4010-9817 and 4010-9821 Network Interface Modules Installation Instructions

Cautions and Warnings

DO NOT INSTALL ANY SIMPLEX PRODUCT THAT APPEARS DAMAGED. Upon unpacking your Simplex product, inspect the contents of the carton for shipping damage. If damage is apparent, immediately file a claim with the carrier and notify Simplex.

ELECTRICAL HAZARD - Disconnect electrical power when making any internal adjustments or repairs. Servicing should be performed by qualified Simplex Representatives.

STATIC HAZARD - Static electricity can damage components. Therefore, handle as follows:

1. Ground yourself before opening or installing components (use the 553-484 Static Control Kit).
2. Keep uninstalled component wrapped in anti-static material at all times.

EYE SAFETY HAZARD - Under certain application conditions, the optical output of this device may exceed eye safety limits. Do not use magnification (such as a microscope or other focusing equipment) when viewing the output of this device.

RADIO FREQUENCY ENERGY - 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 a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area may cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Overview

This publication shows how to install the 4010-9817 and 4010-9821 Network Interface Modules into a 4010 Fire Alarm Control Panel (FACP). Only one of these modules is allowed per system. ***You can not have a 4010 DACT card and a network interface card in the same 4010 FACP***. Refer to the *4010 Fire Alarm Front Panel - Installing, Operating, and Programming Instructions* (574-052) for configuration information. Refer to the 842-058 Field Wiring Diagram for additional wiring information.

In this Publication

This publication discusses the following topics:

4120 Network Interface Modules

4010-9817 Network Interface Module

The network interface modules provides the 4010 FACP with access to two 4120 Network ports. The 4010-9817 Modular Network Interface Module is intended for use with two different media boards; the 4010-9818 "Wired" Media Module and the 4010-9819 Fiber Optic Media Module.

Figure 1 shows two "wired" media modules installed on the 4010-9817 Network Interface Module.

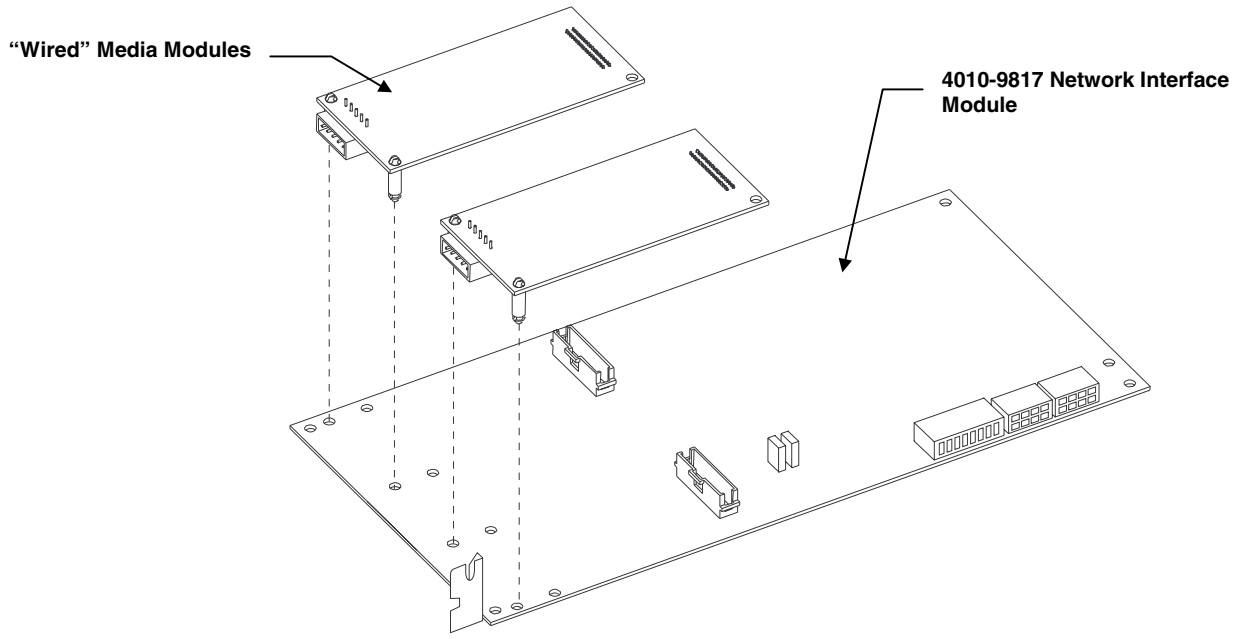

Figure 1. Modular Network Module

4010-9821 Network Interface Module

The 4010-9821 Network Interface Module is similar to the 4010-9817 module in that it provides the 4010 with two 4120 Network ports. These ports however, are not modular. The 4010-9821 comes with a left and right "wired" media network port connection.

Configuration

Switch Settings

Card Address Setting (SW1)

Option cards in the 4010 system have specific addresses. The card address setting for both network interface modules is Card 8. Set SW1-4 to the ON position and set the remaining DIP switches to the OFF position.

Use the "Quick CFIG - Add NEW Hardware" function described in the *4010 Fire Alarm Front Panel - Installation/Operation Instructions* (574-052) to add the card to the system.

Baud Rate Setting

N2 communications on option cards must be set at the same baud rate as the 4010 FACP. Both network interface card's baud rates are set at 9600. All other slave cards and the 4010 SFI/O Board must match this setting. If your other cards are not set to 9600 baud, use the information in Table 1 to set all cards to 9600.

Table 1. Internal N2 Baud Rate Settings

Baud Rate	SW2-1	SW2-2
Off-Line	ON	ON
9600	OFF	ON
19200	ON	OFF
38400	OFF	OFF

Reserved for future use

Notes:

1. 4010 Network Interface Modules support 9600 Bps only for internal N2 communications.
2. 4120 Network Communications may be set for 9600 Bps or 57.6 Kbps. See the settings for Jumper P3 below.

Jumper Settings

The following is a list of jumpers and their different settings.

Note: The default jumper setting is the factory setting.

Jumper P3

This jumper sets the data transmission rate over the 4120 Network.

P3-1 to P3-2 selects 57.6 Kbps (default)

P3-2 to P3-3 selects 9600 Bps

Jumper P4

This jumper setting selects the data protocol for 4120 Network Communications.

P4-1 to P4-2 selects 9-bit protocol (default)

P4-2 to P4-3 selects 8-bit protocol

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LED Indicators

Table 2 lists the LED indicators on the network interface modules and their functions.

Table 2. LED Indicators

LED Indicator	Function
LED 1 (Yellow)	Slave Card Trouble Indication
LED 2 (Green)	Left Port Transmit
LED 3 (Red)	Left Port Receive
LED 4 (Green)	Right Port Transmit
LED 5 (Red)	Right Port Receive

Module Installation

Installing a Modular Media Card onto the 4010-9817

You can install a 4010-9818 “Wired” Media Module or 4010-9819 Fiber Optic Media Module onto the 4010-9817 Network Interface Module. Using the two nylon snap posts provided, line up the modular connectors on both boards and “piggy-back” the media module onto the network module (see Figure 1).

Installing the 4010-9817 or 4010-9821 into a 4010 FACP

Install a single option card in Expansion Slot 2 shown in Figure 2. When an option card is already present, install the additional option card in Expansion Slot 1. Use Steps 1 through 5 to install either card into the 4010 FACP.

1. Disconnect battery and then AC power from the FACP.
2. Set all appropriate DIP switch settings and terminate all wiring to their appropriate connectors.
3. Slide the option card into the appropriate expansion slot (see Figure 2).

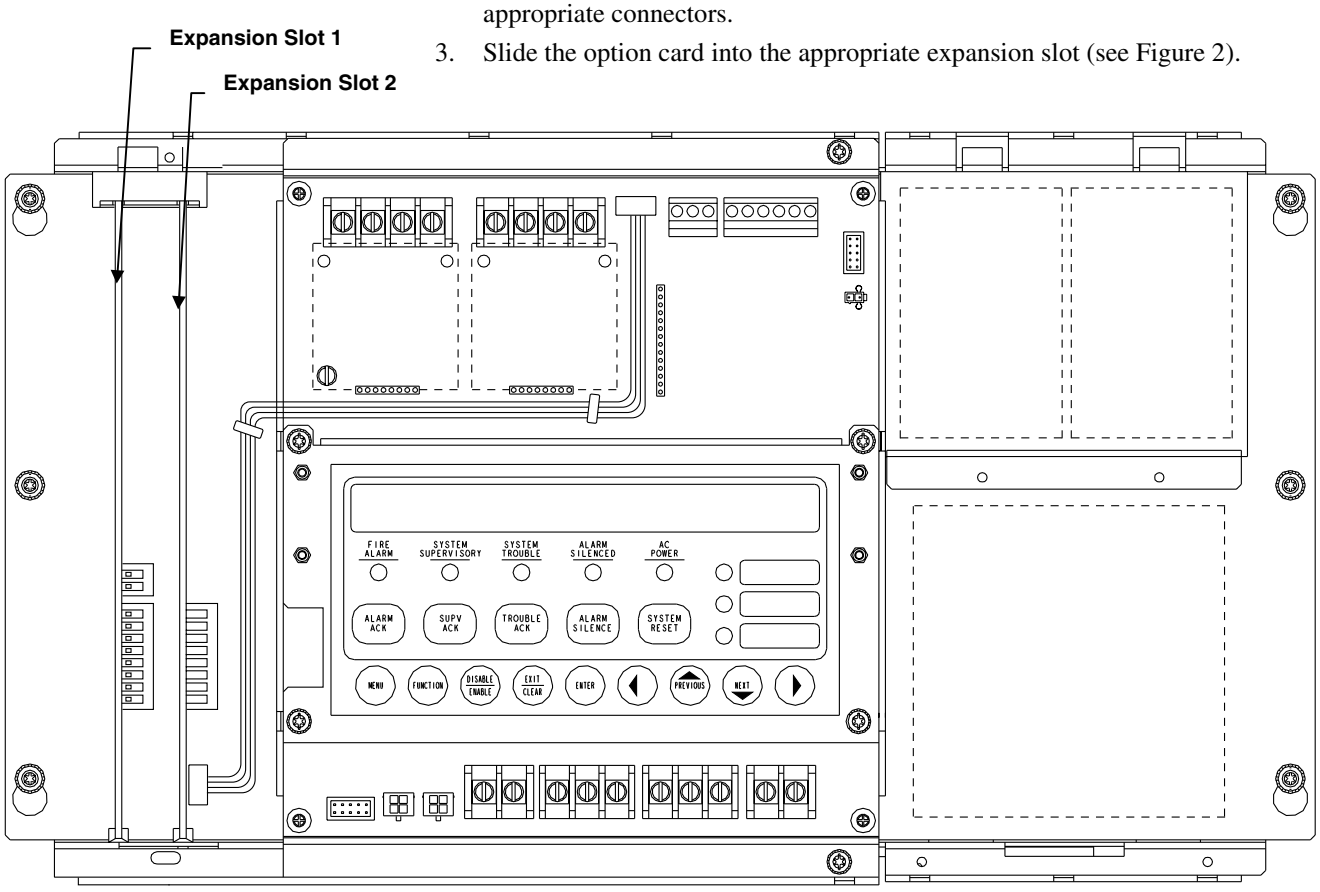

Figure 2. Option Card Expansion Slots

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Installing the 4010-9817 or 4010-9821 into a 4010 FACP *(continued)*

4. Using the screw and lock washer provided, secure the mounting bracket to the system chassis (see Figure 3).

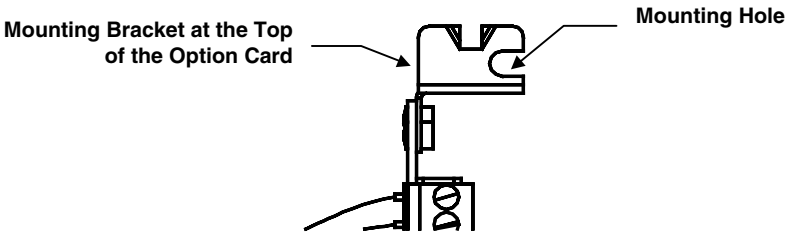

Figure 3. Option Card Mounting Bracket

5. Slide the card lock bracket into the bottom hole in the option card. Secure the bottom of the option card by tightening the card lock bracket screw (see Figure 4).

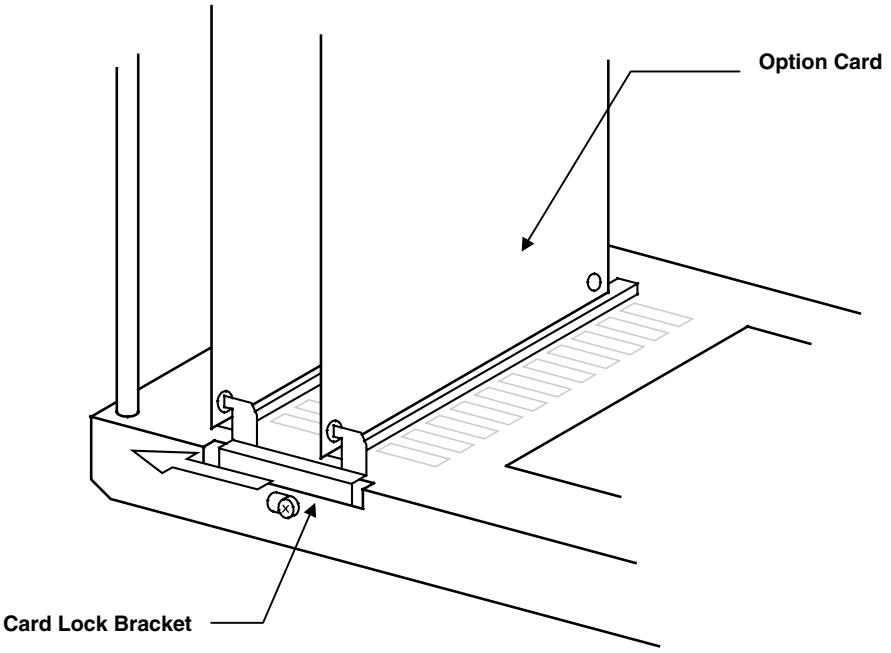

Figure 4. Card Lock Bracket

Wiring

Overview

This section describes how to wire the network interface modules. You must refer to the General 4120 Network Field Wiring Guidelines and Precautions listed in the 842-058 Field Wiring Diagram before installation.

4010-9817 with 4010-9818 Module

Use the information in Figures 5 and 6 to install the wiring to the 4010-9818 media module.

Figure 5 shows the network wiring entering the 4010 Back Box in the upper left corner.

IMPORTANT: Pay careful attention to the routing for Power-Limited and Non Power-Limited wiring. You must maintain a 1/4-inch separation between these two types of wiring. Neatly dress all harnesses and wiring.

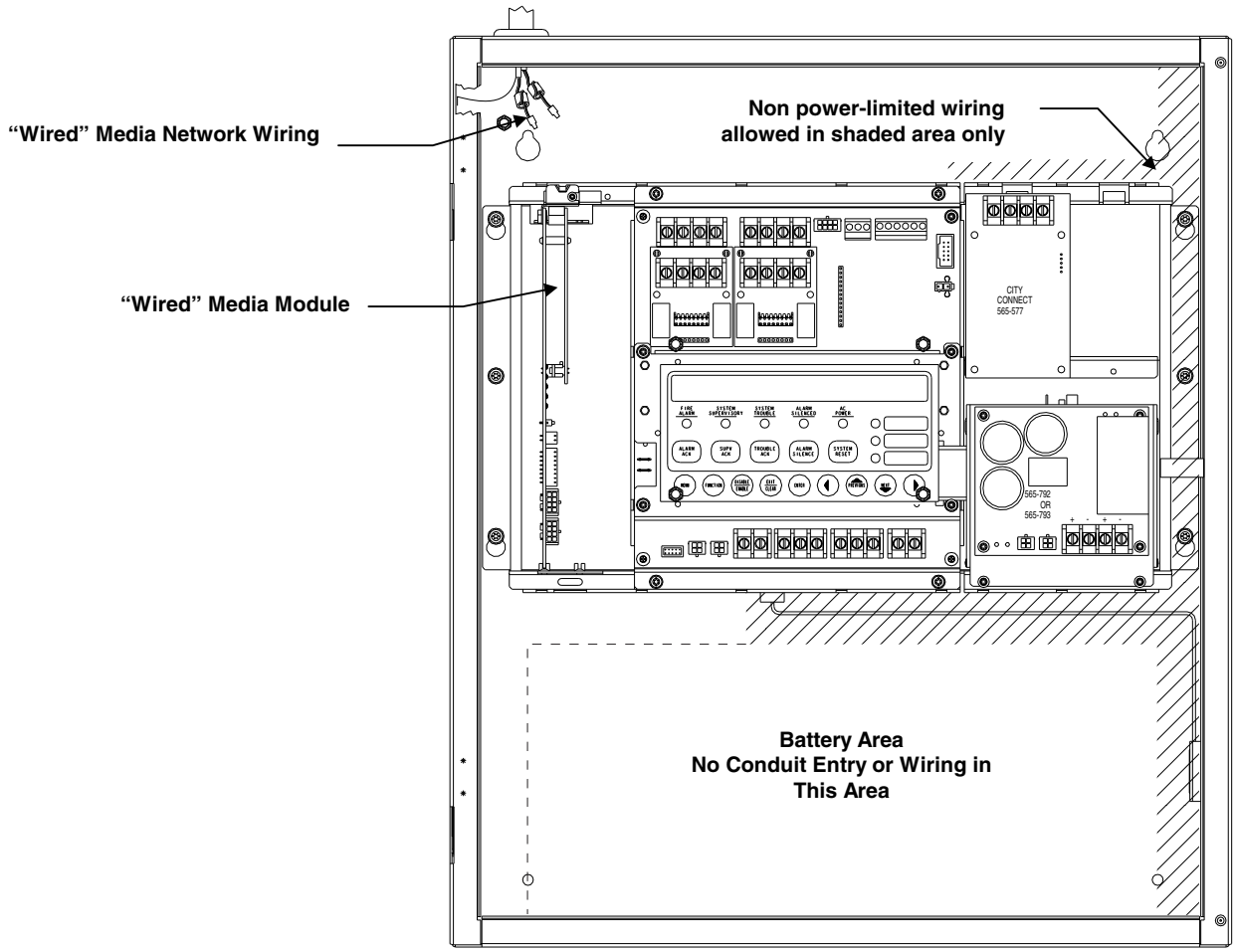

Figure 5. "Wired" Media Network Wiring

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4010-9817 with 4010-9818 Module *(continued)*

Figure 6 shows the connections to TB1 of the "Wired" Media Module and the detail of the installed ferrite bead. Use the information in Figure 6 to connect the network connector to TB1 of the "Wired" Media Module. Refer to the *Installing Ferrite Beads with "Wired" Media Cards* publication (574-041) for additional information.

NOTES:

1. **All wiring to be #18 AWG or #24 AWG shielded twisted pair.**
2. **For Rev. A of the Media Module (565-413): When using #18 AWG wire, the shunt jumpers on connector P2 of the module should be on Pins 1-2, 3-4, 5-6, and 7-8. When using #24 AWG, the jumper should be on Pins 3-4 only.**
3. **For Rev. B of the Media Module (565-413): When using #18 AWG wire, the shunt jumpers on connector P2 of the module should be on Pins 1-2, 5-6, and 7-8. When using #24 AWG, no jumpers are installed.**
4. **Ferrite bead and cable ties are included in 740-836 kit.**

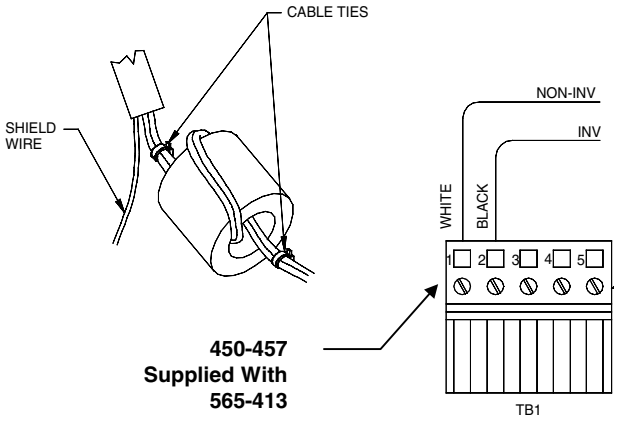

Figure 6. Network Wiring and Ferrite Bead Installation

4010-9817 with 4010-9819 Module

Use Figure 7 as a reference when installing fiber optic cable to the 4010-9819 Fiber Optic Media Module. The fiber optic module installs similar to the "wired" media module (see Figure 5). Refer to the *Installing the Media Fiber Optic Card* publication (574-067) for additional information.

Notes:

1. **ST Connectors with long strain relief boots must be used with fiber optic cables.**
2. **Reference the 900-143 Fiber Tutorial.**
3. **All wiring is supervised.**
4. **Minimum bend radius for fiber optic cable is 1.25 inches.**

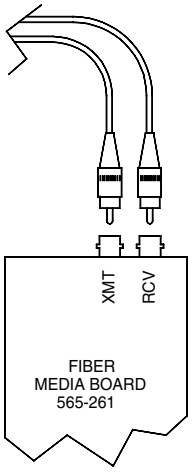

Figure 7. Installing Fiber Optic Cables

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4010-9821 Module

Figure 8 shows the connections to the left and right ports of the 4010-9821 "Wired" Media Network Interface Module and the detail of the installed ferrite bead. Refer to the *Installing Ferrite Beads with "Wired" Media Cards* publication (574-041) for additional information. Use the information in Figure 9 to connect the network connector to left and right ports of the "Wired" Media Network Interface Module. The left and right port connectors are keyed for proper installation.

NOTES:

1. **All wiring to be #18 AWG or #24 AWG shielded twisted pair.**
2. **For #24 AWG wiring ONLY: Remove resistors R81, R83, and R84 from the left port and R82, R85, and R86 from the right port of the 4010-9821 (565-819).**
3. **Ferrite bead and cable ties are included in the 740-836 kit.**
4. **Node may be bypassed by unplugging TB1 and TB2 from the network interface module and plugging them together. Maximum wiring distances still apply.**

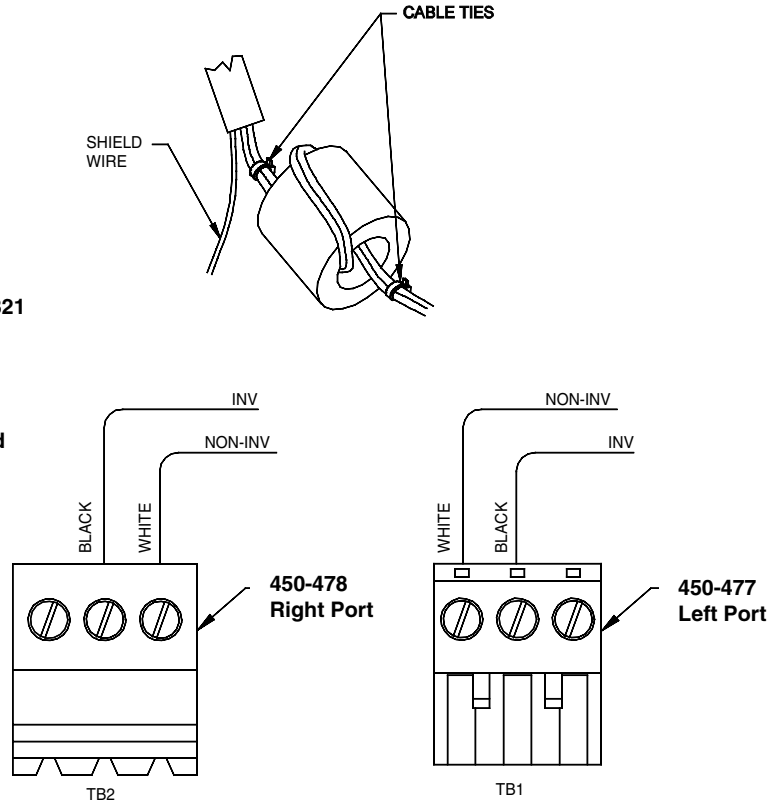

Figure 8. 4010-9821 "Wired" Media Network Wiring

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N2 Communications/Power Connections

Each network interface module comes with one N2 Communications/Power Harness. The 733-953 is a long harness used to interface the modules with the FACP. Use Steps 1 through 4 to connect the N2 communications from the option card to the FACP.

1. Remove battery and then AC power from the FACP.
2. Verify that all switches are set correctly.
3. Using the 733-953 harness, connect one end from P1 of the option card to P1 of the 4010 FACP. P1 on the FACP is located between TB2 and TB3 (see Figure 2).

IMPORTANT: Pay careful attention to the routing for Power-Limited and Non Power-Limited wiring. You must maintain a 1/4-inch separation between these two types of wiring. Neatly dress all harnesses and wiring (see Figure 5).

4. If another option card is installed that is already connected to the FACP, use the 733-956 short harness to connect P2 of one option card to P2 of the other. The 733-956 harness comes with all option modules except the network interface modules. You can now apply AC and then battery power.