RS-232/422 8-Port (DB25)
Interface Reference Card
Hostess® *i* 8, Hostess *i*/*E* 8, Hostess *i*/*MC* 8

Scope

This reference card provides technical information for the interface box that you purchased with your Comtrol™ controller.

The default setting for the interface box is RS-232 asynchronous mode. The following is a list of other possible configurations:

- RS-422 asynchronous mode
- RS-232 or RS-422 synchronous mode (available on the Hostess *i*, ports 1 and 2)
- RS-232 synchronous mode (available on the Hostess *i*/*E*, Ports 1 and 2)

Prerequisites

The following items are needed to install the interface box:

- An applicable Comtrol controller.
- Phillips screwdriver to remove the backplate from the interface box when configuring for RS-422 asynchronous or RS-232/422 synchronous mode.
- Optionally, tweezers to move the jumpers during configuration.

This reference card assumes that you are somewhat familiar with installing equipment for your computer.

It assumes that you have already configured and installed the controller (this includes setting the shorting jumpers on the controller for modes other than RS-232 asynchronous). Also, the device driver should already be installed.

Specifications

Table 1 lists specifications for the interface box.

Table 1. Interface Box Specifications

Function	Specification
I/O ports	8 ports
Interface	RS-232 and RS-422
FCC certification	Complies with FCC Class A for section 15 subpart J conducted and radiated types of interface.
Default mode	RS-232
Dimensions	6.5" x 3.6" x 1.8"

Refer to the *Hardware Installation Guide* or *Hardware Reference Card* for specific information about the controller.

Software specific information and a comprehensive support section can be found in the *Installation Guide* or *Reference Card* for the device driver you ordered.

If you did not order a Comtrol device driver, you may receive a *Programming Guide* that contains programming information for your controller.

Configuring the Interface Box

If you plan to use RS-232 asynchronous mode, the jumper settings inside the interface box do not need to be changed. If you wish to use RS-422 asynchronous mode or RS-232/422 synchronous mode, remove the back cover from the interface box and use Table 2 or 3 to set the jumpers.

Table 2 shows the jumper settings for RS-232 and RS-422 asynchronous modes.

Note: When looking into the interface box with the cable hanging out the bottom, the jumper pins are numbered from left to right; 1, 2, and 3 for the 3-pin jumpers, and 1 and 2 for the 2-pin jumpers.

Table 2. RS-232/422 Asynchronous Settings

	RS-232 (Default)				RS-422		
Port	**Jumper**	**Male**	**Female**	**Port**	**Jumper**	**Male**	**Female**
1, 2, 6-8	JP5-JP20	Off*	Off*	1	JP5	On**	On**
3	JP1	†	ý		JP6	On**	On**
3	JP2	†	ý	2	JP7	On**	On**
4	JP3	†	ý		JP8	On**	On**
4	JP4	†	ý	3	JP1	†	ý
5	JP21	†	†		JP2	†	ý
5	JP22	†	†		JP9	On**	On**
					JP10	On**	On**
				4	JP3	†	ý
					JP4	†	ý
					JP15	On**	On**
					JP16	On**	On**

* Off means that the jumper is installed over one pin or completely removed (2-pin jumpers).

** On means that the jumper is installed over both pins (2-pin jumpers).

† `1 2 3` The jumper is installed over pins 1 and 2 (3-pin jumpers).

ý `1 2 3` The jumper is installed over pins 2 and 3 (3-pin jumpers).

Table 2. RS-232/422 Asynchronous Settings

	Jumper	Male	Female
5	JP11	On**	On**
	JP12	On**	On**
	JP21	†	†
	JP22	†	†
6	JP17	On**	On**
	JP18	On**	On**
7	JP13	On**	On**
	JP14	On**	On**
8	JP19	On**	On**
	JP20	On**	On**

* Off means that the jumper is installed over one pin or completely removed (2-pin jumpers).

** On means that the jumper is installed over both pins (2-pin jumpers).

† `1 2 3` The jumper is installed over pins 1 and 2 (3-pin jumpers).

ý `1 2 3` The jumper is installed over pins 2 and 3 (3-pin jumpers).

Table 3 shows the jumper settings for RS-232 and RS-422 synchronous modes (Hostess *i* and Hostess *i/E* only).

Table 3. RS-232/422 Synchronous Settings

RS-232				RS-422			
Port	Jumper	Male	Female	Port	Jumper	Male	Female
1	JP1	ý	†		JP1	†	ý
	JP2	ý	†		JP2	†	ý
	JP21	ý	ý		JP5	On**	On**
2	JP3	ý	†	**1**	JP6	On**	On**
	JP4	ý	†		JP9	Off*	Off*
	JP22	ý	ý		JP10	Off*	Off*
3-8	JP5-JP20	Off*	Off*		JP21	†	†

* Off means that the jumper is installed over one pin or completely removed (2-pin jumpers).

** On means that the jumper is installed over both pins (2-pin jumpers).

† `1 2 3` The jumper is installed over pins 1 and 2 (3-pin jumpers).

ý `1 2 3` The jumper is installed over pins 2 and 3 (3-pin jumpers).

Table 3. RS-232/422 Synchronous Settings (Continued)

	Jumper	Male	Female
2	JP3	†	ý
	JP4	†	ý
	JP7	On**	On**
	JP8	On**	On**
	JP15	Off*	Off*
	JP16	Off*	Off*
	JP22	†	†
3-8	JP11-JP14 JP17-JP20	Off*	Off*

* Off means that the jumper is installed over one pin or completely removed (2-pin jumpers).

** On means that the jumper is installed over both pins (2-pin jumpers).

† `1 2 3` The jumper is installed over pins 1 and 2 (3-pin jumpers).

ý `1 2 3` The jumper is installed over pins 2 and 3 (3-pin jumpers).

Notes: *Only ports 1 and 2 on the Hostess* i *and Hostess* i/E *can be configured for RS-232 synchronous mode. CD (Carrier Detect) and CTS (Clear to send) are not supported on ports 3 through 5 when using this mode. Ports 1 and 2 support DSR in this mode.*

Only ports 1 and 2 on the Hostess i *can be configured for RS-422 synchronous mode. Ports 3 and 4 are inoperable when using this mode.*

Installing the Interface Box

Use the following procedure to install the interface box:
1. Plug the interface box cable into the controller's connector.
2. **Manually** twist the plug's thumbscrews into the connector, being careful not to overtighten.

If you need pinout information for the cable connector that attaches to the controller, see the documentation that came with the controller.

Attaching the Peripherals

Use the following steps to attach your peripherals:

1. Connect your peripherals to the interface box. The ports on the interface box are numbered from 1 to 8.
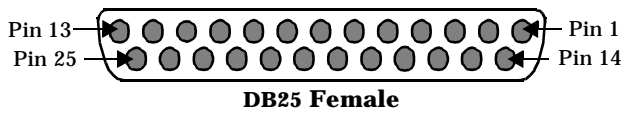2. Use the following figures and Tables 4 and 5 if you need information about DB25 connector pinouts.

Pin 13 — Pin 1
Pin 25 — Pin 14

DB25 Female

Pin 1 — Pin 13
Pin 15 — Pin 14

DB25 Male

Table 4. RS-232/422 Port Pinouts

Port	RS-232			RS-422		
	Signal	Pin	Notes	Signal	Pin	Notes
1	TX	2		RXCLK+	9	Note 7
	RX	3		RXCLK-	10	Note 7
	RTS	4		TXCLK+	12	Note 7
	CTS	5		TXCLK-	13	Note 7
	DSR	6	Note 1	RX+	15	
	GND	7		RX-	17	
	CD	8		TX+	19	
	TXCLK	15	Note 2	TX-	25	
	RXCLK	17	Note 3			
	DTR	20				
2	TX	2		RXCLK+	9	Note 8
	RX	3		RXCLK-	10	Note 8
	RTS	4		TXCLK+	12	Note 8
	CTS	5		TXCLK-	13	Note 8
	DSR	6	Note 4	RX+	15	
	GND	7		RX-	17	
	CD	8		TX+	19	
	TXCLK	15	Note 5	TX-	25	
	RXCLK	17	Note 6			
	DTR	20				
3 – 8	TX	2		RX+	15	
	RX	3		RX-	17	
	RTS	4		TX+	19	
	CTS	5		TX-	25	
	GND	7				
	CD	8				
	DTR	20				

Notes:

1: Port 5 CTS is disabled in RS-232 synchronous mode and DSR1 is read from Port 5 CTS. Port 5 RS-422 mode is not allowed when DSR is used.

2: Port 3 CD is disabled in RS-232 synchronous mode, and TXCLK is input to Port 1 when TXCLK is used.

3: Port 3 CTS is disabled in RS-232 synchronous mode, and RXCLK is input to Port 1. Port 3 RS-422 mode is not allowed when RXCLK is used.

4: Port 5 CD is disabled in RS-232 synchronous mode, and DSR2 is read from Port 5 CD when DSR is used.

5: Port 4 CD is disabled in RS-232 synchronous mode, and TXCLK is input to Port 1 when TXCLK2 is used.

6: Port 4 CTS is disabled in RS-232 synchronous mode, and RXCLK is input to Port 2 when RXCLK2 is used. Port 4 RS-422 mode is not allowed.

7: Port 3 is unavailable in RS-422 synchronous mode. Set Port 3 on the controller to RS-422 mode.

8: Port 4 is unavailable in RS-422 synchronous mode. Set Port 4 on the controller to RS-422 mode.

Shielding Cables

The interface 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 chassis ground pin of the DB25 connector.

Technical Support

If you have questions about your controller, contact Comtrol using one of the following methods.

Corporate Headquarters:

WEB site: www.comtrol.com

email: support@comtrol.com

FAX: (612) 631-8117

Phone: (612) 631-7654

BBS (for driver updates): (612) 631-8310

Note: The BBS supports modem speeds up to 28.8 Kbps with 8 bits, and no parity.

FTP site (for driver updates): ftp://ftp.comtrol.com

Comtrol Europe:

email: support@comtrol.co.uk or info@comtrol.co.uk

BBS: +44 (0) 1869 243687

Note: *The BBS supports modem speeds up to 14.4 Kbps with 8 bits and no parity.*

FAX: +44 (0) 1869 323211

Phone: +44 (0) 1869 323220

Comtrol has a staff of hardware and software engineers, and technicians available to help you.