INSTALLATION

Wayne Hyper Peripheral Interface Board (HyperPIB™)

DRESSER
Wayne

Wayne HyperPIB
Peripheral Interface Board
Installation Manual

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GETTING STARTED

1.1 Introduction

This manual describes the installation and testing of the Wayne Hyper Peripheral Interface Board (HyperPIB). The manual is intended to be used for sites that are installing a new HyperPIB system with less than 24 fueling points, or sites that are installing new HyperPIB systems with more than 24 fueling points. The manual is also used for upgrading existing sites above 24 fueling points. The information is this manual is intended to be used by service representatives installing the system and by maintenance personnel.

For additional information about the Wayne 2400/Plus™ Management Control System (2400/Plus), refer to the following publication:

- *Operation and Programming, Wayne 2400/Plus Management Control System*, part number 917434

1.2 HyperPIB Overview

Installing the HyperPIB board, part number 881579-xxx, in the site controller; allows the 2400/Plus system to communicate with auxiliary controllers (AC). Auxiliary controllers are then able to operate in place of the Wayne 2400 Control console when controlling Wayne dispensers. Auxiliary controllers, such as Verifone, Suntronic, Allied or the Datarol 7100™, interface with the 2400/Plus system with an RS-232 cable installation, part number 887902-001.

1.3 Required Equipment

The following equipment is required to install the HyperPIB board and the interface cable.

Table 1-1. Required Equipment

Part Number	Description
#1	Phillips Head Screwdriver
916962	Anti-Static Wrist Strap

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INSTALLATION

2.1 Introduction

The following information describes how to install the HyperPIB board and the RS-232 cable interface in the site controller.

2.2 Unpacking And Inspection

1. Before opening any cartons, count the number of cartons and verify the carton count against the supplied packing list.
2. Inspect the cartons for damage made during transit.
3. File claim information with the carrier on the bill of lading.
4. Retain cartons suspected of damage for future claim purposes.

CAUTION: To remove electronic components from static packages, you must wear an anti-static wrist strap, part number 916962. The wrist strap must be securely attached to an earth grounding point to prevent possible damage from static electricity.

5. Remove all equipment from the shipping cartons and carefully inspect for damage.

NOTE: Any damage should be brought to the attention of the carrier and claims made immediately. Return all equipment to the respective cartons for protection until actual installation is made. Save all cartons until it is certain that return shipments are not required.

2.3 Returning Damaged Components

Parts or components returned to the factory under warranty or for repair are subject to damage if not packaged properly. Complete the following steps to return parts or components to the factory.

1. Place electronic components in an anti-static bag and in the original shipping cartons for return shipment to the factory.

NOTE: If original shipping cartons are not available use a sturdy cardboard container and suitable packing materials such as anti-static polyethylene foam or bubble pack, to ensure the component is firmly packed.

2. Include a Return Parts Tag with the defective component describing the particular problem with the part.

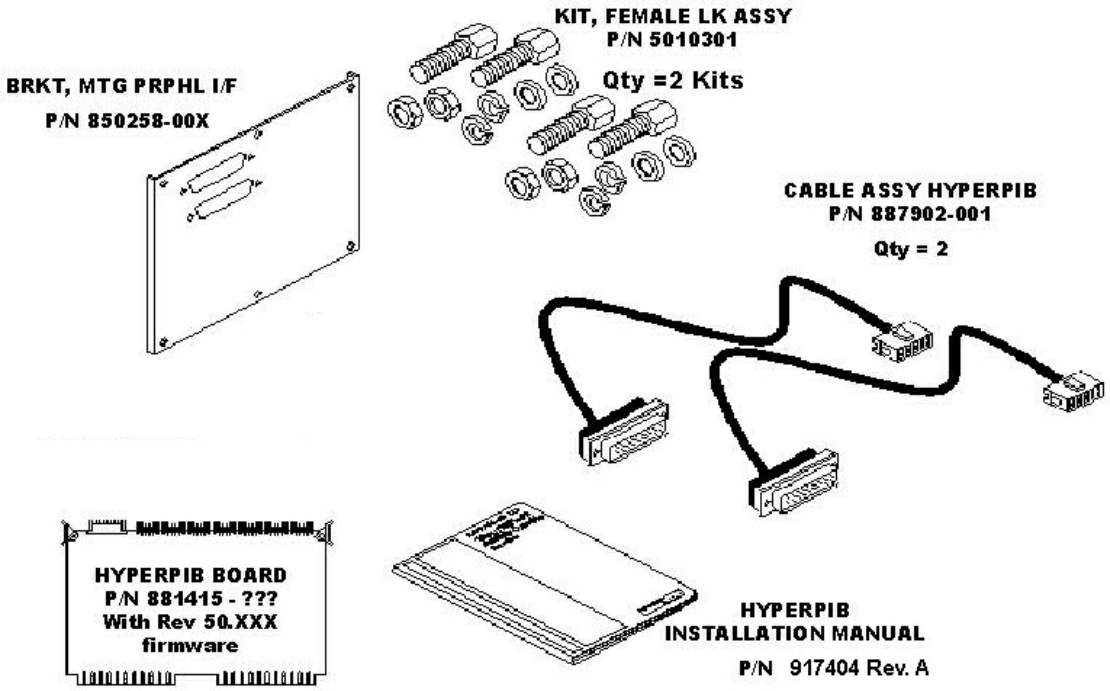
3. Make sure that adequate insurance is provided when returning parts to the factory.

WARNING: If the parts or components arrive at our factory in a damaged condition and it is determined that the damage is a direct result of inadequate or improper packaging, the damage will not be covered under the original warranty and the customer or distributor will be held responsible for the cost of repairs necessary to correct or replace the damaged parts.

2.4 HyperPIB Installation

2.4.1 Required Equipment

Verify the following items are available before attempting to install the HyperPIB.



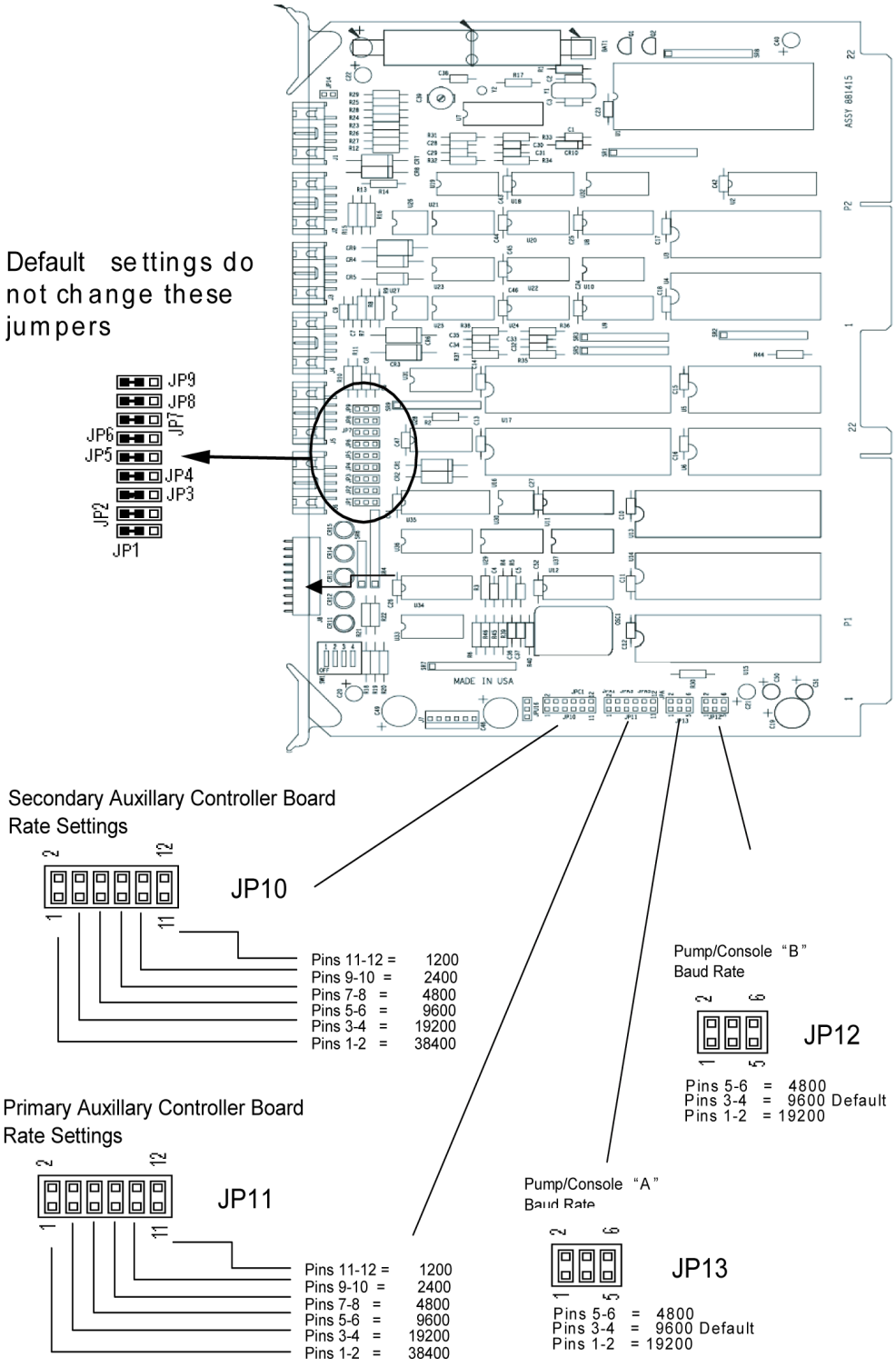
- 850258-00x Mounting Bracket (1)
- 5010301 Female Screwlock Kit (2)
- 887902-001 RS-232 Interface Cable (2)
- 881579-008 HyperPIB PCB Board (1) < 24 Fueling Points
- 881579-009 HyperPIB PCB Board (1) > 24 Fueling Points
- 889126-001 Arbitration Board (1) > 24 Fueling Points
- 889198-001 Wiring Harness

2.4.2 HyperPIB Board Configuration

2.4.2.1 Jumpers and Switches

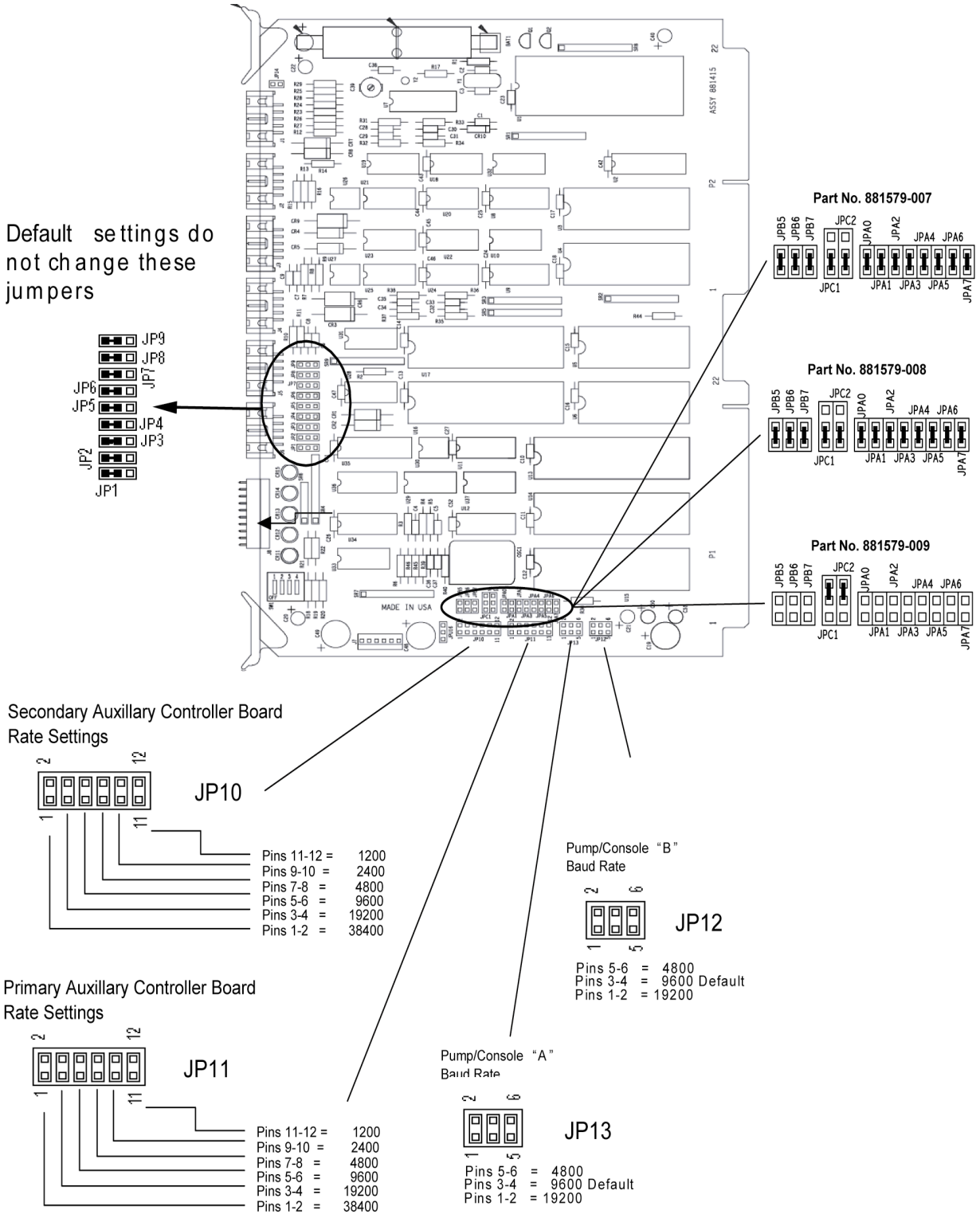
Set the AC (auxiliary controllers) baud rate(s) to match the AC(s) on site. Also verify DIP switch and other jumper settings on the boards to match the ones stated below.

Figure 2-1 HyperPIB Board Jumper Settings (old version)



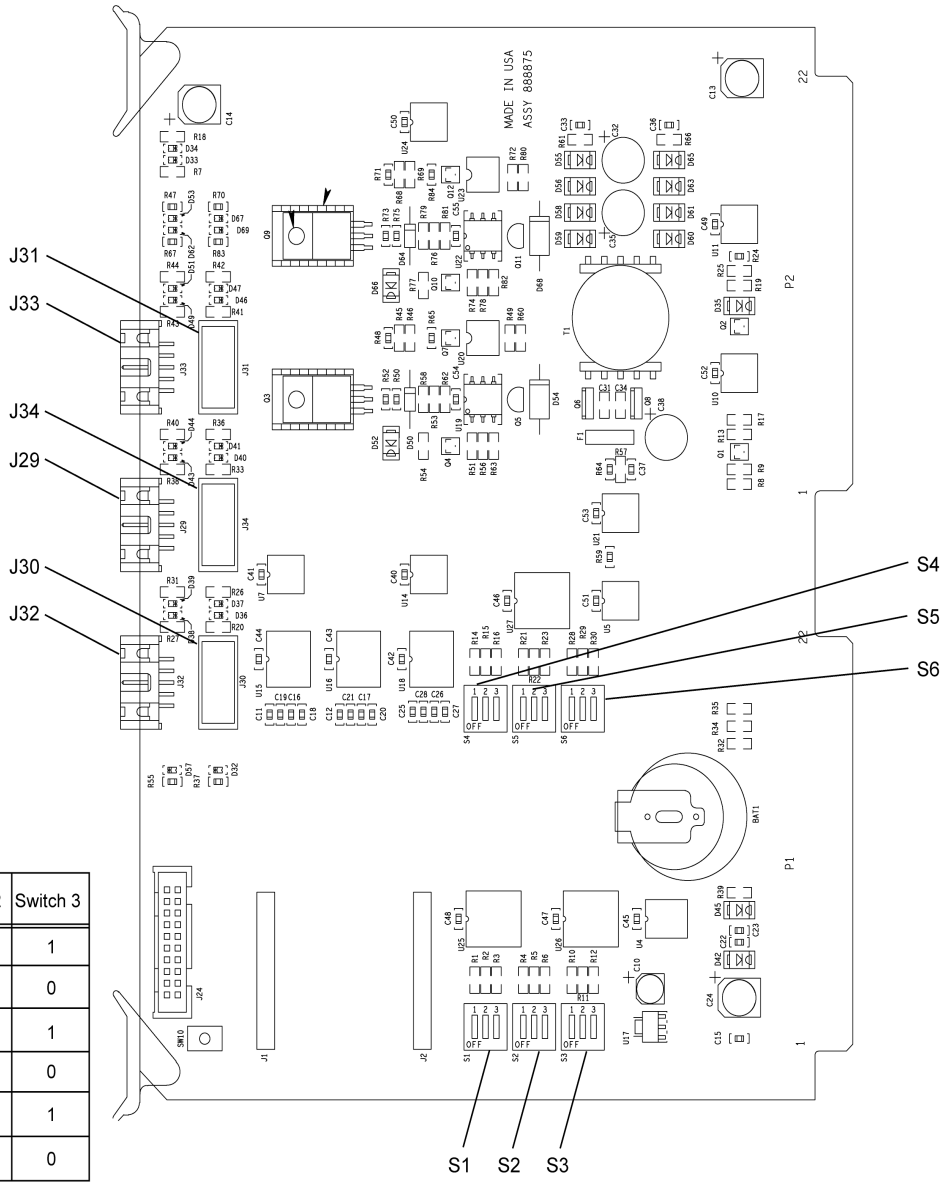
NOTE: JP14 should always be open and DIP switches 1-4 of SW1 should all be set to OFF position.

Figure 2-2 HyperPIB Board Jumper Settings (new version)



NOTE: JP14 should always be open and DIP switches 1-4 of SW1 should all be set to OFF position.

Figure 2-3 Arbitration Board Switch Settings



Comm Port Baud Rate Programming

Baud Rate	Switch 1	Switch 2	Switch 3
1200	1	1	1
2400	1	1	0
4800	1	0	1
9600	1	0	0
19200	0	1	1
38400	0	1	0

2.4.2.2 Connectors

Table 2-1 HyperPIB EC Plate Connectors

Connector	Destination
J7	POS A Pump Interface
J1	POS B Pump Interface
J6	Debug Monitor

2.4.2.3 LEDs

Table 2-2 HyperPIB LEDs

LED	Function
CR11	Receiving data from Secondary AC
CR12	Receiving data from Primary AC
CR13	Pump link B active
CR14	Pump link A active
CR15	Console active

2.4.2.4 Pin Definitions

Table 2-3 RS-232 (DB-25) Pin Definitions

PIN Number	Signal Direction	Definition
1	<——>	FG - Frame Ground
2	——>	TX - Transmit
3	<——	RX - Receive
4	——>	RTS - Request To Send
5	<——	CTS - Clear To Send
7	<——>	SG - Signal Ground
8	<——	CD - Carrier Detect
20	——>	DTR - Data Terminal Ready

2.4.2.5 Switch Assignments

Table 2-4 Arbitration Board Baud Rate Switch Assignments

Switch Bank	Comm Port
S1	J33
S2	J29
S3	J32
S4	J31
S5	J34
S6	J30

2.4.3 HyperPIB Board and RS-232 Cable Installation for < 24 Fueling Points

To install the HyperPIB board, perform the following steps.

1. Turn power **Off** to the site controller.
2. Place a wrist strap, (Wayne part number 916962, 3M Charge Guard 2213, or equivalent), on your wrist and clip the grounding end to the chassis of the power supply in the site controller.
3. If there is a PIB/Plus board in slot 6, remove it.
4. Check the programming jumpers on the HyperPIB to match PN 881579-007 according to the diagram in Figure 2-1 or 2-2. Also check the Baud Rate programming on JP10 and JP11 according to the Baud Rate settings of the Auxiliary Controller.
5. Install the HyperPIB board (PN 881579-007) in slot 2 (remove the 2400/Plus CPU board on this slot if there is one) of the site controller. Place the HyperPIB board with the component side facing toward the power supply. Refer to Figure 2-4.
6. Check the site controller cabinet for loose tools or parts.
7. Remove the grounding end of the wrist strap from the power supply and close the cabinet door.
8. Turn power **On** to the site controller.
9. To check the HyperPIB software version, enter mode 90 and submode 08 on the 2400 console, then press the PRNT/ENTR key. The console screen displays the HyperPIB version in the following format: VVWWYY00, where VV is the HyperPIB version number, WW and YY the week and year when the software is released.

Note: If the HyperPIB version does not appear on the console screen, the HyperPIB board is not communicating with the 2400 console or the hardware is not operating correctly and must be replaced.

10. To check the HyperPIB software checksum, enter mode 90 and submode 07 on the 2400 console, then press the PRNT/ENTR key. The console screen displays the software checksum. The checksum should equal zeroes if a production release version of code is present.
11. Turn power to the site controller **Off.**

12. Remove the six screws securing the metal plate to the hinge side of the site controller. Discard the metal plate. Install the new side panel (part number 860512-005).

13. Connect the 10-pin AMP connector end of cable, part number 888329-001, to J1 on the HyperPIB board, then connect the 25-pin DB connector end to slot J1 on the side panel of the site controller using the screw assembly #5010303.

14. Connect the 10-pin AMP connector end of cable, part number 888329-001, to J2 on the HyperPIB board, then connect the 25-pin DB connector end to slot J2 on the side panel of the site controller using the screw assembly #5010303.

15. Install wiring harness (PN 889198-001) according to the wiring diagram on page 2-13.

NOTE: Older site controller cabinets may have knockout mounting holes instead of a removable plate. In this case, connect cables in the uppermost knockout mounting holes.

16. Restore power to the site controller.

2.4.4 HyperPIB Board and RS-232 Cable Installation for > 24 Fueling Points

To install the HyperPIB and Arbitration boards, perform the following steps.

1. Turn power **Off** to the site controller.

2. Place a wrist strap, (Wayne part number 916962, 3M Charge Guard 2213, or equivalent), on your wrist and clip the grounding end to the chassis of the power supply in the site controller.

3. If there is a PIB/Plus board in slot 6, remove it.

4. Check the programming jumpers on the HyperPIB boards to match PN 881579-008 and PN 881579-009 according to the diagram in Figure 2-2. Also check both boards Baud Rate programming on JP10 and JP11 and set for 38400 which will set the Baud of the HyperPIB internal communication to it's maximum rate.

5. Install the HyperPIB board (PN 881579-008) in slot 2 (remove the 2400/Plus CPU board on this slot if there is one) of the site controller. Place the HyperPIB board with the component side facing toward the power supply. Refer to Figure 2-4.

6. Install the HyperPIB board (PN 881579-009) in slot 5 of the site controller. Place the HyperPIB board with the component side facing toward the power supply. Refer to Figure 2-4.

7. Check the Baud Rate switch settings on the Arbitration board (PN 889126-001) and set S2, S3, S5, and S6 to 38400. This sets the HyperPIB internal communications to it's maximum rate. Refer to Table 2-4.

8. Check the Baud Rate switch settings on the Arbitration board (PN 889126-001) and set S1 and S4 to match the auxiliary controller.

9. Slide the Arbitration board into slot 4 of the EC but do not seat all of the way in. This will allow access to the J31, J34, and J30 ports.

10. Connect cable PN 886491-001 into J2 of the HyperPIB PN 881579-008 and the other end into J34 of the Arbitration board PN 889126-001. Refer to Figure 2-4.

11. Connect cable PN 886491-001 into J1 of the HyperPIB PN 881579-008 and the other end into J29 of the Arbitration board PN 889126-001. Refer to Figure 2-4.

12. Connect cable PN 886491-001 into J2 of the HyperPIB PN 881579-009 and the other end into J30 of the Arbitration board PN 889126-001. Refer to Figure 2-4.

13. Connect cable PN 886491-001 into J1 of the HyperPIB PN 881579-009 and the other end into J32 of the Arbitration board PN 889126-001. Refer to Figure 2-4.

14. Connect cable PN 887902-001 to J31 on the Arbitration board PN 889126-001, then connect the 25-pin DB connector end to slot J2 on the new side panel (PN 860512-005) of the site controller using the screw assembly #5010303.

15. Connect cable PN 887902-001 to J33 on the Arbitration board PN 889126-001, then connect the 25-pin DB connector end to slot J1 on the new side panel (PN 860512-005) of the site controller using the screw assembly #5010303.

16. Push the Arbitration board PN 889126-001 into the EC backplane so it is firmly seated.

17. Connect cable PN 889198-001 according to Figure 2-4.

18. Check the site controller cabinet for loose tools or parts.

19. Remove the grounding end of the wrist strap from the power supply and close the cabinet door.

20. Turn power **On** to the site controller.

21. To check the HyperPIB software version, enter mode 90 and submode 08 on the 2400 console, then press the PRNT/ENTR key. The console screen displays the HyperPIB version in the following format: VVWWYY00, where VV is the HyperPIB version number, WW and YY the week and year when the software is released.

Note: If the HyperPIB version does not appear on the console screen, the HyperPIB board is not communicating with the 2400 console or the hardware is not operating correctly and must be replaced.

22. To check the HyperPIB software checksum, enter mode 90 and submode 07 on the 2400 console, then press the PRNT/ENTR key. The console screen displays the software checksum. The checksum should equal zeroes if a production release version of code is present.

23. Turn power to the site controller **Off.**

24. Remove the six screws securing the metal plate to the hinge side of the site controller. Discard the metal plate. Install the new side panel (part number 860512-005).

25. Install wiring harness (PN 889198-001) according to the wiring diagram on page 2-13.

NOTE: Older site controller cabinets may have knockout mounting holes instead of a removable plate. In this case, connect cables in the uppermost knockout mounting holes.

17. Restore power to the site controller.

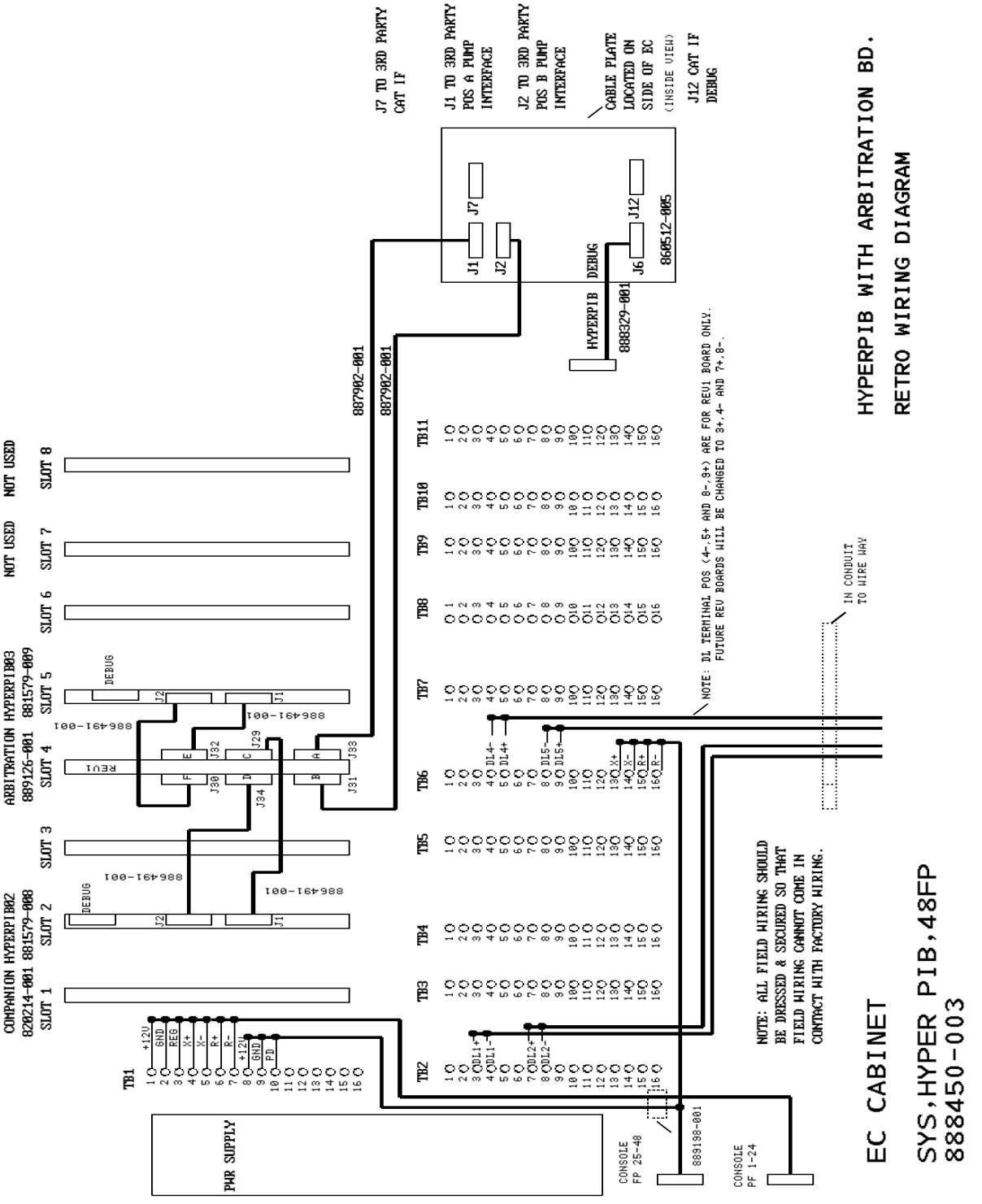


Figure 2-4 HyperPIB Board And RS-232 Installation

2.4.5 HyperPIB Board and RS-232 Cable Installation for > 24 Fueling Points Upgrade Sites

To install the HyperPIB and Arbitration board, perform the following steps.

1. Turn power **Off** to the site controller.
2. Place a wrist strap, (Wayne part number 916962, 3M Charge Guard 2213, or equivalent), on your wrist and clip the grounding end to the chassis of the power supply in the site controller.
3. Check the programming jumpers on the HyperPIB board from the kit to match PN 881579-009 according to the diagram in Figure 2-1. Also check Baud Rate programming on JP10 and JP11 and set for 38400 which will set the Baud Rate of the HyperPIB internal communication to it's maximum rate.
4. Install the HyperPIB board (PN 881579-009) in slot 5 of the site controller. Place the HyperPIB board with the component side facing toward the power supply. Refer to Figure 2-4.
5. Remove the two cables from J1 and J2 of the HyperPIB in slot 2 and discard.
6. Remove the HyperPIB board currently installed in slot 2 and set the jumper settings for JP10 and JP11 for 38400 baud then reseat the board into slot 2. Refer to Figure 2-1.
7. Check the Baud Rate switch settings on the Arbitration board (PN 889126-001) and set S2, S3, S5, and S6 to 38400. This sets the HyperPIB internal communications to it's maximum rate. Refer to Table 2-4.
8. Check the Baud Rate switch settings on the Arbitration board (PN 889126-001) and set S1 and S4 to match the auxiliary controller.
9. Slide the Arbitration board into slot 4 of the EC but do not seat all of the way in. This will allow access to the J31, J34, and J30 ports.
10. Connect cable PN 886491-001 into J2 of the HyperPIB in slot 2 and the other end into J34 of the Arbitration board PN 889126-001. Refer to Figure 2-4.
11. Connect cable PN 886491-001 into J1 of the HyperPIB in slot 2 and the other end into J29 of the Arbitration board PN 889126-001. Refer to Figure 2-4.
12. Connect cable PN 886491-001 into J2 of the HyperPIB PN 881579-009 and the other end into J30 of the Arbitration board PN 889126-001. Refer to Figure 2-4.
13. Connect cable PN 886491-001 into J1 of the HyperPIB PN 881579-009 and the other end into J32 of the Arbitration board PN 889126-001. Refer to Figure 2-4.
14. Connect cable PN 887902-001 to J31 on the Arbitration board PN 889126-001, then connect the 25-pin DB connector end to slot J2 on the new side panel (PN 860512-005) of the site controller using the screw assembly #5010303.
15. Connect cable PN 887902-001 to J33 on the Arbitration board PN 889126-001, then connect the 25-pin DB connector end to slot J1 on the new side panel (PN 860512-005) of the site controller using the screw assembly #5010303.
16. Push the Arbitration board PN 889126-001 into the EC backplane so it is firmly seated.
17. Connect cable PN 889198-001 according to Figure 2-4.
18. Check the site controller cabinet for loose tools or parts.

WAYNE HYPERPIB
PERIPHERAL INTERFACE BOARD
INSTALLATION MANUAL

Produced by Tom Sigmon

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