RS232C Cable - DB25 Connectors

Subject: RS232 Signals and DB25 Connections		
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Connector Wiring

Pin		Purpose	Signal To	Pin		Purpose	Signal To
1	FG	Frame Ground (Shield)	-	14	STD	Secondary Transmit Data	DCE
2	TD	Transmit Data	DCE	15	TC	Transmit Clock	DTE
3	RD	Receive Data	DTE	16	SRD	Secondary Receive Data	DTE
4	RTS	Request To Send	DCE	17	RC	Receive Clock	DTE
5	CTS	Clear To Send	DTE	18	-	Unassigned	-
6	DSR	Data Set Ready	DTE	19	SRTS	Secondary Request To Send	DCE
7	SG	Signal Ground	-	20	DTR	Data Terminal Ready	DCE
8	CD	Carrier Detect	DTE	21	SQ	Signal Quality Detector	DTE
9	-	Positive DC (+12V) Test	-	22	RI	Ringing Indicator	DTE
10	-	Negative DC (-12V) Test	-	23	CH/CI	Data Signal Rate Selector	DCE
11	-	Unassigned	-	24	DA	Synchronous TX Clock	DCE
12	SDCD	Secondary Carrier Detect	DTE	25	-	Unassigned	-
13	SCTS	Secondary Clear to Send	DTE	Shell	-	May be connected to shield	-

Notes:

1. The RS232 standard was originally developed in the 1960s as a means of connecting remote data terminal equipment (DTE) to a central mainframe computer via data communications equipment (DCE) and telephone lines. It was renamed EIA232 in the early 1990s. As well as changing its name the EIA (Electronic Industries Association) renamed some signal lines and defined some new ones including the shield.
2. RS232 uses negative, bipolar logic in which a negative voltage between -3V and -12V represents logic '1' and a positive voltage between +3v and +12V represents logic '0'. Modern computer equipment often ignores the negative voltage and accepts zero voltage as the logic '1' state. The area between +3V and -3V is intended to mask line noise.
3. Circuits powered by +5V can drive RS232 circuits directly by using zero volts for logic '1' and +5V for logic '0', however this technique is unreliable over long cables.
4. A normal RS232 cable is wired pin for pin from a male to a female connector, although in practice usually only pins 2, 3, 4, 5, 6, 7, 8, 20 and 22 are used. The cable is normally shielded with the shield connected to pin 1.
5. Always check for compatibility of <u>all</u> the equipment that you intend connecting together with RS232 cables because some manufacturers use non-standard pin configurations that could cause malfunction and/or damage to incompatible equipment. For example it is common for some of the pins to be linked together.

Connector Pins Layouts

Solder Side View of Male DB25 Connector	Solder Side View of Female DB25 Connector