| SLC LED | LED NUMBER | 01-80 | For use with SD devices only. 80 sub addresses on LED. |
| | LED FUNCTION | Unused | |
| | | NOTIF | Notification can have group number. |
| 2-WIRE DETECTOR MODULE | | | For use with conventional 2-wire detectors. |

9.5.2 Point Programming For Internal or External Power Module (RPS-1000)

To program for an internal or external power module points:













1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Panel Programming.
3. Press 4 to enter point menu.
4. Press the  or  arrows to select the desired module. Refer to Section 8.6 for available choices, then press ENTER.
5. Enter the number of the circuit or point you wish to edit, then press ENTER.
6. Select the type by pressing the  or  arrows, then press ENTER.
7. Select the function by pressing the  or  arrows, then press ENTER.
8. If the point supports latching press the  or  arrows to select latching or non-latching, then press ENTER.
9. Select the zone or group by pressing the  or  arrows, then press ENTER.
10. If the point supports not being supervised, press the  or  arrows to select supervised or non-supervised, then press ENTER.
11. Press ENTER to edit point name. See Appendix B.
Or
Press the right arrow to skip point name edit.
12. Repeat Steps 1 through 16 for all circuits.

Table 9-4: Menu choices for Internal/External Power Module

| Choices | Type Selections | Function Selections for each Type | Comments |
|-------------------|-----------------|-----------------------------------|---|
| Enter Point | | | |
| Select Type | UNUSED | | |
| | B NOTIF | NOTIF OUTPUT | User also has Supervised/ Unsupervised option |
| | | CONTROL CIRCUIT | |
| | A NOTIF | Same as B NOTIF | |
| | AUX_PWR | CONSTANT | Constant auxiliary power. |
| | | AUX RESET | Resettable auxiliary power. |
| | | AUX DOOR | Door holder auxiliary power. |
| | B SWITCH | MANUAL PULL | Refer to comments column of Table 9-3 for description of these options. Latch or Non-latching feature only appears for WATERFLOW, FIRE SUPERVISORY, FIRE TAMPER, ZONE AUX1, ZONE AUX2, SYSTEM AUX1, SYSTEM AUX2, ECS INPUT, ECS TAMPER, and ECS SUPERVISORY. |
| | | WATERFLOW | |
| | | FIRE SUPERVISORY | |
| | | FIRE TAMPER | |
| | | FIREDRILL | |
| | | SILENCE | |
| | | RESET | User also has ECS Event Number 1-8 option for ECS INPUT. |
| | | P.A.S. ACK | |
| | | ZONE AUX1 | Only available when an ECS-VCM is installed in the system. |
| | | ZONE AUX2 | |
| | | SYSTEM AUX1 | |
| | | SYSTEM AUX2 | |
| | | MANUAL RELEASE | |
| | | INTERLOCK | |
| | | STATUS POINT | |
| | | ECS INPUT | |
| | | ECS TAMPER | |
| | | ECS SUPERVISORY | |
| | A SWITCH | Same as B SWITCH | |
| | B DETECT | 2-WIRE SMOKE | Used for Class B, 2-wire detectors. |
| | | 4-WIRE SMOKE | Used for Class B, 4-wire detectors. |
| | | 4-WIRE CO SMK | Used for Class B, 4-wire CO detectors. |
| | A DETECT | 2-WIRE SMOKE | Used for Class A, 2-wire detectors. |
| | | 4-WIRE SMOKE | Used for Class A, 4-wire detectors. |
| | | CO 4-WIRE DET | Used for Class A, 4-wire CO detectors. |
| Select Zone/Group | | | Group or Zone selection will appear depending on the type selected. |
| Edit Name | | | See Appendix B. |

9.5.3 Point Programming For 5880/5865 Modules

To program the 5880/5865 module output points:

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Panel Programming.
3. Press 4 to enter point menu.
4. Press the Up or Down arrows to select the desired module. Refer to Section 8.6 for available choices. Then press ENTER.

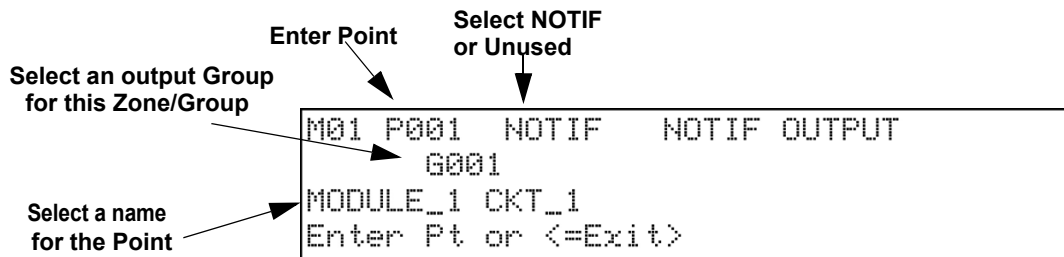


Figure 9-5 Programming Points as Outputs for the 5880 Module

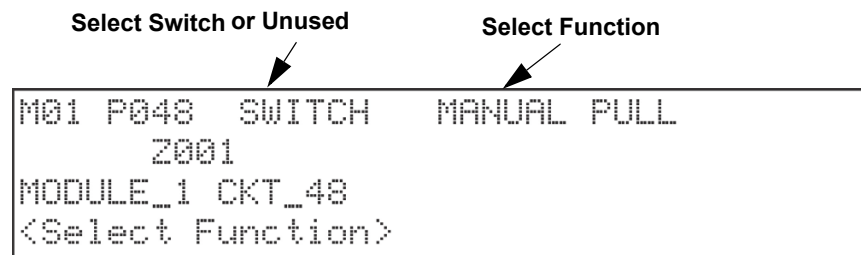


Figure 9-6 Programming Points as Inputs for the 5880 Module

5. Enter the point number, then press ENTER.
6. Press the Up or Down arrows to select the type (notification or unused), then press ENTER.
7. Press the Up or Down arrows to select the desired group, then press ENTER.
8. Press ENTER to edit point name. See Appendix B.
Or
Press the right arrow to skip point name edit.
9. Repeat Steps 1 through 8 for all output points.
10. To use 5880 as Input point, Enter point number 41 - 48. (See Figure 9-6 on page 16). Then press ENTER.
11. Press the Up or Down arrows to select type (switch or unused), then press ENTER.
12. Press the Up or Down arrows to select the desired function. (See Figure 9-5 on page 19), then press ENTER.
13. If the point supports latching press the Up or Down arrows to select latching or non-latching, then press ENTER.
14. Press the Up or Down arrows to select the desired group/zone, then press ENTER.
15. Edit point name Or Press the right arrow to skip module name edit.
16. Repeat steps 10 through 15 for all input points.

9.5.4 Point Programming for 5496

To program module points:

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Panel Programming.
3. Press 4 to enter point menu.
4. Press the Up or Down arrow to select the desired module. Refer to Section 8.6 for available choices, then press ENTER.

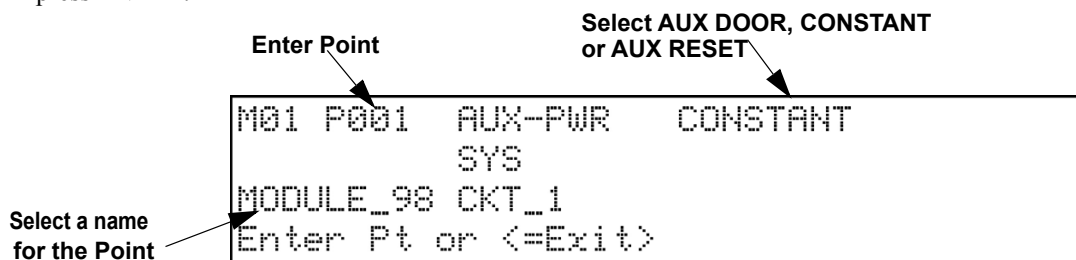


Figure 9-7 Programming Points Screen for the 5880 Module

5. Enter the point number, then press ENTER.
6. Press the Up or Down arrow to select the type (See Figure 9-5 on page 19). Then press ENTER.
7. Press ENTER to edit point name. See Appendix B. Or Press the right arrow to skip point name edit.
8. Repeat Steps 1 through 7 for all points.

9.5.5 Point Programming for ECS-AMP's

To program module points:

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Panel Programming.
3. Press 4 to enter point menu.
4. Press the Up or Down arrows to select the desired module. Refer to Section 8.6 for available choices. Then press ENTER.

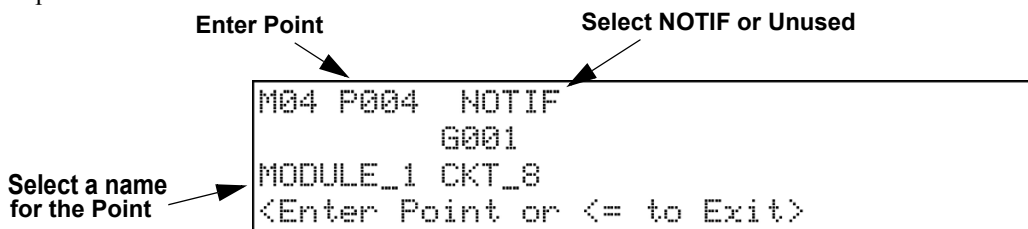


Figure 9-8 Programming Points Screen for the ECS-AMP Module

5. Enter the point number, then press ENTER. Points 5-8 on ECS-50W or ECS-125W will not be available unless the ECS-CE4 is installed.
6. Press the Up or Down arrows to select the type (notification or unused), then press ENTER.
7. Press ENTER to edit point name. See Appendix B. Or Press the right arrow to skip point name edit.

8. Repeat Steps 1 through 7 for all points.

9.5.6 Point Programming for ECS-VCM or ECS-RVM

To program module points:

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Panel Programming.
3. Press 4 to enter point menu.
4. Press the Up or Down arrow to select the desired module. Refer to Section 8.6 for available choices. Then press ENTER.

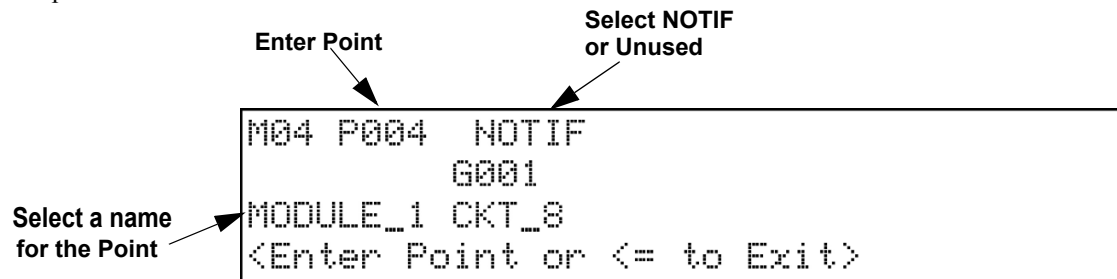


Figure 9-9 Programming Points Screen for the ECS-VCM or ECS-RVM Modules

5. Enter the point number. Press ENTER.
6. Press the Up or Down arrow to select the type (switch or unused). Press ENTER.
7. Press the Up or Down arrow to select the desired Function (See Table 9-5). Press ENTER.
8. Press ENTER to edit point name. See Appendix B. Or Press the right arrow to skip point name edit.
9. Repeat Steps 1 through 8 for all points.

Table 9-5 Choices for Point Programming Modules

| Choices | Type Selections | Function Selections for each Type | Comments |
|--------------------|----------------------------|-----------------------------------|---|
| 5880 (output) | UNUSED | | |
| | NOTIF (outputs pt 1-40) | NOTIF OUTPUT | |
| | | CONTROL CIRCUIT | |
| 5880 (input 41-48) | SWITCH | MANUAL PULL | Refer to comments column of Table 9-3 for description of these options. Latch or Non-latching feature only appears for WATERFLOW, FIRE SUPERVISORY, FIRE TAMPER, ZONE AUX1, ZONE AUX2, SYSTEM AUX1, SYSTEM AUX2, ECS INPUT, ECS TAMPER, and ECS SUPERVISORY. User also has ECS Event Number 1-8 option for ECS INPUT. Only available when an ECS-VCM is installed in the system. |
| | | WATERFLOW | |
| | | FIRE SUPERVISORY | |
| | | FIRE TAMPER | |
| | | FIREDRILL | |
| | | SILENCE | |
| | | RESET | |
| | | P.A.S. ACK | |
| | | ZONE AUX1 | |
| | | ZONE AUX2 | |
| | | SYSTEM AUX1 | |
| | | SYSTEM AUX2 | |
| | | MANUAL RELEASE | |
| | | INTERLOCK | |
| | | STATUS POINT | |
| | | ECS INPUT | |
| | | ECS TAMPER | |
| | | ECS SUPERVISORY | |
| 5496 | UNUSED | | |
| | B NOTIF | NOTIF OUTPUT | |
| | | CONTROL CIRCUIT | |
| | A NOTIF | NOTIF OUTPUT | |
| | | CONTROL CIRCUIT | |
| | AUX_PWR | CONSTANT | |
| | | AUX RESET | |
| | | AUX DOOR | |
| 5865 | UNUSED | | |
| | NOTIF | NOTIF OUTPUT | |
| | | CONTROL CIRCUIT | |
| ECS-AMP | UNUSED | | |
| | NOTIF | | |

Table 9-5 Choices for Point Programming Modules

| Choices | Type Selections | Function Selections for each Type | Comments |
|-----------------|-----------------|-----------------------------------|--|
| ECS-VCM/ECS-RVM | UNUSED | | <p>Refer to comments column of Table 9-3 for description of these options.</p> <p>Latch or Non-latching feature only appears for WATERFLOW, FIRE SUPERVISORY, FIRE TAMPER, ZONE AUX1, ZONE AUX2, SYSTEM AUX1, SYSTEM AUX2, ECS INPUT, ECS TAMPER, and ECS SUPERVISORY.</p> <p>User also has ECS Event Number 1-8 option for ECS INPUT.</p> |
| | SWITCH | MANUAL PULL | |
| | | WATERFLOW | |
| | | FIRE SUPERVISORY | |
| | | FIRE TAMPER | |
| | | FIREDRILL | |
| | | SILENCE | |
| | | RESET | |
| | | P.A.S. ACK | |
| | | ZONE AUX1 | |
| | | ZONE AUX2 | |
| | | SYSTEM AUX1 | |
| | | SYSTEM AUX2 | |
| | | MANUAL RELEASE | |
| | | INTERLOCK | |
| | | STATUS POINT | |
| | | ECS INPUT | |
| | | ECS TAMPER | |
| | | ECS SUPERVISORY | |
| | | VOICE AUX STATUS 1-2 | |
| | | VOICE AUX ECS 1-4 | |

9.6 System Options

This section of the manual explains how to customize software options that affect general operation of the system. This includes such items as: AC loss reporting delay, system clock options, holiday schedule, telephone and reporting account options. Refer to each individual subsection for complete instructions.

9.6.1 Auto Test Time

To access the Auto Test Time screen:

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Panel Programming.
3. Select 5 for System Options.
4. From the next menu, select 0 for Auto Test Time.
5. Enter the hour you desire the control panel to send an automatic test report (or press the Up or Down arrow), then press ENTER.
6. Enter the minutes (or press the Up or Down arrow), then press ENTER.
7. Select AM or PM by pressing the Up or Down arrow, then press ENTER.

8. Select Report Time Interval by pressing the Up or Down arrow, then press ENTER. Time Interval selections are 24hr, 12hr, 6hr and 4 hr.

9.6.2 Phone Lines

To access the phone lines screen:

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Panel Programming.
3. Select 5 for System Options.
4. Select 1 for the phone Lines.
5. Select Phone Line to be edited (1 or 2) by pressing the Up or Down arrow, then press ENTER.

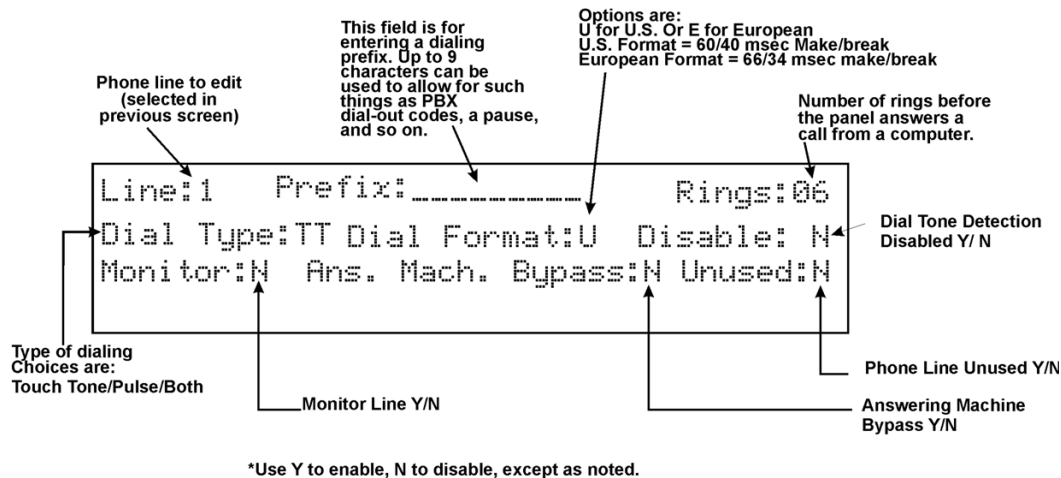


Figure 9-10 Phone Lines Editing Screen

9.6.2.1 Dialing Prefix

Enter up to 9 characters to be used for such things as PBX dial-out codes, a pause, and so on. The following special characters are available:

| | |
|---|--|
| # | Pound (or number) key on the telephone |
| * | Star key on the telephone |
| , | Comma (character for 2-second pause) |

Use the number buttons on the annunciator or the up- and down-arrow keys to select special characters. Special characters begin displaying after "9".

6. Enter a dialing prefix (if needed), then press ENTER. Or Press the right arrow to bypass the dialing prefix option.

9.6.2.2 Number of Answer Rings

This option is used in conjunction with SKSS-2. Use this option to determine the number of rings before the panel answers a call from the computer. Range is 00-15 rings. This option is factory-programmed as 06 rings, which should be compatible for most installations where the answering machine bypass feature is used. You may

need to adjust it depending on the installation's telephone system.

The selection made here must match the programming for this option in the Communication Configuration dialog box of SKSS-2.

7. Enter the desired number of answer rings, then press ENTER.

9.6.2.3 Dial Option (TouchTone or Pulse, or TT/PL)

8. Press the Up or Down arrow to select the dial option, then press ENTER.

| Dial Option | Description |
|-------------|--|
| PULSE | If this option is selected, only pulse dialing will be used for this phone line. |
| TT | TouchTone dialing. If this option is selected, only TouchTone dialing will be used for this phone line. |
| TT/PL | TouchTone alternating with pulse. If this option is selected, the dialer will first attempt to use TouchTone. It will switch to pulse if TouchTone is not successful on the first attempt. It will continue to alternate between TT and pulse for additional attempts. |

9.6.2.4 Rotary Format

9. Press the Up or Down arrow to select the pulse ratio for rotary dialing option, then press ENTER.

Options are:

| | |
|---|--|
| U | U.S. standard format. Uses the 60 msec / 40 msec make/break ratio. |
| E | European format. Uses the 66 msec / 34 msec make/break ratio. |

9.6.2.5 Dial Tone Detection Disabled

10. Select Y (do disable) or N (don't disable) by pressing the Up or Down arrow, then press ENTER.

9.6.2.6 Line Monitor

Enable the line monitor for each phone line that will be used. See Figure 9-10 for location of this field on the phone lines screen. When the phone line monitor has been enabled for a phone line, a trouble condition will occur if the line is not connected. If a phone line will not be used, it must be disabled.

11. Select Y (monitor line) or N (don't monitor line) by pressing the Up or Down arrow, then press ENTER.

9.6.2.7 Answering Machine Bypass

This option is used in conjunction with SKSS-2. This feature ensures that an answering machine will not interfere with communication between the panel and the computer. If an answering machine is used at the panel site, enable this feature; if an answering machine is not used, disable the feature.

This option is factory-programmed as No (disabled).

The selection made here must match the programming for this option in the Communication Configuration dialog box of SKSS-2. See the SKSS-2 manual for more information.

12. Select Y (answering machine bypass enabled) or N (answering machine bypass disabled) by pressing the Up or Down arrow, then press ENTER.

9.6.2.8 Phone Line Unused

This option is used so that you can set unused phones lines to "Yes", so no auto-test will be sent through that line.

This option is factory programmed as No.

13. Select Y or N by pressing the Up or Down arrow, then press ENTER.

9.6.3 Daytime/Nighttime Sensitivity

If you need to change the time that sensitivity levels take effect (that is, the time that “Day” and “Night” begin), follow these steps.

1. Enter the installer code. The panel will automatically go to the main menu.
1. Select 7 for Panel Programming.
2. Select 5 for System Options.
3. From System Options, select 2 for Daytime/Nighttime Sensitivity.

A screen similar to the one shown in Figure 9-11 will display.

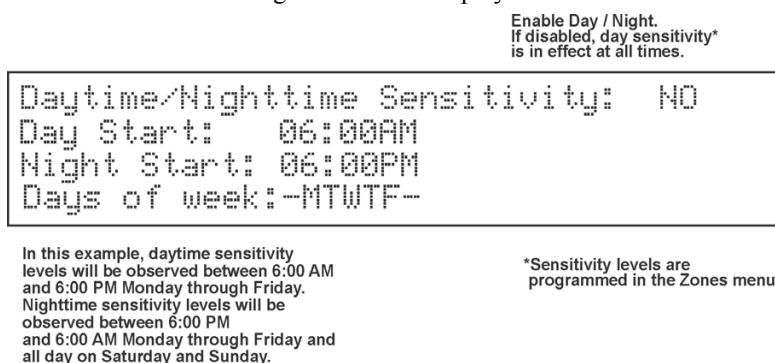


Figure 9-11 Changing Day/Night Sensitivity Time

9.6.4 Holiday Days

Up to 18 dates can be designated as holidays. When day/night sensitivity is enabled, all photoelectric smoke detectors in the system will use night sensitivity for the entire day on days designated as holidays.

To add or change a holiday, follow these steps:

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Panel Programming.
3. Select 5 for System Options.
4. Select 3 for Holiday Days. A screen similar to that shown in Figure 9-12 will display.
5. Edit the holiday schedules you wish to change or add holidays as needed in the programmable holiday locations.

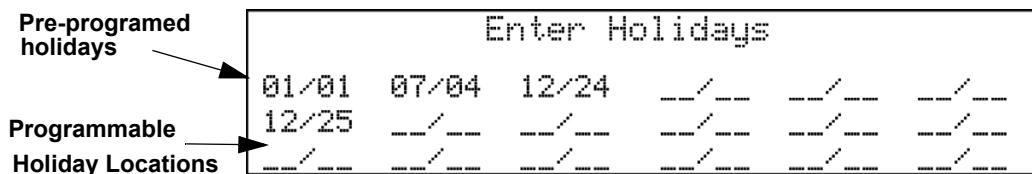


Figure 9-12 Edit Holidays Screen

6. Enter the month of the holiday, then press ENTER.
7. Enter the day of the month for the holiday, then press ENTER.
8. Repeat steps 6 and 7 for any remaining holidays you wish to program.

9.6.5 Time Options

Through this programming option you can set the water flow delay time, alarm verification time, low AC report delay, AC line frequency, and clock format.

9.6.5.1 Water Flow Delay

You can program a delay of 0-90 seconds (zero means no delay) to be used in conjunction with a water flow switch. The delay is system-wide. All water flow switches on the system will use the same delay period.

To access the screen for programming water flow delay, follow these steps:

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Panel Programming.
3. Select 5 for System Options.
4. Select 4 for Time Options.

A screen similar to the one shown in Figure 9-13 will display.

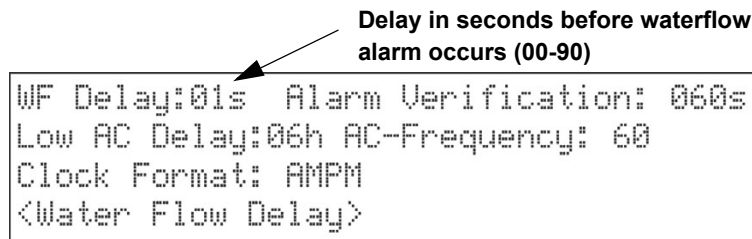


Figure 9-13 Water Flow Delay Programming Screen

5. Enter the number of seconds (0 to 90) to delay a water flow switch alarm, then press ENTER.

9.6.5.2 Alarm Verification Time

You can set the alarm verification time from 1 to 250 seconds (default is 60 seconds).

To set the alarm verification:

6. Enter the desired number of seconds for the alarm verification time.
7. Press the right arrow or ENTER to make your selection and move to the next programming option.

9.6.5.3 Low AC Report Delay

Note: You must select 1-3 hours in UL central station installations and UL remote signaling installations.

You can adjust the number of hours before a low AC report will be sent to the central station.

To program low AC report delay, follow these steps:

Note: Steps continued from step 7 of Section 9.6.5.2.

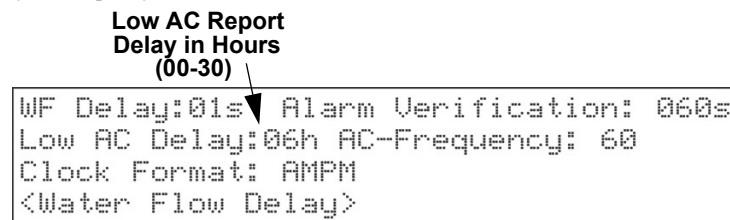


Figure 9-14 Low AC Report Delay Programming Screen

8. Enter the number of hours before a low AC report will be sent to the central station, then press ENTER.
Refer to Figure 9-14.

9.6.5.4 Change AC Line Frequency

The panel's AC line frequency is selectable for 50, 60 Hz, or Neither. AC Frequency feature dictates how the control panel will calculate time based on the AC line frequency used in the installation site. The "Neither" 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 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.

To change the AC line frequency:

9. Select 50Hz, 60Hz or Neither, by pressing the Up or Down arrow, then press ENTER.

9.6.5.5 Clock Display Format (AM/PM or Military)

To change the system clock display format:

10. Select AMPM (for AM/PM display format) or MIL (for military or 24 hr display format) by pressing the Up or Down arrow, then press ENTER.

9.6.6 Miscellaneous Options

Through this programming option you can do strobe synchronization during silence, auto display event, repeater installed, and ports of repeater used.

To edit Miscellaneous options:

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Panel Programming.
3. Select 5 for System Options.
4. Select 5 for Miscellaneous Options.

9.6.6.1 Strobes Active when Silenced

When "SYNC Strobe:" is selected as Y (Yes), the strobes will continue to flash when the system is silenced and will stop flashing when the system is reset.

Note: The "SYNC Strobe:" only functions with outputs that use a synchronized output pattern.

5. Press the Up or Down arrow to toggle this selection between Y (Yes) or N (No).
6. Press the right arrow or ENTER to make your selection and move to the next programming option.

9.6.6.2 Auto Display Events

When this feature is programmed Y (Yes), the highest priority event of the system in control will automatically display on the control panel and remote annunciators after there has been no activity on any system touch pad for two minutes.

7. Press the Up or Down arrow to toggle this selection between Y (Yes) or N (No).
8. Press the right arrow or ENTER to make your selection and move to the next programming option.

9.6.6.3 IFP-RPT Repeater Installed

When the "Repeater Installed" option is programmed Y (Yes), the panel will supervise the IFP-RPT Repeater. Set N (No) when an IFP-RPT Repeater is not installed.

9. Press the Up or Down arrow to toggle this selection between Y (Yes) or N (No).

10. Then press the right arrow or ENTER.

9.6.6.4 Both Ports Used

When the Both Ports Used option is set to Y (Yes), the IFP-RPT Repeater will supervise the network wiring on both repeater ports.

11. Press the Up or Down arrow to toggle this selection between Y (Yes) or N (No).
12. Then press the right arrow or ENTER to make your selection and move to the next programming option.

9.6.7 Daylight Saving Options

To edit Daylight Saving Time:

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Panel Programming.
3. Select 5 for System Options.
4. Select 6 for Daylight Saving Option.

9.6.7.1 Automatic Daylight Saving Adjustment

The control panel has an automatic DST (Daylight Saving Time) adjustment feature. Before January 2007, if this feature is enabled (set to *Yes*), the system clock will switch to DST on the first Sunday in April at 2:00 a.m. and revert to standard time on the last Sunday in October at 2:00 a.m. After January 2007, if this feature is enabled, the system clock will start and end DST according to the settings of Daylight Saving Start and Daylight Saving End (see Section Figure 9.6.7.2 on page 26). If this feature is not enabled (set to *No*), the Daylight Saving Time change is not made to the system clock.

To enable or disable DST adjustment continue programming:

5. Select Y (enabled) or N (disabled) by pressing the Up or Down arrow, then press ENTER.

9.6.7.2 Daylight Saving Time Start and End

This option lets you to adjust the week and month Daylight Saving Time (DST) starts and ends. For this feature to work, you must enable (set to *Yes*) the Automatic Daylight Savings Adjustment option under Daylight Savings Options (see Section Figure 9.6.7.1 on page 26). The default values for the DST Start and End options reflect the August 8, 2005 DST law that went into effect in 2007:

DST Start: The second Sunday in March

DST End: The first Sunday in November

To set the start and end for Daylight Saving Time:

6. Press the Up or Down arrow to select the week (1st, 2nd, etc.) Daylight Saving Time starts, then press ENTER to make your selection and move to the month setting.
7. Press the Up or Down arrow to select the month (January – December) Daylight Saving Time starts, then press ENTER to make your selection and move to the DST End option.
8. Press the Up or Down arrow to select the week (1st, 2nd, etc.) Daylight Saving Time ends, then press ENTER to make your selection and move to the month setting.
9. Press the Up or Down arrow to select the month (January – December) Daylight Saving Time ends, then press ENTER.

9.6.8 Edit Banner

The banner is the message that displays on the panel LCD when the system is normal; that is, when no alarms or troubles exist and the system menus are not in use. A custom banner of up to 40 characters can be created. This will automatically be centered when shown.

If a custom message is not created, the system will use the internal banner. You cannot change the internal banner.

To customize the banner display message:

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Panel Programming.
3. Select 5 for System Options.
4. Select 7 for Edit Banner.

Note: See Appendix B for instructions on how to edit the banner.

5. Select each letter by pressing the Up or Down arrow to change modes and using the number keys to select characters, then press the right arrow to move to the next character.
6. When done, press ENTER to save the custom banner.

9.6.9 Edit SLC Family

The IFP-2000 supports SD series SLC devices or IDP (Intelligent Device Protocol) series SLC devices. You must configure the IFP-2000 to accept the family of the devices you are installing. You cannot mix SD series and IDP series SLC devices on the same panel.

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Program Menu.
3. Select 5 for System Options.
4. Press 8 for SLC Family.
5. Press UP arrow to select the desired SLC family.
6. Press ENTER to accept the displayed SLC family.

9.6.10 Edit Ethernet

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Panel Programming.
3. Select 5 for System Options.

4. Select 9 for Edit Ethernet.

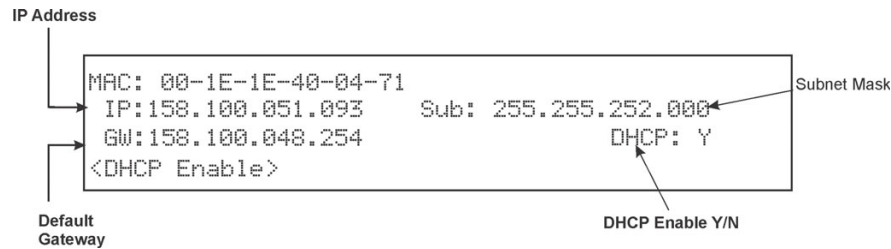


Figure 9-15 Edit Ethernet Message

9.7 JumpStart AutoProgramming



JumpStart AutoProgramming is used to auto learn the system hardware after devices have been added or removed from the system. Hardware devices which remain the same between repeat JumpStarts will retain any customized text or options associated with the device. It is best to carefully consider the network ID setting for each panel before the first JumpStart is performed. Once this is done the panel must be defaulted back to factory defaults if the network ID settings need to change.

To run JumpStart AutoProgramming:

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Panel Programming.
3. Select 6 for JumpStart AutoProgramming.
4. Press ENTER to accept the warning screen.
5. Follow the remaining on screen instructions.
6. Press ENTER to confirm. See Section 8.2.3.

9.8 Restore Defaults

This option allows you to restore the panel back to factory defaults. All programming will be lost.

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Panel Programming.
3. Select 7 for Restore Defaults.
4. Press the  or  arrow to select YES or NO from the warning screen. Then press ENTER.

9.9 Voice Options

Through this programming menu you can modify the messages programmed into an ECS-VCN. You can also modify other voice settings.

9.9.1 ECS-VCN Maintenance

The ECS-VCN Maintenance menu is used to program custom messages into the ECS-VCN. Messages can be recorded from audio coming from a computer or locally using the microphone.



1. Select 7 for Panel Programming.
2. Select 8 for Voice Options.
3. Select 1 for ECS-VCM Maintenance.

9.9.2 Edit Voice Settings

1. Select 7 for Panel Programming.
2. Select 8 for Voice Options.
3. Select 2 for Edit Voice Settings.

9.9.2.1 Enable Dual Channel System

This option allows you to select whether dual channel is enabled in the system. For dual channel capabilities the system must only contain dual channel voice hardware.

4. Press the  or  arrow to select YES or NO for enabling the system as dual channel. Then press ENTER.

Section 10

System Operation

Operation of the control panel is user friendly. Menus guide you step-by-step through operations. This section of the manual is an overview of the operation menus. Please read this entire section carefully before operating the panel.

Note: See Section 6.3 for information on how to modify user access code profiles.

10.1 User and Installer Default Codes

Installer Code (factory-programmed as 123456).

Multi-site Installer Code (factory-programmed as 654321).

10.2 Annunciator Description

Figure 10-1 shows the annunciator that is part of the control panel board assembly.

Five LEDs indicate system status.

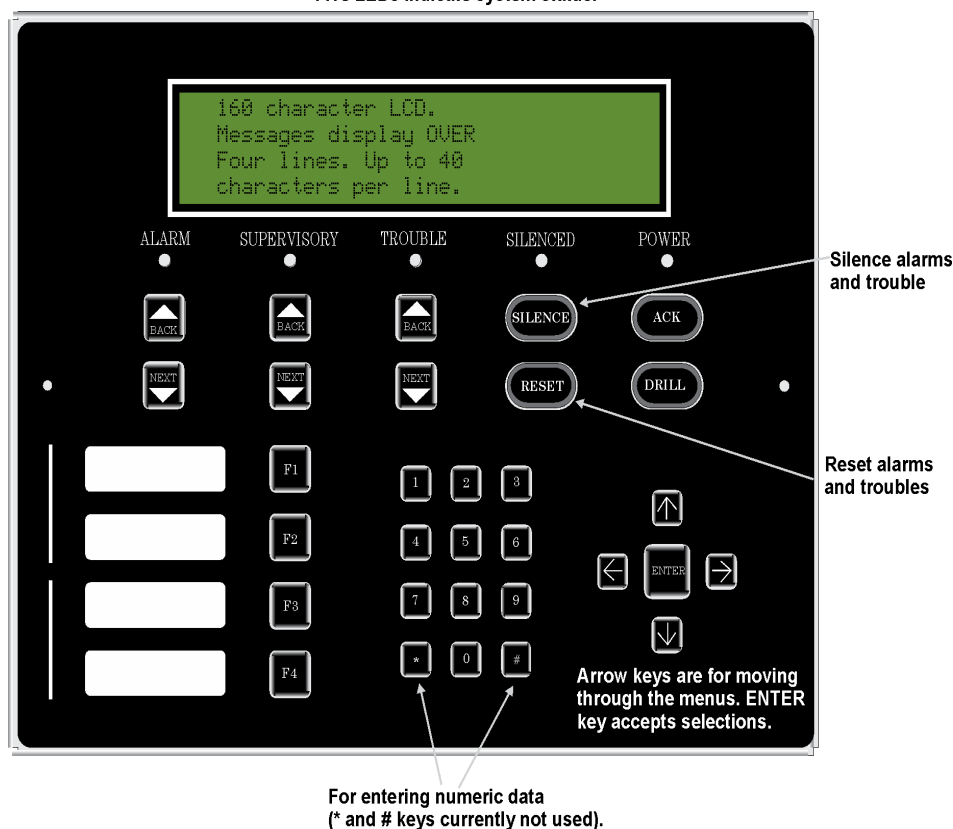


Figure 10-1 Control Panel Annunciator

10.2.1 LCD Display

The control panel LCD displays system messages, annunciates alarms, supervisories and troubles, provides status information, and prompts for input. These messages can be up to 160 characters, displaying over four lines

of 40 characters each. Annunciator keys beep when they are pressed.

10.2.2 Banner

The banner is the message that displays on the control panel when the system is in normal mode (no alarm or trouble condition exists and menus are not in use). A customize message can be created that will display instead of the internal (default) message. See Section 9.6.8 for information on editing the banner.

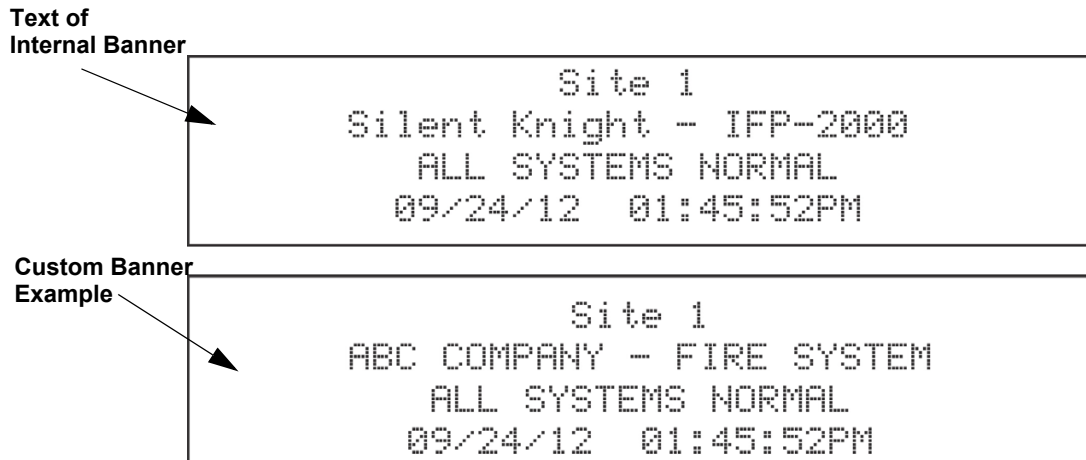


Figure 10-2 Banner Display Examples

10.3 Menu System

The control panel is easy to operate from the Main Menu. To view the Main Menu press the ENTER or Right arrow on the control panel or remote annunciator. The Main Menu will appear as shown in Section 10.3.1. Select the desired option. You will be prompted for an access code if required.

The control panel supports up to 20 access codes. The profile for each access code (or user) can be modified through the network programming option (see Section 6.3 for access code programming).

10.3.1 Main Menu Overview

The chart below is a brief overview of the Main Menu. These options are described in greater detail throughout this section of the manual.

| Main Menu Options | Description |
|------------------------|--|
| 1- System Tests | Access to Fire Drill, Indicator Test, Walk Tests, Dialer Test, Clear History Buffer, and Manual Dialer Reset. |
| 2- Point Functions | Enable/disable points, Point Status, Set SLC Address, Device Locator, and I/O Point Control. |
| 3- Event History | Display event history on the LCD. See Section 10.4.3 for more information. |
| 4- Set Time & Date | Set time and date for the system. |
| 5- Network Diagnostics | Ping Panel, Network Status, and Repeater Power. |
| 6- Network Programming | Access Learn Network, Edit Network Names, Edit Panel ID, Computer Access, Access Codes, Dialer, and Voice Options. |
| 7- Panel Programming | Brings up a set of menus for programming the panel. These options are described in detail in Section 9. |
| 8- System Information | Menus to view information about the panel such as model, ID, serial number, revision, send or receive application updates and feature registration activation. |
| 9- Upload/Download | Initiate communication from between the panel and a computer running the SKSS-2 Software Suite. |

10.3.2 Using the Menus

| | |
|----------------------------|---|
| To move through the menus: | Use the Up or Down arrow to move through the options in a menu. |
| To select an option: | Enter the number of the option. —OR— Press ENTER if the option has the = symbol next to it. |
| Exit Menu | Left arrow |

10.4 Basic Operation

10.4.1 Setting Time and Date

1. From the Main Menu, select 4 for Set Date & Time.
2. Make changes in the fields on the screen. Use right arrow to move through the fields. Use the Up or Down arrow to select options in the fields.
3. When the date and time are correct, press ENTER.

10.4.2 Disable / Enable a Point

1. From the Main Menu, select 2 for Point Functions.
2. Select 1 for Disable/Enable Point.

10.4.2.1 Disable / Enable NACs by Template

1. Press 1 for Disable NACs by Template, press 2 to Enable NACs by Template.
2. Use the Up or Down arrow to move through the list of templates. Press ENTER to select the current template.

10.4.2.2 Disable / Enable NACs by Group

1. Press 3 to Disable NACs by Group, press 4 to Enable NACs by Group.
2. Use the Up or Down arrow to move through the list of groups. Press ENTER to select the group highlighted.

10.4.2.3 Disable / Enable Zone Points

1. Press 5 to Disable Zone Points, press 6 to Enable Zone Points.
2. Use the Up or Down arrow to move through the list of zones. Press ENTER to select the zone highlighted.

10.4.2.4 Disable / Enable Point

1. From the Main Menu, select 2 for Point Functions.
2. Press 7 to Disable /Enable Point.
3. Choose Module.
4. Use the Up or Down arrow to choose point and press ENTER.
5. Press the right arrow to disable or enable point.

10.4.2.5 Inhibit Output Group

Inhibiting an output group prevents the group from being utilized by system mapping. While inhibited no event in the system can activate the output group.

1. From the Main Menu, select 2 for Point Functions.
2. Press 8 to inhibit output group.
3. Use the Up or Down arrow to select the group to be inhibited.
4. Press the right arrow to inhibit the group.
5. Press the right arrow again to enable the group.

10.4.3 View Event History

Use the View Event History feature to display events on LCD. From the Main Menu, press 3 to select Event History. Events will begin displaying with most recent events first.

The panel can store up to 1000 events. When it reaches its 1000-event capacity, it will delete the oldest events to make room for the new events as they occur. In networked setups, each panel stores up to 1000 of its own events. When viewing Event History in the panel, the newest 500 events from every panel in the site will be displayed. When using SKSS-2, all 1000 events from every panel in the network will be uploaded.

On multi-site displays, pressing ENTER or the right arrow brings you directly into View Event History and allows you to view the Event History from every panel in each of the sites that the multi-site display is assigned to.

10.4.3.1 To clear the event history

From the Installer menu select 1 for System Tests. From the test menu select 6 Clear History Buffer. In network systems, this clears the History Buffer of all panels in the site.

10.4.4 Conduct a Fire Drill

1. From the Main Menu, press 1 for System Tests.
2. Press 1 for Fire Drill. You will be prompted to press ENTER.
3. The drill will begin immediately after you press ENTER.
4. Press any key to end the drill. (If you do not press any key to end the fire drill manually, it will time out automatically after ten minutes.)

If a fire drill switch has been installed, activating the switch will begin the drill; deactivating the switch will end the drill.

10.4.5 Conduct an Indicator Test

The indicator test checks the annunciator LEDs, PZT, and LCD display.

1. From the Main Menu, press 1 for System Tests.
2. Press 2 for Indicator Test. The system turns on each LED several times, beeping the PZT as it does so. At the same time it scrolls each available character across the LCD. A problem is indicated if any of the following occurs:
 - An LED does not turn on.
 - You do not hear a beep.
 - All four lines of the LCD are not full.

This test takes approximately 15 seconds to complete. You can press any key to end manually while the test is still in progress. When the test ends, you will be returned to the <Test Menu>.

10.4.6 Conduct a Walk Test

1. From the Main Menu, press 1 for System Tests.

Important

If any alarm verification zones are being used, the user will be asked if they wish to disable alarm verification during walk test. This occurs for either walk test option.

2. Select 3 for Walk Test-No Report. The LCD will display “WALK TEST STOPPED” on Line 1 and “ENTER = start test” on Line 3. Enter the time period you wish the NAC circuit to be active for each alarm (06 to 180 second), if you select this option, central station reporting will be disabled while the test is in progress.

Or

Select 4 for Walk Test-with Report. The LCD will display “WALK TEST STOPPED” on Line 1 and “ENTER = start test” on Line 3. Enter the time period you wish the NAC circuit to be active for each alarm (06 to 180 seconds) If you select this option, central station reporting will occur as normal during the walk test.

The panel generates a TEST report to the central station when the walk test begins. During a walk test, the panel’s normal fire alarm function is completely disabled, placing the panel in a local trouble condition. All zones respond as 1-Count zones (respond when a single detector is in alarm) during a walk test. Each alarm initiated during the walk test will be reported and stored in the event history buffer.

3. Press ENTER to end the walk test. The system will reset. The panel will send a “TEST RESTORE” report to the central station.

If you do not end the walk test manually within four hours, it will end automatically.

If an alarm or pre-alarm condition is occurring in the system, you will not be able to enter the walk test.

Note: The panel does not do a full 30 second reset on resettable power outputs. As soon as the device is back to normal, the panel is ready to go to the next device.

10.4.7 Conduct a Dialer Test

1. From the Main Menu, press 1 for System Tests.
2. Select 5 for Dialer Test. The screen will display “Manual dialer test started”. When the test is completed, you will be returned to the <Test Menu>. A manual dialer test requires that at least one daily test in the network be enabled in dialer programming.

10.4.8 Silence Alarms or Troubles

Press SILENCE to turn off silenceable outputs and annunciator PZTs. If an external silence switch has been installed, activating the switch will silence fire alarms or troubles. If you are already using system menus when you press SILENCE, you will not need to enter your code.

Note: Alarm and trouble signals that have been silenced, but the detector remains un-restored, will un-silence every 24 hours until the detector is restored.

Note: Multi-Site displays do not allow for silencing multiple sites. Pressing SILENCE will only locally silence the PZT built into the annunciator. To silence a site, enter a multi-site access password, select a site, and then press SILENCE.

Note: For ECS systems, pressing silence at an LOC will only silence the System in Control. See Section 10.5.1.

10.4.9 Reset Alarms

Press RESET to perform a control panel reset. If an external reset switch has been installed, activating the switch will reset fire alarms.

Note: Multi-Site displays do not allow for resetting multiple sites. To reset a site, enter a multi-site access password, select a site, and then press RESET.

Note: For ECS systems, pressing reset at an LOC will prompt the user for which system they desire to reset. See Section

10.5.1.

10.4.10 Check Detector Sensitivity Through Point Status

The control panel constantly monitors smoke detectors to ensure that sensitivity levels are in compliance with NFPA 72. Detectors are sampled every three hours.

If sensitivity for a detector is not in compliance, the panel goes into trouble, generating a Calibration Trouble condition. A detector enters a Calibration Maintenance state to indicate that it is approaching an out of compliance condition (but is currently still in compliance).

When a Calibration Trouble condition occurs, the central station receives a detector trouble report ("373" + Zone # for Contact ID format; "FT" + Zone # in SIA format).

To check sensitivity for an individual detector, follow the steps below.

1. From the Main Menu, press 2 for Point Functions.
2. Press 2 for Point Status.
3. Select the module where the point you want to check is located.
4. Enter the number of the point you want to check and press ENTER.
5. A screen similar to those shown in Figure 10-3 will display.

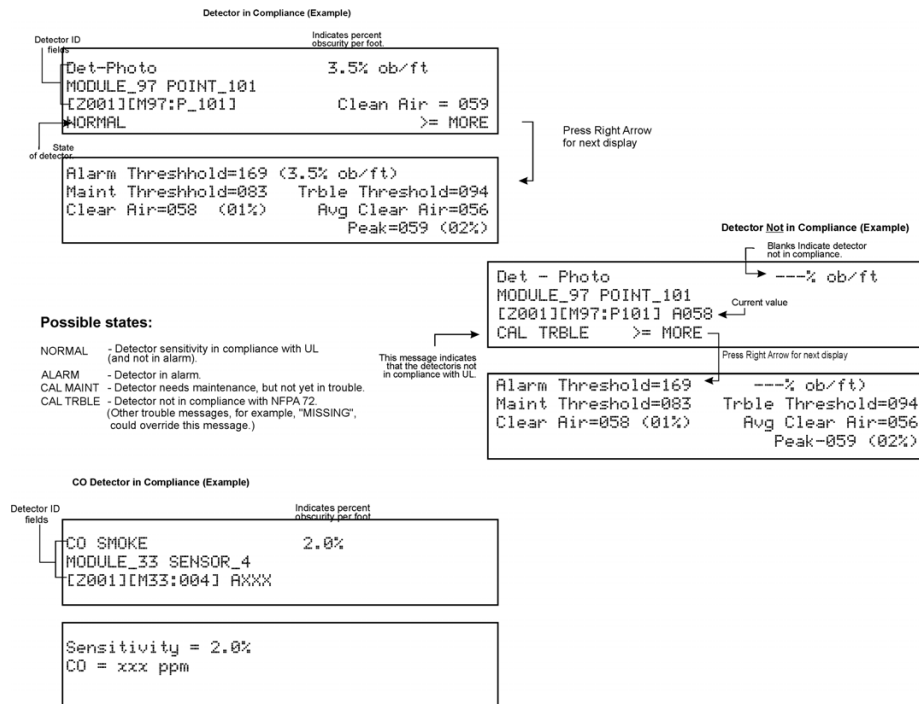


Figure 10-3 Checking Detector Sensitivity Compliance

You can print detector status by uploading the detector status to and printing from SKSS-2.

10.4.11 View Status of a Point

1. From the Main Menu, press 2 for Point Functions.
2. Press 2 for Point Status.

3. From the list that displays, press ENTER to select the module where this point is located. The screen that displays will show you if the point has a trouble and will provide sensitivity compliance information. (See Section 10.4.10 for complete information about detector sensitivity compliance.)

10.4.12 View Alarms or Troubles

When the system is in alarm or trouble, you can press DOWN arrow to view the location of an alarm or trouble.

10.4.13 System Information

Press 8 from the Main Menu to access the System Information menu.

About Panel

Press 1 to access About Panel to view the panel model, serial number and system version number and date.

Send/Receive Update

The IFP-2000/RPS-2000 has the ability to be updated in the field. The latest IFP-2000 Firmware Update Utility can be downloaded from the Farenhyt Web Site. Once a panel has been updated using the Firmware Update Utility, you can use Send/Receive Update to propagate the firmware to the other panels in the network.

1. Press 1 for Send Update or 2 for Receive Update from the System Information menu. Available panels are listed in the menu. Note: this feature requires a multi-site installer access code.
2. Use the Up or Down arrow to select a panel to send/receive an update to/from. Press ENTER to start the update process.

Feature Activation

This menu is used to activate/register additional features.

1. Press 4 from the System Information menu. This will bring up the Feature Activation menu.
2. Press 1 to enter a six digit activation code or press 2 to review features already activated in this panel.

10.4.14 Communicating with a Remote Computer

An installer at the panel site can initiate communications between the panel and a computer running SKSS-2. You can use this feature to upload a panel configuration. For example, if you have made programming changes to an installation on site using an annunciator, you can send your changes to the computer, so that the central station will have the latest data about the installation. See the software manual for more information.

To initiate communication:

1. From the Main Menu, select 9 for Upload/Download.
2. From the next screen that displays, select the communication device. Options are:

| | |
|-----------------------|---|
| 1 = Internal Modem | If you select this option, you will use the panel's built-in modem to call the panel. |
| 2 = Direct Connection | If you select this option, the panel and a computer are both on-site connected via a USB cable. |
3. If you are using the panel's internal modem to communicate, you will be prompted to enter a phone number. If you are communicating via the USB connection, a phone number is not needed and this step will be skipped.

If the phone number you will be calling is already displayed, press ENTER. Continue with step 4.

If the phone number you will be calling is not already displayed, enter the number and press ENTER.

A phone number can be up to 40 digits long and can contain the following special characters.

| | |
|---|--|
| # | Pound (or number) key on the telephone |
| * | Star key on the telephone |
| , | Comma (character for 2-second pause) |

Use the number buttons on the annunciator or the up- and down-arrow keys to select special characters. Special characters begin displaying after “9”.

4. You will be prompted to enter an account number. If the account number you want to use is already displayed, just press ENTER to begin communication.

If the account number displayed is not the correct one, enter the account number and press ENTER to begin communication.

5. The panel will attempt to communicate with the computer. If communication was established, the upload task you created will be placed in the SKSS-2 job queue, awaiting processing. When processing is completed, an “Unsolicited Upload” task will appear in the queue.

10.5 Event Priority

This section goes over how event activations are handled by the control panel with regards to priority.

10.5.1 System Control

The IFP-2000ECS control panel integrates both a fire and emergency system into one. When events are active from both systems the control panel makes intelligent decisions to determine which system should be controlling outputs. This is called System Control. This manual will refer to the fire or emergency systems having System Control, this means that the system has an active alarm or supervisory event that has a higher event priority than an active alarm or supervisory event from the other system. For this consideration, the control panel looks at the highest priority event active on each system. When both systems are active, the system with control will activate System Override. System Override is activated on the lower priority, non-System Control panel system (fire or emergency system.)

10.5.2 System Override

System Override temporarily disengages output group activations from the system being overridden. This is done to not provide conflicting messages and signaling and help with reducing confusion of the building occupants.

When output groups are supposed to be active but are not because System Control has activated System Override, they are re-activated every 30 seconds for 2-3 seconds to indicate to the building occupants that there is still an event active. This will only occur when the system with System Control is not using the output group. The System Override option is programmable for non-voice output groups on a per output group basis through the panel output group programming menus and in SKSS-2. In these places the option is called Allow System Override and defaults to YES. It is also possible to not reactivate the output groups every 30 seconds when System Override is active on a per system basis. This option is programmable in SKSS-2.

There are times when you would not want to allow System Override for an output group. For example: fire is programmed to an elevator relay to bring the elevator to the bottom floor for fire only. If fire and ECS are active with ECS being the higher priority event, you still need the elevator to move to the bottom floor and only audible and visual notification appliances must be overridden. In this case, the output group assigned to the relay would be set to NO on the Allow System Override setting. See Section 9.4.1.2 to edit group properties.

10.5.3 Event Priority

Each event type (see Table 10-1) has a priority level assigned to it. When more than one event type is active, the

panel uses the Event Priority Table to determine which event mapping to use to control output groups. The Event Priority Table can be modified using SKSS-2. It is strongly recommended that before each installation a risk analysis is done by the stake holders (property owners, AHJ, occupants, etc...) to determine which events take precedence over others.

The Event Priority Table contains the following events for modification:

Table 10-1: Event Priority Table

| Fire System | Emergency System |
|------------------------------|-----------------------------|
| Fire Manual Pull Alarm | Emergency LOC Alarm |
| Fire Detector Alarm | Emergency 1 Point Alarm |
| Fire Water Flow Alarm | Emergency 2 Point Alarm |
| Fire Interlock Release Alarm | Emergency 3 Point Alarm |
| Fire Zone Aux 1 Alarm | Emergency 4 Point Alarm |
| Fire Zone Aux 2 Alarm | Emergency 5 Point Alarm |
| Fire System Aux 1 Alarm | Emergency 6 Point Alarm |
| Fire System Aux 2 Alarm | Emergency 7 Point Alarm |
| | Emergency 8 Point Alarm |
| | Emergency Voice Aux 1 Alarm |
| | Emergency Voice Aux 2 Alarm |
| | Emergency Voice Aux 3 Alarm |
| | Emergency Voice Aux 4 Alarm |
| CO Alarm | |
| Fire Pre-Alarm | |
| Fire Interlock Alert | |
| | Emergency Supervisory |
| Fire Supervisory | |
| CO Supervisory | |
| Trouble | |
| Site F Key Status | |
| System Status | |

Note: Status Points, Status Voice Aux 1, Status Voice Aux 2, and Background Music are contained within the System Status event priority.

Note: All fire, emergency and system troubles are prioritized into the Trouble event priority.

10.5.4 Priority Rules

1. Event priorities can be changed only within, not between, priority levels (defined by bold lines in Table 10-1).
2. Emergency LOC Alarm must always higher than Emergency 1-8 Point Alarm and Emergency Voice Aux 1-4 Alarm.
3. ECS events do not need to be in order by ECS number.
 - There will be at least 15 messages selectable for each standard event.

10.5.5 Other Priority Considerations

There are other considerations to take into account when the same event is acting on the same output group (an event being mapped to an output group.) These are prioritized in order of appearance:

- For voice system utilizing dual channel, normal mapping takes priority over alert mapping. Example: Zone 1

Manual Pull is mapped to Voice Group 1 as an Alert 1 mapping and Zone 2 Manual Pull is mapped to Voice Group 1 as a normal mapping. If Zone 1 and Zone 2 Manual Pull events are active, Voice Group 1 will annunciate the Fire Alarm message defined in the Voice Settings for the panel's assigned site.

- Event priority is considered here based on the Event Priority Table.
- If an output group is mapped both directly and through an output group template to an event, the direct map gets priority. Example: Template 1 Contains Group 1. Zone 1 Manual Pull is mapped to Template 1 and Group 1 using constant and ANSI patterns respectively. If Zone 1 Manual Pull is active, Group 1 will output ANSI.
- When an event is mapped to an output group from multiple zones, the lower numbered zone gets priority. Example: Zone 1 Manual Pull and Zone 2 Manual Pull are mapped to Group 1 using constant and ANSI patterns respectively. If Zone 1 and Zone 2 Manual Pull events are active, Group 1 will output constant.

10.6 Operation Mode Behavior

The control panel can be in one or more of seven conditions at any given moment: Normal, Alarm, Prealarm, Supervisory, Trouble, Silenced, and Reset. Table 10-2 describes the behavior of the panel in each of these modes.

When looking at the LCD, the screen will display FS for the “Fire System”, CO for the “CO System” and ECS for “Emergency Communication System”. The highest priority event will display first and include the event count (see Figure 10-4).

Press the down arrow to view the location and type of alarm supervisory or trouble. If the panel is programmed to Auto Display Event, information describing the highest priority active event will display on the first two lines. The 3 and 4th line will show the status of which event types are active for each system (fire, CO and emergency systems). Auto Display Event activates after two minutes of annunciator inactivity. (See Figure 10-5).

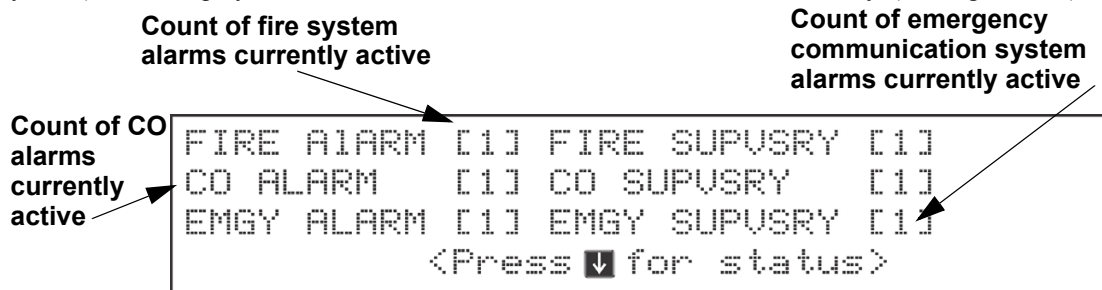


Figure 10-4 Highest Priority Event Display

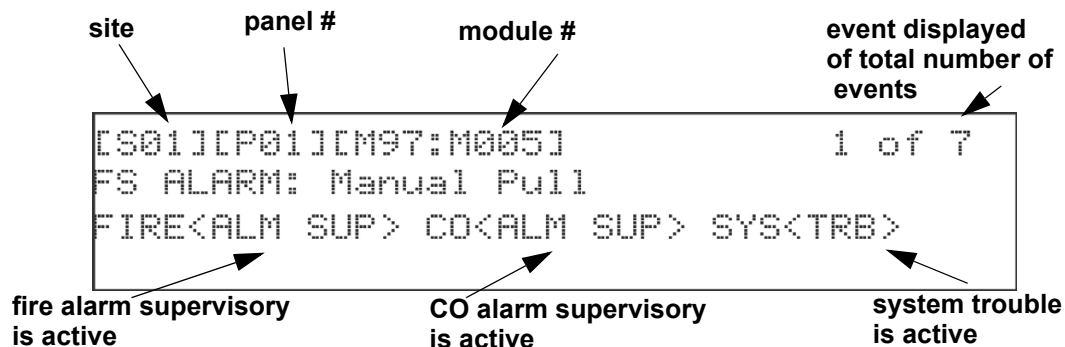


Figure 10-5 Event Display after Two Minutes Sitting Idle

```
[S01][P01][Z002][M98:P001] 1 of 2
FS ALARM: Man Release
      FIRE<ALM TRB> RELEASE:ALARM
      <Press ↓ for status>
```

Figure 10-6 Interlock Release in Alarm after Two Minutes Sitting Idle

```
FIRE:ALARM[0001] SUPR[0001] TRBL[0001]
CO:ALARM[0001] SUPR[0001]
EMGY:ALARM[0001] SUPR[0001]
SYS:TRBL[0001]
```

This screen will display when more than 3 event types are active

Table 10-2: Operations Mode Behavior

| Operation Mode | Occurs When | System Behavior | In This Mode You Can |
|----------------|--|--|--|
| Normal | No alarm or trouble condition exists and menus are not in use. | SYSTEM POWER LED is on. The All Systems Normal display indicates that the system is in normal mode. The current date and time display on the last line of the LCD. | Enter the appropriate code to activate the User or Installer Menu. |

Table 10-2: Operations Mode Behavior

| Operation Mode | Occurs When | System Behavior | In This Mode You Can | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------|--|---|---|--|----|-------------|-------|--|------------|-------|--|-------------|-------|--|------|-----|----|-----------------|-------|--|-----------------|-------|--|-----------------|-------|--|
| Alarm | A smoke detector goes into alarm or a pull station is activated. | <p>The dialer seizes control of the phone line and calls the central station.</p> <p>The on-board annunciator will sound loud, steady beeps to distinguish Alarm signals. For Fire Alarm, the sequence is a loud steady beep.(Any notification devices attached to the system will also sound). For ECS Alarm, the sequence is four seconds on, one second off. GENERAL ALARM LED is on.</p> <p>The LCD displays a screen similar to this one.</p> <p>Count of alarms. In this example, there are 5 in fire and 1 in ECS.</p> <div><div>Site 1</div><div>FS Alarm [5] ECS Alarm [1]</div><div><Press [down arrow] for status></div></div> <p>Press the down arrow to view the type and location of alarm (Message alternates with the date/time display).</p> | <p>Press the down arrow to view the alarm. A screen similar to this one displays.</p> <div><div>Module name</div><div>Site 1 Panel</div><div>FS ALARM: Manual Pull</div><div>MODULE_33 POINT 2</div><div>09/24/12 01:45:52PM</div><div>3 of 5</div></div> <p>3rd line alternates between the name of the zone and the name of the point in alarm.</p> <p>Time/Date</p> <p>In this example, there are events, the third is being displayed. This will alternate with the zone, module and point in alarm.</p> <p>Press SILENCE to silence the annunciator (and any notification devices attached to the system).</p> <p>When the alarm condition clears, press RESET to restore the panel to normal.</p> | | | | | | | | | | | | | | | | | | | | | | | |
| | CO Detector goes into Alarm | <p>CO = CO Detector</p> <p>Count of CO Detectors in alarm on the system In this example there is</p> <div><div>ALARM CO[1]</div><div>Press [down arrow] for status</div></div> <p>Press the down arrow to view the type and location of alarm. (Message alternates with the date/time display.)</p> | | | | | | | | | | | | | | | | | | | | | | | | |
| | If more than 3 categories are active at a single time and ECS is enabled, top screen will display. If ECS is not enabled, it will look like bottom screen. | <table><tr><td colspan="2">FIRE</td><td>CO</td></tr><tr><td>Alrm [0010]</td><td>[001]</td><td></td></tr><tr><td>Sup [0001]</td><td>[002]</td><td></td></tr><tr><td>Trbl [0000]</td><td>[000]</td><td></td></tr></table> <table><tr><td>FIRE</td><td>ECS</td><td>CO</td></tr><tr><td>Alrm[0010][003]</td><td>[001]</td><td></td></tr><tr><td>Sup [0001][001]</td><td>[002]</td><td></td></tr><tr><td>Trbl[0000][000]</td><td>[000]</td><td></td></tr></table> | FIRE | | CO | Alrm [0010] | [001] | | Sup [0001] | [002] | | Trbl [0000] | [000] | | FIRE | ECS | CO | Alrm[0010][003] | [001] | | Sup [0001][001] | [002] | | Trbl[0000][000] | [000] | |
| FIRE | | CO | | | | | | | | | | | | | | | | | | | | | | | | |
| Alrm [0010] | [001] | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sup [0001] | [002] | | | | | | | | | | | | | | | | | | | | | | | | | |
| Trbl [0000] | [000] | | | | | | | | | | | | | | | | | | | | | | | | | |
| FIRE | ECS | CO | | | | | | | | | | | | | | | | | | | | | | | | |
| Alrm[0010][003] | [001] | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sup [0001][001] | [002] | | | | | | | | | | | | | | | | | | | | | | | | | |
| Trbl[0000][000] | [000] | | | | | | | | | | | | | | | | | | | | | | | | | |

Table 10-2: Operations Mode Behavior

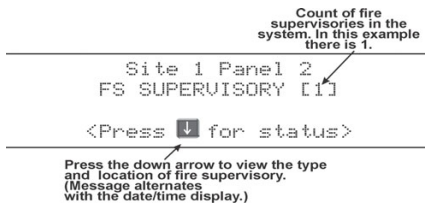
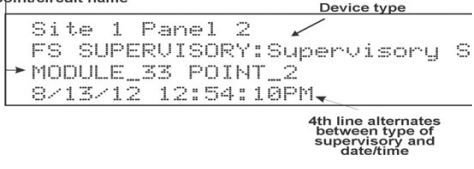
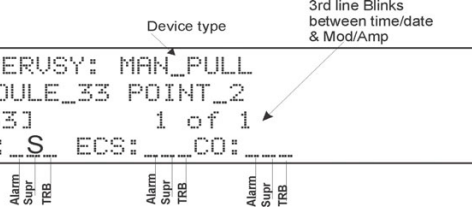
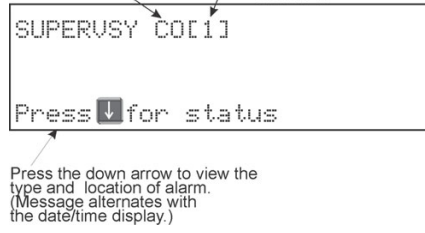
| Operation Mode | Occurs When | System Behavior | In This Mode You Can |
|----------------|---|---|---|
| Supervisory | The system detects a supervisory condition. | <p>The dialer seizes control of the phone line and calls the central station.</p> <p>The on-board annunciator sounds a loud, pulsing beep to distinguish supervisory signals. For Fire Supervisory the sequence is two seconds on, two seconds off. For ECS Supervisory, the sequence is two seconds on, three seconds off.</p> <p>SUPERVISORY LED is on.</p> <p>The LCD displays a screen similar to this one.</p>  | <p>Press down arrow to view the fire supervisory condition. A screen similar to this one displays.</p>  <p>Press SILENCE to silence the annunciator.</p> <p>After sitting idle, events will display in a screen similar to this:</p>  |
| | A Supervisory condition with a CO detector | <p>CO = CO Detector</p> <p>Count of supervisorys for the CO detectors in the Fire system In this example there is 1.</p>  | |

Table 10-2: Operations Mode Behavior

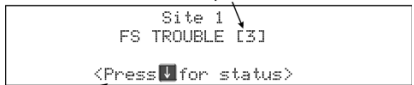

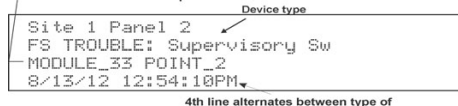
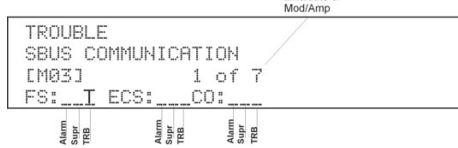
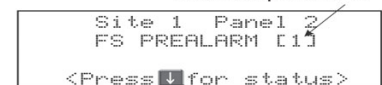
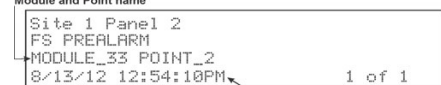
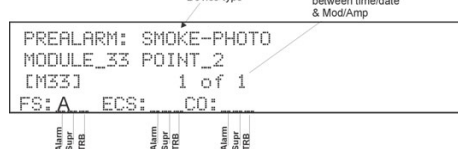
| Operation Mode | Occurs When | System Behavior | In This Mode You Can |
|----------------|--|---|--|
| Trouble | <p>A system trouble condition occurs.</p> <p>A trouble condition with a CO detector</p> | <p>The dialer seizes control of the phone line and calls the central station.</p> <p>The on-board annunciator sounds a loud, pulsing beep in the sequence ¾ of second on, eight seconds off.</p> <p>SYSTEM TROUBLE LED is on.</p> <p>The LCD displays a screen similar to this one.</p>  <p>Count of fire troubles in the system In this example there are 3.</p> <p>Site 1 FS TROUBLE [3] <Press [↓] for status></p> <p>Press the down arrow to view the type and location of fire trouble condition. (This message alternates with the date / time display.)</p>  <p>CO = CO Detector</p> <p>Count of CO detectors in trouble on the system In this example there is 1.</p> <p>TROUBLE CO[1] Press [↓] for status</p> <p>Press the down arrow to view the type and location of trouble condition. (This message alternates with the date / time display.)</p> | <p>Press down arrow to view the fire trouble. A screen similar to this one displays.</p>  <p>3rd line alternates between the name of the zone and the name of point in trouble</p> <p>Device type</p> <p>4th line alternates between type of supervisory and date/time</p> <p>Press SILENCE to silence the annunciator.</p> <p>Once the trouble condition has been fixed, the system will restore itself automatically.</p> <p>After sitting idle, events will display in a screen similar to this:</p>  <p>Blinks between time/date & Mod/Amp</p> |
| Prealarm | <p>A single detector trips in a 2-Count zone. (2-Count means two detectors must trip before an alarm is reported.)</p> | <p>Touchpad PZT beeps.</p> <p>The LCD displays a screen similar to this one.</p>  <p>Count of fire Pre alarms in the system In this example there is 1.</p> <p>Site 1 Panel 2 FS PREALARM [1] <Press [↓] for status></p> <p>Press the down arrow to view the type and location of Pre alarm. (Message alternates with the date / time display.)</p> | <p>Press down arrow to view the Prealarm. A screen similar to this one.</p>  <p>Module and Point name</p> <p>4th line alternates between type of PreAlarm and date/time</p> <p>All system operations are available in this mode.</p> <p>After sitting idle, events will display on a screen similar to this:</p>  <p>Device type</p> <p>3rd line Blinks between time/date & Mod/Amp</p> <p>Note: Alarm and Prealarm are combined into a single alarm count.</p> |
| Reset | <p>The RESET button is pressed followed by a valid code, if necessary.</p> | <p>All LEDs are on briefly then the LCD displays "RESET IN PROGRESS". If the reset process completes normally, the date and time normal mode screen displays.</p> | <p>Menus are not available during the reset process.</p> |

Table 10-2: Operations Mode Behavior

| Operation Mode | Occurs When | System Behavior | In This Mode You Can |
|----------------|---|--|--|
| Silenced | An alarm or trouble condition has been silenced but still exists. To silence alarms and troubles, press SILENCE followed by the Installer or User Code, if necessary. | SYSTEM SILENCE LED is on. SYSTEM TROUBLE, SUPERVISORY and/or GENERAL ALARM LED (depending on condition) is on. The annunciator (and any notification devices attached to the system) will be silenced. | Press down arrow to view the location of the alarm, supervisory or trouble. When the condition no longer exists, the SYSTEM SILENCED and SYSTEM TROUBLE LED, SUPERVISORY and/or GENERAL ALARM LEDs turn off. |

Multi-site Annunciators are unique as they can display the status and event history of all sites they are assigned to. These displays can be especially useful in guard shacks or security centers. A multi-site display is indicated by the words “Multi-Site Display” at the top of the idle screen.

1. The ACK, DRILL, RESET and F-Macro keys are disabled until a multi-site user access code has been entered and a specific site has been selected.
2. Multi-site Annunciator silencing rules:
 - If any of the assigned sites are silenced, the Silenced LED will be lit.
 - Silence key will only silence the sound from the multi-site annunciator on which the silence key was pressed. This is called being Locally Silenced. If Locally Silenced is enabled on a multi-site annunciator, it will be indicated by a blinking Silenced LED.
 - If any new troubles, supervisory, pre-alarms, or alarms are triggered in any assigned sites, Locally Silenced will become disabled.
 - If a multi-site annunciator is locally silenced for 24 hours, the locally silenced feature will be disabled.
3. The IFP-2000 menu system is disabled on a multi-site annunciator. Pressing the Right or Enter keys will bring you straight into event history for assigned sites. To get into the menu system, a multi-site user password must be entered and then a site must be selected from the site selection menu. Once this is done you will have access to the idle screen of that site and the annunciator will temporarily act like a single site annunciator.
4. A multi-site annunciator will sound the highest priority tone from the sites it is assigned to.

Note: A multi-site display is created in Module programming in the edit properties menu for an RA-2000. See section 9.2.1.

Note: An RA-2000 cannot be programmed as a multi-site display when it is associated with an ECS-RVM in a ECS system.

10.7 Releasing Operations

The control panel supports two types of releasing: Double Interlock Zone, and Single Interlock Zone. The Double Interlock Zone operation requires an interlock switch input in the system, and the Single Interlock Zone does not. An interlock switch is typically a dry-contact pressure switch.

When Single or Double Interlock Zone releasing is selected using SKSS-2 software, the software suite will automatically default the following system parameters:

Note: The defaults created can be modified through programming if desired.

- Output Group 2 is created. Output Group 2 will be defaulted as a “Detector Alarm” output group for all releasing zones. NAC [98:001] is assigned to Output Group 2.
- Output Group 3 is created. Output Group 3 will be defaulted as a “Interlock Release Alert” output group for

all releasing zones. NAC [98:002] is assigned to Output Group 3.

- Output Group 4 is created. Output Group 4 will be defaulted as “Interlock Release Alarm” output group for all releasing zones. NAC circuit [98:003] is assigned to Output Group 4.

Note: The installer must define which input points will be used for detectors, manual release switches, or interlock/pressure switches.

Note: For manual release operation, Installer must use an FM approved/ UL listed releasing manual station.

Table 10-3: Approved Releasing Solenoids

| Manufacturer | Part Number | Rating | Current | Freq |
|--------------|-------------|--------|---------|------|
| Asco | T8210A107 | 24 VDC | 3A max | 0 Hz |
| | 8210G207 | 24 VDC | 3A max | 0 Hz |

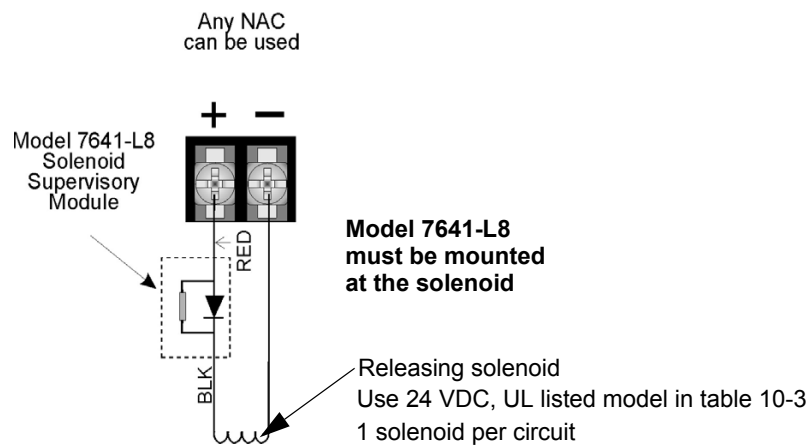


Figure 10-7 Wiring Configuration for Solenoid

10.7.1 Single Interlock Zone Releasing

A single interlock zone utilizes a minimum of two addressable detectors and a designated manual release switch.

| Important! | |
|--|--|
| Only addressable detectors can be used. No conventional detectors can be used. | |
| Each Single Interlock Zone input requires at least one manual release switch. | |

Conditions Required for an Interlock Release Alert Output Activation

If any single addressable detector is activated, the “Interlock Release Alert” output will activate. This alerts the user that the initial stages required for a release condition are present. (Also refer to Table 10-4).

Conditions required for a Detector Alarm and Interlock Release Alarm Output Activation

If two or more addressable detectors, or a manual release switch activate, the “Detector Alarm” and “Interlock Release Alarm” outputs will activate. (Also refer to Table 10-4).

Table 10-4: Single Interlock Zone Operation

| Inputs | | Output Results | | | | | | |
|--------------------------|--------|-------------------------|-------------------------|--|--|--|--|---|
| 1st Addressable Detector | | X | | X | | X | | X |
| 2nd Addressable Detector | | | X | X | | | X | |
| Manual Release Station | | | | | X | X | X | X |
| | Normal | Interlock Release Alert | Interlock Release Alert | Interlock Release Alarm and Detector Alarm | Interlock Release Alarm and Detector Alarm | Interlock Release Alarm and Detector Alarm | Interlock Release Alarm and Detector Alarm | |

10.7.2 Double Interlock Zone Releasing

A Double Interlock Zone uses a minimum of two addressable detectors, a designated manual release switch, and an interlock switch input. An interlock switch is typically a dry-contact pressure switch and will be referred to as an interlock/pressure switch in this document.

| Important! |
|--|
| Only addressable detectors can be used. No conventional detectors can be used. |
| Each Double Interlock Zone input requires at least one Interlock/pressure switch and at least one manual release switch. |

Conditions Required for a Interlock Release Alert Output Activation

If any single addressable detector is activated, the “Interlock Release Alert” output will activate. This alerts the user that the initial stages required for a release condition are present. (Also refer to Table 10-5).

Conditions Required for a Detector Alarm Output Activation

If two addressable detectors, a manual release switch is activated, or an interlock switch is active, the “Interlock Release Alert”, and “Detector Alarm” outputs will activate.

Conditions Required for a Interlock Release Alarm Output Activation

Any release requires the activation of an interlock switch, and either a manual release switch or 2 activated addressable detectors. When these conditions are met, the “Interlock Release Alarm” and “Detector Alarm” outputs will activate, and the “Interlock Release Alert” outputs will deactivate.

Table 10-5 Double Interlock Zone Operation

| Inputs | | Output Results | | | | | | | | | | | | | | | |
|----------------------------|--|-------------------------|-------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 1st Addressable Detector | | X | | X | | X | | X | | X | | X | | X | | X | |
| 2nd Addressable Detector | | | X | X | | | X | X | | | X | X | | | | X | X |
| Manual Release Station | | | | | X | X | X | X | | | | | X | X | X | X | |
| Interlock/ Pressure Switch | | | | | | | | | X | X | X | X | X | X | X | X | |
| Normal | | Interlock Release Alert | Interlock Release Alert | Interlock Release Alert and Detector Alarm | Interlock Release Alert and Detector Alarm | Interlock Release Alert and Detector Alarm | Interlock Release Alert and Detector Alarm | Interlock Release Alert and Detector Alarm | Interlock Release Alert and Detector Alarm | Interlock Release Alert and Detector Alarm | Interlock Release Alert and Detector Alarm | Interlock Release Alarm and Detector Alarm | Interlock Release Alarm and Detector Alarm | Interlock Release Alarm and Detector Alarm | Interlock Release Alarm and Detector Alarm | Interlock Release Alarm and Detector Alarm | Interlock Release Alarm and Detector Alarm |

10.8 Smoke Alarm Verification

Figure 10-8 illustrates how the Smoke Alarm Verification cycle operates.

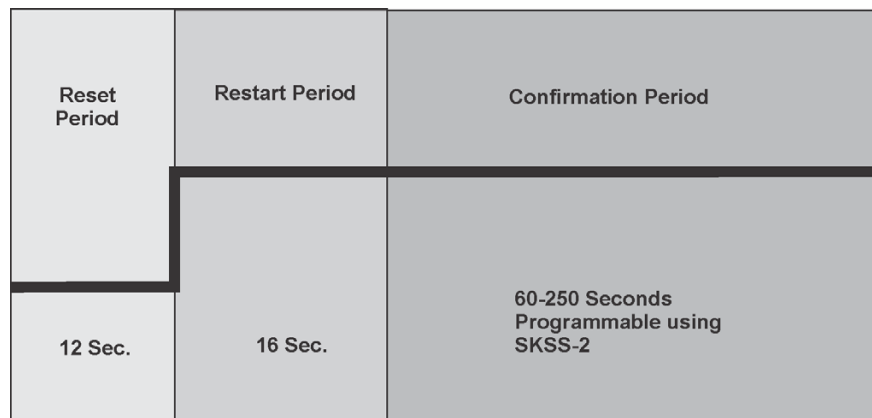


Figure 10-8 Smoke Verification Cycle

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

10.9 Function Keys

The function keys on the IFP-2000 have multiple features. Their macro key functionality can simplify the disabling, activating, or inhibiting points or groups respectively. They can also be used as a status type activation event and for activating Map Inhibit. Each F-Key macro can hold 50 events.

To access the F-Key Recording menu:

1. From the idle screen, press and hold the F-Key for 5 seconds.
2. Enter a PIN with F-Key macro recording privileges, if prompted.

10.9.1 Recording an F-Key Macro

1. Access the F-Key Recording menu and select the 'Start FKEY Recording' option.
2. The panel will return to the idle screen. Notice the 4th line on the display now alternates with <F# Key Recording>, where # is the number of the F-Key being recorded.
3. Any Disabling or Activating of points, output groups, or templates from the site at this point will be programmed into the macro. Do this by going to any annunciator within the site and entering Main Menu -> Point Functions and use Disable/Enable Point or use I/O Point Control to: disable output groups or individual points, or activate individual points.
4. Once you are finished with disabling or activating points/output groups, enter the F-Key Recording Menu again and select the 'End FKEY Recording' option.
5. The panel will return to the idle screen.

10.9.2 Aborting an F-Key Macro Recording Session

1. After an F-Key macro recording session has been started, the session can be canceled at any time by accessing the F-Key Recording menu and selecting 'Abort FKEY Recording' option.
2. The panel will return to the idle screen.

10.9.3 Erasing an F-Key Macro

1. If an F-Key macro has already been recorded, you can erase it by accessing the F-Key Recording menu and selecting the 'Erase FKEY Macro' option.
2. The panel will return to the idle screen.

10.9.4 Using a Recorded F-Key Macro

1. From the idle screen on any annunciator in the site, press the F-Key you want to activate.
2. Once finished, to de-activate the macro press the F-Key again.

10.9.5 F-Key Status Event

When an F-Key is enabled, it activates its corresponding F-Key Active event. This is a status type event that can activate outputs without showing any status on annunciator displays. This should be used for ancillary purposes only.

10.9.6 F-Key Map Inhibit

The F-Keys have the ability to disable event - output group mapping for the purpose of simulating that the map doesn't exist. This can be setup to allow for testing purposes where notification of an entire building is not desired during the test. This option is programmable for each output group map through SKSS-2.

When an F-Key is active and a map in the system is set to be disabled by Map Inhibit, the system will show a trouble event indicating it as such.

Section 11

Emergency Communication System Operation

11.1 Overview

The IFP-2000ECS control panel and accessories provides features to meet the requirements for a Mass Notification Systems as described in NFPA 72 and is compliant with the UL 2572 standard. The ECS (Emergency Communication System) is integrated with the fire alarm and voice evacuation functions of the control panel. In a networked panel system, only one panel can be chosen to be the voice evacuation/ECS panel for the site.

There are two ways for activating ECS in the IFP-2000ECS panel:

ECS Point Activations

ECS Point Activation involves using pre-determined ECS Alarm input points to activate ECS Alarm events. These events cause output areas to activate based on mapping that is programmed into the system at installation. This is very similar to the traditional mapping that the fire system has utilized to date.

Manual LOC Activations

Manual LOC Activation involves using the LOC ECS interface to activate ECS Events, choose output areas, and speak through a microphone. These selections are not pre-determined and allow the user to make system functionality decisions when the event is actually happening. This requires the activation of Manual ECS State which bypasses ECS Point Activations. See section 11.2.3.

11.2 LOC Functionality

An LOC (Local Operating Console) consists of either the ECS series panel (ECS-VCN Voice Control Module and the Alarm Control Panel), or the ECS-RCU2000 Remote Command Unit (ECS-RVM Remote Voice Module and its associated RA-2000 keypad.) An LOC is created by adding a VCM or RVM to the system and associating a keypad to it. The LOC provides eight buttons for activating the ECS messages, a button to gain and request ECS Control, and a microphone for live paging. There can be up to 15 LOC devices in the system. In a networked panel system, all of the LOCs must be connected through SBUS to the panel that includes the VCM.

11.2.1 Keys and LEDs

This section outlines the functionality of the keys and LEDs on the ECS-VCN and ECS-RVM expander modules.

11.2.1.1 ECS Control Key

Pressing the ECS Control Key will do one of two things:

1. Enter Message Mode of the LOC ECS interface (including trying to gain ECS Control if the user doesn't have it already).
2. Relinquish ECS Control if pressed while in Message Mode.

11.2.1.2 ECS Control LED

The ECS Control LED is used to indicate the status of ECS Control in the system. When the LED is on solid, the LOC has ECS Control within the system. When the LED is blinking, another LOC has gained ECS Control in the system.

11.2.1.3 ECS Message Keys

ECS Message Keys are used in Message Mode to select which ECS Message is to be played. If pressed when the LOC does not have ECS Control, the system will automatically try to gain ECS Control before allowing the ECS Event to be activated. See section 11.2.2.

11.2.1.4 ECS Message LEDs

The red ECS Message LEDs indicate the active ECS Message and any previously active ECS messages. The green LEDs indicate the ECS Message was selected in message mode and that the LOC has ECS control.

1. For ECS Point Activation, the red ECS Message LEDs will illuminate on each LOC to indicate which ECS messages have been activated in automatic ECS state.
2. In Manual ECS State, the red ECS Message LEDs will indicate which ECS message has been activated at an LOC. See section 11.2.3.
3. The green ECS Message LEDs will activate for the LOC that activated the ECS Message.

11.2.1.5 Select Keys

The Select Keys are used to toggle which output areas are active.

1. If Message Mode is active (see Section 11.2.3), the Select Keys will activate output which areas for the active message to be played in (also activates the red Select Key LED).

Note: For LOC activated emergency alarm events, if an area is programmed through mapping to be active that area is automatically selected and can not be deactivated using the Select Keys.

2. If Microphone Mode is active (see Section 11.2.3), the Select Keys will toggle which areas the microphone audio is distributed to (also toggles the green Select Key LED).

11.2.1.6 Select Key LEDs

The Select Key LEDs are used to indicate which output areas are active for a microphone page (see Section 11.7.4.1) or system events.

1. Green LEDs: active areas for microphone paging.

Note: These are only active when the microphone PTT is engaged.

2. Red LEDs: active areas for system events.

Note: When system is Dual Channel Enabled, blinking indicates the area is active for an alert message.

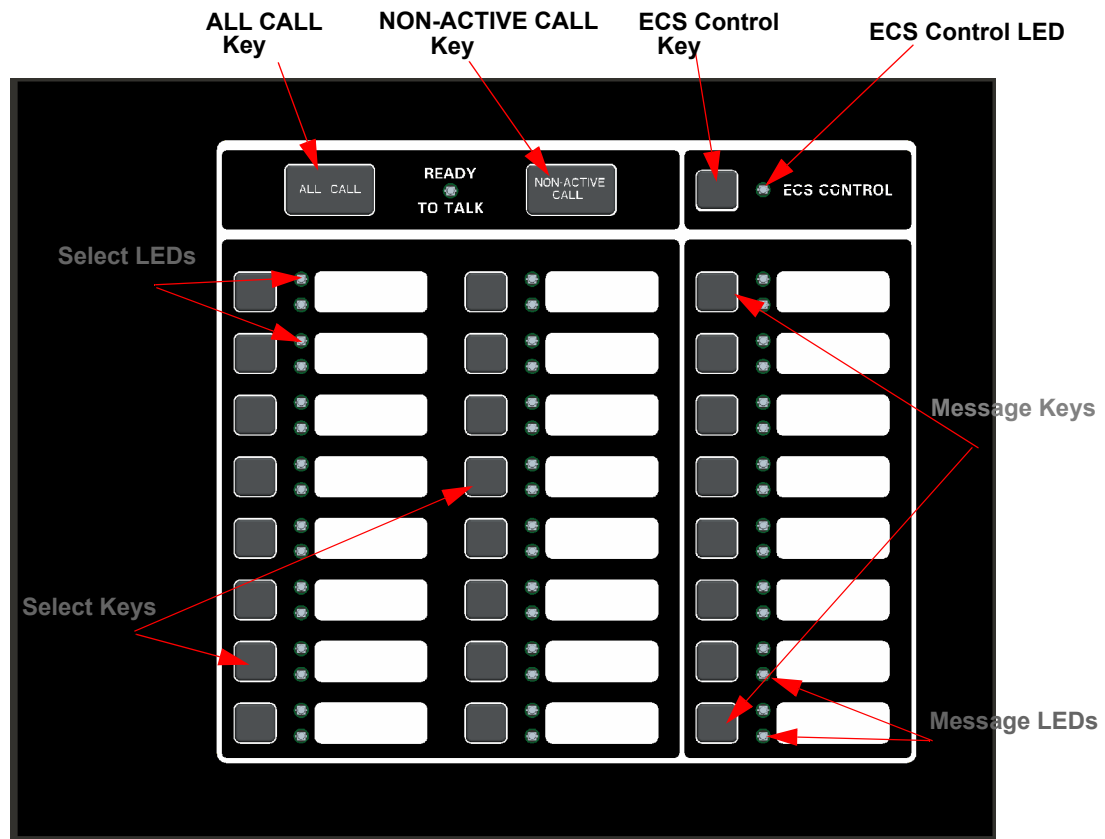


Figure 11-1 ECS-VCM / ECS-RVM Front View

11.2.2 Gaining ECS Control

When attempting to gain ECS Control, there are three things that govern whether or not ECS Control can be obtained:

1. LOC Priority.
2. LOC Lockout.
3. User profile access control.

11.2.2.1 LOC Priority

LOCs are assigned (through panel or SKSS-2 programming of the ECS-VCM or ECS-RVM) an LOC priority of low, normal, or high. LOCs with a higher priority are always able to gain control from a lower priority LOC.

11.2.2.2 LOC Lockout

When LOCs are programmed to the same priority, the setting LOC lockout applies. LOC lockout will not allow an LOC to gain ECS Control from the LOC with ECS Control until one of three things happen:

1. The LOC lockout timer expires. Once the LOC lockout timer expires, an attempt to gain ECS Control can be made again.

Note: The lockout timer must be programmed to expire sometime other than Never.

2. The user at the second LOC requests ECS Control from the LOC with ECS Control and that LOC grants the request. (See Section 11.2.7). If the ECS lockout timer expires while an ECS Control request is in progress, the system will automatically pass ECS Control to the requesting LOC.

3. The user at the second LOC enters an access code with the ECS Super User profile option.

The LOC lockout timer can be set between immediate and 12 hours in increments of 1 second or it can be set to never expire. The default setting is 30 seconds. The LOC lockout timer is restarted upon any key press at the LOC with ECS control. The LOC lockout timer is cleared when ECS Control is relinquished.

11.2.2.3 User Profile Access Control

The user will need to enter an access code containing the ECS Control Request or ECS Super User profile option to gain ECS Control. ECS Control Request and ECS Super User profile options will be mutually exclusive to the system. If the access code has ECS Super User, the ECS Control Request is ignored and activations by that user are always as ECS Super User.

11.2.3 Manual ECS

After gaining ECS Control the system enters the LOC ECS interface which allows you to activate the Emergency System and allows for Emergency Paging. Once an emergency event has been activated the panel enters a Manual ECS State. In this state, all ECS Alarm programmed points that are currently in alarm in the system are changed to an active state. The display status screen reflects this when viewing the system for status. Any outputs that were activated by the ECS Alarm programmed points are deactivated until Manual ECS state is exited. Only an ECS Reset can exit the Manual ECS State. If a user gains ECS Control at an LOC and does not activate an ECS message, the system will automatically generate an ECS Supervisory indicating such. This prevents an LOC from being in an undesired state of ECS Control when an actual event emerges.

There are two modes for interacting with the LOC ECS interface when in Manual ECS State:

1. Message Mode
2. Microphone Mode

These two modes allow you to quickly add areas of output for a desired message and toggle output areas to speak to for microphone ECS Paging.

After gaining ECS Control, the system is in Message Mode of the Manual ECS State.

11.2.3.1 Switching between Microphone Mode and Message Mode

At any time while in ECS Control, you can switch between Microphone Mode and Message Mode. Microphone Mode is entered by simply engaging the microphone.

1. Message Mode: Use the ECS Message keys to select which message/event to output to the system. Use the Select Keys to select output areas to play the current ECS Message in. The Select Key's red LED will activate solid to confirm that the area is now receiving the message. Any non-voice groups assigned to this Select Key will also activate with their Activation Cadence. See Section 11.2.3.2. Message Mode can only be used to activate areas. The only way to remove output areas is to perform an ECS Reset.
2. Microphone Mode: Use the Select Keys while the microphone is active to toggle which areas to do an ECS Microphone Page to. The Select Key's green LED will toggle on/off with the activation/deactivation of the ECS Microphone Page to the area.

11.2.3.2 Activating Output Groups Dynamically

This method allows the system to be setup with minimal or no system mapping. When in Manual ECS State and operating in Message Mode the user can dynamically activate output areas for system notification to take place in. The Select Key red LED will become lit and the circuits in the output group(s) will become active and play the currently active ECS event message. Non-voice output groups can also be assigned to Select Keys and will activate using the activation cadence assigned to it in output group programming. This is available in the panel and in SKSS-2. See Section 9.4.1.2.

11.2.4 Microphone Mode

Microphone Mode allows the user to press the Select Keys to toggle which output areas to speak to over the

microphone. The green LEDs next to the Select Keys will activate or deactivate.

```
MICROPHONE MODE
SELECT KEYS: Toggle Output Areas
Microphone Active
Release Microphone for MESSAGE MODE
```

11.2.5 Message Mode

In Message Mode, the user is able to press the ECS message Keys to choose a message and press the Select Keys to activate or deactivate which output areas the message will be played. This will activate or deactivate the green and red LEDs next to the ECS Message Keys and the red LEDs next to the Select Keys.

```
MESSAGE MODE
ECS MESSAGE KEYS: Choose Message
SELECT KEYS: Activate Output Areas
Engage Microphone for MICROPHONE MODE
```

11.2.6 Custom ECS Event

Custom ECS events allows the user to generate an ECS event and speak a custom message using the microphone. Once the user is done speaking the message, the tone and any associated strobes will continue to be active in the output areas.

To generate a Custom ECS Event:

1. Gain ECS Control using the ECS Control Key when there is not an ECS Event active.
2. Activate the microphone.
3. Choose desired output areas using the Select Keys.
4. Speak custom message into microphone.

11.2.7 Passing ECS Control

Passing of ECS Control is allowed when two LOCs have the same priority. When it is possible to pass control, a prompt (similar to) will display in which the user can: request control from the LOC with ECS Control, enter an access code with the ECS Super User profile option to override the other LOC, or wait for the lockout timer to expire (if applicable).

```
GAIN ECS CONTROL OPTIONS MENU
1=Request ECS Control From LOC
2 Gain ECS Control as ECS Super User
3 Wait for Lockout Timer to Expire 30
```

Figure 11-2 Request ECS Control with Lockout Timer Active

ECS Control lockout is programmable from immediate to 12 hours in increments of one second. You are also able to select never expire.

When passing ECS Control between two ECS Super Users, the user is not shown the prompt screen. Instead, a request for ECS Control is automatically made. Additionally, the lockout timer does not apply for ECS Super User.

When a request for ECS Control is made, the LOC with ECS Control will be shown a screen (similar to Figure

11-3), even when in another menu, except programming menus, indicating that another LOC is requesting ECS Control. The piezo buzzer on the LOC with ECS Control sound when an ECS Control request is active to alert a nearby operator of the request.

```
Another LOC is Requesting ECS Control:
      ECS-LOC 01
1=Grant and Relinquish ECS Control
2 Deny and Keep ECS Control
```

Figure 11-3 ECS Control Request on LOC with ECS Control

Once ECS Control is passed to another LOC, the new user will assume the system AS IS. This means that the event that was set to be playing at the previous LOC and all output areas it was playing in do not change.

11.2.8 Exit ECS Control Menu

The user can exit the LOC ECS interface by pressing the left arrow. The user will be returned to the idle screen which indicates that the LOC still has ECS control.

11.2.9 Relinquish ECS Control

Relinquishing ECS Control is accomplished by pressing the ECS Control Key from within Message Mode or Microphone Mode. A screen will be displayed to ensure the user wants to relinquish ECS Control. ECS Control will be automatically relinquished after a time-out on this screen. When ECS Control is relinquished, the system stays in the Manual ECS State. ECS Control can then be gained by another LOC or again at the same LOC.

```
Relinquish ECS Control
Automatic ECS Timer: 30
1=Cancel, Keep ECS Control
2 Accept, Relinquish ECS Control
```

Figure 11-4 Relinquish ECS Control Screen

11.2.10 ECS Reset

An ECS reset is accomplished by pressing the RESET button from an LOC. The user will be prompted to reset either the fire system or emergency system. After an ECS reset, the LOC will automatically exit the LOC ECS interface.

Note: In order to perform an ECS reset, the display must be associated with the ECS-VCN / ECS-RVM. See Section 11.6.2.2.

11.3 ECS Super User

The ECS Super User access code profile function provides the ability to override all ECS Control rules and gain ECS Control. The ECS Super User is the highest priority user in the system. The ECS Super User has several features that differ from the normal user:

1. Any alarm activated while under ECS Super User Control needs to be reset using an ECS Super User function enabled access code.
2. LOC priority and LOC lockout timer are ignored when passing ECS Control between ECS Super Users at LOCs. If another ECS Super User attempts to gain ECS Control from an LOC, an ECS Control request is presented to the ECS Super User at the LOC that currently has ECS Control.

11.4 ECS Point Functionality

Any input point in the system can be configured as an ECS input. The Point ECS 1-8 Alarm input types can be used to trigger predetermined ECS events for output areas. ECS-VCM points can be programmed to trigger Voice Aux events that can allow external audio to be played through the emergency system.

11.4.1 ECS Point Activations

ECS points can only activate outputs and be placed into an alarm state if the system is not in Manual ECS State. ECS points have no priority and all are allowed to be activated. If the ECS point is a higher priority than the Fire System, then the system will play the highest event message through all ECS mapped outputs.

For example: Emergency 1 Point Alarm is higher priority than Emergency 2 Point Alarm. Emergency 1 Point Alarm has message 1 mapped to through groups 1 and 2. Emergency 2 Point Alarm has message 2 playing through groups 2 and 3. If a point for Emergency 1 Point Alarm and a point for Emergency 2 Point Alarm are both active, the system will play message 1 through groups 1, 2, and 3.

Once Manual ECS State is active, points in Alarm state switch to an Active state. When the points are changed to the Active state, they do not activate any system mapping or turn any outputs on. Any points that are activated while in Manual ECS are also placed into the Active state and are not allowed to activate any mapping. The system idle screen will show an ECS Alarm counter for any points in the Active state, and the detailed description of the point will show the point as Active.

After an ECS Reset, any ECS points that are still active will again be put into Alarm.

11.4.2 ECS-VCM Points

The ECS-VCM module contains two programmable input points. These can be programmed as any conventional switch input type. These also have the ability to be programmed as a trigger for bringing external audio into the system. These special point types are: ECS Voice Aux In 1-4 Alarm, Voice Aux In 1-2 Status, Background Music. When activated if the event has the highest Event Priority of all activated events, it will activate the Aux In input to all outputs defined by the respective event program mapping.

Note: Background Music is only allowed to be mapped to circuit 8 of the ECS-DUAL50W amplifiers to ensure correct active supervision.

11.5 Amplifier Programming

11.5.1 Adding an Amplifier

To add a new AMP to the system, follow these steps:

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Panel Programming menu.
3. Press 1 to enter Module menu.
4. Press 2 to add a module.
5. From the next screen, add an ECS-AMP.



The screen will display "Adding module [#]..." for a few moments. You will be returned to the <New Module Type> screen where you can select another a name for the module(s) if desired.

You must save changes when you exit the Program Menu or the new module will not be added. For more information see section 9.2.2.

If you Add a Module that has not been physically connected, the panel will go into trouble after it re-initializes (when you exit the Program Menu). When the new module is attached, the trouble will restore automatically the next time you power up the

11.5.2 Editing an Amplifier

When editing AMPs, the features that may be edited are: module ID, module name, ECS-CE4 installed (Yes or No), and output voltage. To edit an existing module:

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Program Menu.
3. Press 1 to enter module menu.
4. Press 1 to edit a module.
5. Use the  or  arrow to select the module you wish to edit.
6. Press the right arrow or ENTER to move to next selection.

11.6 LOC Programming

LOC Priority is a programmable option for the following ECS devices:

- ECS-VCM
- ECS-RVM

11.6.1 Adding an LOC

To add new LOCs to the system, follow these steps:

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Panel Programming menu.
3. Press 1 to enter Module menu.
4. Press 2 to add a module.
5. From the next screen, add either an ECS-VCM* or ECS-RVM**.

** Only 1 ECS-VCM may be installed per site.*

*** Up to 15 ECS-RVMs may be installed per site.*

The screen will display “Adding module [#]...” for a few moments. You will be returned to the <New Module Type> screen where you can select another a name for the module(s) if desired.

6. Add a RA-2000-LCD Annunciator, if desired, to associate with each ECS-VCM or ECS-RVM.

You must save changes when you exit the Program Menu or the new module will not be added. For more information see section 9.2.2.

If you Add a Module that has not been physically connected, the panel will go into trouble after it re-initializes (when you exit the Program Menu). When the new module is attached, the trouble will restore automatically the next time you power up the system.



11.6.2 Editing an LOC

Settings that are specific to an LOC are modified by editing the ECS-VCM or ECS-RVM expander module of the LOC. These options include: number of switch expanders installed, microphone type, microphone gain, auxiliary gain, tone gain, message gain, keypad priority, and associated keypad.

Note: An LOC specific name can also be editing using SKSS-2.

To edit an existing module:

1. Enter the installer code. The panel will automatically go to the main menu.
2. Select 7 for Program Menu.

3. Press 1 to enter module menu.
4. Press 1 to edit a module.
5. Use the  or  arrow to select the module you wish to edit.
6. Press the right arrow or ENTER to move to next selection.

11.6.2.1 LOC Priority

Each device is assigned a Priority level: Low, Normal, or High. This is modified by editing the LOC's ECS-VCM or ECS-RVM module. By default, the ECS-VCM has a high LOC priority. The ECS-RVM is defaulted to normal LOC priority.

11.6.2.2 LOC Association

In order to create an LOC, an annunciator must be associated to an ECS-VCM or ECS-RVM. This is done by editing the ECS-VCM or ECS-RVM module and selecting the correct annunciator for the associated device. During JumpStart, the ECS-VCM is automatically associated with the internal annunciator. The association for other LOCs in the system must be performed in programming.

11.7 Using the Microphone

11.7.1 Microphone Functionality

Each microphone in the system is capable of providing convenience, fire or emergency paging. A convenience or fire page can be made anytime the emergency system does have System Control (see Section 10.5.1). When the emergency system has been activated and has System Control, the user must gain ECS Control to do an emergency page.

The microphones are housed within the ECS-Series panel enclosure and the ECS-RCU2000/ECS-RPU cabinets. A maximum of 15 microphones can be installed in the system.

11.7.2 Custom ECS Event

This event is activated by gaining ECS Control at a LOC and using the microphone without any ECS event already active in the Manual ECS State. In this case, the Mic Triggered ECS Alarm mapping and Gen ECS Alarm mapping will be activated and stay activated until a different ECS event is activated at the LOC or the user resets the Emergency Communication System.

11.7.3 Fire Page

A fire page can only occur when:

1. Only the fire system is active.
2. Both fire and the emergency systems are active and the highest priority active fire event is programmed to be of higher priority than the highest priority active emergency event.
3. Only the fire alarm is active, the user has gained ECS Control, and custom ECS event is a lower priority than the fire alarm.

Note: If fire and emergency systems are active and emergency system is of a higher priority, a fire page is NOT allowed. An LOC must gain ECS Control in order to do any live voice.

11.7.4 Emergency Page

An emergency page can occur when:

1. Only the emergency system is active and the user has gained ECS Control.

2. Both fire and the emergency systems are active and the highest priority active emergency event is programmed to be of higher priority than the highest priority active fire event and the user has gained ECS Control.
3. Only fire system is active, the Emergency LOC Alarm priority is higher than the active fire system event and the user has gained ECS Control.
 - This will trigger the ECS system and enable mapping for 'Mic Triggered ECS Alarm' and 'General ECS Alarm'.

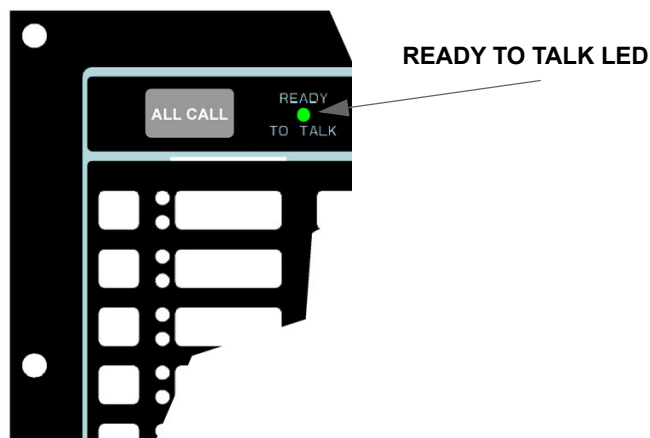
11.7.4.1 Paging

If there are no active emergency or fire system events, the microphone at an LOC can be used for paging by following these steps:

1. Push the PTT (push to talk) button on the microphone.
2. Use the Select Keys on the LOC to toggle the output areas to page to with the microphone (illuminates the green LEDs).

Note: The Ready to Talk LED will illuminate after an output area has been activated.

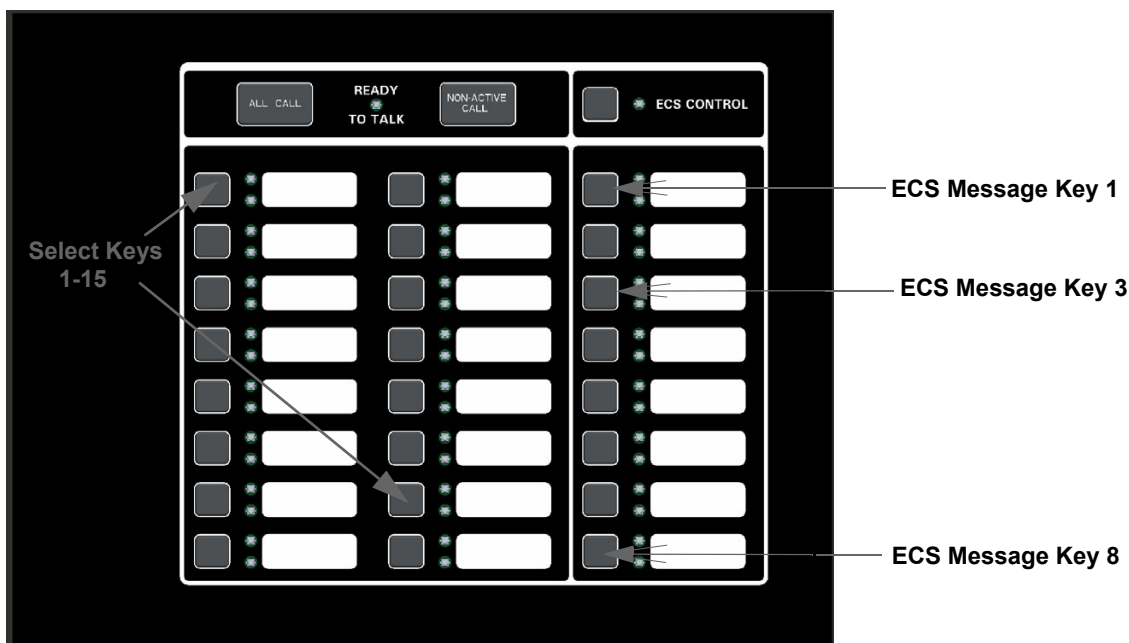
3. Speak into the microphone.
4. Release PTT button when finished.



11.8 Recording Custom Messages

The ECS-Series VCM comes with 15 recordable message slots. Message 1-15 can be recorded from: the microphone, Aux Input, or by using the Farenhyt ECS Message Management Software Tool. All messages can be a maximum of one minute.

When in the record mode, the ECS-VCM keys will function as follows:



| Key | Function |
|-------------------|--|
| ECS Message Key 1 | Select message slot to record to. |
| ECS Message Key 3 | Start and stop recording from Aux. Audio Input |
| ECS Message Key 8 | Erase user message 1-15 |
| Select Keys 1-15 | Message slot 1-15 |

While in the Local Record mode, Select Keys 1-15 will be used to reference message slots 1-15. The associated green Select Key LED will indicate that a message is currently programmed in the corresponding slot. When there is no message recorded (or the message is erased), the associated green Select Key LED will be off. While recording a particular message, the associated red Select Key LED will turn on until recording is completed. The Select Key 1-15 will be used to playback a recorded message or to select the message slot to record to or erase.

When in the Local Record mode, the ECS-VCM LEDs will function as follows:

Table 11-1: LED Functions During Programming

| LED | LED State | Meaning |
|-------------------------------|-----------|---|
| Select Key 1-15 Green LED | On | Message is currently programmed in this slot |
| Select Key 1-15 Red LED | On | Message recording is in progress |
| Select Key 1-15 Green/Red LED | Off/Off | Message slot is empty |
| Select Key 1-15 Red LED | Flashing | Message is being played back or message is selected for recording |

11.8.1 Recording Messages 1-15 Using Aux Audio Input

Recording messages from the Aux Audio Input enables you to load customized, pre-recorded messages into an ECS message location.

Follow these steps to record a user message using Aux Audio Input:

Note: Refer to section 9 for detailed programming information.

1. Wire a speaker cable with 1/8" mini plug (Radio Shack Cat. No. 42-2454) to the Aux AUDIO GND and IN terminals. Refer to Figure 11-5 on page 12.

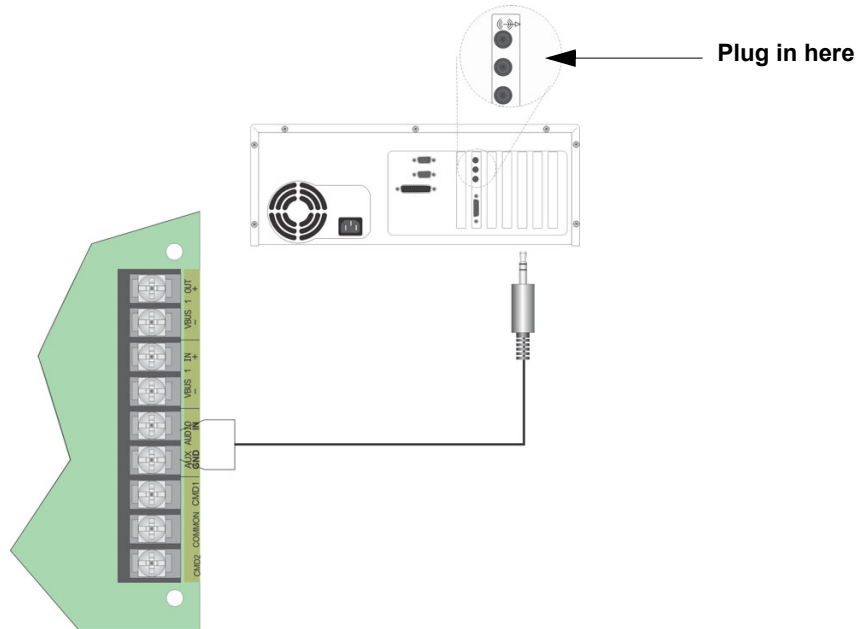


Figure 11-5 Aux Audio Connection for Recording

2. Plug the mini plug into the Line Out/Headphone jack on a PC or laptop. See Figure 11-5 on page 12.
3. Enter programming mode at main control panel.
4. Select 5 for System Options.
5. Select 8 for ECS-VCM Maintenance.
6. Select 2 Local Recording.
7. Select the amplifier and circuit for the audio to play through during programming. A user would generally pick the audio circuit that is in closest proximity to them.

Note: The VCM will light the green Select Key LED for message slots that are occupied. If a message is already stored in the desired slot, then you must erase the message first. (see Section 11.8.3).

8. Press ECS Message Key 1 to enter the message slot selection mode. Then, press the Select Key 1-15 that corresponds to the message slot that you wish to record to. The associated Select Key red LED will begin flashing, indicating that the message slot is ready for recording.
9. Simultaneously press ECS Message Key 3 and start playing the audio source on the PC or laptop.
10. When the audio file from the PC is finished playing, press ECS Message Key 3 again to stop the recording. The Select Key green LED will come on.
11. To playback the recorded message, press the Select Key 1-15 that was just recorded to.

Recording with Aux Audio Input Example:

The user wants to record into memory slot 2 via the Aux Audio Input channel.

Upon entering the Local Recording mode via the keypad menu, the VCM will light the Select Key green LEDs 1-15 for each occupied message slot.

If a message already exists in message slot 2, it must first be erased. Press ECS Message Key 8, then press Select

Key 2, (see Section Figure 11.8.3 on page 15). When the message has been erased Select Key 2's green LED will turn off.

To record a message, press ECS Message Key 1, then press Select Key 2 (this will use message slot 2 for the recording). Select Key 2's red LED will begin flashing.

Press ECS Message Key 3 while simultaneously pressing play on the PC to start recording the Aux Audio Input. When the PC message is done, press ECS Message Key 3 to stop recording. Select Key 2's red LED will stay on until processing is completed. Select Key 2's green LED comes on after the recording is completed.

Pressing Select Key 2 will start a playback of the recorded message.

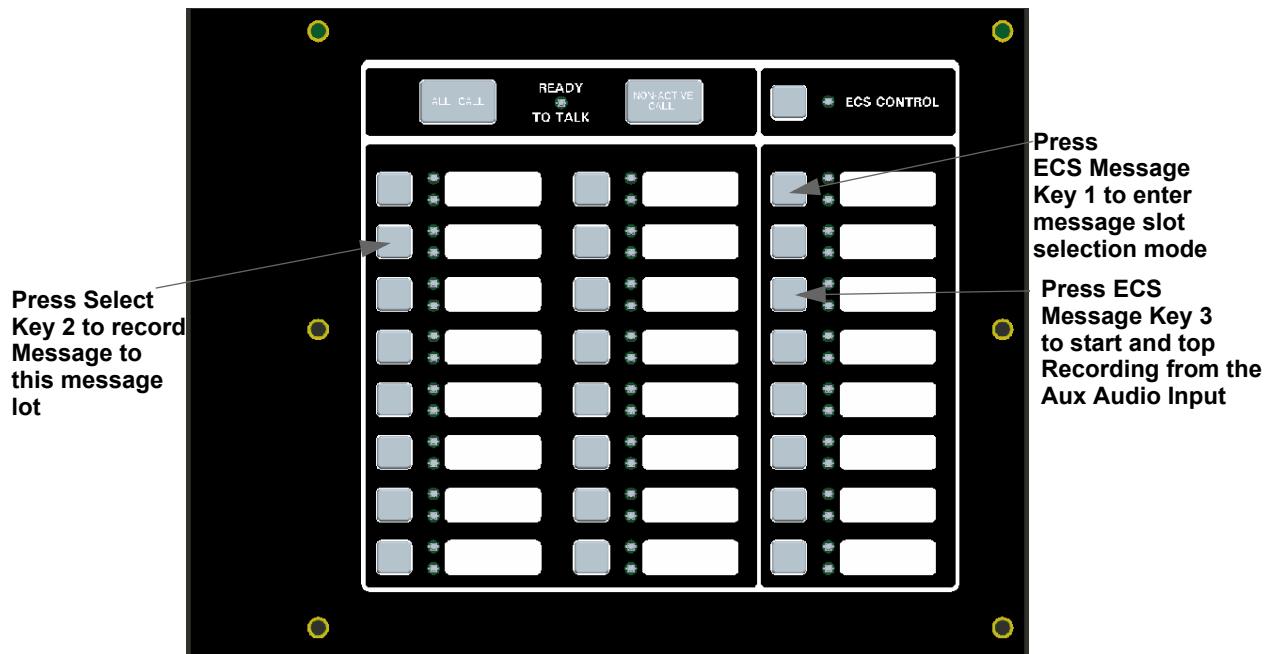


Figure 11-6 Aux Audio Input Example

11.8.2 Recording Messages 1-15 Using the Microphone

Messages can be recorded into the ECS system by using the onboard microphone.

Follow these steps to use the microphone to record your message:

1. Enter programming mode at main control panel.
2. Select 5 for System Options.
3. Select 8 for ECS-VCM Maintenance.
4. Select 2 Local Recording.
5. Select the amplifier and circuit for the audio to play through during programming. A user would generally pick the audio circuit that is in closest proximity to them.

Note: The VCM will light the green Select Key LED for message slots that are occupied. If a message is already stored in the desired slot, then you must erase the message first. (see Section 11.8.3).

6. Press ECS Message Key 1 to enter the message slot selection mode. Then, press the Select Key 1-15 that corresponds to the message slot that you wish to record to. The associated Select Key red LED will begin flashing, indicating that the message slot is ready for recording.
7. Press the push-to-talk (PTT) button on the microphone and speak your message.

8. Release the PTT button on the microphone to save your message. The Select Key green LED for this location will turn on.
9. To playback the recorded message, press the Select Key 1-15 that was just recorded to.
10. If you are not satisfied with the recorded message, erase it (see Section 11.8.3) and then repeat steps 1 through 7.

Recording with Microphone Example:

User wants to record a message to message slot 5 via the microphone.

Upon entering the Local Recording mode via the keypad menu, the VCM will light the Select Key green LEDs for 1-15 for each occupied message slot.

If a message already exists in message slot 5, it must first be erased. Press ECS Message key 8, then press Select Key 5, (see Section Figure 11.8.3 on page 15). When the message has been erased Select Key 5's green LED will turn off.

To record a message, press ECS Message Key 1, press Select Key 5 (this will use message slot 5 for the recording). Select Key 5's red LED will begin flashing.

Press the push-to-talk button on the microphone and speak your message. Release the PTT button to save your message. Select Key 5's red LED stays on until processing is completed. Select Key 5's green LED comes on after the recording is completed.

Pressing Select Key 5 will start a playback of the recorded message.

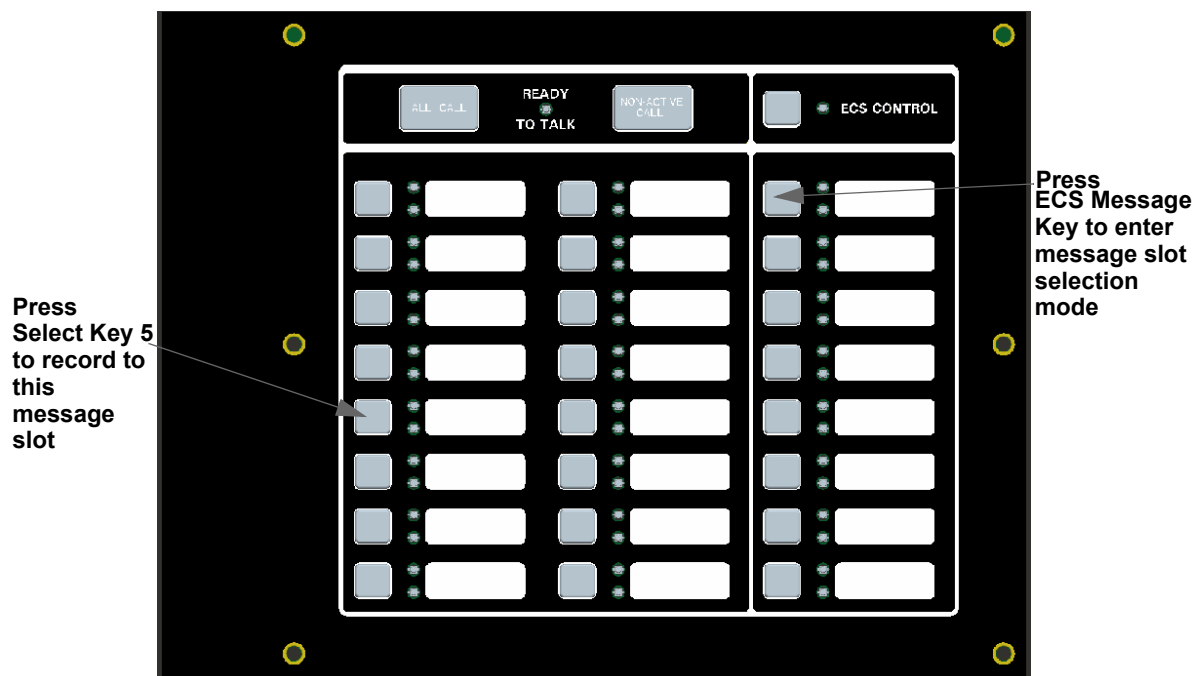


Figure 11-7 Recording with Microphone Example

11.8.3 Erasing User Message

To erase the message stored in message slot 1-15, follow these steps:

1. Enter programming mode at main control panel.
2. Select 5 for System Options.
3. Select 8 for ECS-VCM Maintenance.

Note: The VCM will light the green Select Key LEDs for message slots that are occupied (can be erased).

4. Select 2 Local Recording.
5. Select the amplifier and circuit for the audio to play through during programming. A user would generally pick the audio circuit that is in closest proximity to them.
6. Press ECS Message Key 8 on the ECS-VCM, press the Select Key 1-15 that you wish to erase. The Select Key red LED will stay on until the erase is done. When erased, the Select Key green LED by corresponding to the message slot you erased will go off.

11.8.4 Using Farenhyt ECS Message Manager Software Tool

The Farenhyt ECS Message Manager Software Tool is a software support utility that is used to download recorded messages (in .SKE format stored on your PC hard drive) to the various message locations of the ECS-Series VCM. Messages can be uploaded from the ECS-Series VCM, stored, and used again in similar installations. The Farenhyt ECS Message Manger Software Tool can also be used to move messages to different message locations. For example, move message 1 to message 3 memory location.

To read/write .SKE formatted messages to and from the main panel, follow these steps:

1. Make sure that panel is in Normal mode.
2. Connect the PC to the ECS-VCM using a standard USB cable. See Figure 11-8 on page 15.

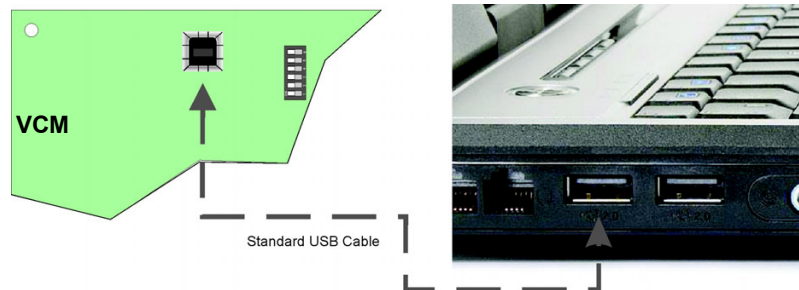


Figure 11-8 USB Cable Connections

3. Run the Farenhyt ECS Message Manager software.
4. Select “Read from Panel” to read a message and store onto your hard drive, or “Write to Panel” to transfer a .SKE formatted message to the panel.
5. Select the appropriate message location you wish to read/write.
6. Enter the file name you wish to transfer (Press “Browse” to display a list of files.)
7. Press “Start” to start the transfer.

Section 12

Reporting

This section lists receivers that are compatible with this control panel, and the reporting codes sent by the control panel for SIA and Contact ID formats.

12.1 Receivers Compatible with the Control Panel

Table 12-1 shows receivers compatible with the control panel.

Table 12-1: Receivers Compatible with the Control Panel

| Manufacturer | Model | Format |
|-----------------|--------------------------------|--------------------|
| Silent Knight | Model 9800 | SIA and Contact ID |
| | Model 9000 (SIA formats) | SIA |
| Ademco | Model 685 (Contact ID) | Contact ID |
| Sur-Gard | SG-MLR2-DG (V. 1.64 or higher) | SIA and Contact ID |
| Osborne Hoffman | Quickalert | SIA and Contact ID |

12.2 Reporting Formats Table

| | SIA Reporting Format | | | | Contact ID Reporting Format | | | |
|--|---|-----------------|-----------|--|-----------------------------|------------|------------|-----------|
| | SIA pi Modifier | | | SIA IFP-2000 | | | | |
| Event Description | Module ID # (If Any) | SIA Event Codes | Parameter | Fixed Length Format NN - panel ID XX- SBUS ID ZZZ - Zone # PPPP- Point # GGG- Group # E - Emergency # RRRR- Receiver # | Qualifier | Event Code | Group # | Contact # |
| System Events | Note: System Events are reported when either "Report by Point" or Report by Zone is selected | | | | | | | |
| AC power low trouble | | AT | 0 | ATNN000000 | 1 | 301 | 00 | 000 |
| AC power low trouble restore | | AR | 0 | ARNN000000 | 3 | 301 | 00 | 000 |
| Auto dialer test communications trouble line 1 | | YC | 1 | YCNN000001 | 1 | 350 | Receiver # | 001 |
| Auto dialer test communications trouble line 1 restore | | YK | 1 | YKNN000001 | 3 | 350 | Receiver # | 001 |
| Auto dialer test communications trouble line 2 | | YC | 2 | YCNN000002 | 1 | 350 | Receiver # | 002 |
| Auto dialer test communications trouble line 2 restore | | YK | 2 | YKNN000002 | 3 | 350 | Receiver # | 002 |
| Automatic test normal | | RP | 0 | RPNN000000 | 1 | 602 | 00 | 000 |
| Automatic test off normal | | RY | 0 | RYNN000000 | 1 | 608 | 00 | 000 |
| Battery voltage trouble | | YT | Exp. ID | YTNNXX0000 | 1 | 302 | Exp. ID | 000 |

| | SIA Reporting Format | | | | Contact ID Reporting Format | | | |
|--|----------------------|-----------------|----------------|--|-----------------------------|------------|----------|-----------|
| | SIA pi Modifier | | | SIA IFP-2000 | | | | |
| Event Description | Module ID # (If Any) | SIA Event Codes | Parameter | Fixed Length Format NN - panel ID XX- SBUS ID ZZZ - Zone # PPPP- Point # GGG- Group # E - Emergency # RRRR- Receiver # | Qualifier | Event Code | Group # | Contact # |
| Battery voltage trouble restore | | YR | Exp. ID | YRNNXX0000 | 3 | 302 | Exp. ID | 000 |
| Date changed event | | JD | 0 | JDNN000000 | 1 | 625 | 00 | 000 |
| ECS Reset | | OR | 1 | ORNN000001 | 1 | 401 | 00 | 001 |
| Emergency System Overridden | | QS | 0 | QSNN000000 | 1 | 244 | 00 | 000 |
| Emergency System Overridden Restore | | QR | 0 | QRNN000000 | 3 | 244 | 00 | 000 |
| Fire drill has begun | | FI | 0 | FINN000000 | 1 | 604 | 00 | 000 |
| Fire drill has ended | | FK | 0 | FKNN000000 | 3 | 604 | 00 | 000 |
| F1 Mapping Inhibited | | FT | 2001 | FTNN002001 | 1 | 570 | 00 | 001 |
| F1 Mapping Inhibited Restoral | | FJ | 2001 | FJNN002001 | 3 | 570 | 00 | 001 |
| F2 Mapping Inhibited | | FT | 2002 | FTNN002002 | 1 | 570 | 00 | 002 |
| F2 Mapping Inhibited Restoral | | FJ | 2002 | FJNN002002 | 3 | 570 | 00 | 002 |
| F3 Mapping Inhibited | | FT | 2003 | FTNN002003 | 1 | 570 | 00 | 003 |
| F3 Mapping Inhibited Restoral | | FJ | 2003 | FJNN002003 | 3 | 570 | 00 | 003 |
| F4 Mapping Inhibited | | FT | 2004 | FTNN002004 | 1 | 570 | 00 | 004 |
| F4 Mapping Inhibited Restoral | | FJ | 2004 | FJNN002004 | 3 | 570 | 00 | 004 |
| Fire Reset | | OR | 0 | ORNN000000 | 1 | 401 | 00 | 000 |
| Fire System Overridden | | FS | 0 | FSNN000000 | 1 | 245 | 00 | 000 |
| Fire System Override Restore | | FR | 0 | FRNN000000 | 3 | 245 | 00 | 000 |
| Ground fault condition trouble | | YP | Exp. ID | YPNNXX0000 | 1 | 310 | Exp. ID | 000 |
| Ground fault condition trouble restore | | YQ | Exp. ID | YQNNXX0000 | 3 | 310 | Exp. ID | 000 |
| Initial power up | | RR | 0 | RRNN000000 | 1 | 305 | 00 | 000 |
| Local programming aborted or ended with errors | | LU | 0 | LUNN000000 | 1 | 628 | 00 | 000 |
| Local programming begin | | LB | 0 | LBNN000000 | 1 | 627 | 00 | 000 |
| Local programming ended normally | | LS | 0 | LSNN000000 | 1 | 628 | 00 | 000 |
| Network node trouble (panel missing) | | EM | Panel ID | EMNNNN0000 | 1 | 334 | Panel ID | 000 |
| Network node trouble restore (panel no longer missing) | | EN | Panel ID | ENNNNN0000 | 3 | 334 | Panel ID | 000 |
| OPG Inhibit Trouble | | FT | Group # + 1000 | FTNN001GGG | 1 | 320 | 00 | Group # |
| OPG Inhibit Trouble Restore | | FJ | Group # + 1000 | FJNN001GGG | 3 | 320 | 00 | Group # |
| OPG Inhibit of Releasing Group | | SS | Group # + 1000 | SSNN001GGG | 1 | 203 | 00 | Group # |
| OPG Inhibit of Releasing Group Restore | | SR | Group # + 1000 | SRNN001GGG | 3 | 203 | 00 | Group # |

| | SIA Reporting Format | | | | Contact ID Reporting Format | | | |
|---|----------------------|-----------------|-----------|--|-----------------------------|------------|----------|-----------|
| | SIA pi Modifier | | | SIA IFP-2000 | | | | |
| Event Description | Module ID # (If Any) | SIA Event Codes | Parameter | Fixed Length Format NN - panel ID XX- SBUS ID ZZZ - Zone # PPPP- Point # GGG- Group # E - Emergency # RRRR- Receiver # | Qualifier | Event Code | Group # | Contact # |
| Phone line 1 trouble detected | | LT | 1 | LTNN000001 | 1 | 351 | 00 | 000 |
| Phone line 1 trouble restore | | LR | 1 | LRNN000001 | 3 | 351 | 00 | 000 |
| Phone line 2 trouble detected | | LT | 2 | LTNN000002 | 1 | 352 | 00 | 000 |
| Phone line 2 trouble restore | | LR | 2 | LRNN000002 | 3 | 352 | 00 | 000 |
| Printer is off-line trouble | | VZ | Exp. ID | VZNNXX0000 | 1 | 336 | Exp. ID | 000 |
| Printer is off-line trouble restore | | VY | Exp. ID | VYNNXX0000 | 3 | 336 | Exp. ID | 000 |
| Printer is out of paper trouble | | VO | Exp. ID | VONNXX0000 | 1 | 335 | Exp. ID | 000 |
| Printer is out of paper trouble restore | | VI | Exp. ID | VINNXX0000 | 3 | 335 | Exp. ID | 000 |
| Releasing Notif/Control Circuit Disabled | pi Exp. ID | SS | Point # | SSNNXXPPPP | 1 | 203 | Exp. ID | Point # |
| Releasing Notif/Control Circuit enabled | pi Exp. ID | SR | Point # | SRNNXXPPPP | 3 | 203 | Exp. ID | Point # |
| Remote programming aborted or ended with errors | | RU | 0 | RUNN000000 | 1 | 413 | 00 | 000 |
| Remote programming ended normally | | RS | 0 | RSNN000000 | 1 | 412 | 00 | 000 |
| Repeater ground fault trouble | | EM | 0103 | EMNN000103 | 1 | 334 | Panel ID | 103 |
| Repeater ground fault trouble restore | | EN | 0103 | ENNN000103 | 3 | 334 | Panel ID | 103 |
| Repeater missing trouble | | EM | 0100 | EMNN000100 | 1 | 334 | Panel ID | 100 |
| Repeater missing trouble restore | | EN | 0100 | ENNN000100 | 3 | 334 | Panel ID | 100 |
| Repeater Rx1 communication trouble | | EM | 0101 | EMNN000101 | 1 | 334 | Panel ID | 101 |
| Repeater Rx1 communication trouble restore | | EN | 0101 | ENNN000101 | 3 | 334 | Panel ID | 101 |
| Repeater Rx2 communication trouble | | EM | 0102 | EMNN000102 | 1 | 334 | Panel ID | 102 |
| Repeater Rx2 communication trouble restore | | EN | 0102 | ENNN000102 | 3 | 334 | Panel ID | 102 |
| SBUS Class A supervision lost | | ET | Exp. ID | ETNNXX0000 | 1 | 333 | Exp. ID | 000 |
| SBUS Class A supervision restore | | ER | Exp. ID | ERNNXX0000 | 3 | 333 | Exp. ID | 000 |
| SBUS expander trouble | | ET | Exp. ID | ETNNXX0000 | 1 | 333 | Exp. ID | 000 |
| SBUS expander trouble restore | | ER | Exp. ID | ERNNXX0000 | 3 | 333 | Exp. ID | 000 |
| SLC class A supervision trouble | | ET | Exp. ID | ETNNXX0000 | 1 | 331 | Exp. ID | 000 |
| SLC class A supervision trouble restore | | ER | Exp. ID | ERNNXX0000 | 3 | 331 | Exp. ID | 000 |
| SLC programming ended, system active | | TE | 0 | TENN000000 | 3 | 607 | 00 | 000 |
| SLC programming started, system shut down | | TS | 0 | TSNN000000 | 1 | 607 | 00 | 000 |

| | SIA Reporting Format | | | | Contact ID Reporting Format | | | |
|--|--|-----------------|---------------|--|-----------------------------|------------|---------|------------|
| | SIA pi Modifier | | | SIA IFP-2000 | | | | |
| Event Description | Module ID # (If Any) | SIA Event Codes | Parameter | Fixed Length Format NN - panel ID XX- SBUS ID ZZZ - Zone # PPPP- Point # GGG- Group # E - Emergency # RRRR- Receiver # | Qualifier | Event Code | Group # | Contact # |
| SLC short circuit trouble | | ET | Exp. ID | ETNNXX0000 | 1 | 332 | Exp. ID | 000 |
| SLC short circuit trouble restore | | ER | Exp. ID | ERNXX0000 | 3 | 332 | Exp. ID | 000 |
| Time changed event | | JT | 0 | JTNN000000 | 1 | 625 | 00 | 000 |
| Unable to report to account trouble | | RT | Receiver # | RTNN00RRRR | 1 | 354 | 00 | Receiver # |
| Unable to report to account trouble restore | | YK | Receiver # | YKNN00RRRR | 3 | 354 | 00 | Receiver # |
| User access code changed | | JV | 0 | JVNN000000 | 1 | 602 | 00 | 000 |
| User initiated manual dialer test | | RX | 0 | RXNN000000 | 1 | 601 | 00 | 000 |
| Walk test begin | | TS | 0 | TSNN000000 | 1 | 607 | 00 | 000 |
| Walk test end | | TE | 0 | TENN000000 | 3 | 607 | 00 | 000 |
| Zone Events | Note: Zone events are reported only when "Report by Zone" is selected | | | | | | | |
| Auxiliary power trouble | | FT | 0000 | FTNN000000 | 1 | 320 | 00 | 000 |
| Auxiliary power trouble restore | | FJ | 0000 | FJNN000000 | 3 | 320 | 00 | 000 |
| CO Detector Alarm | | GA | Zone # | GANN000ZZZ | 1 | 162 | 00 | Zone # |
| CO Detector Alarm Restore | | GH | Zone # | GHNN000ZZZ | 3 | 162 | 00 | Zone # |
| CO Detector Supervisory Alarm | | GS | Zone # | GSNN000ZZZ | 1 | 200 | 00 | Zone # |
| CO Detector Supervisory Alarm Restore | | GR | Zone # | GRNN000ZZZ | 3 | 200 | 00 | Zone # |
| CO Detector Trouble | | GT | Zone # | GTNN000ZZZ | 1 | 373 | 00 | Zone # |
| CO Detector Trouble Restore | | GJ | Zone # | GJNN000ZZZ | 3 | 373 | 00 | Zone # |
| Detector Alarm | | FA | Zone # | FANN000ZZZ | 1 | 110 | 00 | Zone # |
| Detector Alarm Restore | | FH | Zone # | FHNN000ZZZ | 3 | 110 | 00 | Zone # |
| Detector trouble | | FT | Zone # | FTNN000ZZZ | 1 | 373 | 00 | Zone # |
| Detector trouble restore | | FJ | Zone # | FJNN000ZZZ | 3 | 373 | 00 | Zone # |
| ECS Switch Trouble | | QT | 0 | QTNN000000 | 1 | 242 | 00 | 000 |
| ECS Switch Trouble Restore | | QJ | 0 | QJNN000000 | 3 | 242 | 00 | 000 |
| ECS Supervisory/Tamper Alarm | | QS | 0 | QSNN000000 | 1 | 241 | 00 | 000 |
| ECS Supervisory/Tamper Alarm Restore | | QR | 0 | QRNN000000 | 3 | 241 | 00 | 000 |
| ECS Output Group Trouble | | QT | Group # +1000 | QTNN001GGG | 1 | 320 | 00 | Group # |
| ECS Output Group Trouble Restore | | QJ | Group # +1000 | QJNN001GGG | 3 | 320 | 00 | Group # |
| External Reset/Silence/Fire Drill switch trouble | | UT | 0000 | UTNN000000 | 1 | 373 | 00 | 000 |
| External Reset/Silence/Fire Drill switch trouble restore | | UJ | 0000 | UJNN000000 | 3 | 373 | 00 | 000 |
| LOC Mic Activated ECS Alarm | | QA | 0 | QANN000000 | 1 | 220 | 00 | 000 |

| | SIA Reporting Format | | | | Contact ID Reporting Format | | | |
|--|----------------------|-----------------|----------------|--|-----------------------------|-------------------|---------|-----------|
| | SIA pi Modifier | | SIA IFP-2000 | | | | | |
| Event Description | Module ID # (If Any) | SIA Event Codes | Parameter | Fixed Length Format NN - panel ID XX- SBUS ID ZZZ - Zone # PPPP- Point # GGG- Group # E - Emergency # RRRR- Receiver # | Qualifier | Event Code | Group # | Contact # |
| LOC Mic Activated ECS Alarm Restore | | QH | 0 | QHNN000000 | 3 | 220 | 00 | 000 |
| LOC/Point ECS # Alarm | | QA | Emergency # | QANN0E0000 | 1 | 220 + Emergency # | 00 | 000 |
| LOC/Point ECS # Alarm Restore | | QH | Emergency # | QHNN0E0000 | 3 | 220 + Emergency # | 00 | 000 |
| Manual pull switch alarm | | FA | Zone # | FANN000ZZZ | 1 | 115 | 00 | Zone # |
| Manual pull switch alarm restore | | FH | Zone # | FHNN000ZZZ | 3 | 115 | 00 | Zone # |
| Manual pull switch trouble | | FT | Zone # | FTNN000ZZZ | 1 | 373 | 00 | Zone # |
| Manual pull switch trouble restore | | FJ | Zone # | FJNN000ZZZ | 3 | 373 | 00 | Zone # |
| Notification output trouble | | FT | Group # + 1000 | FTNN001GGG | 1 | 320 | 00 | Group # |
| Notification output trouble restore | | FJ | Group # + 1000 | FJNN001GGG | 3 | 320 | 00 | Group # |
| Positive Alarm Sequence acknowledge switch trouble | | FT | Zone # | FTNN000ZZZ | 1 | 373 | 00 | Zone # |
| Positive Alarm Sequence acknowledge switch trouble restore | | FJ | Zone # | FJNN000ZZZ | 3 | 373 | 00 | Zone # |
| SLC LED Module trouble | | ET | 0000 | ETNN000000 | 1 | 333 | 00 | 000 |
| SLC LED Module trouble restore | | ER | 0000 | ERNN000000 | 3 | 333 | 00 | 000 |
| Status Point Types Trouble | | UT | 0 | UTNN000000 | 1 | 379 | 00 | 000 |
| Status Point Types Trouble Restore | | UJ | 0 | UJNN000000 | 3 | 379 | 00 | 000 |
| Supervisory Detector Alarm | | FS | Zone # | FSNN000ZZZ | 1 | 200 | 00 | Zone # |
| Supervisory Detector Alarm Restore | | FR | Zone # | FRNN000ZZZ | 3 | 200 | 00 | Zone # |
| Supervisory/Tamper Alarm | | FS | Zone # | FSNN000ZZZ | 1 | 200 | 00 | Zone # |
| Supervisory/Tamper alarm condition restore | | FR | Zone # | FRNN000ZZZ | 3 | 200 | 00 | Zone # |
| Supervisory/Tamper switch trouble | | FT | Zone # | FTNN000ZZZ | 1 | 373 | 00 | Zone # |
| Supervisory/Tamper switch trouble restore | | FJ | Zone # | FJNN000ZZZ | 3 | 373 | 00 | Zone # |
| System-based AUX1 switch alarm | | UA | 1000 | UANN001000 | 1 | 140 | 01 | 000 |
| System-based AUX1 switch alarm restore | | UH | 1000 | UHNN001000 | 3 | 140 | 01 | 000 |
| System-based AUX1 switch trouble | | UT | 1000 | UTNN001000 | 1 | 373 | 01 | 000 |
| System-based AUX1 switch trouble restore | | UJ | 1000 | UJNN001000 | 3 | 373 | 01 | 000 |

| | SIA Reporting Format | | | | Contact ID Reporting Format | | | |
|--|----------------------|-----------------|---------------|--|-----------------------------|------------|---------|-----------|
| | SIA pi Modifier | | | SIA IFP-2000 | | | | |
| Event Description | Module ID # (If Any) | SIA Event Codes | Parameter | Fixed Length Format NN - panel ID XX- SBUS ID ZZZ - Zone # PPPP- Point # GGG- Group # E - Emergency # RRRR- Receiver # | Qualifier | Event Code | Group # | Contact # |
| System-based AUX2 switch alarm | | UA | 2000 | UANN002000 | 1 | 140 | 02 | 000 |
| System-based AUX2 switch alarm restore | | UH | 2000 | UHNN002000 | 3 | 140 | 02 | 000 |
| System-based AUX2 switch trouble | | UT | 2000 | UTNN002000 | 1 | 373 | 02 | 000 |
| System-based AUX2 switch trouble restore | | UJ | 2000 | UJNN002000 | 3 | 373 | 02 | 000 |
| Voice Aux ECS 1 Alarm | | UA | 3 | UANN003000 | 1 | 171 | 00 | 000 |
| Voice Aux ECS 1 Alarm Restore | | UH | 3 | UHNN003000 | 3 | 171 | 00 | 000 |
| Voice Aux ECS 2 Alarm | | UA | 4 | UANN004000 | 1 | 172 | 00 | 000 |
| Voice Aux ECS 2 Alarm Restore | | UH | 4 | UHNN004000 | 3 | 172 | 00 | 000 |
| Voice Aux ECS 3 Alarm | | UA | 5 | UANN005000 | 1 | 173 | 00 | 000 |
| Voice Aux ECS 3 Alarm Restore | | UH | 5 | UHNN005000 | 3 | 173 | 00 | 000 |
| Voice Aux ECS 4 Alarm | | UA | 6 | UANN006000 | 1 | 174 | 00 | 000 |
| Voice Aux ECS 4 Alarm Restore | | UH | 6 | UHNN006000 | 3 | 174 | 00 | 000 |
| Water flow switch alarm | | SA | Zone # | SANN000ZZZ | 1 | 113 | 00 | Zone # |
| Water flow switch alarm Restore | | SH | Zone # | SHNN000ZZZ | 3 | 113 | 00 | Zone # |
| Water flow switch trouble | | ST | Zone # | STNN000ZZZ | 1 | 373 | 00 | Zone # |
| Water flow switch trouble Restore | | SJ | Zone # | SJNN000ZZZ | 3 | 373 | 00 | Zone # |
| Zone-based AUX1 switch alarm | | UA | Zone # + 1000 | UANN001ZZZ | 1 | 140 | 01 | Zone # |
| Zone-based AUX1 switch alarm restore | | UH | Zone # + 1000 | UHNN001ZZZ | 3 | 140 | 01 | Zone # |
| Zone-based AUX1 switch trouble | | UT | Zone # + 1000 | UTNN001ZZZ | 1 | 373 | 01 | Zone # |
| Zone-based AUX1 switch trouble restore | | UJ | Zone # + 1000 | UJNN001ZZZ | 3 | 373 | 01 | Zone # |
| Zone-based AUX2 switch alarm | | UA | Zone # + 2000 | UANN002ZZZ | 1 | 140 | 02 | Zone # |
| Zone-based AUX2 switch alarm restore | | UH | Zone # + 2000 | UHNN002ZZZ | 3 | 140 | 02 | Zone # |
| Zone-based AUX2 switch trouble | | UT | Zone # + 2000 | UTNN002ZZZ | 1 | 373 | 02 | Zone # |
| Zone-based AUX2 switch trouble restore | | UJ | Zone # + 2000 | UJNN002ZZZ | 3 | 373 | 02 | Zone # |

| | SIA Reporting Format | | | | Contact ID Reporting Format | | | |
|---|--|-----------------|---|--|-----------------------------|--------------------|---------|-----------|
| | SIA pi Modifier | | SIA IFP-2000 | | | | | |
| Event Description | Module ID # (If Any) | SIA Event Codes | Parameter | Fixed Length Format NN - panel ID XX- SBUS ID ZZZ - Zone # PPPP- Point # GGG- Group # E - Emergency # RRRR- Receiver # | Qualifier | Event Code | Group # | Contact # |
| Point Events | Note: For IDP devices, sensors 1–159 are reported as Points 1–159, modules 1–159 are reported as Points 201–359. | | | | | | | |
| An unexpected SLC device has been detected | pi Exp. ID | XE | Point # | XENNXXPPPP | 1 | 380 | Exp. ID | Point # |
| An unexpected SLC device has been removed | pi Exp. ID | XI | Point # | XINNXXPPPP | 3 | 380 | Exp. ID | Point # |
| Auxiliary power disabled | pi Exp. ID | FB | Point # | FBNNXXPPPP | 1 | 571 | Exp. ID | Point # |
| Auxiliary power enabled | pi Exp. ID | FU | Point # | FUNNXXPPPP | 3 | 571 | Exp. ID | Point # |
| Auxiliary power Trouble | pi Exp. ID | FT | Point # | FTNNXXPPPP | 1 | 320 | Exp. ID | Point # |
| Auxiliary power trouble restore | pi Exp. ID | FJ | Point # | FJNNXXPPPP | 3 | 320 | Exp. ID | Point # |
| Background Music Switch is Trouble | pi Exp. ID | UT | Point # | UTNNXXPPPP | 1 | 379 | Exp. ID | Point # |
| Background Music Switch is Trouble Restored | pi Exp. ID | UJ | Point # | UJNNXXPPPP | 3 | 379 | Exp. ID | Point # |
| Background Music Switch is Disabled | pi Exp. ID | UB | Point # | UBNNXXPPPP | 1 | 580 | Exp. ID | Point # |
| Background Music Switch is Enabled | pi Exp. ID | UU | Point # | UUNNXXPPPP | 3 | 580 | Exp. ID | Point # |
| CO Detector Trouble | pi Exp. ID | GT | Point # | GTNNXXPPPP | 1 | 373 | Exp. ID | Point # |
| CO Detector Trouble Restore | pi Exp. ID | GJ | Point # | GJNNXXPPPP | 3 | 373 | Exp. ID | Point # |
| CO Detector Disabled | pi Exp. ID | GB | Point # | GBNNXXPPPP | 1 | 571 | Exp. ID | Point # |
| CO Detector Enabled | pi Exp. ID | GU | Point # | GUNNXXPPPP | 3 | 571 | Exp. ID | Point # |
| Detector Alarm | pi Exp. ID | FA | Point # | FANNXXPPPP | 1 | 110 | Exp. ID | Point # |
| Detector Alarm restore | pi Exp. ID | FH | Point # | FHNNXXPPPP | 3 | 110 | Exp. ID | Point # |
| Detector Disabled | pi Exp. ID | FB | Point # | FBNNXXPPPP | 1 | 571 | Exp. ID | Point # |
| Detector Enabled | pi Exp. ID | FU | Point # | FUNNXXPPPP | 3 | 571 | Exp. ID | Point # |
| Detector Trouble | pi Exp. ID | FT | Point # | FTNNXXPPPP | 1 | 373 | Exp. ID | Point # |
| Detector Trouble restore | pi Exp. ID | FJ | Point # | FJNNXXPPPP | 3 | 373 | Exp. ID | Point # |
| Detector CO Alarm | pi Exp. ID | GA | Point # | GANNXXPPPP | 1 | 162 | Exp. ID | Point # |
| Detector CO Alarm Restore | pi Exp. ID | GH | Point # | GHNNXXPPPP | 3 | 162 | Exp. ID | Point # |
| Detector CO Supervisory Alarm | pi Exp. ID | GS | Point # | GSNNXXPPPP | 1 | 200 | Exp. ID | Point # |
| Detector CO Supervisory Alarm Restore | pi Exp. ID | GR | Point # | GRNNXXPPPP | 3 | 200 | Exp. ID | Point # |
| ECS Alarm # Point Alarm | pi Exp. ID | QA | (EPPP) E - Emergency # PPP - Point # | QANNXXEPPP | 1 | 220 + Emer-gency # | Exp. ID | Point # |
| ECS Alarm # Point Alarm Restore | pi Exp. ID | QH | (EPPP) E - Emergency # PPP - Point # | QHNNXXEPPP | 3 | 220 + Emer-gency # | Exp. ID | Point # |
| ECS Alarm # Point Trouble | pi Exp. ID | QT | Point # | QTNNXXPPPP | 1 | 242 | Exp. ID | Point # |

| | SIA Reporting Format | | | | Contact ID Reporting Format | | | |
|--|----------------------|-----------------|-----------|--|-----------------------------|------------|---------|-----------|
| | SIA pi Modifier | | | SIA IFP-2000 | | | | |
| Event Description | Module ID # (If Any) | SIA Event Codes | Parameter | Fixed Length Format NN - panel ID XX- SBUS ID ZZZ - Zone # PPPP- Point # GGG- Group # E - Emergency # RRRR- Receiver # | Qualifier | Event Code | Group # | Contact # |
| ECS Alarm # Point Trouble Restore | pi Exp. ID | QJ | Point # | QJNNXXPPPP | 3 | 242 | Exp. ID | Point # |
| ECS Alarm # Point Disabled | pi Exp. ID | QB | Point # | QBNNXXPPPP | 1 | 243 | Exp. ID | Point # |
| ECS Alarm # Point Enabled | pi Exp. ID | QU | Point # | QUNNXXPPPP | 3 | 243 | Exp. ID | Point # |
| ECS Supervisory/Tamper Alarm | pi Exp. ID | QS | Point # | QSNXXPPPP | 1 | 241 | Exp. ID | Point # |
| ECS Supervisory/Tamper Alarm Restore | pi Exp. ID | QR | Point # | QRNNXXPPPP | 3 | 241 | Exp. ID | Point # |
| ECS Supervisory/Tamper Trouble | pi Exp. ID | QT | Point # | QTNNXXPPPP | 1 | 242 | Exp. ID | Point # |
| ECS Supervisory/Tamper Trouble Restore | pi Exp. ID | QJ | Point # | QJNNXXPPPP | 3 | 242 | Exp. ID | Point # |
| ECS Supervisory/Tamper Disabled | pi Exp. ID | QB | Point # | QBNNXXPPPP | 1 | 243 | Exp. ID | Point # |
| ECS Supervisory/Tamper Enabled | pi Exp. ID | QU | Point # | QUNNXXPPPP | 3 | 243 | Exp. ID | Point # |
| ECS NAC Trouble | pi Exp. ID | QT | Point # | QTNNXXPPPP | 1 | 320 | Exp. ID | Point # |
| ECS NAC Trouble Restored | pi Exp. ID | QJ | Point # | QJNNXXPPPP | 3 | 320 | Exp. ID | Point # |
| ECS Control Circuit Trouble | pi Exp. ID | QT | Point # | QTNNXXPPPP | 1 | 320 | Exp. ID | Point # |
| ECS Control Circuit Trouble Restored | pi Exp. ID | QJ | Point # | QJNNXXPPPP | 3 | 320 | Exp. ID | Point # |
| ECS Relay Trouble | pi Exp. ID | QT | Point # | QTNNXXPPPP | 1 | 320 | Exp. ID | Point # |
| ECS Relay Trouble Restored | pi Exp. ID | QJ | Point # | QJNNXXPPPP | 3 | 320 | Exp. ID | Point # |
| ECS Notification Trouble | pi Exp. ID | QT | Point # | QTNNXXPPPP | 1 | 320 | Exp. ID | Point # |
| ECS Notification Trouble Restored | pi Exp. ID | QJ | Point # | QJNNXXPPPP | 3 | 320 | Exp. ID | Point # |
| External Reset/Silence/Fire Drill switch disabled | pi Exp. ID | UB | Point # | UBNNXXPPPP | 1 | 571 | Exp. ID | Point # |
| External Reset/Silence/Fire Drill switch enabled | pi Exp. ID | UU | Point # | UUNNXXPPPP | 3 | 571 | Exp. ID | Point # |
| External Reset/Silence/Fire Drill switch trouble | pi Exp. ID | UT | Point # | UTNNXXPPPP | 1 | 373 | Exp. ID | Point # |
| External Reset/Silence/Fire Drill switch trouble restore | pi Exp. ID | UJ | Point # | UJNNXXPPPP | 3 | 373 | Exp. ID | Point # |
| Interlock switch alarm (Water Release Zone) | pi Exp. ID | FA | Point # | FANNXXPPPP | 1 | 110 | Exp. ID | Point # |
| Interlock switch alarm restore (Water Release Zone) | pi Exp. ID | FH | Point # | FHNNXXPPPP | 3 | 110 | Exp. ID | Point # |
| Interlock switch disabled | pi Exp. ID | FB | Point # | FBNNXXPPPP | 1 | 571 | Exp. ID | Point # |
| Interlock switch enabled | pi Exp. ID | FU | Point # | FUNNXXPPPP | 3 | 571 | Exp. ID | Point # |
| Interlock switch trouble (Water Release Zone) | pi Exp. ID | FT | Point # | FTNNXXPPPP | 1 | 373 | Exp. ID | Point # |
| Interlock switch trouble restore (Water Release Zone) | pi Exp. ID | FJ | Point # | FJNNXXPPPP | 3 | 373 | Exp. ID | Point # |
| LOC Mic Activated ECS Alarm | pi Exp. ID | QA | 0 | QANNXX0000 | 1 | 220 | Exp. ID | 000 |

| | SIA Reporting Format | | | | Contact ID Reporting Format | | | |
|--|----------------------|-----------------|--------------|--|-----------------------------|--------------------|---------|-----------|
| | SIA pi Modifier | | SIA IFP-2000 | | | | | |
| Event Description | Module ID # (If Any) | SIA Event Codes | Parameter | Fixed Length Format NN - panel ID XX- SBUS ID ZZZ - Zone # PPPP- Point # GGG- Group # E - Emergency # RRRR- Receiver # | Qualifier | Event Code | Group # | Contact # |
| LOC Mic Activated ECS Alarm Restore | pi Exp. ID | QH | 0 | QHNNXX0000 | 3 | 220 | Exp. ID | 000 |
| LOC ECS # Alarm | pi Exp. ID | QA | Emergency # | QANNXXE000 | 1 | 220 + Emer-gency # | Exp. ID | 000 |
| LOC ECS # Alarm Restore | pi Exp. ID | QH | Emergency # | QHNNXXE000 | 3 | 220 + Emer-gency # | Exp. ID | 000 |
| Manual pull switch alarm | pi Exp. ID | FA | Point # | FANNXXPPPP | 1 | 115 | Exp. ID | Point # |
| Manual pull switch alarm restore | pi Exp. ID | FH | Point # | FHNNXXPPPP | 3 | 115 | Exp. ID | Point # |
| Manual pull switch disabled | pi Exp. ID | FB | Point # | FBNNXXPPPP | 1 | 571 | Exp. ID | Point # |
| Manual pull switch enabled | pi Exp. ID | FU | Point # | FUNNXXPPPP | 3 | 571 | Exp. ID | Point # |
| Manual pull switch trouble | pi Exp. ID | FT | Point # | FTNNXXPPPP | 1 | 373 | Exp. ID | Point # |
| Manual pull switch trouble restore | pi Exp. ID | FJ | Point # | FJNNXXPPPP | 3 | 373 | Exp. ID | Point # |
| Manual release switch alarm (Water Release Zone) | pi Exp. ID | FA | Point # | FANNXXPPPP | 1 | 110 | Exp. ID | Point # |
| Manual release switch alarm restore (Water Release Zone) | pi Exp. ID | FH | Point # | FHNNXXPPPP | 3 | 110 | Exp. ID | Point # |
| Manual release switch disabled | pi Exp. ID | FB | Point # | FBNNXXPPPP | 1 | 571 | Exp. ID | Point # |
| Manual release switch enabled | pi Exp. ID | FU | Point # | FUNNXXPPPP | 3 | 571 | Exp. ID | Point # |
| Manual release switch trouble (Water Release Zone) | pi Exp. ID | FT | Point # | FTNNXXPPPP | 1 | 373 | Exp. ID | Point # |
| Manual release switch trouble restore (Water Release Zone) | pi Exp. ID | FJ | Point # | FJNNXXPPPP | 3 | 373 | Exp. ID | Point # |
| Notification output point disabled | pi Exp. ID | FB | Point # | FBNNXXPPPP | 1 | 571 | Exp. ID | Point # |
| Notification output point enabled | pi Exp. ID | FU | Point # | FUNNXXPPPP | 3 | 571 | Exp. ID | Point # |
| Notification output point trouble | pi Exp. ID | FT | Point # | FTNNXXPPPP | 1 | 320 | Exp. ID | Point # |
| Notification output point trouble restore | pi Exp. ID | FJ | Point # | FJNNXXPPPP | 3 | 320 | Exp. ID | Point # |
| Positive Alarm Sequence acknowledge switch disabled | pi Exp. ID | FB | Point # | FBNNXXPPPP | 1 | 571 | Exp. ID | Point # |
| Positive Alarm Sequence acknowledge switch enabled | pi Exp. ID | FU | Point # | FUNNXXPPPP | 3 | 571 | Exp. ID | Point # |
| Positive Alarm Sequence acknowledge switch trouble | pi Exp. ID | FT | Point # | FTNNXXPPPP | 1 | 373 | Exp. ID | Point # |
| Positive Alarm Sequence acknowledge switch trouble restore | pi Exp. ID | FJ | Point # | FJNNXXPPPP | 3 | 373 | Exp. ID | Point # |
| Status Point Trouble | pi Exp. ID | UT | Point # | UTNNXXPPPP | 1 | 379 | Exp. ID | Point # |
| Status Point Trouble Restored | pi Exp. ID | UJ | Point # | UJNNXXPPPP | 3 | 379 | Exp. ID | Point # |
| Status Point is Disabled | pi Exp. ID | UB | Point # | UBNNXXPPPP | 1 | 580 | Exp. ID | Point # |
| Status Point is Enabled | pi Exp. ID | UU | Point # | UUNNXXPPPP | 3 | 580 | Exp. ID | Point # |

| | SIA Reporting Format | | | | Contact ID Reporting Format | | | |
|--|----------------------|-----------------|----------------------|--|-----------------------------|------------|---------|-----------|
| | SIA pi Modifier | | SIA IFP-2000 | | | | | |
| Event Description | Module ID # (If Any) | SIA Event Codes | Parameter | Fixed Length Format NN - panel ID XX- SBUS ID ZZZ - Zone # PPPP- Point # GGG- Group # E - Emergency # RRRR- Receiver # | Qualifier | Event Code | Group # | Contact # |
| Supervisory/Tamper Alarm | pi Exp. ID | FS | Point # | FSNNXXPPPP | 1 | 200 | Exp. ID | Point # |
| Supervisory/Tamper Alarm Restore | pi Exp. ID | FR | Point # | FRNNXXPPPP | 3 | 200 | Exp. ID | Point # |
| Supervisory/Tamper point disabled | pi Exp. ID | FB | Point # | FBNNXXPPPP | 1 | 571 | Exp. ID | Point # |
| Supervisory/Tamper point enabled | pi Exp. ID | FU | Point # | FUNNXXPPPP | 3 | 571 | Exp. ID | Point # |
| Supervisory/Tamper point trouble | pi Exp. ID | FT | Point # | FTNNXXPPPP | 1 | 373 | Exp. ID | Point # |
| Supervisory/Tamper point trouble restore | pi Exp. ID | FJ | Point # | FJNNXXPPPP | 3 | 373 | Exp. ID | Point # |
| System-based AUX1 switch alarm | pi Exp. ID | UA | Point # | UANNXXPPPP | 1 | 140 | Exp. ID | Point # |
| System-based AUX1 switch alarm restore | pi Exp. ID | UH | Point # | UHNNXXPPPP | 3 | 140 | Exp. ID | Point # |
| System-based AUX1 switch disabled | pi Exp. ID | UB | Point # | UBNNXXPPPP | 1 | 571 | Exp. ID | Point # |
| System-based AUX1 switch enabled | pi Exp. ID | UU | Point # | UUNNXXPPPP | 3 | 571 | Exp. ID | Point # |
| System-based AUX1 switch trouble | pi Exp. ID | UT | Point # | UTNNXXPPPP | 1 | 373 | Exp. ID | Point # |
| System-based AUX1 switch trouble restore | pi Exp. ID | UJ | Point # | UJNNXXPPPP | 3 | 373 | Exp. ID | Point # |
| System-based AUX2 switch alarm | pi Exp. ID | UA | Point # | UANNXXPPPP | 1 | 140 | Exp. ID | Point # |
| System-based AUX2 switch alarm restore | pi Exp. ID | UH | Point # | UHNNXXPPPP | 3 | 140 | Exp. ID | Point # |
| System-based AUX2 switch disabled | pi Exp. ID | UB | Point # | UBNNXXPPPP | 1 | 571 | Exp. ID | Point # |
| System-based AUX2 switch enabled | pi Exp. ID | UU | Point # | UUNNXXPPPP | 3 | 571 | Exp. ID | Point # |
| System-based AUX2 switch trouble | pi Exp. ID | UT | Point # | UTNNXXPPPP | 1 | 373 | Exp. ID | Point # |
| System-based AUX2 switch trouble restore | pi Exp. ID | UJ | Point # | UJNNXXPPPP | 3 | 373 | Exp. ID | Point # |
| Voice Aux ECS 1 Point Alarm | pi Exp. ID | UA | (3PPP) PPP - Point # | UANNXX3PPP | 1 | 171 | Exp. ID | Point # |
| Voice Aux ECS 1 Point Alarm Restore | pi Exp. ID | UH | (3PPP) PPP - Point # | UHNNXX3PPP | 3 | 171 | Exp. ID | Point # |
| Voice Aux ECS 2 Point Alarm | pi Exp. ID | UA | (4PPP) PPP - Point # | UANNXX4PPP | 1 | 172 | Exp. ID | Point # |
| Voice Aux ECS 2 Point Alarm Restore | pi Exp. ID | UH | (4PPP) PPP - Point # | UHNNXX4PPP | 3 | 172 | Exp. ID | Point # |
| Voice Aux ECS 3 Point Alarm | pi Exp. ID | UA | (5PPP) PPP - Point # | UANNXX5PPP | 1 | 173 | Exp. ID | Point # |

| | SIA Reporting Format | | | | Contact ID Reporting Format | | | |
|---|----------------------|-----------------|----------------------|--|-----------------------------|------------|---------|-----------|
| | SIA pi Modifier | | | SIA IFP-2000 | | | | |
| Event Description | Module ID # (If Any) | SIA Event Codes | Parameter | Fixed Length Format NN - panel ID XX- SBUS ID ZZZ - Zone # PPPP- Point # GGG- Group # E - Emergency # RRRR- Receiver # | Qualifier | Event Code | Group # | Contact # |
| Voice Aux ECS 3 Point Alarm Restore | pi Exp. ID | UH | (5PPP) PPP - Point # | UHNXX5PPP | 3 | 173 | Exp. ID | Point # |
| Voice Aux ECS 4 Point Alarm | pi Exp. ID | UA | (6PPP) PPP - Point # | UANNXX6PPP | 1 | 174 | Exp. ID | Point # |
| Voice Aux ECS 4 Point Alarm Restore | pi Exp. ID | UH | (6PPP) PPP - Point # | UHNXX6PPP | 3 | 174 | Exp. ID | Point # |
| Voice Aux ECS Point Trouble | pi Exp. ID | UT | Point # | UTNXXPPPP | 1 | 379 | Exp. ID | Point # |
| Voice Aux ECS Point Trouble Restore | pi Exp. ID | UJ | Point # | UJNXXPPPP | 3 | 379 | Exp. ID | Point # |
| Voice Aux ECS Point Disabled | pi Exp. ID | UB | Point # | UBNXXPPPP | 1 | 580 | Exp. ID | Point # |
| Voice Aux ECS Point Enabled | pi Exp. ID | UU | Point # | UUNXXPPPP | 3 | 580 | Exp. ID | Point # |
| Voice Aux Status 1 Switch is Trouble | pi Exp. ID | UT | Point # | UTNXXPPPP | 1 | 379 | Exp. ID | Point # |
| Voice Aux Status 1 Switch is Trouble Restored | pi Exp. ID | UJ | Point # | UJNXXPPPP | 3 | 379 | Exp. ID | Point # |
| Voice Aux Status 1 Switch is Disabled | pi Exp. ID | UB | Point # | UBNXXPPPP | 1 | 580 | Exp. ID | Point # |
| Voice Aux Status 1 Switch is Enabled | pi Exp. ID | UU | Point # | UUNXXPPPP | 3 | 580 | Exp. ID | Point # |
| Voice Aux Status 2 Switch is Trouble | pi Exp. ID | UT | Point # | UTNXXPPPP | 1 | 379 | Exp. ID | Point # |
| Voice Aux Status 2 Switch is Trouble Restored | pi Exp. ID | UJ | Point # | UJNXXPPPP | 3 | 379 | Exp. ID | Point # |
| Voice Aux Status 2 Switch is Disabled | pi Exp. ID | UB | Point # | UBNXXPPPP | 1 | 580 | Exp. ID | Point # |
| Voice Aux Status 2 Switch is Enabled | pi Exp. ID | UU | Point # | UUNXXPPPP | 3 | 580 | Exp. ID | Point # |
| Water flow switch alarm | pi Exp. ID | SA | Point # | SANNXXPPPP | 1 | 113 | Exp. ID | Point # |
| Water flow switch alarm restore | pi Exp. ID | SH | Point # | SHNXXPPPP | 3 | 113 | Exp. ID | Point # |
| Water flow switch disabled | pi Exp. ID | SB | Point # | SBNXXPPPP | 1 | 571 | Exp. ID | Point # |
| Water flow switch enabled | pi Exp. ID | SU | Point # | SUNXXPPPP | 3 | 571 | Exp. ID | Point # |
| Water flow switch trouble | pi Exp. ID | ST | Point # | STNXXPPPP | 1 | 373 | Exp. ID | Point # |
| Water flow switch trouble restore | pi Exp. ID | SJ | Point # | SJNXXPPPP | 3 | 373 | Exp. ID | Point # |
| Zone-based AUX1 switch alarm | pi Exp. ID | UA | Point # | UANNXXPPPP | 1 | 140 | Exp. ID | Point # |
| Zone-based AUX1 switch alarm restore | pi Exp. ID | UH | Point # | UHNXXPPPP | 3 | 140 | Exp. ID | Point # |
| Zone-based AUX1 switch disabled | pi Exp. ID | UB | Point # | UBNXXPPPP | 1 | 571 | Exp. ID | Point # |
| Zone-based AUX1 switch enabled | pi Exp. ID | UU | Point # | UUNXXPPPP | 3 | 571 | Exp. ID | Point # |
| Zone-based AUX1 switch trouble | pi Exp. ID | UT | Point # | UTNXXPPPP | 1 | 373 | Exp. ID | Point # |
| Zone-based AUX1 switch trouble restore | pi Exp. ID | UJ | Point # | UJNXXPPPP | 3 | 373 | Exp. ID | Point # |

| | SIA Reporting Format | | | | Contact ID Reporting Format | | | |
|--|----------------------|-----------------|-----------|--|-----------------------------|------------|---------|-----------|
| | SIA pi Modifier | | | SIA IFP-2000 | | | | |
| Event Description | Module ID # (If Any) | SIA Event Codes | Parameter | Fixed Length Format NN - panel ID XX- SBUS ID ZZZ - Zone # PPPP- Point # GGG- Group # E - Emergency # RRRR- Receiver # | Qualifier | Event Code | Group # | Contact # |
| Zone-based AUX2 switch alarm | pi Exp. ID | UA | Point # | UANNXXPPPP | 1 | 140 | Exp. ID | Point # |
| Zone-based AUX2 switch alarm restore | pi Exp. ID | UH | Point # | UHNXXPPPP | 3 | 140 | Exp. ID | Point # |
| Zone-based AUX2 switch disabled | pi Exp. ID | UB | Point # | UBNXXPPPP | 1 | 571 | Exp. ID | Point # |
| Zone-based AUX2 switch enabled | pi Exp. ID | UU | Point # | UUNXXPPPP | 3 | 571 | Exp. ID | Point # |
| Zone-based AUX2 switch trouble | pi Exp. ID | UT | Point # | UTNXXPPPP | 1 | 373 | Exp. ID | Point # |
| Zone-based AUX2 switch trouble restore | pi Exp. ID | UJ | Point # | UJNXXPPPP | 3 | 373 | Exp. ID | Point # |

12.3 SIA - IntelliKnight / IFP-2000 Panels PI Modifier Reporting:

Events are sent to the central station as a variable length string:

The event format is:

EEZZZZ

Where:

EE Event code (2 characters)
ZZZZ Event parameter (up to four digits – not zero filled)

1. The account number is sent using an account block that is separate from the event block
2. Multiple events can be sent within a single event block. Events are separated by a “/” character.
3. Event parameter can be either a zone, point or module number.
4. When reporting by point is enabled, the dialer uses a “pi” event to supersede the actual point event to report the module the point is linked to.
5. Panel ID is not sent in the SIA event parameters.

For Example see Table 12-2:

Table 12-2: SIA- IntelliKnight / IFP-2000 Panels - PI Modifier Reporting Examples

| Event | Report Zone/Point | Panel ID | Module | Zone ZZZZ | Point ZZZZ | Fields Sent | SIA Event Data |
|-----------------------------|----------------------|----------|--------|-----------|------------------|-------------------|---------------------|
| Fire Alarm-Zone | Zone | n/a | n/a97 | 15 | n/a | EE-ZZ | FA15 |
| Fire Alarm-Zone | Zone | n/a | n/a | 05 | n/a | EE-Z | FA5 |
| Fire Alarm-Point | Point | n/a | 01 | n/a | 123 | EE-ZZ /EE- ZZZ | pi01/FA123 |
| Fire Alarm-Point | Point | n/a | 33 | n/a | 203 | EE-ZZ /EE- ZZZ | pi11/FA203 |
| Expander Trouble | n/a | n/a | 11 | n/a | n/a | EE-ZZ | ET11 |
| Auto Test | n/a | n/a | n/a | n/a | n/a | EE-Z | RP0 |
| Battery Trouble-Panel 32 | n/a | n/a | 98 | n/a | n/a | EE-ZZ | YT98 |
| Battery Trouble-Expander 18 | n/a | n/a | 18 | n/a | n/a | EE-ZZ | YT18 |
| SLC Loop Shorted | n/a | n/a | 44 | n/a | n/a | EE-ZZ | ET44 |
| Program Begin Panel ID=32 | n/a | n/a | n/a | n/a | n/a | EE-Z | LB0 |
| Program Begin Panel ID=22 | n/a | n/a | n/a | n/a | n/a | EE-Z | LB0 |
| AC Power Loss - Panel 22 | n/a | n/a | 98 | n/a | n/a | EE-Z | AT0 |
| Fire Trouble | Point | n/a | 97 | n/a | 200 | EE-ZZ /EE- ZZZ | pi97/FT200 |
| Fire Trouble | Zone | n/a | 97 | 01 | n/a | EE-Z | FT1 |
| Fire Trouble-Nac | Point | n/a | 98 | n/a | Nac Circuit 7 | EE-ZZ /EE- Z | pi98/FT7 Z=Pt. # |

Table 12-2: SIA- IntelliKnight / IFP-2000 Panels - PI Modifier Reporting Examples

| Event | Report Zone/ Point | Panel ID | Module | Zone ZZZZ | Point ZZZ | Fields Sent | SIA Event Data |
|------------------|-----------------------|----------|--------|-----------|------------------|-------------|-------------------|
| Fire Trouble-Nac | Zone | n/a | 98 | n/a | Nac Circuit 7 | EE-ZZZ | FT400 ZZZ=OPG# |

12.4 SIA – IFP-2000 Panel Dialer:

(Differences/additional features are underlined)

Events are sent to the Central Station Receiver as a fixed length string:

The event format is:

EEPPMMZZZZ

Where

EE Event code (2 characters)
 PP Panel number (2 digits – Zero Filled) (valid range from 1 to 64)
 MM Module number (2 digits – Zero Filled) (valid range from 1 to 98, typically
 Module information)
 ZZZZ Event parameter (4 digits – Zero Filled) (typically Point, Zone or Circuit
 information)

1. The Event field will contain 10 digits including the 2 digit event code (EE), 2 digit panel ID (PP), 2 digit Module Number (MM) and a 4 digit Event Parameter (ZZZZ).
2. Based on the actual Event Code, the Module Number or Event Parameter fields might not contain pertinent information. In that case the field will contain zeros.
3. The account number is sent using an account block that is separate from the event block.
4. Multiple events can be sent within a single event block. Events are separated by a “/” character.
5. Event parameter can be a Zone, Point or Circuit Number.
6. “pi” modifier event is not used.
7. Panel can be set to report by either Point or Zone.

For examples see Table 12-3.

Table 12-3: IFP-2000 SIA REPORTING EXAMPLES

| Event | Report Zone/ Point | Panel ID PP | Module MM | Zone ZZZZ | Point ZZZZ | Fields Sent | SIA Event Data |
|-----------------------------|--------------------------|----------------|--------------|--------------|---------------|----------------|--------------------------|
| Fire Alarm-Zone | Zone | 32 | n/a | 15 | n/a | EE-PP-MM-ZZZZ | FA32000015 |
| Fire Alarm-Zone | Zone | 32 | n/a | 05 | n/a | EE-PP-MM-ZZZZ | FA32000005 |
| Fire Alarm-Point | Point | 32 | 01 | n/a | 123 | EE-PP-MM-ZZZZ | FA32010123 |
| Fire Alarm-Point | Point | 21 | 33 | n/a | 203 | EE-PP-MM-ZZZZ | FA21330203 |
| Expander Trouble | n/a | 15 | 11 | n/a | n/a | EE-PP-MM-ZZZZ | ET15110000 |
| Auto Test | n/a | 32 | n/a | n/a | n/a | EE-PP-MM-ZZZZ | RP32000000 |
| Battery Trouble-Panel 32 | n/a | 32 | 98 | n/a | n/a | EE-PP-MM-ZZZZ | YT32980000 |
| Battery Trouble-Expander 18 | n/a | 32 | 18 | n/a | n/a | EE-PP-MM-ZZZZ | YT32180000 |
| SLC Loop Shorted | n/a | 01 | 44 | n/a | n/a | EE-PP-MM-ZZZZ | ET01440000 |
| Program Begin | n/a | 32 | n/a | n/a | n/a | EE-PP-MM-ZZZZ | LB32000000 |
| Program Begin | n/a | 22 | n/a | n/a | n/a | EE-PP-MM-ZZZZ | LB22000000 |
| AC Power Loss- Panel 22 | n/a | 22 | 98 | n/a | n/a | EE-PP-MM-ZZZZ | AT22980000 MM = 00 |
| Fire Trouble | Point | 22 | 97 | n/a | 200 | EE-PP-MM-ZZZZ | FT22970200 |
| Fire Trouble | Zone | 22 | 97 | 1 | n/a | EE-PP-MM-ZZZZ | FT22970001 MM = 00 |
| Fire Trouble-Nac | Point | 22 | 98 | n/a | Nac Circuit 7 | EE-PP-MM-ZZZZ | FT22980007 ZZZZ=Pt. # |
| Fire Trouble-Nac | Zone | 22 | 98 | n/a | Nac Circuit 7 | EE-PP-MM-ZZZZ | FT22980007 ZZZZ=OPG # |

Section 13

Testing and Troubleshooting

13.1 Troubleshooting

This section of the manual offers suggestions for troubleshooting hardware problems. Please read this section if you encounter a problem when installing the control panel. If these suggestions do not solve your problem or if you encounter a problem that is not listed here, contact Silent Knight Technical Support at 800-446-6444 for assistance.

13.2 Common Problems

| Problem | Possible Cause / Suggested Actions |
|---|--|
| Trouble message "DBL ADDR" (Double Address) displays on LCD. | An address has been assigned to more than one detector. Correct the address following the procedure described in Section 7.8 if using SD devices or Section 7.6 if using IDP devices |
| Auxiliary power or notification circuits have incorrect polarity. | Correct polarity. For notification and auxiliary power circuits: When in alarm or powered, terminals labeled "X" are positive, terminals labeled "O" are negative. |
| SLC devices are not being recognized (trouble message "Missing" displays). | Check hardware connections. If devices are physically connected, make sure wiring is correct (see Section 7.7 if using SD devices or Section 7.5 if using IDP devices). For 5815XL devices, make sure the device connects to the 5815XL via the SLC OUT terminals. There can be only one SLC loop on the main panel and on each 5815XL module. Do not connect devices to terminals labeled SLC IN. |
| | Make sure SLC devices have been addressed properly following the procedure described in Section 7.8 if using SD devices or Section 7.6 if using IDP devices. |
| | Make sure correct polarity has been observed for SLC device wiring. See Section 7.7 if using SD devices or Section 7.5 for IDP devices. |
| SLC devices are not being recognized (trouble message "Missing" displays on the annunciator). | Check that SLC loop impedance is within the required range. To measure impedance, use the following procedure: <ol style="list-style-type: none"> 1. Disconnect both wires from the terminal block at the panel (SLC devices can remain connected). 2. Measure the impedance from positive to negative and from negative to positive. Both measurements should be greater than 500 K ohms. If the installation uses T-taps, test each T-tap individually. 3. Temporarily connect the positive wire to the negative wire of the SLC loop at the point farthest from the panel (SLC devices can remain connected). 4. Measure the impedance from positive to negative and from negative to positive wires that were disconnected from the panel in step 1. Both measurements must be less than 50 ohms. |
| The panel indicates a ground fault trouble condition (trouble message "GROUND FAULT" displays). | An earth ground fault occurs when the panel senses an unexpected flow of current from one or more of its terminals to the earth connection (Terminal 2). Isolate the wiring that is causing the fault by removing wiring connections one at a time until the earth fault is no longer present. Pause at least five seconds after removing a wire before removing the next one. |

| Problem | Possible Cause / Suggested Actions |
|--|---|
| 5815XL module that has been physically connected to the panel but is not being recognized. | <p>Check the status of the 5815XL green LED. If it flashes in the pattern .5 sec. on / .5 sec. off, it is likely that the 5815XL has not been added to the system through programming. JumpStart will add any 5815XLs connected to the panel. 5815XLs can be added manually (see Section 9.2.2).</p> <p>Check that the correct ID for the 5815XL module has been set through the DIP switches. Assign ID#1 to the first 5815XL and ID#2 to the second 5815XL. See Section 4.10.1 for complete details.</p> <p>If the wiring between the 5815XL and the panel is correct, measure the voltage from 5815XL Terminal (+) to Terminal (-). Voltage should be in the range 27.2-27.4V when AC power is present.</p> <p>If the green LED is not flashing, the likely cause is incorrect wiring from between the 5815XL and the panel. See Section 4.6.1 for wiring details.</p> |

13.3 Periodic Testing and Maintenance

To ensure proper and reliable operation, it is recommended that system inspection and testing be scheduled monthly or as required by national and/or local fire codes. Testing should be done by a qualified service representative if a malfunction is encountered.

Before testing:

1. Notify the fire department and/or central alarm receiving station.
2. Notify facility personnel of a test so that alarm sounding devices are ignored during the test period.
3. When necessary, activation of Notification Appliances can be prevented by the DISABLE function.

Testing:



1. Activate a input via an alarm initiating device and check that the correct outputs activate (Notification Appliances sound/flash, relays activate, alarm indicator lights). Reset system. Repeat for each alarm initiating device.
2. Momentarily open the following circuits one at a time and check for a trouble sign:
 - Notification Appliance Circuits
 - Initiating devices
3. If new batteries were installed, wait 48 hours before completing this step. Remove AC power, activate initiating device and check that:
 - The alarm indicator lights
 - All active Notification Appliances sound

Measure battery voltage while the Notification Appliances are sounding. Replace any battery with terminal voltage less than 85% of rating. Reapply AC power and reset the system.

13.4 Event History

The event history can be useful for tracking or recalling a trouble condition.

To view event history:

1. Press ENTER to access Main Menu, then rotate the key or enter a code if prompted.
2. Press 3 to select Event History.
3. Press the  or  to view events in the history buffer.

13.5 Built-in Troubleshooting and Testing Tools

The fire control panel has several built-in testing and troubleshooting tools that can be utilized to save time while testing and troubleshooting points and SLC devices.

13.5.1 SLC Device Locator

SLC device locator can be used to locate a device on a SLC loop.

Follow these steps to locate a particular SLC device:

1. Select 2 (Point Functions) from the Main Menu.
2. Select 4 (SLC Single Device Locator).

A message similar to the one shown in Figure 13-1 will display.

```
SYSTEM WILL BE SHUT  
DOWN DURING SLC  
DEVICE LOCATING  
CONTINUE? NO
```

Figure 13-1 Shut Down Warning

3. Press the Up or Down arrow to toggle **NO** to **YES** then press ENTER.
If NO is chosen you will exit back to the Point Function menu.
If Yes is chosen the system will cease normal operation leaving the premise unprotected.
4. Select the SLC loop.
5. Enter the SLC address of the device you wish to locate.
The LED on the selected device will start flashing.
6. Press the left arrow to exit the SLC Device Locator.

Note: Once you exit, the system will resume normal operation.

13.5.2 SLC Multiple Device Locator

This feature is the same as SLC Single Device Locator, except you can locate up to 8 devices on a single search.

Follow these instructions to locate multiple SLC devices:

1. Select 2 (Point Functions) from the Main Menu.
2. Select 5 (SLC Multiple Device Locator).

A message similar to the one shown in Figure 13-2 will display.

```
SYSTEM WILL BE SHUT  
DOWN DURING SLC  
DEVICE LOCATING  
CONTINUE? NO
```

Figure 13-2 Shut Down Warning

3. Press the Up or Down arrow to toggle **NO** to **YES** then press ENTER.
If NO is chosen you will exit back to the Point Function menu.
If Yes is chosen the system will cease normal operation leaving the premise unprotected.
4. Select the SLC loop.

- Enter up to 8 SLC addresses for the devices you wish to locate.

The LEDs on the selected devices will start flashing.

- Press the left arrow to exit SLC Multiple Device Locator.

Note: Once you exit, the system will resume normal operation.

13.5.3 I/O Point Control

This feature allows you to toggle any output on or off and trip any input device. This can be useful to test a point's output mapping.

Follow these steps to control an I/O point:

- Select 2 (Point Functions) from the Main Menu.
- Select 6 (I/O Point Control).
- Select the module the point is on.
- Make any selections specific to the module selected in the previous step.
- Use the Up or Down arrow to select the point you wish to test.
- Press ENTER to generate an alarm for an input point or activate an output point.
- To exit press the left arrow.

13.5.4 Earth Fault Resistance

Table 13-1 lists the earth fault resistance detection for each applicable terminal on the FACP.

Table 13-1: Earth Fault Resistance Values by Terminal

| Function | Terminal Label | | Low Biased | | High Biased | |
|--------------------------------------|------------------|-----------|------------|--------------|-------------|-------------|
| | (Values in Ohms) | | High Trip | High Restore | Low Trip | Low Restore |
| Flexput™ Notification Circuits | X | I/O 8 | – | – | 0 | 0 |
| | O | | 0 | 0 | – | – |
| | X | I/O 7 | – | – | 0 | 0 |
| | O | | 0 | 0 | – | – |
| | X | I/O 6 | – | – | 0 | 0 |
| | O | | 0 | 0 | – | – |
| | X | I/O 5 | – | – | 0 | 0 |
| | O | | 0 | 0 | – | – |
| | X | I/O 4 | – | – | 0 | 0 |
| | O | | 0 | 0 | – | – |
| | X | I/O 3 | – | – | 0 | 0 |
| | O | | 0 | 0 | – | – |
| | X | I/O 2 | – | – | 0 | 0 |
| | O | | 0 | 0 | – | – |
| | X | I/O 1 | – | – | 0 | 0 |
| | O | | 0 | 0 | – | – |
| SBUS Communication | B | SBUS1 OUT | – | – | 0 | 0 |
| | A | | – | – | 0 | 0 |
| SBUS Power | + | | 0 | 0 | – | – |
| | – | | – | – | 0 | 0 |

Table 13-1: Earth Fault Resistance Values by Terminal

| Function | Terminal Label | | Low Biased | | High Biased | |
|--|------------------|-----------|------------|--------------|-------------|-------------|
| | (Values in Ohms) | | High Trip | High Restore | Low Trip | Low Restore |
| SBUS Communication | B | SBUS1 IN | - | - | 0 | 0 |
| | A | | - | - | 0 | 0 |
| SBUS Power | + | | 0 | 0 | - | - |
| | - | | - | - | 0 | 0 |
| SBUS Communication | B | SBUS2 OUT | — | — | 0 | 0 |
| | A | | — | — | 0 | 0 |
| SBUS Power | + | | 0 | 0 | — | — |
| | — | | — | — | 0 | 0 |
| SBUS Communication | B | SBUS 2 IN | — | — | 0 | 0 |
| | A | | — | — | 0 | 0 |
| SBUS Power | + | | 0 | 0 | — | — |
| | — | | — | — | 0 | 0 |
| SLC Terminals | - | SLC OUT | - | - | 0 | 0 |
| | + | | 0 | 0 | - | - |
| | - | SLC IN | - | - | 0 | 0 |
| | + | | 0 | 0 | - | - |
| Note: Any wire to wire fault impedance is 0 ohms | | | | | | |

Section 14

Installation Records

This section of the manual is for you to use if you wish to track how points, zones, and groups have been programmed.

14.1 Detector and Module Point Record

If installing IDP SLC devices, use Table 14-1 to record detector points (up to 159 per SLC loop) installed on the on-board SLC loop and make a copy of Table 14-2 to record installed modules (up to 159 per SLC loop).

Table 14-1: Installation Record of Onboard Devices

| Module | Addr | Zone / Group | Description | Module | Addr | Zone/ Group | Description |
|----------|------|--------------|-------------|----------|------|-------------|-------------|
| On-board | 1 | | | On-board | 30 | | |
| On-board | 2 | | | On-board | 31 | | |
| On-board | 3 | | | On-board | 32 | | |
| On-board | 4 | | | On-board | 33 | | |
| On-board | 5 | | | On-board | 34 | | |
| On-board | 6 | | | On-board | 35 | | |
| On-board | 7 | | | On-board | 36 | | |
| On-board | 8 | | | On-board | 37 | | |
| On-board | 9 | | | On-board | 38 | | |
| On-board | 10 | | | On-board | 39 | | |
| On-board | 11 | | | On-board | 40 | | |
| On-board | 12 | | | On-board | 41 | | |
| On-board | 13 | | | On-board | 42 | | |
| On-board | 14 | | | On-board | 43 | | |
| On-board | 15 | | | On-board | 44 | | |
| On-board | 16 | | | On-board | 45 | | |
| On-board | 17 | | | On-board | 46 | | |
| On-board | 18 | | | On-board | 47 | | |
| On-board | 19 | | | On-board | 48 | | |
| On-board | 20 | | | On-board | 49 | | |
| On-board | 21 | | | On-board | 50 | | |
| On-board | 22 | | | On-board | 51 | | |
| On-board | 23 | | | On-board | 52 | | |
| On-board | 24 | | | On-board | 53 | | |
| On-board | 25 | | | On-board | 54 | | |
| On-board | 26 | | | On-board | 55 | | |
| On-board | 27 | | | On-board | 56 | | |
| On-board | 28 | | | On-board | 57 | | |

Table 14-1: Installation Record of Onboard Devices

| Module | Addr | Zone / Group | Description | Module | Addr | Zone/ Group | Description |
|----------|------|--------------|-------------|----------|------|-------------|-------------|
| On-board | 29 | | | On-board | 58 | | |
| On-board | 59 | | | On-board | 103 | | |
| On-board | 60 | | | On-board | 104 | | |
| On-board | 61 | | | On-board | 105 | | |
| On-board | 62 | | | On-board | 106 | | |
| On-board | 63 | | | On-board | 107 | | |
| On-board | 64 | | | On-board | 108 | | |
| On-board | 65 | | | On-board | 109 | | |
| On-board | 66 | | | On-board | 110 | | |
| On-board | 67 | | | On-board | 111 | | |
| On-board | 68 | | | On-board | 112 | | |
| On-board | 69 | | | On-board | 113 | | |
| On-board | 70 | | | On-board | 114 | | |
| On-board | 71 | | | On-board | 115 | | |
| On-board | 72 | | | On-board | 116 | | |
| On-board | 73 | | | On-board | 117 | | |
| On-board | 74 | | | On-board | 118 | | |
| On-board | 75 | | | On-board | 119 | | |
| On-board | 76 | | | On-board | 120 | | |
| On-board | 77 | | | On-board | 121 | | |
| On-board | 78 | | | On-board | 122 | | |
| On-board | 79 | | | On-board | 123 | | |
| On-board | 80 | | | On-board | 124 | | |
| On-board | 81 | | | On-board | 125 | | |
| On-board | 82 | | | On-board | 126 | | |
| On-board | 83 | | | On-board | 127 | | |
| On-board | 84 | | | On-board | 128 | | |
| On-board | 85 | | | On-board | 129 | | |
| On-board | 86 | | | On-board | 130 | | |
| On-board | 87 | | | On-board | 131 | | |
| On-board | 88 | | | On-board | 132 | | |
| On-board | 89 | | | On-board | 133 | | |
| On-board | 90 | | | On-board | 134 | | |
| On-board | 91 | | | On-board | 135 | | |
| On-board | 92 | | | On-board | 136 | | |
| On-board | 93 | | | On-board | 137 | | |
| On-board | 94 | | | On-board | 138 | | |
| On-board | 95 | | | On-board | 139 | | |
| On-board | 96 | | | On-board | 140 | | |
| On-board | 97 | | | On-board | 141 | | |

| Module | Addr | Zone / Group | Description |
|----------|------|--------------|-------------|
| On-board | 98 | | |
| On-board | 99 | | |
| On-board | 100 | | |
| On-board | 101 | | |
| On-board | 102 | | |
| On-board | 147 | | |
| On-board | 148 | | |
| On-board | 149 | | |
| On-board | 150 | | |
| On-board | 151 | | |
| On-board | 152 | | |
| On-board | 153 | | |

| Module | Addr | Zone/ Group | Description |
|----------|------|-------------|-------------|
| On-board | 142 | | |
| On-board | 143 | | |
| On-board | 144 | | |
| On-board | 145 | | |
| On-board | 146 | | |
| On-board | 154 | | |
| On-board | 155 | | |
| On-board | 156 | | |
| On-board | 157 | | |
| On-board | 158 | | |
| On-board | 159 | | |
| | | | |

Use the table below to record devices installed on additional 5815XL's. Make a copy of this page if additional pages are needed.

[illegible]

Table 14-2: Installation Record of Devices Installed on 5815XL

[illegible]

14.2 Conventional Output Point Record

This chart can be used to keep track of how conventional output points (circuits) have been configured.

| Point/Circuit | Group | Description |
|---------------|-------|-------------|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |

Appendix A

Compatible Devices

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.

Note: Not all devices can use the Sync feature, be sure to check Table A-1 to ensure the devices you have chosen will work with this feature. This control is UL listed for panel wide Synchronization.

Table A-1 below lists notification appliances compatible with the fire alarm control panel. Appliances which can be synchronized indicate the type of SYNC available in the columns marked Audio and Visual.

Table A-1 Compatible Notification Appliances

| Manufacturer | Model | Audio | Visual | Type |
|--------------|----------------|-------|--------|-----------------|
| AMSECO | SH24W-153075 | X | X | Horn/Strobe |
| | SAD24-153075 | | X | Strobe |
| | SAD24-75110 | | X | Strobe |
| | SL24W-75110 | | X | Strobe |
| | SL24C-3075110 | | X | Strobe |
| | SLB24-75 | | X | Strobe |
| | RSD24-153075 | | X | Strobe |
| | RSD24-75110 | | X | Strobe |
| | SH24W-75110 | X | X | Horn/Strobe |
| | SH24W-3075110 | X | X | Horn/Strobe |
| | SHB24-75 | X | X | Horn/Strobe |
| | SCM24W-153075 | X | X | Chimes/Strobe |
| | SCM24W-75110 | X | X | Chimes/Strobe |
| | SCM24C-3075110 | X | X | Chimes/Strobe |
| | SCM24C-177 | X | X | Chimes/Strobe |
| | H24W | X | | Horn |
| | H24R | X | | Horn |
| FCI | S2415-FC | | X | Strobe |
| | S241575-FC | | X | Strobe |
| | S2430-FC | | X | Strobe |
| | 130-3117C | X | | Mini Horn |
| | 130-3147C | X | | Mini Horn |
| | BLV-6 | X | | Vibrating Bell |
| | BLV-10 | X | | Vibrating Bell |
| | BLVCH | X | | Vibrating Chime |
| | H12/24-FC | X | | Horn |
| | H12/24W-FC | X | | Horn |

Table A-1 Compatible Notification Appliances

| Manufacturer | Model | Audio | Visual | Type |
|---------------------|--------------|--------------|---------------|-------------------------|
| FCI (cont.) | H12/24K-FC | X | | Horn |
| | HC12/24-FC | X | | Horn |
| | HC12/24W-FC | X | | Horn |
| | HC12/24K-FC | X | | Horn |
| | P2415-FC | X | X | Horn/Strobe |
| | P2415W-FC | X | X | Horn/Strobe |
| | P2415K-FC | X | X | Horn/Strobe |
| | P241575-FC | X | X | Horn/Strobe |
| | P241575W-FC | X | X | Horn/Strobe |
| | P241575F-FC | X | X | Horn/Strobe |
| | P241575K-FC | X | X | Horn/Strobe |
| | P2430-FC | X | X | Horn/Strobe |
| | P2430W-FC | X | X | Horn/Strobe |
| | P2430K-FC | X | X | Horn/Strobe |
| | P2475-FC | X | X | Horn/Strobe |
| | P2475W-FC | X | X | Horn/Strobe |
| | P2475K-FC | X | X | Horn/Strobe |
| | P24110-FC | X | X | Horn/Strobe |
| | P24110W-FC | X | X | Horn/Strobe |
| | P24110K-FC | X | X | Horn/Strobe |
| | S2430W-FC | X | | Strobe |
| | S2430K-FC | X | | Strobe |
| | S2475-FC | X | | Strobe |
| | S2475W-FC | X | | Strobe |
| | S2475K-FC | X | | Strobe |
| | S24110-FC | X | | Strobe |
| | S24110W-FC | X | | Strobe |
| | S24110K-FC | X | | Strobe |
| Federal Signal | 450 | X | | Horn |
| | VALS | X | X | Horn/Strobe |
| Gentex | GEC-24-15 | X | X | Horn/Strobe |
| | GEC-24-30 | X | X | Horn/Strobe |
| | GEC-24-60 | X | X | Horn/Strobe |
| | GEC-24-75 | X | X | Horn/Strobe |
| | GEC-24-177 | X | X | Horn/Strobe |
| | GX91 | X | | Mini Horn Steady Tone |
| | GX93 | X | | Mini Horn Temporal Tone |
| | HG124 | X | | Horn |
| | HS24-15 | X | X | Horn/Strobe |
| | HS24-30 | X | X | Horn/Strobe |
| | HS24-60 | X | X | Horn/Strobe |

Table A-1 Compatible Notification Appliances

| Manufacturer | Model | Audio | Visual | Type |
|---------------|--------------|-------|--------|--|
| Gentex | HS24-75 | X | X | Horn/Strobe |
| | HS24-110 | X | X | Horn/Strobe |
| | HS24-1575 | X | X | Horn/Strobe |
| | GCC24 | X | X | Multi Candella Horn/Strobe Ceiling Mount |
| | GCCR24 | X | X | Multi Candella Horn/Strobe Ceiling Mount |
| | GCS24 | | X | Multi Candella Strobe Ceiling Mount |
| | GCSR24 | | X | Multi Candella Strobe Ceiling Mount |
| | GEGR-24 | X | X | Multi Candella Horn/Strobe |
| | GES24-15 | | X | Strobe |
| | GES24-30 | | X | Strobe |
| | GES24-60 | | X | Strobe |
| | GES24-75 | | X | Strobe |
| | GES24-110 | | X | Strobe |
| | GES24-15/75 | | X | Strobe |
| | GES24-177 | | X | Strobe |
| | GES3-24 | | X | Multi Candella Strobe |
| | GESR-24 | | X | Multi Candella Strobe |
| | GEH-24 | X | | Horn |
| | ST24-30 | | X | Strobe |
| | ST24-60 | | X | Strobe |
| | ST24-75 | | X | Strobe |
| | ST24-110 | | X | Strobe |
| | ST24-1575 | | X | Strobe |
| | WGEC24-75W | X | X | Weatherproof Horn/Strobe |
| | WGES24-75W | | X | Weatherproof Strobe |
| | WGMS-24-X | X | X | Horn/Strobe |
| | GEC-24-110 | X | X | Horn/Strobe |
| | GEC-24-15/75 | X | X | Horn/Strobe |
| System Sensor | CHR | X | | Chime |
| | CHW | X | | Chime |
| | CHSR | X | X | 2-Wire Chime/Strobe |
| | CHSW | X | X | 2-Wire Chime/Strobe |
| | HR | X | X | Horn |
| | HW | | X | Horn |
| | HRK | | X | Horn |
| | HWL | | X | Horn WHT Wall 4x4 |
| | HRL | | X | Horn Red Wall 4x4 |
| | HGRL | | X | Horn Red Wall 2x4 |
| | HGWL | | X | Horn WHT Wall 2x4 |
| | CHWL | X | | Chime WHT Wall 4x4 |
| | CHRL | X | | Chime Red Wall 4x4 |
| | CHSRL | X | X | Chime/Strobe Red Wall 4x4 |
| | CHSWL | X | X | Chime/Strobe WHT Wall 4x4 |

Table A-1 Compatible Notification Appliances

| Manufacturer | Model | Audio | Visual | Type |
|-----------------------------|------------------------|--------------|---------------|---------------------------------|
| System Sensor (cont.) | CHSCRL | X | X | Chime/Strobe Red Ceil 4x4 |
| | CHSCWL | X | X | Chime/Strobe WHT Ceil 4x4 |
| | P2R | X | X | 2-Wire Horn/Strobe |
| | P2R-P | X | X | 2-Wire Horn/Strobe |
| | PC2R | X | X | 2-Wire Horn/Strobe |
| | PC2R-P | X | X | 2-Wire Horn/Strobe |
| | P2RH | X | X | 2-Wire Horn/Strobe High Candela |
| | P2RH-P | X | X | 2-Wire Horn/Strobe High Candela |
| | PC2RH | X | X | 2-Wire Horn/Strobe High Candela |
| | PC2RH-P | X | X | 2-Wire Horn/Strobe High Candela |
| | P2W | X | X | 2-Wire Horn/Strobe |
| | P2W-P | X | X | 2-Wire Horn/Strobe |
| | PC2W | X | X | 2-Wire Horn/Strobe |
| | PC2W-P | X | X | 2-Wire Horn/Strobe |
| | P2WH | X | X | 2-Wire Horn/Strobe High Candela |
| | P2WH-P | X | X | 2-Wire Horn/Strobe High Candela |
| | PC2WH | X | X | 2-Wire Horn/Strobe High Candela |
| | PC2WH-P | X | X | 2-Wire Horn/Strobe High Candela |
| | P2RK | X | X | 2-Wire Horn/Strobe |
| | PC2RK | X | X | 2-Wire Horn/Strobe |
| | P2RHK | X | X | 2-Wire Horn/Strobe High Candela |
| | PC2RHK | X | X | 2-Wire Horn/Strobe High Candela |
| | P4R | X | X | 4-Wire Horn/Strobe |
| | PC4R | X | X | 4-Wire Horn/Strobe |
| | P4RH | X | X | 4-Wire Horn/Strobe High Candela |
| | P4W | X | X | 4-Wire Horn/Strobe |
| | PC4W | X | X | 4-Wire Horn/Strobe |
| | P4WH | X | X | 4-Wire Horn/Strobe High Candela |
| | PC4WH | X | X | 4-Wire Horn/Strobe High Candela |
| | P4RK | X | X | 4-Wire Horn/Strobe |
| | PC4RK | X | X | 4-Wire Horn/Strobe |
| | P4RHK | X | X | 4-Wire Horn/Strobe High Candela |
| | PC4RHK | X | X | 4-Wire Horn/Strobe High Candela |
| | PC4RH | X | X | 4-Wire Horn/Strobe High Candela |
| | P2RL, P2RL-P, P2RL-SP* | X | X | Horn/Strobe 2W Red Wall 4x4 |
| | P2WL, P2WL-P, P2WL-SP* | X | X | Horn/Strobe 2W WHT Wall 4x4 |
| | PC2RL | X | X | Horn/Strobe 2W Red Ceil 4x4 |
| | PC2WL | X | X | Horn/Strobe 2W WHT Ceil 4x4 |
| | P2GRL | X | X | Horn/Strobe 2W Red Wall 2x4 |
| | P2GWL | X | X | Horn/Strobe 2W WHT Wall 2x4 |
| | P4RL | X | X | Horn/Strobe 4W Red Wall 4X4 |
| | P4WL | X | X | Horn/Strobe 4W WHT Wall 4X4 |
| | PC4RL | X | X | Horn/Strobe 4W Red Ceil 4X4 |

Table A-1 Compatible Notification Appliances

| Manufacturer | Model | Audio | Visual | Type |
|-----------------------------|---|-------|--------|-------------------------------------|
| System Sensor (cont.) | PC4WL | X | X | Horn/Strobe 4W WHT Ceil 4X4 |
| | SR | | X | Strobe |
| | SR-P | | X | Strobe |
| | SCR | | X | Strobe |
| | SCR-P | | X | Strobe |
| | SRH | | X | Strobe High Candela |
| | SRH-P | | X | Strobe High Candela |
| | SCRH | | X | Strobe High Candela |
| | SCRH-P | | X | Strobe High Candela |
| | SW | | X | Strobe |
| | SW-P | | X | Strobe |
| | SCW | | X | Strobe |
| | SCW-P | | X | Strobe |
| | SWH | | X | Strobe High Candela |
| | SWH-P | | X | Strobe High Candela |
| | SCWH | | X | Strobe High Candela |
| | SCWH-P | | X | Strobe High Candela |
| | SRK | | X | Strobe |
| | SCRK | | X | Strobe |
| | SRHK | | X | Strobe High Candela |
| | SCRHK | | X | Strobe High Candela |
| | SRL, SRL-P, SRL-SP* | | X | Strobe Red Wall 4x4 |
| | SWL, SWL-P, SWL-ALERT SWL-CLR-ALERT* | | X | Strobe White Wall 4x4 |
| | SCRL | | X | Strobe Red Ceil 4x4 |
| | SCWL | | X | Strobe White Ceil 4x4 |
| | SCWL-CLR-ALERT | | X | Strobe WHT Ceil CLR Lens 4x4 |
| | SGRL | | X | Strobe Red Wall 2x4 |
| | SGWL | | X | Strobe White Wall 2x4 |
| | P2RH-LF | X | X | 2-Wire Low Frequency Sounder Strobe |
| | P2WH-LF | X | X | 2-Wire Low Frequency Sounder Strobe |
| | HR-LF | X | | Low Frequency Sounder |
| | HW-LF | X | | Low Frequency Sounder |
| | SPRL | x | | Wall High-Fidelity Speaker, Red |
| | SPWL | x | | Wall High-Fidelity Speaker, White |
| | * P=Plain, ALERT=Pad Printing ALERT, SP=Fuego | | | |

Table A-1 Compatible Notification Appliances

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

Table A-1 Compatible Notification Appliances

| Manufacturer | Model | Audio | Visual | Type |
|---------------------|--------------|-------|--------|------------------------|
| Wheelock (cont.) | MT-241575W | X | X | Multi-tone Horn Strobe |
| | MT-24MCW | | X | Multi-tone Horn Strobe |
| | MTWP-2475W | | X | Multi-tone Horn Strobe |
| | MTWP-2475C | | X | Multi-tone Horn Strobe |
| | MTG-121575W | X | X | Multi-tone Horn Strobe |
| | MTR-121575W | X | X | Multi-tone Horn Strobe |
| | MTWPA-2475W | X | X | Multi-tone Horn Strobe |
| | MTWPB-2475W | X | X | Multi-tone Horn Strobe |
| | MTWPG-2475W | X | X | Multi-tone Horn Strobe |
| | MTWPR-2475W | X | X | Multi-tone Horn Strobe |
| | MTWPA-24MCCH | X | X | Multi-tone Horn Strobe |
| | ZNH | X | | Horn |
| | NS-121575W | X | X | Horn/Strobe |
| | NS-241575W | X | X | Horn/Strobe |
| | NS-24MCW | X | X | Horn/Strobe |
| | NS-24MCC | X | X | Horn/Strobe |
| | NS-24MCCH | X | X | Horn/Strobe |
| | ZNS-MCW | X | X | Horn/Strobe |
| | ZNS-MCWH | X | X | Horn/Strobe |
| | ZNS-24MCC | X | X | Horn/Strobe |
| | ZNS-24MCCH | X | X | Horn/Strobe |
| | RSS-121575W | | X | Strobe |
| | RSS-241575W | | X | Strobe |
| | RSS-24MCC | | X | Strobe |
| | RSS-24MCCR | | X | Strobe |
| | RSS-24MCCH | | X | Strobe |
| | RSS-24MCCHR | | X | Strobe |
| | RSS-24MCW | | X | Strobe |
| | RSS-24MCWH | | X | Strobe |
| | RSSP-121575W | | X | Strobe |
| | RSSP-241575W | | X | Strobe |
| | RSSR-2415W | | X | Strobe |
| | RSSR-2415C | | X | Strobe |
| | RSSR-2475W | | X | Strobe |
| | RSSR-2475C | | X | Strobe |
| | RSSR-24110C | | X | Strobe |
| | RSSA-24110W | | X | Strobe |
| | RSSB-24110W | | X | Strobe |
| | RSSG-24110W | | X | Strobe |
| | RSSR-24110W | | X | Strobe |
| | RSSA-24MCC | | X | Multi Candela Strobe |
| | RSSB-24MCC | | X | Multi Candela Strobe |
| | RSSG-24MCC | | X | Multi Candela Strobe |

Table A-1 Compatible Notification Appliances

| Manufacturer | Model | Audio | Visual | Type |
|---------------------|---------------|-------|--------|------------------------|
| Wheelock (cont.) | RSSR-24MCC | | X | Multi Candela Strobe |
| | RSSWPA-2475W | | X | Strobe Weatherproof |
| | RSSWPA-24MCCH | | X | Strobe Weatherproof |
| | RSSWPG-24MCCH | | X | Strobe Weatherproof |
| | RSSWPR-24MCCH | | X | Strobe Weatherproof |
| | RSSWP-2475W | | X | Strobe Weatherproof |
| | RSSWP-2475C | | X | Strobe Weatherproof |
| | RSSWP-24MCWH | | X | Strobe Weatherproof |
| | ZRS-MCWH | | X | Strobe |
| | ZRS-24MCC | | X | Strobe |
| | ZRS-24MCCH | | X | 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 | X | X | Multi-tone Horn |
| | MT4-12/24 | X | X | Multi-tone Horn |
| | ZRS-MCW | | X | Strobe |
| | MTWPR-24MCCH | X | X | Multi-tone Horn Strobe |
| | NH-12/24R | X | | Horn |
| | HSR | | X | Horn Strobe |
| | HSW | | X | Horn Strobe |
| | STR | | X | Strobe |
| | STW | | X | Strobe |
| | HNR | | X | Horn |
| | HNW | | X | Horn |

A.2 Two Wire Detectors

Table A-2 lists two-wire smoke detectors that are compatible with the fire control panel. The table is organized by manufacturer. The columns show the number of detectors per loop that can be used.

| | |
|--------------------------------|-----------------|
| | IFP-2000 |
| Identifier | 24H |
| Operating voltage Range | 17.1 - 27.3 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.

Table A-2: Compatible Two-Wire Smoke Detectors Style B

| Manufacturer | Model Name or Number (Base model name or number in parenthesis.) | Compatibility ID | | # per Loop |
|---------------|---|------------------|---|--|
| | | Head | Base | |
| Apollo | 55000-350 (45681-200) | 55000-350 | 45681-200 | 15 / loop |
| | 55000-250 (45681-200) | 55000-250 | 45681-200 | 24 / loop |
| | 55000-225 | 55000-225 | 45681-255, 256 45681-200, 220, 232, 251, 252 | 15 / loop for Ion Detectors |
| | 55000-226 | 55000-226 | | |
| | 55000-227 | 55000-227 | | 15 / loop for Photo Electric Detectors |
| | 55000-325 | 55000-325 | | |
| | 55000-326 | 55000-326 | | |
| | 55000-327 | 55000-327 | | |
| | 55000-328 | 55000-328 | | |
| Hochiki | SLR-24 | HD-3 | HSC-220R(HB-72) NS6-220 OR NS4-220 (HB-3) | 15 / loop |
| | SLR-24H | | | |
| | SLR-24V | | | |
| | SLR-835 | HD-3 | | 14 / loop |
| | SLR-835H | HD-5 | | |
| System Sensor | 1400 | A | N/A | 16 / loop |
| | 1451 (B401B) | A | N/A | 16 / loop |
| | 2100 | A | N/A | 20 / loop |
| | 2100T | A | N/A | 20 / loop |
| | 2151 (B401) | A | N/A | 16 / loop |
| | 2151T (B401) | A | N/A | 16 / loop |
| | 2400 | A | N/A | 16 / loop |
| | 2400TH | A | N/A | 16 / loop |
| | 2451 (B401B) | A | N/A | 16 / loop |
| | 2451TH (B401B) | A | N/A | 16 / loop |

Table A-3 Compatible Two-Wire Smoke Detectors Style B or Style D

| Manufacturer | Model Name or Number | Compatibility ID | | # per Loop |
|---------------|----------------------|------------------|------|------------|
| | | Head | Base | |
| System Sensor | 2W-B | A | N/A | 20 / loop |
| | 2WT-B | A | N/A | 20 / loop |
| | 2WTA-B | A | N/A | 1 / loop |
| | 2WTR-B | A | N/A | 1 / loop |

A.3 Four-Wire Smoke Detectors/Devices (UL Listed)

Table A-4 Compatible Four-Wire Smoke Detectors

| Smoke Detector/Base | Detector Type | Max Standby Current (mA) | Alarm Current (mA) |
|--|---------------|--------------------------|--------------------|
| Fenwal CPD-7021 (w/70-201000-005 Base) | Ionization | 0.10 | * |

| Smoke Detector/Base | Detector Type | Max Standby Current (mA) | Alarm Current (mA) |
|--|--|--------------------------|--------------------|
| Fenwal PSD-7125 | Photoelectric | 0.10 | * |
| Fenwal PSD-7126 (w/70-201000-005 Base) | Photoelectric | 0.10 | * |
| Fire-Lite BLP-12-4W | Base | * | * |
| Gentex 824 | Photoelectric | 0.50 | * |
| Gentex 824T | Photoelectric | 0.50 | * |
| Gentex 824CP | Photoelectric | 0.50 | * |
| Gentex 824CPT | Photoelectric | 0.50 | * |
| Hochiki HSC-4R | Base | * | * |
| Hochiki SPB-24 | Projected Beam | 0.25 | * |
| System Sensor B112LP | Base | 0.12 | 36 |
| System Sensor B114LP | Base | * | * |
| System Sensor B404B | Base | * | * |
| System Sensor DH100ACDC | Photoelectric | 0.15 | 0.70 |
| System Sensor DH100ACDCLP | Photoelectric | 0.15 | 0.70 |
| System Sensor DH100ACDCLWP | Photoelectric | 0.15 | 0.70 |
| System Sensor DH400ACDCI | Ionization Duct | 25 | 95 |
| System Sensor DH400ACDCP | Photoelectric Duct | 25 | 95 |
| System Sensor 1112/24/D | Ionization | 0.05 | 50 |
| System Sensor 1424 | Ionization | 0.10 | 41 |
| System Sensor 1451 (w/B402B Base) | Ionization | 0.10 | 39 |
| System Sensor 2112/24ATR | Photoelectric | 0.50 | 60/70 |
| System Sensor 2112/24AITR | Photoelectric | 0.50 | 60/70 |
| System Sensor 2112/24/D | Photoelectric | 0.05 | 50 |
| System Sensor 2112/24R | Photoelectric | 0.50 | 60/70 |
| System Sensor 2112/24TR | Photoelectric | 0.50 | 60/70 |
| System Sensor 2112/24T/D | Photoelectric w/135° Thermal | 0.05 | 50 |
| System Sensor 2112/24TSRB | Photoelectric w/135° Thermal Supervisory Relay | 15 | 45 |
| System Sensor 2312/24TB | Photoelectric | 0.12 | 50 |
| System Sensor 2412 (12 volt) | Photoelectric | 0.12 | 77 |
| System Sensor 2412AT (12 volt) | Photoelectric | 0.12 | 58 |
| System Sensor 2412TH (12 volt) | Photoelectric | 0.12 | 77 |
| System Sensor 2424 | Photoelectric | 0.10 | 41 |
| System Sensor 2424TH | Photoelectric | 0.10 | 41 |
| System Sensor 2451 | Photoelectric | 0.10 | 39 |
| System Sensor 2451TH (with/B402B Base) | Photoelectric | 0.10 | 39 |
| System Sensor 2W-MOD | Loop Test/Maintenance Mod. | 30 | 50 |
| System Sensor 4W-B (12/24 Volt) | Photoelectric I ³ | .05 | 23 |
| System Sensor 4WT-B (12/24 Volt) | Photoelectric I ³ w/Therm | .05 | 23 |
| System Sensor 4WTA-B (12/24 Volt) | I ³ Photo w/ Therm Sounder | .05 | 35 |
| System Sensor 4WTR-B (12/24 Volt) | I ³ Photo w/ Therm/Relay | .05 | 35 |
| System Sensor 4WTAR-B (12/24 Volt) | I ³ Photo w/ Therm/Sounder/Relay | .05 | 50 |
| System Sensor 4WITAR-B (12/24 Volt) | I ³ Photo w/ Isolated Therm/Sounder/Relay | .05 | 50 |
| System Sensor 2W-MOD2 | I ³ Loop Test/Maintenance Mod. | .05 | * |
| System Sensor RRS-MOD | I ³ Reversing Relay/Sync Module | .05 | * |
| System Sensor 6424 | Projected Beam | 10 | 28.4 |

| Smoke Detector/Base | Detector Type | Max Standby Current (mA) | Alarm Current (mA) |
|--|----------------|--------------------------|--------------------|
| System Sensor Beam 1224(S) | Projected Beam | 17 | 38.5 |
| * Contact manufacturer for current draws | | | |

A.4 Door Holders (UL Listed)

Table A-5 lists door holders that are compatible with the fire control panel.

Table A-5 Compatible Door Holders

| Manufacturer | Model | Type | Current (mA) |
|----------------|--------|---------------------|--------------|
| Edwards | DH150A | Floor Mount | 96 |
| Edwards | DH154A | Flush Mount | 96 |
| Edwards | DH158A | Surface Mount | 96 |
| Rixon Firemark | FM-980 | Floor Mount, single | 68 |
| Rixon Firemark | FM-996 | Surface Wiring | 68 |
| Rixon Firemark | FM-998 | Concealed Wiring | 68 |

A.5 Relays (UL Listed)

Table A-6 lists relays compatible with the fire control panel.

Table A-6 Compatible Relays

| Manufacturer | Model | Current (mA) |
|------------------------------|----------|--------------|
| Air Products & Controls, LTD | MR-101/C | 15 |
| | MR-201/C | 35 |
| | PAM-1 | 15 |
| | PAM-2 | 15 |
| | PAM-SD | 15 |
| System Sensor | A77-716B | 20 |
| | PR-1 | 15 |
| | PR-2 | 30 |
| | PR-3 | 30 |
| | EOLR-1 | 30 |
| | R-10T | 23 |
| | R-14T | 23 |
| | R-20T | 40 |
| | R-24T | 40 |
| | R-10E | 23 |
| | R-14E | 23 |
| | R-20E | 40 |
| | R-24E | 40 |

A.6 Compatible 520Hz Signaling Speakers/Strobes

Table A-7 520Hz Speakers

| Model Number | Description |
|--|--|
| SPR | Wall High-Fidelity Speaker, Red |
| SPW | Wall High-Fidelity Speaker, White |
| SPCR | Ceiling High-Fidelity Speaker, Red |
| SPCW | Ceiling High-Fidelity Speaker, White |
| SPSR | Wall High-Fidelity Speaker Strobe, Red |
| SPSRH | Wall High-Fidelity Speaker Strobe, High Candela, Red |
| SPSW | Wall High-Fidelity Speaker Strobe, White |
| SPSCR | Ceiling High-Fidelity Speaker Strobe, Red |
| SPSCW | Ceiling High-Fidelity Speaker Strobe, White |
| SPSCWH | Ceiling High-Fidelity Speaker Strobe, High Candela, White |
| SPSCRH | Ceiling High-Fidelity Speaker Strobe, High Candela, Red |
| SPSCW-CLR-ALERT | Ceiling High-Fidelity Speaker Strobe, Clear Lens, ALERT, White |
| SPSCW-P | Ceiling High-Fidelity Speaker Strobe, Plain, White |
| SPSCWH-P | Ceiling High-Fidelity Speaker Strobe, High Candela, Plain, White |
| SPSR-P | Wall High-Fidelity Speaker Strobe, Plain, Red |
| SPSRH-P | Wall High-Fidelity Speaker Strobe, High Candela, Plain, Red |
| SPSCWH-P | Ceiling High-Fidelity Speaker Strobe, High Candela, Plain, White |
| SPSW-ALERT | Wall High-Fidelity Speaker Strobe, Amber Lens, ALERT, White |
| SPSW-CLR-ALERT | Wall High-Fidelity Speaker Strobe, Clear Lens, ALERT, White |
| SPSW-P | Wall High-Fidelity Speaker Strobe, Plain, Red |
| SPSWH | Wall High-Fidelity Speaker Strobe, High Candela, White |
| SPSWH-P | Wall High-Fidelity Speaker Strobe, High Candela, Plain, Red |
| SPRL | Wall High-Fidelity Speaker, Red |
| SPWL | Wall High-Fidelity Speaker, White |
| SPCRL | Ceiling High-Fidelity Speaker, Red |
| SPCWL | Ceiling High-Fidelity Speaker, White |
| SPSCRL | Ceiling High-Fidelity Speaker Strobe, Red |
| SPSCWL | Ceiling High-Fidelity Speaker Strobe, White |
| SPSRL | Wall High-Fidelity Speaker Strobe, Red |
| SPSRL-SP | Wall High-Fidelity Speaker Strobe-FUEGO |
| SPSWL | Wall High-Fidelity Speaker Strobe, White |
| SPSCWL-P | Ceiling High-Fidelity Speaker Strobe, Standard, White, Plain |
| SPSRL-P | Ceiling High-Fidelity Speaker Strobe, Standard, Red, Plain |
| SPSWL-P | Wall High-Fidelity Speaker Strobe, Standard, White, Plain |
| SPSCWL-CLR-ALERT | Ceiling High-Fidelity Speaker Strobe, Clear Lens, Standard, White, ALERT |
| SPSWL-ALERT | Wall High-Fidelity Speaker Strobe, Amber Lens, ALERT, White |
| SPSWL-CLR-ALERT | Wall High-Fidelity Speaker Strobe, Clear Lens, Standard, ALERT, White |
| *F=FIRE, P=PLAIN, AL=ALERT, AG=AGENT, EV=EVAC, SP=FUEGO, PG=FOGO | |

A.7 Compatible 520Hz Low Frequency Bases

Table A-8 Low Frequency Bases

| Model Number | Description |
|--------------|--|
| B200S-LF | Low Frequency Intelligent Sounder Base |
| B200SR-LF | Low Frequency Intelligent Sounder Base |

Appendix B

Editing Text Using the Built-In Programmer

This section contains tables of programmable characters that may be used for device, module, site, template, group, and zone names or phone numbers.

B.1 Characters Used for Editing Text

Table B-1 lists the available characters and their associated numeric designator. When programming:

1. Use the Up or Down arrow key to scroll to the mode wanted.
2. Press the number shown in Table B-1 until the character wanted is shown.
3. Arrow left and right for position, and press enter to accept.

Table B-1: Character Table

| Lower Case Letters | | | | | | | |
|--------------------------------|---|-------|---|-------|---|-------|---|
| abc | 1 | def | 2 | ghi | 3 | jkl | 4 |
| mno | 5 | pqr | 6 | stu | 7 | vwx | 8 |
| yz | 9 | Spc | 0 | | | | |
| Upper Case Letters | | | | | | | |
| ABC | 1 | DEF | 2 | GHI | 3 | JKL | 4 |
| MNO | 5 | PQR | 6 | STU | 7 | VWX | 8 |
| YZ | 9 | Spc | 0 | | | | |
| Numbers and Special Characters | | | | | | | |
| 1 [] | 1 | 2 () | 2 | 3 . , | 3 | 4 : ; | 4 |
| 5 ' " | 5 | 6 ? ! | 6 | 7 ' / | 7 | 8 - + | 8 |
| 9 = - | 9 | 0 | 0 | * & @ | * | # \$ | # |

B.2 Example Name Edit

1. Press the Up or Down arrow to select upper case letters mode, Press 2 until “F” appears.
2. Press the Up or Down arrow to change mode to lower case letters, Press 3 until “i” appears.
3. Press 6 until “r” appears.
4. Press 2 until “e” appears.
5. Press 0 to space, then continue to next word using the same process.
6. Press ENTER to accept.

Note: After three seconds of no change, letter will automatically be accepted. Also pressing next number will automatically accept previous choice.



Figure B-1 Edit Name Example

Appendix C

Cadence Patterns

The cadence patterns shown in Appendix C are available for use with the control panel.


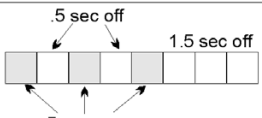
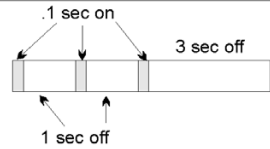


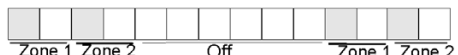
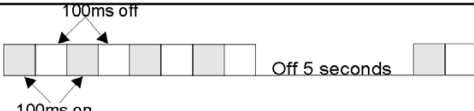
| # | Name | Pattern Description | Patterns repeat until condition is cleared. | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------|--|--|--|------|----------------------|--------|--------|--------|---------------|--------|----------|--------|--------|--|----|--------|----|--------|----|--------|----|----------|----|----------|----|----------|----|----------|--|
| 00 | Constant | Continuous sound | Note: This is the only pattern that can be used for relay circuits. The system will override any other choice. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 01 | March Code |  .5 sec on .5 sec off | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 02 | ANSI 3.41 |  | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 03 | Single Stroke |  | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 04 | California |  | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 05 ⋮ 16 | Zone Coded | <table><thead><tr><th>Pattern#</th><th>Zone</th></tr></thead><tbody><tr><td>5</td><td>Zone 1</td></tr><tr><td>6</td><td>Zone 2</td></tr><tr><td>7</td><td>Zone 3</td></tr><tr><td>8</td><td>Zone 4</td></tr><tr><td>9</td><td>Zone 5</td></tr><tr><td>10</td><td>Zone 6</td></tr><tr><td>11</td><td>Zone 7</td></tr><tr><td>12</td><td>Zone 8</td></tr><tr><td>13</td><td>Custom 1</td></tr><tr><td>14</td><td>Custom 2</td></tr><tr><td>15</td><td>Custom 3</td></tr><tr><td>16</td><td>Custom 4</td></tr></tbody></table>  → This pattern multiplied by # of zone in alarm, followed by 3 seconds off. EXAMPLE: Pattern 06, Zone 2 coded  | Pattern# | Zone | 5 | Zone 1 | 6 | Zone 2 | 7 | Zone 3 | 8 | Zone 4 | 9 | Zone 5 | 10 | Zone 6 | 11 | Zone 7 | 12 | Zone 8 | 13 | Custom 1 | 14 | Custom 2 | 15 | Custom 3 | 16 | Custom 4 | |
| Pattern# | Zone | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Zone 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Zone 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Zone 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Zone 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Zone 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | Zone 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | Zone 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Zone 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | Custom 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | Custom 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | Custom 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | Custom 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 ⋮ 21 | <table><thead><tr><th>Pattern #</th><th>Sync Type</th></tr></thead><tbody><tr><td>17</td><td>Faraday- not allowed</td></tr><tr><td>18</td><td>Gentex</td></tr><tr><td>19</td><td>System Sensor</td></tr><tr><td>20</td><td>Wheelock</td></tr><tr><td>21</td><td>Amesco</td></tr></tbody></table> | Pattern # | Sync Type | 17 | Faraday- not allowed | 18 | Gentex | 19 | System Sensor | 20 | Wheelock | 21 | Amesco | These outputs provide synchronization for AMSECO, Faraday, Gentex, System Sensor, or Wheelock synchronized appliances. | | | | | | | | | | | | | | | |
| Pattern # | Sync Type | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | Faraday- not allowed | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | Gentex | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | System Sensor | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | Wheelock | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | Amesco | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | Power Isolated | Disconnected, no voltage at terminals | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | Temporal 4 |  | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Figure C-2 Cadence Patterns Available with the Control Panel

Honeywell Fire Product Warranty and Return Policy

General Terms and Conditions

- All new fire products manufactured by Honeywell 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, exposure to adverse environmental conditions, or have been modified in any manner whatsoever.

Repair and RMA Procedure

- All products that are returned to Honeywell for credit or repair require a RMA (Return Authorization) number. Call 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.
- Honeywell Silent Knight and Farenhyt Series 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.
- Included with each return should be: a packing slip that has the RMA number, a content list, and a detailed description of the problem.
- All products returned by Honeywell must be sent freight pre-paid. After the product is processed, Honeywell will pay for shipping product back to customer via UPS ground.
- Return the Honeywell 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.** Honeywell 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 Honeywell Silent Knight repair charge for that model.

Advanced Replacement Policy

- Honeywell Silent Knight and Farenhyt Series 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 Honeywell Silent Knight distributor or call Honeywell Silent Knight at 800-328-0103 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 Honeywell Silent Knight. All returned products must comply with the guidelines described under “General Terms and Conditions” and “Repair and RMA Procedure”.
- 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:
Honeywell Fire Systems
Attn: Repair Department / RA Number _____
12 Clintonville Road
Northford, CT 06472 USA

Manufacturer Warranties and Limitation of Liability

Manufacturer Warranties. Subject to the limitations set forth herein, Manufacturer warrants that the Products manufactured by it in its Northford, Connecticut facility and sold by it to its authorized Distributors shall be free, under normal use and service, from defects in material and workmanship for a period of thirty six months (36) months from the date of manufacture (effective Jan. 1, 2009). The Products manufactured and sold by Manufacturer are date stamped at the time of production. Manufacturer does not warrant Products that are not manufactured by it in its Northford, Connecticut facility but assigns to its Distributor, to extent possible, any warranty offered by the manufacturer of such product. This warranty shall be void if a Product is altered, service repaired by anyone other than Manufacturer or its authorized Distributors. This warranty shall also be void if there is a failure to maintain the Products and the systems in which they operate in proper working conditions.

MANUFACTURER MAKES NO FURTHER WARRANTIES, AND DISCLAIMS ANY AND ALL OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE PRODUCTS, TRADEMARKS, PROGRAMS AND SERVICES RENDERED BY MANUFACTURER INCLUDING WITHOUT LIMITATION, INFRINGEMENT, TITLE, MERCHANTABILITY, OR FITNESS FOR ANY PARTICULAR PURPOSE. MANUFACTURER 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 USES OF ITS PRODUCTS.

This document constitutes the only warranty made by Manufacturer with respect to its products and replaces all previous warranties and is the only warranty made by Manufacturer. No increase or alteration, written or verbal, of the obligation of this warranty is authorized. Manufacturer does not represent that its products will prevent any loss by fire or otherwise.

Warranty Claims. Manufacturer shall replace or repair, at Manufacturer's discretion, each part returned by its authorized Distributor and acknowledged by Manufacturer to be defective, provided that such part shall have been returned to Manufacturer with all charges prepaid and the authorized Distributor has completed Manufacturer's Return Material Authorization form. The replacement part shall come from Manufacturer's stock and may be new or refurbished. THE FOREGOING IS DISTRIBUTOR'S SOLE AND EXCLUSIVE REMEDY IN THE EVENT OF A WARRANTY CLAIM.

Warn-HL-08-2009.fm

Model IFP-2000 Basic Operating Instructions




These instructions must be framed and displayed next to the IFP-2000 panel in accordance with NFPA 72 fire code for Local Protected Fire Alarm Systems. Test the system in accordance to NFPA 72.

| Operation | Task to Perform |
|--|--|
| Silence Alarms and Troubles | Press SILENCE then enter a code if prompted. Silence LED will light. |
| Reset Alarms | Press RESET then enter a code if prompted. |
| View Alarms, Supervisories, and Troubles | For each type of condition, press the Up or Down arrow associated with Alarm, Supervisory, or Trouble. |
| Conduct a Fire Drill | Hold the DRILL button and then enter a code if prompted. OR <ol style="list-style-type: none">1. Enter the installer code. The panel will automatically go to the main menu.2. Press 1 to select System Tests.3. Enter code if prompted, then press 1 to select Fire Drill.4. Press ENTER to start the fire drill., and Press ENTER to end the fire drill. |
| View a Point's Status | <ol style="list-style-type: none">1. Enter the installer code. The panel will automatically go to the main menu.2. Press 2 to select Point Functions.3. Enter code if prompted, then press 2 to select Point Status.4. Select the module the device is located on by using the Up or Down arrow. Then press ENTER.5. Enter the point number. |
| Check Detector Sensitivity | <ol style="list-style-type: none">1. Follow steps 1 through 5 for viewing a point's status.2. Press the right arrow to view detector sensitivity. |
| Set Time and Date | <ol style="list-style-type: none">1. Enter the installer code. The panel will automatically go to the main menu.2. Press 4 to select Set Time & Date. Enter a code if prompted.3. Make changes to the fields on the screen as necessary.4. Press ENTER if you wish to keep the changes.5. Press ENTER to set the entered time and date. |
| Enable / Disable a Point | <ol style="list-style-type: none">1. Enter the installer code. The panel will automatically go to the main menu.2. Press 2 to select Point Functions.3. Press 1 to select Disable / Enable Point.4. Press 7 to select Disable/Enable Point.5. Select the module the point is located on by using the Up or Down arrow. Then press ENTER.6. Enter the point number then press ENTER.7. Press the the right arrow to Disable/Enable Point. |
| View Event History | <ol style="list-style-type: none">1. Enter the installer code. The panel will automatically go to the main menu.2. Press 3 to select Event History.3. Enter code if prompted.4. Press the Up or Down arrow to view events in the history buffer. |
| For Service call: | |



Model IFP-2000ECS / ECS-RCU2000 Basic Operating Instructions

These instructions must be framed and displayed next to the IFP-2000 or ECS-RCU2000 panel in accordance with NFPA 72 fire code for Local Protected Fire Alarm Systems.

| FS = Fire System ECS = Emergency Communication System | |
|--|---|
| Operation | Task to Perform |
| Silence Alarms and Troubles (Fire Only) | Press SILENCE then enter a code if prompted. Silence LED will light. |
| Reset Fire Alarms OR Reset ECS Alarms | Press RESET then enter a code if prompted. <i>Note: To reset ECS at an LOC, the user must gain ECS Control (See Figure 1).</i> |
| Reset Alarms (ECS & Fire Active) | <ol style="list-style-type: none">1. Press RESET.2. Press 1 to Reset Fire System.3. Press 2 to Reset Emergency Communication. System. <i>Note: To reset ECS at an LOC, the user must gain ECS Control (See Figure 1).</i> |
| Conduct a Fire Drill | Hold the DRILL button and then enter a code if prompted. OR <ol style="list-style-type: none">1. Enter the installer code. The panel will automatically go to the main menu.2. Press 1 to select System Tests.3. Enter code if prompted, then press 1 to select Fire Drill.4. Press ENTER to start the fire drill, and Press ENTER to end the fire drill. |
| View Alarms, Troubles, and Supervisories | For each type of condition, press the Up or Down arrow associated with Alarm, Supervisory, or Trouble. |
| Set Time and Date | <ol style="list-style-type: none">1. Enter the installer code. The panel will automatically go to the main menu.2. Press 4 to select Set Time & Date. Enter a code if prompted.3. Make changes to the fields on the screen as necessary.4. Press ENTER if you wish to keep the changes.5. Press ENTER to set the entered time and date. |
| Enable / Disable a Point | <ol style="list-style-type: none">1. Enter the installer code. The panel will automatically go to the main menu.2. Press 2 to select Point Functions.3. Enter code if prompted, then press 1 to select Disable / Enable Point.4. Press 7 to select Disable/Enable Point.5. Select the module the point is located on by using the Up or Down arrow. Then press ENTER.6. Enter the point number then press ENTER.7. Press the right arrow to Disable/Enable Point. |
| To Gain / Request ECS Control | <ol style="list-style-type: none">1. Press the  Button and follow the on-screen Instructions. <i>Note: When ECS Control LED is blinking, another LOC has ECS Control. ECS Control LED is on steady when the LOC has ECS Control.</i> |
| For Service call: | |

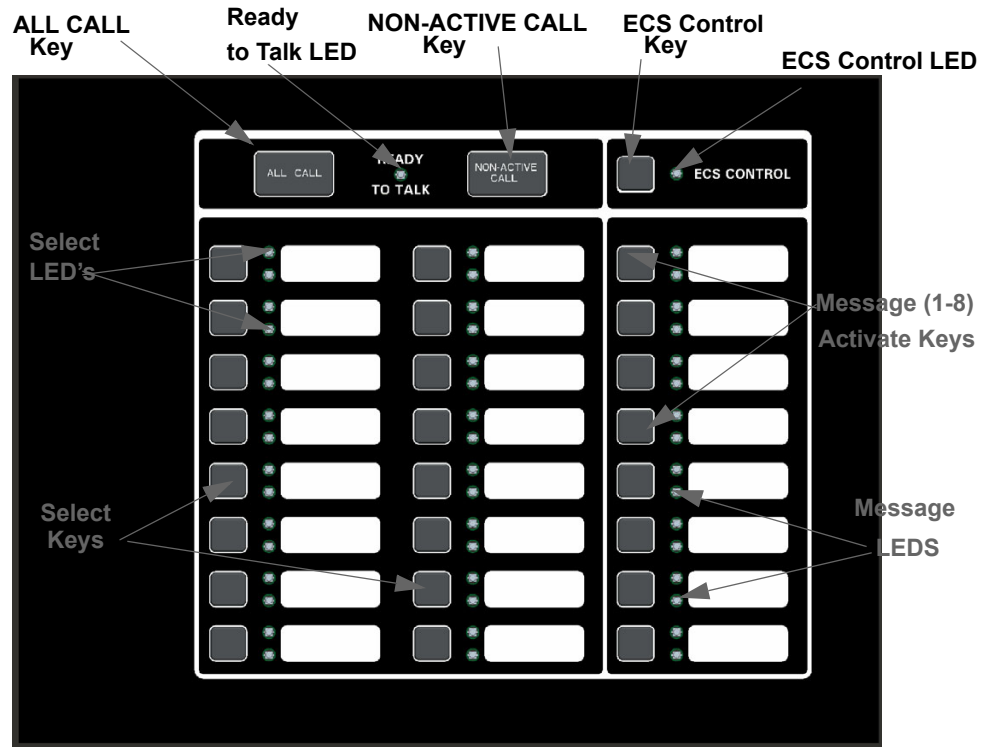


Figure 1-1: ECS Front view

Table 1-1: LED Conditions

| LED | Color | States | Meaning |
|-----------------|-------|--------|---|
| Select Keys | Red | On | The corresponding area is active for the currently playing ECS message. |
| | | Off | The corresponding area is not active. |
| | Green | On | The corresponding area is active for the microphone. |
| | | Off | The corresponding area is not active for the microphone. |
| ECS Control LED | Green | On | LOC has ECS Control and the user is able to make changes to the ECS. |
| | | Off | LOC does not have ECS Control. |
| ECS Message LED | Red | On | The corresponding ECS event was activated by an ECS device. |
| | | Off | The corresponding ECS event was not activated from this LOC. |
| | Green | On | The corresponding ECS event is active and was generated from the LOC (or was activated from another LOC, but this LOC now has ECS Control). |

Table 1-2: ECS Control Request

| Operation | Task |
|--|--|
| Gain ECS Control at an LOC | Press the ECS Control Key and enter a code if prompted. If ECS Control is available, the ECS Control LED will illuminate. If another LOC has ECS Control, the display will be similar to the one shown. Press 1 to request control. The LOC with ECS Control will then be able to allow or deny the request. |
| Gain ECS Control as ECS Super User at an LOC (only one ECS Super User is allowed ECS Control in the system at a time). | From the idle screen, enter an ECS Super User access code and then press the ECS Control Key. If ECS Control as Super User is available, the ECS Control LED will illuminate. If another LOC has Super User ECS Control, a request for Super User ECS Control will automatically be made to the LOC with control. The LOC with Super User ECS Control will then be able to allow or deny the request. (See Figure 1-2 for screen display example). |
| Select all output group for microphone override | Key the microphone, wait for the Ready-to-Talk LED to light, press the All Call Key, and then deliver your verbal message. |

Table 1-2: ECS Control Request

| Operation | Task |
|--|---|
| Select all non-activated output groups for microphone override | Key the microphone, wait for the Ready-to-Talk LED to light, press the Non-Active Call Key, and then deliver your verbal message. |

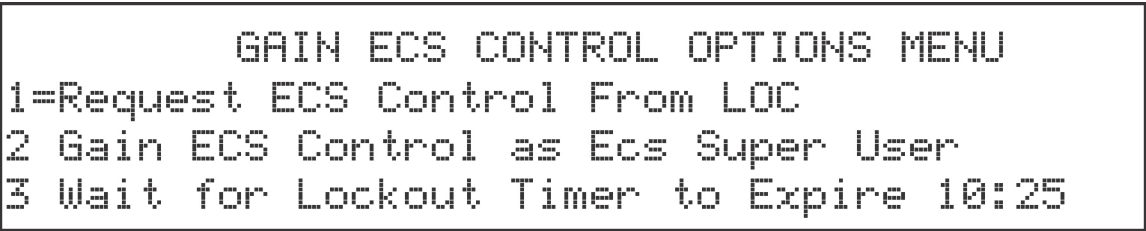


Figure 1-2: Gain ECS Control as ECS Super User Screen

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203-484-7161
www.farenhyt.com

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