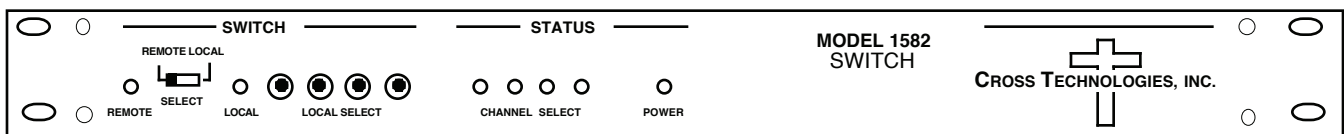


Instruction Manual

Model 1582-45L Data Switch

September 2010, Rev A



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INSTRUCTION MANUAL

MODEL 1582-45L SWITCH

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WARRANTY - The following warranty applies to all Cross Technologies, Inc. products.

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MODEL 1582-45L Switch

1.0 General

1.1 Equipment Description - The 1582-45L provides remote or local latched relay switching between CH1, CH2, CH3 and CH4 data signals. The maximum data rate is 1 Mbps on the clock and data lines (8 lines) and up to 56 kbps on all other lines. Remote selection of CH1 to CH4 is by a contact closure to ground of the corresponding selection pin when the SELECT switch on the front panel is set to REMOTE. Local Selection of CH1 to CH4 is by push button switches on the front panel when the SELECT switch on the front panel is set to LOCAL. When in LOCAL operation all remote commands will be disabled, and when in REMOTE operation all the push buttons on the front panel will be disabled.

On power loss the selected channel remains on. LEDs and contact closures to ground indicate the channels selected and REMOTE or LOCAL operation. The 1582-45L Switch is housed in a 1 3/4" X 19" X 12" deep rack mount chassis.

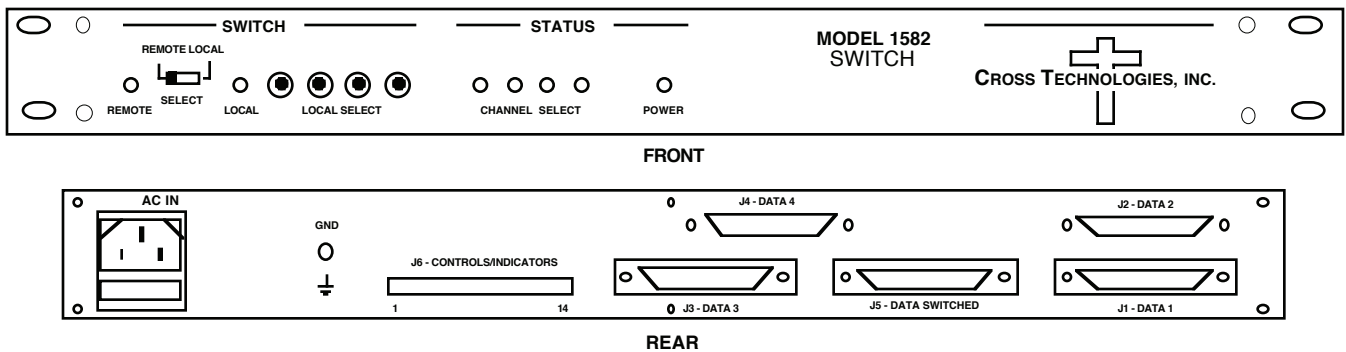


FIGURE 1.1 Model 1582-45L Front and Rear Panels

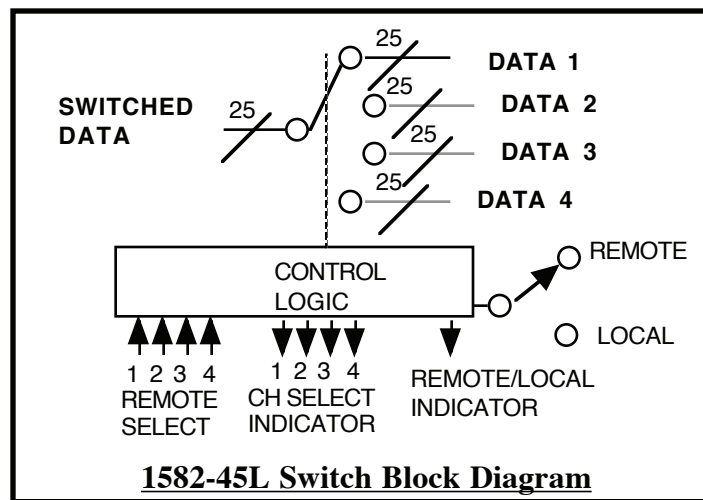


FIGURE 1.2 Model 1582-45L Block Diagram

1.2 Technical Characteristics

TABLE 1.1 1582-45L Switch Specifications*

Data Characteristics

Input/Output	RS422 or RS232
Data Rate, max.	1 Mbps on clock and data lines up to 56 kbps on other lines
Pins Switched	All 25

Switch Characteristics

Type	Latching Relay
Data Direction	Both ways, non-blocking
Isolation	40 dB, min.
Switch time	10 milliseconds, max.
Contact resistance	10 Ω max., < 1 Ω typ.
Configuration	25P4T

Controls and Indicators

LOCAL/REMOTE Switch	Slide switch selects between LOCAL and REMOTE operation
LOCAL CH Select	Push button switches locally select CH1, CH2, CH3, or CH4
LEDs	CH1, CH2, CH3, CH4 ON-LINE; POWER; LOCAL; REMOTE

Other

Connector, Alarm/Control	Barrier Strip
Connectors, Data	DB25, female
Mechanical	19 inch standard chassis 1.75" high X 12" deep
Power	Single AC Power Supply; 100-240 \pm 10% VAC, 47 - 63 Hz, 30 W

*+10 to +40 degrees C; Specifications subject to change without notice

2.0 Installation

2.1 Mechanical - The 1582-45L consists of one printed circuit board (PCB) housed in a 1 RU (1 3/4 inch high) by 12 inch deep chassis. A single power supply provides +5V and +15V DC power to the PCB. Connectors are DB25, female for the data connections and a barrier strip for the controls/indicators. The 1582-45L can be secured to a rack using the 4 holes on the front panel. Figure 2.1 shows how the 1582-45L is assembled. J6 connects DC Power to the PCB as shown and J2 and J4 are connected to the rear panel DB25 connectors via a ribbon cable.

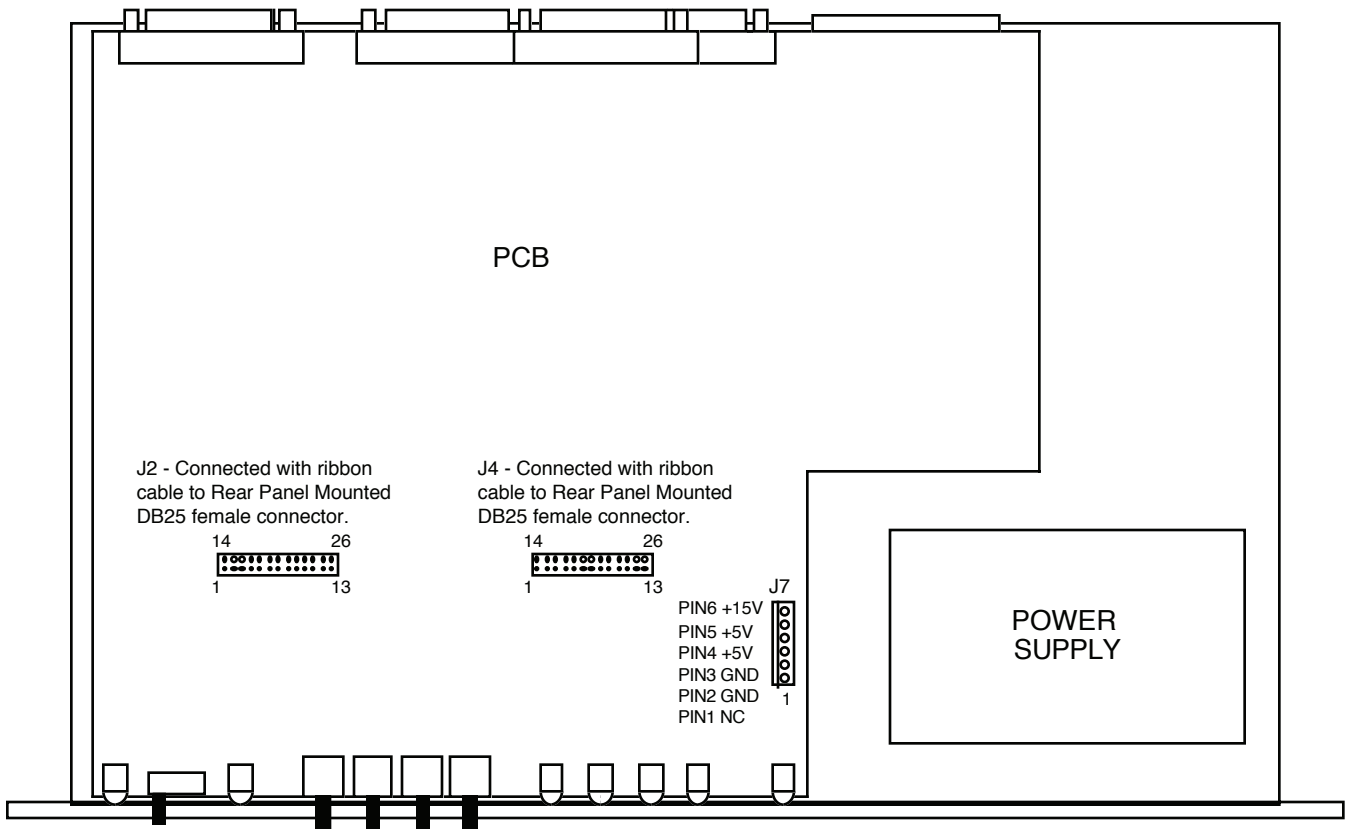


FIGURE 2.1 1582-45L Mechanical Assembly

2.2 Rear Panel Signals - The input/output and control/indicator connectors located on the rear panel are shown in Figure 2.2. In order to select CH1 to CH4 remotely, switch SW5 on the front panel must be set to REMOTE operation. With SW5 set to REMOTE operation, the local push button switches on the front panel will be disabled.

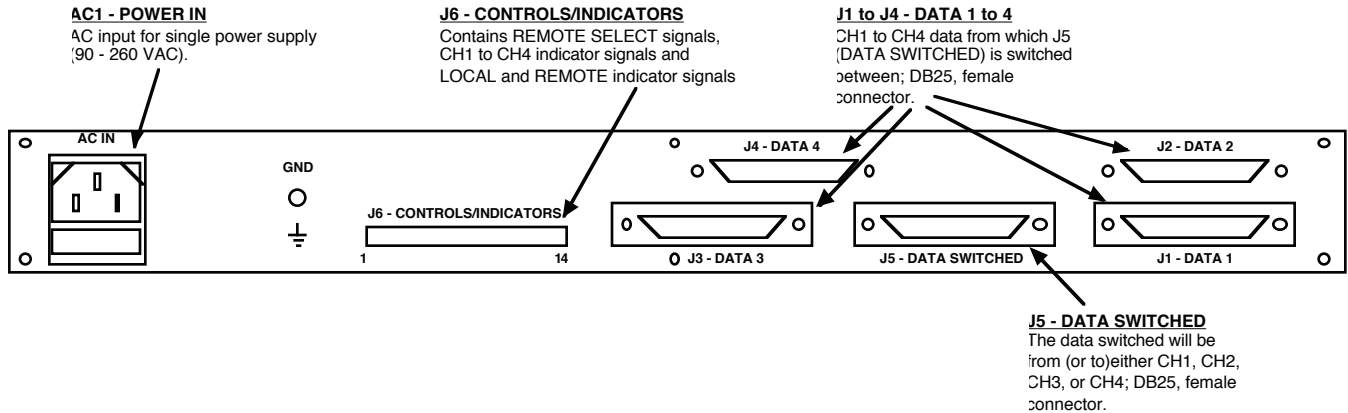


FIGURE 2.2 1582-45L Rear Panel Signals

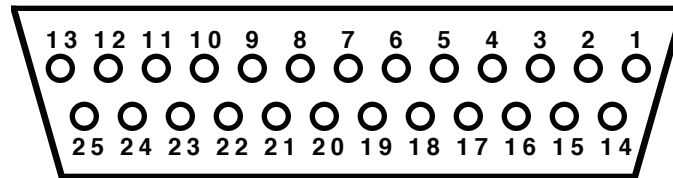


FIGURE 2.3 DB25, Female Connector Pinout

TABLE 2.1 J1,J2,J3,J4,J5 Pinout (Data, DB25 - Figure 2.3)

Function	Pin #	Description
CLOCK/DATA	2,3,9,11,14,16,17,24	1 Mbps RS422 clock/data lines
OTHER	1,4,5,6,7,8,10,12,13,15, 18,19,20,21,22,23,25	56 kbps data/other lines

TABLE 2.2 J6 Pinout (Controls and Indicators, Barrier Strip)

Function	Pin #	Description
CH1 SELECT	1	Closure to ground and switch SW5 set to REMOTE selects CH1
CH2 SELECT	3	Closure to ground and switch SW5 set to REMOTE selects CH2
CH3 SELECT	5	Closure to ground and switch SW5 set to REMOTE selects CH3
CH4 SELECT	7	Closure to ground and switch SW5 set to REMOTE selects CH4
CH1 ONLINE	9	*Relay closure to ground (<5Ω) indicates CH1 is selected
CH2 ONLINE	10	*Relay closure to ground (<5Ω) indicates CH2 is selected
CH3 ONLINE	11	*Relay closure to ground (<5Ω) indicates CH3 is selected
CH4 ONLINE	12	*Relay closure to ground (<5Ω) indicates CH4 is selected
LOCAL ALARM	13	**Open collector output (<5Ω) to ground when in LOCAL operation
REMOTE ALARM	14	**Open collector output (<5Ω) to ground when in REMOTE operation
GND	2,4,6,8	Ground

*Max voltage able to be connected to this is +30VDC @ 100ma

**Max voltage able to be connected to this is +20VDC @ 30ma

2.3 Front Panel Controls and Indicators - Figure 2.4 shows the controls and indicators located on the front panel. When switch SW5 is set to REMOTE operation, the push button selection switches, SW1-SW4, on the front panel are disabled. When switch SW5 is set to LOCAL operation the push button switches, SW1-SW4, will be enabled and all remote control will be disabled.

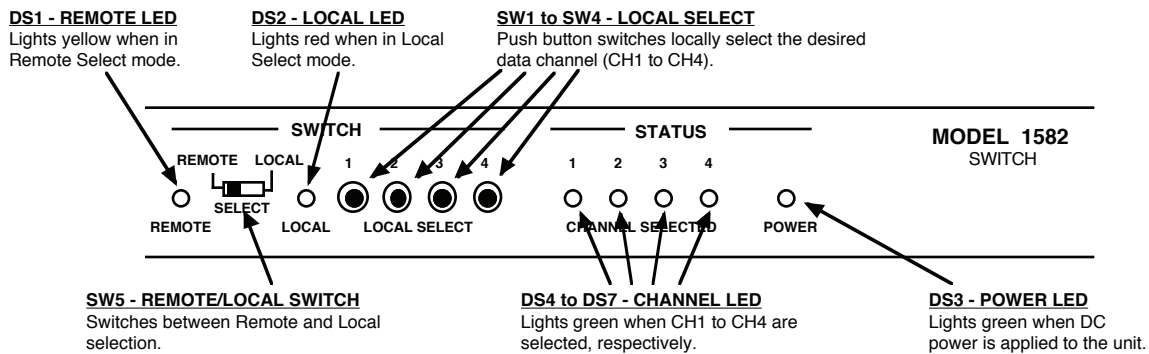


FIGURE 2.4 1582-45L Front Panel Controls and Indicators

2.4 Operation

2.4.1 Installing and Operating the 1582-45L

- 1.) Install the 1582-45L in the equipment rack.
- 2.) Connect data to the DB25 DATA connectors, J1 - J5 (Figure 2.2).
- 3.) Connect to signals on the CONTROLS/INDICATORS connector, J6, as desired (Figure 2.2).
- 4.) Connect 100-240 \pm 10% VAC, 47 - 63 Hz to AC IN on the back panel (Figure 2.2).
- 5.) Be sure the POWER LED, DS3, is on (Figure 2.4).
- 6.) Set SW5 for REMOTE or LOCAL operation (Figure 2.4).
- 7.) Choose the desired data path either remotely (J6, Figure 2.2) or locally using the push buttons (SW1 - SW4, Figure 2.4) and check for proper data flow and that the appropriate CHANNEL LED (DS4 - DS7, Figure 2.4) is lit.
- 8.) **AC Fuse** - The fuse is a 5 mm X 20 mm, 2 amp slow blow (Type T) and is inserted in the far slot in the drawer below the AC input as shown in Figure 2.5. There is a spare fuse in the near slot. If a fuse continues to open, the power supply is most likely defective.

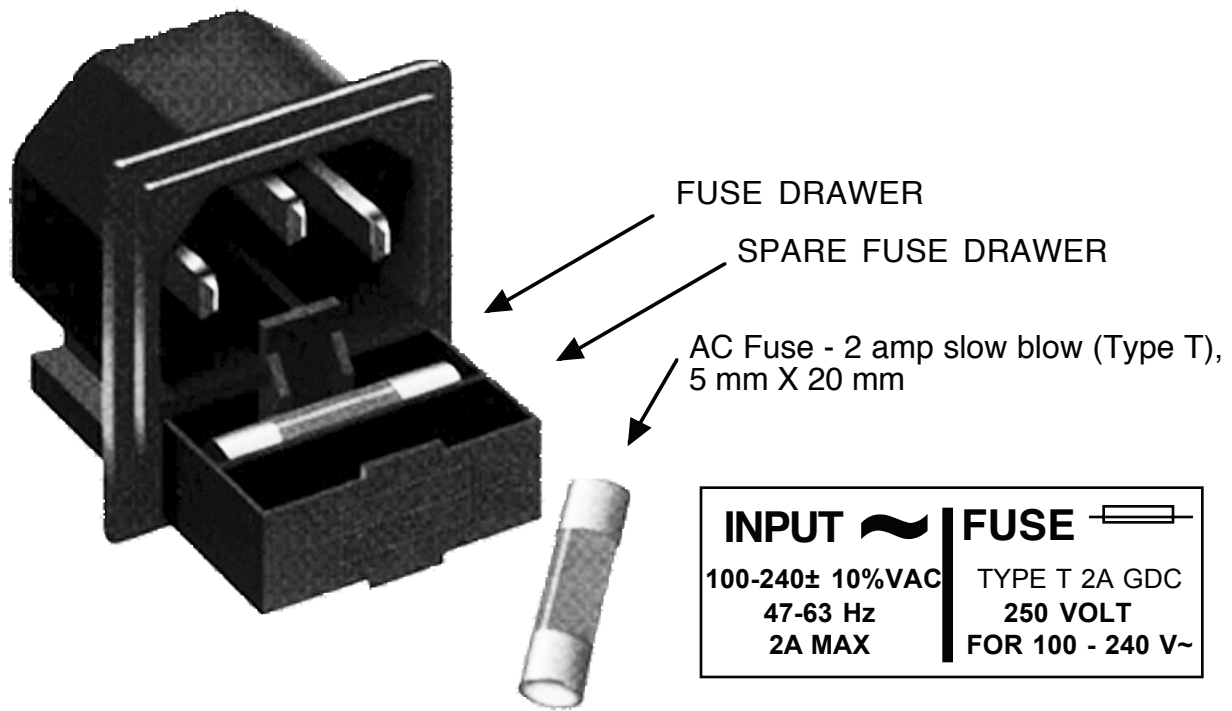


FIGURE 2.5 Fuse Location and Spare Fuse

3.0 Environmental Use Information

- A. **Rack-Mounting** - To mount this equipment in a rack, please refer to the installation instructions located in the user manual furnished by the manufacturer of your equipment rack.
- B. **Mechanical Loading** - Mounting of equipment in a rack should be such that a hazardous condition does not exist due to uneven weight distribution.
- C. **Elevated Operating Ambient Temperature** - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack may be greater than room ambient temperature. Therefore, consideration should be given to Tmra.
- D. **Reduced Air Flow** - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised. Additional space between unit may be required.
- E. **Circuit Overloading** - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits could have on over current protection and supply wiring. Appropriate consideration of equipment name plate rating should be used when addressing this concern.
- F. **Reliable Earthing** - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connection to the Branch (use of power strips).
- G. **Top Cover** - There are no serviceable parts inside the product so, the Top Cover should not be removed. If the Top Cover is removed the ground strap and associated screw **MUST BE REINSTALLED** prior to Top Cover screw replacement. **FAILURE TO DO** this may cause **INGRESS** and/or **EGRESS** emission problems.



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