Niobrara SD034B Adapter

The Niobrara SD034 adapter is used to connect any NR&D Smart Cable such as the SC50D or SC406 to the 9-pin serial port of a personal computer. This adapter is configured for use with the more common **"Type B"** personal computer COM: port.

Installation:

Connect the 25-pin DB25 end of the adapter to the 25-pin end of the Niobrara Smart Cable and tighten the jackscrews of the cable end. Connect the 9-pin DB9 end of the adapter to a serial port (COM1: or COM2:) of the personal computer.

Re-Configuration:

If the personal computer to be used has the **"Type A"** serial port, or if you are unsure of its type, the following instructions should be helpful.

- *Determining serial port pinout:*

   Two different pinouts are used for the 9-pin serial port of personal computers; pins 2 and 3 are reversed between the two types. Determine which type is used by the computer to be connected to the SD034. The computer's manual, or the manual for the computer's I/O or serial board should list one of the following pinouts which we will refer to as **Type A** and **Type B** for clarity:

Type A		Type B	
1	DCD	1	DCD
2	TX	2	RX
3	RX	3	TX
4	DTR	4	DTR
5	SG	5	SG
6	DSR	6	DSR
7	RTS	7	RTS
8	CTS	8	CTS
9	RI	9	RI

If the pinout of the port is unavailable, the type can be determined by using the following procedure:

Power up the computer. Place the black probe of a voltmeter on pin 5 (signal ground) of the serial port connector and place the other probe on pin 2 of the same connector. Record the measured voltage. With the black probe still on pin 5, move the other probe to pin 3. Record this voltage.

TX voltage lies between -15V and -5V.
RX voltage lies between -3V and +3V.

Therefore, if the measured voltage is more negative at pin 2, the serial port is **Type A**. If pin 3 is the more negative voltage, the serial port is **Type B**.

✎ *Rewiring the Adapter:*

Loosen, but do not remove, the two threaded spacers on the connector face of the 25-pin DB25 backshell. Remove the two screws and nuts holding the backshell together and take both backshell halves off the connector.

Unsolder the orange and red wires from pins 2 and 3. Solder the orange wire to pin 3 and the red wire to pin 2. The SD034 is now configured as **Type A**.

Reassemble the backshell around the connector and attach it with the screws and nuts. Tighten the threaded spacer on each knurled screw. The re-configured SD034 may now be installed.

Internal Connections:

Shown below are diagrams of the 9-pin (DB9) to 25-pin (DB25) connections within the SD034 in both its configurations:

DB9		DB25
1	DCD	8
2	TX	2
3	RX	3
4	DTR	20
5	SG	7
6	DSR	6
7	RTS	4
8	CTS	5
9	RI	22

Type A

DB9		DB25
1	DCD	8
2	RX	3
3	TX	2
4	DTR	20
5	SG	7
6	DSR	6
7	RTS	4
8	CTS	5
9	RI	22

Type B

NR&D

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