

46044

8 TO 2 HUBBING

MODULE

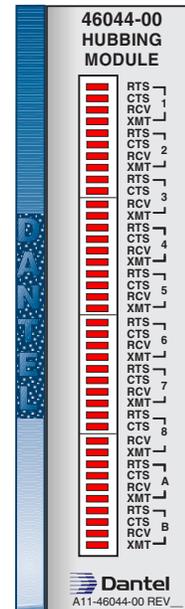


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About this Practice:

This practice has been reissued to:

- Move **Application Information** section forward.
- Divide Table B into separate tables.

Reissued Practices: Updated and new content can be identified by a banner in the right margin.

Issue date: October 1998

UPDATED

CAUTION

- Install or remove modules from the shelf only when the power is off. If you install a module in the shelf with the power on, the internal circuitry may suffer damage and the product warranty will be void.
- Remove and install circuit boards only in a static-safe environment (use antistatic wrist straps, smocks, footwear, etc.).
- Keep circuit boards in their antistatic bags when they are not in use.
- Do not ship or store circuit boards near strong electrostatic, electromagnetic, magnetic, or radioactive fields.
- For more complete information on electrostatic discharge safety precautions, refer to Bellcore™ Technical Reference # TR-NWT-000870.

ORDERING INFORMATION

NOTE: This section lists the different options available for this product. To order any of the available options, contact Dantel Inside Sales through our toll-free number, **1-800-432-6835**.

OPTION NUMBER	FEATURES
A11-46044-00	8 to 2 Hubbing Module

GENERAL DESCRIPTION

The 46044 Hubbing Module concentrates eight data ports to either one or two data ports. Handshaking lines control the data flow.

You can set data transmission length for all eight ports with switches on the module. If the data transmission exceeds the preset time period, the module activates an alarm relay.

Front panel LEDs indicate the following for all 10 ports:

- ◆ RTS and CTS signal activity
- ◆ Data transmission (XMT) and receiving (RCV)

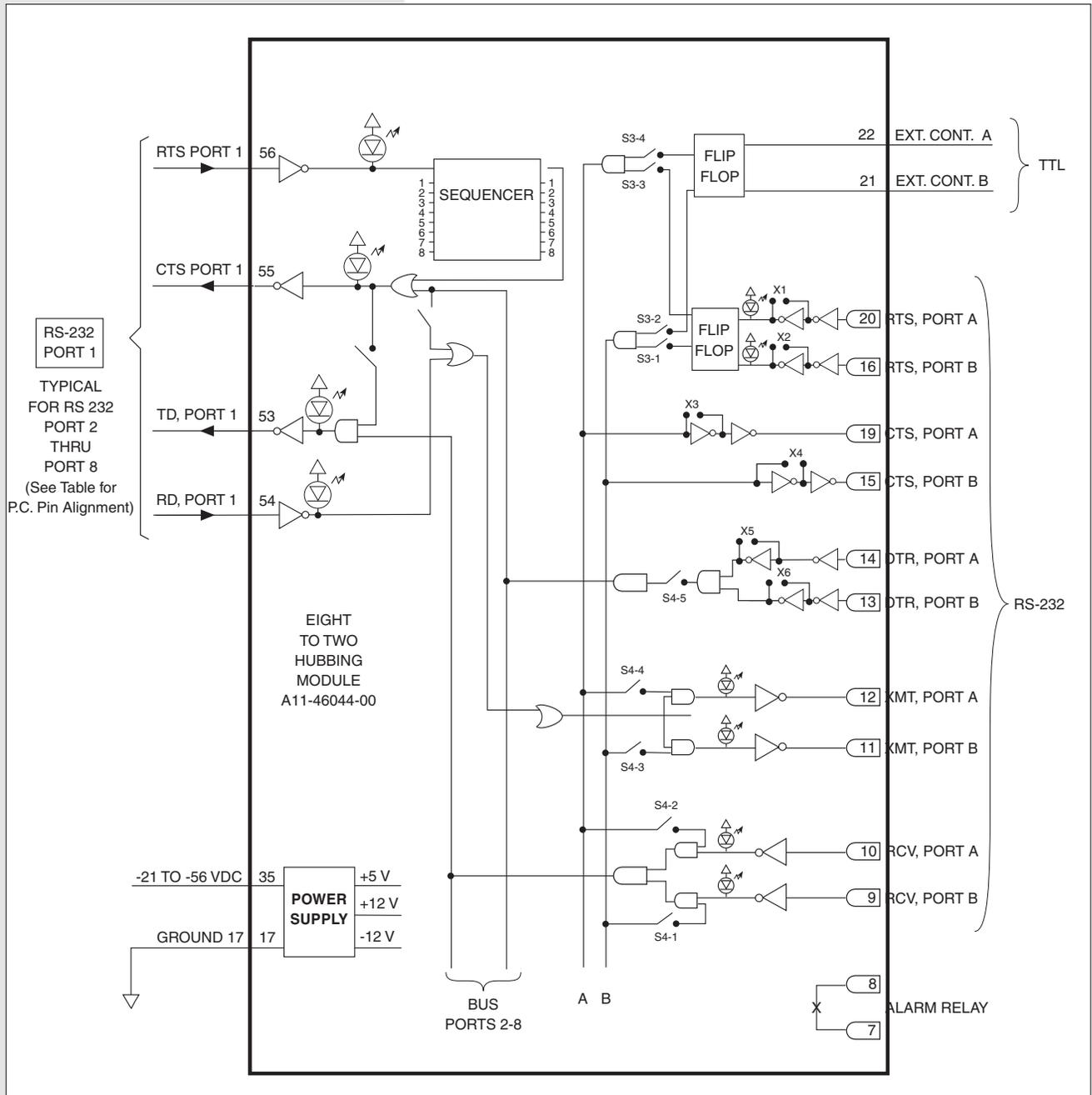
The 46044 Hubbing Module is a plug-in printed circuit module that fits into any Dantel 400-type or similar equipment housing. The module operates on -21 to -56 VDC input power.

CIRCUIT DESCRIPTION

Fig. 1 shows the 46044 8 to 2 Hubbing Module functional schematic.

CIRCUIT DESCRIPTION

Fig. 1 - FUNCTIONAL SCHEMATIC; 46044



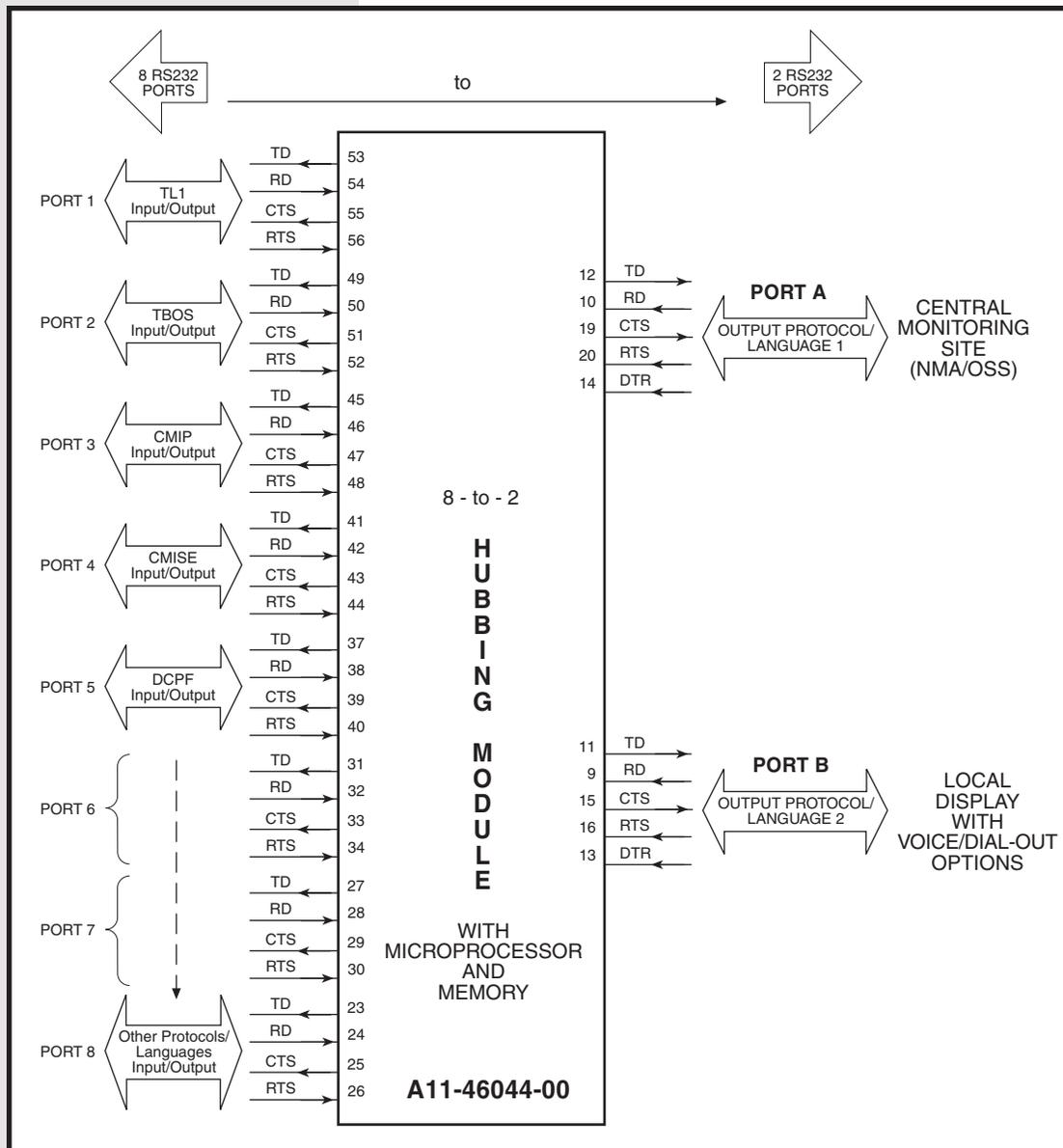
APPLICATION INFORMATION

Fig. 2 shows an eight-to-two data flow direction. The 46044 Hubbing Module scans all eight ports for the first assertion of a Request-to-Send (RTS) signal. The scanner halts on the RTS signal port and activates the port's Clear-to-Send (CTS) signal. Data flows from the port to summing port A and/or B. When the port finishes transmitting its data, module moves to the next port waiting to transmit data.

In a two-to-eight data flow direction, data from port A or B transmits to all eight ports.

All input and output lines are RS-232, except for ports A and B which have two TTL input control lines.

FIG. 2 - EXAMPLE APPLICATION; 46044



INSTALLATION

Installation consists of setting the module straps and switches, wiring the connector, and installing the module in the equipment housing.

1. Set the straps.

The 46044 Hubbing Module has six straps which reverse the RS-232 line signal logic on ports A and B.

The module ships with the DTR active logic state on straps X1 to X6 set to high.

You can set the active logic state to a low voltage level by removing the power supply subassembly to straps X1 to X4.

You can access straps X5 and X6 from the top of the module.

Refer to Table A for the strap settings. Refer to Fig. 3 for strap locations.

TABLE A - STRAP SETTINGS; 46044

OPTION	STRAP	POSITION
PORT A		
RTS Input		
High Active	X1	1-2
Low Active	X1	2-3
CTS Input		
High Active	X3	1-2
Low Active	X3	2-3
DTR Input		
High Active	X5	1-2
Low Active	X5	2-3
PORT B		
RTS Input		
High Active	X2	1-2
Low Active	X2	2-3
CTS Input		
High Active	X4	1-2
Low Active	X4	2-3
DTR Input		
High Active	X6	1-2
Low Active	X6	2-3

2. Set the switches.

Refer to Fig. 3 for switch locations and Tables B, C, D, and E for switch settings.

Switch S1 turns the DTR control signal on or off for ports 1-8. When switch S1 is ON, the DTR from port A or B controls the CTS signal so ports 1-8 can transmit data.

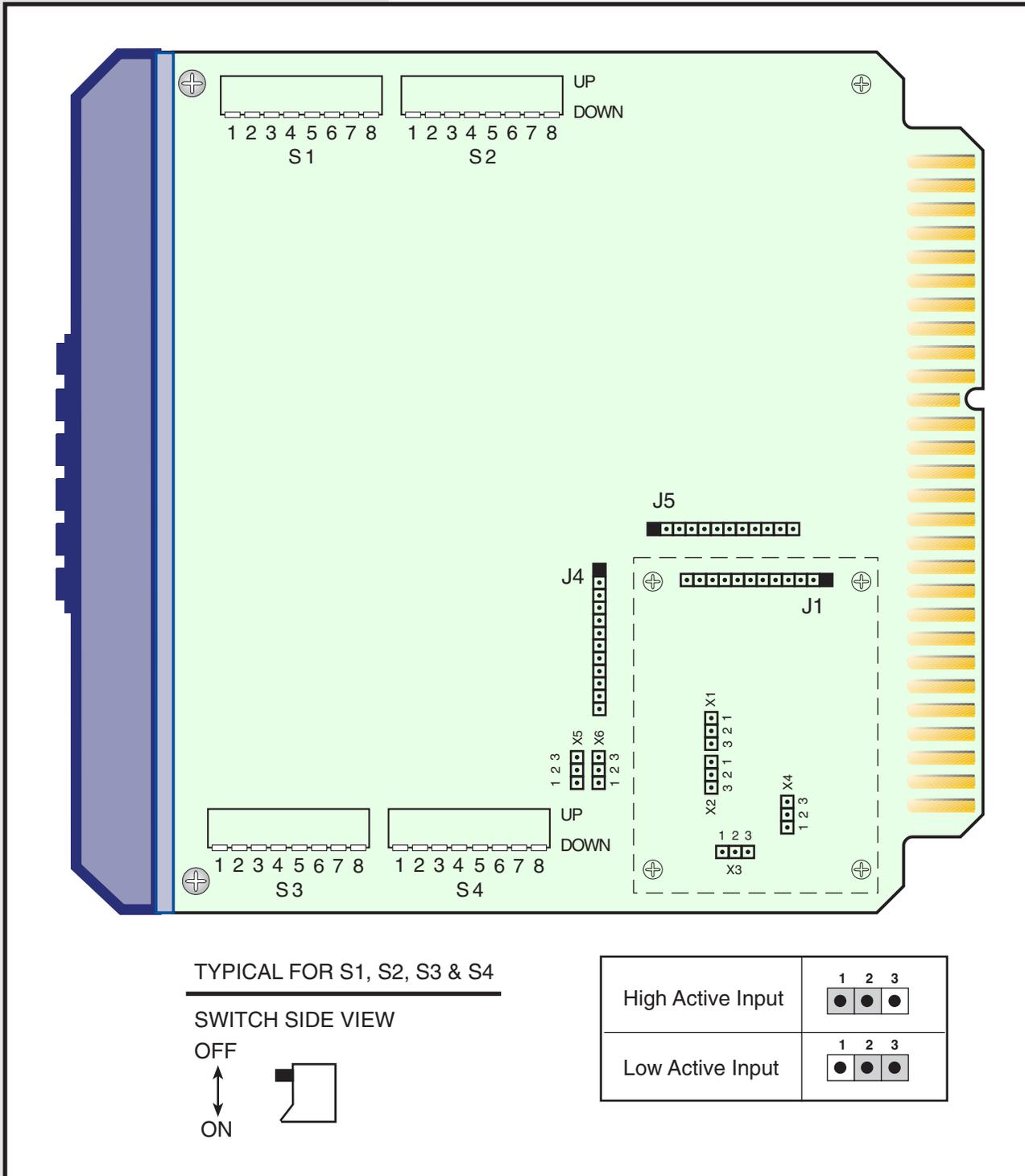
Switch S2 determines whether ports 1-8 communicate in full- duplex or half-duplex to ports A and B.

Switch S3 sets port A and B RTS input signals to TTL or RS232. The switch also sets alarm relay timeout periods if data transmission from any of ports 1-8 to port A and/or B exceeds the time period.

Switch S4 determines whether RTS signals control data transmission and receipt on ports A and B. Use this switch with switch S1 for DTR control of ports 1-8.

INSTALLATION

FIG. 3 - SWITCH AND STRAP LOCATIONS; 46044



INSTALLATION

TABLE B - S1 SWITCH SETTINGS; 46044

OPTION	S1-1	S1-2	S1-3	S1-4	S1-5	S1-6	S1-7	S1-8
DTR signal control ON for Port 1	ON							
DTR signal control OFF for Port 1	OFF							
DTR signal control ON for Port 2		ON						
DTR signal control OFF for Port 2		OFF						
DTR signal control ON for Port 3			ON					
DTR signal control OFF for Port 3			OFF					
DTR signal control ON for Port 4				ON				
DTR signal control OFF for Port 4				OFF				
DTR signal control ON for Port 5					ON			
DTR signal control OFF for Port 5					OFF			
DTR signal control ON for Port 6						ON		
DTR signal control OFF for Port 6						OFF		
DTR signal control ON for Port 7							ON	
DTR signal control OFF for Port 7							OFF	
DTR signal control ON for Port 8								ON
DTR signal control OFF for Port 8								OFF

TABLE C - S2 SWITCH SETTINGS; 46044

OPTION	S2-1	S2-2	S2-3	S2-4	S2-5	S2-6	S2-7	S2-8
Half-duplex operation on Port 1	ON							
Full-duplex operation on Port 1	OFF							
Half-duplex operation on Port 2		ON						
Full-duplex operation on Port 2		OFF						
Half-duplex operation on Port 3			ON					
Full-duplex operation on Port 3			OFF					
Half-duplex operation on Port 4				ON				
Full-duplex operation on Port 4				OFF				
Half-duplex operation on Port 5					ON			
Full-duplex operation on Port 5					OFF			
Half-duplex operation on Port 6						ON		
Full-duplex operation on Port 6						OFF		
Half-duplex operation on Port 7							ON	
Full-duplex operation on Port 7							OFF	
Half-duplex operation on Port 8								ON
Full-duplex operation on Port 8								OFF

UPDATED

INSTALLATION

TABLE D - S3 SWITCH SETTINGS; 46044

OPTION	S3-1	S3-2	S3-3	S3-4	S3-5	S3-6	S3-7	S3-8
Port B RTS uses RS-232 input	ON	OFF						
Port B RTS uses TTL input	OFF	ON						
Port A RTS uses RS-232 input			ON	OFF				
Port A RTS uses TTL input			OFF	ON				
Data length timeout = 18 seconds *					ON	OFF	OFF	OFF
Data length timeout = 9 seconds *					OFF	ON	OFF	OFF
Data length timeout = 4.5 seconds *					OFF	OFF	ON	OFF
Data length timeout = 2.3 seconds *					OFF	OFF	OFF	ON

* S3-5 through S3-8 are not cumulative.

TABLE E - S4 SWITCH SETTINGS; 46044

OPTION	S4-1	S4-2	S4-3	S4-4	S4-5	S4-6	S4-7	S4-8
Port B RTS signal control ON for RD	ON							
Port B RTS signal control OFF for RD	OFF							
Port A RTS signal control ON for RD		ON						
Port A RTS signal control OFF for RD		OFF						
Port B RTS signal control ON for TD			ON					
Port B RTS signal control OFF for TD			OFF					
Port A RTS signal control ON for TD				ON				
Port A RTS signal control OFF for TD				OFF				
Port A and B DTR signal control ON					ON			
Port A and B DTR signal control OFF					OFF			
Not used						OFF	OFF	OFF

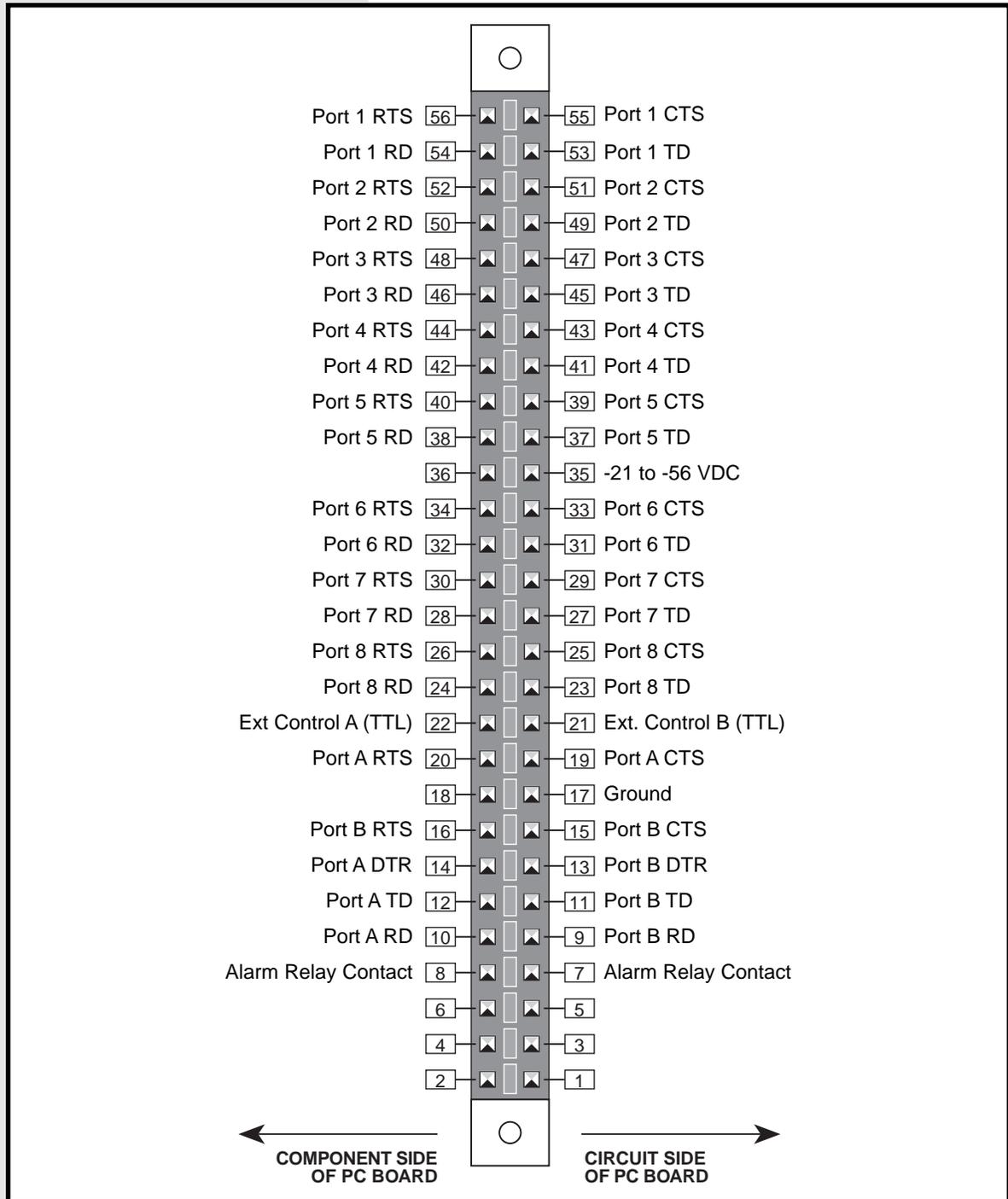
3. Wire the connector.

The 56-pin shelf edge connector is normally prewired at the factory. If you wire the connector, refer to Fig. 4 for module connector pin wiring assignments.

4. Install the module in the equipment housing.

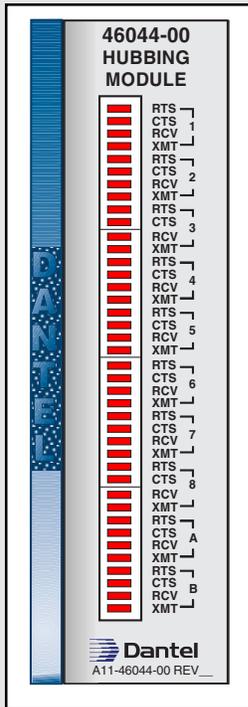
INSTALLATION

FIG. 4 - PIN DESIGNATIONS; 46044



OPERATION

FIG. 5 - FRONT PANEL; 46044



Operation of the 46044 Hubbing Module consists of observing the 40 front panel LEDs that indicate the activity of all 10 ports. Each port has four LEDs that indicate RTS, CTS, RCV and XMT activity. Refer to Fig. 5.

TECHNICAL SPECIFICATIONS

DESCRIPTION	VALUE	
Input Voltage Range	-21 to -56 VDC	
Input Current (+/-20%)	@-24 VDC	@-48 VDC
Idle	40 mA	35 mA
Operate	80 mA	65 mA
Heat Dissipation (+/-20%)	@-24 VDC	@-48 VDC
Idle	3.3 Btu/Hr	5.7 Btu/Hr
Operate	6.6 Btu/Hr	10.6 Btu/Hr
Relay Relays	Single Form-A Dry Contact	
Contact Type	Max. 1 Amp @ 24 VDC	
Contact Ratings	Max. 0.5 Amp @ 120 VAC	
Physical Dimensions	1.4" W x 6.0" D x 5.6" H	
Weight	11 lbs.	
Operating Temperature Ranges	0 to 60 Degrees C.	

NOTES

WARRANTY

LIMITED WARRANTY

The Seller warrants that the standard hardware products sold will be free from defects in material and workmanship and perform to the Seller's applicable published specifications for a period of 18 months for hardware, and 3 months for software, from the date of the original invoice. The liability of the Seller hereunder shall be limited to replacing or repairing, at its option, any defective products which are returned F.O.B. to the Seller's plant, (or, at the Seller's option, refunding the purchase price of such products). In no case are products to be returned without first obtaining permission and a customer return authorization number from the Seller. In no event shall the Seller be liable for any consequential or incidental damages.

Equipment or parts which have been subject to abuse, misuse, accident, alteration, neglect, unauthorized repair or installation are not covered by warranty. The Seller shall make the final determination as to the existence and cause of any alleged defect. No warranty is made with respect to custom equipment or products produced to the Buyer's specifications except as specifically stated in writing by the Seller in the contract for such custom equipment.

This warranty is the only warranty made by the Seller with respect to the goods delivered hereunder, and may be modified or amended only by a written instrument signed by a duly authorized officer of the Seller and accepted by the Buyer.

Warranty and remedies on products not manufactured by the Seller are in accordance with warranty of the respective manufacturer. THE SELLER MAKES NO OTHER WARRANTY OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED; AND ALL IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEEDS THE AFORESAID OBLIGATIONS IS HEREBY DISCLAIMED BY THE SELLER.

IN CASE OF DIFFICULTY

If you experience difficulty with this equipment, check the following, as appropriate:

1. **Switch settings**
2. **Signal levels**
3. **Software configuration**
4. **Connections between Dantel's equipment and your equipment.**

If there is still a problem, substitute equipment that is known to be good. For additional assistance, call Dantel's Technical Field Service Department weekdays, 6 A.M. to 5 P.M. pacific time:

1-800-4DANTEL (1-800-432-6835).

If a thorough checkout shows a piece of equipment has malfunctioned, you may return it to the factory. For repairs and emergency replacements, obtain a Return Material Authorization (RMA) number from the Customer Service Representative at **1-800-4DANTEL (1-800-432-6835)**.

To ensure expedient processing of your order, provide a purchase order number and shipping and billing information when requesting an RMA number. Also, when the units are returned to Dantel, include a description of the failure symptoms for each unit returned. Send defective equipment to:

Dantel, Inc. • 2991 North Argyle Avenue • Fresno, California 93727-1388

