

610110-90031

Cable Assembly

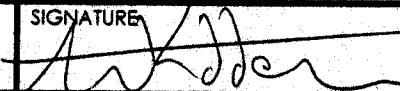
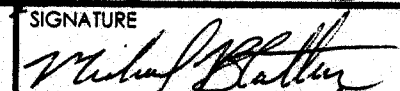
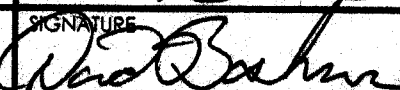
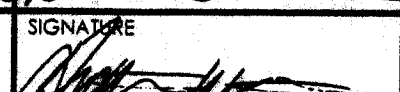
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Embedded Computer Systems

Cable Assembly

G.Master DTE/DB9M Serial Adapter, Ports A & B

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1.0 PURPOSE

This document describes how to build a cable that breaks out two DB9M plugs suitable for use as standard DB9 RS-232 serial ports from the Graphics Master 2x25 2mm connector J20.

The cable includes a loopback of DCD/DTR/DSR (on the non-Graphics Master side) for full null-modem connectivity. A null-modem cable is required to connect to a PC.

The unused conductors of this cable can also be used for prototyping of other I/O functions on J20 (e.g. USB, CODEC, digital I/Os).

2.0 TOOLS REQUIRED

- 2.1 IDC crimper
- 2.2 Wire cutters
- 2.3 Label printer

3.0 BILL OF MATERIALS:

ITEM	QTY	ADS PART NO.	DESCRIPTION
1	1/2	n/a	Samtec 50-pin connector and ribbon cable, P/N TCSD-25-D-20.00-01-N (connectors on both ends, 20-inch; cut cable into two 10-inch lengths)
2	2 ea.	210020-00904	DB9 plug for ribbon cable attachment, AMP #747321-4 or equivalent

4.0 ASSEMBLY INSTRUCTIONS:

- 4.1 Separate wires 23-50 in ribbon cable (Item 1) from each other. Pull apart as short a length as practical (usually about 1.5 inches).
- 4.2 Clip off unused wires back by the amount of the separation (1.5 inches)
- 4.3 Lay separated wires onto DB9 connectors as shown in the following table. Note that Serial A/Serial B share a ground wire. You can use wires clipped off in the previous step for these connections.

Signal	J20	Serial A	Serial B
	2mm 50-pin	DB9M	DB9M
RXDA	23	2	
TXDA	25	3	
CTSA	27	8	
RTSA	29	7	
DTRA	31	4	
DCDA	33	1	
DSRA	35	6	
RIA	37	9	
GND	39	5	
RXDB	24		2
TXDB	26		3
CTSB	28		8
RTSB	30		7
DTRB	32		4
DCDB	34		1
DSRB	36		6
RIB	38		9
GND	40		5

- 4.4 Crimp each of the DB9 connectors. Use wire strain relief, if available.
- 4.5 Place a permanent adhesive label on the cable that specifies the cable assembly part number. You may have to use a band of clear tape wrapped around the cable to hold the label in place.
- 4.6 Place a label on each of the DB9 connectors indicating "Serial A" and "Serial B".

5.0 REVISION HISTORY

LTR	DESCRIPTION	DATE	APPROVAL
1	Initial cable created based on 610110-90012 Use pin 40 for Serial B GND	1/6/03	ak