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Installation Guide

Digi ClassicBoard 4

Digi ClassicBoard 8

Digi ClassicBoard 16

90000001F

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Electronic Emission Notices

Federal Communications Commission (FCC) Statement

Radio Frequency Interference (RFI) **(FCC 15.105)**

This equipment has been tested and found to comply with the limits for Class B digital devices pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Labeling Requirements **(FCC 15.19)**

This device complies with Part 15 of FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Modifications **(FCC 15.21)**

Changes or modifications to this equipment not expressly approved by the manufacturer may void the user's authority to operate this equipment.

Cables **(FCC 15.27)**

Shielded cables *must* be used to remain within the Class B limitations.

Declaration Of Conformity

(in accordance with FCC Dockets 96-208 and 95-19)

Manufacturer's Name: Digi International

Corporate Headquarters: 11001 Bren Road East
Minnetonka, MN 55343

Digi International declares that the products:

Product Names: Digi ClassicBoard 4
Digi ClassicBoard 8
Digi ClassicBoard 16

Model Numbers:

50600073	50600080
50600071	50600111
50600072	50600110
50600070	50000622-01
	50000622-02

to which this declaration relates meets the requirements specified by the Federal Communications Commission as detailed in the following specifications:

Part 15, Subpart B, for Class B equipment
FCC Docket 96-208 as it applies to Class B personal computers and peripherals

The product listed above has been tested at an External Test Laboratory certified per FCC rules and has been found to meet the FCC Part 15, Class B, Emission Limits. Documentation is on file and available from the Digi International Homologation Department.

Digi ClassicBoard

Tested To Comply
With FCC Standards

FOR HOME OR OFFICE USE

Industry Canada Compliance Statement

This Class B digital apparatus meets the requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la Classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

European Union EMC Directive

This product has been tested and found to comply with the following European Union EMC standards:

- EN 55022 Class B
- EN 50082-2

Safety Compliance

UL-1950

CSA 22.2 No. 950

EN-60950

Introduction

This Installation Guide covers the installation and configuration of the Digi ClassicBoard 4, the Digi ClassicBoard 8, and the Digi ClassicBoard 16 asynchronous serial communications boards for ISA (Industry Standard Architecture) personal computers. ISA personal computers include IBM AT and compatible computers and 80386/80486/Pentium-based computers that employ the ISA bus.

In addition to the board itself (hardware), you may also need to install device driver software for your operating system so that programs can communicate with the board. Device driver installation instructions are in the software manual included with the software diskette(s).

Components

The carton in which your Digi ClassicBoard was shipped should contain the following items:

- Digi ClassicBoard
- Installation Guide (this manual)
- One or more software packets containing device driver diskettes and the software manual
- A bootable diskette which allows you to run the configuration utility and the diagnostic utility

Installation

Note:

- The Digi ClassicBoard functions in one of two modes: (1) Plug and Play mode or (2) legacy mode. Since the Digi ClassicBoard is shipped from the factory in Plug and Play mode, the board will be automatically configured if it is immediately installed in a system that is running Windows® 95. If you install the board in a system which is not running Windows 95, you can then easily and quickly program the board with a custom or a legacy configuration through a Digi-supplied software configuration utility rather than laboriously set hardware switches. (See "Legacy Mode" on page 21).
- Multiple Digi ClassicBoards installed in a system can not be daisy chained together in order to share a single IRQ line.

Important!

The Digi ClassicBoard contains several components that can be permanently damaged if the board is handled improperly. To avoid accidental damage, hold the board only by its edges and follow these recommendations:

- Before handling the board, touch a grounded object to discharge any static electricity that has built up on your body.
- Never insert or remove the board while power is applied to the computer. Once the computer power switch is shut off, wait at least 10 seconds for the power supply to discharge before inserting or removing the board.

Plugging in the Board

1. Before installing the Digi ClassicBoard, record its serial number so it will be available if you need to contact Digi International.
2. Make sure your computer's power is turned off; remove the cover. (Refer to your computer's manual for instructions on cover removal and option board installation and cautions).
3. Locate an available 16-bit slot in your computer and remove the slot plate.
4. Plug the Digi ClassicBoard into the slot and screw the endplate to the computer chassis by using the screw you removed from the slot plate. The endplate must be screwed to the computer chassis to remain in compliance with Part 15 of the FCC rules for class B operation.
5. Install the interface cable assembly or connector box to the Digi ClassicBoard. (See "Connector Options" on page 4).



- Use only Digi-supplied shielded interface cable assemblies or connector boxes to remain in compliance with FCC limits for Class B operation.
- When connecting an external connector box to a Digi ClassicBoard 16, be sure the power to the host computer is turned off.

6. Replace your computer's cover.

Connector Options

The Digi ClassicBoard 4 and the Digi ClassicBoard 8 can be set up with DB-25 connectors (male or female, EIA-422 or EIA-232 interface, DTE or DCE wiring on the EIA-232 interface), DB-9 connectors (male or female, DTE wiring) or 10-pin RJ-45 jacks. The Digi ClassicBoard 16 is available only with 10-pin RJ-45 connectors (with the EIA-232 interface) on external connector boxes.

DB-25 Connectors

The pin assignments for the EIA-232 interface are shown in Table 1.

Table 1 DB-25 EIA-232 Pin Assignments

Signal	Description	DTE Connector	DCE Connector	Pin #
GND	Chassis Ground	N/A	N/A	Shell
TxD	Transmitted Data	Output	Input	2
RxD	Received Data	Input	Output	3
RTS	Request to Send	Output	Input	4
CTS	Clear to Send	Input	Output	5
DSR	Data Set Ready	Input	Output	6
SG	Signal Ground	*reference*	*reference*	7
DCD	Data Carrier Detect	Input	Output	8
DTR	Data Terminal Ready	Output	Input	20
RI	Ring Indicator	Input	Output	22

Note: The DCE configuration is equivalent to a DTE connector plus a fully-wired null modem adapter. Thus, DCD (Data Carrier Detect) and DSR (Data Set Ready) are wired together internally and carry the DTE equivalent of DTR (Data Terminal Ready). For this reason, DCE cables cannot be used with modems.

The pin assignments for the EIA-422 interface are identified in Table 2. No connections should be made to pins not listed.

Table 2 DB-25 EIA-422 Pin Assignments

Signal	Description	Data Direction	Pin #
TxD+	Transmit Data High	Output	2
RxD+	Receive Data High	Input	3
RTS+	Request To Send High	Output	4
CTS+	Clear To Send High	Input	5
CTS-	Clear To Send Low	Input	13
TxD-	Transmit Data Low	Output	14
RxD-	Receive Data Low	Input	16
RTS-	Request To Send Low	Output	19

DB-25 Connector Options

DB-25 connectors are available in two styles: a quad or octa cable assembly, or a connector box assembly. Either style may be ordered with male or female DB-25 connectors, configured as DTE or DCE devices.

Quad and Octa Cable Option (DTE or DCE)

Figure 1 shows the eight-port cable assembly, and Table 3 gives the part numbers of the available configurations.

Figure 1 **Octa-Cable Assembly**

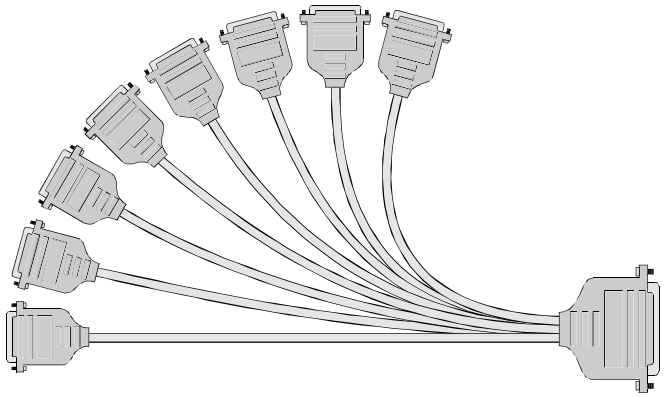


Table 3 **DB-25 Cable Options and Part Numbers**

	DTE Quad	DCE Quad	DTE Octa	DCE Octa	EIA-422 Quad	EIA-422 Octa
DB-25 Male	76000008	76000007	76000021	76000020	76000178	76000179
DB-25	76000006	76000005	76000019	76000018	N/A	N/A

Female						

Quad and Octa Connector Boxes (DTE or DCE)

Figure 2 **Eight-Port DB-25 Connector Box**

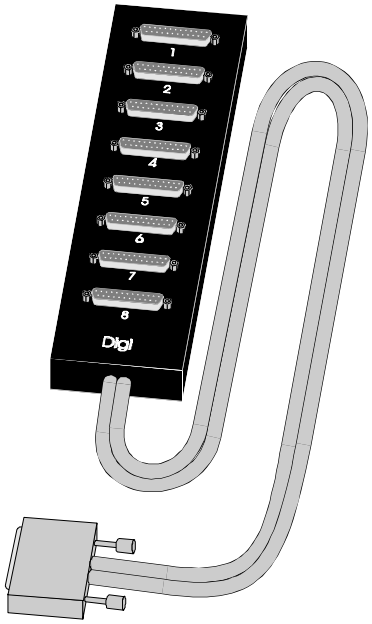


Table 4 **Connector Box Options and Part Numbers**

	DTE Quad	DCE Quad	DTE Octa	DCE Octa
DB-25 Male	76000030	76000028	76000031	76000029
DB-25 Female	76000026	76000024	76000027	76000025

DB-9 Connectors

The Digi ClassicBoard 4 and the Digi ClassicBoard 8 can be configured with male or female DB-9 connectors (DTE wiring only).

Table 5 DB-9 EIA-232 Pin Assignments

Signal	Description	Direction	Pin #
GND	Chassis Ground	N/A	Shell
DCD	Data Carrier Detect	Input	1
TxD	Transmitted Data	Output	3
RxD	Received Data	Input	2
DTR	Data Terminal Ready	Output	4
SG	Signal Ground	*reference*	5
DSR	Data Set Ready	Input	6
RTS	Request to Send	Output	7
CTS	Clear to Send	Input	8
RI	Ring Indicator	Input	9

The pin assignments for the EIA-422 interface are identified in Table 6. No connections should be made to pins not listed.

Table 6 DB-9 EIA-422 Pin Assignments

Signal	Description	Direction	Pin #
RTS+	Request to Send High	Output	2
RTS-	Request to Send Low	Output	3
CTS+	Clear to Send High	Input	4
CTS-	Clear to Send Low	Input	5
RxD+	Receive Data High	Input	6
RxD-	Receive Data Low	Input	7
TxD+	Transmit Data High	Output	8
TxD-	Transmit Data Low	Output	9

DB-9 connectors are available only in the quad or octa cable "fan-out" configuration. (See Figure 1, on page 6).

Table 7 DB-9 Quad and Octa Cable Options and Part Numbers

	DTE Quad	DTE Octa	EIA-422 Quad	EIA-422 Octa
DB-9 Male	76000003	76000015	76000004	76000017
DB-9 Female	76000001	76000013	76000002	76000014

RJ-45 Connectors

The Digi ClassicBoard 4 and the Digi ClassicBoard 8 can be configured with 10-pin RJ-45 modular jacks as an alternative to DB-25 connectors. The jacks accept plastic snap-in plugs like the ones used for connecting telephones. They are less bulky and more convenient to use than the DB-25, but have not undergone the standardization rigors that have been applied to the larger DB-25 connectors. Table 8 gives the part numbers of the applicable connector boxes which house the RJ-45 connectors. Table 9 gives the part numbers of the applicable RJ-45 wall mount cables.

Table 8 Four-Port and Eight-Port RJ-45 Connector Box Options

	Quad	Octa
RJ-45	76000038	76000033

Table 9 Four-Port and Eight-Port RJ-45 Wall Mount Cables

	Quad	Octa
RJ-45	76000180	76000181

The Digi ClassicBoard 16 can be configured only with RJ-45 connectors. There is no separate part number for the Digi ClassicBoard 16 RJ-45 connector box.

Modular Plugs

There are four types of modular plugs that can be used with Digi's RJ-45 10-pin jack. These are the 4- or 6-pin RJ-11 plugs, and the 8- or 10-pin RJ-45 plugs.

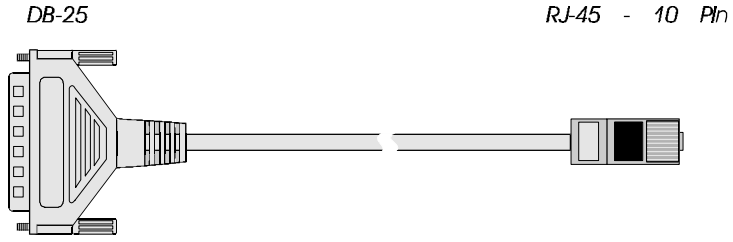
The 8- and 10-pin RJ-45 plugs are the same physical size, but the 10-pin version has one additional wire at each end of the row of contacts. Thus pins 1-8 of an 8 pin RJ-45 directly correspond to pins 2-9 of a 10-pin RJ-45 connector.

Similarly, the two RJ-11 plugs have the same physical dimensions, but the 6-pin version has an extra pin at each end. The RJ-11 plugs are physically smaller than RJ-45 plugs, but are designed so that they fit into the center of an RJ-45 jack. In this way, the four pins closest to the center of any size connector will always carry the same signals as the middle four pins of any other connector. The contacts of a 6-pin RJ-11 connector correspond directly to the middle six pins of an 8- or 10-pin RJ-45 connector, and so on.

RJ-45 to DB-25 Conversion

Since most EIA-232 devices are equipped with DB-25 connectors, it is necessary to buy or build an adapter to transfer the signals to a DB-25 plug. The most simple and direct approach is to purchase ready-made “cable legs” from a Digi dealer or distributor. These are made with a full 10-pin RJ-45 plug (which can be difficult to obtain in the retail market), connected via a two or four foot cable to a DTE-configured DB-25 plug.

Figure 3 RJ-45 to DB-25 "Cable Leg"



Pin	Signal
Shell	Chassis Ground
2	TxD
3	RxD
4	RTS
5	CTS
6	DSR
7	Signal Ground
8	DCD
20	DTR
22	RI

Pin	Signal
1	RI
2	DSR
3	RTS
4	Chassis Ground
5	TxD
6	RxD
7	Signal Ground
8	CTS
9	DTR
10	DCD

Table 10 Cable Leg Options and Part Numbers

	DB-25 Male	DB-25 Female	DB-9 Male
24 Inch Cables	61020024	61030024	61070024
48 Inch Cables	61020048	61030048	N/A

The pin configuration of the DB-25 connector on the cable leg is identical to that of the DB-25 connectors on the standard Digi DTE octa or quad cable, and it provides full modem control.

Since the cable leg's DB-25 connector is configured for DTE, you need a null modem cable or adapter for terminals and printers. See Figure 4 on page 14 and Figure 6 on page 16 for null modem configurations that can be used with cable legs.

If you don't need full modem control, you can use one of the many commercially available RJ-45 to DB-25 adapters. These have both an 8-pin RJ-45 jack and a DB-25 plug in a housing no larger than that found on a standard DB-25 plug. The plug and jack are connected within the housing by jumpers which may be installed by the end-user in any desired configuration.

Connecting Peripherals

Note: Shielded cable must be used to remain in compliance with Part 15 of FCC rules, and the shield should be connected to Chassis Ground (GND) at both ends of the cable run.

Software Handshaking (XON/XOFF) for Terminals and Printers

In most cases, serial terminals and printers need only a "three-wire" connection. (See Figures 4 and 5). All Digi ClassicBoard device driver software supports XON/XOFF (software) handshaking, so the only signal lines necessary are Transmitted Data (TxD), Received Data (RxD) and Signal Ground (SG).

Figure 4 Simple Terminal/Printer Cable (DB-25)

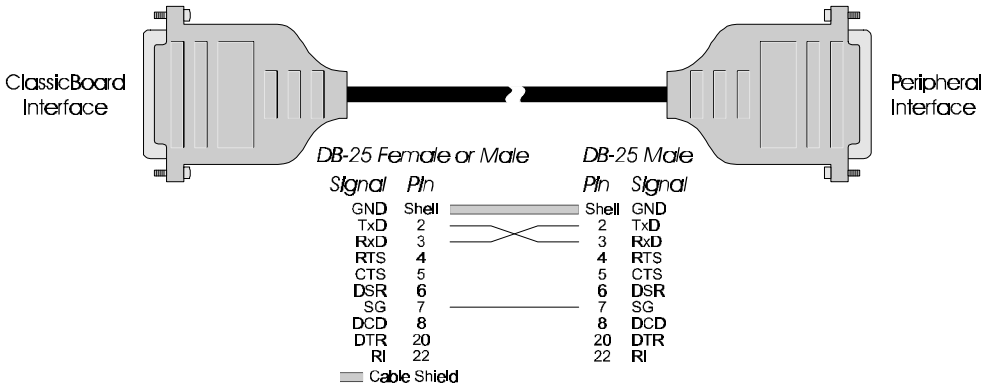
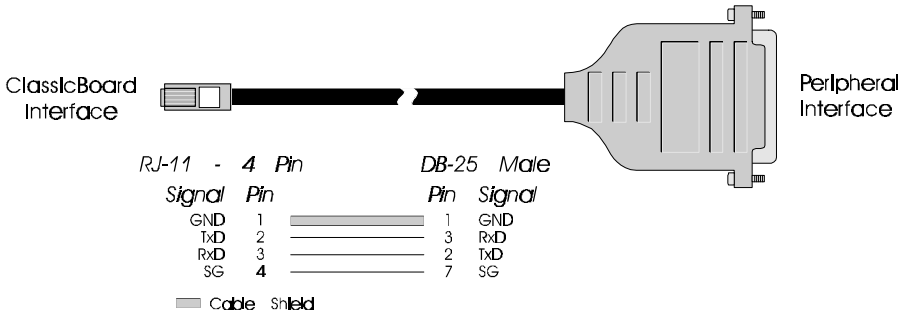


Figure 5 **Simple Terminal/Printer Cable (RJ-45)**



Hardware Handshaking (Ready/Busy) for Terminals and Printers

Most terminals and printers use Data Terminal Ready (DTR) for Ready/Busy hardware handshaking. The cables shown in Figures 6 and 7 support this method.

Figure 6 Terminal/Printer Cable with DTR Handshaking (DB-25)

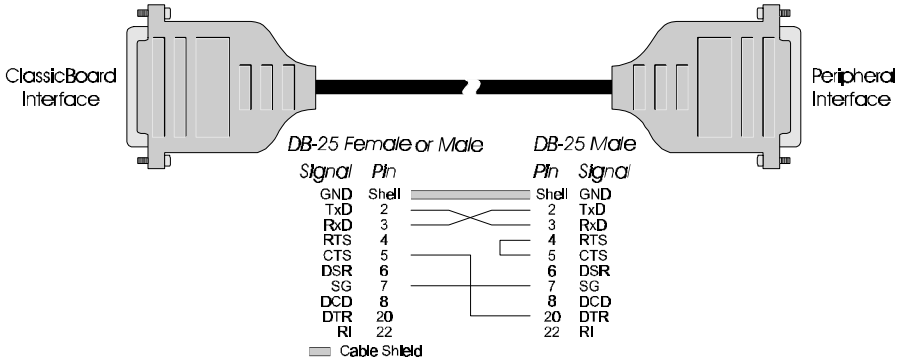
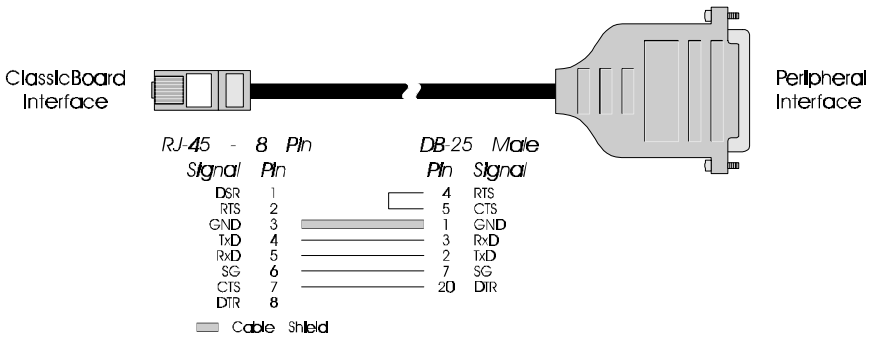


Figure 7 Terminal/Printer Cable with DTR Handshaking (RJ-45)





Some Okidata printers use a control signal on pin 11 called Supervisory Send Data (SSD) instead of DTR. In this case, instead of connecting CTS on the RJ-45 to pin 20 of the DB-25, connect CTS on the RJ-45 to pin 11 of the DB-25.

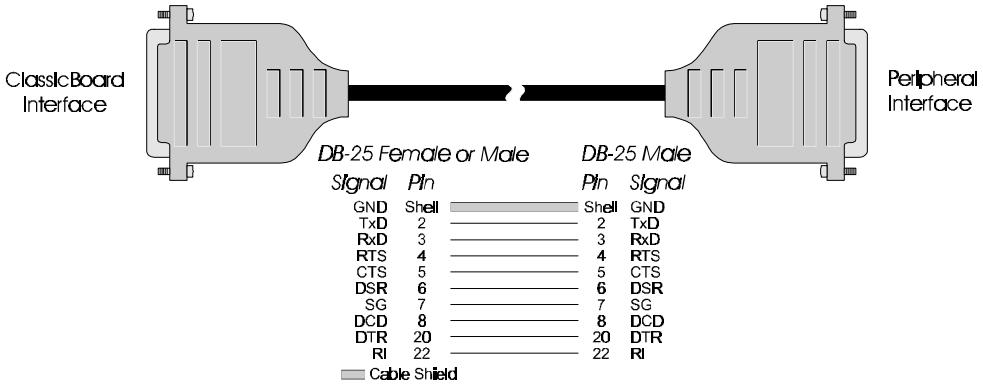
Other printer manufacturers may use different methods of flow control. Consult your printer's documentation for specific wiring requirements.

Modems

DB-25 Versions

Use a standard "straight-through" cable to connect a modem to a DTE-wired DB-25 connector on a fan out cable or connector box. (See Figure 8).

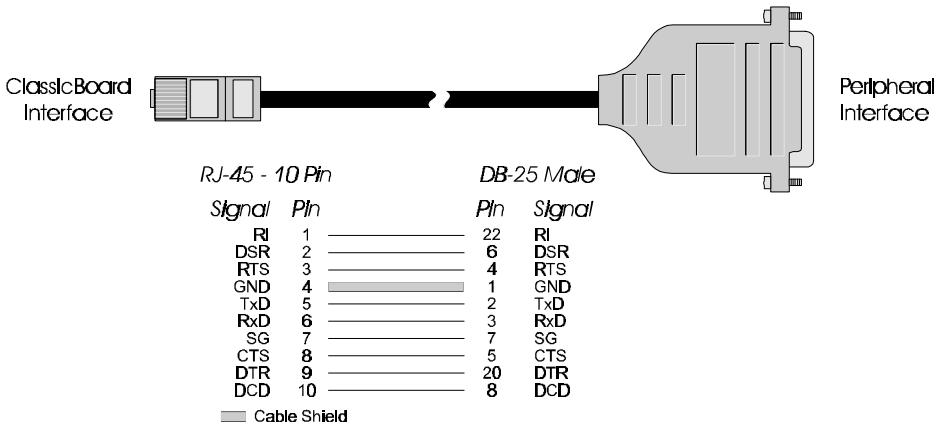
Figure 8 **Modem Cable (DB-25)**



RJ-45 Versions

The simplest way to connect a modem to a board with RJ-45 connectors is to use RJ-45 to DB-25 "Cable Legs", available from Digi. (See page 12 for a description and part numbers). These cables use 10-pin RJ-45 plugs, and they therefore provide full modem support. (Ring Indicator and Data Carrier Detect are available only on 10-pin RJ-45 connectors). Follow the diagram in Figure 9 if you wish to build your own modem cables.

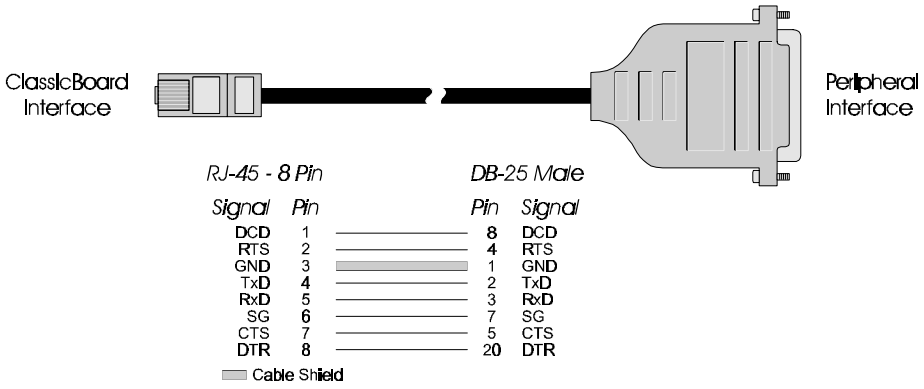
Figure 9 **Full 10-Wire Modem Cable (RJ-45)**



ALTPIN Modem Wiring (RJ-45 Versions)

Since 10-pin RJ-45 plugs may be difficult to obtain in the retail market, 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).

Figure 10 8-Wire Modem Cable for use with ALTPIN Configuration



Board Configuration

The Digi ClassicBoard functions in one of two modes:

- Plug and Play mode
- legacy mode



You must run the Digi configuration utility if you want to switch a Digi ClassicBoard from the legacy mode to the Plug and Play mode (or vice versa). The configuration utility is run from the bootable disk shipped with the Digi ClassicBoard.

Plug and Play Mode

To Plug and Play the Digi ClassicBoard, the board must be:

- installed in a system that is running a Plug and Play operating system such as Windows 95
- programmed in Plug and Play mode. The Digi ClassicBoard is shipped from the factory in Plug and Play mode.

If the two conditions above are met, follow the instructions in the software manual included with the device driver diskette(s) to install the device driver.

Legacy Mode

The Digi ClassicBoard must be run in the legacy mode if it is installed in a non-Plug and Play system. Programming the board in the legacy mode will allow you to customize its configuration or to maintain strict legacy product compatibility. Legacy products include:

DigiBoard PC/4, PC/8, and PC/16

Star Gate Plus 8 and Optum

Arnet Multiport

To operate the Digi ClassicBoard in legacy mode, you must configure the board by running the Digi configuration utility.

Follow these instructions to use the utility:

1. Power up your system with the bootable disk in the disk drive.

2. Type CFG<Enter> at the command prompt.

3. The utility will display the Digi ClassicBoards that are installed in your system. A menu system will allow you to perform the following steps:

   - Select the Digi ClassicBoard to be configured. The arrow keys will allow you to switch among the “Boards found in system:”
   - Select the desired configuration. The current mode (PnP or legacy) of the board and its current configuration settings are displayed in the window to the right. To change the mode of the board and/or create a custom configuration profile, press the F3 key (“Edit new profile”). (The function keys are described in the window below the board selection window). If you select the Plug and Play mode, no further configuration is necessary, and you may write the configuration to the

board by pressing the F5 key and then exiting the configuration utility. You may alternatively select the legacy mode.

- Configure the boards for a custom or a legacy profile in the legacy mode. To select a legacy profile, press the F8 key ("Read profile from disk"). To create a custom profile, press the F3 key ("Edit new profile") and follow the recommendations in the software manual. Some general guidelines are as follows:

    a) An IRQ (Interrupt Request) that is assigned to a Digi ClassicBoard must not be used by any other device in your system, including another Digi ClassicBoard. The IRQ choices are: 3, 4, 5, 6, 7, 9, 10, 11, 12, 14, and 15. Multiple ClassicBoards can not be daisy chained together in order for interrupts to be shared. The configuration utility will *not* test your IRQ selections for conflicts.

    b) Multiple interrupt capability is provided to facilitate emulation of standard ports COM1-COM4, which use IRQs 3 and 4. (See the section on MS-DOS applications, beginning on page 24). The Control Register IRQ that you select will be the shared interrupt for all the ports. However, port 1 of any ClassicBoard can then be assigned a different, independent IRQ. Port 2 of a ClassicBoard 4 or a ClassicBoard 8 can be assigned either another independent IRQ or the same IRQ that was assigned to port 1.

    If you are not emulating standard COM ports, use one IRQ line for each Digi ClassicBoard; performance is not affected, and you'll have more IRQs available for other devices.

    Some common sources of contention for IRQs are:

    IRQ3: Standard COM2 & COM4 ports (if present)
    IRQ4: Standard COM1 & COM3 ports (if present)
    IRQ5: LPT2 (Second parallel printer port) (if present)
    IRQ6: Floppy disk controller
    IRQ7: LPT1 (First parallel printer port) (if present)
    IRQ9: EGA adapters (if present)

c) The Control Register address, which is the address where interrupt status information is stored, must be different from any of the I/O Port addresses you select for a ClassicBoard. The Control Register address and each range of I/O Port addresses you choose for a ClassicBoard must not be used by any other device in your computer, including another ClassicBoard. The configuration utility will test all I/O address selections before allowing them to be written to the board. If an I/O selection is in conflict with another device, the utility will flag it when you press the F5 key to write a profile to the board.

d) The Control Register address and each of the I/O Port addresses must be between 100h and FFF8h inclusive, and they must be multiples of 8 bytes. The I/O Port addresses do not have to be contiguous. These conditions are controlled by the configuration utility.

4. You may write a custom or a legacy profile to the board by pressing the F5 key. Pressing the F6 key writes a profile to disk.
5. Exit the configuration utility, remove the disk from the disk drive, and reboot the system.
6. You may need to install device driver software for your operating system so that programs can communicate with the board. Follow the installation instructions for the legacy device driver software for your operating system. The instructions are in the software manual which is included with the device driver diskette(s).



This product is shipped with device drivers for some of the most commonly used operating systems. Other device drivers may be available, however, and may be obtained free of charge from Digi International. For information on availability, and to order additional drivers, please contact customer service or dial in to the Digi BBS.

The following operating systems do not require Digi device drivers:

- **MS-DOS** See "Using Digi ClassicBoards with MS-DOS Applications" on page 25 for setup instructions.
- **Windows NT** See "Operating Digi ClassicBoards under Windows NT" on page 28 for setup instructions.

Diagnostic Utility

You can run the diagnostic utility by powering up your system with the bootable disk in the floppy disk drive, and then typing CDIAG<Enter> at the DOS prompt.

Using Digi ClassicBoards with MS-DOS Applications

MS-DOS application programs generally communicate with COM ports by directly accessing the UARTs via their I/O ports. Since these programs control the I/O hardware directly, no device driver at all is required. Some programs allow the user to specify the I/O port address and IRQ line for each port, while others are able to use only the standard PC COM ports COM1 and COM2. Some applications can also use COM3 and COM4.

To use a Digi ClassicBoard with applications that allow the user to specify the I/O port address and IRQ line for each port, use the configuration utility to select the addresses and IRQs that are not used by any other device in the system. Then use the application's setup program or configuration screens to configure the application for the same addresses and IRQs.

To use a Digi ClassicBoard with MS-DOS applications that can reference only standard PC COM ports, the board must be set up to emulate these ports. To do this for the Digi ClassicBoard 4 or the Digi ClassicBoard 8, use the configuration utility so that the first two (or four) ports have the same I/O addresses and interrupts as the standard PC COM ports, as shown in Table 11. To do this for the Digi ClassicBoard 16, use the configuration utility so that the first port has the same I/O address and interrupt as one of the standard PC COM ports shown in Table 11.



Ports 1 and 2 of the Digi ClassicBoard 4 or the Digi ClassicBoard 8 can each be assigned a separate IRQ, and the remaining ports can be assigned another available IRQ. (Ports 1 and 2 can also share the same separate interrupt). Port 1 of the Digi ClassicBoard 16 can be assigned an available IRQ, and the remaining ports can be assigned another available IRQ. See the examples following Table 11.

Table 11 PC COM Port I/O Addresses and Interrupts

COM Port	I/O Address	IRQ
COM1	3F8h	4
COM2	2F8h	3
COM3	3E8h	4
COM4	2E8h	3



When using a Digi ClassicBoard to emulate standard PC COM ports, existing COM ports must be removed or completely disabled.

Examples:

Digi ClassicBoard 4 set up for COM1 to COM4:

	COM Port	I/O Address	IRQ
Control Register	X	any I/O	3
Port 1	1	3F8	4
Port 2	3	3E8	4
Port 3	2	2F8	N/A
Port 4	4	2E8	N/A

Digi ClassicBoard 16 with port 1 set up for COM1:

	COM Port	I/O Address	IRQ
Control Register	X	any I/O	any IRQ
Port 1	1	3F8	4

Operating Digi ClassicBoards under Windows NT

To use the Digi ClassicBoard with the standard Windows NT device driver, you must modify the Registry. Follow these steps:

1. Using the Registry Editor, open the key:

   HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Serial

   (For more information on using the Registry Editor, see Editing Registry Values in README.WRI in the MAIN group).

2. Verify that the Serial key has a ForceFifoEnable entry. If not, add the entry as follows:

   ForceFifoEnable REG_DWORD 0x1

3. Open the key:

   HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Serial\Parameters

4. Add the Serial*x* keys under Parameters and add the corresponding values for each Serial*x* key to match the values you set with the configuration utility. (See the example on page 29).

5. Exit REGEDT32.EXE and enter the following two commands at the command prompt to activate the changes:

   net stop serial

   net start serial

   The serial ports should now work. Restarting Windows NT will also activate the changes. Note that COM1 through COM9 can be directly referenced just like a file name from programs and from the command line. However, COM10 and above must be referenced with the following syntax:

   \\.\com10

For the following example, assume that there are two serial ports already installed and assigned to COM1 and COM2 respectively. The adapter is a Digi ClassicBoard 4 whose ports will start at COM3. An IRQ of 5, a starting I/O Port address of 0x100, and a Control Register address of 0x140 were assigned with the configuration utility so that the board's settings would match the legacy profile for a DigiBoard PC/4. For ClassicBoards with more than four ports, simply continue the pattern beyond the fourth port.

Add key (no class)	Value names	Data type	Data
Serial2	DosDevices	REG_SZ	COM3
	Indexed	REG_DWORD	1
	Interrupt	REG_DWORD	5
	InterruptStatus	REG_DWORD	0x140
	PortAddress	REG_DWORD	0x100
	PortIndex	REG_DWORD	1
Serial3	DosDevices	REG_SZ	COM4
	Indexed	REG_DWORD	1
	Interrupt	REG_DWORD	5
	InterruptStatus	REG_DWORD	0x140
	PortAddress	REG_DWORD	0x108
	PortIndex	REG_DWORD	2
Serial4	DosDevices	REG_SZ	COM5
	Indexed	REG_DWORD	1
	Interrupt	REG_DWORD	5
	InterruptStatus	REG_DWORD	0x140
	PortAddress	REG_DWORD	0x110
	PortIndex	REG_DWORD	3
Serial5	DosDevices	REG_SZ	COM6
	Indexed	REG_DWORD	1
	Interrupt	REG_DWORD	5
	InterruptStatus	REG_DWORD	0x140
	PortAddress	REG_DWORD	0x118
	PortIndex	REG_DWORD	4



The actual values for your adapter may be different. Also, if you have only one serial port on your computer, you can start with the Serial1 and COM2 keys. If no serial ports are built into your computer, you can start with Serial0 and COM1.

Digi Support Services

The Digi Bulletin Board System

Digi provides an electronic bulletin board service (BBS) for our customers. This bulletin board provides general and technical information about Digi's products.

The Digi BBS allows users to download software drivers as soon as they become available. There is also a feature to allow users with problems or questions about Digi products to leave messages to Digi Technical Support.

Using the Digi BBS is easy. Simply dial **(612) 912-4800**. In Europe, dial **+49 221 9205211**; in Asia, dial **+65 735 2460**. The bulletin board accepts calls at 1200, 2400, 9600 and 14.4K baud. V.32, HST 14.4, V.42 and V.42*bis* standards are supported, with full MNP class 1-5 error correction and data compression.

The recommended modem communications parameters are 8 bits, no parity and one stop bit (**8 N 1**). Other settings may also work.

Download protocols include Zmodem, Xmodem, Ymodem, Kermit and others.

Internet FTP Server

Digi has set up an Anonymous FTP server for those with access to the Internet network. The address is **ftp.dgii.com**. Log in as anonymous, and enter your E-mail address when asked for a password. Drivers and installation tips are located in the **/drivers** directory. A text file, **download.doc**, gives information on uncompressing the files after downloading. Tip: Be sure to enter "**bin**" before downloading, to ensure binary transfer of files.

World Wide Web Server

Product information, manuals, new product announcements, programs, application stories and more can be obtained through the World Wide Web. Our address is http://www.dgii.com.

Information About Your System

Serial number of your Digi product: _____

Make, model and clock speed of your computer: _____

_____

How much RAM does your computer have? _____

Hard disk controller: Type: _____ Memory addressed at: _____

I/O port used: _____ IRQ: _____

LAN card: Type: _____ Memory addressed at: _____

I/O port used: _____ IRQ: _____

Other: Type: _____ Memory addressed at: _____

I/O port used: _____ IRQ: _____

Operating system: _____ Version: _____

Digi device driver version: _____

Technical Support

At Digi, we are proud of our products, and support them. Our dealers and distributors are fully trained on our product line, so that they can help you on a technical level should assistance be needed.

Your first level of support is your Digi dealer, the place where you purchased your Digi product. Your dealer has the training to help you with any installation questions or difficulties you might have.

If you still experience difficulties (after contacting your first level of support), Digi has a staff of Technical Support Specialists that can assist you. They can be reached at **(612) 912-3456**. In Europe, call **+49 221 920520**, and in Asia, call **+65 732 1318**. FAX numbers are: (612) 912-4958 (USA), +49 221 9205210 (Europe) and +65 732 1312 (Asia).

When you call Digi Technical Support, please call from a position where you can operate your system. Also, please fill out the form on the previous page before calling, so your Technical Support representative can have a clear picture of your system and any potential conflicts between devices.

Digi Technical Support can also be reached via Internet E-mail. Please send correspondence to **support@dgii.com**, and include your voice and FAX phone numbers.

Customer Service

Digi also has a staff of Customer Service representatives to help you with software and documentation update requests, as well as Returned Merchandise Authorizations (RMAs) in case you need to return your Digi product for repair. (See page 35.) They can be reached at **(612) 912-3456**. Digi Customer Service can be contacted by FAX at (612) 912-4959.

Digi Customer Service can also be reached via Internet E-mail. Please send correspondences to **cust_serv@dgii.com**, and include your voice and FAX phone numbers.

Return Procedures

All Digi products have a five-year parts and labor warranty, and we are ultimately responsible for any defective parts, according to the limits specified in the warranty. However, many of the reported problems are due to factors other than defects in the product itself. To save you time and possibly additional cost, Digi asks that you *first* try to resolve any difficulties by contacting our Technical Support representatives at **(612) 912-3456.**



Be sure to have the serial number of your Digi product at hand before calling Technical Support.

Returns should be directed to the dealer or distributor from whom you purchased the product. If you need to return your Digi product for repair, it is first necessary to obtain an RMA (Returned Merchandise Authorization) number from Digi, by speaking to a Digi Customer Service representative. Authorized returns should be shipped to Digi International, 10000 West 76th Street, Eden Prairie, MN 55344. The RMA number should appear on the shipping carton, on or near the address label.



Products received without an RMA number clearly marked on the outside of the package will be returned, unopened, to the sender

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