Honeywell | Farenhyt™ Series

IFP-FFT

Firefighter's Telephone

Manual

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Fire Alarm & Emergency Communication System Limitations

While a life safety system may lower insurance rates, it is not a substitute for life and property insurance!

An automatic fire alarm system—typically made up of smoke detectors, heat detectors, manual pull stations, audible warning devices, and a fire alarm control panel (FACP) with remote notification capability—can provide early warning of a developing fire. Such a system, however, does not assure protection against property damage or loss of life resulting from a fire.

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

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

Smoke detectors may not sense fire where smoke cannot reach the detectors such as in chimneys, in or behind walls, on roofs, or on the other side of closed doors. Smoke detectors also may not sense a fire on another level or floor of a building. A second-floor detector, for example, may not sense a first-floor or basement fire.

Particles of combustion or "smoke" from a developing fire may not reach the sensing chambers of smoke detectors because:

- Barriers such as closed or partially closed doors, walls, chimneys, even wet or humid areas may inhibit particle or smoke flow.
- Smoke particles may become "cold," stratify, and not reach the ceiling or upper walls where detectors are located.
- Smoke particles may be blown away from detectors by air outlets, such as air conditioning vents.
- Smoke particles may be drawn into air returns before reaching the detector.

The amount of "smoke" present may be insufficient to alarm smoke detectors. Smoke detectors are designed to alarm at various levels of smoke density. If such density levels are not created by a developing fire at the location of detectors, the detectors will not go into alarm.

Smoke detectors, even when working properly, have sensing limitations. Detectors that have photoelectronic sensing chambers tend to detect smoldering fires better than flaming fires, which have little visible smoke. Detectors that have ionizing-type sensing chambers tend to detect fast-flaming fires better than smoldering fires. Because fires develop in different ways and are often unpredictable in their growth, neither type of detector is necessarily best and a given type of detector may not provide adequate warning of a fire.

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

Heat detectors do not sense particles of combustion and alarm only when heat on their sensors increases at a predetermined rate or reaches a predetermined level. Rate-of-rise heat detectors may be subject to reduced sensitivity over time. For this reason, the rate-of-rise feature of each detector should be tested at least once per year by a qualified fire protection specialist. Heat detectors are designed to protect property, not life.

IMPORTANT! Smoke detectors must be installed in the same room as the control panel and in rooms used by the system for the connection of alarm transmission wiring, communications, signaling, and/or power. If detectors are not so located, a developing fire may damage the alarm system, compromising its ability to report a fire.

Audible warning devices such as bells, horns, strobes, speakers and displays may not alert people if these devices are located on the other side of closed or partly open doors or are located on another floor of a building. Any warning device may fail to alert people with a disability or those who have recently consumed drugs, alcohol, or medication. Please note that:

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

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

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

Alarm Signaling Communications:

- **IP connections** rely on available bandwidth, which could be limited if the network is shared by multiple users or if ISP policies impose restrictions on the amount of data transmitted. Service packages must be carefully chosen to ensure that alarm signals will always have available bandwidth. Outages by the ISP for maintenance and upgrades may also inhibit alarm signals. For added protection, a backup cellular connection is recommended.
- **Cellular connections** rely on a strong signal. Signal strength can be adversely affected by the network coverage of the cellular carrier, objects and structural barriers at the installation location. Utilize a cellular carrier that has reliable network coverage where the alarm system is installed. For added protection, utilize an external antenna to boost the signal.
- **Telephone lines** needed to transmit alarm signals from a premise to a central monitoring station may be out of service or temporarily disabled. For added protection against telephone line failure, backup alarm signaling connections are recommended.

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

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Installation Precautions

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

WARNING - Several different sources of power can be connected to the fire alarm control panel. Disconnect all sources of power before servicing. Control unit and associated equipment may be damaged by removing and/or inserting cards, modules, or 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.

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FCC Warning

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

Canadian Requirements

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

Le 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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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: Overview

The Farenhyt IFP-FFT Firefighter Telephone System provides supervision, annunciation, and control for the local and the remote telephone handsets. The keypad, provides indications of phone activation, and corresponding trouble conditions. Additionally, up to 72 telephone circuits can be annunciated at the IFP-FFT by connecting the FFT-24 zone expander.

1.1 Features

- One Form-C System Trouble Relay - TB6
- IFP-FFT Fire Fighter Telephone module used for the control and annunciation of up to 72 remote telephone jacks
- A maximum of 10 Fire Fighter Remote Handsets (FFT-RHS) can be used at one time to communicate over the telephone circuit connected to the IFP-FFT.
- Fire Fighter Phone Jack (FFT-FPJ) provides a plug-in location for the FFT-RHS
- Single Telephone Station (FFT-STS)
- Fire Fighter Handset Cabinet (FFT-HSC) is used to store ten Fire Fighter Handsets (FFT-RHS)
- System Status LEDs
- Supports two FFT-24 zone expanders

1.2 Optional Accessories

This manual also contains information on how to install the following compatible accessories with the FFT series equipment:

Model Number	Description
FFT-24	24 Zone Expander
FFT-FPJ	Remote Phone Jack
FFT-RHS	Fire Fighters Remote Hand Set
FFT-HSC	Fire Fighters Handset Cabinet
FFT-STSR	Single Telephone Station Recessed
FFT-STSS	Single Telephone Station Surface Mount
FFT-BGK	Break Glass Kit for FFT-STS
IFP-MINIMON	Addressable Mini-Monitor Module
IFP-ISO	SLC Line Isolation Module

Table 1.1 Optional Compatible Accessories

1.3 Agency Requirements

The IFP-FFT has the same requirements as the main control panel. These requirements are listed in the Farenhyt Series addressable fire alarm control panel manuals. These manuals can be downloaded from www.farenhyt.com.

Model	Manual PN
IFP-2100/IFP-2100ECS	LS10143-001SK-E
IFP-300/IFP-300ECS	LS10145-001SK-E
IF-75	LS10147-001SK-E
IFP-2000/IFP-2000ECS	151430
IFP-1000/IFP-1000ECS	151460
IFP-100/IFP-100ECS	151458
IFP-50	151302
IFP-25	53693
RPS-1000	151153

Table 1.2 Compatible Powering Devices

Section 2: Before You Begin Installing

Refer to this Section to plan your tasks to complete the installation. Please read this section thoroughly, especially if you are installing the IFP-FFT for the first time.

2.1 Environmental Specifications

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

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

When you select a location to mount the IFP-FFT, the unit should be mounted where it will NOT be exposed to temperatures outside the range of 32°F-120°F (0°C- 49°C) or humidity outside the range of 10% - 93% at 86°F (30°C) non-condensing.

2.2 Preventing Water Damage

Water damage to the fire fighters phone 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.

2.2.1 Removing the IFP-FFT Assembly from the Housing

If it is necessary to remove the control panel assembly from the cabinet for repair, remove the screws that hold the control panel into the cabinet. Do not attempt to disassemble the circuit boards.

2.3 Electrical Specifications

2.3.1 Power Requirements

The voltage for the IFP-FFT must be a power-limited, filtered, non-resettable nominal 24 VDC source. The voltage source must be within the range of 17-29 VDC.

Circuits	Voltage	Current
SLC Circuits	32 VDC	150 mA
Audio Circuits	17 VDC	53 mA

Table 2.1 Electrical Ratings

2.3.2 Current Ratings

Table 2.2 lists the maximum current ratings used to determine the backup battery requirements used for the alarm (active) and standby conditions over the input voltage range of 17-29 VDC.

Model	Active	Standby
IFP-FFT	230 mA	120 mA
FFT-24	25 mA	10 mA

Table 2.2 Current Draws

Section 3: Installation

3.1 Mounting the Cabinet

Read the environmental specifications in Section 2.1 before you mount the IFP-FFT cabinet. This will ensure that you select a suitable location to install the cabinet.

The cabinet can be surface or flush- mounted. Do NOT flush-mount in a wall designed as a fire break.

3.1.1 Surface Mounting

The cabinet can be mounted on the wall surface by using the mounting holes in the back of the cabinet.

1. Mark and pre-drill holes in the wall for the top keyhole mounting bolts 14” apart.
2. Place backbox over the top screws, level and secure.
3. Mark and drill the lower mounting holes.

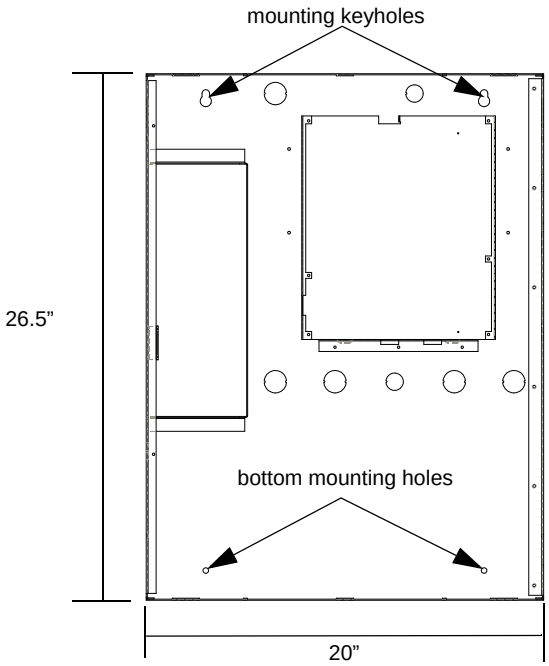


Figure 3.1 Cabinet Mounting Holes

3.1.2 Flush Mounting

This Section describes how to flush-mount the cabinet into a wall. To recess mount the cabinet. you need to use the optional trim ring P/N VIP-TR (ordered separately).

Follow these steps to recess mount the cabinet:

1. Remove the cabinet door and the dead front panel.
2. Cut a recess hole 20.25” W x 26.75” H (51.4 cm W x 68 cm H).
3. There should be dimensions of 1.5" to 1.75" of space between the cabinet extending from the wall. This distance should be measured from either the top edge or bottom edge to the exterior side of the sheet rock. (See Figure 3.2.).

NOTE: Do not insert the cabinet deeper than the recommended dimensions. If the cabinet is mounted too deep, you will not be able to re-attach the door assembly.

4. To mount the cabinet to the wall studs, insert a screw through the cabinet’s side mounting holes directly into the wall stud.

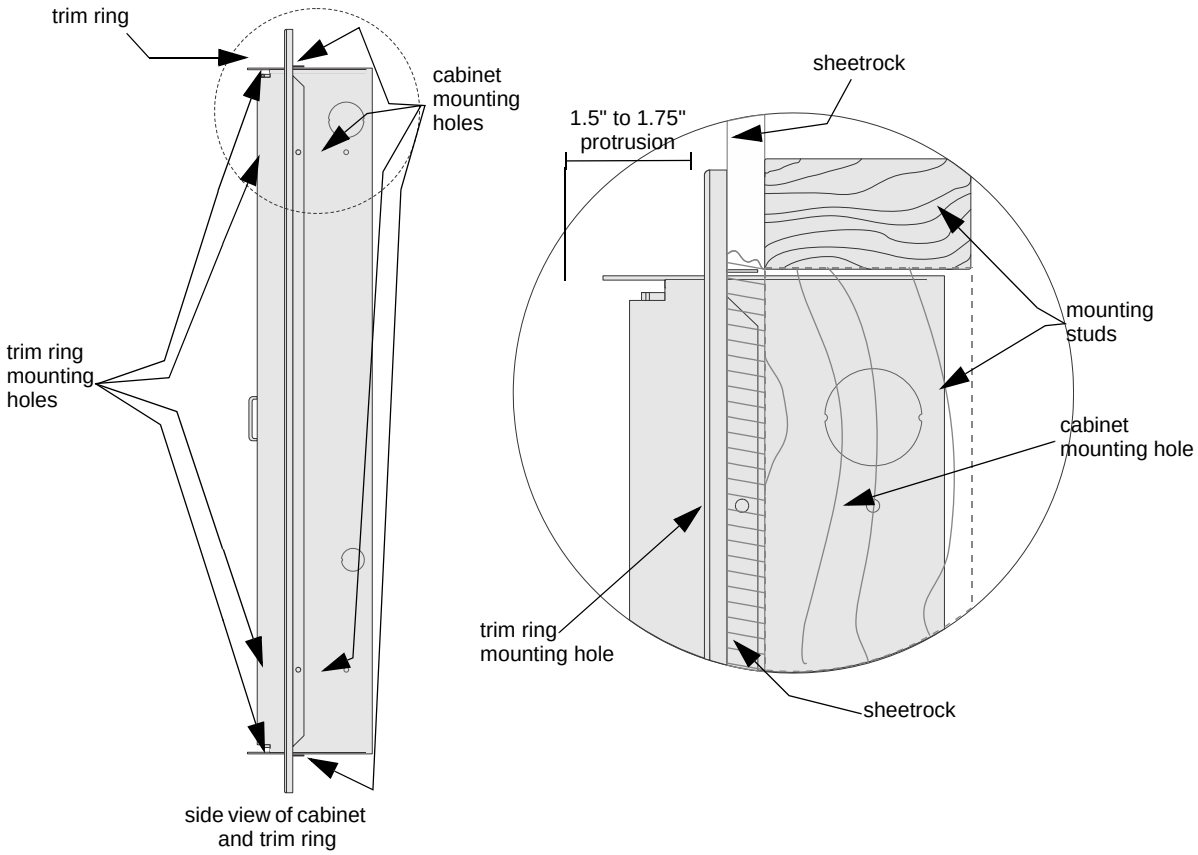


Figure 3.2 Detail of Flush Mounting with Trim Ring

5. Place the trim ring around the cabinet.

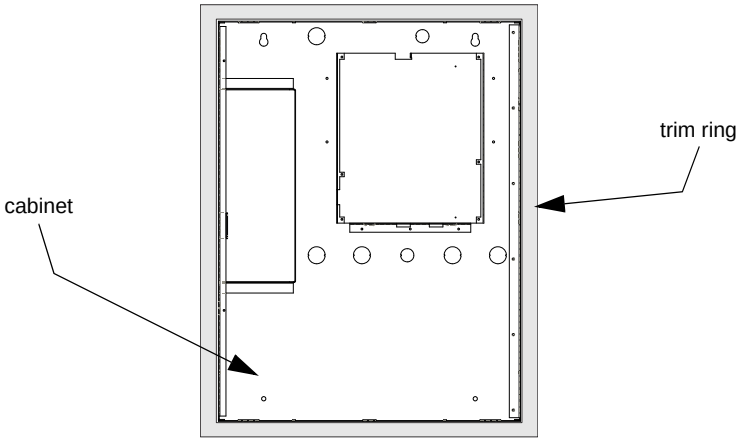


Figure 3.3 Trim Ring Around Cabinet

6. Secure the trim ring to the cabinet using the self-tapping sheet metal screws from the inside of the cabinet into the trim ring.
7. Re-attach the cabinet door assembly.

■ Cabinet Door and Dead Front Removal

When installing the cabinet, it may be necessary to remove the cabinet door and the dead front panel. This section provides instructions on how to remove the door and the dead front panel.

1. Using a Phillips head screwdriver, remove the six screws that hold the dead front panel in place. See Figure 3.4.

2. Using a 1/4" hex driver, remove the six hex nuts that hold the cabinet door in place.

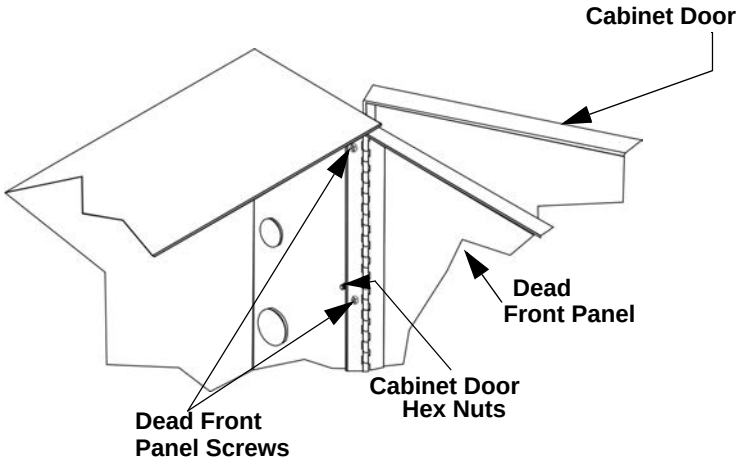


Figure 3.4 Cabinet Door and Dead Front Panel Removal

■ Re-Attaching the Cabinet Door

To re-attach the cabinet door:

1. Using a 1/4" hex driver, secure the six hex nuts to hold the cabinet door in place.
2. Using a Phillips head screwdriver, install the six screws to hold the dead front panel in place

3.2 Firefighter's Handset Installation

To install the FFT local handset:

1. Insert the phone cord through the hole of the dead front panel.

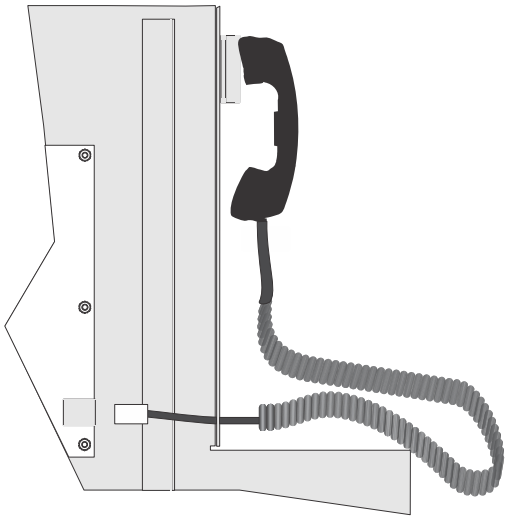


Figure 3.5 Handset Cord Inserted Through Dead Front Panel Hole

2. Attach the strain relief clip to the phone cord. The strain relief clip should have about 2.75" of phone cord though it. .

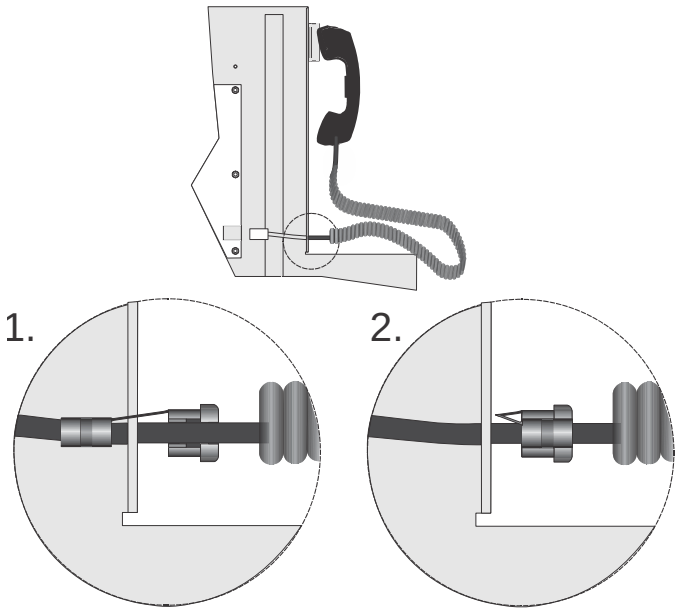


Figure 3.6 Installing the Strain Relief Clip

3. Push the strain relief clipinto the hole in the dead front panel.

3.3 IFP-FFT Board Layout

Figure 3.3 shows the circuit board that can be installed in the cabinet. If you need to remove the board assembly for repair, remove the seven mounting nuts which hold the assembly in the cabinet. Then, lift the control board out of the cabinet.

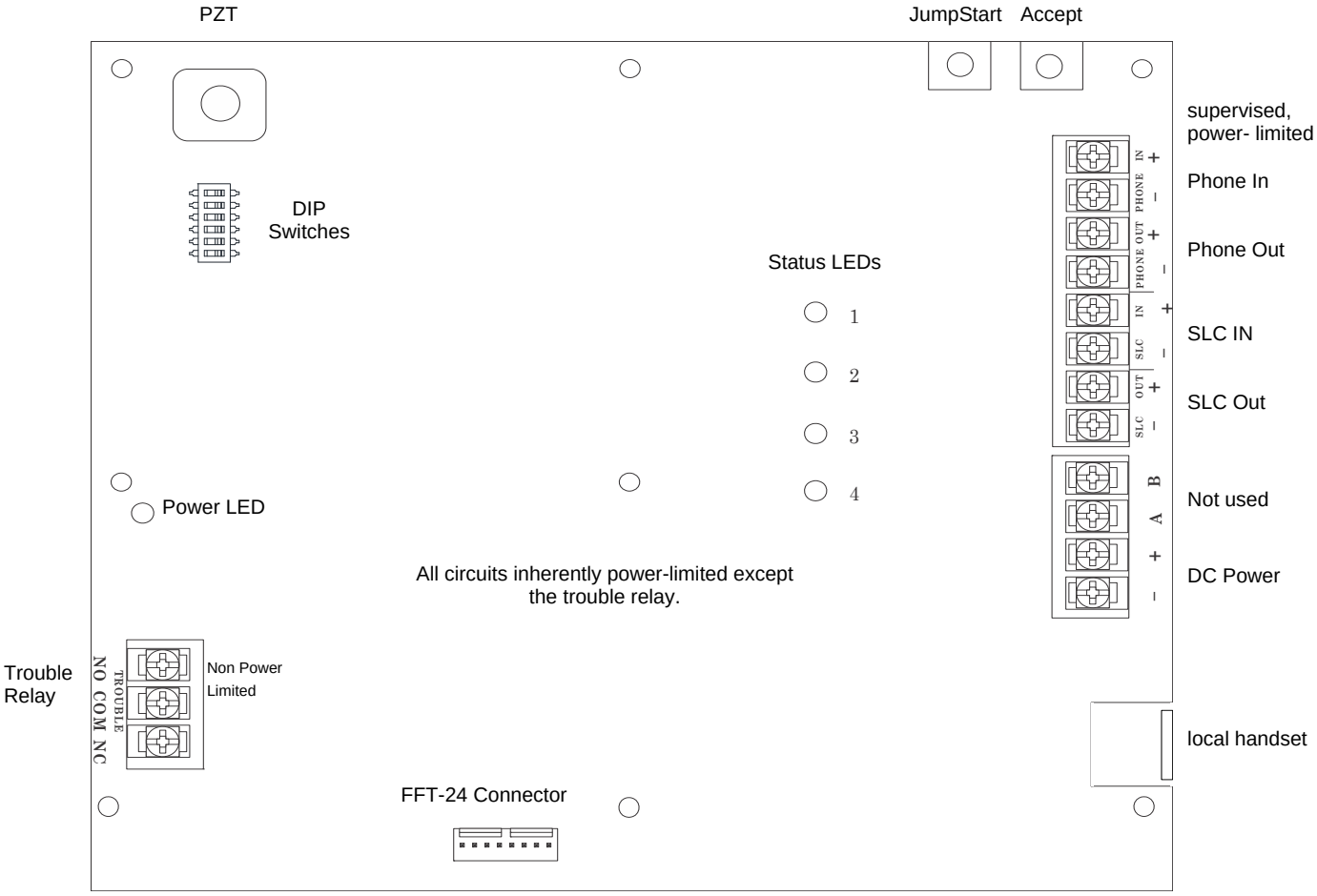


Figure 3.7 Back View of IFP-FFT

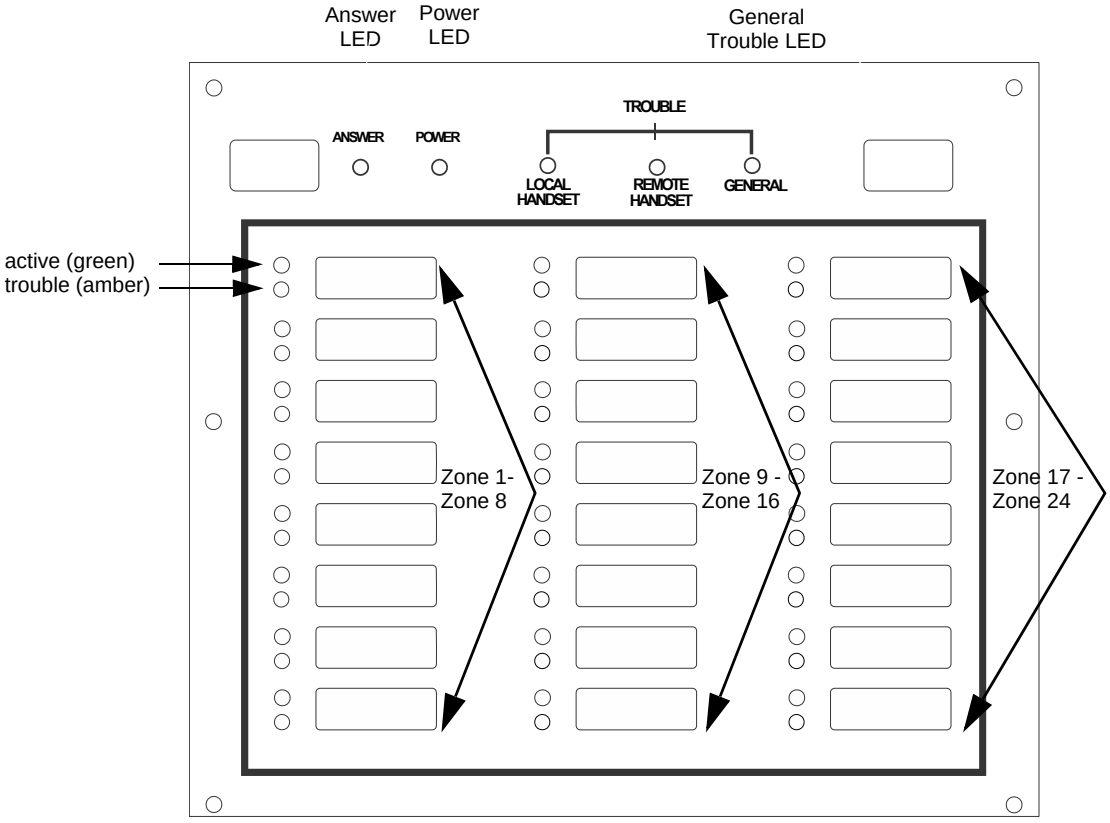


Figure 3.8 IFP-FFT Front View

3.4 Wiring Specifications

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

- Isolate the input wiring from the high current output and power wiring. Do not pull one multi-conductor cable for the entire panel. Instead, separate the wiring as follows:
  - SLC loops
  - Audio circuits
  - Relay circuit
- Do not pull the 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 the shielded cable. Twisted, shielded wire on the Audio Circuits is recommended for the maximum protection against EMI and AFI emissions and susceptibility. Connect the shield to earth ground at the panel. You must route the high and low voltages separately.
- Route the wiring around the inside perimeter of the cabinet. It should not cross the circuit board where it could induce noise into the sensitive microelectronics or pick up unwanted RF noise from the high speed circuits. See Figure 3.9 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.

3.5 Wire Routing

You must follow power-limited wiring techniques, which includes maintaining 0.25” spacing between power-limited and non-power-limited circuits, and separating high and low voltage circuits.

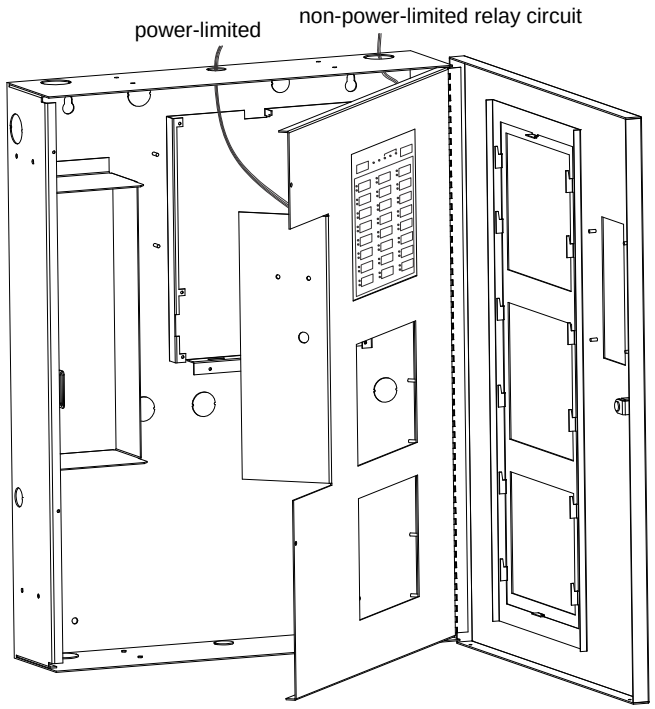


Figure 3.9 Wire Routing Example

3.6 Installing the IFP-FFT

To install the IFP-FFT:

1. Manually connect to any of the outputs that will power the IFP-FFT. (See Section 3.7). Refer to Table 1.2 for compatible powering devices.
2. Set the DIP switch ID for the IFP-FFT (See Section 3.8).

3.7 Operating Power

To install the appropriate DC power source:

1. Connect the IFP-FFT to the appropriate DC power source. See Section 2.3.1 for power requirements. For additional information on the compatible products, see Table 1.2 on page 6.
2. Use the onboard DIP switch to assign the configuration setting to the IFP-FFT. (See Section 3.8).

3.8 DIP Switch Settings on the IFP-FFT

To configure the DIP switch setting on the IFP-FFT:

1. Refer to Figure 3.7 to identify the location of the DIP switches located on the IFP-FFT board.
2. To configure the IFP-FFT module, use the JumpStart program to add it to the system. See Section 6.3 for more information on JumpStart. Table 3.1 lists the possible DIP switch configurations.

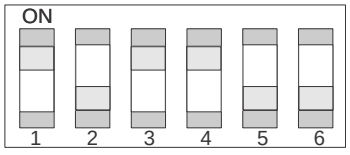


Figure 3.10 DIP Switch

DIP Switch	ON	OFF
1	SLC Devices Installed	SLC Devices not Installed
2	Trouble PZT Enabled	Trouble PZT Disabled
3	SLC Class A Supervision	SLC Class B Supervision
4	Phone Circuit Class A Supervision	Phone Circuit Class B Supervision
5	First FFT-24 Expander Installed	First FFT-24 Expander not Installed

Table 3.1 IFP-FFT DIP Switch Configurations

3.9 IFP-FFT Firefighter Telephone Module Connection

The IFP-FFT provides a connection for a single Class B or Class A Telephone Audio Circuit. Refer to Section 4 and Section 5 for examples of the audio zone configurations. A monitor module can be used to monitor the connection of the FFT-RHS (Firefighter Telephone Remote Handset) into the FFT-FPJ, which is then displayed on the IFP-FFT active zone LED during JumpStart operation.

The wiring between the monitor module and FFT-FPJ is supervised by the monitor module. A 47kW End-of-Line resistor is built into the FFT-FPJ.

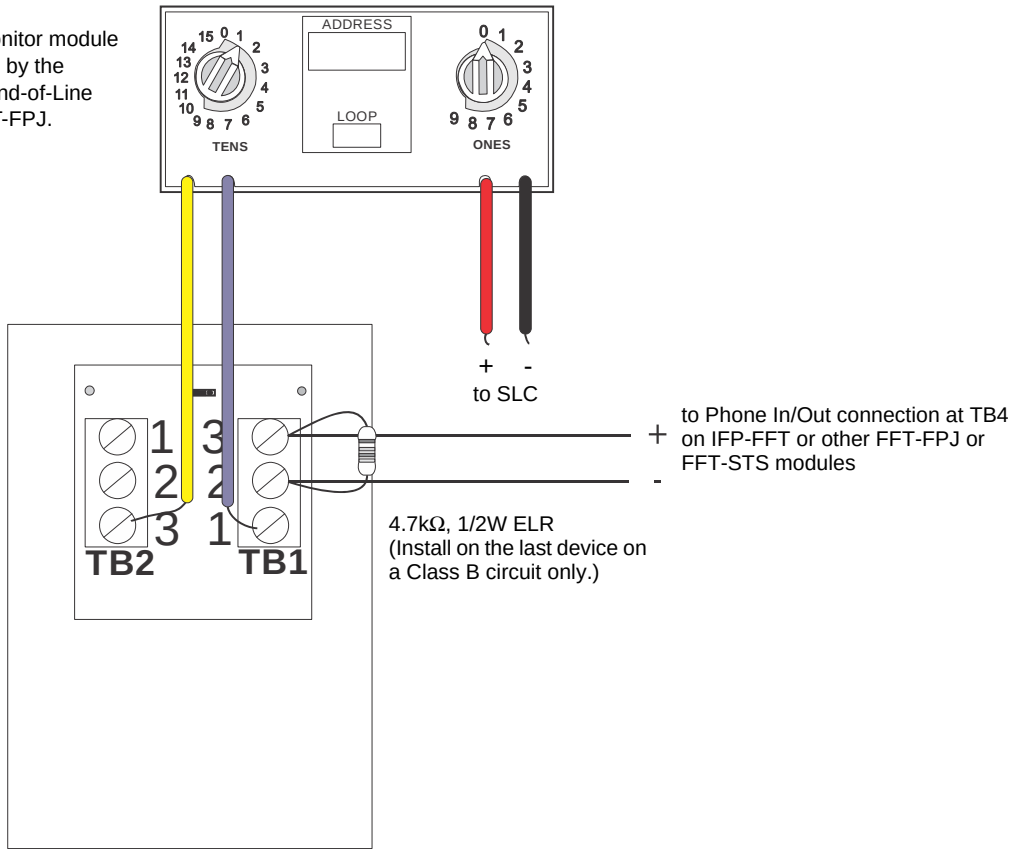


Figure 3.11 IFP-FFT Connections

3.10 FFT-24 Installation

The FFT-24 expander board is used to add 24 additional zones to the IFP-FFT

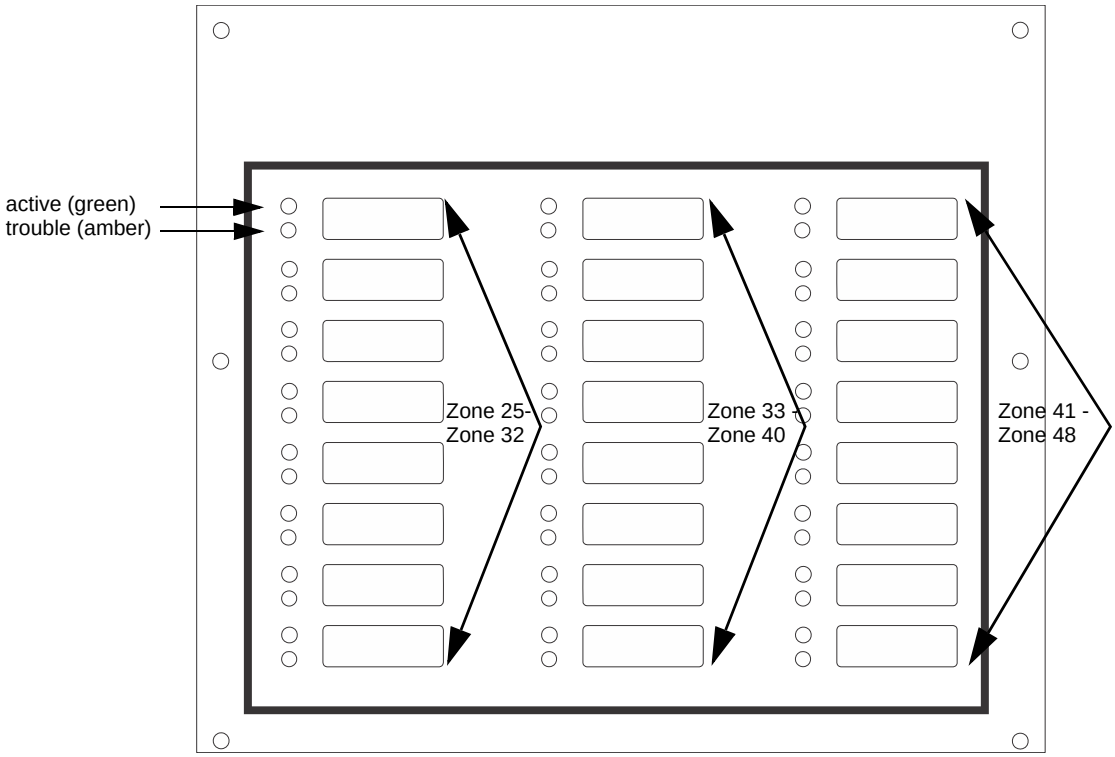


Figure 3.12 FFT-24 Expander Front View for Zone 25 - 48

A maximum of two expanders is allowed in the system.

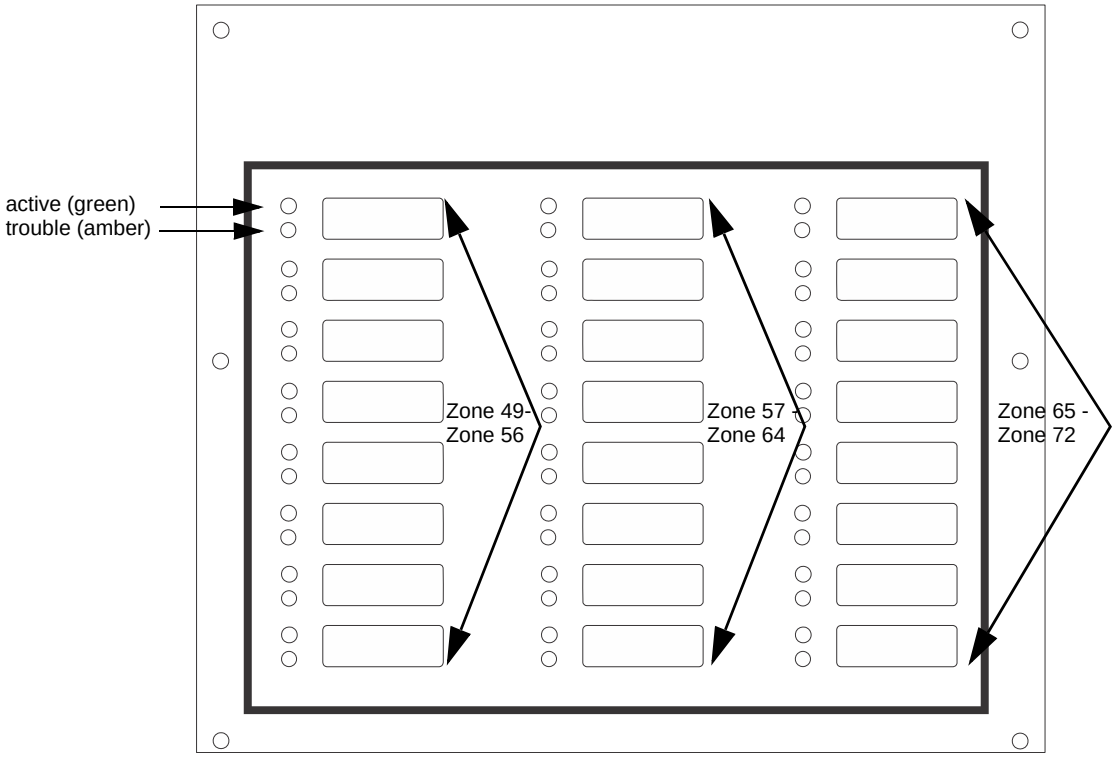


Figure 3.13 FFT-24 Expander Front View for Zone 49 - 72

To Install the FFT-24:

1. Open the cabinet door and dead front panel.
2. Disconnect power. See Table 1.2 on page 6 for compatible powering devices.
3. Remove the blank plate and discard.
4. Mount the FFT-24 on the six mounting studs located on the inside of the dead front panel.
5. Secure the FFT-24 using the nuts removed from the blank plate.

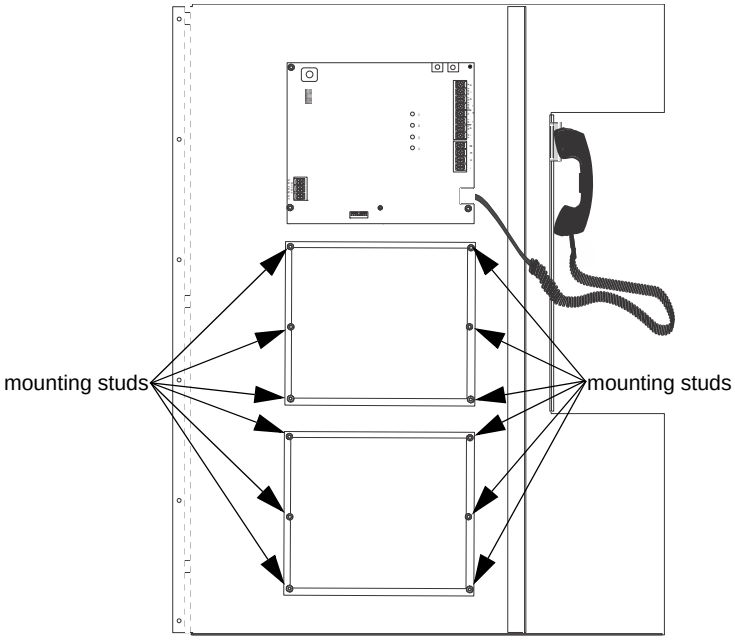


Figure 3.14 Mounting Locations for an FFT-24

6. Connect one end of the wiring harness (P/N 130398 supplied) to the IFP-FFT and the other end to the FFT-24 as shown below.

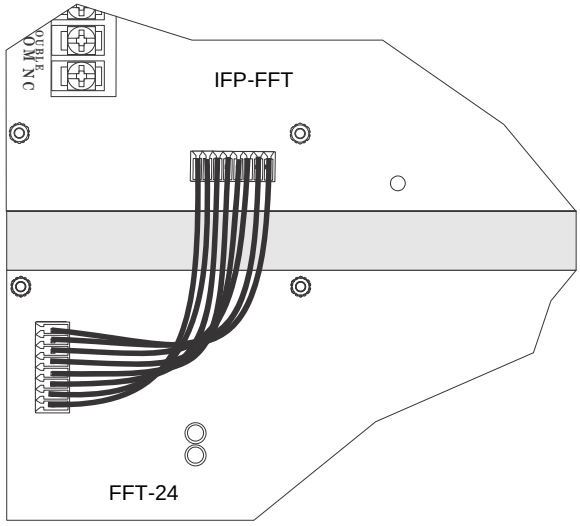


Figure 3.15 Wire Harness Connection from the IFP-FFT to an FFT-24 Zones 25- 48

7. Restore power. See Section 3.7.

3.11 FFT-FPJ Installation

The FFT-FPJ Firefighter Phone Jack mounts in a single-gang electrical box (4" x 2.125" x 2.5") or in a deep single-gang electrical box (4" x 2.125" x 3.75") if installed with an addressable mini-monitor module.

Connect the telephone audio loop between the FFT-FPJ and IFP-FFT as detailed in Figure 3.17. All circuits are power-limited and supervised.

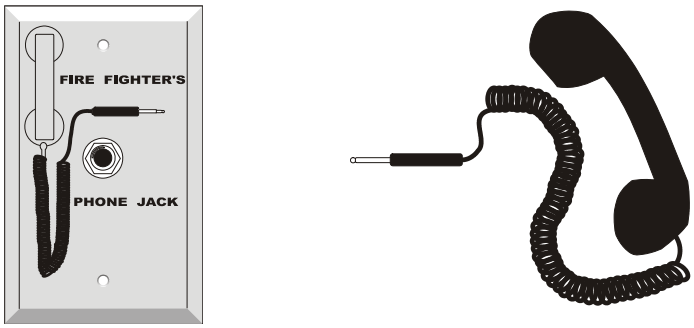


Figure 3.16 FFT-FPJ (Phone Jack) and FFT-RHS (Handset)

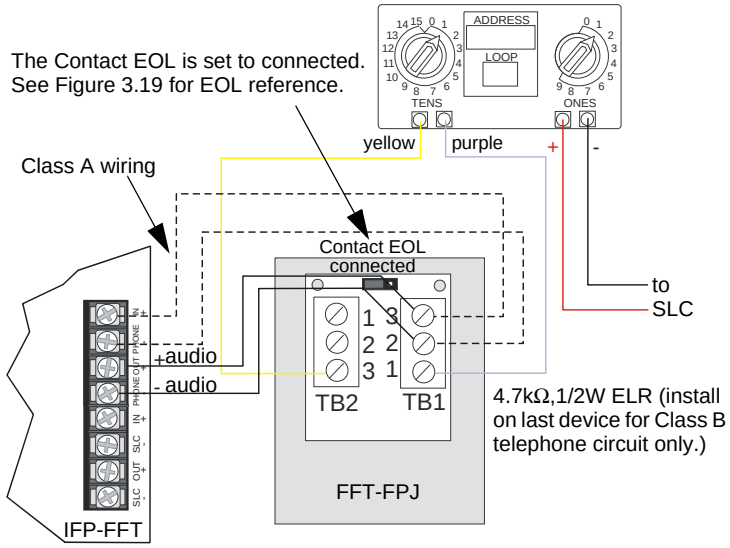


Figure 3.17 IFP-FFT to FFT-FPJ Connection

3.12 FFT-STS Installation

The Single Telephone Station includes a series of parts. The following parts are ordered separately. Up to ten remote handsets may be operated simultaneously.

- telephone chassis
- backbox
- break glass kit
- door with keylock

3.12.1 Assembly of Units with Coiled Cord Handsets

The following procedure describes the steps required to assemble the telephones with the coiled cord handsets. These steps must be accomplished once the enclosure has been mounted and the system wiring is in place.

1. Attach the system wiring to the terminal strip on the telephone chassis assembly.
2. Install the 6-32 nuts in the backbox. Do not tighten the nuts.
3. Install the telephone chassis assembly in the backbox.
4. Install the trim ring on the backbox with 6-32 wing nuts. Do not tighten.
5. Install the door assembly. Tighten the wing nuts.

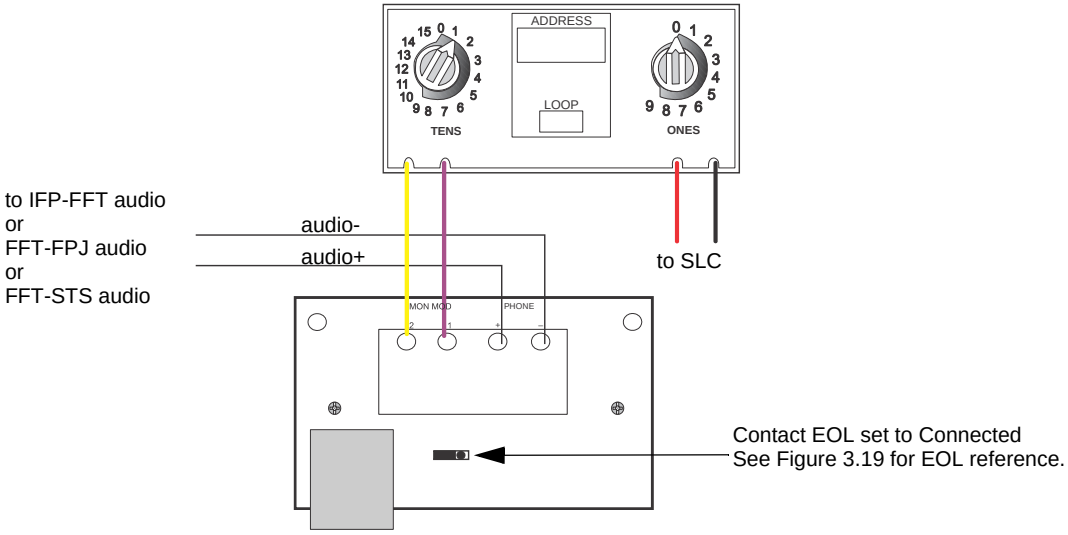


Figure 3.18 FFT-STS Telephone Connection



Figure 3.19 EOL Reference

Section 4: SLC Device Installation

CAUTION: DISCONNECT POWER

TO AVOID THE RISK OF ELECTRICAL SHOCK AND DAMAGE TO THE UNIT, POWER MUST BE OFF AT THE CONTROL PANEL WHILE INSTALLING OR SERVICING ANY EQUIPMENT.

4.1 List of SLC Devices

The following SLC devices can be used with the Firefighters Phone. See the device installation instructions (packaged with the device) and the *SLC Wiring Manual* #LS10179-000FH-E for more information.

Device	Description	Install Sheet PN
IFP-MINIMON	Mini Monitor Module	I56-3604
IFP-ISO	Fault Isolator Module	I56-3627

4.2 Maximum Number of Devices

The IFP-FFT supports up to 72 IFP-MINIMON devices on one FFT System.

Section 5: Audio Phone Circuit Installation

The IDP-FFT works with the FFT-FPJ Fire Fighters Telephone Jack.

5.1 Maximum Number of Devices

The IFP-FFT supports up to 72 zones. Each zone consists of one Addressable Monitor Module (IFP-MINIMON) and a minimum of one Fire Fighter Telephone Jack (FFT-FPJ).

5.2 Wiring Requirements for the Audio Telephone Circuit

No special wire is required for the Audio Telephone Circuit. The wire can be untwisted, unshielded, twisted, or shielded as long as it meets the National Electric code 760-51 requirements for power limited fire protective signaling cables.

54 Ohm maximum impedance - 12 to 18 AWG.

Twisted, shielded wire is recommended for maximum protection against EMI and AFI emissions and susceptibility.

If using shielded cable, attach the shield to grounding stud below TB6 of the IFP-FFT.

NOTE: Do not ground shield on both ends.

5.2.1 Single Phone Jack Audio Circuit in Class B Configuration

Figure 5.1 illustrates the single phone jack configuration wiring audio circuit and the SLC for Class B Configuration. The audio circuits must be connected to the FFT phone out terminals for all Class B audio configurations.

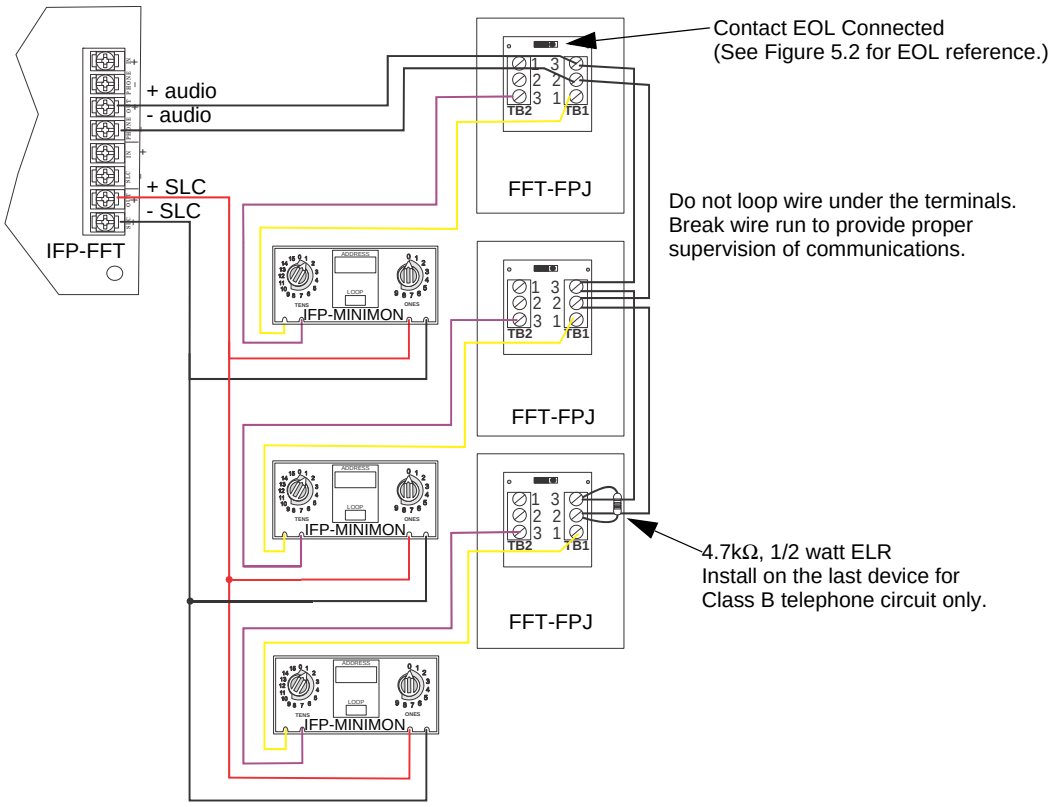


Figure 5.1 Single Phone Jack Audio Circuit Wired in Class B Configuration



Figure 5.2 EOL Reference

5.2.2 Single Phone Jack Audio Circuit in Class A Configuration

For wiring specifications, refer to Section 5.2. Figure 5.3 below illustrates the single phone jack audio circuit and the SLC wired in Class A configuration.

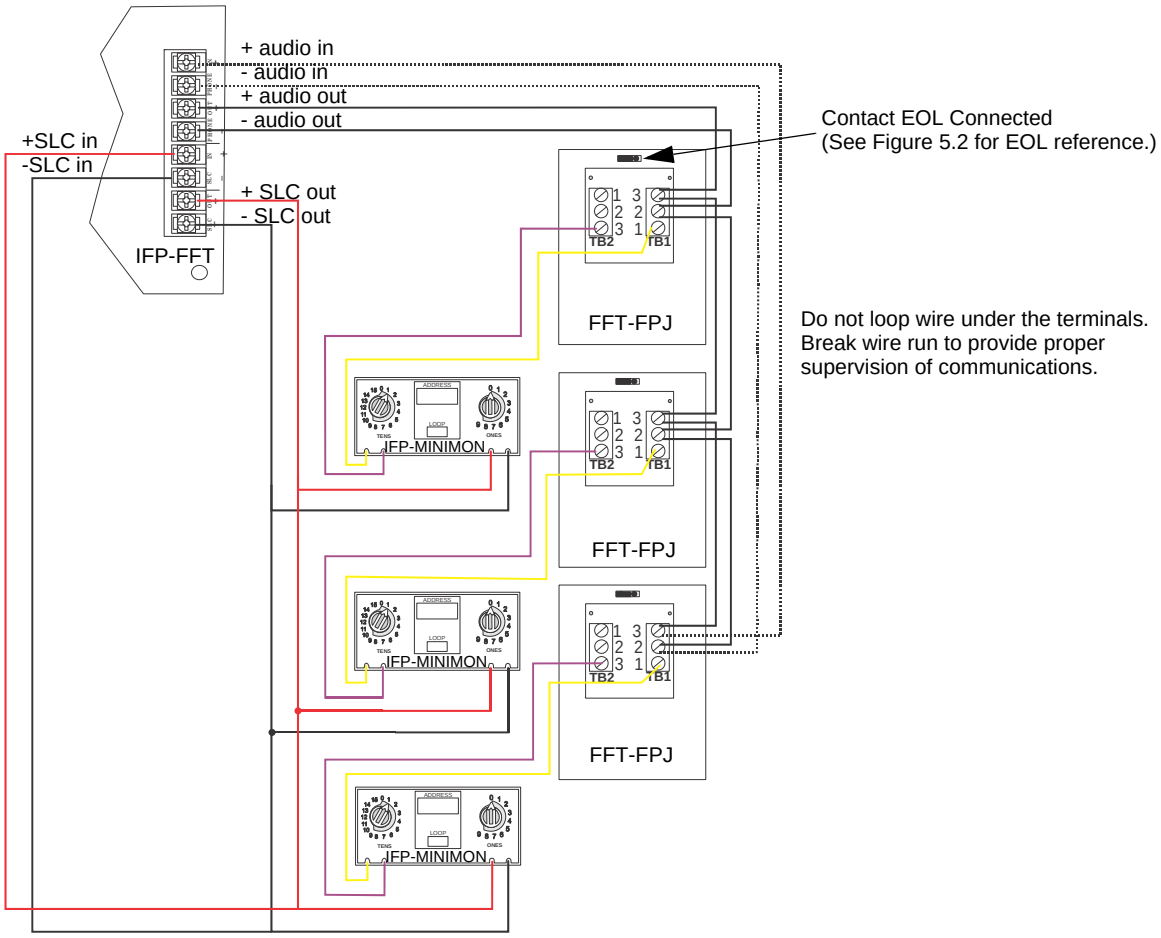


Figure 5.3 Single Phone Jack Audio Circuit Wired in Class A Configuration

5.2.3 Multi-Phone Jack Audio Circuit in Class B Configuration

For wiring specifications, refer to Section Section 5.2. Figure 5.4 illustrates how to wire the multi-phone jack audio circuit and the SLC for Class B configuration. In the multi-phone jack configuration, the maximum mini-monitor contact wiring resistance between the first and last FFT-FPJ must be less that 100 ohms.

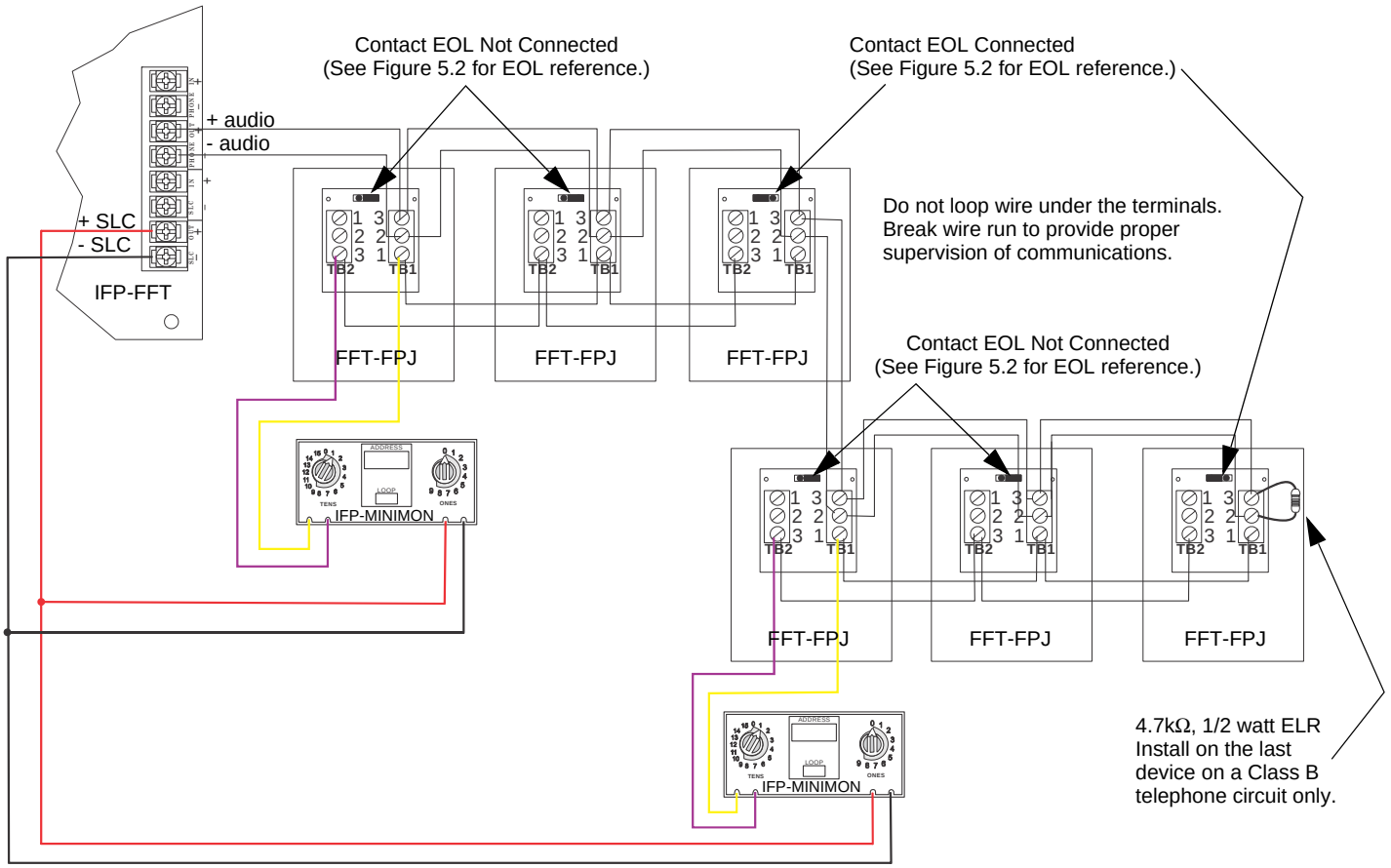


Figure 5.4 Multi-Phone Jack Audio Circuit Wired in Class B Configuration

5.2.4 Multi-Phone Jack Audio Circuit in Class A Configuration

For wiring specifications, refer to Section 5.2. Figure 5.5 illustrates how to wire the multi-phone jack audio circuit and the SLC in Class A configuration. In the multi-phone jack configuration, the maximum mini-monitor contact wiring resistance between the first and last FFT-FPJ must be less that 100 ohms.

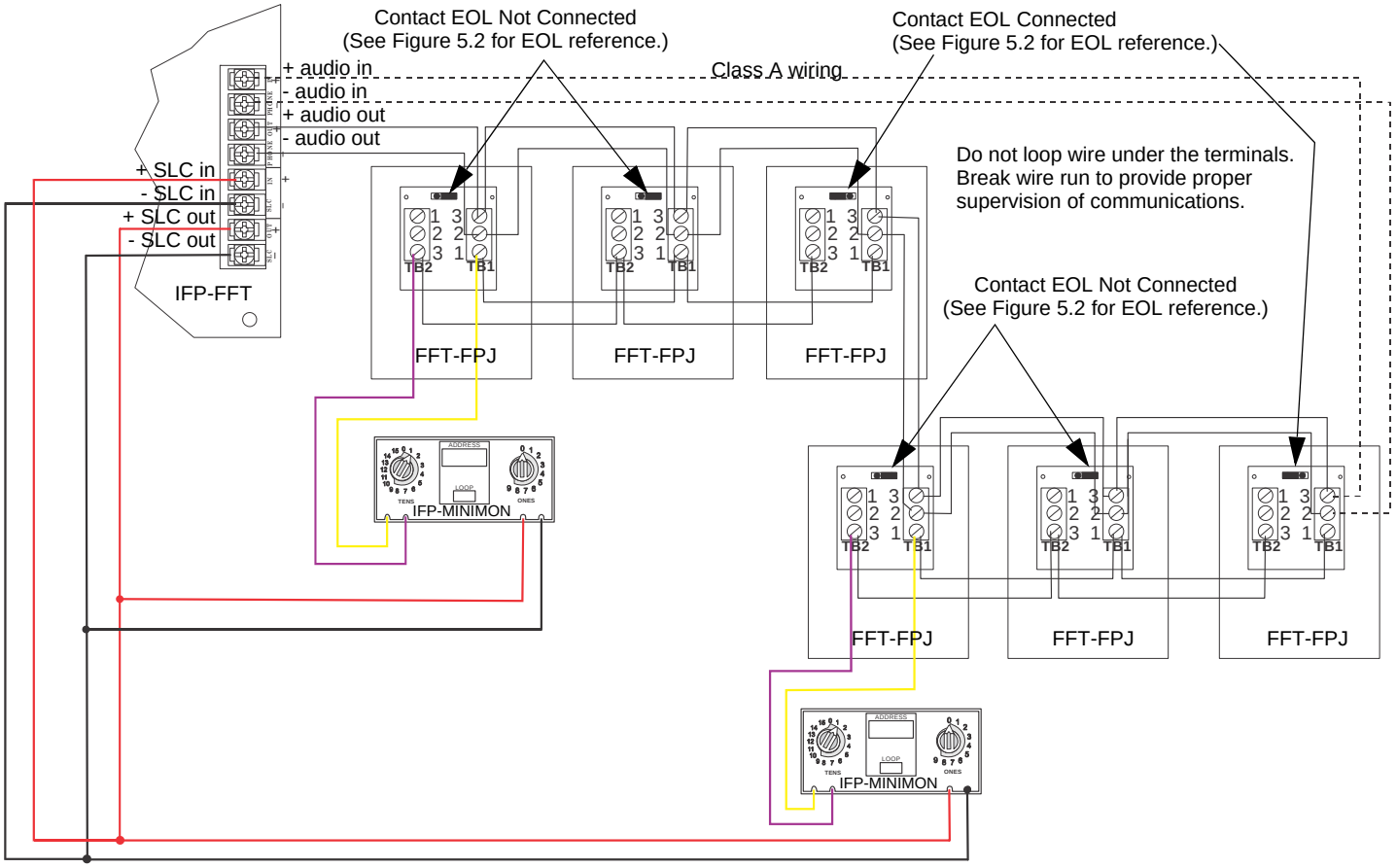


Figure 5.5 Multi-Phone Jack Audio Circuit Wired in Class A Configuration

5.2.5 Telephone Jack Only Audio Circuit

The FFT can also be configured using only the FFT-FPJ. In this configuration, the IFP-MINIMON module is not required for system operation. To configure the FFT for telephone jack only, DIP Switch position 1 must be off (SLC Devices not Installed). See Table 3.1.

Figure 5.6 and Figure 5.7 show audio wiring for this configuration.

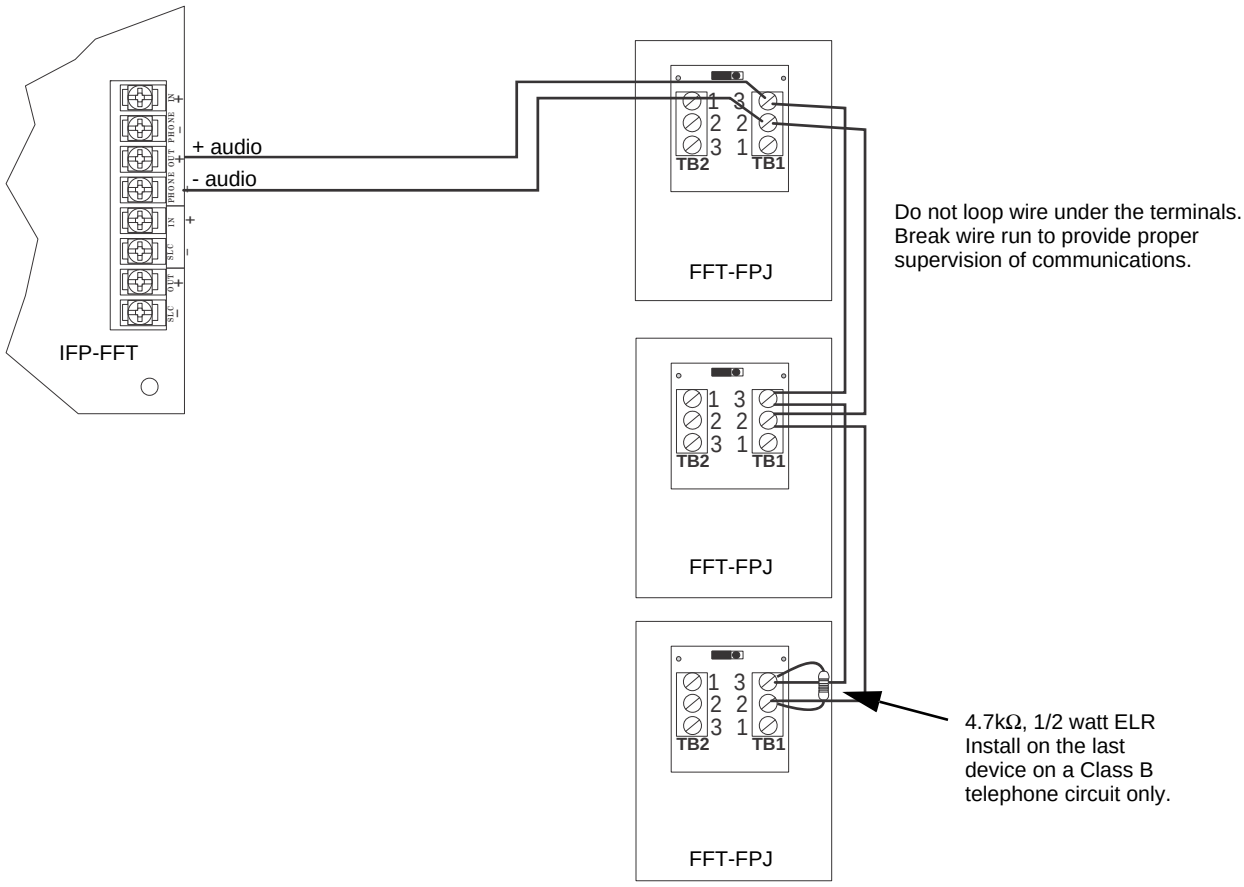


Figure 5.6 Telephone Jack Only Audio Circuit Wired in Class B Configuration

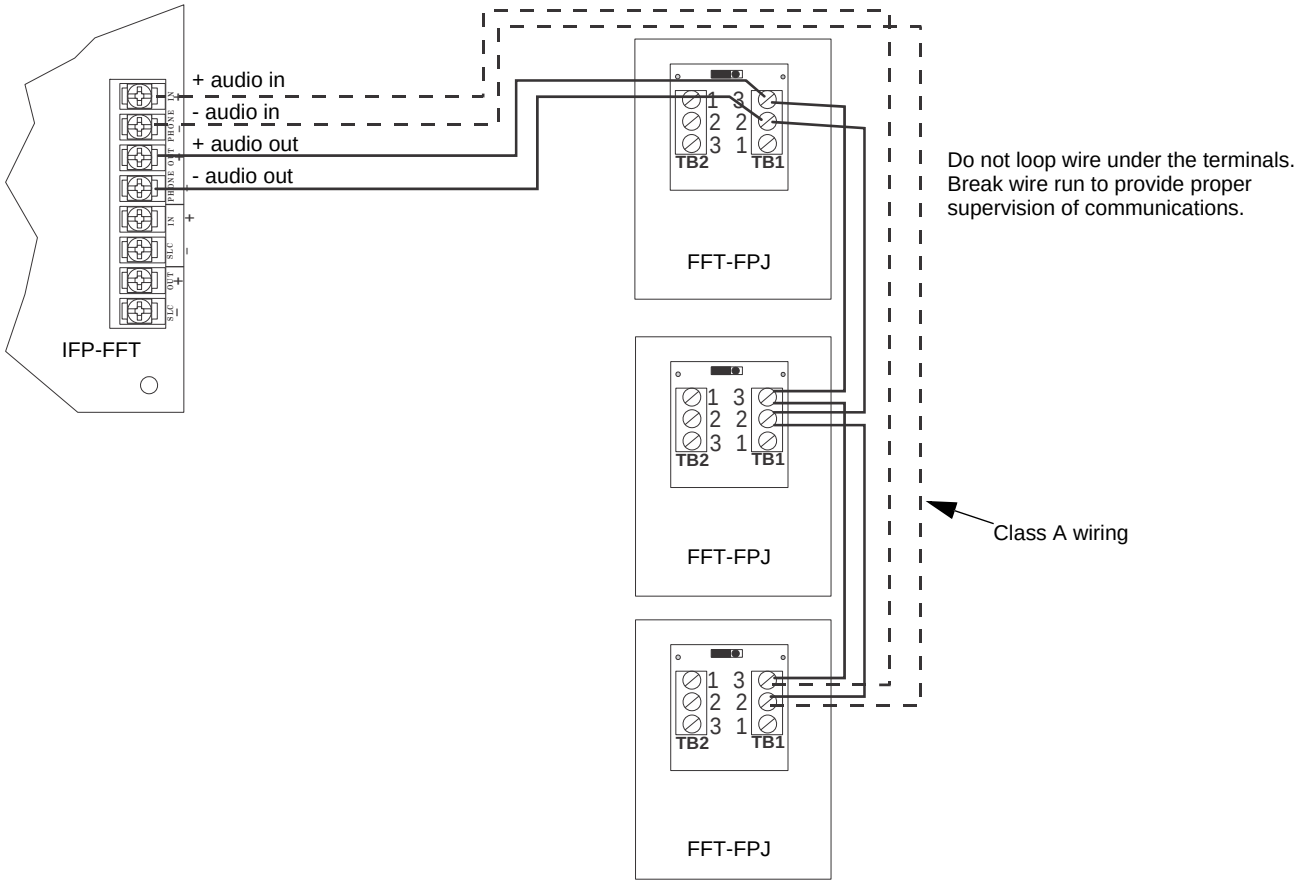


Figure 5.7 Telephone Jack Only Audio Circuit Wired in Class A Configuration

Section 6: System Operation

The operation of the IFP-FFT Fire Fighter Telephone System allows audio communication from 24 remote connections through remote handsets from a single local handset. Up to 10 remote handsets can be connected and used for the remote communication at one time. Remote audio connections can be expanded to 72 using the optional FFT-24 Zone Expander.

6.1 Keyswitch Operations

6.1.1 JumpStart Key

The JumpStart key, located on the inside of the dead front panel, will cause the FFT to search the SLC loop for devices. The Active LED (green) blinks for each zone where a device was found. Press and hold the JumpStart key for 2 seconds in order to initiate JumpStart Auto-programming.

6.1.2 Accept Key

The Accept key is used after JumpStart. It will save the current SLC device configuration and re-initialize the FFT. If you do not press the Accept key within one minute after JumpStart is complete, the configuration will be discarded and the FFT will restart.

6.1.3 Answer Switch

When a remote handset is connected to one of the FFT-FPJ phone jacks, the Answer LED will blink and the PZT will sound. Pressing the Answer switch will connect the local handset to the phone circuit, turn the Answer LED on solid, and silence the PZT. Communication between the local and remote handset is now possible. Up to six remote handsets can be connected to the phone circuit simultaneously. After the initial remote handset, the connection of additional handsets does not cause the PZT to sound or the Answer LED to blink.

6.1.4 Silence Switch

The Silenced switch is used to silence a system trouble that has occurred in the FFT system. Once pressed, the PZT will silence.

6.2 LED Operations

6.2.1 Power Status

The Power Status LED is located on the left side of the FFT board. On power-up, the Power Status LED will blink at a 50% ON/OFF rate until the FFT initialization is complete (which takes approximately 20 seconds). Once initialization is complete, the Power Status LED will blink at a 10% ON and 90% OFF rate.

No key input will be valid until the FFT completes its initialization.

6.2.2 Answer

When a remote handset connects to the audio channel, the Answer LED will blink and the PZT will sound. The operator at the FFT then picks up the local handset and presses the Answer Switch which causes the Answer LED to remain on solid and the PZT to silence. Communication between the local and the remote handset is now established. You can attach additional remote handsets to the audio connection without any intervention at the FFT. Once the last remote handset has disconnected from the FFT, the Answer LED will turn off and the system returns to normal.

6.2.3 Power

The Power LED indicates that 24 VDC is connected to the FFT.

6.2.4 Local Handset Trouble

The local Handset Trouble LED will activate and blink when there is a problem with the local handset.

6.2.5 Remote Handset Trouble

The Remote Handset Trouble LED will activate and blink when there is a problem with the phone circuit.

6.2.6 General Trouble

The General Trouble LED will blink the when system troubles are detected. When you press the Silence key, the General Trouble LED will become constant. After all system troubles are restored, the General Trouble LED will turn off.

6.2.7 Status LEDs

The following LEDs are located on the inside of the FFT dead front panel.

- LED 1 - SLC supervision (turns on when there is an open/short on the SLC or when an incorrect device type is detected)
- LED 2 - SLC extra point detected
- LED 3 - FFT-24 missing
- LED 4 - Audio circuit supervision

6.2.8 Zone Active

Each zone has an Active LED (see Figure 6.1). The Zone's Active LED will illuminate when a remote handset is plugged into that zone. The LED will turn off when the handset is removed from the zone.

6.2.9 Zone Trouble

Each zone has a Trouble LED (see Figure 6.1). The Trouble LED will blink when specific SLC issues occur, such as a missing device or double address. Pressing the Silence key will cause the Zone Trouble LED to turn on solid. Once the zone trouble is corrected, the LED will turn off.

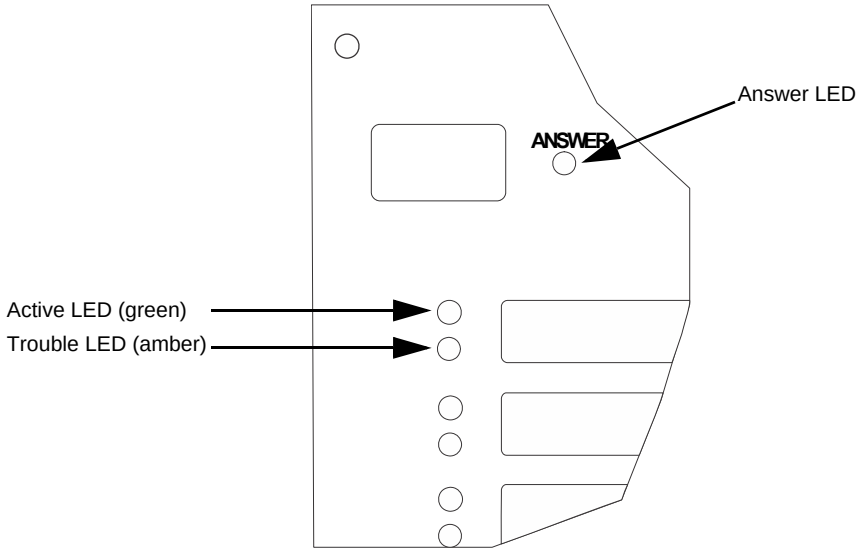


Figure 6.1 LED Operations

6.3 JumpStart Operation

The JumpStart feature will attempt to locate all SLC mini-monitor modules installed in the system, indicate all devices found on the FFT and FFT-24, and allow the user to accept the configuration, repeat the JumpStart process, or allow the configuration to be discarded. To run JumpStart:

1. Press and hold the JumpStart button for 2 seconds.
2. The FFT will search for installed SLC devices and activate the Active LEDs of all zone/point addresses found.
3. After JumpStart is complete, the first four status LEDs will blink.
4. Press the ACCEPT key to save the configuration. The FFT will restart. Or, press the JumpStart key again to repeat the SLC search process.
5. If you do not press the Accept key within one minute after JumpStart completion, the configuration will be discarded and the FFT will restart.

IFP-FFT Basic Operating Instructions

These instructions must be framed and displayed next to the IFP-FFT panel in accordance with NFPA 72 fire code for Local Protected Fire Alarm Systems. Test the system in accordance to NFPA 72. Refer to Installation Manual P/N 54708 for more information regarding this control panel.

Operation	Task to Perform
Answer Call	When the remote handset is connected to the FFT-FPJ, the Answer LED will blink and the PZT will sound. Press the Answer key and the PZT will silence. The Answer LED will be on solid and audio connection will be established between the local and remote handset.
Silence Trouble	Press the Silence key and the PZT will silence. The General Trouble LED will be on solid.
For service, call:	

Cut along dotted line.

Cut along dotted line.

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