

Building Custom Cables for Control Hostess 550 Controllers (16-Port) RS-232

Compatibility

Use this document if you want to build customized cables for the following Control controllers:

- Hostess 550 (16-port models; 100-pin and RJ45)
- Hostess 550/MC (16-port models)

Note: If you want to build cables for other Control controllers, order the appropriate cabling documentation.

Building Cables

Usually you can buy the correct cables from distributors and electronics stores for your controller. In some cases, your peripheral equipment may need custom cables.

Check your equipment to understand what kind of cable to use, Data Terminal Equipment (DTE) or Data Communications Equipment (DCE). All Control serial connectors are configured as DTE.

Shielding Cables

The controller falls within the limits for a Class A computing device established by the FCC. To comply with these limits, the serial cables used to connect the controller to external devices should be shielded. The shield should be connected to a metal or metallized connector shroud on each end of the cable. It is not necessary to connect the shield to a connector pin on the end of the cable connected to the controller.

Using Modular Connectors

The RJ45 connector is similar to the phone-jack type of connector. Both the connector and cable are easily available from your distributor or any electronics store. You may want to connect your peripherals using a D-shell type of connector to an RJ45 interface with a straight-through cable and an adapter that you build.

DTE to DCE Straight-Through Cable

The following figure shows the most common types of DTE to DCE cables. This configuration also referred to as a modem cable, because it works with most modems.

Note: If you have a DTE to DCE interface but are uncertain as to what signals are needed, you can use a full 25-wire cable. This cable is constructed like the following cable example, but in addition, all of the remaining pins are connected.

Controller Connectors				Remote Connectors			
Signal Name	DB9 Pins	DB25 Pins	RJ45 Pins	DB9 Pins	DB25 Pins	Signal Name	
TxD	3	2	4	→	3	2	TxD
RxD	2	3	5	←	2	3	RxD
RTS	7	4	1	→	7	4	RTS
CTS	8	5	8	←	8	5	CTS
GND	5	7	3	→	5	7	GND
DCD	1	8	6	←	1	8	DCD
DTR	4	20	2	→	4	20	DTR

DTE to DTE Null-Modem Cable

If you need RTS-CTS/DTR-DSR hardware flow control, you can probably use the following figure. Some equipment may require different connections for the control signals.

Controller Connectors				Remote Connectors			
Signal Name	DB9 Pins	DB25 Pins	RJ45 Pins	DB9 Pins	DB25 Pins	Signal Name	
TxD	3	2	4	→	2	3	RxD
RxD	2	3	5	←	3	2	TxD
RTS	7	4	1	→	8	5	CTS
CTS	8	5	8	←	7	4	RTS
DTR	4	20	2	→	6	6	DSR
				→	1	8	DCD
GND	5	7	3	→	5	7	GND
DSR	6	6	7	←	4	20	DTR
DCD	1	8	6	←			

DTE to DTE Data-Only Null Modem Cable

If no hardware flow is needed, use the following figure. With a 3-wire cable, software flow control must be used, if control is needed.

Controller Connectors				Remote Connectors			
Signal Name	DB9 Pins	DB25 Pins	RJ45 Pins	DB9 Pins	DB25 Pins	Signal Name	
TxD	3	2	4	→	2	3	RxD
RxD	2	3	5	←	3	2	TxD
GND	5	7	3	→	5	7	GND

DTE to DTE Control Loop-Back Cable

Some equipment may not require hardware handshaking, but may require that certain control signals are active before sending data.

Controller Connectors				Remote Connectors		
Signal Name	DB9 Pins	DB25 Pins		DB9 Pins	DB25 Pins	Signal Name
TxD	3	2	→	2	3	RxD
RxD	2	3	←	3	2	TxD
RTS	7	4	→	7	4	RTS
CTS	8	5	←	8	5	CTS
DCD	1	8	→	1	8	DCD
DTR	4	20	→	4	20	DTR
GND	5	7	→	5	7	GND