

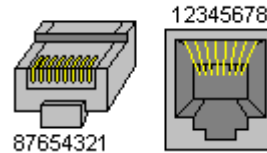


Common Communications Cable Configurations

Q: What are the most common cables used in communications and what are their pin-outs?

A: We get asked this a lot, so the following is a synopsis of the most common pin-outs for communications cables.

Ethernet:



Straight Through Cable (T568B):

RJ45 Plug and Jack Pin Out

RJ45 Pin #	Wire Color (T568B)	Wire Diagram (T568B)	10Base-T Signal 100Base-TX Signal	1000Base-T Signal
1	White/Orange		Transmit+	BI_DA+
2	Orange		Transmit-	BI_DA-
3	White/Green		Receive+	BI_DB+
4	Blue		Unused	BI_DC+
5	White/Blue		Unused	BI_DC-
6	Green		Receive-	BI_DB-
7	White/Brown		Unused	BI_DD+
8	Brown		Unused	BI_DD-


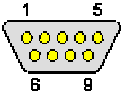








Ethernet (cont'd):

Cross Over Cable (T568B):

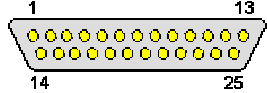
RJ45 Pin # (END 1)	Wire Color	Diagram End #1	RJ45 Pin # (END 2)	Wire Color	Diagram End #2
1	White/Orange		1	White/Green	
2	Orange		2	Green	
3	White/Green		3	White/Orange	
4	Blue		4	White/Brown	
5	White/Blue		5	Brown	
6	Green		6	Orange	
7	White/Brown		7	Blue	
8	Brown		8	White/Blue	

+Note: The cross over Ethernet cable layout is suitable for 1000Base-T operation, all 4 pairs are crossed.

RS-232 (9 Pin at the PC):

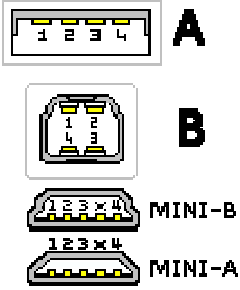
DB-9 Pin	Name	Dir	Description	PC Connector
1	CD		Carrier Detect	
2	RXD		Receive Data	
3	TXD		Transmit Data	
4	DTR		Data Terminal Ready	
5	GND		System Ground	
6	DSR		Data Set Ready	
7	RTS		Request to Send	
8	CTS		Clear to Send	
9	RI		Ring Indicator	

RS-232 (25 Pin at the PC):

Pin	Name	Dir	Description	PC Connector
1	SHIELD	-	Shield Ground	
2	TXD	→	Transmit Data	
3	RXD	←	Receive Data	
4	RTS	→	Request to Send	
5	CTS	←	Clear to Send	
6	DSR	←	Data Set Ready	
7	GND	-	System Ground	
8	CD	←	Carrier Detect	
20	DTR	→	Data Terminal Ready	
22	RI	←	Ring Indicator	

Pins not shown are normally no connection.

USB:

Pin	Name	Cable color	Description	Peripheral Connector
1	VCC	Red	+5 VDC	
2	D-	White	Data -	
3	D+	Green	Data +	
4	GND	Black	Ground	

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