Honeywell | Farenhyt™ Series

IFP-300U, IFP-1100U, IFP-2100
IFP-300UECS, IFP-1100UECS, IFP-2100ECS

Addressable Fire Alarm Control Panel

Manual

Document LS10420-000FH-E Rev: A
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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 interconnecting cables while the unit is energized. Do not attempt to install, service, or operate this unit until manuals are read and understood.

CAUTION - System Re-acceptance Test after Software Changes: To ensure proper system operation, this product must be tested in accordance with NFPA 72 after any programming operation or change in site-specific software. Re-acceptance testing is required after any change, addition or deletion of system components, or after any modification, repair or adjustment to system hardware or wiring. All components, circuits, system operations, or software functions known to be affected by a change must be 100% tested. In addition, to ensure that other operations are not inadvertently affected, at least 10% of initiating devices that are not directly affected by the change, up to a maximum of 50 devices, must also be tested and proper system operation verified.

This system meets NFPA requirements for operation at 0-49º C/32-120º F and at a relative humidity 93% ± 2% RH (non-condensing) 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 15-27º C/60-80º 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.

Units with a touchscreen display should be cleaned with a dry, clean, lint free/microfiber cloth. If additional cleaning is required, apply a small amount of Isopropyl alcohol to the cloth and wipe clean. Do not use detergents, solvents, or water for cleaning. Do not spray liquid directly onto the display.

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.

Precau-D2-11-2017

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 present appareil numerique n'emet pas de bruits radioelectriques depassant les limites applicables aux appareils numeriques de la classe A prescrites dans le Reglement sur le brouillage radioelectrique edicte par le ministere 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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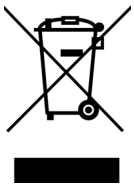
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This symbol (shown left) on the product(s) and / or accompanying documents means that used electrical and electronic products should not be mixed with general household waste. For proper treatment, recovery and recycling, contact your local authorities or dealer and ask for the correct method of disposal.

Electrical and electronic equipment contains materials, parts and substances, which can be dangerous to the environment and harmful to human health if the waste of electrical and electronic equipment (WEEE) is not disposed of correctly.

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Section 1: Introduction

The IFP-2100, IFP-2100B, IFP-2100ECS, IFP-2100ECSB, IFP-2100HV, IFP-2100HVB, IFP-2100ECSHV, IFP-2100ECSHVB, IFP-300U, IFP-300UB, IFP-300UECS, IFP-300UECSB, IFP-1100U, IFP-1100UB, IFP-1100UECS and IFP-1100UECSB are analog addressable fire alarm control panels (FACP), that meets the requirements of UL 864 and UL 2017. The IFP-2100ECS, IFP-2100ECSB, IFP-2100ECSHV, and IFP-2100ECSHVB are analog addressable fire control system combined with an Emergency Communication System that meet the requirements for Mass Notification as described in UL 864, UL2017 and UL 2572.

The RFP-2100 and RFP-2100B are the same as the IFP-2100 without the display. The RFP-2100 is used in a networked system where there is at least one IFP-2100 in the system. When using the RFP-2100 as a standalone local unit, one LCD annunciator must be connected and the annunciator must be wired in conduit within 20'of the RFP-2100.

NOTE: All references to the IFP-2100 within this manual are applicable to the IFP-2100, IFP-2100B, IFP-2100ECS, IFP-2100ECSB, IFP-2100HV, IFP-2100HVB, IFP-2100ECSHV, IFP-2100ECSHVB,IFP-300U, IFP-300UB, IFP-300UECS, IFP-300UECSB, IFP-1100U, IFP-1100UB, IFP-1100UECS and IFP-1100UECSB, RFP-2100, RFP-2100B unless otherwise indicated.

1.1 Basic System Overview

The IFP-2100 base system is packaged as an assembled stack of 3 circuit boards mounted to an aluminum housing and is now available in several software-managed options.

FACP	Points	Power	AC Power	I/0 Flexputs	Battery Cabinet Size	Basic Networking (Not Peer-Peer	Color Cabinet	Programmable Buttons	# SBUS Ports
IFP-300U	318	6A Standby / 9A Alarm	120VAC/240VAC	8	18AH	32 Panels	Red (R) or Black (B)	4	2
IFP-1100U	1110	6A Standby / 9A Alarm	120VAC/240VAC	8	18AH	32 Panels	Red (R) or Black (B)	4	2
IFP-2100	2100	6A Standby / 9A Alarm	120VAC/240VAC	8	18AH	32 Panels	Red (R) or Black (B)	4	2
IFP-300UECS	318	6A Standby / 9A Alarm	120VAC/240VAC	8	18AH	32 Panels	Red (R) or Black (B)	4	2
IFP-1100UECS	1110	6A Standby / 9A Alarm	120VAC/240VAC	8	18AH	32 Panels	Red (R) or Black (B)	4	2
IFP-2100ECS	2100	6A Standby / 9A Alarm	120VAC/240VAC	8	18AH	32 Panels	Red (R) or Black (B)	4	2

Table 1.1 IFP-2100 Base System Overview

1.1.1 Hardware Features

- The IFP-2100 base system contains one built-in signaling line circuit (SLC), which supports up to 159 IDP/SK sensors and 159 IDP/SK modules or 127 SD SLC devices. Additional SLC loops can be added to increase overall point capacity.
- Additional 6815 SLC expanders supports 159 IDP/SK sensors and 159 IDP/SK modules for a maximum of 2,100 points per IFP-2100 control panel.
- Additional 5815XL SLC expander supports only SD Protocol for a maximum of 2,032 points per IFP-2100 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), IP, or optional cellular technologies
- 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 up to 31 RA-2000, RA-1000R, or RA-100 remote annunciators in any combination
- Supports the 5865-3, 5865-4, and 5880 LED annunciators[1]. See Section 4.14 and Section 4.15 for additional information on these models.
- Printing of event log available through the 5824[1] serial/parallel printer interface module
- Supports conventional 2-wire & 4-wire detectors using the 8 Flexput circuits or SLC zone modules
- Add four notification/auxiliary power circuits with each 5496 Intelligent Power Module
- Add six Flexput circuits with each RPS-1000 Remote Power Supply

1. The system supports a maximum of 63 SBUS devices in any combination.

1.1.2 Network System Hardware Features

- The default network setup can contain up to thirty-two IFP-2100 panels connected.
- Network support for up to 32 sites
- Each building is referred to as a "site".

- Panels can be interconnected using CLASS B or CLASS A topology.
- Use the SK-NIC network card to network panels together. Copper wire or fiber-optic cable 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

- 999 software zones, 999 output groups
- 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 ECS Version 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-LOC2100 Local Operator Consoles
- Programmable trigger inputs from an external source, such as a Monaco system, to either the ECS-NVCM, ECS-RVM, 5880, any SLC input module, or Flexput 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 2,000 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
- Support for one ECS-NVCM
- Onboard supervised microphone

1.2 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-2100 panel itself and the built-in power supply. It also refers to any (optional) 5815XL or 6815 SLC expansion modules.
Input Point	An addressable sensing device, such as a smoke or 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 (“Output Group” or OPG)	A group of output points. Operating characteristics are common to all output points in a group.
Output (or “Cadence”) Pattern	The pattern that the output will use, for example, Constant, March Code, ANSI 3.41. Applies to zones and special system events. See Appendix B for additional information.
Mapping	Mapping is the process of specifying which outputs are activated when certain events occur in the system. Section 7.2 explains mapping in detail.
Networking	Up to 32 panels can be networked.
Network System	Consist of any combination of 32 panels of these model numbers: IFP-75, IFP-300, IFP-300ECS, IFP-2100, IFP-2100ECS, RFP-2100, IFP-2000, and IFP-2000ECS IFP-300UECS, IFP-300U, IFP-1100U and IFP-1100UECS
ECS	Emergency Communication System
SWIFT	Smart Wireless Integrated Fire Technology

Table 1.3 Panel Vocabulary

1.3 Compatible Products

Table 1.4 lists the products available for use with the IFP-2100.

Type of Device	Model	Description	
IDP/SK Addressable SLC Devices	Refer to the *Device Compatibility Document* and *SLC Wiring Manual* for a list of compatible devices.		
SWIFT Wireless SLC Devices	Refer to the *SWIFT Wireless Manual* for a list of compatible devices.		
Other Modules	5824 Serial/Parallel Printer Interface Module	Allows a printer to be attached for the system for on-site logging. Four maximum per system.	
	5815XL (Rev H or above) SLC Expander	Each 5815XL allows 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 SD point count is limited to 2,032 per panel. 5815XL will only support SD protocol devices	
	6815 SLC EXPANDER	Each 6815 supports up to 159 IDP/SK sensors and 159 IDP/SK modules. The maximum point count for FarenhytIDP devices is limited to 2,100 per panel. The 6815 supports System Sensor (IDP/SK) devices only.	
	RFP-2100 Remote Fire Panel without display	Same operation as RFP-2100 without display	
	RPS-1000 (Rev F or higher) Intelligent Power Module	Provides additional power, six Flexput circuits, and two Form C relays.	
	5496 (Rev F or above) NAC Expander	Provides four additional Notification Appliance Circuits/Auxiliary power.	
	RA-2000 LCD Alarm Annunciator	4x40 LCD annunciator. Same operation, similar appearance as onboard annunciator. Any combination of supported annunciators for a max of 63.	
	RA-1000 LCD Alarm Annunciator	4x20 LCD annunciator. Any combination of supported annunciators for a max of 31.	
	RA-100 LCD Alarm Annunciator	4x20 LCD annunciator. Any combination of supported annunciators for a max of 31.	
	5860TR and 5860TG Trim Ring Kits for RA-1000	Trim ring kits for surface mounting the 5860 annunciator. 5860TG is gray, 5860TR is red.	
	5865-3 and 5865-4 LED Annunciators	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 (Rev C or above) 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.	
Audio Devices (for ECS-based panels)	ECS-SW24	24 Switch expander	Refer to the *FarenhytECS Series Installation Manual* PN LS10413-00FH-E for more info on these accessories.
	ECS-VCM	Voice Control Module	
	ECS-NVCM	Network Voice Control Module	
	ECS-50W	50 watt audio amplifier	
	ECS-125W	125 watt audio amplifier	
	ECS-INT50W	50 watt internal amplifier	
	ECS-DUAL50W	Dual Channel amplifier	
	ECS-50WBU	Backup daughter card	
	ECS-CE4	Provides 4 additional audio circuits for the ECS-50W or the ECS-125W	
	ECS-RVM	Remote Voice Microphone	
	ECS-LOC2100	Local Operating Console	
Networking	SK-NIC	Network Interface Card	Refer to LS10172-001SK-E
	SK-FML	Fiber-Optic Multi Mode, Receiver	Refer to LS10178-001SK-E
	SK-FSL	Fiber-Optic Single Mode, Transmitter	

Table 1.4IFP-2100 Compatible Products

Type of Device	Model	Description	
Wireless	WIDP-WGI	Wireless Gateway	Refer to the *SWIFT wireless Installation Manual* P/N LS10036-000FH-E for more information on these accessories.
	WIDP-PHOTO	Wireless Photoelectric Smoke Detector	
	WIDP-ACCLIMATE	Wireless Multi criteria photoelectric smoke detector with thermal (135°F)	
	WIDP-HEAT-ROR	Wireless Heat Rate of Rise Heat Detector	
	WIDP-HEAT	Wireless 135° fixed Heat Detector	
	WIDP-MONITOR	Wireless Addressable Monitor module	
	WIDP-RELAY	Wireless Addressable Relay module	
	B210W	6" wireless base	
Miscellaneous	7860 Telephone Cord	RJ31X cord for connecting phone line to the IFP-2100	
	HFSS Honeywell Fire Software Suite	For communication and panel programming with a Windows-based computer. Enables remote viewing of detector status and event history.	
	CELL-MOD	Cellular board with Plastic Enclosure	Refer to the CELL-CAB-SK/CELL-MOD *Installation Manual* P/N LS10182-001SK-E for more information.
	CELL-CAB-SK	Cellular board with Metal Enclosure. Lock & key	
	RBB	Remote Battery Box for mounting backup batteries 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).	

Table 1.4IFP-2100 Compatible Products (Continued)

1.4 Related Documentation

Refer to the following documents for more information.

Title	Document Number
SLC Wiring Manual	LS10179-000FH-E
Device Compatibility Document	LS10167-003FH-E
5824 Printer Interface Module Install Sheet	151392
RPS-1000 Power Supply Manual	151153
5496 NAC Expander Manual	151276-L8
RA-100 Annunciator Install Sheet	151283
RA-1000R LCD Annunciator Install Sheet	151154
RA-2000 LCD Annunciator	151443
5865-3 and 5865-4 LED Annunciator	151088
5880 LED Driver Module	150972
5883 General Purpose Relay Module	151194
ECS Series Manual	151455
ECS-RVM Install Sheet	151451
ECS-SW24 Install Sheet	151452
ECS-VCM Install Sheet	151454
ECS-CE4 Install Sheet	151456
ECS-RCU Install Sheet	151457
ECS-INT50W Install Sheet	LS10120-001SK-E
ECS-RPU Install Sheet	LS10152-001SK-E
ECS-NVCM Install Sheet	LS10169-001SK-E
ECS-LOC Install Sheet	LS10187-001SK-E
ECS-LOC2100 Install Sheet	LS10188-001SK-E
ECS-EMG Install Sheet	LS10191-001SK-E
SK-NIC Install Sheet	LS10172-001SK-E
SK-FML/FSL Install Sheet	LS10178-001SK-E
MRD-1 Releasing Disconnect	LS10231-000GE-E

Table 1.5Related Documentation

Section 2: Agency Listings, Approvals, and Requirements

2.1 Federal Communications Commission (FCC)

The following information must be provided to the telephone company before the IFP-2100Base System can be connected to the phone lines:

Manufacturer:	Honeywell
Model Number:	See Table 1.1
FCC registration number:	US: HS9AL10A2100
Ringer equivalence:	1.0A
Type of jack:	RJ31X
Facility Interface Codes:	Loop Start: 02LS2
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 1.0A, the number of devices is limited. The REN number is embedded in the FCC registration number as 10A.

If the IFP-2100 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-2100, for repair or warranty information, contact Honeywell Farenhyt at 800.328.0103 or www.farehnyt.com. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the IFP-2100 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-2100 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: FCC PART 15

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.

CAUTION: INSTALLATION AND TEST

TO ENSURE PROPER OPERATION, THIS EQUIPMENT MUST BE INSTALLED ACCORDING TO THE ENCLOSED INSTALLATION INSTRUCTIONS. TO VERIFY THAT THE EQUIPMENT IS OPERATING PROPERLY AND CAN SUCCESSFULLY REPORT AN ALARM, THIS EQUIPMENT MUST BE TESTED IMMEDIATELY AFTER INSTALLATION, AND PERIODICALLY THEREAFTER, ACCORDING TO THE ENCLOSED TEST INSTRUCTIONS.

CAUTION: LINE IN USE

IN ORDER FOR “ALARM DIALING EQUIPMENT” TO BE ABLE TO SEIZE THE PHONE LINE TO REPORT AN ALARM OR OTHER EVENT WHEN OTHER CUSTOMER EQUIPMENT (TELEPHONE, ANSWERING SYSTEM, COMPUTER MODEM, ETC.) CONNECTED TO THE SAME LINE IS IN USE, “ALARM DIALING EQUIPMENT” MUST BE CONNECTED TO A PROPERLY INSTALLED RJ31X JACK. THE RJ31X JACK MUST BE CONNECTED IN SERIES WITH, AND AHEAD OF, ALL OTHER EQUIPMENT ATTACHED TO THE SAME PHONE LINE. SERIES INSTALLATION OF AN RJ31X JACK IS DEPICTED IN THE FIGURE BELOW. IF YOU HAVE ANY QUESTIONS CONCERNING THESE INSTRUCTIONS, CONSULT YOUR TELEPHONE COMPANY OR A QUALIFIED INSTALLER ABOUT INSTALLING THE NECESSARY JACK AND ALARM DIALING EQUIPMENT.

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 9.6 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 the *SLC Wiring Manual* and/or conventional detectors listed in the *Device Compatibility Document*.
3. Use UL listed notification appliances compatible with the IFP-2100 from those specified in the *Device Compatibility Document*.
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 60 to 250 seconds. For UL certified installations the setting must be a minimum of 60 seconds.
- The systems allows the Auto-resound time to be set to 24 or 4 hours. For UL certified installations that are utilizing SWIFT devices, the value must be set to 4 hours.
- 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.

2.2.2 UL 864 9th and 10th Edition

- Per the UL Continuing Certification Program, UL 864 9th edition fire alarm control equipment will retain certification after the roll-out of UL 10th edition (12/2/2018).
- Installations of UL 864 10th Edition certified equipment are permitted to use UL864 9th Edition certified equipment when approved by the local Authority Having Jurisdiction (AHJ).

For product compliance, refer to the UL listing cards located on the UL online certification directory. https://iq.ulprospector.com

2.2.3 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-2100 shall automatically initiate and complete a test signal transmission sequence to its associated receiver at least once every 6 hours, using two phones or one phone line with Ethernet/cellular backup.
3. The AC Loss Hours option must be set from 1-3 hours.
4. If using wired Ethernet or cellular, you must program the corresponding account/subscriber ID and a test time so that the FACP shall automatically initiate a test signal transmission sequence to its associated receiver at least once every 6 hours.

2.2.4 Requirements for Local Protected Fire Alarm Systems

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

2.2.5 Requirements for Remote Station Protected Fire Alarm Systems

Minimum system requirements are one Farenhyt addressable initiating device and either a 5220, Keltron 3158, or the built-in Digital Alarm Communicator Transmitter (DACT).

1. Do not exceed the current draw load restrictions shown in Section 3.5, “Calculating Current Draw and Standby Battery”.
2. The AC Loss Hours option must be set from 1-3 hours.

2.2.6 Requirements for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment, NFPA 72

When using carbon monoxide detection the system must be monitored by a Supervising Station with emergency response, both aspects meeting the Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment, NFPA 72.

2.2.7 NFPA Requirements

The following is the minimum configuration to meet NFPA requirements.

Model/Module	Description	Local	Releasing	Auxiliary	Remote Station	Central Station
IFP-2100	Control Unit	Y	Y	Y	Y	Y
6861BIA/GIA	annunciator	Y	Y	Y	Y	Y
RFP-2100, RFP-2100HV	Remote unit	O	O	O	O	O
5815XL	SLC Expander	O	O	O	O	O
6815	SLC Expander	O	O	O	O	O
5824	Serial card	O	O	O	O	O
5220	Rev Polarity Module	O	O	Y	Y	O
7644	Rev polarity Module	O	O	N	Y	O
SK-NIC	Network card	O	O	O	O	O
SK-FML	Fiber module	O	O	O	O	O
SK-FSL	Fiber module	O	O	O	O	O
IFP-2100CB	Enclosure	Y	Y	Y	Y	Y
IFP-2100BCB	Enclosure	Y	Y	Y	Y	Y
RFP-2100CB	Enclosure	Y	Y	Y	Y	Y
RFP-2100BCB	Enclosure	Y	Y	Y	Y	Y
CELL-MOD, CELL-CAB-SK	Transmitter	O	O	O	O	O
HWF2A-COM, HWF2V-COM	Transmitter	O	O	O	O	O
Y = YES, N = NO, O = OPTIONAL						

Table 2.1 NFPA Requirements for IFP-2100, IFP-2100HV, RFP-2100 or RFP-2100HV

Model/Module	Description	Local	Releasing	Auxiliary	Remote Station	Central Station	Mass Notification (In-Building)	Emergency	EVAC
IFP-2100ECS	Control Unit	Y	Y	Y	Y	Y	Y	Y	Y
6861BIA/GIA	Annunciator	Y	Y	Y	Y	Y	Y	Y	Y
ECS-EMG	LED / switch card	Y	Y	Y	Y	Y	Y	Y	Y
5220	Direct Conn Module	O	O	Y	Y	O	N	O	N
5496	Indicating Circuit Expander	O	O	O	O	O	O	O	O
5815XL	SLC Expander	O	O	O	O	O	O	O	O
5824	Serial/Parallel Interface	O	O	O	O	O	O	O	O
5865-3, 5865-4	Remote Annunciator	O	O	O	O	O	O	O	O
5880	Remote Annunciator	O	O	O	O	O	O	O	O
5883	Relay Module	O	O	O	O	O	N	O	N
7644	EOL device	O	O	N	Y	O	O	O	O
6815	SLC expander	O	O	O	O	O	O	O	O
SK-NIC	Network card	O	O	O	O	O	O	O	O
ECS-NVCM	Network Voice Control Mod	O	O	O	O	O	O	O	O
SK-FML, SK-FSL	Network Fiber Mod	O	O	O	O	O	O	O	O
IDP-RELAY	Control Mod	O	O	Y	O	O	N	O	N
RPS-1000	Power Expander	O	O	O	O	O	O	O	O
RBB	Accessory cabinet	O	O	O	O	O	O	O	O
ECS-DUAL50W	Amplifier	N	N	N	N	N	Y[1]	O	Y[1]
ECS-50W	Amplifier	N	N	N	N	N	Y[1]	O	Y[1]
ECS-125W	Amplifier	N	N	N	N	N	Y[1]	O	Y[1]
ECS-SW24	Switch Annunciator	N	N	N	N	N	Y	O	Y
ECS-VCM	Voice Control Module	N	N	N	N	N	Y	O	Y
ECS-RVM	Remote Voice Module	N	N	N	N	N	Y	O	Y
ECS-INT50W	Amplifier	N	N	N	N	N	Y	O	Y

Y = YES, N = NO, O = OPTIONAL
1. At least one of the following amplifiers is required for MNS operation as well as EVAC: ECS-DUAL50W, ECS-50W, ECS-125W or ECS-INT50W.

Table 2.2 NFPA Requirements for IFP-2100ECS

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 Base SystemIFP-2100 for the first time.

3.1 Inventory

When the IFP-2100 shipment is received, check that all the parts have been included in the shipment. The shipment consist of one of each of the following:

- main circuit board with display
- backbox with door.
- plastic bag containing two keys, screws, cables, and ten 4.7K ohm end-of-line resistors
- manual

3.2 Environmental Specifications

It is important to protect the IFP-2100 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-2100, 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% non-condensing.

3.3 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. Software updates can be found at www.farenhyt.com.

3.4 Electrical Specifications

Table 3.1 lists the terminal block IFP-2100as well as a description of each individual terminal and their respective electrical rating.

Table 3.1Table 3.1 lists the terminal block -2100

Terminal Label		Description	Rating		Earth Ground Faults
			Voltage	Current	
B		AC input (hot)	120 VAC, 50/60 Hz 240 VAC, 50/60 Hz	5A for the IFP-2100 4.5A for the IFP-2100ECS 2.8A for the IFP-2100HV/ECSHV	N/A
G		Earth ground	N/A	N/A	N/A
W		AC input (neutral)	120 VAC, 50/60 Hz 240 VAC, 50/60 Hz	5A for the IFP-2100 4.5A for the IFP-2100ECS 2.8A for the IFP-2100HV/ECSHV	N/A
X	[1]I/O 1	Flexput Circuits	24 VDC	3.0 A notification and auxiliary power circuits	0Ω
O				100 mA for initiation circuits	
X	[1]I/O 2	Flexput Circuits	24 VDC	3.0 A notification and auxiliary power circuits	0Ω
O				100 mA for initiation circuits	
X	[1]I/O 3	Flexput Circuits	24 VDC	3.0 A notification and auxiliary power circuits	0Ω
O				100 mA for initiation circuits	
X	[1]I/O 4	Flexput Circuits	24 VDC	3.0 A notification and auxiliary power circuits	0Ω
O				100 mA for initiation circuits	
X	[1]I/O 5	Flexput Circuits	24 VDC	3.0 A notification and auxiliary power circuits	0Ω
O				100 mA for initiation circuits	

Table 3.1 Terminal Descriptions and Electrical Specifications

Terminal Label		Description	Rating		Earth Ground Faults
			Voltage	Current	
X	[1]I/O 6	Flexput Circuits	24 VDC	3.0 A notification and auxiliary power circuits	0Ω
O				100 mA for initiation circuits	
X	[1]I/O 7	Flexput Circuits	24 VDC	3.0 A notification and auxiliary power circuits	0Ω
O				100 mA for initiation circuits	
X	[1]I/O 8	Flexput Circuits	24 VDC	3.0 A 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					
+					
-					
N.C.	RELAY 1	General Purpose Relay 1	24 VDC	2.5 A, resistive	N/A
C					
N.O.					
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+					
S-	SLC PGM	SLC Programming	32 VDC	150 mA	0Ω
S+					
S-	SLC IN	Used for Class A installations			0Ω
S+					
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			

Table 3.1 Terminal Descriptions and Electrical Specifications

Terminal Label		Description	Rating		Earth Ground Faults
			Voltage	Current	
+	Battery	Battery Connection	24 VDC	1.12 A	N/A
–					
B	EXT. Comm	EXT. Comm Cellular Connection	input		0Ω
A					
S+				55 mA, 95 mA	
S-					
P7	Data Network	Used for SK-NIC	24 VDC	21 mA	0Ω
P8	Voice Network	Used For ECS-NVCM	24 VDC	59 mA	0Ω

Table 3.1 Terminal Descriptions and Electrical Specifications

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

3.5 Calculating Current Draw and Standby Battery

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

3.5.1 Current Draw Worksheet Requirements

The following steps must be taken when determining IFP-2100 current draw and standby battery requirements.

1. TIFP-2100he worst case current draw is listed for the panel, addressable devices, and SLC 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-2100 control panel. If the current is above 9.0 A you will need to use a notification power expander(s) such as the 5496 or the RPS-1000 intelligent power expander, to distribute the power loads so that the IFP-2100 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-2100 panels to get additional power.
7. Complete the remaining instructions in the appropriate current draw worksheet for determining battery size requirements.

3.5.2 Current Draw Worksheet for Farenhyt IDP SLC Devices

Use Table 3.2 to determine current requirements during alarm/battery standby operation when IDP SLC devices are installed. You can install up to 159 Farenhyt IDP sensors per loop (2100 points max per panel) *and* 159 Farenhyt IDP modules per loop (2,100 points max per panel). Copy this section if additional space is required.

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 (Current draw from battery)	1	Standby	230 mA	230 mA	
		Alarm:	415 mA		415 mA[1]
Addressable SLC Detectors					
IDP-PHOTO				mA	mA
IDP-PHOTO-T				mA	mA
IDP-PHOTO-R				mA	mA
IDP-HEAT		Standby: Alarm:	0.3 mA 6.5 mA[2]	mA	mA
IDP-HEAT-HT				mA	mA
IDP-HEAT-ROR				mA	mA
IDP-ACCLIMATE				mA	mA

Table 3.2 Current Draw Worksheet for IDP SLC Devices

Device	# of Devices	Current per Device			Standby Current	Alarm Current
IDP-PHOTO-W/-IV					mA	mA
IDP-PHOTO-T-W/-IVIV					mA	mA
IDP-PHOTO-R-W/-IV					mA	mA
IDP-HEAT-W/-IV		Standby: 0.2 mA Alarm: 4.5 mA[2]			mA	mA
IDP-HEAT-HT-W/-IV					mA	mA
IDP-HEAT-ROR-W/-IV					mA	mA
IDP-PHOTO-CO-W					mA	mA
IDP-CO-W					mA	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[3] (with integral test)		SLC	Standby/Alarm:	2 mA	mA	mA
		Aux. Pwr	Standby:	2 mA	mA	
			Alarm:	8.5 mA		mA
OSI-RI-FH		SLC	Standby/Alarm:	20 mA	mA	mA
		Aux. Pwr	Standby:	22 mA	mA	
			Alarm:	20 mA		mA
DNR/DNRW[4] (non-relay)		None, included with IDP-PHOTO-R/-W/-IV				
DNR[4] (with relay)		None, included with IDP-PHOTO-R/-W/-IV & IDP-RELAY				
IDP-FIRE-CO		SLC	Standby:	0.30 mA	mA	
			Alarm:	7 mA		mA
IDP-FIRE-CO-W/-IV		SLC	Standby:	0.20 mA	mA	
			Alarm:	4.5 mA		mA
IDP-PTIR-W/-IV		SLC	Standby:	0.20 mA	mA	
			Alarm:	4.5 mA		mA
Addressable SLC Modules						
IDP-MONITOR		Standby/Alarm		0.375 mA	mA	mA
IDP-MINIMON		Standby/Alarm		0.375 mA	mA	mA
IDP-PULL-SA/IDP-PULL-DA		Standby/Alarm		0.3 mA	mA	mA
IDP-MONITOR-2		Standby/Alarm:		0.75 mA	mA	mA
IDP-MONITOR-10		Standby/Alarm:		3.5 mA	mA	mA
IDP-CONTROL		SLC	Standby	0.375 mA	mA	
			Alarm:	0.375 mA		mA
		Aux Pwr	Standby	1.7 mA	mA	
			Alarm:	6.5mA		mA
IDP-CONTROL-6		SLC	Standby	2.65 mA	mA	
			Alarm:	35 mA		mA
		Aux Pwr	Standby	8 mA	mA	
			Alarm:	20 mA		mA
IDP-RELAY		Standby/Alarm:		0.255 mA	mA	mA
IDP-RELAY-6		Standby:		1.9 mA	mA	
		Alarm:		32 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
		SLC	Standby:	0.27 mA	mA	
			Alarm:	5.1 mA		

Table 3.2 Current Draw Worksheet for IDP SLC Devices (Continued)

Device	# of Devices	Current per Device			Standby Current	Alarm Current
IDP-ZONE-6		Aux Pwr	Standby	50 mA	mA	
			Alarm:	70 mA		mA
		SLC	Standby	2.3 mA	mA	
			Alarm:	40 mA		mA
SLC Accessories						
B200SR/-W/-IV Sounder Base		Aux Pwr	Standby:	0.5 mA	mA	
			Alarm:	35 mA		mA
		SLC	Standby	0.3 mA	mA	
B200S/-W/-IV Intelligent Sounder Base		Aux Pwr	Standby:	0.5 mA	mA	
			Alarm: (high vol)	35 mA		mA
		SLC	Standby	0.3 mA	mA	
B200SR-LF/-W/-IV Low Frequency Sounder Base		Aux Pwr	Standby:	1 mA	mA	
			Alarm:	125 mA		mA
B200S-LF/-W/-IV Intelligent Low Frequency Sounder Base		Aux Pwr	Standby	0.55 mA	mA	
			Alarm (high vol)	140 mA		mA
		SLC	Standby	0.30 mA	mA	
B224RB/-W/-IV Relay Base		Standby/Alarm:		0.17 mA	mA	mA
RTS151		Alarm:		10 mA		mA
RTS151KEY		Alarm:		12 mA		mA
RA100Z		Alarm:		10 mA		mA
SLC Isolator Devices						
IDP-ISO (Isolator Module)		Standby:		0.45 mA	mA	mA
		Isolation:		17 mA		
ISO-6 (6 Fault Isolator Module)		Standby: (per circuit)		0.45 mA	mA	
		Isolation: (per circuit)		17 mA		mA
B224BI/-W/-IV Isolator Base		Standby:		0.45 mA	mA	
		Isolation:		15 mA		mA
Accessories Modules[5]						
6815 SLC Loop Expander		Standby:		78 mA	mA	
		Alarm:		78 mA		mA
RA-2000 Remote LCD Annunciator		Standby:		35 mA	mA	
		Alarm:		53 mA		mA
RA-1000 Remote LCD Annunciator		Standby:		58 mA	mA	
		Alarm:		68 mA		mA
RA-100 Remote LCD Annunciator		Standby:		59 mA	mA	
		Alarm:		92 mA		mA
5824 Serial/Parallel Module		Standby/Alarm:		45 mA	mA	mA
5496 NAC Expander		Standby/Alarm (SBUS):		10 mA	mA	mA
RPS-1000 Power Supply		Standby/Alarm (SBUS):		10 mA	mA	mA
5865-4 LED Annunciator (with reset and silence switches)		Standby:		35 mA	mA	
		Alarm:		145 mA		mA
5865-3 LED Annunciator Module		Standby:		35 mA	mA	
		Alarm:		145 mA		mA
5880 LED I/O Module		Standby:		35 mA	mA	
		Alarm:		200 mA		mA
5883 Relay Interface		Standby:		0 mA	mA	
		Alarm: (22 mA/relay)		220 mA		mA
ECS-50W Voice Amplifier with/without ECS-CE4		Standby/Alarm (SBUS):		10 mA	mA	mA

Table 3.2 Current Draw Worksheet for IDP SLC Devices (Continued)

	Device	# of Devices	Current per Device		Standby Current	Alarm Current
	ECS-125W Voice Amplifier with/without ECS-CE4		Standby/Alarm (SBUS):	10 mA	mA	mA
	ECS-INT50W Internal Amplifier		Standby:	52 mA	mA	
			Alarm @ 25V:	275 mA		mA
			Alarm @ 70V:	310 mA		mA
	ECS-DUAL50W Dual Voice Amp		Standby/Alarm (SBUS):	10 mA	mA	mA
	ECS-50WBU Back-Up Amplifier		Standby/Alarm:	10 mA	mA	mA
	ECS-VCM Voice Control Module		Standby:	70 mA	mA	
			Alarm:	100 mA		mA
	ECS-NVCM Voice Control Module		Standby/Alarm:	59 mA	mA	mA
	ECS-RVM Remote Voice Module		Standby:	60 mA		
			Alarm:	80 mA		
	ECS-SW24 Switch Expander		Standby:	10 mA	mA	
			Alarm:	25 mA		mA
	ECS-RPU Remote Paging Unit		Standby:	70 mA	mA	
			Alarm:	100 mA		mA
	ECS-LOC Local Operating Console		Standby:	93 mA	mA	
			Alarm:	133 mA		mA
	ECS-LOC Local Operating Console with one ECS-SW24		Standby:	103 mA	mA	
			Alarm:	158 mA		mA
	ECS-LOC2100 Local Operating Console		Standby:	93 mA	mA	
			Alarm:	133 mA		mA
	ECS-LOC2100 Local Operating Console with one ECS-SW24 Expander		Standby:	103 mA	mA	
			Alarm:	158 mA		mA
	ECS-LOC2100 Local Operating Console with two ECS-SW24 Expanders		Standby:	113 mA	mA	
			Alarm:	183 mA		mA
	Network Cards					
	SK-NIC Network Interface Card		Standby/Alarm:	21 mA	mA	mA
	SK-FML Fiber Optic Multi Mode		Standby/Alarm:	53 mA	mA	mA
	SK-FSL Fiber Optic Single Mode		Standby/Alarm:	79 mA	mA	mA
	Wireless Modules					
	WIDP-WGI Wireless Gateway		Max current using ext supply	40 mA	mA	mA
			Max current SLC Power	24 mA	mA	mA
A	Total System Current					
	Auxiliary Devices	Refer to devices manual for current rating				
	IPDACT-2 IP Communicator		Standby:	93 mA	mA	
			Alarm:	136 mA		mA
	IPDACT-2UD IP Communicator		Standby:	98 mA	mA	
			Alarm:	155 mA		mA
	CELL-MOD/CELL-CAB-SK		Standby:	55 mA	mA	
			Alarm:	100 mA		mA
	HWF2-COM Series		Standby:	210 mA	mA	
			Alarm:	290 mA		mA
			Alarm/Standby:	mA	mA	mA
			Alarm/Standby:	mA	mA	mA
B	Auxiliary Devices Current[6]					
	Notification Devices	Refer to device manual for current rating				

Table 3.2 Current Draw Worksheet for IDP SLC Devices (Continued)

	Device	# of Devices	Current per Device	Standby Current	Alarm Current
	5495/5499 Power Supply		Standby: 75 mA		mA
			Alarm: 205 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 0.001):			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 = 0.0833 hours)				H
I	Multiply lines E and H. Total alarm AH				AH
J	Add lines G and I.			AH	
	Multiply by the Derating Factor			1.25	
	Total ampere hours required[7]			AH	

Table 3.2 Current Draw Worksheet for IDP SLC Devices (Continued)

1 The FACP can only support 5 devices with LEDs on. The current draw has been added to the panels alarm current.
2 Total does not include isolator devices or accessory bases.
3 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 everyday operation.
4 The IDP-PHOTO-R/-W/-IV is sold separately from the DNR. Current draw for the DNR + IDP-PHOTO-R/-W/-IV is calculated by increasing the “Number of Devices” column for each IDP-PHOTO-R/-W/-IV used with a DNR.
5 Maximum SBUS address capacity is determined by the amount of SBUS bandwidth consumed by each SBUS module. Refer to Section 4.16.2 for SBUS limitations.
6 If there are door holders in the system, there is no 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 1.8 A total current that can be drawn from the panel.
7 Use next size battery with capacity greater than required.

3.5.3 Current Draw Worksheet for SK SLC Devices

Use Table 3.3 to determine current requirements during alarm/battery standby operation when SK SLC devices are installed. You can install up to 159 SK sensors per loop (2,100 points max per panel) *and* 159 modules per loop (points max per panel).

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 (Current draw from battery)	1	Standby 230 mA	230 mA	
		Alarm: 415 mA		415 mA[1]
Addressable SLC Detectors				
SK-PHOTO			mA	mA
SK-PHOTO-T			mA	mA
SK-PHOTO-R			mA	mA
SK-HEAT		Standby: 0.3 mA Alarm: 6.5 mA[1]	mA	mA
SK-HEAT-HT			mA	mA
SK-HEAT-ROR			mA	mA
SK-ACCLIMATE			mA	mA
SK-PHOTO-W			mA	mA
SK-PHOTO-T-W			mA	mA
SK-PHOTO-R-W			mA	mA
SK-HEAT-W		Standby: 0.2 mA Alarm: 4.5 mA[1]	mA	mA
SK-HEAT-HT-W			mA	mA
SK-HEAT-ROR-W			mA	mA
SK-PHOTO-CO-W			mA	mA
SK-CO-W			mA	mA

Table 3.3 Current Draw Worksheet for SK SLC Devices

Device	# of Devices	Current per Device			Standby Current	Alarm Current
SK-BEAM (without integral test)		SLC	Standby/Alarm:	2 mA	mA	mA
		Aux. Pwr	Standby:	2 mA	mA	
			Alarm:	8.5 mA		mA
SK-BEAM-T^2 (with integral test)		SLC	Standby/Alarm:	2 mA	mA	mA
		Aux. Pwr	Standby:	2 mA	mA	
			Alarm:	8.5 mA		mA
OSI-RI-SK		SLC	Standby/Alarm:	20 mA	mA	mA
		Aux. Pwr	Standby:	22 mA	mA	
			Alarm:	20 mA		mA
SK-FIRE-CO		SLC	Standby:	0.30 mA	mA	
			Alarm:	7 mA		mA
SK-FIRE-CO-W		SLC	Standby:	0.20 mA	mA	
			Alarm:	4.5 mA		mA
SK-PTIR-W		SLC	Standby:	0.20 mA	mA	
			Alarm:	4.5 mA		mA
Addressable SLC Modules						
SK-MONITOR		Standby/Alarm		0.375 mA	mA	mA
SK-MINIMON		Standby/Alarm		0.375 mA	mA	mA
SK-PULL-SA/SK-PULL-DA		Standby/Alarm		0.3 mA	mA	mA
SK-MONITOR-2		Standby/Alarm:		0.75 mA	mA	mA
SK-MONITOR-10		Standby/Alarm:		3.5 mA	mA	mA
SK-CONTROL		SLC	Standby	0.375 mA	mA	
			Alarm:	0.375 mA		mA
		Aux Pwr	Standby	1.7 mA	mA	
			Alarm:	6.5mA		mA
SK-CONTROL-6		SLC	Standby	2.65 mA	mA	
			Alarm:	35 mA		mA
		Aux Pwr	Standby	8 mA	mA	
			Alarm:	20 mA		mA
SK-RELAY		Standby/Alarm:		0.255 mA	mA	mA
SK-RELAY-6		Standby:		1.9 mA	mA	
		Alarm:		32 mA		mA
SK-RELAYMON-2		Standby:		1.3 mA	mA	
		Alarm:		24 mA		mA
SK-ZONE		Aux Pwr	Standby	12 mA	mA	
			Alarm:	90 mA		mA
		SLC	Standby:	0.27 mA	mA	
			Alarm:	5.1 mA		
SK-ZONE-6		Aux Pwr	Standby	50 mA	mA	
			Alarm:	70 mA		mA
		SLC	Standby	2.3 mA	mA	
			Alarm:	40 mA		mA
SLC Accessories						
B200SR/-W/-IV Sounder Base		Aux Pwr	Standby:	0.5 mA	mA	
			Alarm:	35 mA		mA
		SLC	Standby	0.3 mA	mA	
B200S/-W/-IV Intelligent Sounder Base		Aux Pwr	Standby:	0.5 mA	mA	
			Alarm: (high vol)	35 mA		mA
		SLC	Standby	0.3 mA	mA	

Table 3.3 Current Draw Worksheet for SK SLC Devices (Continued)

Device	# of Devices	Current per Device			Standby Current	Alarm Current
B200SR-LF/-W/-IV Low Frequency Sounder Base		Aux Pwr	Standby:	1 mA	mA	
			Alarm:	125 mA		mA
B200S-LF/-W/-IV Intelligent Low Frequency Sounder Base		Aux Pwr	Standby	0.55 mA	mA	
			Alarm (high vol)	140 mA		mA
		SLC	Standby	0.30 mA	mA	
B224RB/-W/-IV Relay Base		Standby/Alarm:		0.17 mA	mA	mA
RTS151		Alarm:		10 mA		mA
RTS151KEY		Alarm:		12 mA		mA
RA100Z		Alarm:		10 mA		mA
SLC Isolator Devices						
SK-ISO (Isolator Module)		Standby:		0.45 mA	mA	mA
		Isolation:		17 mA		
ISO-6 (6 Fault Isolator Module)		Standby: (per circuit)		0.45 mA	mA	
		Isolation: (per circuit)		17 mA		mA
B224BI/-W/-IV Isolator Base		Standby:		0.45 mA	mA	
		Isolation:		15 mA		mA
Accessories Modules[3]						
6815 SLC Loop Expander		Standby:		78 mA	mA	
		Alarm:		78 mA		mA
RA-2000 Remote LCD Annunciator		Standby:		35 mA	mA	
		Alarm:		53 mA		mA
RA-1000 Remote LCD Annunciator		Standby:		58 mA	mA	
		Alarm:		68 mA		mA
RA-100 Remote LCD Annunciator		Standby:		59 mA	mA	
		Alarm:		92 mA		mA
5824 Serial/Parallel Module		Standby/Alarm:		45 mA	mA	mA
5496 NAC Expander		Standby/Alarm (SBUS):		10 mA	mA	mA
RPS-1000 Power Supply		Standby/Alarm (SBUS):		10 mA	mA	mA
5865-4 LED Annunciator (with reset and silence switches)		Standby:		35 mA	mA	
		Alarm:		145 mA		mA
5865-3 LED Annunciator Module		Standby:		35 mA	mA	
		Alarm:		145 mA		mA
5880 LED I/O Module		Standby:		35 mA	mA	
		Alarm:		200 mA		mA
5883 Relay Interface		Standby:		0 mA	mA	
		Alarm: (22 mA/relay)		220 mA		mA
ECS-50W Voice Amplifier with/without ECS-CE4		Standby/Alarm (SBUS):		10 mA	mA	mA
ECS-125W Voice Amplifier with/without ECS-CE4		Standby/Alarm (SBUS):		10 mA	mA	mA
ECS-INT50W Internal Amplifier		Standby:		52 mA	mA	
		Alarm @ 25V:		275 mA		mA
		Alarm @ 70V:		310 mA		mA
ECS-DUAL50W Dual Voice Amp		Standby/Alarm (SBUS):		10 mA	mA	mA
ECS-50WBU Back-Up Amplifier		Standby/Alarm:		10 mA	mA	mA
ECS-VCM Voice Control Module		Standby:		70 mA	mA	
		Alarm:		100 mA		mA
ECS-NVCM Voice Control Module		Standby/Alarm:		59 mA	mA	mA
ECS-RVM Remote Voice Module		Standby:		60 mA		
		Alarm:		80 mA		

Table 3.3 Current Draw Worksheet for SK SLC Devices (Continued)

	Device	# of Devices	Current per Device		Standby Current	Alarm Current
	ECS-SW24 Switch Expander		Standby:	10 mA	mA	
			Alarm:	25 mA		mA
	ECS-RPU Remote Paging Unit		Standby:	70 mA	mA	
			Alarm:	100 mA		mA
	ECS-LOC Local Operating Console		Standby:	93 mA	mA	
			Alarm:	133 mA		mA
	ECS-LOC Local Operating Console with one ECS-SW24		Standby:	103 mA	mA	
			Alarm:	158 mA		mA
	ECS-LOC2100 Local Operating Console		Standby:	93 mA	mA	
			Alarm:	133 mA		mA
	ECSLOC2100 Local Operating Console with one ECS-SW24 Expander		Standby:	103 mA	mA	
			Alarm:	158 mA		mA
	ECS-LOC2100 Local Operating Console with two ECS-SW24 Expanders		Standby:	113 mA	mA	
			Alarm:	183 mA		mA
	Network Cards					
	SK-NIC Network Interface Card		Standby/Alarm:	21 mA	mA	mA
	SK-FML Fiber Optic Multi Mode		Standby/Alarm:	53 mA	mA	mA
	SK-FSL Fiber Optic Single Mode		Standby/Alarm:	79 mA	mA	mA
	Wireless Modules					
	WIDP-WGI Wireless Gateway		Max current using ext supply	40 mA	mA	mA
			Max current SLC Power	24 mA	mA	mA
A	Total System Current					
	Auxiliary Devices	Refer to devices manual for current rating				
	IPDACT-2 IP Communicator		Standby:	93 mA	mA	
			Alarm:	136 mA		mA
	IPDACT-2UD IP Communicator		Standby:	98 mA	mA	
			Alarm:	155 mA		mA
	CELL-MOD/CELL-CAB-SK		Standby:	55 mA	mA	
			Alarm:	100 mA		mA
	HWF2-COM Series		Standby:	210 mA	mA	
			Alarm:	290 mA		mA
			Alarm/Standby:	mA	mA	mA
			Alarm/Standby:	mA	mA	mA
B	Auxiliary Devices Current[4]					
	Notification Devices	Refer to device manual for current rating				
	5495/5499 Power Supply		Standby:	75 mA		mA
			Alarm:	205 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 0.001):				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 = 0.0833 hours)					H
I	Multiply lines E and H.		Total alarm AH			AH
J	Add lines G and I.				AH	

Table 3.3 Current Draw Worksheet for SK SLC Devices (Continued)

Device	# of Devices	Current per Device	Standby Current	Alarm Current
Multiply by the Derating Factor			1.25	
Total ampere hours required[5]			AH	

Table 3.3 Current Draw Worksheet for SK SLC Devices (Continued)

1 Total does not include isolator devices or accessory bases.
2 The SK-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 everyday operation.
3 Maximum SBUS address capacity is determined by the amount of SBUS bandwidth consumed by each SBUS module. Refer to Section 4.16.2 for SBUS limitations.
4 If there are door holders in the system, there is no 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 1.8 A total current that can be drawn from the panel.
5 Use next size battery with capacity greater than required.

3.5.4 Current Draw Worksheet for SD SLC Devices

Use Table 3.4 to determine current requirements during alarm/battery standby operation when SD SLC devices are installed. You can install up to 127 SD devices per loop2,032. Copy this section if additional space is required.

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 (Current draw from battery)	1	Standby		230 mA	230 mA	
		Alarm:		415 mA		415 mA[1]
SD500-AIM		Standby/Alarm:		0.55 mA[1]	mA	mA
SD500-MIM					mA	mA
SD500-PS					mA	mA
SD500-ARM					mA	mA
SD505-HEAT					mA	mA
SD505-PHOTO					mA	mA
SD500-ANM		Aux. Pwr	Standby:	8 mA	mA	
			Alarm:	60 mA		mA
		SLC	Standby/Alarm:	0.55 mA	mA	mA
SD500-SDM		SLC	Standby/Alarm:	0.55 mA	mA	mA
		Aux. Pwr	Standby:	20 mA	mA	
			Alarm:	106 mA		mA
SLC Accessory Base						
SD505-6RB		Standby/Alarm:		0.082 mA	mA	mA
SD505-6SB		Aux. Pwr	Standby:	1 mA	mA	
			Alarm:	32 mA		mA
		SLC	Standby/Alarm:	0.082 mA	mA	mA
SD505-DUCTR		Aux. Pwr	Standby:	20 mA[2]	mA	
			Alarm:	62 mA[2]		mA
		SLC	Standby/Alarm:	0.5 mA	mA	mA
SD505-DTS-K			None, included with SD505-DUCTR worst case.			
SD505-DUCT		SLC	Standby/Alarm	0.5 mA	mA	mA
SLC Isolator Devices						
SD505-LIM		Standby/Alarm		0.092 mA	mA	mA
SD505-6IB						
Accessories Modules[3]						
5815XL SLC Expander		Standby/Alarm:		55 mA	mA	mA

Table 3.4 Current Calculation Worksheet for SD Devices

Device	# of Devices	Current per Device		Standby Current	Alarm Current
RA-2000 Remote LCD Annunciator		Standby:	35 mA	mA	
		Alarm:	53 mA		mA
RA-1000 Remote LCD Annunciator		Standby:	58 mA	mA	
		Alarm:	68 mA		mA
RA-100 Remote LCD Annunciator		Standby:	59 mA	mA	
		Alarm:	92 mA		mA
5824 Serial/Parallel Module		Standby/Alarm:	45 mA	mA	mA
5496 NAC Expander		Standby/Alarm (SBUS):	10 mA	mA	mA
RPS-1000 Power Supply		Standby/Alarm (SBUS):	10 mA	mA	mA
5865-4 LED Annunciator (with reset and silence switches)		Standby:	35 mA	mA	
		Alarm:	145 mA		mA
5865-3 LED Annunciator Module		Standby:	35 mA	mA	
		Alarm:	145 mA		mA
5880 LED I/O Module		Standby:	35 mA	mA	
		Alarm:	200 mA		mA
5883 Relay Interface		Standby:	0 mA	mA	
		Alarm: (22 mA/relay)	220 mA		mA
ECS-50W Voice Amplifier with/without ECS-CE4		Standby/Alarm (SBUS):	10 mA	mA	mA
ECS-125W Voice Amplifier with/without ECS-CE4		Standby/Alarm (SBUS):	10 mA	mA	mA
ECS-INT50W Internal Amplifier		Standby:	52 mA	mA	
		Alarm @ 25V:	275 mA		mA
		Alarm @ 70V:	310 mA		mA
ECS-DUAL50W Dual Voice Amp		Standby/Alarm (SBUS):	10 mA	mA	mA
ECS-50WBU Back-Up Amplifier		Standby/Alarm:	10 mA	mA	mA
ECS-VCM Voice Control Module		Standby:	70 mA	mA	
		Alarm:	100 mA		mA
ECS-NVCM Voice Control Module		Standby/Alarm:	59 mA	mA	mA
ECS-RVM Remote Voice Module		Standby:	60 mA		
		Alarm:	80 mA		
ECS-SW24 Switch Expander		Standby:	10 mA	mA	
		Alarm:	25 mA		mA
ECS-RPU Remote Paging Unit		Standby:	70 mA	mA	
		Alarm:	100 mA		mA
ECS-LOC Local Operating Console		Standby:	93 mA	mA	
		Alarm:	133 mA		mA
ECS-LOC Local Operating Console with one ECS-SW24		Standby:	103 mA	mA	
		Alarm:	158 mA		mA
ECS-LOC2100 Local Operating Console		Standby:	93 mA	mA	
		Alarm:	133 mA		mA
ECSLOC2100 Local Operating Console with one ECS-SW24 Expander		Standby:	103mA	mA	
		Alarm:	158 mA		mA
ECS-LOC2100 Local Operating Console with two ECS-SW24 Expanders		Standby:	113 mA	mA	
		Alarm:	183 mA		mA
Network Cards					
SK-NIC Network Interface Card		Standby/Alarm:	21 mA	mA	mA
SK-FML Fiber Optic Multi Mode		Standby/Alarm:	53 mA	mA	mA

Table 3.4 Current Calculation Worksheet for SD Devices (Continued)

	Device	# of Devices	Current per Device	Standby Current	Alarm Current
	SK-FSL Fiber Optic Single Mode		Standby/Alarm: 79 mA	mA	mA
	Wireless Modules				
	WIDP-WGI Wireless Gateway		Max current using ext supply 40 mA	mA	mA
			Max current SLC Power 24 mA	mA	mA
A	Total System Current				
	Auxiliary Devices[4]	Refer to devices manual for current rating			
	IPDACT-2 IP Communicator		Standby: 93 mA	mA	
			Alarm: 136 mA		mA
	IPDACT-2UD IP Communicator		Standby: 98 mA	mA	
			Alarm: 155 mA		mA
	CELL-MOD/CELL-CAB-SK		Standby: 55 mA	mA	
			Alarm: 100 mA		mA
	HWF2-COM Series		Standby: 210 mA	mA	
			Alarm: 290 mA		mA
			Alarm/Standby: mA	mA	mA
			Alarm/Standby: mA	mA	mA
B	Auxiliary Devices Current				
	Notification Devices	Refer to device manual for current rating			
	5495/5499 Power Supply		Standby: 75 mA		mA
			Alarm: 205 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 0.001):			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 = 0.0833 hours)				H
I	Multiply lines E and H. Total alarm AH				AH
J	Add lines G and I.			AH	
	Multiply by the Derating Factor			1.25	
	Total ampere hours required[5]			AH	

Table 3.4 Current Calculation Worksheet for SD Devices (Continued)

1 Total does not include isolator devices or accessory bases
2 If using 24 VDC aux power only. No standby or alarm current is needed for battery calculation if using 24 VAC, 120 VAC, or 240 VAC.
3 Maximum SBUS address capacity is determined by the amount of SBUS bandwidth consumed by each SBUS module. Refer to Section 4.16.2 for SBUS limitations.
4 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 1.0A total current that can be drawn from the panel.
5 Use next size battery with capacity greater than required.

3.5.5 Maximum Battery Standby Load

Tables 3.5 and 3.6 show the standby load calculations for the IFP-2100based on 24 and 90 hours of standby. The standby load calculations of line D in the Current Draw Calculation Worksheet must be less than the number shown in Tables 3.5 and 3.6 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.

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

Table 3.5 Maximum Battery Standby Loads for 24 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	347 mA	331 mA	322 mA
55 AH	480 mA	464 mA	456 mA

Table 3.6 Maximum Battery Standby Loads for 90 Hour Standby (FM applications only)

WARNING: BATTERY SIZE

FARENHYT DOES NOT SUPPORT THE USE OF BATTERIES SMALLER THAN THOSE LISTED IN TABLES 3.5 AND 3.6. 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 3.5 AND TABLE 3.6 TO CALCULATE THE CORRECT BATTERY AMP HOUR RATING NEEDED FOR YOUR INSTALLATION. IT IS RECOMMENDED THAT YOU REPLACE BATTERIES EVERY FIVE YEARS.

Section 4: BN Control Panel Installation

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 IFP-2100 cabinet can be surface or flush mounted. Cabinet base dimensions are 24.75” H x 14.5" W. If you flush mount, 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-2100ECS cabinet can be surface or flush mounted. Cabinet base dimensions are 26.5” H x 20.0"W. If you flush mount the cabinet, 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 Sheetrock. Do NOT flush mount in a wall designated as a fire break.

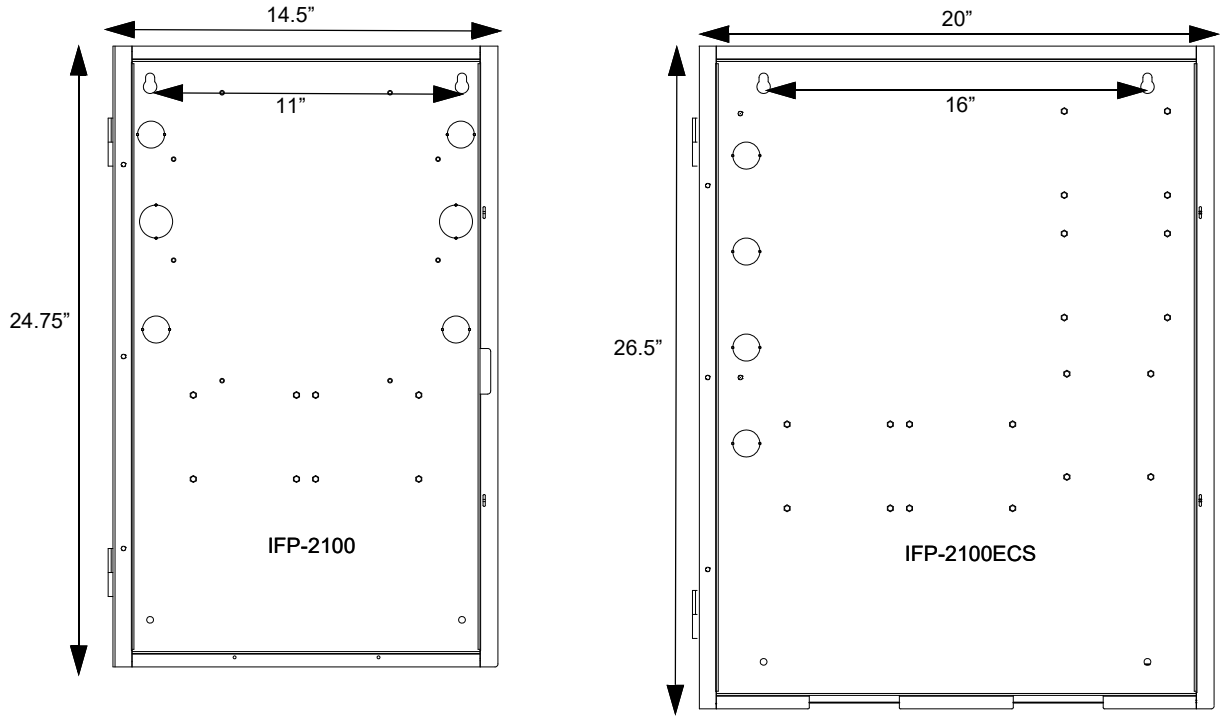


Figure 4.1 FACP Cabinet Dimensions

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 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.

4.1.3 Ethernet Connection

The Ethernet connect is used for IP communication. For port location, see the figure below.

4.2 Board Assembly Diagram

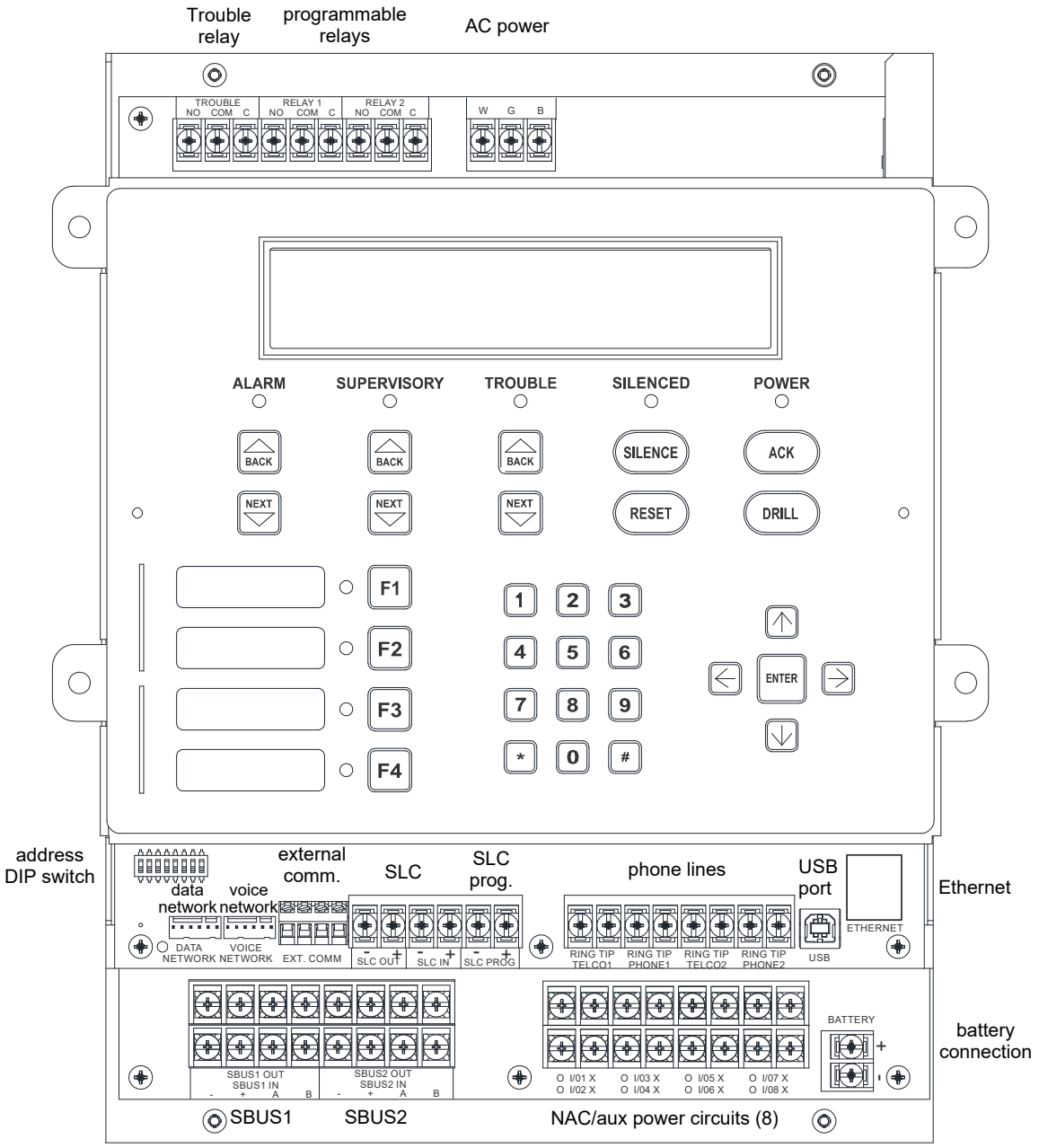


Figure 4.2 IFP-2100 Assembly Layout

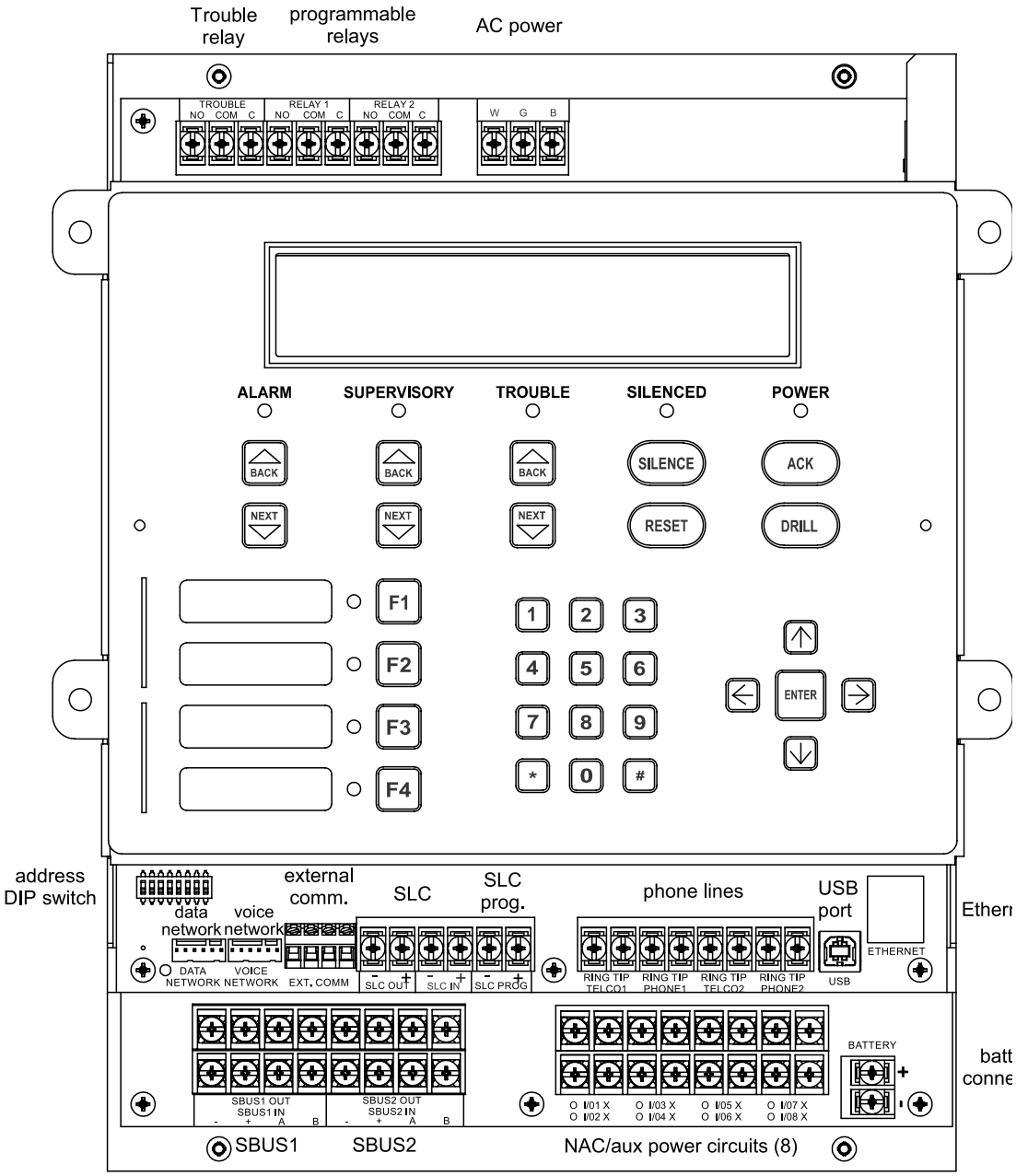


Figure 4.3

Figure 4.2 shows the circuit boards, metal housing and annunciator that attach the IFP-2100 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.

4.3 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
POTS reporting input/output	Phone line circuits, Ring Tip Telco, Phone Terminals
Notification circuits	I/O1-I/O8 Terminals
SBUS	SBUS1 In/Out Terminals, SBUS 2 In/Out Terminals, Cellular communication
Relay circuits	Trouble, Relay 1, Relay 2 Terminals

- 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 4.5 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.

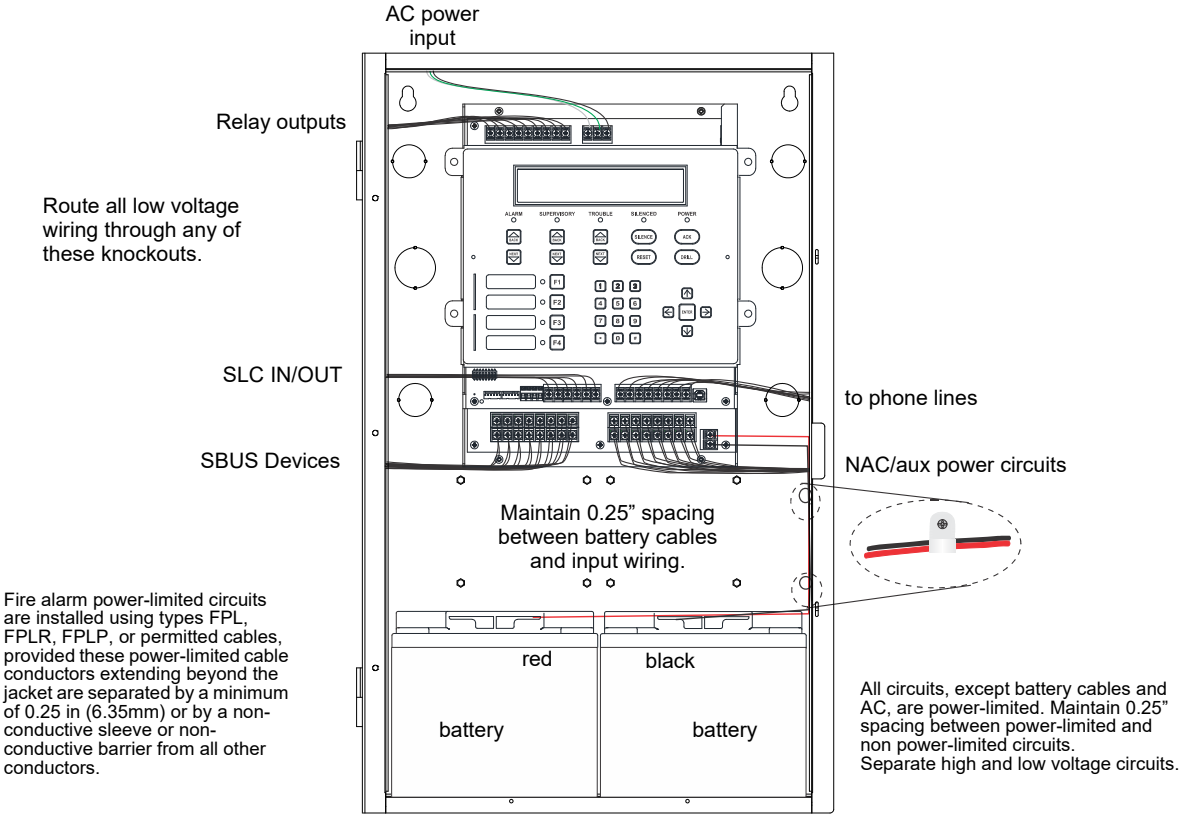


Figure 4.4 Wire Routing Example for IFP-2100

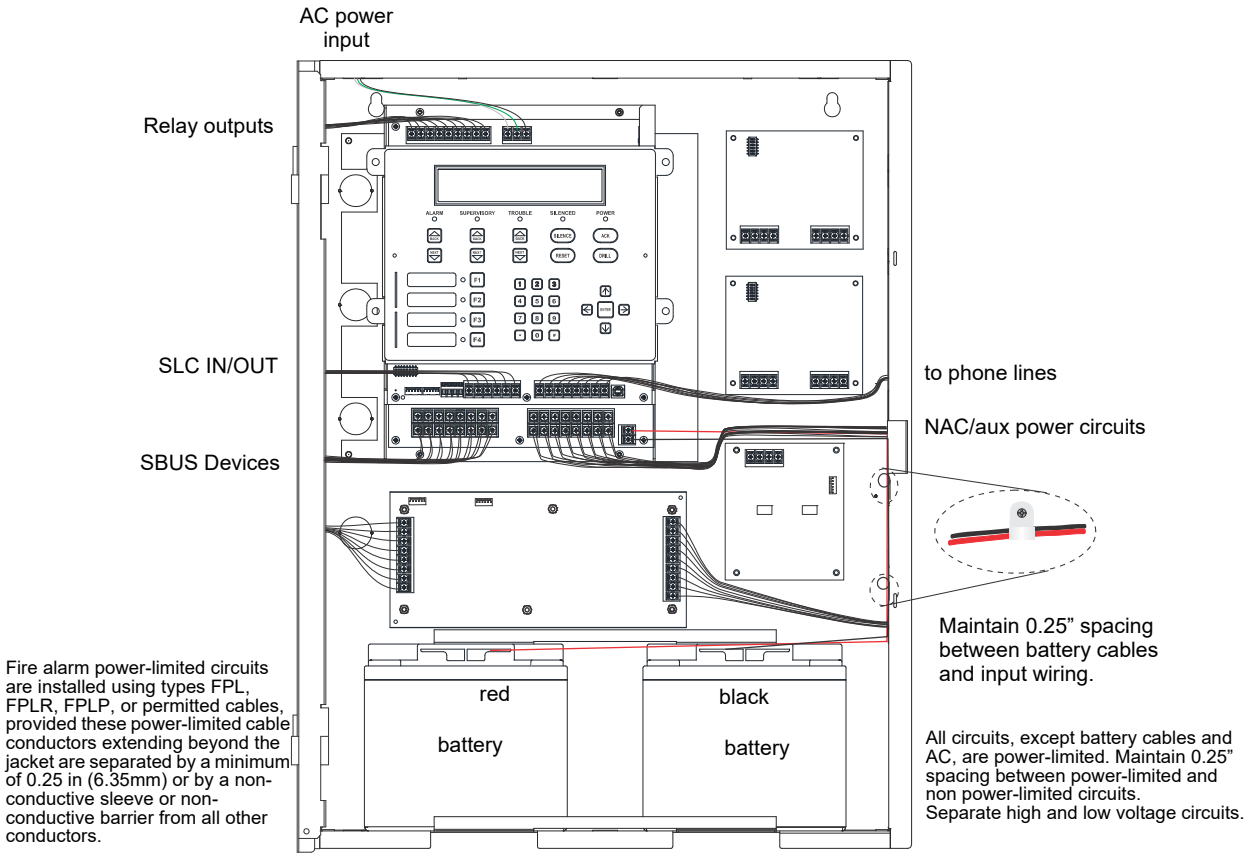


Figure 4.5 Wire Routing Example for IFP-2100ECS

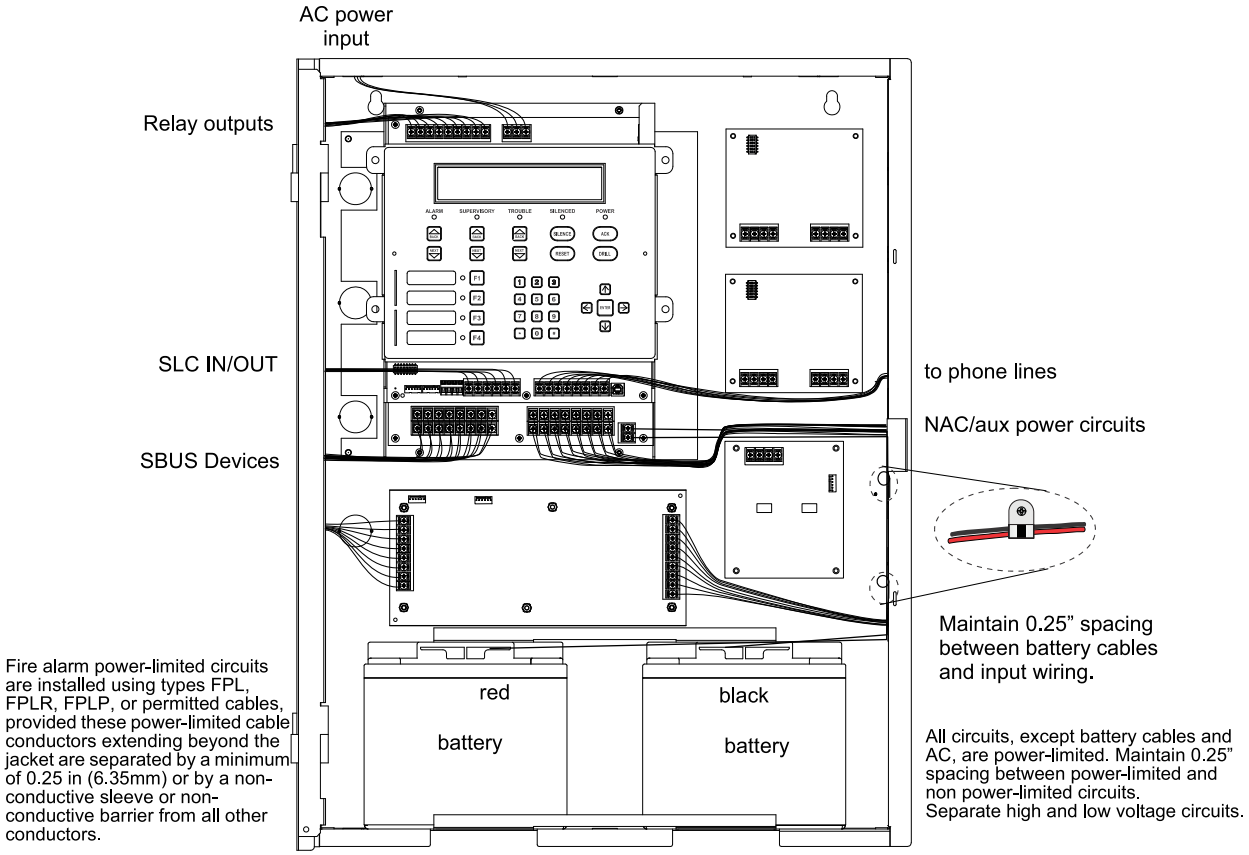


Figure 4.6

4.4 AC Power Connection

WARNING: RISK OF ELECTRICAL SHOCK AND EQUIPMENT DAMAGE

SEVERAL DIFFERENT SOURCES OF POWER CAN BE CONNECTED TO THIS PANEL. DISCONNECT ALL SOURCES OF POWER BEFORE SERVICING. THE PANEL AND ASSOCIATED EQUIPMENT MAY BE DAMAGED BY REMOVING AND/OR INSERTING CARDS, MODULES OR INTERCONNECTING CABLES WHILE THIS UNIT IS ENERGIZED

The AC terminals are rated at 120VAC, 50/60 Hz, 4.5A (for the IFP-2100/ECS) or 240VAC, 50/60 Hz, 2.8A (for the IFP-2100HV/ECSHV).

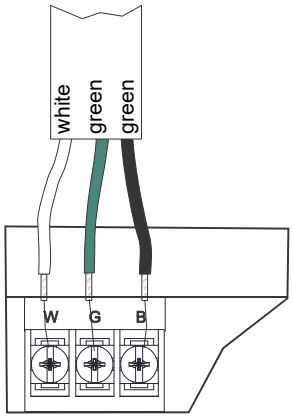


Figure 4.7 AC Power Connection

4.5 Battery Power

The batteries must be sealed lead acid type. Before connecting the batteries to the FACP, make certain that the interconnect cable between the batteries is not connected. Do not connect the battery jumper cable until the system is completely installed. Observe polarity when connecting the batteries.

WARNING: RISK OF PERSONAL INJURY

BATTERY CONTAINS SULFURIC ACID WHICH CAN CAUSE SEVERE BURNS TO THE SKIN AND EYES AND CAN DESTROY FABRICS. IF CONTACT IS MADE WITH SULFURIC ACID, IMMEDIATELY FLUSH THE SKIN OR EYES WITH WATER FOR 15 MINUTES AND SEEK IMMEDIATE MEDICAL ATTENTION

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 the standby load calculation (see Section 3.5).

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

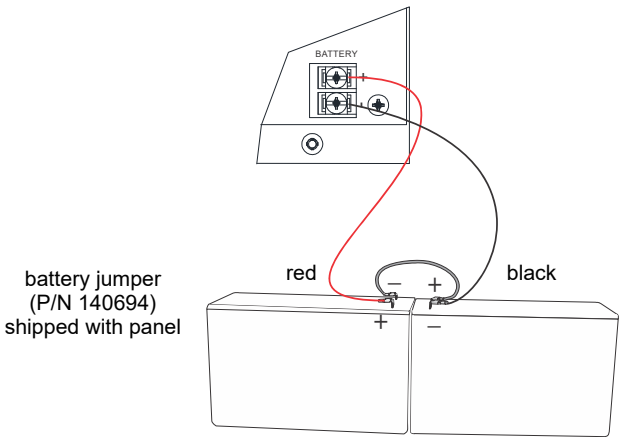


Figure 4.8 Battery Connection

4.5.1 Battery Accessory Cabinets

Model RBB or AB-55 accessory cabinets can be used when your backup battery requirements use 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).

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

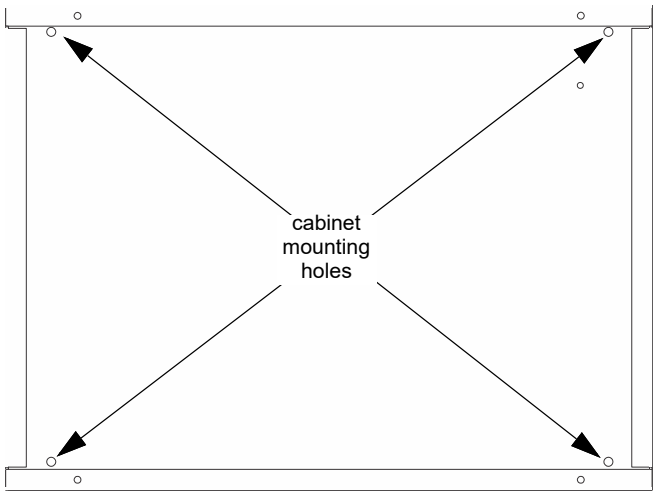


Figure 4.9 RBB/AB-55 Cabinet Mounting Holes

2. Connect the main control panel battery cables to the battery cable extenders as shown in Figure 4.10.

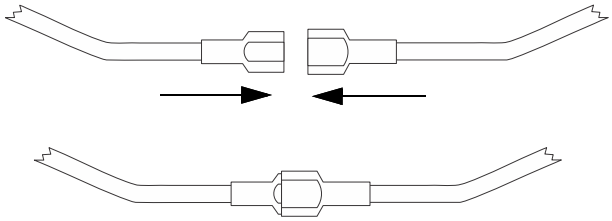


Figure 4.10 Splicing Control Panel Battery Cable to RBB/AB-55 Battery Cable Extenders

3. Run extended battery cable from control panel cabinet through conduit to RBB/AB-55 cabinet as shown below.
4. Connect battery leads to the backup battery terminals. Observe the proper polarity to prevent damage to the batteries or the control panel.
5. Insert the RBB/AB-55 cover screws into the cover mounting holes and screw down most of the way. Do not tighten.

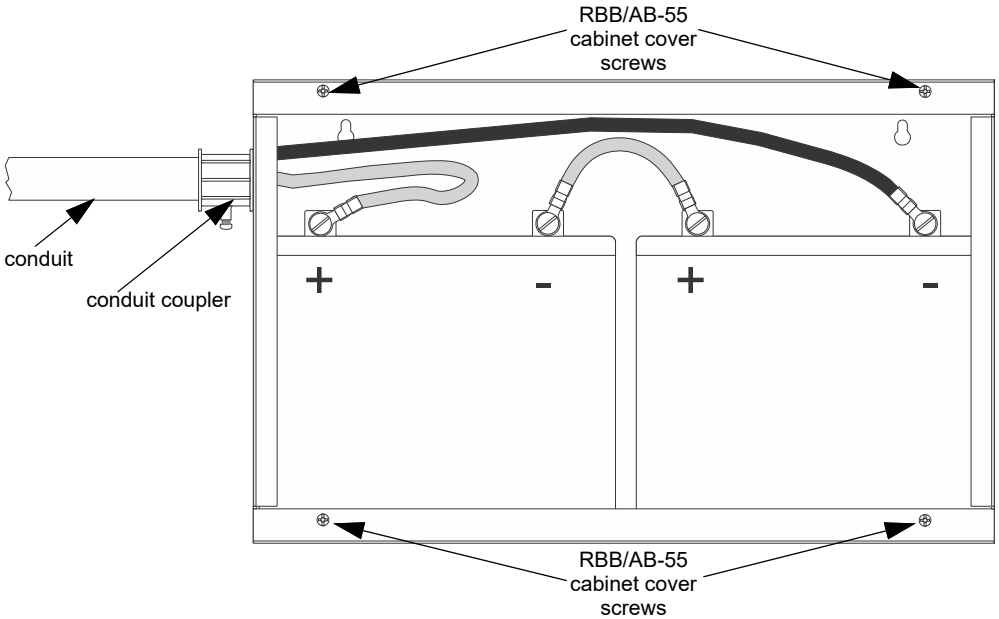


Figure 4.11 Battery Connections in the RBB/AB-55 Cabinet

NOTE: Figure 4.5 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.

6. Align the cover plate mounting keyhole over the cover mounting screws.

7. Slide the cover into place and tighten the cover mounting screws.

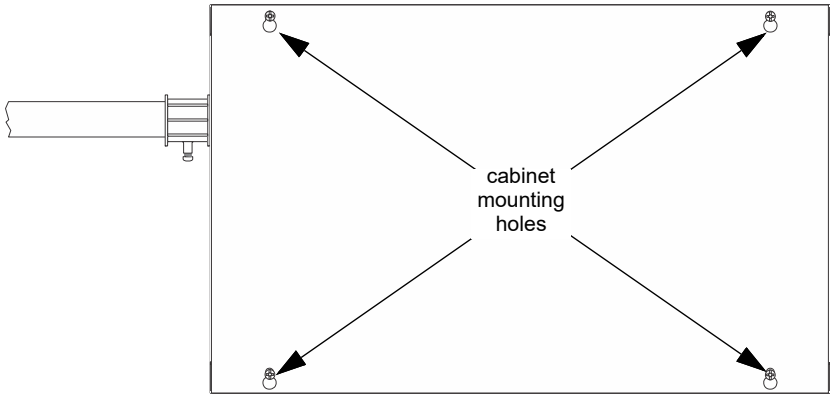


Figure 4.12 Cover Plate Mounting Keyholes and Cover Mounting Screws Alignment

4.6 SBUS Wiring

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

4.6.1 Calculating Wiring Distance for SBUS Modules

The IFP-2100 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, RA-1000, RA-100 Fire Annunciators	0.120 amps
5815XL SLC Loop	0.150 amps
6815 SLC Loop Expander	0.078 amps
5824 Serial/Parallel Printer Interface Module	0.040 amps
5880 LED I/O Module	0.250 amps
5865 LED Annunciator	0.200 amps
RPS-1000 Intelligent Power Supply	0.010 amps
5496 NAC Expander	0.010 amps
ECS-50W	0.010 amps
ECS-125W	0.010 amps
ECS-VCM / ECS-VCM with ECS-SW24[1]	0.115 amps /0.185 amps[2]
ECS-NVCM Network Voice Control Module	0.059 amps
ECS-EMG NVCM keypad	0.06 amps
ECS-LOC	0.210 amps /0.325 amps
ECS-DUAL50W	0.010 amps
ECS-DUAL50W with ECS-50WBU	0.010 amps
SK-NIC Network Interface Card	0.021 amps
CELL-MOD/CELL-CAB-SK	0.145 amps
SK-F485C Fiber Converter	0.125 amps

Table 4.1 SBUS Device Current Draw

1 All devices must use the same SBUS and VBUS.
2 When doing wire calculations, use .115 amps per device with .185 amps for the last device.

NOTE: Refer to Table 3.2 if using IDP SLC devices, Table 3.3 for SK devices, or Table 3.4 if using SD SLC devices for the maximum number of each type of device that can be used per system.

After calculating the total worst case current draw, refer to Table 4.2 below 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.The following formulas were used to generate the wire distance chart:

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.

Table 4.2 Wire Distances Per Wire Gauge Using Copper Wire

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

$$\text{Maximum Wire Length (Feet) (6000 feet maximum)} = \frac{\text{Maximum Resistance (Ohms)}}{\text{Rpu}} * 500$$

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

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

Table 4.3 Typical Wire Resistance Per 1000 ft. Using Copper Wire

■ Wiring Distance calculation example:

Suppose a system is configured with the following SBUS modules:

2 - Module RA-2000 Fire Annunciators

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 0.120 amps	= 0.240 amps
RPS-1000 Current Draw	= 1 x 0.010 amps	= 0.010 amps
5865 Current Draw	= 1 x 0.200 amps	= 0.200 amps
5824 Current Draw	= 1 x 0.040 amps	= 0.040 amps
Total Worst Case Current Draw		= 0.490 amps

Table 4.4 Worst Case Current Draw

NOTE: For assistance with SBUS calculations, please refer to www.farenhyt.com.

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

2,362 feet maximum using 14 Gauge wire

4.6.2 Wiring Configurations

Figure 4.13 illustrates SBUS1 Class A wiring configuration and Figure 4.14 illustrates SBUS1 Class B configuration. SBUS 2 wiring configurations are the same as SBUS 1.

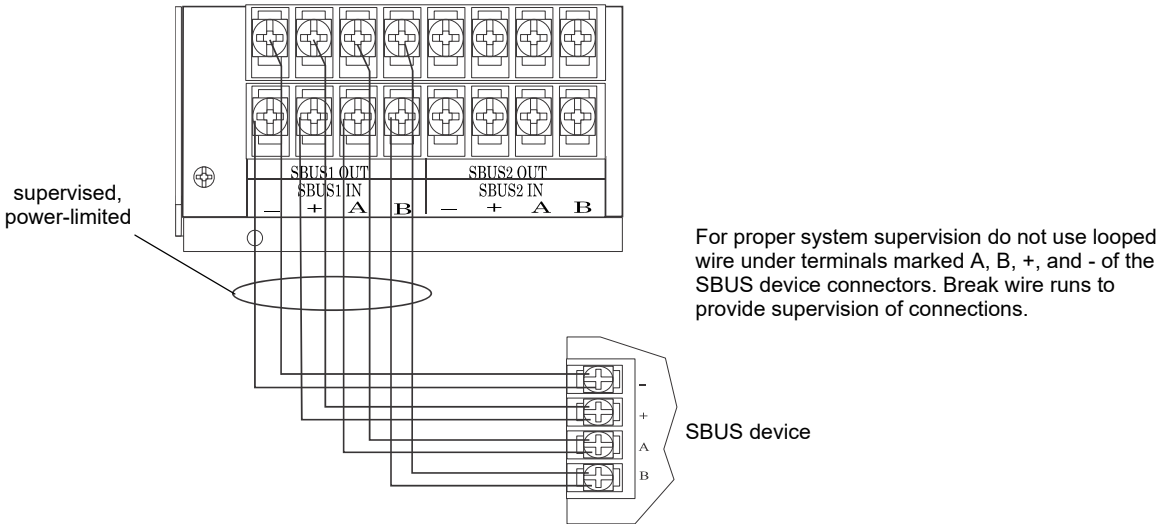


Figure 4.13 SBUS Class A Wiring

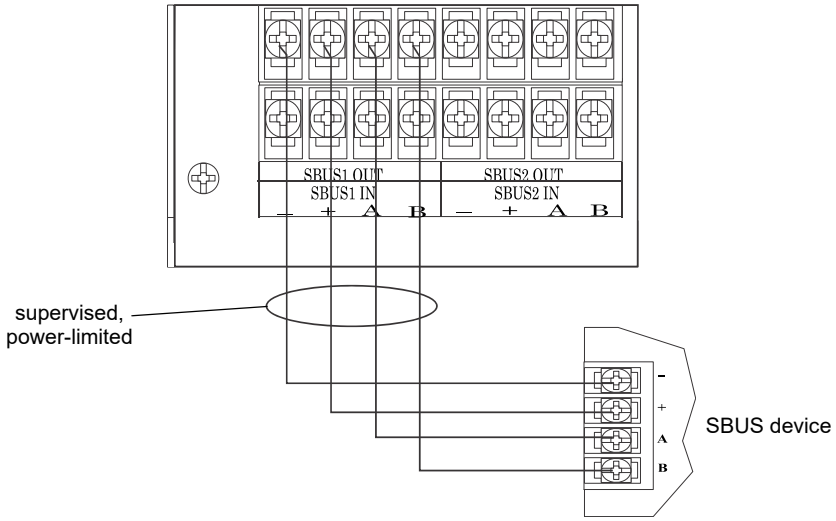


Figure 4.14 SBUS Class B Wiring

4.7 RA-100 Remote Annunciator Installation

The optional model RA-100 Remote Annunciator, is shown in Figure 4.15. The RA-100 can be surface or flush mounted. Up to 16 annunciators can be added to the Base SystemIFP-300 in any combination.

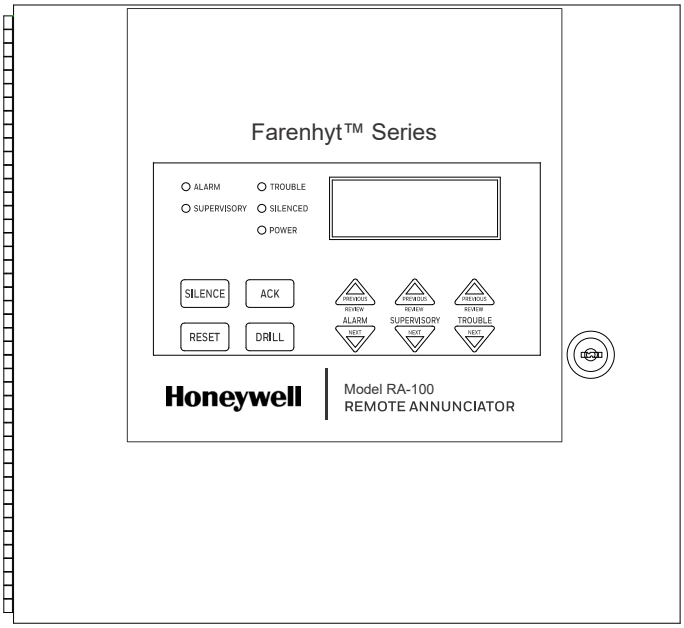


Figure 4.15 RA-100 Remote Annunciator

RA-100 installation involves the following steps:

1. Ensure power is off at the panel.
2. Mount the RA-100 in the desired location (see Section 4.7.1).
3. Connect the RA-100 to the panel (see Section 4.7.2).
4. Use the DIP switches on the back of the RA-100 to assign an ID#. (See Section Section 4.16.1.)
5. The new RA-100 module must be added to the system through programming. JumpStart Auto-Programming will add the module automatically (see Section 7.1). You can also add it manually (see Section 8.2.2). Select a name, if desired.

4.7.1 Mounting the RA-100

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

Flush Mounting

Backbox dimensions are 9-9/32” W x 8-3/8” H. Minimum depth is 2". The backbox can be mounted prior to the complete installation of the RA-100 using any of the mounting holes shown below.

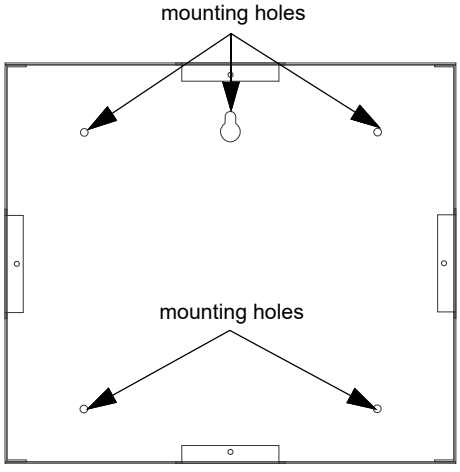


Figure 4.16 RA-100 Backbox Mounting

6. Remove knockout holes as needed for wires. There are 10 knockouts available, two on each side and two in the back of the cabinet.
7. Wire the annunciator board to the main control panel. Refer to Figure 4.19.
8. Attach the annunciator and door assembly to backbox as shown below using the supplied screws.

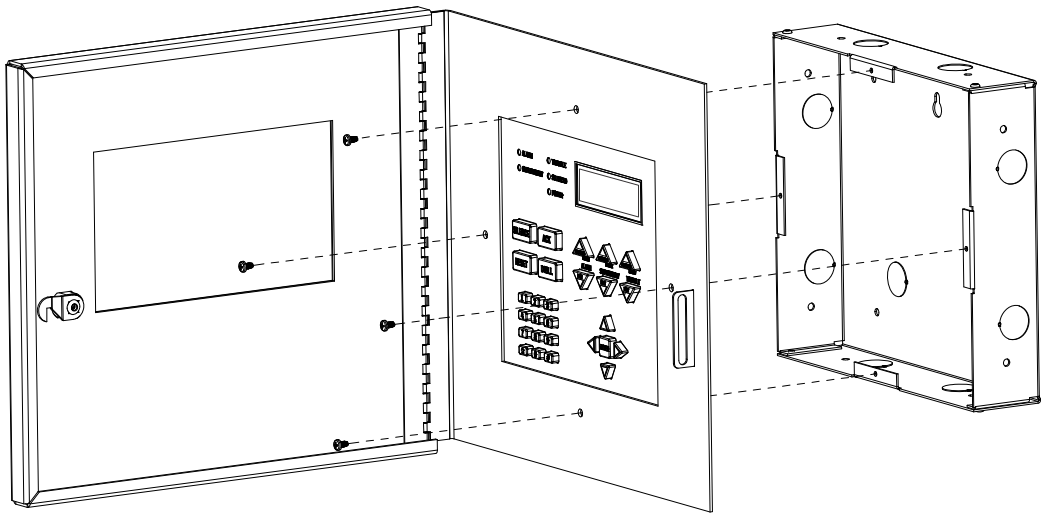


Figure 4.17 Attaching Annunciator/Door Assembly to Backbox

Surface Mounting

The optional Model RA-100TR Trim Ring Kit is available for use when surface mounting.

1. Remove the desired knockout.
2. Mark and pre-drill hole in the wall for the center top keyhole mounting bolt. Refer to Figure 4.16 for mounting hole locations.
3. Install center top fastener in the wall with the screw head protruding.
4. Place backbox over the top screw, level and secure.
5. Mark and drill the left and right upper and lower mounting holes.
6. Install remaining fasteners and tighten.
7. Run wires to the control panel. Refer to Figure 4.19.
8. Place the trim ring over the back box as shown below.

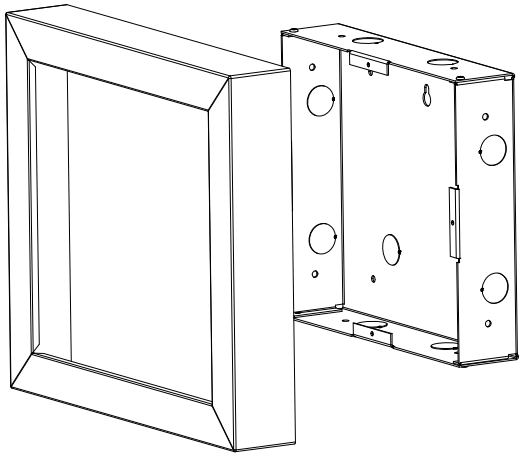


Figure 4.18 Installing Trim Ring

9. Attach the door assembly to the backbox using the screws provided. Refer to Figure 4.17.

4.7.2 RA-100 Connection to the Panel

Connect the RA-100 to the panel as shown below.

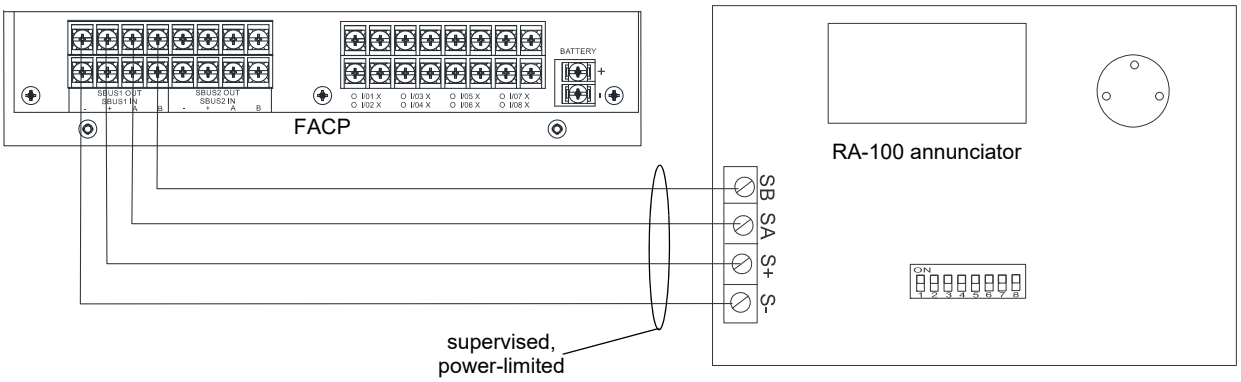


Figure 4.19 RA-100 Connection to the Panel

4.8 RA-1000 Remote Annunciator Installation

The RA-1000 is an optional remote annunciator. Up to 31 annunciators can be added to the IFP-2100 system.

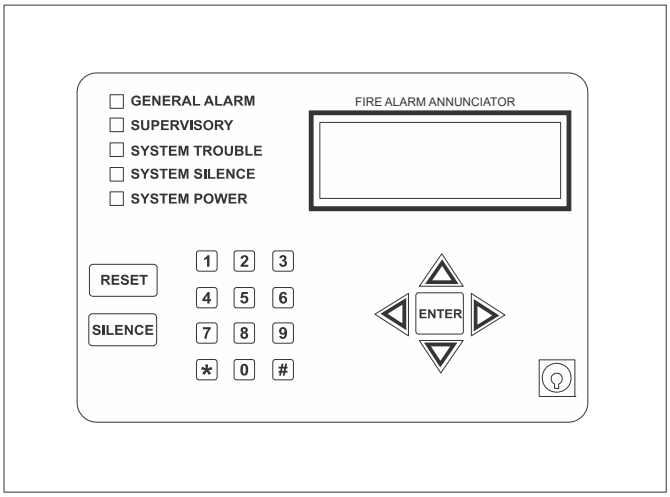


Figure 4.20 RA-1000 Remote Annunciator

RA-1000 installation involves the following steps:

1. Ensure the power is off at the panel.
2. Mount the RA-1000 in the desired location (see Section 4.8.1).
3. Connect the RA-1000 to the panel (see Figure 4.24).
4. Use the DIP switches on the back of the RA-1000 to assign an ID# to the annunciator (see Section 4.16.1).
5. The new RA-1000 module must be added to the system through programming. JumpStart will add the module automatically (see Section 8.6.9). You can also add it manually (see Section 8.2.2). Select a name, if desired.

4.8.1 Mounting the RA-1000

This section of the manual describes mounting the remote annunciator. The annunciator can be flush- or surface-mounted. Figure 4.21 shows the parts of the annunciator. Instructions for disassembling and mounting appear on the following pages.

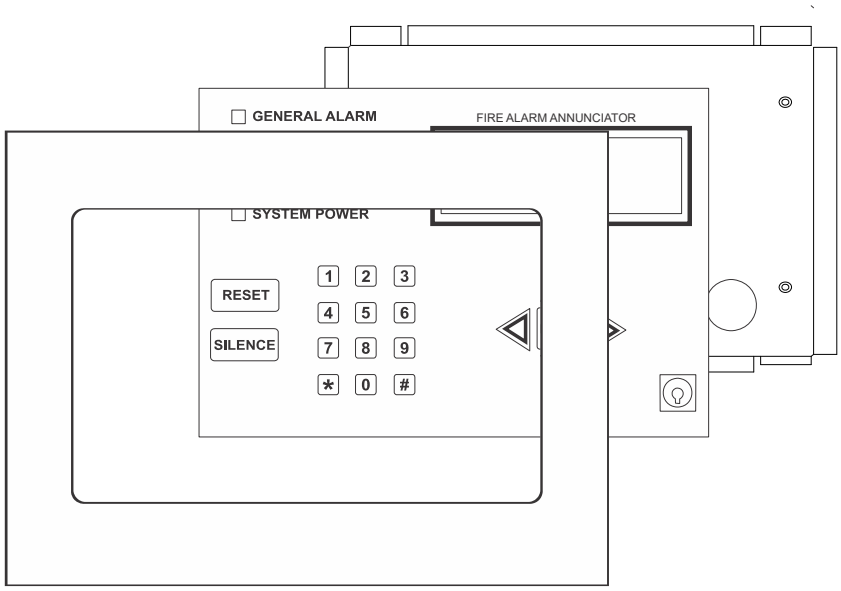


Figure 4.21 RA-1000Annunciator Parts

The RA-1000 comes from the factory fully assembled. You must disassemble it for mounting. To disassemble the annunciator, use a 5/64" hex wrench to remove the set screws, located on the bottom of the annunciator bezel. (See Figure 4.22 for location of the set screws.)

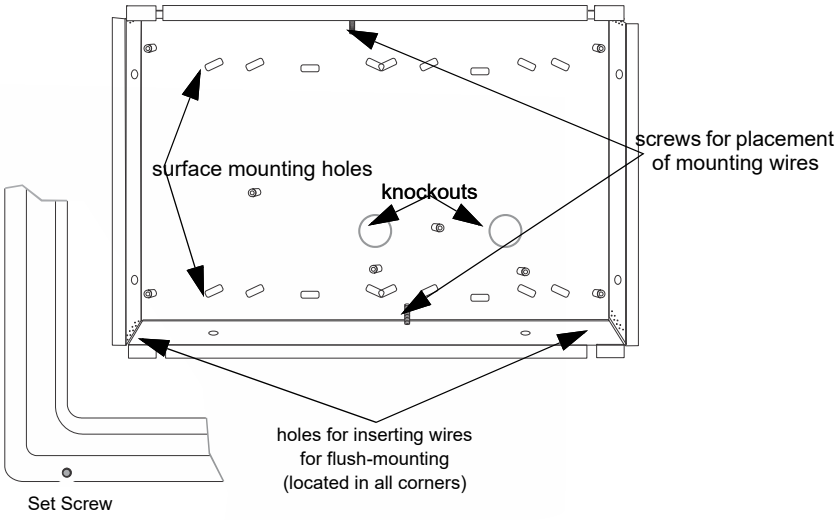


Figure 4.22 Annunciator Backbox and Bezel Details

Flush Mounting

This section of the manual describes flush mounting. You can flush-mount with or without an electrical box.

■ Flush Mounting with an Electrical Box

The RA-1000 annunciator can be used with the following types of electrical boxes: 4S, single-gang, and double-gang.

If an electrical box is used, the box must be 1-3/8" back from the face of the wall to accommodate the annunciator. Studs used with an electrical box must be 2x4" (or larger).

■ Flush Mounting Steps

1. Cut a hole in the sheet rock to the following dimensions: 8-1/4" W x 6-5/8"H. If an electrical box is used, the box must be 1-3/8" back from face of wall to accommodate the annunciator.
2. Remove knockout holes as needed for wires.
3. Fit the annunciator backbox into the hole and stabilize with mounting wires. Angle the mounting wires into the first hole past the sheet rock. Secure the wires behind the screws as shown in Figure 4.23. When all four wires are in place, the backbox should fit snugly into the hole in the sheetrock.
4. After the annunciator wiring to the panel has been completed (refer to Figure 4.24), replace the electronic assembly in the back box. Place the bezel over the back box and tighten the set screws on the bezel.

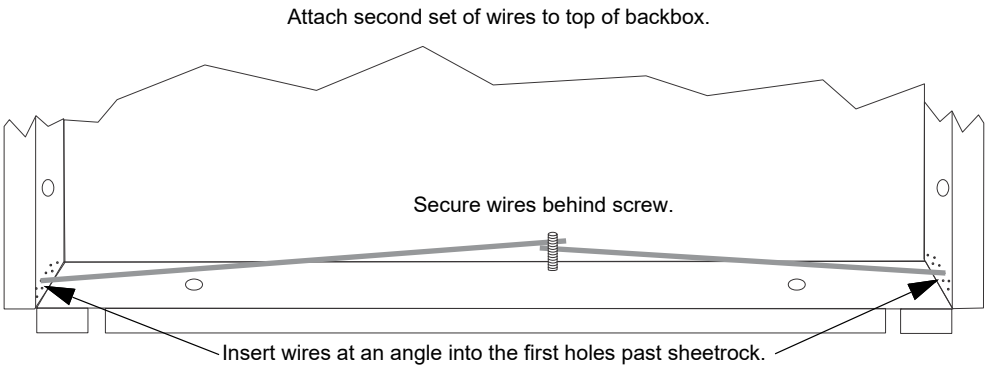


Figure 4.23 Flush Mounting the Backbox

Surface Mounting

The RA-1000 can be mounted directly to a surface or can be attached to a single, double, or four-square electrical box. Trim Ring Kit 5860TR/Gis available for use when surface mounting.

1. Drill holes in the surface to match the screw holes on the backbox. Refer to Figure 4.22 for locations.
2. Fit the trim ring over the backbox.
3. Attach the backbox to the wall using screws provided.
4. Wire the annunciator to the FACP as shown below.

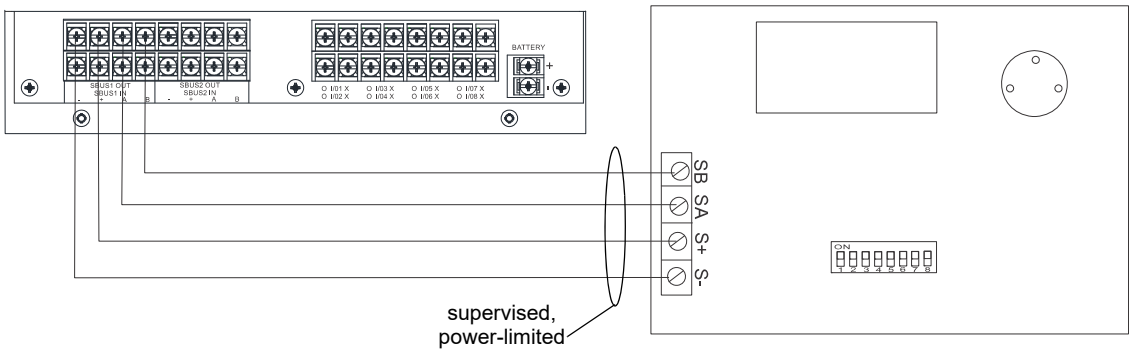


Figure 4.24 RA-1000 Connection to the Panel

5. Replace the electronic assembly in the backbox. Place the bezel over the backbox and tighten the set screws on the bezel. Refer to Figure 4.22 for location of set screws.

4.9 RA-2000 Remote Annunciator Installation

The optional RA-2000 Remote Annunciator can be surface or flush mounted. It is available in gray as RA-2000GRAY.

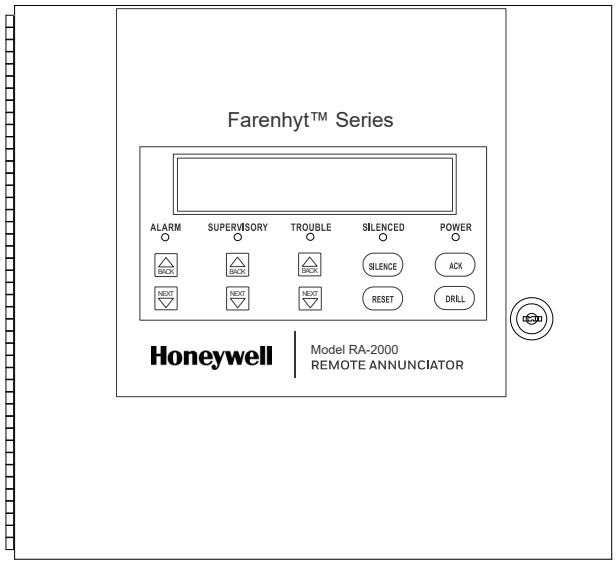


Figure 4.25 RA-2000 Remote Annunciator

RA-2000 installation involves the following steps:

1. Ensure power is off at the panel.
2. Mount the RA-2000 in the desired location (see Section 4.9.1).
3. Connect the RA-2000 to the panel (see Section 4.9.2).
4. Use the DIP switches on the back of the RA-2000 to assign an SBUS ID# (see Section 4.16.1).
5. The RA-2000 module must be added to the system through programming. JumpStart Auto-Programming will add the module automatically (see Section 8.6.9).

4.9.1 Mounting the RA-2000

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

Flush Mounting

This section of the manual describes flush mounting. Follow these steps to flush mount theRA-2000.

1. The back box dimensions are 9.25” W x 8.375” H. The minimum depth required is 2". Mount the backbox using the mounting holes shown below.

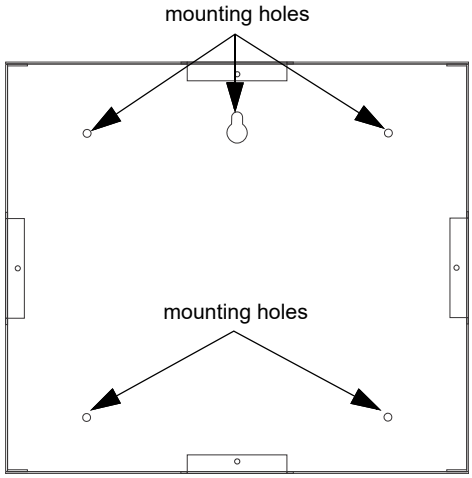


Figure 4.26 RA-2000 Backbox Mounting

2. Remove knockouts as needed for wires. There are 10 knockouts available, two on each side and two in the back of the cabinet.
3. Wire the annunciator board to the main control panel as shown in Figure 4.29.
4. Attach the annunciator and door assembly to back box as shown below using the supplied screws.

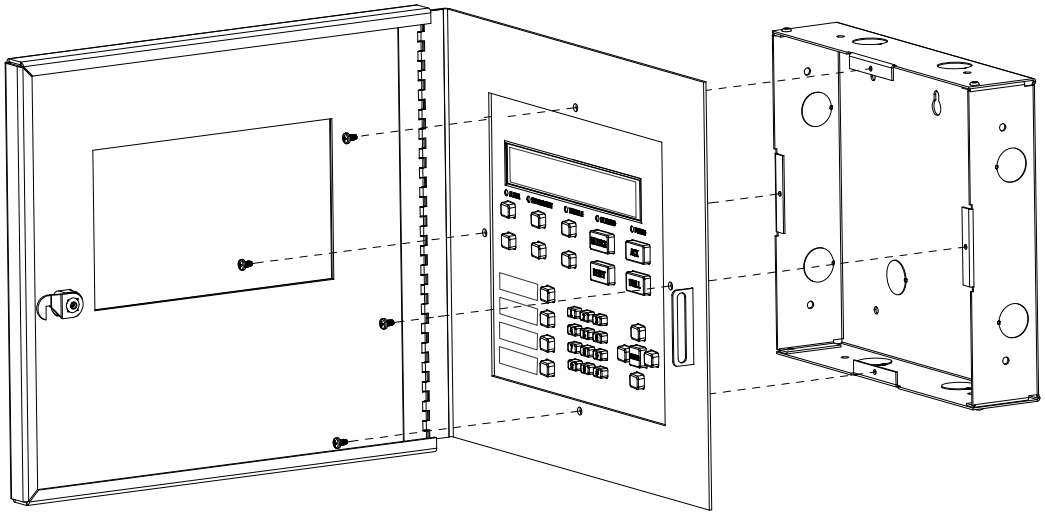


Figure 4.27 Attaching Annunciator / Door Assembly to Backbox

Surface Mounting

The RA-100TR Red Trim Ring kit and RA-100TG Gray Trim Ring kit are available for use when surface mounting the RA-2000.

1. Remove the desired knockout.
2. Mark and pre-drill hole in the wall for the center top keyhole mounting bolt. Refer to Figure 4.26 for mounting hole locations.
3. Install center top fastener in the wall with the screw head protruding.
4. Place backbox over the top screw, level and secure.
5. Mark and drill the left and right upper and lower mounting holes.
6. Install remaining fasteners and tighten.
7. Run wires to the control panel. Refer to Figure 4.29.

8. Place the trim ring over the back box as shown below.

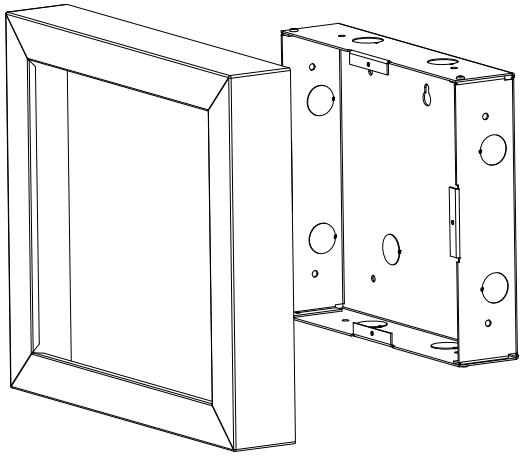


Figure 4.28 Installing Trim Ring

9. Attach the door assembly to the backbox using the screws provided. Refer to Figure 4.27.

4.9.2 RA-2000 Connection to the Panel

Connect the RA-2000 to the panel as shown below.

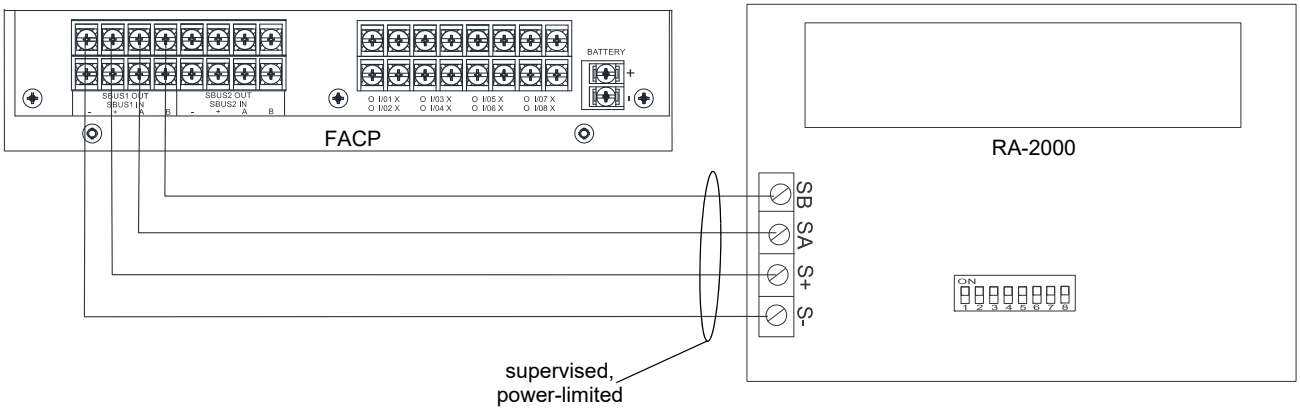


Figure 4.29 RA-2000 Connection to the Panel

4.10 Temporary Programming Display

When an RFP-2100 is being initially set up, place an RA-2000 on the panel at address 63 or an RA-1000 or RA-100 at address 31 and power up the panel. This will initiate the Temporary Programming Display feature. This allows the RA-2000/RA-1000/RA-100 to act as the main annunciator for the RFP-2100 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 use of the Temporary Display is no longer necessary, power off the panel, remove the display, and power up the panel again.

4.11 5815XL Installation

The 5815XL SLC expander lets you add additional addressable SD devices. The maximum number of SD SLC devices per panel is 2,032. The number of 5815XL modules is limited by the maximum number of SBUS devices.

NOTE: 5815XL will only support SD protocol devices on this panel.

To install the 5815XL:

1. Make sure power is off at the panel.
2. Mount the 5815XL in the IFP-2100 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 the *RPS-1000 Installation Manual* or the *5815RMK Installation Instructions*.
3. Connect the 5815XL to the control panel. (See Figure 4.31.)
4. Use onboard DIP switches to select an SBUS ID#. (See Section 4.16.1.)

5. Add the 5815XL module to the system through programming. JumpStart will add the module automatically (see Section 7.1). You can also add it manually (see Section 8.2.2). Select a name, if desired (see “Naming Modules” on page 101).

You are now ready to connect SLC devices to the 5815XL (see Section 8.5.1).

Figure 4.30 is a drawing of the 5815XL board, showing the location of terminals and DIP switches.

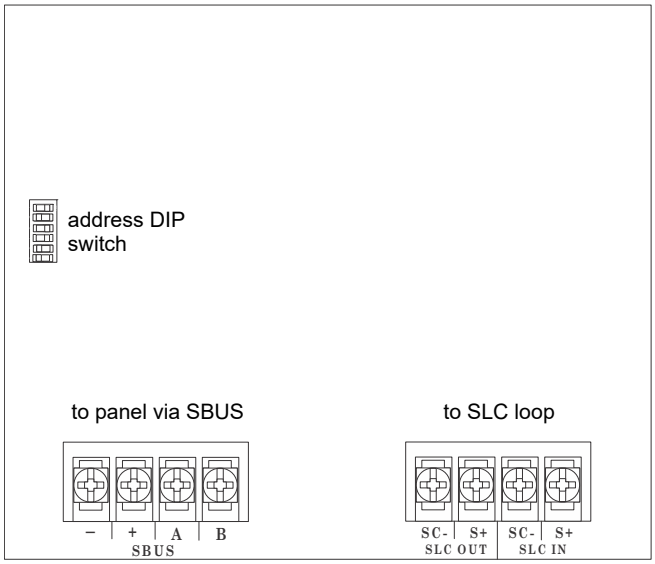


Figure 4.30 5815XL Board

4.11.1 5815XL Connection to the Panel

Connect the 5815XL to the control panel as shown in Figure 4.31. After the 5815XL is connected to the panel, it must be added to the system. This programming steps are described in Section 8.2.2.

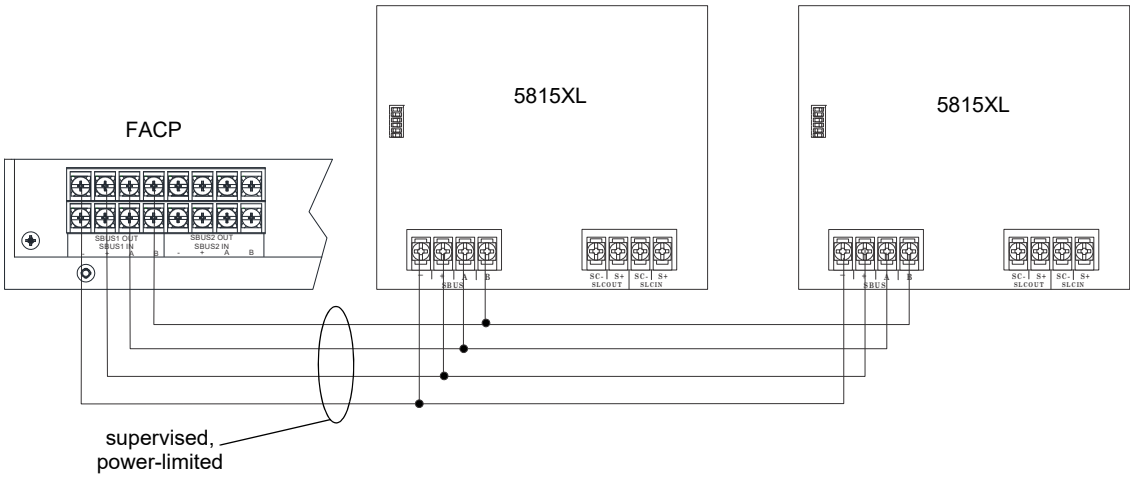


Figure 4.31 5815XL Connection to Main Panel Assembly

4.12 6815 Installation

The 6815 SLC expander lets you add additional addressable devices. The maximum number of IDP or SK SLC devices per panel is 2,100. The number of s is limited by the maximum number of SBUS devices.

NOTE: An external 6815 will support IDP, SK, or SWIFT SLC devices.

To install the 6815:

1. Make sure power is off at the panel.
2. Mount the 6815 in the IFP-2100 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 6815. For additional information see the *RPS-1000 Installation Manual* or the *5815RMK Installation Sheet*.
3. Connect the 6815 to the control panel. (See Section 4.12.1.)
4. Use the onboard DIP switches to select an SBUS ID#. (See Section 4.16.1.)

5. Add the 6815 module to the system through programming. JumpStart will add the module automatically (see Section 7.1). You can also add it manually (see Section 8.2.2). Select a name, if desired (see “Naming Modules” on page 101).

You are now ready to connect SLC devices to the 6815 (see Section 8.5.2).

Figure 4.32 is a drawing of the 6815 board, showing the location of terminals and DIP switches.

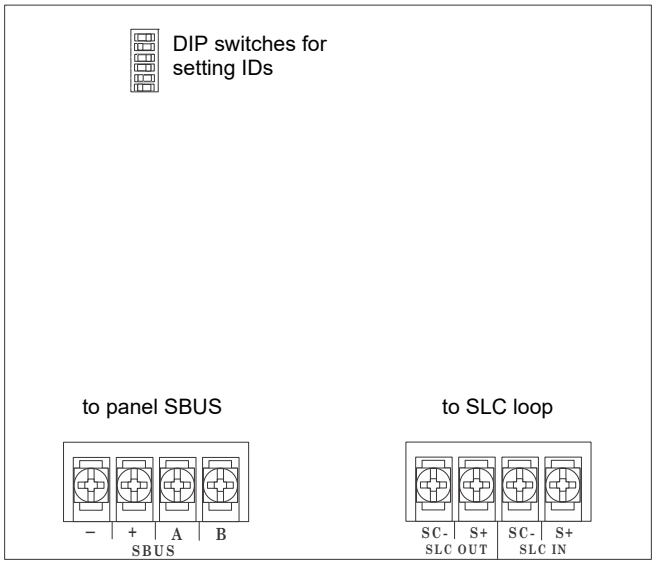


Figure 4.32 6815 Board

4.12.1 6815 Connection to the Panel

Connect the 6815 to the control panel as shown in Figure 4.33. After the 6815 is connected to the panel, it must be added to the system. This programming steps are described in Section 8.2.2.

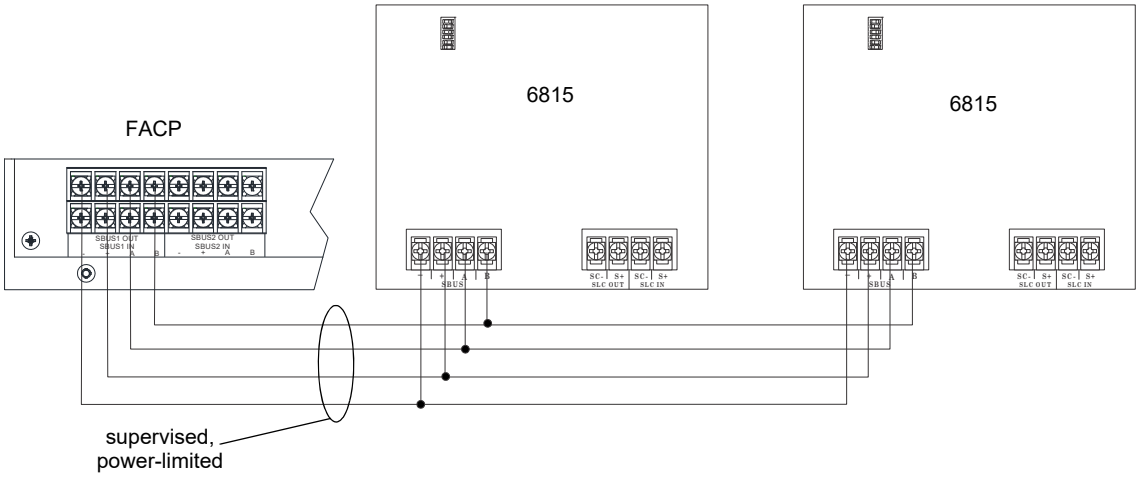


Figure 4.33 6815 Connection to Main Panel Assembly

4.13 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. Ensure that all power has been removed from the FACP.
2. Connect the 5824 to the FACP as shown in Figure 4.34.

NOTE: There is a maximum of four 5824 modules allowed per panel.

3. Use the DIP switches on the 5824 board to assign an SBUS ID# to the 5824 (see Section 4.16.1).

4. Configure the 5824 device through programming. See Section 4.13.1 below.

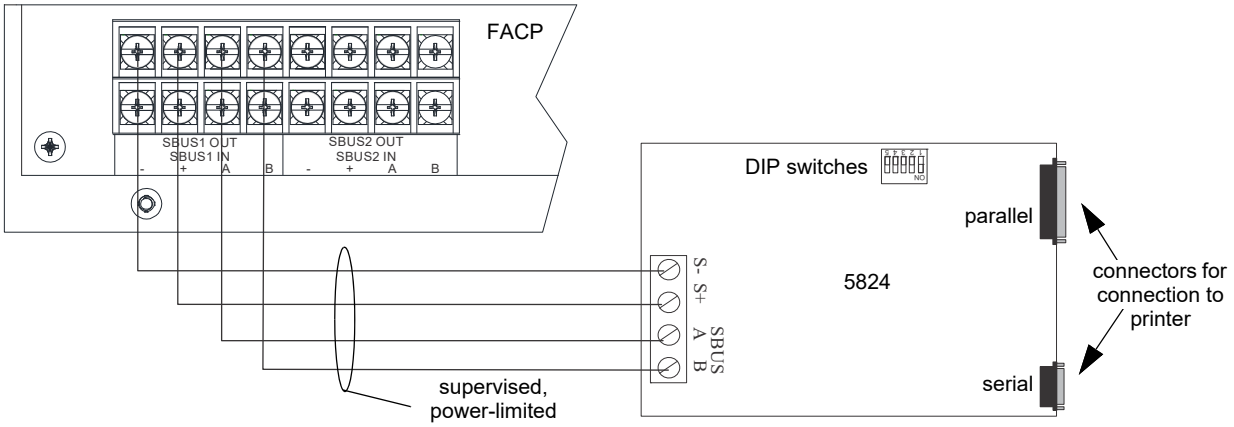


Figure 4.34 5824 Connection to the Panel

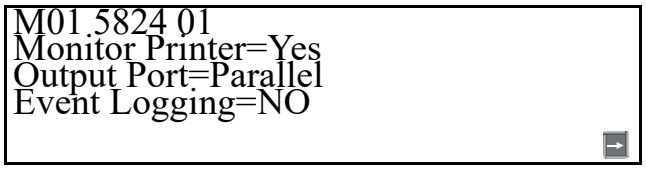
4.13.1 Selecting 5824 Options

Configuring the 5824 includes the following steps:

1. Add the module to the system. JumpStart will add the module automatically (see Section 7.1). You can also add it manually. See Section 8.2.2.
2. Select a name, if desired (see "Naming Modules" on page 101).
3. Select options for the printer and the output port.

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 right arrow twice to skip over the Enter Module ID and Enter Module Name options. A screen similar to the one shown in Figure 4.35 will display.



Select *Yes* if printer should be supervised for Out-of-Paper and Offline conditions.
Select type of printer, *Parallel* or *Serial*.
Event Logging is defaulted to *No*. Select *Yes* to enable.

Figure 4.35 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 HFSS to configure the 5824 module 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:	0.5, 1, 2
Parity:	None, Even, Odd

Table 4.5 Serial Printer Options

4.14 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 8 for programming information.

4.14.1 5880 Board Layout

Figure 4.36 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.

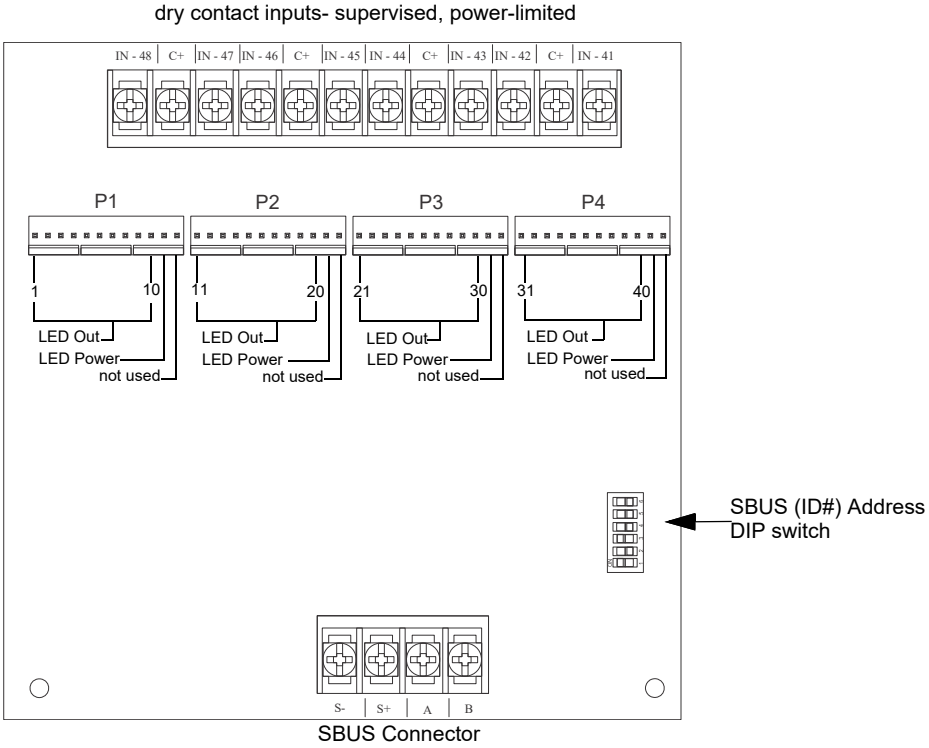


Figure 4.36 5880 Board Layout

4.14.2 FACP Connection

The 5880 connects to the panel via the SBUS. Make connections as shown in Figure 4.37. After the 5880 is connected to the panel, it must be added to the system. This programming step is described in Section 8.2.2.

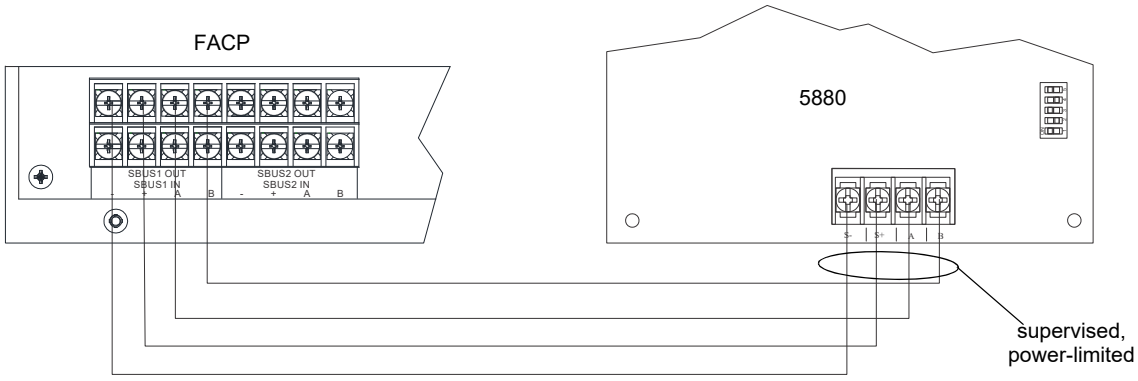


Figure 4.37 5880 Connection to Main Control Panel Assembly

4.14.3 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 8.5.4 for programming details.

Wire the LEDs as shown in Figure 4.38.

On connector P1, Pin 12 is an open collector output for controlling a piezo. If used, the 5880 piezo will match the piezo pattern of the onboard or remote 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.

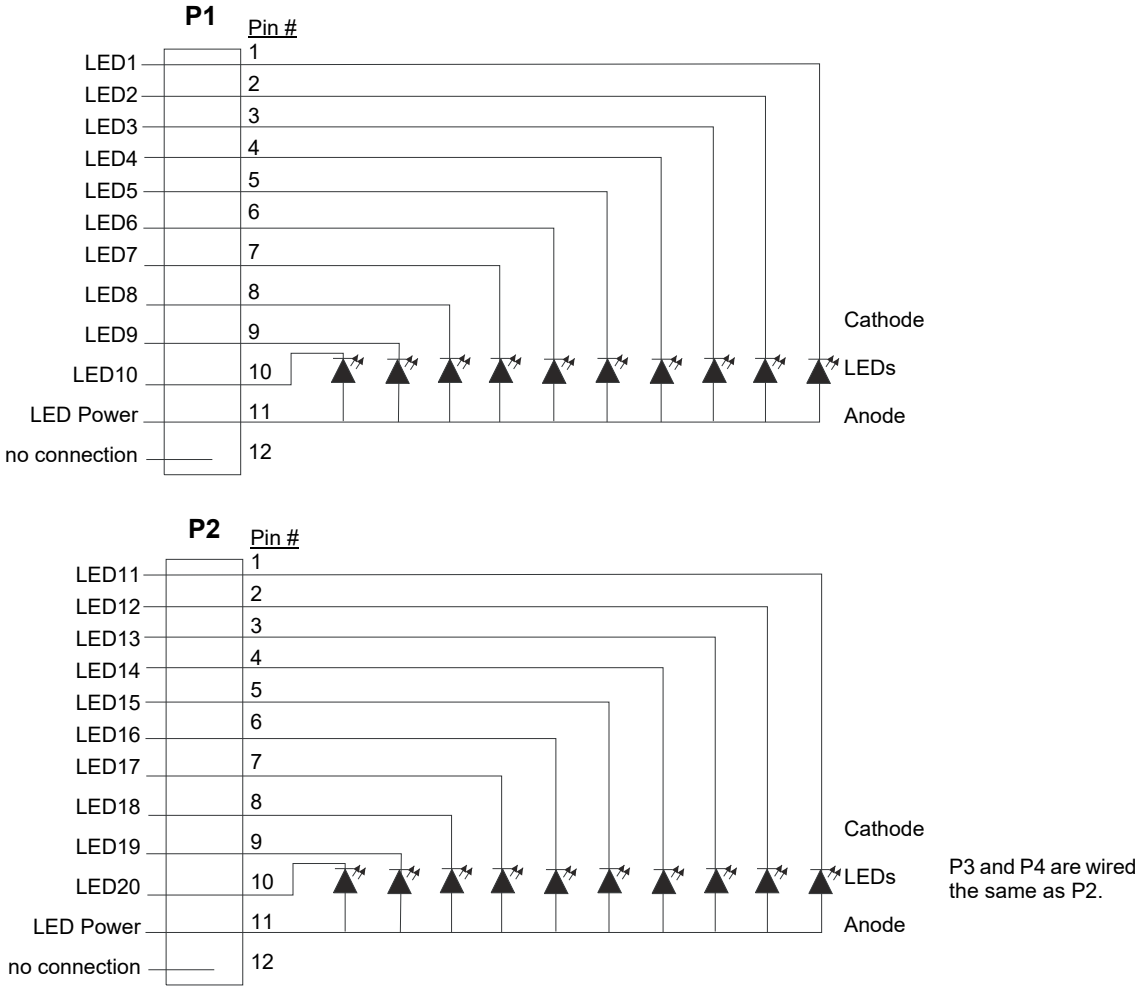


Figure 4.38 5880 Board Layout

4.14.4 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 4.39. Notice grouping of terminals. Power terminals are shared by two inputs.

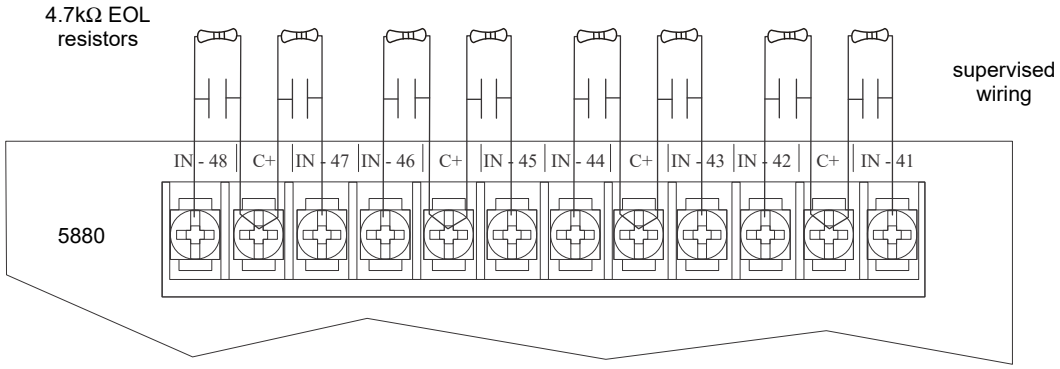


Figure 4.39 Dry Contact Wiring

4.15 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 keyswitches 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 8 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.

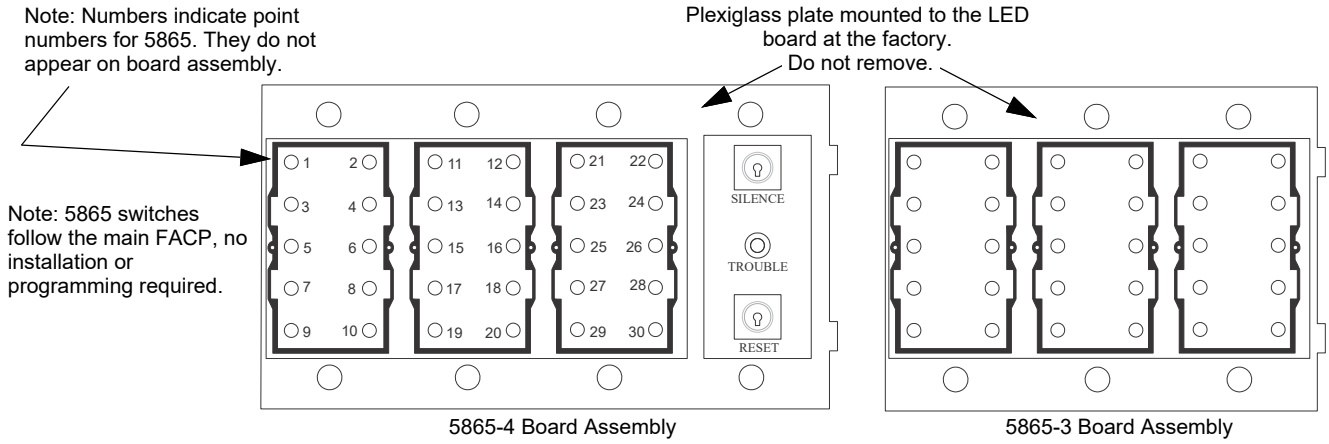


Figure 4.40 5865-3 and 5865-4 Assembly (Front View)

4.15.1 FACP Connection

The 5865 connects to the panel via the SBUS. Make connections as shown below. After the 5865 is connected to the panel, it must be added to the system. This programming step is described in Section 8.2.2.

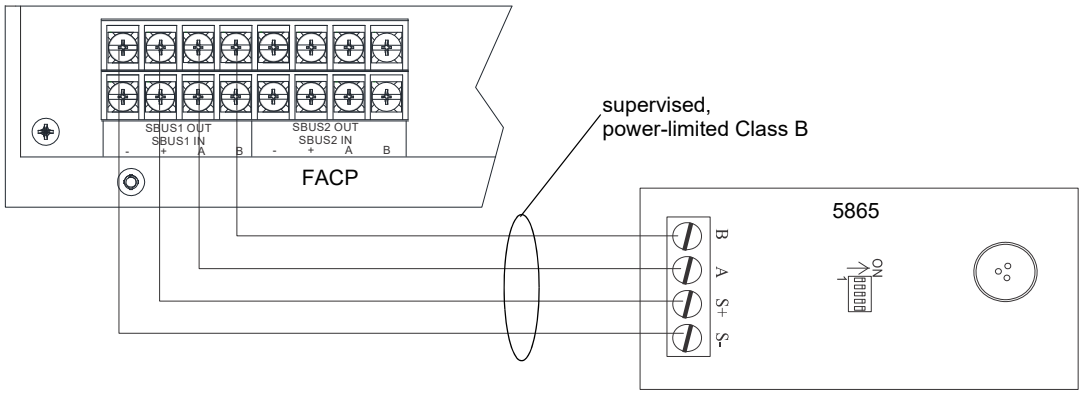


Figure 4.41 5865 Connection to the FACP

4.15.2 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 4.42, the 5865-4 attached to a 4-gang box, is used as an example.

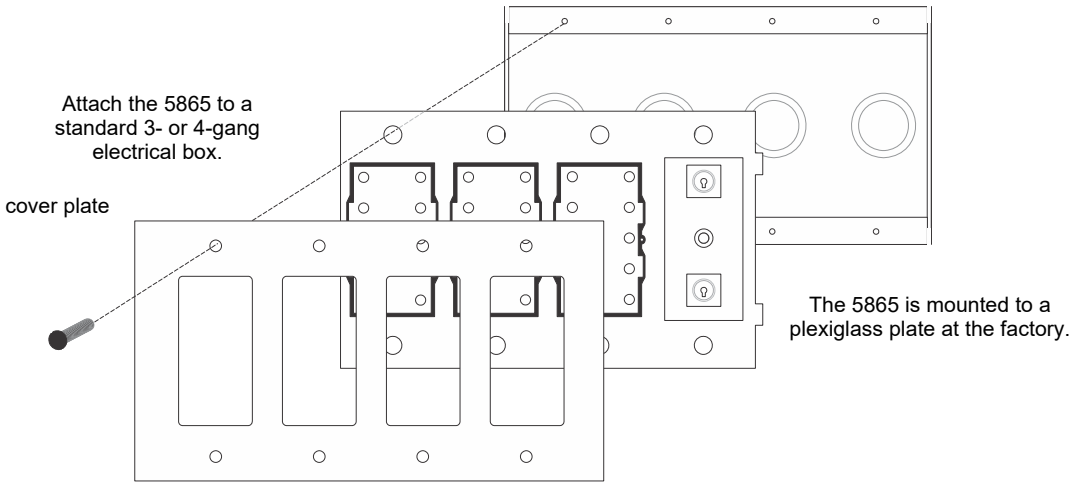


Figure 4.42 5865 Mounting Example

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 4.43. The LEDs will show through the label when illuminated.

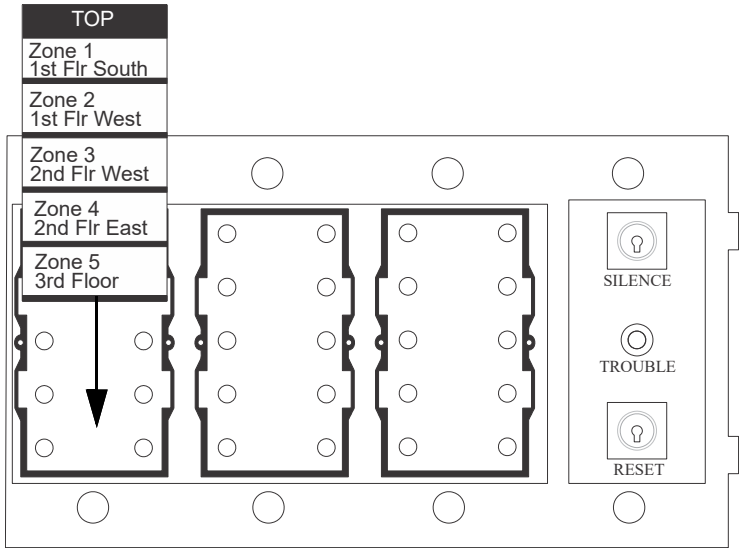


Figure 4.43 Inserting Zone Description Labels

4.16 Configuring SBUS Modules

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

4.16.1 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 (see Table 4.1 for a list of compatible devices), you must use the DIP switches on the module to assign an ID number to the module. Address zero is an invalid address and is not allowed.

Figure 4.44 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.

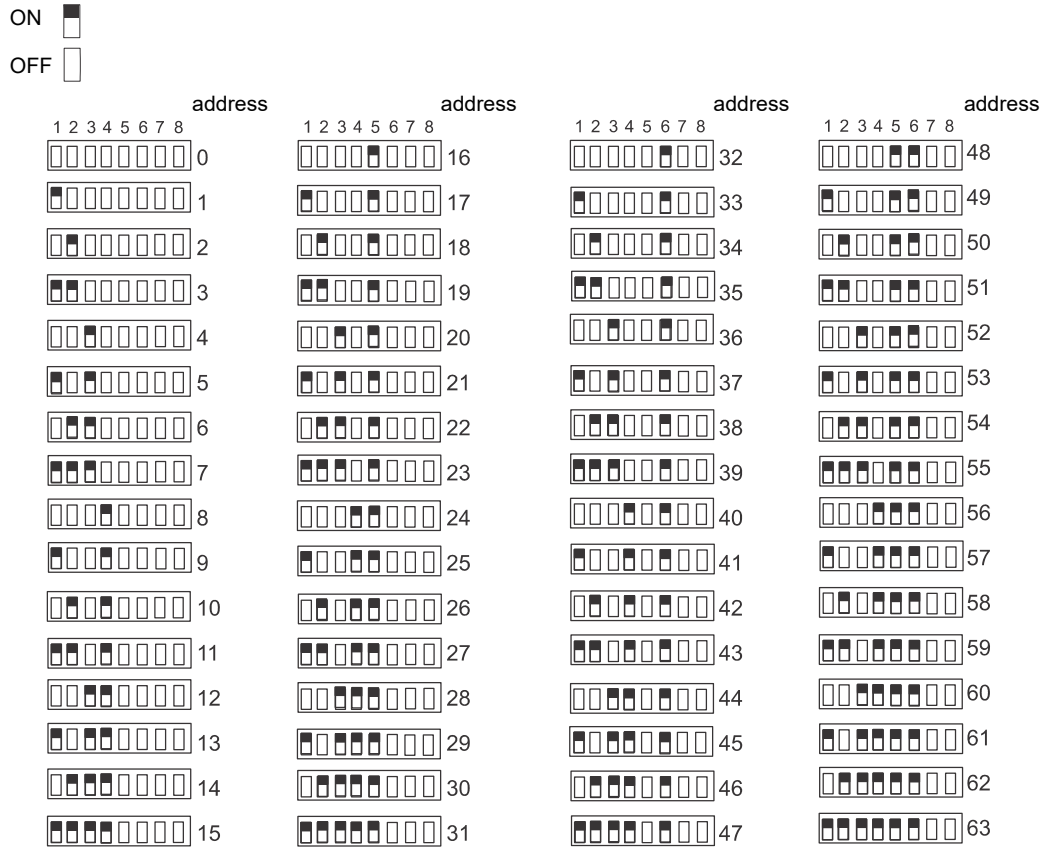


Figure 4.44 Possible SBUS Module Addresses

Refer to Section 8.2 to edit, add, delete, and view module list.

4.16.2 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. Refer to Section 4.6.1.

4.16.3 Communication Protocol

DIP switch 7 on the RA-2000/GRAY, RA-100, and RA-1000/R is used to determine the communication protocol of the device. Set DIP switch 7 to ON for SBUS protocol. This switch must stay in the ON position for proper functionality.



Ensure switch 7 is ON Incorrect setting

4.16.4 End-of-Line Resistor

The end-of-line termination resistor must be enabled at S1 DIP switch 8 on the last RA-2000/GRAY, RA-100, and RA-1000/R device on the communication circuit. All other annunciators should have these switches set to disable.



termination enabled termination disabled

4.17 Telephone Connection

Connect the telephone lines as shown in Figure 4.45. The 7860 phone cord is available from Honeywell 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 “Phone Lines” on page 115.

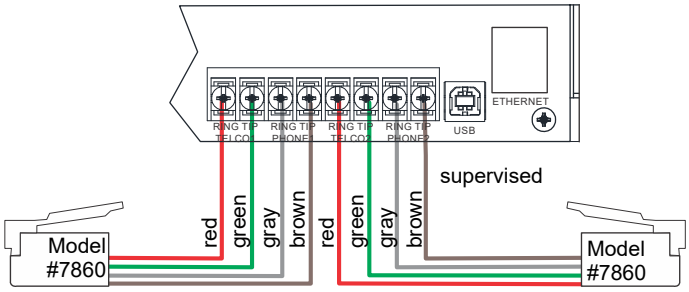


Figure 4.45 Connection of Telephone Lines

4.18 Flexput 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, sounder base sync, 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.

NOTE: Where power to a device or appliance is supplied over a separate pathway from the notification appliance and/or SLC, the operation of the power pathway shall meet the performance requirements of the, notification appliance, and/or signaling-line circuit(s) and the power circuit shall be defined by the applicable class in the product installation wiring diagram/instructions consistent with the operation of the particular power pathway.

4.18.1 Conventional Notification Appliance

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

Class B Notification Wiring

You must use an appliance listed in the *Device Compatibility Document*.

To install a circuit:

1. Wire Class B notification appliances as shown in Figure 4.46.
2. Configure the circuit through programming (see Section 8.5).

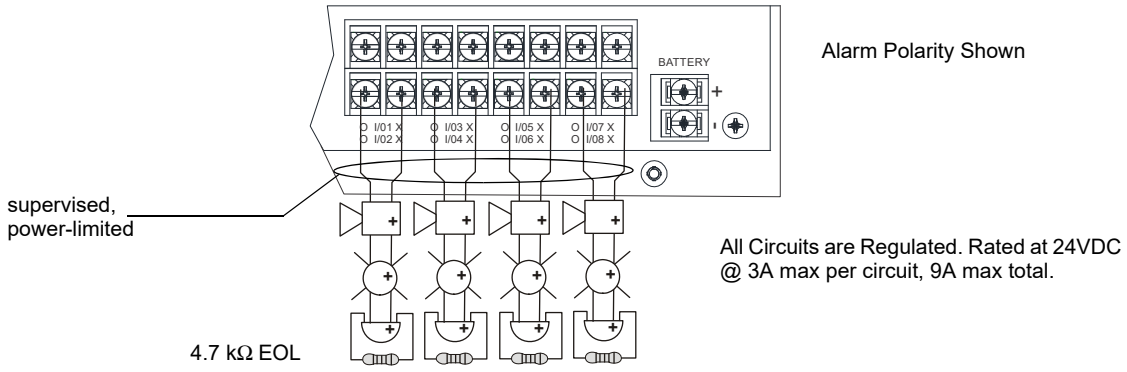


Figure 4.46 Class B Notification Appliance Circuit Wiring

Maximum voltage drop is 3V per Class B notification.

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

Table 4.6 Maximum Impedance Class B

Class A Notification Wiring

You must use an appliance listed in the *Device Compatibility Document*.

To install a Class A notification appliance circuit:

1. Wire the Class A notification appliances as shown in Figure 4.47.

CAUTION: SYSTEM SUPERVISION

FOR PROPER SYSTEM SUPERVISION DO NOT USE LOOPED WIRE UNDER TERMINALS MARKED – AND + OF THE NAC CIRCUIT. BREAK WIRE RUNS TO PROVIDE SUPERVISION OF CONNECTIONS.

2. Configure the circuit for Class A in programming (see Section 8.5).

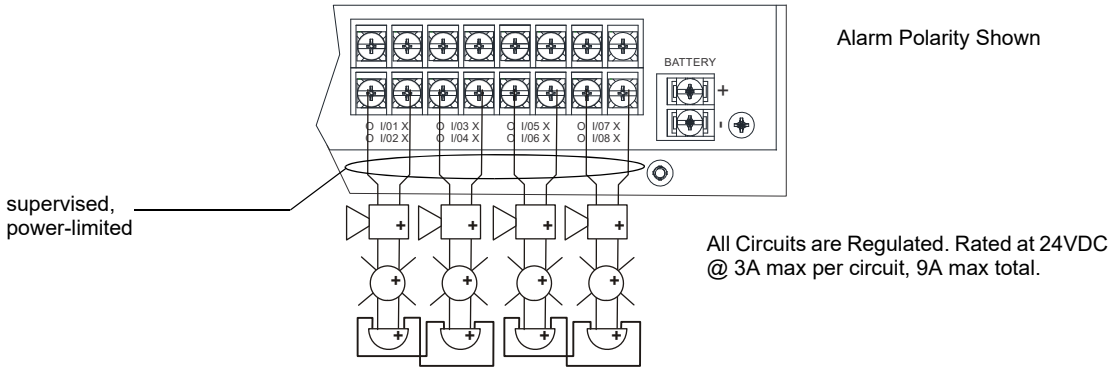


Figure 4.47 Class A Notification Appliance Circuit Wiring

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 4.47 uses both Flexput circuit 1 and 2, so in programming, these would be referred to as point 1.

Maximum voltage drop is 3V per Class A circuit. See Table 4.7.

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

Table 4.7 Maximum Impedance Class A

4.18.2 Conventional Input Switch Circuits

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

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, do the following.

1. Wire the Class B switch as shown in Figure 4.48.
2. Configure the circuit through programming (see Section 8.5).

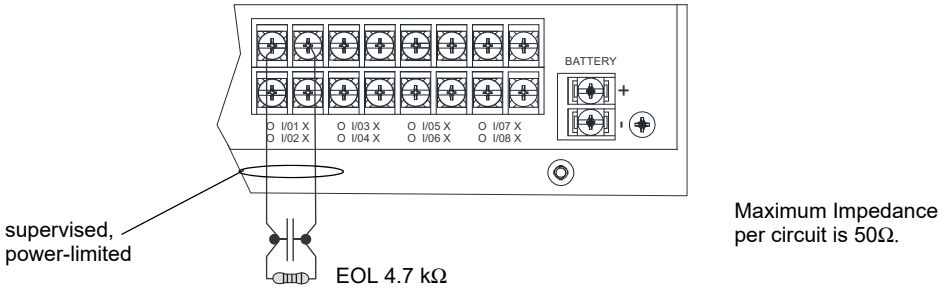


Figure 4.48 Class B Input Switches

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 4.49.
2. Configure the circuit through programming (see Section Section 8.5).

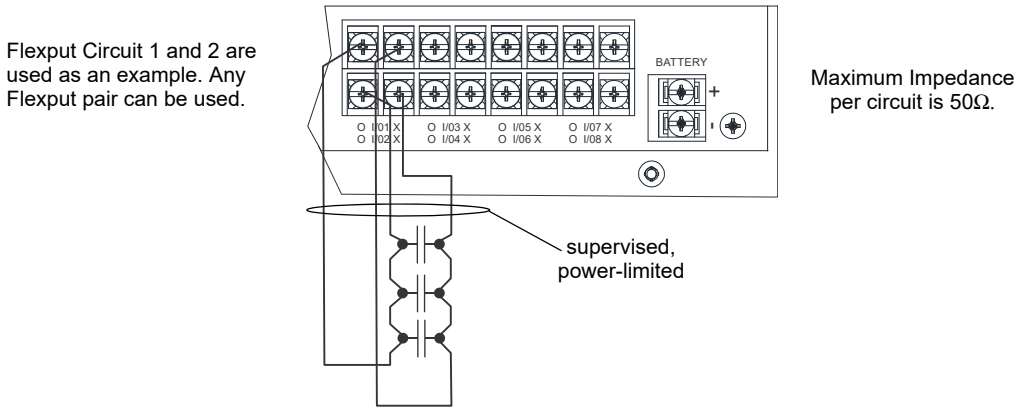


Figure 4.49 Class A Initiating Switches

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 4.49 uses both Flexput circuit 1 and 2, so in programming it would be referred to as point 1.

4.18.3 Installing 2-Wire Smoke Detectors

Any compatible, UL-listed two-wire smoke detector can be used with the control panel. Refer to the *Device Compatibility Document* for a list of devices. Figures 4.50 and 4.51 illustrate how to connect a UL-listed 2-wire detector to the control panel.

Installing 2-Wire Class B Smoke Detectors

To install a Class B two-wire smoke detector, wire as shown in Figure 4.50.

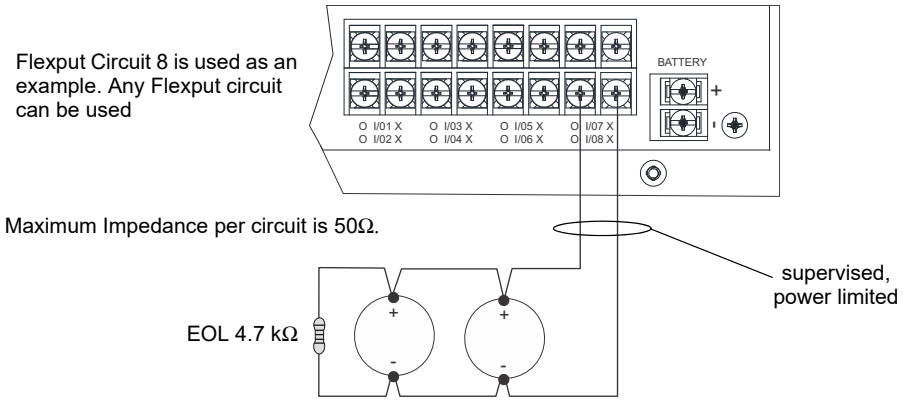


Figure 4.50 Two-Wire Class B Smoke Detector

Installing 2-Wire Class A Smoke Detectors

To install a Class A two-wire smoke detector, wire as shown below.

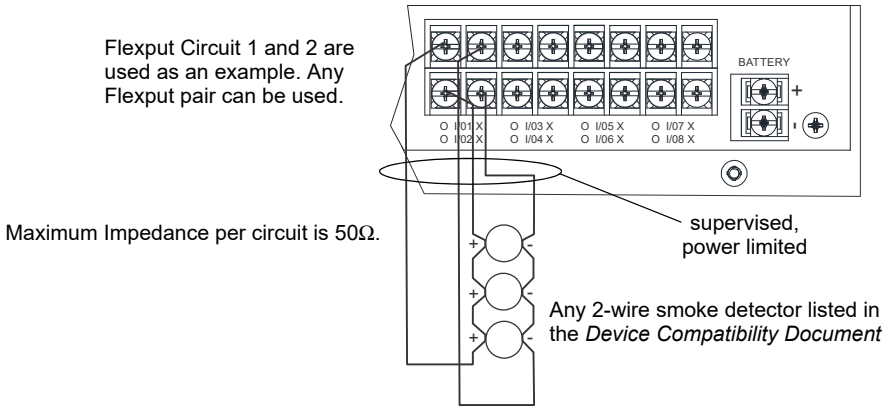


Figure 4.51 Two-Wire Class A Smoke Detector Connections

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 4.51 uses both Flexput circuit 5 and 6, so in programming it would be referred to as point 5

4.18.4 Installing 4-Wire Smoke Detectors

Any compatible, UL-listed four-wire smoke detector can be used with the control panel. Refer to the *Device Compatibility Document* for a list of devices. Figures 4.52 and 4.53 illustrate how to connect a UL-listed four-wire detector to the control panel.

Installing a Class B 4-Wire Smoke Detectors

Figure 4.52 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 below.
3. Each loop gets smoke power from the even numbered Flexput circuit and the contact input is connected to the odd numbered Flexput circuit.

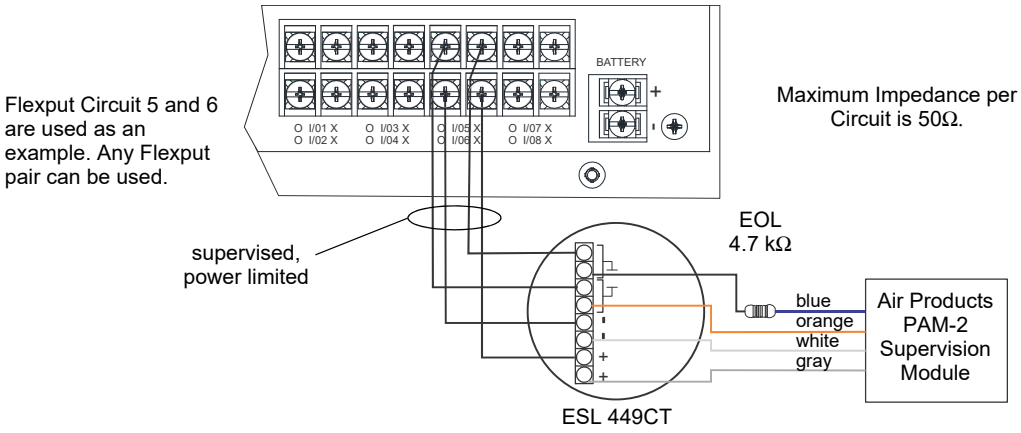


Figure 4.52 Class B 4-Wire Smoke Detector Connections

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 4.52 uses both Flexput circuit 5 and 6, so in programming it would be referred to as point 5.

Installing 4-Wire Class A Smoke Detectors

Figure 4.53 illustrates how to install a 4-wire Class A detector. Conventions used for wiring 4-wire Class A loops:

1. Up to two Class A 4-wire loops can be connected to the control panel at once.
2. The wiring class of the external power source must match the wiring class of the device being poweredf.

3. Smoke power is supplied to each Class A loop as shown below.

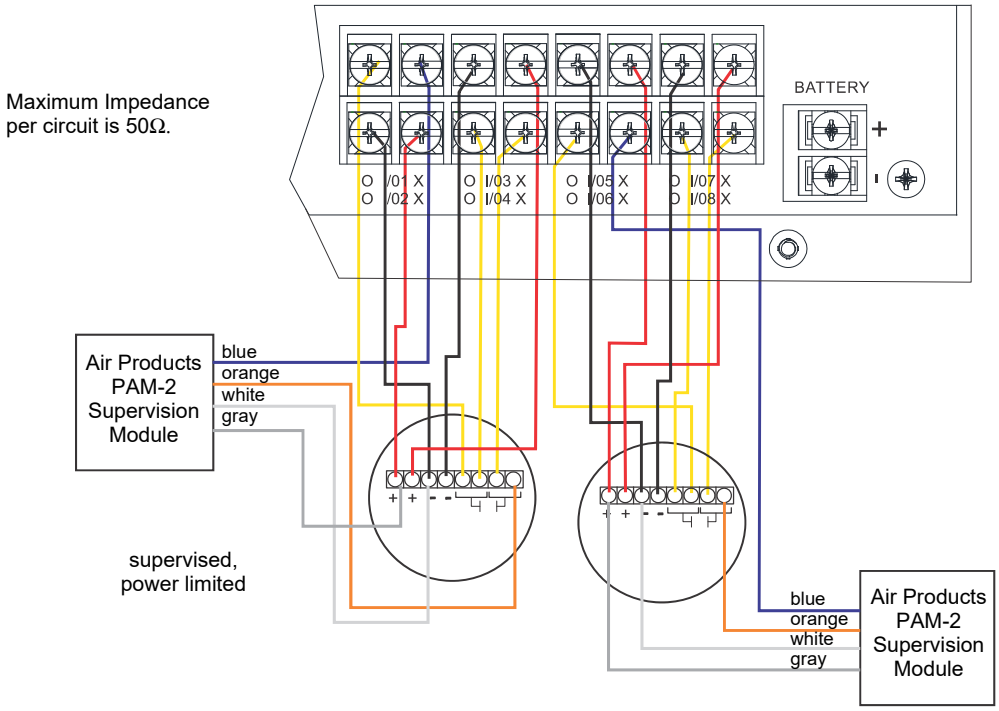


Figure 4.53 Class A 4-Wire Smoke Detector Connections

NOTE: In programming, any point that uses multiple Flexput circuits are always referred to as the lowest Flexput circuit number used. For example, Figure 4.53 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.

4.18.5 Auxiliary Power Installation

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

- Door Holder Power
- Constant Power
- Resettable Power
- Sounder Sync Power

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 4.2 for location of Flexput circuits. When used as auxiliary power, terminals labeled “O” are negative, terminals labeled “X” are positive.
2. Configure the auxiliary power output through programming (see Section 8.5).

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 for this application. Refer to the *Device Compatibility Document* for compatible door holder list.

Constant Power

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

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. Refer to the *Device Compatibility Document* for compatible four wire smoke detectors.

Sounder Sync Power

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

4.19 Onboard 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.

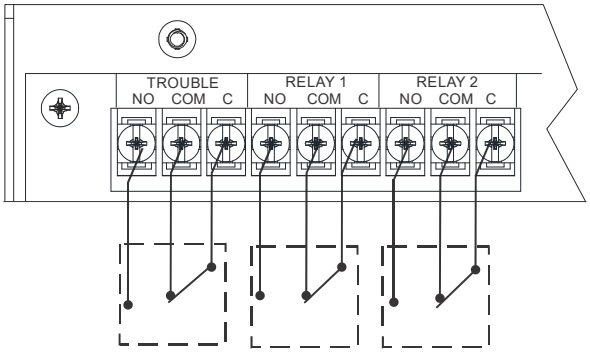


Figure 4.54 Conventional Relay Circuits

4.19.1 Trouble Relay

The control panel has a dedicated Form C trouble relay. 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.

4.19.2 Programmable Relays

The control panel has two Form C programmable relays. 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 4.2 for the location of the relay terminals.
2. Configure the relay through programming (see Section 8.5).

4.20 Remote Station Applications

4.20.1 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.
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.

Terminal #	Connects to
3158 Term. 1	To Keltron receiving equpment
3158 Term. 2	To Keltron receiving equpment
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 0
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/O x	Control Panel Relay 1 NO
Control Panel Relay 1 COM	Control Panel Trouble COM
Control Panel Relay 1 NO	Control Panel Trouble NC

Table 4.8 Keltron 3158 to Control Panel Connections

Terminal #	Connects To
3158 Term. 1	To Keltron receiving equipment

Terminal #	Connects To
3158 Term. 8	Control panel Relay 1 COM

Table 4.9 Keltron 3158 to Control Panel Connections

Terminal #	Connects To
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. 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

Table 4.9 Keltron 3158 to Control Panel Connections

4.20.2 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 4.55. 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. Assign this NAC to an output group that is mapped to activate with non silenceable constant output in response to a system general alarm condition. Refer to Section 8.5.3. It is not possible to reset the remote indication until you clear the condition and reset the control panel.

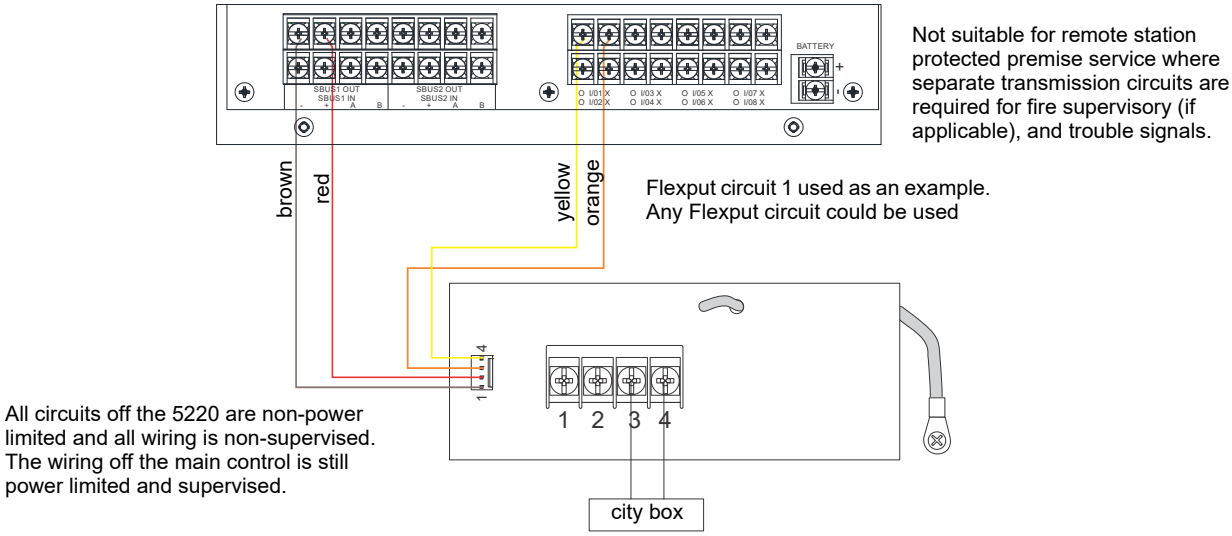


Figure 4.55 City Box Connection

4.20.3 Using the Addressable Relay Module for City Box Connection

Wire the Relay module as shown in Figure 4.56.

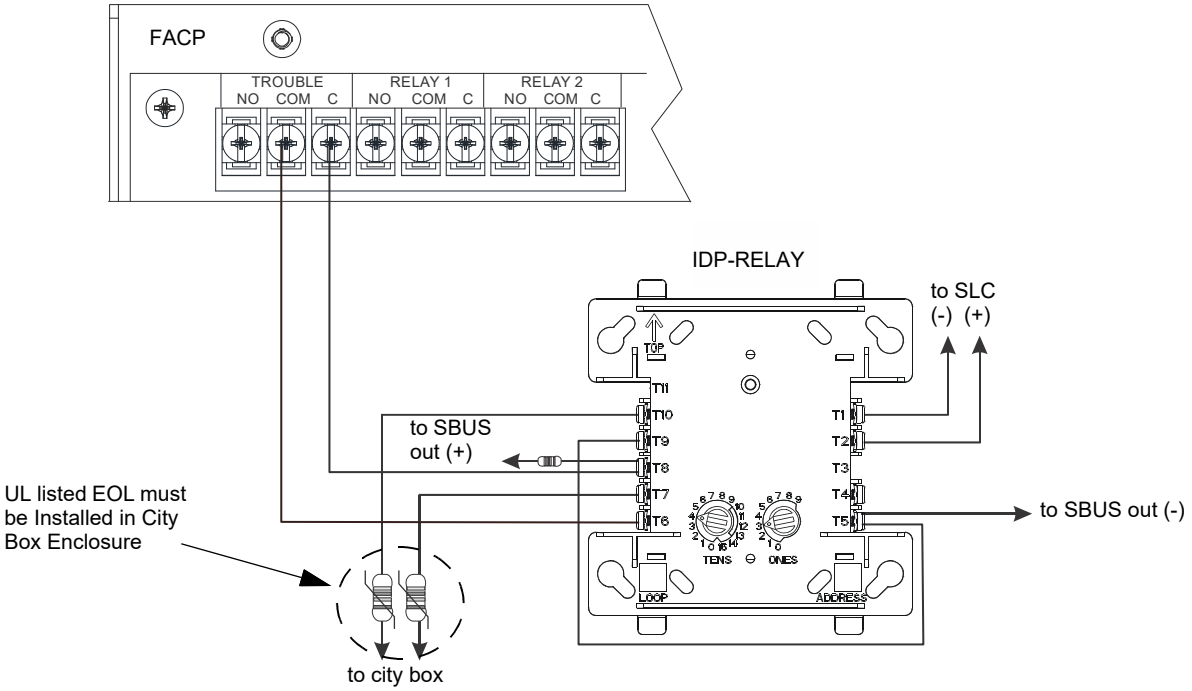


Figure 4.56 Relay Module for City Box Connection

4.20.4 NFPA 72 Polarity Reversal

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

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 Current: 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 4.57. 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 8.5.3. Assign the NAC circuit 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 2-8 mA with a 1k ohm remote station receiving unit. Maximum loop resistance is 3k ohm.

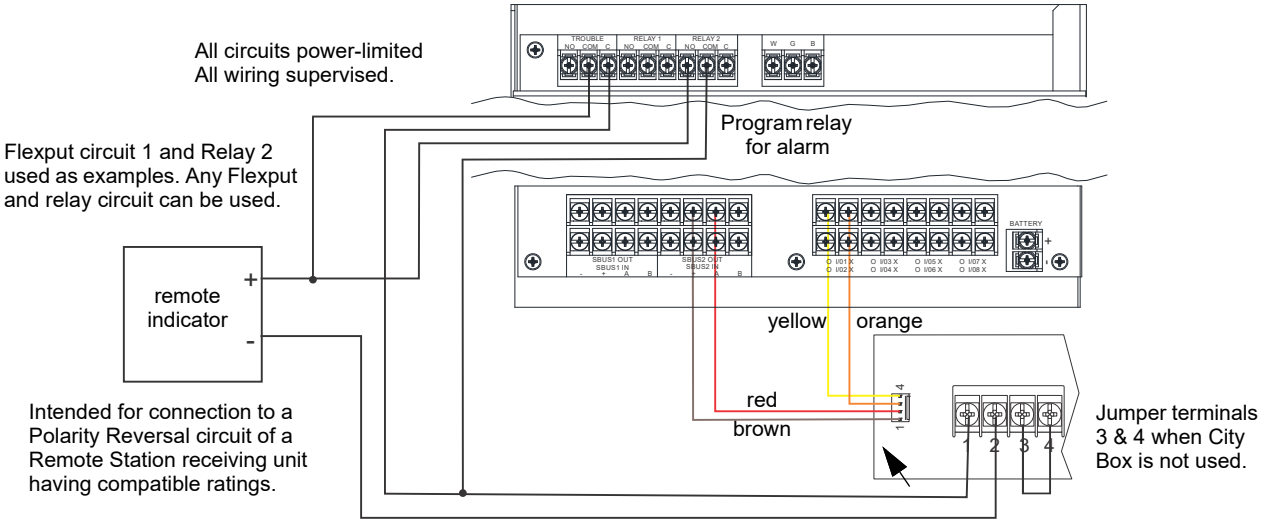


Figure 4.57 Polarity Reversal Connection Using the 5220 Module

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.

■ Installing the 7644-L8 for Polarity Reversal

1. Wire the 7644-L8 to the control panel as shown in Figure 4.58. Do not install an EOL resistor on the terminals of the circuit used.

NOTE: Use only Flexput/NAC circuits on the control panel for reverse polarity.

2. Program the circuit as a notification circuit. See Section 8.5.3.
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.

This connection is intended for connection to a polarity reversal circuit of a remote station receiving unit having compatible rating.

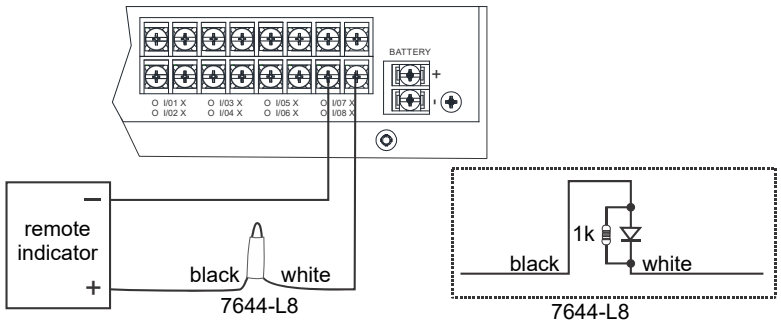


Figure 4.58 Polarity Reversal Connection Using the 7644-L8

4.20.5 Transmitter Activated by Dry Contacts

This section describes the connection of a UL 864 listed remote station transmitter to the IFP-2100 dry relay contacts. The IFP-2100 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.

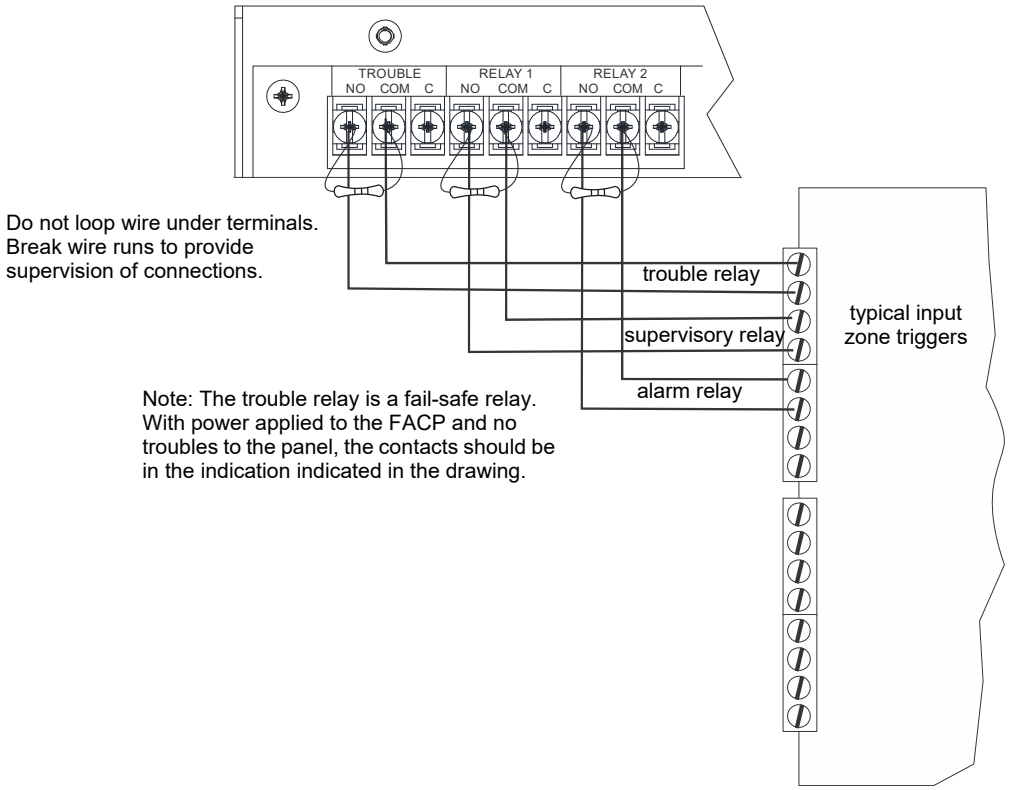


Figure 4.59 Transmitter Activated by Dry Contacts

Section 5: Networking

5.1 Network System Hardware Features

IFP-2100 panels can be networked to create a virtual system that is larger than 2,100 addressable points. Each additional IFP-2100provides another 2,100 addressable points to the network total. For example, a network of thirty-two IFP-2100 panels provides a maximum addressable point capacity of 67,200 points (2,100 x 32 = 67,200).

5.1.1 Networked Sites

A networked site is a logical group of IFP-2100 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. The maximum number of sites within a network system is limited to 32 panels in the network with each site comprised of only one panel.

5.1.2 Wiring Options to Connect Networked Panels

1. Fiber Optic Single Mode - must use the SK-NIC and SK-FSL for up to 30dB loss of signal separation. SK-FSL connects to the network using 9/125 micron single-mode fiber
2. Fiber Optic Multi-Mode - must use the SK-NIC and SK-FML for up to 8dB loss of signal separation. SK-FML connects to the network using 62.5/125 micron multi-mode fiber
3. Twisted Pair Copper Wire - must use the SK-NIC to provide up to 3,000 feet of separation.

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 RFP-2100

The RFP-2100 provides the same power and point capacity of an RFP-2100 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 Network Wiring

When networking a group of IFP-2100 and/or RFP-2100 panels, you must use the SK-NIC to link the panels together. See Figure 5.1 and Figure 5.2, for internal mounting or external mounting of SK-NIC option.

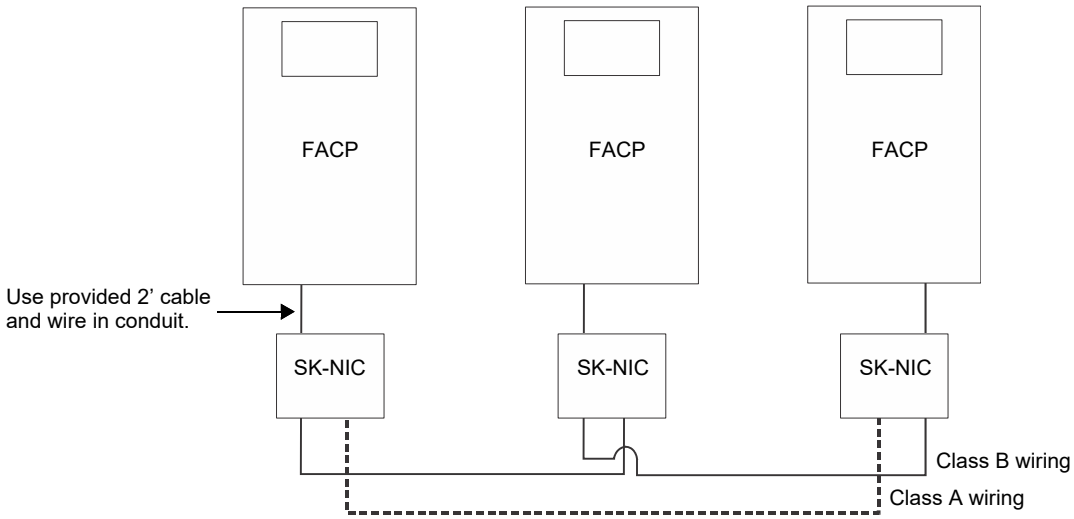


Figure 5.1 External SK-NIC Wiring Option

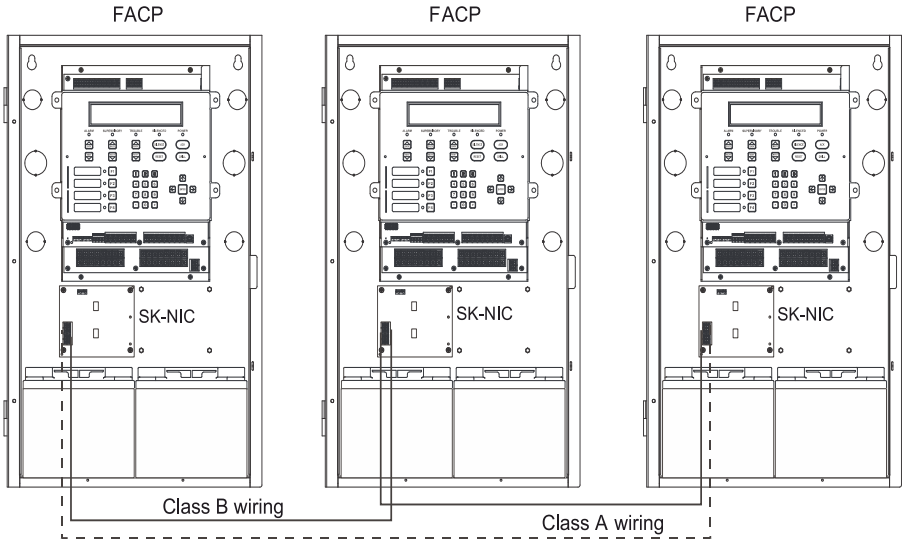


Figure 5.2 Internal SK-NIC Wiring Option

5.4 SK-NIC Wiring Options

Networking a group of IFP-2100 panels requires the use of a network interface card with each panel. The SK-NIC connects to other networked units using unshielded, twisted-pair wiring or fiber optic cable.

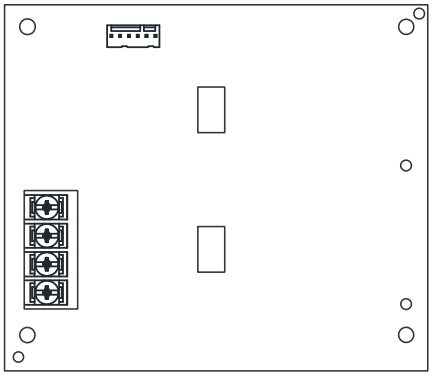


Figure 5.3 SK-NIC Network Interface Card

5.4.1 Fiber Loop Modules

Two types of fiber- optic modules are available to use to transmit and receive communication with the SK-NIC. For more information, see the *SK-FML/ SK-FSL Installation Instructions* P/N LS10178-001SK-E.

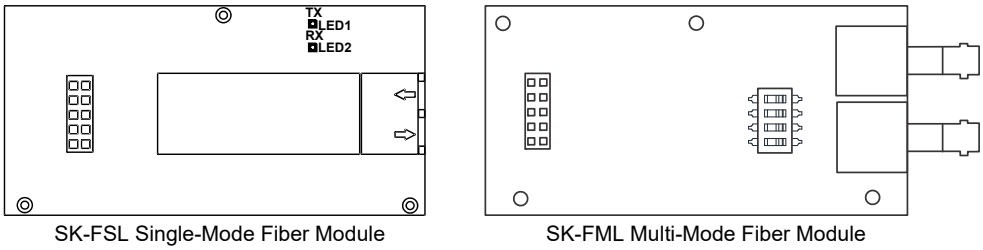


Figure 5.4 Types of Fiber Loop Modules

The SK-FML (Fiber-Optic Multi-Mode) and SK-FSL (Fiber-Optic Single-Mode) are plug-in fiber loop modules. The two types of fiber optic modules are used as one channel to transmit or receive communications with the SK-NIC, ARCNET communication circuit.

The following describe the two types of fiber optic modules.

- The SK-FML is a fiber module that allows the multi-mode fiber to network between nodes.
- The SK-FSL is a fiber module that allows the single-mode fiber to network between nodes.

Each fiber loop module can Transmit (TX) and Receive (RX) fiber-optic cable connecting to the SK-NIC. Up to two fiber loop cards can be added to the SK-NIC, and both cards may be combined in the same configuration.

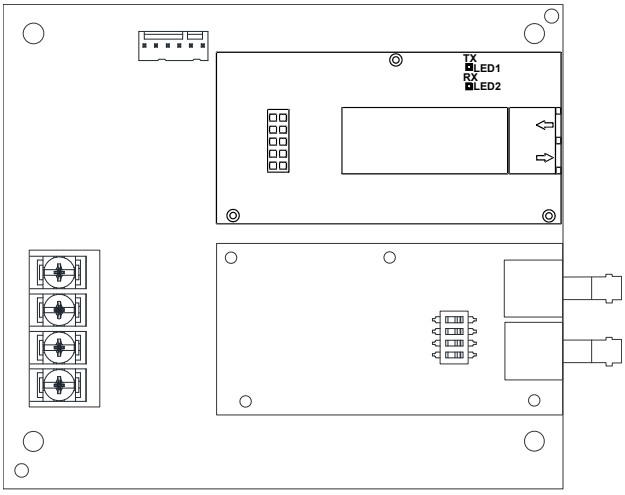


Figure 5.5 SK-NIC with Fiber Loop Modules

Accessory Mounting Kits

The SK-NIC can be mounted within the IFP-2100 cabinet or in the SK-NIC-KIT accessory cabinet. The SK-NIC-KIT includes the SK-NIC, cabinet with door, cable, and mounting hardware. The accessory kits are available if you want to install the SK-NIC outside of the IFP-2100 cabinet.

5.4.2 SK-NIC Installation

The SK-NIC is designed to mount on one of the SLC expander standoff sets inside the cabinet or remotely using the accessory cabinet.

Use the following steps to mount the SK-NIC inside the IFP-2100.

1. Place the SK-NIC on one of the SLC expander standoff sets.
2. Use the 6-pin cable included with SK-NIC to connect the IFP-2100 to the SK-NIC. Connect the SK-NIC to the pin connector on the control panel labeled Data Network. NIC

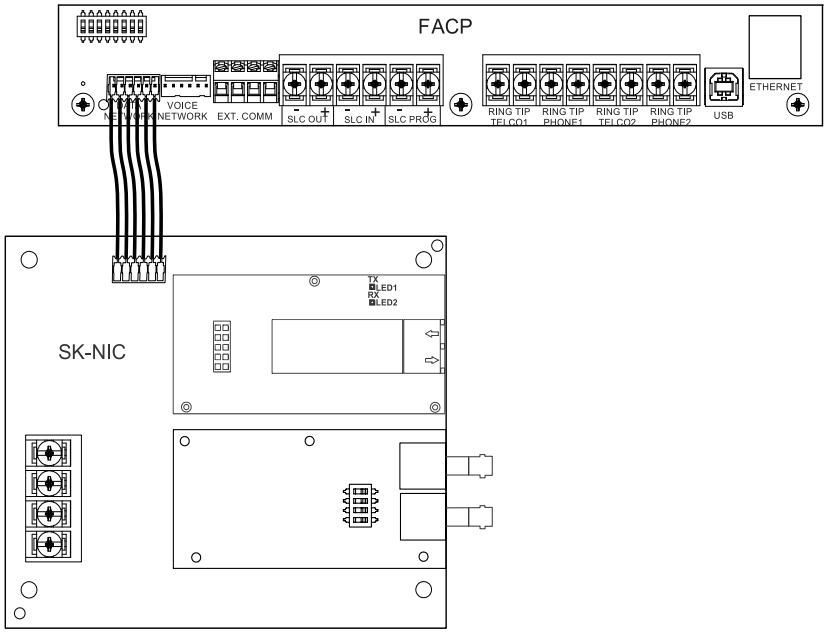


Figure 5.6 Panel to SK-NIC Connection

3. Each SK-NIC has the ability to monitor for earth ground faults on the twisted pairs connected to Port 1 of its terminal block TB2. Earth fault detection for any wiring at Port 2 of TB2 is done at the next/previous SK-NIC due to these wiring connections being connected to Port 1 of TB2 at the next/previous SK-NIC.
4. Unused optic ports on fiber loop modules must have their dust caps placed on the port.

5. Based on the type of data medium chosen, run the twisted pair wiring/fiber optic cable to the next SK-NIC using a class B or class A wiring method. A combination of both medium types can be used. See Figure 5.7, Figure 5.8, Figure 5.9, and Figure 5.10 for SK-NIC wiring examples.

5.4.3 SK-NIC Remote Mounting

Follow the steps above except, the 6-pin cable that runs from the SK-NIC to the IFP-2100 must be run in conduit. Refer to Figure 5.1.

5.4.4 Wiring

Unshielded Twisted Pair Wiring between Multiple Panels

Unshielded twisted pair wiring between multiple panels is shown in Figure 5.7. Class X wiring is shown with a dotted line.

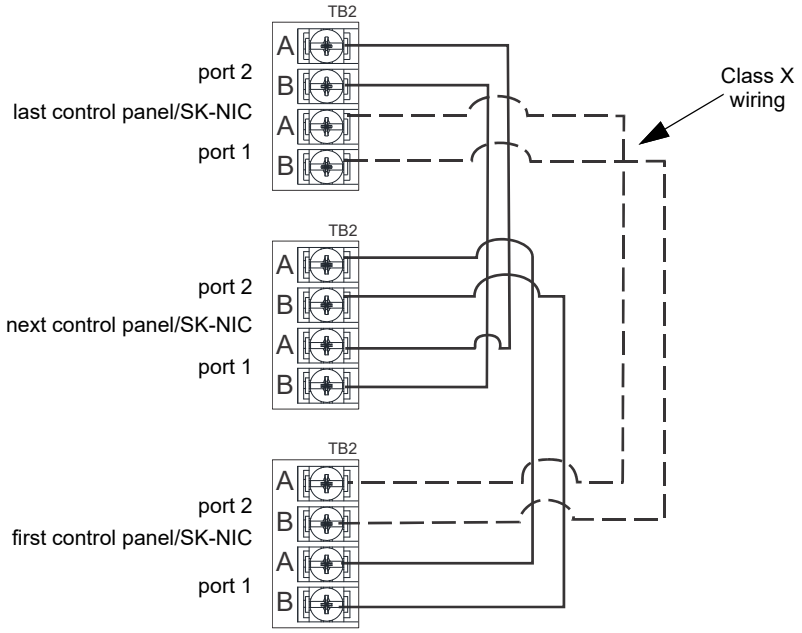


Figure 5.7 Twisted Pair Wiring Configuration

Fiber Optic Multi-Mode Wiring between Multiple Panels

Fiber optic cable between multiple panels is shown in Figure 5.8 and Figure 5.9. Class X is shown with a dotted line.

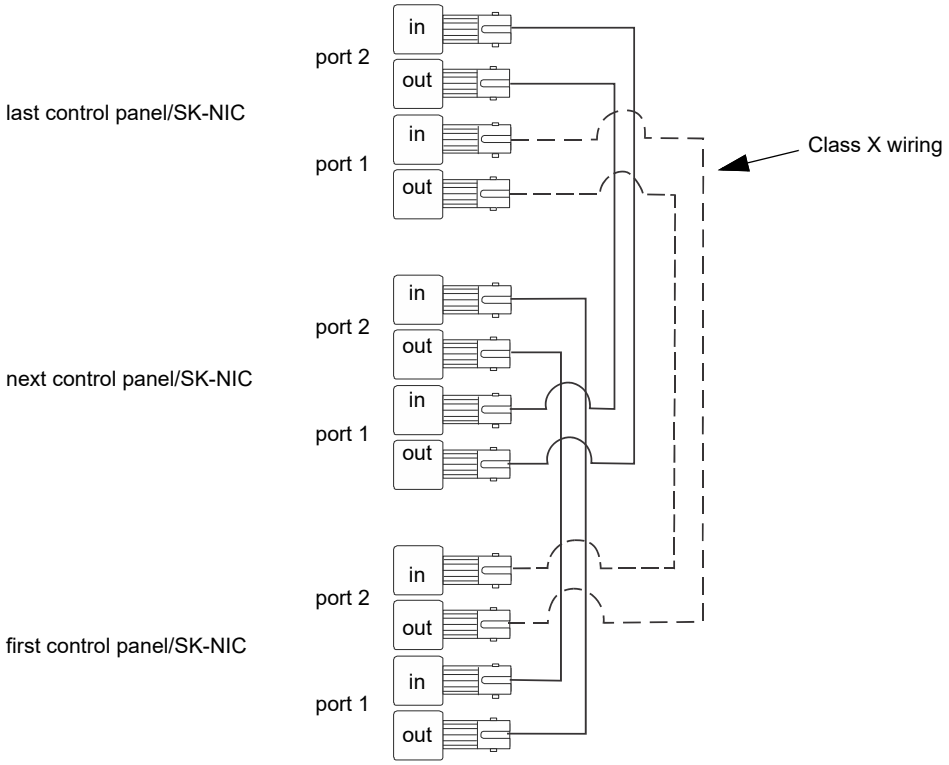


Figure 5.8 Fiber-Optic Wiring Multi-Mode Example

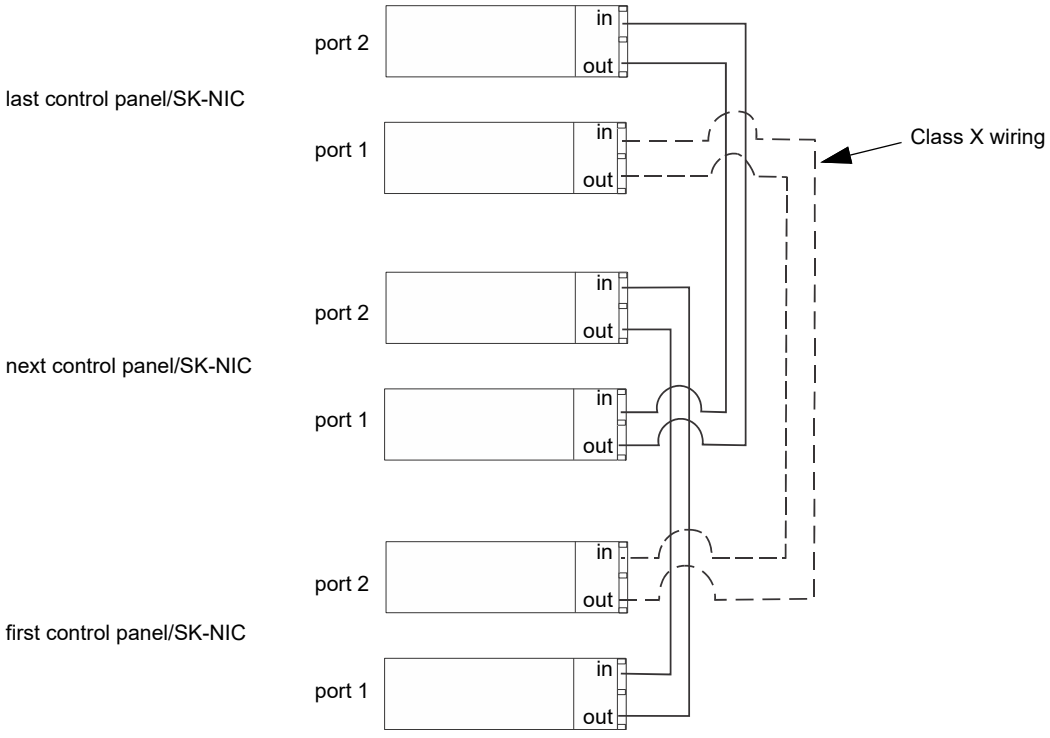


Figure 5.9 Fiber-Optic Wiring Single-Mode Example

Fiber Optic and Twisted Pair Wiring between Multiple Panels

A mixture of fiber optic cable and twisted pair wiring between multiple panels is shown in Figure 5.10. Class X cabling is shown with dotted line.

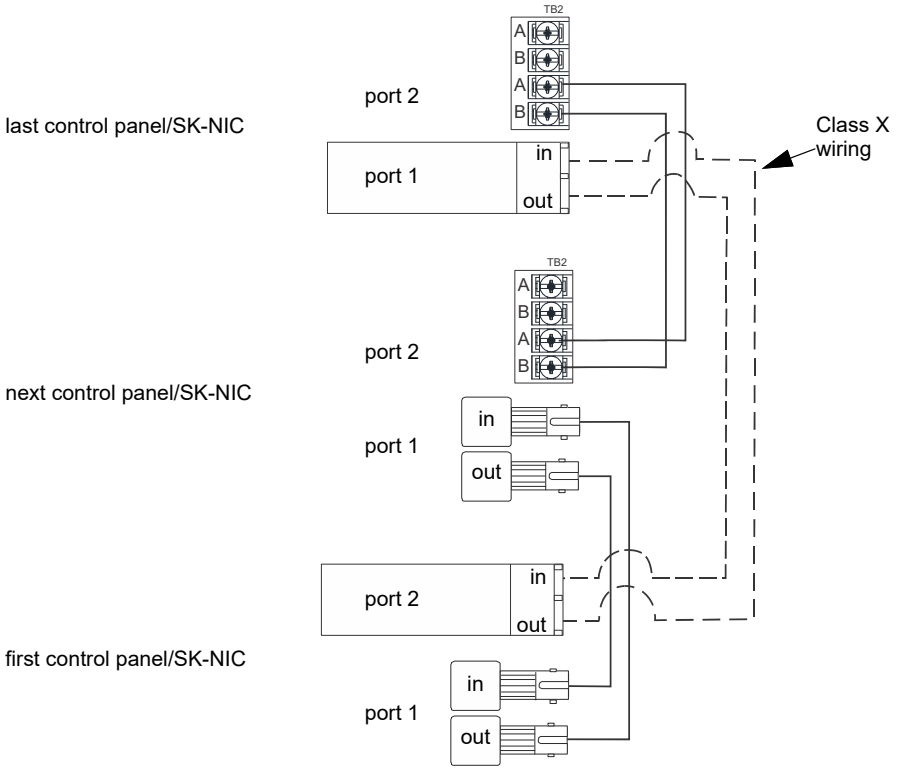


Figure 5.10 Twisted-Pair and Fiber-Optic Combination Wiring Example

5.5 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.

Use the DIP switch positions 1 through 6 to set the network ID for each panel. Note that switches 7 and 8 are not used and should remain in the OFF position. See the figure below for possible DIP switch settings. Address 0 is an invalid address and cannot be used.

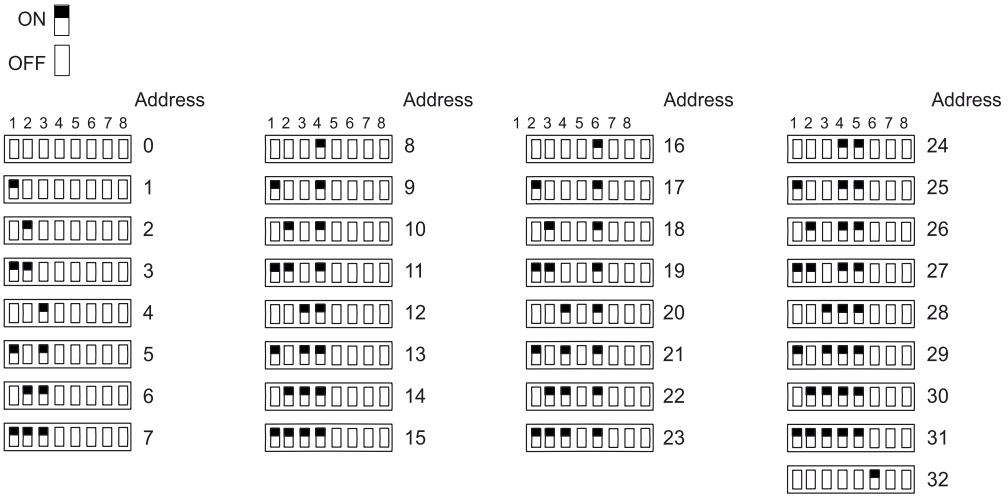


Figure 5.11 Network ID Settings

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. Login to the panel. The panel will automatically access 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 key to select Network Panel ID. Press ENTER to Ping panel.

6.1.2 Data Network Status

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

1. Login to the panel. The panel will automatically access the Main Menu.
2. Select 5 for Network Diagnostics.
3. Press 2 to enter the Data Network Status Menu.

6.1.3 Voice Network Status

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

1. Login to the panel. The panel will automatically access the Main Menu.
2. Select 5 for Network Diagnostics.
3. Press 3 to enter the Voice Network Status Menu.

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 HFSS. You must use HFSS to edit site assignments.

NOTE: Off-site Event Troubles
These troubles appear when an event in another site activates Output Groups due to intra-site mapping. The following list of events may occur.
- Off-site Fire/Supervisory Event
- Off-site Advisory Event
- Off-site ECS Event

After the Alarm/Event is reset/restored in the site that caused it, these events restore automatically when the Output Group is set to OFF. Off-site events are logged in Event History.

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 6.1 for Network Diagnostics.

1. Login to the panel. The panel will automatically access 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 6.4.

Incompatible Panel

If you try to add an incompatible panel as a member to the network, Learn Network fails and an error message appears.

The incompatible panel remains a “guest”. To continue, remove the incompatible panel from the network.

6.2.2 Edit Network Names

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

Edit Panel Names

1. Login to the panel. The panel will automatically access 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 Appendix A 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.

Edit the Network Panel ID

1. Login to the panel. The panel will automatically access 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 HFSS. (See also Section 9.4). 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.

To program computer access information:

1. Login to the panel. The panel will automatically access 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.

6.2.5 Access Codes

Access codes provide the user access to the control panel functions. Each access code can be customized for each user. This feature allows some users the ability to access the programming and other higher level panel functions, while other users may only need access to the lower level functions (such as, preforming fire drills or acknowledging trouble conditions). Access codes can only be assigned by someone with an Administrator profile. Refer to Section 9.2.1 on page 123 for more information on administrative permissions. Once an access code has been assigned by an administrator, a user has the ability to change it.

1. Login to the panel. The panel will automatically access the Main Menu.
2. Select 6 to access the Network Programming Menu.
3. Select 5 to access the Access Codes.
   The display reads: ***Select Profile 01***
   Fire Fighter's Key
4. Press the up or down arrow key to select the Access Code you want to edit.
5. Then, press ENTER.

Profile Edit Menu

From the Profile Edit Menu, the user can change their name and access code only.

■ Edit Name

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

■ 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.

6.2.6 Communicator Options

Communicator options provides the configuration for reporting events to a central station.

1. Login to the panel. The panel will automatically access the Main Menu.
2. Select 6 for Network Programming.
3. Press 6 to enter Communicator Options menu.

Communicator Assignments

Each panel on the IFP-2100 network specifies which communicator is used for reporting. The network capability of the IFP-2100 system allows all panels to use the same communicator providing an economical solution for reducing the number of paths required for reporting purposes. A communicator is specified by panel number. The network communicators will be used to report events according to the communicator report table.

Communicator Miscellaneous

When using the SIA reporting format, the communicator sends information according to the SIA Reporting Type. The selections for this option are:

1. pi modifier (default)
2. Panel ID

NOTE: Only the SIA format sends the panel ID when reporting.

Receiver Configuration

The IFP-2100 network can report events to as many as 68 receivers. See Appendix B for panel/receiver relationship numbers. Each receiver can be a phone number and reporting format. Phone numbers can be up to forty digits long.

1. Login to the panel. The panel will automatically access the Main Menu.
2. Select 6 for Network Programming.
3. Press 6 to enter Communicator Options Menu.
4. Select 3 for Receiver Configuration.
5. Select Panel to Program and press ENTER.
6. Enter the receiver number that you want to report to. The receiver numbers available will correspond with what panel number you entered. Receiver numbers are populated based on panel number and audited to allow only the 4 appropriate receivers. See Appendix B for receiver number.

Available Format choices are:

- Contact ID
- SIA500
- SIA8
- SIA20
- Ethernet
- Cellular
- UNUSED

Communicator Reporting Table

The Communicator 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 receiver numbers, 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.

1. Login to the panel. The panel will automatically access the Main Menu.
2. Select 6 for Network Programming.
3. Press 6 to enter Communicator Options menu.
4. Select 4 for Communicator Reporting Table.
5. Press * to add rows, Press ENTER to edit data

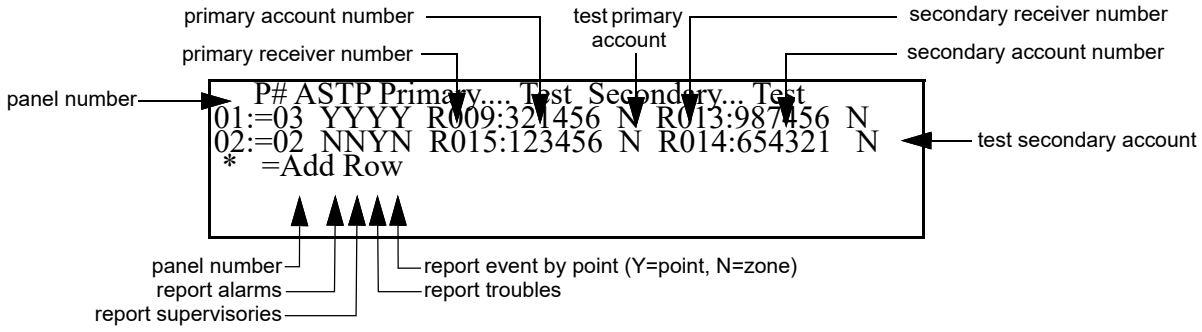


Figure 6.1 Communicator Reporting

6.3 Voice Options

6.3.1 Edit Timers

1. Login to the panel. The panel will automatically access the Main Menu.
2. Select 6 for Network Programming.

3. Select 7 for Voice Options.
4. Choose Site.
5. Select 1 for Edit Timers

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

Auto Reset ECS MIC Triggered 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

ECS Timer	Option
Control Lockout	Immediate/Timer/Never
Auto Reset ECS MIC Triggered 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

Table 6.1 Auto Reset ECS MIC Triggered Event Timer Menu

6.3.2 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. Login to the panel. The panel will automatically access 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:
   - Fire Alarm
   - Fire System Aux 1
   - Fire System Aux 2
   - Fire Zone Aux 1
   - Fire Zone Aux 2
   - Fire Prealarm
   - Emergency Communication 1
   - Emergency Communication 2
   - Emergency Communication 3
   - Emergency Communication 4
   - Emergency Communication 5
   - Emergency Communication 6
   - Emergency Communication 7
   - Emergency Communication 8
   - Fire Supervisory
   - System Alert 1-5
   - Trouble
   - Fire Interlock Release
   - Fire Interlock Alert
   - Custom Emergency Comm
   - Emergency Supervisory

- CO Alarm
- CO Supervisory

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 the ECS-VCM, ECS-NVCM, ECS-INT50W, or ECS-DUAL50W amplifiers. These include ANSI 520, Temp 4 520, Steady 520. See the *Device Compatibility Document* for a list of compatible speakers.

9. Select how many times you want the message to repeat. (None, 1 - 14, or Continuous).
10. Select the initial delay time (0, 3, 4, 8, 12, 16, 20, 24, 28).
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.

6.4 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. Login to the panel. The panel will automatically access 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.

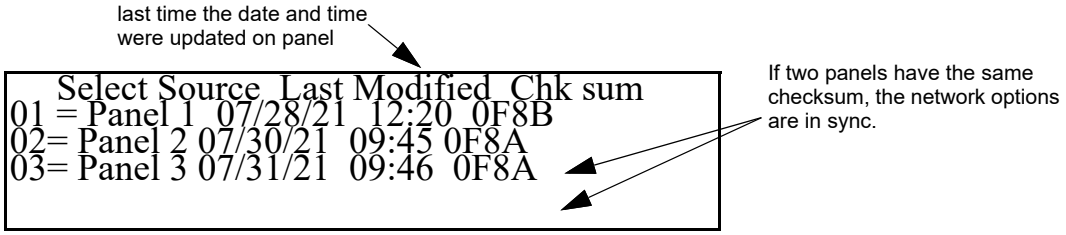


Figure 6.2 Sync Network Options

NOTE: If you try to sync with the network and an incompatible panel is found, an error message will display.

6.5 Network Management Quick Reference

Menu	Options/Defaults				Comments
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 6.2.3
Computer Access	Computer Access Number	*123456			See Section 6.2.4
	Computer Code	*0			
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			
Communicator Options	Communicator Assignments	Select Panel	Primary	0=unused	See Section 6.2.6
	Communicator Miscellaneous	SIA Options	Enable pi SIA Modifier		See, "Communicator Miscellaneous"
			Include Panel ID in SIA Reporting		
	Receiver Configuration	Select Panel	Select Receiver	Receiver Number	See, "Receiver Configuration"
		Receiver Format	Contact ID		
			SIA500		
			SIA8		
			SIA20		
			Ethernet		
			Cellular		
			UNUSED		
		Receiver Credentials			
	Communicator Report Table		Panel		See, "Communicator Reporting Table".
			Report Alarms		
			Report Supervisory		
			Report Troubles		
			Report Events by Point		
			Primary Receiver		
			Primary Account		
			Test Primary Account		
			Secondary Receiver		
			Secondary Account		
			Test Secondary Account		

Table 6.2 Network Management Quick Reference Chart

Menu	Options/Defaults			Comments	
Voice Options	Choose Site	Edit Timers	Control Lockout	Immediate/Timer/ Never	See Section 6.3.1
			Auto Reset ECS Event 1-8	Never/Timer/Event Disabled	
			Auto Reset ECS MIC Triggered Event		
		Edit Voice Commands	Fire Alarm	See Section 6.3.2	
			Fire System Aux 1		
			Fire System Aux 2		
			Fire Zone Aux 1		
			Fire Zone Aux 2		
			Fire Supervisory		
			Fire Prealarm		
			Custom Emergency Comm		
			Emergency Communication 1-8		
			System Alert 1-5		
			Trouble		
			Fire Interlock Release		
	Choose Site	Edit Voice Commands	Fire Interlock Alert	See Section 6.3.2	
			Emergency Supervisory		
			CO Alarm		
			CO Supervisory		
Sync Network Options				See Section 6.4	

Table 6.2 Network Management Quick Reference Chart (Continued)

Section 7: 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 Auto-programming feature automates many programming tasks and selects default options for the system. JumpStart should be at least once when you are installing the system. See Section 7.1 for details. After you run JumpStart, you may need to do some additional programming depending on your installation. Section 8 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. This affects how all panels in the network work together. (see Section 6 for details).
- System options. These are options that affect general operation of the panel. (see Section 8.6 for details).
- Options for input points and zones. These are primarily options that control the detection behavior of devices. (see Section 8.3 and Section 8.5 for details).
- Options for output points and groups. This includes selecting characteristics for output groups and mapping output circuits to output groups. (see Section 8.4 for details).

7.1 JumpStart Auto-Programming

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. When JumpStart is complete, you can choose to not accept the new devices and revert to the previous configuration. JumpStart 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 completes.

See Section 7.1.3 for complete details about running JumpStart.

7.1.1 Input Points

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

7.1.2 Output Points

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

Circuits 1-8 Configured as Notification and assigned to Group 1.

Circuit 9 (Relay 1) Assigned to Group 998.

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.

7.1.3 Running JumpStart Auto-Programming

Run JumpStart Auto-Programming 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, 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 7 for configuration.

To run JumpStart AutoProgramming, follow these steps.

1. Login to the panel and access the main menu.
2. Select 7 for Panel Programming.
3. Select 6 for JumpStart AutoProgramming.
4. The message “The system will be shut down during JumpStart.” Press ENTER to accept.
5. When the message, “SLC FAMILY” message appears, select IDP, SK, or SD, depending on the type of SLC devices the panel is using, and press ENTER to accept.
6. A series of messages displays for the next several seconds. JumpStart scans the SLC loops for 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 RFP-2100, a message will appear for selecting to install the display or not. If the display is to stay in the system for normal annunciation, select “Yes”. Otherwise select “No” and the display will be removed.” See Section 4.10.
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	1. If you are ready to make the JumpStart configuration permanent, select 3. 2. 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. 3. From the list that displays, select the SLC that contains the duct detectors. 4. The first photoelectric or ionization detector on the system will display. Select 1 for DUCT and 2 for NonDUCT. 5. Press up arrow to select the next detector. Select 1 for DUCT and 2 for NonDUCT. Continue until all duct detectors have been selected. (Note: You can move backwards through the list with down arrow). 6. When you reach the last detector on this device, press left arrow. 7. The system will ask you if there are any duct detectors used. If there are, select 1 for Yes and the message will ask, Have All Addressable Duct Detectors Been Identified? Left arrow for “No”, Right arrow for “Yes”. If there are no more duct detectors, continue with Step 8. 8. The system will restart with the saved JumpStart configuration. 9. After the system resets, it will use the new JumpStart configuration.
4 - Discard Changes	If you want to discard the changes, and keep the configuration you had before running this JumpStart press 4.

7.2 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 will 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 7.1 is a brief overview of the concept of mapping. The next several pages of the manual show these subjects in detail.

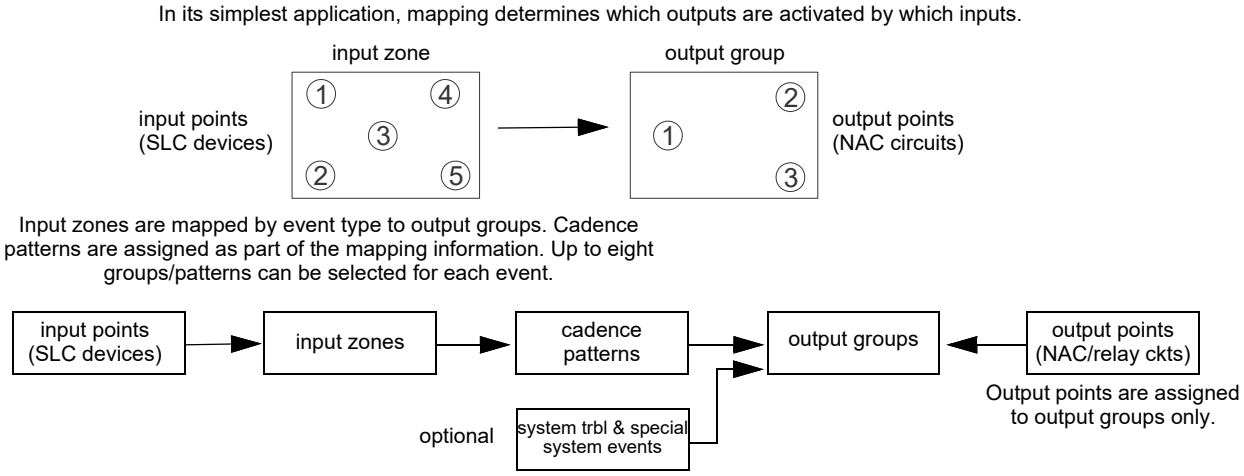


Figure 7.1 Mapping Overview

NOTE: Mapping cannot be programmed through the annunciators. It can only be programmed through the HFSS Honeywell Fire Software Suite.

7.2.1 Input Point Mapping

Input points are assigned to input zones, as Figure 7.2 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).

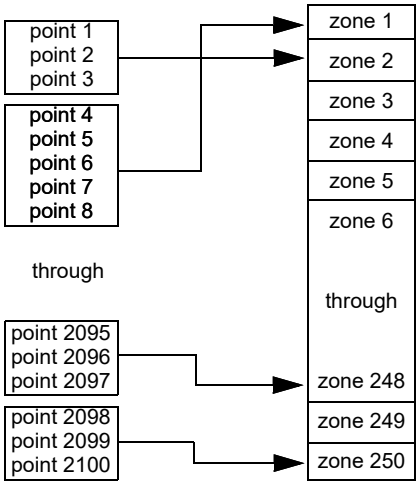


Figure 7.2 Input Point Assignment Example

7.2.2 Output Circuit Mapping

Figure 7.3 is a simple example showing how to assign notification and relay output circuits to groups.

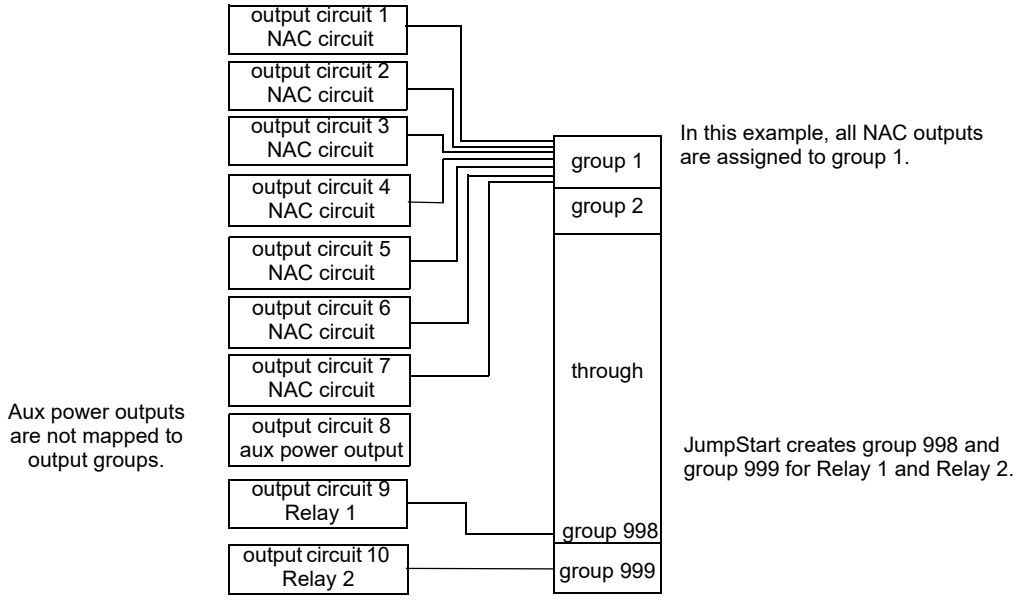


Figure 7.3 Assigning Output Circuits to Groups (Example)

7.2.3 Event Mapping

There are 11 types of Zone events, 14 types of Panel events, and 40 types of Site events that can be mapped. For each event type, you can activate the output groups with specific output patterns. Mapping examples are shown in Figures 7.4, 7.5, and 7.6.

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[1]		
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	
		Output Group Trouble	

1 Temporal 4 and other recognized coding should not be used for NAC circuits mapped to CO supervisory events

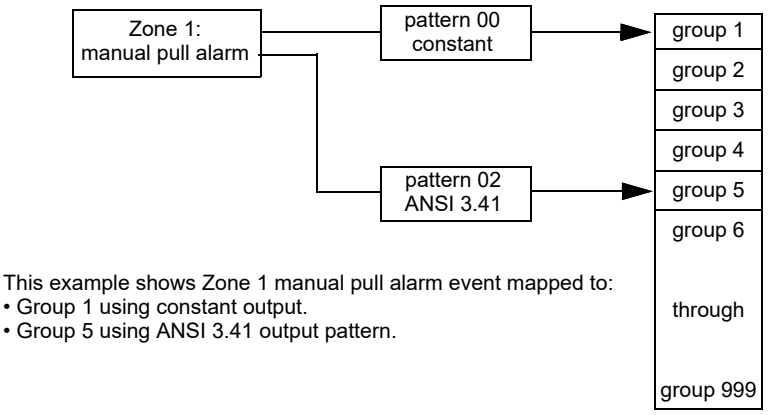


Figure 7.4 Example of Zone Events Mapped to Output Groups and Patterns

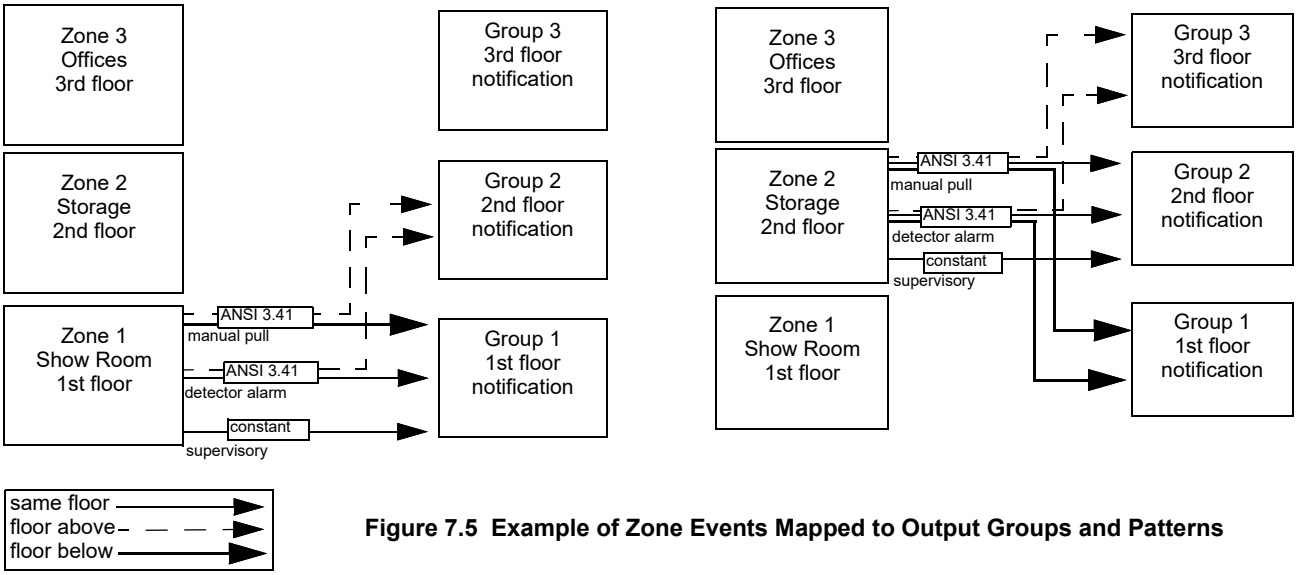


Figure 7.5 Example of Zone Events Mapped to Output Groups and Patterns

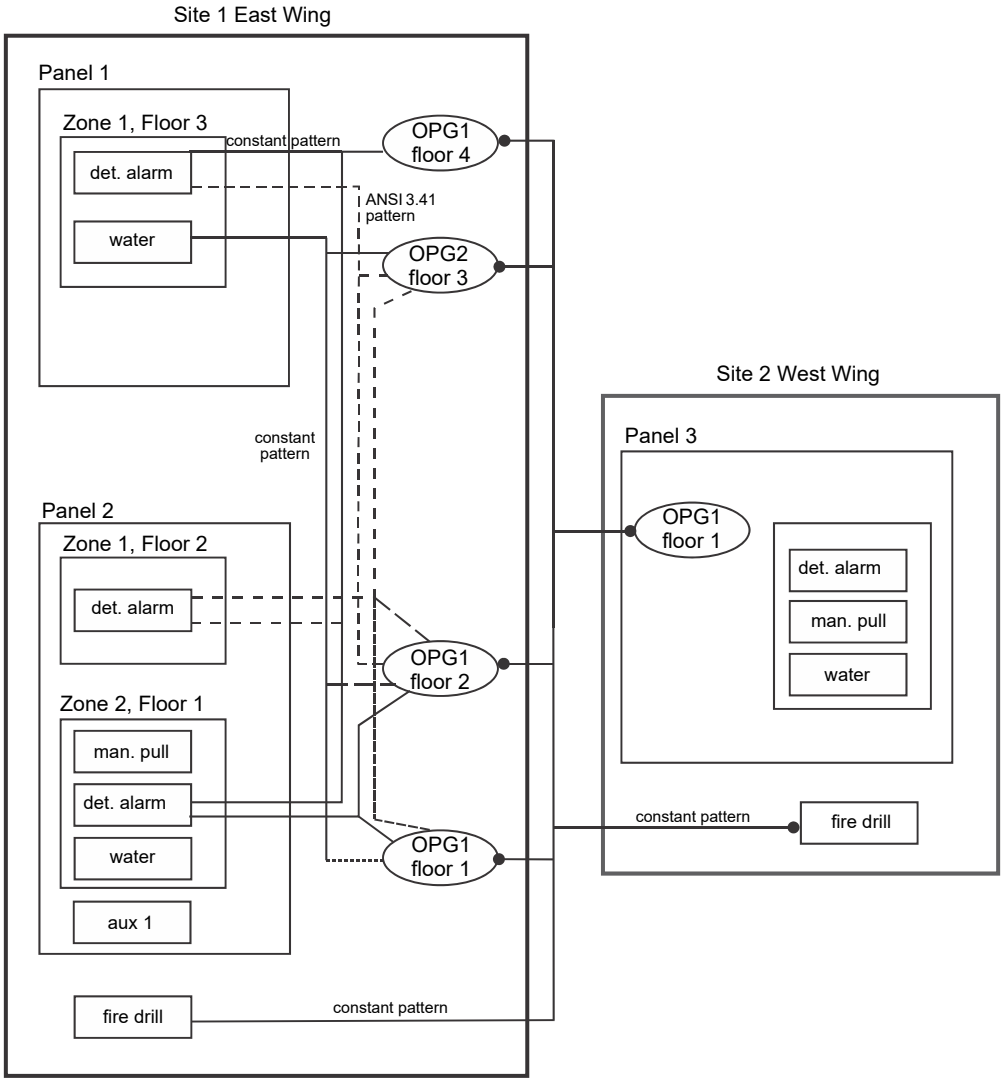


Figure 7.6 Example of Event Mapped to Output Groups and Patterns within a Networked Site

7.2.4 Mapping LED Points

Figure 7.7 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

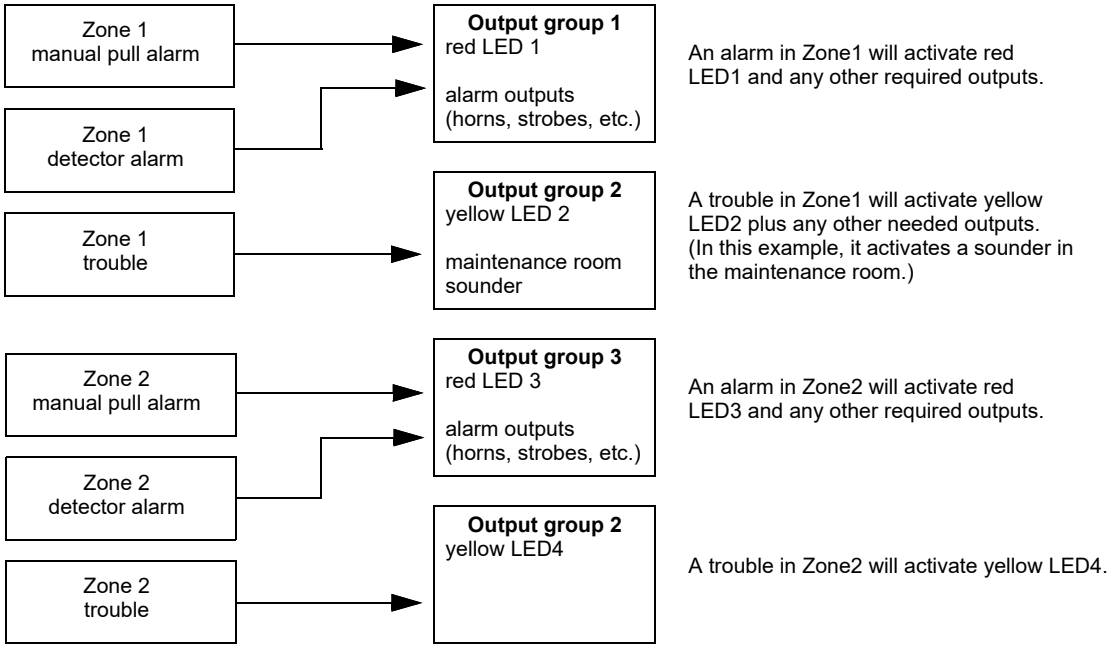
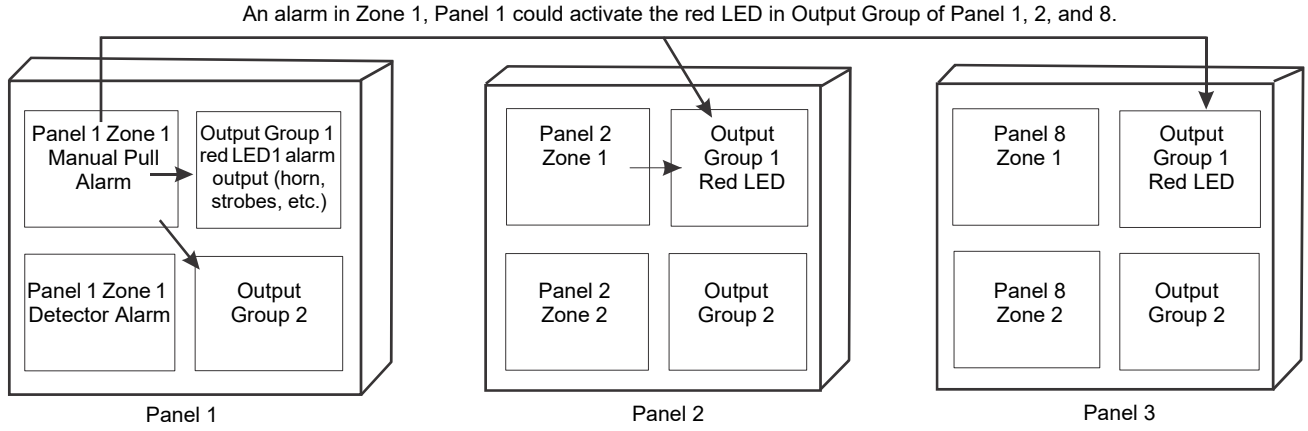


Figure 7.7 Example of LED Points Mapped to Output Groups (applies to Models 5865-3/4 and 5880)

7.2.5 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 7.8 Example of Expanding Mapping of LED Points Across Panels

7.3 Programming Using the HFSS Software Suite

You can use the HFSS Software Suite to program the control panel onsite (personnel will need to be onsite during the upload or download process). HFSS is a software package that lets you easily program the control panel using a Windows-based computer. HFSS is needed for Mapping. When using HFSS, 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 Ethernet. Updates are available at www.farenhyt.com.

7.4 Programming Using an Annunciator

You can program the control panel from a system annunciator, using either the control panel's onboard annunciator or an RA-100, RA-1000 or 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 8 contains specific information about individual programming options.

NOTE: Output mapping cannot be programmed through the onboard and remote annunciators. Mapping is only available through the HFSS Honeywell Fire Software Suite.

7.4.1 Entering / Exiting Panel Programming

Entering Program Mode

1. Login to the panel. (Refer to Section 9.2.1).
2. Select 7 for the Programming Menu. See Section 8 for detailed information and Section 7.5 for a quick reference listing all programmable options and JumpStart defaults.

Exiting Program Mode

When you have completed working with the menus, press the left arrow several times until you exit from the Programming Mode. Two prompts will display. At the first prompt, a message appears indicating to exit the Program Menu (select Yes or No as appropriate). At the second prompt, a message indicates if the user accepts all changes. If you select No, any changes you have made since you entered the Program Menu will have no effect.

Moving Through the Menus

Figure 7.9 shows how to move through the menu screens, using the main menu screen as an example.

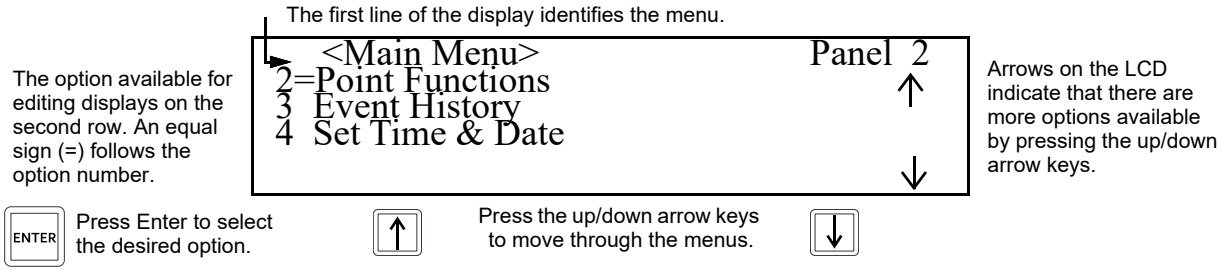


Figure 7.9 Moving through Program Menu

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	Enter the number of the option.
Enter numeric data	Press the appropriate number on the annunciator.
Enter text (alphanumeric data)	Enter each character individually using the Up and Down arrow keys until the one you wish to select displays. Then press right arrow to select the character. See Appendix A for a complete list of characters.
Select from a scrolling list	Use up arrow and down arrow to move through a list of available options. When the option you want to select is displayed, press ENTER.

Table 7.1 Menu Options

7.5 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	See Section 8.2.1
			Enter Module Name	
			Edit Module specific options	
	Add Module	5824 Serial/Parallel/IO		See Section 8.2.2
		RA-2000 LCD Annunciator		
		RA-1000R LCD Annunciator		
		RA-100 LCD Annunciator		
		6815 SLC Loop Expander		
		5815XL SLC Loop Expander		
		RPS-1000 Power Supply		
		5496 NAC Expander		
		5880 LED/IO Module		
		5865-LED Annunc. Module		
		ECS-50W Voice Amplifier[1]		
		ECS-125W Voice Amplifier[1]		
		ECS-DUAL50W Voice Amplifier[1]		
		ECS-NVCM Network Voice Control Module[1]		
		ECS-VCM Voice Control Module[1]		
		ECS-RVM Remote Voice Module[1]		
		SK-NIC Network Interface Card		
	Delete Module	Select Module		See Section 8.2.3
	View Module List	Select Module		See Section 8.2.4

Table 7.2 Programming Menu Quick Reference Chart

Menu		Options/Defaults				Comments
Zone	Edit Zone	Select Zone	Edit Zone Name			Section See “Edit Zone Name” on page 102.
			Zone Properties	Verification Type	*1-Count	See “Edit Zone Properties” on page 102.
					2-Count	
					Alarm Ver.	
					PAS	
					SNGL ILOCK	
					DBL ILOCK	
				Heat Temp Set	135° to 150°F	SD devices. See “Edit Zone Properties” on page 102.
					135° to 190°F	IDP or SK device. See “Edit Zone Properties” on page 102.
				Smoke Sensitivity	Low	See “Edit Zone Properties” on page 102.
					Medium	
					High	
			Zone Accessory Opt	Single/Multi-station Cadence	00-23	See “Zone Accessory Options” on page 104.
				CO Single/Multi station Cadence	00-23	
				Local Zone	Yes	
					No	
	View Zone Points	Select Zone				See Section 8.3.2
Group	Edit Group	Select Group	Group Name			See “Edit Group Name” on page 105.
			Group Properties	Voice Group	Y or N	See “Edit Group Properties” on page 105.
				Switch	1-64	
				Template Override	Y or N	
				Allow Sys Override	Y or N	
				Dynamic Act/Template Override Cadence	00-23 (See Appendix B.)	
	View Group Points	Select Group				See Section 8.4.2
	Edit OPG Template	Select template	Modify name and which output groups are in template			See Section 8.4.3

Table 7.2 Programming Menu Quick Reference Chart (Continued)

Menu		Options/Defaults					Comments
Point	SD, IDP, and SK Devices on Internal SLC, External 6815, and External 5815XL	Enter Pt	Select Module	UNUSED			See Section 8.5
				SWITCH 2, 3, 4, 5, 6, 7	MANUAL PULL		
					WATERFLOW	*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		
					FIRE TAMPER	LATCH	
						NON-LATCH	
					MANUAL RELEASE		
					INTERLOCK		
					STATUS POINT		
					CO DETECTOR SWITCH		
					CO SUPERVISORY DETECTOR SWITCH	LATCH	
						NON-LATCH	
					ECS INPUT	LATCH	
						NON-LATCH	
					ECS TAMPER	LATCH	
						NON-LATCH	
					ECS SUPER-VISORY	LATCH	
						NON-LATCH	
					TROUBLE_MON		
				NOTIF 2,3,4,5,6,7	OUTPUT PT	Select Group	
					AUX CONST		
					AUX RESET		
					AUX DOOR		

Table 7.2 Programming Menu Quick Reference Chart (Continued)

Menu		Options/Defaults					Comments
Point (cont.)	SD, IDP, and SK Devices on Internal SLC, External 6815, and External 5815XL	Enter Pt	Select Sensor	RELAY 2,3,4,5,6,7	OUTPUT PT	Select Group	See Section 8.5
					AUX RESET		
					AUX DOOR		
				SLC LED 4,7	LED Number	1-80	
					LED Function	Notif	
						Unused	
				DETECTOR 2,3,5,6	2-WIRE SMOKE	Select Zone	
				W. Gateway 2,3,5,6			
				W SWITCH 2,3,5,6,8	Same as SWITCH		
				W-RELAY 2,3,5,6,8	Same as Relay		
				UNUSED			
				DETECTOR 2,3,4,5,6,7	PHOTO	No Accessory base	
						SDR BAS	Single station or Multi station Silence or Non-Silence
						RLY BAS	
						I-SdrBa (Intelligent Sounder Base) 2,3,5,6	Latch or non-latch, Single station or Multi station, Silence or Non-Silence, volume high (default) or low
					ION	No Accessory base	
						SDR BAS	Single station or Multi station Silence or Non-Silence
						RLY BAS	
						I-SdrBa (Intelligent Sounder Base) 2,3,5,6	Latch or non-latch, Single station or Multi station, Silence or Non-Silence, volume high (default) or low

Table 7.2 Programming Menu Quick Reference Chart (Continued)

Menu		Options/Defaults					Comments
Point (cont.)	SD, IDP, and SK Devices on Internal SLC, External 6815, and External 5815XL	Enter Pt	Select Sensor	DETECTOR [2,3,4,5,6,7]	HEAT[2,3,4,5,6,7]	No Accessory base	
						SDR BAS	Single station or Multi station Silence or Non-Silence
						RLY BAS	
						I-SdrBa (Intelligent Sounder Base) [2,3,5,6]	Latch or non-latch, Single station or Multi station, Silence or Non-Silence, volume high (default) or low
					PHOTO DUCT [2,3,4,5,6,7]	No Accessory base	
						DCT RLY	
					2-WIRE SMOKE [4,7]		
					ION DUCT[4,7]	No Accessory base	
						DCT RLY	
					ACCLIMATE [2,3,5,6]	No Accessory base	
						SDR BAS	Single station or Multi station Silence or Non-Silence
						RLY BAS	
						I-SdrBa (Intelligent Sounder Base)	Latch or non-latch, Single station or Multi station, Silence or Non-Silence, volume high (default) or low
					HEAT HT [2,3,5,6]	No Accessory base	
						SDR base	Single station or Multi station Silence or Non-Silence
						RLY base	
						I-SdrBa (Intelligent Sounder Base)	Latch or non-latch, Single station or Multi station, Silence or Non-Silence, volume high (default) or low
					PHOT-HEAT [2,3,5,6]	No Accessory base	
						SDR BAS	Single station or Multi station Silence or Non-Silence
						RLY BAS	
						I-SdrBa (Intelligent Sounder Base)	Latch or non-latch, Single station or Multi station, Silence or Non-Silence, volume high (default) or low
					BEAM[2,3,5,6]		
				SUP DET [2,3,4,5,6,7]	Same function as DETECTOR	LATCH	
						NON-LATCH	

Table 7.2 Programming Menu Quick Reference Chart (Continued)

Menu		Options/Defaults					Comments
Point (cont.)	SD, IDP, and SK Devices on Internal SLC, External 6815, and External 5815XL	Enter Pt	Select Sensor (cont.)	CO FIRE [2,3,5,6]	CO ALARM/FIRE ALARM	No Accessory base	
						SDR BAS	Single station or Multi station Silence or Non-Silence
						RLY BAS	
						I-SdrBA (Intelligent Sounder Base)	Latch or non-latch, Single station or Multi station, Silence or Non-Silence, volume high (default) or low
					CO ALARM/FIRE SUPR	No Accessory base	
						SDR BAS	Single station or Multi station Silence or Non-Silence
						RLY BAS	
						I-SdrBA (Intelligent Sounder Base)	Latch or non-latch, Single station or Multi station, Silence or Non-Silence, volume high (default) or low
					CO SUPR/ FIRE ALARM	No Accessory base	
						SDR BAS	Single station or Multi station Silence or Non-Silence
						RLY BAS	
						I-SdrBA (Intelligent Sounder Base)	Latch or non-latch, Single station or Multi station, Silence or Non-Silence, volume high (default) or low
					CO SUPR/ FIRE SUPR	No Accessory base	
						SDR BAS	Single station or Multi station Silence or Non-Silence
						RLY BAS	
						I-SdrBA (Intelligent Sounder Base)	Latch or non-latch, Single station or Multi station, Silence or Non-Silence, volume high (default) or low
				W-Detector [2,3,5,6,8]	Photo[2,3,5,6,8]	See Section 8.5	
					Acclimate[2,3,5,6,8]		
					Photo-Heat[2,3,5,6,8]		
					Heat[2,3,5,6,8]		
				W-SUP DET [2,3,5,6,8]	Same as W-Detector		

Table 7.2 Programming Menu Quick Reference Chart (Continued)

Menu		Options/Defaults					Comments
Point (cont)	Internal Power and External Power	Enter Pt /Select Function	Select Sensor	UNUSED			See Section 8.5
				B NOTIF	NOTIF OUTPUT	Select Group Super-vised Yes or No	
					CONTROL CIRCUIT		
				A NOTIF	NOTIF OUTPUT	Select Group Super-vised Yes or No	
					CONTROL CIRCUIT		
				AUX PWR	CONSTANT		
					AUX RESET		
					AUX DOOR		
					AUX SYNC[9]		
				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		
					ZONE AUX2		
					SYSTEM AUX1		
					SYSTEM AUX2		
					MANUAL RELEASE		
					INTERLOCK		
					ECS INPUT	If ECS INPUT is selected choose associated EVENT	
					ECS TAMPER		
					ECS SUPERVISORY		
					STATUS POINT		
				A SWITCH	Same as B SWITCH		See Section 8.5.3
				B DETECT	2-WIRE SMOKE		
					4-WIRE SMOKE		
					CO 4 WIRE DET		
					CO 4 WIRE SUP DET	Latch	
						Non-Latch	
				A DETECT	2-WIRE SMOKE		
					4-WIRE SMOKE		
					CO 4 WIRE DET		
					CO 4 WIRE SUP DET	Latch	
						Non-Latch	
		Select Group or Zone Number				Group or Zone selection will appear depending on the function selected	
		Edit Name		Enter Name			

Table 7.2 Programming Menu Quick Reference Chart (Continued)

Menu		Options/Defaults				Comments
Point (cont.)	5496	Edit Point #	UNUSED			See Section 8.5.5
			B NOTIF A NOTIF	Control Circuit Notif Output	Select Group Super-vised Yes or No	
			AUX_PWR	Constant	Edit Name	
				Aux Sync		
				Aux Door		
				Aux Reset		
	5880/5865/ECS Series Amplifiers	Enter Point #	UNUSED		See Section 8.5.4 and Section 8.5.6	
			NOTIF			
		Select Group				
		Edit Name	Enter Name			
	ECS-VCM, ECS-RVM, ECS-NVCM	Enter Pt /Select Function	UNUSED			See Section 8.5.7
			SWITCH[1]	SUPERVISORY		
				TAMPER		
				WATER FLOW		
				P.A.S. (Non-latching)		
				MANUAL PULL (Latching)		
				SYSTEM SILENCE (Non-latching)		
				SYSTEM RESET		
				ZONE AUX 1		
				ZONE AUX 2		
				SYSTEM AUX 1		
				SYSTEM AUX 2		
				FIRE DRILL		
				MANUAL RELEASE SWITCH		
				INTERLOCK SWITCH		
				STATUS POINT		
				ECS INPUT		
				ECS TAMPER		
				ECS SUPERVISORY		
				VOICE AUX ECS 1-4		
				VOICE AUX STATUS 1-2		
				BACKGROUND MUSIC ENABLE		

Table 7.2 Programming Menu Quick Reference Chart (Continued)

Menu		Options/Defaults				Comments
System Options	Communication Options	Auto Time Test	Set the Hour	*02:00AM	See “Auto Test Time” on page 115.	
			Set the Minutes			
			Select AM/PM			
			Enter Interval	24 hrs,12 hrs, *6 hrs, 4 hrs		
		Phone Lines	For each phone line (1 & 2) select:			
			Dialing Prefix	Up to 9 digits	*none	See “Phone Lines” on page 115.
			# of Answer Rings	Range: 00-15	*06	Number of rings before panel answers a call from a computer
			Select Dialing Option	TT	*TT	Touch Tone
				TT/PL		TouchTone alternating with pulse
				PULSE		Pulse dialing
			Rotary Pulse Format	U = 60/40	*U	See “Phone Lines” on page 115.
				E = 66/34		
			Dial Tone Disabled	Y or N	*N	
			Monitor Line	Y or N	*N	
			Answering Machine Bypass	Y or N	*N	
			Phone Line Unused	Y or N	*N	
		Edit Ethernet	IP Address			See “Edit Ethernet” on page 117.
			Subn Mask SubNet			
			Default Gateway			
			DHCP Enable			
		AlarmNet Timers	Ethernet Supervise	75 sec, 90 Sec, 3 min, 5 min, 1 hr, 24 hrs, 30 days, None	*5 Minutes	See “AlarmNet Timers” on page 117.
			Cellular Supervise	24Hrs, 30 days, none	*24 Hours	
			Old Alarm Time	10 min, 15 min, 30 Minutes, 1 hr, 2 hrs, 4 hrs, 8 hrs, 12 hrs, 24hrs, none	*30 Minutes	
	Communication Options	Phone Line Gains	Dialing	High	*High	See “Phone Line Gains” on page 117.
				Low		
				Normal		
			Reporting	Low	*Low	
				Normal		
				High		

Table 7.2 Programming Menu Quick Reference Chart (Continued)

Menu		Options/Defaults				Comments
	Daytime/Nighttime Sensitivity	Enable/Disable	Yes		*No	See “AlarmNet Timers” on page 117.
			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	See Section 8.6.3.
System Options cont.	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. See “Water Flow Delay” on page 118	
		Alarm Verify	60 to 250 seconds	*60 sec	See “Alarm Verify” on page 119.	
		Low AC Report Time	0 - 30 hours	*3 hrs	See Section 8.6.4.	
		AC Freq:	50 Hz	*60Hz	See “Change AC Line Frequency” on page 119.	
			60 Hz			
			Internal			
		Clock Display Format	AM/PM	*AM/PM	See “Clock Format (AM/PM or Military)” on page 119.	
			MIL			
		Auto-resound	4 hours	*24 hours	See “Auto-Resound (4 or 24 hours)” on page 119.	
			24 hours			
	Miscellaneous Options	SYNC Strobes when Silenced	Y	*N	See “Strobes Active when Silenced” on page 119.	
			N			
		Auto Display Events	Y	*N	See “Auto Display Events” on page 119.	
			N			
	Daylight Saving Options	Auto Daylight Saving Time	Y	*Y	See “Daylight Saving Time Start and End” on page 120.	
			N			
		DST Start	Select week: 1st, 2nd, 3rd, 4th or Last	Select month		See “Daylight Saving Time Start and End” on page 120
		DST End				
	Edit Banner	Refer to Appendix A.				See Section 8.6.7.
	SLC Family	IDP				See Section 8.6.8.
		SK				
		SD				
Jump Start AutoPrg			Y (Yes)			See Section 8.6.9.
			N (No)			
Restore Defaults			Y (Yes) N (No)			See Section 8.7.
Voice Options[1]	VCM Maintenance	PC Connection			See Section 8.8.	
		Local Recording				
	Edit Voice Settings	Enable Dual Channel System				
*=Default						

Table 7.2 Programming Menu Quick Reference Chart (Continued)

1 Requires ECS module programmed into the panel.
2 Available on internal SLC.
3 Available on external 6815 expander.
4 Available on external 5815XL expander.
5 Available with SLC family as IDP.
6 Available with SLC family as SK.
7 Available with SLC family as SD.
8 Requires wireless gateway.
9 AUX SYNC setting is only applicable for the B200S Intelligent Sounder Base.

Section 8: 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 the HFSS Honeywell Fire Software Suite.

NOTE: JumpStart auto-programming should be run Before any customized programming is performed. Thoroughly test the system after running JumpStart because it 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.

8.1 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 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	Auto-resound	Yes	Yes	4 hrs, 24hrs	4 hours if using SWIFT devices 24 hours if using other devices	4 hours if using SWIFT devices 24 hours if using other devices
Time Options	Low AC Report Delay	Yes	Yes	0-30 hours	1-3 hours	1-3 hours
Communication Options	Auto Test Time	Yes	Yes	4, 6, 12, and 24 hrs	4 or 6 hours	4 or 6 hours
Silencing Options	Auto Silence	Yes	Yes	0-60 minutes	3-60 minutes	3-60 minutes
Display Oldest Event	Y (Enabled)	Yes	Yes	Yes or No	Yes	Yes
	N (Disabled)	No	No	Yes or No	No	No
Initial Delay	0-28	Yes	Yes	0-28 hours	3 hours	3 hours
Alarm Verification[1]	Alarm Verification	Yes	Yes	60-250 seconds (Confirmation period)	0-60 seconds	0-60 seconds
Manual Release Switch[2]	Manual Release	Yes	Yes	0-120 seconds (delay period)	0-30 seconds (delay period)	0-30 seconds (delay period)
Auto Reset ECS MIC Triggered Event	Auto Reset ECS MIC Triggered 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

Table 8.1 Programming Requirements

1 When 2-count delay is active, you cannot use the alarm verification.
2 The Manual Release Switch shall override any pre-discharge delays resulting in an immediate release or start of the Manual Release Delay period. The delay period shall be 30 seconds or less from the activation of the switch to the actuation of the releasing device(s).
3 Temporal 4 and other recognized coding should not be used for NAC circuits mapped to CO supervisory events.

8.2 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, RA-1000R, and RA-100 LCD remote annunciators, 5815XL SLC Loop expander for SD devices, 6815 SLC Loop Expander for IDP or SK devices, RPS-1000 power supply,5496 NAC expander, 5880 LED I/O module, 5865 LED annunciator Module, ECS-50W, ECS-125W, ECS-INT50W, ECS-DUAL50W audio amplifiers, ECS-VCM voice control module, ECS-NVCM network voice control module, ECS-RVM remote voice module, and SK-NIC network interface card.

8.2.1 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. Login to the panel. 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 key to select the module you wish to edit.Then press ENTER.

Editing Module ID

6. Press the up or down arrow key to modify the module ID.

NOTE: You cannot edit the module ID for any internal devices, the ECS-NVCM, or the SK-NIC.

Naming Modules

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

7. 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 right arrow key to bypass editing the name).

NOTE: See Appendix A for editing names.

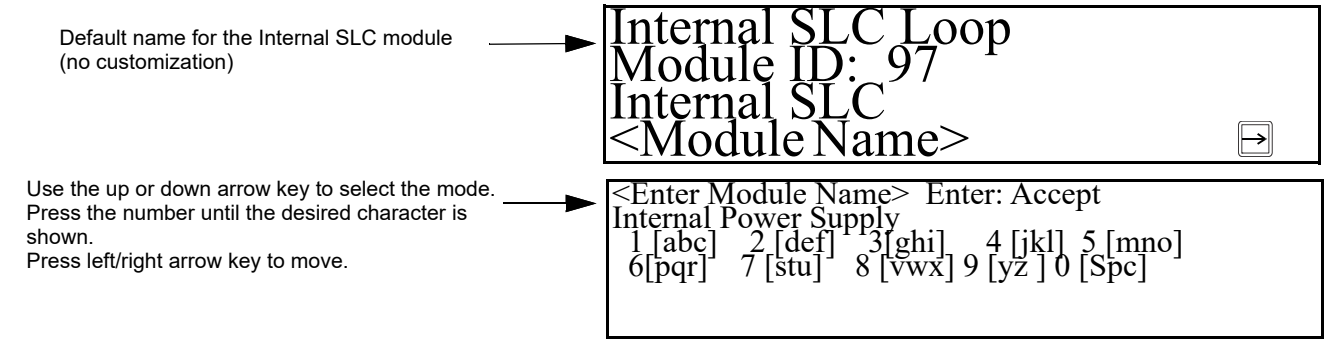


Figure 8.1 Edit Module Name Programming Screen Example

Changing Module Options

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

8. Use the left and right arrow keys to move between available options.
9. Option settings are edited by pressing the up or down arrow key or using the keypad for numerical entry.

8.2.2 Adding a Module

If you need to add a new hardware module to the system, follow these steps.

1. Login to the panel.
2. Select 7 for Program Menu.
3. Press 1 to enter Module Menu.
4. Press 2 to add a module.
5. From the next screen, use the up or down arrow to choose a module type to add 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 Program Menu 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 Program Menu). When the new module is attached, the trouble will correct itself automatically.

8.2.3 Deleting a Module

To delete a module, follow these steps:

You must be in the Main Menu to perform this task. If necessary, login to the panel.

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

8.2.4 View Module List

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

You must be in the Main Menu to perform this task.

1. Login to the panel.
2. Select 7 for Panel Programming.

3. Press 1 to enter module menu.
4. Press 4 to view list. Use the up or down arrow key to scroll though list.

8.3 Zone

Through the zone option in Panel Programming you can edit 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.

8.3.1 Edit Zone

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

To edit a zone, follow these steps:

1. Login to the panel.
2. Select 7 for Program Menu.
3. Press 2 to enter Zone Menu.
4. Press 1 to edit a zone.
5. Enter the zone number, then press ENTER.

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 A for editing names.

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 8.3.1.
2. Press 2 to edit the properties of the selected zone.

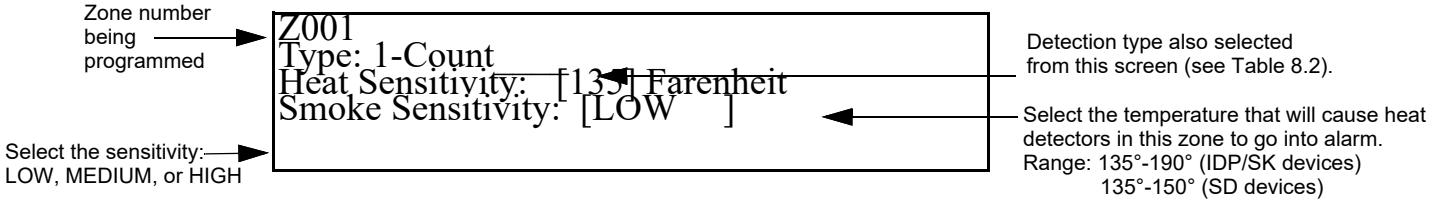


Figure 8.2 Edit Zone Properties

NOTE: You only see smoke sensitivity on the IFP-2100 if the daytime/nighttime sensitivity is off under the System Options. (See Section 8.6.2). Otherwise, if you have Daytime/Nighttime Sensitivity on, this will bring up a Smoke Sens Day and Night, 2 separate widgets with sensitivity as being either low, medium, or high for each.

■ Alarm Delay Characteristics

The programmed zone type is provided for user reference only. Use HFSS to modify the zone type.

Table 8.2 lists the alarm delay characteristics and a description of each.

Type of Delay	Description
1-Count[1]	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, Aux1 or 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, Detector Switch, Aux1 and 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 pre-alarm condition. In a pre-alarm condition, the touchpad PZT beeps and the annunciator display indicates that a pre-alarm has occurred. If the zone has been mapped to an output group for the pre-alarm event, the output group will activate. The pre-alarm will not be reported to the central station.
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.

Table 8.2 Alarm Delay Types

Type of Delay	Description
PAS-Positive Alarm Sequence[2]	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: 3 The zone will not go into alarm for 15 seconds to allow an on-site operator to activate the acknowledge switch. 3 If the operator does not press the acknowledge switch within 15 seconds, the zone will go into alarm. 3 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. 3 If the operator performs a reset within 180 seconds, the alarm will not occur. 3 If the operator does not perform a reset within 180 seconds, an alarm will occur automatically. 3 The PAS feature will be overridden if another alarm occurs.
Alternate P.A.S. - Positive Alarm Sequence[2]	An improved version of PAS is available with software version 6.04 or higher, for use with the RA-100 and RA-2000 only. Existing systems with PAS enabled will still function normally. The PAS option will program an automatic, addressable detector to delay panel activation (including alarm relay and communicator) for a period of 15 seconds plus a delay time of up to three minutes. When a detector triggers an alarm, the onboard piezo sounds immediately, but the mapped output groups (e.g. NACs, control/relay modules) are prevented from activating for 15 seconds. This inhibit time is factory set and cannot be changed. Pressing the ACK key during the 15 second inhibit time will start a timer which prevents activation of the mapped output groups for an additional time duration for up to three minutes and display a countdown for the three minute delay. After the delay, the mapped output groups will activate if the source of the alarm is not cleared. If a second alarm occurs during either time delay, the alarm will be processed immediately, causing activation of the appropriate output groups. If PAS is enabled, 3 the onboard piezo sounds immediately. 3 the control panel LCD display will indicate a PAS-alarm event and the active point. 3 output groups (NACs and control/relay modules) of associated zones will be inhibited from activating for a factory-set duration of 15 seconds. 3 pressing the ACK key will start a timer which inhibits output activation for additional time delay of up to three minutes. 3 a second alarm occurring at any time during either time delay will cause immediate activation of all associated outputs.
SNGL ILOCK	See Section 9.6.1 for single interlock releasing operation.
DBL ILOCK	See Section 9.6.2 for double interlock releasing operation.

Table 8.2 Alarm Delay Types (Continued)

1 IDP-FIRE-CO, SK-FIRE-CO, and other CO detectors can only be installed in a 1 count zone. They will operate as a 1- count point regardless of the programmed zone type (i.e. Alarm Verification, 2 count, etc.).

2 PAS operation requires the approval of the local Authority Having Jurisdiction. Alarm Verification, two-count, single interlock releasing, and double interlock releasing cannot be used while PAS is enabled.

■ 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 the SD505-HEAT heat detector is from 135°F to 150°F. The range for IDP-HEAT-HT or SK-HEAT-HT heat detectors are from 135°F to 190°F.

The high temperature IDP or SK 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

NOTE: Drift compensation is automatic for all smoke detectors (photoelectric and ionization). The feature is always in effect. No programming is required. See Section 9.3.11 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.

Detector Protocol	Type of Smoke Detector	Choices	Comments
IDP/SK	IDP-PHOTO, IDP-ACCLIMATE, IDP-PHOTO-T, SK-PHOTO, SK-ACCLIMATE, SK-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 determine 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) (Default)	
	DNR with IDP-PHOTO or IDP-PHOTO-R	Low (2.5% obscurity)	
		Medium (2.0% obscurity)	
		High (1.5% obscurity) (Default)	
	SK-PHOTO-CO-W and IDP-PHOTO-CO-W	Low (4% obscurity)	
		Medium (3% obscurity)	
		High (2% obscurity) (Default)	
	SK-CO-W and IDP-CO-W	Fixed	Low, Medium and High settings have no effect for CO detectors. Day and night settings also have no effect on these detectors.
SD	SD505-PHOTO	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 determine 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) (Default)	
	SD505-DUCT& 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& 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.

Table 8.3 SD, IDP and SK Detector Sensitivity Choices*

1. Detectors are suitable for Open Area Protection within the listed air velocity range. Typically, this range is 0 - 4,000 ft/min for photoelectric detectors and 0 - 1,200 ft/min for ionization detectors. Be sure to confirm this range before installing the detector by referring to the Manufacturer's Installation Instructions.
2. Detectors will default to Open Area Protection (High Sensitivity). Where applicable, detectors will only be compliant with UL 268 7th Edition if they remain programmed to open area.
3. The alarm and threshold limits determined by the control unit interconnected to detectors that employ a special application mode/configuration are designed and shipped from the factory with the Detector Sensitivity Setting set to an acceptable Open Area Protection sensitivity being the default mode of operation.
   The special application mode/configuration shall not be activated at the control unit without a deliberate action by the user to initiate the special application mode through an alternate detector sensitivity selection setting. Additionally, the extended label should be modified at this address to include the phrase 'SPECIAL APPLICATIONS' or 'SPECIAL APPS' for compliance with UL 864 requirements. Please refer to the FACP Programming/Installation Instructions for further instructions on altering extended labels.

NOTE: Automatic drift compensation is always in effect for all detectors. See Section 9.3.11 for information about how to check if a detector is in compliance.

4. Use the up or down arrow to scroll through the range or enter directly from the number keys on the annunciator, then press ENTER.

NOTE: If the SLC protocol is changed from IDP/SK to SD and a zone's sensitivity is higher than the SD limit, the zone sensitivity will be set to the max value of 150 for the SD family.

Zone Accessory Options

1. Login to the panel.
2. Select 7 for Program Menu.
3. Press 2 to enter Zone Menu.
4. Press 1 to edit a zone.
5. Enter the zone number, then press ENTER.
6. Press 3 to edit the Zone's Accessory options.

Single or Multi-Station cadence pattern (choose from Patterns 00 to 02, 23 if using IDP or SK. Choose from 00-16, 23 if using SD devices). See Appendix C.

CO Single and Multi-Station Cadence (choose from Cadence Patterns 00 to 02, 23 for IDP or SK devices).

NOTE: The B200S Intelligent Sounder base provides the recommended CO cadence pattern.

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

NOTE: If the SLC protocol is changed from SD to SK series and the cadence is no longer valid for SK, the zone cadence will be set to constant on.

8.3.2 View Zone Points

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

1. Login to the panel. 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.

8.4 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.

8.4.1 Edit Group

In the Edit Group option, you can program the name of an output group and change the properties of that group.

To edit a group, follow these steps:

1. Login to the panel. The panel will automatically access the Main Menu.
2. Select 7 for Panel Programming.
3. Press 3 to enter Group Menu.
4. Press 1 to edit the Group.
5. Enter the number of the group you want to edit, then press ENTER.

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 A for editing names.

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:

NOTE: These settings only apply to non-voice groups.

- 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. This option links the output group with a voice select switch on an ECS-VCM, ECS-RVM, ECS-NVCM, or switch expander for dynamic activation/deactivation. See “Activating Output Groups Dynamically” on page 139 for more information.
- Template Override is shown when set to Yes.
- Dynamic Activation is shown if a non-voice group is assigned to a Select/Dynamic Activation switch number
- Dynamic Activation / Template Override Cadence (shown when the Template override is set to Yes or if a non-voice group is assigned a Select/Dynamic Activation switch number): this setting sets the cadence of the non-voice group mapped to voice select switch when activated using dynamic activation or by a template. See “Activating Output Groups Dynamically” on page 139 and Section 8.5 for more information.

■ 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-DUAL50W, ECS-INT50W, 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-DUAL50W, ECS-INT50W, and ECS-CE4) are assigned to non-voice output groups.C

Each of the output groups defined as voice can be mapped to a particular switch and LED on the ECS-VCM, ECS-NVCM, ECS-RVM, and 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 into. 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 group. This allows for dynamically activating/deactivating both voice and strobes/other outputs in an area with a single button press. See “Activating Output Groups Dynamically” on page 139.

■ Silencing Options

The following silencing options are available for each output group.

Optional Timers	Description
Silence Inhibit	Timed Silence after Inhibit. If this option is selected, the output group must be audible for a programmed number of minutes before it can be silenced. If the condition that caused the output to activate has not cleared during the time-frame, the output can be silenced. If you select this option, select the timeframe in the delay field. Range is 0-60 minutes.
Auto Silence	Silenceable. The output group will automatically silence after the timer expires. Range is 0-60 minutes.
Auto Unsilence	If this option is selected, the output group can be silenced for a programmed time-frame. If the condition that caused the output to activate has not cleared during the time-frame, the output reactivates. If you select this option, select the time-frame in the delay field. Range is 0-60 minutes.
Startup Delay	When an alarm is generated, the output group will not activate until the timer expires assuming the event is still active. Range is 0-120 Seconds.
Silence Reset Across Sites	If this option is selected from the Network Programming Menu, in (4-40 display), the “Edit Silence-Reset Option” appears. In the (4x20 display), the “Edit Sil-Rst Opt” appears. The default value for “Silence-Rset Across Sites” is No.
Silence Reset from Non-ECS Display	If the user selects Yes in this option, the user can Silence-Reset all panels/sites from any panel in any site. After the user selects Yes, the options, “Reset Fire System” and “Reset Emergency System” appear. Both options appear whether or not the panel has ECS. If the user selects No in this option, the non-ECS panel will do a “Fire Reset” and no Menu appears. Other sites will not be affected.
Silence Reset from Multi-Site Display	In a Multi-Site Display, if the user selects “Silence” or “Reset”, no action is required.

Table 8.4 Silencing Options

8.4.2 View Group Points

1. Login to the panel. The panel will automatically access 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.

8.4.3 Edit OPG Template

1. Login to the panel. The panel will automatically access 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 A for editing names.

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

8.5 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.

8.5.1 Point Programming For 5815XL Module

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

1. Login to the panel. 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 key to select the desired module. Refer to Section 7.5 for available choices. Then press ENTER.
5. Enter the number of the point you wish to edit, then press ENTER.

6. Select the type of device by pressing the up or down arrow key. Refer to the table under the column heading “Type Selection” for a list of choices.

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.
	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		
SWITCH	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 Non Latching	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.
	FIRE SUPERVISORY	Latching Non 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.
	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 “Edit Zone Properties” on page 102). 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 Non Latching	Use these switch types if you want to monitor special zone-level conditions (such as dry contact from a remote power supply).
	ZONE AUX2	Latching Non Latching	
	SYSTEM AUX1	Latching Non Latching	Use these switch types if you want to monitor special system-wide conditions (such as dry contact from a remote power supply).
	SYSTEM AUX2	Latching Non Latching	

Table 8.5 Programming Options for 5815XL Modules

Type Selection	Function	Latching Option	Comments
SWITCH (cont.)	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.
	STATUS POINT		
	ECS INPUT	Latching	User also has ECS Event Number 1-8 option for ECS INPUT. Only available when an ECS-NVCM/ECS-VCM is installed in the system.
		Non Latching	
	ECS TAMPER	Latching	
		Non Latching	
	ECS SUPER-VISORY	Latching	
		Non Latching	
	CO DETECT SWITCH		CO Detector Switch
	CO SUPERVISORY DETECT SWITCH	Latching	CO Supervisory Detector Switch
		Non Latching	
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 4.18.5 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 Door Holder Power 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 4.18.5 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 “Door Holder Power” on page 64 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.

Table 8.5 Programming Options for 5815XL Modules (Continued)

8.5.2 Point Programming For 6815 Module

To program for points on an 6815 module, follow these steps:

1. Login to the panel. The panel will automatically access the Main Menu.
2. Select 7 for Panel Programming.
3. Press 4 to enter Point Menu.
4. Press the up or down arrow key to select the desired module. Refer to Section 7.5 for available choices. Then press ENTER.
5. Select S for sensor or M for module. (IDP or SK devices only)
6. Enter the number of the point you want to edit, then press ENTER.
7. Select the type of device by pressing the up or down arrow key. Refer to the table below under the column heading “Type Selection” for a list of choices.

Type Selection	Function	Latching Option	Comments
UNUSED			Select for SLC points that are unused.
DETECTOR	PHOTO		Spot photoelectric detectors.
	ION		Spot ION detectors
	HEAT		Spot heat detector.
	PHOTO DUCT		Duct photoelectric detector.
	ACCLIMATE		Acclimate photoelectric detector.
	HEAT HT		High temperature heat detector.
	PHOTO-HEAT		Photoelectric detector with heat sensor.
	BEAM		Beam 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		
	ACCLIMATE		
	HEAT HT		
	PHOTO-HEAT		
	BEAM		
CO SMOKE DETECTOR	CO ALRM / FIRE ALRM		No Accessory Base, Sounder base, Relay Base, or Intelligent Sounder base. Bases can be set for Single station or Multi station, Silence or Non-Silence, Latching or non-latching. Intelligent sounder bases can have volume set for high or low.
	CO ALRM / FIRE SUPR		
	CO SUPR / FIRE ALRM		
	CO SUPR / FIRE SUPR	Latching Non Latching	Supervisory switches can be latching or non-latching.
W-DETECTOR	PHOTO		Wireless photoelectric detectors
	ACCLIMATE (IDP)		Wireless acclimate photoelectric detector
	PHOTO-HEAT (SK)		Wireless heat detector
	HEAT		Wireless heat detector
W-SUP DET SWITCH	Same as W-Detector	Latching Non Latching	Wireless photoelectric detectors
SWITCH	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 Non Latching	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.
	FIRE SUPERVISORY	Latching Non 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.
	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.

Table 8.6 Programming Options for 6815 Modules

Type Selection	Function	Latching Option	Comments
SWITCH (cont.)	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 “Edit Zone Properties” on page 102). 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.
	STATUS POINT		
	ECS INPUT	Latching	User also has ECS Event Number 1-8 option for ECS INPUT. Only available when an ECS-NVCM/ECS-VCM is installed in the system.
		Non Latching	
	ECS TAMPER	Latching	
		Non Latching	
	ECS SUPERVISORY	Latching	
		Non Latching	
	CO DETECT SWITCH		CO Detector Switch
	CO SUPERVISORY DETECT SWITCH	Latching	CO Supervisory Detector Switch
		Non Latching	
	TROUBLE_MON		Use this switch type to monitor trouble from external devices. Trouble monitors are used in HVAC operations.
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 “Resettable Power” on page 64 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 “Door Holder Power” on page 64 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 “Resettable Power” on page 64 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 “Door Holder Power” on page 64 for a description of how this option operates.

Table 8.6 Programming Options for 6815 Modules (Continued)

Type Selection	Function	Latching Option	Comments
Detector	2-Wire Smoke		
W-Gateway			Wireless Gateway
W-SWITCH	Same as SWITCH		
W-Relay	Same as Relay		When a wireless relay is in use, module device count must be limited to 109 modules per loop. This includes wired and wireless modules that are on the same loop. The module address must be within 1-109.

Table 8.6 Programming Options for 6815 Modules (Continued)

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

To program for an internal or external power module points:

1. Login to the panel. The panel will automatically access the Main Menu.
2. Select 7 for Panel Programming.
3. Press 4 to enter point menu.
4. Press the up or down arrow key to select the desired module. Refer to Section 7.5 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 up or down arrow key, then press ENTER.
7. Select the function by pressing the up or down arrow key, then press ENTER.
8. If the point supports latching press the up or down arrow key to select latching or non-latching, then press ENTER.
9. Select the zone or group by pressing the up or down arrow key, then press ENTER.
10. If the point supports not being supervised, press the up or down arrow key to select supervised or non-supervised, then press ENTER.
11. Press ENTER to edit point name. See Appendix A for help with editing text. Or, Press right arrow key to skip point name edit.
12. Repeat Steps 1 through 11 for all circuits.

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
		AUX SYNC	
	B SWITCH	MANUAL PULL	Refer to comments column of Table 8.6 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	
		FIRE DRILL	
		SILENCE	
		RESET	
		P.A.S. ACK	
		ZONE AUX1	
		ZONE AUX2	
		SYSTEM AUX1	
		SYSTEM AUX2	
		MANUAL RELEASE	
		INTERLOCK	
		STATUS POINT	
		ECS INPUT	User also has ECS Event Number 1-8 option for ECS INPUT.Only available when a ECS-NVCM/ECS-VCM is installed in the system.
		ECS TAMPER	
		ECS SUPERVISORY	
	A SWITCH	Same as B SWITCH	

Table 8.7 Menu Choices for Internal/External Power Module

Choices	Type Selections	Function Selections for each Type	Comments
Select Type (cont.)	B DETECT	2-WIRE SMOKE	Used for Class B, 2-wire detectors.
		4-WIRE SMOKE	Used for Class B, 4-wire detectors.
		CO 4-WIRE DET	Used for Class B, 4-wire CO detectors.
		CO 4-WIRE SUP DET	Latching or Non-latching used for Class B, 4-wire CO Supervisory 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.
		CO 4-WIRE SUP DET	Latching or Non-latching used for Class A, 4-wire CO Supervisory detectors
Select Zone/Group			Group or Zone selection will appear depending on the type selected.
Edit Name			See Appendix A.

Table 8.7 Menu Choices for Internal/External Power Module (Continued)

8.5.4 Point Programming for 5880/5865 Modules

To program the 5880/5865 module output points:

1. Login to the panel. 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 key to select the desired module. Refer to Section 7.5 for available choices. Then press ENTER.
5. Enter the point number, then press ENTER.
6. Press the up or down arrow key to select the type (notification or unused)., then press ENTER.
7. Press the up or down arrow key to select the desired group., then press ENTER.
8. Press ENTER to edit point name. See Appendix A. Or, Press right arrow key to skip point name edit.
9. Repeat Steps 1 through 8 for all output points.

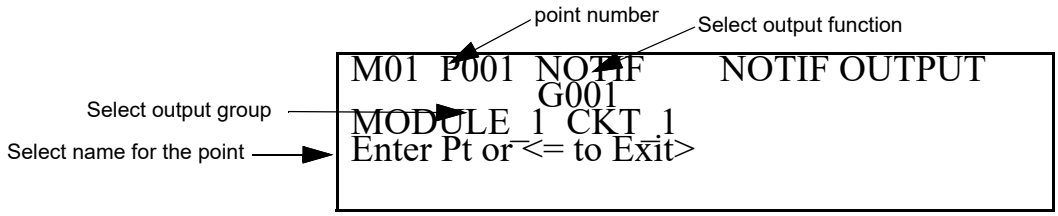


Figure 8.3 Programming Output Points Screen for 5880 and 5865 Modules

10. To use 5880 as Input point, Enter point number 41 - 48. Then press ENTER.
11. Press the up or down arrow key to select type (switch or unused), then press ENTER.
12. Press the up or down arrow key to select the desired function, then press ENTER.
13. If the point supports latching press the up or down arrow key to select latching or non-latching, then press ENTER.
14. Press the up or down arrow key to select the desired group/zone, then press ENTER.
15. Edit point name Or Press right arrow key to skip module name edit.
16. Repeat steps 10 through 15 for all input points.

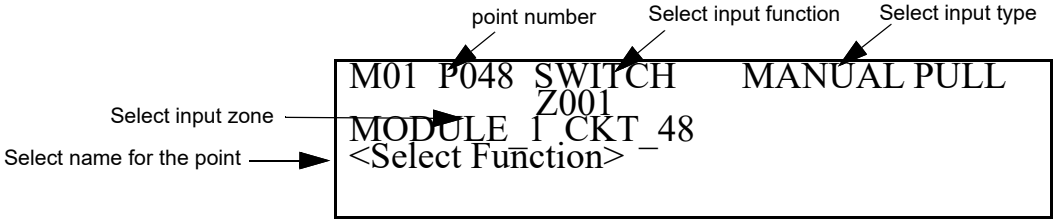


Figure 8.4 Programming Input Points Screen for 5880 and 5865 Modules

8.5.5 Point Programming for the 5496

To program module points:

1. Login to the panel. The panel will automatically access the Main Menu.
2. Select 7 for Panel Programming.
3. Press 4 to enter point menu.
4. Press the up or down arrow key to select the desired module. Refer to Section 7.5 for available choices, then press ENTER.

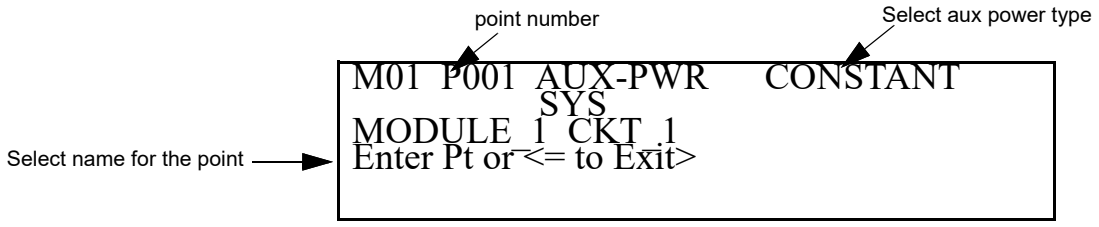


Figure 8.5 Programming Points Screen for the 5496 Module

5. Enter the point number, then press ENTER.
6. Press the up or down arrow key to select the type (See Table 8.7). Then press ENTER.
7. Press ENTER to edit point name. See Appendix A. Or, Press right arrow key to skip point name edit.
8. Repeat Steps 1 through 7 for all points.

8.5.6 Point Programming for ECS Amplifiers

To program module points:

1. Login to the panel. 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 key to select the desired module. Refer to Section 7.5 for available choices. Then press ENTER.

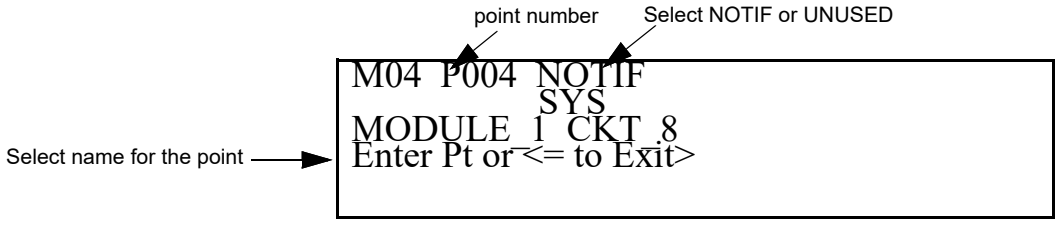


Figure 8.6 Programming Points Screen for ECS Amplifier Modules

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 arrow key to select the type (notification or unused), then press ENTER.
7. Press ENTER to edit point name. See Appendix A. Or Press right arrow key to skip point name edit.
8. Repeat Steps 1 through 7 for all points.

8.5.7 Point Programming for ECS-VCM, ECS-NVCM, and ECS-RVM

To program module points:

1. Login to the panel. 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 key to select the desired module. Refer to Section 7.5 for available choices. Then press ENTER.

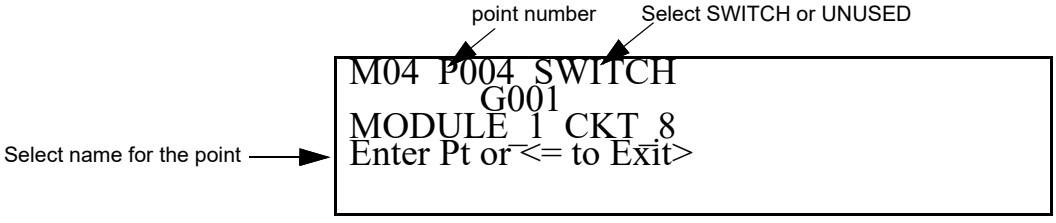


Figure 8.7 Programming Points Screen for the ECS-VCM, ECS-NVCM, or ECS-RVM Modules

5. Enter the point number. Press ENTER.
6. Press the up or down arrow key to select the type (switch or unused). Press ENTER.
7. Press the up or down arrow key to select the desired Function (See Table 8.8). Press ENTER.
8. Press ENTER to edit point name. See Appendix A or Press right arrow key to skip point name edit.
9. Repeat Steps 1 through 8 for all points.

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 8.6 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	
		DETECTOR	
		FIRE DRILL	
		SILENCE	
		RESET	
		P.A.S. ACK	
		ZONE AUX1	
		ZONE AUX2	
		SYSTEM AUX1	
		SYSTEM AUX2	
		MANUAL RELEASE	
		INTERLOCK	
		STATUS POINT	
		ECS INPUT	User also has ECS Event Number 1-8 option for ECS INPUT, ECS TAMPER, and ECS SUPERVISORY functions in both 5880 and ECS-NVCM/ECS-VCM/ECS-RVM choices. Only available when an ECS-NVCM/ECS-VCM is installed in the system to the ECS-RVM choice part.
		ECS TAMPER	
		ECS SUPERVISORY	
5496	UNUSED		
	B NOTIF	NOTIF OUTPUT	supervised not supervised
		CONTROL CIRCUIT	
	A NOTIF	NOTIF OUTPUT	
		CONTROL CIRCUIT	
	AUX_PWR	CONSTANT	
		AUX RESET	
		AUX DOOR	
		AUX SYNC	Cannot be supervised
5865	UNUSED		
	NOTIF	NOTIF OUTPUT	
		CONTROL CIRCUIT	
ECSAmplifiers (ECS-50/125W)	UNUSED		
	NOTIF		

Table 8.8 Choices for Point Programming Modules

Choices	Type Selections	Function Selections for each Type	Comments
ECS-RVM, ECS-NVCM/ECS-VCM	UNUSED		
	SWITCH	MANUAL PULL	Refer to comments column of Table 8.6 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	
		FIRE DRILL	
		SILENCE	
		RESET	
		P.A.S. ACK	
		ZONE AUX1	
		ZONE AUX2	
		SYSTEM AUX1	
		SYSTEM AUX2	
		MANUAL RELEASE	
		INTERLOCK	
		STATUS POINT	
		ECS INPUT	User also has ECS Event Number 1-8 option for ECS INPUT, ECS TAMPER, and ECS SUPERVISORY functions in both 5880 and ECS-NVCM/ECS-VCM/ECS-RVM choices. Only available when an ECS-NVCM/ECS-VCM is installed in the system to the ECS-RVM choice part.
		ECS TAMPER	
		ECS SUPERVISORY	
		VOICE AUX STATUS 1-2	
		BACKGROUND MUSIC	
		VOICE AUX ECS 1-4	

Table 8.8 Choices for Point Programming Modules (Continued)

8.6 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: Communication Options, Daytime/Nighttime Sensitivity, Holiday Days, Time Options, Miscellaneous Options, Daylight Saving Options, Edit Banner, and SLC Family. Refer to each individual subsection for complete instructions.

8.6.1 Communication Options

Auto Test Time

To access the Auto Test Time screen:

1. Login to the panel. 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 1 for Communication Options.
5. Select 1 for Auto Test Time.
6. Enter the hour you desire the control panel to send an automatic test report (or press the up or down arrow key), then press ENTER.
7. Enter the minutes (or press the up or down arrow key), then press ENTER.
8. Select AM or PM by pressing the up or down arrow key, then press ENTER.
9. Select Report Time Interval by pressing the up or down arrow key, then press ENTER. Time Interval selections are 24hr, 12hr, 6hr and 4 hr.

NOTE: AM and PM are only available if the panel “Clock Options” are set for AMPM mode. Otherwise the clock is in military time and AMPM is not selectable

Phone Lines

To access the phone lines screen:

1. Login to the panel. 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 1 for Communication Options.
5. Select 2 for the phone Lines.

6. Select Phone Line to be edited (1 or 2) by pressing the up or down arrow key, then press ENTER.

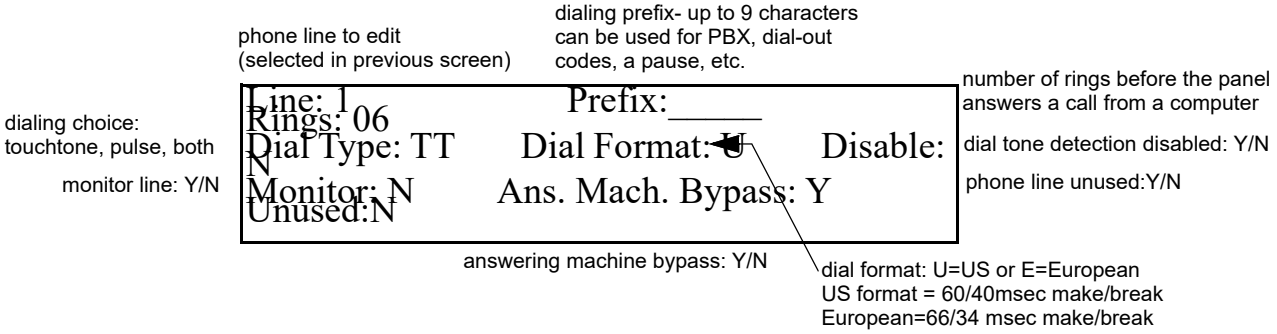


Figure 8.8 Phone Lines Editing Screen

■ 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".

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

■ Number of Answer Rings

This option is used in conjunction with the HFSS Honeywell Fire Software Suite. Use this option to determine the number of rings before the panel answers a call from the computer. The 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 HFSS.

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

■ Dial Option

9. Press the up or down arrow key 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	Touch-tone dialing. If this option is selected, only touch-tone dialing will be used for this phone line.
TT/PL	Touch-tone alternating with pulse. If this option is selected, the communicator will first attempt to use touch-tone. It will switch to pulse if touch-tone is not successful on the first attempt. It will continue to alternate between TT and pulse for additional attempts.

Table 8.9 Dial Options

■ Dial Format

10. Press the up or down arrow key 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.

■ Dial Tone Detection Disabled

11. Select Y (do disable) or N (don't disable) by pressing the up or down arrow key, then press ENTER.

■ Monitor Line

Enable the line monitor for each phone line that will be used. See Figure 8.8 for the 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.

12. Select Y (monitor line) or N (don't monitor line) by pressing the up or down arrow key, then press ENTER.

■ Answering Machine Bypass

This option is used in conjunction with HFSS. 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 HFSS.

13. Select Y (answering machine bypass enabled) or N (answering machine bypass disabled) by pressing the up or down arrow key, then press ENTER.

■ 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.

14. Select Y or N by pressing the up or down arrow key, then press ENTER.

Edit Ethernet

1. Login to the panel. 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 1 for Communication Options.
5. Select 3 for Edit Ethernet.

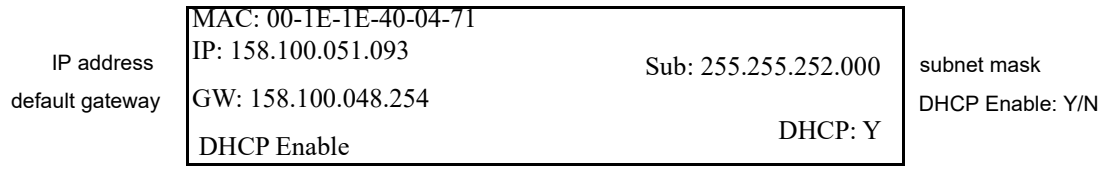


Figure 8.9 Edit Ethernet Message

AlarmNet Timers

1. Login to the panel. 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 1 for Communication Options.
5. Select 4 for AlarmNet Timers.
6. The available options for AlarmNet Timers are as follows: *default
   - Ethernet: None, 75 seconds, 90 seconds, 3 minutes, *5 minutes, 1 hour, 24 hours, 30 days.
   - Cellular: None, *24 hours, 30 days.
   - Old Alarm: None, 10 minutes, 15 Minutes,*30 Minutes, 1 Hour, 2 Hours, 4 Hours, 6 Hours, 12 Hours, 24 Hours.

     (Sets how long an undeliverable alarm is retried for delivery to the Central Station. If the message is not validated, it is retried until the old alarm time is reached or the message is validated).

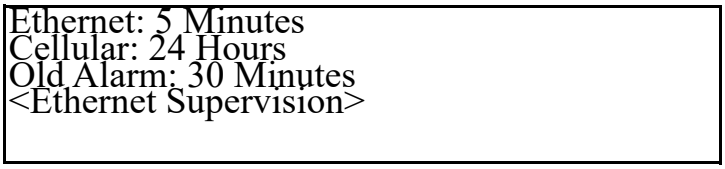


Figure 8.10 AlarmNet Timers

Phone Line Gains

1. Login to the panel. 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 1 for Communication Options.
5. Select 5 for Phone Line Gains
6. The available options: *default

- Dialing Gain:
  - Low = 9 DB Attenuation
  - Normal = 6 DB Attenuation
  - *High = 3 DB Attenuation
- Reporting Gain:
  - *Low = 9 DB Attenuation
  - Normal = 6 DB Attenuation
  - High = 3 DB Attenuation

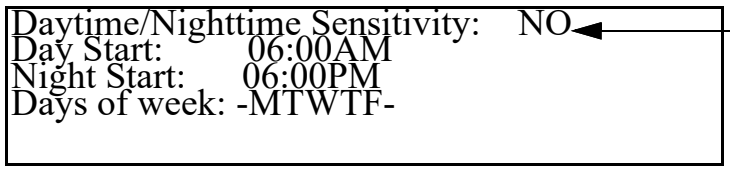
8.6.2 Daytime/Nighttime Sensitivity

If you need to change the time that sensitivity levels take effect (that is, the time that "Day" and "Night" begin, as well as the days of the week), follow these steps.

1. Login as the Installer using the Installer Code.
2. Select 7 for Program Menu.
3. Select 5 for System Options.
4. Select 2 for Day/Night Sense.

   A screen similar to the one shown in "Changing Day/Night Sensitivity Time and Days" on page 118 will display.

In this example, daytime sensitivity will be observed between 6:00AM and 6:00PM Monday through Friday. Nighttime sensitivity levels will be observed between 6:00PM and 6:00AM Monday through Friday and all day Saturday and Sunday.



Enable Day/Night
If disabled, daytime sensitivity is in effect at all times. Sensitivity levels are programmed in the Zones menu.

Figure 8.11 Changing Day/Night Sensitivity Time and Days

8.6.3 Holiday Days

Up to 18 dates can be designated as holidays. When the 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 (see Section "Daytime/Nighttime Sensitivity" on page 118).

To add or change a holiday, follow these steps.

1. Login as the Installer using the Installer Code.
2. Select 7 for Program Menu.
3. Select 5 for System Options.
4. Select 3 for Holiday Days.

   A screen similar to that shown in "Select Holidays Screen" on page 118 will display.

pre-programmed holidays

programmable holiday locations

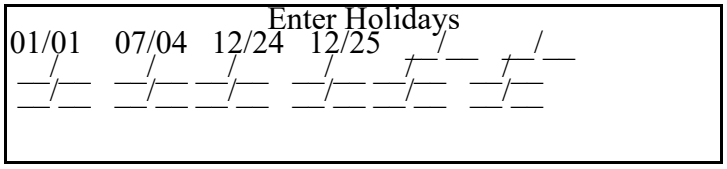


Figure 8.12 Select Holidays Screen

NOTE: For most installations, the holiday programming will need to be performed each year to ensure the correct dates.

5. Select the holiday schedules you want to edit (1- holidays 1 - 9, 2- holidays 10 - 18).
6. Enter the month of the holiday, then press ENTER. Enter the day of the month for the holiday, then press ENTER.
7. Repeat steps 6 for any remaining holidays you want to program.

8.6.4 Time Options

Through this programming option you can set the water flow delay time, alarm verification time, AC report delay, AC-Frequency, Auto-Resound, and Clock Format.

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. Login to the panel. 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 below will display.

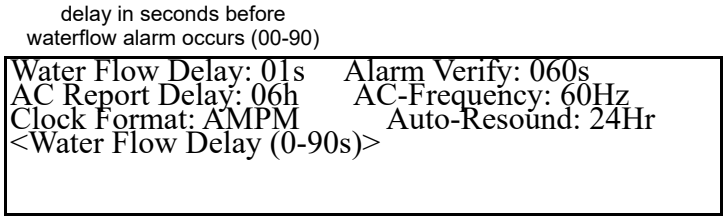


Figure 8.13 Water Flow Delay Programming Screen

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

Alarm Verify

You can set the alarm verification time from 60 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 right arrow key or ENTER to make your selection and move to the next programming option.

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 continued from step 7.

8. Enter the number of hours (0-30) before a low AC report will be sent to the central station, then press ENTER.

Change AC Line Frequency

The panel's AC line frequency is selectable for 50, 60 Hz, or Internal. AC Frequency feature dictates how the control panel will calculate time based on the AC line frequency used in the installation site. The "Internal" option can be used in areas where the AC line frequency is not dependable and you want the panel to calculate time from the internal crystal. The internal crystal is not as accurate as the AC power source and internal 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 Intl, by pressing the up or down arrow key, then press ENTER.

Clock 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 key, then press ENTER.

Auto-Resound (4 or 24 hours)

The system resound time period can be modified from the default value 24 hours to 4 hours. This setting adjusts when the FACP will automatically resound events after being silenced. Set this option to 4 hours when using SWIFT devices

8.6.5 Miscellaneous Options

Through this programming option you can do strobe synchronization during silence, and auto display event.

To edit Miscellaneous options:

1. Login to the panel. 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

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

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

8.6.6 Daylight Saving Options

To edit Daylight Saving Time:

1. Login to the panel. 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.

Automatic Daylight Saving Adjustment

The control panel has an automatic DST (Daylight Saving Time) adjustment feature. 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 key, then press ENTER.

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. The default values for the DST Start and End are:

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 key 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 key 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 key 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 key to select the month (January – December) Daylight Saving Time ends, then press ENTER.

8.6.7 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. Login to the panel. 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. (See Appendix A for instructions on how to edit the banner)
5. Select each letter by pressing the up or down arrow key to change modes and using the number keys to select characters, then press right arrow key to move to the next character.
6. When done, press ENTER to save the custom banner.

8.6.8 SLC Family

The IFP-2100supports SD, or SK Series SLC devices. You must configure the IFP-2100 to accept the protocol of the devices you are installing. You cannot mix SLC devices of different protocols.

1. Login to the panel.
2. Select 7 to access the program menu.
3. Select 5 to access System Options.
4. Select 8 for SLC Family.
5. Press UP arrow to select the desired SLC device type.
6. Press ENTER to accept the displayed SLC device type.



NOTE: When you change the SLC type from one protocol to another, the following message will appear.

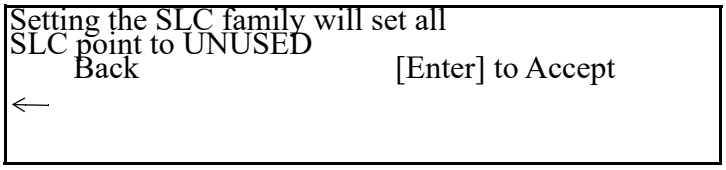


Figure 8.14 SLC Family Change

When changing SLC family from IDP or SK to SD will remove all external 6815 modules. When changing from SD to IDP or SK SLC family will remove all 5815XL modules on the system.

8.6.9 JumpStart Auto-Programming

NOTE: JumpStart Auto-Programming 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 JumpStart 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 Auto-Programming 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, do the following.

1. Login to the panel. The panel will automatically go to the Main Menu.
2. Select 7 for Panel Programming.
3. Select 6 for JumpStart.
4. Press ENTER to accept the warning screen.
5. Follow the remaining on screen instructions.
6. Press ENTER to confirm. See Section 7.1.3.

8.7 Restore Defaults

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

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

8.8 Voice Options

Through this Programming Menu, you can modify the messages programmed into an ECS-NVCM/ECS-VCM. You can also modify other voice settings.

8.8.1 VCM Maintenance

The VCM Maintenance menu is used to program custom messages into the VCM. Messages can be recorded locally using the microphone.

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

8.8.2 Voice Settings

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

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.

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

Section 9: 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.

9.1 Annunciator Description

Figure 9.1 shows the annunciator that is part of the control panel board assembly.

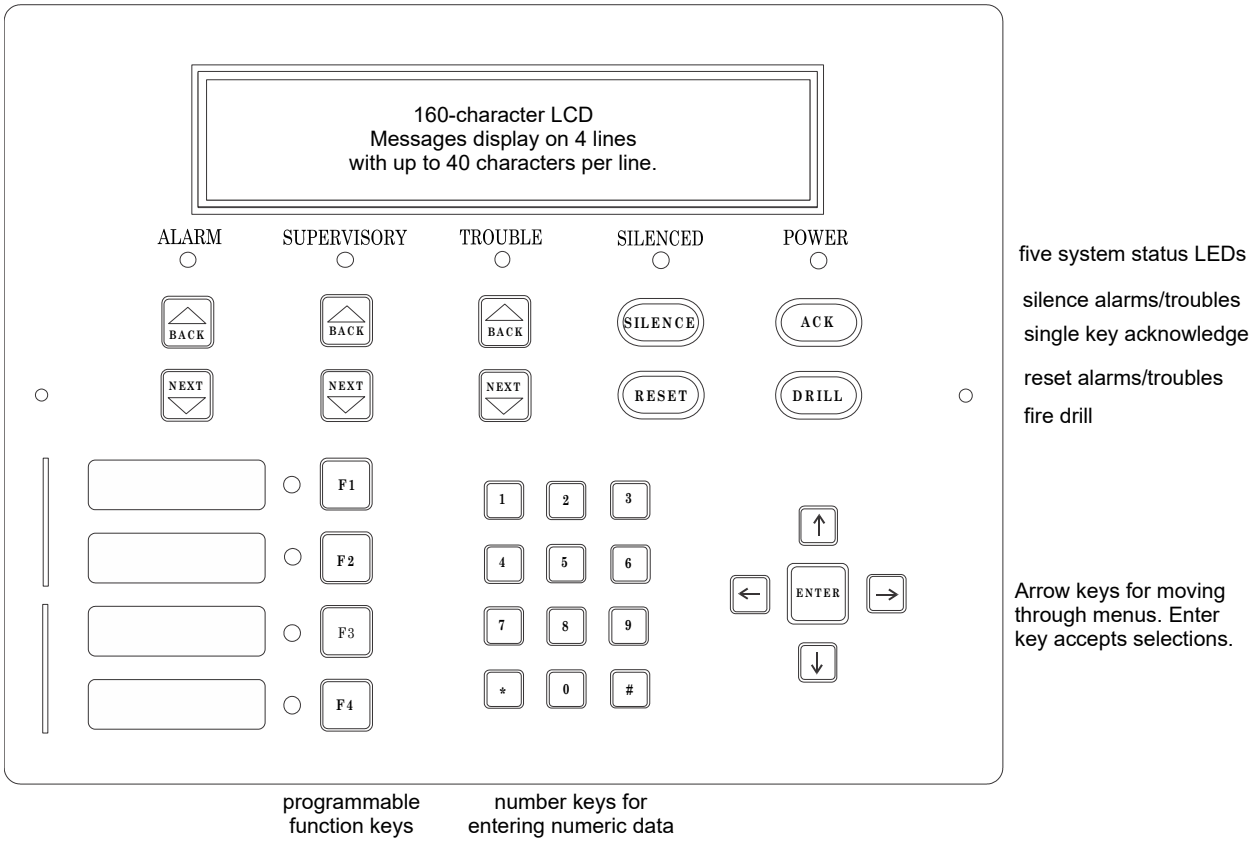


Figure 9.1 Control Panel Annunciator

9.1.1 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.

9.1.2 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 8.6.7 for information on editing the banner.

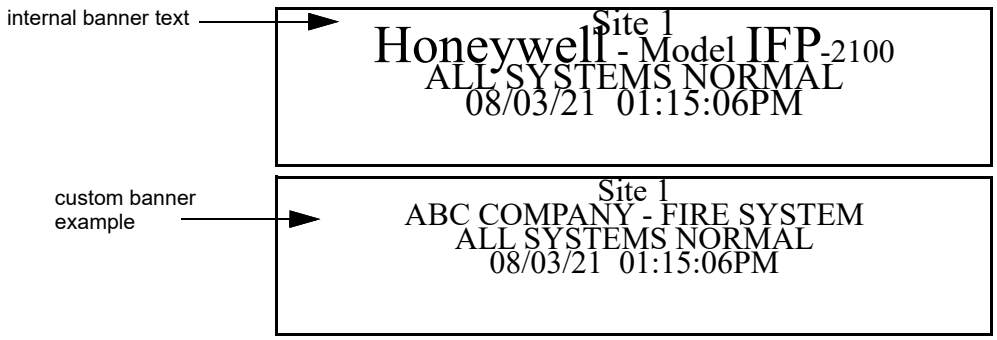


Figure 9.2 Banner Display Examples

9.2 Menu System

The control panel is easy to operate from the Main Menu. To view the Main Menu press the ENTER or right arrow key on the control panel or remote annunciator. This will bring up the panel login menu, as described in Section 9.2.1. Once validated, the user will be able to access the Main Menu as shown in Section 9.2.2. Select the desired option. You will be prompted for as 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 6.2.5 for access code programming).

9.2.1 Panel Login Menu

After pressing ENTER, and 1 for the login menu, a screen will prompt for the type of access account, Administrator or User. An administrator has the ability to modify user accounts and view the cybersecurity log. The User account has access to panel programming.

Admin Profiles

After initial power-up, the IFP-2100 requires a password change and user account setup before programming. Only Admin1 will be active. Using the login for Admin1, the default password (0000000) must be changed to a new, unique password. This new password must be 7-digits and cannot be sequential or easily guessed. If the password is not changed, a default password trouble will appear on the panel.

There is a maximum of two administrator profiles available. After the administrator account is set up, you must create a User account(s). Only a User account has the ability to program the control panel. There is a maximum of 18 User accounts available.

Admin accounts can:

- View cybersecurity logs with date/time stamp
- Edit name to user profiles
- Enable/disable user profiles
- Modify access codes of user profiles
- Edit access to panel functions
- Change computer access code
- Restore factory default settings to the panel

User (Installer) Profiles

There are two programming levels which will access the Programming screens. From either of the screens, access to specific system and device features or programming may be obtained. An “Installer” can program local panel data relating to device types, zoning, messages, control panel functions, etc. A “Multi-site Installer” can program panel data across a network. A user has the ability to change their administrator-assigned password after it has been assigned for the first time. Refer to Section 6.2.5 on page 77.

- Profile 1 is the profile used that dictates what functions to which the Fire Fighter Key has access. Because this is the profile used for a key, the User Name and the Access Code cannot be edited.
- Profile 2 is defaulted as “Installer” and profile 3 is defaulted to “Multi-Site Installer”. Profiles 4-18 are empty profiles available for assignment. User profiles 2-18 can be edited for name and panel functions. Table 9.1 lists the panel functions that can be selected for each user profile.

Type of Function	Selectable Functions
Panel Operations	System Reset
	System Silence
	System Ack
	Fire Drill Key
	*F1 Function Key
	*F2 Function Key
	*F3 Function Key
	*F4 Function Key

Table 9.1 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
	Communicator Test
	Clear History Buffer
	Point Functions
	Disable/Enable Point
	Point Status
	Set SLC Device Address
	SLC Single Device Locater
	SLC Multiple Device Locater
	I/O Point Control
	Event History
	Set Time & Date
	System Information
	Network Diagnostics
	Network Programming
	Panel Programming
	Send/Receive Firmware Update
*Function Keys are only available on the RA-2000 LCD annunciator.	

Table 9.1 User Profile Selectable Panel Functions

Invalid Password/Panel Timeout

If a password is entered incorrectly or is not a valid password, the panel will display an error message. You must hit ENTER or the left arrow key and re-enter the password correctly. After ten invalid attempts, the panel will panel will lock for 30 seconds and then you can try again. However, if the password has been forgotten, record the 20-character code displayed on the panel and contact Technical Services. After proper authentication, the password will be supplied.

9.2.2 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, Communicator Test, Clear History Buffer, Manual AlarmNet Registration and Manual Communicator Reset.
2- Point Functions	Enable/disable points, Point Status, SLC Single Device Locater, SLC Multiple Device Locater, and I/O Point Control.
3- Event History	Display event history on the LCD. See Section 9.3.3 for more information.
4- Set Time & Date	Set time and date for the system
5- Network Diagnostics	Ping Panel, Data Network Status, and Voice Network Status
6- Network Programming	Access Learn Network, Edit Network Names, Edit Panel ID, Computer Access, Access Codes, Communicator Options, Voice Options, Sync Network Options
7- Panel Programming	Brings up a set of menus for programming the panel. These options are described in detail in Section 8.
8- System Information	Menus to view information about the panel such as model, ID, serial number, revision, send or receive firmware updates and feature registration activation

Table 9.2 Main Menu Options

9.2.3 Using the Menus

To move through the menus:	Use the up and down arrow key to move the cursor through the options in a menu. Use the left arrow key to move to a previous 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	Press the left arrow.

9.3 Basic Operation

9.3.1 Setting Time and Date

NOTE: The panel's time is as accurate as the input AC power line frequency and may drift over time if the frequency fluctuates.

1. 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 key to select options in the fields.
3. When the date and time are correct, press ENTER.

9.3.2 Disable / Enable a Point

1. Select 2 for Point Functions.
2. Select 1 for Disable/Enable Point.

Disable / Enable NACs by Template

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

Disable / Enable NACs by Group

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

Disable / Enable Zone Points

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

Disable / Enable Point

1. Press 7 to Disable /Enable Point.
2. Choose module.
3. Use the up or down arrow key to choose point and press ENTER.
4. Press right arrow to disable or enable point.

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. Press 8 to inhibit output group.
2. Use the up or down arrow key to select the group to be inhibited.
3. Press right arrow to inhibit the group.
4. Press right arrow again to enable the group.

9.3.3 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 the HFSS Software Suite, all 1000 events from every panel in the network will be uploaded.

On multi-site displays, pressing ENTER or 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.

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.

Single Key Acknowledge

This feature allows the user to press the ACK and display the oldest un-acknowledged event in the system. Pressing ACK again will acknowledge the event, then display the next oldest un-acknowledged event without pressing the arrow keys.

NOTE: This system has the capability to acknowledge across the ECS network.

9.3.4 Conduct a Fire Drill

This system test initiates a Fire Drill alarm and activates Fire Drill mapping for 10 minutes or until a user manually exits the 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.

9.3.5 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 will run for approximately 15 minutes or until the user manually exits. 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.

9.3.6 Conduct a Walk Test

Walk Test is a feature which allows one person to test the fire alarm system. The Walk Test will run for 4 hours or until the user manually exits. If an alarm or pre-alarm condition is occurring in the system, you will not be able to enter the walk test. A walk test may only be initiated if the test is enabled in the user profile.

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

CAUTION: ALARM VERIFICATION

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.

   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 there is an alarm or pre-alarm condition 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.

9.3.7 Conduct a Communicator Test

1. From the Main Menu, press 1 for System Tests.
2. Select 5 for Communicator Test. The screen will display “Manual communicator test started”. When the test is completed, you will be returned to the Test Menu. A manual communicator test requires that at least one daily test in the network be enabled in communicator programming.
3. The Manual communicator test will be communicated out both Phone Lines and Ethernet/Cellular paths if they are all programmed. Each manual communicator test will alternate between one of the Phone Line paths and one of the AlarmNet paths.

9.3.8 Manual AlarmNet Registration

1. From the Main Menu, press 1 for System Tests.
2. Select 8 for Register AlarmNet. The screen will display and ask for confirmation. Feedback will be given if the command was sent or not.

9.3.9 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 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 resound every 4 or 24 hours depending on user selection until the detector is restored. Refer to “Auto-Resound (4 or 24 hours)” on page 119.

NOTE: This system has the ability to silence control panels across the ECS network.

NOTE: For ECS systems, pressing silence at an LOC will only silence the system in control. See Section 9.4.1.

9.3.10 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 reset multiple sites. To reset a site, enter a Multi-Site Installer access password, select a site from the list of Sites, and then press Silence or Reset button to continue. This option will occur whether the Network was programmed No/Yes for “Silence-Reset Across Sites”. Also, this option allows the user to select Reset Fire System and Reset Emergency Communication System whether or not the panel has ECS. If the user selects No, the non-ECS panel will do a fire reset within the site and no other sites will be affected.

NOTE: For ECS Systems, pressing reset at an LOC will prompt the user for which system they want to reset. See Section 9.4.1.

Reset Communicator

This option allows the user to Reset the Communicator. The LCD will display:

“Resetting Communicator… Please Wait“

You will be returned to the Main Menu when the reset is complete.

The Communicator is not allowed to be reset when alarms or supervisories are active. Communicator Reset is not allowed if any of the following are active:

- Fire Alarm
- Fire Supervisory
- Fire Pre-Alarm
- CO Alarm
- CO Supervisory
- ECS Alarm
- ECS Supervisory

9.3.11 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.

A screen similar to those shown below will display.

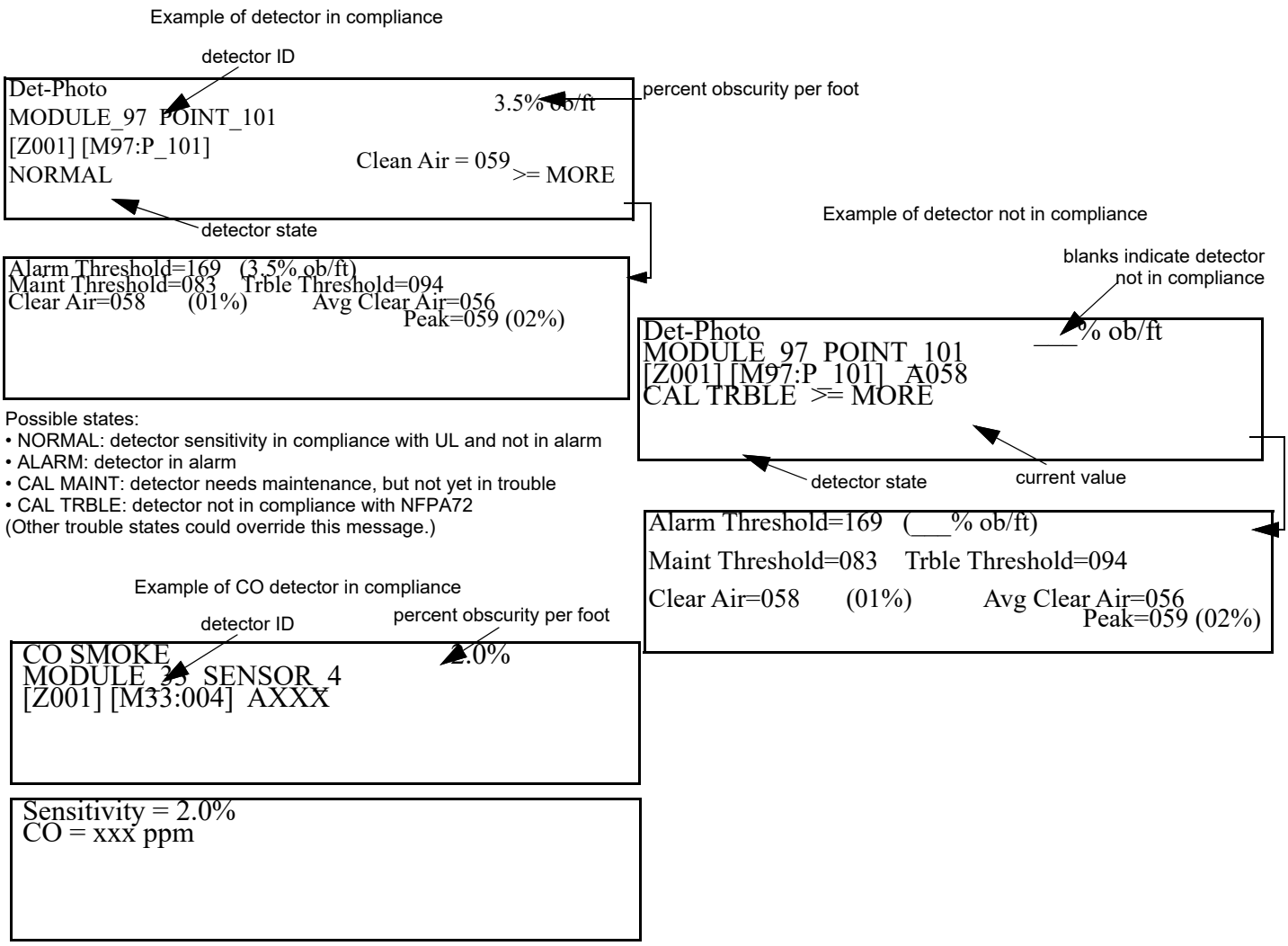


Figure 9.3 Checking Detector Sensitivity Compliance

You can print the detector status by uploading the detector status to, and printing from the HFSS Honeywell Fire Software Suite.

9.3.12 View Status of a Point

1. From the Main Menu, press 2 for Point Status.
2. From the list that displays, press ENTER to select the module where this point is located. Next, enter the point to display. The screen that displays will show you if the point has a trouble and will provide sensitivity compliance information. (See Section 9.3.11 for complete information about detector sensitivity compliance.)

9.3.13 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.

9.3.14 System Information

From the Main Menu, press 8 to access the System Information menu.

About the Panel

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

Send/Receive Firmware Updates

The IFP-2100 has the ability to be updated in the field. The latest IFP-2100 Firmware Update Utility can be downloaded from the Farenhyt website, www.farenhyt.com. Once a panel has been updated using the Firmware Update Utility, you can use Send/Receive firmware updates to propagate the firmware to the other panels in the network.

1. Press 2 to send a firmware update or press 3 to receive a firmware update from the System Information menu. Available panels are listed in the menu.
2. Use the up or down arrow key 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 option will bring up the Feature Activation menu.
2. Press 1 to enter a six digit activation code or press 2 to review the features already activated in this panel.

Ethernet Info

Press 5 from the System Information menu for Ethernet Information.

<Ethernet Info>
MAC Address 00-D0-2D-20-68-94 CRC: 0000
IP: 000.000.000.000 Sub: 000.000.000.000
GW: 000.000.000.000 DHCP: Y

AlarmNet Info

Press 6 from the System Information menu for AlarmNet Info.

- Cell Strength: 0 to 100%
- Status: Registered/Not Registered

AlarmNet Temporary PIN

Press 7 from the System Information menu to enter an AlarmNet Temporary PIN. This is issued by AlarmNet to register a new panel in case the existing FACP is ever replaced.

9.4 Event Priority

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

9.4.1 System Control

The IFP-2100ECS 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.)

9.4.2 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 HFSS. 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 HFSS.

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 8.4.1 to edit group properties.

9.4.3 Event Priority

Each event type (see Table 9.3) 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 HFSS. 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 Emergency LOC Alarm entry in the Event Priority Table encompasses all ECS Alarm Events that can be activated from an LOC (LOC Mic Triggered ECS Alarm and LOC ECS 1 Alarm through LOC ECS 8 Alarm). By default, these events do not have a priority - they can be activated in any order. A programming option in HFSS exists to force a priority scheme for the LOC ECS Alarm Events. When this option is enabled, the lower numbered the ECS event is, the higher priority it has (e.g. LOC ECS 1 Alarm is higher priority than LOC ECS 8 Alarm). With this priority scheme, once a higher priority ECS Event has been activated, an ECS reset must be performed before a lower priority ECS Event can be activated.

The Event Priority Table contains the following events for modification.

Fire System	Emergency System
Fire Manual Pull Alarm	Emergency LOC Alarm
Fire Detector Alarm	Emergency 1 Point Alarm

Table 9.3 Event Priority

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	

Table 9.3 Event Priority

NOTE: Status Points, Status Voice Aux 1, Status Voice Aux 2, and Background Music are contained within the System Status event priority. All fire, emergency, and system troubles are prioritized into the Trouble Event Priority.

9.4.4 Priority Rules

1. Event priorities can be changed only within, not between, priority levels (defined by bold lines in Table 9.3).
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.

9.4.5 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 the Voice System using the 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.
- 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 above.
- 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.

9.5 Operation Mode Behavior

The control panel can be in one or more of seven conditions at any given moment: Normal, Alarm, Pre-alarm, Supervisory, Trouble, Silenced, and Reset. Table 9.4 describes the behavior of the panel in each of these modes.

When looking at the LCD, the screen will display FIRE for the “Fire System”, or CO for the “CO System”. The highest priority event will display first and include the event count (see the figure below).

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.

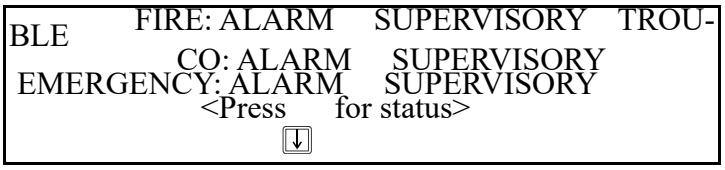


Figure 9.4 Highest Priority Event Display

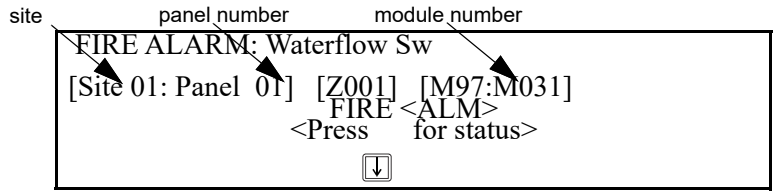


Figure 9.5 Event Display after Two Minutes Sitting Idle

Operating Mode	Occurs When	System Behavior	In This Mode You Can
Normal	No alarm, supervisory, 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, or rotate the key to activate the Main Menu.
Alarm	A smoke detector goes into alarm or a pull station is activated.	The system will report events to the central station. The onboard annunciator will sound loud, steady beeps to distinguish alarm signals. For a fire alarm, the sequence is a loud steady beep.(Any notification devices attached to the system will also sound). For an ECS Alarm, the sequence is four seconds on, one second off. The GENERAL ALARM LED will turn on. The LCD displays a screen similar to this one. Site 1 FIRE: ALARM EMERGENCY: ALARM <Press for status> Pressing the down arrow will display the location macro, date/time stamp, and site/panel number if applicable.	Press the down arrow to view the alarm. A screen similar to this one displays. Site 1 Panel 1 FIRE ALARM: Waterflow Sw SBUS 97 MODULE 3 08/03/21 01:45:52PM Press SILENCE and enter an Access Code (or activate the key) to silence the annunciator (and any notification devices attached to the system). When the alarm condition clears, press RESET and enter a code (or activate the key) to restore the panel to normal.
	CO detector goes into alarm.	Site 1 CO: ALARM <Press for status> Pressing the down arrow key to view the type and location of alarm. (Message will alternate with the date/time display.)	
	If more than 3 categories are active at a single time, the screen will display as shown.	FIRE: ALARM SUPERVISORY TROUBLE CO: ALARM EMERGENCY: ALARM SUPERVISORY SYSTEM: TROUBLE	

Table 9.4 Panel Operating Modes

Operating Mode	Occurs When	System Behavior	In This Mode You Can
Supervisory	The system detects a supervisory condition. A Supervisory with a CO detector.	The system will report events to the central station. The onboard annunciator sounds a loud, pulsing beep to distinguish supervisory signals. For fire supervisory signals, the sequence is two seconds on, two seconds off. For ECS supervisory signals, the sequence is two seconds on, three seconds off. The SUPERVISORY LED will turn on. The LCD displays a screen similar to this one. Site 1 FIRE: SUPERVISORY <Press for status> Pressing the down arrow to display the location macro, date/time stamp, and site/panel, if applicable. Site 1 CO: SUPERVISORY <Press for status> Press the down arrow to view the type and location of the Supervisory event. The message will alternate with the time/date display.	Press the down arrow to view the fire supervisory condition. A screen similar to this one displays. Site 1 Panel 1 FIRE SUPERVISORY: Supervisory Sw SBUS 97 MODULE 3 08/03/21 01:45:52PM Press SILENCE and enter an Access Code (or activate the key) to silence the annunciator. Once the supervisory condition has been corrected, the system will restore automatically.
Trouble	A system trouble condition occurs. A trouble condition with a CO detector	The system will report events to the central station. The onboard annunciator sounds a loud, pulsing beep in the sequence 0.75 second on, eight seconds off. The SYSTEM TROUBLE LED will turn on. The LCD displays a screen similar to this one. Site 1 FIRE: TROUBLE <Press for status> Press the down arrow to display the location macro, date/time stamp, and site/panel, if applicable. Site 1 CO: TROUBLE <Press for status> Press the down arrow to view the type and location of the Trouble event. The message will alternate with the time/date display.	Press down arrow to view the fire trouble. A screen similar to this one displays. Site 1 Panel 1 FIRE TROUBLE: Supervisory Sw SBUS 97 MODULE 32 08/03/21 01:45:52PM Press SILENCE to silence the annunciator. Once the trouble condition has been fixed, the system will restore itself automatically.
Pre-alarm	A single detector trips in a 2-Count zone. (2-Count means two detectors must trip before an alarm is reported.)	The touchpad piezo beeps. The LCD displays a screen similar to this one. Site 1 FIRE: PREALARM <Press for status> Press the down arrow to display the location macro, date/time stamp, and site/panel, if applicable.	Press down arrow to view the Prealarm. A screen similar to this one displays. Site 1 Panel 2 FIRE PREALARM: Det-Photo SBUS 97 MODULE 33 08/03/21 01:45:52PM 1 of 1 All system operations are available in this mode.
Reset	The RESET button is pressed followed by a valid code, if necessary.	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.	Menus are not available during the reset process.

Table 9.4 Panel Operating Modes (Continued)

Operating 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.	The SYSTEM SILENCE LED is on. The 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.

Table 9.4 Panel Operating Modes (Continued)

9.5.1 Multi-Site Annunciator and Multi-Site User Access

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.

- 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.
- 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 annunciator will resound.
  - If a multi-site annunciator is locally silenced for 4 or 24 hours depending on user selection (see “Auto-Resound (4 or 24 hours)” on page 119), the locally silenced annunciator will resound.
- The IFP-2100 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.
- A multi-site annunciator will sound the highest priority tone from the sites it is assigned to.

A multi-site display is created in Module programming in the edit properties menu for an annunciator. See Section 8.2.1. An annunciator cannot be programmed as a multi-site display when it is associated with an ECS-NVCM/ECS-VCM or ECS-RVM in an ECS system.

NOTE: A multi-site display is created in Module programming in the edit properties menu for an annunciator. See Section 8.2.1.

NOTE: An annunciator cannot be programmed as a multi-site display when it is associated with an ECS-VCM, ECS-NVCM, or ECS-RVM in an ECS system.

9.6 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 HFSS, the software suite will automatically default the following system parameters. Defaults can be modified through programming.

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

NOTE: For manual release operations, an FM approved/ UL listed releasing manual station must be used. Refer to the *Device Compatibility Document* for approved releasing devices.

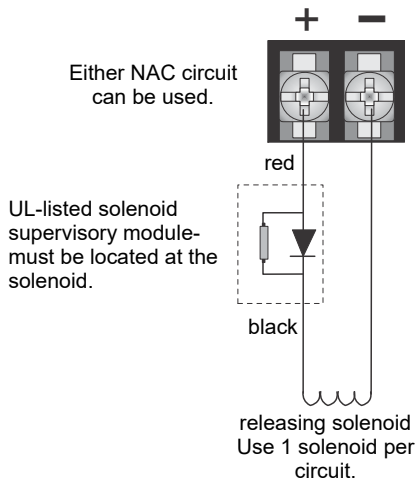


Figure 9.6 Wiring Configuration for Solenoid

NOTE: For releasing operations, a manual releasing disconnect switch is required per UL 864. Refer to the *MRD-1H Series Document* for installation instructions.

9.6.1 Single Interlock Zone Releasing

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

CAUTION: ADDRESSABLE DETECTORS/MANUAL RELEASE SWITCH

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. (Refer to Table 9.5).

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. (Refer to Table 9.5 below.)

Inputs	Output Results							
1st Addressable Detector		X		X		X		X
2nd Addressable Detector			X	X			X	X
Manual Release Station					X	X	X	X
	Normal	**Interlock Release Alert**		**Interlock Release Alarm and Detector Alarm**				

Table 9.5 Single Interlock Zone Operation

CAUTION: DETECTOR SPACING

DETECTORS MUST BE INSTALLED AT 0.7 TIMES THE LINEAR SPACING AS DESCRIBED IN NFPA 72

9.6.2 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. Only addressable detectors can be used. No conventional detectors can be used.

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. (Refer to Table 9.6.)

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 an 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.

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 and Detector Alarm**								**Interlock Release Alert and Detector Alarm**				

Table 9.6 Double Interlock Zone Operation

9.7 Smoke Alarm Verification

Figure 9.7 illustrates how the Smoke Alarm Verification cycle operates.

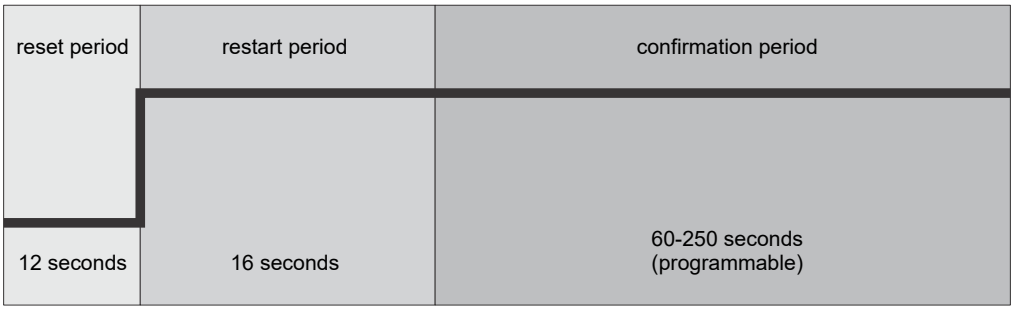


Figure 9.7 Smoke Verification Cycle

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

9.8 Function Keys

The function keys on the IFP-2100 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.

9.8.1 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 F-KEY Recording' option.
5. The panel will return to the idle screen.

9.8.2 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 F-KEY Recording' option.
2. The panel will return to the idle screen.

9.8.3 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 F-KEY Macro' option.
2. The panel will return to the idle screen.

9.8.4 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 deactivate the macro press the F-Key again.

9.8.5 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.

9.8.6 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 HFSS.

When an F-Key is active and a map in the system is set to be disable by Map Inhibit, the system will show a trouble event indicating it as such.

Section 10: Emergency Communication System Operation

10.1 Overview

The IFP-2100ECS 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-2100ECS 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 10.2.3.

10.2 LOC Functionality

An LOC (Local Operating Console) consists of either the ECS series panel (ECS-NVCM Network Voice Control Module/ECS-VCM Voice Control Module and the Fire Alarm Control Panel) or the ECS-LOC (ECS-RVM Remote Voice Module and its associated RA-2000 keypad.) An LOC is created by adding an ECS-NVCM/ECS-VCM or ECS-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 16 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 ECS-NVCM/ECS-VCM.

10.2.1 Keys and LEDs

This section outlines the functionality of the keys and LEDs on the ECS-NVCM/ECS-VCM and ECS-RVM expander modules.

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.

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.

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 10.2.2.

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 10.2.3.
3. The green ECS Message LEDs will activate for the LOC that activated the ECS Message.

Select Keys

The Select Keys are used to toggle which output areas are active.

1. If Message Mode is active (see Section 10.2.5), 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 Fire Page Mode is active (see Section 10.2.5), the Select Keys will toggle which areas the microphone audio is distributed to (also toggles the green Select Key LED).

Select Key LEDs

The Select Key LEDs are used to indicate which output areas are active for a microphone page or system events.

- Green LEDs: active areas for microphone paging.



NOTE: These are only active when the microphone PTT (push-to-talk) is engaged. Blinking indicates one or more associated network page destination panels are unable to output the page.

- Red LEDs: active areas for system events.

NOTE: When system is Dual Channel Enabled, blinking LEDs indicate the area is active for an alert message.

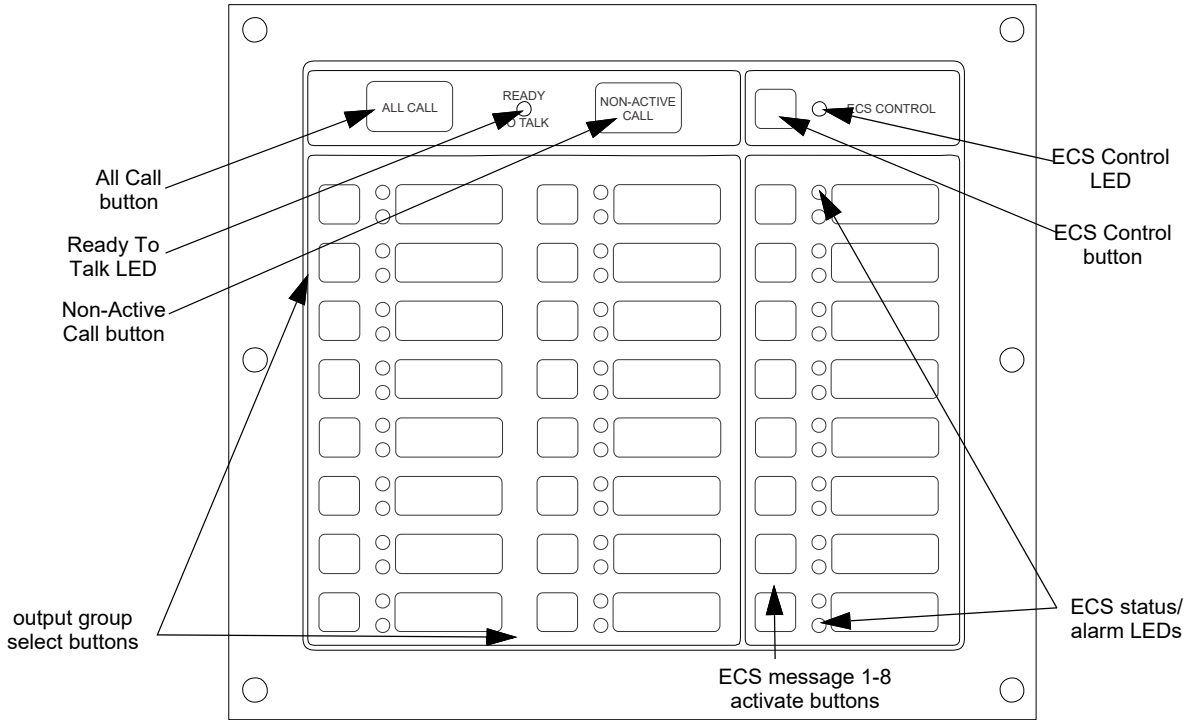


Figure 10.1 Front View of ECS Keypad

10.2.2 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.

LOC Priority

LOCs are assigned (through panel or HFSS programming of the ECS-NVCM/ECS-VCM and 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.

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 10.2.7). 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.

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.

10.2.3 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:

- Message Mode
- Fire Page Mode

These two modes allow you to quickly toggle areas of output for a desired message or to speak to a microphone for ECS Paging.

After gaining ECS Control, the system is in Fire Page Mode of the Manual ECS State.

Switching between Fire Page Mode and Message Mode

At any time while in ECS Control, you can switch between Fire Page Mode and Message Mode. Fire Page Mode is entered by simply engaging the microphone.

1. Message Mode: Use the ECS Message keys to toggle which message/event to output to the system. Use the Select Keys to toggle output areas to play the current ECS Message in. The Select Key's red LED will toggle on/off with the activation/deactivation of the area is now receiving the message. Any non-voice groups assigned to this Select Key will also toggle with their Activation Cadence. See SectionActivating Output Groups Dynamically.
2. Fire Page 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.

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/deactivate 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 when activated. When deactivated, the Select Key red LED will become unlit and the circuits in the output group(s) will become inactive. Non-voice output groups can also be assigned to Select Keys and will toggle on/off using the activation cadence assigned to it in output group programming. This is available in the panel and in HFSS. Refer to Section 8.4.1 for information on editing groups.

10.2.4 Fire Page Mode

Fire Page 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.

FIRE PAGE MODE
SELECT KEYS: Toggle Output Areas
Microphone Active
Release Microphone for MESSAGE MODE

When Fire is set to higher priority than ECS in user programming, and NACs are active due to a release alarm, ECS functions and the microphone will be disabled. In this instance, NACs take higher priority over ECS messages. The screen will display the following.

FIRE PAGE MODE
Fire Alarm Priority Higher than ECS
Microphone and SELECT KETS Disabled
MESSAGE Disabled for MESSAGE MODE

10.2.5 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: Toggle Output Areas
Engage Microphone for FIRE PAGE MODE

When Fire is set to higher priority than ECS in user programming, and NACs are active due to a release alarm, ECS functions and the microphone will be disabled. In this instance, NACs take higher priority over ECS messages. The screen will display the following.

MESSAGE MODE
Fire Alarm Priority Higher than ECS
MESSAGE and SELECT KETS Disabled
Microphone Disabled for FIRE PAGE MODE

10.2.6 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.

10.2.7 Passing ECS Control

Passing of ECS Control is allowed when two LOC units have the same priority. When it is possible to pass control, a prompt (similar to Figure 10.2) 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 10.2 Request ECS Control with Lockout Timer Active

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 10.3), 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.

Relinquishing ECS Control
Automatic ECS Timer: 30
1=Cancel, Keep ECS Control
2 Accept, Relinquish ECS Control

Figure 10.3 Another LOC is Requesting 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.

10.2.8 Exit ECS Control Menu

The user can exit the LOC ECS interface by pressing the left arrow key. The user will be returned to the idle screen which indicates that the LOC still has ECS control.

10.2.9 Relinquish ECS Control

Relinquishing ECS Control is accomplished by pressing the ECS Control Key from within Message 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.

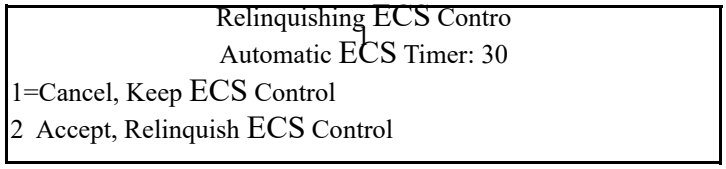


Figure 10.4 Relinquish ECS Control

10.2.10 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-NVCM/ECS-VCM or ECS-RVM. Refer to Figure 10.6.2.

10.3 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 LOC consoles. 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.

10.4 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-NVCM/ECS-VCM or ECS-RVM points can be programmed to trigger Voice Aux events that can allow external audio to be played through the emergency system.

10.4.1 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 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.

10.4.2 ECS-NVCM/ECS-VCM and ECS-RVM Points

The ECS-NVCM/ECS-VCM and ECS-RVM modules contain 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.

10.5 Amplifier Programming

10.5.1 Adding an Amplifier

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

1. Login as the Installer using the Installer Code.
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 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 8.2.2.

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 with changes accepted). When the new module is attached, the trouble will restore automatically the next time you power up the FACP.

10.5.2 Editing an Amplifier

When editing amplifiers, the features that may be edited are: module ID, module name, amplifier module, ECS-CE4 installed (Yes or No), and output voltage. To edit an existing module:

1. Login as the Installer using the Installer Code.
2. Select 7 for Program Menu.
3. Press 1 to enter module menu.
4. Press 1 to edit a module.
5. Use the up or down arrow key to select the module you wish to edit.
6. Press the right arrow key or ENTER to move to next selection.

10.6 LOC Programming

LOC Priority is a programmable option for the following ECS devices:

- ECS-VCM
- ECS-NVCM
- ECS-RVM

Each device is assigned a priority level: Low, Normal, or High.

10.6.1 Adding an LOC

To add new LOCs to the system, follow these steps:

1. Login as the Installer using the Installer Code.
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-NVCM (max 1 per site) or ECS-RVM (max 15 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 compatible LCD Annunciator, if desired, to associate with each ECS-VCM/ECS-NVCM 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 8.2.2.



NOTE: If you add a module to panel programming 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.

10.6.2 Editing an LOC

Settings that are specific to an LOC are modified by editing the ECS-VCM/ECS-NVCM or ECS-RVM expander module of the LOC. These options may include: number of switch expanders installed, microphone type, microphone gain, auxiliary gain, tone gain, message gain, key-pad priority, associated keypad, Port 1 used, Port 2 used, Select Switch, Panel, and Network Paging.



NOTE: You can also use HFSS to edit an LOC.

To edit an existing module:

1. Login to the panel. 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 up or down arrow key to select the module you wish to edit.
6. Press the right arrow key or ENTER to move to next selection.

LOC Priority

Each device is assigned a Priority level: Low, Normal, or High. This is modified by editing the LOC’s ECS-VCM/ECS-NVCM or ECS-RVM module. By default, the ECS-VCM/ECS-NVCM has a high LOC priority. The ECS-RVM is defaulted to normal LOC priority.

LOC Association

To create an LOC, an annunciator must be associated to an ECS-VCM/ECS-NVCM or ECS-RVM. This done by editing the ECS-VCM/ECS-NVCM or ECS-RVM module and selecting the correct annunciator for the associated device. During JumpStart, the ECS-VCM/ECS-NVCM is automatically associated with the internal annunciator. The association for other LOC consoles in the system must be performed in programming.

10.7 Using the Microphone

10.7.1 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 9.4.1). 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-LOC/ECS-RPU cabinets. A maximum of 16 microphones can be installed in the system.

10.7.2 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 General 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.

10.7.3 Fire Page

A fire page can only occur when any of the following events occur.

- Only the Fire System is active.
- 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.
- Only the Fire System 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 the 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.

10.7.4 Emergency Page

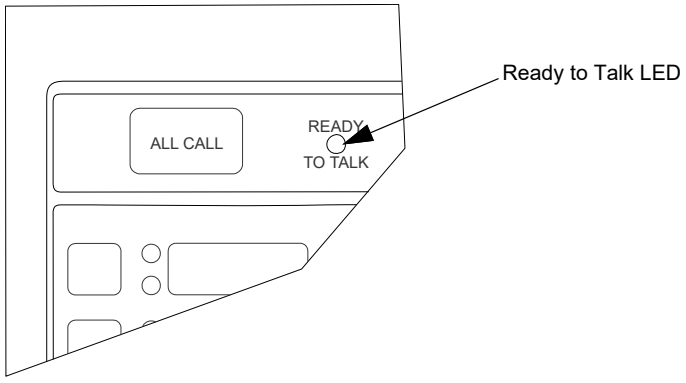
An emergency page can occur when:

- Only the emergency system is active and the user has gained ECS Control.
- 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.
- 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'.

10.7.5 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:

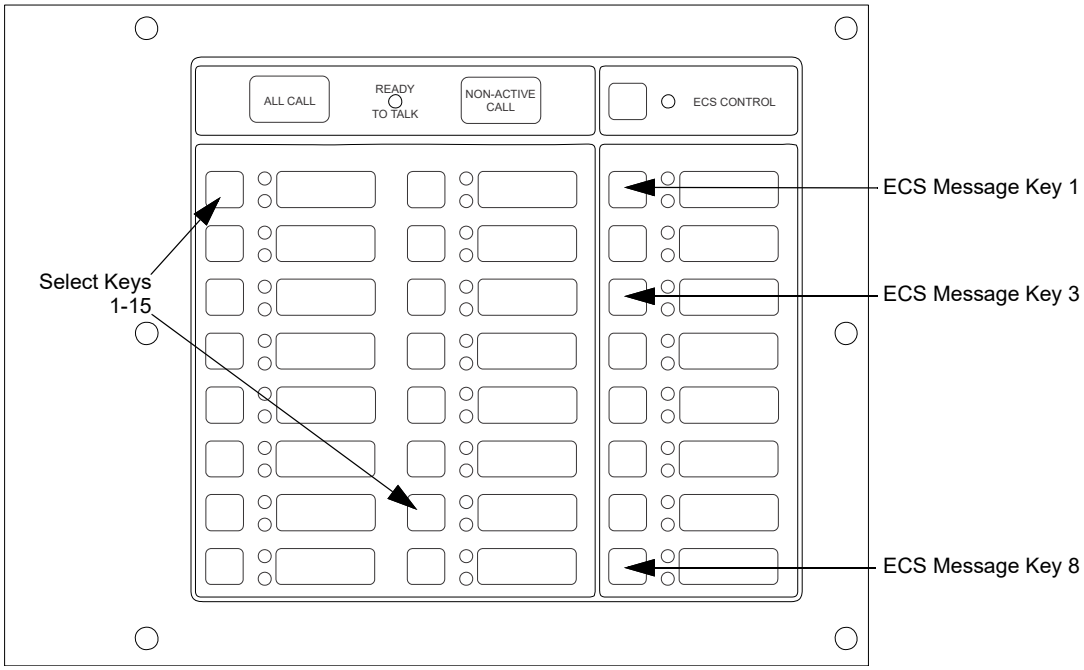
1. Push the PTT (push-to-talk) button on the microphone.
2. Use the Select Keys on the LOC to toggle the output areas to page to with the microphone (illuminates the green LEDs). The Ready to Talk LED will illuminate after an output area has been activated.
3. Speak into the microphone.
4. Release PTT button when finished.



10.8 Recording Custom Messages

The ECS Series ECS-VCM/ECS-NVCM comes with 15 recordable message slots. Message 1-15 can be recorded from: the microphone, Aux Input, or by using the ECS Message Management utility of HFSS. All messages can be a maximum of one minute.

When in the record mode, the ECS-VCM/ECS-NVCM keys will function as follows:



Key	Function
ECS Message Key 1	Select message slot to record
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 storage lot 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/ECS-NVCM LEDs will function as follows:

Switch LED	Active LED Status	Action
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

10.8.1 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.

1. Wire a speaker cable with 1/8” mini plug to the Aux AUDIO GND and IN terminals. Refer to Figure 10.5.

2. Plug the mini plug into the Line Out/Headphone jack on a PC or laptop.

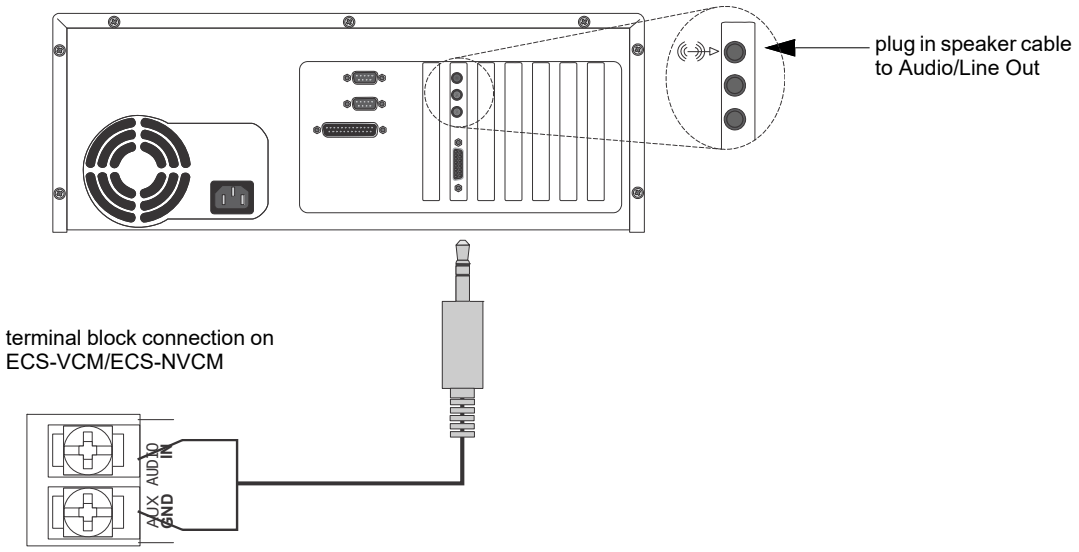


Figure 10.5 AUX Audio Connection for Recording

3. Enter programming mode at main control panel.
4. Select 8 for Voice Options.
5. Select 1 for 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 keypad 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 10.8.3).

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 keypad 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 10.8.3). 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.

10.8.2 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 8 for Voice Options.
3. Select 1 for 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 keypad 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 10.8.3).

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 10.8.3) 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 keypad 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 10.8.3). 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.

10.8.3 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 8 for Voice Options.
3. Select 1 for VCM Maintenance.

NOTE: The keypad 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 keypad, 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.

10.8.4 Using HFSS Voice Message Load Software

The HFSS Voice Message Load Software 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 keypad. Messages can be uploaded from the ECS-VCM/ECS-NVCM, stored, and used again in similar installations.

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 USB port on the FACP using a standard USB cable. The ECS-NVCM will use the USB on the FACP. The ECS-VCM will use the USB port on the ECS-VCM.

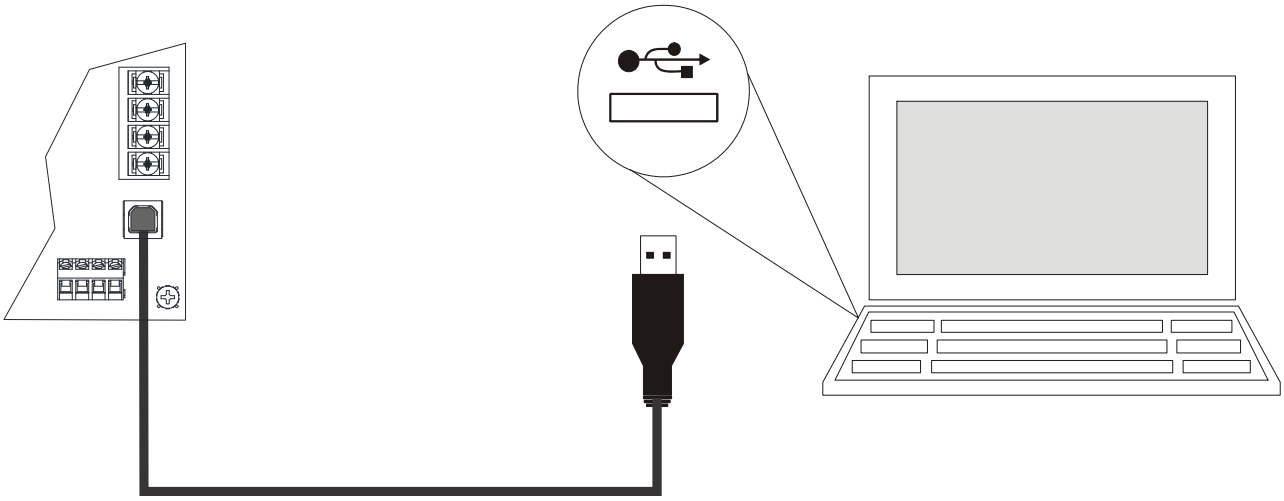


Figure 10.6 USB Cable Connections

3. Run the Voice Message Load 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.

10.9 Network Paging

Network paging allows live voice paging between panels across the network. The ECS-NVCM, Network Voice Control Module, is needed for network paging. For more information, see the *ECS Series installation manual*.

The network paging source is the panel in the network from which the microphone paging originates. Only one panel in the network can be the source panel at a time.

A network paging destination panel is a panel in the network that is receiving the network paging. Many panels can be selected as a destination panel for the network paging. Network paging functions as an All Call on the destination panel(s) - all speaker circuits will be activated with the network paging audio on a destination panel.the following need to be considered:

10.9.1 Priority

1. Local microphone has a higher priority than network paging (a user can page from their local panel even if the local panel is currently receiving a network voice page).
2. Network Paging is higher priority than alarm and alert messages/tones.
3. Network paging uses a VBus channel. In a dual channel system, network paging will use either VBus 1 or VBus 2. If both buses are in use, network paging will overtake one of them.

10.9.2 Configuration

1. The ECS-NVCM Select Switches need to be programmed for network paging.
   - Program the switches to select one or more panels as destination panels.
   - Each switch can only be programmed for either output group activation or network paging activation.
2. To use network paging: cue the microphone and press the Select switch(es) that correspond to the panel(s) desired to receive network paging. Only one panel can source network paging at a time. The first panel to activate network paging is the source until that panel discontinues use of network paging.
3. The panel that is the Network Paging source will continue to play any alarms that are active as long as the alarm circuits aren't outputting the microphone page.

Notes

Section 11: 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.

11.1 Receivers Compatible with the Control Panel

Table 11.1 shows receivers compatible with the control panel.

Manufacturer	Model	Format
Silent Knight by Honeywell	Model 9800	SIA and Contact ID
	Model 9000 (SIA formats)	SIA
Honeywell Security	AlarmNet 7810-ir	IP and Cellular Receiver, Contact ID only
Ademco	MX8000	SIA and Contact ID
	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

Table 11.1 Receivers Compatible with the Control Panel

	SIA Reporting Format				Contact ID Reporting Format			
	SIA pi Modifier			SIA				
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	**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
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

Table 11.2 Reporting Formats Table

	SIA Reporting Format				Contact ID Reporting Format			
	SIA pi Modifier			SIA				
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 #
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 #
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

Table 11.2 Reporting Formats Table (Continued)

	SIA Reporting Format				Contact ID Reporting Format			
	SIA pi Modifier			SIA				
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 #
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
SLC short circuit trouble		ET	Exp. ID	ETNNXX0000	1	332	Exp. ID	000
SLC short circuit trouble restore		ER	Exp. ID	ERNNXX0000	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	**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
LOC Mic Activated ECS Alarm Restore		QH	0	QHNN000000	3	220	00	000

Table 11.2 Reporting Formats Table (Continued)

	SIA Reporting Format				Contact ID Reporting Format			
	SIA pi Modifier			SIA				
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/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
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 ECS1 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 #

Table 11.2 Reporting Formats Table (Continued)

	SIA Reporting Format				Contact ID Reporting Format			
	SIA pi Modifier			SIA				
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 #
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 #
Point Events	**For IDP/SK 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 + Emergency #	Exp. ID	Point #

Table 11.2 Reporting Formats Table (Continued)

	SIA Reporting Format				Contact ID Reporting Format			
	SIA pi Modifier			SIA				
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 Alarm Restore	pi Exp. ID	QH	(EPPP) E - Emergency # PPP - Point #	QHNNXXEPPP	3	220 + Emergency #	Exp. ID	Point #
ECS Alarm # Point Trouble	pi Exp. ID	QT	Point #	QTNNXXPPPP	1	242	Exp. ID	Point #
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 #	QSNNXXPPPP	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
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 + Emergency #	Exp. ID	000

Table 11.2 Reporting Formats Table (Continued)

	SIA Reporting Format				Contact ID Reporting Format			
	SIA pi Modifier			SIA				
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 ECS # Alarm Restore	pi Exp. ID	QH	Emergency #	QHNNXXE000	3	220 + Emergency #	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 #
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 #

Table 11.2 Reporting Formats Table (Continued)

	SIA Reporting Format				Contact ID Reporting Format			
	SIA pi Modifier			SIA				
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 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 #
Voice Aux ECS 3 Point Alarm Restore	pi Exp. ID	UH	(5PPP) PPP - Point #	UHNNXX5PPP	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 #	UHNNXX6PPP	3	174	Exp. ID	Point #
Voice Aux ECS Point Trouble	pi Exp. ID	UT	Point #	UTNNXXPPPP	1	379	Exp. ID	Point #
Voice Aux ECS Point Trouble Restore	pi Exp. ID	UJ	Point #	UJNNXXPPPP	3	379	Exp. ID	Point #
Voice Aux ECS Point Disabled	pi Exp. ID	UB	Point #	UBNNXXPPPP	1	580	Exp. ID	Point #
Voice Aux ECS Point Enabled	pi Exp. ID	UU	Point #	UUNNXXPPPP	3	580	Exp. ID	Point #
Voice Aux Status 1 Switch is Trouble	pi Exp. ID	UT	Point #	UTNNXXPPPP	1	379	Exp. ID	Point #
Voice Aux Status 1 Switch is Trouble Restored	pi Exp. ID	UJ	Point #	UJNNXXPPPP	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 #	UTNNXXPPPP	1	379	Exp. ID	Point #
Voice Aux Status 2 Switch is Trouble Restored	pi Exp. ID	UJ	Point #	UJNNXXPPPP	3	379	Exp. ID	Point #
Voice Aux Status 2 Switch is Disabled	pi Exp. ID	UB	Point #	UBNNXXPPPP	1	580	Exp. ID	Point #
Voice Aux Status 2 Switch is Enabled	pi Exp. ID	UU	Point #	UUNNXXPPPP	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 #	SHNNXXPPPP	3	113	Exp. ID	Point #
Water flow switch disabled	pi Exp. ID	SB	Point #	SBNNXXPPPP	1	571	Exp. ID	Point #
Water flow switch enabled	pi Exp. ID	SU	Point #	SUNNXXPPPP	3	571	Exp. ID	Point #
Water flow switch trouble	pi Exp. ID	ST	Point #	STNNXXPPPP	1	373	Exp. ID	Point #

Table 11.2 Reporting Formats Table (Continued)

	SIA Reporting Format				Contact ID Reporting Format			
	SIA pi Modifier			SIA				
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 #
Water flow switch trouble restore	pi Exp. ID	SJ	Point #	SJNNXXPPPP	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 #	UHNNXXPPPP	3	140	Exp. ID	Point #
Zone-based AUX1 switch disabled	pi Exp. ID	UB	Point #	UBNNXXPPPP	1	571	Exp. ID	Point #
Zone-based AUX1 switch enabled	pi Exp. ID	UU	Point #	UUNNXXPPPP	3	571	Exp. ID	Point #
Zone-based AUX1 switch trouble	pi Exp. ID	UT	Point #	UTNNXXPPPP	1	373	Exp. ID	Point #
Zone-based AUX1 switch trouble restore	pi Exp. ID	UJ	Point #	UJNNXXPPPP	3	373	Exp. ID	Point #
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 #	UHNNXXPPPP	3	140	Exp. ID	Point #
Zone-based AUX2 switch disabled	pi Exp. ID	UB	Point #	UBNNXXPPPP	1	571	Exp. ID	Point #
Zone-based AUX2 switch enabled	pi Exp. ID	UU	Point #	UUNNXXPPPP	3	571	Exp. ID	Point #
Zone-based AUX2 switch trouble	pi Exp. ID	UT	Point #	UTNNXXPPPP	1	373	Exp. ID	Point #
Zone-based AUX2 switch trouble restore	pi Exp. ID	UJ	Point #	UJNNXXPPPP	3	373	Exp. ID	Point #
System-based Wireless Gateway Trouble	pi Exp. ID	UT	Point #	UTNNXXPPPP	1	373	Exp. ID	Point #
System-based Wireless Gateway Trouble - restore	pi Exp. ID	UJ	Point #	UJNNXXPPPP	3	373	Exp. ID	Point #
Wireless Gateway Trouble	pi Exp. ID	UT	Point #	UTNNXXPPPP	1	373	Exp. ID	Point #
Wireless Gateway Trouble restore	pi Exp. ID	UJ	Point #	UJNNXXPPPP	3	373	Exp. ID	Point #

Table 11.2 Reporting Formats Table (Continued)

11.2 SIA - Panel 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 communicator uses a "pi" event to supersedes 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 11.3:

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. #
Fire Trouble-Nac	Zone	n/a	98	n/a	Nac Circuit 7	EE-ZZZ	FT400 ZZZ=OPG#

Table 11.3 SIA- Panel - PI Modifier Reporting Examples

11.3 SIA – Panel Communicator

(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 11.4 below.

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 #

Table 11.4 SIA Reporting Examples

Section 12: Testing and Troubleshooting

12.1 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 Honeywell Technical Support at 800.446.6444 for assistance.

12.1.1 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 for IDP, SK, and SD devices in the *SLC Wiring Manual*.
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. Refer to the *SLC Wiring Manual*. For 6815 and 5815XL devices, make sure the device connects to the 6815 and 5815XL via the SLC OUT terminals. There can be only one SLC loop on the main panel and on each 6815 and 5815XL module. Do not connect devices to terminals labeled SLC IN.
	Make sure SLC devices have been addressed properly. For information on device addressing, refer to the *SLC Wiring Manual*. For contact monitor modules, which are addressed using DIP switches, the DIP switch must be set to the correct address before power is applied to the SLC loop. If this procedure is not followed, the device will have an incorrect address.
	Make sure correct polarity has been observed for SLC device wiring. For information on wiring, refer to the *SLC Wiring Manual*.
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: 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.
5496, 6815, or 5815XL module that has been physically connected to the panel but is not being recognized.	Check the status of the module’s green LED. If it flashes in the pattern half second on/ half second off, it is likely that the device has not been added to the system through programming. JumpStart will add any modules connected to the panel. If you have already run JumpStart, modules can be added manually. (Refer to Section 8.2.2). Check that the correct ID for the module has been set through the DIP switches. Assign ID#1 to the first module and ID#2 to the second. If the wiring between the device and the panel is correct, measure the voltage from the Terminal (+) to Terminal (-). Voltage should be in the range 27.2-27.4V when AC power is present. If the green LED is not flashing, the likely cause is incorrect wiring from between the device and the panel.

Table 12.1 Troubleshooting

12.2 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.

12.3 Event History

The event history can be useful for tracking or recalling a trouble condition.

To view event history:

1. Login to the panel.
2. Press 3 to select Event History.
3. Press the up or down arrow key to view events in the history buffer.

12.4 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.

12.4.1 SLC Device Locater

SLC device locater can be used to locate a device on a SLC loop.

Follow these steps to locate a particular SLC device:

1. Select 2 for Point Functions from the Main Menu.
2. Select 4 for SLC Single Device Locater.
   A message similar to the one shown below will display.

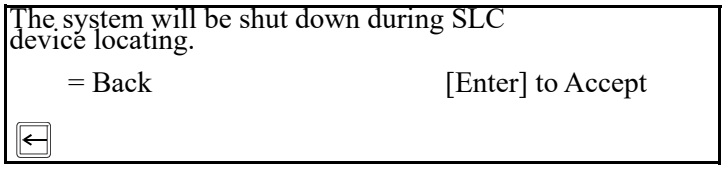


Figure 12.1 Shut Down Warning

3. Press ENTER to accept, or left arrow to Exit.
   If left arrow is chosen you will exit back to the Point Function menu.
   If ENTER 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 left arrow key to exit the SLC Device Locater.

NOTE: Once you exit, the system will resume normal operation.

12.4.2 SLC Multiple Device Locater

This feature is the same as SLC Single Device Locater, except you can locate up to 8 devices on a single search.

Follow these instructions to locate multiple SLC devices:

1. Select 2 for Point Functions from the Main Menu.
2. Select 5 for SLC Multiple Device Locater.
   A message similar to the one shown below will display.

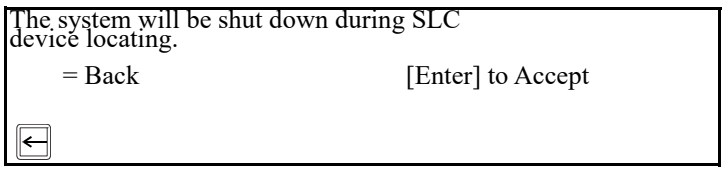


Figure 12.2 Shut Down Warning

3. Press ENTER to accept, or left arrow to Exit.
   If left arrow is chosen you will exit back to the Point Function menu.
   If ENTER is chosen the system will cease normal operation leaving the premise unprotected.
4. Select the SLC loop.
5. Enter up to 8 SLC addresses for the devices you wish to locate.
   The LEDs on the selected devices will start flashing.

6. Press the left arrow key to exit SLC Multiple Device Locater.

NOTE: Once you exit, the system will resume normal operation.

12.4.3 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. I/O Point Control can only be accessed if enabled in the user profile.

Follow these steps to control an I/O point:

1. Select 2 (Point Functions) from the Main Menu.
2. Select 6 (I/O Point Control).
3. Select the module the point is on.
4. Make any selections specific to the module selected in the previous step.
5. Use the up or down arrow key to select the point you wish to test.
6. Press ENTER to toggle (Active/Inactive) Output.
7. Press the left arrow key to exit.

12.4.4 Earth Fault Resistance

Table 12.2 lists the earth fault resistance detection for each applicable terminal on the FACP.

Function	Terminal Label (Values in Ohms)		Low Biased		High Biased	
			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	SBUS OUT	-	-	0	0
	A		-	-	0	0
SBUS Power	+		0	0	-	-
	-		-	-	0	0
SBUS Communication	B	SBUS 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

Table 12.2 Earth Fault Resistance Detection Chart

Function	Terminal Label (Values in Ohms)		Low Biased		High Biased	
			High Trip	High Restore	Low Trip	Low Restore
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	-	-
EXT. COMM	B		-	-	0	0
	A		-	-	0	0
	+		0	0	-	-
	-		-	-	0	0
Any wire to wire fault impedance is 0 ohms.						

Table 12.2 Earth Fault Resistance Detection Chart (Continued)

Section 13: 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.

13.1 Detector and Module Point Record

If installing IDP or SK SLC devices, use Table 13.1 to record detector points (up to 159 per SLC loop) installed on the onboard SLC loop and make a copy of Table 13.2 to record installed modules (up to 159 per SLC loop).

Module	Address	Zone / Group	Description	Module	Address	Zone/ Group	Description
Onboard	1			Onboard	2		
Onboard	3			Onboard	4		
Onboard	5			Onboard	6		
Onboard	7			Onboard	8		
Onboard	9			Onboard	10		
Onboard	11			Onboard	12		
Onboard	13			Onboard	14		
Onboard	15			Onboard	16		
Onboard	17			Onboard	18		
Onboard	19			Onboard	20		
Onboard	21			Onboard	22		
Onboard	23			Onboard	24		
Onboard	25			Onboard	26		
Onboard	27			Onboard	28		
Onboard	29			Onboard	30		
Onboard	31			Onboard	32		
Onboard	33			Onboard	34		
Onboard	35			Onboard	36		
Onboard	37			Onboard	38		
Onboard	39			Onboard	40		
Onboard	41			Onboard	42		
Onboard	43			Onboard	44		
Onboard	45			Onboard	46		
Onboard	47			Onboard	48		
Onboard	49			Onboard	50		
Onboard	51			Onboard	52		
Onboard	53			Onboard	54		
Onboard	55			Onboard	56		
Onboard	57			Onboard	58		
Onboard	59			Onboard	60		
Onboard	61			Onboard	62		
Onboard	63			Onboard	64		
Onboard	65			Onboard	66		
Onboard	67			Onboard	68		
Onboard	69			Onboard	70		
Onboard	71			Onboard	72		
Onboard	73			Onboard	74		
Onboard	75			Onboard	76		
Onboard	77			Onboard	78		
Onboard	79			Onboard	80		
Onboard	81			Onboard	82		
Onboard	83			Onboard	84		
Onboard	85			Onboard	86		
Onboard	87			Onboard	88		

Table 13.1 Installation Record of Onboard Devices

Module	Address	Zone / Group	Description	Module	Address	Zone/ Group	Description
Onboard	89			Onboard	90		
Onboard	91			Onboard	92		
Onboard	93			Onboard	94		
Onboard	95			Onboard	96		
Onboard	97			Onboard	98		
Onboard	99			Onboard	100		
Onboard	101			Onboard	102		
Onboard	103			Onboard	104		
Onboard	105			Onboard	106		
Onboard	107			Onboard	108		
Onboard	109			Onboard	110		
Onboard	111			Onboard	112		
Onboard	113			Onboard	114		
Onboard	115			Onboard	116		
Onboard	117			Onboard	118		
Onboard	119			Onboard	120		
Onboard	121			Onboard	122		
Onboard	123			Onboard	124		
Onboard	125			Onboard	126		
Onboard	127			Onboard	128		
Onboard	129			Onboard	130		
Onboard	131			Onboard	132		
Onboard	133			Onboard	134		
Onboard	135			Onboard	136		
Onboard	137			Onboard	138		
Onboard	139			Onboard	140		
Onboard	141			Onboard	142		
Onboard	143			Onboard	144		
Onboard	145			Onboard	146		
Onboard	147			Onboard	148		
Onboard	149			Onboard	150		
Onboard	151			Onboard	152		
Onboard	153			Onboard	154		
Onboard	155			Onboard	156		
Onboard	157			Onboard	158		
Onboard	159						

Table 13.1 Installation Record of Onboard Devices (Continued)

13.2 Additional SLC Devices

Use the table below to record devices installed on additional 6815/5815XL modules. Make a copy of this page if additional pages are needed.

Module	Addr	Zone / Group	Description	Module	Addr	Zone/ Group	Description

13.3 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: 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. T9 style editing is used.

A.1 Characters Used for Editing Text

Table A.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 A.1 until the character wanted is shown.
3. Arrow left and right for position, and press enter to accept.

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	* & @	*	# $	#

Table A.1 Character Table

A.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, a letter will automatically be accepted. Also, pressing the next number will automatically accept the previous choice.

<Module Name>
Enter: Accept _ _ _ _ _ _ _ _ _ _
Fire Door

1[abc] 2[def] 3[ghi] 4[jkl] 5[mno]
6[pqr] 7[stu] 8[vwx] 9[yz] 0[Spc]

Figure A.1 Edit Name Example

Appendix B: Expanded Receiver/Panel Relationship

The available receiver number will correspond with what panel number you entered. Receiver numbers are populated based on panel number and audited to allow only the 4 appropriate receivers. See Section 6.2.6.

Panel	Available Receiver Numbers			
1	1	2	3	4
2	5	6	7	8
3	9	10	11	12
4	13	14	15	16
5	17	18	19	20
6	21	22	23	24
7	25	26	27	28
8	29	30	31	32
9	33	34	35	36
10	37	38	39	40
11	41	42	43	44
12	45	46	47	48
13	49	50	51	52
14	53	54	55	56
15	57	58	59	60
16	61	62	63	64
17	65	66	67	68
18	69	70	71	72
19	73	74	75	76
20	77	78	79	80
21	81	82	83	84
22	85	86	87	88
23	89	90	91	92
24	93	94	95	96
25	97	98	99	100
26	101	102	103	104
27	105	106	107	108
28	109	110	111	112
29	113	114	115	116
30	117	118	119	120
31	121	122	123	124
32	125	126	127	128

Table B.1 Receiver/Panel Relationship

Appendix C: Cadence Patterns

Table C.1 shows the cadence patterns available for use with the control panel.

#	Name	Pattern Description (Patterns repeat until condition is cleared.)
00	Constant	Continuous sound (This is the only pattern that can be used for relay circuits. The system will override any other choice.)
01	March Time	0.5 second on, 0.5 second off
02	ANSI 3.41	0.5 sec on, 0.5 sec off, 0.5 sec on, 0.5 sec off, 0.5 sec on, 1.5 sec off
03	Single Stroke	0.1 sec on, 1 sec off, 0.1 sec on, 1 sec off, 0.1 sec on, 3 sec off
04	California	5 sec on, 10 sec off
05	Zone-coded, Zone 1	0.5 sec on, 0.5 sec off This pattern is multiplied by the zone number in alarm, followed by 3 seconds off. For example, Pattern 6, Zone 2 coded: (pattern x two): 0.5 sec on, 0.5 sec off, 0.5 sec on, 0.5 sec off, 3 sec off
06	Zone-coded, Zone 2	
07	Zone-coded, Zone 3	
08	Zone-coded, Zone 4	
09	Zone-coded, Zone 5	
10	Zone-coded, Zone 6	
11	Zone-coded, Zone 7	
12	Zone-coded, Zone 8	
13	Zone-coded, Custom 1	
14	Zone-coded, Custom 2	
15	Zone-coded, Custom 3	
16	Zone-coded, Custom 4	
17	Sync Type- Faraday (N/A)	These outputs provide synchronization for Gentex, System Sensor, Wheelock, or AMESECO synchronized appliances.
18	Sync Type- Gentex	
19	Sync Type- System Sensor	
20	Sync Type- Wheelock	
21	Sync Type- AMSECO	
22	Power Isolated	Disconnected. No voltage at terminals.
23	Temporal 4	0.1 sec on, 0.1 sec off, 0.1 sec on, 0.1 sec off, 0.1 sec on, 0.1 sec off, 0.1 sec on, 5 sec off,

Table C.1 Cadence Patterns

Appendix D: Panel Security

Panel Installation / Maintenance Security Checklist
System Description: _____
System Location: _____
Installer: _____ Date: _____

Complete the following Cybersecurity Tasks for Each Panel Installation

- Install the panel in a secure location considering both software and hardware vulnerabilities.
- Change the default password to a unique password.
- Securely configure networks and firewalls.
- Assess security risks.
- Develop a Disaster and Recovery Plan.
- Develop a Backup and Recovery Strategy.
- Install, configure and keep anti virus software updated on all computers which access the panel.
- Keep operating system updated on all computers which access the panel.
- Deliver all required system information upon delivery to the system owner.
- Train end-users on security maintenance tasks upon system delivery.
- For decommissioning, dispose of data securely.
- Ensure the Ethernet cable is removed from the FACP when not being utilized for configuration or for reporting purposes.

Security and Data Protection

Communication Security - Level 1

Stored Data Security - Level 0

Physical Security - Level 1

Access Control Security - Level 1

Model Base System Basic Operating Instructions

NOTE: Select the appropriate base model as per the requirement.

SILENT KNIGHT MODEL:	FARENHYT MODELS:	TRIGA MODELS:	FIKE MODELS:
☐ 6808U	☐ IFP-300U(B)	☐ TR-300U(R)(B)	☐ FCP-300U
☐ 6820U	☐ IFP-1100U(B)	☐ TR-1100U(R)(UB)	☐ FCP-1100U
	☐ RFP-2100(B)	☐ TR-2100(R)(B)	☐ FCP-2100(HV)
	☐ IFP-2100(HV)(B)		☐ RFCP-2100
	☐ RFP-2100(HV)(B)		

These Instructions must be framed and displayed next to the 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 and then enter a code if prompted. The Silence LED will light.
Reset Alarms	Press RESET and then enter a code if prompted.
View Alarms, Supervisories, and Troubles	For each type of condition press the Up or Down button associated for Alarms, Supervisories, or Troubles. FIRE: ALARM SUPERVISORY TROU- BLE CO: ALARM SUPERVISORY SYSTEM: TROUBLE
View Point Status	1. Login to the panel. 2. Press 2 to select Point Functions. 3. Press 2 to select Point Status. 4. Select the desired module by using the Up or Down button. Then press ENTER. 5. Enter the point number.
Conduct a Fire Drill	Hold the DRILL button and then enter a code if prompted. OR 1. Login to the panel. 2. Then Press 1 to select System Tests. 3. Press 1 to select Fire Drill. 4. Press ENTER to start the fire drill. Press ENTER to end the fire drill.
Check Detector Sensitivity	1. Login to the panel. 2. Press 2 for Point Status. 3. From the list that displays, select the SLC module where the desired point is located. 4. The fourth line of the display shows the sensitivity status. “NORMAL” means the detector is in compliance with NFPA 72. “CAL MAINT” means the detector is in compliance with NFPA 72 but maintenance should be performed soon. “CAL TRBLE” means the detector is not in compliance with NFPA 72.
Set Time and Date	1. Login to the panel. 2. Press 4 to select Set Time & Date. 3. Make changes in the fields on the screen as necessary. 4. When the time and date are correct, press ENTER.

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Operation	Task to Perform
Enable / Disable a Point	1. Login to the panel. 2. Press 2 to select Point Functions. 3. Press 1 for Disable / Enable Pt 4. Press 7 for Disable / Enable Pt. 5. Use the Up or Down button to move through the list. Then press ENTER to select the module where the desired point is located. 6. Enter the point or circuit number that you want to disable/enable. 7. Press the right arrow key to toggle between NORMAL (enable) or DISABLE.
View Event History	1. Login to the panel. 2. Press 3 to select Event History. 3. Press the Up or Down button to view events in the history buffer.

Cut along dotted line.

Model Base System EVS/ECS Basic Operating Instructions

NOTE: Select the appropriate EVS/ECS model as per the requirement.

SILENT KNIGHT MODEL:	FARENHYT MODELS:	TRIGA MODELS:	FIKE MODELS:
☐ 6820UEVS	☐ IFP-300UECS/B	☐ TR-300UECS R/B	☐ FCP-300UECS
	☐ IFP-1100UECS/B	☐ TR-1100UECS R/B	☐ FCP-1100UECS
	☐ IFP-2100ECS/B/HV/HVB	☐ TR-2100ECS R/B	☐ FCP-2100ECS/HV

These Instructions must be framed and displayed next to the ECS/EVS 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 and then enter a code if prompted. The Silence LED will light.
Reset Alarms	1. Press RESET and then enter a code if prompted. 2. Press 1 to reset the Fire System or 2 to reset the Emergency Communication System. *To reset the ECS/EVS at an LOC, the user must gain ECS/EVS Control (See Figure 1).*
View all active alarm, trouble, and supervisory signals	The highest priority event will display first. Press the Down arrow to view location and type of alarm or trouble. FIRE: ALARM SUPERVISORY TROUBLE CO: ALARM SUPERVISORY EMERGENCY: ALARM SUPERVISORY SYSTEM: TROUBLE
View Point Status	1. Login to the panel. 2. Press 2 to select Point Functions. 3. Press 2 to select Point Status. 4. Select the desired module by using the Up or Down button. Then press ENTER. 5. Enter the point number.
Conduct a Fire Drill	Hold the DRILL button and then enter a code if prompted. OR 1. Login to the panel. 2. Then Press 1 to select System Tests. 3. Press 1 to select Fire Drill. 4. Press ENTER to start the fire drill. Press ENTER to end the fire drill.
Set Time and Date	1. Login to the panel. 2. Press 4 to select Set Time & Date. 3. Make changes in the fields on the screen as necessary. 4. When the time and date are correct, press ENTER.
Enable / Disable a Point	1. Login to the panel. 2. Press 2 to select Point Functions. 3. Press 1 for Disable / Enable Pt 4. Press 7 for Disable / Enable Pt. 5. Use the Up or Down button to move through the list. Then press ENTER to select the module where the desired point is located. 6. Enter the point or circuit number that you want to disable/enable. 7. Press the right arrow key to toggle between NORMAL (enable) or DISABLE.

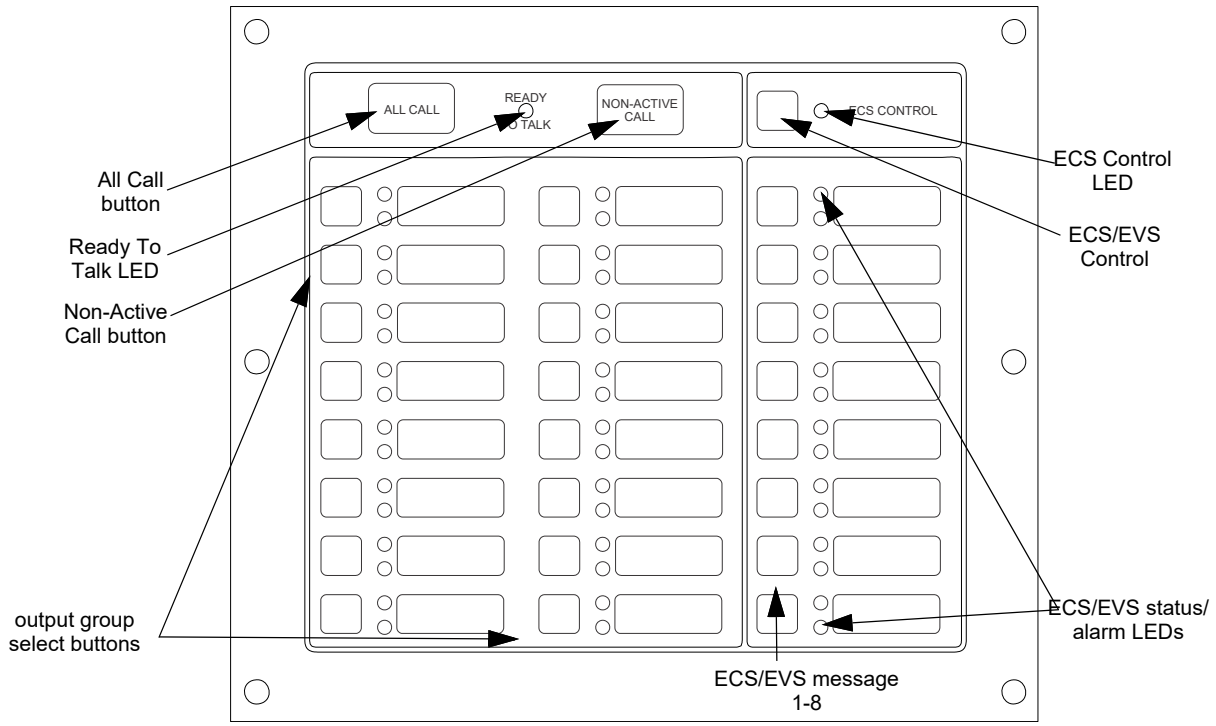
Cut along dotted line.

Operation	Task to Perform
To Gain / Request ECS/EVS Control	Press the ECS/EVS Control Button and follow the on-screen Instructions. *When the ECS/EVS Control LED is blinking, another LOC has ECS/EVS Control. The ECS/EVS Control LED is on steady when the LOC has ECS/EVS Control.*
For Service Call:	

P/N LS10150-004SK-E Rev A ECN:- 00064323

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Keypad and LED Indicators



Front View of ECS/EVS Keypad

LED	Color	State	Definition
Select Keys	Red	On	The corresponding area is active for the ECS/EVS message currently playing
		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.
		Blink	One or more associated network page destination panels are unable to output the page.
ECS/EVS Control LED	Green	Blink	When this LED is blinking, someone has requested control of the ECS/EVS System.
		On	LOC has ECS/EVS Control and the user is able to make changes to the ECS/EVS.
		Off	LOC does not have ECS/EVS Control.
ECS/EVS Message LED	Red	On	The corresponding ECS/EVS event was activated by an ECS/EVS device.
		Off	The corresponding ECS/EVS event was not activated from this LOC.
	Green	On	The corresponding ECS/EVS event is active and was generated from the LOC (or was activated from another LOC, but this LOC now has ECS/EVS Control).

LED Conditions

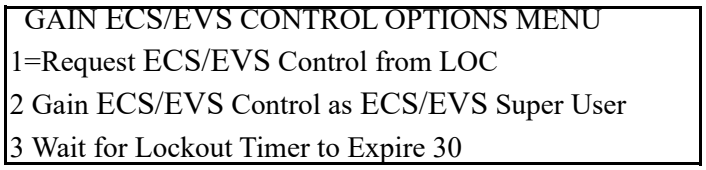
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ECS/EVS Control

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 below. Press 1 to request control. The LOC with ECS Control will then be able to allow or deny the request.
Gain ECS Control as an ECS Super User at an LOC (only one ECS Super User is allowed ECS Control in the system at a time).	From the system 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 the figure below for screen display example.)
Select all output groups 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.
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.

ECS Control Request



How to Operate the Microphone:

1. Press the ECS/EVS Control Button.
2. Key the Microphone.
3. Press the All Call Button.

How to Reset the ECS/EVS System

1. Press The Reset Button.
2. Select 2 Reset emergency System.

ECS-RPU Operating Instruction

For Live Message

1. Key the Microphone.
2. Press the All Call Key or select desired output area using Select Keys.
3. Deliver your verbal message.

For Pre-recorded Message

Select desired ECS/EVS Message Key 1-8.

- If ECS/EVS Control LED is on steady, the LOC has ECS/EVS Control.
- If ECS/EVS Control LED is Blinking, another LOC has ECS/EVS Control.

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Cut along dotted line.

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