



by Honeywell



# **E3 Series®**

## **Expandable Emergency Evacuation System Installation/Operation Manual**

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## Important Limitations

*While a fire alarm system may lower insurance rates, it is not a substitute for fire insurance!*

**An automatic fire alarm system**- typically made up of smoke detectors, heat detectors, manual pull stations, audible warning devices, and a fire alarm control panel 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.

The Manufacturer recommends that smoke and/or heat detectors be located throughout a protected premise following the recommendations of the current edition of the National Fire Protection Association, Standard 72 (NFPA 72), manufacturer's recommendations, State and local codes, and the recommendations contained in the Guide for Proper Use of System Smoke Detectors, which are made available at no charge to all installing dealers. These documents can be found at <http://www.systemsensor.co/html/applct.html>. 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, or chimneys may inhibit particle or smoke flow.
- Smoke particles may become "cold," stratify, and not reach the ceiling or upper walls where detectors are located.
- Smoke particles may be blown away from detectors by air outlets.
- Smoke particles may be drawn into air returns before reaching the detector.

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, crippling its ability to report a fire.

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

- 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 or comprehend the meaning of the signal. It is the property owner's responsibility to conduct fire drills and other training exercise 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 fire alarm system** will not operate without any electrical power. If AC power fails the system will operate from standby batteries only for a specified time and only if the batteries have been properly maintained and replaced regularly.

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

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

**The most common cause** of fire alarm malfunction is inadequate maintenance. To keep the entire fire alarm 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 monthly.

## 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. Reacceptance testing is required after any change, addition or deletion of system components, or after any modification, repair or adjustment to system hardware or wiring. All components, circuits, system operations, or software functions known to be affected by a change must be 100% tested. In addition, to ensure that other operations are not inadvertently affected, at least 10% of initiating devices that are not directly affected by the change, up to a maximum of 50 devices, must also be tested and proper system operation verified.

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

**Verify that wire sizes are adequate** for all initiating and indicating device loops. Most devices cannot tolerate more than a 10% I.R. drop from the specified device voltage.

**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.

## Survivability

Per the National Fire Alarm Code, NFPA 72, all circuits necessary for the operation of the notification appliances shall be protected until they enter the evacuation signaling zone that they serve. Any of the following methods shall be considered acceptable as meeting these requirements:

- 1) A 2-hour rated cable or cable system
- 2) A 2-hour rated enclosure
- 3) Performance alternatives approved by Authority Having Jurisdiction (AHJ).

**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.

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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 operating in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user will be required to correct the interference at his or her own expense.

## Canadian Requirements

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

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

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## Software Downloads

In order to supply the latest features and functionality in fire alarms 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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# Section 1: System Overview

## 1.1 Description

The Gamewell-FCI E3 Series<sup>®</sup> Expandable Emergency Evacuation System is a multiprocessor based analog/addressable fire alarm control panel, designed for commercial, industrial and institutional fire alarm applications. The E3 Series<sup>®</sup> is Listed by Underwriter's Laboratories under Standard UL 864, 9th Edition. It is suitable for the following signaling services:

- Automatic Fire Detector Alarm
- Manual Fire Alarm
- Waterflow Alarm
- Supervisory
- Automatic Smoke Alarm, non-coded and master coded operation
- Releasing Device Service

When the System is configured and installed under the supervision of a Gamewell-FCI factory trained and certified distributor, the E3 Series complies with the requirements of the following National Fire Protection Association (NFPA) Standards:

- NFPA 13 Installation of Sprinkler Systems
- NFPA 16 Deluge Foam - Water Sprinkler Systems
- NFPA 72 National Fire Alarm Code:
  - Central Station Fire Alarm Systems
  - Local Fire Alarm Systems
  - Auxiliary Fire Alarm Systems
  - Remote Station Fire Alarm Systems
  - Proprietary Fire Alarm Systems

## 1.2 Standard Features

- Two (2), Class A, Style 6, 7\* or Class B, Style 4 Signaling Line Circuits
- Two (2), Class A, Style Z or Class B, Style Y Notification Appliance Circuits, 2.0 amp each
- Alarm, Trouble and Supervisory dry contacts
- Accommodates 159 Gamewell-FCI Approved, UL<sup>®</sup> Listed compatible analog sensors per signaling line circuit (ILI-MB-E3 or ILI-S-E3 only).
- Accommodates 159 Gamewell-FCI Approved, UL Listed compatible addressable monitor/control devices per signaling line circuit (ILI-MB-E3 or ILI-S-E3 only)
- Accommodates 126 Gamewell-FCI Approved, UL Listed compatible sensors/modules per signaling line circuit (ILI95-MB-E3 or ILI95-S-E3 only)
- 80-character alphanumeric LCD display (40 characters user-defined)  
4100 event history buffer (non-volatile)
- Power-limited
- Resettable/non-resettable 2.0 amp @ 24 VDC power output each
- Alarm verification
- Walk test
- Multi-level alarm processing
- Positive Alarm Sequence (PAS) operation
- NAC coding
- Trouble reminder
- Integral RS-232 port
- ANX network interface communicates between the E3 Series fire alarm control panel and the FocalPoint Graphic Workstation

\*Style 7 operation requires System Sensor, M500X Isolator Module (ILI-MB-E3 or ILI-S-E3) or XP95-LI Line Isolator and XP95-LIB Line Isolator Base (ILI95-MB-E3 or ILI95-S-E3).

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### 1.2.1 Optional Features

- Remote DACT-E3 Digital Alarm Communicator Transmitter
- RPT-E3 ARCNET Repeater
- Remote ANU-48 Remote LED Driver
- Remote ASM-16 Addressable Switch Sub-assembly
- Remote Network Graphic Display
- LCD-7100 Remote LCD Display

## 1.3 System Components

### 1.3.1 Control and Indicator Sub-Assembly (LCD-E3)

The LCD-E3 provides an LCD display for system status, and the following Switches and LED indicators:

- Alarm Acknowledge
- Trouble Acknowledge
- Signal Silence
- System Reset/Lamp test
- Programming buttons
  - Menu/Back
  - Back Space/Edit
  - OK
- 12 button keypad

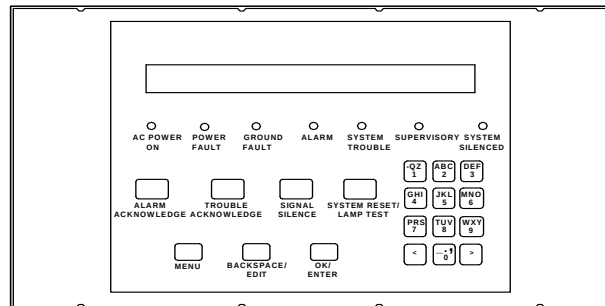


Figure 1.3.1.1 Switch Control Panel

#### LED Indicators

- |                           |                            |
|---------------------------|----------------------------|
| • AC Power On (green)     | • Power Fault (yellow)     |
| • Alarm (red)             | • Ground Fault (yellow)    |
| • Supervisory (yellow)    | • System Silenced (yellow) |
| • System Trouble (yellow) |                            |

The ILI-MB-E3 or ILI95-MB-E3 can support up to six (6), LCD-E3 sub-assemblies, any or all of which may be remotely located via the local RS-485 serial interface.

### 1.3.2 Intelligent Loop Interface - Main Board (ILI-MB-E3)

These units are the main operating sub-assembly for the E3 control. The units provide two (2), signaling line circuits and terminals for the connection of all sub-assemblies. Each unit can support an LCD-E3, DACT-E3 and up to a total of sixteen (16), ASM-16 and/or ANU-48 sub-assemblies. The units occupy one node on the Broadband network. The Alarm signals lock-in. The Supervisory Signals can be either locked-in or not locked-in, depending on the CAMWorks™. Trouble signals do not lock-in. The following sensors and modules are used with each unit.

- The ILI-MB-E3 accommodates the ASD/ATD Series sensors and AMM/MMI/AOM/MMO Series modules.

For a comprehensive list, refer to the *Compatibility Addendum to Gamewell-FCI Manuals*, P/N 9000-0427.

- **Municipal Connection/Releasing Output**

The ILI-MB-E3 provides a non power-limited output for a local energy City Master Box or a Releasing Solenoid.

For a comprehensive list, refer to the *Compatibility Addendum to Gamewell-FCI Manuals*, P/N 9000-0427.

- **Audible Sounder**

An Alarm/Trouble/Supervisory sounder is located on the ILI-MB-E3.

### 1.3.3 Intelligent Loop Interface XP95 - Main Board (ILI95-MB-E3)

These units are the main operating sub-assembly for the E3 control. The units provide two (2), signaling line circuits and terminals for the connection of all sub-assemblies. Each unit can support an LCD-E3, DACT-E3 and up to a total of sixteen (16), ASM-16 and/or ANU-48 sub-assemblies. The units occupy one node on the Broadband network. Alarm signals lock-in. The Supervisory Signals can be either locked-in or not locked-in, depending on the CAMWorks™. Trouble signals do not lock-in. The following sensors and modules are used with each unit.

- The ILI95-MB-E3 accommodates the Apollo Series of sensors and modules.

For a comprehensive list, refer to the *Compatibility Addendum to Gamewell-FCI Manuals*, P/N 9000-0427.

- **Municipal Connection/Releasing Output**

The ILI95-MB-E3 provides a non power-limited output for a local energy City Master Box or Releasing Solenoid.

For a comprehensive list, refer to the *Compatibility Addendum to Gamewell-FCI Manuals*, P/N 9000-0427.

- **Audible Sounder**

An Alarm/Trouble/Supervisory sounder is located on the ILI95-MB-E3.

### 1.3.4 Addressable Node Expander (ANX)

The Addressable Node Expander (ANX) is a network interface sub-assembly that communicates between the Gamewell-FCI E3 Series fire alarm control panel and the FocalPoint Graphic Workstation. This interface allows the E3 Series System to expand networks to a minimum of 122 nodes and allows Ethernet Connectivity.

For additional information on the ANX, refer to the *ANX Installation Instructions*, P/N 9001-0064.

For additional information on the Ethernet connection to the FocalPoint panels, refer to the following Manuals:

- *FocalPoint Gateway-3 Embedded Installation & Operation Manual*, P/N 53373 Rev B
- *ONXYWORKS FocalPoint GATEWAY Embedded Installation & Operation Manual*, P/N 53182 Rev C

### 1.3.5 Power Supply - 9 Amperes (PM-9/PM-9G)

The PM-9/PM-9G is a 9 ampere regulated power supply with a battery charger that provides operating power to the panel. The battery charger can maintain batteries up to 55 A/H (with an external battery cabinet). (Batteries not furnished).

## 1.4 Optional Modules

The following subsections list the optional sub-assemblies and features.

### 1.4.1 Addressable Switch Sub-Assembly (ASM-16)

The ASM-16 is a configurable switch input sub-assembly with 16 switches and 48 status LEDs. It may be remotely located via the RS-485 serial interface. Each switch address is fully software programmable to serve as:

- A System Control Switch; Reset, Silence, Alarm and Trouble Acknowledge, etc.
- A Voice Evacuation Speaker Circuit control switch
- A Fire Fighter Communication Circuit control switch
- An Auxiliary Control Circuit switch
- A status indicating LED, red, green, and yellow
- A status indicating LED, labeled to display, “Command Center in Control”

### 1.4.2 Digital Alarm Communicator Transmitter (DACT-E3)

The DACT-E3 provides an integral, remote Digital Alarm Communicator Transmitter (DACT). It is fully programmable from the keypad, which is compatible with Digital Alarm Communicator Receivers (DACRs) that can receive the following formats:

- SIA DC8
- SIA DCS20
- Ademco Contact ID
- 3+1 1400 Hz
- 3+1 2300 Hz
- 4+2 1400 Hz
- 4+2 2300 Hz

The DACT-E3 can be remotely located via the local RS-485 serial interface.

### 1.4.3 Repeater (RPT-E3)

The RPT-E3 sub-assembly provides a remote interface between the ILI-MB-E3, ILI95-MB-E3, and/or ANX, and the Broadband Network. The unit can be used with unshielded, twisted-pair wire or fiber-optic cable as the Model (RPT-E3-FO). The Model (RPT-E3-UTP) is used with only twisted-pair.

### 1.4.4 Intelligent Loop Interface - Slave Board (ILI-S-E3)

These sub-assemblies provide two (2), additional signaling line circuits. The units are physically identical to the ILI-MB-E3 except some components are omitted. Each unit occupies one node on the Broadband network. The following sensors and modules are used with each unit.

- The ILI-S-E3 accommodates the ASD/ATD Series sensors and AMM/MMI/AOM/MMO Series modules.

For a comprehensive list, refer to the *Compatibility Addendum to Gamewell-FCI Manuals*, P/N 9000-0427.

- **Audible Sounder**

An Alarm/Trouble/Supervisory sounder is located on the ILI-S-E3.

### 1.4.5 Intelligent Loop Interface XP95 - Slave Board (ILI95-S-E3)

These sub-assemblies provide two (2), additional signaling line circuits. The units are physically identical to the ILI95-MB-E3 except some components are omitted. Each unit occupies one node on the Broadband network. The following sensors and modules are used with each unit.

- The ILI95-S-E3 accommodates the Apollo Series of sensors and modules.

For a comprehensive list, refer to the *Compatibility Addendum to Gamewell-FCI Manuals*, P/N 9000-0427.

- **Audible Sounder**

An Alarm/Trouble/Supervisory sounder is located on the ILI95-S-E3.

### 1.4.6 Addressable Node Expander (ANX)

The ANX (Addressable Node Expander) is a network interface sub-assembly component of the Gamewell-FCI, E3 Series® fire alarm control panel. The ANX network interface communicates between the E3 Series fire alarm control panel and the FocalPoint Graphic Workstation. There are three types of ANX sub-assemblies:

- Addressable Node Expander - Single Ring (ANX-SR)
- Addressable Node Expander - Multi-Ring Twisted Pair (ANX-MR-UTP)
- Addressable Node Expander - Multi-Ring Fiber Optic (ANX-MR-FO)

Each of the three ANX sub-assemblies provides Ethernet connectivity via a 10/100Mbps Ethernet port using the Micro Internet Protocol (uIP™) firmware module. For additional information on the ANX and the Micro Internet Protocol (uIP™) firmware module, refer to Section 3.7.

### 1.4.7 Remote LED Driver (ANU-48)

The ANU-48 LED Driver provides output for up to forty-eight (48), remote LEDs. The ILI-MB-E3 and ILI95-MB-E3 will support up to a total of sixteen (16), ANU-48 and/or ASM-16 units. The ANU-48 can be remotely located via the RS-485 serial interface.

### 1.4.8 LCD Network Graphic Annunciator (NGA)

The NGA mounts in the E3 Series enclosure or it may be remotely located. It provides an LCD display of system events, together with system status indicating LEDs and touch-screen switches for Alarm Acknowledge, Trouble Acknowledge, Signal Silence and System Reset. The NGA occupies one node on the Broadband network. The background display can be programmed to display, “Command Center in Control.”

### 1.4.9 Remote LCD Display (LCD-7100)

The LCD-7100 Remote LCD Display provides an 80-character display and function keys for the following:

- “Alarm Acknowledge”
- “System Reset/Lamp Test”
- “Trouble Acknowledge”
- “System Drill Test”
- “Signal Silence”

It features a key switch that renders the keypad inoperative until activated. The E3 Series System can support up to five (5), LCD-7100 displays. The 80-character display shows all pertinent information except for menus.

### 1.4.10 Intelligent Network Interface – Voice Gateway (INI-VG Series)

The INI-VG Voice Gateway provides a network interface for the E3 Series Expandable Emergency Evacuation System.

- The INI-VGC-FO or INI-VGC-UTP is used in conjunction with the Voice Evacuation Command Center (INCC-C).
- The INI-VGX-FO or INI-VGX-UTP is used with the E3 Series® Broadband System.
- The INI-VGE-FO or INI-VGE-UTP is used with the E3 Series® Classic System.

Each of the INI-VG Series sub-assemblies occupy one node on the Broadband Network.

### 1.4.11 AM-50 Series, 50 Watt Amplifiers

The AM-50 Series amplifiers include an AM-50-25 and a AM-50-70 amplifier. Each AM-50 Series amplifier includes two (2), supervised channel outputs and an auxiliary audio input that can be used for a backup amplifier connection. The amplifiers provide 50 watts of audio transmitted through two (2), integral Class A/B speaker circuits. Each amplifier's supervised output can drive up to 50 watts. The following describe each AM-50 Series amplifier.

#### (AM-50-25)

The AM-50-25 amplifier is a 50-watt Class D switching type audio output amplifier, with a standard voltage for audio output of  $25V_{RMS}$ .

#### (AM-50-70)

The AM-50-70 amplifier is a 50-watt Class D switching audio output amplifier, with a standard voltage for audio output of  $70.7V_{RMS}$ .

The AM-50 Series amplifiers may be installed in an INX or an INX CAB-B cabinet whenever the E3 control is used in conjunction with the E3 Series, Expandable Emergency Evacuation System. Up to four (4), AM-50 Series amplifiers can be controlled by an INI-VGX Voice Gateway.

For additional information, refer to the *AM-50 Series Installation Instructions*, P/N 9000-0544

## 1.5 Specifications

### 1.5.1 Power Supply (PM-9/PM-9G)

The following are the specifications for the PM-9 and PM-9G power supply sub-assemblies.

| Specifications                                                                                                                                                                                                                | PM-9                                                                                                          | PM-9G                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| <b>Input Voltage:</b>                                                                                                                                                                                                         | 120 VAC, 60 Hz                                                                                                | 240 VAC @ 50/60 Hz                                                                                             |
| <b>Input Current:</b>                                                                                                                                                                                                         | 4.6 amps max. @ 120 VAC 60 Hz                                                                                 | 2.4 amps max.                                                                                                  |
| <b>Output Voltage:</b>                                                                                                                                                                                                        | 24 VDC FWR                                                                                                    | 24 VDC FWR                                                                                                     |
| <b>Output Current:</b>                                                                                                                                                                                                        | 9 amperes Alarm max. continuous                                                                               | 9 amperes Alarm max. continuous                                                                                |
| <b>Output Current:</b>                                                                                                                                                                                                        | 5 amperes max. continuous Standby (when the PM-9 is used with the ILI-E3 or the ILI95-E3 Series) (See Note 1) | 5 amperes max. continuous Standby (when the PM-9G is used with the ILI-E3 or the ILI95-E3 Series) (See Note 1) |
| <b>Output Current</b>                                                                                                                                                                                                         | 4 amperes max. continuous Standby (when the PM-9 is used with any AM-50 Series amplifier) (See Note 2)        | 4 amperes max. continuous Standby (when the PM-9G is used with any AM-50 Series amplifier) (See Note 2)        |
| <b>Operating Temperature:</b>                                                                                                                                                                                                 | 32° to 120° F (0° to 49° C)                                                                                   | 32° to 120° F (0° to 49° C)                                                                                    |
| <b>Relative Humidity:</b>                                                                                                                                                                                                     | 0 to 93%, non-condensing at 90° F (32° C)                                                                     | 0 to 93%, non-condensing at 90° F (32° C)                                                                      |
| <b>Supervised</b>                                                                                                                                                                                                             |                                                                                                               |                                                                                                                |
| <b>Non Power-Limited</b>                                                                                                                                                                                                      |                                                                                                               |                                                                                                                |
| <b>NOTE 1:</b> Continuous standby loads in excess of .560 Amps up to 5 Amps may require a Generator Backup or load shedding during an AC power failure. See Section 3.15 (Standby Battery Calculations Chart) in this Manual. |                                                                                                               |                                                                                                                |
| <b>NOTE 2:</b> Continuous standby loads in excess of .560 Amps up to 4 Amps may require a Generator Backup or load shedding during an AC power failure. See Section 3.15 (Standby Battery Calculations Chart) in this Manual. |                                                                                                               |                                                                                                                |

**Table 1.5.1.1 PM-9/PM-9G Specifications**

### 1.5.2 Signaling Line Circuits (ILI-E3 or ILI95-E3 Series)

- Two (2), Class “A”, Style 6, 7,\* or Class “B” Style 4 circuits
- 24 VDC nominal
- Power-limited
- Supervised
- 40 Ohm max. line impedance
- 0.5 µf max. capacitance
- Capacity of 159 analog sensors and 159 addressable devices per circuit (ILI-MB-E3 or ILI-S-E3)
- Capacity of 126 sensors/modules per circuit (ILI95-MB-E3 or ILI95-S-E3)

\*Style 7 operation requires System Sensor, M500X Isolator Module (ILI-MB-E3 or ILI-S-E3) or XP95-LI Line Isolator and XP95-LIB Line Isolator Base (ILI95-MB-E3 or ILI95-S-E3).

Refer to the *Compatibility Addendum to Gamewell-FCI Manuals, P/N 9000-0427*, Section 1 for a list of UL Listed, compatible sensors/modules.

### 1.5.3 Notification Appliance Circuits (ILI-MB-E3 or ILI95-MB-E3)

- Two (2), Class “A”, Style Z, or Class “B” Style Y circuits.
- Power-limited
- Supervised
- Non-coded
- Maximum alarm load - 2.0 amp per circuit

Refer to the *Compatibility Addendum to Gamewell-FCI Manuals, P/N 9000-0427*, Section 2 for a list of UL Listed, compatible notification appliances.

### 1.5.4 Alarm Dry Contacts (ILI-MB-E3 or ILI95-MB-E3)

- Form “C”
- Rated 2 amp @ 30 VDC (resistive)

### 1.5.5 Trouble Dry Contacts (ILI-MB-E3 or ILI95-MB-E3)

- Form “C”
- Rated 2 amp @ 30 VDC (resistive)

### 1.5.6 Supervisory Dry Contacts (ILI-MB-E3 or ILI95-MB-E3)

- Form “C”
- Rated 2 amp @ 30 VDC (resistive)

### 1.5.7 Earth Ground Connection (ILI-MB-E3 or ILI95-MB-E3)



---

**CAUTION: EARTH GROUND CONNECTION REQUIREMENT**

TERMINAL TB3-3 MUST BE CONNECTED TO AN EARTH GROUND CONNECTION PER ARTICLE 760 OF THE NATIONAL ELECTRIC CODE. FAILURE TO MAKE PROPER EARTH GROUND CONNECTION TO A METALLIC COLD WATER PIPE OR DRIVEN GROUND ROD TO THIS TERMINAL WILL RESULT IN THE LOSS OF LIGHTNING PROTECTION, REDUCE THE TOLERANCE OF THE SYSTEM TO TRANSIENTS, AND WILL ADVERSELY AFFECT THE OPERATION OF THE SYSTEM. PANEL NEUTRAL OR CONDUIT GROUND IS NOT ACCEPTABLE, MINIMUM WIRE SIZE IS 14 AWG.

---

### 1.5.8 24 VDC Power, System (ILI-MB-E3 or ILI95-MB-E3)

- Unregulated FWR
- Resettable and non-resettable, 2.0 amp maximum per each circuit, 2.5 amp maximum combined
- Unsupervised
- Power-limited

### 1.5.9 RS-232 Port

The RS-232 port consists of the Terminal Block TB6 which provides a standard serial port for the connection to a Listed output device for a supplementary type service. Typical examples of such devices include any UL Listed EDP device (remote printer or video terminal), any UL Listed Signaling Device (such as the Keltron VS4095/5 printer), or any UL Listed Signal System Unit.

Ratings: 15 VDC (max.)

.05 amp (max.) current

115.2 K baud

8 bits, 1 stop bit, no parity

### 1.5.10 Battery Connection (PM-9/PM-9G)

- Supervised
- 24 VDC nominal
- Maximum battery size 55 AH (with an external battery cabinet)
- 1.7 Amp maximum battery charge current
- Non power-limited

### 1.5.11 City Master Box Output (ILI-MB-E3 or ILI95-MB-E3)

Voltage: 24 VDC (Nominal) FWR  
Supervisory Current: .0018 amp  
Alarm Current: .510 amp (max.)  
Box Trip Coil Resistance: 14.5 Ohms (max.)  
Line Resistance: 35 Ohms (max.)  
Supervised against Opens and Grounds  
Non Power-limited

### 1.5.12 Remote Signaling Output (Polarity Reversal) (ILI-MB-E3 or ILI95-MB-E3)

Voltage: 24 VDC (nominal) FWR  
Supervisory Current: .012 amp  
Alarm Current: .012 amp  
Line Resistance: 2 ohms (max.)  
Supervised against Opens and Grounds  
Non Power-limited

### 1.5.13 Releasing Service (ILI-MB-E3 or ILI95-MB-E3)

Voltage: 24 VDC (Nominal) FWR  
Supervisory Current: .0005 amp  
Alarm Current: .700 amp (max.)  
Line Resistance: 2 Ohms (max.)  
Supervised against Opens and Grounds  
Non Power-limited

Refer to the *Compatibility Addendum to Gamewell-FCI Manuals, P/N 9000-0427, Section 3* for a list of UL Listed, compatible releasing solenoids.

# Section 2: Installation

## 2.1 General

The E3 Series<sup>®</sup> System is a modular system and is shipped unassembled. The backbox, doors, and sub-assemblies are individually packaged and can be easily assembled.

## 2.2 Installation Requirements

All components of the E3 Series<sup>®</sup> System should be located per the following requirements:

- Installations are to be indoors only, in dry locations, protected from rain, water, and rapid changes in temperature that could cause condensation. Equipment must be securely mounted on rigid, permanent walls.
- Operating temperature shall not exceed the range of 32° to 120° F (0 to 49° C).
- Operating humidity not to exceed 93% non-condensing at 90° F (32° C).
- There should be adequate space around the installation to allow easy access for operation and servicing.
- All sub-assemblies and components are to be located in compliance with local and national codes.
- All installation field wiring shall be in compliance with local and national codes.

## 2.3 Unpacking and Inspecting Components

Remove all sub-assemblies and accessories from their shipping cartons to access the enclosure. Remove and inspect the enclosure for shipping damage. Inspect all electronic sub-assemblies for damage without removing them from their anti-static protective bags. If any pieces are found damaged, notify the shipping carrier immediately. Report missing components to the Gamewell-FCI Customer Service.

## 2.4 Mounting Sub-assemblies

1. The ILI-MB-E3, ILI95-MB-E3 and/or ANX consist of a main operating board with pluggable terminal strips. Install this sub-assembly immediately unless any optional units are to be used in the system. Refer to the Installation Instructions P/N 9000-0579, P/N 9001-0017 and 9001-0064. Before installing the ILI-MB-E3, ILI95-MB-E3 and/or ANX into the system backbox, refer to the Installation Instructions shipped with each sub-assembly for the proper procedures:
2. Install the door after the sub-assemblies are in place. Note that the door can only be installed (or removed) when it is opened at least 90° from the backbox.

## 2.5 Cabinets

The E3 control panel may be assembled in various cabinet configurations to suit the installation. Typical arrangements are shown. The following are the cabinet options:

- Cabinets A1 and A2
- Cabinet A (remote)
- Cabinet B
- Cabinet C
- Cabinet D
- B-Slim Cabinet

### E3 Inner Door Bonding Strap



**NOTE:** Electrical continuity for grounding of the inner door of the cabinets is ensured by a bonding wire.

### 2.5.1 Cabinet A1, Installation Instructions

The E3 Series<sup>®</sup> Cabinet A1, assembly typically includes the following:

- Backbox
  - Cabinet A1, Trim Rings (Optional Accessory)
- Outer Door
- Inner Door:
  - unit
- Hardware Kit

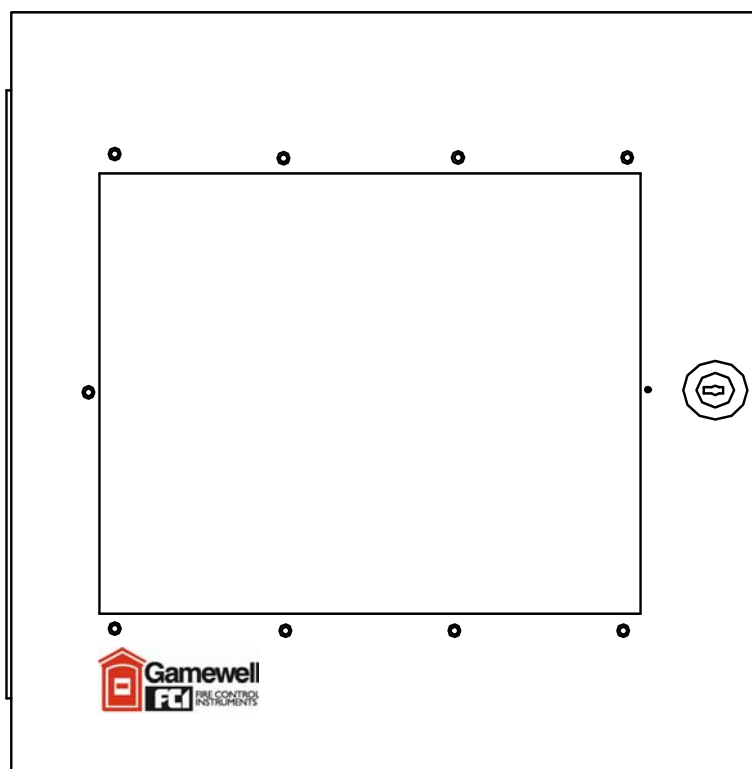


Figure 2.5.1.1 Cabinet A1, (Standard View)

### 2.5.1.1 Cabinet A1, Backbox Installation

1. Prepare the mounting site by pre-drilling four (4), #10 screws using the dimensions shown in the figure below. Use four (4), #10 screws.



**NOTE:** If the fasteners are anchored to wallboard, use #10 wall anchors. Mountings to concrete walls should be backed by plywood to insulate the equipment from possible condensation.

2. To mount the backbox, secure with two (2), #10 screws in the two-hole mounting pattern as shown in Locations 1 and 2 of the figure below.
3. Set the backbox over the top, two-hole mounting pattern, and hang the backbox over the two screw heads.
4. Insert and secure two (2), #10 screws in the two-hole mounting pattern as shown in Locations 3 and 4 of the figure below.

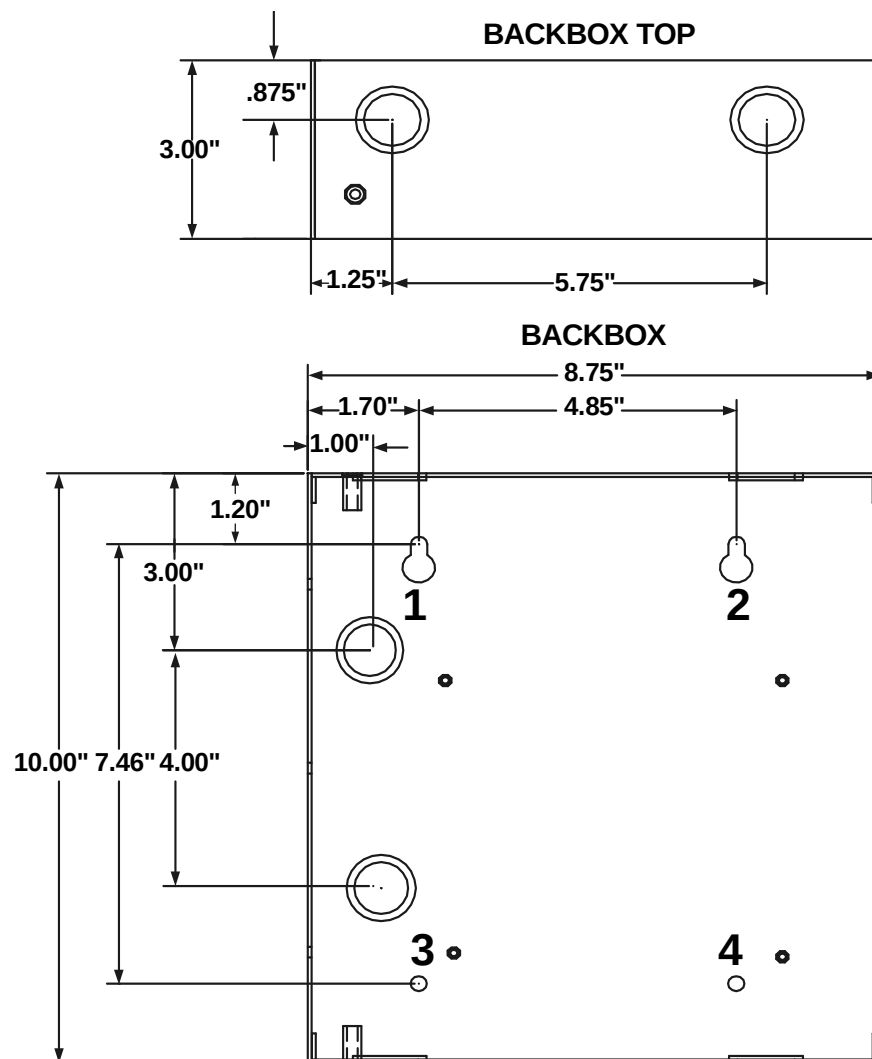


Figure 2.5.1.1.1 Cabinet A1, Backbox Installation

### 2.5.1.2 Cabinet A1, Trim Rings Installation (Optional Accessory)

1. Insert the Cabinet A1, trim top ring over the top two-hole mounting pattern.
2. Secure with two (2), #6 Hex Kep nuts in the two-hole mounting pattern on the top of the backbox as shown in Locations 1 and 2 of the figure below.
3. Insert the Cabinet A1, trim bottom ring on the bottom two-hole mounting pattern.
4. Secure with two (2), #6 Hex Kep nuts in the two-hole mounting pattern on the bottom of the backbox as shown in Locations 3 and 4 of the figure below.
5. Insert the Cabinet A1, trim left ring on the left side of the two-hole mounting pattern.
6. Secure with two (2), #6 Hex Kep nuts in the two-hole mounting pattern on the left side of the backbox as shown in Locations 5 and 6 of the figure below.
7. Insert the Cabinet A1, trim right ring on the right side of the two-hole mounting pattern.
8. Secure with two (2), #6 Hex Kep nuts in the two-hole mounting pattern on the right side of the backbox as shown in Locations 7 and 8 of the figure below.



**NOTE:** Use the Trim Ring Hardware Kit provided. The Trim top/bottom and Trim right/left rings are interchangeable.

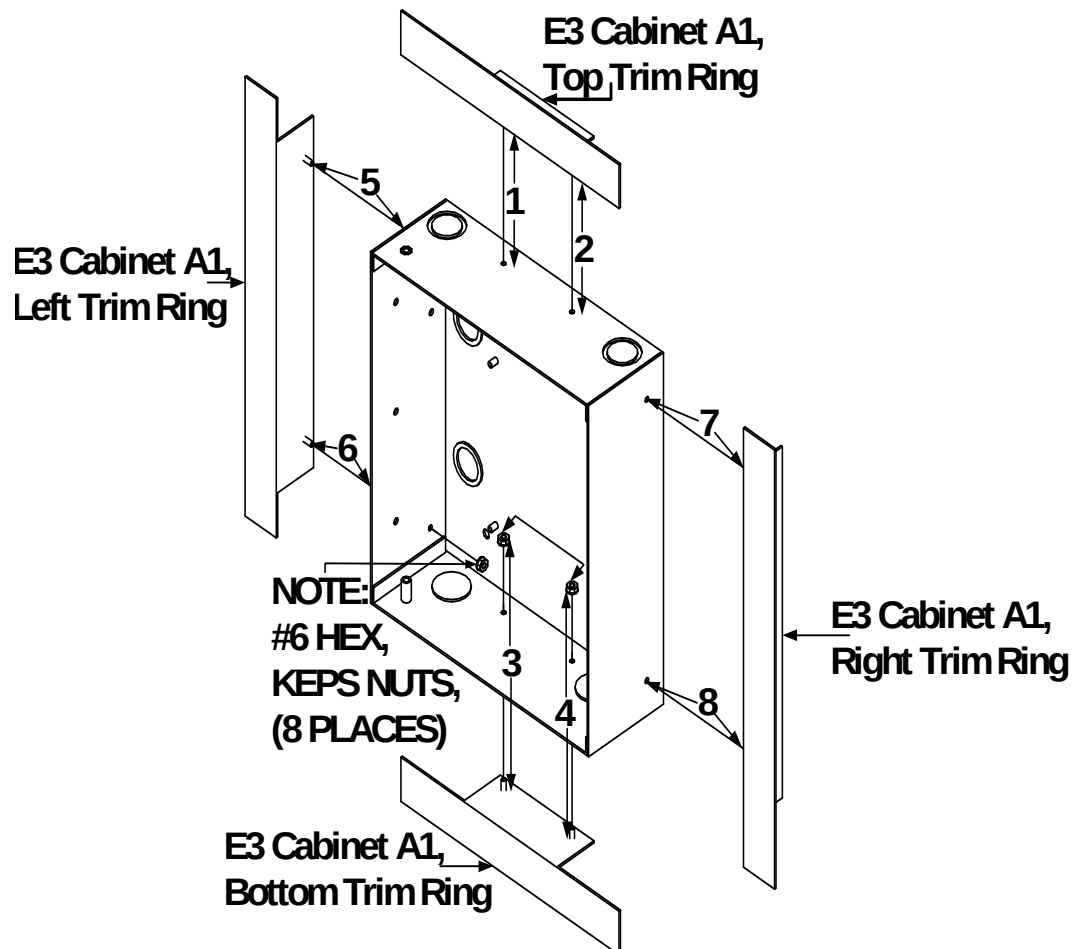


Figure 2.5.1.2.1 Cabinet A1, Trim Rings Installation

### 2.5.1.3 Cabinet A1, Outer Door Installation

1. Mount the outer door on the backbox.
2. Secure with three (3), #6-32 nuts in the three-hole mounting pattern on the left side of the backbox as shown in Locations 1, 2, and 3 of the figure below.

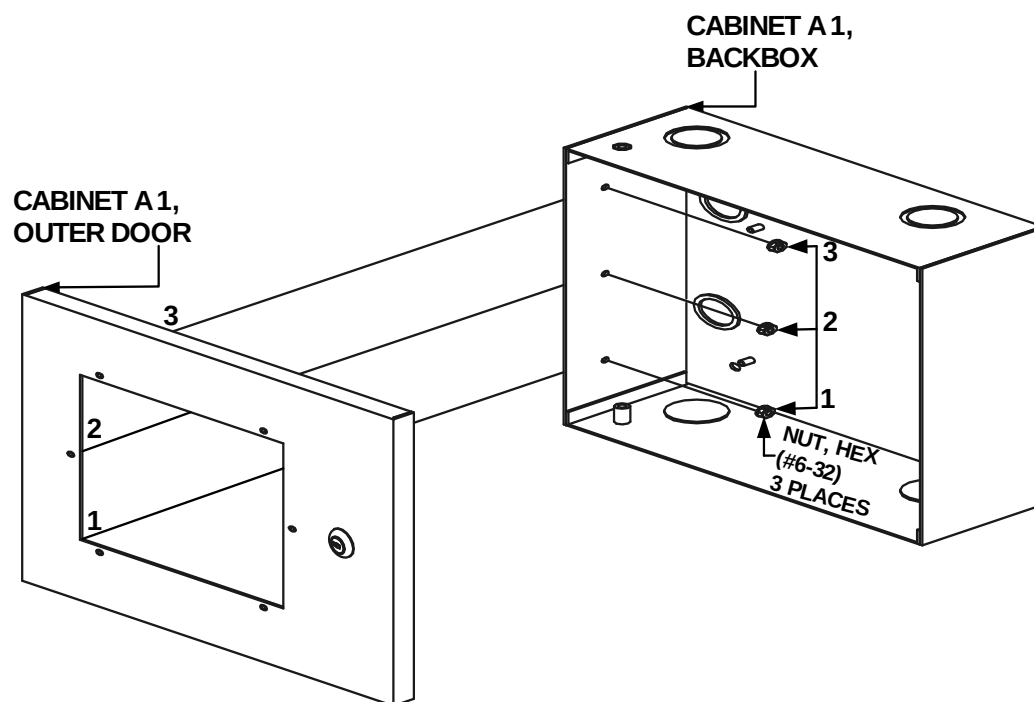


Figure 2.5.1.3.1 Cabinet A1, Outer Door Installation

### 2.5.1.4 Cabinet A1, Inner Door to the Backbox Installation

1. Place the nylon spacer (#10) over the backbox bottom hinge pin as shown in Location 1 of the figure below.
2. Mount the inner door to the backbox by sliding the inner door, top hinge pin hole onto the backbox top hinge pin as shown in Location 2.
3. Align the inner door bottom hinge pin hole with the backbox bottom hinge pin.
4. Slide the door over the inner door bottom hinge pin hole on top of the nylon spacer, and secure using the #8 x .5" screw as shown in Location 2 of the figure below.
5. After the inner door is secured in place, attach the one end of the bonding wire to the top hinge pin using the #8 x .5" screw as shown in Location 3 of the figure below.



**NOTE:** For information on the installation of the opposite end of the bonding wire, see Section 2.5.1.5 Step 2, Location 2 of Figure 2.5.1.5.1.

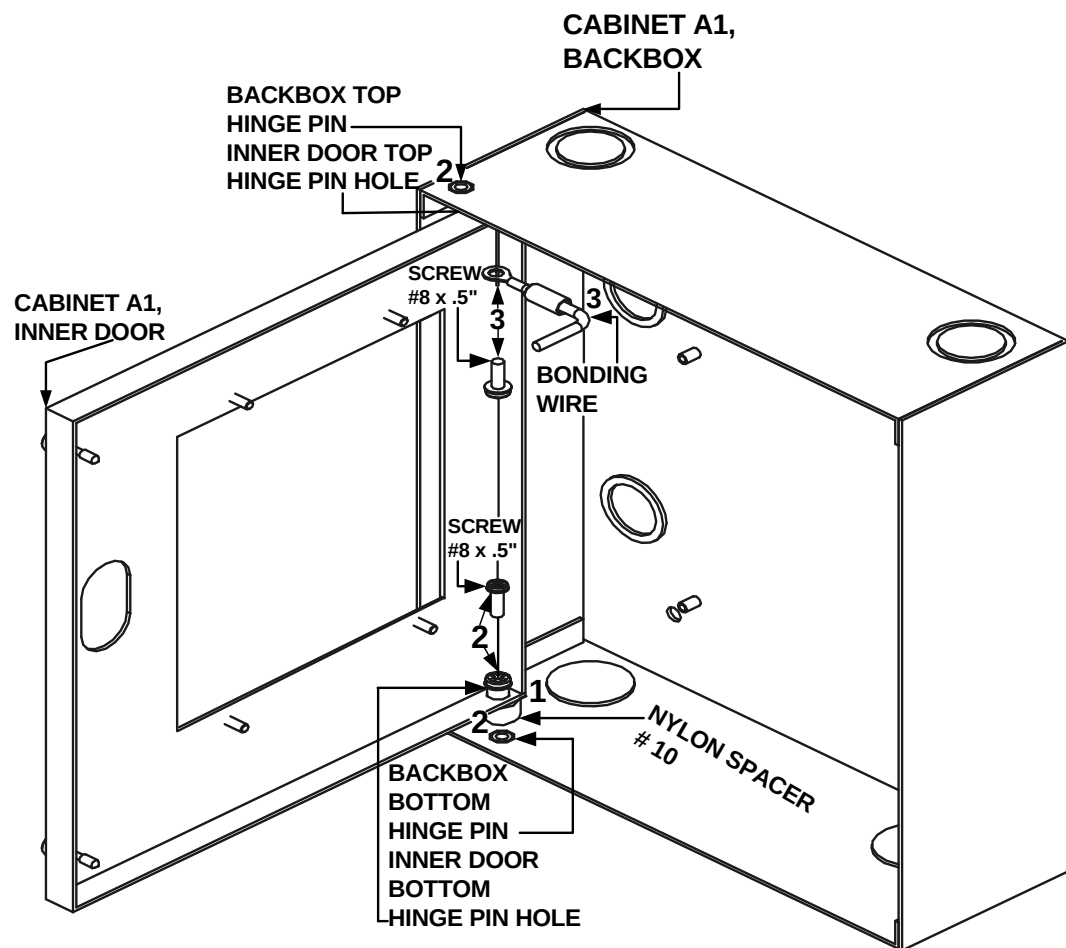


Figure 2.5.1.4.1 Cabinet A1, Inner Door to the Backbox Installation

### 2.5.1.5 Cabinet A1, Inner Door Installation

1. Mount the inner door and secure with four (4), #6-32 nuts in the four-hole mounting pattern as shown in Location 1 of the figure below.
2. Secure the opposite end of the bonding wire to the welded #6 stud on the inner side of the inner door using the #6 nut as shown in Location 2 of the figure below.
3. After the panel is wired, use the thumbscrews to secure the inner door to the backbox as shown in Location 3 of the figure below.

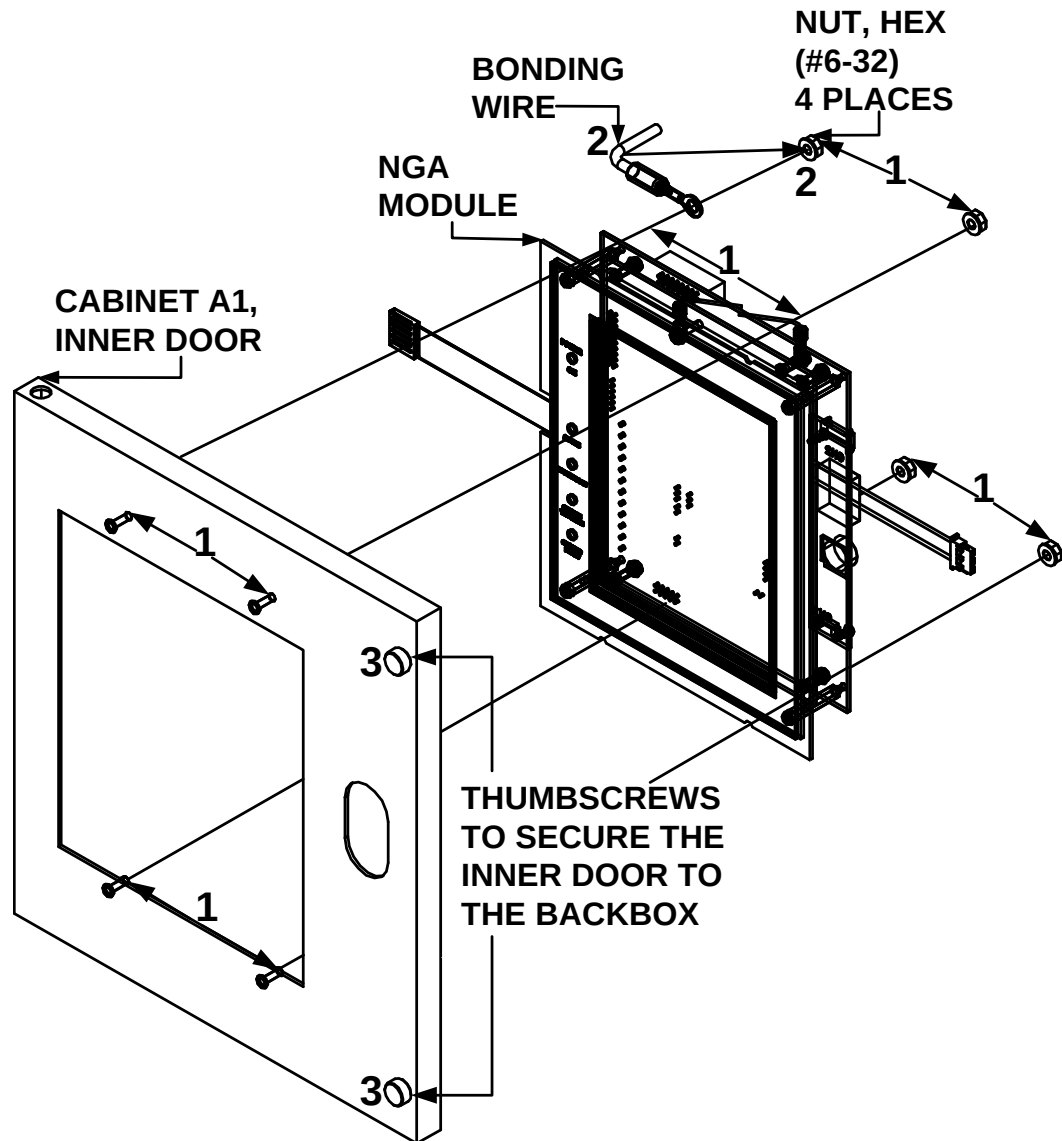


Figure 2.5.1.5.1 Cabinet A1, Inner Door Installation

## 2.5.2 Cabinet A2, Installation Instructions

The E3 Series, Cabinet A2, assembly typically includes the following:

- Backbox
  - Cabinet A2, Trim Rings (Optional Accessory)
- Outer Door
- Inner Door:
  - LCD-E3 Keypad
- Hardware Kit

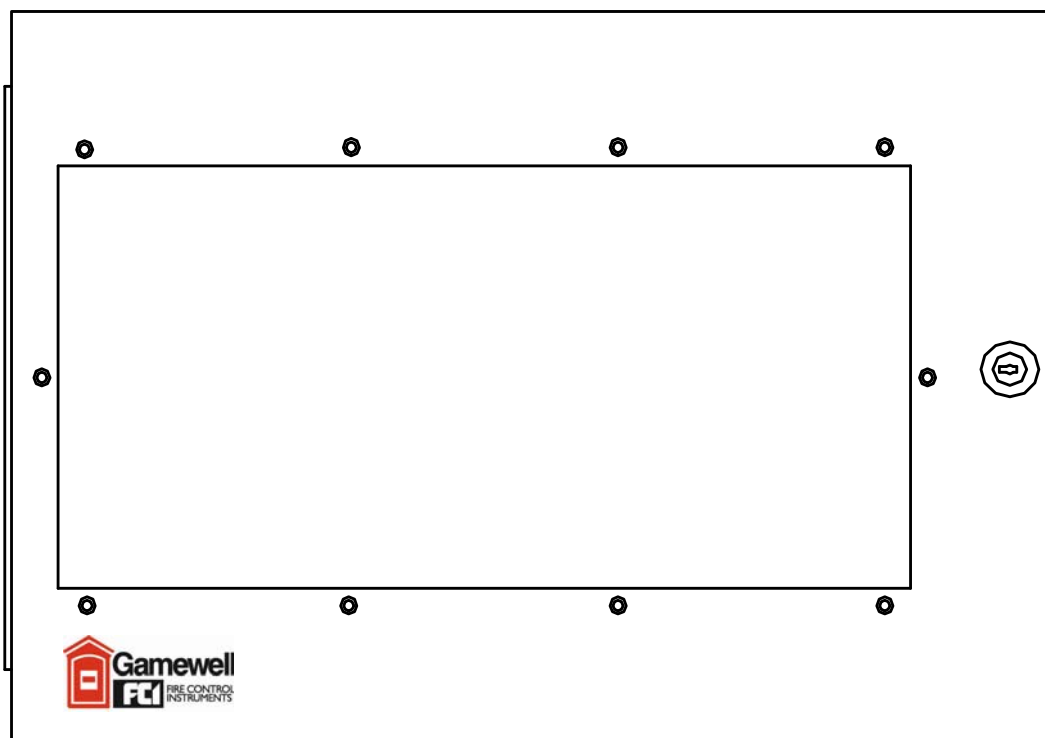


Figure 2.5.2.1 Cabinet A2, (Standard View)

### 2.5.2.1 Cabinet A2, Backbox Installation

1. Prepare the mounting site by pre-drilling four (4), #10 screws using the dimensions shown in the figure below. Use four (4), #10 screws.



**NOTE:** If the fasteners are anchored to wallboard, use #10 wall anchors. Mountings to concrete walls should be backed by plywood to insulate the equipment from possible condensation.

2. To mount the backbox, secure with two (2), #10 screws in the two-hole mounting pattern as shown in Locations 1 and 2 of the figure below.
3. Set the backbox over the top, two-hole mounting pattern, and hang the backbox over the two screw heads.
4. Insert and secure two (2), #10 screws in the two-hole mounting pattern as shown in Locations 3 and 4 of the figure below.

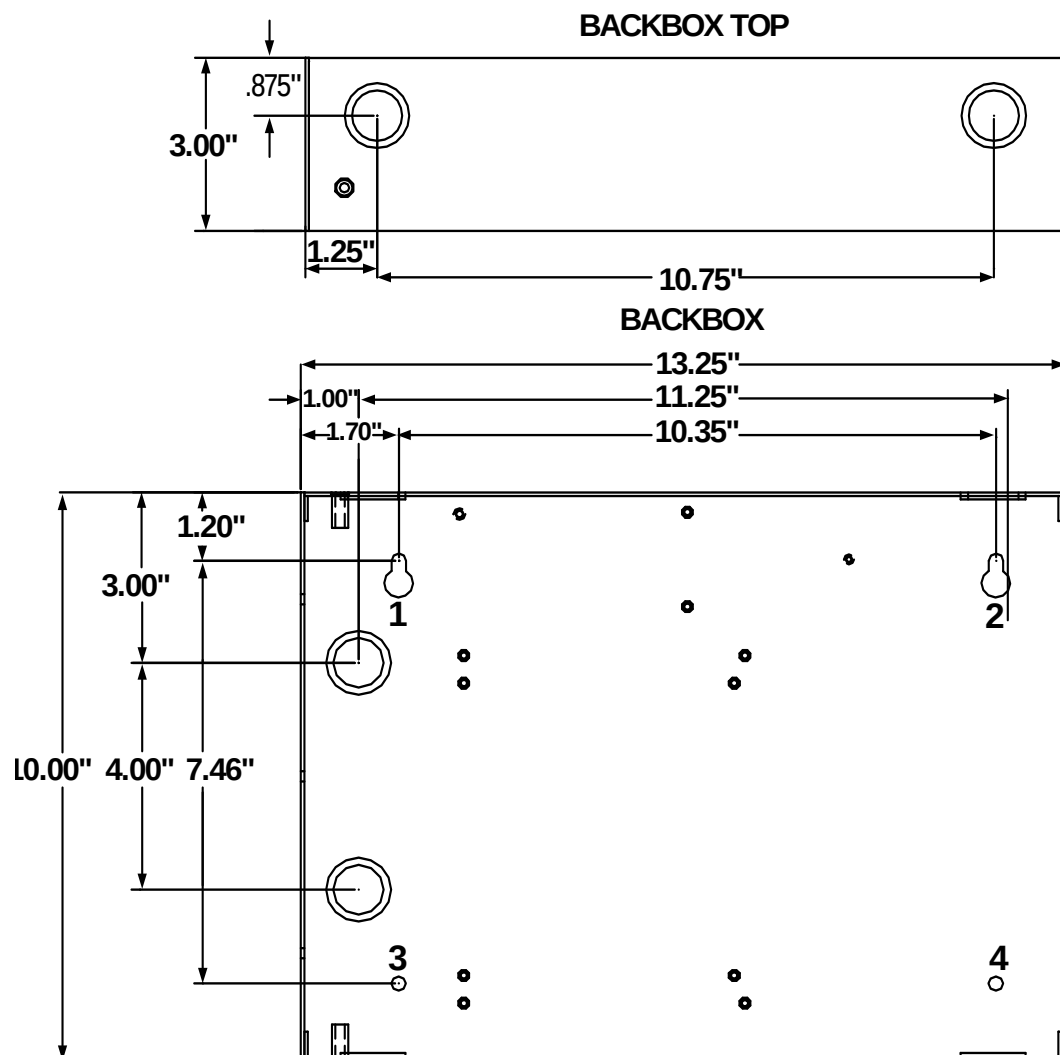


Figure 2.5.2.1.1 Cabinet A2, Backbox Installation

### 2.5.2.2 Cabinet A2, Trim Rings Installation (Optional Accessory)

1. Insert the Cabinet A2, trim top ring over the top two-hole mounting pattern.
2. Secure with two (2), #6 Hex Kep nuts in the two-hole mounting pattern on the top of the backbox as shown in Locations 1 and 2 of the figure below.
3. Insert the Cabinet A2, trim bottom ring on the bottom two-hole mounting pattern.
4. Secure with two (2), #6 Hex Kep nuts in the two-hole mounting pattern on the bottom of the backbox as shown in Locations 3 and 4 of the figure below.
5. Insert the Cabinet A2, trim left ring on the left side of the two-hole mounting pattern.
6. Secure with two (2), #6 Hex Kep nuts in the two-hole mounting pattern on the left side of the backbox as shown in Locations 5 and 6 of the figure below.
7. Insert the Cabinet A2, trim right ring on the right side of the two-hole mounting pattern.
8. Secure with two (2), #6 Hex Kep nuts in the two-hole mounting pattern on the right side of the backbox as shown in Locations 7 and 8 of the figure below.

For information on flush-mounting, refer to the *E3 Series Cabinet Trim Rings Installation Instructions*, P/N 9001-0058.



**NOTE:** Use the Trim Ring Hardware Kit provided. The trim top/bottom and trim left/right rings are interchangeable.

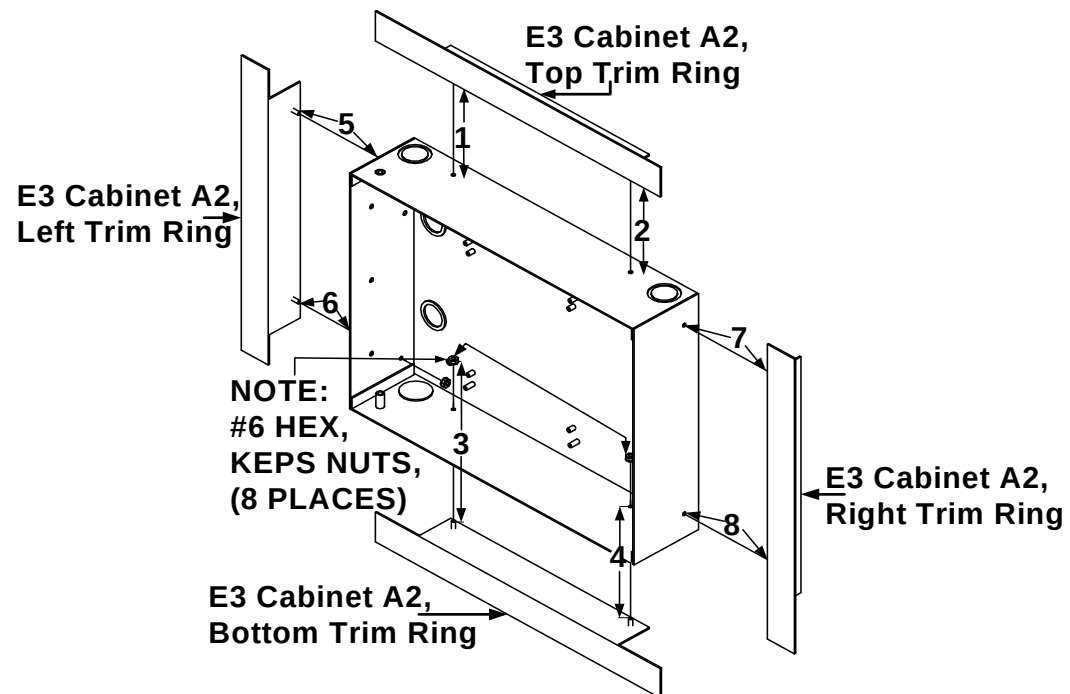


Figure 2.5.2.2.1 Cabinet A2, Trim Rings Installation

### 2.5.2.3 Cabinet A2, Outer Door Installation

1. Mount the outer door on the backbox.
2. Secure with three (3), #6-32 nuts in the three-hole mounting pattern on the left side of the backbox as shown in Locations 1, 2, and 3 of the figure below.

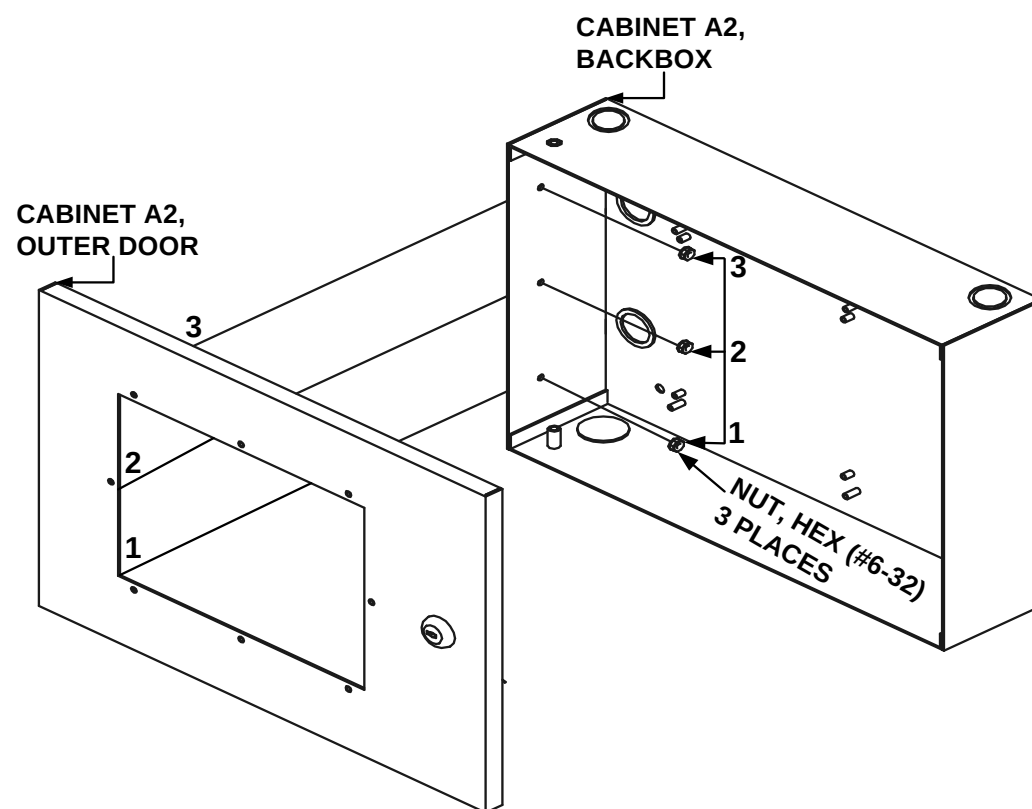


Figure 2.5.2.3.1 Cabinet A2, Outer Door Installation

### 2.5.2.4 Cabinet A2, Inner Door to the Backbox Installation

1. Place the nylon spacer (#10) over the backbox bottom hinge pin as shown in Location 1 of the figure below.
2. Mount the inner door to the backbox by sliding the inner door, top hinge pin hole onto the backbox top hinge pin as shown in Location 2.
3. Align the inner door bottom hinge pin hole with the backbox bottom hinge pin.
4. Slide the door over the inner door bottom hinge pin hole on top of the nylon spacer, and secure using the #8 x .5" screw as shown in Location 2 of the figure below.
5. After the inner door is secured in place, attach the one end of the bonding wire to the top hinge pin using the #8 x .5" screw as shown in Location 3 of the figure below.

**NOTE:** For information on the installation of the opposite end of the bonding wire, see Section 2.5.2.5, Step 2, Location 2 of Figure 2.5.2.5.1.

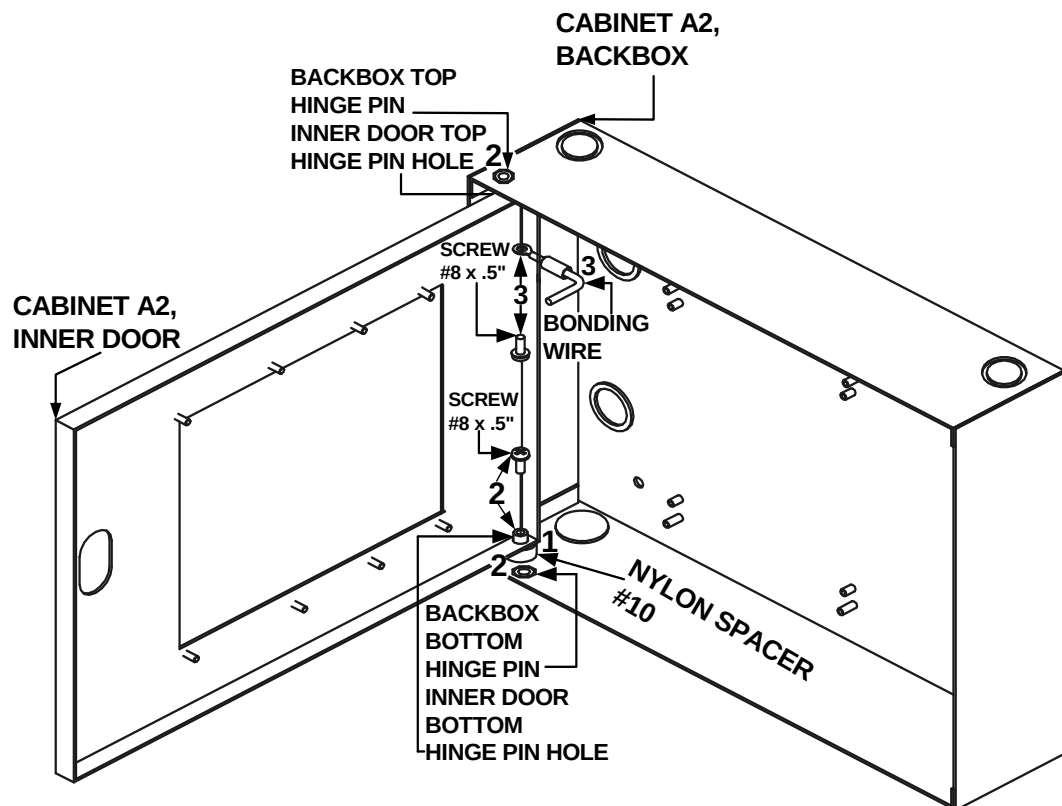


Figure 2.5.2.4.1 Cabinet A2, Inner Door to the Backbox Installation

### 2.5.2.5 Cabinet A2, Inner Door Installation

1. Mount the inner door and secure with four (4), #6-32 nuts in the four-hole mounting pattern as shown in Location 1 of the figure below.
2. Secure the opposite end of the bonding wire to the welded #6 stud on the inner side of the inner door using the #6 nut as shown in Location 2 of the figure below.
3. After the panel is wired, use the thumbscrews to secure the inner door to the backbox as shown in Location 3 of the figure below.

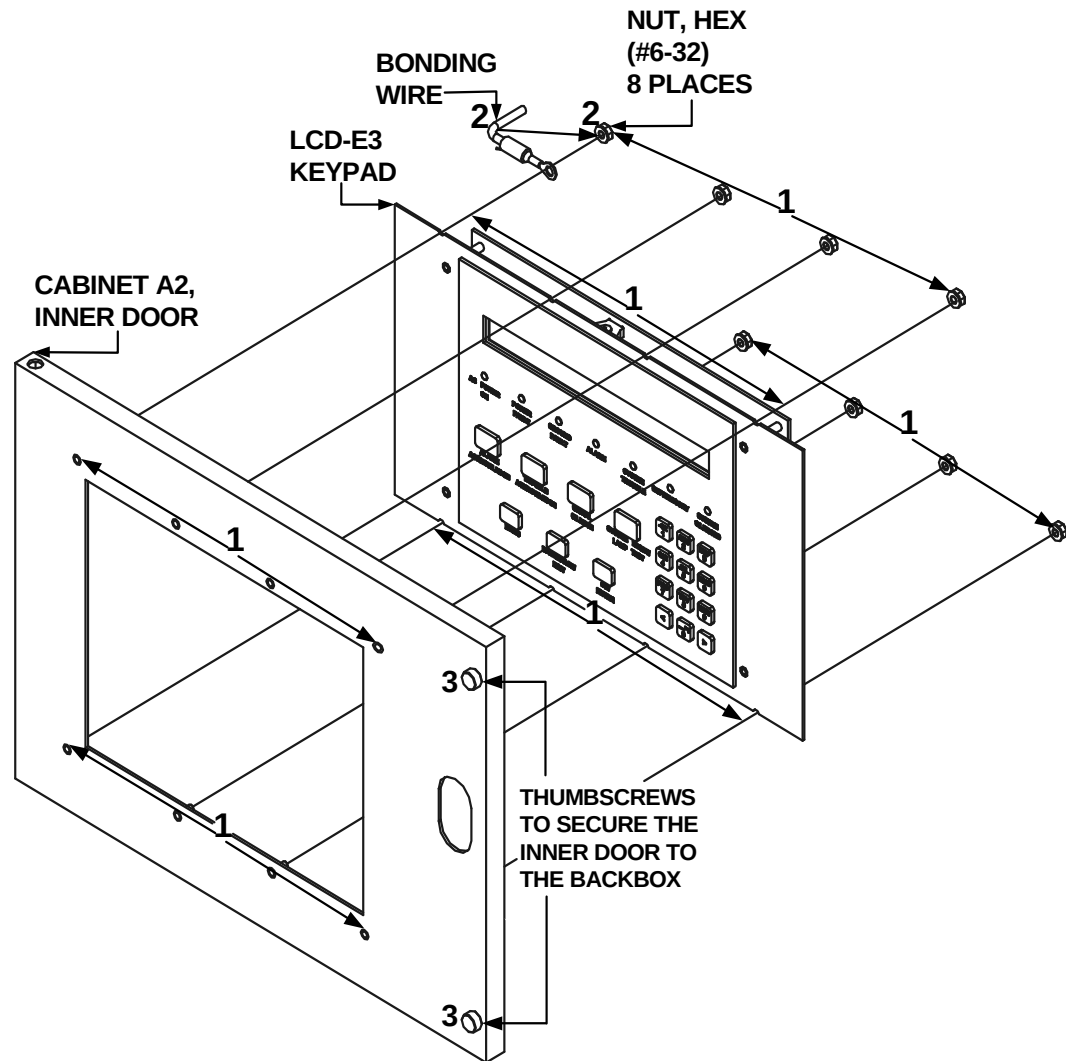


Figure 2.5.2.5.1 Cabinet A2, Inner Door Installation

### 2.5.3 E3-BBFLUSH-LCD, CAB A2 Flush Annunciator Installation Instructions

The E3BB-FLUSH-LCD, CAB A2, Remote Flush Annunciator, assembly typically includes the following:

- Backbox
- E3BB-FLUSH-LCD Flush Mount Front Cover
- LCD-E3 Keypad
- Keyswitch and cable
- Hardware Kit



Figure 2.5.3.1 E3BB-FLUSH-LCD, CAB A2, Remote Flush Annunciator

### 2.5.3.1 E3BB-FLUSH-LCD, CAB A2, Remote Flush Annunciator Backbox Installation

1. To prepare the mounting site, pre-drill four (4), #10 screws using the dimensions shown in Figure 2.5.3.1.1. Use four (4), #10 screws.



**NOTE:** If the fasteners are anchored to wallboard, use #10 wall anchors. Mountings to concrete walls should be backed by plywood to insulate the equipment from possible condensation.

2. Secure with two (2), #10 screws in the two-hole mounting pattern as shown in Locations 1 and 2 of Figure 2.5.3.1.1.
3. Set the backbox over the top, two-hole mounting pattern, and hang the backbox over the two screw heads.
4. Insert and secure two (2), #10 screws in the two-hole mounting pattern as shown in Locations 3 and 4 of Figure 2.5.3.1.1.

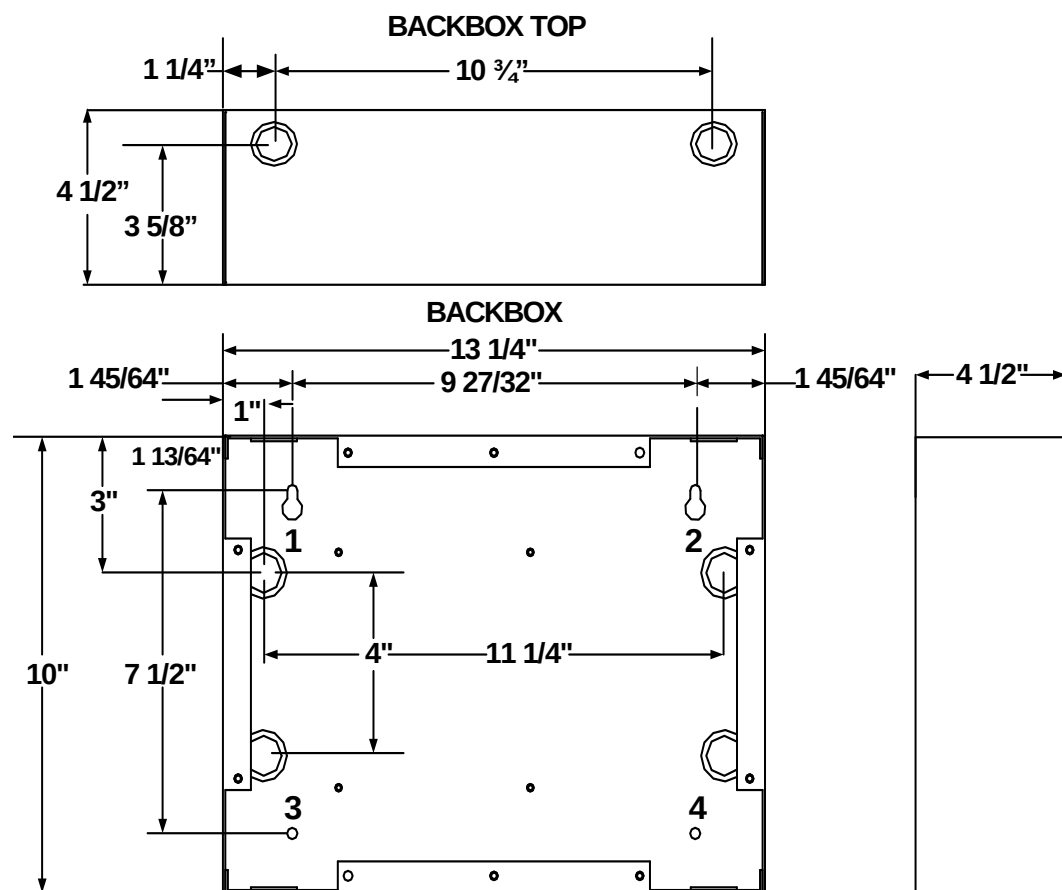


Figure 2.5.3.1.1 E3-BB-FLUSH-LCD, CAB A2, Remote Flush Annunciator Backbox Installation

### 2.5.3.2 E3BB-FLUSH-LCD, CAB A2, Remote Flush Annunciator to the Backbox Installation

1. Mount the keyswitch to the E3BB-FLUSH-LCD Flush Mount Front Cover and secure with one (1), nut (3/4"-24 THD Hex) as shown in Location 1 of Figure 2.5.3.2.1.
2. Attach the keyswitch cable to the key as shown in Location 2 of Figure 2.5.3.2.1.
3. Mount the LCD-E3 keypad to the E3BB-FLUSH-LCD Flush Mount Front Cover and secure with eight (8), nuts (#6-32, Hex Keps) in the eight-hole mounting pattern as shown in Location 3 of Figure 2.5.3.2.1.
4. Plug-in the P2 keyswitch cable to the W2 terminal on the LCD-E3 display panel as shown in Location 4 of Figure 2.5.3.2.1.  
(For information on the location of the P2 and W2 terminal on the LCD-E3 panel, refer to Note 1 on the LCD-E3 Wiring Diagram in Figure 3.13.4.1 of Section 3.14.4).
5. To connect the LCD-E3 panel wiring on TB1, refer to TB1 in Figure 3.13.4.1 (LCD-E3 Wiring Diagram) in Section 3.14.4.
6. Attach the E3BB-FLUSH-LCD Flush Mount Front Cover to the Backbox and secure with eight (8), screws (#6-32 x 3/8" PHBHD, BLK) in the eight-hole mounting pattern as shown in Location 5 of Figure 2.5.3.2.1.

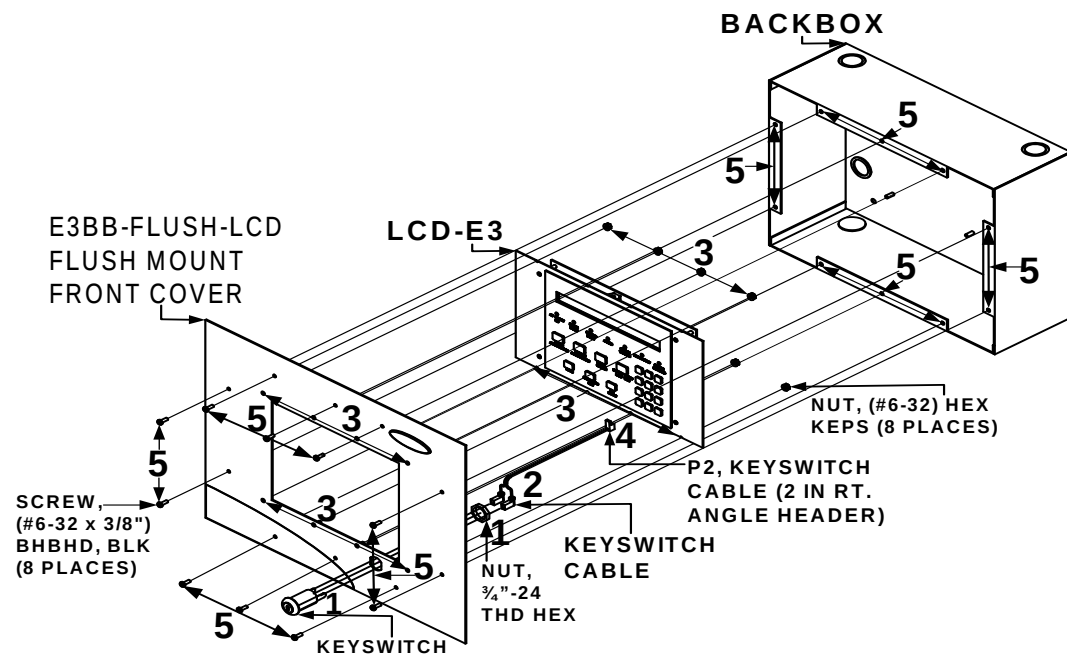


Figure 2.5.3.2.1 E3BB-FLUSH-LCD, CAB A2, Remote Flush Annunciator Backbox Installation

## 2.5.4 Cabinet A or AA, 2-Bay Installation Instructions

The E3 Series<sup>®</sup>, Cabinet A or Cabinet AA, 2-Bay assembly typically includes the following:

- Backbox
  - Cabinet A, Trim Rings (Optional Accessory)
- Outer Door
- Inner Door, 2-Bay:
  - One (1), LCD-E3 unit
  - One (1), ASM-16 unit
  - One (1), Blank Plate Optional
- Hardware Kit



**NOTE:** Cabinet AA may be used with the 2-Bay and 3-Bay outer door. A microphone can be installed as an optional accessory in the blank plate. For information on the Cabinet A or Cabinet AA installation, refer Section 2.5.4 and Section 2.5.5.

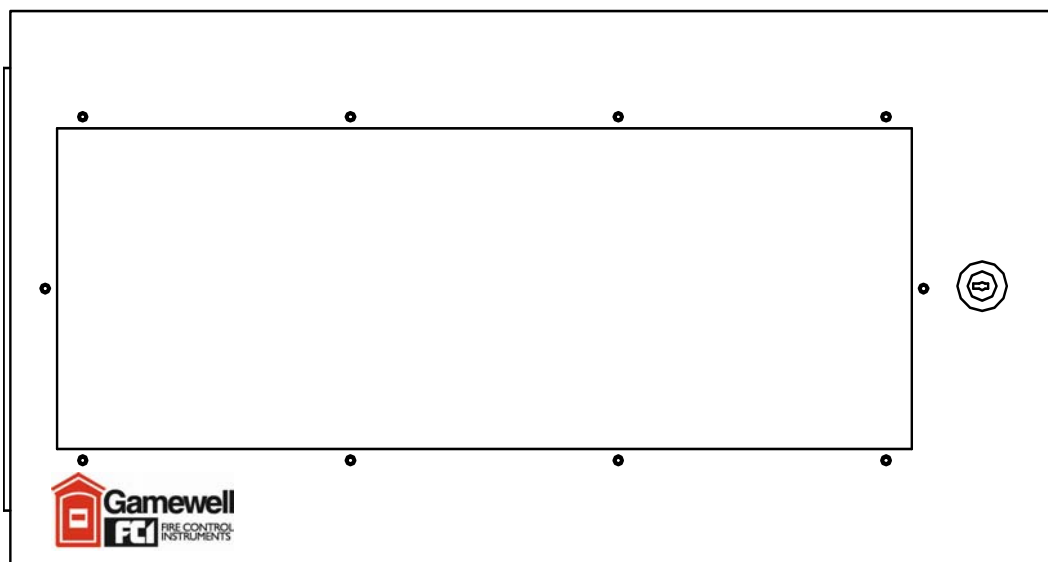


Figure 2.5.4.1 Cabinet A or AA, 2-Bay Standard View

### 2.5.4.1 Cabinet A or AA, 2-Bay and 3-Bay Backbox Installation

1. Prepare the mounting site by pre-drilling four (4), #10 screws using the dimensions shown in the figure below. Use four (4), #10 screws.

**NOTE:** If the fasteners are anchored to wallboard, use #10 wall anchors. Mountings to concrete walls should be backed by plywood to insulate the equipment from possible condensation.

2. To mount the backbox, secure with two (2), #10 screws in the two-hole mounting pattern as shown in Locations 1 and 2 of the figure below.
3. Set the backbox over the top, two-hole mounting pattern, and hang the backbox over the two screw heads.
4. Insert and secure two (2), #10 screws in the two-hole mounting pattern as shown in Locations 3 and 4 of the figure below.

**NOTE:** Add knockouts to the left and right side of the rear panel of the backbox. Do not add knockouts in the center or top of the backbox. To add larger knockouts, increase the size of the existing knockouts.

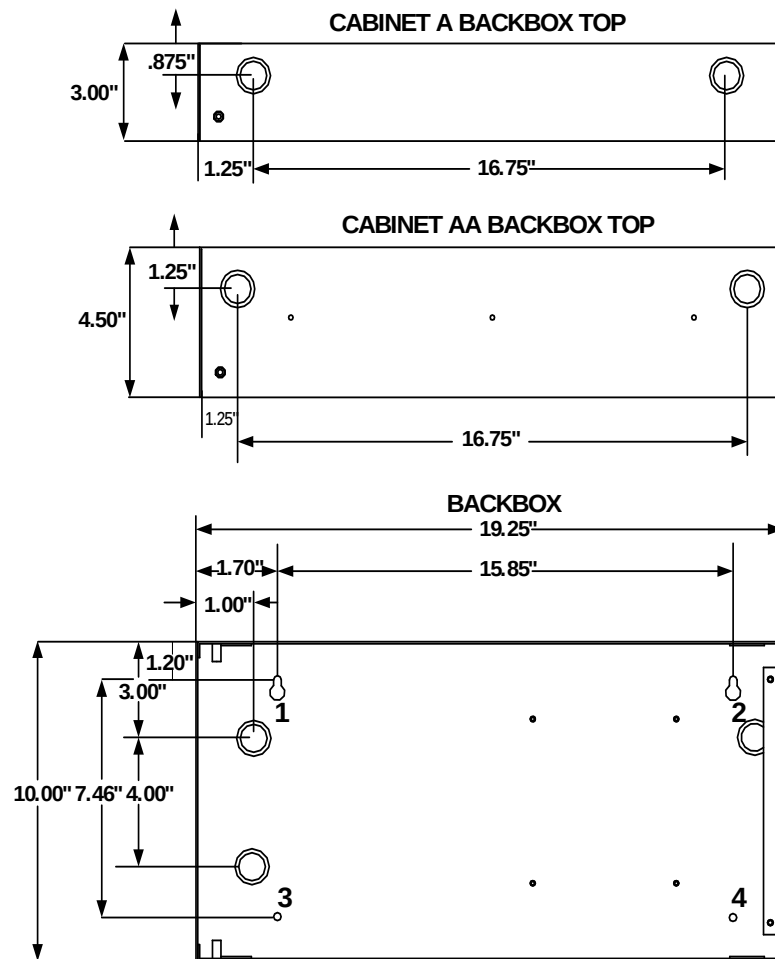


Figure 2.5.4.1.1 Cabinet A or AA, 2-Bay and 3-Bay Backbox Installation

### 2.5.4.2 Cabinet A or AA, Trim Rings Installation (Optional Accessory)

1. Insert the Cabinet A, trim top ring over the top three-hole mounting pattern.
2. Secure with three (3), #6 Hex Kep nuts in the three-hole mounting pattern on the top of the backbox as shown in Locations 1, 2 and 3 of the figure below.
3. Insert the Cabinet A, trim bottom ring on the bottom three-hole mounting pattern.
4. Secure with three (3), #6 Hex Kep nuts in the three-hole mounting pattern on the bottom of the backbox as shown in Locations 4, 5 and 6 of the figure below.
5. Insert the Cabinet A, trim left ring on the left side of the two-hole mounting pattern.
6. Secure with two (2), #6 Hex Kep nuts in the two-hole mounting pattern on the left side of the backbox as shown in Locations 7 and 8 of the figure below.
7. Insert the Cabinet A, trim right ring on the right side of the two-hole mounting pattern.
8. Secure with two (2), #6 Hex Kep nuts in the two-hole mounting pattern on the right side of the backbox as shown in Locations 9 and 10 of the figure below.

For information on flush-mounting, refer to the *E3 Series Cabinet Trim Rings Installation Instructions P/N 9001-0058*.



**NOTE:** Use the Trim Ring Hardware Kit provided. The trim top/bottom and trim left/right rings are interchangeable.

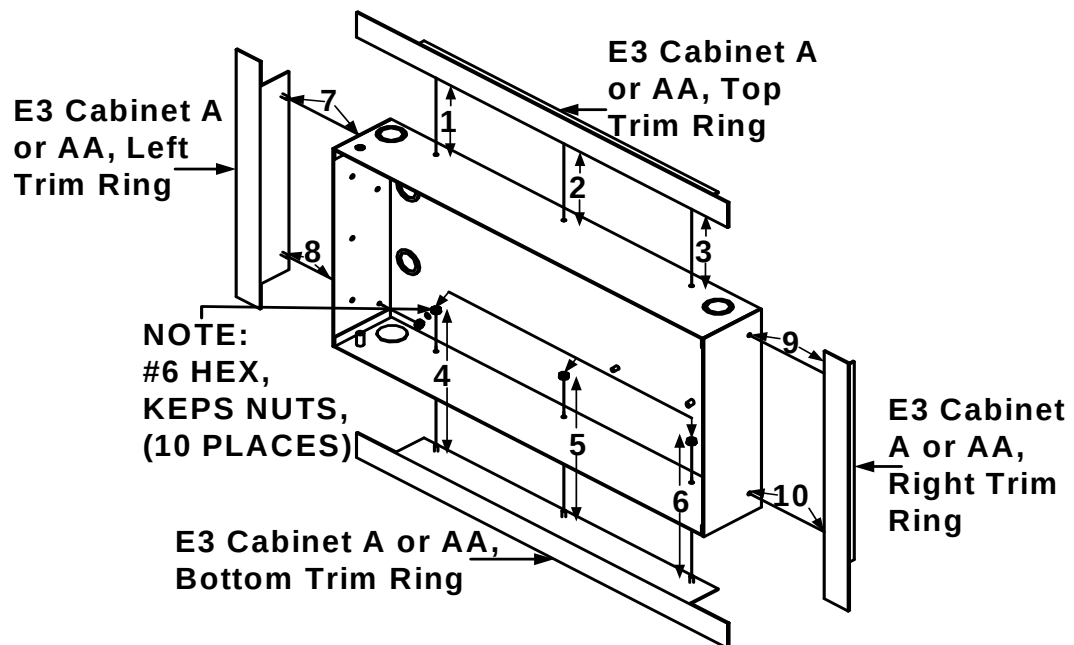


Figure 2.5.4.2.1 Cabinet A or AA, Trim Ring Installation

### 2.5.4.3 Cabinet A or AA, 2-Bay and 3-Bay Outer Door Installation

1. Mount the 2-bay or 3-bay outer door on the backbox.
2. Secure with three (3), #6-32 nuts in the three-hole mounting pattern on the left side of the backbox as shown in Locations 1, 2, and 3 of the figure below.

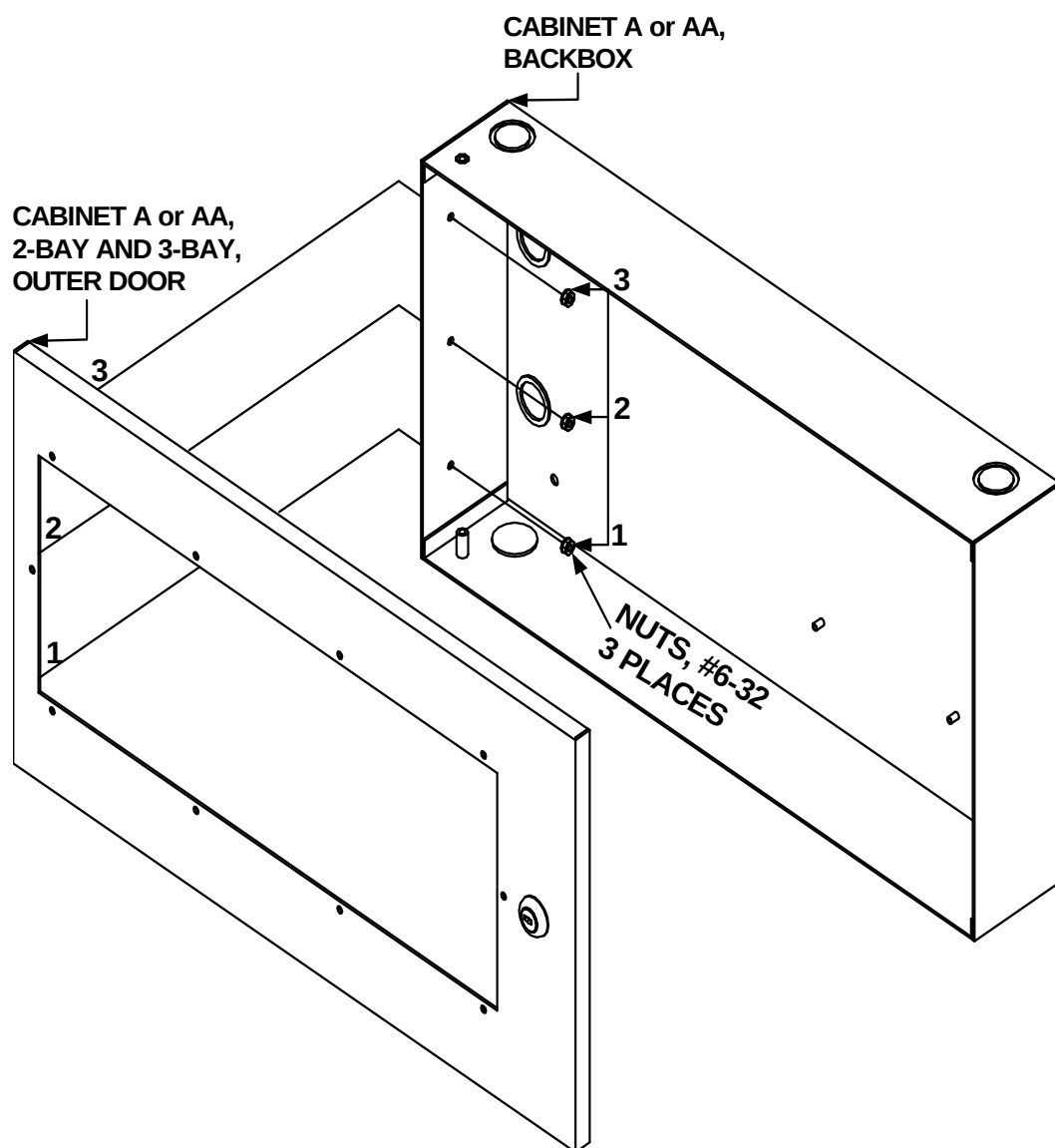


Figure 2.5.4.3.1 Cabinet A or AA, 2-Bay and 3-Bay Outer Door Installation

### 2.5.4.4 Cabinet A or AA, 2-Bay Inner Door to the Backbox Installation

1. Place the nylon spacer (#10) over the backbox, bottom hinge pin as shown in Location 1 of the figure below.
2. Mount the inner door to the backbox by sliding the inner door top hinge pin hole onto the backbox top hinge pin as shown in Location 2 of the figure below.
3. Align the inner door bottom hinge pin hole with the backbox bottom hinge pin.
4. Slide the inner door over the inner door bottom hinge pin hole on top of the nylon spacer, and secure using the #8 x .5" screw as shown in Location 2 of the figure below.
5. After the inner door is secured in place, attach the one end of the bonding wire to the top hinge pin using the #8 x .5" screw as shown in Location 3 of the figure below.

**NOTE:** For information on the installation of the opposite end of the bonding wire, see Section 2.5.4.5, Step 3 and Location 3 of Figure 2.5.4.5.1.

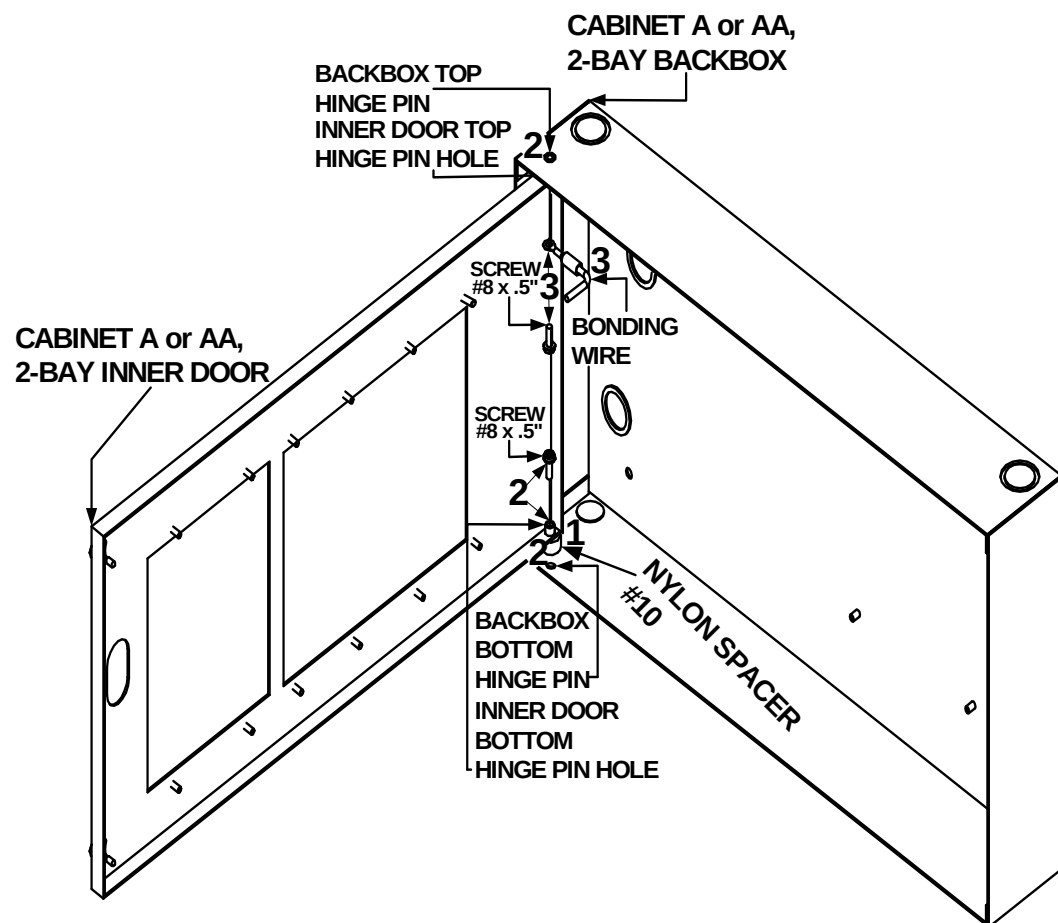


Figure 2.5.4.4.1 Cabinet A or AA, 2-Bay Inner Door to the Backbox Installation

### 2.5.4.5 Cabinet A or AA, 2-Bay, Inner Door Installation

1. Mount the LCD-E3 keypad on the inner door and secure with eight (8), #6-32 nuts in the eight-hole mounting pattern as shown in Location 1 of the figure below.
2. Mount the ASM-16 on the inner door and secure with four (4), #6-32 nuts in the four-hole mounting pattern as shown in Location 2 of the figure below.
3. Secure the opposite end of the bonding wire to the welded #6 stud on the inner side of the inner door using the #6 nut as shown in Location 3 of the figure below.
4. After the panel is wired, use the thumbscrews to secure the inner door to the backbox as shown in Location 4 of the figure below.

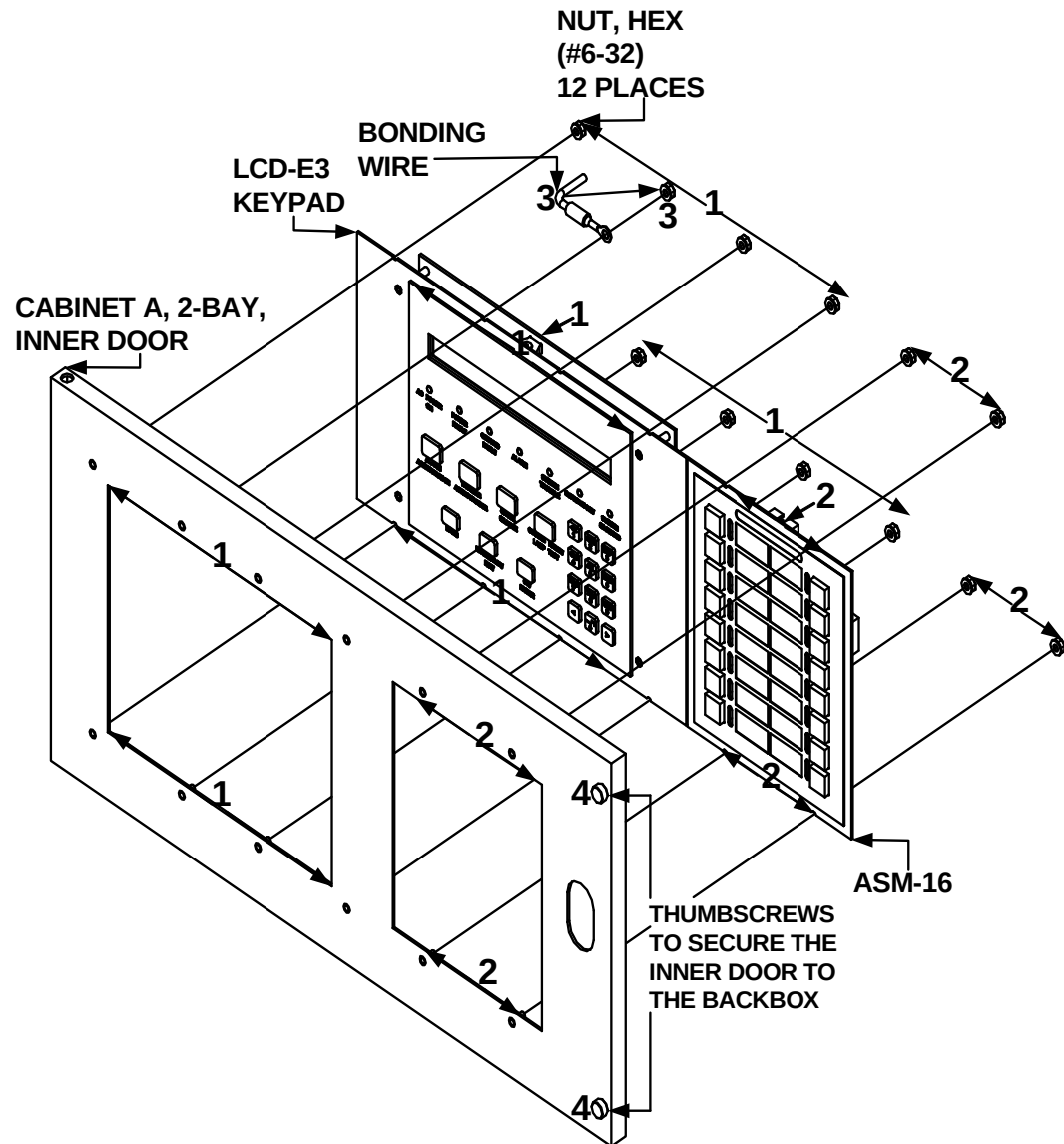


Figure 2.5.4.5.1 Cabinet A or AA, 2-Bay Inner Door Installation

## 2.5.5 Cabinet A or AA, 3-Bay Installation Instructions

The E3 Series<sup>®</sup> Cabinet A or Cabinet AA 3-Bay assembly typically includes the following:

- Backbox
  - INI-VGC
- Outer Door
- Inner Door, 3-Bay:
  - unit or Blank Plate
  - ASM-16s
  - NGA
  -
- Hardware Kit

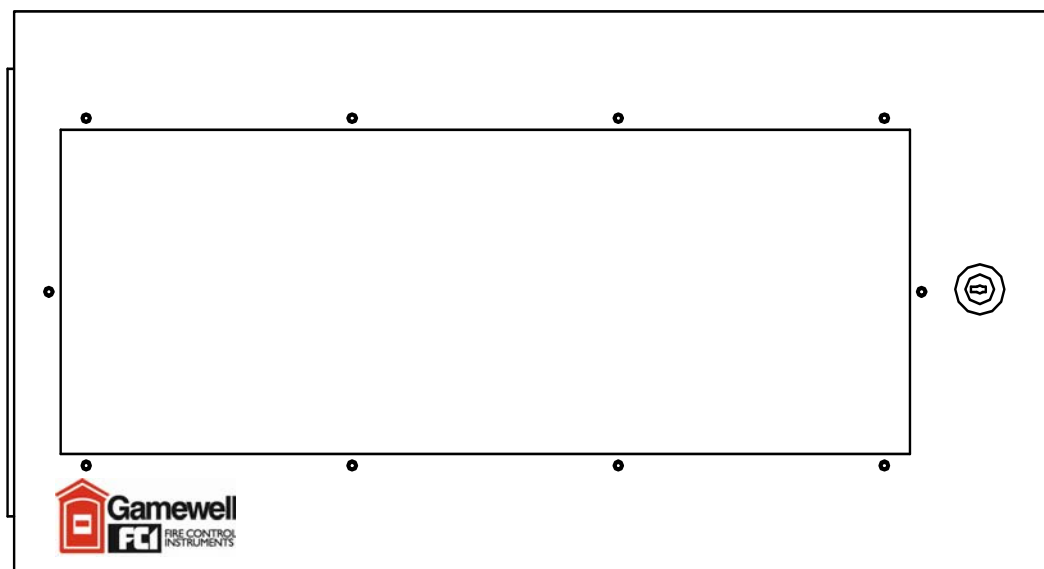


Figure 2.5.5.1 Cabinet A or AA, 3-Bay (Standard View)

### 2.5.5.1 Cabinet A or AA, 3-Bay, Inner Door to the Backbox Installation

1. Place the nylon spacer (#10) over the backbox bottom hinge pin as shown in Location 1 of the figure below.
2. Mount the inner door to the backbox by sliding the inner door, top hinge pin hole onto the backbox top hinge pin as shown in Location 2.
3. Align the inner door bottom hinge pin hole with the backbox bottom hinge pin.
4. Slide the door over the inner door bottom hinge pin hole on top of the nylon spacer, and secure using the #8 x .5" screw as shown in Location 2 of the figure below.
5. After the inner door is secured in place, attach the one end of the bonding wire to the top hinge pin using the #8 x .5" screw as shown in Location 3 of the figure below.

**NOTE:** For information on the installation of the opposite end of the bonding wire, see Section 2.5.5.2, Step 3 and Location 4 of Figure 2.5.5.2.1.

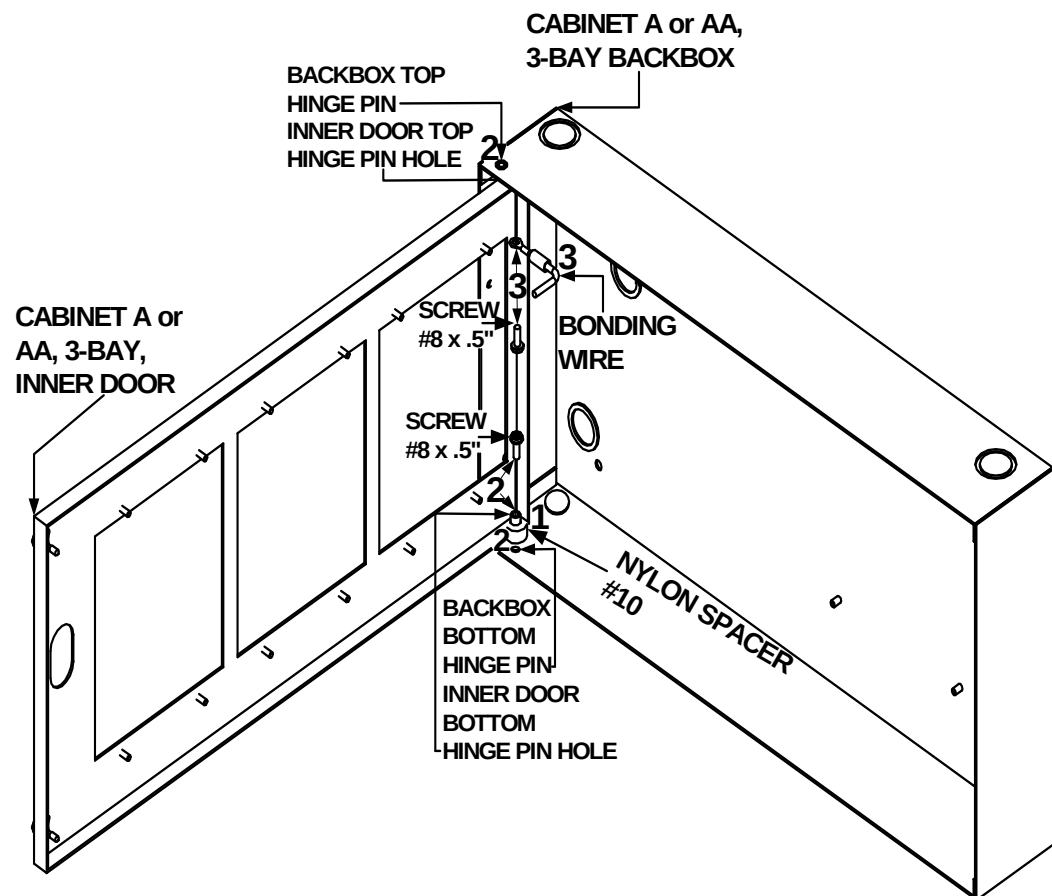


Figure 2.5.5.1.1 Cabinet A or AA, 3-Bay Backbox Sub-Assembly Installation

### 2.5.5.2 Cabinet A or AA, 3-Bay, Inner Door Installation

1. Mount the two (2), ASM-16 sub-assemblies on the inner door and secure with eight (8), #6-32 nuts in each of the two (2), four-hole mounting patterns as shown in Locations 1 and 3 of the figure below.
2. Mount the sub-assembly on the inner door and secure with four (4), #6-32 nuts in the four-hole mounting pattern as shown in Location 2 of the figure below.
3. Secure the opposite end of the bonding wire to the welded #6 stud on the inner side of the inner door using the #6 nut as shown in Location 4 of the figure below.
4. After the panel is wired, use the thumbscrews to secure the inner door to the backbox as shown in Location 5 of the figure below.

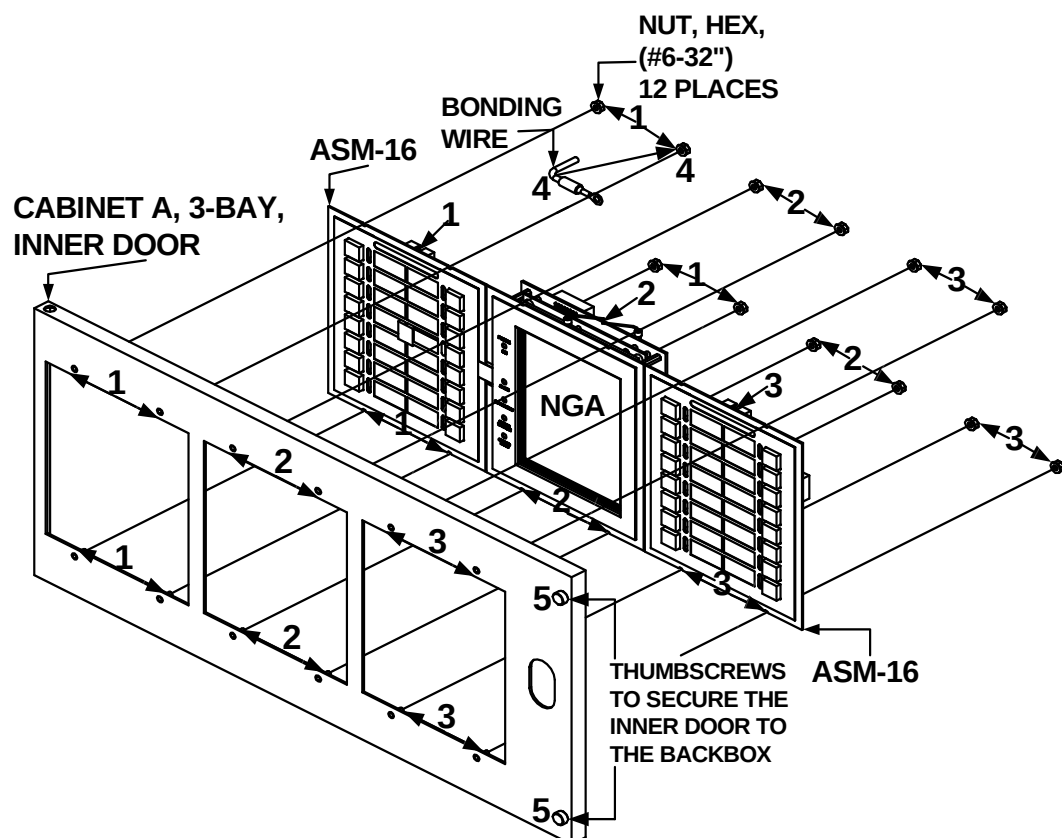


Figure 2.5.5.2.1 Cabinet A or AA, 3-Bay Inner Door Installation

## 2.5.6 Cabinet B Installation Instructions

The Cabinet B assembly typically houses the following:

- Backbox:
  - ILI-MB-E3/ILI95-MB-E3
  - PM-9/PM-9G
  - Batteries
- Optional (Mounted on top of the ILI-MB-E3/ILI95-MB-E3)
  - DACT-E3/RPT-E3
  - ILI-S-E3/ILI95-S-E3 (Optional in place of the DACT-E3/RPT-E3)
  - ANX (Optional in place of the DACT-E3/RPT-E3)
- Optional Accessory
  - E3 Cabinet B, Trim Rings
- Outer Door
- Inner Door, 2-Bay:
  - LCD-E3
  - ASM-16 or blank Plate
- Hardware Kit

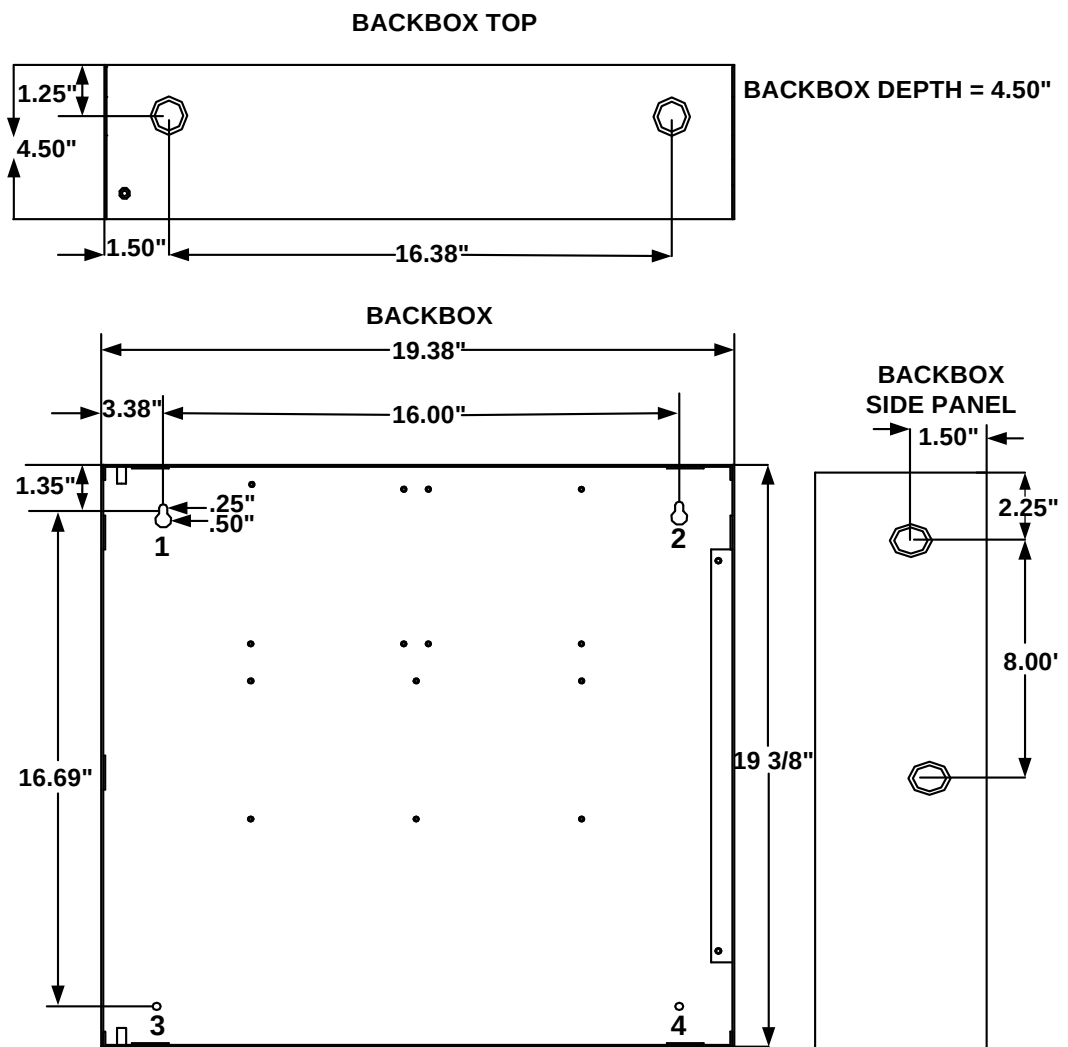


Figure 2.5.6.1 Cabinet B, Standard View

### 2.5.6.1 Cabinet B, Backbox Installation

1. Prepare the mounting site by pre-drilling four (4), #10 screws, using the dimensions shown in figure below. Use four (4), #10 screws.

**NOTE:** If the fasteners are anchored to wallboard, use #10 wall anchors. Mountings to concrete walls should be backed by plywood to insulate the equipment from possible condensation.

2. Secure with two (2), #10 screws in the two-hole mounting pattern as shown in Locations 1 and 2 of the figure below.
3. Set the backbox over the top, two-hole mounting pattern, and hang the backbox over the two screw heads.
4. Insert and secure two (2), #10 screws in the two-hole mounting pattern as shown in Locations 3 and 4 of the figure below.

**NOTE:** Add knockouts to the left and right side of the rear panel of the backbox. Do not add knockouts in the center or top of the backbox, above the ILI-MB-E3/ILI95-MB-E3, behind or below the batteries. To add larger knockouts, increase the size of the existing knockouts.

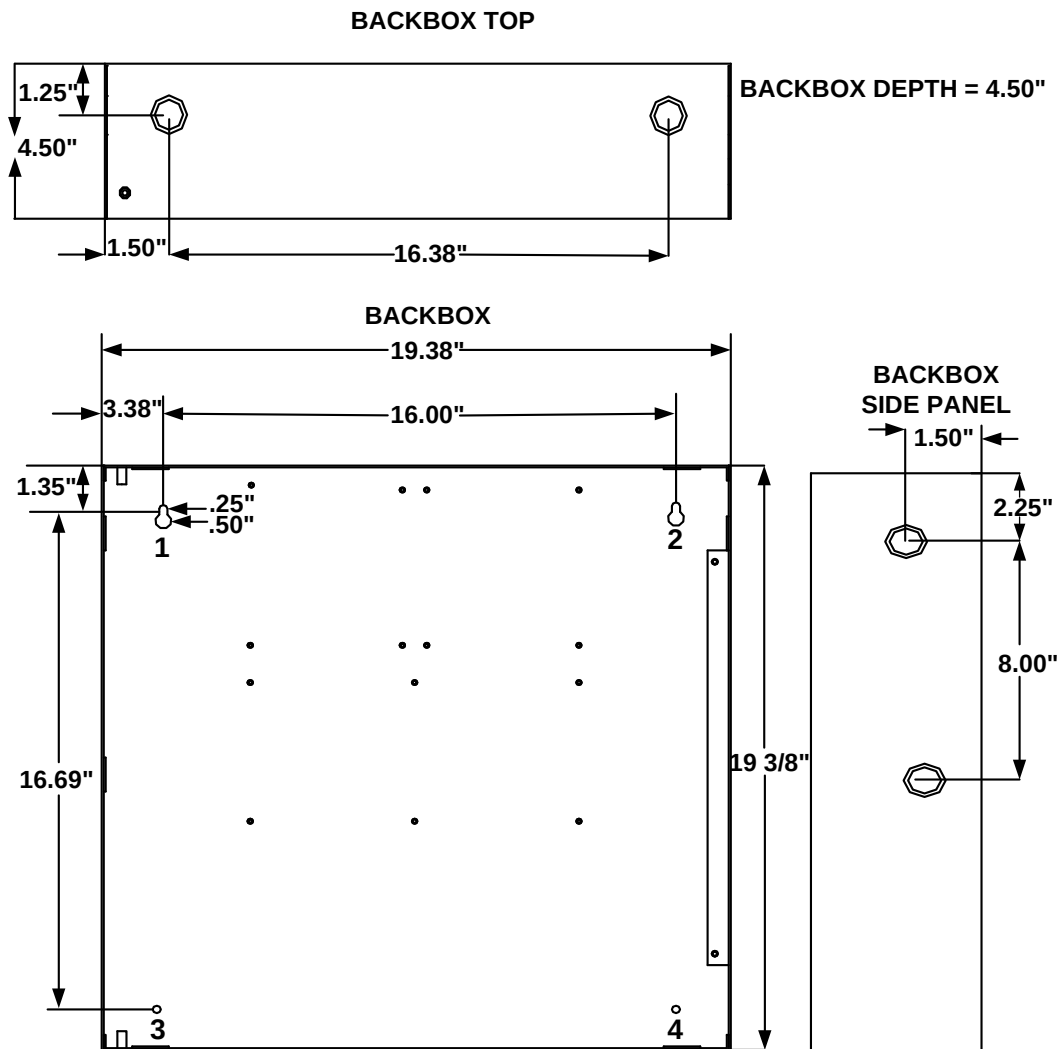


Figure 2.5.6.1.1 Cabinet B, Backbox Installation

### 2.5.6.2 Cabinet B Trim Rings Installation (Optional Accessory)

1. Insert the Cabinet B, trim top ring over the top three-hole mounting pattern.
2. Secure with three (3), #6 Hex Kep nuts in the three-hole mounting pattern on the top of the backbox as shown in Locations 1, 2 and 3 of the figure below.
3. Insert the Cabinet B, trim bottom ring on the bottom three-hole mounting pattern.
4. Secure with three (3), #6 Hex Kep nuts in the three-hole mounting pattern on the bottom of the backbox as shown in Locations 4, 5 and 6 of the figure below.
5. Insert the Cabinet B, trim left ring on the left side of the three-hole mounting pattern.
6. Secure with three (3), #6 Hex Kep nuts in the three-hole mounting pattern on the left side of the backbox as shown in Locations 7, 8 and 9 of the figure below.
7. Insert the Cabinet B, trim right ring on the right side of the three-hole mounting pattern.
8. Secure with three (3), #6 Hex Kep nuts in the three-hole mounting pattern on the right side of the backbox as shown in Locations 10, 11 and 12 of the figure below.

For information on flush-mounting, refer to the *E3 Series Cabinet Trim Rings Installation Instructions*, P/N 9001-0058.



**NOTE:** Use the Trim Ring Hardware Kit provided. The trim top/bottom and trim left/right rings are interchangeable.

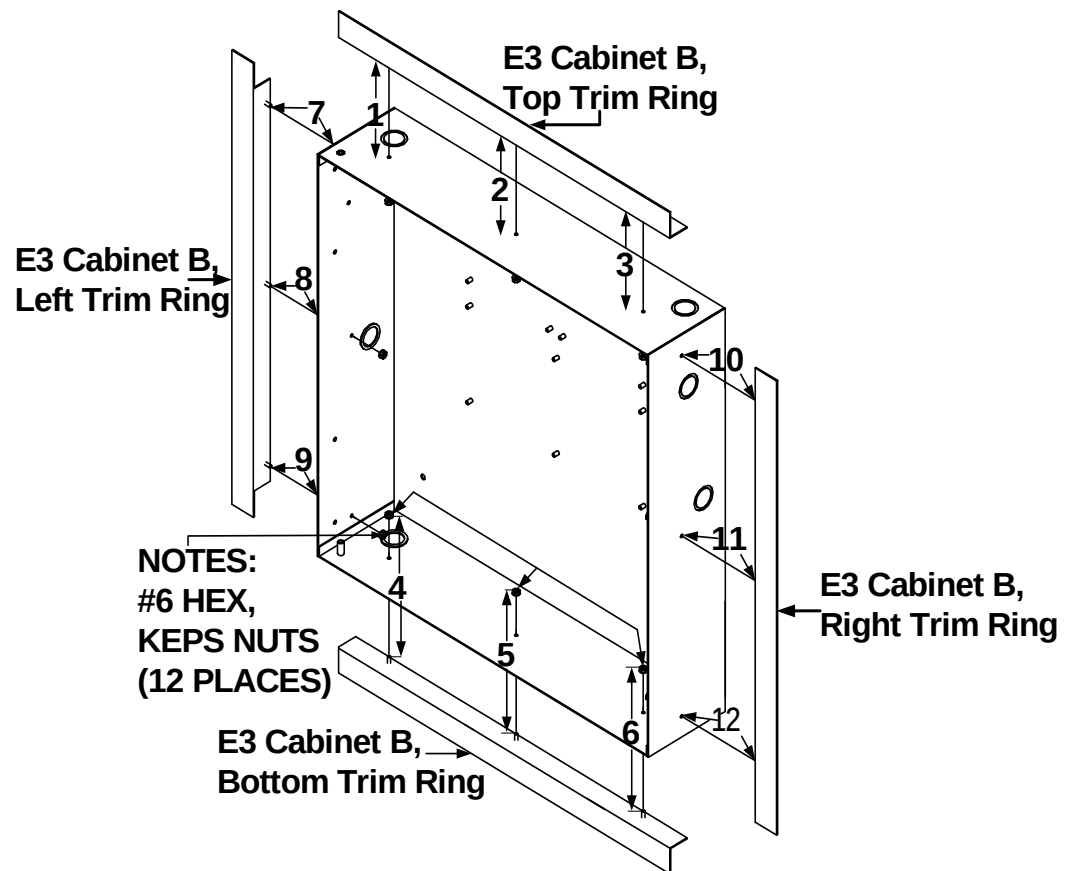


Figure 2.5.6.2.1 Cabinet B, Trim Rings Installation

### 2.5.6.3 Cabinet B, Outer Door Installation

1. Mount the outer door on the backbox.
2. Secure with four (4), #6 nuts in the four-hole mounting pattern on the left side of the backbox as shown in Locations 1, 2, 3, and 4 of the figure below.

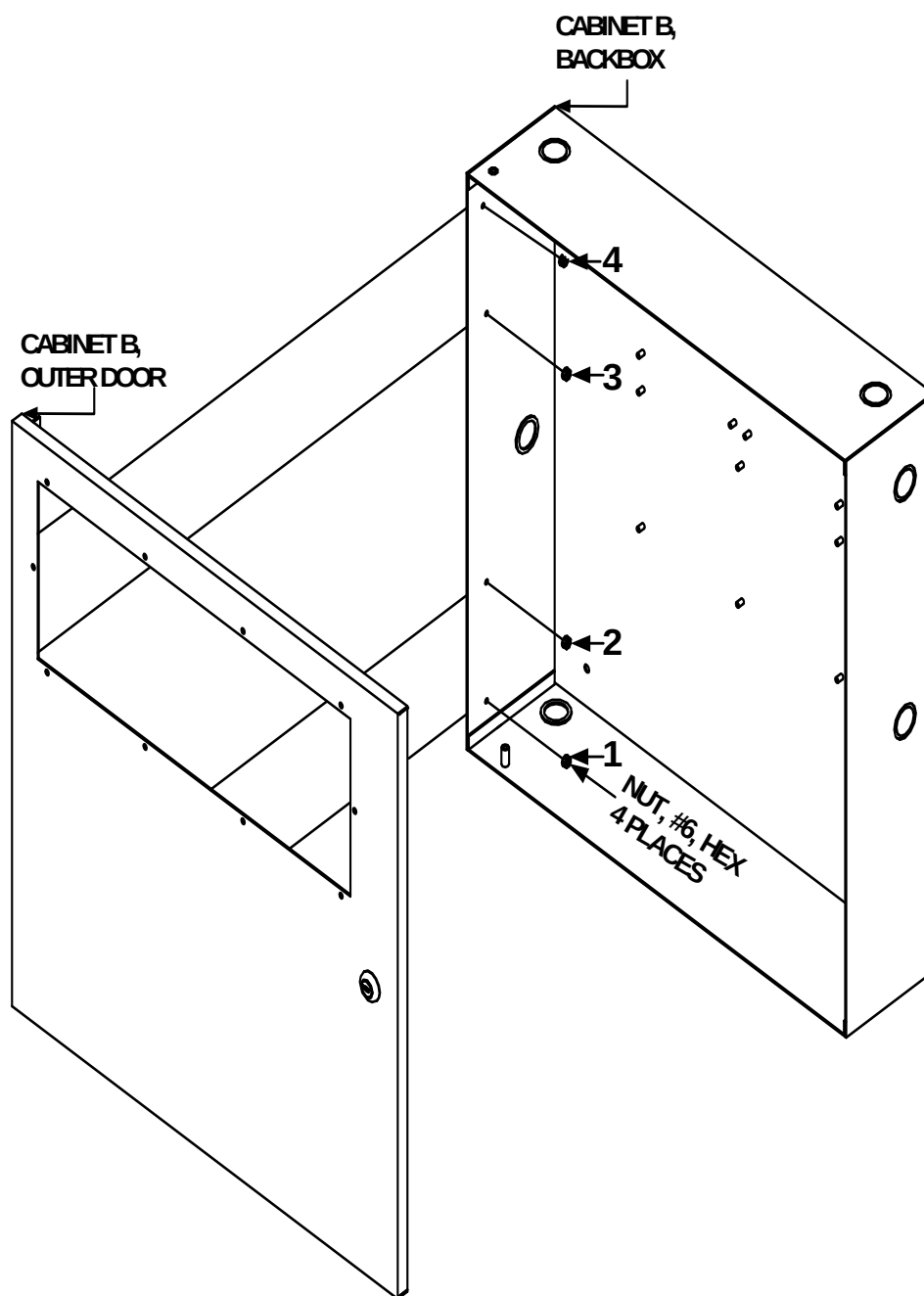


Figure 2.5.6.3.1 Cabinet B, Outer Door Installation

### 2.5.6.4 Cabinet B, Backbox Sub-Assembly Installation (Typical)

1. Mount the ILI-MB-E3/ILI95-MB-E3 over the standoffs in the backbox and secure the eight, (8), standoffs, (3/16" hex, #4-40 x 1.0") in the eight-hole mounting pattern as shown in Location 1 of Figure 2.5.6.4.2. (Note: PCB orientation).
2. Mount the DACT-E3 and the RPT-E3 on top of the ILI-MB-E3/ILI95-MB-E3 and secure the eight (8), screws (#4-40 x 3/8") into the eight (8), standoffs as shown in Location 2 of Figure 2.5.6.4.2. (Note: PCB orientation).



**NOTE:** You can replace the DACT-E3/RPT-E3 with the ANX and mount the ANX on top of the ILI-MB-E3/ILI95-MB-E3.

3. Set the PM-9/PM-9G over the standoffs in the backbox and secure the six (6), screws (#4-40 x 3/8") in the six-hole mounting pattern as shown in Location 3 of Figure 2.5.6.4.2. (Note: PCB orientation).
4. Place the batteries in the backbox. The cabinet will accommodate two (2) batteries up to a maximum of 18 amp/hours capacity.

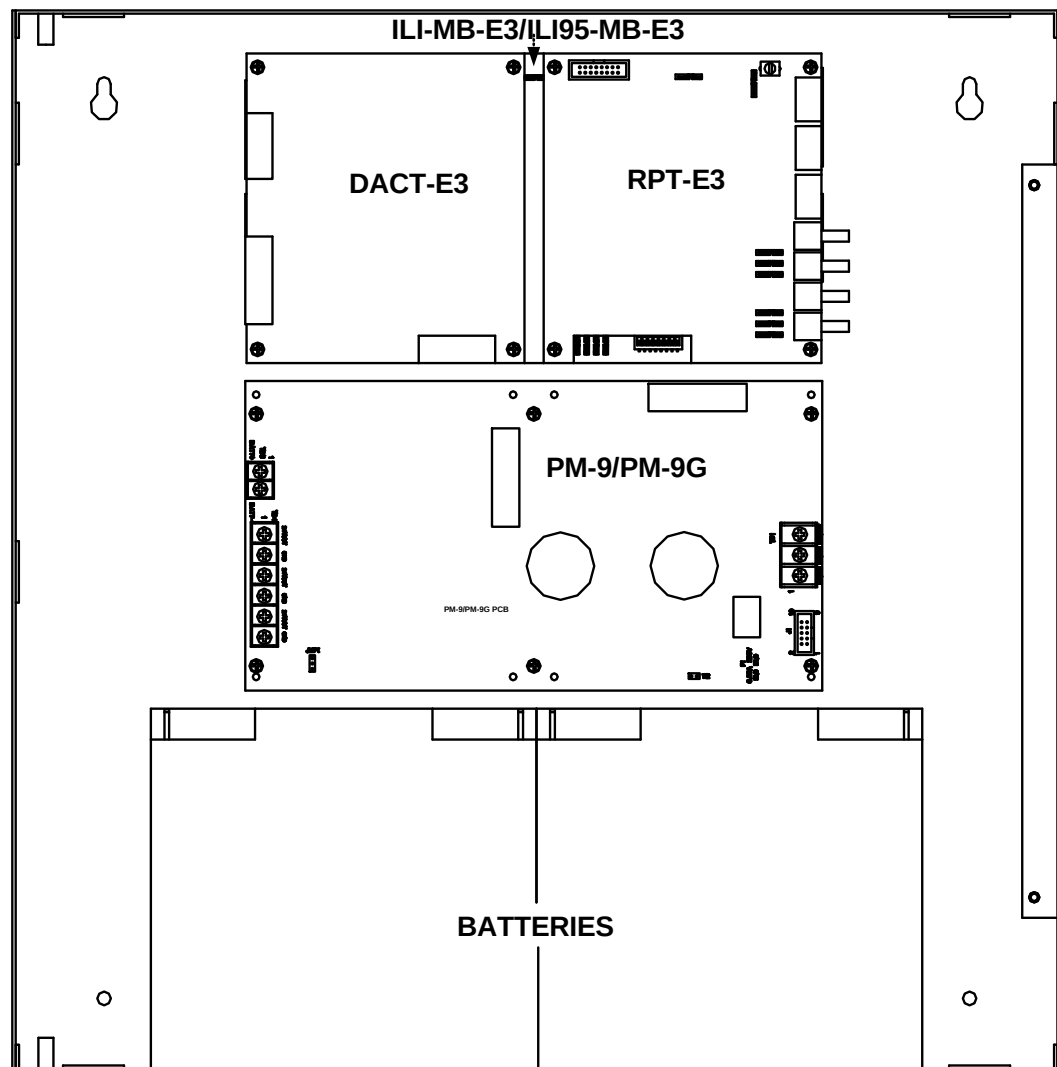


Figure 2.5.6.4.1 Cabinet B, Backbox Sub-Assembly (Standard View)

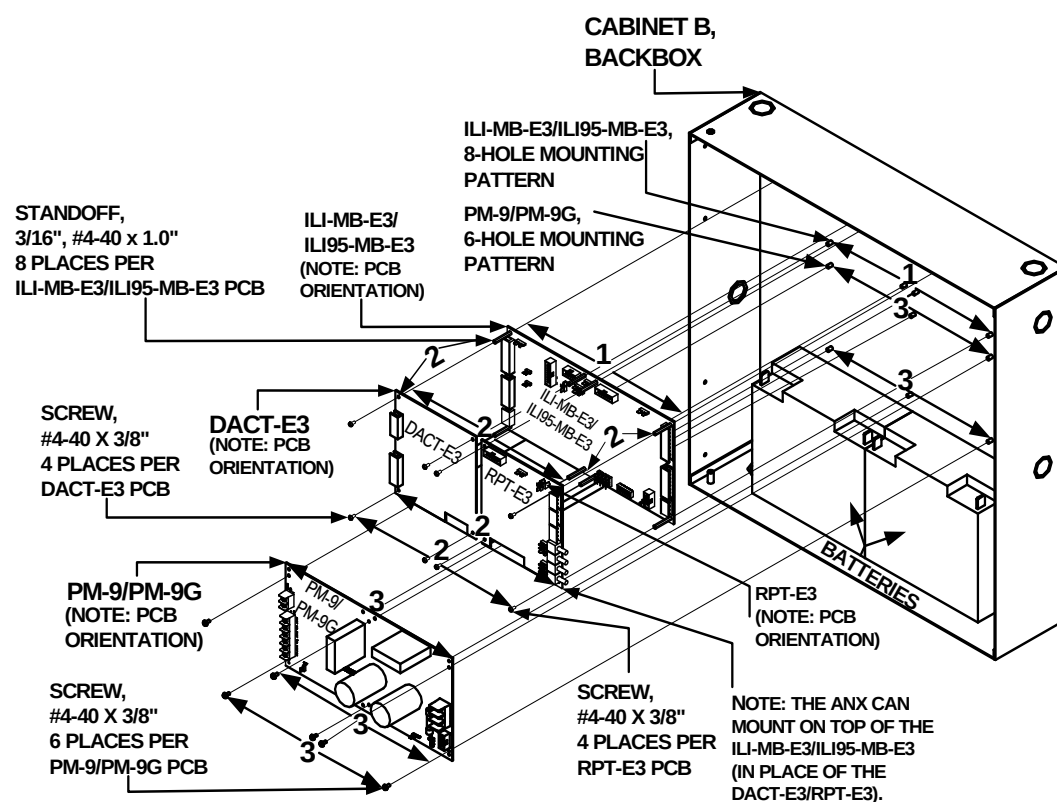


Figure 2.5.6.4.2 Cabinet B, Backbox Sub-Assembly (Exploded View)

### 2.5.6.5 Cabinet B, Inner Door to the Backbox Installation

1. Place the nylon spacer (5/8" x .314ID x .312) over the backbox, bottom hinge pin as shown in Location 1 of the figure below.
2. Mount the inner door to the backbox by sliding the inner door top hinge pin hole onto the backbox top hinge pin as shown in Location 2.
3. Align the inner door bottom hinge pin hole with the backbox bottom hinge pin.
4. Slide the inner door over the inner door bottom hinge pin hole on top of the nylon spacer, and secure using the #8 x .5" screw as shown in Location 2 of the figure below.
5. After the inner door is secured in place, attach one end of the bonding wire to the top hinge pin using the #8 x .5" screw as shown in Location 3 of the figure below.

**NOTE:** For information on the installation of the opposite end of the bonding wire, see Section 2.5.6.6, Step 3 and Location 3 of Figure 2.5.6.6.1.

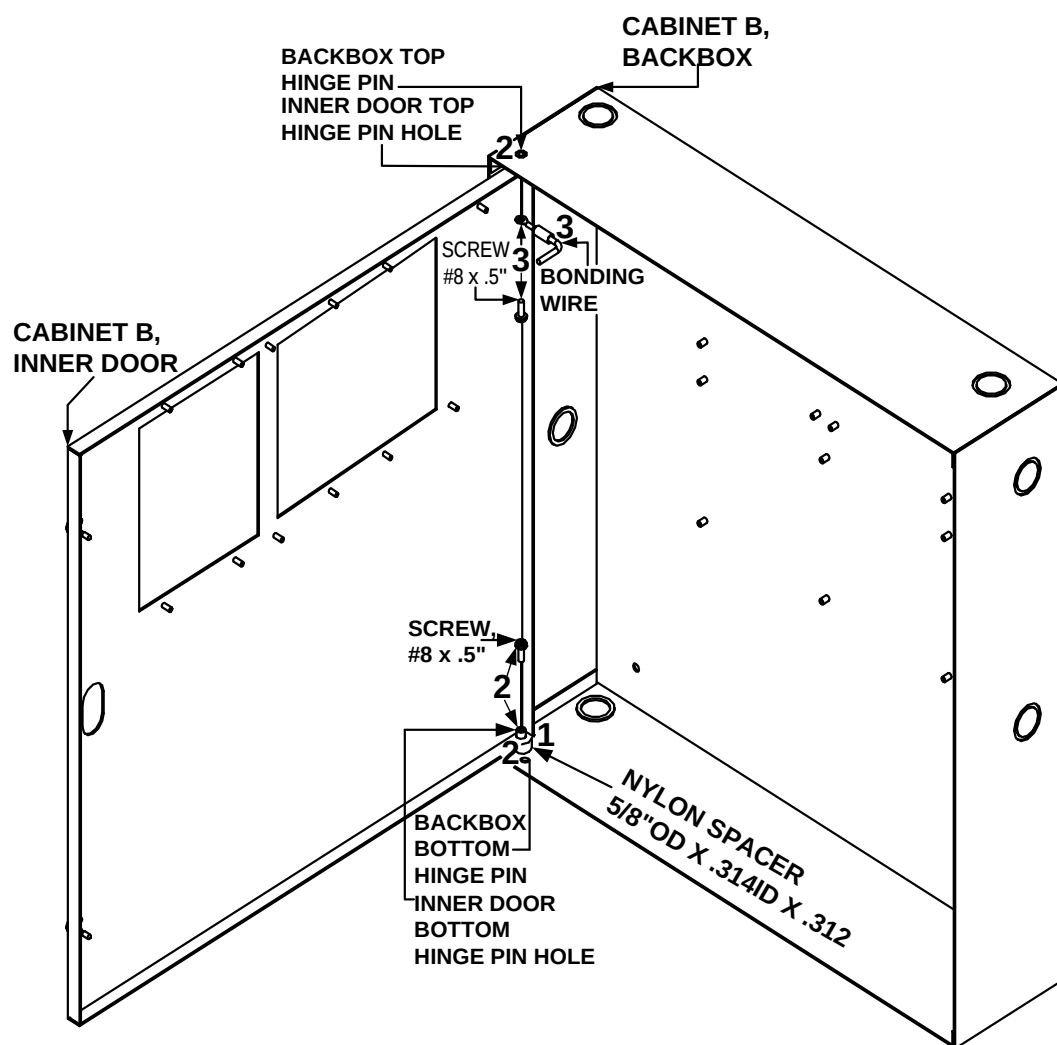


Figure 2.5.6.5.1 Cabinet B, Inner Door to the Backbox Installation

### 2.5.6.6 Cabinet B, Inner Door Installation

1. Mount the LCD-E3 keypad on the inner door and secure with eight (8), #6-32 nuts in the eight-hole mounting pattern as shown in Location 1 of the figure below.
2. Mount the ASM-16 on the inner door and secure with four (4), #6-32 nuts in the four-hole mounting pattern as shown in Location 2 of the figure below.
3. Secure the opposite end of the bonding wire to the welded #6 stud on the inner side of the inner door using the #6 nut as shown in Location 3 of the figure below.
4. After the panel is wired, use the thumbscrews to secure the inner door to the backbox as shown in Location 4 of the figure below.

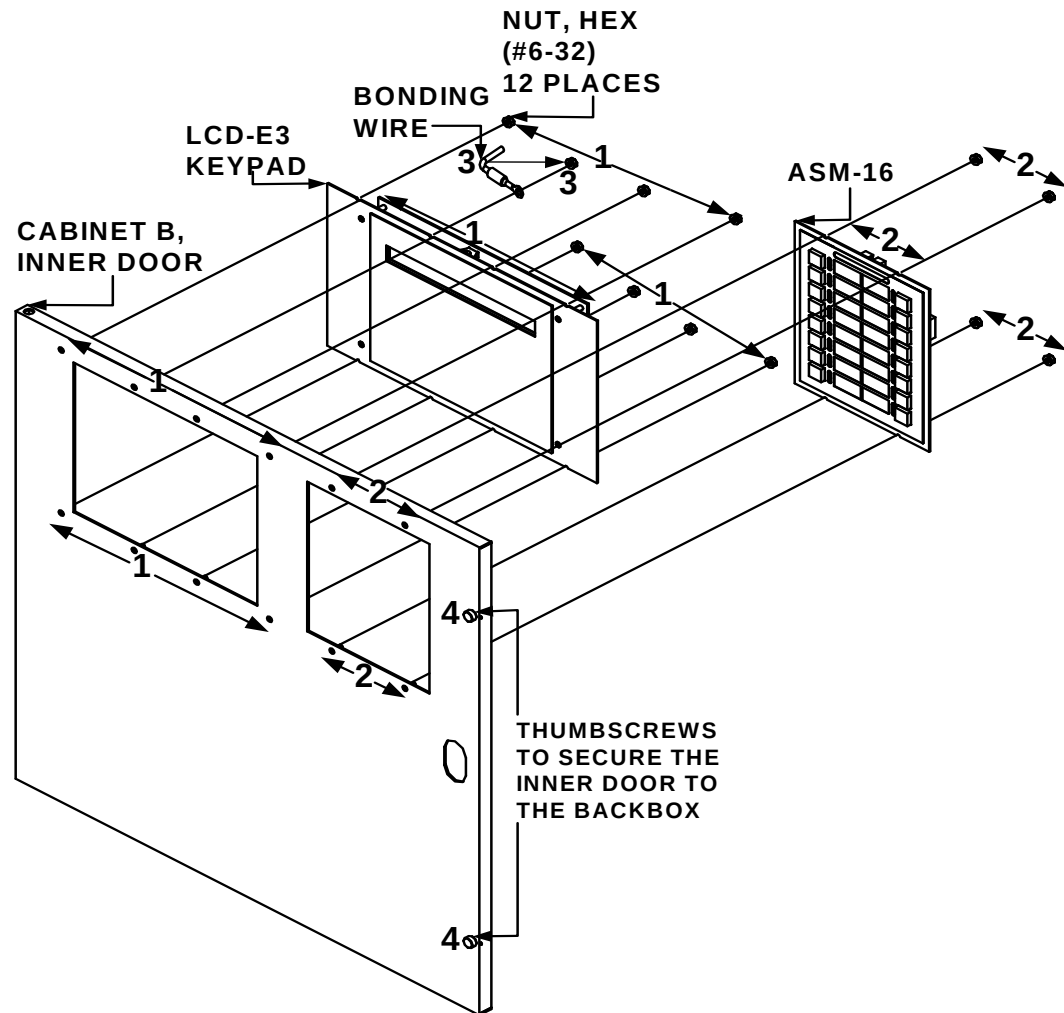
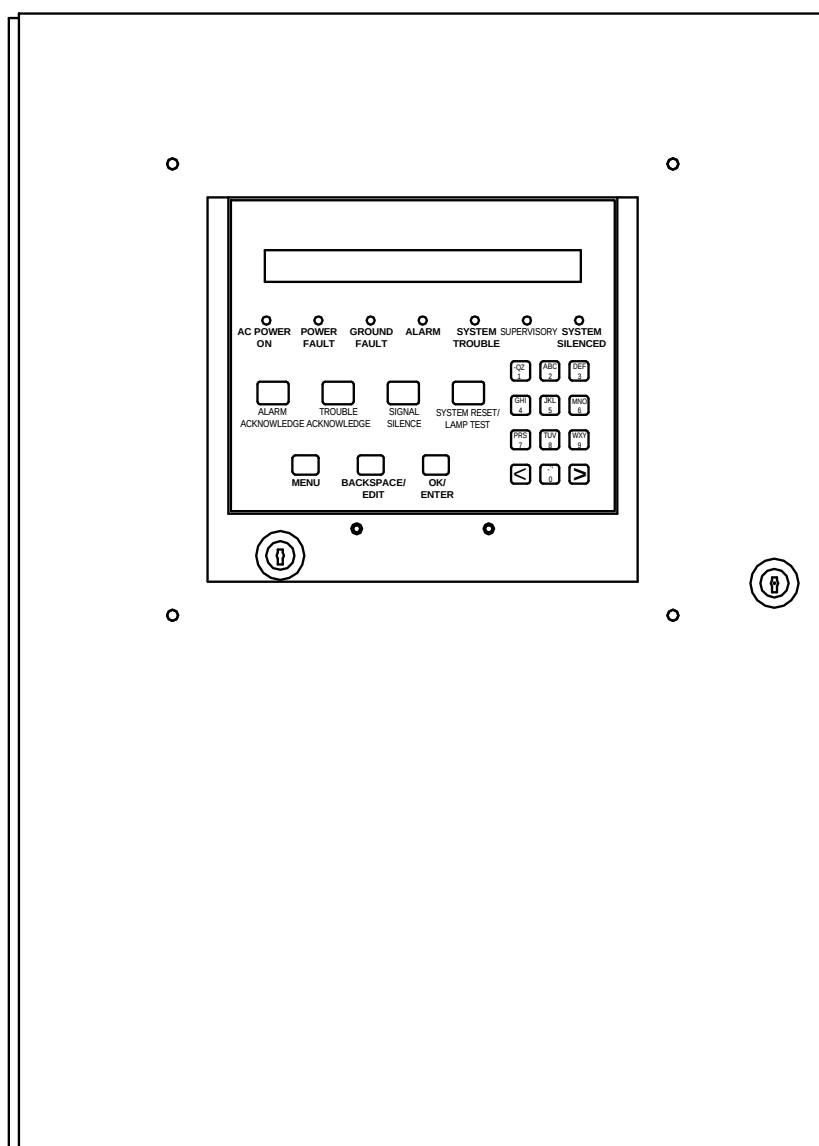


Figure 2.5.6.1 Cabinet B, Inner Door Installation

## 2.5.7 B-Slim Cabinet Installation

The B-Slim Cabinet Assembly typically houses the following:

- Backbox
  - batteries
- Outer Door
  - Door Insert
  - LCD-E3 Display
- B-Slim Plate
  - ILI-MB-E3                                      – ILI95-MB-E3                                      – PM-9/PM-9G
- B-Slim Plate (Optional mounted on top of the ILI-MB-E3/ILI95-MB-E3)
  - DACT-E3                                      – RPT-E3                                      – ANX
- Hardware Kit



**Figure 2.5.7.1 B-Slim Cabinet Installation**

### 2.5.7.1. B-Slim Cabinet Backbox Installation

1. To prepare the mounting site, pre-drill four (4), #10 screws, using the dimensions shown in the figure below. Use four (4), #10 screws.



**NOTE:** If the fasteners are anchored to a wallboard, use #10 wall anchors. Mounting to concrete walls should be backed by plywood to insulate the equipment from possible condensation.

2. Secure with two (2), #10 screws in the two-hole mounting pattern as shown in Locations 1 and 2 of Figure 2.5.7.1.1.
3. Set the backbox over the top, two-hole mounting pattern, and hang the backbox over the two screw heads.
4. Insert and secure two (2), #10 screws in the two-hole mounting patterns as shown in Locations 3 and 4 of Figure 2.5.7.1.1.



**NOTE:** Add knockouts to the left and right side of the rear panel of the backbox. Do not add knockouts in the center or top of the backbox. To add larger knockouts, increase the size of the existing knockouts.

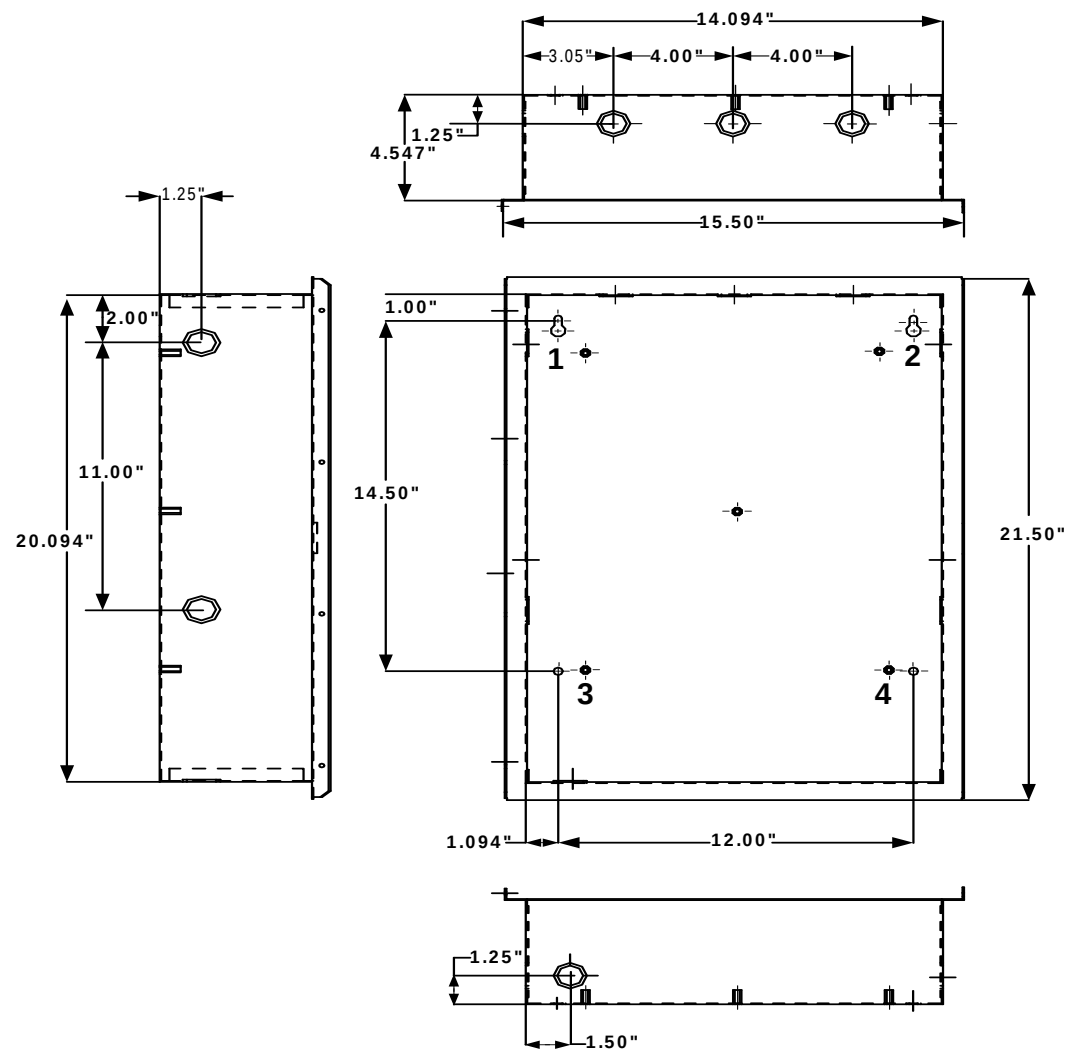


Figure 2.5.7.1.1 B-Slim Cabinet Dimensions

### 2.5.7.2 LCD-E3 Mounting Plate to the Outer Door Installation

1. Insert the keyswitch to the LCD-E3 Mounting Plate and secure with one (1) nut, (3/4" x 24 THD HEX) as shown in Location 1 of Figure 2.5.7.2.1.
2. Attach the keyswitch cable to the key as shown in Location 2 of Figure 2.5.7.2.1.
3. Mount the LCD-E3 keypad to the LCD-E3 Mounting Plate and secure the eight (8), nuts (#6-32 HEX KEPS) in the eight-hole mounting pattern as shown in Location 3 of Figure 2.5.7.2.1.
4. Plug-in the P2, keyswitch cable to the W2 terminal on the LCD-E3 panel as shown in Location 4 of Figure 2.5.7.2.1.

(For information on the location of the P2 and W2 terminal on the LCD-E3 panel, refer to Note 1 on the LCD-E3 Wiring Diagram in Figure 3.13.4.1 of Section 3.14.4).

5. Mount the LCD-E3 Mounting Plate to the Outer Door and secure the four (4), nuts (#6-32, HEX KEP) in the four-hole mounting pattern as shown in Location 5 of Figure 2.5.7.2.1.
6. Install the keylock, PK625 to the Outer Door and secure with one (1) nut, (3/4" x 24 THD HEX) as shown in Location 6 of Figure 2.5.7.2.1.



**NOTE:** For additional information on the LCD-E3 sub-assembly installation, refer to the *LCD-E3 Installation Instructions, P/N 9000-0582*.

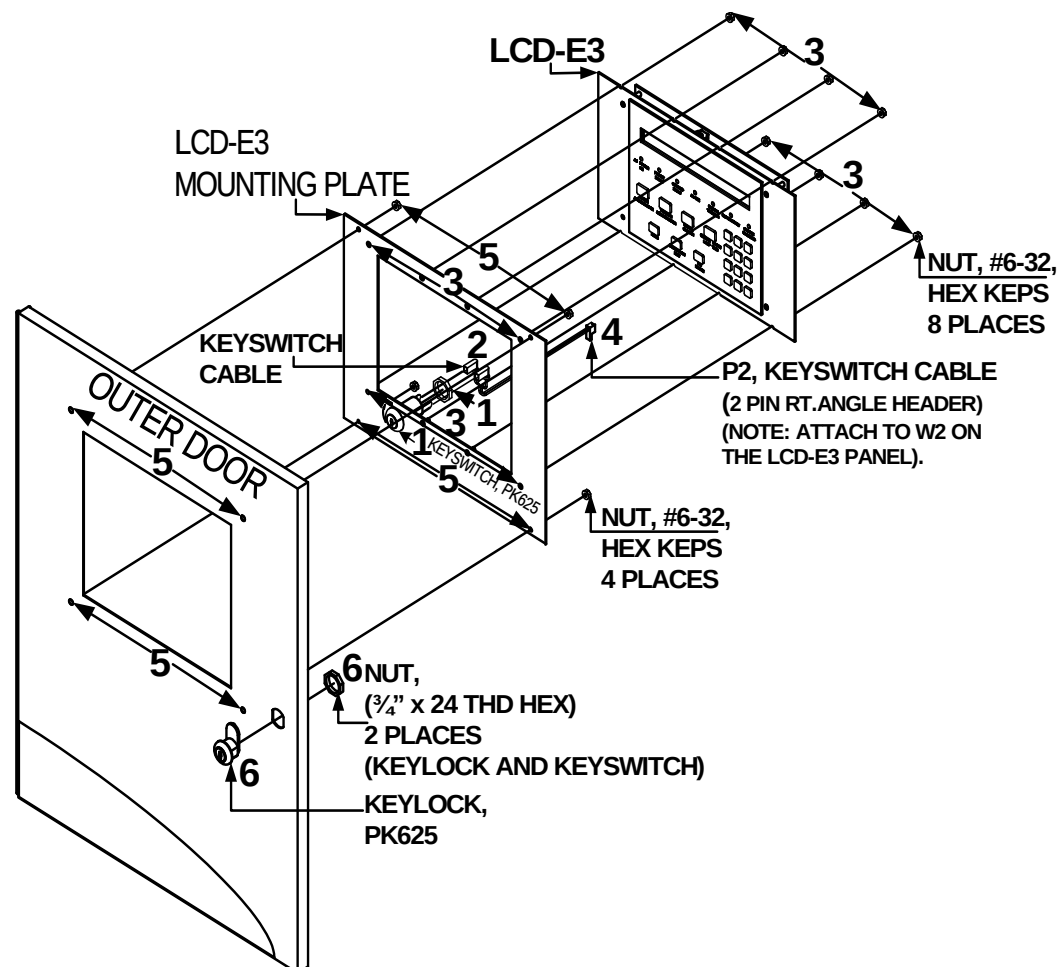


Figure 2.5.7.2.1 LCD-E3 Mounting Plate to the Outer Door Installation

### 2.5.7.3 B-Slim Cabinet Backbox Installation

To mount the B-Slim Cabinet outer door to the backbox, secure with four (4), #6 Hex Kep nuts in the four-hole mounting pattern on the left side of the backbox. See Locations 1, 2, 3, and 4 of Figure 2.5.7.3.1.

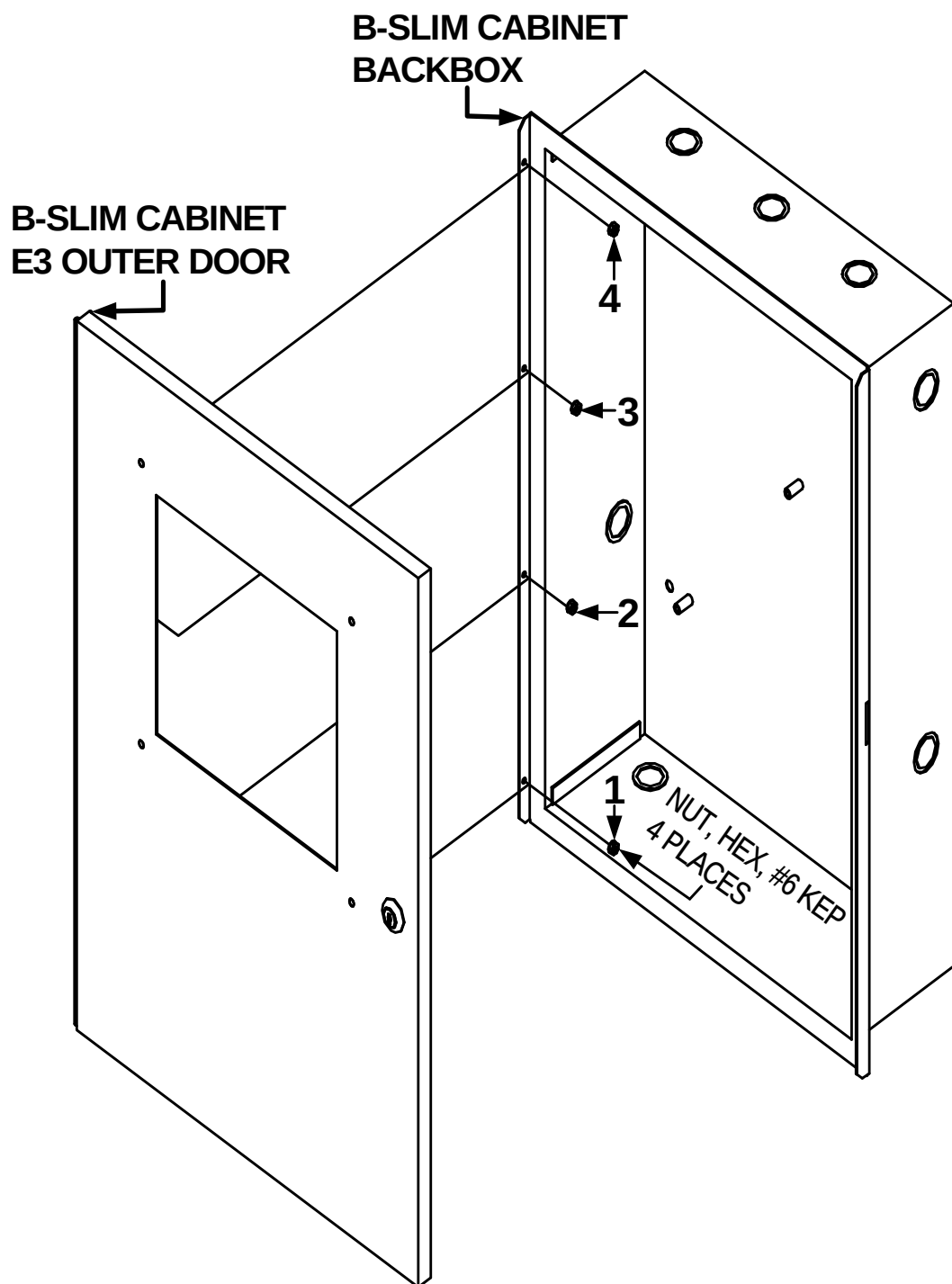


Figure 2.5.7.3.1 B-Slim Cabinet Outer Door Installation

### 2.5.7.4 B-Slim-E3 Plate Installation

1. Mount the first ILI95-MB-E3/ILI-MB-E3 to the B-Slim-E3 Plate and secure the eight (8), screws (#4-40) in the eight-hole mounting pattern as shown in Location 1 of Figure 2.5.7.4.2.
2. Mount the PM-9/PM-9G on the B-Slim-E3 Plate and secure the six (6), screws (#4-40) in the six-hole mounting pattern as shown in Location 2 of Figure 2.5.7.4.2.



**NOTE:** You can mount the DACT-E3/RPT-E3 or the ANX on top of the ILI-MB-E3/ILI95-MB-E3.

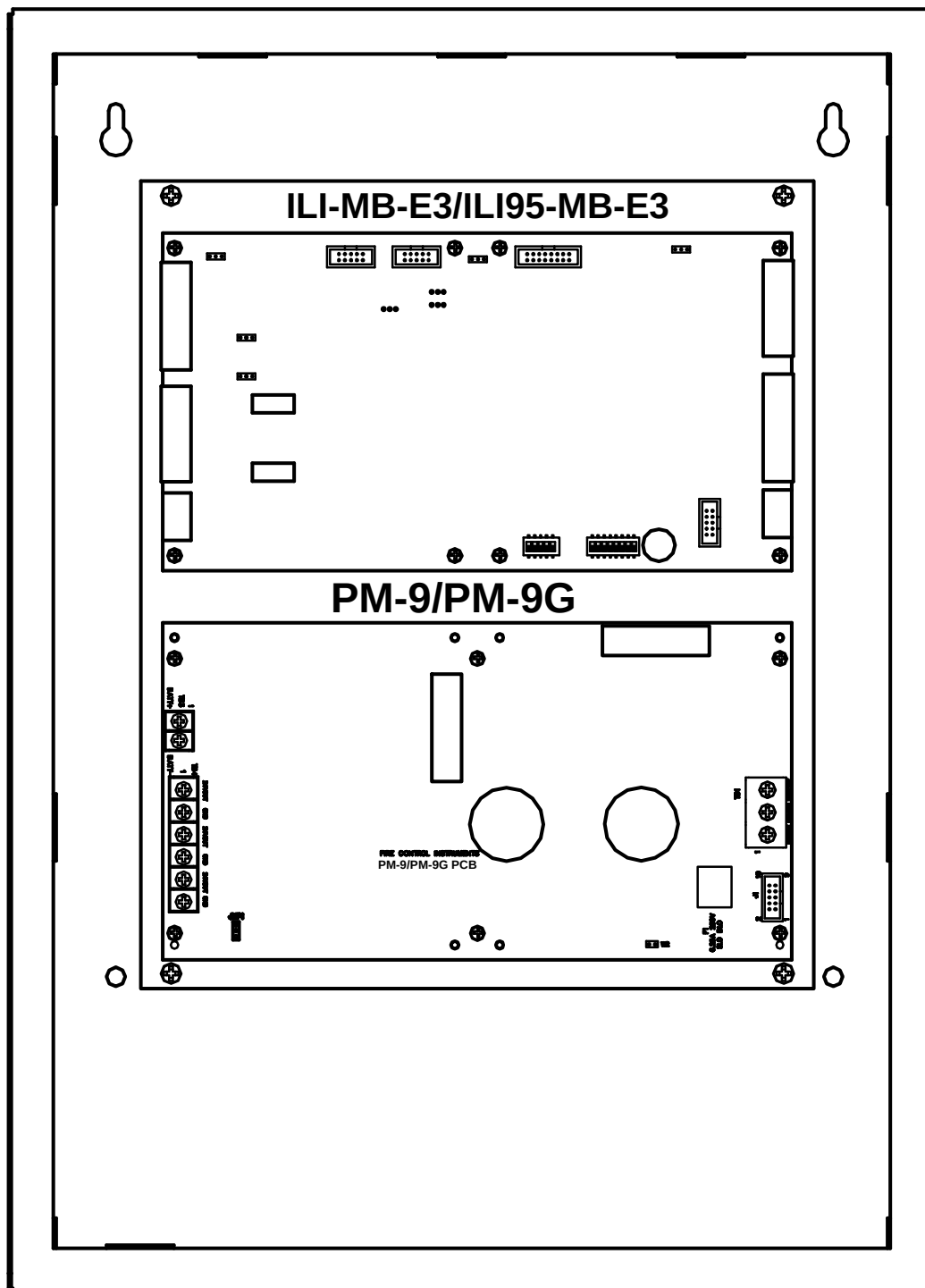


Figure 2.5.7.4.1 B-Slim-E3 Plate Installation

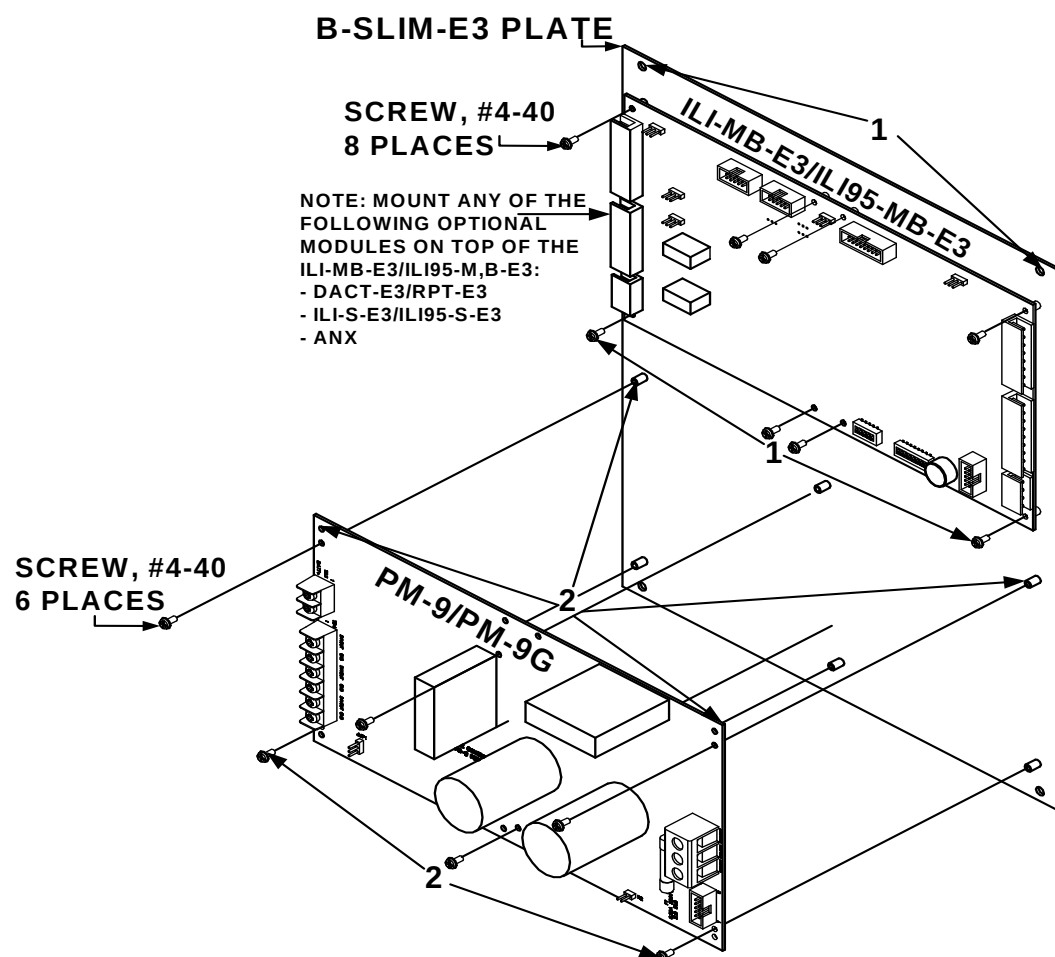


Figure 2.5.7.4.2 B-Slim-E3 Plate (Exploded View)

### 2.5.7.5 B-Slim-E3 Sub-Assembly Plate to Backbox Installation

Mount the B-Slim-E3 sub-assembly plate on the studs in the backbox and secure with four (4), (#8-32) screws as shown in Locations 1 thru 4 of the figure below.

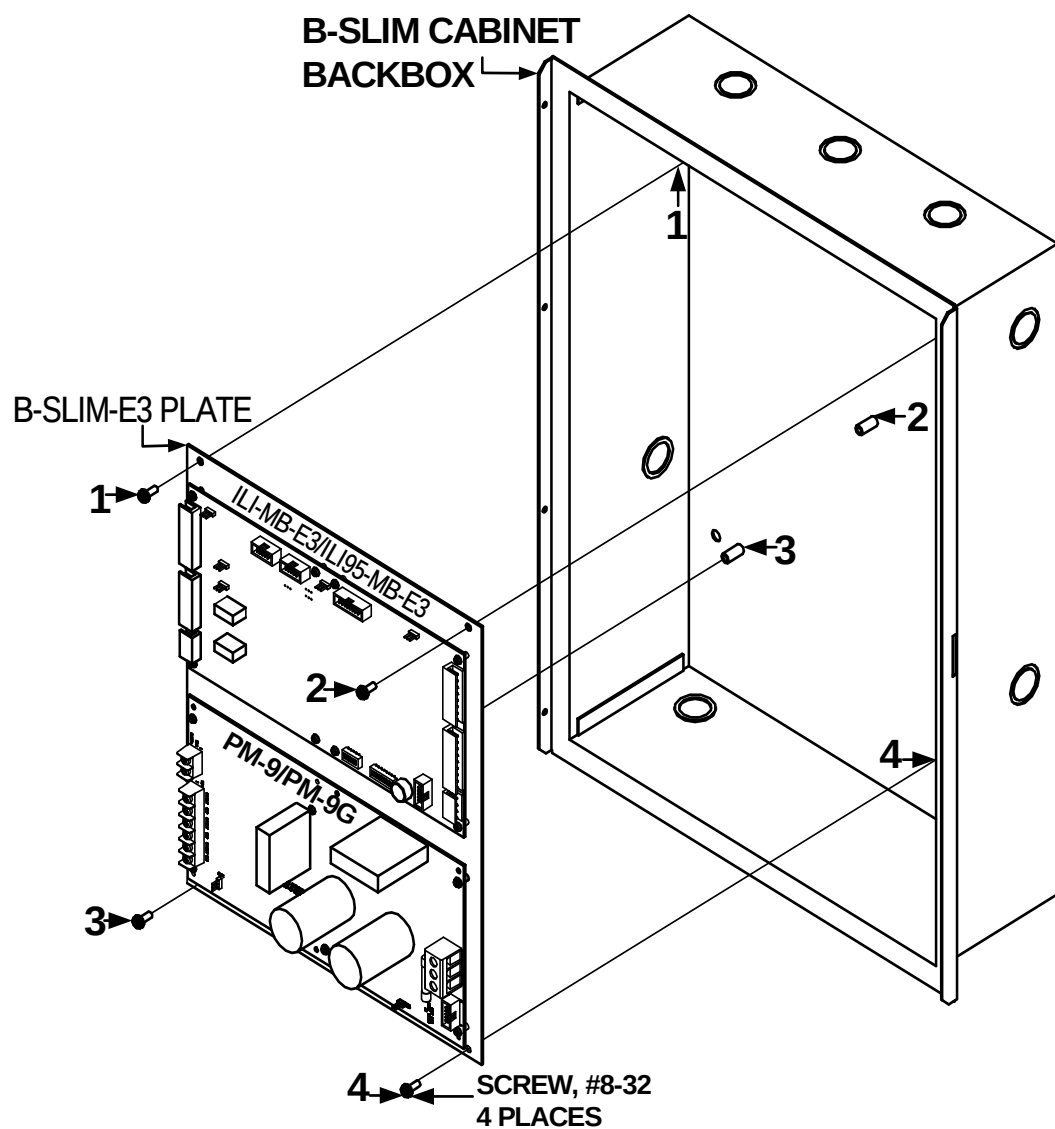


Figure 2.5.7.5.1 B-Slim-E3 Sub-Assembly Plate to Backbox Installation

## 2.5.8 Cabinet C, E3-INX-C Plate Installation Instructions

The Cabinet C Assembly typically houses the following:

- Backbox:
  - Telephone Assembly - Two Batteries
  - Microphone Assembly
  - E3 Cabinet C, Trim Rings (Optional Accessory)
- E3-INX-C Plate Outer Door
- E3-INX-C Plate:
  - ILI-MB-E3/ILI95-MB-E3/ANX
  - DACT-E3
  - RPT-E3
  - PM-9/PM-9G
  - INI-VG Series
  - Up to a maximum of four (4), AM-50 Series amplifiers (Optional)
- Hardware Kit

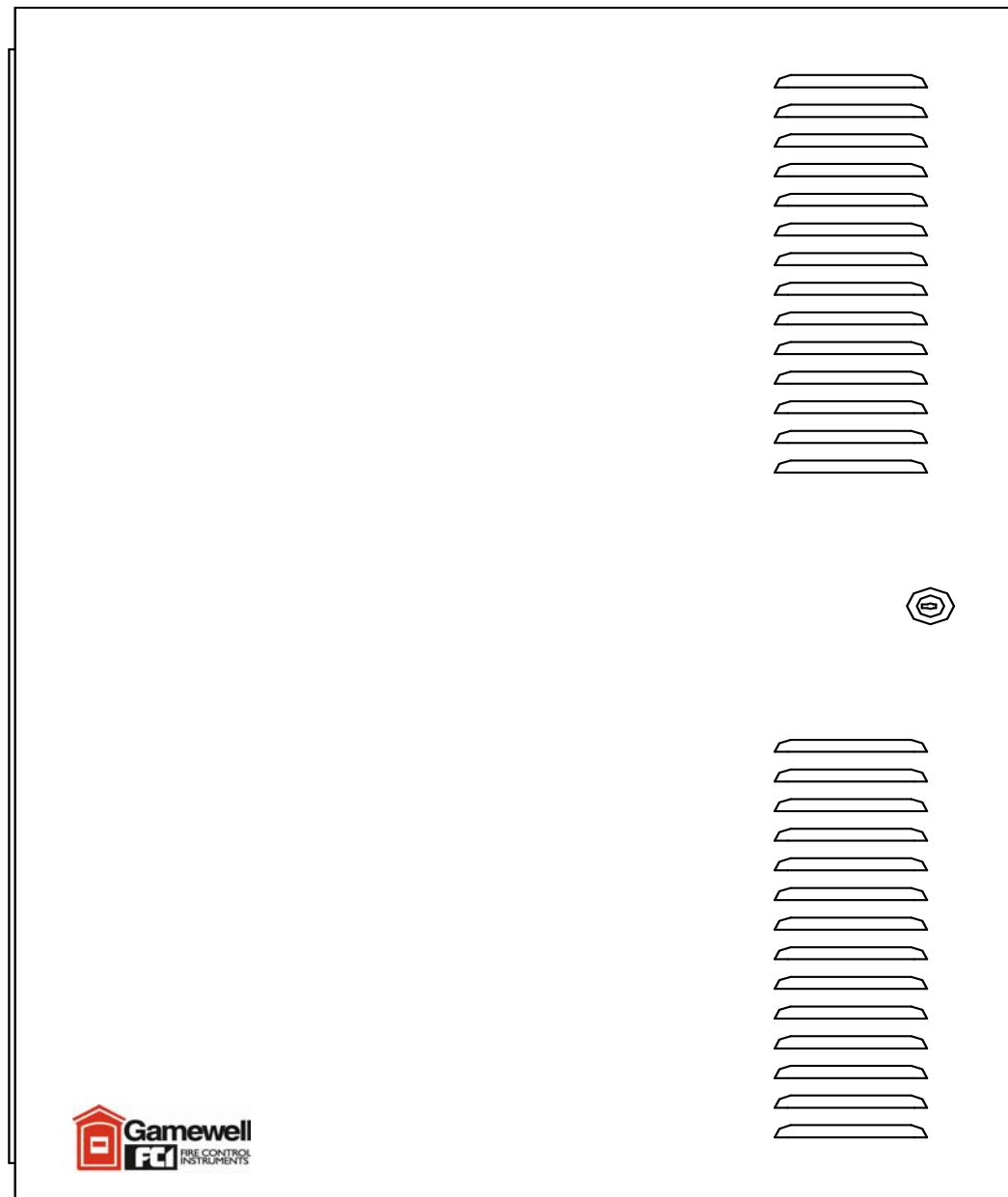


Figure 2.5.8.1 Cabinet C, Standard View

### 2.5.8.1 Cabinet C, Backbox Installation

1. Prepare the mounting site by pre-drilling four (4), #10 screws, using the dimensions shown in the figure below. Use four (4), #10 screws.

**NOTE:** If the fasteners are anchored to a wallboard, use #10 wall anchors. Mountings to concrete walls should be backed by plywood to insulate the equipment from possible condensation.

2. Secure with two (2), #10 screws in the two-hole mounting pattern as shown in Locations 1 and 2 of the figure below.
3. Set the backbox over the top, two-hole mounting pattern, and hang the backbox over the two screw heads.
4. Insert and secure two (2), #10 screws in the two-hole mounting pattern as shown in Locations 3 and 4 of the figure below.



**NOTE:** Add knockouts to the left and right side of the rear panel of the backbox. Do not add knockouts in the center or top of the backbox, above the ILI-MB-E3/ILI95-MB-E3/ANX, behind or below the batteries. To add larger knockouts, increase the size of the existing knockouts.

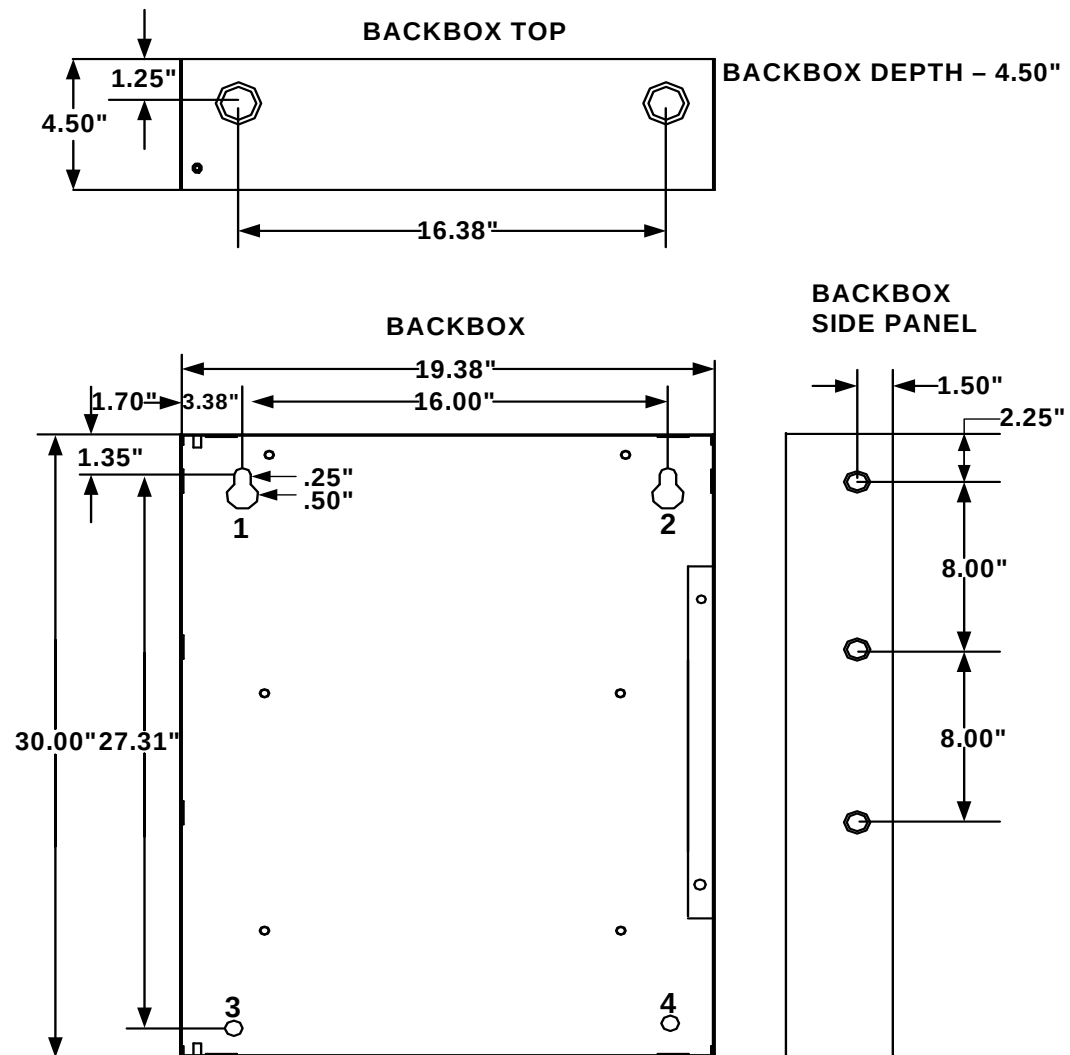


Figure 2.5.8.1.1 Cabinet C, Backbox Installation

### 2.5.8.2 Cabinet C, Trim Rings Installation (Optional Accessory)

1. Insert the Cabinet C, trim top ring over the top three-hole mounting pattern.
2. Secure with three (3), #6 Hex Kep nuts in the three-hole mounting pattern on the top of the backbox as shown in Locations 1, 2 and 3 of the figure below.
3. Insert the Cabinet C, trim bottom ring on the bottom three-hole mounting pattern.
4. Secure with three (3), #6 Hex Kep nuts in the three-hole mounting pattern on the bottom of the backbox as shown in Locations 4, 5 and 6 of the figure below.
5. Insert the Cabinet C, trim left ring on the left side of the four-hole mounting pattern.
6. Secure with four (4), #6 Hex Kep nuts in the four-hole mounting pattern on the left side of the backbox as shown in Locations 7, 8, 9 and 10 of the figure below.
7. Insert the Cabinet C, trim right ring on the right side of the four-hole mounting pattern.
8. Secure with four (4), #6 Hex Kep nuts in the four-hole mounting pattern on the right side of the backbox as shown in Locations 11, 12, 13 and 14 of the figure below.

For information on flush-mounting, refer to the E3 Series Cabinet Trim Rings Installation Instructions, P/N 9001-0058.



**NOTE:** Use the Trim Ring Hardware Kit provided. The trim top/bottom and trim left/right rings are interchangeable.

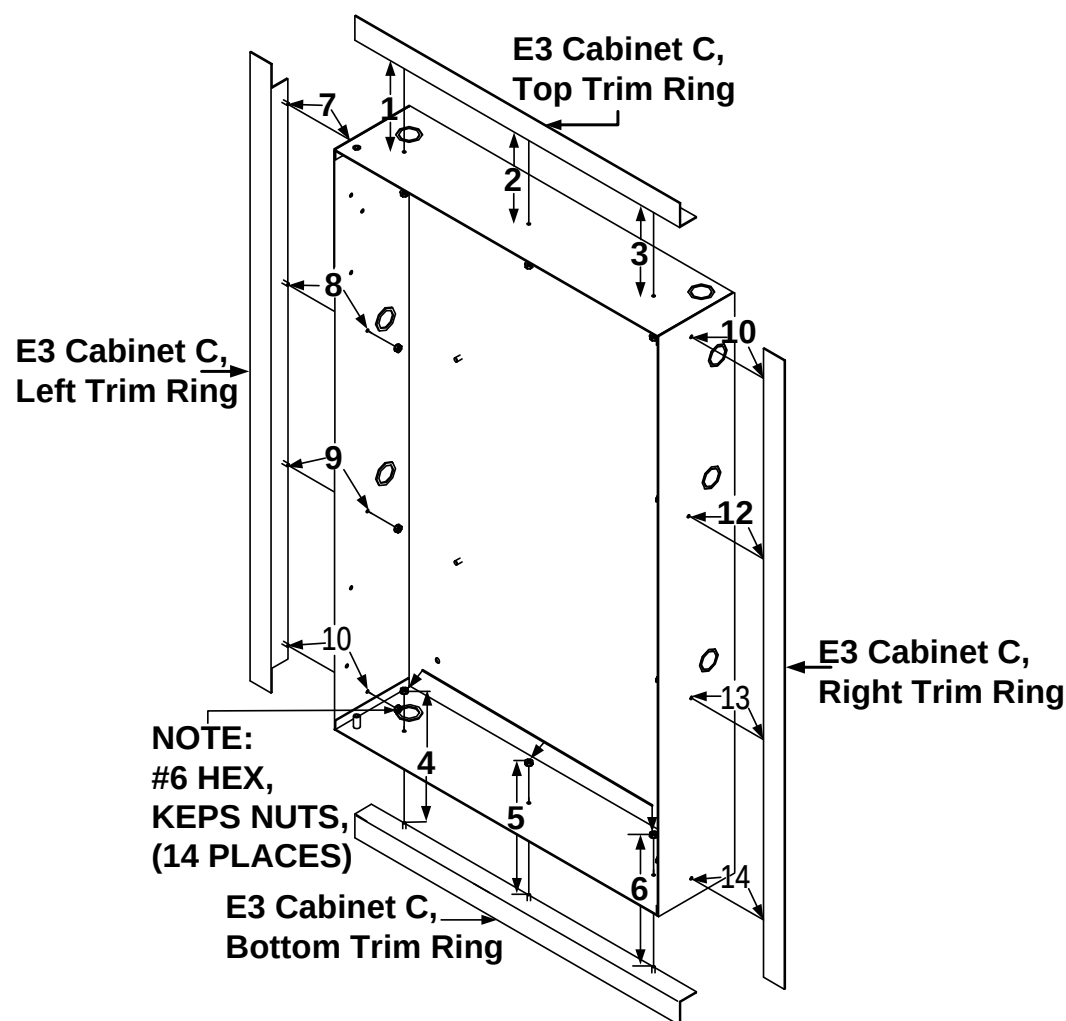


Figure 2.5.8.2.1 Cabinet C, Trim Rings Installation

### 2.5.8.3 Cabinet C, E3-INX-C Plate, Outer Door Installation

Mount the E3-INX C Plate outer door to the backbox, by securing four (4), #6-32 nuts in the four-hole mounting pattern on the left side of the backbox. See Locations 1, 2, 3, and 4 of the figure below.

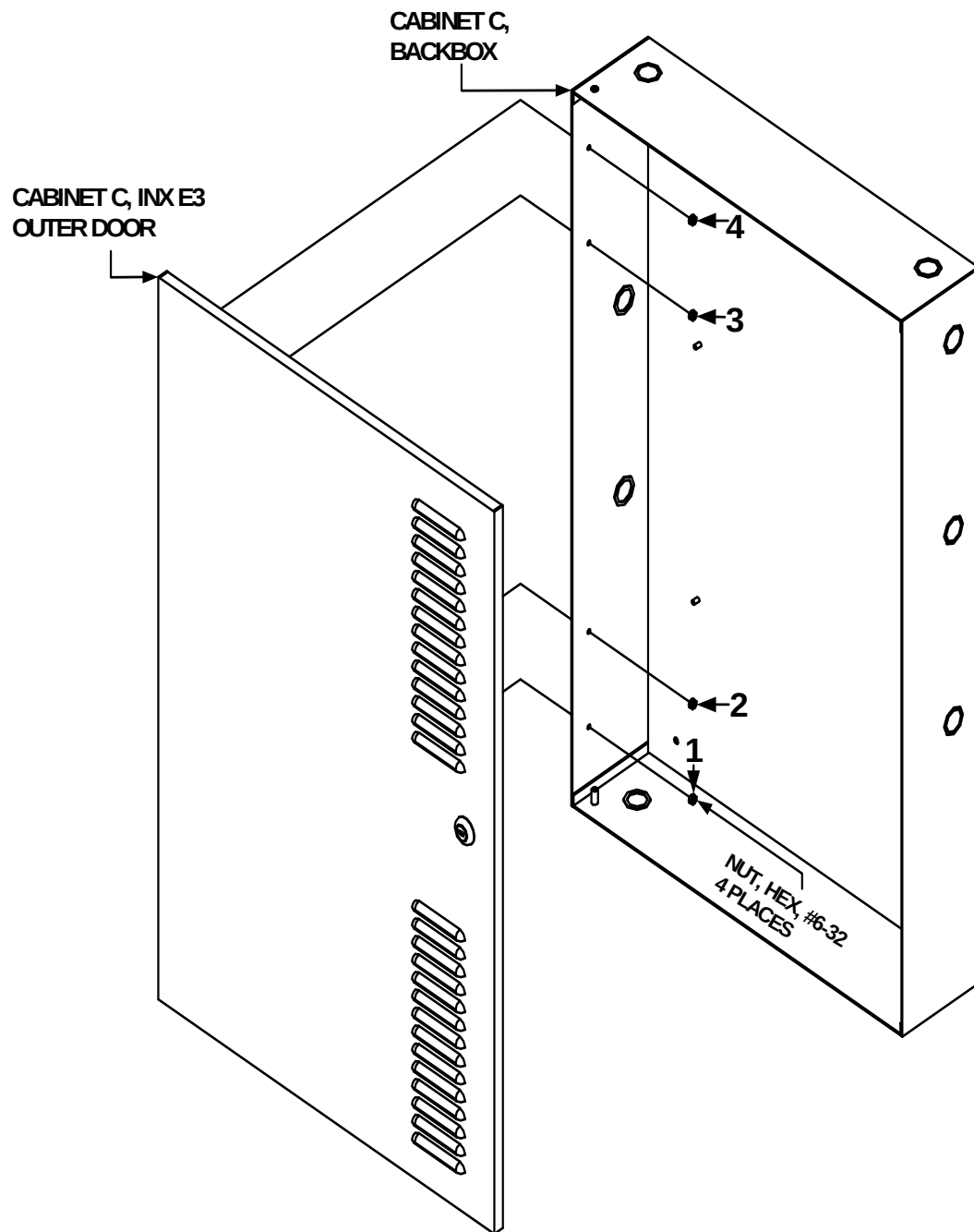


Figure 2.5.8.3.1 Cabinet C, E3-INX C Plate Outer Door Installation

### 2.5.8.4 Cabinet C, E3-INX-C Plate, Installation

1. Mount the ILI-MB-E3/ILI95-MB-E3/ANX over the standoffs on the E3-INX C plate and secure with eight (8), standoffs, (3/16" hex, #4-40 x 1") in the eight-hole mounting pattern as shown in Location 1 of Figure 2.5.8.4.2.
2. Mount the DACT-E3 and the RPT-E3 on top of the ILI-MB-E3/ILI95-MB-E3/ANX and secure with eight (8), screws (#4-40 x 1/4") into the eight (8), standoffs as shown in Location 2 of Figure 2.5.8.4.2.
3. Mount the PM-9/PM-9G over the standoffs on the E3-INX-C PLATE plate and secure with six (6), standoffs (1/4" hex, #4-40 x 2 1/4") in the six-hole mounting pattern as shown in Location 3 of Figure 2.5.8.4.2.
4. Mount the PM-9/PM-9G Adapter Plate on top of the PM-9/PM-9G and secure with six (6), screws (#4-40 x 1/4") into the six (6), standoffs as shown in Location 4 of Figure 2.5.8.4.2.
5. Mount the INI-VG on the PM-9/PM-9G Adapter Plate and secure with six (6), screws (#4-40 x 1/4") as shown in Location 5 of Figure 2.5.8.4.2.
6. Mount two (2), AM-50 Series amplifiers on the E3-INX-C plate and secure with eight (8), standoffs (3/16" #4-40 x 1 1/4") in the two (2), four-hole mounting patterns as shown in Location 6.
7. Mount two (2), AM-50 Series amplifiers on top of the two (2), AM-50 Series amplifiers, and secure eight (8), screws (#4-40 x 1/4") into the eight (8), standoffs as shown in Location 7 of Figure 2.5.8.4.2.

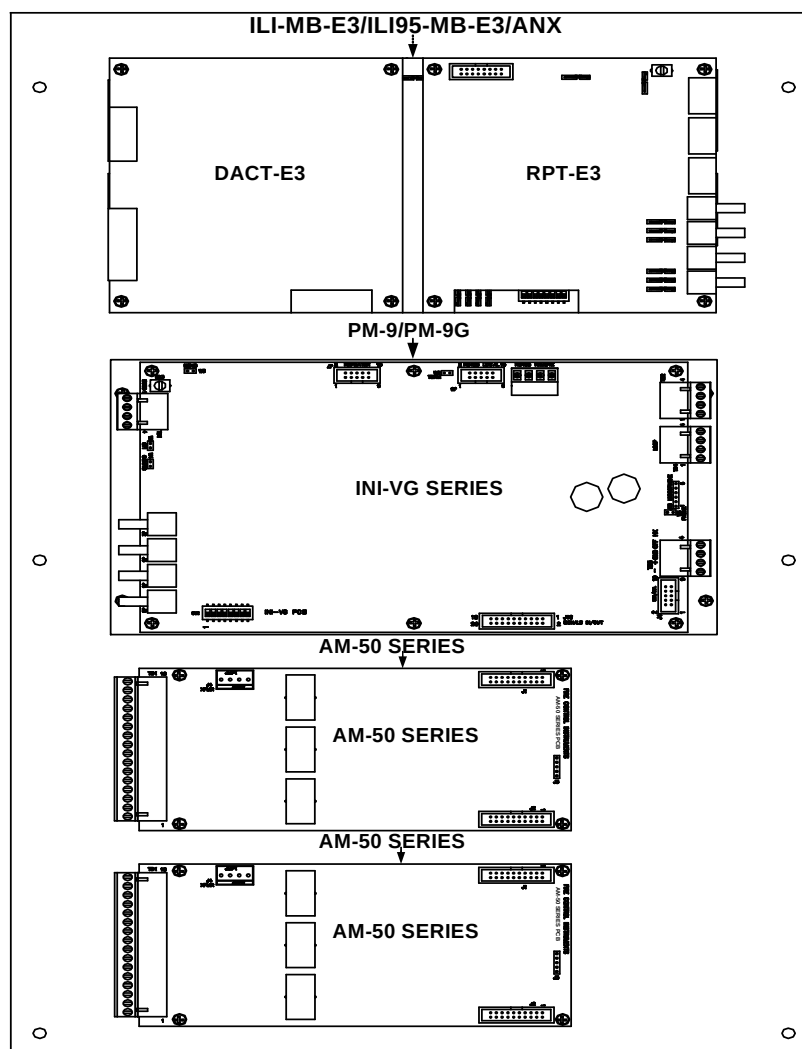


Figure 2.5.8.4.1 Cabinet C, E3-INX C Plate (Standard View)

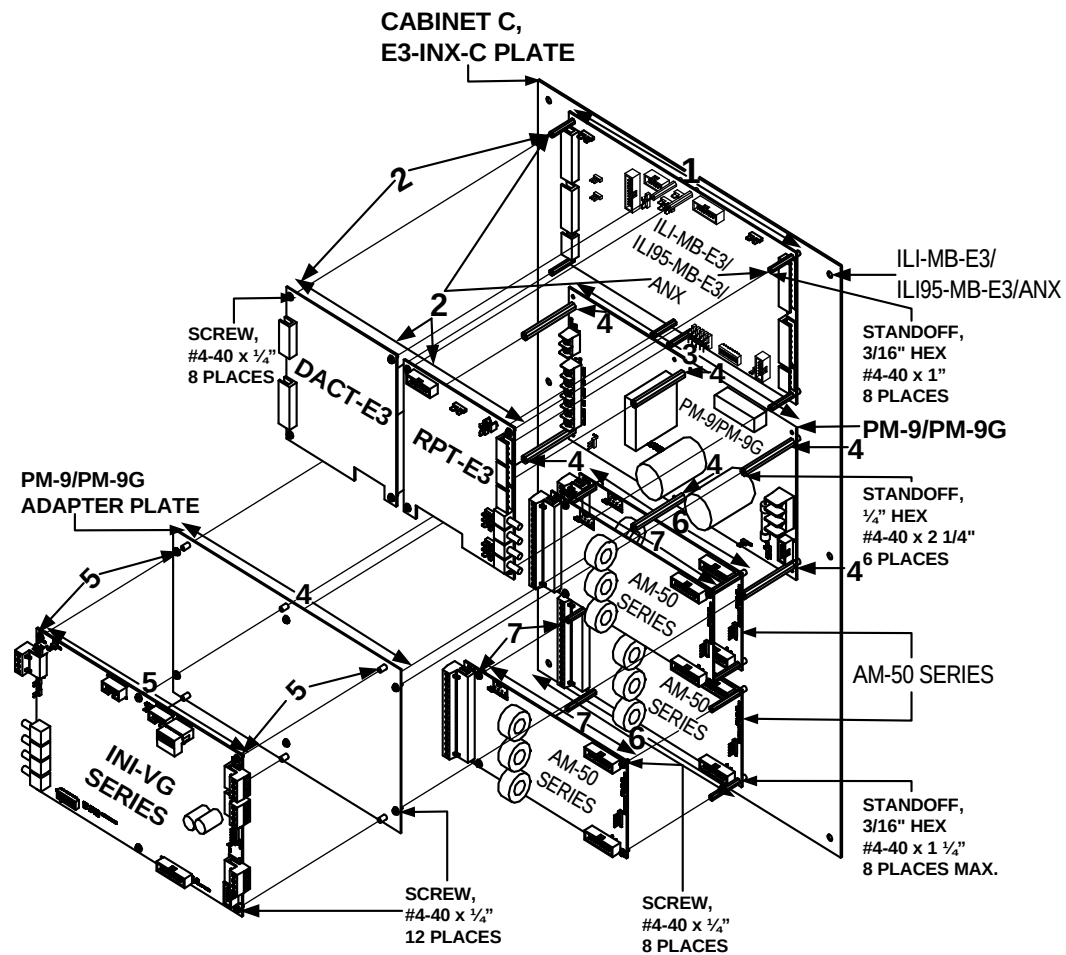


Figure 2.5.8.4.2 Cabinet C, E3-INX-C Plate (Exploded View)

### 2.5.8.5 Cabinet C, E3-INX-C Sub-Assemblies Plate to the Backbox Installation

Mount the E3-INX-C Plate sub-assemblies plate to the studs in the backbox and secure with six (6), #10-32 nuts as shown in Locations 1 thru 6 of the figure below.

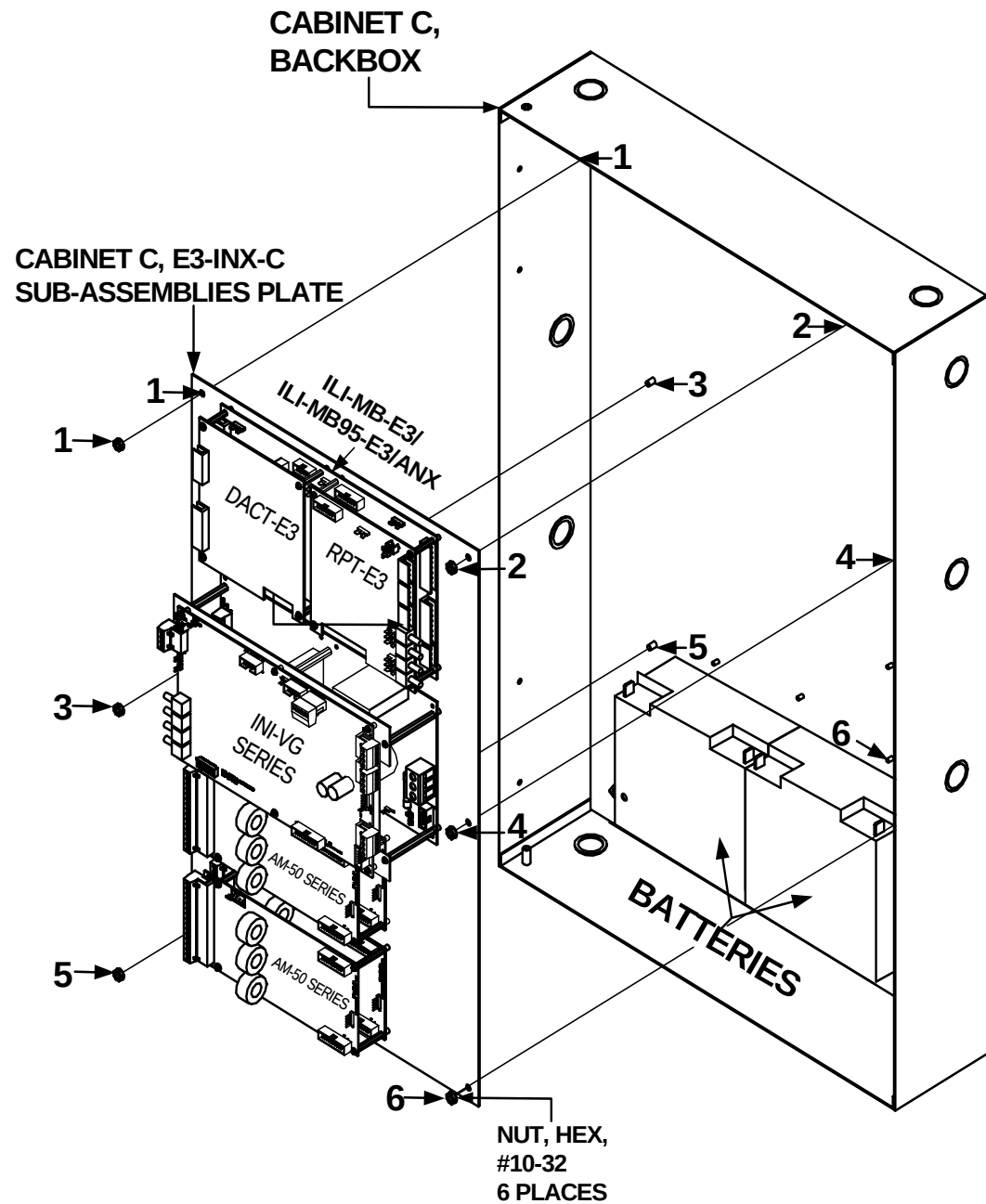


Figure 2.5.8.5.1 Cabinet C, E3-INX-C Plate to the Backbox Installation

## 2.5.9 Cabinet C, E3-INCC-C Plate Installation Instructions

The Cabinet C, E3-INCC-C Plate Assembly typically houses the following:

- Backbox
  - Two Batteries (up to 19 AH)
- E3-INCC-C Plate Outer Door
- E3-INCC-C Plate:
  - ILI-MB-E3/ILI95-MB-E3/ANX                      – INI-VGC, INI-VGE
  - DACT-E3                                                      – PM-9/PM-9G
  - RPT-E3
- E3-ILI-C Plate:
  - ILI-MB-E3/ILI95-MB-E3/ANX                      – RPT-E3
  - (2) ILI-E3 or ILI95-E3 Series                      – PM-9/PM-9G
  - DACT-E3
- AM-50 Extender Plate (Optional):
  - AM-50 Series amplifiers
- INCC-E3 PLATE 7-Bay Inner Door (Optional):
  - (1) LCD-E3 keypad                                      – Combination of four (4) ASM-16s or ANU-48s
  - (1), INCC-TEL                                              – (1), INCC-MIC
- INCC-E3 8-Bay Inner Door:
  - (1)                                                              – (1), INCC-TEL
  - Combination of five (5),                              – (1), INCC-MIC
  - ASM-16s, ANU-48s
- Hardware Kit

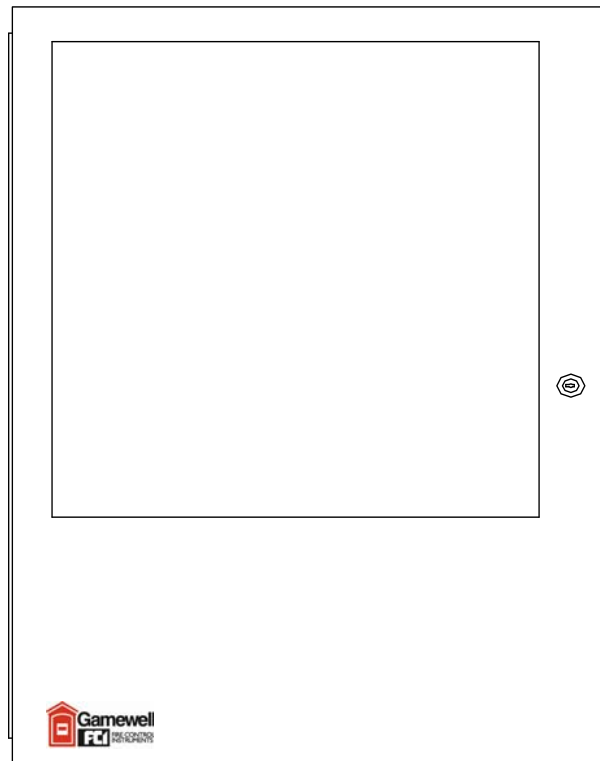


Figure 2.5.9.1 Cabinet C, E3-INCC-C Standard View

### 2.5.9.1 Cabinet C, E3-INCC-C Plate, Outer Door Installation

Mount the E3-INCC-C Plate outer door on the backbox, by securing four (4), #6-32 nuts in the four-hole mounting pattern on the left side of the backbox. See Locations 1 thru 4 of the figure below.

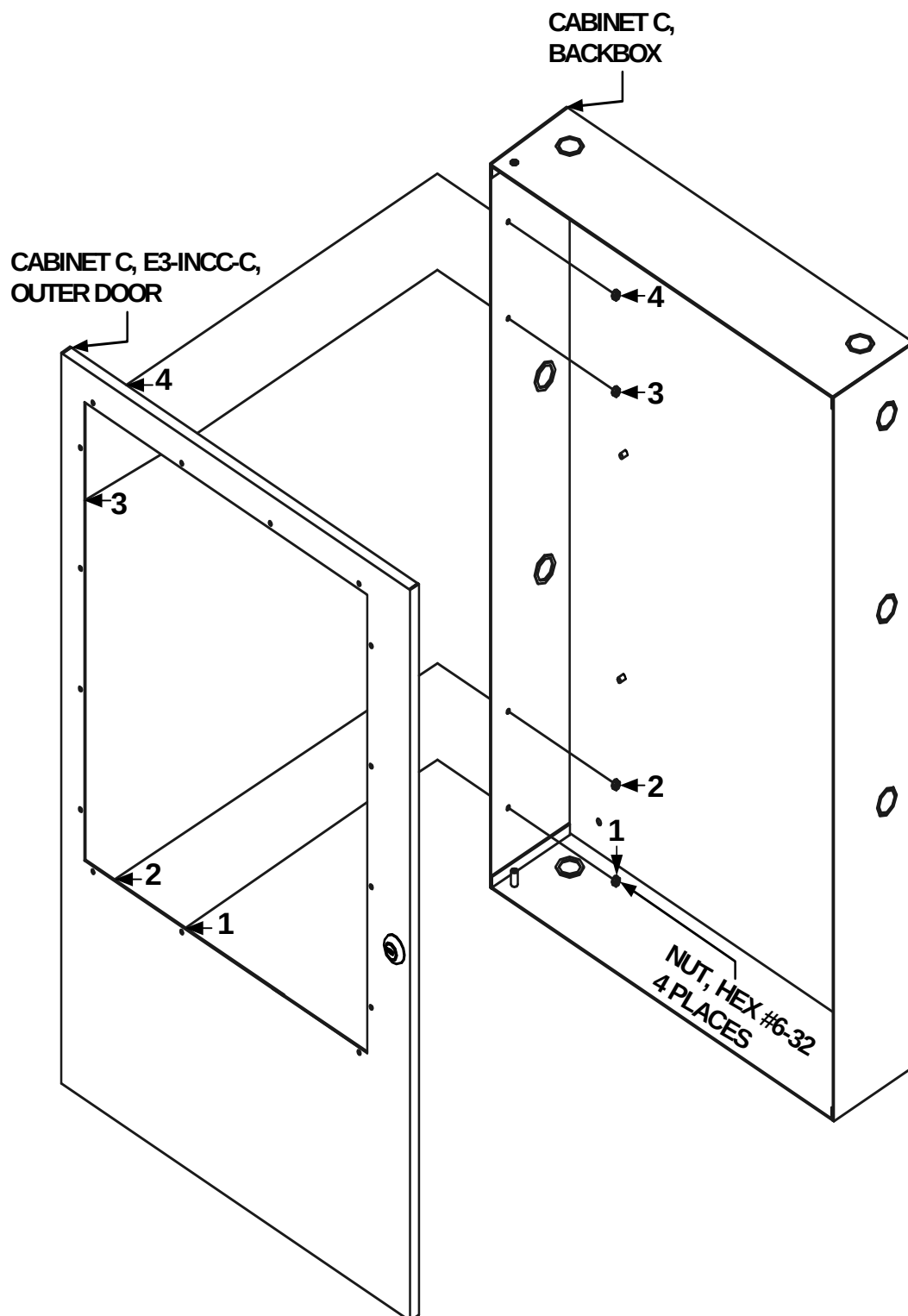


Figure 2.5.9.1.1 Cabinet C, E3-INCC-C Outer Door Installation

### 2.5.9.2 Cabinet C, E3-INCC-C Plate Installation

1. Mount the ILI-MB-E3/ILI95-MB-E3/ANX over the standoffs on the E3-INCC-C plate and secure by inserting eight (8), standoffs, (3/16" hex, #4-40 x 1") in the eight-hole mounting pattern as shown in Location 1 of Figure 2.5.9.2.2.
2. Mount the DACT-E3 and the RPT-E3 on top of the ILI-MB-E3/ILI95-MB-E3/ANX and secure with eight (8), screws (#4-40 x 1/4") into the eight (8), standoffs as shown in Location 2 of Figure 2.5.9.2.2.
3. Mount the PM-9/PM-9G over the standoffs on the E3-INCC-C plate and secure with six (6), screws (#4-40 x .1/4") in the six-hole mounting pattern as shown in Location 3 of Figure 2.5.9.2.2.
4. Mount the INI-VG over the standoffs on the E3-INCC-C plate and secure with six (6), screws (#4-40 x .1/4") in the six-hole mounting pattern as shown in Location 4 of Figure 2.5.9.2.2.

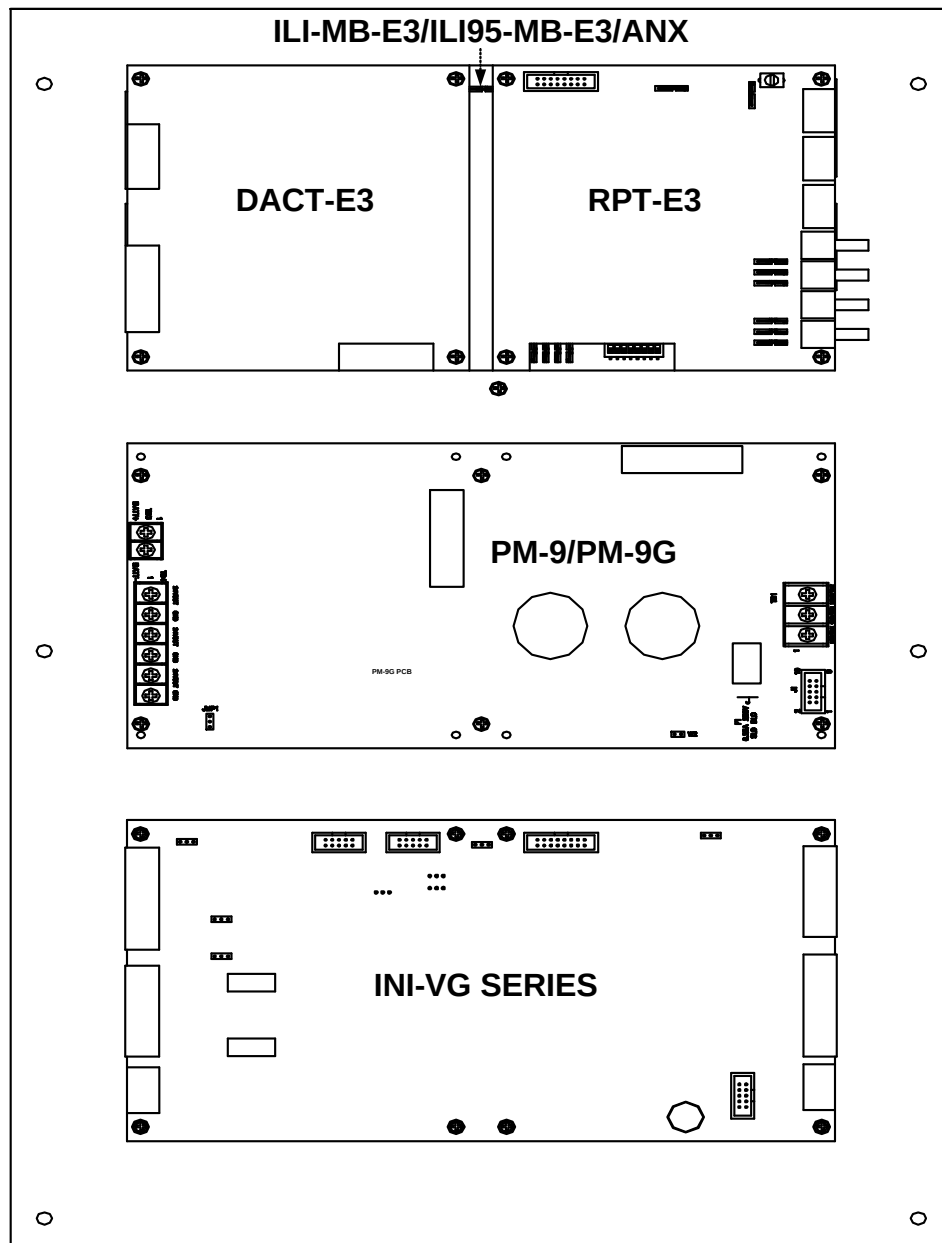


Figure 2.5.9.2.1 Cabinet C, E3-INCC-C Plate (Standard View)

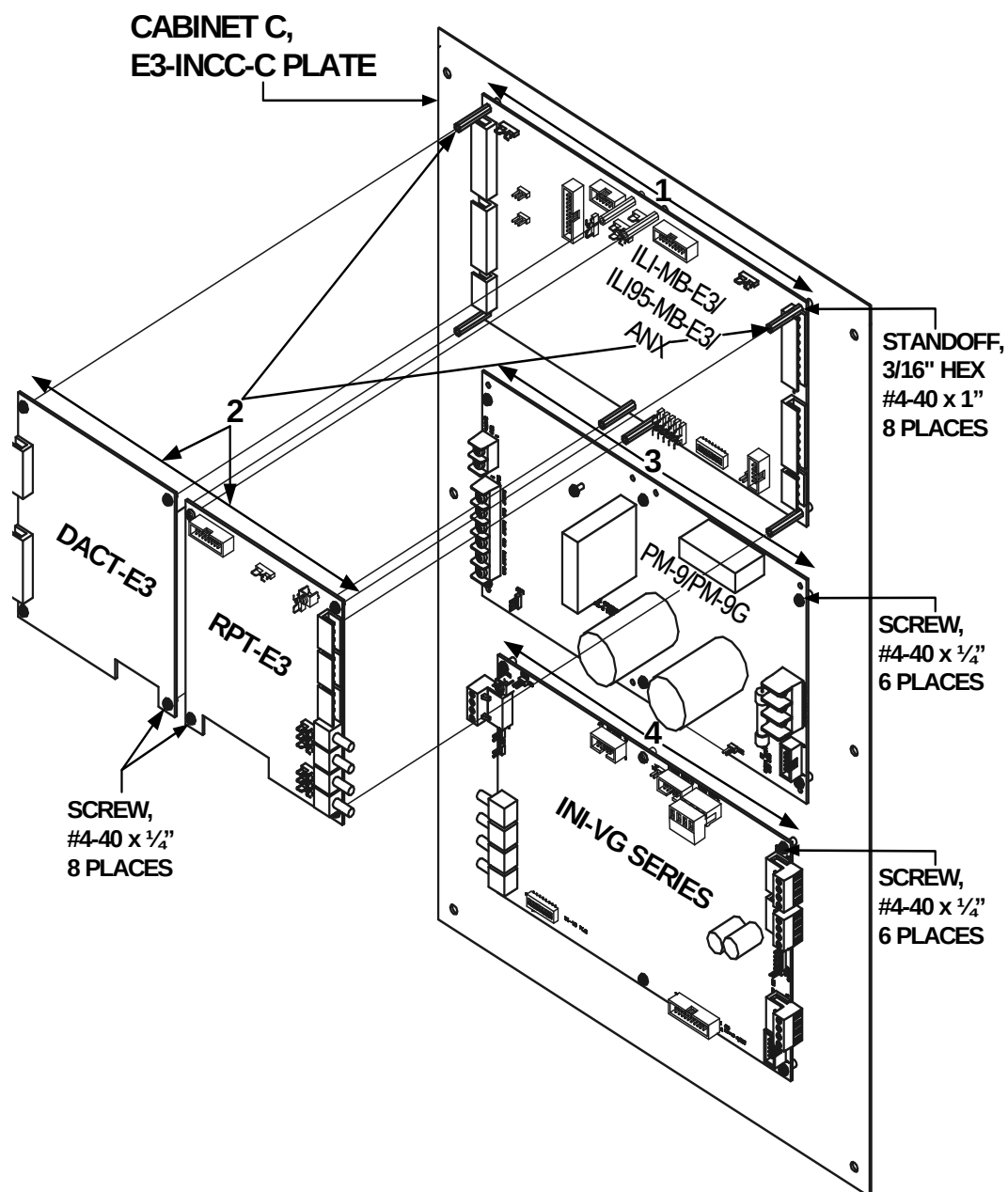


Figure 2.5.9.2.2 Cabinet C, E3-INCC-C Plate Installation

### 2.5.9.3 Cabinet C, E3-INCC-C PLATE, Sub-Assembly Plate to the Backbox Installation

Mount the Cabinet C, E3-INCC-C sub-assembly plate on the studs in the backbox and secure with six (6), #10-32 nuts as shown in Locations 1 thru 6 of the figure below.

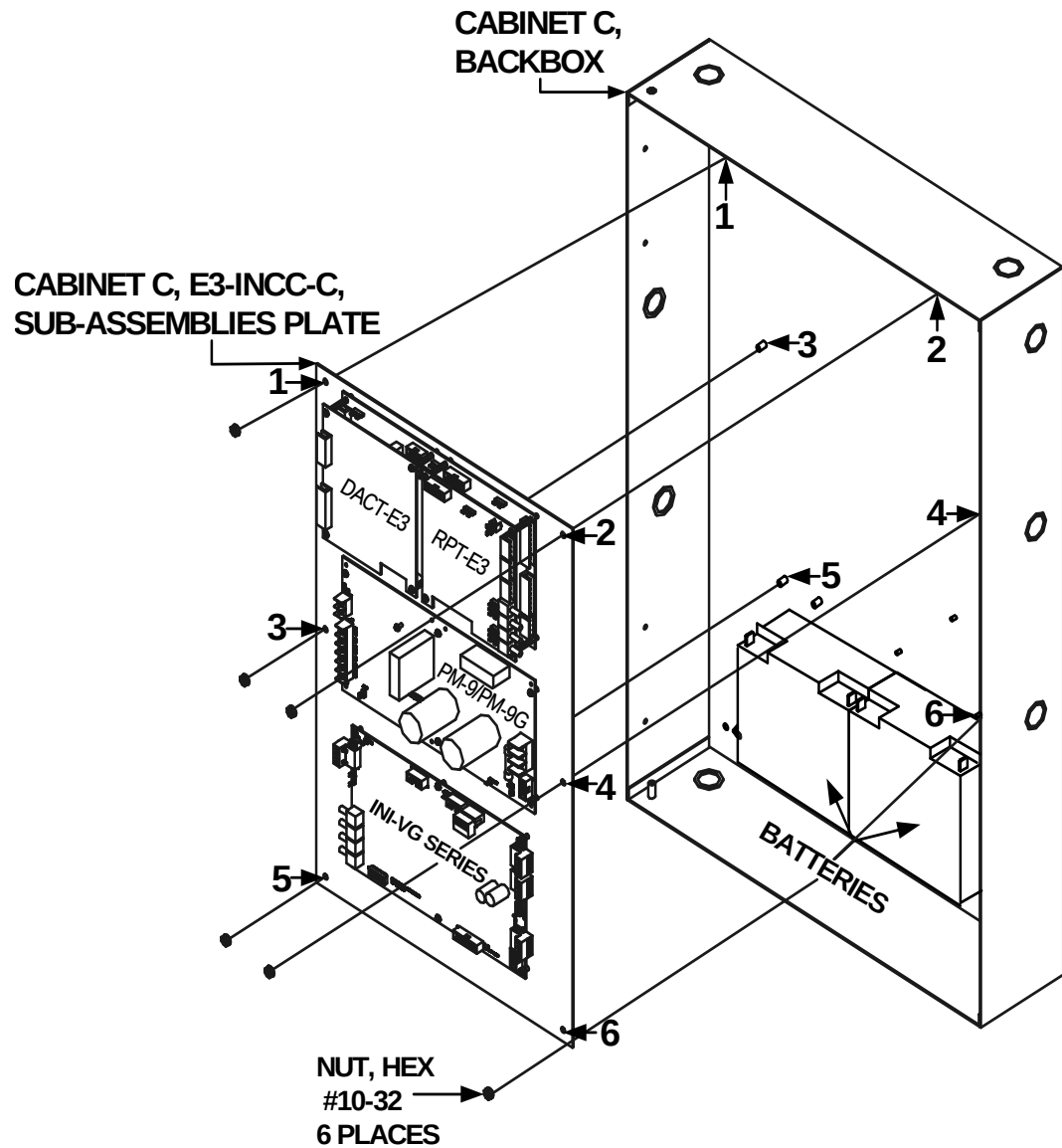


Figure 2.5.9.3.1 Cabinet C, E3-INCC-C Sub-Assembly Plate to the Backbox Installation

### 2.5.9.4 Cabinet C, E3-ILI-C Plate Installation

1. Mount the first, ILI-MB-E3/ILI95-MB-E3/ANX over the standoffs on the E3-ILI-C plate and secure the eight (8), standoffs, (3/16" hex, #4-40 x 1") in the eight-hole mounting pattern as shown in Location 1 of Figure 2.5.9.4.2.
2. Mount the DACT-E3 and the RPT-E3 on top of the ILI-MB-E3/ILI95-MB-E3/ANX and secure the eight (8), screws (#4-40 x 1/4") into the eight (8), standoffs as shown in Location 2 of Figure 2.5.9.4.2.
3. Mount the PM-9/PM-9G on the E3-ILI-C plate and secure the eight (8), screws (3/16" hex, #4-40 x 1/4") in the eight-hole mounting pattern as shown in Location 3 of Figure 2.5.9.4.2.
4. Mount the second, ILI-E3 or ILI95-E3 Series sub-assembly on the E3-ILI-C plate and secure the eight (8), standoffs (3/16" hex, #4-40 x 1/4") into the eight (8), standoffs as shown in Location 4 of Figure 2.5.9.4.2.
5. Mount the third, ILI-E3 or ILI95-E3 Series sub-assembly on top of the second ILI-E3 or ILI95-E3 Series sub-assembly and secure the eight (8), screws (#4-40 x 1/4") into the eight (8), standoffs as shown in Location 5 of Figure 2.5.9.4.2.

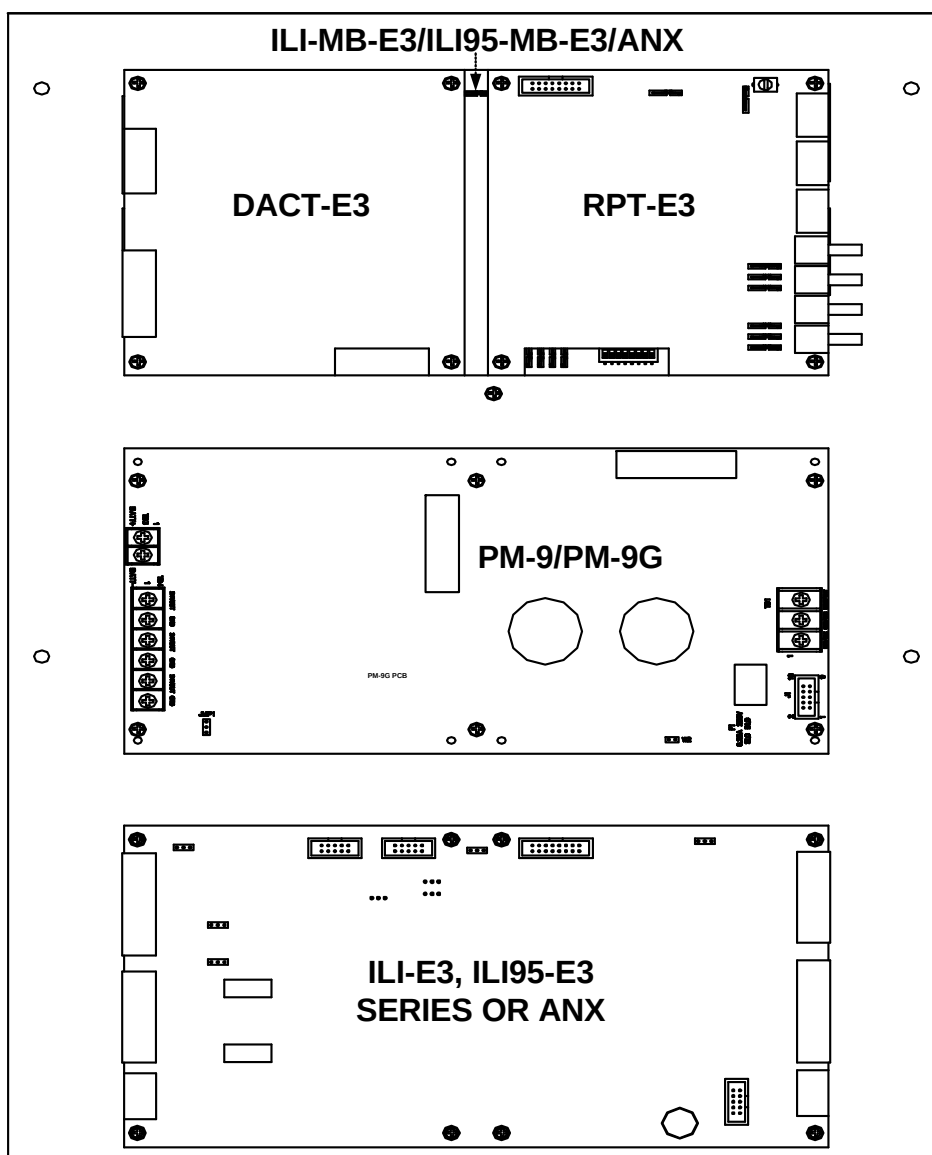
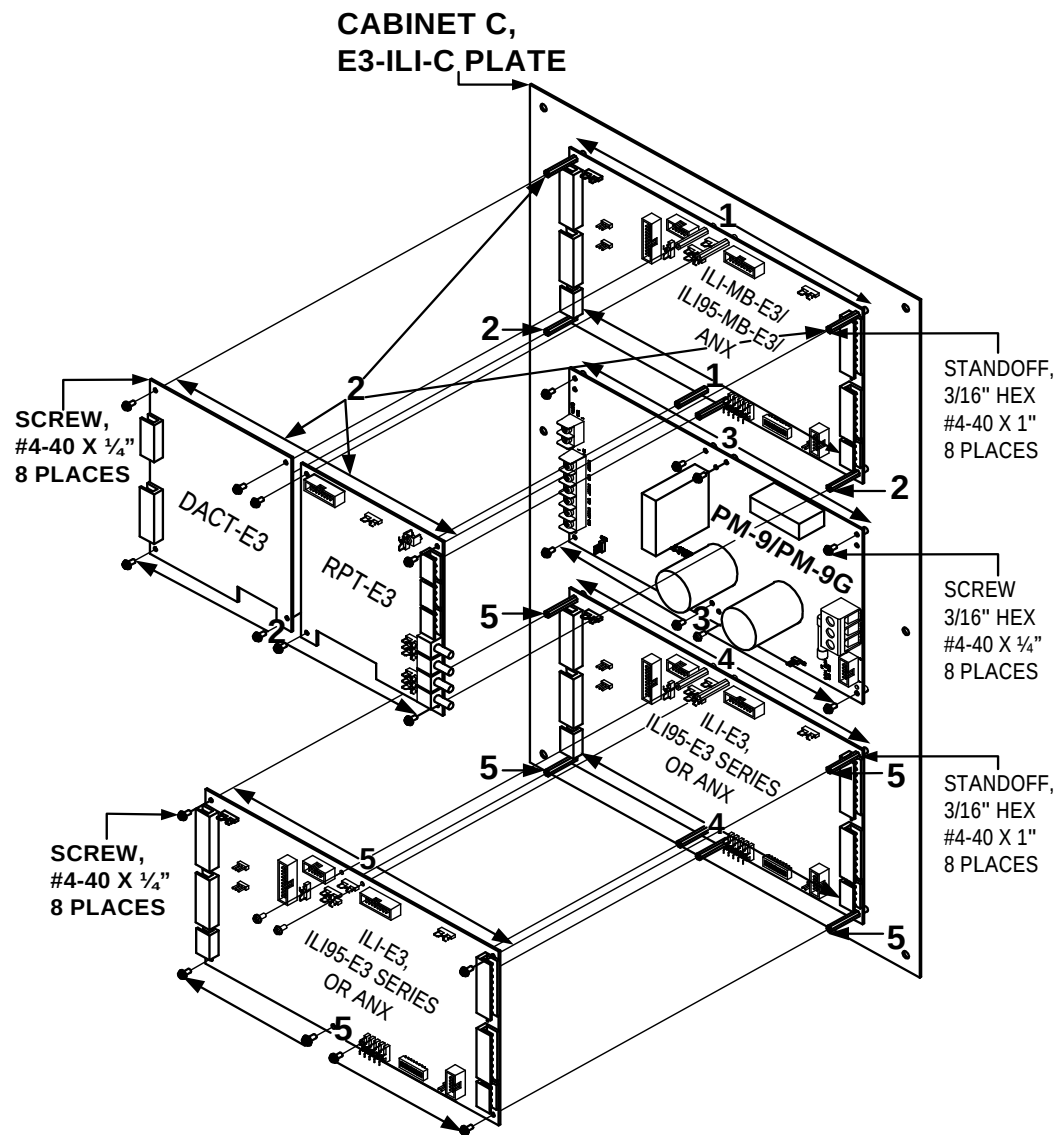


Figure 2.5.9.4.1 Cabinet C, E3-ILI-C Plate (Standard View)



**Figure 2.5.9.4.2 Cabinet C, E3-ILI-C Plate (Exploded View)**

### 2.5.9.5 Cabinet C, AM-50 Extender Plate Installation

1. The AM-50 Extender Plate is an optional plate that can be installed as an add-on plate to either the E3-INCC-C Plate or E3-ILI-C plates.
2. Mount the AM-50 Series amplifiers over the screws on the Cabinet C, AM-50 Extender Plate and secure with four (4), screws (#4-40 x ¼") in the four-hole mounting pattern as shown in Location 1 of the figure below.
3. Place the E3-INCC-C plate or E3-ILI-C plate over the AM-50 extender plate and install using two (2) nuts (#10-32) in the two-hole mounting pattern as shown in Location 2 of the figure below.



**NOTE:** Install the FPT-GATE-3 Extender Plate in the space reserved for the batteries. If you have batteries installed in this location, install the batteries in a separate battery box.

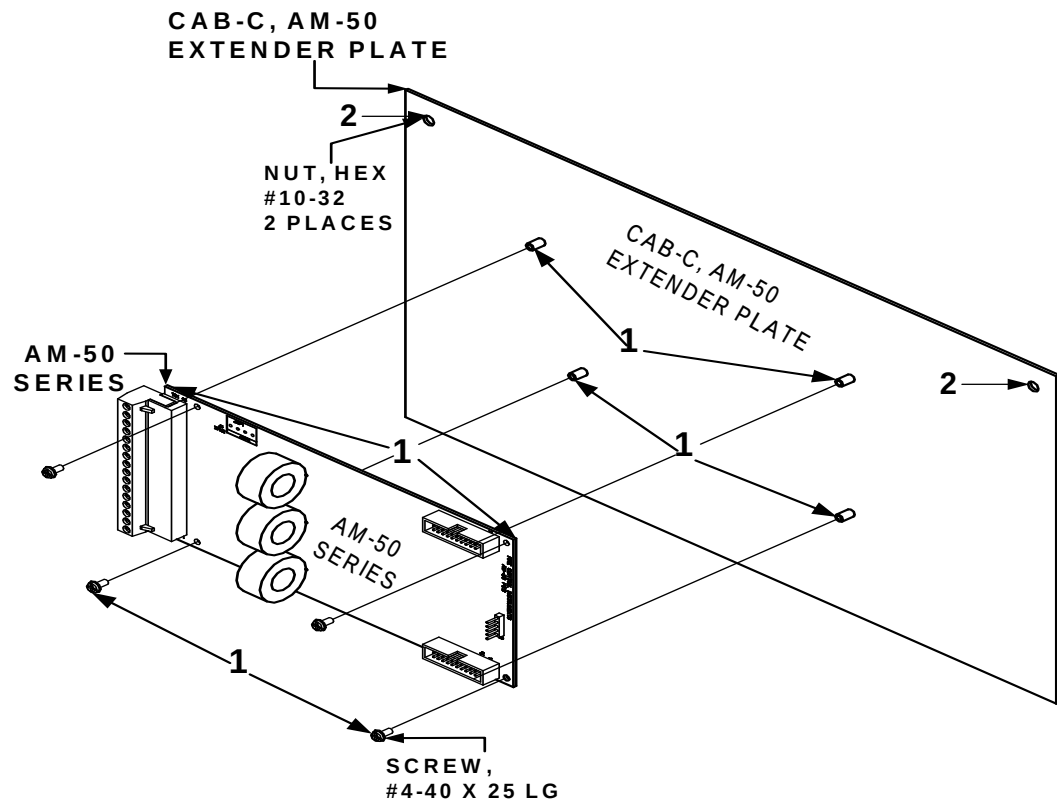


Figure 2.5.9.5.1 Cabinet C, AM-50 Extender Plate Installation

### 2.5.9.6 Cabinet C, AM-50 Extender Plate to the Backbox Installation

1. Place the Cabinet C, E3-INCC-C plate or E3-ILI-C sub-assembly plate over the AM-50 Extender Plate.
2. Mount the Cabinet C, E3-INCC-C plate or E3-ILI-C sub-assembly plate and AM-50 Extender Plate on the studs in the backbox and secure with six (6), #10-32 nuts as shown in Locations 1 thru 6 of the figure below.

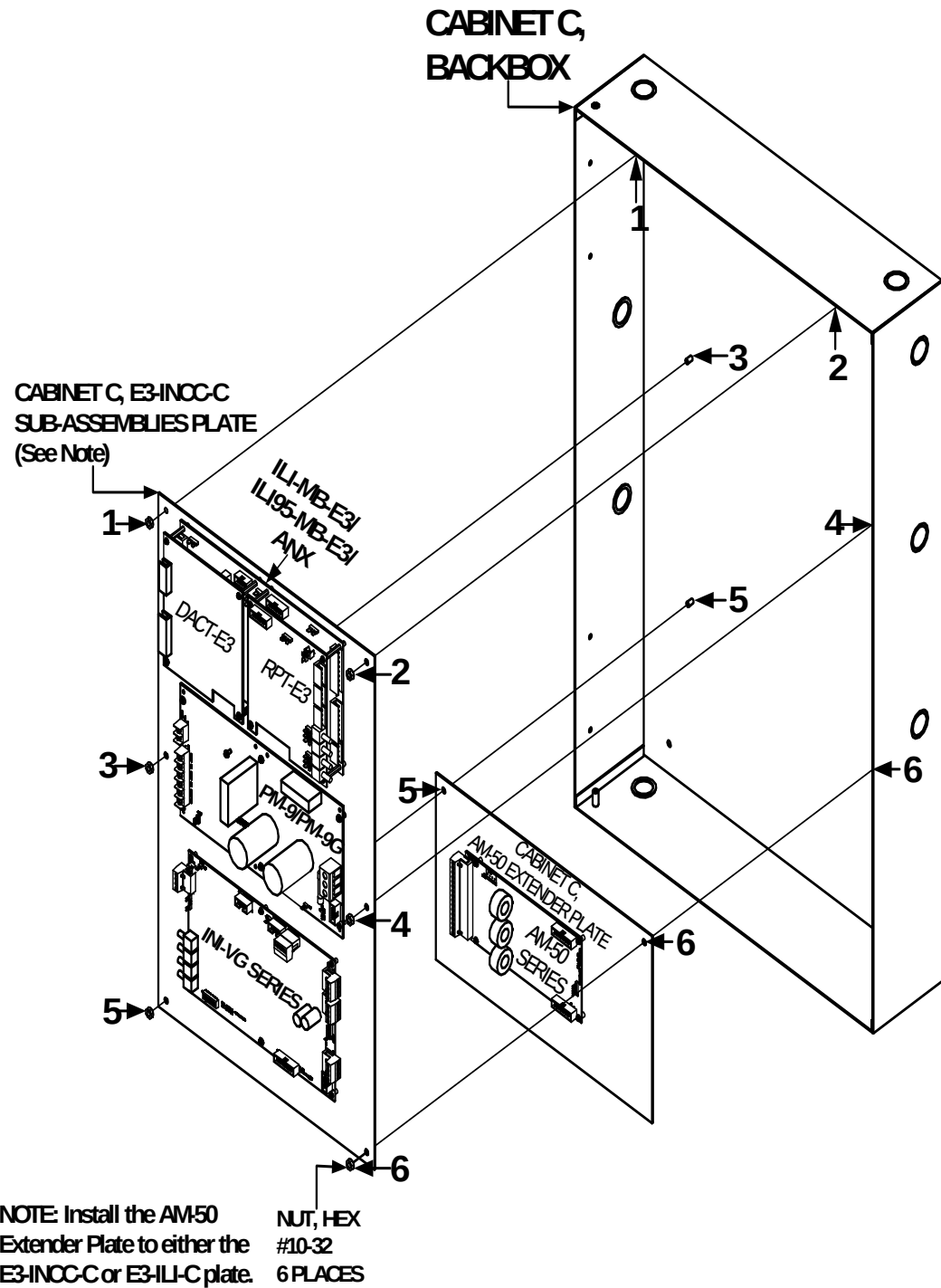


Figure 2.5.9.6.1 Cabinet C, AM-50 Extender Plate to the Backbox Installation

### 2.5.9.7 FPT-GATE-3 Extender Plate Installation

The FPT-GATE-3 Extender Plate is an optional plate that can be installed as an add-on plate to the following plates.

- Cabinet C, E3-ILI-C plate
  - Cabinet D, E3-INX-D plate
  - Cabinet C, E3-INCC-C Plate
  - Cabinet D, E3-INCC-D plate
1. Mount the FocalPoint Gateway (FPT-GATE-3) sub-assembly over the screws on the Cabinet C, FPT-GATE-3 Extender Plate and secure with four (4), screws (#4-40 x 1/4" SEMS) in the four-hole mounting pattern as shown in Location 1 of the figure below.
  2. Mount the PNET-1 using the nut (#6 HEX KEPS) onto the FPT-GATE-3 Extender Plate as shown in Location 2 of the figure below.
  3. Mount the PNET-1 ground strap to the FPT-GATE-3 Extender Plate using the nut (#6 HEX KEPS) as shown in Location 3 of the figure below.
  4. Place any of the following plates over the FPT-GATE-3 Extender Plate and install using two (2) nuts (#10-32) in the two-hole mounting pattern as shown in Location 4 of the figure below.
    - Cabinet C, E3-ILI-C plate
    - Cabinet D, E3-INX-D plate
    - Cabinet C, E3-INCC-C Plate
    - Cabinet D, E3-INCC-D plate



**NOTE:** In the cabinet backbox, the FPT-GATE-3 Extender Plate can be installed in the space reserved for the batteries. If the batteries are installed in the same location, relocate the batteries to a separate battery box.

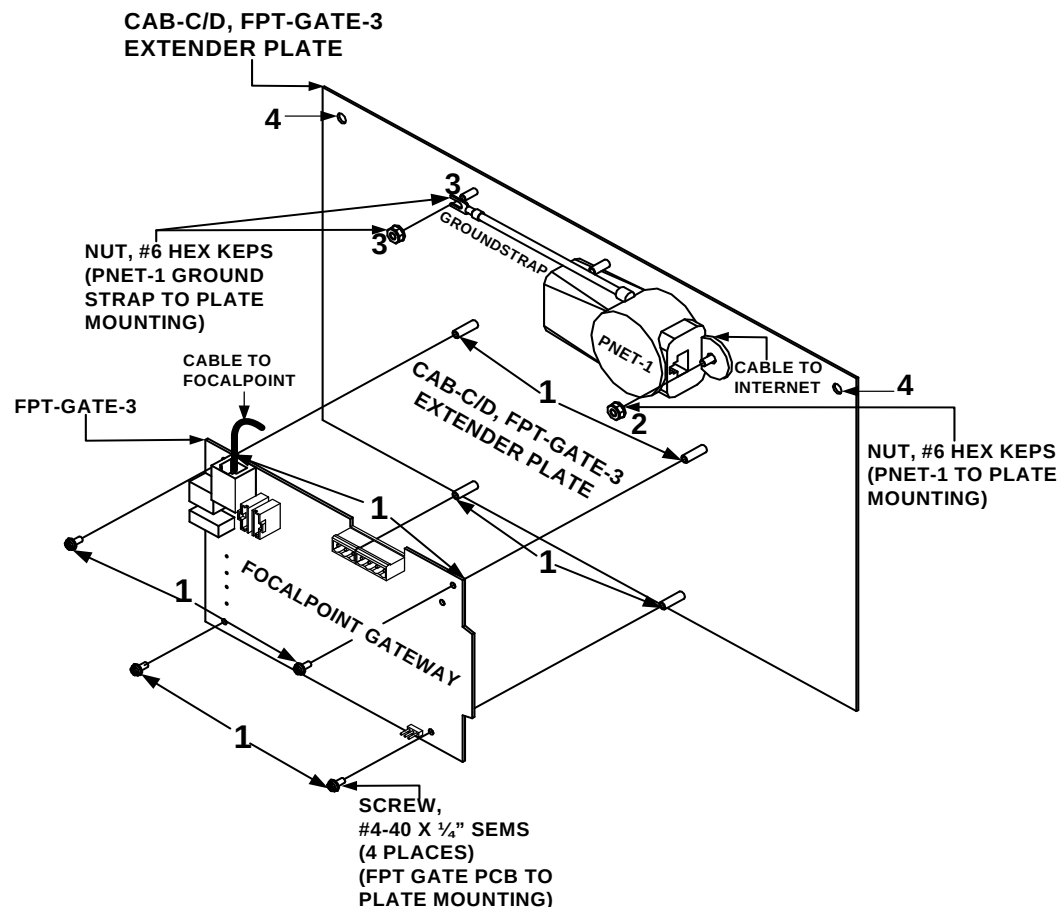


Figure 2.5.9.7.1 FPT-GATE-3 Extender Plate Installation

### 2.5.9.8 FPT-GATE-3 Extender Plate to the Backbox Installation

- Place any of the following sub-assembly plates over the FPT-GATE-3 Extender Plate.
  - Cabinet C, E3-ILI-C plate
  - Cabinet C, E3-INCC-C Plate
  - Cabinet D, E3-INX-D plate
  - Cabinet D, E3-INCC-D plate
- Mount any of the above Cabinet C or Cabinet D sub-assembly plates and FPT-GATE-3 Extender Plate on the studs in the backbox and secure with six (6), #10-32 nuts as shown in Locations 1 thru 6 of the figure below.

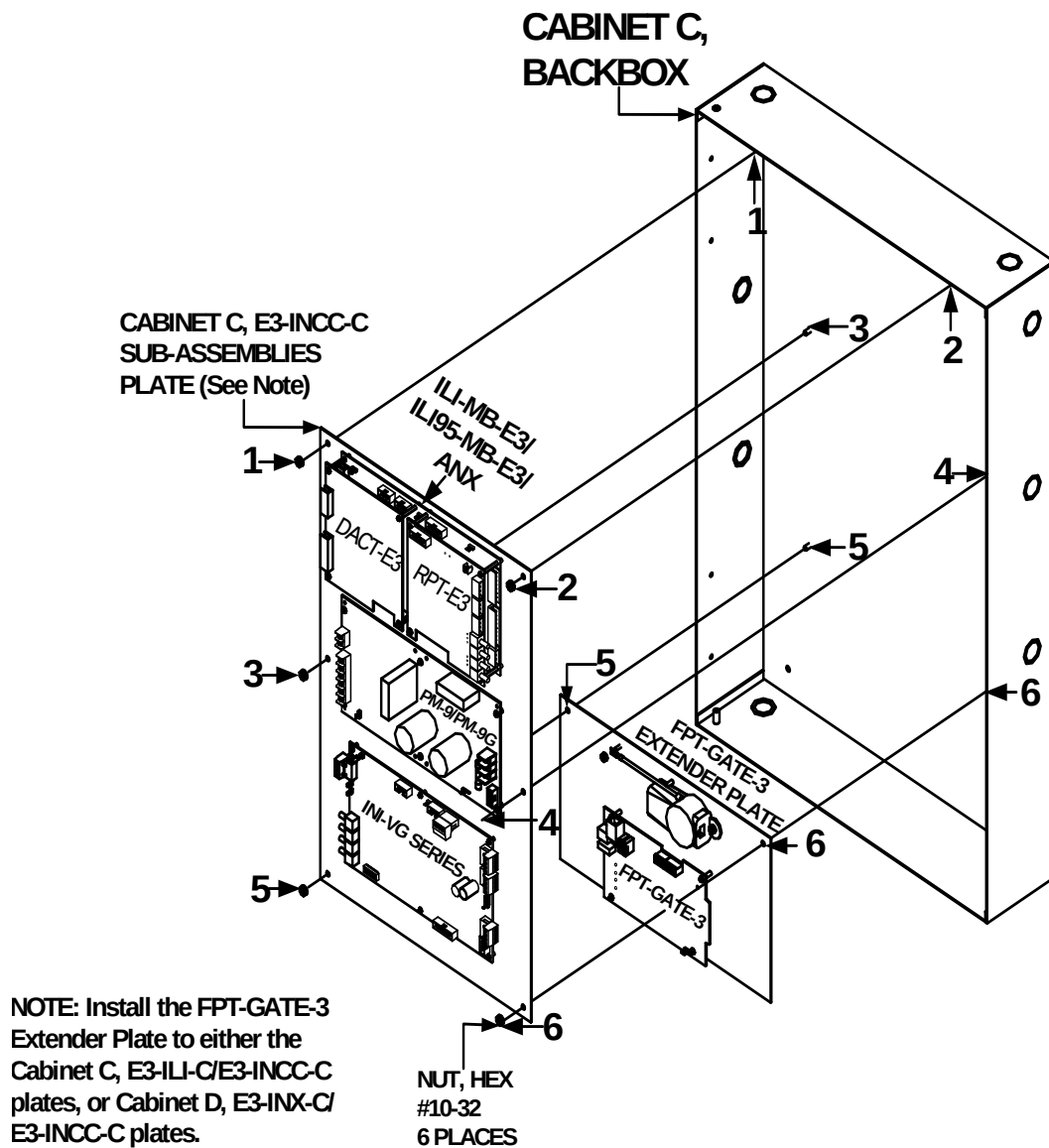


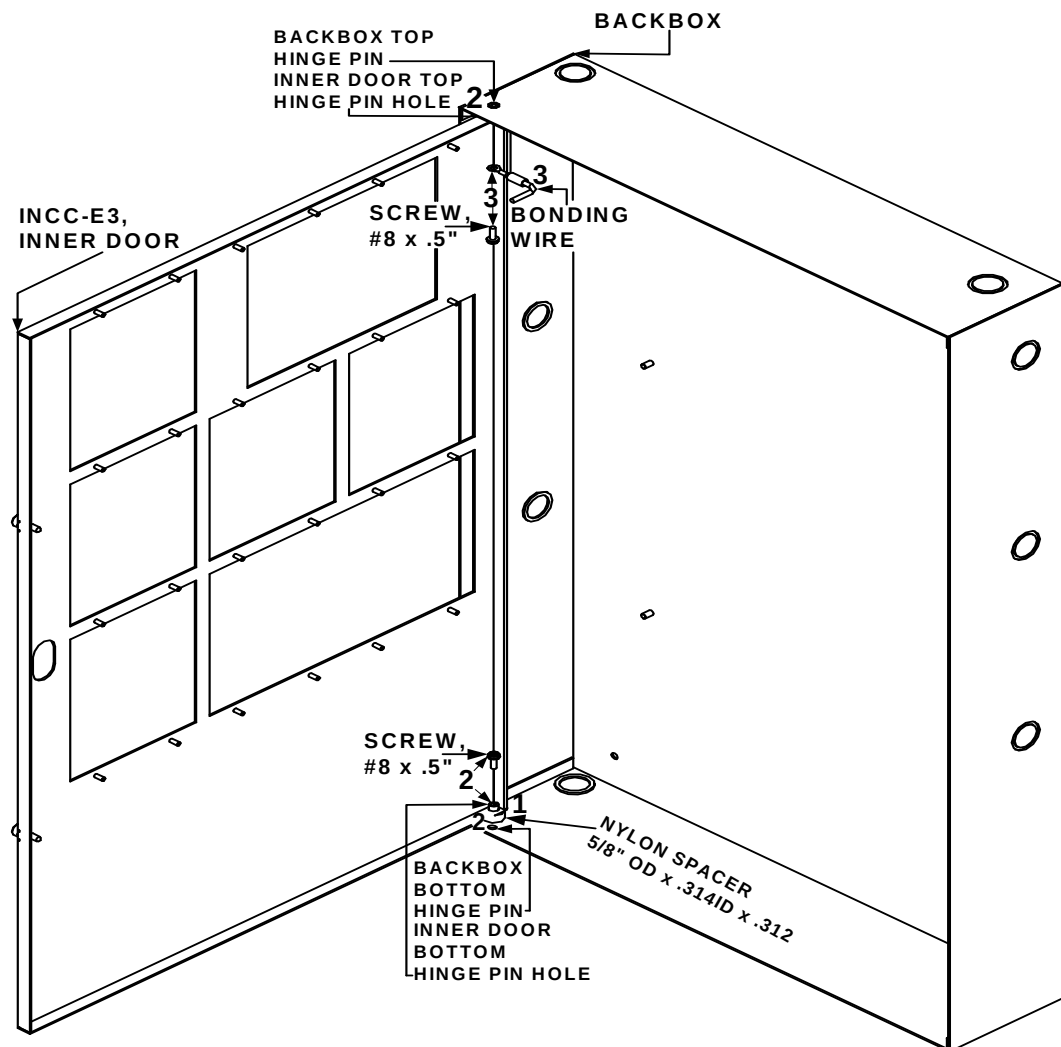
Figure 2.5.9.8.1 Cabinet C, FPT-GATE-3 Extender Plate to the Backbox Installation

### 2.5.9.9 Cabinet C, INCC-E3, 7-Bay Inner Door to the Backbox Installation

1. Place the nylon spacer (5/8" x .314ID x .312) over the backbox bottom hinge pin hole as shown in Location 1 of the figure below.
2. Mount the INCC-E3, 7-bay inner door to the backbox by sliding the inner door top hinge pin hole onto the backbox top hinge pin hole as shown in Location 2 of the figure below.
3. Align the inner door bottom hinge pin hole with the backbox bottom hinge pin.
4. Slide the inner door over the inner door bottom hinge pin hole on top of the nylon spacer, and secure using the #8 x 5" screw as shown in Location 2 of the figure below.
5. After the inner door is secured in place, attach one end of the bonding wire to the top hinge pin hole using the #8 x .5" screw as shown in Location 3 of the figure below.

**NOTE 3:** The 7-bay or 8-bay inner door is optional.

**NOTE 4:** For information on the installation of the opposite end of the bonding wire, Section 2.5.9.10, Step 5 and Location 5 of Figure 2.5.9.10.1.



**Figure 2.5.9.9.1 Cabinet C, INCC-E3, 7-Bay Inner Door to the Backbox Installation**

### 2.5.9.10 Cabinet C, INCC-E3, 7-Bay Inner Door Installation

1. Mount the first, top row of the ASM-16 and LCD-E3 keypad sub-assemblies to the INCC-E3, 7-bay inner door and secure with six (6), #6-32 nuts as shown in Location 1 of the figure below.
2. Interlock the first, bottom row of the ASM-16 and LCD-E3 keypad with the second, top row of the ASM-16 sub-assemblies, and mount the units to the INCC-E3, 7-bay inner door by securing six (6), #6-32 nuts as shown in Location 2 of the figure below.
3. Interlock the second, bottom row of the ASM-16 sub-assemblies with the third, top row of the telephone and microphone box, and mount the units to the INCC-E3, 7-bay inner door by securing six (6), #6-32 nuts as shown in Location 3 of the figure below.
4. Mount the third, bottom row of the telephone and microphone box to the INCC-E3, 7-bay inner door by securing six (6), #6-32 nuts as shown in Location 4 of the figure below.
5. Secure the opposite end of the bonding wire to the welded #6 stud on the inner side of the inner door using the #6 nut as shown in Location 5 of the figure below.
6. After the panel is wired, use the thumbscrews to secure the inner door to the backbox as shown in Location 6 of the figure below.

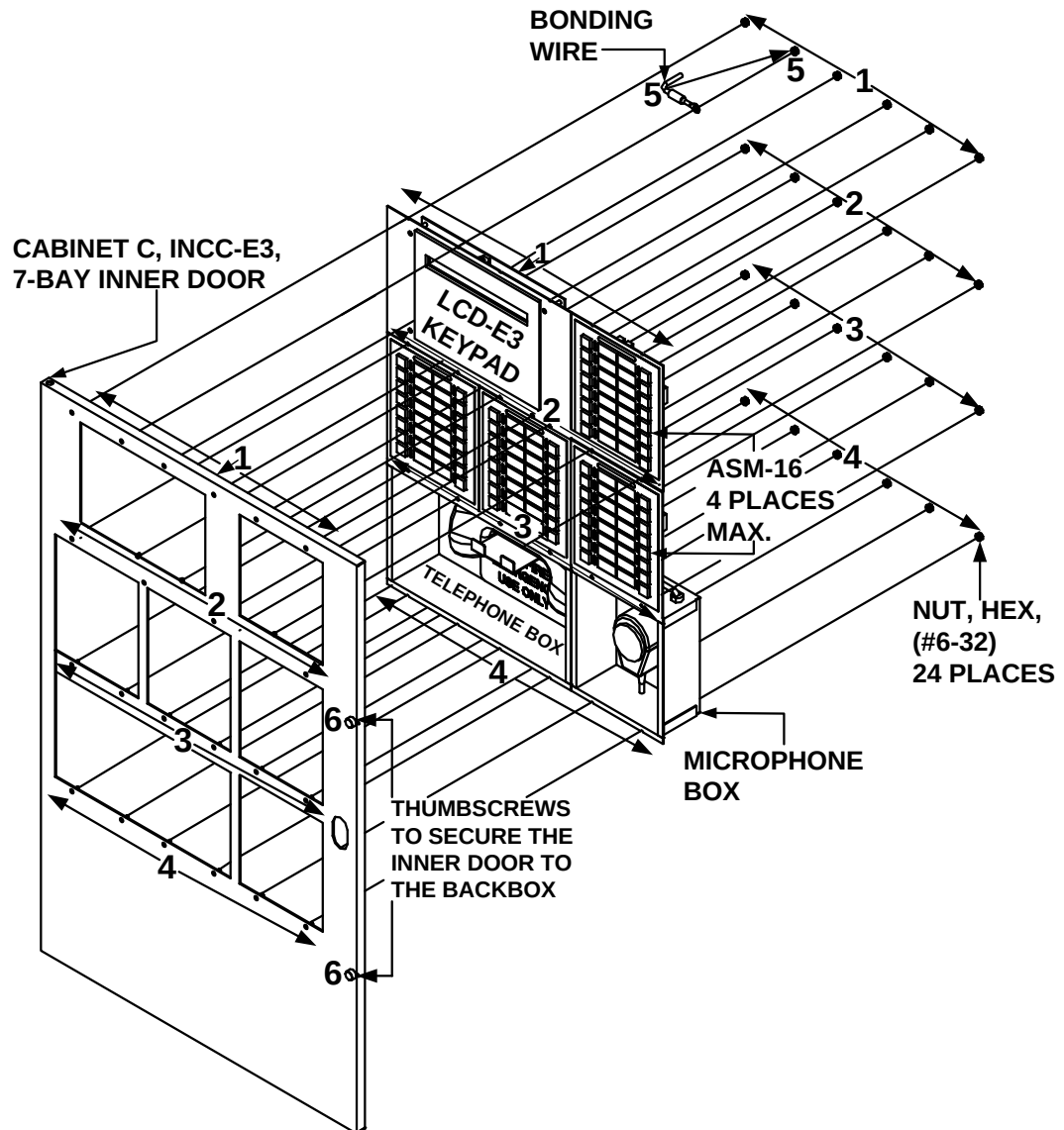


Figure 2.5.9.10.1 Cabinet C, INCC-E3, 7-Bay Inner Door Installation

### 2.5.9.11 Cabinet C, INCC-E3, 8-Bay Inner Door to the Backbox Installation

1. Place the nylon spacer (5/8" x .314ID x .312) over the backbox bottom hinge pin as shown in Location 1 of the figure below.
2. Mount the INCC-E3, 8-bay inner door to the backbox, by sliding the inner door top hinge pin hole onto the backbox top hinge pin as shown in Location 2 of the figure below.
3. Align the inner door bottom hinge pin hole with the backbox bottom hinge pin.
4. Slide the inner door over the inner door bottom hinge pin hole on top of the nylon spacer, and secure using the #8 x .5" screw as shown in Location 2 of the figure below.
5. After the inner door is secured in place, attach one end of the bonding wire to the top hinge pin using the #8 x .5" screw as shown in Location 3 of the figure below.

**NOTE:** For information on the installation of the opposite end of the bonding wire, see Section 2.5.9.12, Step 5 and Location 5 of Figure 2.5.9.12.1.

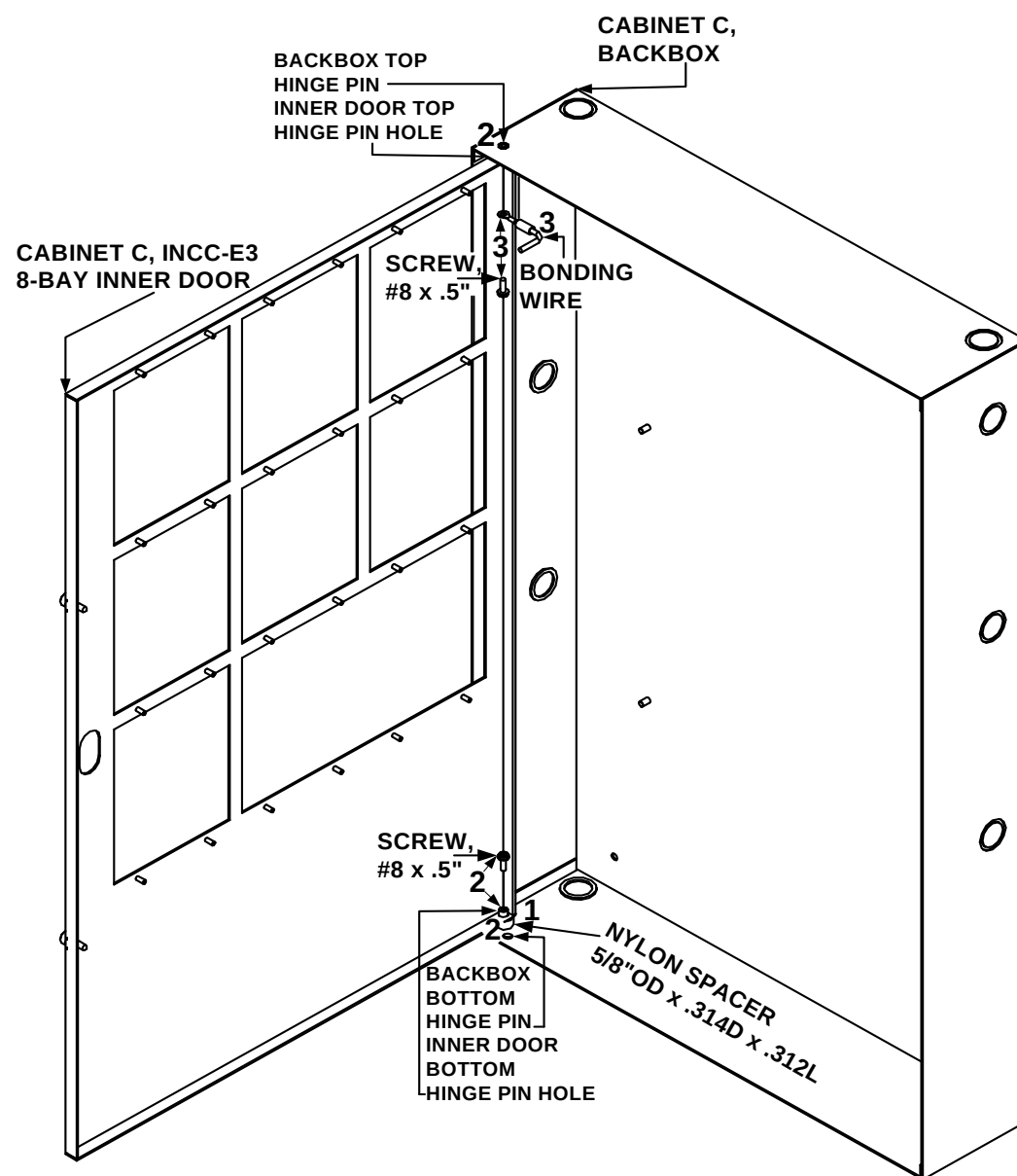


Figure 2.5.9.11.1 Cabinet C, INCC-E3 8-Bay Inner Door to the Backbox Installation

### 2.5.9.12 Cabinet C, INCC-E3, 7-Bay Inner Door Installation

1. Mount the first, top row of the ASM-16 and sub-assemblies to the INCC-E3, 7-bay inner door and secure with six (6), #6-32 nuts as shown in Location 1 of the figure below.
2. Interlock the first, bottom row of the ASM-16 and with the second, top row of the ASM-16 sub-assemblies, and mount the units to the INCC-E3, 7-bay inner door by securing six (6), #6-32 nuts as shown in Location 2 of the figure below.
3. Interlock the third, bottom row of the ASM-16 sub-assemblies with the fourth, top row of the telephone and microphone box, and mount the units to the INCC-E3, 7-bay inner door by securing six (6), #6-32 nuts as shown in Location 3 of the figure below.
4. Mount the fourth, bottom row of the telephone and microphone box to the INCC-E3, 7-bay inner door by securing six (6), #6-32 nuts as shown in Location 4 of the figure below.
5. Secure the opposite end of the bonding wire to the welded #6 stud on the inner side of the inner door using the #6 nut as shown in Location 5 of the figure below.
6. After the panel is wired, use the thumbscrews to secure the inner door to the backbox as shown in Location 6 of the figure below.

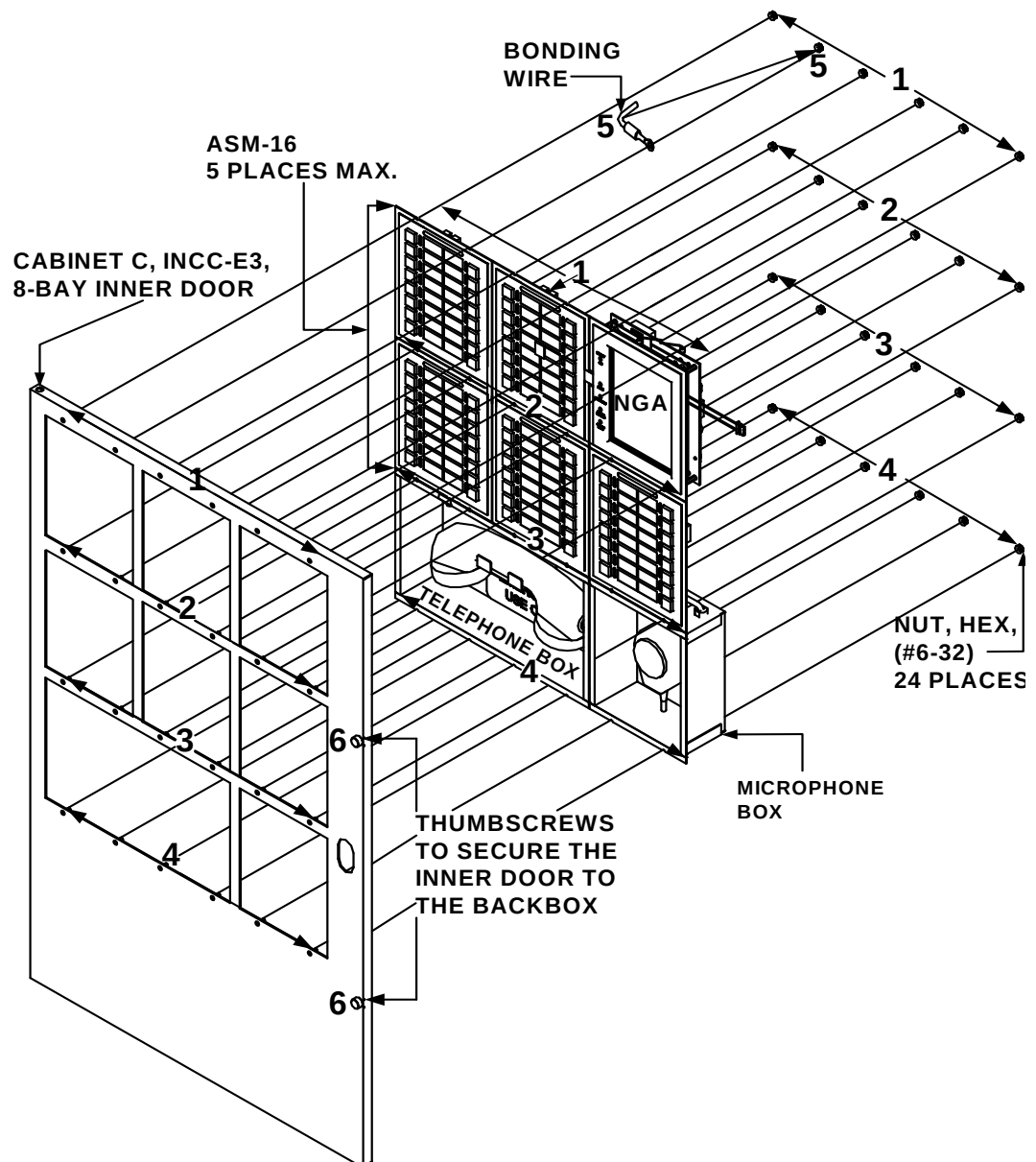


Figure 2.5.9.12.1 Cabinet C, INCC-E3, 7-Bay Inner Door Installation

## 2.5.10 Cabinet D Installation Instructions

The Cabinet D assembly typically houses the following:

- Backbox:
  - Two Batteries (up to 18 AH)
  - E3 Cabinet D, Trim Ring (Optional Accessory)
- Outer Door
- Cab D, E3-INX-D, Back Plate:
  - ILI-MB-E3/ILI95-MB-E3/ANX
  - DACT-E3
  - RPT-E3
  - INI-VG Series
  - PM-9/PM-9G
  - Two (2) AM-50 Series amplifiers
- Cab D, E3-INCC-D Plate:
  - Up to five (5) ILI-MB-E3/ILI95-MB-E3/ANX or ILI-S-E3/ILI95-S-E3 (optional)
  - DACT-E3
  - RPT-E3
  - INI-VG Series
  - PM-9/PM-9G
- Inner Door 1:
  - (1), LCD-E3 Display
  - Combination of ten (10), ASM-16s or ANU-48s
  - (1), INCC-TEL
  - (1), INCC-MIC
  - Blank Plate(s) (optional)
- Inner Door 2 (Optional):
  - (1),
  - Combination of twelve (12), ASM-16s or ANU-48s
  - (1), INCC-TEL
  - (1), INCC-MIC
  - Blank Plate(s) (optional)
- Hardware Kit

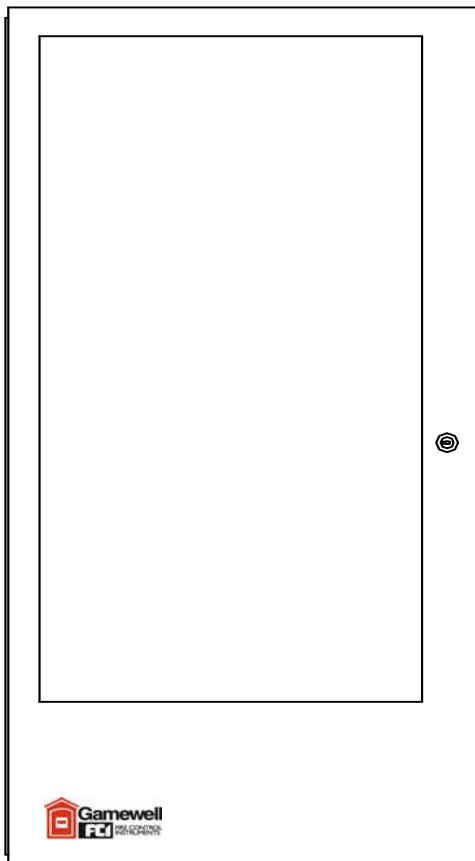


Figure 2.5.10.1 Cabinet D, Plexiglass Door

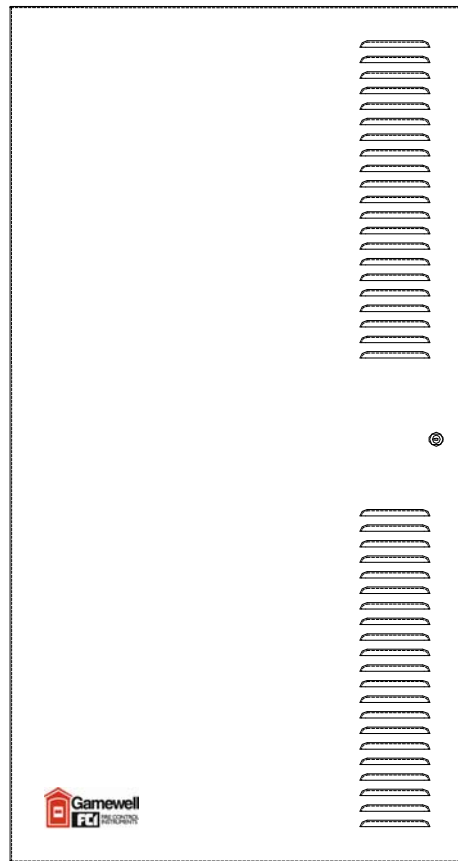


Figure 2.5.10.2 Cabinet D INX Door

### 2.5.10.1 Cabinet D, Plexiglass and INX Door Backbox Installation

1. Prepare the mounting site by pre-drilling four (4), #10 screws mounted to the studs, using the dimensions shown in the figure below. Use four (4), #10 screws.

**NOTE:** If the fasteners are anchored to a wallboard, use #10 wall anchors. Mountings to concrete walls should be backed by plywood to insulate the equipment from possible condensation.

2. Secure with two (2), #10 screws in the two-hole mounting pattern as shown in Locations 1 and 2 of the figure below.
3. Set the backbox over the top, two-hole mounting pattern, and hang the backbox on the two screw heads.
4. Insert and secure two (2), #10 screws in the two-hole mounting pattern as shown in Locations 3 and 4 of the figure below.



**NOTE:** Add knockouts to the left and right side of the rear panel of the backbox. Do not add knockouts in the center or top of the backbox, above the ILI-MB-E3/ILI95-MB-E3/ANX, behind or below the batteries. To add larger knockouts, increase the size of the existing knockouts.

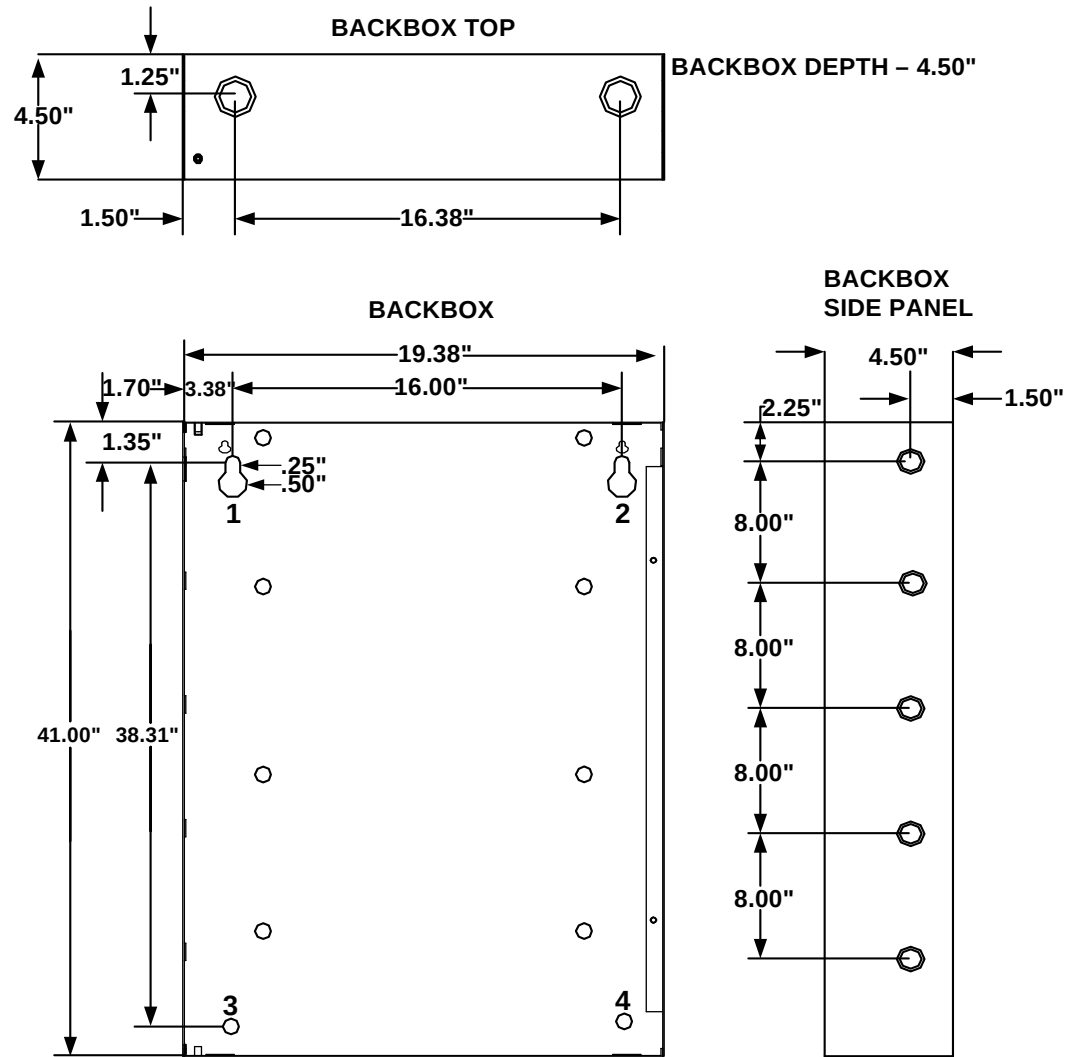


Figure 2.5.10.1.1 Cabinet D, INX Door Backbox Installation

### 2.5.10.2 E3 Cabinet D, Trim Rings Installation (Optional Accessory)

1. Insert the Cabinet D, trim top ring over the top three-hole mounting pattern.
2. Secure with three (3), #6 Hex Kep nuts in the three-hole mounting pattern on the top of the backbox as shown in Locations 1, 2 and 3 of the figure below.
3. Insert the Cabinet D, trim bottom ring on the bottom three-hole mounting pattern.
4. Secure with three (3), #6 Hex Kep nuts in the three-hole mounting pattern on the bottom of the backbox as shown in Locations 4, 5 and 6 of the figure below.
5. Insert the Cabinet D, trim left ring on the left side of the five-hole mounting pattern.
6. Secure with five (5), #6 Hex Kep nuts in the five-hole mounting pattern on the left side of the backbox as shown in Locations 7, 8, 9, 10 and 11 of the figure below.
7. Insert the Cabinet D, trim right ring on the right side of the five-hole mounting pattern.
8. Secure with five (5), #6 Hex Kep nuts in the five-hole mounting pattern on the right side of the backbox as shown in Locations 12, 13, 14, 15 and 16 of the figure below.

For information on flush-mounting, refer to the *E3 Series Cabinet Trim Rings Installation Instructions*, P/N 9000-0058.



**NOTE:** Use the Trim Ring Hardware Kit provided. The trim top/bottom and trim left/right rings are interchangeable.

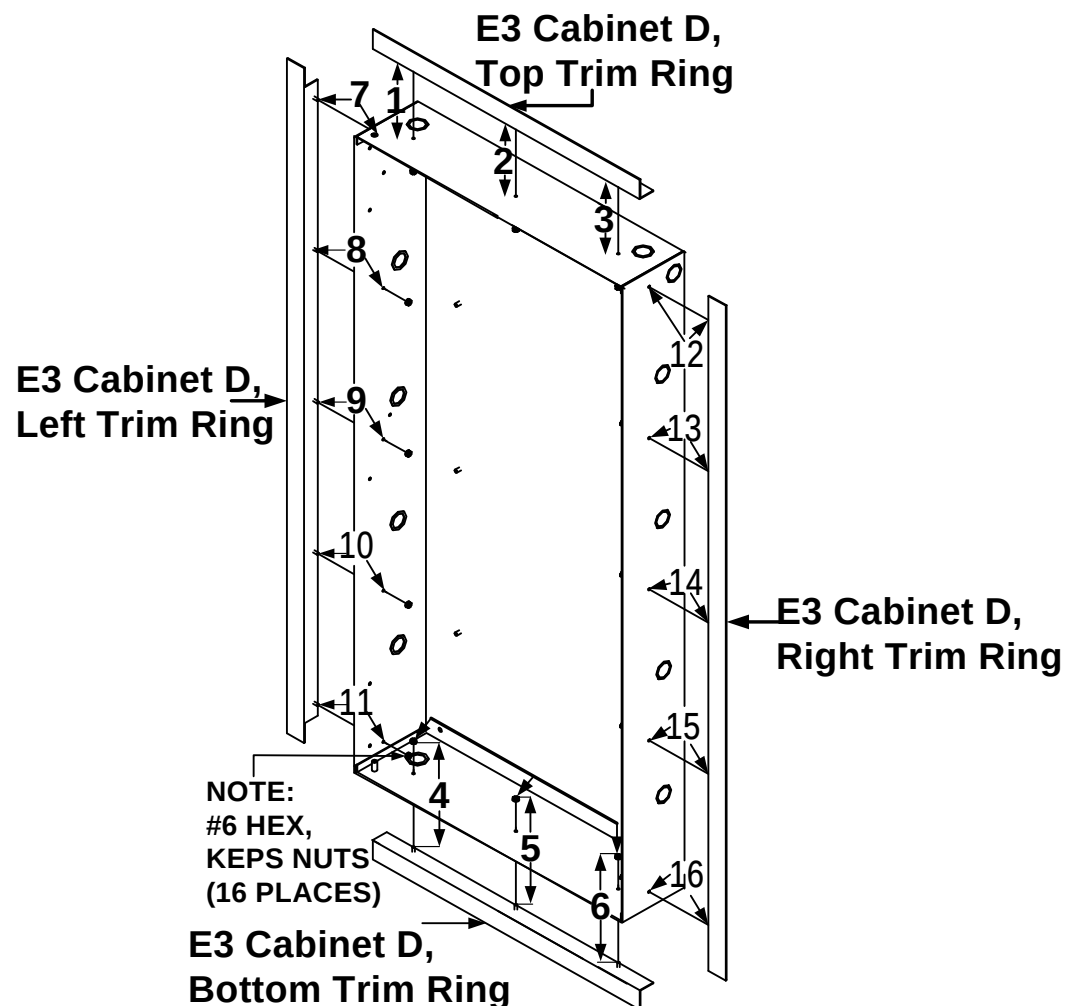


Figure 2.5.10.2.1 Cabinet D, Trim Ring Installation

### 2.5.10.3 Cabinet D, Outer Door Installation

1. Mount the door over the studs on the backbox.
2. Secure with four (4), #6-32 nuts in the four-hole mounting pattern on the left side of the backbox. See Locations 1 thru 6 of the figure below.

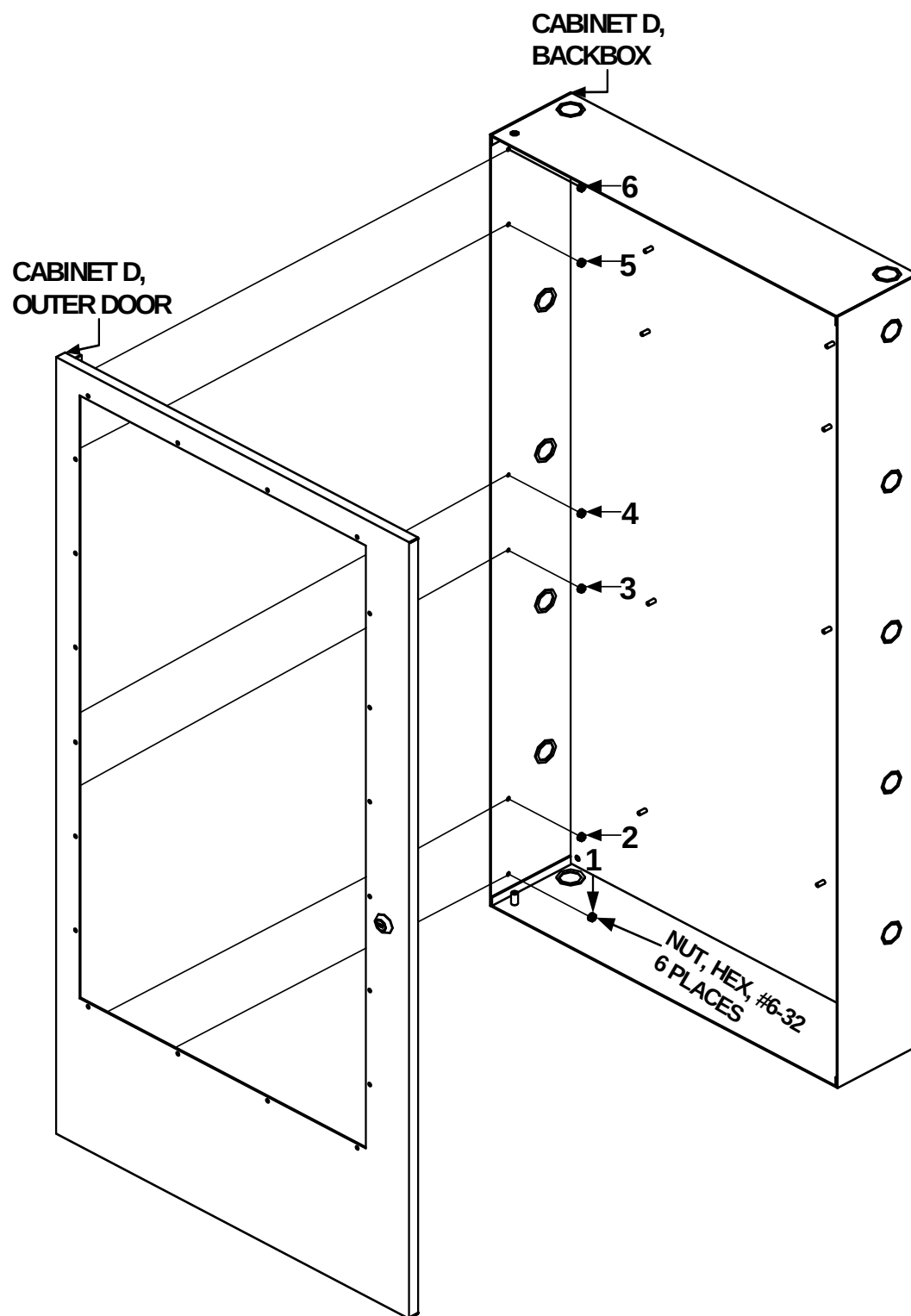


Figure 2.5.10.3.1 Cabinet D, Outer Door Installation

### 2.5.10.4 Cabinet D, E3-INX-D Plate Installation

1. Mount the ILI-MB-E3/ILI95-MB-E3/ANX over the standoffs on the E3-INX-D plate and secure the eight (8), standoffs, (3/16" hex, #4-40 x 1") in the eight-hole mounting pattern as shown in Location 1 of Figure 2.5.10.4.2.
2. Mount the DACT-E3 and the RPT-E3 on top of the ILI-MB-E3/ILI95-MB-E3/ANX and secure the eight (8), screws (#4-40 x 1/4") into the eight (8), standoffs as shown in Location 2 of Figure 2.5.10.4.2.
3. Mount the INI-VG on the E3-INX-D plate and secure the six (6), screws (#4-40 x 1/4") into the six-hole mounting pattern as shown in Location 3 of Figure 2.5.10.4.2.
4. Mount the PM-9/PM-9G on the E3-INX-D plate and secure the six (6), screws (#4-40 x 1/4") into the six-hole mounting pattern as shown in Location 4 of Figure 2.5.10.4.2.
5. Mount the AM-50 Series amplifiers on the E3-INX-D plate and secure the (8), screws (#4-40 x 1/4") into the eight-hole mounting pattern as shown in Location 5 of Figure 2.5.10.4.2.
6. Mount the AM-50 Series amplifiers on the E3-INX-D plate and secure the eight (8), screws (#4-40 x 1/4") into the eight-hole mounting pattern as shown in Location 6 of Figure 2.5.10.4.2.

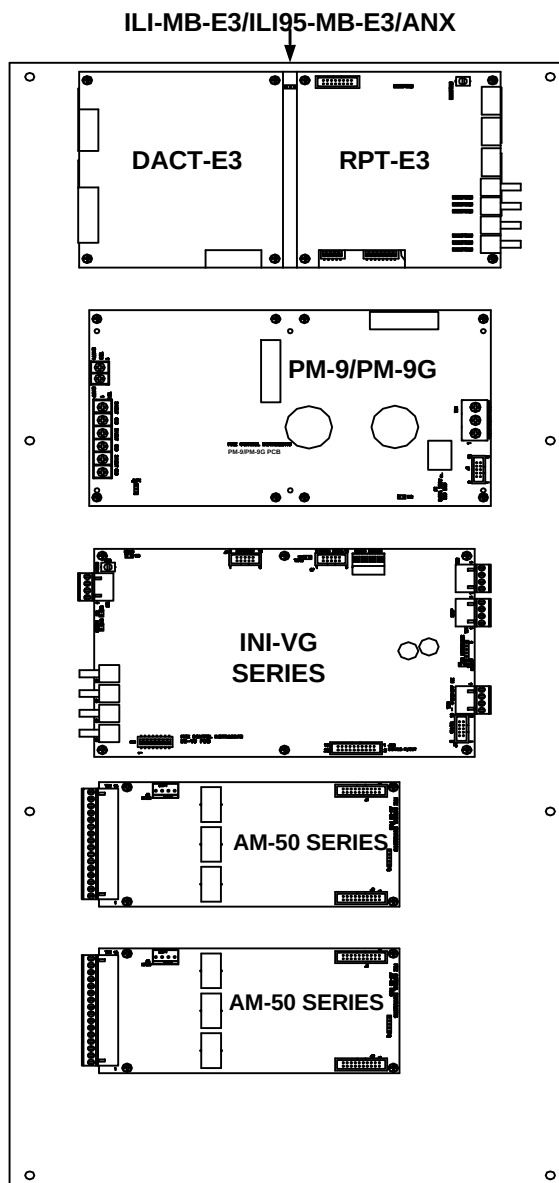


Figure 2.5.10.4.1 Cabinet D, E3-INX-D Plate (Standard View)

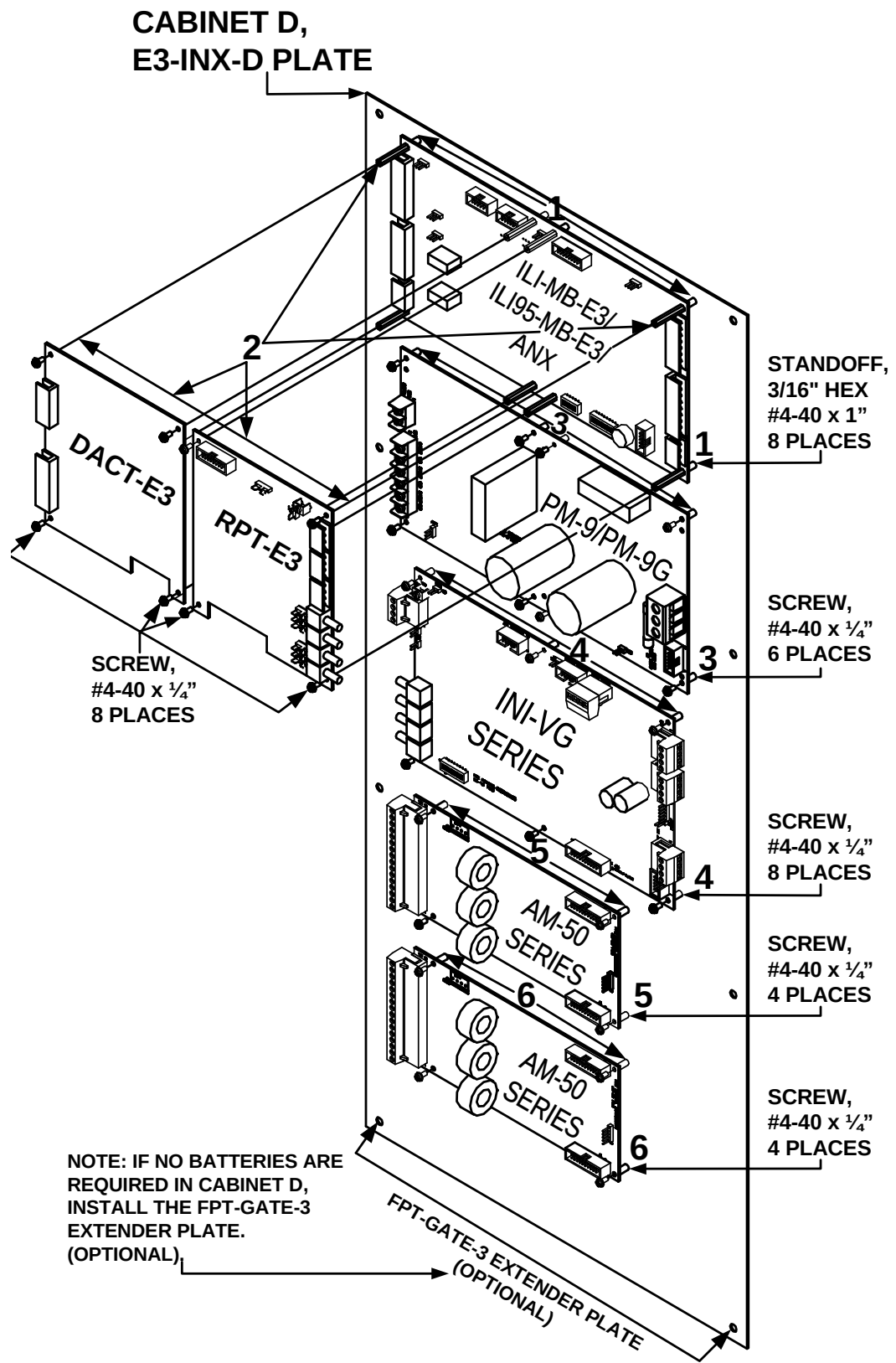


Figure 2.5.10.4.2 Cabinet D, E3-INX-D Back Plate Installation

### 2.5.10.5 Cabinet D, E3-INCC-D Plate Installation

1. Mount the ILI-MB-E3/ILI95-MB-E3/ANX over the standoffs on the E3-INCC-D plate and secure the eight (8), standoffs, (3/16" hex, #4-40 x 1") in the eight-hole mounting pattern as shown in Location 1 of Figure 2.5.10.5.2.
2. Mount the DACT-E3 and the RPT-E3 on top of the ILI-MB-E3/ILI95-MB-E3/ANX and secure the eight (8), screws (#4-40 x 1/4") into the eight (8), standoffs as shown in Location 2 of Figure 2.5.10.5.2.
3. Mount the PM-9/PM-9G on the E3-INCC-D plate and secure the eight (8), screws (#4-40 x 1/4") into the eight-hole mounting pattern, as shown in Location 3 of Figure 2.5.10.5.2.
4. Mount the INI-VG on the E3-INCC-D plate and secure the six (6), screws (#4-40 x 1/4") into the six-hole mounting pattern, as shown in Location 4 of Figure 2.5.10.5.2.
5. Mount the first ILI-E3, ILI95-E3 Series or ANX sub-assembly on the E3-INCC-D plate and secure the (8), screws (#4-40 x 1/4") into the eight-hole mounting pattern as shown in Location 5 of Figure 2.5.10.5.2.
6. Mount the second ILI-E3, ILI95-E3 Series or ANX sub-assembly on the E3-INCC-D plate and secure the eight (8), screws (#4-40 x 1/4") into the eight-hole mounting pattern, as shown in Location 6 of Figure 2.5.10.5.2.
7. Mount the third ILI-E3, ILI95-E3 Series or ANX sub-assembly on top of the ILI-E3, ILI95-E3 Series or ANX and secure the eight (8), screws (#4-40 x 1/4") into the eight (8) standoffs as shown in Location 7 of Figure 2.5.10.5.2.
8. Mount the fourth ILI-E3, ILI95-E3 Series or ANX sub-assembly on top of the ILI-E3, ILI95-E3 Series or ANX and secure the eight (8), screws (#4-40 x 1/4") into the eight (8) standoffs as shown in Location 8 of Figure 2.5.10.5.2.

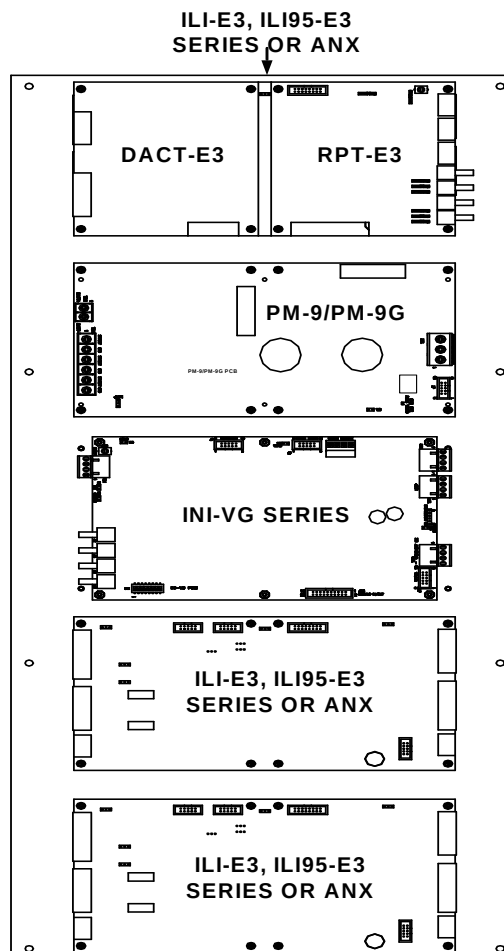


Figure 2.5.10.5.1 Cabinet D, E3-INCC-D Plate Installation

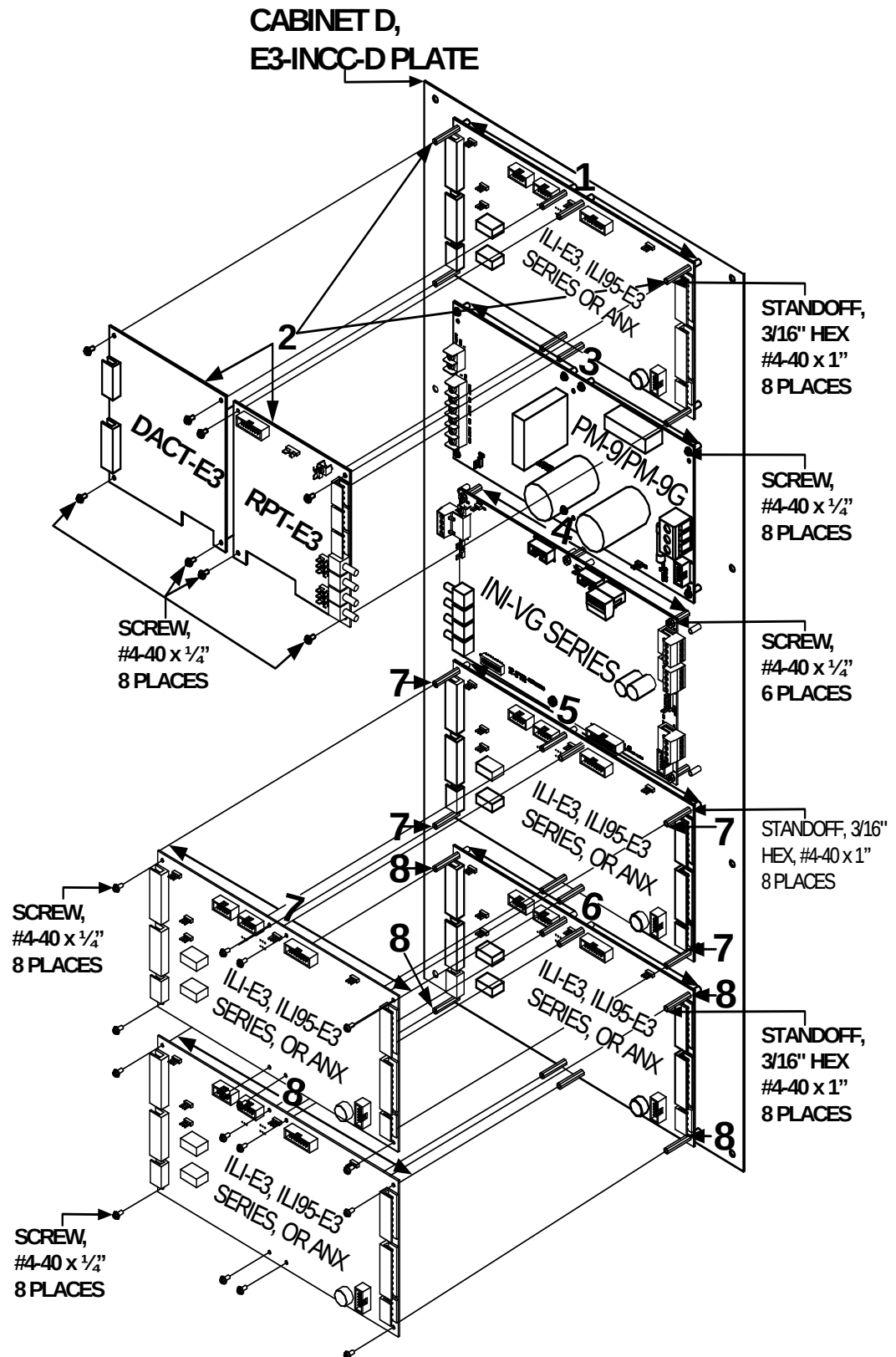
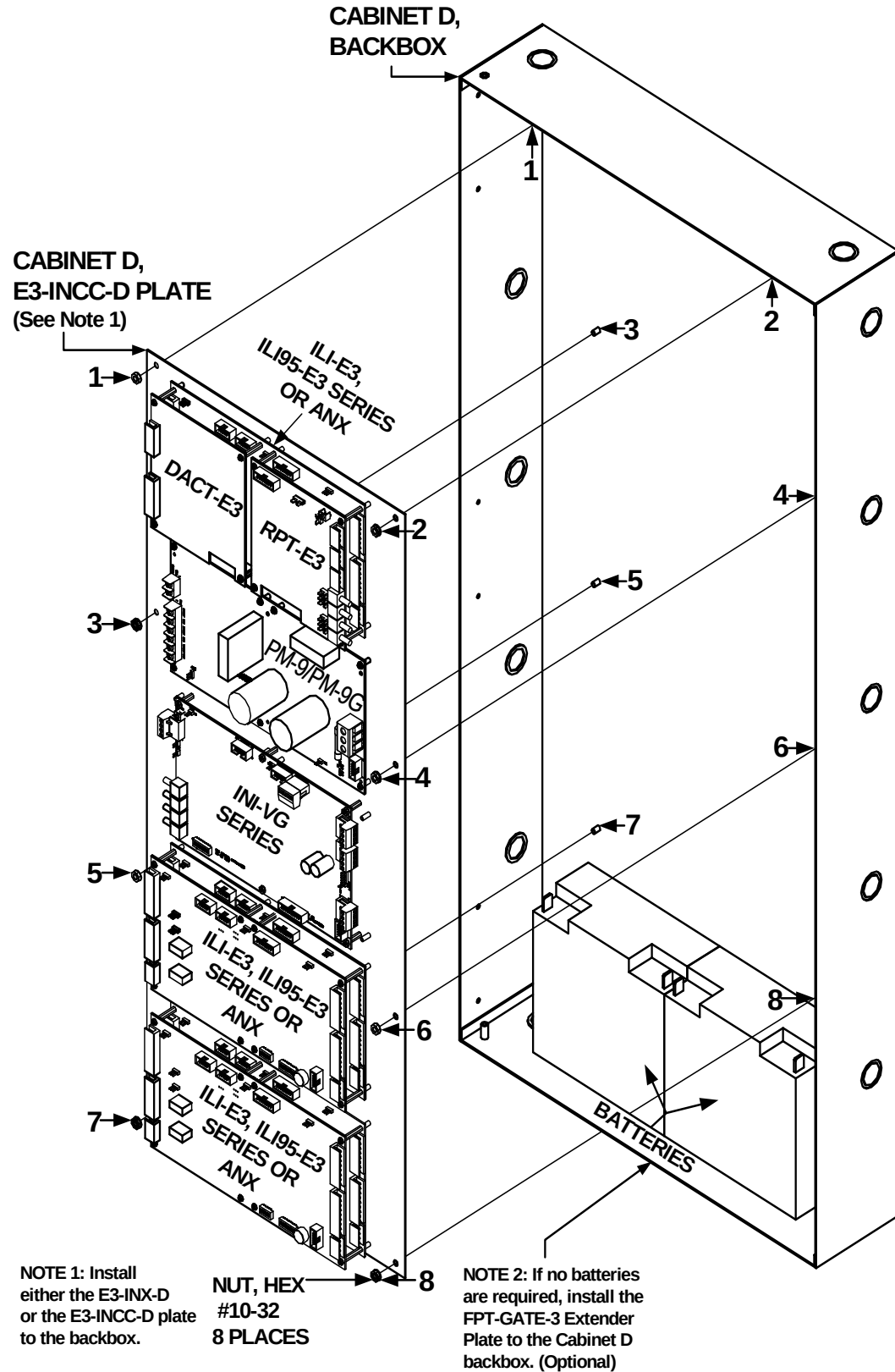


Figure 2.5.10.5.2 Cabinet D, E3-INCC-D Back Plate Installation

### 2.5.10.6 Cabinet D, E3-INCC-D Sub-Assembly Plate to the Backbox Installation

Mount the Cabinet D, E3-INCC-D sub-assembly plate on the studs in the backbox and secure with eight (8), #10-32 nuts as shown in Locations 1 thru 8 of the figure below.



**Figure 2.5.10.6.1 Cabinet D, E3-INCC-D Sub-Assembly Plate to the Backbox Installation**

### 2.5.10.7 Cabinet D, 13-Bay Inner Door to the Backbox Installation

1. Place the nylon spacer (.625 x .312) over the backbox, bottom hinge pin as shown in Location 1 of the figure below.
2. Mount the 13-bay inner door to the backbox by sliding the inner door top hinge pin onto the backbox top hinge pin hole as shown in Location 2 of the figure below.
3. Align the inner door bottom hinge pin hole with the backbox bottom hinge pin.
4. Slide the inner door over the inner door bottom hinge pin hole on top of the nylon spacer, and secure using the #8 x .5" screw as shown in Location 2 of the figure below.

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**NOTE:** The 13-bay or 14-bay inner door is optional.

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5. After the inner door is secured in place, attach one end of the bonding wire to the top hinge pin using the #8 x .5" screw as shown in Location 3 of the figure below.

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**NOTE:** For information on the installation of the opposite end of the bonding wire, see Section 2.5.10.8, Step 7 and Location 7 of Figure 2.5.10.8.1.

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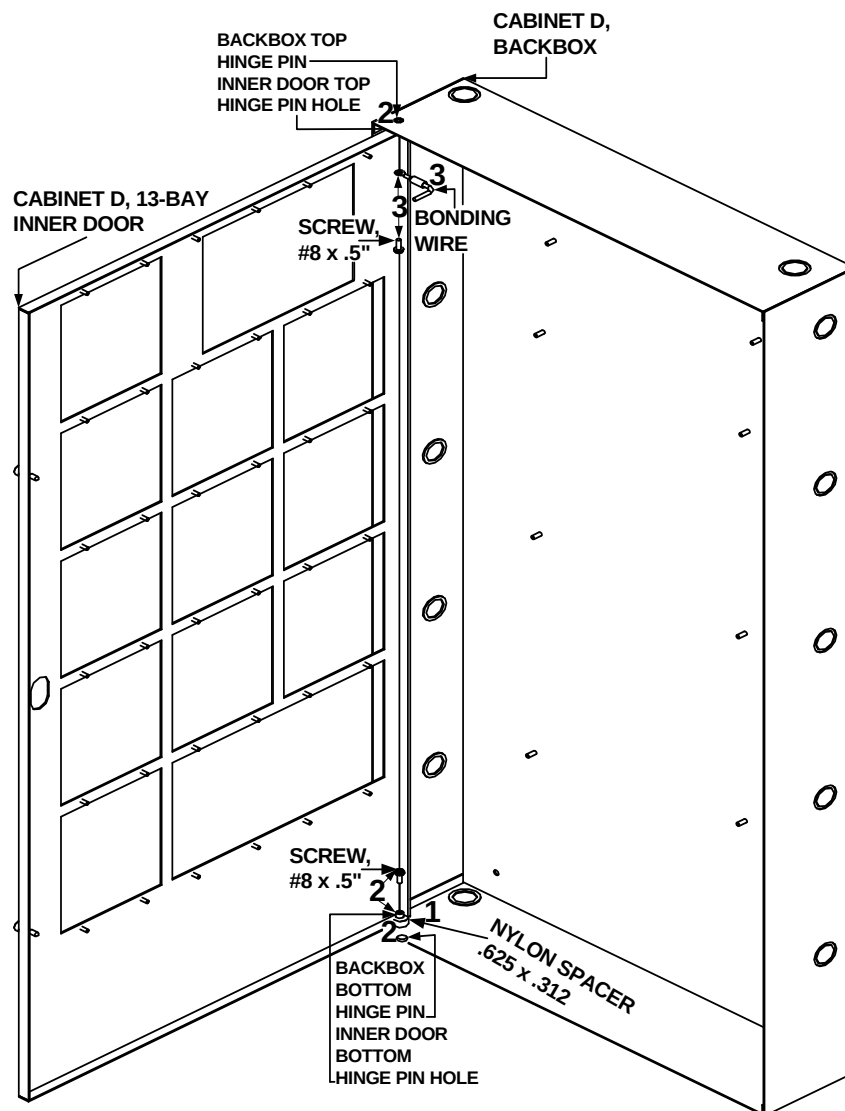


Figure 2.5.10.7.1 Cabinet D, 13-Bay Inner Door to the Backbox Installation

### 2.5.10.8 Cabinet D, 13-Bay Inner Door Installation

1. Mount the first, top row of the LCD-E3/ASM-16s sub-assemblies to the 13-bay inner door and secure with six (6), #6-32 nuts as shown in Location 1 of the figure below.
2. Interlock the first, bottom row of the LCD-E3/ASM-16s with the second, top row of the ASM-16 sub-assemblies. Mount the units to the 13-bay inner door by securing six (6), #6-32 nuts as shown in Location 2 of the figure below.
3. Interlock the second, bottom row of the second set of ASM-16 sub-assemblies with the third, top row of the third set of ASM-16 sub-assemblies. Mount the units to the 13-bay inner door by securing six (6), #6-32 nuts as shown in Location 3 of the figure below.
4. Interlock the third, bottom row of the third set of ASM-16 sub-assemblies with the fourth, top row of the fourth set of ASM-16 sub-assemblies. Mount the units to the 13-bay inner door by securing six (6), #6-32 nuts as shown in Location 4 of the figure below.
5. Interlock the fourth, bottom row of the fourth set of ASM-16 sub-assemblies with the fifth, top row of the telephone and microphone box. Mount the units to the 13-bay inner door by securing six (6), #6-32 nuts as shown in Location 5 of the figure below.
6. Mount the fifth, bottom row of the telephone and microphone box to the 13-bay inner door by securing six (6), #6-32 nuts as shown in Location 6 of the figure below.
7. Secure the opposite end of the bonding wire to the welded #6 stud on the inner side of the inner door using the #6 nut as shown in Location 7 of the figure below.
8. After the panel is wired, use the thumbscrews to secure the inner door to the backbox as shown in Location 8 of the figure below.

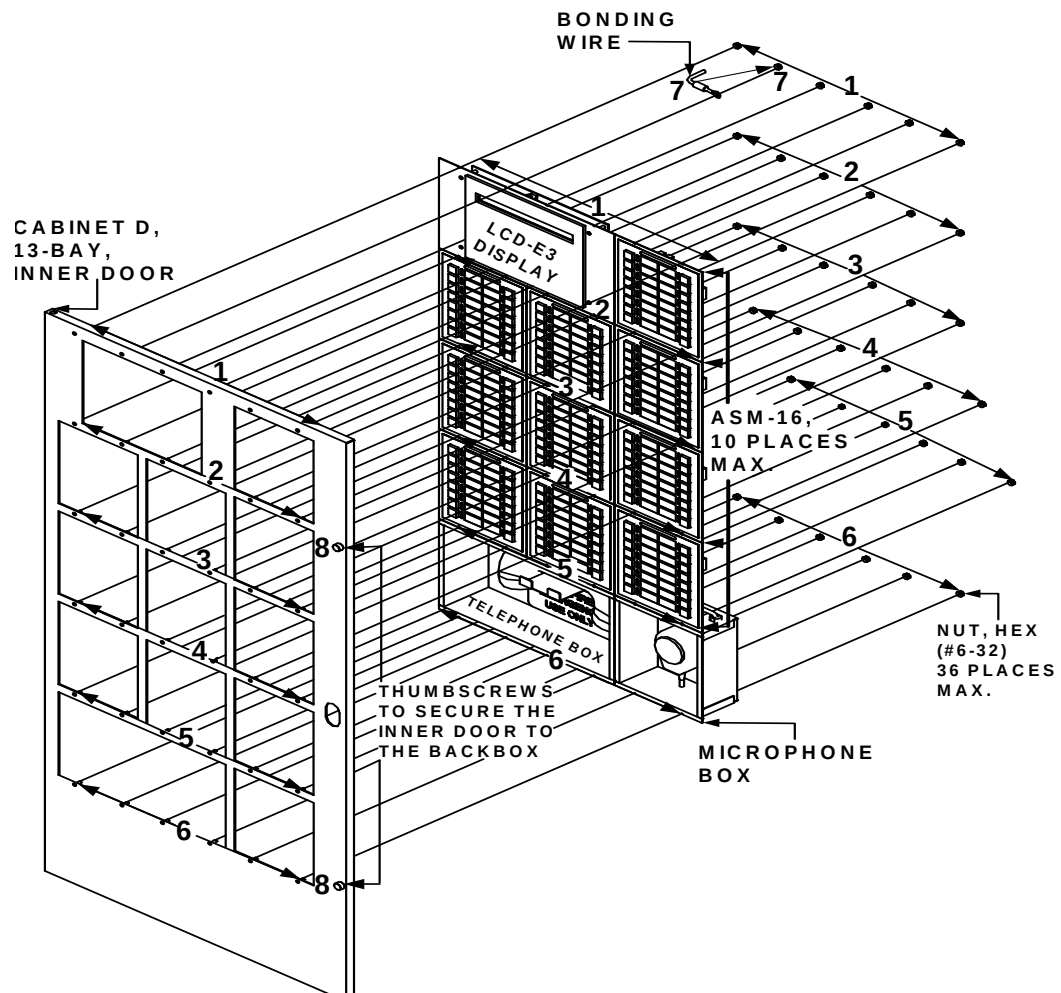


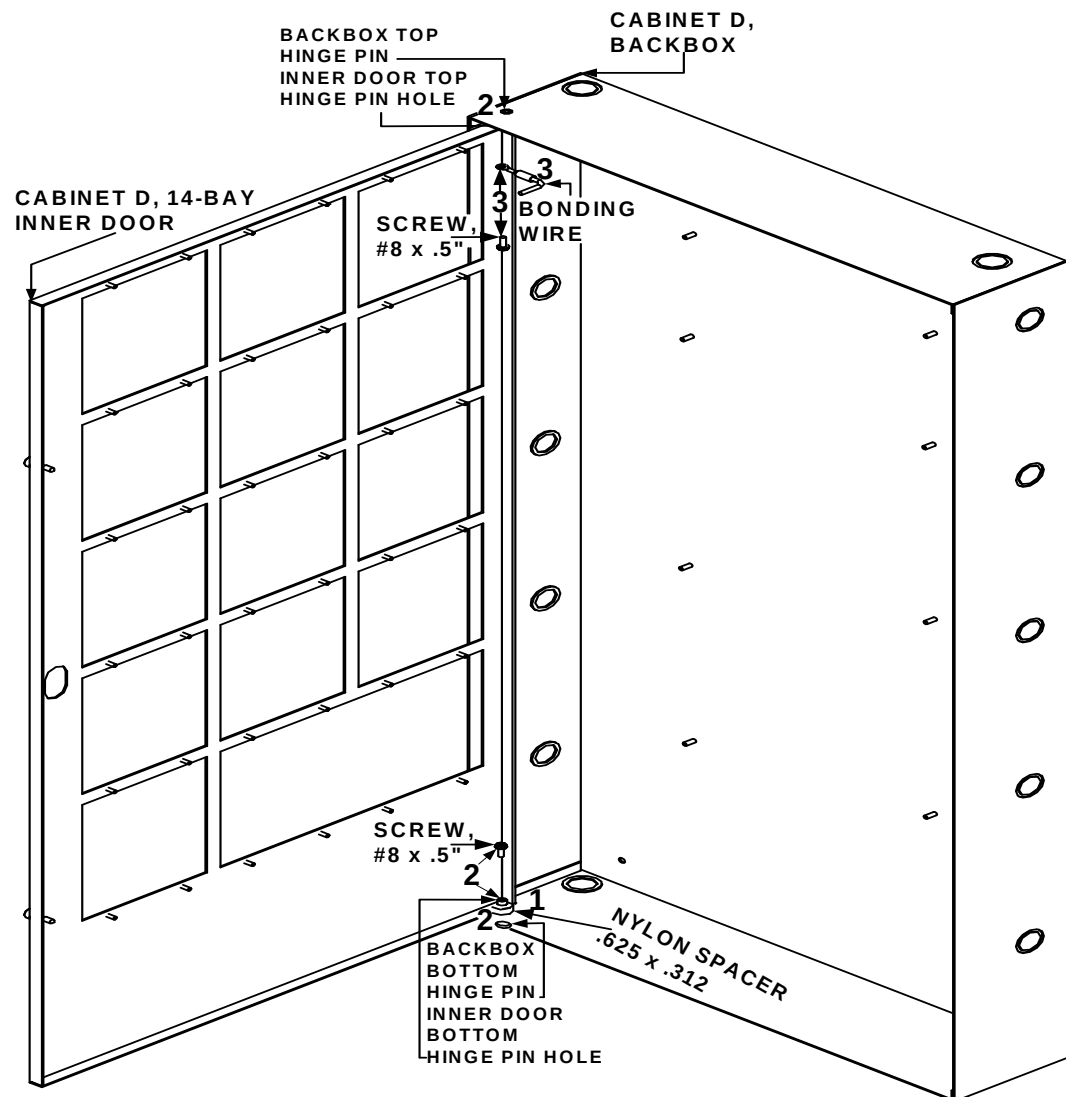
Figure 2.5.10.8.1 Cabinet D, 13-Bay Inner Door Installation

### 2.5.10.9 Cabinet D, 14-Bay Inner Door to the Backbox Installation

1. Place the nylon spacer (.625 x .312) over the backbox, bottom hinge pin as shown in Location 1 of the figure below.
2. Mount the 14-bay inner door to the backbox, by sliding the inner door top hinge pin onto the backbox top hinge pin hole as shown in Location 2 of the figure below.
3. Align the inner door bottom hinge pin hole with the backbox bottom hinge pin.
4. Slide the inner door over the inner door bottom hinge in hole on top of the nylon spacer, and secure using the #8 x .5" screw as shown in Location 2 of the figure below.
5. After the inner door is secured in place, attach one end of the bonding wire to the top hinge pin using the #8 x .5" screw as shown in Location 3 of the figure below.

**NOTE 1:** The 13-bay or 14-bay inner door is optional.

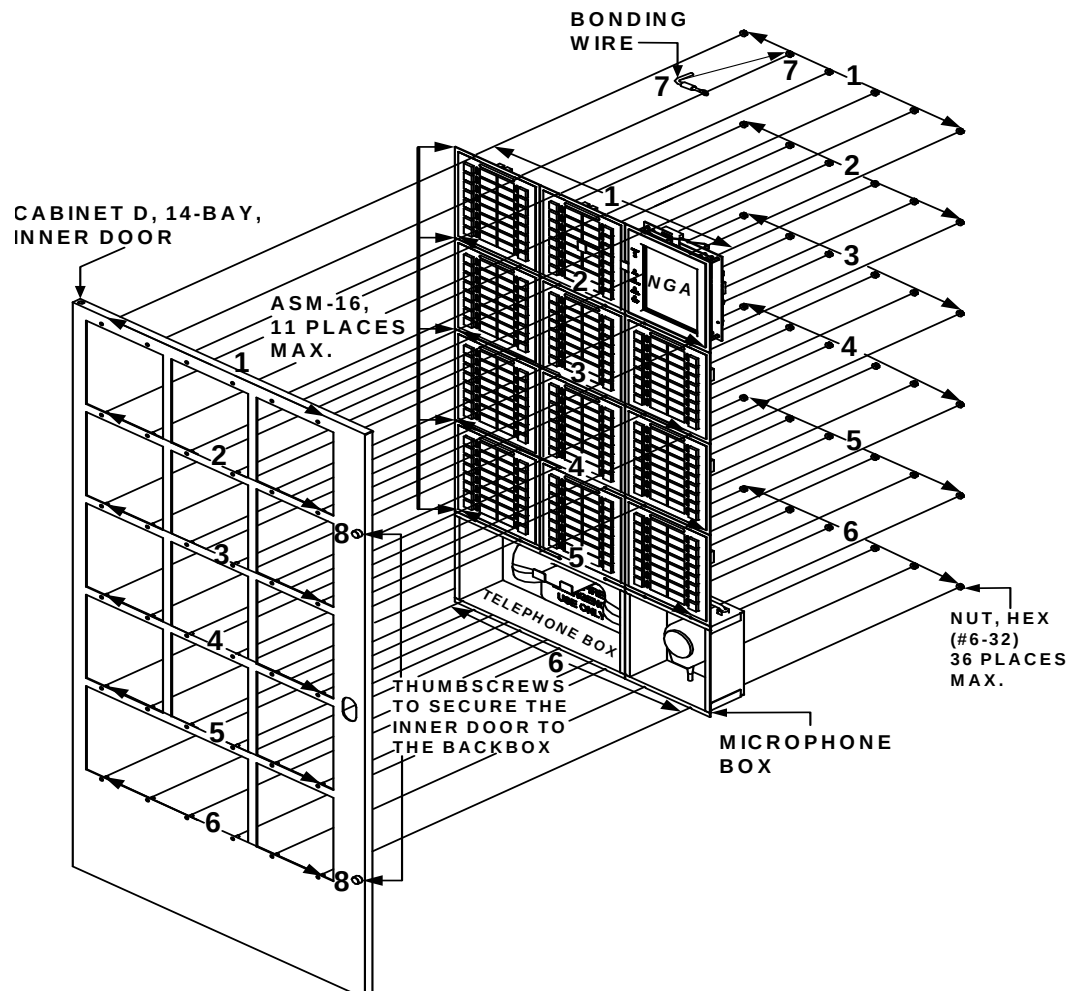
**NOTE 2:** For information on the installation of the opposite end of the bonding wire, see Section 2.5.10.10, Step 7 and Location 7 of Figure 2.5.10.10.1.



**Figure 2.5.10.9.1 Cabinet D, 14-Bay Inner Door to the Backbox Installation**

#### 2.5.10.10 Cabinet D, 14-Bay Inner Door Installation

1. Mount the first, top row of the /ASM-16s sub-assemblies to the 14-bay inner door and secure with six (6), #6-32 nuts as shown in Location 1 of the figure below.
2. Interlock the first, bottom row of the /ASM-16s with the second, top row of the second set of ASM-16 sub-assemblies and mount the units to the 14-bay inner door by securing six (6), #6-32 nuts as shown in Location 2 of the figure below.
3. Interlock the second, bottom row of the second set of ASM-16 sub-assemblies with the third, top row of the third set of ASM-16 sub-assemblies, and mount the units to the 14-bay inner door by securing six (6), #6-32 nuts as shown in Location 3 of the figure below.
4. Interlock the third, bottom row of the third set of ASM-16 sub-assemblies with the fourth, top row of the fourth set of ASM-16 sub-assemblies, and mount the units to the 14-bay inner door by securing six (6), #6-32 nuts as shown in Location 4 of the figure below.
5. Interlock the fourth, bottom row of the fourth set of ASM-16 sub-assemblies with the fifth, top row of the telephone and microphone box and mount the units to the 14-bay inner door by securing six (6), #6-32 nuts as shown in Location 5 of the figure below.
6. Mount the fifth, bottom row of the telephone and microphone box to the 14-bay inner door by securing six (6), #6-32 nuts as shown in Location 6 of the figure below.
7. Secure the opposite end of the bonding wire to the welded #6 stud on the inner side of the inner door using the #6 nut as shown in Location 7 of the figure below.
8. After the panel is wired, use the thumbscrews to secure the inner door to the backbox as shown in Location 8 of the figure below.



#### Figure 2.5.10.10.1 Cabinet D, 14-Bay Inner Door Installation

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## Notes

## Section 3: E3 Series System Connections

### 3.1 ILI-MB-E3 and ILI95-MB-E3 Connections

The ILI-MB-E3 and ILI95-MB-E3 electrical specifications are provided in the following subsections.

#### 3.1.1 Auxiliary Power Output, Resettable/Non-Resettable

- TB3-4 Resettable, 24 VDC, max. 2.0 amp  
Special application: Suitable for use with projected beam smoke detector Model BEAM 1224.
- TB3-6 Non-resettable, 24 VDC, max. 2.0 amp  
Special application: Suitable for use with the FM Series door holders.



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**NOTE:** Total output is 2.5 amp maximum combined.

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- TB3-5, TB3-7 Common negative

#### 3.1.2 Relay Connections

- System Alarm Contacts
  - TB5-2 Normally Open
  - TB5-3 Common
  - TB5-1 Normally Closed
  - Rated 2 amp @ 30 VDC (resistive)
  - Transfers upon any system alarm except supervisory
- Supervisory Contacts
  - TB5-5 Normally Open
  - TB5-6 Common
  - TB5-4 Normally Closed
  - Rated 2 amp @ 30 VDC (resistive)
  - Transfers upon any supervisory signal.
- System Trouble Contacts
  - TB5-8 Normally Open
  - TB5-9 Common
  - TB5-7 Normally Closed
  - Rated 2 amp @ 30 VDC (resistive)
  - Transfers on any system trouble, supervisory and/or alarm

### 3.1.3 Signaling Line Circuits

The ILI-MB-E3 or ILI95-MB-E3 provides two (2), 24 VDC Class A, Style 6, 7 or Class B, Style 4 signaling line circuits. See Figure 3.1.3.1 for wiring information. Style 7 wiring requires the use of an M500X Isolator Module (ILI-MB-E3), or XP95-LI Line Isolator or XP95-LIB Line Isolator Base (ILI95-MB-E3) on both sides of a device.

#### ILI-MB-E3 Wiring Instructions

SLC 1 Style 4 TB4-8 (+), TB4-7 ( - )  
 SLC 2 Style 4 TB4-4 (+), TB4-3 ( - )  
 SLC 1 Style 6 TB4-8 out, TB4-6 return  
 TB4-7 out, TB4-5 return  
 SLC-2 Style 6 TB4-4 out, TB4-4-2 return  
 TB4-3 out, TB4-1 return

#### ILI95-MB-E3 Wiring Instructions

SLC 1 Style 4 TB7-4 (+), TB7-3 ( - )  
 SLC 2 Style 4 TB4-4 (+), TB4-3 ( - )  
 SLC 1 Style 6 TB7-4 out (+), TB7-3 out ( - )  
 TB7-2 return (+), TB7-1 return ( - )  
 SLC 2 Style 6 TB4-4 out (+), TB4-3 out ( - )  
 TB4-2 return (+), TB4-1 return ( - )

(Polarity markings indicate the polarity that should be maintained throughout the circuit. Polarity connected to the circuit must be observed on all devices).

#### Circuit Ratings

24 VDC (nominal)

Current: 0.051 amp Max (supervisory)  
 0.136 amp max. (alarm)  
 0.100 amp max Steady State (short circuit)  
 40 Ohms max. line impedance  
 0.5  $\mu$ f max. line capacitance

Ground fault test impedance: Zero ohms

Wiring: 18 AWG minimum, twisted-pair, unshielded

Power-limited Supervised

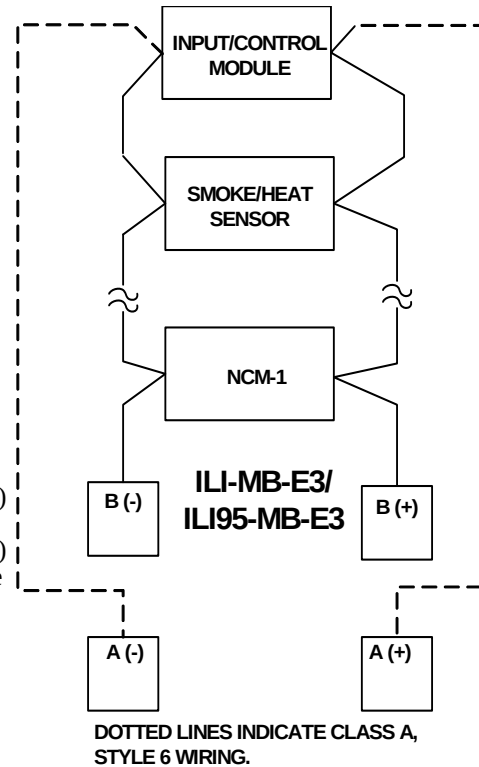


Figure 3.1.3.1 Signaling Line Circuits

### 3.1.4 Notification Appliance Circuits

The ILI-MB-E3 or ILI95-MB-E3 provides two (2), 24 VDC Class A, Style Z or Class B, Style Y notification appliance circuits. See Figure 3.1.4.1 for wiring information. See the *Compatibility Addendum*, P/N: 9000-0427, for a list of approved compatible devices.

#### Wiring Instructions:

NAC 1 – Style Y      TB2-1 (+), TB2-2 ( - )  
 NAC 2 – Style Y      TB2-5 (+), TB2-6 ( - )  
 NAC 1 – Style Z      TB2-1 out, TB2-3 return  
 NAC 2 – Style Z      TB2-5 out, TB2-7 return  
                              TB2-6 out, TB2-8 return

(Polarity markings indicate the polarity of the circuit in alarm condition). Use UL Listed End of Line Resistor EOL-N (33K), P/N 4700-0484 for Class B, Style Y wiring.

#### Circuit Ratings:

24 VDC (Nom.) FWR

Max. alarm load: - 2.0 amp/circuit

Ground fault test impedance: Zero ohms

Supervised - Power-limited

18 AWG minimum

MDL3 Series Synchronization Modules must be connected. Special application: See *Compatibility Addendum*, P/N 9000-0427 for a list of Gamewell-FCI approved, UL Listed notification appliances.

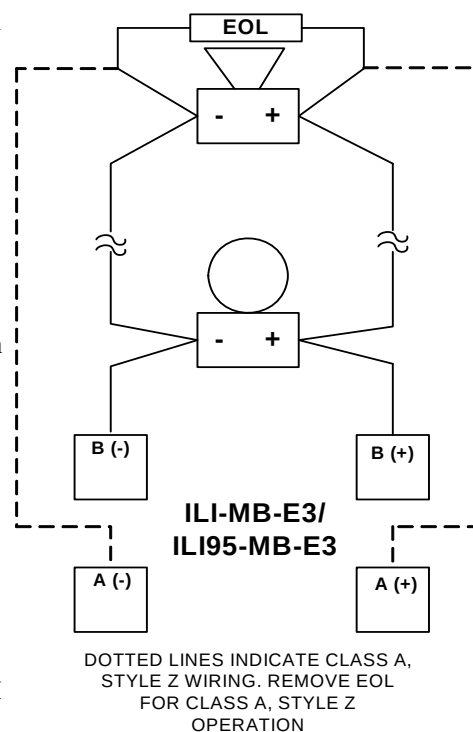


Figure 3.1.4.1 Notification Appliance Circuits

### 3.1.5 ILI-MB-E3 and ILI95-MB-E3 Outputs

The ILI-MB-E3 or ILI95-MB-E3 provides output for a Local Energy City Master Box, reversing polarity output for leased line connection, or Releasing Service.

| Ratings              | Master Box (NPL) | Polarity Reversal (PL) | Releasing Service |
|----------------------|------------------|------------------------|-------------------|
| Nominal Voltage      | 24 VDC           | 24 VDC                 | 24 VDC            |
| Supervisory Current: | .0018 amp        | .012 amp               | .0005 amp         |
| Alarm Current:       | .510 amp (max.)  | .012 amp               | .700 amp          |
| Line Resistance      | 35 Ohms (max.)   |                        | 2 Ohms (max.)     |
| Trip Coil Resistance | 14.5 Ohms (max.) |                        |                   |

Table 3.1.5.1 ILI-MB-E3 and ILI95-MB-E3 Outputs

### 3.1.6 ILI-MB-E3 and ILI95-MB-E3 Specifications

The following lists the electrical specifications for the ILI-MB-E3 and ILI95-MB-E3.

| Specifications                  | ILI-MB-E3                                | ILI95-MB-E3                              |
|---------------------------------|------------------------------------------|------------------------------------------|
| <b>Operating Voltage:</b>       | 24 VDC (from PM-9/PM-9G power supply)    | 24 VDC (from PM-9/PM-9G power supply)    |
| <b>Operating Current:</b>       | 0.081 amp                                | 0.050 amp                                |
| <b>Alarm Current:</b>           | 0.150 amp                                | 0.091 amp                                |
| <b>Operating Temperature:</b>   | 32° to 120° F (0° to 49° C)              | 32° to 120° F (0° to 49° C)              |
| <b>Relative Humidity:</b>       | 0 to 93% non-condensing at 90° F (32° C) | 0 to 93% non-condensing at 90° F (32° C) |
| <b>Supervised Power-limited</b> |                                          |                                          |

## 3.2 Intelligent Loop Interface-Main Board Connections

Figure 3.2.1 and Figure 3.2.2 illustrate the Intelligent Loop Interface - Main Board (ILI-MB-E3) sub-assembly.

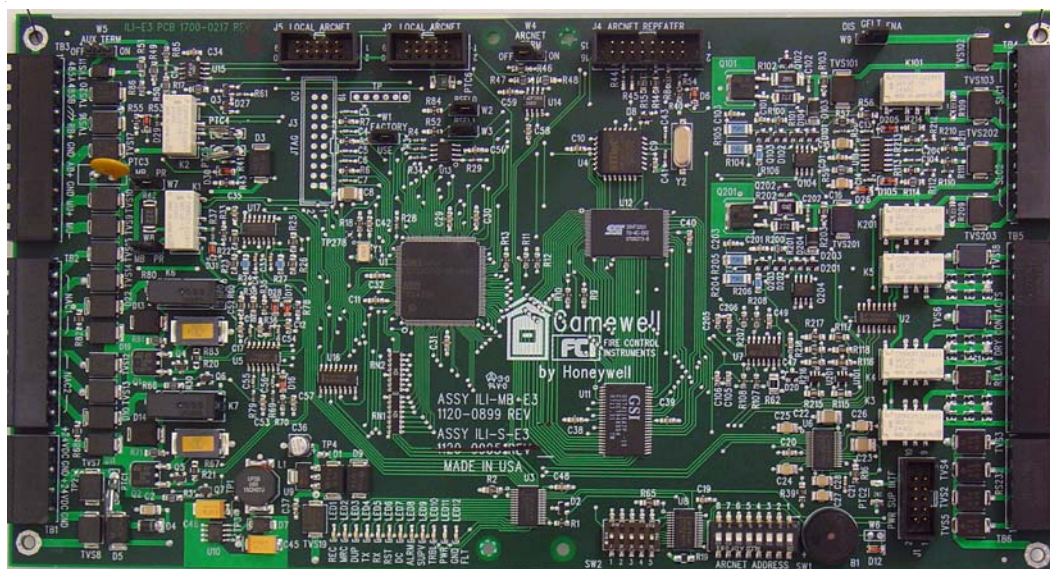


Figure 3.2.1 Intelligent Loop Interface-Main Board (ILI-MB-E3) Sub-Assembly

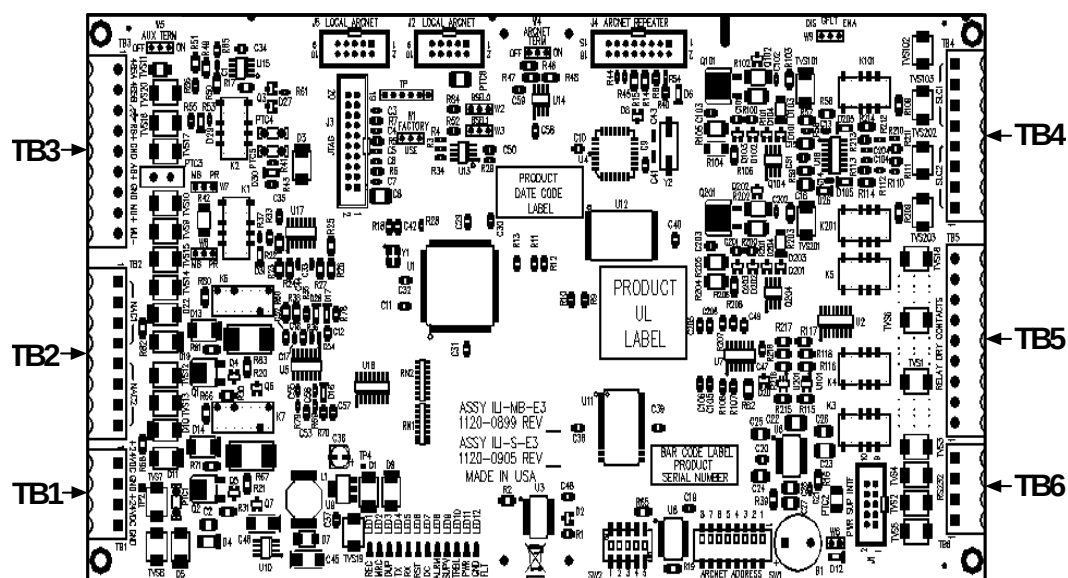


Figure 3.2.2 Intelligent Loop Interface-Main Board (ILI-MB-E3) Sub-Assembly

### 3.2.1 Intelligent Loop Interface-Main Board (ILI-MB-E3) Wiring Connections

Field wiring connections for the ILI-MB-E3 are shown in Table 3.2.1.1. All wiring is Power-limited except the local energy City Box which is non power-limited.

| Designation  | Description       | Comments                                                                                                 |
|--------------|-------------------|----------------------------------------------------------------------------------------------------------|
| TB1-1, TB1-3 | +24 V IN          | +24 VDC Input from PM-9/PM-9G TB4-1                                                                      |
| TB1-2, TB1-4 | GND               | Common negative from PM-9/PM-9G TB4-2                                                                    |
| TB2-1        | NAC1 B+           | Notification Appliance Circuit 1 (See Note 6)                                                            |
| TB2-2        | NAC1 B -          | Notification Appliance Circuit 1 (See Note 6)                                                            |
| TB2-3        | NAC 1 A+          | Notification Appliance Circuit 1 (See Note 6)                                                            |
| TB2-4        | NAC 1 A-          | Notification Appliance Circuit 1 (See Note 6)                                                            |
| TB2-5        | NAC2 B+           | Notification Appliance Circuit 2 (See Note 6)                                                            |
| TB2-6        | NAC2 B-           | Notification Appliance Circuit 2 (See Note 6)                                                            |
| TB2-7        | NAC 2 A+          | Notification Appliance Circuit 2 (See Note 6)                                                            |
| TB2-8        | NAC 2 A-          | Notification Appliance Circuit 2 (See Note 6)                                                            |
| TB3-1        | AUX RS485 A       | Output to LCD-E3, ASM-16, ANU-48, LCD-7100, DACT-E3 (See Note 3)                                         |
| TB3-2        | AUX RS485 B       | Output to LCD-E3, ASM-16, ANU-48, LCD-7100, DACT-E3 (See Note 3)                                         |
| TB3-3        | Earth Ground      | Connect to water pipe ground                                                                             |
| TB3-4        | Resettable B+     | Auxiliary resettable 24 VDC power                                                                        |
| TB3-5        | GND               | Common negative                                                                                          |
| TB3-6        | Non-resettable B+ | Auxiliary non-resettable 24 VDC power                                                                    |
| TB3-7        | GND               | Common negative                                                                                          |
| TB3-8        | Municipal Ckt +   | Output to Local Energy City Box or Remote Station or Releasing Solenoid - Non Power-limited (See Note 7) |
| TB3-9        | Municipal Ckt -   | Output to Local Energy City Box or Remote Station or Releasing Solenoid – Non Power-limited (See Note 7) |
| TB4-1        | SLC 2 A-          | SLC 2 Style 6 / 7 Return (See Note 5)                                                                    |
| TB4-2        | SLC 2 A+          | SLC 2 Style 6 / 7 Return (See Note 5)                                                                    |
| TB4-3        | SLC 2 B-          | SLC 2 Style 4 / 6 / 7 Out (See Note 5)                                                                   |
| TB4-4        | SLC 2 B+          | SLC 2 Style 4 / 6 / 7 Out (See Note 5)                                                                   |
| TB4-5        | SLC 1 A-          | SLC 1 Style 6 / 7 Return (See Note 5)                                                                    |
| TB4-6        | SLC 1 A+          | SLC 1 Style 6 / 7 Return (See Note 5)                                                                    |
| TB4-7        | SLC 1 B-          | SLC 1 Style 4 / 6 / 7 Out (See Note 5)                                                                   |
| TB4-8        | SLC 1 B+          | SLC 1 Style 4 / 6 / 7 Out (See Note 5)                                                                   |
| TB5-1        | Alarm DC NC       | Alarm relay contact, N/C                                                                                 |
| TB5-2        | Alarm DC NO       | Alarm relay contact, N/O                                                                                 |
| TB5-3        | Alarm DC Common   | Alarm relay contact, Common                                                                              |
| TB5-4        | Supv DC NC        | Supervisory relay contact, N/C                                                                           |
| TB5-5        | Supv DC NO        | Supervisory relay contact, N/O                                                                           |
| TB5-6        | Supv DC Common    | Supervisory relay contact, Common                                                                        |
| TB5-7        | Trbl DC NC        | Trouble relay contact, N/C                                                                               |
| TB5-8        | Trbl DC NO        | Trouble relay contact, N/O                                                                               |
| TB5-9        | Trbl DC Common    | Trouble relay contact, Common                                                                            |

**Table 3.2.1.1 ILI-MB-E3 Field Wiring Connections**

| Designation                                                                                                                                                                                                                                                                                                                                                    | Description                 | Comments                                                                                      |                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------|---------------------------------|
| TB6-1                                                                                                                                                                                                                                                                                                                                                          | RS232 GND                   | To red lead on download cable P/N 75267                                                       | RS-232 Download or Printer Port |
| TB6-2                                                                                                                                                                                                                                                                                                                                                          | RS232 TxD                   | To black lead on download cable P/N 75267                                                     |                                 |
| TB6-3                                                                                                                                                                                                                                                                                                                                                          | RS232 Supervision           | Optional Printer Supervision                                                                  |                                 |
| TB6-4                                                                                                                                                                                                                                                                                                                                                          | RS232 Rxd                   | To green lead on download cable P/N 75267                                                     |                                 |
| W1, W2, W3                                                                                                                                                                                                                                                                                                                                                     | Factory Jumpers             | Factory User Only (Default OUT)                                                               |                                 |
| W4                                                                                                                                                                                                                                                                                                                                                             | ARCNET Term                 | OPEN = Normal Operations<br>SHORT = If the ILI-MB-E3 is located at the end of the ARCNET bus. |                                 |
| W5                                                                                                                                                                                                                                                                                                                                                             | RS-485 AUX Terminal         | OPEN = OFF (Normal Operations)<br>SHORT = ON (RS-485 Termination)                             |                                 |
| W7, W8                                                                                                                                                                                                                                                                                                                                                         | Municipal Jumpers           | “MB” = For Master Box or Releasing<br>“PR” = For Polarity Reversal (See Note 7)               |                                 |
| W9                                                                                                                                                                                                                                                                                                                                                             | Ground Fault Detection      | IN = ENABLE<br>OUT = DISABLE (See Note 1)                                                     |                                 |
| SW2-1                                                                                                                                                                                                                                                                                                                                                          | Switch                      | 1 ON = SLC 1 DISABLED<br>(OFF = SLC 1 ENABLED)                                                |                                 |
| SW2-2                                                                                                                                                                                                                                                                                                                                                          | Switch                      | 2 ON = SLC 2 DISABLED<br>(OFF = SLC 2 ENABLED)                                                |                                 |
| SW2-3                                                                                                                                                                                                                                                                                                                                                          | Switch                      | 3 ON = NAC 1 & 2 DISABLED<br>(OFF = NAC 1 & 2 ENABLED)                                        |                                 |
| SW2-4                                                                                                                                                                                                                                                                                                                                                          | Switch                      | 4 ON = BUZZER DISABLED<br>(OFF = BUZZER ENABLED)                                              |                                 |
| SW2-5                                                                                                                                                                                                                                                                                                                                                          | Switch                      | 5 ON = RS-232 115.2 K BAUD<br>(OFF = defined by CAMWorks™)                                    |                                 |
| J1                                                                                                                                                                                                                                                                                                                                                             | ILI to PM-9/PM-9G COMM Port | Connects to PM-9/PM-9G J1(See Note 1 & 2)                                                     |                                 |
| J2                                                                                                                                                                                                                                                                                                                                                             | Local ARCNET                | Connects to J5 of the next ILI-E3, ILI95-E3 Series or ANX sub-assembly                        |                                 |
| J5                                                                                                                                                                                                                                                                                                                                                             | Local ARCNET                | Connects to J2 from the previous ILI-E3, ILI95-E3 Series or ANX sub-assembly                  |                                 |
| J4                                                                                                                                                                                                                                                                                                                                                             | ARCNET Repeater             | Connects to INI-VG J7 or J10 of the RPT-E3. (See Note 4)                                      |                                 |
| <b>NOTE 1:</b> Must be IN when connected via a ribbon cable from this ILI95-MB-E3 at J1 to a PM-9/PM-9G connector J1. Requires the removal of the JMP-1 on the PM-9/PM-9G.<br>Must be OUT when a ribbon cable is not installed in J1 and the ground fault detection is being provided by an INI-VG Series node that is being powered from a common PM-9/PM-9G. |                             |                                                                                               |                                 |
| <b>NOTE 2:</b> Connect J1 to PM-9/PM-9G J1 only when the PM-9/PM-9G is NOT powering an INI-VG Series sub-assembly.                                                                                                                                                                                                                                             |                             |                                                                                               |                                 |
| <b>NOTE 3:</b> Use ILI95-MB-E3 Auxiliary RS485 Port (TB3-1 COM A & TB3-2 COM B) to connect to LCD-E3 (E3 annunciator module), LCD-7100 (7100 Remote Annunciator Module), ASM-16 (Addressable Switch Module), ANU-48 (LED Annunciator Driver Module), DACT-E3 (E3 Digital Communicator Transmitter).                                                            |                             |                                                                                               |                                 |
| <b>NOTE 4:</b> RPT-E3 (Repeater-E3 Module) is required when this ILI-MB-E3 is networked via ARCNET to an INI-VGE, INI-VGC, INI-VGX, or another RPT-E3 equipped node. Not required for LOCAL ARCNET communication within a single enclosure. (J2 or J5).                                                                                                        |                             |                                                                                               |                                 |
| <b>NOTE 5:</b> For Style 4, use terminals B+ & B- only. For Style 6 use terminals B+ and B- & connect return wires to A+ & A-. For Style 7, wire as for Style 6 & use Isolator Modules and/or Isolator Detectors per recommendations as required.                                                                                                              |                             |                                                                                               |                                 |
| <b>NOTE 6:</b> NAC1 and NAC2 are rated as Special Application.                                                                                                                                                                                                                                                                                                 |                             |                                                                                               |                                 |
| <b>NOTE 7:</b> When used for Releasing, must be configured in CAMWorks for Releasing in the General Settings Section.                                                                                                                                                                                                                                          |                             |                                                                                               |                                 |

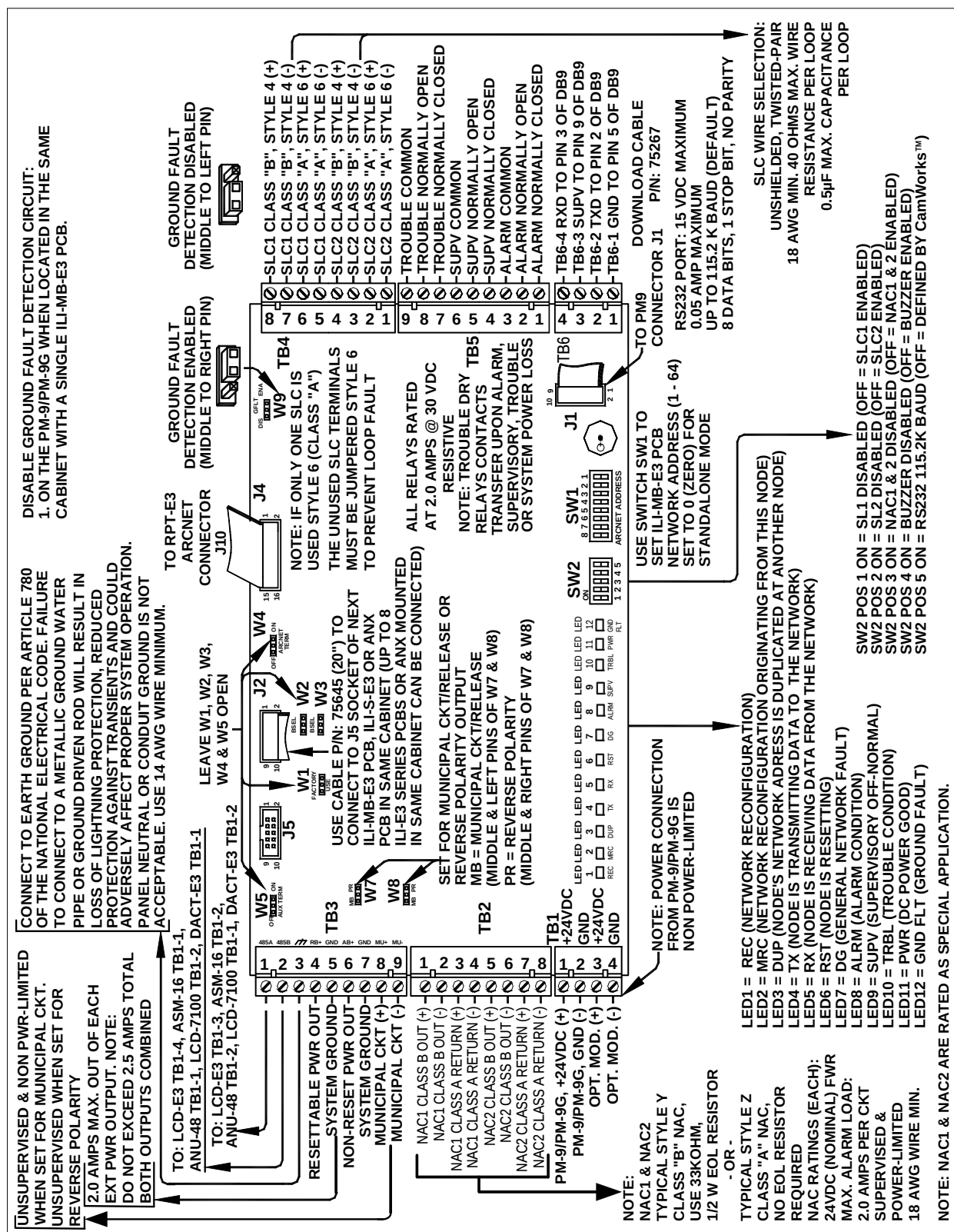
Table 3.2.1.1 ILI-MB-E3 Field Wiring Connections (Continued)



**NOTE:** For additional information on the wiring requirements, refer to the *ILI-MB-E3 Installation Instructions*, P/N 9000-0579.

### 3.2.2 ILI-MB-E3 Wiring Diagram

Figure 3.2.2.1 illustrates the field wiring connections for the ILI-MB-E3 sub-assembly.



### Figure 3.2.2.1 ILI-MB-E3 Wiring Diagram

### 3.3 Intelligent Loop Interface XP95-Main Board Connections

Figure 3.3.1 and Figure 3.3.2 illustrate the Intelligent Loop Interface XP95 - Main Board (ILI95-MB-E3) sub-assembly.

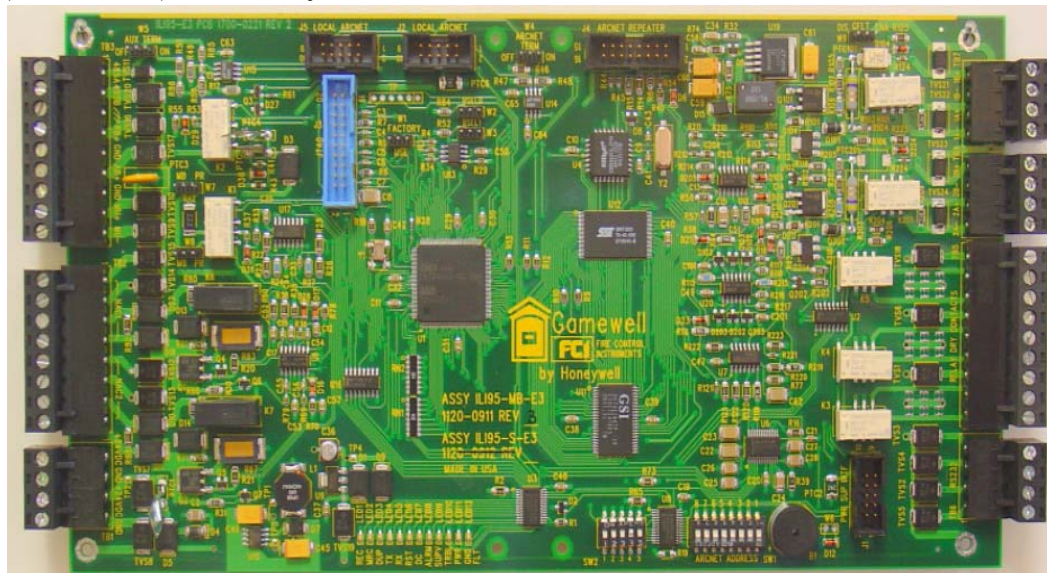


Figure 3.3.1 Intelligent Loop Interface XP95-Main Board (ILI95-MB-E3) Sub-Assembly

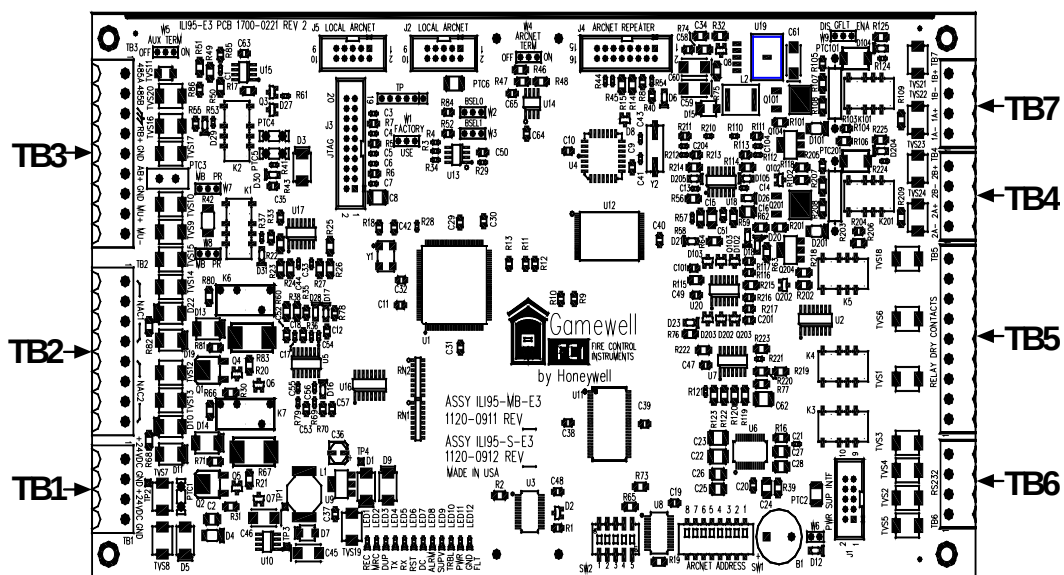


Figure 3.3.2 Intelligent Loop Interface XP95-Main Board (ILI95-MB-E3) Sub-Assembly

### 3.3.1 Intelligent Loop Interface XP95 - Main Board (ILI95-MB-E3) Wiring Connections

Field wiring connections for the ILI95-MB-E3 is shown in Table 3.3.1.1. All wiring is Power-limited except the local energy City Box that is non power-limited.

| Designation  | Description       | Comments                                                                                    |                                 |
|--------------|-------------------|---------------------------------------------------------------------------------------------|---------------------------------|
| TB1-1, TB1-3 | +24 V IN          | +24 VDC Input from PM-9/PM-9G TB4-1                                                         |                                 |
| TB1-2, TB1-4 | GND               | Common negative from PM-9/PM-9G TB4-2                                                       |                                 |
| TB2-1        | NAC1 B+           | Notification Appliance Circuit 1 (See Note 6)                                               |                                 |
| TB2-2        | NAC1 B -          | Notification Appliance Circuit 1 (See Note 6)                                               |                                 |
| TB2-3        | NAC 1 A+          | Notification Appliance Circuit 1 (See Note 6)                                               |                                 |
| TB2-4        | NAC 1 A-          | Notification Appliance Circuit 1 (See Note 6)                                               |                                 |
| TB2-5        | NAC 2 B+          | Notification Appliance Circuit 2 (See Note 6)                                               |                                 |
| TB2-6        | NAC 2 B-          | Notification Appliance Circuit 2 (See Note 6)                                               |                                 |
| TB2-7        | NAC 2 A+          | Notification Appliance Circuit 2 (See Note 6)                                               |                                 |
| TB2-8        | NAC 2 A-          | Notification Appliance Circuit 2 (See Note 6)                                               |                                 |
| TB3-1        | AUX RS485 A       | Output to LCD-E3, ASM-16, ANU-48, LCD-7100, DACT-E3 (See Note 3)                            |                                 |
| TB3-2        | AUX RS485 B       | Output to LCD-E3, ASM-16, ANU-48, LCD-7100, DACT-E3 (See Note 3)                            |                                 |
| TB3-3        | Earth Ground      | Connect to water pipe ground                                                                |                                 |
| TB3-4        | Resettable B+     | Auxiliary resettable 24 VDC power                                                           |                                 |
| TB3-5        | GND               | Common negative                                                                             |                                 |
| TB3-6        | Non-resettable B+ | Auxiliary non-resettable 24 VDC power                                                       |                                 |
| TB3-7        | GND               | Common negative                                                                             |                                 |
| TB3-8        | Municipal Ckt+    | Output to Local Energy City Box or Remote Station or Releasing Solenoid - Non Power-Limited |                                 |
| TB3-9        | Municipal Ckt -   | Output to Local Energy City Box or Remote Station or Releasing Solenoid - Non Power-Limited |                                 |
| TB4-1        | SLC 2 A-          | SLC 2 Style 6 / 7 Return (See Note 5)                                                       |                                 |
| TB4-2        | SLC 2 A+          | SLC 2 Style 6 / 7 Return (See Note 5)                                                       |                                 |
| TB4-3        | SLC 2 B-          | SLC 2 Style 4 / 6 / 7 Out (See Note 5)                                                      |                                 |
| TB4-4        | SLC 2 B+          | SLC 2 Style 4 / 6 / 7 Out (See Note 5)                                                      |                                 |
| TB5-1        | Alarm DC NC       | Alarm relay contact, N/C                                                                    |                                 |
| TB5-2        | Alarm DC NO       | Alarm relay contact, N/O                                                                    |                                 |
| TB5-3        | Alarm DC Common   | Alarm relay contact, Common                                                                 |                                 |
| TB5-4        | Supv DC NC        | Supervisory relay contact, N/C                                                              |                                 |
| TB5-5        | Supv DC NO        | Supervisory relay contact, N/O                                                              |                                 |
| TB5-6        | Supv DC Common    | Supervisory relay contact, Common                                                           |                                 |
| TB5-7        | Trbl DC NC        | Trouble relay contact, N/C                                                                  |                                 |
| TB5-8        | Trbl DC NO        | Trouble relay contact, N/O                                                                  |                                 |
| TB5-9        | Trbl DC Common    | Trouble relay contact, Common                                                               |                                 |
| TB6-1        | RS232 GND         | To red lead on download cable P/N 75267                                                     |                                 |
| TB6-2        | RS232 RxD         | To black lead on download cable P/N 75267                                                   | RS-232 Download or Printer Port |
| TB6-3        | Supervision       | Optional Printer Supervision                                                                |                                 |
| TB6-4        | RS232 TxD         | To green lead on download cable P/N 75267                                                   |                                 |
| TB7-1        | SLC 1 A-          | SLC 1 Style 6 / 7 Return (See Note 5)                                                       |                                 |
| TB7-2        | SLC 1 A+          | SLC 1 Style 6 / 7 Return (See Note 5)                                                       |                                 |
| TB7-3        | SLC 1 B-          | SLC 1 Style 4 / 6 / 7 Out (See Note 5)                                                      |                                 |
| TB7-4        | SLC 1 B+          | SLC 1 Style 4 / 6 / 7 Out / (See Note 5)                                                    |                                 |
| W1, W2, W3   | Factory Jumpers   | Factory use only. (Default OUT)                                                             |                                 |

**Table 3.3.1.1 ILI95-MB-E3 Field Wiring Connections**

| Designation                                                                                                                                                                                                                                                                                                                                                          | Description                 | Comments                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------|
| W4                                                                                                                                                                                                                                                                                                                                                                   | ARCNET Term                 | OPEN = Normal Operation.<br>SHORT = If the ILI95-MB-E3 is located at the end of the ARCNET bus. |
| W5                                                                                                                                                                                                                                                                                                                                                                   | RS-485 AUX Terminal         | OPEN = OFF (Normal Operations)<br>SHORT = ON (RS-485 Termination)                               |
| W7, W8                                                                                                                                                                                                                                                                                                                                                               | Municipal Jumpers           | "MB" = For Master Box or Releasing<br>"PR" = For Polarity Reversal                              |
| W9                                                                                                                                                                                                                                                                                                                                                                   | Ground Fault Detection      | IN = ENABLE<br>OUT = DISABLE (See Note 1)                                                       |
| SW2-1                                                                                                                                                                                                                                                                                                                                                                | Switch                      | 1 ON = SLC 1 DISABLED<br>(OFF = SLC 1 ENABLED)                                                  |
| SW2-2                                                                                                                                                                                                                                                                                                                                                                | Switch                      | 2 ON = SLC 2 DISABLED<br>(OFF = SLC 2 ENABLED)                                                  |
| SW2-3                                                                                                                                                                                                                                                                                                                                                                | Switch                      | 3 ON = NAC 1 & 2 DISABLED<br>(OFF = NAC 1 & 2 ENABLED)                                          |
| SW2-4                                                                                                                                                                                                                                                                                                                                                                | Switch                      | 4 ON = BUZZER DISABLED<br>(OFF = BUZZER ENABLED)                                                |
| SW2-5                                                                                                                                                                                                                                                                                                                                                                | Switch                      | 5 ON = RS-232 115.2 K BAUD<br>(OFF = 9600 BAUD or defined by CAMWorks™)                         |
| J1                                                                                                                                                                                                                                                                                                                                                                   | ILI to PM-9/PM-9G COMM Port | Connects to PM-9/PM-9G J1 (See Note 1 & 2)                                                      |
| J2                                                                                                                                                                                                                                                                                                                                                                   | Local ARCNET                | Connects to J5 of the next ILI-E3, ILI95-E3 Series or ANX sub-assembly                          |
| J5                                                                                                                                                                                                                                                                                                                                                                   | Local ARCNET                | Connects to J2 from the previous ILI-E3, ILI95-E3 Series or ANX sub-assembly                    |
| J4                                                                                                                                                                                                                                                                                                                                                                   | ARCNET Repeater Connector   | Connects to J7 of the INI-VG J7 or J10 of the RPT-E3. (See Note 4)                              |
| <p><b>NOTE 1:</b> Must be IN when connected via ribbon cable from this ILI95-MB-E3 at J1 to a PM-9/PM-9G connector J1. Requires the removal of the JMP-1 on the PM-9/PM-9G.<br/>Must be OUT when a ribbon cable is not installed in J1 and the ground fault detection is being provided by an INI-VG Series node that is being powered from a common PM-9/PM-9G.</p> |                             |                                                                                                 |
| <p><b>NOTE 2:</b> Connect J1 to PM-9/PM-9G J1 only when the PM-9/PM-9G is NOT powering an INI-VG Series sub-assembly.</p>                                                                                                                                                                                                                                            |                             |                                                                                                 |
| <p><b>NOTE 3:</b> Use ILI95-MB-E3 Auxiliary RS485 Port (TB3-1 COM A &amp; TB3-2 COM B) to connect to LCD-E3 (E3 annunciator module), LCD-7100 (7100 Remote Annunciator Module), ASM-16 (Addressable Switch Module), ANU-48 (LED Annunciator Driver Module), DACT-E3 (E3 Digital Communicator Transmitter).</p>                                                       |                             |                                                                                                 |
| <p><b>NOTE 4:</b> RPT-E3 (E3 Repeater Module) is required when this ILI95-MB-E3 is networked via ARCNET to an INI-VGE, INI-VGC, INI-VGX, or another RPT-E3 equipped node. Not required for LOCAL ARCNET communication within a single enclosure.(J2 or J5).</p>                                                                                                      |                             |                                                                                                 |
| <p><b>NOTE 5:</b> For Style 4, use terminals B+ and B- only. For Style 6, use terminals B+ and B- and connect return wires to A+ and A-. For Style 7, wire as for Style 6 and use Isolator Modules and or Isolator Detectors per recommendations as required.</p>                                                                                                    |                             |                                                                                                 |
| <p><b>NOTE 6:</b> NAC1 and NAC2 are rated as Special Application.</p>                                                                                                                                                                                                                                                                                                |                             |                                                                                                 |

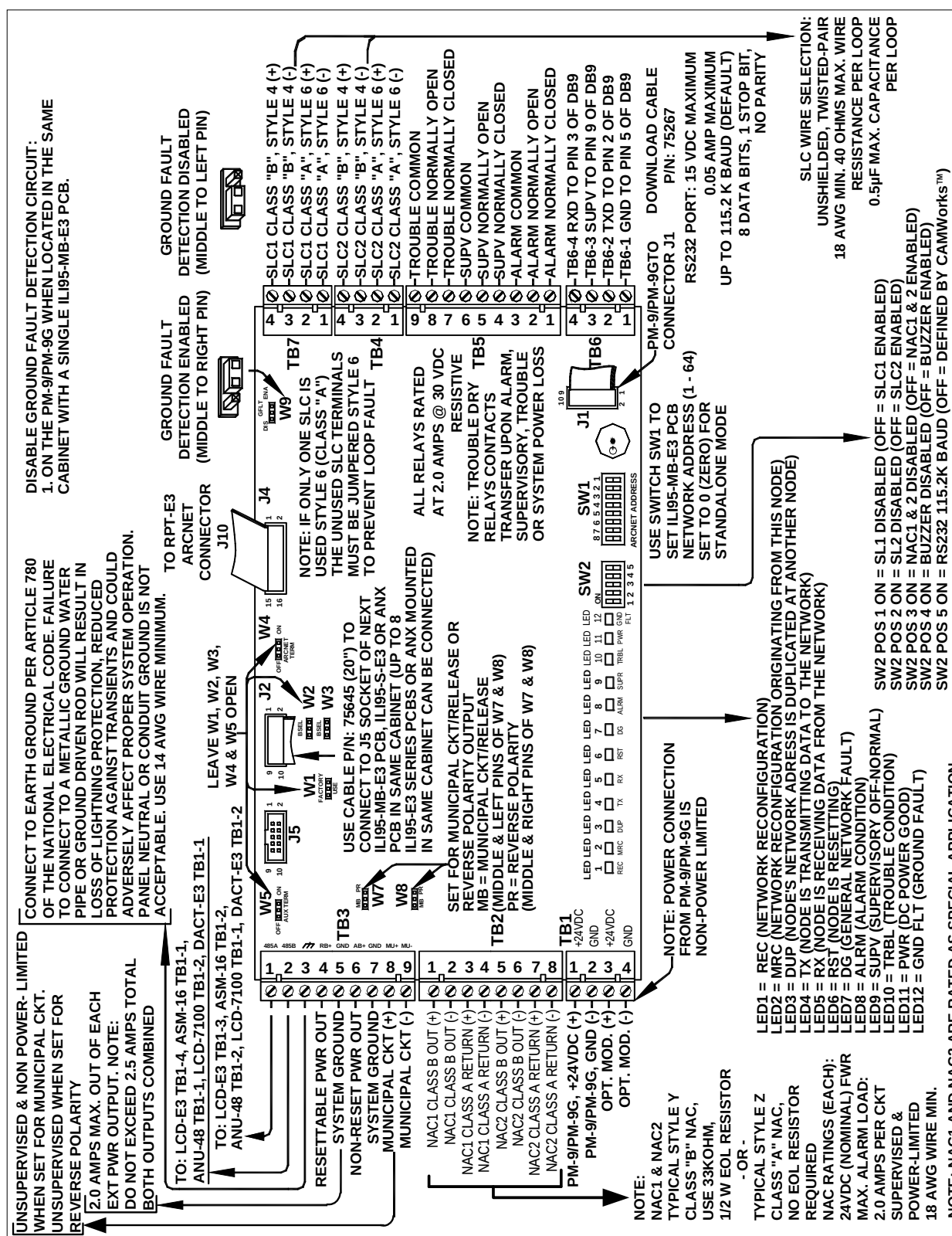
Table 3.3.1.1 ILI95-MB-E3 Field Wiring Connections (Continued)



**NOTE:** For additional information on the wiring requirements, refer to the *ILI95-MB-E3 Installation Instructions (P/N 9001-0017)*.

### 3.3.2 ILI95-MB-E3 Wiring Diagram

Figure 3.3.2.1 illustrates the field wiring connections for the ILI95-MB-E3.



### Figure 3.3.2.1 ILI95-MB-E3 Wiring Diagram

## 3.4 Intelligent Loop Interface - Slave Board (ILI-S-E3) Connections

### 3.4.1 Signaling Line Circuits

The ILI-S-E3 provides two (2), 24 VDC Class A, Style 6, 7 or Class B, Style 4 signaling line circuits. See Figure 3.4.1.1 for wiring information. Style 7 wiring requires the use of an M500X Isolator Module, on both sides of a device.

#### Wiring Instructions

|               |                         |
|---------------|-------------------------|
| SLC 1 Style 4 | TB4-8 (+), TB4-7 ( - )  |
| SLC 2 Style 4 | TB4-4 (+), TB4-3 ( - )  |
| SLC 1 Style 6 | TB4-8 out, TB4-6 return |
|               | TB4-7 out, TB4-5 return |
| SLC-2 Style 6 | TB4-4 out, TB4-2 return |
|               | TB4-3 out, TB4-1 return |

(Polarity markings indicate the polarity that should be maintained throughout the circuit. Polarity connected to the circuit must be observed on all devices).

#### Circuit Ratings

24 VDC (nominal)

Current:

0.048 amp max. (supervisory)  
 0.136 amp max. (alarm)  
 0.100 amp max. Steady State (short circuit)  
 40 Ohms max. line impedance  
 0.5 µf max. line capacitance

Ground fault test impedance: Zero ohms

Wiring: 18 AWG minimum, twisted-pair, unshielded

Power-limited

Supervised

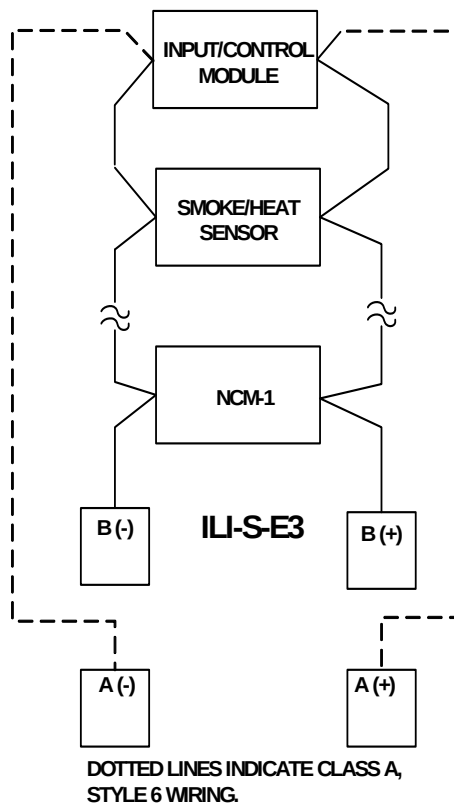


Figure 3.4.1.1 Signaling Line Circuits

### 3.4.2 Intelligent Loop Interface - Slave Board Sub-Assembly

Figure 3.4.2.1 and illustrate the Intelligent Loop Interface - Slave board (ILI-S-E3) sub-assembly.

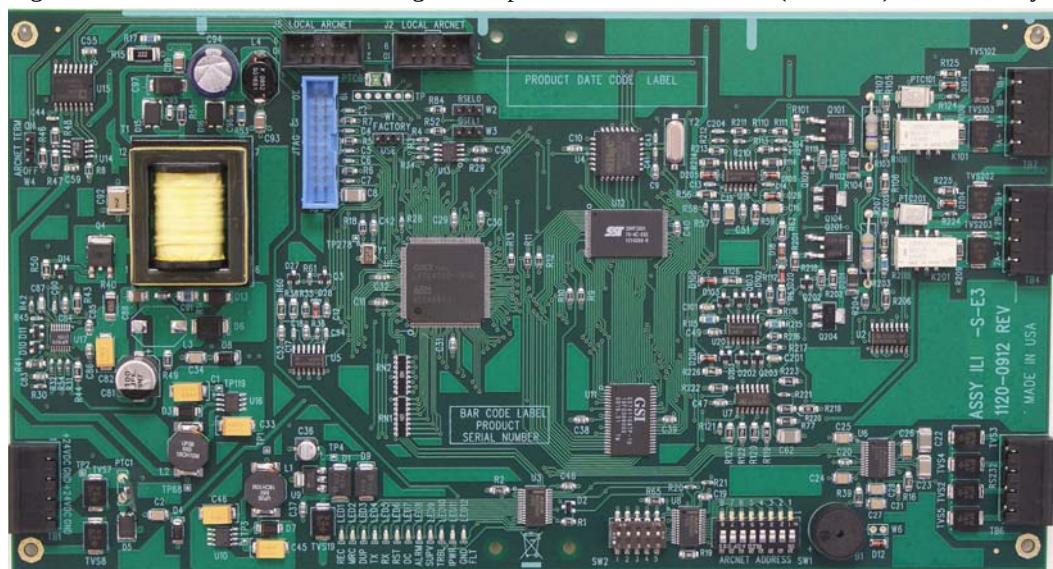


Figure 3.4.2.1 ILI-S-E3 Signaling Line Circuit Sub-Assembly

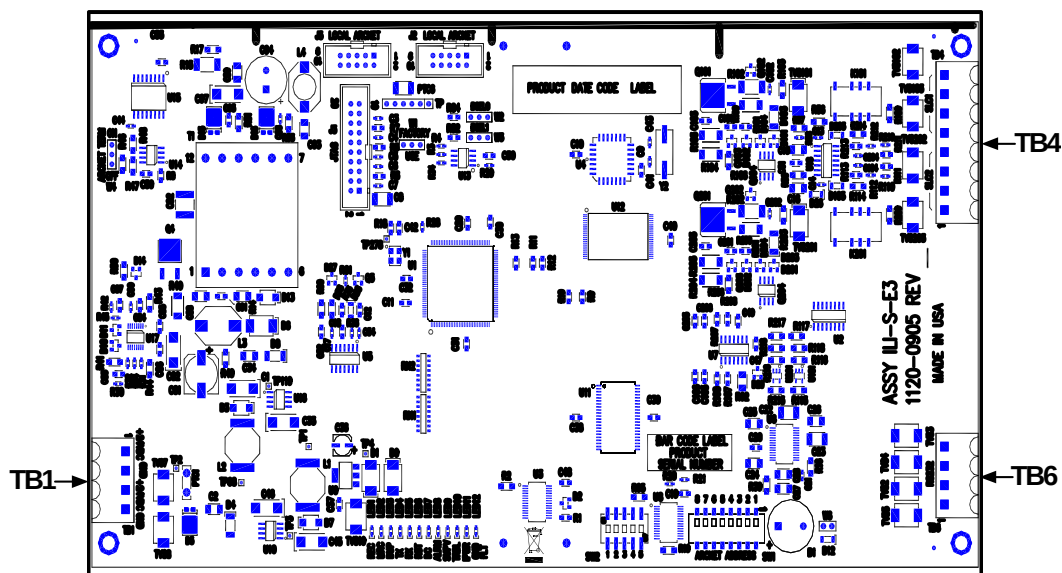


Figure 3.4.2.2 ILI-S-E3 Signaling Line Circuit Sub-Assembly

### 3.4.3 Intelligent Loop Interface - Slave Board (ILI-S-E3) Wiring Connections

Field wiring connections for the ILI-S-E3 is shown in Table 3.4.3.1.

| Designation                                                                                                                                                                                                                                                 | Description     | Comments                                                                                                  |                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------------------------------------------------------------------------------------------------|---------------------------------|
| TB1-1, TB1-3                                                                                                                                                                                                                                                | +24 V IN        | +24 VDC Input                                                                                             |                                 |
| TB1-2, TB1-4                                                                                                                                                                                                                                                | GND             | Common negative from PM-9/PM-9G TB4-2                                                                     |                                 |
| TB4-1                                                                                                                                                                                                                                                       | SLC 2 A-        | SLC 2 Style 6 / 7 Return (See Note 1)                                                                     |                                 |
| TB4-2                                                                                                                                                                                                                                                       | SLC 2 A+        | SLC 2 Style 6 / 7 Return (See Note 1)                                                                     |                                 |
| TB4-3                                                                                                                                                                                                                                                       | SLC 2 B-        | SLC 2 Style 4 / 6 / 7 Out (See Note 1)                                                                    |                                 |
| TB4-4                                                                                                                                                                                                                                                       | SLC 2 B+        | SLC 2 Style 4 / 6 / 7 Out (See Note 1)                                                                    |                                 |
| TB4-5                                                                                                                                                                                                                                                       | SLC 1 A-        | SLC 1 Style 6 / 7 Return (See Note 1)                                                                     |                                 |
| TB4-6                                                                                                                                                                                                                                                       | SLC 1 A+        | SLC 1 Style 6 / 7 Return (See Note 1)                                                                     |                                 |
| TB4-7                                                                                                                                                                                                                                                       | SLC 1 B-        | SLC 1 Style 4 / 6 / 7 Out (See Note 1)                                                                    |                                 |
| TB4-8                                                                                                                                                                                                                                                       | SLC 1 B+        | SLC 1 Style 4 / 6 / 7 Out (See Note 1)                                                                    |                                 |
| TB6-1                                                                                                                                                                                                                                                       | RS232 GND       | To red lead on download cable P/N 75267                                                                   | RS-232 Download or Printer Port |
| TB6-2                                                                                                                                                                                                                                                       | RS232 TxD       | To black lead on download cable P/N 75267                                                                 |                                 |
| TB6-3                                                                                                                                                                                                                                                       | Supervision     | Optional Printer Supervision                                                                              |                                 |
| TB6-4                                                                                                                                                                                                                                                       | RS232 RxD       | To green lead on download cable P/N 75267                                                                 |                                 |
| W1, W2, W3                                                                                                                                                                                                                                                  | Factory Jumpers | Factory Use Only (Default OUT)                                                                            |                                 |
| W4                                                                                                                                                                                                                                                          | Local ARCNET    | OPEN = Normal Operation<br>SHORT = If the ILI-S-E3 or ILI-S95-E3 is located at the end of the ARCNET bus. |                                 |
| SW2-1                                                                                                                                                                                                                                                       | Switch          | 1 ON = SLC 1 DISABLED<br>(OFF = SLC 1 ENABLED)                                                            |                                 |
| SW2-2                                                                                                                                                                                                                                                       | Switch          | 2 ON = SLC 2 DISABLED<br>(OFF = SLC 2 ENABLED)                                                            |                                 |
| SW2-3                                                                                                                                                                                                                                                       | Switch          | Unused                                                                                                    |                                 |
| SW2-4                                                                                                                                                                                                                                                       | Switch          | 4 ON = BUZZER DISABLED<br>(OFF = BUZZER ENABLED)                                                          |                                 |
| SW2-5                                                                                                                                                                                                                                                       | Switch          | 5 ON = 115.2 K BAUD<br>(OFF = defined by CAMWorks™)                                                       |                                 |
| J2                                                                                                                                                                                                                                                          | Local ARCNET    | Connects to J5 of the next ILI-E3, ILI95-E3 Series or ANX sub-assembly                                    |                                 |
| J5                                                                                                                                                                                                                                                          | Local ARCNET    | Connects to J2 from the previous ILI-E3, ILI95-E3 Series or ANX sub-assembly                              |                                 |
| <b>NOTE 1:</b> For Style 4, use terminals B+ and B- only. For Style 6, use terminals B+ and B- and connect return wiring to A+ and A-. For Style 7, wire as for Style 6 and use Isolator Modules and or Isolator Detectors per recommendations as required. |                 |                                                                                                           |                                 |

**Table 3.4.3.1 ILI-S-E3 Field Wiring Connections**



**NOTE:** For additional information on the wiring requirements, refer to the *ILI-S-E3 Installation Instructions (P/N 9000-0569)*.

### 3.4.4 ILI-S-E3 Wiring Diagram

Figure 3.4.4.1 illustrates the field wiring connections for the ILI-S-E3 sub-assembly.

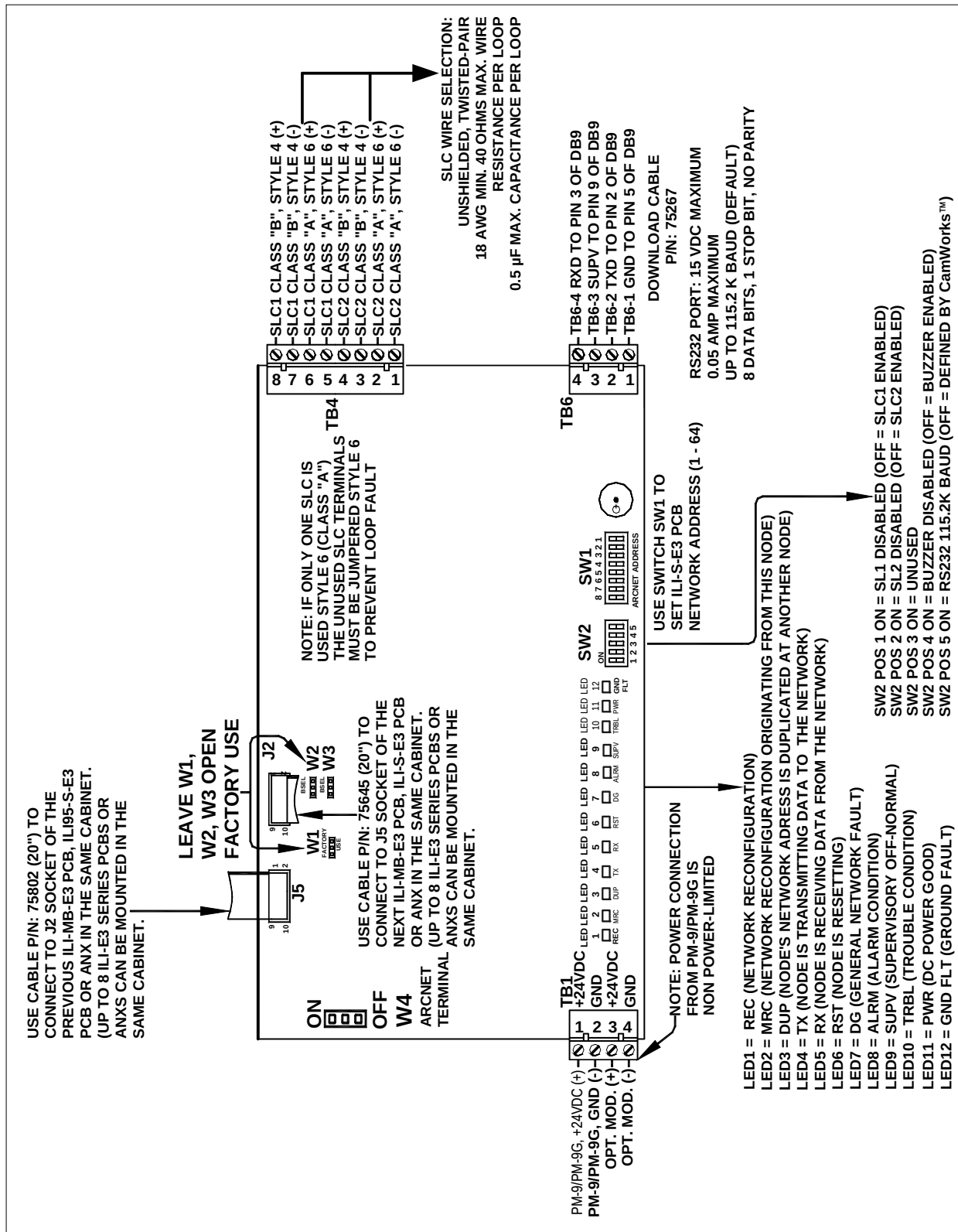


Figure 3.4.4.1 ILI-S-E3 Wiring Diagram

## 3.5 Intelligent Loop Interface XP95-Slave Board Connections

### 3.5.1 Signaling Line Circuits

The ILI95-S-E3 provides two (2), 24 VDC Class A, Style 6, 7 or Class B, Style 4 signaling line circuits. See Figure 3.5.1.1 for wiring information. Style 7 wiring requires the use of an M500X Isolator Module, (ILI-S-E3), or XP95-LI Line Isolator or XP95-LIB Line Isolator Base (ILI95-S-E3) on both sides of a device.

#### Wiring Instructions

|               |                            |
|---------------|----------------------------|
| SLC 1 Style 4 | TB7-3 (-), TB7-4 ( + )     |
| SLC 1 Style 6 | TB4-3 (-), TB4-4 ( + )     |
| SLC 2 Style 4 | TB7-1 return, TB7-2 return |
|               | TB7-3 out, TB7-4 out       |
| SLC-2 Style 6 | TB4-1 return, TB4-2 return |
|               | TB4-3 out, TB4-4 out       |

(Polarity markings indicate the polarity that should be maintained throughout the circuit. Polarity connected to the circuit must be observed on all devices).

#### Circuit Ratings

24 VDC (nominal)

FWR

Current:

0.051 amp Max (supervisory)  
0.136 amp max. (alarm)  
0.100 amp max. Steady State (short circuit)  
40 Ohms max. line impedance  
0.5  $\mu$ f max. line capacitance

Ground fault test

impedance:

Wiring:

Zero ohms  
18 AWG minimum,  
twisted-pair, unshielded  
Supervised

Power-limited

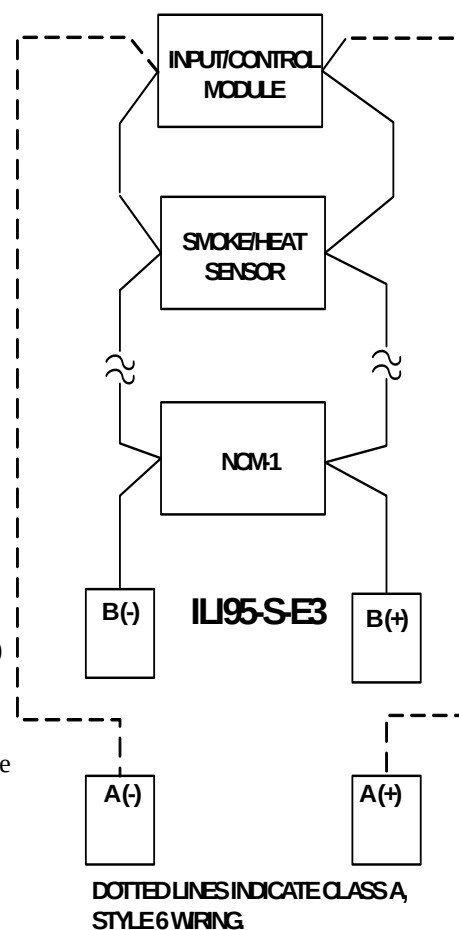


Figure 3.5.1.1 Signaling Line Circuits

### 3.5.2 Intelligent Loop Interface XP95-Slave Board Sub-Assembly

Figure 3.5.2.1 and Figure 3.5.2.2 illustrate the Intelligent Loop Interface XP95 - Slave Board (ILI95-S-E3) sub-assembly.

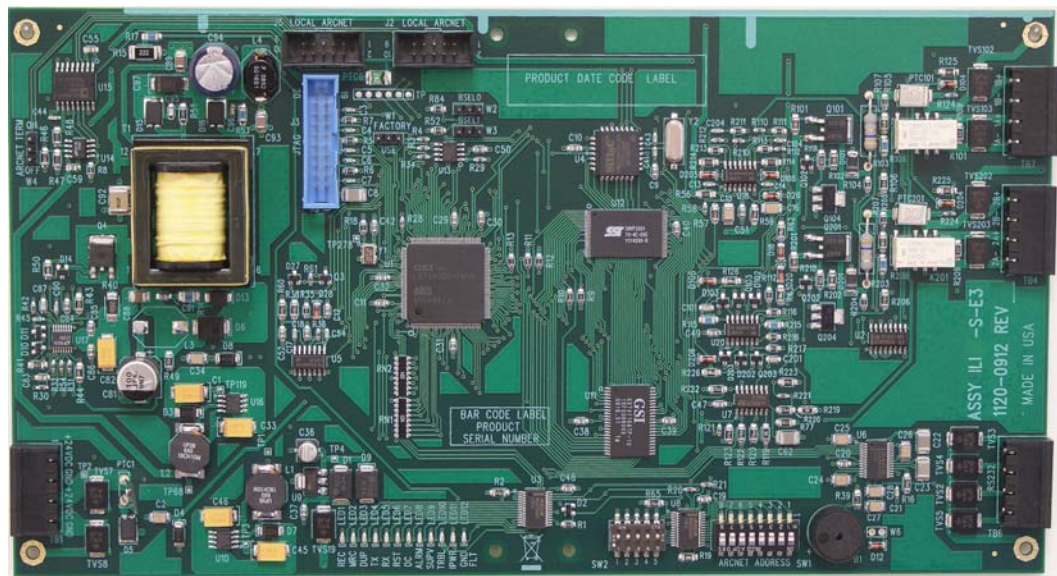


Figure 3.5.2.1 ILI95-S-E3 Signaling Line Circuit Sub-Assembly

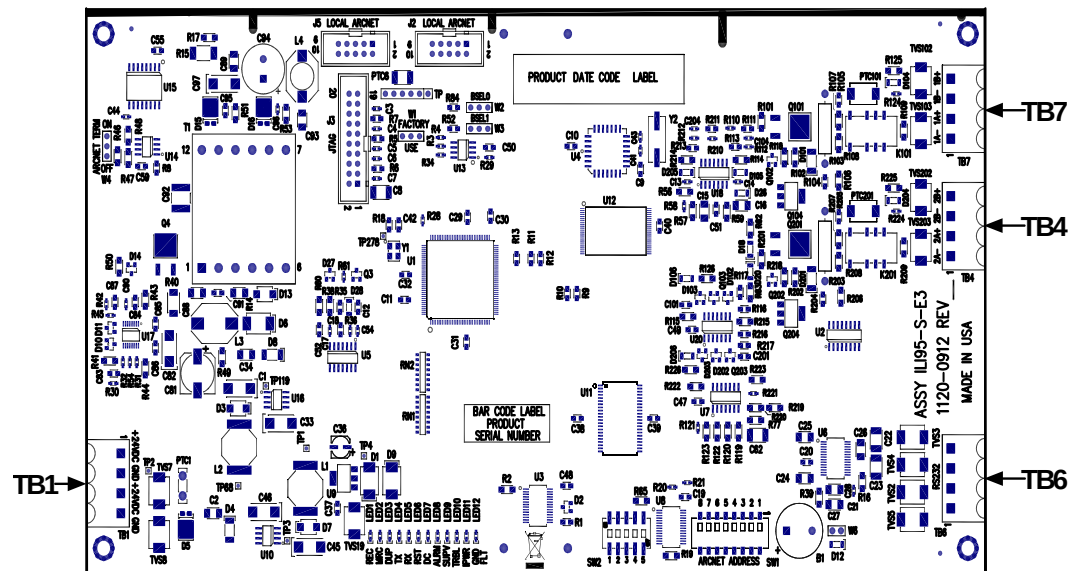


Figure 3.5.2.2 ILI95-S-E3 Signaling Line Circuit Sub-Assembly

### 3.5.3 Intelligent Loop Interface XP95 - Slave Wiring Connections

Table 3.5.3.1 lists the field wiring connections for the ILI95-S-E3.

| Designation  | Description         | Comments                                                                                      |                                 |
|--------------|---------------------|-----------------------------------------------------------------------------------------------|---------------------------------|
| TB1-1, TB1-3 | +24 V IN            | +24 VDC Input                                                                                 |                                 |
| TB1-2, TB1-4 | GND                 | Common negative from PM-9/PM-9G TB4-2                                                         |                                 |
| TB4-1        | SLC 2 A-            | SLC 2 Style 6 / 7 Return (See Note 1)                                                         |                                 |
| TB4-2        | SLC 2 A+            | SLC 2 Style 6 / 7 Return (See Note 1)                                                         |                                 |
| TB4-3        | SLC 2 B-            | SLC 2 Style 4 / 6 / 7 Out (See Note 1)                                                        |                                 |
| TB4-4        | SLC 2 B+            | SLC 2 Style 4 / 6 / 7 Out (See Note 1)                                                        |                                 |
| TB6-1        | RS232 GND           | To red lead on download cable P/N 75267                                                       | RS-232 Download or Printer Port |
| TB6-2        | RS232 RxD           | To black lead on download cable P/N 75267                                                     |                                 |
| TB6-3        | Supervision         | Optional Printer Supervision                                                                  |                                 |
| TB6-4        | RS232 TxD           | To green lead on download cabled P/N 75267                                                    |                                 |
| TB7-1        | SLC 1 A-            | SLC 1 Style 6 / 7 Return (See Note 1)                                                         |                                 |
| TB7-2        | SLC 1 A+            | SLC 1 Style 6 / 7 Return (See Note 1)                                                         |                                 |
| TB7-3        | SLC 1 B-            | SLC 1 Style 4 / 6 / 7 Out (See Note 1)                                                        |                                 |
| TB7-4        | SLC 1 B+            | SLC 1 Style 4 / 6 / 7 Out (See Note 1)                                                        |                                 |
| W1, W2, W3   | Factory Jumpers     | Factory use only. (Default OUT)                                                               |                                 |
| W4           | Local ARCNET Terms  | OPEN = Normal Operation<br>SHORT = If the ILI95-S-E3 is located at the end of the ARCNET bus. |                                 |
| W5           | RS-485 AUX Terminal | OPEN = OFF Normal Operation<br>SHORT = ON (RS-485 Termination)                                |                                 |
| SW2-1        | Switch              | 1 ON = SLC 1 DISABLED<br>(OFF = SLC 1 ENABLED)                                                |                                 |
| SW2-2        | Switch              | 2 ON = SLC 2 DISABLED<br>(OFF = SLC 2 ENABLED)                                                |                                 |
| SW2-3        | Switch              | Unused                                                                                        |                                 |
| SW2-4        | Switch              | 4 ON = BUZZER DISABLED<br>(OFF = BUZZER ENABLED)                                              |                                 |
| SW2-5        | Switch              | 5 ON = RS-232 115.2 K BAUD<br>(OFF = defined by CAMWorks™)                                    |                                 |
| J2           | Local ARCNET        | Connects to J5 of the next ILI-E3, ILI95-E3 Series or ANX sub-assembly                        |                                 |
| J5           | Local ARCNET        | Connects to J2 from the previous ILI-E3, ILI95-E3 Series or ANX sub-assembly                  |                                 |

**NOTE 1:** For Style 4, use terminals B+ and B- only. For Style 6, use terminals B+ and B- and connect return wiring to A+ and A-. For Style 7, wire as for Style 6 and use Isolator Modules and or Isolator Detectors per recommendations as required.

**Table 3.5.3.1 ILI95-S-E3 Field Wiring Connections**



**NOTE:** For additional information on the wiring requirements, refer to the *ILI95-S-E3 Installation Instructions* (P/N 9001-0018).

### 3.5.4 ILI95-S-E3 Wiring Diagram

Figure 3.5.4.1 illustrates the field wiring connections for the ILI95-S-E3 sub-assembly.

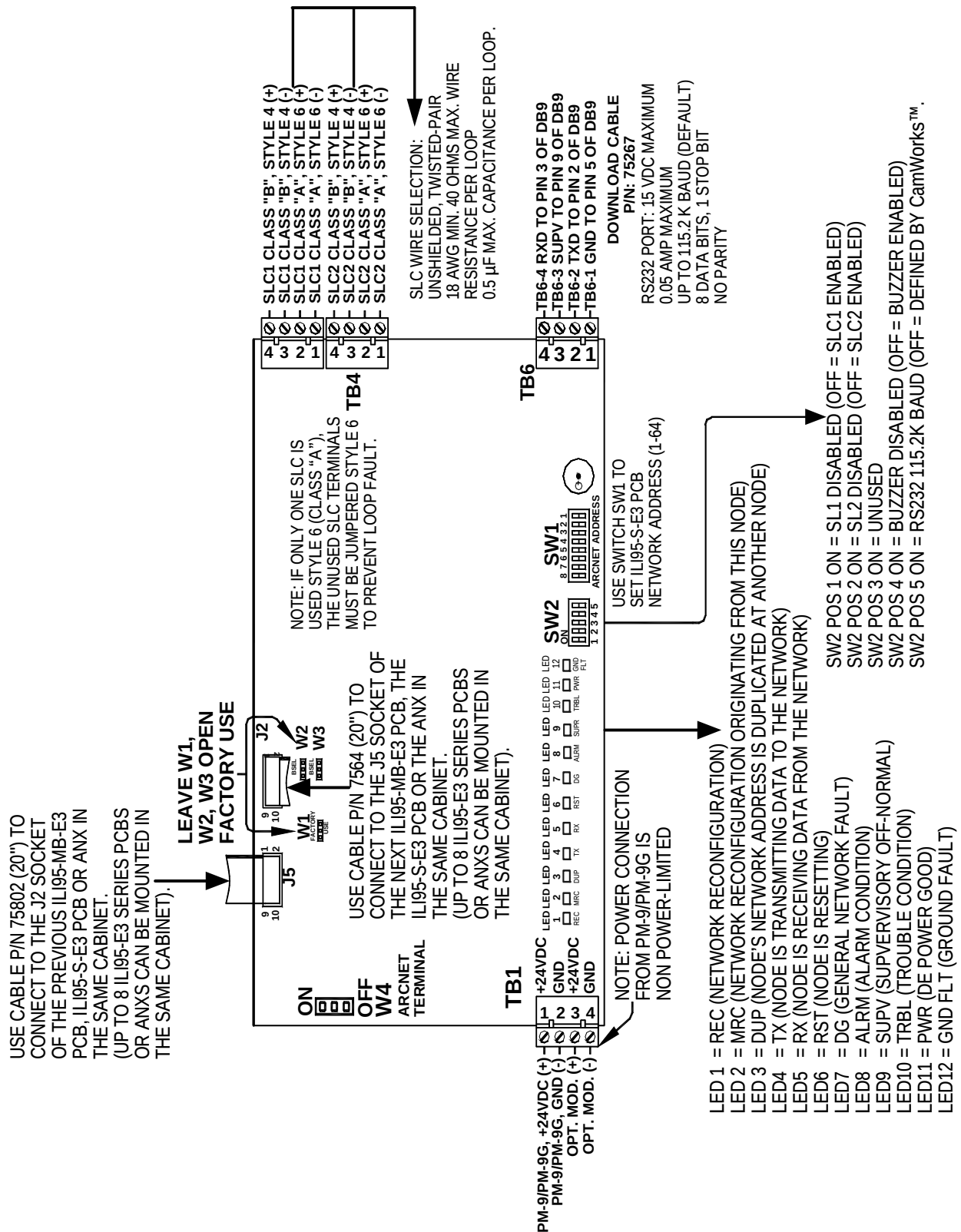
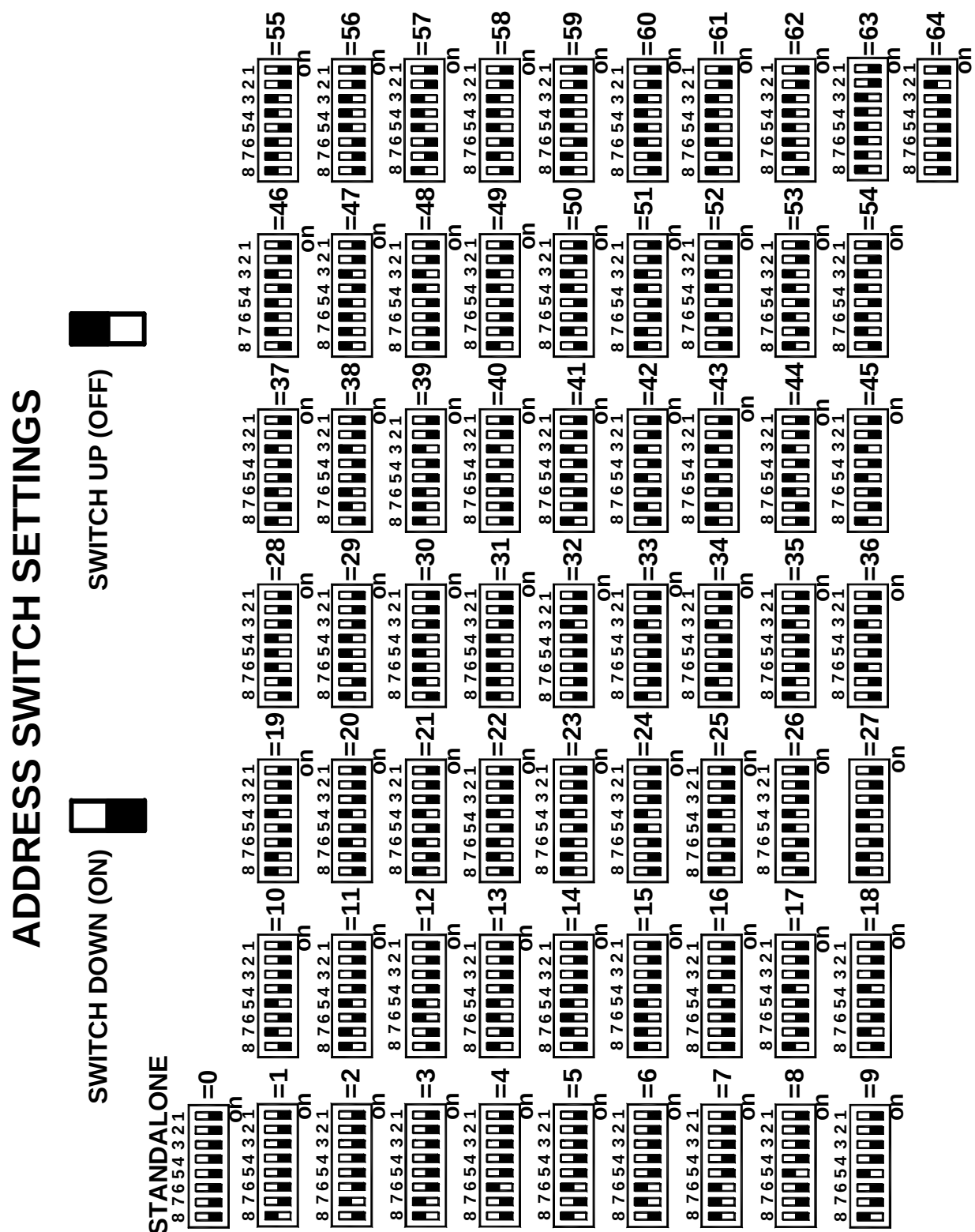


Figure 3.5.4.1 ILI95-S-E3 Wiring Diagram

### 3.6 ILI-E3 and ILI95-E3 Series Programming Address Switch Settings

Figure 3.6.1 illustrates the programming address switch settings for the ILI-E3 and ILI95-E3 Series.



### Figure 3.6.1 ILI-E3 and ILI95-E3 Series Address Switch Settings

## 3.7 Addressable Node Expander (ANX) Connections

The ANX (Addressable Node Expander) is a network interface sub-assembly component of the Gamewell-FCI, E3 Series® fire alarm control panel. There are three types of ANX sub-assemblies:

- Addressable Node Expander - Single Ring (ANX-SR)
- Addressable Node Expander - Multi-Ring Twisted Pair (ANX-MR-UTP)
- Addressable Node Expander - Multi-Ring Fiber Optic (ANX-MR-FO)

Each of the three ANX sub-assemblies provides Ethernet connectivity via a 10/100Mbps Ethernet port using the Micro Internet Protocol (uIP™) firmware module (see Section 3.7.5). The Ethernet port offers an enhanced interface between the E3 Series fire alarm control panel and the

FocalPoint® Graphic Workstation that allows improved communication to monitor the alarm, supervisory, and trouble conditions on the FocalPoint Graphic Workstation. The Ethernet port also provides enhanced configuration data exchange between the E3 Series network and the PC.

Both the ANX Multi-Ring-Fiber-Optic and Twisted Pair sub-assemblies have the capacity to expand the E3 Series network from 64 nodes to a maximum of 122 nodes. The ANX-MR-UTP allows twisted-pair copper interconnections only. The ANX-MR-FO adds Fiber Optic connectivity.



### CAUTION: SURGE SUPPRESSOR REQUIREMENT

THE FOCALPOINT GATEWAY AND ANX PRODUCTS REQUIRE THE USE OF AN EXTERNAL SURGE PROTECTOR ON THE ETHERNET INTERFACE TO MEET UL® SURGE/TRANSIENT PROTECTION REQUIREMENTS. THEREFORE, IT IS RECOMMENDED TO USE SURGE SUPPRESSOR PART NUMBER: PNET-1. THIS DEVICE MUST BE USED IN ANY ANX INSTALLATION WHERE ITS ETHERNET PORT IS PERMANENTLY CONNECTED TO A NETWORK.

### 3.7.1 ANX Specifications

The following are the electrical specifications for the Addressable Node Expander (ANX).

|                                       |                                           |
|---------------------------------------|-------------------------------------------|
| <b>Operating Voltage</b>              | 24 VDC (from the PM-9/PM-9G power supply) |
| <b>Operating/Supervisory Current:</b> | 0.066 amp                                 |
| <b>Alarm Current:</b>                 | 0.066 amp                                 |
| <b>Operating Temperature:</b>         | 32° to 120° F (0° to 49° C)               |
| <b>Relative Humidity:</b>             | 0 to 93%, non-condensing at 90° F (32° C) |
| <b>Supervised</b>                     |                                           |

### 3.7.2 Minimum Configuration

The minimum configuration for use as a working system is as follows:

- ILI-MB-E3/ILI95-MB-E3/ANX
- PM-9/PM-9G Power Supply
- LCD-E3/NGA Display Module (only one (1) is required per Networked System)

Optional modules for use with the ILI-MB-E3/ILI95-MB-E3/ANX are as follows:

- RPT-E3 Repeater Module (Required for Distributed Network Systems)
- INI-VG Series Voice Gateway Module

### 3.7.3 ANX Wiring Requirements

Table 3.7.3.1 lists the wiring requirements for the ANX-SR, ANX-MR-FO and ANX-MR-UTP sub-assemblies.

| Circuit Type                                                                                                                           | Circuit Function                                                                                | Wire Requirements                                               | Distance                             | Wire Type*                     |
|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|--------------------------------------|--------------------------------|
| EIA-232<br>(power-limited)                                                                                                             | Connects to Printers, CRT, or PC.                                                               | Twisted-unshielded pair. 18 AWG (0.78 mm <sup>2</sup> ) minimum | 50/15.24<br>(without modem)          | 16 AWG (1.30 mm <sup>2</sup> ) |
| ARCNET<br>(power-limited)                                                                                                              | Provides the interface between network nodes. ARCNET should be installed in a separate conduit. | Twisted-unshielded pair low capacitance 18 AWG                  | 3,000 ft. (.914 m)                   | 18 AWG (3.1 mm <sup>2</sup> )  |
| Ethernet<br>(See Note 2)                                                                                                               | Data Communications                                                                             | CAT5<br>(Crossover or Straight-through)                         | 300 ft. (100 m)<br>(10/100 Ethernet) | CAT5                           |
| <b>NOTE 1:</b> The lightning arresters are required on circuits extending between buildings; 999 meter length maximum to meet UL 1459. |                                                                                                 |                                                                 |                                      |                                |
| <b>NOTE 2:</b> The PNET1GB Ethernet circuit protector is required for permanent connections (for example, FocalPoint).                 |                                                                                                 |                                                                 |                                      |                                |

**Table 3.7.3.1 ANX Wiring Requirements**

### 3.7.4 FocalPoint Gateway-3 Wiring

The FocalPoint Gateway panel wiring information and diagrams are included in the FocalPoint Gateway-3 Installation & Operation Manual. For information on the wiring and operation of the FocalPoint Gateway-3 panel, refer to the *FocalPoint Gateway-3 Installation & Operation Manual*, P/N 53553.

### 3.7.5 License

#### 3.7.5.1 From uIP®

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### 3.7.6 Addressable Node Expander-Single Ring (ANX-SR)

The Addressable Node Expander Single Ring (ANX-SR) is a basic unit that offers the following features:

- The unit contains a single E3 Series Local Network connection and one (1) Ethernet interface.
- Offers Ethernet connectivity for configuration and/or FocalPoint® communication.
- The single E3 Series network interface offers a Local Network connection that uses a ribbon cable within a single cabinet.
- To add the twisted-pair and/or fiber-optic connections for communication outside the local network, use the RPT-E3 -UTP or RPT-E3-FO sub-assemblies.



**NOTE:** Since there is no secondary network component, the ANX-SR does not allow E3 Series network expansion.

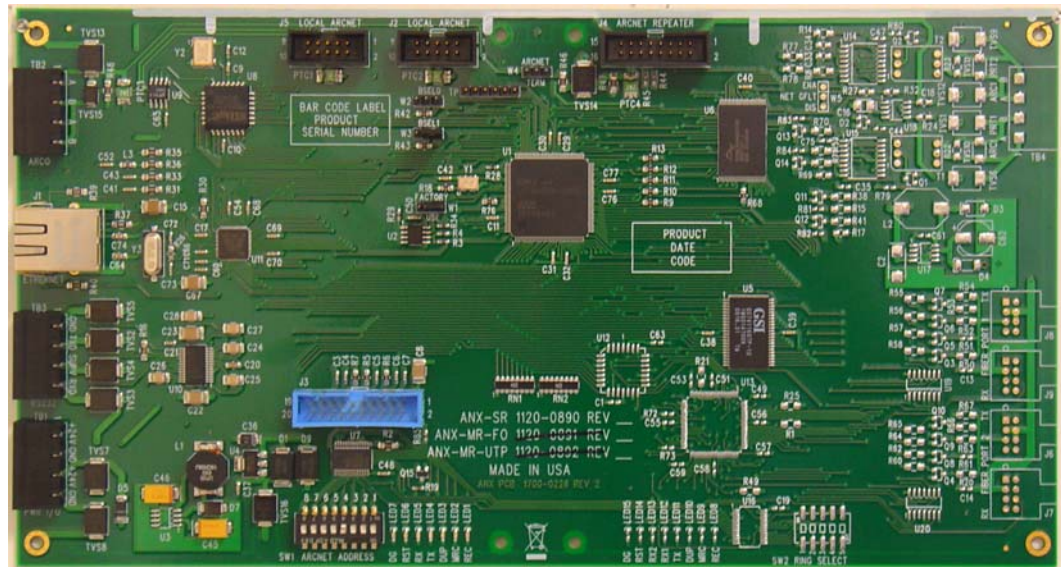


Figure 3.7.6.1 Addressable Node Expander-Single Ring (ANX-SR) Sub-Assembly

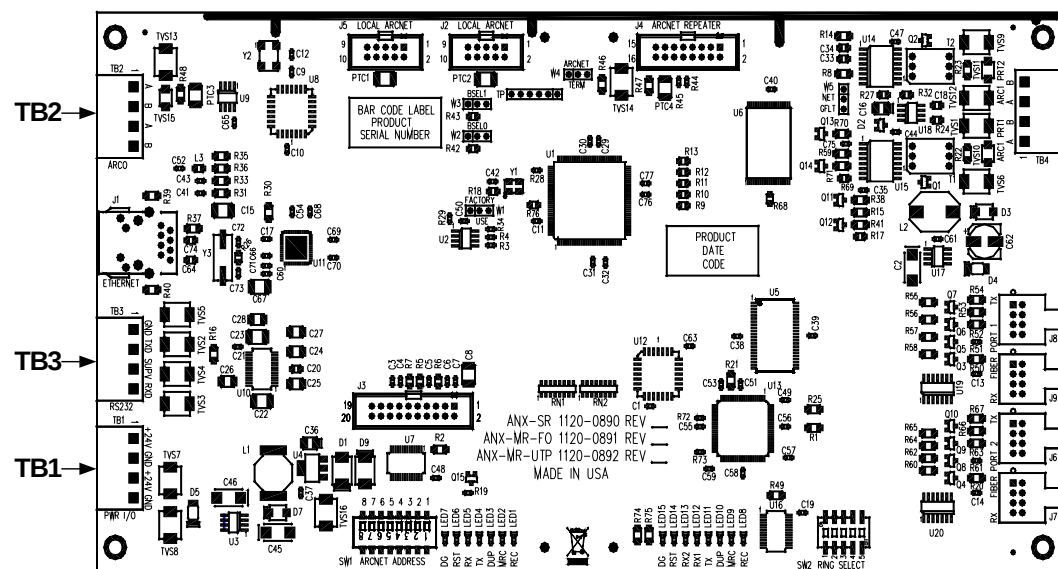


Figure 3.7.6.2 Addressable Node Expander-Single Ring (ANX-SR) Sub-Assembly

### 3.7.6.1 ANX-SR Wiring Connections

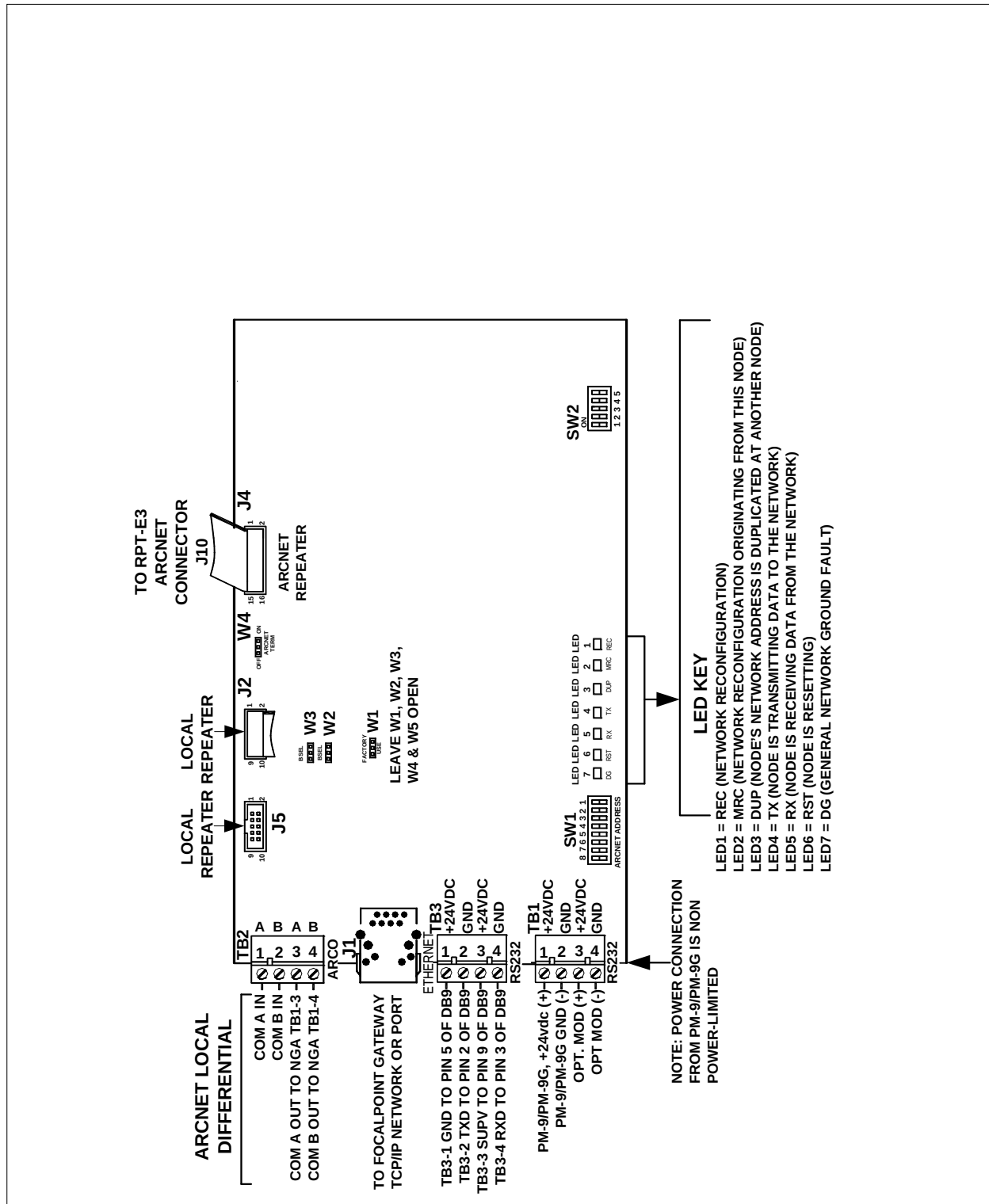
Table 3.7.6.1.1 lists the field wiring connections for the ANX-SR sub-assembly.

| Designation      | Description               | Comments                                                                                                                                                    |                                 |
|------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| TB1-1            | +24V                      | +24 VDC Input from the PM-9/PM-9G TB4-1                                                                                                                     |                                 |
| TB1-2            | GND                       | Common negative from the PM-9/PM-9G TB4-2                                                                                                                   |                                 |
| TB1-3            | +24V                      |                                                                                                                                                             |                                 |
| TB1-4            | GND                       |                                                                                                                                                             |                                 |
| TB2-1            | COM A IN                  | Local Differential ARCNET                                                                                                                                   |                                 |
| TB2-2            | COM B IN                  | Local Differential ARCNET                                                                                                                                   |                                 |
| TB2-3            | COM A OUT                 | Local Differential ARCNET                                                                                                                                   |                                 |
| TB2-4            | COM B OUT                 | Local Differential ARCNET                                                                                                                                   |                                 |
| TB3-1            | RS-232 GND                | To red lead on download cable P/N 75267                                                                                                                     | RS-232 Download or Printer Port |
| TB3-2            | RS-232 TxD                | To black lead on download cable P/N 75267                                                                                                                   |                                 |
| TB3-3            | RS-232 SUPV               | Optional Printer Supervision                                                                                                                                |                                 |
| TB3-4            | RS-232 RxD                | To green lead on download cable P/N 75267                                                                                                                   |                                 |
| W1, W2, W3       | Factory Jumpers           | Factory Use Only or Right (Default OUT)                                                                                                                     |                                 |
| W4               | ARCNET Termination        | OPEN = Normal Operation<br>SHORT = If the ANX is located at the end of the ARCNET bus.                                                                      |                                 |
| SW1-1            | Serial Communication      | ON = RS-232 115.2 kbits/sec<br>OFF = defined by CAMWorks™                                                                                                   |                                 |
| SW1-2 thru SW1-8 | ARCNET Address            | (See Section 4)                                                                                                                                             |                                 |
| J1               | ETHERNET                  | To FocalPoint or TCP/IP Network Port<br>Green LED-Communication link established (blinks with message traffic)<br>Yellow LED-100 Mbps speed (Off - 10 Mbps) |                                 |
| J2               | Local ARCNET              | Connects to J5 of the next ILI-E3, ILI95-E3 Series or ANX                                                                                                   |                                 |
| J4               | ARCNET Repeater Connector | Connects to J10 of the RPT-E3                                                                                                                               |                                 |
| J5               | Local ARCNET              | Connects to J2 from the previous ILI-E3, ILI95-E3 Series or ANX                                                                                             |                                 |
| LED1             | REC                       | Network Reconfiguration                                                                                                                                     |                                 |
| LED2             | MRC                       | Network Reconfiguration originating from this node                                                                                                          |                                 |
| LED3             | DUP                       | Node's Network Address is duplicated at another node                                                                                                        |                                 |
| LED4             | TX                        | Node is transmitting data to the network                                                                                                                    |                                 |
| LED5             | RX                        | Node is receiving data from the network                                                                                                                     |                                 |
| LED6             | RST                       | Node is resetting                                                                                                                                           |                                 |
| LED7             | DG                        | General Network Fault                                                                                                                                       |                                 |

**Table 3.7.6.1.1 ANX-SR Wiring Connections**

### 3.7.6.2 ANX-SR Wiring Diagram

Figure 3.7.6.2.1 illustrates the field wiring connections for the ANX-SR sub-assembly.



### Figure 3.7.6.2.1 ANX-SR Wiring Diagram

### 3.7.7 Addressable Node Expander-Multi-Ring Twisted-Pair (ANX-MR-UTP)

The Addressable Node Expander Multi-Ring, Twisted-Pair panel provides the following features:

- The unit contains a primary and secondary network interface for multi-ring communication.
- Offers Ethernet connectivity for configuration or FocalPoint® communication.
- The primary E3 Series network interface supports a Local Network connection that uses a ribbon cable within a single cabinet.

To add the twisted-pair and/or fiber-optic connections for primary communication outside the local network, use the RPT-E3-UTP or RPT-E3-FO sub-assemblies.

The secondary E3 Series network connection does not allow Local Network (ribbon cable) connections, but the secondary network does include a full twisted-pair interface. The external RPT-E3 is not required.

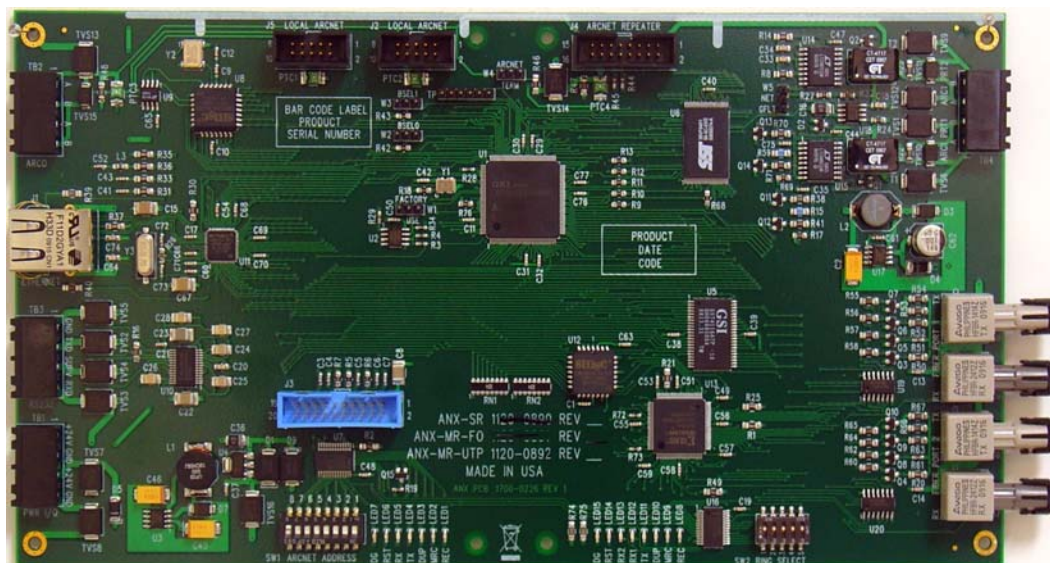


Figure 3.7.7.1 ANX-MR-UTP Sub-Assembly

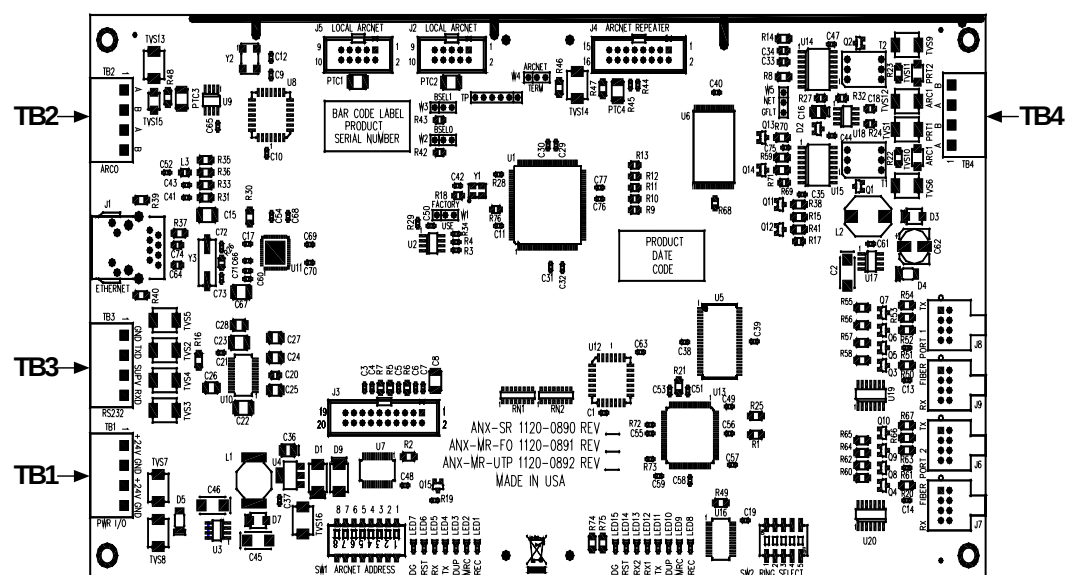


Figure 3.7.7.2 ANX-MR-UTP Sub-Assembly

### 3.7.7.1 ANX-MR-UTP Wiring Connections

Table 3.7.7.1.1 lists the wiring connections for the ANX-MR-UTP.

| Designation                                                                                                                                                                                                                                                                                                                                                                                                                 | Description               | Comments                                                                                                                                                    |                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| TB1-1                                                                                                                                                                                                                                                                                                                                                                                                                       | +24V                      | +24 VDC Input from the PM-9/PM-9G TB4-1                                                                                                                     |                                 |
| TB1-2                                                                                                                                                                                                                                                                                                                                                                                                                       | GND                       | Common negative from the PM-9/PM-9G TB4-2                                                                                                                   |                                 |
| TB1-3                                                                                                                                                                                                                                                                                                                                                                                                                       | +24V                      |                                                                                                                                                             |                                 |
| TB1-4                                                                                                                                                                                                                                                                                                                                                                                                                       | GND                       |                                                                                                                                                             |                                 |
| TB2-1                                                                                                                                                                                                                                                                                                                                                                                                                       | COM A IN                  | Local Differential ARCNET                                                                                                                                   |                                 |
| TB2-2                                                                                                                                                                                                                                                                                                                                                                                                                       | COM B IN                  | Local Differential ARCNET                                                                                                                                   |                                 |
| TB2-3                                                                                                                                                                                                                                                                                                                                                                                                                       | COM A OUT                 | Local Differential ARCNET                                                                                                                                   |                                 |
| TB2-4                                                                                                                                                                                                                                                                                                                                                                                                                       | COM B OUT                 | Local Differential ARCNET                                                                                                                                   |                                 |
| TB3-1                                                                                                                                                                                                                                                                                                                                                                                                                       | RS-232 GND                | To red lead on download cable P/N 75267                                                                                                                     | RS-232 Download or Printer Port |
| TB3-2                                                                                                                                                                                                                                                                                                                                                                                                                       | RS-232 TxD                | To black lead on download cable P/N 75267                                                                                                                   |                                 |
| TB3-3                                                                                                                                                                                                                                                                                                                                                                                                                       | RS-232 SUPV               | Optional Printer Supervision                                                                                                                                |                                 |
| TB3-4                                                                                                                                                                                                                                                                                                                                                                                                                       | RS-232 RxD                | To green lead on download cable P/N 75267                                                                                                                   |                                 |
| TB4-1                                                                                                                                                                                                                                                                                                                                                                                                                       | ARCNET PORT 1A            | Secondary Broadband Network (See Note 1)                                                                                                                    |                                 |
| TB4-2                                                                                                                                                                                                                                                                                                                                                                                                                       | ARCNET PORT 1B            | Secondary Broadband Network (See Note 1)                                                                                                                    |                                 |
| TB4-3                                                                                                                                                                                                                                                                                                                                                                                                                       | ARCNET PORT 2A            | Secondary Broadband Network (See Note 1)                                                                                                                    |                                 |
| TB4-4                                                                                                                                                                                                                                                                                                                                                                                                                       | ARCNET PORT 2B            | Secondary Broadband Network (See Note 1)                                                                                                                    |                                 |
| W1, W2, W3                                                                                                                                                                                                                                                                                                                                                                                                                  | Factory Jumpers           | Factory Use Only or Right (Default OUT)                                                                                                                     |                                 |
| W4                                                                                                                                                                                                                                                                                                                                                                                                                          | ARCNET Termination        | OPEN = Normal Operation<br>SHORT = If the ANX is located at the end of the ARCNET bus.                                                                      |                                 |
| W5                                                                                                                                                                                                                                                                                                                                                                                                                          | Network Ground Fault      | UP: = Supervise Secondary Network for GND FLT's<br>DOWN or OUT: = No Network GND FLT Supervision                                                            |                                 |
| SW1-1                                                                                                                                                                                                                                                                                                                                                                                                                       | Serial Communication      | ON = RS-232 115.2 kbits/sec OFF = defined by CAMWorks™                                                                                                      |                                 |
| SW1-2 thur SW1-8                                                                                                                                                                                                                                                                                                                                                                                                            |                           | Not Used                                                                                                                                                    |                                 |
| SW2-1                                                                                                                                                                                                                                                                                                                                                                                                                       | RING SELECT               | Ring/Node Assignment (See Table 3.7.7.1.2)                                                                                                                  |                                 |
| SW2-2                                                                                                                                                                                                                                                                                                                                                                                                                       | RING SELECT               | Ring/Node Assignment (See Table 3.7.7.1.2)                                                                                                                  |                                 |
| SW2-3                                                                                                                                                                                                                                                                                                                                                                                                                       | RING SELECT               | Ring/Node Assignment (See Table 3.7.7.1.2)                                                                                                                  |                                 |
| SW2-4                                                                                                                                                                                                                                                                                                                                                                                                                       | RING SELECT               | Ring/Node Assignment (See Table 3.7.7.1.2)                                                                                                                  |                                 |
| SW2-5                                                                                                                                                                                                                                                                                                                                                                                                                       |                           | Not Used                                                                                                                                                    |                                 |
| J1                                                                                                                                                                                                                                                                                                                                                                                                                          | ETHERNET                  | To FocalPoint or TCP/IP Network Port<br>Green LED-Communication link established (blinks with message traffic)<br>Yellow LED-100 Mbps speed (Off = 10 Mbps) |                                 |
| J2                                                                                                                                                                                                                                                                                                                                                                                                                          | Local ARCNET              | Connects to J5 of the next ILI-E3, ILI95-E3 Series or ANX                                                                                                   |                                 |
| J4                                                                                                                                                                                                                                                                                                                                                                                                                          | ARCNET Repeater Connector | Connects to J10 of the RPT-E3                                                                                                                               |                                 |
| J5                                                                                                                                                                                                                                                                                                                                                                                                                          | Local ARCNET              | Connects to J2 from the previous ILI-E3, ILI95-E3 Series or ANX                                                                                             |                                 |
| LED1                                                                                                                                                                                                                                                                                                                                                                                                                        | REC                       | Network Reconfiguration                                                                                                                                     | Primary (Local Network)         |
| LED2                                                                                                                                                                                                                                                                                                                                                                                                                        | MRC                       | Network Reconfiguration originating from this node                                                                                                          |                                 |
| LED3                                                                                                                                                                                                                                                                                                                                                                                                                        | DUP                       | Node's Network Address is duplicated at another node                                                                                                        |                                 |
| LED4                                                                                                                                                                                                                                                                                                                                                                                                                        | TX                        | Node is transmitting data to the network                                                                                                                    |                                 |
| LED5                                                                                                                                                                                                                                                                                                                                                                                                                        | RX                        | Node is receiving data from the network                                                                                                                     |                                 |
| LED6                                                                                                                                                                                                                                                                                                                                                                                                                        | RST                       | Node is resetting                                                                                                                                           |                                 |
| LED7                                                                                                                                                                                                                                                                                                                                                                                                                        | DG                        | General Network Fault                                                                                                                                       |                                 |
| LED8                                                                                                                                                                                                                                                                                                                                                                                                                        | REC                       | Network Reconfiguration                                                                                                                                     | Secondary Network               |
| LED9                                                                                                                                                                                                                                                                                                                                                                                                                        | MRC                       | Network Reconfiguration originating from this node                                                                                                          |                                 |
| LED10                                                                                                                                                                                                                                                                                                                                                                                                                       | DUP                       | Node's Network Address is duplicated at another node                                                                                                        |                                 |
| LED11                                                                                                                                                                                                                                                                                                                                                                                                                       | TX                        | Node is transmitting data to the network                                                                                                                    |                                 |
| LED12                                                                                                                                                                                                                                                                                                                                                                                                                       | RX1                       | Node1 is receiving data from the network                                                                                                                    |                                 |
| LED13                                                                                                                                                                                                                                                                                                                                                                                                                       | RX2                       | Node2 is receiving data from the network                                                                                                                    |                                 |
| LED14                                                                                                                                                                                                                                                                                                                                                                                                                       | RST                       | Node is resetting                                                                                                                                           |                                 |
| LED15                                                                                                                                                                                                                                                                                                                                                                                                                       | DG                        | General Network Fault                                                                                                                                       |                                 |
| <b>Note 1:</b> The TB4-ANX UTP Network Connections use unshielded, twisted-pair 18 AWG min. 3,000 ft. (914.4m) maximum between the following nodes: <ul style="list-style-type: none"><li>• ANX TB4-1 (COM 1A) INI-VG TB1-3, RPT-E3 TB1-3</li><li>• ANX TB4-2 (COM 1B) INI-VG TB1-4, RPT-E3 TB1-4</li><li>• ANX TB4-3 (COM 2A) INI-VG TB1-1, RPT-E3 TB1-1</li><li>• ANX TB4-4 (COM 2B) INI-VG TB1-2, RPT-E3 TB1-2</li></ul> |                           |                                                                                                                                                             |                                 |

**Table 3.7.7.1.1 ANX-MR-UTP Wiring Connections**

### 3.7.7.1 ANX-MR-UTP Wiring Connections (Continued)

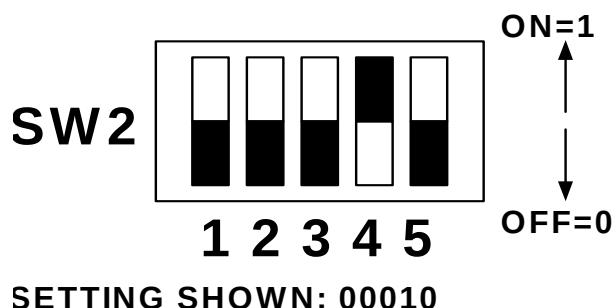
Table 3.7.7.1.2 lists the Primary and Secondary Ring Select Switch settings for the ANX-MR-UTP. The Primary Ring Select Switch sets the network ring number for the Primary Network (uses J2, J4, J5, and/or TB2).

The Secondary Ring Select Switch sets the network ring number for the Secondary Network (uses TB4).

| Primary Ring Select Switch |          | Secondary Ring Select Switch |          |
|----------------------------|----------|------------------------------|----------|
| SW2 POS 1                  | SW2 POS2 | SW2 POS3                     | SW2 POS4 |
| Ring 0 to Ring 1 Bridge    |          |                              |          |
| Ring 0 Node 63             |          | Ring 1 Node 62 (126)         |          |
| 0                          | 0        | 0                            | 1        |
| Ring 1 Node 62 (126)       |          | Ring 0 Node 63               |          |
| 0                          | 1        | 0                            | 0        |

**Table 3.7.7.1.2 ANX-MR-UTP Primary and Secondary Ring Select Switch Settings**

Figure 3.7.7.1.1 illustrates the SW2 switch setting for the ANX-MR-UTP.



**Figure 3.7.7.1.1 ANX-MR-UTP, SW2 Switch Setting**

**Note 1:**

The TB4-ANX UTP Network Connections use unshielded, twisted-pair 18 AWG min. 3,000 ft. (914.4m) maximum wire between the following nodes:

- ANX TB4-1 (COM 1A) to: INI-VG TB1-3, RPT-E3 TB1-3
- ANX TB4-2 (COM 1B) to: INI-VG TB1-4, RPT-E3 TB1-4
- ANX TB4-3 (COM 2A) to: INI-VG TB1-1, RPT-E3 TB1-1
- ANX TB4-4 (COM 2B) to: INI-VG TB1-2, RPT-E3 TB1-2

### 3.7.7.2 ANX-MR-UTP Wiring Diagram

Figure 3.7.7.2.1 illustrates the ANX-MR-UTP wiring diagram.

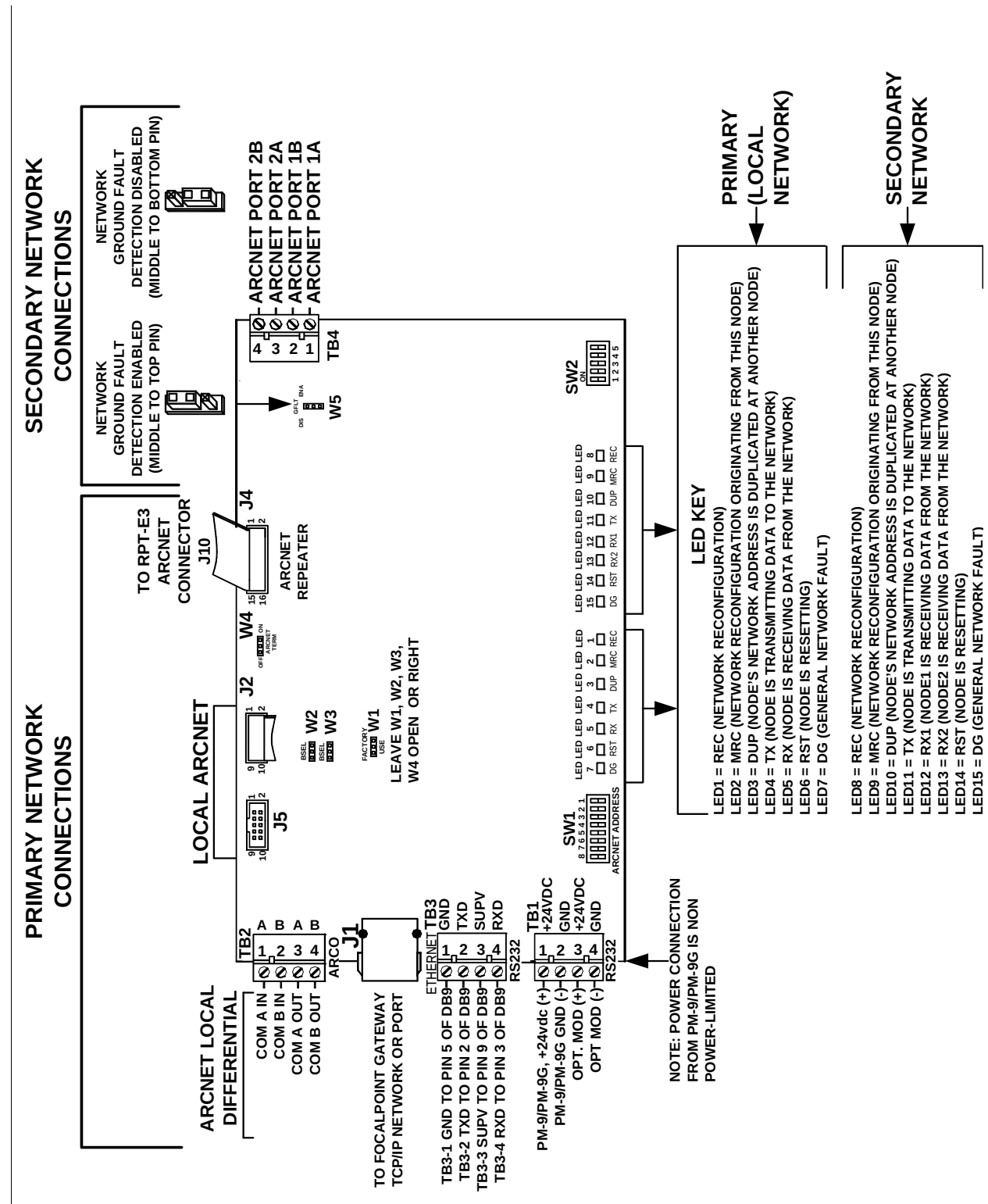


Figure 3.7.7.2.1 ANX-MR-UTP Wiring Diagram

### 3.7.8 Addressable Node Expander Multi-Ring Fiber-Optic Pair (ANX-MR-FO)

The Addressable Node Expander Multi-Ring, Fiber-Optic panel provides the same features as the ANX-MR-UTP with the following additional feature.

- The ANX-MR-FO network component includes fiber-optic (FO) connectivity on the secondary network connection.

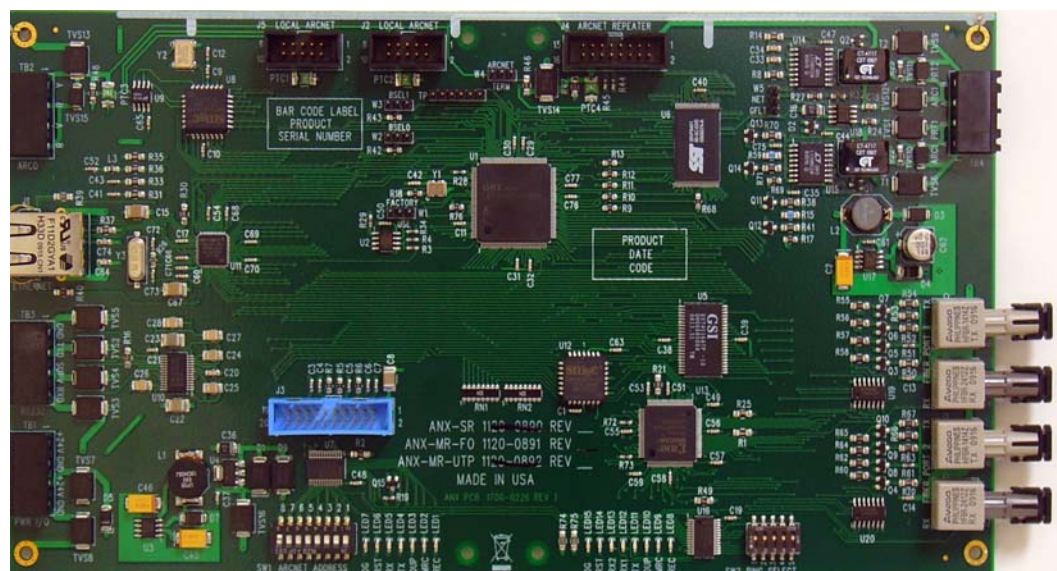


Figure 3.7.8.1 ANX-MR-FO Sub-Assembly

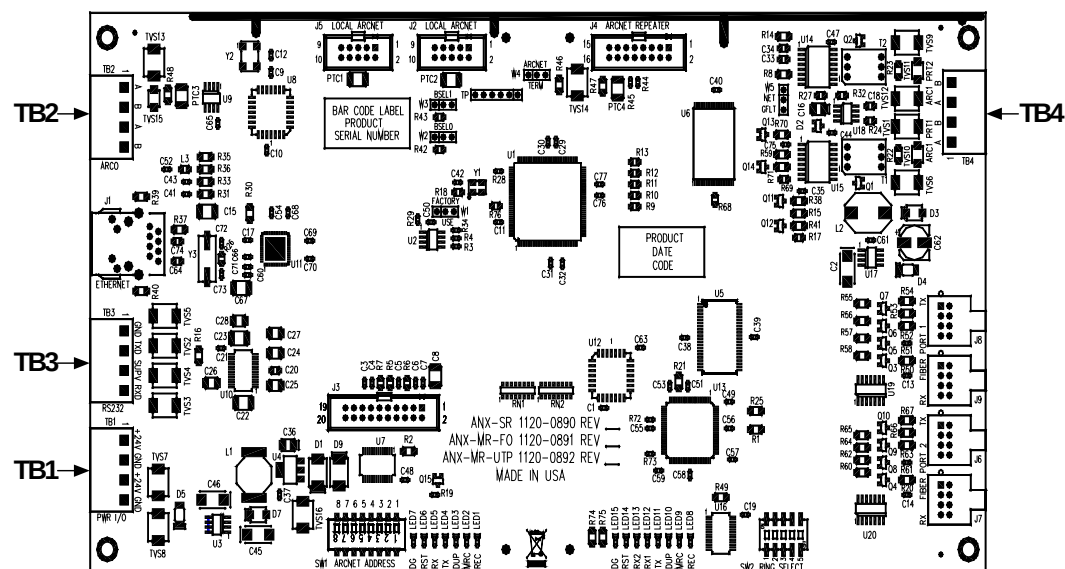


Figure 3.7.8.2 ANX-MR-FO Sub-Assembly PCB

### 3.7.8.1 ANX-MR-FO Wiring Connections

Table 3.7.8.1.1 lists the wiring connections for the ANX-MR-FO.

| Designation      | Description               | Comments                                                                                                                                                   |                                 |
|------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| TB1-1            | +24V                      | +24 VDC Input from the PM-9/PM-9G TB4-1                                                                                                                    |                                 |
| TB1-2            | GND                       | Common negative from the PM-9/PM-9G TB4-2                                                                                                                  |                                 |
| TB1-3            | +24V                      |                                                                                                                                                            |                                 |
| TB1-4            | GND                       |                                                                                                                                                            |                                 |
| TB2-1            | COM A IN                  | Local Differential ARCNET                                                                                                                                  |                                 |
| TB2-2            | COM B IN                  | Local Differential ARCNET                                                                                                                                  |                                 |
| TB2-3            | COM A OUT                 | Local Differential ARCNET                                                                                                                                  |                                 |
| TB2-4            | COM B OUT                 | Local Differential ARCNET                                                                                                                                  |                                 |
| TB3-1            | RS-232 GND                | To red lead on download cable P/N 75267                                                                                                                    | RS-232 Download or Printer Port |
| TB3-2            | RS-232 TxD                | To black lead on download cable P/N 75267                                                                                                                  |                                 |
| TB3-3            | RS-232 SUPV               | Optional Printer Supervision                                                                                                                               |                                 |
| TB3-4            | RS-232 RxD                | To green lead on download cable P/N 75267                                                                                                                  |                                 |
| TB4-1            | ARCNET PORT 1A            | Secondary Broadband Network (See Note 1)                                                                                                                   |                                 |
| TB4-2            | ARCNET PORT 1B            | Secondary Broadband Network (See Note 1)                                                                                                                   |                                 |
| TB4-3            | ARCNET PORT 2A            | Secondary Broadband Network (See Note 1)                                                                                                                   |                                 |
| TB4-4            | ARCNET PORT 2B            | Secondary Broadband Network (See Note 1)                                                                                                                   |                                 |
| W1, W2, W3       | Factory Jumpers           | Factory Use Only or Right (Default OUT)                                                                                                                    |                                 |
| W4               | ARCNET Termination        | OPEN = Normal Operation<br>SHORT = If the ANX is located at the end of the ARCNET bus.                                                                     |                                 |
| W5               | Network Ground Fault      | UP: = Supervise Secondary Network for GND FLT<br>DOWN or Out: = No Network GND FLT Supervision                                                             |                                 |
| SW1-1            | Serial Communication      | ON = RS-232 115.2 kbits/sec (OFF = defined by CAMWorks™)                                                                                                   |                                 |
| SW1-2 thru SW1-8 |                           | Not Used                                                                                                                                                   |                                 |
| SW2-1            | RING SELECT               | Ring/Node Assignment (See Table 3.7.8.1.2)                                                                                                                 |                                 |
| SW2-2            | RING SELECT               | Ring/Node Assignment (See Table 3.7.8.1.2)                                                                                                                 |                                 |
| SW2-3            | RING SELECT               | Ring/Node Assignment (See Table 3.7.8.1.2)                                                                                                                 |                                 |
| SW2-4            | RING SELECT               | Ring/Node Assignment (See Table 3.7.8.1.2)                                                                                                                 |                                 |
| SW2-5            |                           | Not Used                                                                                                                                                   |                                 |
| J1               | ETHERNET                  | To FocalPoint or TCP/IP Network Port<br>Green LED-Communication link established (blinks with message traffic)<br>Yellow LED-100 Mbps speed (Off - 10Mbps) |                                 |
| J2               | Local ARCNET              | Connects to J5 of the next ILI-E3, ILI95-E3 Series or ANX                                                                                                  |                                 |
| J4               | ARCNET Repeater Connector | Connects to J10 of the RPT-E3                                                                                                                              |                                 |
| J5               | Local ARCNET              | Connects to J2 from the previous ILI-E3, ILI95-E3 Series or ANX                                                                                            |                                 |
| J6               | Fiber Port Tx2            | From previous node Tx1 Connector                                                                                                                           |                                 |
| J7               | Fiber Port Rx2            | From previous node Rx1 Connector                                                                                                                           |                                 |
| J8               | Fiber Port Tx1            | To next node Tx2 Connector                                                                                                                                 |                                 |
| J9               | Fiber Port Rx1            | To next node Rx2 Connector                                                                                                                                 |                                 |
| LED1             | REC                       | Network Reconfiguration                                                                                                                                    | Primary<br>(Local Network)      |
| LED2             | MRC                       | Network Reconfiguration originating from this node                                                                                                         |                                 |
| LED3             | DUP                       | Node's Network Address is duplicated at another node                                                                                                       |                                 |
| LED4             | TX                        | Node is transmitting data to the network                                                                                                                   |                                 |
| LED5             | RX                        | Node is receiving data from the network                                                                                                                    |                                 |
| LED6             | RST                       | Node is resetting                                                                                                                                          |                                 |
| LED7             | DG                        | General Network Fault                                                                                                                                      |                                 |
| LED8             | REC                       | Network Reconfiguration                                                                                                                                    | Secondary<br>Network            |
| LED9             | MRC                       | Network Reconfiguration originating from this node                                                                                                         |                                 |
| LED10            | DUP                       | Node's Network Address is duplicated at another node                                                                                                       |                                 |
| LED11            | TX                        | Node is transmitting data to the network                                                                                                                   |                                 |
| LED12            | RX1                       | Node1 is receiving data from the network                                                                                                                   |                                 |
| LED13            | RX2                       | Node2 is receiving data from the network                                                                                                                   |                                 |
| LED14            | RST                       | Node is resetting                                                                                                                                          |                                 |
| LED15            | DG                        | General Network Fault                                                                                                                                      |                                 |

**Table 3.7.8.1.1 ANX-MR-FO Wiring Connections**

### 3.7.8.1 ANX-MR-FO Wiring Connections (Continued)

Table 3.7.8.1.2 lists the Primary and Secondary Ring Select Switch settings for the ANX-MR-FO sub-assembly.

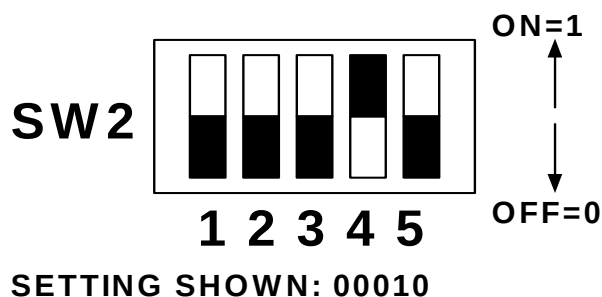
The Primary Ring Select Switch sets the network ring number for the Primary Network (uses J2, J4, J5, and/or TB2).

The Secondary Ring Select Switch sets the network ring number for the Secondary Network (uses TB4 and/or J6, J7, J8, and J9).

| Primary Ring Select Switch |          | Secondary Ring Select Switch |          |
|----------------------------|----------|------------------------------|----------|
| SW2 POS 1                  | SW2 POS2 | SW2 POS3                     | SW2 POS4 |
| Ring 0 to Ring 1 Bridge    |          |                              |          |
| Ring 0 Node 63             |          | Ring 1 Node 62 (126)         |          |
| 0                          | 0        | 0                            | 1        |
| Ring 1 Node 62 (126)       |          | Ring 0 Node 63               |          |
| 0                          | 1        | 0                            | 0        |

**Table 3.7.8.1.2 ANX-MR-FO Primary and Secondary Ring Select Switch Settings**

Figure 3.7.8.1.1 illustrates the SW2 switch setting for the ANX-MR-FO.



**Figure 3.7.8.1.1 ANX-MR-FO, SW2 Switch Setting**

**Note 1:**

The TB4-ANX UTP Network Connections use unshielded, twisted-pair 18 AWG min. 3,000 ft. (914.4m) maximum wire between the following nodes:

- ANX TB4-1 (COM 1A) to: INI-VG TB1-3, RPT-E3 TB1-3
- ANX TB4-2 (COM 1B) to: INI-VG TB1-4, RPT-E3 TB1-4
- ANX TB4-3 (COM 2A) to: INI-VG TB1-1, RPT-E3 TB1-1
- ANX TB4-4 (COM 2B) to: INI-VG TB1-2, RPT-E3 TB1-2

### 3.7.8.2 ANX-MR-FO Wiring Diagram

Table 3.7.8.2.1 illustrates the ANX-MR-FO wiring diagram.

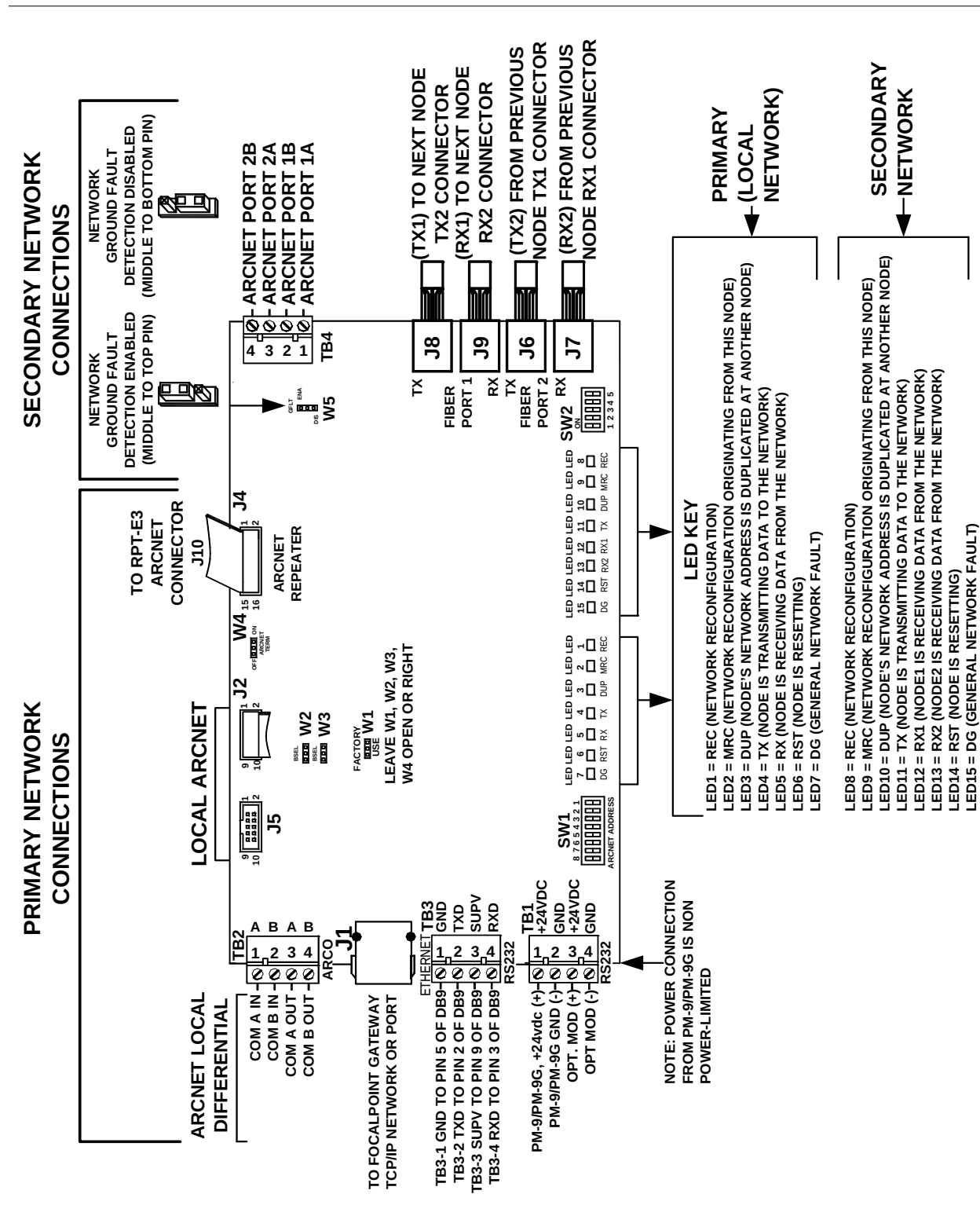
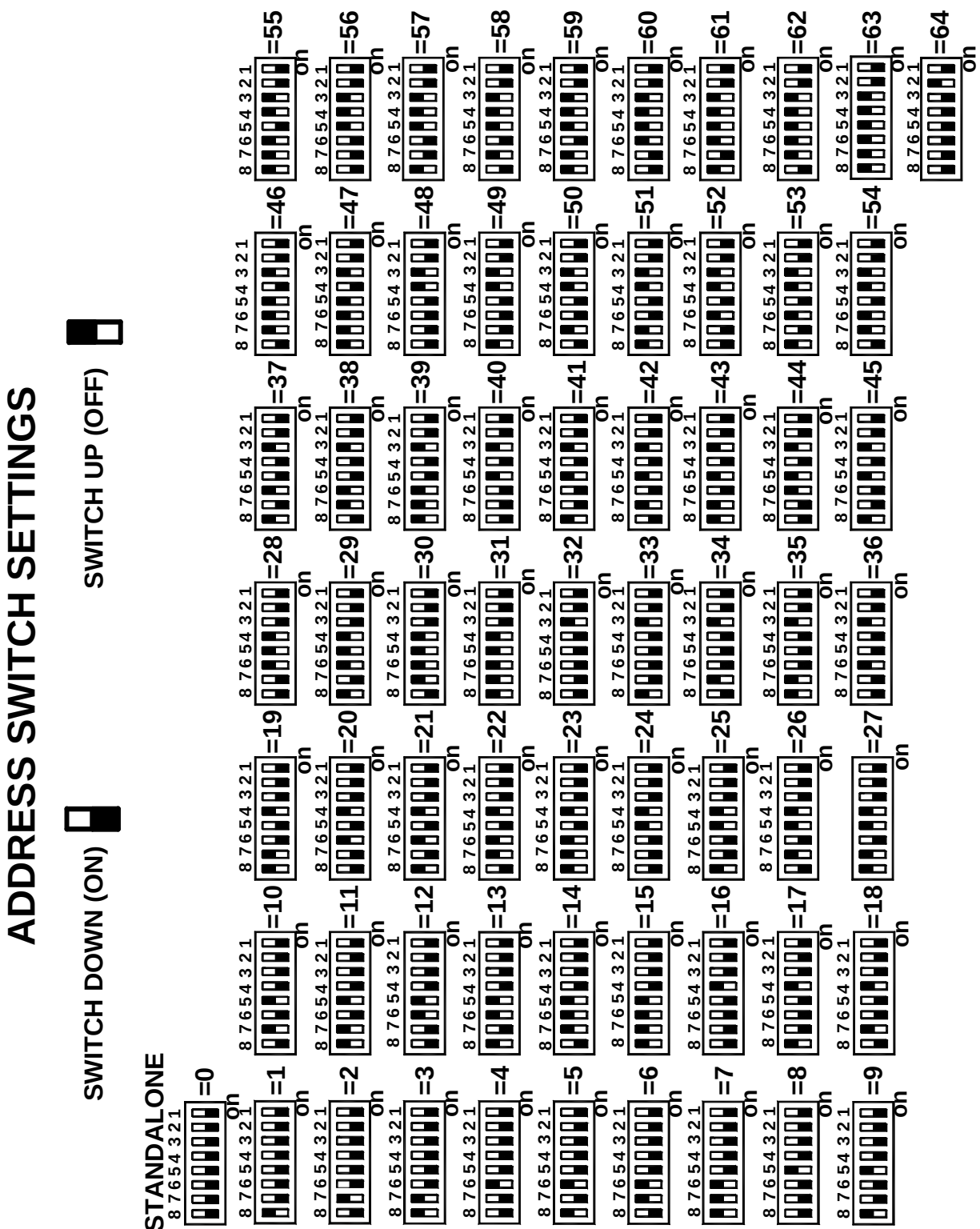


Figure 3.7.8.2.1 ANX-MR-FO Wiring Diagram

### 3.7.9 ANX Programming Address Switch Settings

Table 3.7.9.1 illustrates the programming address switch settings for the ANX.



### Figure 3.7.9.1 ANX Address Switch Settings

## 3.8 PM-9/PM-9G Power Supply Connections

The PM-9G electrical specifications are provided in the following sub-sections.

### 3.8.1 PM-9/PM-9G AC Power Connection

The following power source connections must be made in compliance with the National Electrical Code, NFPA 70, Article 760, the applicable NFPA Standards, and according to the requirements of the Authority Having Jurisdiction (AHJ).

- PM-9 connection of 120 VAC, 60 Hz
- PM-9G connection of 240 VAC, 50/60 Hz

Such requirements include:

- Connections must be made to a dedicated branch circuit.
- Connections must be mechanically protected.
- All means of disconnecting the circuit must be clearly marked:  
"FIRE ALARM CIRCUIT CONTROL"
- Connections must be accessible only to authorized personnel.

#### 3.8.1.1 PM-9

The PM-9 can draw up to 4.6 amps max. @ 120 VAC 60 Hz when under full load. See Figure 3.8.1.1 for the AC wiring and ground connections. See Table 3.8.5.1 for AC input and battery connections. See Table 3.8.5.2 for ground fault options and programming.

#### 3.8.1.2 PM-9G

The PM-9G can draw up to 2.4 amps max. @ 240 VAC 50/60 Hz when under full load. Figure 3.8.1.2 illustrates the PM-9G AC power connection. See Table 3.8.8.1 for AC input and battery connections. See Table 3.8.8.2 for ground fault options and programming.



**NOTE:** Always apply AC power first, then connect the batteries.

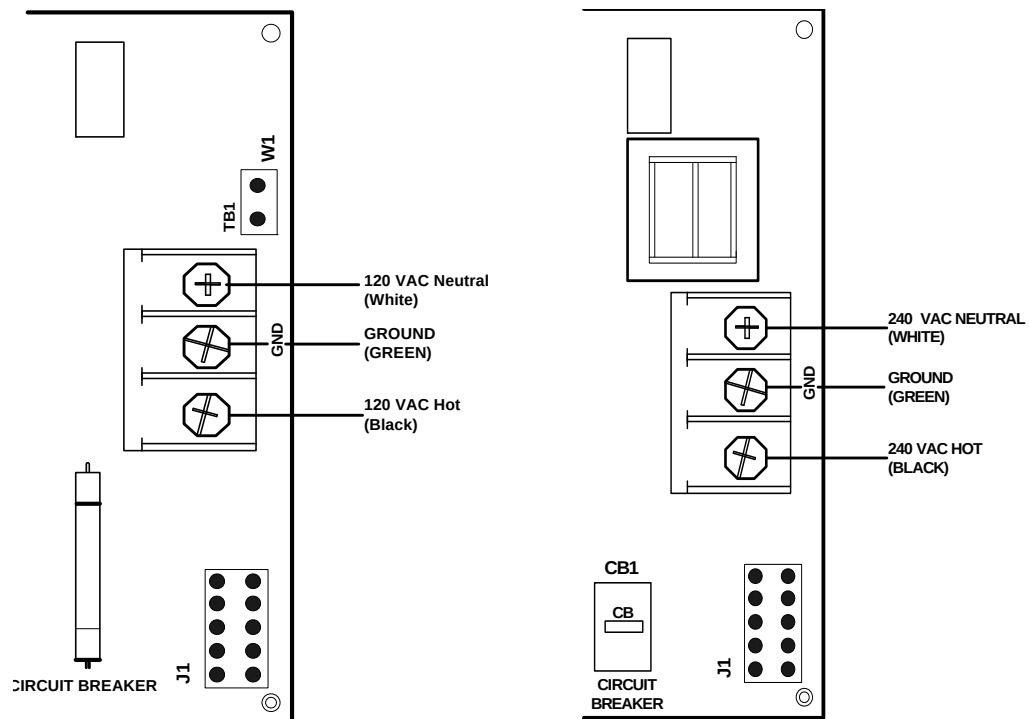


Figure 3.8.1.1 PM-9 AC Power Connection Figure 3.8.1.2 PM-9G AC Power Connection

### 3.8.2 PM-9/PM-9GBattery Connections

- Two (2), twelve volt batteries are connected in series to the PM-9/PM-9G.
- TB3-1 is positive. (For PM-9, see Table 3.8.5.1 and for PM-9G, see Table 3.8.8.1)
- TB3-2 is negative. (For PM-9, see Table 3.8.5.1 and for PM-9G, see Table 3.8.8.1)
- 14 AWG wire minimum
- Observe polarity

See Table 3.15.1 for the Battery Calculations.

### 3.8.3 PM-9 and PM-9G Specifications

#### 3.8.3.1 PM-9/PM-9G

The following list the electrical specifications for the PM-9 and PM-9G.

| Specifications                | PM-9                                                                                                          | PM-9G                                                                                                          |
|-------------------------------|---------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| <b>Input Voltage:</b>         | 120 VAC, 60 Hz                                                                                                | 240VAC @ 50/60 Hz                                                                                              |
| <b>Input Current:</b>         | 4.6 amps max. @ 120 VAC 60 Hz                                                                                 | 2.4 amps max.                                                                                                  |
| <b>Output Voltage:</b>        | 24 VDC FWR                                                                                                    | 24 VDC FWR                                                                                                     |
| <b>Output Current:</b>        | 9 amperes Alarm max. continuous                                                                               | 9 amperes Alarm max. continuous                                                                                |
| <b>Output Current:</b>        | 5 amperes max. continuous Standby (when the PM-9 is used with the ILI-E3 or the ILI95-E3 Series) (See Note 1) | 5 amperes max. continuous Standby (when the PM-9G is used with the ILI-E3 or the ILI95-E3 Series) (See Note 1) |
| <b>Output Current:</b>        | 4 amperes max. continuous Standby (when the PM-9 is used with any AM-50 Series amplifier) (See Note 2)        | 4 amperes max. continuous Standby (when the PM-9G is used with any AM-50 Series amplifier) (See Note 2)        |
| <b>Operating Temperature:</b> | 32° to 120° F (0° to 49° C)                                                                                   | 32° to 120° F (0° to 49° C)                                                                                    |
| <b>Relative Humidity:</b>     | 0 to 93%, non-condensing at 90° F (32° C)                                                                     | 0 to 93%, non-condensing at 90° F (32° C)                                                                      |
| <b>Supervised</b>             |                                                                                                               |                                                                                                                |
| <b>Non Power-Limited</b>      |                                                                                                               |                                                                                                                |

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**NOTE 1:** Continuous standby loads in excess of .560 Amps up to 5 Amps may require a Generator Backup or load shedding during an AC power failure. See Section 3.15 Standby Battery Calculations in this Manual.

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**NOTE 2:** Continuous standby loads in excess of .560 Amps up to 4 Amps may require a Generator Backup or load shedding during an AC power failure. See Section 3.15 Standby Battery Calculations in this Manual.

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### 3.8.4 PM-9 Power Supply Sub-Assembly

Figure 3.8.4.1 and Figure 3.8.4.2 illustrate the PM-9 Power Supply sub-assembly.



Figure 3.8.4.1 PM-9 Power Supply Sub-Assembly

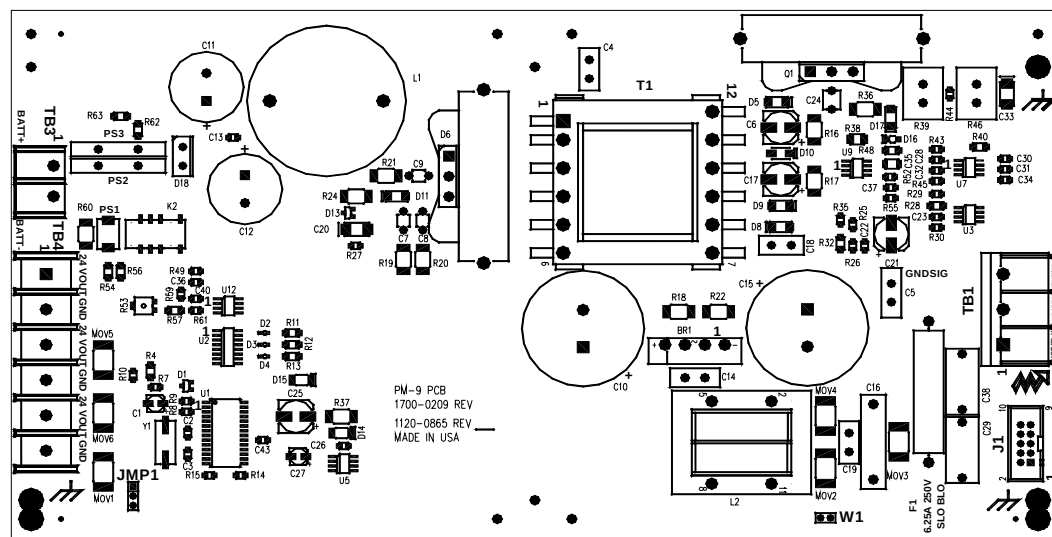


Figure 3.8.4.2 PM-9 Power Supply

### 3.8.5 PM-9 Power Supply Wiring Connections

Table 3.8.5.1 lists the field wiring connection to the PM-9 Power Supply.

| Designation                                                                                                                                                                | Description | Comments                                                                                                                                                                       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TB1-1                                                                                                                                                                      | HOT/BLK     | Connect to hot, 120VAC, 60Hz - Non Power-limited                                                                                                                               |
| TB1-2                                                                                                                                                                      | GND/GRN     | Connect to ground and isolated earth ground - Non Power-limited                                                                                                                |
| TB1-3                                                                                                                                                                      | NEUT/WHT    | Connect to neutral 120VAC, 60Hz                                                                                                                                                |
| TB3-1                                                                                                                                                                      | BATT+       | Battery positive input - Non Power-limited                                                                                                                                     |
| TB3-2                                                                                                                                                                      | BATT -      | Battery negative input - Non Power-limited                                                                                                                                     |
| TB4-1                                                                                                                                                                      | 24VOUT      | +24 VDC FWR Output to AM-50 Series amplifiers, ILI95-E3/ILI-E3 Series or ANX, TB1-2: used to power two (2), AM-50 Series amplifiers, the ILI95-E3/ILI-E3 Series or ANX         |
| TB4-2                                                                                                                                                                      | GND         | GND (-) Output to AM-50 Series amplifiers, ILI95-E3/ILI-E3 Series or ANX, TB1-1: used to power two (2), AM-50 Series amplifiers, the ILI95-E3/ILI-E3 Series or ANX             |
| TB4-3                                                                                                                                                                      | 24VOUT      | +24 VDC FWR Output to AM-50 Series amplifiers, ILI95-E3/ILI-E3 Series or ANX, TB1-2: used to power 2nd pair of AM-50 Series amplifiers, ILI95-E3/ILI-E3 Series, ANX and INI-VG |
| TB4-4                                                                                                                                                                      | GND         | GND (-) Output to AM-50 Series amplifiers, ILI95-E3/ILI-E3 Series or ANX: TB1-1: to second pair of AM-50 Series amplifiers, ILI95-E3/ILI-E3 Series, ANX, INI-VGC               |
| TB4-5                                                                                                                                                                      | 24VOUT      | +24 VDC FWR Output to other sub-assemblies: INI-VG, ILI95-E3/ILI-E3 Series or ANX                                                                                              |
| TB4-6                                                                                                                                                                      | GND         | GND (-) Output to INI-VG, ILI95-E3/ILI-E3 Series or ANX                                                                                                                        |
| JMP1                                                                                                                                                                       |             | IN for GND Fault Detection (See Note 1)                                                                                                                                        |
| J1                                                                                                                                                                         |             | 10-PIN Ribbon Cable Connect to the ILI95-MB-E3, ILI-MB-E3 or ANX Connector J1, or INI-VG Connector J4 (See Note 2)                                                             |
| JMP2                                                                                                                                                                       |             | Factory Use Only.                                                                                                                                                              |
| LED 2                                                                                                                                                                      | Green       | Lights to indicate AC power                                                                                                                                                    |
| LED 3                                                                                                                                                                      | Yellow      | Lights to indicate no or low battery fault                                                                                                                                     |
| LED 4                                                                                                                                                                      | Yellow      | Lights to indicate ground fault                                                                                                                                                |
| <b>NOTE:</b> AC "Brown Out" condition indicated by:                                                                                                                        |             |                                                                                                                                                                                |
| LED 2 (grn) OFF                                                                                                                                                            |             |                                                                                                                                                                                |
| LED 3 (yel) LIT                                                                                                                                                            |             |                                                                                                                                                                                |
| LED 4 (yel) LIT                                                                                                                                                            |             |                                                                                                                                                                                |
| <b>NOTE 1:</b> Must be IN (Enabled) when J1 is connected to an INI-VG Series node. Must be OUT (Disabled) when J1 is connected to an ILI-MB-E3 or an ILI95-MB-E3 node.     |             |                                                                                                                                                                                |
| <b>NOTE 2:</b> Connect J1 to the INI-VG Series J4 when the PM-9 is supplying power to both the INI-VG Series and the ILI-MB-E3 or the ILI95-MB-E3 node types (See Note 1). |             |                                                                                                                                                                                |

**Table 3.8.5.1 PM-9 Terminals, Jumpers and LEDs**

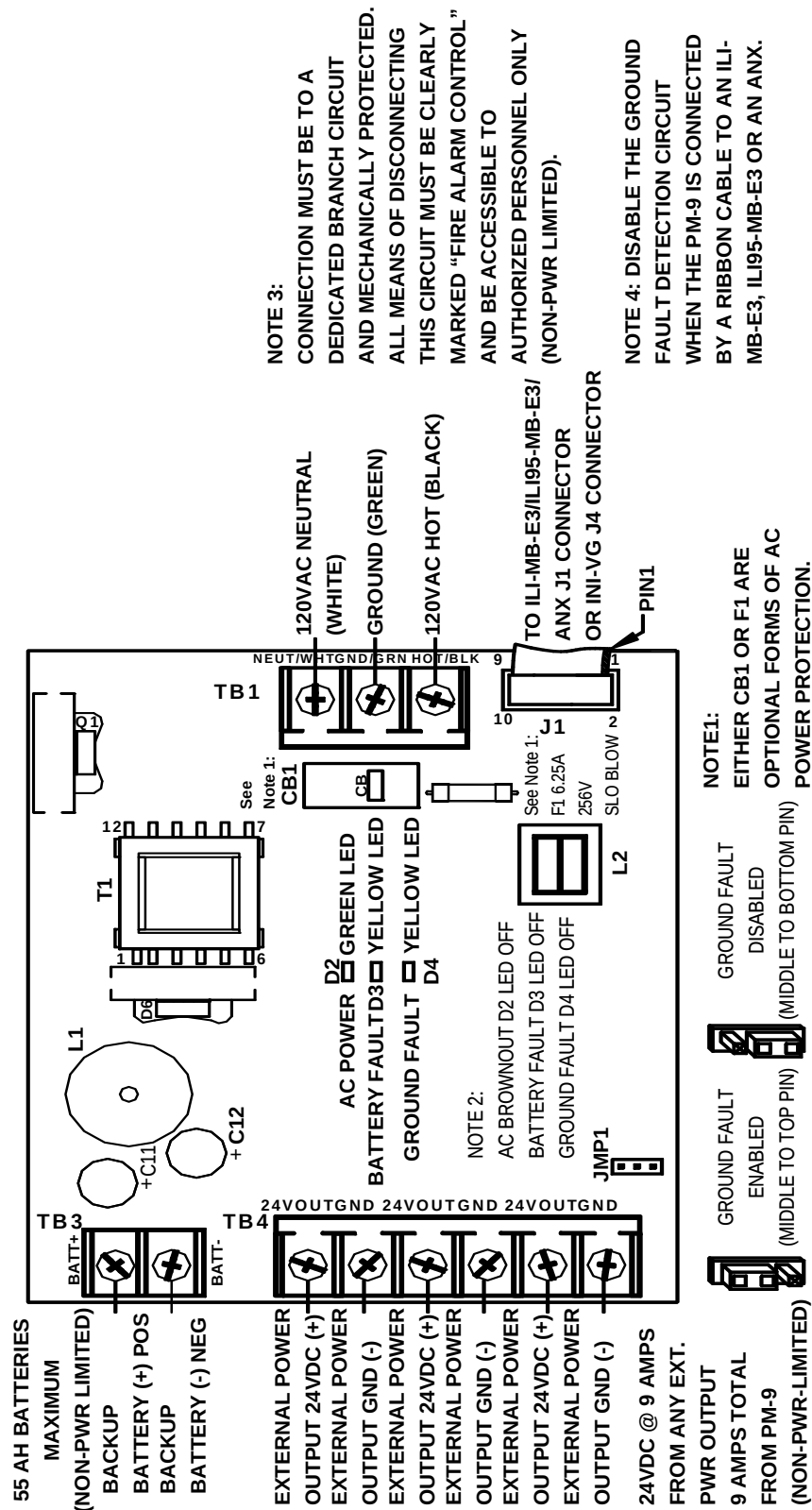
Table 3.8.5.2 lists the details for the Ground Fault supervision and settings.

| Designation                                                                                                                                                                                                                                                                | Description                          | Comments                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|----------------------------------|
| Ground Fault Supervision                                                                                                                                                                                                                                                   | Jumper Settings                      | CAMWorks Settings                |
| ILI-MB-E3/ILI95-MB-E3/ANX                                                                                                                                                                                                                                                  | W9 shorted on ILI, JMP1 Open on PM-9 | ILI Supervision of PM-9 enabled. |
| INI-VGX                                                                                                                                                                                                                                                                    | JMP1 shorted on PM-9, W9 Open on ILI | VGX Supervision of PM-9 enabled  |
| Only one node connected to a PM-9 (by Ribbon Cable) must have "Supervision of the PM-9" Enabled in CAMWorks. All additional Nodes powered from a common PM-9 are to have their Ground Fault jumpers open or disabled and the supervision of the PM-9 disabled in CAMWorks. |                                      |                                  |

**Table 3.8.5.2 Ground Fault Supervision**

### 3.8.6 PM-9 Wiring Diagram

Figure 3.8.6.1 illustrates the wiring diagram for the PM-9 sub-assembly.



### Figure 3.8.6.1 PM-9 Wiring Diagram

### 3.8.7 PM-9G Power Supply Sub-Assembly

Figure 3.8.7.1 and Figure 3.8.7.2 illustrate the Power Supply (PM-9G) sub-assembly.

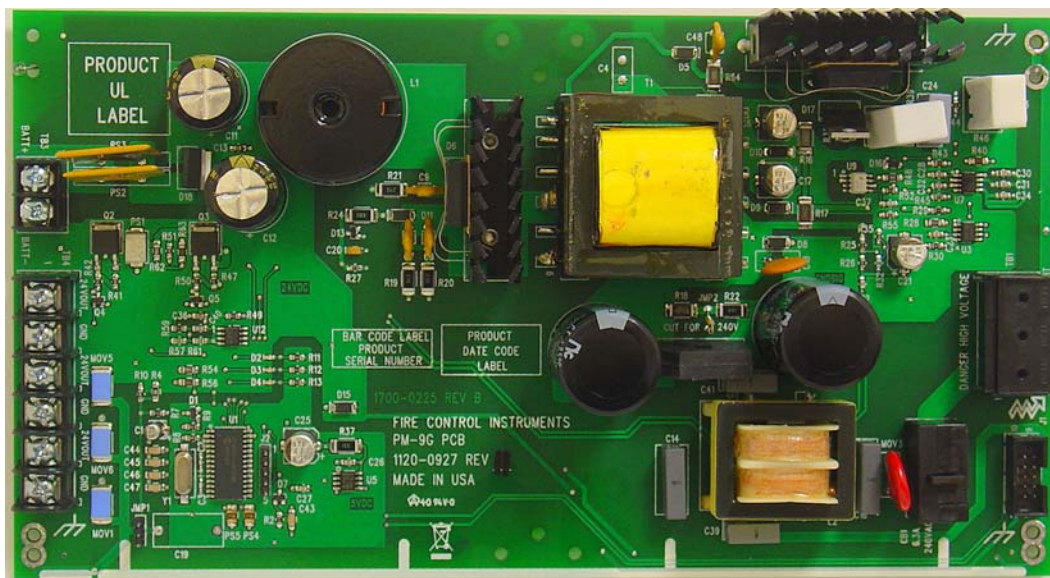


Figure 3.8.7.1 Power Supply (PM-9G) Sub-Assembly

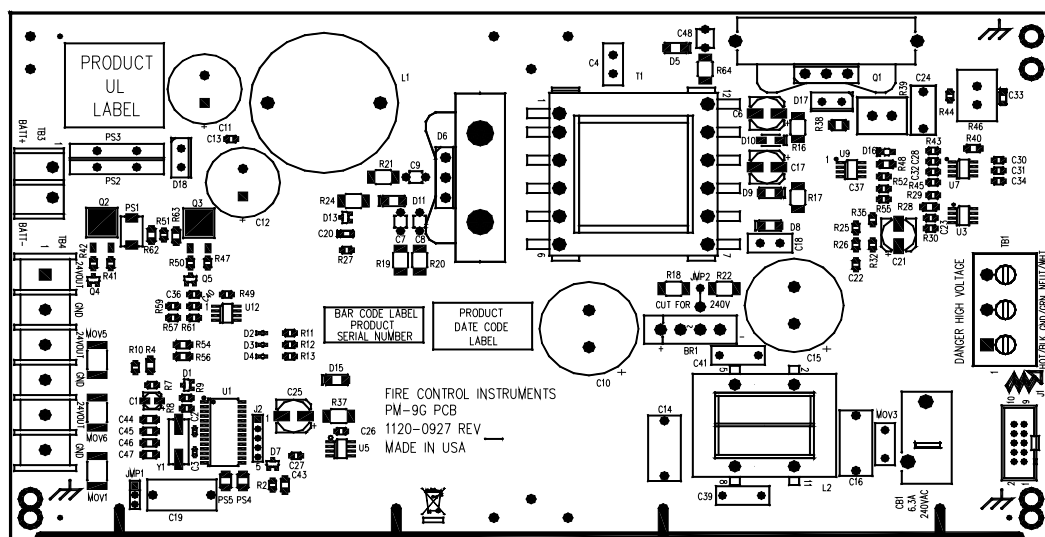


Figure 3.8.7.2 Power Supply (PM-9G) Sub-Assembly

### 3.8.8 PM-9G Power Supply Wiring Connections

Table 3.8.8.1 list the field wiring connections to the PM-9G Power Supply.

| Designation                                                                                                                                                                   | Description | Comments                                                                                                                                                                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TB1-1                                                                                                                                                                         | HOT/BLK     | Connect to hot, 240 VAC, 50Hz/60Hz - Non Power-limited                                                                                                                                 |
| TB1-2                                                                                                                                                                         | GND/GRN     | Connect to ground and isolated earth ground - Non Power-limited                                                                                                                        |
| TB1-3                                                                                                                                                                         | NEU/WHT     | Connect to neutral 240 VAC, 50Hz/60Hz                                                                                                                                                  |
| TB3-1                                                                                                                                                                         | BATT+       | Battery positive input - Non Power-limited                                                                                                                                             |
| TB3-2                                                                                                                                                                         | BATT -      | Battery negative input - Non Power-limited                                                                                                                                             |
| TB4-1                                                                                                                                                                         | 24VOUT      | + 24 VDC FWR Output to AM-50 Series amplifiers, ILI95-E3/ILI-E3 Series or ANX, TB1-2: used to power two (2) AM-50 Series amplifiers, the ILI95-E3/ILI-E3 Series or ANX                 |
| TB4-2                                                                                                                                                                         | GND         | GND (-) Output to AM-50 Series amplifiers, ILI95-E3/ILI-E3 Series or ANX, TB1-1: used to power two (2), AM-50 Series amplifiers, the ILI95-E3/ILI-E3 Series or ANX                     |
| TB4-3                                                                                                                                                                         | 24VOUT      | + 24 VDC FWR Output to AM-50 Series amplifiers, ILI95-E3/ILI-E3 Series or ANX, TB1-2: used to power 2nd pair of AM-50 Series amplifiers, ILI95-E3/ILI-E3 Series, ANX and INI-VG Series |
| TB4-4                                                                                                                                                                         | GND         | GND (-) Output to AM-50 Series amplifiers, ILI95-E3/ILI-E3 Series or ANX: TB1-1: to second pair of AM-50 Series amplifiers, ILI95-E3/ILI-E3 Series, ANX, and INI-VGC                   |
| TB4-5                                                                                                                                                                         | 24VOUT      | + 24 VDC FWR Output to other sub-assemblies: INI-VG Series, ILI95-E3/ILI-E3 Series, or ANX                                                                                             |
| TB4-6                                                                                                                                                                         | GND         | Common (-) Output to INI-VG, ILI95-E3/ILI-E3 Series or ANX                                                                                                                             |
| JMP1                                                                                                                                                                          |             | IN for GND Fault Detection (See Note 1)                                                                                                                                                |
| J1                                                                                                                                                                            |             | 10-PIN Ribbon Cable Connect to the ILI95-MB-E3, ILI-MB-E3 or ANX Connector J1, or INI-VG Series Connector J4 (See Note 2)                                                              |
| JMP2                                                                                                                                                                          |             | Factory Use Only                                                                                                                                                                       |
| LED 2                                                                                                                                                                         | Green       | Lights to indicate AC power                                                                                                                                                            |
| LED 3                                                                                                                                                                         | Yellow      | Lights to indicate no or low battery fault                                                                                                                                             |
| LED 4                                                                                                                                                                         | Yellow      | Lights to indicate ground fault                                                                                                                                                        |
| <b>NOTE:</b> AC "Brown Out" condition indicated by:                                                                                                                           |             |                                                                                                                                                                                        |
| LED 2 (grn) OFF                                                                                                                                                               |             |                                                                                                                                                                                        |
| LED 3 (yel) LIT                                                                                                                                                               |             |                                                                                                                                                                                        |
| LED 4 (yel) LIT                                                                                                                                                               |             |                                                                                                                                                                                        |
| <b>NOTE 1:</b> Must be IN (Enabled) when J1 is connected to an INI-VG Series node. Must be OUT (Disabled) when J1 is connected to an ILI-MB-E3 or an ILI95-MB-E3 node.        |             |                                                                                                                                                                                        |
| <b>NOTE 2:</b> Connect to J1 to the INI-VG Series J4 when the PM-9 is supplying power to both the INI-VG Series and the ILI-MB-E3 or the ILI95-MB-E3 node types. (See Note 1) |             |                                                                                                                                                                                        |

**Table 3.8.8.1 PM-9G Terminals, Jumpers and LEDs**

Table 3.8.8.2 lists the details for the Ground Fault supervision and settings.

| Designation                                                                                                                                                                                                                                                                  | Description                           | Comments                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------|
| Ground Fault Supervision                                                                                                                                                                                                                                                     | Jumper Settings                       | CAMWorks Settings                 |
| ILI-MB-E3/ILI95-MB-E3/ANX                                                                                                                                                                                                                                                    | W9 shorted on ILI, JMP1 Open on PM-9G | ILI Supervision of PM-9G enabled. |
| INI-VGX                                                                                                                                                                                                                                                                      | JMP1 shorted on PM-9G, W9 Open on ILI | VGX Supervision of PM-9G enabled  |
| Only one node connected to a PM-9G (by Ribbon Cable) must have "Supervision of the PM-9G" Enabled in CAMWorks. All additional Nodes powered from a common PM-9G must have their Ground Fault jumpers open or disabled and the supervision of the PM-9G disabled in CAMWorks. |                                       |                                   |

**Table 3.8.8.2 Ground Fault Supervision**

### 3.8.9 PM-9G Wiring Diagram

Figure 3.8.9.1 illustrates wiring diagram for the PM-9G sub-assembly.

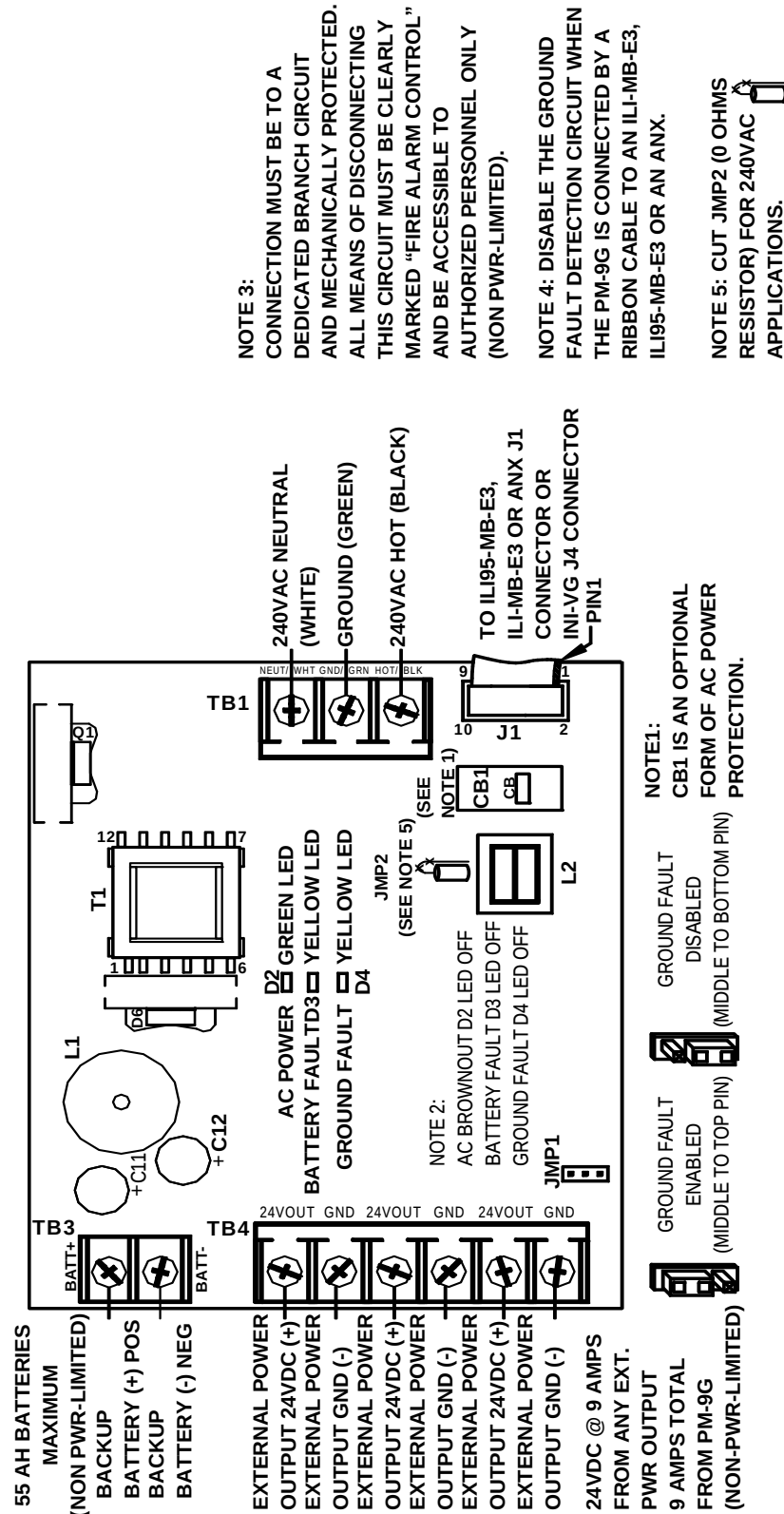


Figure 3.8.9.1 PM-9G Wiring Diagram

## 3.9 ASM-16 Addressable Switch Connections

The remote Addressable Switch (ASM-16) is an optional sub-assembly that may be programmed to perform auxiliary switching functions. Connections are made to the following:

- ILI-MB-E3 or ILI95-MB-E3 TB3 to the ASM-16 TB1
- LCD-E3 J1 to the ASM-16 J2

The address of the ASM-16 in the system is set via a DIP Switch. Up to sixteen (16), ASM-16 sub-assemblies can be installed. The first address must be set to Number 32.

For additional information on the connections and addressing information, refer to the *ASM-16 Installation Instructions, P/N 9000-0550*.

### 3.9.1 Specifications

The following list the electrical specifications for the ASM-16.

**Operating Voltage:** 24 VDC (from PM-9/PM-9G power supply)  
**Operating Current:** 0.011 amp (with no LEDs lit)  
**Operating Temperature:** 32° to 120° F (0° to 49° C)  
**Relative Humidity:** 0 to 93%, non-condensing at 90° F (32° C)  
**Supervised**  
**Power-limited**

### 3.9.2 Addressable Switch Sub-Assembly (ASM-16) Sub-Assembly

Figure 3.9.2.1 and Figure 3.9.2.2 illustrate the Addressable Switch (ASM-16) sub-assembly.

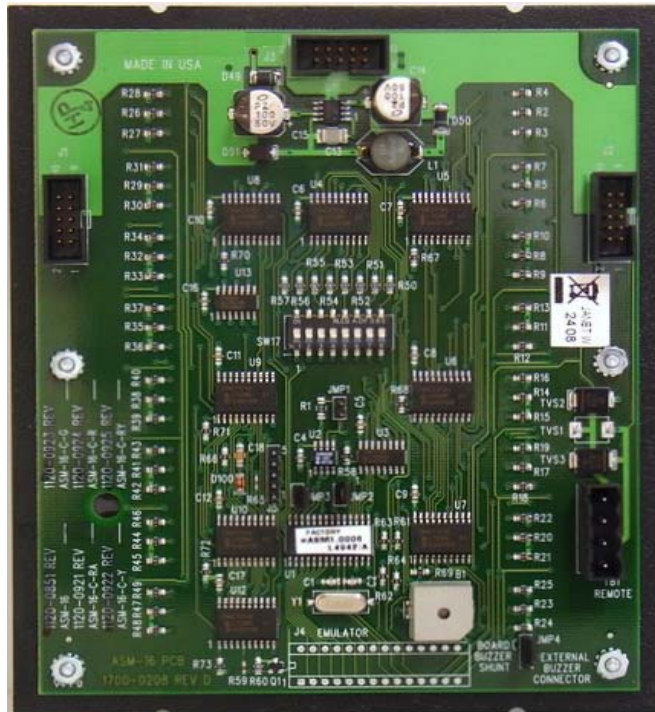


Figure 3.9.2.1 ASM-16 Rear View

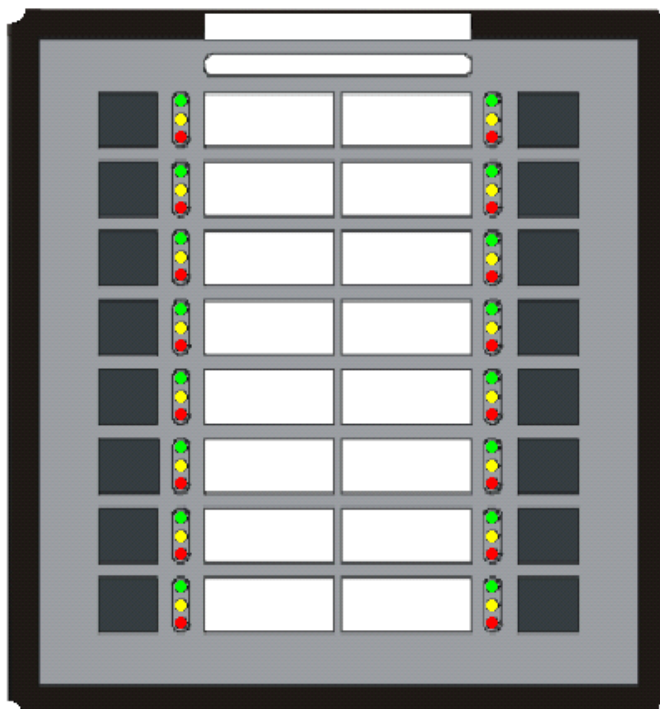


Figure 3.9.2.2 ASM-16 Front View

### 3.9.3 ASM-16 Wiring Connections

For the ASM-16, ANU-48, INI-VG Series, ILI-MB-E3/ILI95-MB-E3, LCD-E3 or remote enclosure installations, use the wiring connections in Table 3.9.3.1, and refer to Notes A-F in Figure 3.9.4.1 for the ribbon cable and hardwire locations.

| ASM-16 or ANU-48 to ASM-16 or ANU-48 Wiring                                |        |                      |                                                          |                             |
|----------------------------------------------------------------------------|--------|----------------------|----------------------------------------------------------|-----------------------------|
| Designation                                                                |        | Description          | Designation                                              |                             |
| From ASM-16 or ANU-48                                                      |        | Ribbon Cable         | To ASM-16 or ANU-48                                      |                             |
| J1                                                                         |        | Ribbon Cable         | Connect To:                                              |                             |
|                                                                            |        |                      | J1                                                       | - LCD-E3                    |
|                                                                            |        |                      | J1,J2                                                    | - ANU-48                    |
|                                                                            |        |                      | J3                                                       | - INI-VGC, INI-VGX, INI-VGE |
|                                                                            |        |                      | J1,J2,J3 - ASM-16                                        |                             |
| J2                                                                         |        | Ribbon Cable         | Connect To:                                              |                             |
|                                                                            |        |                      | J1                                                       | - LCD-E3                    |
|                                                                            |        |                      | J1,J2                                                    | - ANU-48                    |
|                                                                            |        |                      | J3                                                       | - INI-VGC, INI-VGX, INI-VGE |
|                                                                            |        |                      | J1,J2,J3 - ASM-16                                        |                             |
| J3                                                                         |        | Ribbon Cable         | Connect To:                                              |                             |
|                                                                            |        |                      | J1                                                       | - LCD-E3                    |
|                                                                            |        |                      | J1,J2                                                    | - ANU-48                    |
|                                                                            |        |                      | J3                                                       | - INI-VGC, INI-VGX, INI-VGE |
|                                                                            |        |                      | J1,J2,J3 - ASM-16                                        |                             |
| J4                                                                         |        | Emulator             | Factory Use Only                                         |                             |
| J5                                                                         |        | Factory use only     |                                                          |                             |
| JMP1                                                                       |        | Termination          | Install Jumper only if the last device is on RS-485 bus. |                             |
| <b>Note:</b> See Note A in Figure 3.9.4.1 for the ribbon cable connection. |        |                      |                                                          |                             |
| ASM-16 or ANU-48 to ASM-16 or ANU-48 Wiring                                |        |                      |                                                          |                             |
| From ASM-16 or ANU-48                                                      |        |                      | RS-485 COM A from previous device/to next device.        |                             |
|                                                                            |        |                      | Connect To:                                              |                             |
| TB1-1                                                                      | COMM A | Single Discrete Wire | TB3-1                                                    | LI-MB-E3/ILI95-MB-E3        |
|                                                                            |        |                      | TB6-3                                                    | INI-VGC, INI-VGX, INI-VGE   |
|                                                                            |        |                      | TB1-3                                                    | DACT-E3                     |
|                                                                            |        |                      | TB1-1                                                    | ASM-16, ANU-48              |
|                                                                            |        |                      | TB1-5                                                    | LCD-E3                      |
|                                                                            |        |                      | TB1-1                                                    | LCD-7100                    |
| TB1-2                                                                      | COMM B | Single Discrete Wire | RS-485 COM B from previous device/to next device.        |                             |
|                                                                            |        |                      | Connect To:                                              |                             |
|                                                                            |        |                      | TB3-2                                                    | ILI-MB-E3/ILI95-MB-E3       |
|                                                                            |        |                      | TB6-2                                                    | INI-VGC, INI-VGX, INI-VGE   |
|                                                                            |        |                      | TB1-4                                                    | DACT-E3                     |
|                                                                            |        |                      | TB1-2                                                    | ASM-16, ANU-48              |
|                                                                            |        |                      | TB1-6                                                    | LCD-E3                      |
| ASM-16 or ANU-48 to ASM-16 or ANU-48 Wiring                                |        |                      |                                                          |                             |

**Table 3.9.3.1 ASM-16 or ANU-48 Wiring Connections**

| Designation                                                                                                                                                  |        | Description                    | Designation                          |                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------------------------|--------------------------------------|---------------------------|
| TB1-2                                                                                                                                                        |        |                                | TB1-2                                | LCD-7100                  |
| ASM-16 or ANU-48 to ASM-16 or ANU-48 Wiring                                                                                                                  |        |                                |                                      |                           |
| From ASM-16 or ANU-48                                                                                                                                        |        |                                | RS-485 COM A from previous device/to |                           |
| TB1-3                                                                                                                                                        | +24V   | Single Discrete Wire           | Connect To:                          |                           |
| ASM-16 or ANU-48 to ASM-16 or ANU-48 Wiring                                                                                                                  |        |                                |                                      |                           |
| TB1-3                                                                                                                                                        | +24V   | Single Discrete Wire           | TB1-3                                | +24V                      |
|                                                                                                                                                              |        |                                | TB3-6                                | ILI-MB-E3/ILI95-MB-E3     |
|                                                                                                                                                              |        |                                | TB6-1                                | INI-VGC, INI-VGX, INI-VGE |
| TB1-4                                                                                                                                                        | GND    | Single Discrete Wire<br>Common | Connect To:                          |                           |
|                                                                                                                                                              |        |                                | TB1-4                                | GND                       |
|                                                                                                                                                              |        |                                | TB3-5<br>or<br>TB3-7                 | ILI-MB-E3/ILI95-MB-E3     |
|                                                                                                                                                              |        |                                | TB6-4 INI-VGC, INI-VGX, INI-VGE      |                           |
| Note: See Note B in Figure 3.9.4.1 for the hardwire connection.                                                                                              |        |                                |                                      |                           |
| INI-VGC, INI-VGX or INI-VGE Wiring                                                                                                                           |        |                                |                                      |                           |
| From INI-VGC, INI-VGX or INI-VGE                                                                                                                             |        |                                | To ASM-16 or ANU-48                  |                           |
| J3 RS-485 Local                                                                                                                                              |        | Ribbon Cable                   | J1, J2 or J3                         |                           |
| Note: See Note C in Figure 3.9.4.1 for the ribbon cable connection.                                                                                          |        |                                |                                      |                           |
| From INI-VGC, INI-VGX or INI-VGE                                                                                                                             |        |                                | To ASM-16 or ANU-48                  |                           |
| ASM-16 or ANU-48 to ASM-16 or ANU-48 Wiring                                                                                                                  |        |                                |                                      |                           |
| TB6 RS-485 Remote                                                                                                                                            |        |                                | ASM-16 or ANU-48 TB-1                |                           |
| TB6-1                                                                                                                                                        | +24V   | Single Discrete Wire           | TB1-3                                | +24V                      |
| TB6-2                                                                                                                                                        | COMM B | Single Discrete Wire           | TB1-2                                | COMM B                    |
| TB6-3                                                                                                                                                        | COMM A | Single Discrete Wire           | TB1-1                                | COMM A                    |
| TB6-4                                                                                                                                                        | GND    | Single Discrete Wire           | TB1-4                                | GND                       |
| Note: See Note D in Figure 3.9.4.1 for the hardwire connection.                                                                                              |        |                                |                                      |                           |
| ILI-MB-E3/ILI95-MB-E3/ANX Wiring                                                                                                                             |        |                                |                                      |                           |
| From<br>ILI-MB-E3/ILI95-MB-E3/ANX                                                                                                                            |        |                                | To ASM-16 or ANU-48                  |                           |
| TB3-1                                                                                                                                                        | COMM A | Single Discrete Wire           | TB1-1                                | COMM A                    |
| TB3-2                                                                                                                                                        | COMM B | Single Discrete Wire           | TB1-2                                | COMM B                    |
| TB1-3                                                                                                                                                        | +24V   | Single Discrete Wire           | TB1-3                                | +24V                      |
| TB1-4                                                                                                                                                        | GND    | Single Discrete Wire           | TB1-4                                | GND                       |
| Note: See Note E in Figure 3.9.4.1 for the hardwire connection.                                                                                              |        |                                |                                      |                           |
| LCD-E3                                                                                                                                                       |        |                                |                                      |                           |
| From LCD-E3                                                                                                                                                  |        |                                | To ASM-16 or ANU-48                  |                           |
| J1                                                                                                                                                           |        | Ribbon Cable                   | J1, J2, or J3                        |                           |
| Note: See Note F in Figure 3.9.4.1 for the ribbon cable connection.                                                                                          |        |                                |                                      |                           |
| Note2:<br>JMP1 - Termination leave out.<br>JMP2 - Factory Programming leave in.<br>JMP3 - Factory Programming leave in.<br>JMP4 - External Buzzer Connector. |        |                                |                                      |                           |

**Table 3.9.3.1 ASM-16 or ANU-48 Wiring Connections (Continued)**

### 3.9.4 ASM-16 or ANU-48 Wiring Connections

Figure 3.9.4.1 illustrates the ASM-16 and ANU-48 wiring connections.

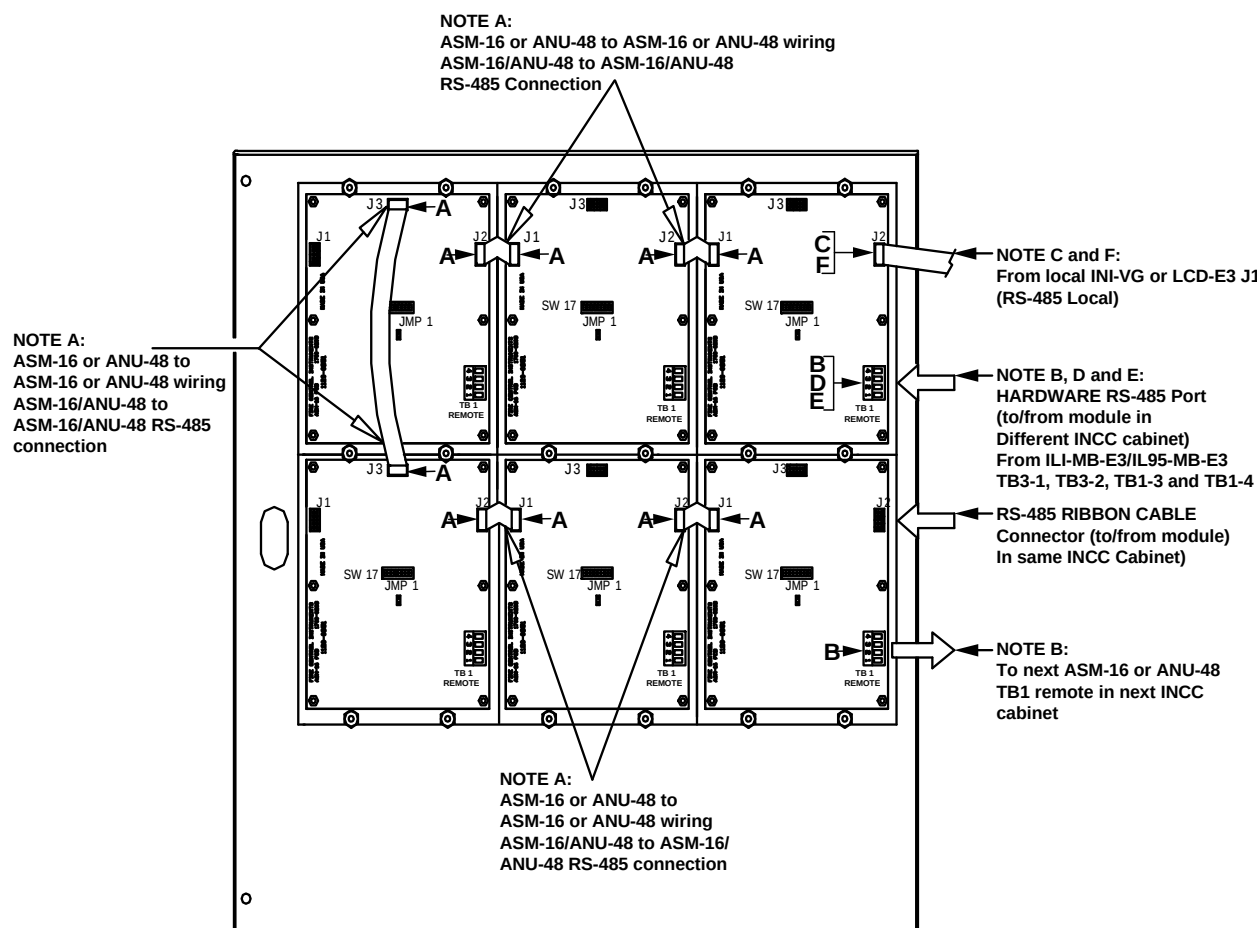


Figure 3.9.4.1 ASM-16 and ANU-48 Wiring Connections

### 3.9.5 ASM-16 Wiring Diagram

Figure 3.9.5.1 illustrates the field wiring connections for the ASM-16.

**J1, J2 AND J3 ARE RS-485 RIBBON CABLE  
“IN” AND/OR “OUT” CONNECTIONS  
TO NEXT/PREVIOUS MODULE  
(NOTE POSITION PIN 1)**

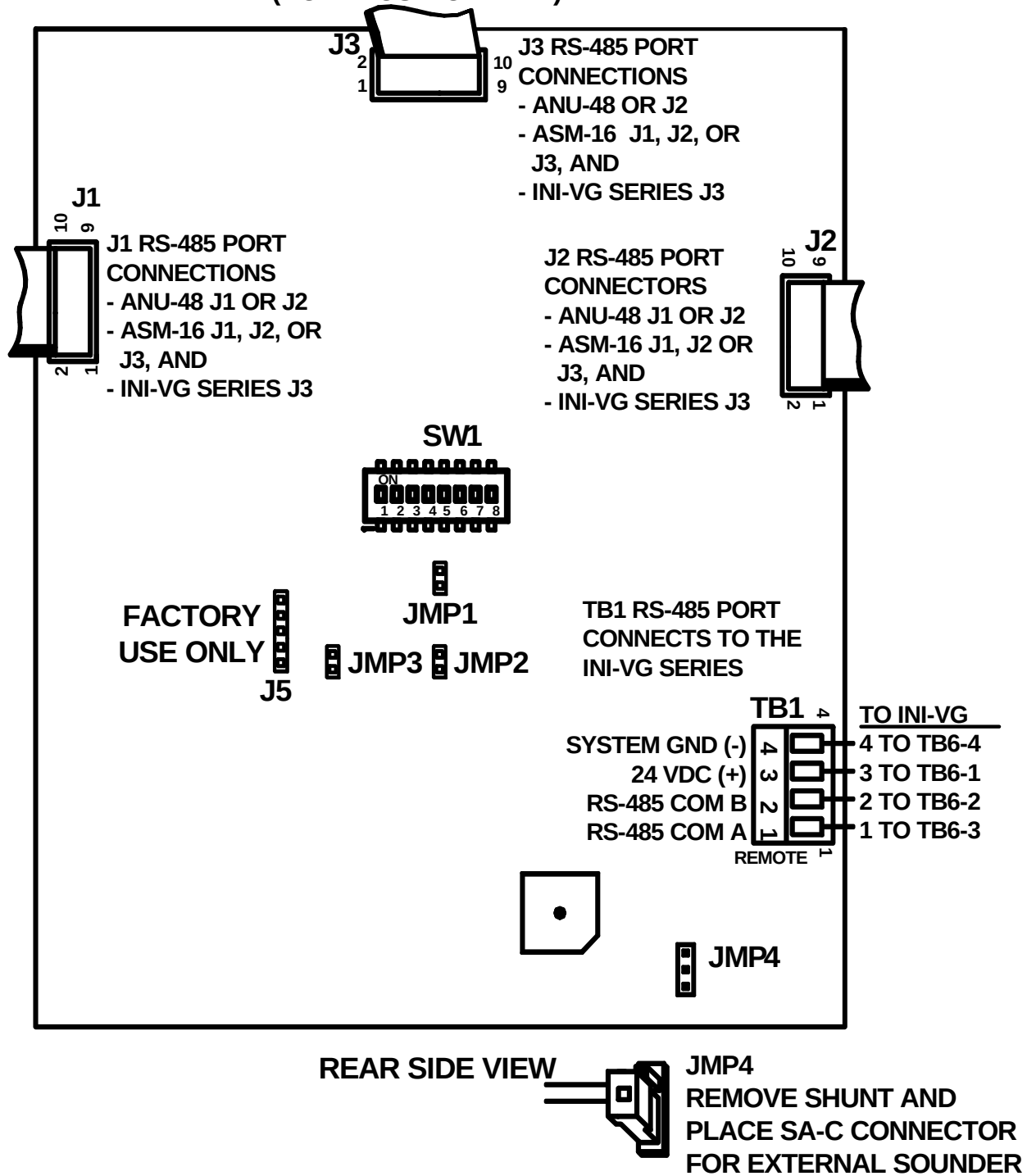


Figure 3.9.5.1 ASM-16 Wiring Diagram

### 3.9.6 ASM-16 Programming Address Switch Settings

Figure 3.9.6.1 illustrates the ASM-16 programming address switches.

**NOTE:** Set the first address in the program to switch 32.

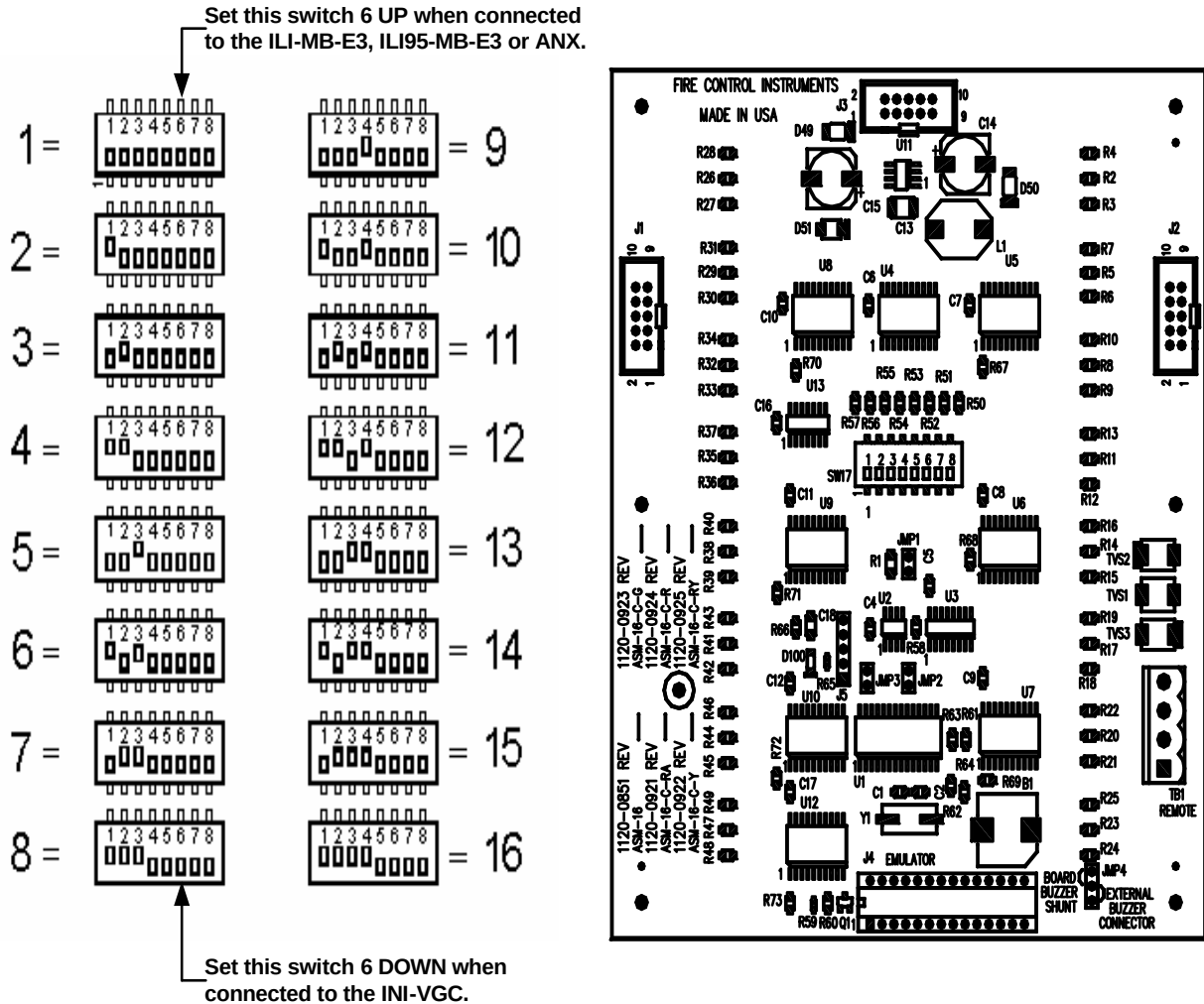


Figure 3.9.6.1 ASM-16 Programming Address Switch Settings

## 3.10 Digital Alarm Communicator Transmitter (DACT-E3) Connections

The DACT-E3 digital communicator transmitter is an optional sub-assembly that features numerous formats for the communication to a central station. It provides the following functions:

- Line seizure - takes control of the phone lines, disconnecting any premises phones using the same lines
- Off/On-Hook - perform on and off-hook status to phone lines
- Listen for dial tone - 440 Hz tone typical in most networks
- Dialing the Central Station phone number - programmable
- Discern proper Central Station “ACK” and “Kiss-off” tone
- Transmit data to the Central Station
- Verify that data has been accepted by the Central Station
- Hang-up and release phone lines
- Communicate in a variety of formats
- Remote via the RS-485 serial interface

### 3.10.1 Central Station Reporting

UL Listed receivers compatible with the E3 Series<sup>®</sup> are listed in Table 3.10.1.1.

| Manufacturer                                                                                                                                      | Receiver Model  | Formats                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------------------------------------------------|
| Silent Knight                                                                                                                                     | Model 9000.     | SIA-8<br>SIA-20<br>SK4/2<br>3/1 14<br>3/1 23               |
| Silent Knight                                                                                                                                     | Model 9800/9500 | SIA-8<br>SIA-20<br>SK4/2<br>3/1 14<br>3/1 23<br>Contact ID |
| Ademco                                                                                                                                            | Model 685       | 3/1 14<br>3/1 23                                           |
| Sur-Guard<br>(Version. 1.64 or higher)                                                                                                            | SG-MLR2-DG      | SIA-8<br>SIA-20<br>SK4/2<br>3/1 14<br>3/1 23<br>Contact ID |
| Osborne Hoffman                                                                                                                                   | Quickalert      | SIA-8<br>SIA-20                                            |
| If you are using the Model 9000 and the message, “HELP,” appears on the printer after attempting to download, the 9000 software must be upgraded. |                 |                                                            |
| The Model 9000 must have the Model 9307 software package, Revision 900501 or later, to print the PROGRAMMING PASS and PROGRAMMING FAIL messages.  |                 |                                                            |

**Table 3.10.1.1 UL Listed Receivers Compatible with the E3 Series**

### 3.10.2 Telephone Requirements

- DC Ringer Equivalence Number (REN) = 0.5B
- AC Ringer Equivalence Number = 1.3
- Complies with FCC Part 8

The REN is used to determine the quantity of devices that may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five (5).

To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the Telephone Company to determine the maximum REN for the calling area.

### 3.10.3 Specifications

The following list the electrical specifications for the DACT-E3.

|                               |                                           |
|-------------------------------|-------------------------------------------|
| <b>Operating Voltage:</b>     | 24 VDC (from PM-9/PM-9G power supply)     |
| <b>Operating Current:</b>     | 0.018 amp                                 |
| <b>Alarm Current:</b>         | 0.018 amp                                 |
| <b>Operating Temperature:</b> | 32° to 120° F (0° to 49° C)               |
| <b>Relative Humidity:</b>     | 0 to 93%, non-condensing at 90° F (32° C) |
| <b>Supervised</b>             |                                           |
| <b>Power-limited</b>          |                                           |

### 3.10.4 Digital Alarm Communicator (DACT-E3) Sub-Assembly

Figure 3.10.4.1 and Figure 3.10.4.2 illustrate the Digital Alarm Communicator (DACT-E3) sub-assembly.

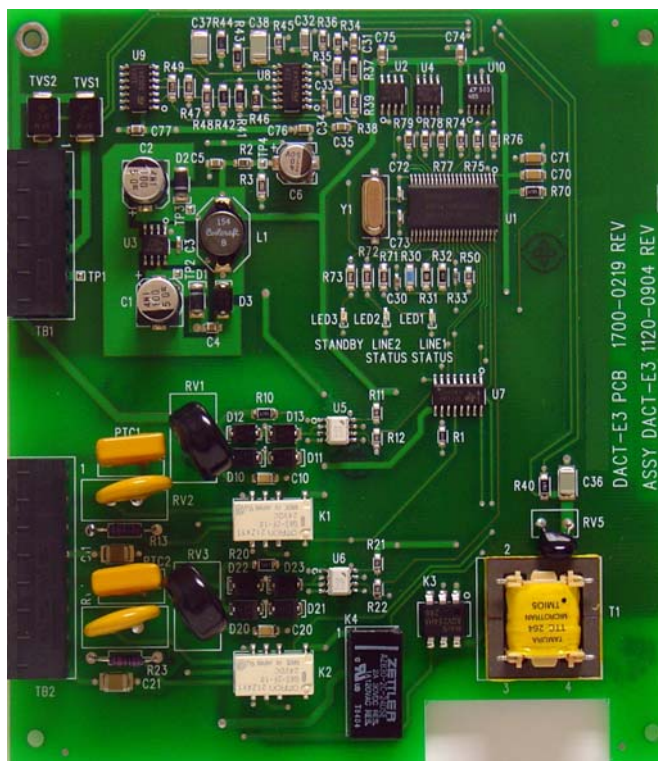


Figure 3.10.4.1 DACT-E3 Sub-Assembly

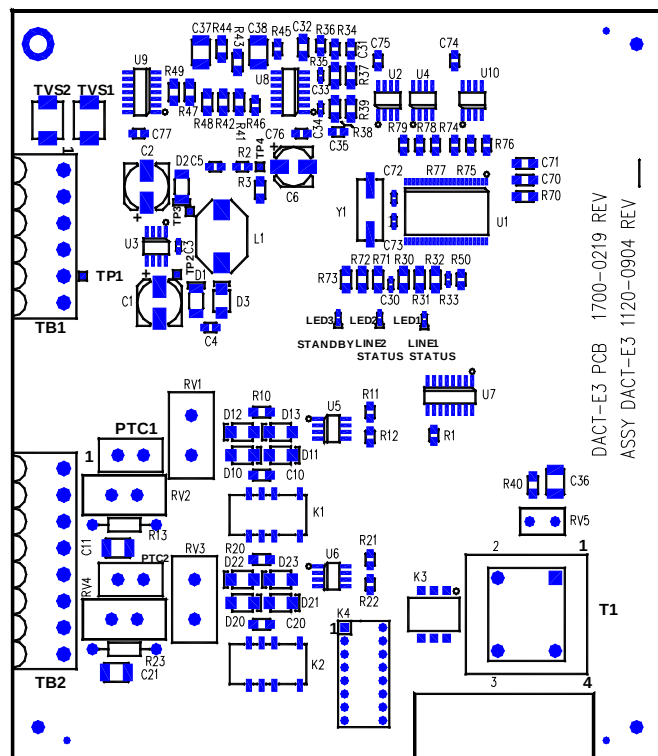


Figure 3.10.4.2 DACT-E3 Sub-Assembly

### 3.10.5 DACT-E3 Event Reporting Codes

The DACT-E3 can be configured to allow each SLC device to report a unique 3-digit code by selecting the Extended DACT Reporting Feature. To enable this feature, each ILI-MB-E3 and ILI-S-E3 must have V1.3 of the ILI Firmware installed. This feature is also available for the ILI95-MB-E3 and ILI95-S-E3.

The Extended DACT Reporting Feature is disabled by default. The user must specifically enable this feature through configuration programming using CAMWorks™. If this feature is disabled, use the standard codes (enclosed in the brackets in Table 3.10.5.1). If this feature is enabled, the optional fields, (enclosed in the parentheses in Table 3.10.5.1) will be substituted for the standard codes. For additional information regarding this feature, see Notes 4 and Note 5 in Table 3.10.5.1.



**NOTE:** To use the Extended DACT Reporting Feature, all ILI-MB-E3 and ILI-S-E3 nodes on the network must have V1.3 Firmware installed.

| Event                                         | SIA<br>(See Note 2) | Contact ID                  | 4/2<br>(See Note 3) | 3/1 |
|-----------------------------------------------|---------------------|-----------------------------|---------------------|-----|
| Fire Alarm (Smoke or Manual Station)          | FA [GGT] (UUU)      | 1 110 [00] (NN) [GGT] (UUU) | 0 [T] (U)           | 0   |
| Fire Alarm Restored                           | FH [GGT] (UUU)      | 3 110 [00] (NN) [GGT] (UUU) | 2 [T] (U)           | 2   |
| Waterflow Alarm                               | SA [GGT] (UUU)      | 1 113 [00] (NN) [GGT] (UUU) | 0 [T] (U)           | 0   |
| Waterflow Alarm Restored                      | SH [GGT] (UUU)      | 3 113 [00] (NN) [GGT] (UUU) | 2 [T] (U)           | 2   |
| Trouble (except Waterflow or Special AMM/PID) | FT [GGT] (UUU)      | 1 373 [00] (NN) [GG0] (UUU) | 8 [T] (U)           | 8   |
| Trouble Restored                              | FJ [GGT] (UUU)      | 3 373 [00] (NN) [GG0] (UUU) | 7 [T] (U)           | 7   |
| Trouble (Waterflow AMM/PID)                   | ST [GGT] (UUU)      | 1 370 [00] (NN) [GG0] (UUU) | 8 [T] (U)           | 8   |
| Trouble Restored (Waterflow AMM/PID)          | SJ [GGT] (UUU)      | 3 203 [00] (NN) [GG0] (UUU) | 7 [T] (U)           | 7   |
| Trouble (Special AMM/PID)                     | UT [GGT] (UUU)      | 1 370 [00] (NN) [GG0] (UUU) | 8 [T] (U)           | 8   |
| Trouble Restored (Special AMM/PID)            | UJ [GGT] (UUU)      | 3 370 [00] (NN) [GG0] (UUU) | 7 [T] (U)           | 7   |
| Supervisory / Tamper (Module)                 | SS [GGT] (UUU)      | 1 203 [00] (NN) [GGT] (UUU) | 6 [T] (U)           | 6   |
| Supervisory Restored (Module)                 | SR [GGT] (UUU)      | 3 203 [00] (NN) [GGT] (UUU) | 7 [T] (U)           | 7   |
| PAS/Action/Supervisory (Sensor)               | FS [GGT] (UUU)      | 1 200 [00] (NN) [GGT] (UUU) | 6 [T] (U)           | 6   |
| PAS/Action/Supervisory Restored (Sensor)      | FR [GGT] (UUU)      | 3 110 [00] (NN) [GGT] (UUU) | 7 [T] (U)           | 7   |
| Disable (except Waterflow or Special AMM/PID) | FB [GGT] (UUU)      | 1 571 [00] (NN) [GG0] (UUU) | 8 [T] (U)           | 8   |
| Disable Restored                              | FU [GGT] (UUU)      | 3 571 [00] (NN) [GG0] (UUU) | 7 [T] (U)           | 7   |
| Disable (Waterflow AMM/PID)                   | SB [GGT] (UUU)      | 1 570 [00] (NN) [GG0] (UUU) | 8 [T] (U)           | 8   |
| Disable Restored (Waterflow AMM/PID)          | SU [GGT] (UUU)      | 3 570 [00] (NN) [GG0] (UUU) | 7 [T] (U)           | 7   |
| Disable (Special AMM/PID)                     | UB [GGT] (UUU)      | 1 570 [00] (NN) [GG0] (UUU) | 8 [T] (U)           | 8   |
| Disable Restored (Special AMM/PID)            | UU [GGT] (UUU)      | 3 570 [00] (NN) [GG0] (UUU) | 7 [T] (U)           | 7   |
| AC Fail                                       | AT 0                | 1 301 [00] (NN) [000] (UUU) | 8 [T] (U)           | 8   |
| AC Fail Restored                              | AR 0                | 3 301 [00] (NN) [000] (UUU) | 7 [T] (U)           | 7   |
| Phone Line 1 Fault                            | LT 1                | 1 351 [00] (NN) [000] (UUU) | 81                  | 8   |
| Phone Line 1 Fault Restored                   | LR 1                | 3 351 [00] (NN) [000] (UUU) | 71                  | 7   |
| Phone Line 2 Fault                            | LT 2                | 1 352 [00] (NN) [000] (UUU) | 82                  | 8   |

**Table 3.10.5.1 DACT-E3 Event Reporting Codes**

| Event                                                                                                                                                                                                                                                        | SIA<br>(See Note 2) | Contact ID                  | 4/2<br>(See Note 3) | 3/1 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------------------------|---------------------|-----|
| Phone Line 2 Fault Restored                                                                                                                                                                                                                                  | LR 2                | 3 352 [00] (NN) [000] (UUU) | 72                  | 7   |
| Automatic Test (NORMAL)                                                                                                                                                                                                                                      | RP 0                | 1 602 [00] (NN) [000] (UUU) | 90                  | 9   |
| Automatic Test (With Exception)                                                                                                                                                                                                                              | RP 991              | 1 602 [00] (NN) [991] (UUU) | 91                  | 9   |
| <b>For Contact ID and SIA Formats:</b>                                                                                                                                                                                                                       |                     |                             |                     |     |
| <b>GG</b> = group number assigned to the device, 00-99 (For networked systems, GG = Node number)<br>= group number assigned to the device, 00-899 (For extended network reporting)                                                                           |                     |                             |                     |     |
| <b>NN</b> = 00 (standalone systems) or node number (networked systems only)                                                                                                                                                                                  |                     |                             |                     |     |
| <b>UUU</b> = User-configured ID code (events originating from SLC devices, if configured) or event type code (non SLC device events). For more details, see, "3.10.5.1 Reporting Codes for Non-SLC-Device Events".                                           |                     |                             |                     |     |
| <b>T</b> = Type of device or event causing the event to be reported.                                                                                                                                                                                         |                     |                             |                     |     |
| <b>0</b> = Any Device not listed below.                                                                                                                                                                                                                      |                     |                             |                     |     |
| <b>1</b> = General Alarm Device                                                                                                                                                                                                                              |                     |                             |                     |     |
| <b>2</b> = Manual Station Alarm                                                                                                                                                                                                                              |                     |                             |                     |     |
| <b>3</b> = Supervisory Device (Non-latching)                                                                                                                                                                                                                 |                     |                             |                     |     |
| <b>4</b> = Supervisory Device (Latching)                                                                                                                                                                                                                     |                     |                             |                     |     |
| <b>5</b> = Waterflow (Non-silenceable)                                                                                                                                                                                                                       |                     |                             |                     |     |
| <b>6</b> = Smoke Alarm                                                                                                                                                                                                                                       |                     |                             |                     |     |
| <b>7</b> = Non-reporting Device                                                                                                                                                                                                                              |                     |                             |                     |     |
| <b>8</b> = Multi-level Device                                                                                                                                                                                                                                |                     |                             |                     |     |
| <b>NOTE 1:</b> Special AMM/PIDs include the following functions: Reset Switch, Silence Switch, Drill Switch, Alarm Acknowledge Switch, Trouble Acknowledge Switch.                                                                                           |                     |                             |                     |     |
| <b>NOTE 2:</b> In SIA format, two separate reports are made to transmit the extended codes (if configured). See Notes 4 and Note 5.                                                                                                                          |                     |                             |                     |     |
| <b>NOTE 3:</b> In 4/1 format, the "one's" digit of the user-assigned code will be reported (if configured). See Notes 4 and Note 5.                                                                                                                          |                     |                             |                     |     |
| <b>NOTE 4:</b> The standard code format (in brackets) will always be used to report events originating from 7100, INI-VGC, INI-VGX, INI-VGE or NGA nodes.                                                                                                    |                     |                             |                     |     |
| <b>NOTE 5:</b> The DACT-E3 will report 000 as the "UUU" digits if an event occurs on an SLC device that does not have a user-configured code assigned to it and the system is configured to report custom DACT codes. The node number will also be reported. |                     |                             |                     |     |

Table 3.10.5.1 DACT-E3 Event Reporting Codes

### 3.10.5.1 Reporting Codes for Non-SLC-Device Events

For events that do not originate on SLC devices, the DACT-E3 reports extended codes in the range 900-999. These codes are not user-configurable. Figure 3.10.5.1.1 lists the extended codes.

| Code      | Event                         | Comment                                                                                       |
|-----------|-------------------------------|-----------------------------------------------------------------------------------------------|
| 000       | Phone Line Test               | Automatic DACT test OK.                                                                       |
| 001 - 899 | SLC Device Codes              | User-defined in device configuration                                                          |
| 900       | Reserved                      |                                                                                               |
| 901       | SLC 1                         | Loop Break, Short, or Disconnect                                                              |
| 902       | SLC 2                         | Loop Break, Short, or Disconnect                                                              |
| 903       | NAC 1                         | Fault, Short, or Disconnect                                                                   |
| 904       | NAC 2                         | Fault, Short, or Disconnect                                                                   |
| 905       | Municipal Circuit             | Master Box Trouble                                                                            |
| 906       | Aux Power Fault               | Resettable or Non-Resettable B+ Fault                                                         |
| 907       | Municipal Circuit Supervision |                                                                                               |
| 908       | Positive Ground Fault         |                                                                                               |
| 909       | Negative Ground Fault         |                                                                                               |
| 910       | RS-232 Supervision Fault      |                                                                                               |
| 911       | Annunciator Fault             |                                                                                               |
| 912       | PM-9/PM-9G Supervision Fault  |                                                                                               |
| 913       | Battery Low                   |                                                                                               |
| 914       | Battery Fault                 |                                                                                               |
| 915       | AC Fault                      |                                                                                               |
| 916       | DC Fault                      |                                                                                               |
| 917       | Reserved                      |                                                                                               |
| 918       | Battery Charger Fault         |                                                                                               |
| 919 - 924 | Reserved                      |                                                                                               |
| 925       | DACT Account 1 Fault          |                                                                                               |
| 926       | DACT Missing                  |                                                                                               |
| 927       | DACT Report Timeout           |                                                                                               |
| 928       | DACT Account 2 Fault          |                                                                                               |
| 929       | DACT Line 1 Fault             |                                                                                               |
| 930       | DACT Line 2 Fault             |                                                                                               |
| 931       | INI Communication Fault       |                                                                                               |
| 932       | INI Node Number Fault         | Issued if node address DIP switches do not match the node number in the node's configuration. |
| 933       | Net Port 1                    |                                                                                               |
| 934       | Net Port 2                    |                                                                                               |
| 935 - 950 | Reserved                      |                                                                                               |
| 951 - 981 | Cross Zone 1 - 31             | Cross Zone 31 (981) is used to report Group Cross Zone Events.                                |
| 982       | Node Missing Faults           | Node not reported                                                                             |
| 983       | Node Extra Faults             | Node not reported, reports only when Extra Node enabled                                       |
| 984       | LCD Display Faults            | Address not reported                                                                          |
| 985       | ASM/ANU Faults                | Address not reported                                                                          |
| 986       | External Faults               | e.g. INI-VG troubles that have no ILI equivalent                                              |
| 987 - 999 | Reserved                      |                                                                                               |
| 991       | Test with Exception           | Automatic DACT test OK, but Trouble condition present in the system.                          |
| 992 - 999 | Reserved                      |                                                                                               |

**Table 3.10.5.1.1 Non-SLC Device Events Reporting Codes**

### 3.10.6 DACT-E3 Wiring Connections

Table 3.10.6.1 lists the DACT-E3 wiring connections.

| Designation | Description | Comments                                       |
|-------------|-------------|------------------------------------------------|
| TB1-1       | COM A IN    | COM A from ILI-MB-E3/ILI95-MB-E3/ANX           |
| TB1-2       | COM B IN    | COM B from ILI-MB-E3/ILI95-MB-E3/ANX           |
| TB1-3       | COM A OUT   | COM A OUT to other devices                     |
| TB1-4       | COM B OUT   | COM B OUT to other devices                     |
| TB1-5       | +24 V IN    | + 24 VDC from PM-9/PM-9G TB4-1, TB4-3 or TB4-5 |
| TB1-6       | GND         | GND from PM-9/PM-9G TB4-2, TB4-4 or TB4-6      |
| TB2-1       | T1 Tip      | Line 1 Tip IN from street Non power-limited    |
| TB2-2       | T1 Ring     | Line 1 Ring IN from street Non power-limited   |
| TB2-3       | P1 Tip      | Line 1 Tip OUT to phone Non power-limited      |
| TB2-4       | P1 Ring     | Line 1 Ring OUT to phone Non power-limited     |
| TB2-5       | T2 Tip      | Line 2 Tip IN from street Non power-limited    |
| TB2-6       | T2 Ring     | Line 2 Ring IN from street Non power-limited   |
| TB2-7       | P2 Tip      | Line 2 Tip OUT to phone Non power-limited      |
| TB2-8       | P2 Ring     | Line 2 Ring OUT to phone Non power-limited     |

**Table 3.10.6.1 DACT-E3 Wiring Connections**

### 3.10.6 DACT-E3 Wiring Connections (Continued)

Figure 3.10.6.1 illustrates the field wiring connections for the DACT-E3.

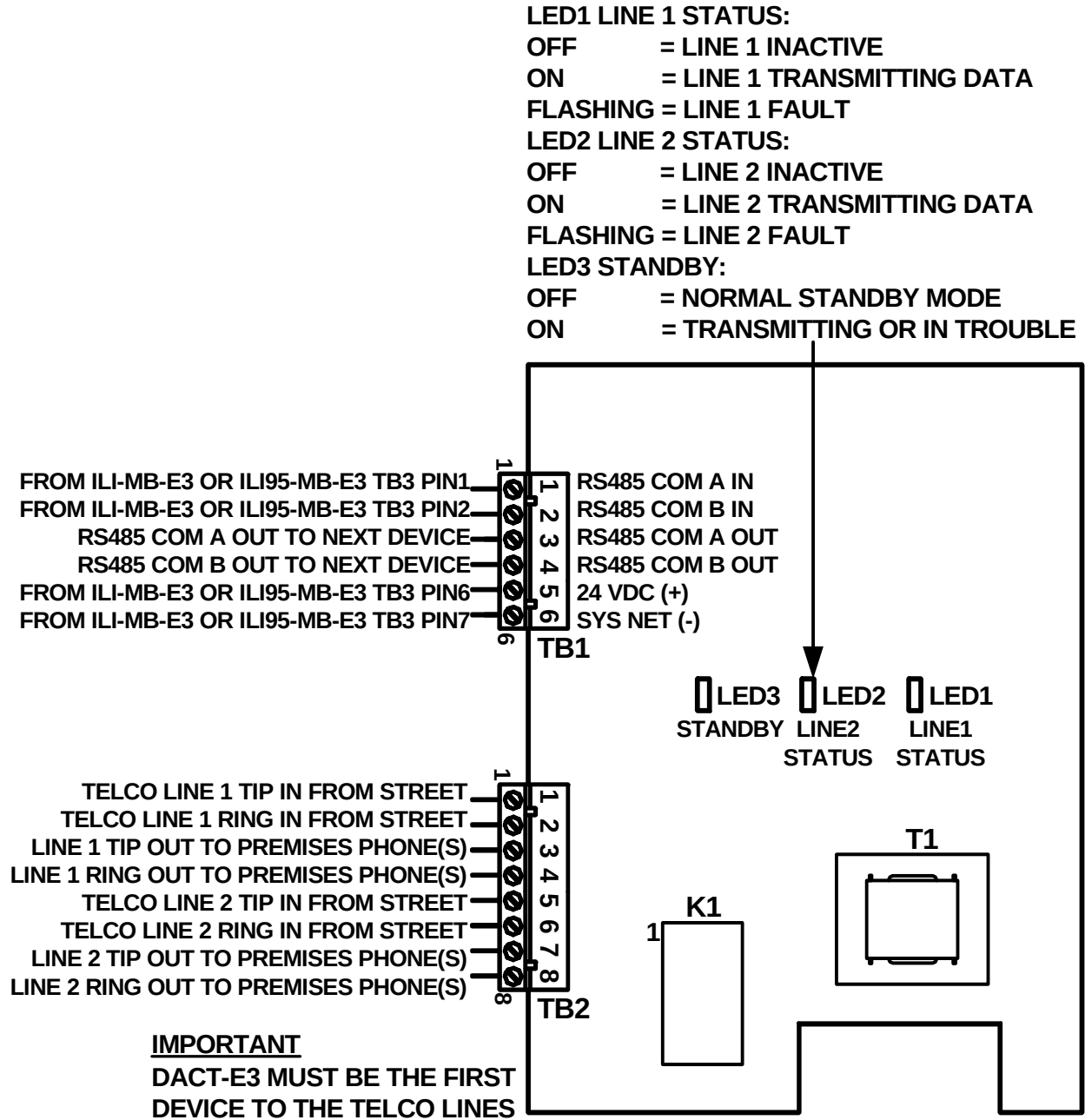


Figure 3.10.6.1 DACT-E3 Wiring Diagram

## 3.11 Repeater (RPT-E3) Connections

The Repeater, RPT-E3 is an optional sub-assembly that provides the interface between the ILI-MB-E3, ILI95-MB-E3, ANX and the Broadband Network. It can also be used with the NGA. The RPT-E3 is available in two versions:

- RPT-E3-FO
- RPT-E3-UTP

### 3.11.1 RPT-E3-FO

The RPT-E3-FO communicates to the network by means of fiber-optic cable or copper, unshielded, twisted-pair wire.

### 3.11.2 RPT-E3-UTP

The RPT-E3-UTP connects to the network by means of unshielded, twisted-pair copper wire. It is similar to the RPT-E3-FO with the exception that connectors U4, U5, U6 and U7 are omitted.

### 3.11.3 Specifications

The following list the electrical specifications for the RPT-E3.

|                               |                                           |
|-------------------------------|-------------------------------------------|
| <b>Operating Voltage:</b>     | 24 VDC FWR (from PM-9/PM-9G power supply) |
| <b>Operating Current:</b>     | 0.013 amp                                 |
| <b>Operating Temperature:</b> | 32° to 120°F (0° to 49°C)                 |
| <b>Relative Humidity:</b>     | 0 to 93%, non-condensing at 90°F (32°C)   |
| <b>Supervised</b>             |                                           |
| <b>Power-Limited</b>          |                                           |

### 3.11.4 Repeater RPT-E3 Sub-Assembly

Figure 3.11.4.1 and Figure 3.11.4.2 illustrate the Repeater (RPT-E3) sub-assembly.

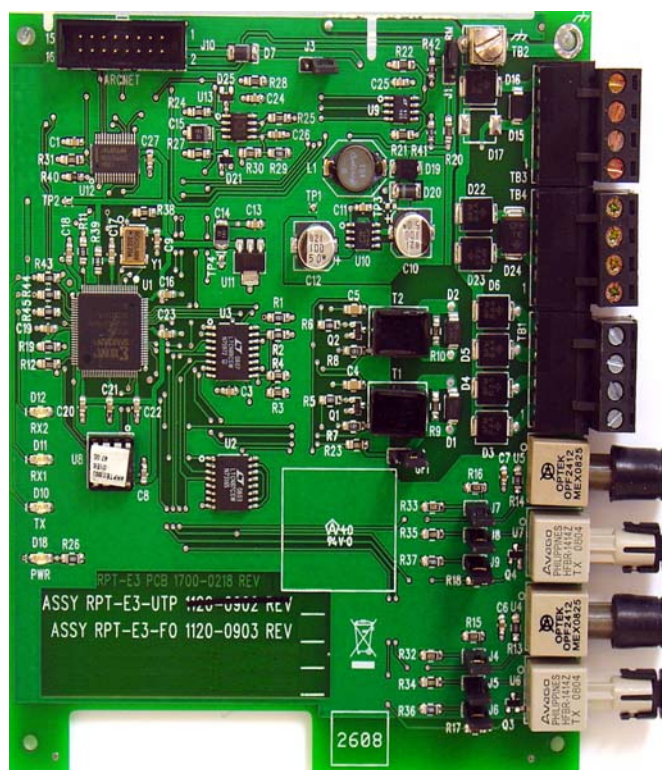


Figure 3.11.4.1 Repeater RPT-E3 Sub-Assembly

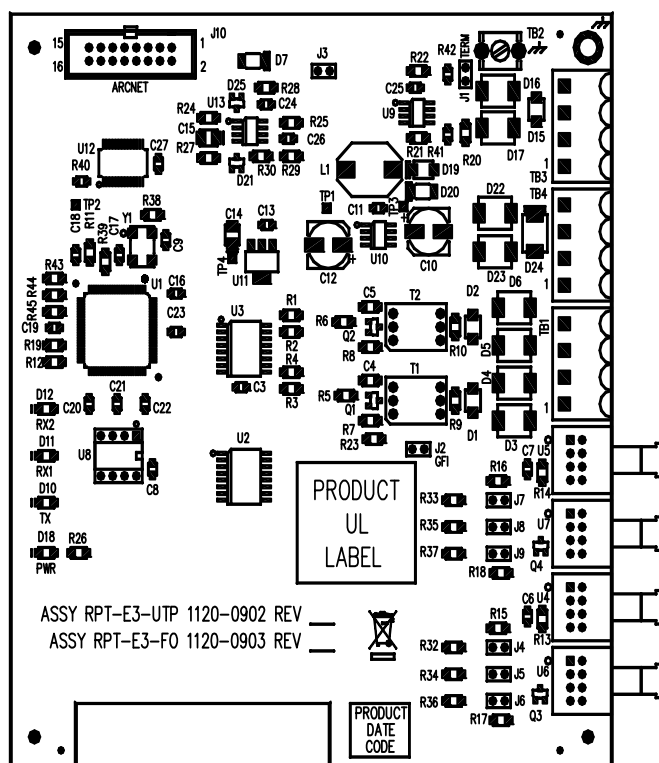


Figure 3.11.4.2 Repeater RPT-E3 Sub-Assembly

### 3.11.5 Repeater-E3 Wiring Connections

Table 3.11.5.1 lists the field wiring connections for the RPT-E3.

| Designation | Description                      | Comments                                                                                                                                                                                                                                                                                                                                        |
|-------------|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TB1-1       | ARCNET PORT 1A                   | Broadband Network (See Note 1)                                                                                                                                                                                                                                                                                                                  |
| TB1-2       | ARCNET PORT 1B                   | Broadband Network (See Note 1)                                                                                                                                                                                                                                                                                                                  |
| TB1-3       | ARCNET PORT 2A                   | Broadband Network (See Note 1)                                                                                                                                                                                                                                                                                                                  |
| TB1-4       | ARCNET PORT 2B                   | Broadband Network (See Note 1)                                                                                                                                                                                                                                                                                                                  |
| TB2         | Earth Ground                     | Local Differential ARCNET (See Note 2)                                                                                                                                                                                                                                                                                                          |
| TB3-1       | COM A IN                         | Local Differential ARCNET (See Note 3)                                                                                                                                                                                                                                                                                                          |
| TB3-2       | COM B IN                         | Local Differential ARCNET (See Note 3)                                                                                                                                                                                                                                                                                                          |
| TB3-3       | COM A OUT                        | Local Differential ARCNET. Connect to NGA TB1-3. (See Note 3)                                                                                                                                                                                                                                                                                   |
| TB3-4       | COM B OUT                        | Local Differential ARCNET. Connect to NGA TB1-4. (See Note 3)                                                                                                                                                                                                                                                                                   |
| TB4-1       | + 24V IN                         | Do not use, if J10 is used.<br>(+24 VDC IN from TB3-6 ILI-MB-E3/ILI95-MB-E3/ANX)                                                                                                                                                                                                                                                                |
| TB4-2       | Common – IN                      | Do not use, if J10 is used.<br>(-GND IN from TB3-7 ILI-MB-E3/ILI95-MB-E3/ANX)                                                                                                                                                                                                                                                                   |
| TB4-3       | + 24 V OUT                       | Do not use, if J10 is used.                                                                                                                                                                                                                                                                                                                     |
| TB4-4       | Common – OUT                     | Do not use, if J10 is used.                                                                                                                                                                                                                                                                                                                     |
| J10         | ARCNET                           | Connector to ILI-MB-E3 or ILI95-MB-E3 (See Note 4)                                                                                                                                                                                                                                                                                              |
| U5          | Fiber Port 2 IN                  | (See Note 5)                                                                                                                                                                                                                                                                                                                                    |
| U7          | Fiber Port 2 OUT                 | (See Note 5)                                                                                                                                                                                                                                                                                                                                    |
| U4          | Fiber Port 1 IN                  | (See Note 5)                                                                                                                                                                                                                                                                                                                                    |
| U6          | Fiber Port 1 OUT                 | (See Note 5)                                                                                                                                                                                                                                                                                                                                    |
| J1          | ARCNET Term                      | Short when using the Local Differential ARCNET wiring to Terminal TB3. This is the last device on the local net.<br>Note: If the first and last devices are SHORT, then the device between the two must be OPEN. If the ILI-E3, ILI95-E3 Series or ANX is the first device and the NGA is the last device, then the RPT-E3 or J1 would be OPEN. |
| J2          | GFI                              | Short to enable Ground Fault Detection on the ARCNET Network when using copper wiring.                                                                                                                                                                                                                                                          |
| J3          | GND FLT                          | Short to enable Ground Fault Detection when remotely connected to a Listed power source that does not provide earth detection.<br>OPEN when connected to the DC power supplied from an ILI-MB-E3, ILI95-MB-E3, ANX, PM-9/PM-9G or INI-7100.                                                                                                     |
| J4          | Transmitter Light Output Control | Comm port 1 fiber-optic transmitter drive current<br>Jumper contributes to drive current when SHORT.<br>Contributes 12.5% of maximum drive<br>J4, J5 & J6 OPEN - minimum drive, 12.5% of maximum.<br>J4, J5 & J6 SHORT - maximum drive, 100%<br>To match drive used on INI boards: SHORT J4, J5 and J6.                                         |
| J5          | Transmitter Light Output Control | Comm port 1 fiber-optic transmitter drive current<br>Jumper contributes to drive current when SHORT.<br>Contributes 25% of maximum drive<br>J4, J5 & J6 OPEN - minimum drive, 12.5% of maximum.<br>J4, J5 & J6 SHORT - maximum drive, 100%<br>To match drive used on INI boards: SHORT J4, J5 and J6.                                           |

**Table 3.11.5.1 Repeater-E3 Wiring Connections**

| Designation                                                                                                                                                                                                                                                                                   | Description                      | Comments                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| J6                                                                                                                                                                                                                                                                                            | Transmitter Light Output Control | Comm port 1 fiber-optic transmitter drive current<br>Jumper contributes to drive current when SHORT.<br>Contributes 50% of maximum drive<br>J4, J5 & J6 OPEN - minimum drive, 12.5% of maximum.<br>J4, J5 & J6 SHORT - maximum drive, 100%<br>To match drive used on INI boards: SHORT J4, J5 and J6.    |
| J7                                                                                                                                                                                                                                                                                            | Transmitter Light Output Control | Comm port 1 fiber-optic transmitter drive current<br>Jumper contributes to drive current when SHORT.<br>Contributes 12.5% of maximum drive.<br>J7, J8 & J9 OPEN - minimum drive, 12.5% of maximum.<br>J7, J8 & J9 SHORT - maximum drive, 100%<br>To match drive used on INI boards: SHORT J7, J8 and J9. |
| J8                                                                                                                                                                                                                                                                                            | Transmitter Light Output Control | Comm port 2 fiber-optic transmitter drive current<br>Jumper contributes to drive current when SHORT.<br>Contributes 25% of maximum drive.<br>J7, J8 & J9 OPEN - minimum drive, 12.5% of maximum.<br>J7, J8 & J9 SHORT - maximum drive, 100%<br>To match drive used on INI boards: SHORT J7, J8 and J9.   |
| J9                                                                                                                                                                                                                                                                                            | Transmitter Light Output Control | Comm port 2 fiber-optic transmitter drive current<br>Jumper contributes to drive current when SHORT.<br>Contributes 50% of maximum drive.<br>J7, J8 & J9 OPEN - minimum drive, 12.5% of maximum.<br>J7, J8 & J9 SHORT - maximum drive, 100%<br>To match drive used on INI boards: SHORT J7, J8 and J9.   |
| <b>NOTE 1:</b> TB1 - RPT-E3 UTP Network Connections using unshielded, twisted-pair 18 AWG min. 3,000' (914.4 m) maximum between the following nodes:                                                                                                                                          |                                  |                                                                                                                                                                                                                                                                                                          |
| – RPT-E3 TB1-1 (COM1A) to: INI-7100 TB1-3 INI-VG TB1-3 or another RPT-E3 TB1-3                                                                                                                                                                                                                |                                  |                                                                                                                                                                                                                                                                                                          |
| – RPT-E3 TB1-2 (COM1B) to: INI-7100 TB1-4 INI-VG TB1-4 or another RPT-E3 TB1-4                                                                                                                                                                                                                |                                  |                                                                                                                                                                                                                                                                                                          |
| – RPT-E3 TB1-3 (COM2A) to: INI-7100 TB1-1 INI-VG TB1-1 or another RPT-E3 TB1-1                                                                                                                                                                                                                |                                  |                                                                                                                                                                                                                                                                                                          |
| – RPT-E3 TB1-4 (COM2B) to: INI-7100 TB1-2 INI-VG TB1-2 or another RPT-E3 TB1-2                                                                                                                                                                                                                |                                  |                                                                                                                                                                                                                                                                                                          |
| <b>NOTE 2:</b> TB2 must be used when the RPT-E3 is used remotely from a main system cabinet such as in a remote network display. Connect to a local cold water earth or via an additional conductor connected to TB3-7 of the ILI-MB-E3, ILI95-MB-E3 or ANX or Terminal TB4-4 of an INI-7100. |                                  |                                                                                                                                                                                                                                                                                                          |
| <b>NOTE 3:</b> Use TB3 (differential ARCNET) to connect an NGA to the RPT-E3                                                                                                                                                                                                                  |                                  |                                                                                                                                                                                                                                                                                                          |
| <b>NOTE 4:</b> When J10 is used to connect the RPT-E3 to the ILI-E3, ILI95-E3 Series or ANX, do not use TB4.                                                                                                                                                                                  |                                  |                                                                                                                                                                                                                                                                                                          |
| <b>NOTE 5:</b> U4, U5, U6 and U7 are omitted on the RPT-E3-UTP.                                                                                                                                                                                                                               |                                  |                                                                                                                                                                                                                                                                                                          |
| U5, U7, U4 & U6 - RPT-E3 FO Network Connections using standard ST connector fiber-optic cable, multi-mode, up to 200 u (optimized for 62.5/125 u). Signal loss up to 8 dB maximum between the following nodes:                                                                                |                                  |                                                                                                                                                                                                                                                                                                          |
| – RPT-E3 U6 (TX1) to: INI-7100 J7 (RX2) INI-VG J8 (RX2) or another RPT-E3 U5 (RX2)                                                                                                                                                                                                            |                                  |                                                                                                                                                                                                                                                                                                          |
| – RPT-E3 U4 (RX1) to: INI-7100 J6 (TX2) INI-VG J6 (TX2) or another RPT-E3 U7 (TX2)                                                                                                                                                                                                            |                                  |                                                                                                                                                                                                                                                                                                          |
| – RPT-E3 U7 (TX2) to: INI-7100 J4 (RX1) INI-VG J5 (RX1) or another RPT-E3 U4 (RX1)                                                                                                                                                                                                            |                                  |                                                                                                                                                                                                                                                                                                          |
| – RPT-E3 U5 (RX2) to: INI-7100 J1 (TX1) INI-VG J2 (TX1) or another RPT-E3 U6 (TX1)                                                                                                                                                                                                            |                                  |                                                                                                                                                                                                                                                                                                          |
| Network Connections using fiber-optic cable (available on RPT-E3 FO only). The RPT-E3 FO can support both unshielded, twisted pair and fiber-optic network connections.                                                                                                                       |                                  |                                                                                                                                                                                                                                                                                                          |

**Table 3.11.5.1 Repeater-E3 Wiring Connections (Continued)**

### 3.11.5 Repeater-E3 Wiring Connections (Continued)

Table 3.11.5.2 lists the Transmitter Output Power Jumper Settings for the RPT-E3.

| Port 1 |       |       | Port 2 |       |       | Transmit Power |
|--------|-------|-------|--------|-------|-------|----------------|
| J4     | J5    | J6    | J7     | J8    | J9    |                |
| OPEN   | OPEN  | OPEN  | OPEN   | OPEN  | OPEN  | 12.5%          |
| SHORT  | OPEN  | OPEN  | SHORT  | OPEN  | OPEN  | 25.0%          |
| OPEN   | SHORT | OPEN  | OPEN   | SHORT | OPEN  | 37.5%          |
| SHORT  | SHORT | OPEN  | SHORT  | SHORT | OPEN  | 50.0%          |
| OPEN   | OPEN  | SHORT | OPEN   | OPEN  | SHORT | 67.5%          |
| SHORT  | OPEN  | SHORT | SHORT  | OPEN  | SHORT | 75.0%          |
| OPEN   | SHORT | SHORT | OPEN   | SHORT | SHORT | 87.5%          |
| SHORT  | SHORT | SHORT | SHORT  | SHORT | SHORT | 100.0%         |

Table 3.11.5.2 Transmitter Output Power Jumper Settings

### 3.11.6 RPT-E3 Wiring Diagram

Figure 3.11.6.1 illustrates the field wiring connections for the RPT-E3.

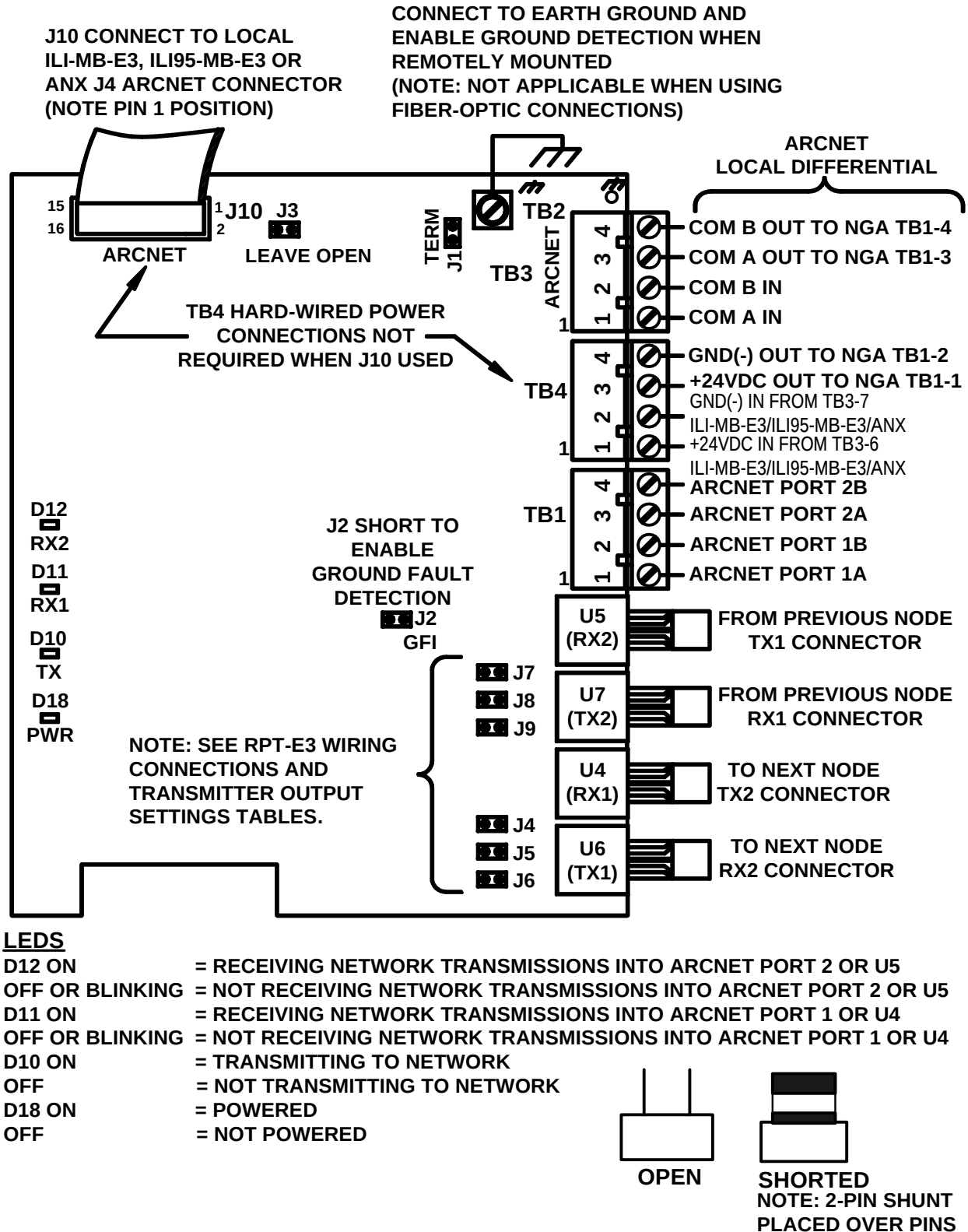


Figure 3.11.6.1 RPT-E3 Wiring Diagram

## 3.12 ANU-48 Remote LED Driver Connections

The ANU-48 remote LED driver is an optional sub-assembly that provides output to a remote annunciator which may be located up to 3,000 feet from the panel. Up to fifteen (15), additional annunciators can be connected. Table 3.12.1 lists the resistance limitations for the connecting circuit.

---

**NOTE:** If more than four (4), ANU-48 sub-assemblies are installed, an external regulated and power-limited power supply Listed for use with fire protective signaling units is required.

---

|                                                                                   |    |    |    |    |
|-----------------------------------------------------------------------------------|----|----|----|----|
| Quantity of the ANU-48 assemblies                                                 | 1  | 2  | 3  | 4  |
| Maximum resistance of the 24 VDC power circuit (ohms) to the most distant ANU-48. | 40 | 20 | 14 | 10 |

**Table 3.12.1 ANU-48 Resistance Limitations**

### 3.12.1 Specifications

The following are the ANU-48 electrical specifications.

**Operating Voltage:** 24 VDC FWR (from PM-9/PM-9G power supply)

**Operating Current:** 0.011 amp\* (See Note)

**Operating Temperature:** 32° to 120° F (0° to 49° C)

**Relative Humidity:** 0 to 93%, non-condensing at 90° F (32° C)

**Supervised**

**Power-limited**

---

**NOTE: WIRING REQUIREMENTS**

\*Add .003 amp for any LED to be lit for any condition when powered internally. When powered externally, each output driver circuit provides a maximum of .050 amp with a maximum of 2.4 amp per ANU-48 sub-assembly (48 circuits). Each load must have a minimum resistance of 544 Ohms when the external power is supplied from a PM-9/PM-9G. When powered internally, each LED must have a current limiting resistor in series to limit the current to .003 amp max per LED. (Example: 8.87K 1% or 9.1K 5%).

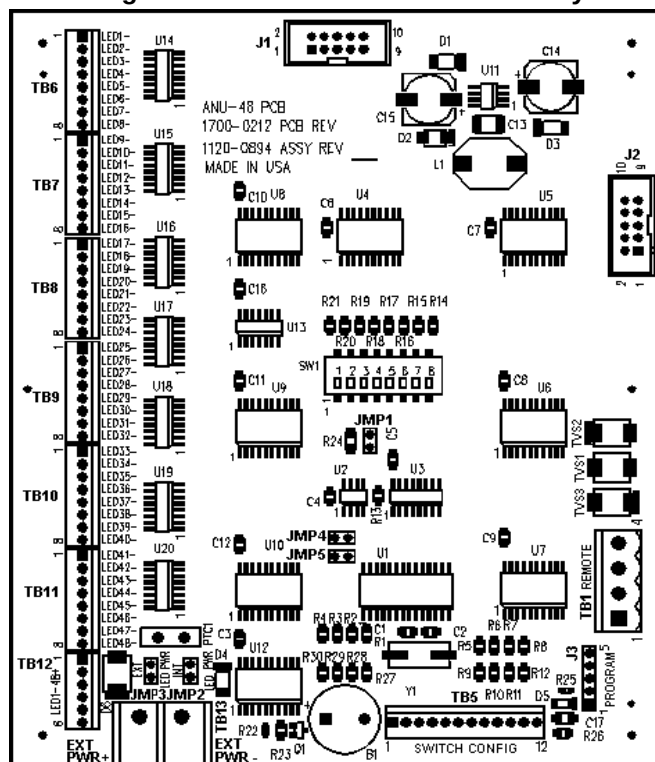
---

### 3.12.2 ANU-48 Sub-Assembly

Figure 3.12.2.1 and Figure 3.12.2.2 illustrate the ANU-48 Remote LED Driver sub-assembly.



### Figure 3.12.2.1 ANU-48 Sub-Assembly



### Figure 3.12.2.2 ANU-48 Sub-Assembly

### 3.12.3 ANU-48 Wiring Connections

Table 3.12.3.1 lists the field wiring connections for the ANU-48.

**NOTE:** For ASM-16 or ANU-48 wiring details, Section 3.9.3 ASM-16 or ANU-48 Wiring Connections (Table 3.9.3.1 and Figure 3.9.4.1).

| Designation                                                                                                                                                                          | Description   | Comments                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------------------------------|
| TB1-1                                                                                                                                                                                | COMM A        | Twisted-unshielded pair (To ANU-48 TB1-1 COMM A) |
| TB1-2                                                                                                                                                                                | COMM B        | Twisted-unshielded pair (To ANU-48 TB1-2 COMM B) |
| TB1-3                                                                                                                                                                                | +24           | Single Discrete Wire (To ANU-48 TB1-3 +24)       |
| TB1-4                                                                                                                                                                                | GND           | Single Discrete Wire (To ANU-48 TB1-4 GND)       |
| TB5-1                                                                                                                                                                                | SW1           | *SPST - maintained or momentary                  |
| TB5-2                                                                                                                                                                                | SW2           | *SPST - maintained or momentary                  |
| TB5-3                                                                                                                                                                                | SW3           | *SPST - maintained or momentary                  |
| TB5-4                                                                                                                                                                                | SW4           | *SPST - maintained or momentary                  |
| TB5-5                                                                                                                                                                                | SW5           | *SPST - maintained or momentary                  |
| TB5-6                                                                                                                                                                                | SW6           | *SPST - maintained or momentary                  |
| TB5-7                                                                                                                                                                                | SW7           | *SPST - maintained or momentary                  |
| TB5-8                                                                                                                                                                                | SW8           | *SPST - maintained or momentary                  |
| TB5-9                                                                                                                                                                                |               | Common for SW1, SW2                              |
| TB5-10                                                                                                                                                                               |               | Common for SW3, SW4                              |
| TB5-11                                                                                                                                                                               |               | Common for SW5, SW6                              |
| TB5-12                                                                                                                                                                               |               | Common for SW7, SW8                              |
| TB6-1 to -8                                                                                                                                                                          | LEDs 1 to 8   | Negative outputs to remote LEDs                  |
| TB7-1 to -8                                                                                                                                                                          | LEDs 9 to 17  | Negative outputs to remote LEDs                  |
| TB8-1 to -8                                                                                                                                                                          | LEDs 18 to 26 | Negative outputs to remote LEDs                  |
| TB9-1 to -8                                                                                                                                                                          | LEDs 27 to 33 | Negative outputs to remote LEDs                  |
| TB10-1 to -8                                                                                                                                                                         | LEDs 34 to 42 | Negative outputs to remote LEDs                  |
| TB11-1 to -8                                                                                                                                                                         | LEDs 43 to 48 | Negative outputs to remote LEDs                  |
| TB12-1 to -8                                                                                                                                                                         | LED1-48+      | Positive common output for remote LEDs           |
| TB13-1                                                                                                                                                                               | EXT PWR +     | + From external power supply (max. 24 VDC)       |
| TB13-2                                                                                                                                                                               | EXT PWR -     | - From external power supply                     |
| J1                                                                                                                                                                                   |               | RS-485 input connection to ANU-48                |
| J2                                                                                                                                                                                   |               | RS-485 connection to next ANU-48                 |
| J3                                                                                                                                                                                   | Program       | Factory use                                      |
| JMP1                                                                                                                                                                                 |               | Factory use                                      |
| JMP2                                                                                                                                                                                 |               | IN when using internal power                     |
| JMP3                                                                                                                                                                                 |               | IN when using external power                     |
| JMP4                                                                                                                                                                                 |               | Factory use                                      |
| JMP5                                                                                                                                                                                 |               | Factory use                                      |
| * 5 V @ 0.5 ma. Max                                                                                                                                                                  |               |                                                  |
| <b>NOTE 1:</b> LED outputs are power-limited and unsupervised (the ANU-48 must be located within 20 feet of the annunciator). Cable connections are color coded to the LEDs.         |               |                                                  |
| <b>NOTE 2:</b> When more than four (4) ANU-48's are required, use an external regulated, power-limited, power supply Listed for use with fire protection signaling units.            |               |                                                  |
| <b>NOTE 3:</b> Programmable SPST switches maintained or momentary (must be unsupervised and located within 20 feet). Cable connections are color coded to programmable N/O switches. |               |                                                  |

**Table 3.12.3.1 ANU-48 Wiring Connections**

### 3.12.4 ANU-48 Wiring Diagram

Figure 3.12.4.1 illustrates the field wiring connections for the ANU-48.

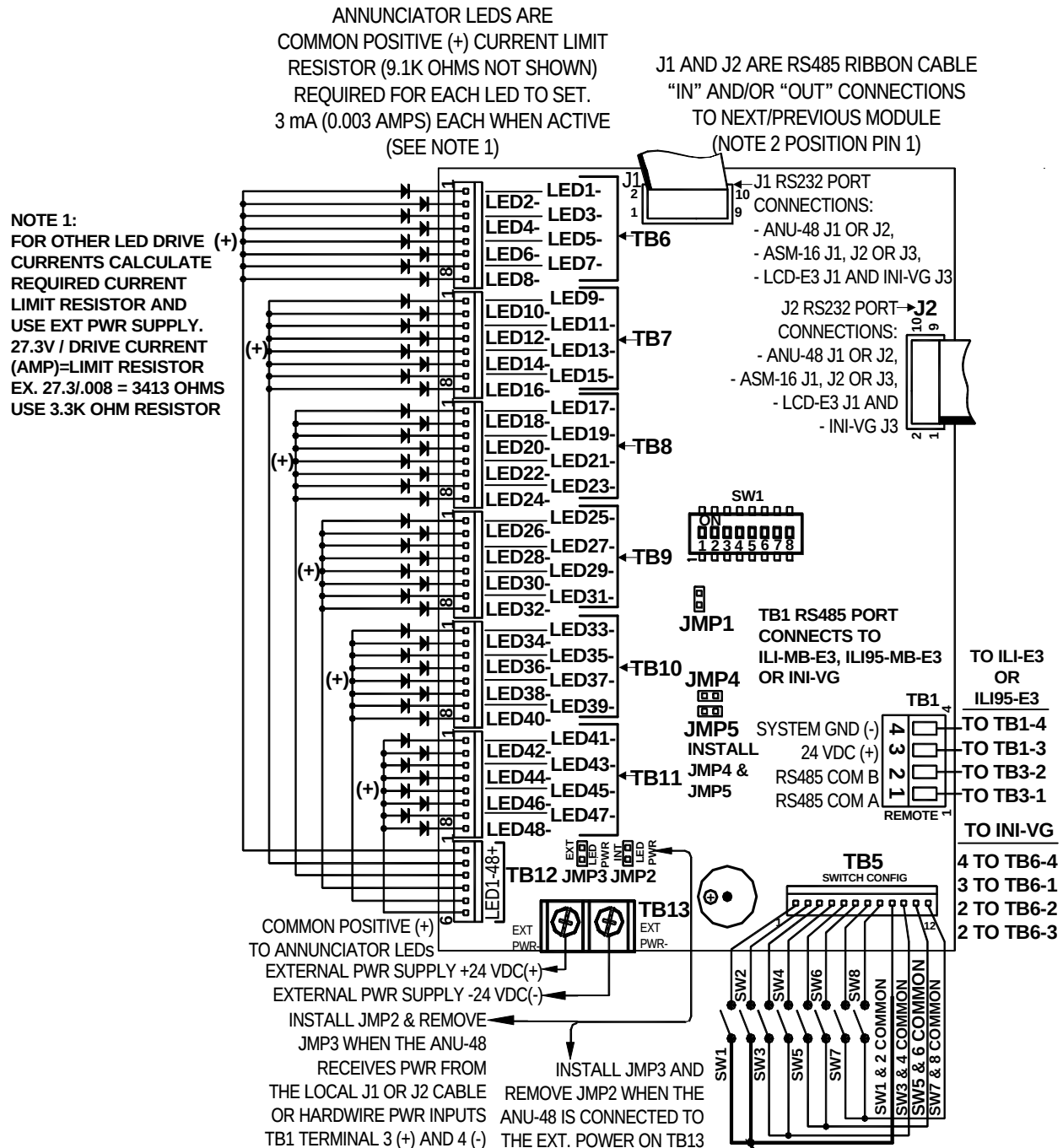


Figure 3.12.4.1 ANU-48 Wiring Diagram

### 3.12.5 ANU-48 Programming Address Switch Settings

The address of the ANU-48 in the system is set via the DIP Switch. Figure 3.12.5.1 illustrates the ANU-48 address DIP switches and the ANU-48 programming address switch settings. For addressing instructions, see the *ANU-48 Installation Instructions*, P/N 9000-0564.

**NOTE:** Set the first address in the program to switch 32.

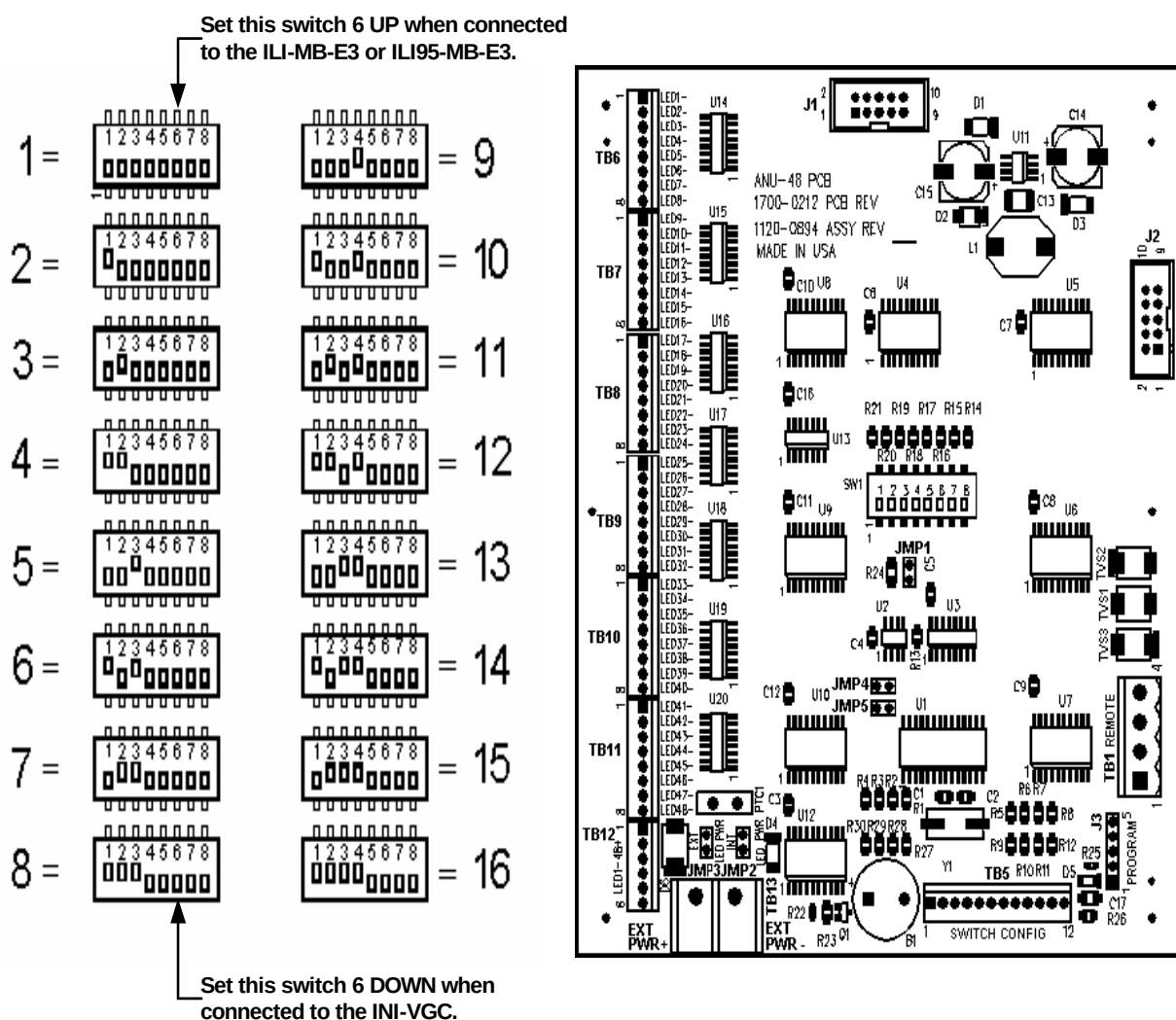


Figure 3.12.5.1 ANU-48 DIP Switches

## 3.13 LCD-E3 Panel Display Connections

The LCD-E3 provides an 80-character display of system events including indicating LEDs and control switches. It may be remotely located via a local RS-485 serial interface. The ILI-MB-E3 or ILI95-MB-E3 will support up to six (6), LCD-E3 displays. See Table 3.13.3.1 for the field wiring connections.

### 3.13.1 Specifications

The following list the electrical specifications for the LCD-E3.

|                               |                                           |
|-------------------------------|-------------------------------------------|
| <b>Operating Voltage:</b>     | 24 VDC FWR (from PM-9/PM-9G power supply) |
| <b>Operating Current:</b>     | 0.024 amp                                 |
| <b>Alarm Current:</b>         | 0.028 amp                                 |
| <b>Operating Temperature:</b> | 32° to 120° F (0° to 49° C)               |
| <b>Relative Humidity:</b>     | 0 to 93%, non-condensing at 90° F (32° C) |
| <b>Supervised</b>             |                                           |
| <b>Power-limited</b>          |                                           |

### 3.13.2 LCD-E3 Sub-Assembly

Figure 3.13.2.1 and Figure 3.13.2.2 illustrate the LCD-E3 sub-assembly.



Figure 3.13.2.1 LCD-E3 Sub-Assembly

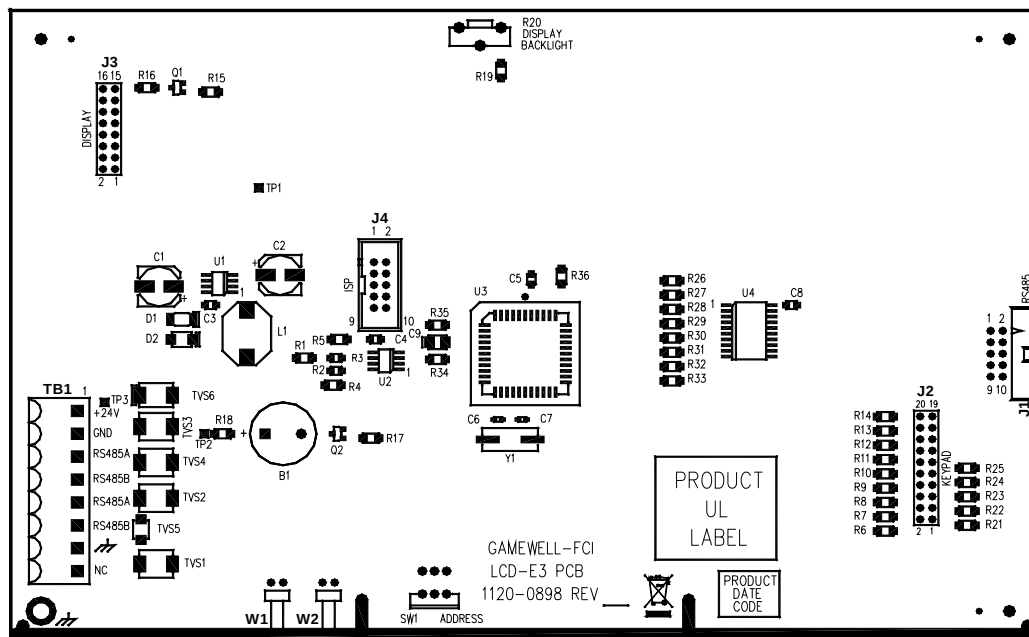


Figure 3.13.2.2 LCD-E3 Sub-Assembly

### 3.13.3 LCD-E3 Wiring Connections

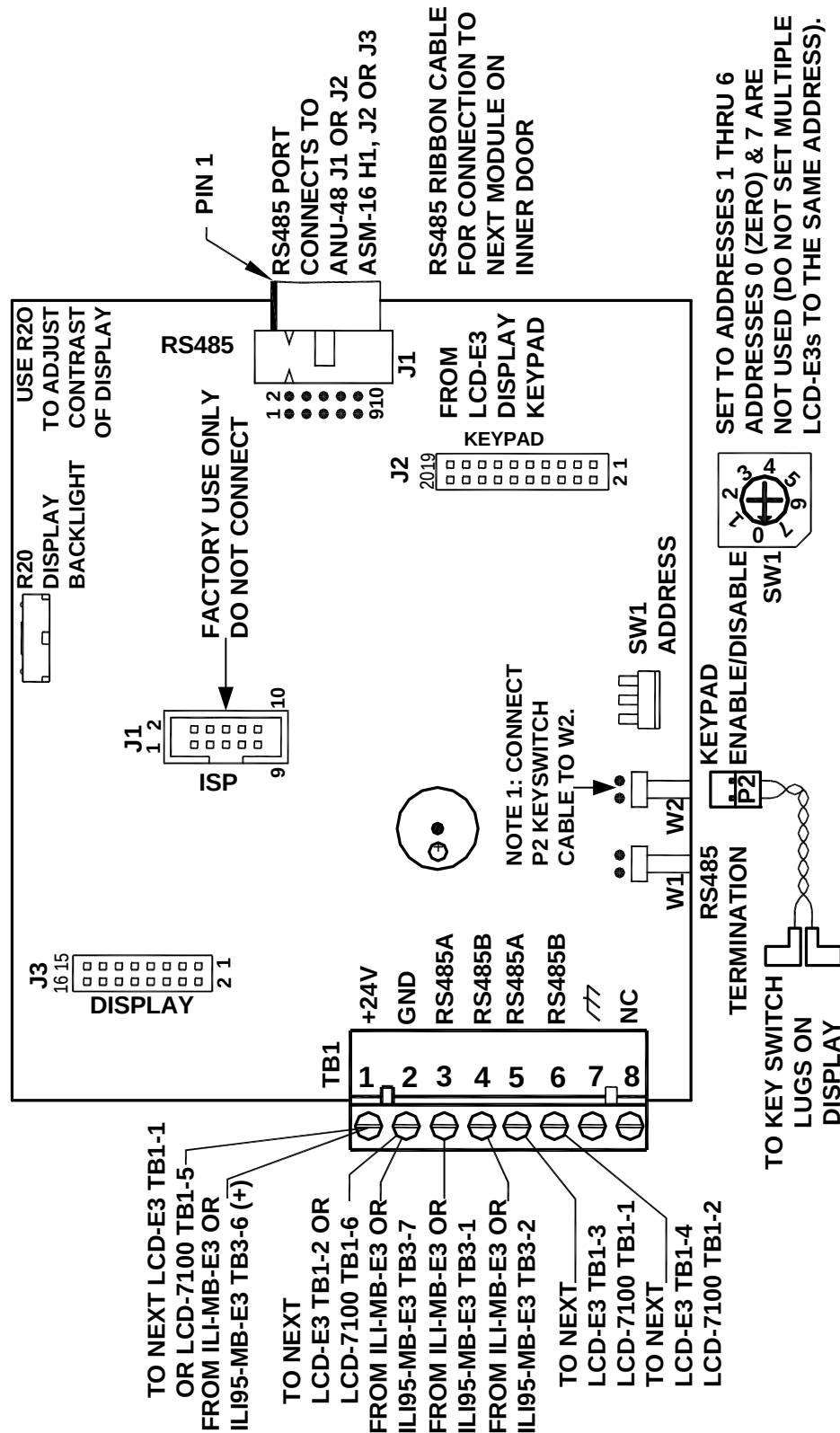
Table 3.13.3.1 lists the field wiring connections for the LCD-E3.

| Designation | Description        | Comments                                                                                                  |
|-------------|--------------------|-----------------------------------------------------------------------------------------------------------|
| TB1-1       | +24                | +24V in from ILI-MB-E3 or ILI95-MB-E3 TB3-6 non-resettable B+                                             |
| TB1-2       | GND                | ILI-MB-E3 or ILI95-MB-E3 TB3-7                                                                            |
| TB1-3       | RS-485A            | RS-485A output from ILI-MB-E3 or ILI95-MB-E3                                                              |
| TB1-4       | RS-485B            | RS-485B output from ILI-MB-E3 or ILI95-MB-E3                                                              |
| TB1-5       | RS-485A            | RS-485A input from ILI-MB-E3 or ILI95-MB-E3                                                               |
| TB1-6       | RS-485B            | RS-485B input from ILI-MB-E3 or ILI95-MB-E3                                                               |
| TB1-7       | GND                | Connect to earth ground                                                                                   |
| TB1-8       |                    | Not used                                                                                                  |
| J1          | Local RS-485       | Alternate RS-485 connection                                                                               |
| J2          | Keypad             | To keypad                                                                                                 |
| J3          | Display            | To display                                                                                                |
| J4          |                    | Factory use                                                                                               |
| W1          | RS-485 Termination | W1 should be CLOSED if it is the first or last device on the RS-485 bus.<br>Otherwise, W1 should be OPEN. |
| W2          | Keypad             | Keypad<br>IN = Disabling<br>OUT = Enabling                                                                |

**Table 3.13.3.1 LCD-E3 Wiring Connections**

### 3.13.4 LCD-E3 Wiring Diagram

Figure 3.13.4.1 illustrates the field wiring connections for the LCD-E3.



### Figure 3.13.4.1 LCD-E3 Wiring Diagram

## 3.14 LCD-7100 Remote Display Connections

The E3 Series® System can accommodate up to five (5), Remote Display sub-assemblies via the RS-485 serial interface. The LCD-7100 Serial Remote Annunciator provides an 80-character display and function keys for the following:

- “Alarm Acknowledge”
- “Trouble Acknowledge”
- “Signal Silence”
- “System Reset/Lamp Test”
- “System Drill Test”

The 80-character display shows all pertinent information except for menus. Keypad functions are enabled only when the keylock is turned to the “Unlocked” position, with the exception of the “Trouble Acknowledge” switch that silences the local audible trouble sounder.

Operating LEDs provided are:

- “Alarm”
- “Supervisory”
- “System Trouble”
- “Power Fault”
- “System Silenced”
- “NAC #1 Silenced” and “NAC #2 Silenced”

### 3.14.1 Mounting

The LCD-7100 is flush or surface mounted on a standard four-gang electrical box.

### 3.14.2 Specifications

The following are the LCD-7100 specifications:

**Operating Voltage:** 24 VDC FWR (from PM-9/PM-9G power supply)  
**Operating Current:** 0.050 amp  
**Alarm Current:** 0.075 amp  
**Operating Temperature:** 32° to 120° F (0° to 49° C)  
**Relative Humidity:** 0 to 93%, non-condensing at 90° F (32° C)  
**Supervised**  
**Power-limited**

### 3.14.3 LCD-7100 Remote Display Sub-Assembly

Figure 3.14.3.1 illustrates the LCD-7100 remote display sub-assembly.



**Figure 3.14.3.1 LCD-7100 Remote Display Sub-Assembly**

### 3.14.4 LCD-7100 Wiring Connections

Table 3.14.4.1 lists the field wiring connections for the LCD-7100.

| Designation | Description | Comments                                                                          |
|-------------|-------------|-----------------------------------------------------------------------------------|
| TB1-1       | COM-A       | Connect to BSM TB5-2 or ILI-MB-E3 or ILI95-MB-E3 TB3-1 (18 AWG min. twisted-pair) |
| TB1-2       | COM B       | Connect to BSM TB5-1 or ILI-MB-E3 or ILI95-MB-E3 TB3-2 (18 AWG min. twisted-pair) |
| TB1-3       | Earth GND   | Connect to earth ground                                                           |
| TB1-4       | Not used    |                                                                                   |
| TB1-5       | +24 VDC     | Connect to BSM TB4-2 or ILI-MB-E3 or ILI95-MB-E3 TB3-6 (16 AWG min. twisted-pair) |
| TB1-6       | 24V Common  | Connect to BSM TB4-3 or ILI-MB-E3 or ILI95-MB-E3 TB3-7 (16 AWG min. twisted-pair) |

**Table 3.14.4.1 Remote LCD Display Wiring Connections**

### 3.15 Standby Battery Calculations

To determine the standby battery calculations, refer to Table 3.15.1.

| Qty                                                                                                                                                                                                                                                                                                                           | Module                                                                         | Description                                                         | Supv. Current            | Alarm Current            | Total Supv. Current | Total Alarm Current |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|---------------------------------------------------------------------|--------------------------|--------------------------|---------------------|---------------------|
|                                                                                                                                                                                                                                                                                                                               | ANX                                                                            | Addressable Node Expander                                           | 0.065 A                  | 0.065 A                  |                     |                     |
|                                                                                                                                                                                                                                                                                                                               | ILI-MB-E3                                                                      | Intelligent Loop Interface, Main Board                              | 0.081 A                  | 0.150 A                  |                     |                     |
|                                                                                                                                                                                                                                                                                                                               | ILI95-MB-E3                                                                    | Intelligent Loop Interface, Main Board-95                           | 0.050 A                  | 0.091 A                  |                     |                     |
|                                                                                                                                                                                                                                                                                                                               | ILI-S-E3                                                                       | Intelligent Loop Interface, Expansion Board, 95 two additional SLCs | 0.118 A                  | 0.119 A                  |                     |                     |
|                                                                                                                                                                                                                                                                                                                               | ILI95-S-E3                                                                     | Intelligent Loop Interface, Expansion Board, two additional SLCs    | 0.109 A                  | 0.11 A                   |                     |                     |
|                                                                                                                                                                                                                                                                                                                               | LCD-E3                                                                         | LCD display/Switch Control                                          | 0.024 A                  | 0.028 A                  |                     |                     |
|                                                                                                                                                                                                                                                                                                                               | RPT-E3                                                                         | ARCNet Repeater                                                     | 0.013 A                  | 0.013 A                  |                     |                     |
|                                                                                                                                                                                                                                                                                                                               | DACT-E3                                                                        | Digital Communicator                                                | 0.018 A                  | 0.018 A                  |                     |                     |
|                                                                                                                                                                                                                                                                                                                               | ASM-16                                                                         | Auxiliary Switch Sub-Assembly                                       | 0.011 A†<br>(See Note 4) | 0.011 A†<br>(See Note 4) |                     |                     |
|                                                                                                                                                                                                                                                                                                                               | ANU-48                                                                         | Remote LED Driver                                                   | 0.11 A‡<br>(See Note 5)  | 0.011 A‡<br>(See Note 5) |                     |                     |
|                                                                                                                                                                                                                                                                                                                               | PM-9<br>(See Notes 6 & 7)                                                      | Power Supply                                                        | 0.050 A                  | 0.050 A                  |                     |                     |
|                                                                                                                                                                                                                                                                                                                               | PM-9G<br>(See Notes 6 & 7)                                                     | Power Supply                                                        | 0.027 A                  | 0.050A                   |                     |                     |
|                                                                                                                                                                                                                                                                                                                               | LCD-7100                                                                       | Remote Display Module                                               | 0.012 A                  | 0.023 A                  |                     |                     |
|                                                                                                                                                                                                                                                                                                                               | NGA                                                                            | LCD Annunciator                                                     | 0.200 A£<br>(See Note 3) | 0.200 A£<br>(See Note 3) |                     |                     |
|                                                                                                                                                                                                                                                                                                                               |                                                                                | Smoke and heat sensors                                              |                          |                          |                     |                     |
|                                                                                                                                                                                                                                                                                                                               |                                                                                | Notification Appliances                                             |                          |                          |                     |                     |
|                                                                                                                                                                                                                                                                                                                               |                                                                                | Auxiliary Power Devices                                             |                          |                          |                     |                     |
|                                                                                                                                                                                                                                                                                                                               |                                                                                | Miscellaneous devices                                               |                          |                          |                     |                     |
| TOTALS                                                                                                                                                                                                                                                                                                                        |                                                                                |                                                                     |                          |                          |                     |                     |
| A                                                                                                                                                                                                                                                                                                                             | Total Supervisory Current (See Note 6)                                         |                                                                     |                          |                          |                     |                     |
| B                                                                                                                                                                                                                                                                                                                             | Enter number of standby hours required** (See Note 1)                          |                                                                     |                          |                          |                     |                     |
| C                                                                                                                                                                                                                                                                                                                             | Multiply Line A times hours in Line B—enter                                    |                                                                     |                          |                          |                     |                     |
| D                                                                                                                                                                                                                                                                                                                             | Total alarm current from above                                                 |                                                                     |                          |                          |                     |                     |
| E                                                                                                                                                                                                                                                                                                                             | Enter alarm sounding period in hours.                                          |                                                                     |                          |                          |                     |                     |
| F                                                                                                                                                                                                                                                                                                                             | Multiply Line D times Line E —enter                                            |                                                                     |                          |                          |                     |                     |
| G                                                                                                                                                                                                                                                                                                                             | Total of Lines C & F—enter                                                     |                                                                     |                          |                          |                     |                     |
| H                                                                                                                                                                                                                                                                                                                             | Multiply Line G by 1.2 --- enter (Total ampere/hours required***) (See Note 2) |                                                                     |                          |                          |                     |                     |
| NOTES:                                                                                                                                                                                                                                                                                                                        |                                                                                |                                                                     |                          |                          |                     |                     |
| NOTE 1: ** 24 hrs for NFPA 72 protected premises or Central Station signaling, or Auxiliary, or Remote Supervising Station Fire Alarm Systems.                                                                                                                                                                                |                                                                                |                                                                     |                          |                          |                     |                     |
| NOTE 2: *** Use the next size battery with a capacity greater than required. (Use only Gamewell-FCI Models: B-1, B-7R, B-17R, B-55R, BAT-1270, BAT-12120, BAT-12260, or BAT-12550 batteries). The maximum standby current for 60 hours when using 55 A/H batteries is .560 A. The system batteries must be replaced as a set. |                                                                                |                                                                     |                          |                          |                     |                     |
| NOTE 3: £ Normal operating current. During power failure, current drops to 0.045 amp since back light is extinguished.                                                                                                                                                                                                        |                                                                                |                                                                     |                          |                          |                     |                     |
| NOTE 4: † Add .003 amp for any LED to be lit for any condition when powered internally.                                                                                                                                                                                                                                       |                                                                                |                                                                     |                          |                          |                     |                     |
| NOTE 5: ‡ Add .003 amp for any LED to be lit for any condition when powered internally. When powered externally, a max. output current of .050/point is available for a maximum total output of 2.4 amp/ANU-48.                                                                                                               |                                                                                |                                                                     |                          |                          |                     |                     |
| NOTE 6: Continuous standby loads in excess of .560 Amps up to 5 Amps may require Generator Backup or load shedding during an AC power failure.                                                                                                                                                                                |                                                                                |                                                                     |                          |                          |                     |                     |
| Note 7: Continuous standby loads in excess of .560 Amps up to 4 Amps may require a Generator Backup or load shedding during an AC power failure.                                                                                                                                                                              |                                                                                |                                                                     |                          |                          |                     |                     |

**Table 3.15.1 Battery Standby Chart**

## 3.16 Analog Sensors

The E3 Series®, signaling line circuits accommodate only Gamewell-FCI approved, UL Listed, Factory Mutual Approved analog sensors and bases. Each ILI-E3 Series signaling line circuit can accommodate 159 sensor address points, using Address numbers 01 to 159. The ILI95-E3 Series accommodates 126 sensors/modules, using Address numbers 01 to 126.

For a list of approved sensors and bases, refer to the *Compatibility Addendum, P/N 9000-0427*.

### 3.16.1 Address Switches

Addresses are set on each sensor or module.

### 3.16.2 Drift Compensation

The E3 Series® contains a program that performs continuous testing of analog sensors, including sensitivity tests. This program will compensate all analog sensors for age and environmental conditions. If a problem occurs in a sensor, a “Failed Test”, “Dirty” or “Very Dirty” indication for the specific device will appear on the system display and will be recorded in the Event Log and the Serial Port.

### 3.16.3 Addressable Modules

The E3 Series® accommodates only Gamewell-FCI approved, UL Listed, Factory Mutual Approved addressable modules. Each ILI-E3 Series SLC can accommodate 159 addressable module points, using Addresses 01 through 159. The ILI95-E3 Series accommodates 126 sensors/modules, using Address numbers 01 to 126. The modules that occupy this address range consist of Monitor (input) modules and Control (output) modules.

For a list of approved modules, refer to the *Compatibility Addendum to Gamewell-FCI Manuals, P/N 9000-0427*.

### 3.16.4 Monitor Modules

Dry contact devices and two wire smoke detectors can be monitored by these modules, which act as the interface between the manual station, waterflow switch, etc. and the control panel.

For a list of approved modules, refer to the *Compatibility Addendum to Gamewell-FCI Manuals, P/N 9000-0427*.

### 3.16.5 Control Modules

Notification appliances, relays and circuits using compatible voltages (through an internal dry contact) can be controlled by these modules.

For a list of approved modules, refer to the *Compatibility Addendum to Gamewell-FCI Manuals, P/N 9000-0427*.

### 3.16.6 System Response to Input Devices

The E3 Series System allows the programming of the response of the system to an activated input device by the selection of the "Input Device Type." The reaction of the system may be an Alarm, Supervisory or Tamper event when an input module (AMM type) or sensor (smoke detector) is set to the appropriate device type. Also, most SLC input device types, such as a Supervisory device, may produce either a latching or self-restoring event as selected in the configuration programming tool (CAMWorks™). For more information, see the CAMWorks "HELP" menu.



**NOTE:** UL 864 requires that PAS (positive alarm sequence) be used only for alarm signals from automatic alarm devices such as smoke detectors.

To provide the PAS Bypass function, an input device (such as a monitor module or ASM switch) must be provided and programmed for this purpose using the configuration programming tool (CAMWorks).

---

## Notes

## Section 4: Programming/Operation Instructions

### 4.1 LED Indicators (LCD-E3)

Figure 4.1.1 illustrates the LED indicators. Table 4.1.1 lists the LCD-E3 indicators and a description.

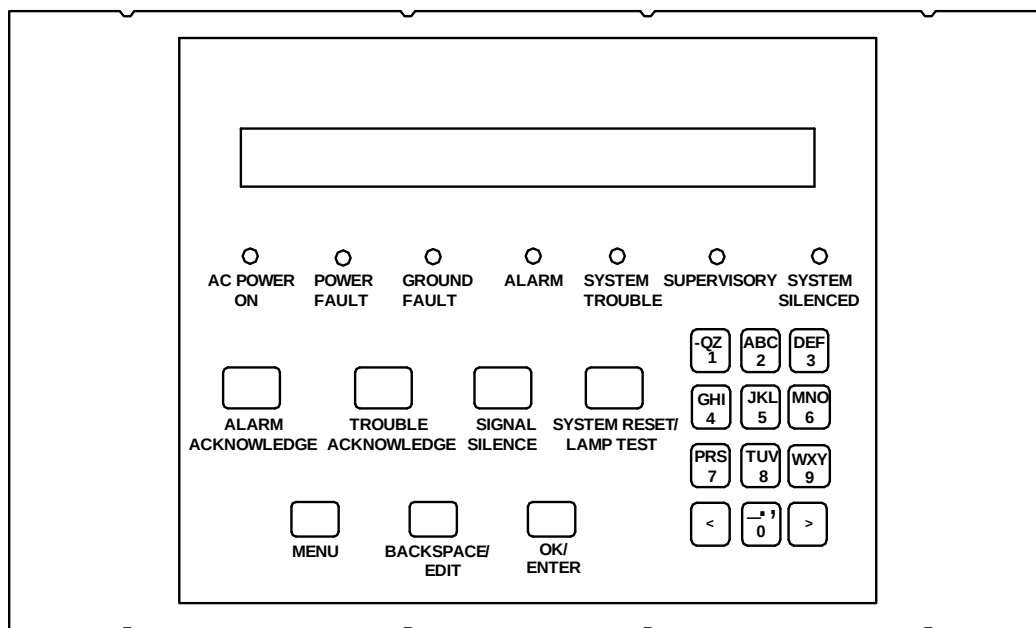


Figure 4.1.1 LCD-E3 LED Indicators

| Designation     | Description | Comments                                                                                  |
|-----------------|-------------|-------------------------------------------------------------------------------------------|
| AC Power On     | (green)     | Lights to indicate the presence of 120 VAC input.                                         |
| Alarm           | (red)       | Lights when system is in alarm, flashes until alarm is acknowledged.                      |
| Supervisory     | (yellow)    | Lights when supervisory condition exists, flashes until trouble acknowledge is performed. |
| System Trouble  | (yellow)    | Lights to indicate trouble condition, flashes until trouble is acknowledged.              |
| Power Fault     | (yellow)    | Lights during a LOW or NO Battery condition.                                              |
| Ground Fault    | (yellow)    | Lights to indicate a ground on a field conductor.                                         |
| System Silenced | (yellow)    | Lights when a System Silence has been pressed. Flashes when system silence is pending.    |

Table 4.1.1 LCD-E3 LED Indicators

## 4.2 Audible/Visual Condition Indications

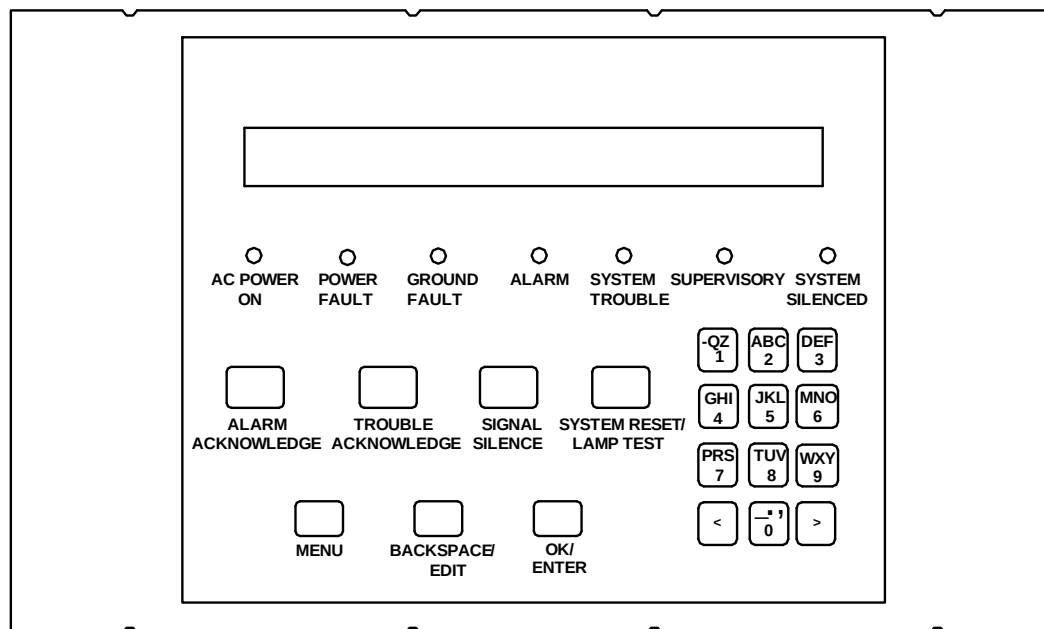
Table 4.2.1 lists the Audible/Visual Condition Indicators.

| Condition               | Audible/Visual Status Indication                                                                                                                                                                           |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Alarm</b>            | Alarm situations are indicated by a one-half second on and one-half second off pattern from the system sounder and the illumination of the red alarm LED.                                                  |
| <b>Supervisory</b>      | Supervisory events are indicated by a continuous tone from the system piezo sounder and the illumination of the supervisory LED.                                                                           |
| <b>Trouble</b>          | Trouble conditions are indicated by a continuous tone from the system piezo sounder and the illumination of the yellow trouble LED.                                                                        |
| <b>Acknowledged</b>     | Acknowledgement of any of these conditions will silence the system sounder leaving the appropriate LEDs illuminated.                                                                                       |
| <b>Trouble Reminder</b> | The system defaults to automatic trouble resound so an acknowledged trouble won't be overlooked. The time interval and disabling of this function can be programmed in the configuration tool (CAMWorks™). |

**Table 4.2.1 Audible/Visual Condition Indicators**

## 4.3 Switches (LCD-E3)

Figure 4.3.1 illustrates the LCD-E3 switches. Table 4.3.1 lists the LCD-E3 switches and a description.



**Figure 4.3.1 LCD-E3 Switches**

| Designation                | Comments                                                                                                                                                                                                                                                                                |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Alarm Acknowledge</b>   | Silences the panel audible sounder. This must be pressed once for each Alarm condition present in the system.                                                                                                                                                                           |
| <b>Trouble Acknowledge</b> | Silences the panel audible sounder. This must be pressed once for each Trouble or Supervisory condition present in the system.                                                                                                                                                          |
| <b>Signal Silence</b>      | Press once and any outputs programmed as silenceable will be deactivated. (All applicable silence LEDs will light). A second activation will re-activate the previously silenced outputs. This switch only functions if an Alarm or Supervisory condition exists in the system.         |
| <b>Lamp Test/Reset</b>     | Press momentarily and all LEDs (including all elements in the display) will light momentarily. Press and hold to reset the system.                                                                                                                                                      |
| <b>Menu/Back</b>           | Used to access certain system functions, e.g. Walk Test. The display will prompt the operator as to which function applies.<br>"Menu" is pressed to initially put the E3 Series® into Menu Mode. The "Back" function will step the operator out of the menu mode one element at a time. |
| <b>BKSP/Edit</b>           | Used in menu operations. The display will prompt the operator as to which function applies.                                                                                                                                                                                             |
| <b>OK</b>                  | Accepts any changes made in the Menu field.                                                                                                                                                                                                                                             |
| <b>Numeric Keys</b>        | These 12 keys allow the user to choose a specific point address by using the numbers for point sensitivity reading, disabling an address, etc.                                                                                                                                          |

**Table 4.3.1 Switches**

## Notes

## Section 5: Programming

### UL Standard 864 Programming Requirements



**NOTE:** NOTICE to users, installers, Authorities Having Jurisdiction (AHJ), 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 9th Edition, certain programming features or options must be limited to specific values or not used at all as indicated below.

| Program Feature  | Permitted in UL 864 | Possible Settings   | Settings Permitted in UL 864 |
|------------------|---------------------|---------------------|------------------------------|
| Trouble Reminder | Yes                 | Enabled or Disabled | Enabled                      |

System programming is performed via a portable computer and the Gamewell-FCI CAMWorks™ Configuration. The following menu options are available via the optional LCD-E3 display/keypad module.

### 5.1 MAIN LCD-E3 Menu Selections

Table 5.1.1 lists the Main LCD-E3 Menu selection and description.

| Menu Selection | Description                                                                                                                                                                                                                                                                            |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CONFIG.</b> | Pressing CONFIG on the main menu automatically opens the Autoconfig Menu, where automatic configuration of the system is accomplished. There are two modes:                                                                                                                            |
|                | “Clear and Reconfigure” – Can be used to initialize a completely new sub-assembly prior to FCP configuration.                                                                                                                                                                          |
|                | “Update SLCs only” This feature provides the ability to preload the system with a full configuration, then use Autoconfigure to activate only those circuit devices that are physically present. The process can be repeated as new SLC sections are connected or temporarily removed. |

**Table 5.1.1 Main LCD-E3 Menu Selections**

### 5.2 WALK / DRILL Menu Selection

Table 5.2.1 lists the Walk / Drill Menu selection and description.

| Menu Selection      | Description                                                                                                                                                   |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Drill ON/OFF</b> | Is a simple ON or OFF selection. ON will activate the NACs, while OFF will deactivate the NACs.                                                               |
| <b>Audible Test</b> | Is a simple ON or OFF selection for an audible walk test. The NACs will sound twice for a trouble, 3 times for a supervisory signal and 4 times for an alarm. |

**Table 5.2.1 Walk / Drill Menu Selection**

## 5.3 I/O Menu Selection

Table 5.3.1 lists the I/O Menu selection and description.

| Menu Selection        | Description                                                                                                                                                                                                    |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Output ON/OFF</b>  | Forces the toggling on or off of a specified output. These outputs can include NAC 1, NAC 2, Municipal Circuit (if present) and any Addressable Control Point.                                                 |
| <b>Enable/Disable</b> | Allows the user to take any addressable device on either SLC and disconnect it through software. While disabled, a point will report a trouble until it is enabled, but will not cause or respond to an alarm. |

**Table 5.3.1 I/O Menu Selection**

## 5.4 CLOCK Menu Selection

Table 5.4.1 lists the Clock Menu selection and description.

| Menu Selection | Description                                                            |
|----------------|------------------------------------------------------------------------|
| Time           | Is set in 24 hour notation. It is set with hours, then minutes “HHMM”. |
| Date           | Is set as month, date and year “MMDDYY”.                               |

**Table 5.4.1 Clock Menu Selection**

## 5.5 MISC Menu Selection

This selection opens a “MISC OPTS” Menu that allows the user to change the RS232 port Baud rate, or perform a hard reset of the ILI-MB-E3/ILI95-MB-E3/ANX. Baud rate options are provided to allow connection to a variety of printers. Table 5.5.1 lists the available Baud rates.

| Baud Rates |        |
|------------|--------|
| • 115200   | • 4800 |
| • 19200    | • 2400 |
| • 9600     | • 1200 |

**Table 5.5.1 Baud Rates**

Although this change is temporary, it doesn’t change the configuration.

## 5.6 LOG Menu Selection

Table 5.6.1 lists the Log Menu selection and description.

| Menu Selection            | Description                                                         |
|---------------------------|---------------------------------------------------------------------|
| <b>Display Log</b>        | Opens the System Display to all events in the buffer memory.        |
| <b>Print Log</b>          | Sends the entire buffer memory to the RS-232 port.                  |
| <b>Clear Log</b>          | (Hard reset) will eliminate all events stored in the buffer memory. |
| <b>Sensitivity Report</b> | Will send sensor sensitivity information to the RS-232 port.        |

**Table 5.6.1 Log Menu Selection**

## 5.7 INFO Menu Selection

This selection displays the Firmware Version and time/date of the last configuration change in the E3 Series<sup>®</sup>. It shows a code for the type of the most recent configuration update. The codes are as follows:

1. CAMWorks™ Configuration Upload.
2. Auto configuration (Options 1 or 2 on the Autoconfig Menu).
3. Network node map change.
4. Manual update via the “CS” terminal command.

## Notes

# Section 6: Power Up Procedure

## 6.1 General



---

**WARNING: POWER UP REQUIREMENTS:**

PRIOR TO THE APPLICATION OF POWER TO THE SYSTEM, ALL CIRCUITS MUST BE CLEAR OF SHORTS, GROUNDS AND STRAY VOLTAGES. FAILURE TO DO SO COULD CAUSE IRREVERSIBLE DAMAGE TO THE EQUIPMENT.

---

1. Ensure that all cables and optional modules (if any) are installed and secured per the Installation Instructions. DO NOT install any field wiring at this time. Connect the End-of-Line devices to the notification appliance and municipal (if installed) circuits.
2. Power the panel with AC first. The system will initialize and indicate a “Battery Missing” condition.
3. Connect the batteries, taking care to observe polarity.
4. The system should be in normal condition. You may proceed with the installation of field wiring. Check all wiring prior to connection to the control panel. Do not use this panel as a circuit tester.

## 6.2 To Set the System Time

1. Press the <MENU/Back> button on the keypad and enter the Level 1 password, XXXXXX.
2. To display the Main Menu, press the <OK> button.
3. To display the Clock Menu, press the Number 4.
4. The following numbers indicate the number that opens the Time or Date setup:
  - Number 1 opens the Time setup.
  - Number 2 opens the Date setup.
5. To enter the data, use the keypad and press the <OK> button when each section is completed. The <OK> button acts as an <Enter> key.
6. Press the <Reset/LampTest> button and ensure that the Time and Date remain correct.

## 6.3 Automatic Configuration

1. Press the <Menu/Back> button on the keypad and enter the Level 4 password, YYYYYY.
2. To display the Main Menu, press the <OK> button.
3. To display the Configuration Menu, press the Number 1.
4. Since this is the first time the system is configured, press the Number 1 to initiate the Clear, then Configure process. This process will place all of the system settings to the factory default and then read all of the devices correctly connected to the two (2) SLCs. After this process is complete, the system may be given an initial test to ensure all of the devices have been installed into the system memory.



---

**NOTE:** Auto-configuration is only possible for ILI-MB-E3 and ILI-S-E3 nodes that use the Velociti<sup>®</sup> protocol.

---

## **Section 7: Test and Maintenance**

### **7.1 Test**

The system must be tested periodically in accordance with the requirements of NFPA 72, National Fire Alarm Code and/or applicable state and local codes.

### **7.2 Maintenance**

We recommend the replacement of the system standby batteries after three years of service unless otherwise indicated by the battery manufacturer. There are no user serviceable components in this equipment. Sub-assemblies should be returned to the factory for servicing.

## Section 8: Power-Limited – Non Power-Limited Wiring

UL Standard 864, (Control Units for Fire Protective Signaling Systems), requires that a minimum of 1/4 inch separation be maintained between power-limited circuits and non power-limited circuits. The control unit is designed so the required separation between these circuits (power-limited vs. non power-limited) is maintained at the field wiring terminals.

In order to fully comply with the intent of these requirements, however, the minimum 1/4 inch separation must also be maintained between the field wiring conductors of power-limited circuits and non power-limited circuits. This may be accomplished by routing the field wiring as shown in Figure 8.2.1.

Unless otherwise indicated on the unit, all field-wiring circuits are power-limited except:

- AC power circuit
- Standby battery circuit
- Telephone line connections
- Master Box / Releasing

## 8.1 E3 Series Control Panel Circuit Wiring Requirements

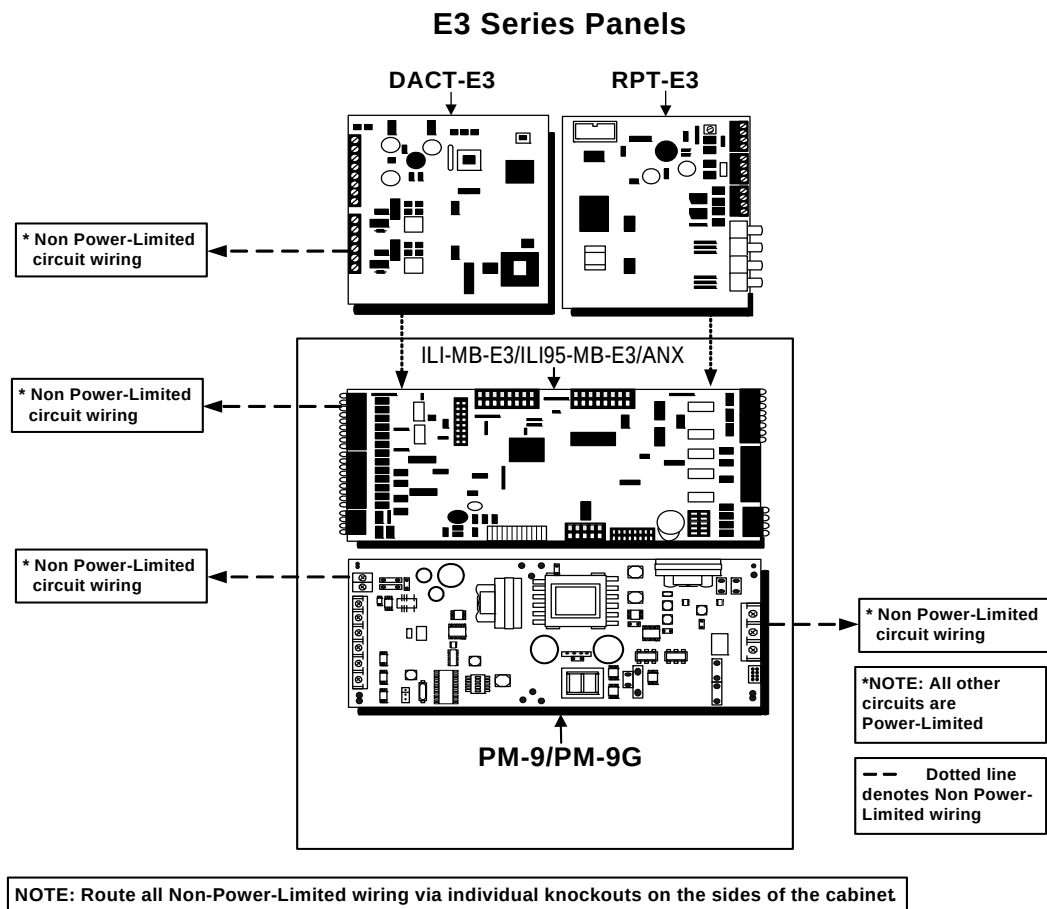
Table 8.1.1 provides the circuit wiring requirements for the E3 Series control panel.

| Circuit Type                                                                                                          | Circuit Function                                                                            | Wire Requirements                                                                                                                                                                                                   | Distance<br>(feet/meters)                                                                           | Typical Wire Type*                          |
|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|---------------------------------------------|
| SLC<br>(power-limited)                                                                                                | Connects to intelligent and addressable modules.                                            | Twisted-unshielded pair, 12 to 18 AWG (3.1 to 0.78 mm <sup>2</sup> ) 40 Ohms maximum per length of Style 6 & 7 loops. 40 Ohms combined-branch circuits maximum for Style 4 loop. MC cable with 2 conductor twisted. | 10,000 ft. (3,000 m)                                                                                | 12 AWG (3.1 mm <sup>2</sup> )               |
|                                                                                                                       |                                                                                             |                                                                                                                                                                                                                     | 8,000 ft. (2,400 m)                                                                                 | 14 AWG (2.00 mm <sup>2</sup> )              |
|                                                                                                                       |                                                                                             |                                                                                                                                                                                                                     | 4,875 ft. (1,450 m)                                                                                 | 16 AWG (1.30 mm <sup>2</sup> )              |
|                                                                                                                       |                                                                                             |                                                                                                                                                                                                                     | 3,225 ft. (980 m)                                                                                   | 18 AWG (0.78 mm <sup>2</sup> )              |
|                                                                                                                       | Or                                                                                          | Shielded wire, in conduit or outside of conduit or MC cable. MC cable with 3 conductor twisted.                                                                                                                     | 1,000 ft. (304.8 m)                                                                                 | 12 to 18 AWG (3.1 to 0.78 mm <sup>2</sup> ) |
|                                                                                                                       |                                                                                             | Note: Maximum total capacitance of all SLC wiring (both between conductors and from any conductor to ground) should not exceed 0.5 microfarads.                                                                     |                                                                                                     |                                             |
| EIA-485<br>(power-limited)                                                                                            | Connects to LCD-E3, ASM-16, and ANU-48 modules                                              | Twisted-unshielded pair with a characteristic impedance of 120 Ohms. 18 AWG (0.78 mm <sup>2</sup> ) minimum.                                                                                                        | 3,000 ft. (maximum)                                                                                 | 16 AWG (1.30 mm <sup>2</sup> )              |
| EIA-232<br>(power-limited)                                                                                            | Connects to Printers, CRT, E3 or PC.                                                        | Twisted-unshielded pair. 18 AWG (0.78 mm <sup>2</sup> ) minimum                                                                                                                                                     | 50/15.24 (without modem)                                                                            | 16 AWG (1.30 mm <sup>2</sup> )              |
| NAC<br>Notification<br>Appliance<br>Circuit                                                                           | E3<br>(power-limited)                                                                       | 12-18 AWG (3.1 to 0.78 mm <sup>2</sup> ). At alarm current level, no more than a 1.2 V drop at the end of the circuit, or sized to provide the minimum rated operating voltage of the appliances used.              | To meet 1.2 V drop, or sized to provide the minimum rated operating voltage of the appliances used. | 12 to 18 AWG (3.1 to 0.78 mm <sup>2</sup> ) |
| 24 VDC Power<br>Runs<br>(power-limited)                                                                               | To Transmitter Annunciator                                                                  | 12-18 AWG (3.1 to 0.78 mm <sup>2</sup> ). Size wire so that no more than 1.2 V drop across wire run from supply source to end of any branch.                                                                        | To meet 1.2 volt drop                                                                               | 12 to 18 AWG (3.1 to 0.78 mm <sup>2</sup> ) |
| CHG-120                                                                                                               | External battery charger                                                                    | 12 AWG (3.1 mm <sup>2</sup> ) in conduit                                                                                                                                                                            | 20/6.1 (maximum)                                                                                    | 12 AWG (3.1 mm <sup>2</sup> )               |
| ARCNET<br>(power-limited)                                                                                             | Provides interface between network nodes. ARCNET should be installed in a separate conduit. | Twisted-unshielded pair, low capacitance 18 AWG                                                                                                                                                                     | 3,000 ft. (.914 m)                                                                                  | 18 AWG (3.1 mm <sup>2</sup> )               |
| Note: Lightning arresters required on circuits extending between buildings; 999 meter length maximum to meet UL 1459. |                                                                                             |                                                                                                                                                                                                                     |                                                                                                     |                                             |

**Table 8.1.1 E3 Series Control Panel Wiring Requirements**

## 8.2 E3 Series Power-Limited and Non Power-Limited Diagram

Figure 8.2.1 illustrates the power-limited and non power-limited wiring of the E3 Series control panel.



**Figure 8.2.1 E3 Series Power-Limited and Non Power-Limited Wiring**

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## Manufacturer Warranties and Limitation of Liability

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