

Ph.1

Chapter 4

EIA-232: RJ-45 to DB-25

Digi RJ-45 Connector Pin Assignments

10 pin RJ-45 plugs may be difficult to obtain in the retail market; therefore, most Digi device driver software incorporates an optional feature called ALTPIN, which swaps the logical functions of DSR (Data Set Ready) with DCD (Data Carrier Detect).

When ALTPIN is enabled, DCD becomes available on pin 1 of an 8 pin RJ-45 connector (equivalent to pin 2 of a 10 pin connector).

| Signal | Description | DTE Use | Pin # |
|-------------------------|---------------------------------------|-----------|-------|
| RI | Ring Indicator | Input | 1 |
| DSR (DCD ^a) | Data Set Ready (Data Carrier Detect-) | Input | 2 |
| RTS | Request to Send | Output | 3 |
| GND | Chassis Ground | N/A | 4 |
| TxD | Transmitted Data | Output | 5 |
| RxD | Received Data | Input | 6 |
| SG | Signal Ground | reference | 7 |
| CTS | Clear to Send | Input | 8 |
| DTR | Data Terminal Ready | Output | 9 |
| DCD (DSR-) | Data Carrier Detect (Data Set Ready-) | Input | 10 |

a. When ALTPIN is in effect.

RJ Connector Types

The following table shows the relationship of various RJ plugs to the Digi RJ-45 10 pin jack. The Digi 10 pin jack can accept any of the listed plug types. The wiring of each plug type corresponds to support of specific capabilities such as software handshaking, hardware handshaking, and the Digi ALTPIN feature.

| Digi 10 pin Jack | Signal Name | RJ-45 10 pin Plug | RJ-45 8 pin Plug | RJ-11 6-Pin Plug | RJ-11 4-Pin Plug |
|------------------|--|-------------------|------------------|------------------|------------------|
| 1 | RI | 1 | | | |
| 2 | DSR (DCD*) *When ALTPIN is in effect. | 2 | 1 | | |
| 3 | RTS | 3 | 2 | 1 | |
| 4 | GND | 4 | 3 | 2 | 1 |
| 5 | TxD | 5 | 4 | 3 | 2 |
| 6 | RxD | 6 | 5 | 4 | 3 |

Using an 8 pin RJ-45 plug, the following cable wiring supports most serial terminals or printers with either software or hardware handshaking using the Digi ALTPIN option.

Most terminals and printers use Request to Send/Clear to Send (RTS/CTS) for hardware handshaking. The cable shown supports this method.

ALTPIN Terminal/Printer Cable for Software (XON/XOFF) or Hardware (RTS/CTS) Handshaking

| RJ-45 8 pin (Digi End) | | | DB-25 Male (Terminal/Printer) | |
|---|-----|---------------------------|----------------------------------|---------|
| Signal | Pin | | Pin | Signal |
| DCD* | 1 | connected to | 20 | DTR |
| * ALTPIN must be turned on for pin 1 to be DCD. When ALTPIN is enabled, DCD becomes available on pin 1 of an 8 pin RJ-45 connector (equivalent to pin 2 of a 10 pin connector). | | | | |
| RTS | 2 | connected to | 5 | CTS |
| GND | 3 | connected (via shield) to | Shell | GND |
| TxD | 4 | connected to | 3 | RxD |
| RxD | 5 | connected to | 2 | TxD |
| SG | 6 | connected to | 7 | SG |
| CTS | 7 | connected to | 4 | RTS |
| DTR | 8 | connected to | 6+8 | DSR+DCD |

Note: Some terminal or printer manufacturers may use different methods of flow control. Consult your documentation for specific wiring requirements.

RJ-45 Fully-Wired Terminal/Printer Cable

Using a 10 pin RJ-45 plug, the following cable wiring supports most serial terminals or printers with either software or hardware handshaking. This cable is valid with any Digi RJ-45 serial port.

Most terminals and printers use Request to Send/Clear to Send (RTS/CTS) for hardware handshaking. The cable shown supports this method.