

# OWNER'S MANUAL

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PRINT MASTER II

800 SERIES

804A  
804E  
804C  
808A  
808E  
810D  
810C

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Dear Customer,

Thank you for selecting a BayTech Print Master II.

The data provided in this Owner's Manual explains the various ways you can operate your unit and configure it to your own computer system. We suggest that you read this manual carefully before attempting to install your Print Master II and that you place special emphasis on correct cabling and configuration. If you have any problems with your installation, please contact a BayTech applications engineer for assistance.

BayTech also manufactures data communications devices that provide port sharing and expansion, networking, port contention, buffered and non-buffered printer sharing, and multiplexing. If you would like information on any of these models, please contact BayTech Customer Service.

We welcome any comments you may have about our products. And we hope that you will continue to look to BayTech for your data communications needs.

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# 1 GENERAL INFORMATION

Print Master II is a flexible, intelligent device that connects between your computers and peripherals, allowing the computers to share the peripherals, including expensive plotters and laser printers, and access other computers to share data bases and permit transfer of files. It comes in a self-contained desk-top unit or with a rack mount. Print Master II 804 models come standard with 1 MB buffer and are optionally available with 2 MB. The 808 and 810 models come standard with 256 KB buffer are available up to 1.2 MB. The built-in buffer saves valuable computer time by spooling data until the printer or plotter can receive it, keeping your users and computers working full time instead of waiting.

Model 804A has four parallel ports.

Model 804C has four serial ports.

Model 804E has two parallel and two serial ports.

Model 808A has eight parallel ports.

Model 808E has two parallel and six serial ports.

Model 810C has ten serial ports.

Model 810D has eight parallel and two serial ports.

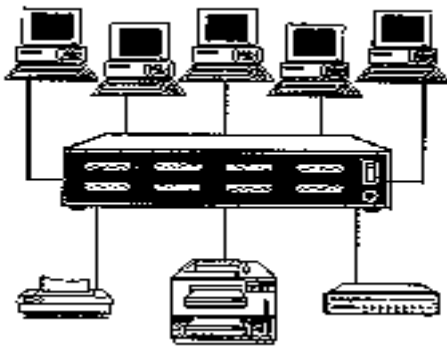
Print Master II has full duplex EIA-232 serial ports and/or Centronics-compatible parallel ports. On the 804E, 804C, 808E and the 810 models, you may assign any port as a computer port or as a printer port. On models with combination serial and parallel ports, Print Master II will automatically convert serial-to-parallel and parallel-to-serial data.

In addition to port designation, you may program the following features to meet the requirements of your application: the individual serial port configuration (baud rate, word size, stop bits, parity, and XON/XOFF), the Port Logical Names, the Input Inactivity Timeout, the Port Select Code, the Port Select Mode, the Form Feed Mode, and the I.D. Page Message. Programming of these features is easily accomplished via the menu-driven configuration mode, and all changes are saved permanently in non-volatile memory.

**NOTE:** Users of IBM compatible computers may utilize the BayTech Print Master II Support Software Diskette that is supplied with this model. Refer to *Section 4.2* for instructions.

A typical application using Print Master II would allow various computers, such as PCs, main frames, mini computers, etc., to share printers, plotters, external modems, and data bases.

For example, *Figure 1* shows a model 808E having five serial PCs, an external modem, a laser printer (parallel), and a dot matrix printer (parallel) connected. This application would allow all the PCs running various applications packages to select between the two output devices depending upon the application. The 256 KB buffer (available with 1.2 MB) would allow all the PCs to send print jobs to either of the printers simultaneously. In addition, computer-to-computer connections would allow the PCs to transfer files using third party communications software or allow the PCs to share the external modem.



Use Print Master II for  
cost-effective printer  
sharing, modem  
sharing and file  
transfer applications.

---

**FIGURE 1**

## 2

## SPECIFICATIONS

**INTERFACE: Serial ports** - Asynchronous EIA-232C (CCITT V.24), -12v mark, +12v space. Full duplex communication. EIA-422 available for all ports on the 804C (Option 17).

**Parallel ports** - Centronics protocol.

### STANDARD FACTORY DEFAULT POWER-UP CONFIGURATION

#### **Serial Ports:**

**Baud rate:** 9600.

**Word size:** 8 bits.

**Parity:** None.

**XON/XOFF:** Off.

**Logical Name:** Device A to J.

**Input Inactivity Timeout:** 20 Seconds.

#### **Port Designation:**

804A - Port 3 is a fixed printer port, Port 1 is a fixed computer port, Ports 2 and 4 are computer ports;

804E, 804C - Port 4 is a printer port, Ports 1 through 3 are computer ports;

808A, 808E - Port 8 is a printer port, Ports 1 through 7 are computer ports;

810C, 810D - Port 10 is a printer port, Ports 1 through 9 are computer ports.

**Port Select Code:** \$SELECT.

**Port Select Mode:** Anytime.

**Form Feed Mode:** No form feed.

**I.D. Page Message:** Off. "This print job is for:".

**I.D. Page Message Printing Schedule:** Beginning of printing.

## **USER-PROGRAMMABLE CONFIGURATIONS:**

Reconfigurable in menu-driven mode through configuration port. Saved in non-volatile memory to become power-up default configuration.

### **Serial ports:**

**Baud rate:** (per port) 300, 600, 1200, 2400, 4800, 9600, 19200. Models 804C and 804E also support 38400.

**Word size:** (per port) 7 or 8 bits.

**Parity:** (per port) Even, odd or none.

**Stop bits:** (per port) 1 or 2.

**XON/XOFF:** (per port) Enabled or disabled individually for transmit and receive.

**Input inactivity timeout:** (per port) 1 to 200 seconds, or no timeout.

**Port logical name:** (per port) 808/810: Maximum 16 characters; 804: Maximum 10 characters.

**Port Select Mode:** (per port)

Mode A = Port selection anytime while printing.

Mode B = Port selection at beginning of printing;

**Form feed mode:** (per port)

No form feed.

Form feed at beginning of printing only.

Form feed at end of printing only.

Form feed at both beginning and end of printing

**I.D. page message:** Enabled or disabled.

**Port Select Code:** 1 to 8 ASCII characters.

**Port designation:** Any port computer port or printer port (except Model 804A).

**Number of Printers (808A only):** 1 to 7.

**I.D. page message:** 808/810: Maximum 80 characters; 804: Maximum 35 characters.

**I.D. page message printing schedule:** Beginning of printing or end of printing.

**MINIMUM SIZE PRINT JOB:** 3 characters.

**INTERNAL BUFFER:**

**Spooling print buffer** - 804 models: standard 1 MB,  
available with 2 MB.

808 and 810 models: standard 256 KB, available  
with 512 KB or 1.2 MB.

**Flow control buffer (computer-to-computer)** -  
1024-character per port.

**POWER:** 808/810 - 115 VAC, 50/60 Hz., .3A. Optional 230  
VAC, 50/60 Hz., .2A.

804 - 115 VAC, 50/60 Hz., .2A. Optional 230 VAC,  
50/60 Hz, .1A.

**ENVIRONMENT:** 0 degrees to 55 degrees C temperature;  
5% to 95% humidity.

**DIMENSIONS:** 808/810: 10 1/8w x 6 1/2d x 2 1/4h inches;  
804: 5 7/8w x 6 1/4d x 2 1/8h inches.

**WEIGHT:** 808/810: 4 pounds; 804: 2 3/4 pounds.

**INDICATORS:** 1 green power LED; red, port-activity LEDs.

**CONNECTORS:** Shielded on all ports.

Serial ports - DB-25 male DTE connectors.

Parallel ports - DB-25 female connectors.

RJ-45 connectors available on the 810C.

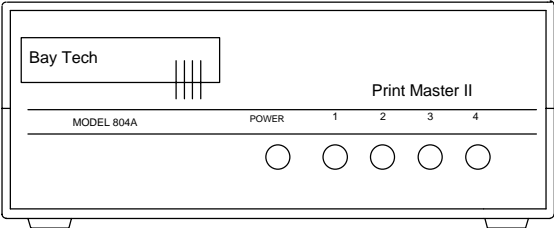
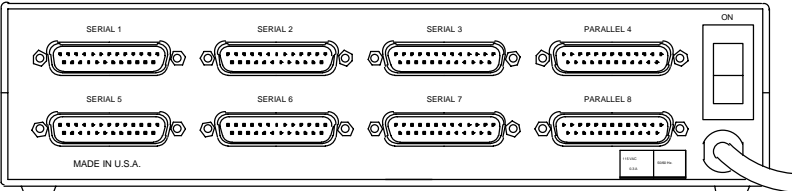
**HANDSHAKING:** CTS/DTR; selectable XON/XOFF.

**MOUNTING:** Desk-top; rack-mount optional.

**WARRANTY:** One year on parts and labor.

### 3 QUICK REFERENCE

This section provides basic set up instructions for those knowledgeable in computer equipment installation. We will refer to specific sections in this manual for more in-depth instructions on installation operation, and configuration. Please review the following procedure:

Step	Instructions
1	<p>Determine what model Print Master II you are installing. The model number is written on the front panel as shown below for the model 804A.</p>  <p style="text-align: center;"><b>Print Master II Model 804A</b></p> <p>Identify which ports are serial and which are parallel. Ports are marked as serial or parallel on the back panel as shown below for the model 808E.</p>  <p style="text-align: center;"><b>Print Master II Model 808E</b></p> <p>Determine what devices will connect to your Print Master II and whether they will connect in serial or parallel. Typical devices include computers, printers, plotters, and modems.</p>
2	<p><b>PORT DESIGNATION</b></p> <p>Determine which serial or parallel ports on Print Master II will be designated as computer or printer. Computers and modems connect to ports designated as computer. Printers and plotters connect to ports assigned as printer. All ports are flexible except as noted below (i.e., ports may be configured as computer or printer). The standard factory default power-up configuration follows:</p> <p>804A:   Port 1 - computer port (host) *                  Port 3 - printer port *                  Ports 2 &amp; 4 - computer ports</p> <p>804C &amp; 804E: Port 1 - computer port (host)</p>

Step	Instructions
	<p>Port 4 - printer port Ports 2 and 3 - computer ports</p> <p>808A: Port 1 - computer port (host) * Port 8 - printer port * Ports 2 through 7 - computer ports</p> <p>808E: Port 1 - computer port (host) Port 8 - printer port Ports 2 through 7 - computer ports</p> <p>810C &amp; 810D: Port 1 - computer port (host) Port 10 - printer port Ports 2 through 9 - computer ports</p> <p>If your application requires port designations that are different from the factory default configuration, you must reconfigure your unit. Step 5 discusses configuration mode.</p> <p><b>NOTE:</b> If your application requires sharing more than one printer or plotter, you will have to reconfigure the port designation(s) of your unit.</p> <p>* Ports are fixed as computer or printer (i.e., cannot be changed).</p>
3	<p><b>SERIAL PORT CONFIGURATION</b></p> <p><b>NOTE:</b> This step does not apply to the 804A and 808A models.</p> <p>The serial port configuration of your serial devices and Print Master II must all match. Print Master II's default configuration follows:</p> <p style="padding-left: 40px;">Baud Rate: 9600 bps Word Size: 8 bits Stop Bits: 1 bit Parity: None XON/XOFF: Off</p> <p>If you will be connecting any serial devices which communicate with serial parameters different than the default configuration, you must access configuration mode and make the appropriate changes. Step 5 discusses configuration mode.</p>
4	<p><b>CABLING</b></p> <p>Correct cables for the serial and parallel ports are vital for error free operation.</p> <p>A. Serial Ports</p> <p style="padding-left: 40px;">Serial ports on Print Master II are DTE. Therefore, crossed cabling is required between the computer's serial port and Print Master II's serial port. A crossed cable is also required between Print Master II's serial port and the serial port of a printer or plotter.</p> <p>B. Parallel Ports</p> <p style="padding-left: 40px;">A straight through 25 pin parallel DB-25 male to DB-25 male cable is required to connect the parallel port of a computer to a parallel port of Print Master II. A standard DB-25 male to centronics printer cable is required to connect the printer or plotter's parallel port to the parallel port of Print Master</p>

Step	Instructions
	<p style="text-align: center;">II.</p> <p>Please see <i>Appendix A</i> of this manual for more cabling information.</p>
5	<p><b>CONFIGURATION MODE</b></p> <p>If you need to access configuration mode to change the port designation or serial port configuration (see Steps 2 and 3 respectively), please see <i>Section 7</i> of this manual for instructions. If not, there is no need to access configuration mode.</p> <p><b>NOTE:</b> The easiest way to access configuration mode is to use the supplied utility created by running the INSTALL program as described in <i>Section 4.2</i> of this manual. This utility is TERM.EXE for all models other than the 804A and 808A. The utility for the 804A and 808A models is PARSEND.EXE.</p>
6	<p><b>PORT SELECTION</b></p> <p><b>NOTE:</b> If you will have only one printer connected and will not be doing any computer-to-computer communication or modem sharing, you may skip this step.</p> <p>You must select a printer port in multiple printer applications or a computer port when computer-to-computer communications is desired. The recommended methods to send the Port Select Code are:</p> <p>A. TSR - Select a port from a menu in the memory resident program using hot keys. See</p> <p style="padding-left: 40px;">the README file generated by running the INSTALL program on the BayTech software utility diskette. When you run INSTALL, a menu titled "Printer Selection Programs" will appear on your screen. You are given three selections: RAMEXEC, RAMTSR, and WNDEXEC. Choose RAMEXEC if your PC runs non-Windows programs that do not operate in graphics mode. Choose RAMTSR if your PC runs non-Windows programs that operate in graphics mode. Choose WNDEXEC if your PC runs under Windows.</p> <p>B. Physically insert the Port Select Code as the first characters of the text or data in the</p> <p style="padding-left: 40px;">document. See <i>Section 6.2.8</i> (Port Select Methods) for more information concerning the Port Select Code.</p> <p>C. Create a separate file containing only the Port Select Code. See <i>Section 6.2.8</i> (Port</p> <p style="padding-left: 40px;">Select Methods) for more information.</p>
7	<p><b>MODE COMMANDS</b></p> <p><b>NOTE:</b> If you are not connecting any serial PCs, you may skip this step.</p> <p>To print from a serial port of your PC, you must first redirect the parallel output to the serial port via the DOS command C:&gt;MODE LPTx:=COMy:, where x and y are the port designation (e.g., LPT1:=COM1:). You must also configure your PC's serial port to communicate at parameters that match Print Master II. This is done via the DOS command C:&gt;MODE COMy: 9600,n,8,1,p, where y is the com port number of your PC. This MODE command assumes you are using factory default values. You may use the SMODE program to operate at serial speeds greater than 9600 bps. See "PC SET-UP" in <i>Section 4.5</i> of this manual.</p>

Step	Instructions
8	<b>AUTOEXEC.BAT FILE</b>  To use BayTech's RAMEXEC or RAMTSR software utilities to select between multiple peripherals, you must add commands to your PC's AUTOEXEC.BAT file. If you have to use any of the MODE commands mentioned in Step 7, you should add these commands to your AUTOEXEC.BAT file. See <i>Section 4.5 (PC Set-up)</i> for more information.
9	If you have any questions, please call BayTech technical support at 1-800-523-2702.

## 4 INSTALLATION

### 4.1 UNPACKING

After opening the box, check the packing list that comes with Print Master II to ensure that you have received all components. Also check the unit to make certain that it did not incur damage during shipping.

### 4.2 SOFTWARE UTILITY DISKETTE

BayTech provides utility software to assist you in configuring the Print Master II. There are three peripheral selection programs included to provide easy device selection from text mode, graphics mode, or Windows.

**IMPORTANT:** Copy the BayTech original diskette onto a blank diskette and store the original in a safe place. Read your operating system's manual for copying instructions.

The software utility diskette provided with your Print Master II comes with an automatic installation program called INSTALL. You must use this program to extract the compressed files associated with your unit. INSTALL automatically copies and expands the hidden files.

To run INSTALL, use the following procedure:

1. Insert the software utility diskette into drive A (or drive B) and from the prompt type **INSTALL** followed by <ENTER>.
2. A menu titled "Drive & Directory Definitions" will appear on your screen. This menu will display the *Source Drive*, *Destination Drive*, and *Destination Directory*. The Source Drive is the floppy drive where the diskette is inserted. The Destination Drive is the drive where the expanded files will be copied to (default is drive C). The Destination Directory is the directory where the files will be copied to (default is BAYTECH). If the default parameters do not match your application, you may use the <TAB> key or a mouse to change fields and type in the desired parameters. Once you have entered the appropriate values, select "OK".
3. A menu will appear on your screen titled "Series Definition". This menu will contain choices for the type of BayTech product you have purchased. Highlight "800 Series" with the arrow keys or mouse followed by "OK".
4. A menu titled "Printer Selection Programs" will appear on your screen. You are given three selections: RAMEXEC, RAMTSR, and WNDEXEC. Choose RAMEXEC if your PC runs non-Windows programs that do not operate in graphics mode. Choose RAMTSR if your PC runs non-Windows programs which operate in graphics mode. Choose WNDEXEC if your PC runs under WINDOWS. Select the desired program by highlighting it with the mouse or <TAB> key and depress the <SPACE BAR> followed by "OK".
5. When INSTALL is finished, you may review the instructions for the relevant files by referring to the README file copied to the Destination Directory. To view the README file on your screen, enter the command **TYPE README** from your subdirectory prompt. To print this file, enter the command **COPY README LPT1:** from your subdirectory prompt.

## 4.3 POWER

The Standard Print Master II requires 115 VAC, 50/60 Hz. power and comes with a three-prong power cord. Do not attempt to operate the unit with a two-prong socket or adapter. 230 VAC, 50/60 Hz. is optional.

The Print Master II powers-up when you press the power switch on the back of the unit to "ON" or "1". Power-on is indicated on the front panel by the illuminating of a green LED.

**CAUTION:** Do not attempt to make any internal changes. Any upgrades to the EPROM or memory must be performed by an authorized service technician or by BayTech. Please contact BayTech at 1-800-523-2702 for more information.

## 4.4 FACTORY DEFAULTS

From the factory, Print Master II is set up with Port 1 designated as a computer port. Port 1 is the master configuration port. The highest numbered port is factory-designated as a printer port except for the 804A, which has port 3 factory designated as a printer port. All other ports are factory-designated as computer ports.

Other factory-default settings are: Input inactivity timeout is set to 20 seconds. The Port Select Code is \$SELECT. The Port Select Mode is Mode A (selection anytime while sending). The Form Feed Mode and the I.D. Page Message are disabled. The Port Logical Name(s) are set as Device A, Device B, etc. Serial ports power-up from the factory at 9600 baud rate, 8 bit word size, 1 stop bit, no parity and XON/XOFF disabled.

If your application does not match this factory setup, you must first reconfigure Print Master II by entering the configuration mode (see *Section 7*). If your application does match, you may proceed with the installation. For a description of the various changes that may be made by accessing the configuration mode, see *Section 6.1*.

## 4.5 PC SET-UP

This section provides instructions on how to set up your PC to work with Print Master II with respect to the BayTech software (if you intend to use it) and special considerations when connecting your PC in serial.

If you intend to use the RAMEXEC or RAMTSR hot key programs to select between multiple peripherals, you would typically add the command **C:>RAMEXEC** or **C:>RAMTSR** to your PC's AUTOEXEC.BAT file. The subdirectory created by running the INSTALL program should be included in the PATH command. If using the WNDEXEC program for Microsoft Windows, you should follow the step by step instructions in the README file created by running the INSTALL program. Please see *Section 4.2* for INSTALL instructions.

**NOTE:** All users that wish to use the hot key software should have a copy of the program on their PC's hard drive. You may copy RAMEXEC (or RAMTSR) from a PC that has already configured this program using SETUP (or SETUPCFG) onto other PCs.

If connecting your PC to Print Master II in serial, you would typically reroute the parallel output to the serial port via the DOS command **C:>MODE LPTx:=COMy:**, where x=1, 2, or 3 and y=1 or 2. This command should be included in your AUTOEXEC.BAT file. If you have a local parallel printer connected to your PC, you would not include this command in the AUTOEXEC.BAT file. Instead, you would have your applications software direct output to LPTx to print to the local printer or COMy to send print jobs to Print Master II.

**NOTE:** If you have a local printer connected to your PC and you wish to use RAMEXEC or RAMTSR, set up the local printer to use LPT1 and RAMEXEC or RAMTSR to use LPT2. Then you would add the command **MODE LPT2:=COMY:** to your AUTOEXEC.BAT file, where Y = 1 or 2.

You will also need to change the serial port configuration of your PC's com port to match that of the Print Master II. If using the Print Master II's factory default serial configuration, this is accomplished via the DOS command **C:>MODE COMy: 9600, N, 8,1,P** where y is the number of the appropriate com port. This command should be part of your AUTOEXEC.BAT file. Alternatively, you may use the SMODE.EXE utility to operate at speeds greater than 9600 bps.

**NOTE:** All commands shown in bold print above and on the previous page should be located in your AUTOEXEC.BAT file after the PATH command and before any DOS shell commands. You should use DOS EDLIN or EDIT to modify your AUTOEXEC.BAT file. Please refer to your DOS documentation for instructions on EDLIN or EDIT. As an alternative, you may use the non-document mode of a word processing package such as Word Perfect to edit your AUTOEXEC.BAT file.

EXAMPLE: Suppose you are connecting your PC's COM1 port to Print Master II using factory default serial parameters and you intend to use the RAMEXEC hot key software which has been copied to a subdirectory call BAYTECH. Your AUTOEXEC.BAT file would need to contain the following commands:

```
.  
.   
PATH=C:\...;C:\BAYTECH  
MODE LPT1:=COM1:  
MODE COM1: 9600,N,8,1,P  
RAMEXEC  
.   
.
```

The vertical dots before the PATH command and after the RAMEXEC command represent other commands that may be part of your AUTOEXEC.BAT file. The horizontal dots shown in the PATH command represent other subdirectories that may be part of the PATH command.

## 5 CABLING

Please see *Section 5.1* for parallel port cabling information, *Section 5.2* for serial port (DB-25) cabling information, or *Section 5.3* if your Print Master II is equipped with RJ-45 (modular) serial ports. *Appendix A* provides recommended cabling pinouts.

### 5.1 PARALLEL PORTS

Parallel ports on Print Master II have DB-25 female connectors. A straight, DB-25 male-to-male cable is required between each IBM PC computer (or compatible) and the parallel ports on Print Master II. A DB-25 male to Centronics cable is required between each printer having a Centronics connector and Print Master II (i.e., IBM PC to Centronics cable).

**CAUTION:** Some standard EIA-232 DB-25 cables may have Pin 1 grounded to connector shell. Since there is a strobe line on Pin 1 in Centronics protocol, this ground must be removed if the cable is used between an IBM PC and Print Master II.

The pin assignment for the DB-25 connector is similar to the IBM PC parallel connector and uses the following signals:

SIGNAL NAME	DB-25 PIN NO.
- Strobe	1
+ Data Bit 0	2
+ Data Bit 1	3
+ Data Bit 2	4
+ Data Bit 3	5
+ Data Bit 4	6
+ Data Bit 5	7
+ Data Bit 6	8
+ Data Bit 7	9
- Acknowledge	10
+ Busy	11
+ P. End (Out of Paper)	12
+ Select	13
- Auto Feed	14
- Error	15
- Initialize Printer	16
- Select Input	17
Ground	18-25

## 5.2 SERIAL PORTS

**IMPORTANT:** Before you proceed with cabling, you must know whether the devices to which you will connect Print Master II are DTE (Data Terminal Equipment) or DCE (Data Communication Equipment). The following are generally DTE: terminals, printers, computers like the IBM PC. The following are DCE: modems and some computers.

If your device transmits data on Pin 2 or receives data on Pin 3, it is DTE. If your device receives data on Pin 2 and transmits data on Pin 3, it is DCE. However, to verify the interface requirements, please refer to the Owner's Manual for your device.

Serial ports on Print Master II have DB-25 male DTE connectors. DTE ports use the following signals for communication:

DTE PORT PIN/SIGNAL DEFINITION			
Pin	Signal (EIA-232)	Direction	Description
1	PGND	---	Protective Ground
2	Tx	Output	Data Out
3	Rx	Input	Data In
4	RTS	Output	+ Voltage When Print Master II Powers-up
5	CTS	Input	Print Master II Transmit Enabled When +12 Volts. Internally Enabled If No Wire Connected.
7	SGND	---	Signal Ground
20	DTR	Output	- Voltage When Print Master II Print Buffer Full

DCE ports use the following signals for communication:

DCE PORT PIN/SIGNAL DEFINITION			
Pin	Signal (EIA-232)	Direction	Description
1	PGND	---	Protective Ground
2	Tx	Input	Data In
3	Rx	Output	Data Out
4	RTS	Input	Internally Enabled if No Wire Connected (Normally Not Used).
5	CTS	Output	-12V When DCE Device's Buffer is Full
6	DSR	Output	+12 V When DCE Device Powers Up.
7	SGND	---	Signal Ground
20	DTR	Input	Transmit Enabled When +12 V.

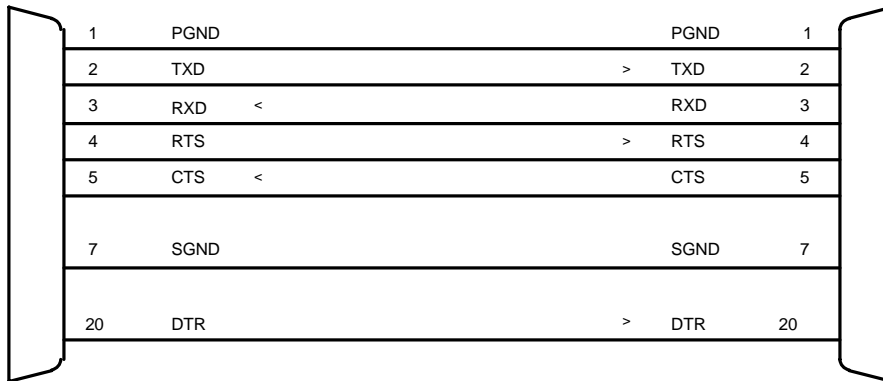
If you are interfacing a DCE device to Print Master II (DTE), you must use a one-to-one or straight cable as shown in *Figure 2* on the following page. If you are interfacing a DTE device to Print Master II (DTE), you must use a crossed cable as shown in *Figure 3* on the following page.

When using XON/XOFF protocol, it may be desirable to use cables with only Tx, Rx and SGND (signal ground) connected. On the serial ports of Print Master II, input handshaking lines are enabled if nothing is connected, allowing the system to operate with only Tx, Rx and SGND connected.

**CAUTION:** Do not attempt to use a serial cable on a parallel port. Since an EIA-232 serial port usually carries a potential of +12 and -12 volts, plugging a serial cable from that port into a parallel port may cause damage to the parallel port.

PRINT MASTER II - DTE  
FEMALE DB-25

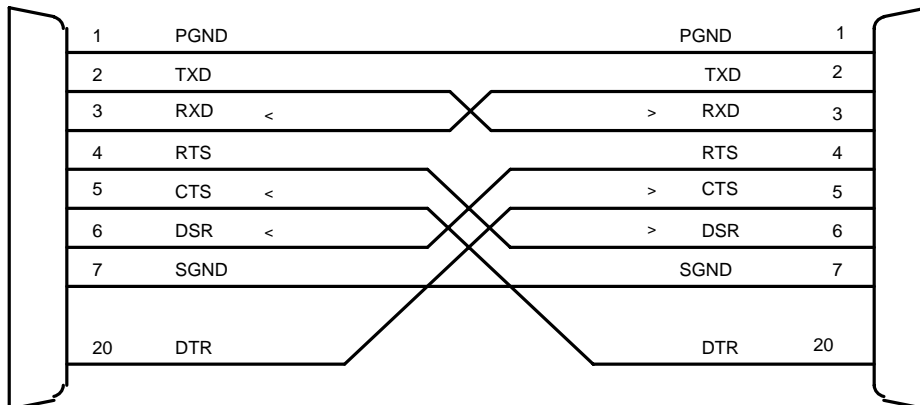
DCE DEVICE  
MALE DB-25



**Figure 2-DTE Print Master II to DCE Device**

PRINT MASTER II - DTE  
FEMALE DB-25

DTE DEVICE  
FEMALE DB-25



**Figure -DTE Print Master II to DTE Device**

**NOTE:** Please refer to *Appendix A* for recommended cabling between Print Master II and various computers and peripheral devices.

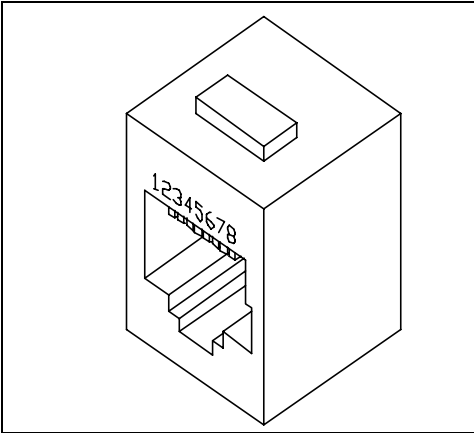
## 5.3 PRINT MASTER II MODEL 810C WITH RJ-45 MODULAR CONNECTORS

The EIA-232 serial ports of the Print Master II Model 810C may have RJ-45 modular connectors. This section will address the cabling and modular adapter information required for 810C with RJ-45 modular connectors. BayTech has a complete line of RJ-45 adapters and cables that will make your installation quick and trouble free. Call your dealer or BayTech for order information.

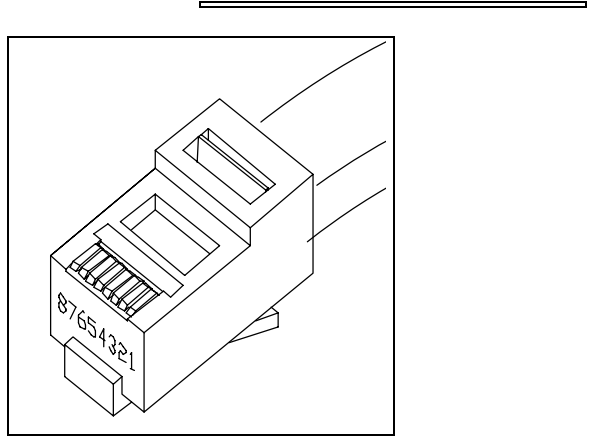
The 810C with modular connectors uses the following signals for communications:

RJ-45 PIN-OUT INFORMATION			
PIN	SIGNAL	DIRECTION	DESCRIPTION
1	+12V	----	Pull up
2	DTR	Output	Handshake out, enable/disable the inputting of characters
3	TX	Output	Transmit Data
4	GND	----	Signal Ground
5	GND	----	Signal Ground
6	RX	Input	Receive Data
7	CTS	Input	Handshake In, enable/disable the outputting of characters
8	NC	----	No connection

Following are drawings of a RJ-45 receptacle and plug. The pin number assignments are given.



**Figure 4:** RJ-45 Receptacle



**Figure 5:** RJ-45 Plug

Please see *Appendix A.6* for modular adapter pinout and cabling information.

## 6 OPERATION

This section discusses the various user-programmable configurations (*Section 6.1*), computer-to-peripheral operation (*Section 6.2*), computer-to-computer operation (*Section 6.3*), the LED indicators (*Section 6.4*), and data flow control (*Section 6.5*).

### 6.1 USER-PROGRAMMABLE CONFIGURATIONS

User-programmable configurations include the Port Logical Name, the Port Designation, the Port Select Code, the Port Select Mode, the Serial Port Configuration, the Input Inactivity Timeout, the Form Feed Mode, and the I.D. Page Message. The following subsections describe these parameters in detail.

#### 6.1.1 THE PORT LOGICAL NAME

The Port Logical Name is simply an aid to identifying which device is connected to which port. It is used in the configuration menus and the I.D. Page Message. It has no function other than identification.

**Factory default is Device A for Port 1, Device B for Port 2, ..., and Device J for Port 10.**

## 6.1.2 THE PORT DESIGNATION

The Port Designation for individual ports on Print Master II may be configured as computer or printer. Computers and modems connect to computer ports. Printers and plotters connect to printer ports.

A minimum of one port must always be assigned as a computer port. It is suggested that Port 1, the master configuration port, be designated as a computer port to allow easy access to all features of the configuration mode. The remaining ports may be user-designated as computer ports or printer ports in any combination and in any order except for the 804A and 808A. Print Master II automatically converts data from serial-to-parallel and parallel-to-serial. However, if computer-to-computer communication is required, the computers must be connected to serial ports to allow full duplex communication.

The 804A has two flexible I/O ports that you may designate as a computer or printer port, Ports 2 and 4. Port 1 is a fixed computer port and Port 3 is a fixed printer port. The number of printer ports defined on the 808A may range from 1 to 7. Port 1 is a fixed computer port and Port 8 is a fixed printer port. If the number of printers is defined to be 1, the printer is connected to Port 8. If the number of printers is defined to be 2, the printers would connect to Port 7 and Port 8 and so on.

**Factory default printer ports are Port 10 on the 810 models, Port 8 on the 808 models, Port 4 on the 804C and 804E models, and Port 3 on the 804A model. All other ports are computer ports.**

### 6.1.3 THE PORT SELECT CODE

To select a port in multiple peripheral applications or when computer-to-computer communications is desired, the computer sends the Port Select Code (which consists of any ASCII character string numbering from one to eight characters) followed by the desired port number and a terminating character: *Enter/Return* or *Line Feed*.

The Port Select Code is trapped by Print Master II if it is valid and not passed to the peripheral or computer. This code may be sent by physically inserting it into a file. Or BayTech's memory resident port select program will automatically send it for you by striking hot keys or using a mouse.

If the computer is communicating 7 bit word size with parity enabled, the 8th or parity bit is masked from the Port Select Code before it is examined, allowing you to send the Port Select Code with odd or even parity.

*Section 6.2* discusses how to use the Port Select Code to select peripheral ports and *Section 6.3* describes computer port selection.

**Factory default is \$SELECT.**

### 6.1.4 THE PORT SELECT MODE

In multiple peripheral applications, you can choose between two methods of selecting peripherals. Mode A is a general-purpose mode and allows the computer to select a peripheral anytime while outputting by sending the new Port Select Code. Mode B allows the computer to select the printer at the beginning of printing only. The unit is transparent after 16 characters or more.

Computer-to-computer communication is not affected by the Port Select Mode.

**Factory default is Mode A: selection anytime while sending.**

## 6.1.5 THE SERIAL PORT CONFIGURATION

**NOTE:** This section is not applicable to the 804A or 808A.

Print Master II will translate for serial devices using different configurations. You may set the baud rate, word size, stop bits, parity and XON/XOFF (transmit and receive) for each individual serial port. The available values for these parameters are listed in *Section 2* (Specifications).

**Factory-default configuration on all serial ports is 9600 baud rate, 8 bit word size, 1 stop bit, no parity and XON/XOFF disabled.**

## 6.1.6 THE INPUT INACTIVITY TIMEOUT

The input inactivity timeout allows Print Master II to disconnect a computer from the unit if no characters are received from the computer for the specified timeout period. The input inactivity timeout is effective only for computer-to-peripheral communication. For computer-to-computer communication, the timeout is ineffective and disconnect occurs only manually.

Some application packages may have rather lengthy processing delay times between successive parts of the same file when printing. These delay times may exceed the factory default input inactivity timeout value of 20 seconds. Therefore, it may be necessary to increase the input inactivity timeout on Print Master II to a higher value. Typical applications which may require a higher input inactivity value would be ones which involve desk-top publishing, heavy graphics, and/or large text files with imbedded soft fonts.

**Factory default is 20 seconds.**

## 6.1.7 THE FORM FEED MODE

The Print Master II has four form feed modes which allow you to send a form feed to the printer(s) you have selected. A form feed may be sent at the beginning of printing, at the end of printing, at the beginning and end of printing, or disabled (no form feed).

**Factory default is no form feed.**

## 6.1.8 THE I.D. PAGE MESSAGE

You can print a programmable message and the logical name of the source computer on a separate sheet of paper before or after printing any other data. You can enable or disable the I.D. page message and whether you want it to print before or after the print job.

**Factory default is: This print job is for:, with the I.D. message disabled.**

## 6.2 COMPUTER-TO-PERIPHERAL OPERATING PROCEDURE

Print Master II allows peripheral (printer/plotter) sharing between multiple computers and a single peripheral or multiple peripherals. In multiple peripheral applications, users may contend for the next available peripheral on a first-in-first-out-basis or select a specific peripheral. Print data is stored in the unit's buffer and sent to the peripheral as it can receive the information.

From the factory, Print Master II is preset to allow multiple computers to share one peripheral. The default printer port is the highest numbered port (Port 3 on the model 804A). If your application requires sharing multiple peripherals or if you will be sharing a single peripheral with an interface (parallel or serial) that does not match the default printer port, you must access configuration mode and change the Port Designation for the appropriate port(s).

Please see the table below for a quick reference to sections pertaining to computer-to-peripheral operation.

<b>COMPUTER-TO-PERIPHERAL QUICK REFERENCE</b>	
<b>Item</b>	<b>See Section:</b>
Sharing a single peripheral	6.2.1
Specified sharing of multiple peripherals	6.2.2
Contending for multiple peripherals	6.2.3
Buffering of print data	6.2.4
Beginning and ending a print job	6.2.5
Buffer clearing	6.2.6
Minimum size print job	6.2.7
Port Selection Methods	6.2.8
Plotter Sharing Hints	6.2.9

## **6.2.1 SHARING A SINGLE PERIPHERAL**

In applications where several users are sharing a single peripheral, peripheral sharing is automatic. You perform your normal print operation. There are no codes to send. Data is automatically sent to the peripheral. The Print Master II can receive print jobs simultaneously from all computers and will send the data to the peripheral in the same order in which it was received in the buffer.

## 6.2.2 SPECIFIED SHARING OF MULTIPLE PERIPHERALS

To select a specific peripheral in multiple peripheral applications, you must send a specific *port select sequence* which consists of the Port Select Code (factory set is \$SELECT), the desired printer port number, and a terminating character: *Enter/Carriage Return* or *Line Feed*. The port select sequence is trapped if valid and not passed to the peripheral. The printer port number becomes a default value on all subsequent output until the Print Master II is powered down or until another printer port is selected.

You may set up a permanent power-up default printer port by sending a permanent port select sequence as follows:

1. Send the Port Select Code.
2. Immediately following the Port Select Code send capital "P".
3. Send the desired printer port number immediately following the capital "P".
4. Send a terminating character (*Enter/ Return* or *Line Feed*) immediately following the desired printer port number.

The printer port selection is permanently written in non-volatile memory. This printer port will be the default printer selection upon power-up. All print jobs received from the user that sent the permanent port select sequence will go to the specified printer port until another selection is made.

A print job can be sent to a printer port other than the user's default printer port without changing the default by sending a temporary port select sequence as follows:

1. Send the Port Select Code.
2. Immediately following the Port Select Code send capital "T".
3. Send the desired printer port number immediately following the capital "T".
4. Send a terminating character (*Enter/Return* or *Line Feed*) immediately following the desired printer port number.

The next print job sent will go to the temporary printer port. Any subsequent print job sent without a port select sequence preceding it will be sent to the default printer port.

**NOTE:** If you permanently select a printer port on the Print Master II and then select another printer port without selecting it temporarily, all subsequent print jobs will go to the newly selected printer port until you either cycle power on the unit or re-select the original default printer.

**NOTE:** If the Print Master II is reconfigured to either add or delete a printer port (i.e., if you change the Port Designation of a particular port), all default printer port assignments for the computer ports are erased and replaced with "0" for contention mode (see *Section 6.2.3*).

There are two modes for sending the Port Select Code. In Port Select Mode A (port selection anytime while sending), Print Master II looks for the Port Select Code anytime. If no Port Select Code is received, the data will be routed to the default peripheral.

In Port Select Mode B (port selection at beginning of sending), Print Master II looks for the Port Select Code in the first 16 characters received. If the first characters of the Port Select Code are not received within 16 characters, the data will be routed to the previously designated peripheral. If the first characters of the Port Select Code are received within 16 characters and a valid port select sequence is then received, the new port number is stored and data will be routed to that peripheral.

The Port Select Code may be sent by manually inserting it into the file or by using BayTech's support software to send it for you when you strike the designated hot keys. Please see *Section 6.2.8* for a description of various methods used to select specific peripheral ports.

### **6.2.3    CONTENDING FOR MULTIPLE PERIPHERALS**

In multiple peripheral applications, if no specific peripheral is desired (i.e., if the output may be sent to any peripheral), you may send the *port contention sequence* which consists of the user-defined Port Select Code (factory set is \$SELECT) followed by "0" (zero) and a terminating character: *Enter/Return* or *Line Feed*. The data is sent to the buffer of the Print Master II and passed to the next available peripheral on a first-in-first-out basis. The unit powers-up from the factory in contention mode.

The port contention sequence is trapped if valid and not passed to the peripheral. The Print Master II will send all print jobs received from the user that sent the port contention sequence to the first available peripheral until another port selection request is received or the unit is powered down.

**NOTE:** If you have sent the port contention sequence and have a specific printer port selected permanently (see *Section 6.2.2*), if the Print Master II loses power, all subsequent print jobs will be sent to the permanent printer port. If you wish all print jobs to go the first available peripheral port even if the unit loses power, you should send a permanent port contention sequence. This consists of the Port Select Code followed by capital ASCII "P", "0", and a terminating character: *Enter/Return* or *Line Feed*. For example, if using the default Port Select Code, you would send **\$SELECTP0<CR or LF>**, where CR is *Enter/Return* and LF is *Line Feed*.

If you have sent the port contention sequence and wish to select a specific peripheral without changing the default (i.e., to select a port on a one-time or temporary basis), send the Port Select Code, ASCII **capital "T"**, the desired port number, and a terminating character. Subsequent print jobs sent without a port select sequence will be routed to the first available peripheral.

The port select sequence, either default or temporary, may be sent by manually inserting it into the file. Or BayTech's support software will send it for you when you strike designated hot keys. Please see *Section 6.2.8* for a description of some of the various port selection techniques.

## **6.2.4 BUFFERING OF PRINT DATA**

When a user sends a print job, the data is stored in Print Master II's spooling buffer (standard 1 MB, available with 2 MB for 804 models; standard 256 KB available with 512 KB or 1.25 MB for 808 and 810 models). All users may simultaneously send data to this dynamically allocated buffer. Therefore, the entire buffer could be occupied by data from one user if only one is active or the buffer could be simultaneously distributed to all users.

Output is buffered and put into a queue in the same order in which it was sent to the Print Master II. The output is then sent to the peripherals in the same order in which it was queued.

## 6.2.5 BEGINNING AND ENDING A PRINT JOB

A print job starts when the Print Master II receives three or more characters from a computer. The characters must be sent in a time period shorter than the designated timeout.

In **Port Select Mode A**, a print job is ended when one of the following occurs:

1. No characters are received by the Print Master II from the computer for the specified input inactivity timeout period,
2. The computer sends the manual disconnect consisting of the Port Select Code followed by a terminating character: *Enter/Return* or *Line Feed* character.
3. The computer sends a clear buffer command (see *Section 6.2.6*).
4. The computer sends the Port Select Code followed by a port number and a terminating character. If the port number is the same number as that of the current print job, this will indicate the end of the current print job, and the next print job will be routed to the same printer. If the port number is a different number from that of the current print job, this will indicate the end of the current print job, and the next print job will be routed to the newly selected printer.

**NOTE:** In **Port Select Mode A**, when the input inactivity timeout is set to 0 (zero) seconds, you must use method 2, 3, or 4 on the previous page to end a print job.

In **Port Select Mode B**, a print job is ended only when no characters are received by Print Master II from the computer for the specified input inactivity timeout period.

**CAUTION:** The input inactivity timeout should not be set to 0 (zero) seconds in Port Select Mode B.

If the buffer of Print Master II is filled to capacity, the unit will drop the DTR line or send an XOFF to the computer, causing the computer to stop sending characters until the buffer can accept more data. In this case, the time that the computer is not sending characters is not counted as part of the input inactivity timeout.

## 6.2.6 BUFFER CLEARING

If you wish to clear the buffer for all of your print jobs, you must send the *clear buffer sequence* which consists of the Port Select Code followed by **CLR** and a terminating character: *Enter/Return* or *Line Feed*. This command will only affect print jobs originated by your computer. Print jobs in the buffer from other computers are not affected. The clear buffer command will clear print jobs currently queued in the buffer and also a print job in process, if one is printing. This command will not clear a printer's buffer of data already passed to the printer from Print Master II.

The clear buffer sequence is operable in either **Port Select Mode A** or Mode B. In **Port Select Mode B**, however, since Print Master II is transparent, the computer must wait for the input inactivity timeout to occur before sending the clear buffer sequence. The clear buffer sequence may be sent by creating a clear buffer file or program (see *Section 6.2.8*).

## 6.2.7 MINIMUM SIZE PRINT JOB

Print Master II scans for a minimum size print job of three (3) characters. If more than 3 characters are received within the designated input inactivity timeout interval, the unit will treat these characters as a print job. If less than 3 characters are received, these characters will be discarded.

## 6.2.8 PORT SELECTION METHODS

BayTech provides utility software which allows you to conveniently select between peripherals for IBM DOS and Microsoft Windows applications. Port selection is as easy as activating hot keys or by using a mouse. Please see *Section 4.2* for more information.

There are alternative methods to peripheral selection. One method is to make the port select sequence the first characters of the text. These characters will be trapped by the Print Master II and not sent to the printer. This method will work only if the text of the print file is sent in an ASCII format.

You may wish to write your own program for sending the port select sequence to the Print Master II instead of inserting it into the document or utilizing the supplied support software. A simple procedure when using word processing programs is to create an ASCII file for each printer which contains the Port Select Code, the port number, and the terminating character. When you wish to select a particular device, you simply print this file followed by the actual print file.

You may use a DOS batch file to send a port select sequence. The DOS command typically used is the ECHO command. An example of the ECHO command used to select a printer connected to Port 2 using the default Port Select Code is the following:

**ECHO \$SELECT2>LPT1:.**

This command should be entered in all capitals with only one space between ECHO and the \$. Please refer to your DOS manual for instructions on creating DOS batch files.

Programs such as Word Perfect and WordStar typically send a printer initialization string before any data. You may imbed the port select sequence in this string to select a printer. For example, Word Perfect allows you to edit the printer definition file for a specific printer by using the PTR command. The port select sequence for the Print Master II would typically be inserted prior to any escape codes for the printer. Please see the documentation for your application package(s) for more information on editing printer initialization strings.

## **6.2.9 FULL DUPLEX COMMUNICATION**

All serial ports on Print Master II (except Models 804A and 808A) feature full duplex communication. The timeout interval is based on computer port input inactivity only. Full duplex allows the printer device to transmit a limited amount of data to the connected computer during the input inactivity timeout period. Communication back to the computer uses a 256-byte buffer with no handshaking.

## 6.2.10 PLOTTER SHARING HINTS

When using Print Master II in a plotter sharing application, it is recommended that you send plot files to the Print Master II rather than plotting dynamically from within your plotting software. You would typically have the application software direct the plot to a file and then copy the file to Print Master II. This method eliminates the requirement for full duplex communication between the computer and the plotter which allows multiple computers to copy plot files simultaneously.

The DOS command to copy the plot file to Print Master II typically adheres to the following format: **COPY <filename> /B COMy:**, where y is the number of the appropriate com port and <filename> is the name of the plot file.

It is still possible to plot dynamically through Print Master II if required. When plotting in this fashion, you would probably need to increase the input inactivity timeout value to a higher number than factory default (20 seconds). Plotting dynamically would not allow you to utilize the buffering capabilities of Print Master II because the data stream from the computer is not continuous. The dynamic method of plotting would allow only one user at a time access to the plotter due to the fact that the plotter can only respond back to the user who is currently connected through Print Master II.

## 6.3 COMPUTER-TO-COMPUTER OPERATING PROCEDURE

**NOTE:** This section does not apply to Print Master II Models 804A or 808A.

Print Master II units with serial ports will allow pairs of computers (or computers and other devices such as modems, scales, data collection equipment, etc.) to communicate while other computers are sending print jobs to the unit. Full duplex communication allows file transfer with many popular communications software packages.

**NOTE:** Computer-to-computer communication can occur only if both ports communicating are serial. Parallel ports allow one-way communication only and will not provide full duplex communication.

### 6.3.1 INITIATING A COMPUTER-TO-COMPUTER CONNECTION

If two serial computers wish to communicate, either computer must send the Port Select Code followed by the desired computer port number and a terminating character: *Enter/Return* or *Line Feed*. If the requested computer is free, the two computers are connected with full duplex communication and an *On Line* message is sent by Print Master II to the computer requesting the connection. If the requested computer is busy, the computer requesting connection receives a *Busy* message from the unit.

In order to terminate a connection between two computers, either computer must first delay *two* seconds and then send the Port Select Code followed by a terminating character: *Enter/Return* or *Line Feed*. If there is not a two second delay prior to sending the disconnect sequence, the entire disconnect sequence will become invalid and passed through to the other connected computer device.

Print Master II will respond to a valid disconnect sequence by sending an *Off Line* message to the device requesting the disconnect.

### 6.3.2 FILE TRANSFER

File transfer can be achieved with a computer-to-computer connection through Print Master II as long as the communicating computers are each running a third-party communications software package. Note that to effectively achieve file transfer, both computers should be running the same communications program.

The port select sequence should be sent from within your communications package by using a macro or manually typing it out so you can see the *On Line* or *Busy* message.

**NOTE:** Using hot key software to select another computer port is not suggested. This is because the hot key software does not provide full duplex communication so you cannot see the *On Line* or *Busy* message if you attempt to use hot key software to determine whether or not you got connection to the other computer port.

### 6.3.3 MODEM SHARING

Modem sharing can be achieved with a computer-to-computer connection through the Print Master II. It is suggested that the computer make the connection to the modem port from within your desired modem package. You would need to be in a full duplex mode within your modem package. You would also need to configure your modem package to communicate with the same serial port parameters that your computer normally uses to print (i.e., baud rate, etc.).

A common mistake is to configure your communications package to match your modem's serial parameters (baud rate, word size, etc.) and not the Print Master II's serial parameters. Keep in mind that you are physically connected to the Print Master II, not the modem. The Print Master II will do any necessary serial parameter conversions between the computer and the modem.

For example, suppose you want to communicate with a 2400 baud modem connected to Port 2 and your PC is connected to a computer port set at the Print Master II's factory default serial configuration (9600 baud, 8 data bit, 1 stop bit, no parity, and XON/XOFF disabled). Port 2 would need to be configured to communicate at 2400 baud to match the baud rate of the modem. However, you would configure your modem communications package to communicate at 9600 baud to match the baud rate of the computer port you are connected to. You are now ready to make the connection to the modem port through the Print Master II.

**NOTE:** The Print Master II does not pass hardware flow control lines through the box. Therefore, it is suggested that you use the results codes option on both the modem and the modem package when communicating through the unit. Please refer to the technical documentation on both your modem and your modem package on how to enable and use the results codes.

**IMPORTANT:** Your external modem should be programmed to have the autobaud detect feature disabled. This is done by issuing the AT\J0 command for Hayes compatible modems.

Once you have finished your modem session, you must send the disconnect sequence to disconnect from the modem port (see *Section 6.3.1*).

## 6.4 LED INDICATORS

All Print Master II models have a green power LED and either four, eight, or ten red activity LEDs. The green power LED will illuminate whenever power is applied to the unit. The red LEDs indicate activity on the respective port(s) when illuminated while the unit is in operation mode. All red LEDs will illuminate briefly when the unit first powers up and goes through its self-test. All red LEDs will stay illuminated while the unit is in configuration mode (see *Section 7*).

When a computer sends a print job to Print Master II, the LED for the computer port and the selected peripheral port will illuminate. The computer LED will remain illuminated until a disconnection occurs as described in *Section 6.2.5*. The peripheral LED will typically remain illuminated until the connection with the sending computer is terminated. However, the peripheral LED may remain illuminated in the event multiple computers are sending print jobs to that peripheral simultaneously or if the printer/plotter attached to it goes off line (e.g., runs out of paper).

When a computer makes a connection to another computer through Print Master II, the LEDs for both computers will come on and stay on until a disconnection occurs as described in *Section 6.3.1*.

## 6.5 DATA FLOW CONTROL

### 6.5.1 HARDWARE HANDSHAKING

#### **COMPUTER-TO-PRINT MASTER II-TO-PERIPHERAL** **PERIPHERAL-TO-PRINT MASTER II-TO-COMPUTER**

When a computer transmits data to a peripheral device through a computer port of Print Master II, the data is received and stored in the spooling buffer (standard 1 MB, available with 2 MB for 804 models; standard 256 KB available with 512 KB or 1.25 MB for 808 and 810 models) which in turn retransmits it to the peripheral device through a printer port. During transmission, when there are only 256 bytes available to that computer and there is no remaining free memory, the unit will make the computer port's DTR (Data Terminal Ready) line false (negative voltage), signaling the transmitting computer that it cannot accept more data. When buffer can receive more data, the unit will make the transmitting computer port's DTR line true (positive voltage).

When Print Master II retransmits the data to the peripheral device through a printer port and the peripheral device cannot receive data, the unit will expect to detect a false on the CTS (Clear-to-Send) line. When the peripheral device can receive data, Print Master II will expect to detect a true on the CTS line.

In the peripheral-to-Print Master II-to-computer direction, handshaking is the same, but the spooling buffer is not utilized.

## **COMPUTER-TO-PRINT MASTER II-TO-COMPUTER**

When Computer A transmits data to Computer B through Print Master II, the data is received from Computer A and stored in a 1024-byte buffer which in turn retransmits it to Computer B. When there are only 256 bytes available in the buffer, the unit will make the DTR line false to Computer A, signaling Computer A that it cannot accept more data. When the buffer of Print Master II can receive more data, the unit will make the DTR line true to Computer A.

When Print Master II retransmits the data to Computer B, the unit will expect to detect a true on the CTS line. When Computer B cannot receive data, Print Master II will expect to detect a false on the CTS line.

### **6.5.2 XON/XOFF HANDSHAKING**

**NOTE:** Print Master II permits XON/XOFF to be enabled or disabled per port independently in the receive and transmit directions. The description of handshaking functions below considers XON/XOFF to be enabled in both directions. If XON/XOFF is disabled in one direction, that direction will support hardware handshaking as described in *Section 6.5.1* of this manual.

## **COMPUTER-TO-PRINT MASTER II-TO-PERIPHERAL PERIPHERAL-TO-PRINT MASTER II-TO-COMPUTER**

When a computer transmits data to a peripheral device through a computer port of Print Master II, the data is received and stored in the spooling buffer (standard 1 MB, available with 2 MB for 804 models; standard 256 KB available with 512 KB or 1.25 MB for 808 and 810 models), which in turn retransmits it to the peripheral device through a printer port. During transmission, when there are only 256 bytes available to the computer and there is no remaining free memory, Print Master II will send an XOFF character, signaling the transmitting computer that it cannot accept more data. When the Print Master II can receive more data, the unit will send an XON character to the transmitting computer.

When Print Master II retransmits the data to the peripheral device through a printer port and the peripheral device cannot receive any more data, the unit will expect to detect a false on the CTS (Clear-to-Send) line or receive an XOFF character. When the peripheral device can receive more data, Print Master II will expect to detect a true on the CTS line or receive an XON character.

In the reverse direction (peripheral-to-Print Master II-to computer), handshaking is the same, but the spooling buffer is not utilized.

## **COMPUTER-TO PRINT MASTER II-TO-COMPUTER**

When Computer A transmits data to Computer B through Print Master II, the data is received from Computer A and stored in a 1024-character buffer which in turn retransmits it to Computer B. When there are only 256 bytes available in the buffer, Print Master II will send an XOFF character to Computer A signaling Computer A that it cannot accept more data. When the buffer of Print Master II can receive more data, the unit will send an XON character to Computer A.

When Print Master II retransmits the data to Computer B, the unit will expect to detect a true on the CTS line or receive an XON character. When Computer B cannot receive any more data, Print Master II will expect to detect a false on the CTS line or receive an XOFF character.

**NOTE:** For computer ports sending binary data and using XON/XOFF handshaking, the input flow control (Recv) should be enabled and the output flow control (Xmit) should be disabled. This will allow any XON or XOFF character sent in the binary string to be passed through to the receiving device.

### **6.5.3 HP 3000 OPTION**

The Print Master II has a special option to order for the HP 3000 mini computer. When the HP 3000 sends an HP Laserjet inquiry command, the Print Master II will respond with an ASCII 0 (30 hex).

Please contact BayTech for purchasing information (see *Section 10*).

## 7 CONFIGURATION

Configuration changes are made through the master configuration port which is Port 1 for all models. Port 1 is a serial port for all models except Models 804A and 808A, where Port 1 is parallel. Print Master II will transmit configuration menus back to the terminal screen of the serial device on Port 1 on all models except the Model 804A and 808A. The 804A and 808A will print out configuration menus to Port 3 (804A) or Port 8 (808A) as described in *Section 7.1*. If you are configuring an 800C, 800D, or 800E model, please see *Section 7.2*.

### 7.1 MODELS 804A AND 808A - CONFIGURATION PROCEDURE

Please use the following procedure to access configuration mode of the 804A or 808A and to program all the various features:

1. Connect a computer with a parallel port such as an IBM PC or compatible to Port 1 of the 804A or 808A. Connect a printer with a parallel port to Port 3 of the 804A or Port 8 of the 808A. (see *Appendix A - Cabling to Print Master II*).

Since configuration must be performed through a parallel port and since parallel communication is only one-way, configuration menus must be printed out on your printer.

2. The computer must be in a mode that allows characters to be sent from the keyboard to the parallel port. To put your computer into this mode, Bay Tech provides a utility program (**PARSEND**) or a suggested program to run using MS BASIC (see *Section 4.2*).

**NOTE:** Make sure the keyboard of your computer is in the CAPS LOCK position.

All ports on the Print Master II Model 804A or 808A must be inactive (i.e., only the green power LED should be illuminated).

With the PARSEND or MS BASIC program loaded on your PC, send from the keyboard **Control-T** followed by an ASCII capital **C**. These characters will not appear at the printer, but the Model 804A or 808A will respond with the main configuration menu which should print out on your printer and all LEDs should illuminate.

**NOTE:** If only 2 LEDs illuminate other than the green power LED when Control-T and ASCII Capital C are sent or if the unit gives no response, this indicates that an incorrect character sequence has been received. If this occurs, wait for the unit to time-out (LEDs will go out) and resend **Control-T** and the ASCII capital **C**.

From this point on, configuration of the Model 804A or 808A will be menu driven.

For illustration purposes, we show the configuration menus for the 804A. The only notable exceptions between the 804A and 808A configuration menus are the actual number of ports shown in the menus and the option to configure a port as computer or printer will be "Set Port Designation" for the 804A and "Set Number of Printers" for the 808A.

## 7.1.1 MODEL 804A - MAIN CONFIGURATION MENU

Print Master II Model 804A will respond to the receiving of Control-T and ASCII Capital C by sending to the printer on Port 3 the following identification block and a menu of the configuration options available:

```
Copyright (c) Bay Technical Associates, 1992
Print Master II Model 804A
Revision 3.00
Total memory 1 MB
Status.....A
Program Port Logical Name.....B
Set Port Designation.....C
Program Port Select Code.....D
Set Port Select Mode.....E
Set Input Inactivity Timeout.....F
Enable/Disable Form Feed Mode.....G
Program I.D. Page Message.....H
Enable/Disable I.D. Message.....I
Select Print Schedule for I.D. Page.....J
Exit Configuration.....X

Enter Request:
```

**NOTE:** Menu selection is case sensitive. It is recommended that your keyboard be in the CAPS LOCK position while in configuration mode.

## 7.1.2 MODEL 808A - MAIN CONFIGURATION MENU

Print Master II Model 808A will respond to the receiving of Control-T and ASCII Capital C by sending to the printer on Port 8 the following identification block and a menu of the configuration options available:

```
Copyright (c) Bay Technical Associates, 1992
Print Master II Model 808A
Revision 1.00
Total memory 1 MB
Status.....A
Program Port Logical Name.....B
Set Number of Printers.....C
Program Port Select Code.....D
Set Port Select Mode.....E
Set Input Inactivity Timeout.....F
Enable/Disable Form Feed Mode.....G
Program I.D. Page Message.....H
Enable/Disable I.D. Message.....I
Select Print Schedule for I.D. Page.....J
Exit Configuration.....X

Enter Request:
```

**NOTE:** Menu selection is case sensitive. It is recommended that your keyboard be in the CAPS LOCK position while in configuration mode.

### 7.1.3 MODELS 804A AND 808A - STATUS

By responding to the Enter Request: message at the end of the main configuration menu with "A" (Status), you may review the status of the current configuration of Print Master II 804A.

Print Master II 804A will respond with:

Port	Logical Name	Port Type	Port Designatn	Printer Assignt
1	Device A	Parall	Computer	0
2	Device B	Parall	Computer	0
3	Device C	Parall	Printer	3
4	Device D	Parall	Computer	0

Strike any Key to Continue, or X to Exit.

Port	Logical Name (Computer)	Form Begin	Feed End	I.D. Page	Timeout In Sec	Port Sel Mode
1	Device A	Off	Off	Off	20	Anytime
2	Device B	Off	Off	Off	20	Anytime
3	Device D	Off	Off	Off	20	Anytime

Strike any Key to Continue, or X to Exit

Port Select Code is :\$SELECT  
I.D. Page Message is :  
This Print Job is for

Strike any Key to Continue, or X to Exit

Copyright (c) Bay Technical Associates, 1992  
Print Master II Model 804A  
Revision 3.00  
Total memory 1 MB  
Status.....A  
Program Port Logical Name.....B  
Set Port Designation.....C  
Program Port Select Code.....D  
Set Port Select Mode.....E  
Set Input Inactivity Timeout.....F  
Enable/Disable Form Feed Mode.....G  
Program I.D. Page Message.....H  
Enable/Disable I.D. Page Message.....I  
Select Print Schedule for I.D. Page.....J  
Exit Configuration.....X

Enter Request :

You may now make whatever changes are necessary by responding to the above menu. The Exit selection (capital **X**) will return you to the Operations Mode.

## 7.1.4 MODELS 804A AND 808A - CHANGE LOGICAL NAME

By responding to the Enter Request: message at the end of the main configuration menu with "B" (Change Logical Name), you may change the identifying name for the device on each port.

Print Master II 804A will respond with:

```
Enter Request :B
```

Port	Logical Name	Port Type	Port Desig	Prnt Assn
1	Device A	Parall	Computer	0
2	Device B	Parall	Computer	0
3	Device C	Parall	Printer	3
4	Device D	Parall	Computer	0

```
Enter Port Number (ENTER = Exit) :
```

Enter the number of the desired port followed by <ENTER>. Print Master II will respond with:

```
Enter Logical Name (Max. 10 characters):
```

You may now enter the new logical name for the device connected to this port. A maximum of 10 characters may be entered. If less than 10 characters are entered, the entry must be followed by <ENTER>. If only <ENTER> is sent, the current port logical name will be retained. The 804A will respond with an updated menu and another prompt. You may now program a new logical name for another port, if desired, by entering that port number or exit by striking <ENTER>.

Print Master II will now return to the main configuration menu (see *Section 7.1.1* or *Section 7.1.2*).

## 7.1.5 MODEL 804A - SET PORT DESIGNATION

By responding to the Enter Request: message at the end of the main configuration menu with "C" (Set Port Designation), you may designate either Port 2 or Port 4 on Print Master II 804A as a computer port or a printer port.

**NOTE:** Port 1 is a fixed computer port and Port 3 is a fixed printer port.

Print Master II 804A will respond with:

```
Enter Request :C
```

Port	Logical Name	Port Type	Port Desig	Prnt Assn
1	Device A	Parall	Computer	0
2	Device B	Parall	Computer	0
3	Device C	Parall	Printer	3
4	Device D	Parall	Computer	0

```
Enter Port Number (ENTER = Exit) :
```

Enter the number of the port that you wish to designate a computer port or a printer port (either 2 or 4) followed by <ENTER>. For example, if you type "2" and <ENTER> for Port 2, the 804A will respond with:

```
Port is assigned as a (Computer) Port  
Enter P or C to change, ENTER when done :
```

You may now designate the port by entering "P" for printer port or "C" for computer port. Type <ENTER> sent for no change. For example, if you entered "P", Print Master II will respond with:

```
Port is designated as a ( Printer ) Port  
Enter P or C to change, ENTER when done :
```

When you type <ENTER> for no change, Print Master II will respond with a reconfigured status menu, similar to:

Port	Logical Name	Port Type	Port Desig	Prnt Assn
1	Device A	Parall	Computer	0
2	Device B	Parall	Computer	0
3	Device C	Parall	Printer	3
4	Device D	Parall	Computer	0

Enter Port Number (ENTER = Exit) :

You may now designate another port or exit by typing <ENTER>. Print Master II will save the new port designations permanently in non-volatile memory and return to the main configuration menu (see *Section 7.1.1*).

**NOTE:** When the port designation is changed for any port, the printer assignment on all computer ports automatically resets to 0 (zero), putting the computers in the contention mode.

## 7.1.6 MODEL 808A - SET NUMBER OF PRINTERS

**NOTE:** This section pertains only to the 808A.

By responding to the Enter Request: message at the end of the main configuration menu for the 808A (see *Section 7.1.2*) with "3" (Set Number of Printers), you may set the Number of Printers you wish to have on the selected high speed parallel module.

The 808A will respond with:

```
Number of Printers is.....0  
Enter Number of Printers (1 to 7).....:
```

Enter the desired Number of Printers. The 808A will return to the main configuration menu (see *Section 7.1.2*).

**NOTE:** The higher numbered ports on the 808A are reserved as printer ports. For example, if you wish to define 2 printers on this unit, enter "2" in response to the prompt above. Physically connect the printers to Port 7 and Port 8 of this module number.

## 7.1.7 MODELS 804A AND 808A - PROGRAM PORT SELECT CODE

By responding to the Enter Request: message at the end of the main configuration menu with "D" (Program Port Select Code), you may change the Port Select Code to a user-defined code. This Port Select Code consists of any 1 to 8 ASCII characters.

Print Master II 804A will respond with:

```
Enter Request :D

Port Select Code is :$SELECT
Enter Port Select Code (Max. 8 characters)
or ENTER for no change :
```

Type the new Port Select Code. If less than 8 characters are entered, you must follow the entry <ENTER>.

**NOTE:** Non-printable characters are acceptable, but they will not appear in the Status menu.

For example, if you entered #PORT, the Print Master II will respond with:

```
Port Select Code is :#PORT
Enter Port Select Code (Max. 8 characters)
or ENTER for no change :
```

If no additional change is desired, type <ENTER> to exit. Print Master II will save the new Port Select Code permanently in non-volatile memory and return to the main configuration menu (see *Section 7.1.1* or *Section 7.1.2*).

## 7.1.8 MODELS 804A AND 808A - PROGRAM PORT SELECT MODE

By responding to the Enter Request: message at the end of the main configuration menu with "E" (Set Port Select Mode), you may change the method of selecting ports.

Print Master II 804A will respond with:

```
Enter Request :E
```

Port	Logical Name (Computer)	Form Begin	Feed End	I.D. Page	Timeout In Sec	Port Sel Mode
1	Device A	Off	Off	Off	20	Anytime
2	Device B	Off	Off	Off	20	Anytime
4	Device D	Off	Off	Off	20	Anytime

```
Enter Port Number (ENTER = Exit) :
```

Type the desired port number followed by <ENTER>. For example, if you type "1" and <ENTER> for Port 1, Print Master II will respond with:

```
Port Select Mode is ( Anytime ) while printing
Enter A for Anytime, B for Beginning, ENTER for no change
```

Enter the Port Select Mode that you wish. For example, if you entered "B" for Beginning, the Print Master II will respond with:

```
Port Select Mode is at the ( Beginning ) of printing only
Enter A for Anytime, B for Beginning, ENTER for no change
```

If no other change is required, type <ENTER> for no change, and the Print Master II will respond with a menu showing the reconfiguration and a prompt, similar to:

Port	Logical Name (Computer)	Form Begin	Feed End	I.D. Page	Timeout In Sec	Port Sel Mode
1	Device A	Off	Off	Off	20	Beginng
2	Device B	Off	Off	Off	20	Anytime
4	Device D	Off	Off	Off	20	Anytime

Enter Port Number (ENTER = Exit) :

You may now proceed to set the Port Select Mode for another port or exit by typing <ENTER>. Print Master II will save the new Port Select Mode permanently in non-volatile memory and return to the main configuration menu (see *Section 6.1.1*).

## 7.1.9 MODELS 804A AND 808A - SET INPUT INACTIVITY TIMEOUT

By responding to the Enter Request: message at the end of the main configuration menu with "F" (Set Input Inactivity Timeout), you may set the disconnect timeout. Print Master II will automatically disconnect the computer and printer if no characters are received from the computer for the specified time-out period.

Print Master II 804A will respond with:

Enter Request :F

Port	Logical Name (Computer)	Form Begin	Feed End	I.D. Page	Timeout In Sec	Port Sel Mode
1	Device A	Off	Off	Off	20	Anytime
2	Device B	Off	Off	Off	20	Anytime
4	Device D	Off	Off	Off	20	Anytime

Enter Port Number (ENTER = Exit) :

Type the desired computer port number followed by <ENTER>. For example, if you type "1" and <ENTER>, Print Master II will respond with:

```
Input Inactivity Timeout is 20 seconds
Enter New Value (0 to 200), or ENTER for no change :
```

Type the number of timeout seconds that you wish from 0 to 200, followed by <ENTER>.

**NOTE:** If 0 (zero) is entered, the input inactivity timeout will be disabled, and the end of a print job will occur only when the computer sends the Port Select Code followed by a printer port number and a terminating character or by just the Port Select Code followed by a terminating character.

**CAUTION:** Do not set the input inactivity timeout to zero seconds when Port Select Mode B has been selected. Mode B recognizes the end of a print job only by the input inactivity timeout. It does not recognize the disconnect where the computer sends the Port Select Code and a port number.

For example, if you entered "100" for 100 seconds, the Print Master II will respond with:

```
Input Inactivity Timeout is 100 seconds
Enter New Value (0 to 200), or ENTER for no change :
```

If no other change is required, type <ENTER>. Print Master II will respond with the reconfigured status and the prompt:

Port	Logical Name (Computer)	Form Begin	Feed End	I.D. Page	Timeout In Sec	Port Sel Mode
1	Device A	Off	Off	Off	20	Anytime
2	Device B	Off	Off	Off	20	Anytime
4	Device D	Off	Off	Off	20	Anytime

```
Enter Port Number (ENTER = Exit) :
```

You may now set the timeout for another computer port or exit by typing <ENTER>. Print Master II will save the new input inactivity timeout(s) permanently in non-volatile memory and return to the main configuration menu (see *Section 7.1.1* or *Section 7.1.2*).

## 7.1.10 MODELS 804A AND 808A - ENABLE/DISABLE FORM FEED MODE

By responding to the Enter Request: message at the end of the main configuration menu with "G" (Enable/Disable Form Feed Mode), you may enable form feed and select when form feed occurs, or disable form feed.

Print Master II 804A will respond with:

```
Enter Request :G
```

Port	Logical Name (Computer)	Form Begin	Feed End	I.D. Page	Timeout In Sec	Port Sel Mode
1	Device A	Off	Off	Off	20	Anytime
2	Device B	Off	Off	Off	20	Anytime
4	Device D	Off	Off	Off	20	Anytime

```
Enter Port Number (ENTER = Exit) : 1
```

Type the desired port number followed by <ENTER>. For example, if you entered "1" and <ENTER>, Print Master II will respond with:

```
Form Feed at the Beginning of Printing is ( Off )
Enter 1 for ON, 2 for OFF , ENTER for no change :
```

You should then enter "1" if you wish to enable form feed at the beginning of printing, "2" if you wish to disable form feed at the beginning of printing or <ENTER> if no change from the present condition is required. For example, if you entered 1, Print Master II will respond with:

```
Form Feed at the Beginning of Printing is ( On )
Enter 1 for ON, 2 for OFF , ENTER for no change :
```

If no additional change is required, <ENTER> for no change, and the Print Master II will respond with:

```
Form Feed at the End of Printing is ( Off )
Enter 1 for ON, 2 for OFF , ENTER for no change :
```

You should then follow the same procedure as above to enable or disable form feed at the end of printing. For example, if you type <ENTER> for no change, the Print Master II will respond with:

Port	Logical Name (Computer)	Form Begin	Feed End	I.D. Page	Timeout In Sec	Port Sel Mode
1	Device A	On	Off	Off	20	Anytime
2	Device B	Off	Off	Off	20	Anytime
4	Device D	Off	Off	Off	20	Anytime

```
Enter Port Number (ENTER = Exit) :
```

You may now set the form feed mode for another port, or exit by typing <ENTER>. Print Master II will save the new form feed settings permanently in non-volatile memory and return to the main configuration menu (see *Section 7.1.1* or *Section 7.1.2*).

## 7.1.11 MODELS 804A AND 808A - PROGRAM I.D. PAGE MESSAGE

By responding to the Enter request: message at the end of the main configuration menu with "H" (Program I.D. Page Message), you may program the content of this identifying message. Note that the I.D. Page Message is a prefix for the logical name of the device from which the data is being sent.

Print Master II 804A will respond with:

```
Enter Request :H  
  
I.D. Page Message is :  
    This Print Job is for  
Enter C to change, or ENTER for no change :
```

If you desire to make a change, enter "C". Print Master II will respond with:

```
Enter I.D Page Message (Max. 35 characters)  
and/or Control-C when done :
```

Enter the new message, followed by Control-C. The message will print on paper exactly as it is placed on the CRT screen. The message may appear on one line or several lines. If several lines are desired, each line must be ended by *Carriage Return* (Control-M) and *Line Feed* (Control-J).

For example, if you entered THIS IS THE NEW MESSAGE, the Print Master II will respond with:

```
I.D. Page Message is :THIS IS THE NEW MESSAGE  
Enter C to change, or ENTER for no change :
```

If no change in the message is desired, type <ENTER> and the current message will be retained. Print Master II will save the new I.D. Page Message permanently in non-volatile memory and return to the main configuration menu (see *Section 7.1.1* or *Section 7.1.2*).

## 7.1.12 MODELS 804A AND 808A - ENABLE/DISABLE I.D. PAGE MESSAGE

By responding to the Enter Request: message at the end of the main configuration menu with "I" (Enable/Disable I.D. Page Message), you may cause the I.D. Page Message to print or not to print by individual port.

Print Master II 804A will respond with:

```
Enter Request :I
```

Port	Logical Name (Computer)	Form Begin	Feed End	I.D. Page	Timeout In Sec	Port Sel Mode
1	Device A	Off	Off	Off	20	Anytime
2	Device B	Off	Off	Off	20	Anytime
3	Device D	Off	Off	Off	20	Anytime

```
Enter Port Number (ENTER = Exit) :
```

Type the desired computer port number followed by <ENTER>. For example, if you typed "1" and <ENTER> for Port 1, Print Master II will respond with:

```
I.D. Page Message Switch is ( Off )  
Enter 1 for ON, 2 for OFF , ENTER for no change :
```

You should enter "1" to cause the I.D. Page Message to print, "2" to cause the I.D. Page Message not to print or type <ENTER> if no change in the present condition is required. For example, if you entered "1" to enable the I.D. Page Message, the Print Master II will respond with:

```
I.D. Page Message Switch is ( On )  
Enter 1 for ON, 2 for OFF , ENTER for no change :
```

If no further change is required for Port 1, type <ENTER> and the Print Master II will respond with:

Port	Logical Name (Computer)	Form Begin	Feed End	I.D. Page	Timeout In Sec	Port Sel Mode
1	Device A	Off	Off	On	20	Anytime
2	Device B	Off	Off	Off	20	Anytime
3	Device D	Off	Off	Off	20	Anytime

Enter Port Number (ENTER = Exit) :

You may now enter another port number, or exit by typing <ENTER>. Print Master II will save the enabling or disabling of the I.D. Page Message permanently in non-volatile memory and return to the main configuration menu (see *Section 7.1.1* or *Section 7.1.2*).

## 7.1.13 MODELS 804A AND 808A - SELECT PRINT SCHEDULE FOR I.D. PAGE

By responding to the Enter Request: message at the end of the main configuration menu with "J" (Select Print Schedule for I.D. Page), you may schedule the I.D. Page Message to print before or after a print job. This scheduling is done at the printer port.

Print Master II 804A will respond with:

Enter Request :J

Port	Logical Name (Printer)	I.D. Page Schedule
3	Device H	Before

Enter Port Number (ENTER = Exit) :

Type the desired printer port number followed by <ENTER>. For example, if you entered "3" and Enter, Print Master II will respond with:

I.D. Page is to be Printed (Before ) the Print Job  
Enter A for After, B for Before, ENTER for no change :

Type "A" if you wish the I.D. Page Message to print after the print job, or "B" if you wish the I.D. Page Message to print before the print job. You can also type <ENTER> for no change. For example, if you entered "A", the Print Master II will respond with:

I.D. Page is to be Printed ( After ) the Print Job  
Enter A for After, B for Before, ENTER for no change :

If no further change is required for Port 8, type <ENTER>. Print Master II will respond with the status and the prompt:

Port	Logical Name (Printer)	I.D. Page Schedule
3	Device H	Before

Enter Port Number (ENTER = Exit) :

You may now reconfigure another port, or exit by typing <ENTER>. Print Master II will save the new I.D. Page Message print schedule permanently in non-volatile memory and return to the main configuration menu (see *Section 7.1.1* or *Section 7.1.2*).

### 7.1.14 EXIT

By responding to the Enter Request: at the end of the main configuration menu with "X", the Print Master II 804A or 808A will return to the operating mode.

## 7.2 ALL 800C, 800D, 800E MODELS CONFIGURATION PROCEDURE

Configuration changes are made through the master configuration port, Port 1. This master configuration port has access to all options of the configuration mode. Please use the following procedure to configure the Print Master II:

1. Connect a dumb terminal (or a PC running a terminal emulation program) to Port 1, the master configuration port. From the factory all serial ports are factory preset at 9600 baud rate, 8 word size, 1 stop bit, no parity, and XON/XOFF disabled.

**NOTE:** If you wish to use the BayTech TERM.EXE program to configure your unit, refer to the instructions on the following page.

2. Make sure the keyboard of your computer or terminal is in the CAPS LOCK position.

All ports on the Print Master II must be off-line (i.e., all LEDs must be off except for the green power LED).

Send from this device to Port 1 of Print Master II the following two control characters: ASCII **Control-T** (14H) followed by ASCII **C** (43H). Once the configuration mode has been accessed, all LEDs will illuminate and will remain illuminated while configuration is occurring.

If any other pattern of LEDs illuminate other than all LEDs, if no LEDs illuminate, or if Print Master II gives no response (no menus appear), this indicates that an incorrect character sequence has been received. If this occurs, wait for Print Master II to timeout (LEDs, if illuminated, will go out) and resend **Control-T** and ASCII capital **C**.

The main configuration menu will appear as shown in *Section 7.2.1*. From this point on, configuration of Print Master II will be accomplished by following the menus that will prompt you.

If you do not have a dumb terminal or a terminal emulation program, BayTech supplies a utility diskette which includes software to put an IBM PC or compatible into a terminal mode. See *Section 4.2* for instructions to obtain the software (TERM.EXE) by running the INSTALL.EXE program if you have not already done so.

Once you have obtained TERM.EXE, use the following procedure:

1. From the BAYTECH subdirectory prompt enter: **term**↵

The program will respond with an identification block and configuration menu for the PC COM port similar to the following:

PC's Configuration					Handshaking				
Port	Baud Rate	Word Size	Stop Bits	Parity	RTS	CTS	DSR	DCD	DTR
Com1	9600	8	1	N	Hi	Hi	Hi	n/a	Hi

You are now in the terminal emulation mode with full duplex communication. Any characters you type from the keyboard will be transmitted out of the PC COM port to Print Master II. They will not appear on the CRT screen. Any characters received from Print Master II by the PC COM port will be displayed on the CRT screen.

2. Ensure the displayed PC Configuration is correct. If not, enter ALT-C to change. For example, if you have your serial cable physically connected to COM2 on your PC, first type ALT-C followed by the up arrow key and then <ENTER> to have the TERM program switch to COM2.

3. Refer to the upper right hand corner of the screen for Handshaking line status. RTS, CTS, DSR, and DTR should all be HIGH. The DCD line is not looked at by the terminal emulation program therefore its status can be ignored. If these signals are not high at this point, check to ensure the correct cable is connected.
4. Depress function key: **F1**.

**NOTE:** The **F1** key in TERM sends the character sequence **Control-T** (14 Hex) followed by the ASCII capital **C** character (43 Hex).

Make sure the keyboard of your computer or terminal is in the CAPS LOCK position.

The main configuration menu will appear as shown in *Section 7.2.1*. From this point on, configuration of Print Master II will be accomplished by following the menus that will prompt you.

## 7.2.1 All 800C, 800D, 800E MODELS - MAIN CONFIGURATION MENU

Print Master II will respond to the receiving of Control-T and capital C with an identification block and the main configuration menu of the options available, similar to the following for the Model 808E:

```
(C)Copyright Bay Technical Associates 1992
Print Master II, Model 808E
Version 1 Revision 2.03
Total Memory : 256K Bytes

Status.....A
Program Port Logical Name.....B
Set Port Designation.....C
Program Port Select Code.....D
Set Port Select Mode.....E
Set Serial Port Configuration.....F
Set Input Inactivity Timeout.....G
Enable/Disable Form Feed Mode.....H
Program I.D. Page Message.....I
Enable/Disable I.D. Page Message.....J
Select Print Schedule for I.D. Page.....K
Exit Configuration.....X

Enter Request :
```

**NOTE:** Menu selection is case sensitive. It is recommended that your keyboard be in the CAPS LOCK position.

**NOTE:** The main configuration menu is identical for all 800C, 800D and 800E models. For illustrative purposes, we will use the Model 808E's configuration menus. The only differences between the 808E's configuration menus and the other 800C, 800D and 800E configuration menus are the total number of ports shown, port type (parallel versus serial) and the factory default printer port (Port 4 on 804E and 804C, Port 8 on 808E, and Port 10 on 810C and 810D).

## 7.2.2 ALL 800C, 800D, 800E MODELS - STATUS

By responding to the Enter Request: message at the end of the main configuration menu with "A" (Status), you may review the status of the current configuration of Print Master II.

Print Master II will respond with:

Enter Request: A

Port	Logical Name	Port Type	Port Desig	Prnt Assn
1	Device A	Serial	Computer	0
2	Device B	Serial	Computer	0
3	Device C	Serial	Computer	0
4	Device D	Parall	Computer	0
5	Device E	Serial	Computer	0
6	Device F	Serial	Computer	0
7	Device G	Serial	Computer	0
8	Device H	Parall	Printer	8

Strike any Key to Continue, or X to Exit

Port	Logical Name (Computer)	Form Begin	Feed End	I.D. Page	Timeout In Sec	Port Sel Mode
1	Device A	Off	Off	Off	20	Anytime
2	Device B	Off	Off	Off	20	Anytime
3	Device C	Off	Off	Off	20	Anytime
4	Device D	Off	Off	Off	20	Anytime
5	Device E	Off	Off	Off	20	Anytime
6	Device F	Off	Off	Off	20	Anytime
7	Device G	Off	Off	Off	20	Anytime

Strike any Key to Continue, or X to Exit.

Port	Logical Name (Printer)	I.D. Page Schedule
8	Device H	Before

Strike any Key to Continue, or X to Exit

Port	Baud Rate	Word Size	Stop Bits	Parity	Xon Xmit	Xoff Recv
1	9600	8	1	None	Off	Off
2	9600	8	1	None	Off	Off
3	9600	8	1	None	Off	Off
4	9600	8	1	None	Off	Off
5	9600	8	1	None	Off	Off
6	9600	8	1	None	Off	Off
7	9600	8	1	None	Off	Off

Strike any Key to Continue, or X to Exit

```

Port Select Code is :$SELECT
I.D. Page Message is :
This Print Job is for
Strike any Key to Continue, or X to Exit

```

```

Status.....A
Program Port Logical Name.....B
Set Port Designation.....C
Program Port Select Code.....D
Set Port Select Mode.....E
Set Serial Port Configuration.....F
Set Input Inactivity Timeout.....G
Enable/Disable Form Feed Mode.....H
Program I.D. Page Message.....I
Enable/Disable I.D. Page Message.....J
Select Print Schedule for I.D. Page.....K
Exit Configuration.....X

```

Enter Request :

You may now make whatever changes are necessary by responding to the above menu. The Exit function will return you to the Operations Mode.

### 7.2.3 ALL 800C, 800D, 800E MODELS - PROGRAM PORT LOGICAL NAME

By responding to the Enter Request: message at the end of the main configuration menu with "B" (Program Port Logical Name), you may enter a logical or identifying name for each device connected to Print Master II. These logical names appear in the configuration menus and also in the I.D. Page Message if it is enabled.

Print Master II will respond with:

Enter Request :B

Port	Logical Name	Port Type	Port Designatn	Printer Assignt
1	Device A	Serial	Computer	0
2	Device B	Serial	Computer	0
3	Device C	Serial	Computer	0
4	Device D	Parall	Computer	0
5	Device E	Serial	Computer	0
6	Device E	Serial	Computer	0
7	Device E	Serial	Computer	0
8	Device E	Parall	Printer	8

Enter Port Number (ENTER = Exit) :

You should now type the desired port number followed by <ENTER>. For example, if you entered "1" and Enter for Port 1, the Print Master II will respond with:

Enter Logical Name (Max. 16 characters) :

You may now enter the new logical name for the device connected to this port. A maximum of 16 characters may be entered for the 808 and 810 models and a maximum of 10 characters for 804 models. If less than 16 characters (808 and 810) or 10 characters (804) are entered, the entry must be followed by <ENTER>. If only <ENTER> is sent, the current message will be retained.

For example, if you entered MAIN IBM, the Print Master II will respond with an updated menu and another prompt:

ONE PORT MUST BE A COMPUTER PORT

Port	Logical Name	Port Type	Port Designatn	Print Assn
1	MAIN IBM	Serial	Computer	0
2	Device B	Serial	Computer	0
3	Device C	Serial	Computer	0
4	Device D	Parall	Computer	0
5	Device E	Serial	Computer	0
6	Device E	Serial	Computer	0
7	Device E	Serial	Computer	0
8	Device E	Parall	Printer	8

Enter Port Number (ENTER = Exit) :

You may now program a new logical name for another port, if desired, by entering that port number or exit by typing <ENTER>. Print Master II will save the new logical name(s) permanently in non-volatile memory and return to the main configuration menu (see *Section 7.2.1*).

## 7.2.4 ALL 800C, 800D, 800E MODELS - SET PORT DESIGNATION

By responding to the Enter Request: message at the end of the main configuration menu with "C" (Set Port Designation), you may designate any port on Print Master II as a computer port or a printer port.

**NOTE:** Plotter ports should be designated as printer ports. Modem ports should be designated as computer ports. One port must always be configured as a computer port, however, you need not have a port configured as a printer port.

Print Master II will respond with:

Enter Request :C

Port	Logical Name	Port Type	Port Designatn	Print Assn
1	Device A	Serial	Computer	0
2	Device B	Serial	Computer	0
3	Device C	Serial	Computer	0
4	Device D	Parall	Computer	0
5	Device E	Serial	Computer	0
6	Device F	Serial	Computer	0
7	Device G	Serial	Computer	0
8	Device H	Parall	Printer	8

Enter Port Number (ENTER = Exit) :

Type the desired port number followed by <ENTER>. For example, if you typed "3" and <ENTER> for Port 3, Print Master II will respond with:

Port is assigned as a ( Computer) Port  
Enter P or C to change, ENTER when done:

You may now designate the port by entering "P" for printer port or "C" for computer port. You may type <ENTER> only for no change. For example, if you typed "P" Print Master II will respond with:

```
Port is designated as a ( Printer ) Port
Enter P or C to change, ENTER when done:
```

When you <ENTER> for no change, Print Master II will respond with a reconfigured status menu, similar to:

Port	Logical Name	Port Type	Port Designatn	Print Assn
1	Device A	Serial	Computer	0
2	Device B	Serial	Computer	0
3	Device C	Serial	Printer	3
4	Device D	Parall	Computer	0
5	Device E	Serial	Computer	0
6	Device F	Serial	Computer	0
7	Device G	Serial	Computer	0
8	Device H	Parall	Printer	8

```
Enter Port Number (ENTER = Exit) :
```

You may now designate another port or exit by typing the <ENTER>. Print Master II will save the new port designations permanently in non-volatile memory and return to the main configuration menu (see *Section 7.2.1*).

In the event that you attempt to configure the last computer port as a printer port, i.e., configure all ports as printer ports, the Print Master II will respond with the following message:

```
ONE PORT MUST BE A COMPUTER PORT
```

**NOTE:** When the port designation is changed for any port, the printer assignment on all computer ports automatically resets to 0 (zero), putting the computers in the contention mode.

## 7.2.5 ALL 800C, 800D, 800E MODELS - PROGRAM PORT SELECT CODE

By responding to the Enter Request: message at the end of the main configuration menu with "D" (Program Port Select Code), you may change the Port Select Code to a user-defined code. This Port Select Code consists of any 1 to 8 ASCII characters.

Print Master II will respond with:

```
Enter Request :D

Port Select Code is :$SELECT
Enter Port Select Code (Max. 8 characters)
or ENTER for no change :
```

Enter the new Port Select Code. If less than 8 characters are typed, you must follow the entry by striking the <ENTER> key.

**NOTE:** Non-printable characters are acceptable, but they will not appear in the Status menu.

For example, if you entered #PORT, the Print Master II will respond with:

```
Port Select Code is :#PORT
Enter Port Select Code (Max. 8 characters)
or ENTER for no change :
```

If no additional change is desired, strike the <ENTER> key to exit. Print Master II will save the new Port Select Code permanently in non-volatile memory and return to the main configuration menu (see *Section 7.2.1*).

## 7.2.6 ALL 800C, 800D, 800E MODELS - SET PORT SELECT MODE

By responding to the Enter Request: message at the end of the main configuration menu with "E" (Set Port Select Mode), you may change the method of selecting ports.

Print Master II will respond with:

Enter Request :E

Port	Logical Name (Computer)	Form Begin	Feed End	I.D. Page	Timeout In Sec	Port Sel Mode
1	Device A	Off	Off	Off	20	Anytime
2	Device B	Off	Off	Off	20	Anytime
3	Device C	Off	Off	Off	20	Anytime
4	Device D	Off	Off	Off	20	Anytime
5	Device E	Off	Off	Off	20	Anytime
6	Device F	Off	Off	Off	20	Anytime
7	Device G	Off	Off	Off	20	Anytime

Enter Port Number (ENTER = Exit) :

Type the desired port number followed by <ENTER>. For example, if you typed "1" and <ENTER> for Port 1, Print Master II will respond with:

Port Select Mode is ( Anytime ) while printing  
Enter A for Anytime, B for Beginning, ENTER for no change :

Type the Port Select Mode that you wish. For example, if you entered "B" for Beginning, Print Master II will respond with:

Port Select Mode is at the ( Beginning ) of printing only  
Enter A for Anytime, B for Beginning, ENTER for no change :

If no other change is required, type <ENTER> for no change, and Print Master II will respond with a menu showing the reconfiguration and a prompt, similar to:

Port	Logical Name (Computer)	Form Begin	Feed End	I.D. Page	Timeout In Sec	Port Sel Mode
1	Device A	Off	Off	Off	20	Begin
2	Device B	Off	Off	Off	20	Anytime
3	Device C	Off	Off	Off	20	Anytime
4	Device D	Off	Off	Off	20	Anytime
5	Device E	Off	Off	Off	20	Anytime
6	Device F	Off	Off	Off	20	Anytime
7	Device G	Off	Off	Off	20	Anytime

Enter Port Number (ENTER = Exit) :

You may now proceed to set the Port Select Mode for another port or exit by typing <ENTER>. Print Master II will save the new Port Select Mode permanently in non-volatile memory and return to the main configuration menu (see *Section 7.2.1*).

## 7.2.7 ALL 800C, 800D, 800E MODELS - SET SERIAL PORT CONFIGURATION

By responding to the Enter Request: message at the end of the main configuration menu with "F" (Set Serial Port Configuration), you may change the serial configuration of each port, i.e. baud rate, word size, stop bits, parity, and XON/XOFF (Transmit and Receive). Each port is configured individually.

Print Master II will respond with:

Enter Request :F

Port	Baud Rate	Word Size	Stop Bits	Parity	Xon Xmit	Xoff Recv
1	9600	8	1	None	Off	Off
2	9600	8	1	None	Off	Off
3	9600	8	1	None	Off	Off
4	9600	8	1	None	Off	Off
5	9600	8	1	None	Off	Off
6	9600	8	1	None	Off	Off
7	9600	8	1	None	Off	Off

Enter Port Number (ENTER = Exit) :

You should then type the desired port number followed by <ENTER>. For example, if you type "3" and <ENTER>, Print Master II will respond with the current status of Port 3 and a menu of the available options:

Port	Baud Rate	Word Size	Stop Bits	Parity	Xon Xmit	Xoff Recv
3	9600	8	1	None	Off	Off

Exit/Save.....1 Set Stop Bits.....4  
 Set Baud Rate..2 Set Parity.....5  
 Set Word Size..3 Set Xon/Xoff.....6

Enter Request :

You may now reconfigure Port 3 by selecting the appropriate option (1-6) from the menu. For example, to change the baud rate to 2400 baud, select "2" (Set baud rate). Print Master II will respond with this menu:

```

1   For   300
2   For   600
3   For  1200
4   For  2400
5   For  4800
6   For  9600
7   For 19200

```

Enter Request :

**NOTE:** Models 804C and 804E will also show an eighth selection for 38400 baud.

Send "4" for 2400 baud rate, and the Print Master II will respond with the reconfigured status of the port, the option menu, and the prompt:

Port	Baud Rate	Word Size	Stop Bits	Parity	Xon Xmit	Xoff Recv
3	9600	8	1	None	Off	Off

```

Exit/Save.....1  Set Stop Bits.....4
Set Baud Rate..2  Set Parity.....5
Set Word Size..3  Set Xon/Xoff.....6

```

Enter Request :

You may now select other options from the menu to reconfigure Port 3. For example, to set XON/XOFF, select "6" (Set Xon/Xoff). **Note:** Output Flow Control and Input Flow Control are set separately for each port. Print Master II will respond with:

Stop/Restart Output Upon Receiving of Xoff/Xon ? (Y/N) :

You should then enter "Y" to enable XON/XOFF on transmit, "N" to disable XON/XOFF on transmit. For example, if you entered "N", the Print Master II will respond with:

Xoff/Xon sent based on Buffer - Full/Empty condition ? (Y/N) :

You should then enter "Y" to enable XON/XOFF on receive or "N" to disable XON/XOFF on receive.

**CAUTION:** If your application requires sending graphics or binary data (non-ASCII format), make sure the XON/XOFF setting for the computer port on Print Master II is disabled in the XMIT direction. If this setting is enabled, Print Master II will strip out any character with a bit pattern that represents XON (11 Hex) or XOFF (13 Hex) in the graphics or binary bit stream.

For example, if you enter "Y", the Print Master II will respond with the reconfigured status of the port, the option menu and the prompt:

Port	Baud Rate	Word Size	Stop Bits	Parity	Xon Xmit	Xoff Recv
3	9600	8	1	None	Off	Off

```
Exit/Save.....1  Set Stop Bits.....4
Set Baud Rate..2  Set Parity.....5
Set Word Size..3  Set Xon/Xoff.....6
```

Enter Request :

If there are no other changes for this port, send "1" (Exit/Save), and the Print Master II will respond with:

```
Save Changes Permanently ? (Y/N) :
```

**NOTE:** When changing the configuration of the master configuration port, Port 1, the Print Master II will also respond with:

```
Change This Device to NEW Configuration
Before Answering This Request.
Save Changes Permanently ? (Y/N) :
```

This reminds you to make sure the new configuration of the Port 1 matches the configuration of the device. If they do not match, you will be locked out of Print Master II and unable to access its functions.

**CAUTION:** If "Y" is sent before changing the configuration device to the new configuration (baud rate or parity), the Print Master II will not receive the "Y" response. However, you will be locked out of the Print Master II. To correct this problem, recycle power on the Print Master II. The unit will then default back to the last saved configuration settings. You must then re-enter the configuration mode, reset and resave the configuration of the master configuration port.

If you answer "Y", the new configuration for that port will be stored permanently in non-volatile memory, and the Print Master II will subsequently power-up at that configuration.

If you answer "N", the new configuration will be stored in RAM, and on the next power-up, the Print Master II will revert to the previous configuration.

Print Master II will then respond with the revised serial port configuration menu and the prompt:

Port	Baud Rate	Word Size	Stop Bits	Parity	Xon Xmit	Xoff Recv
1	9600	8	1	None	Off	Off
2	9600	8	1	None	Off	Off
3	9600	8	1	None	Off	On
4	9600	8	1	None	Off	Off
5	9600	8	1	None	Off	Off
6	9600	8	1	None	Off	Off
7	9600	8	1	None	Off	Off

Enter Port Number (ENTER = Exit) :

You may now reconfigure another port or exit by typing <ENTER>. Print Master II will now return to the main configuration menu (see *Section 7.2.1*).

## 7.2.8 ALL 800C, 800D, 800E MODELS - SET INPUT INACTIVITY TIMEOUT

By responding to the Enter Request: message at the end of the main configuration menu with "G" (Set Input Inactivity Timeout), you may set the disconnect timeout. Print Master II will automatically disconnect the computer and printer if no characters are received from the computer for the specified time-out period.

Print Master II will respond with:

```
Enter Request :G
```

Port	Logical Name (Computer)	Form Begin	Feed End	I.D. Page	Timeout In Sec	Port Sel Mode
1	Device A	Off	Off	Off	20	Anytime
2	Device B	Off	Off	Off	20	Anytime
3	Device C	Off	Off	Off	20	Anytime
4	Device D	Off	Off	Off	20	Anytime
5	Device E	Off	Off	Off	20	Anytime
6	Device F	Off	Off	Off	20	Anytime
7	Device G	Off	Off	Off	20	Anytime

```
Enter Port Number (ENTER = Exit) :
```

Type the desired computer port number followed by <ENTER>. For example, if you type "3" and <ENTER>, Print Master II will respond with:

```
Input Inactivity Timeout is 20 seconds
Enter New Value (0 to 200), or ENTER for no change:
```

Enter the number of timeout seconds that you wish from 0 to 200 followed by <ENTER>.

**NOTE:** If 0 (zero) is entered, the input inactivity timeout will be disabled, and the end of a print job will occur only when the computer sends the Port Select Code followed by a printer port number and a terminating character or just the Port Select Code followed by a terminating character.

**CAUTION:** Do not set the input inactivity timeout to zero seconds when Port Select Mode B has been selected. Mode B recognizes the end of a print job only by the input inactivity timeout. It does not recognize the disconnect where the computer sends the Port Select Code and a port number.

For example, if you entered "100" for 100 seconds, Print Master II will respond with:

```
Input Inactivity Timeout is 100 seconds
Enter New Value (0 to 200), or ENTER for no change:
```

If no other change is required, type <ENTER>. Print Master II will respond with the reconfigured status and the prompt:

Port	Logical Name (Computer)	Form Begin	Feed End	I.D. Page	Timeout In Sec	Port Sel Mode
1	Device A	Off	Off	Off	20	Anytime
2	Device B	Off	Off	Off	20	Anytime
3	Device C	Off	Off	Off	100	Anytime
4	Device D	Off	Off	Off	20	Anytime
5	Device E	Off	Off	Off	20	Anytime
6	Device F	Off	Off	Off	20	Anytime
7	Device G	Off	Off	Off	20	Anytime

```
Enter Port Number (ENTER = Exit) :
```

You may now set the timeout for another computer port or exit by typing <ENTER>. Print Master II will save the new input inactivity timeout(s) permanently in non-volatile memory and return to the main configuration menu (see *Section 7.2.1*).

## 7.2.9 ALL 800C, 800D, 800E MODELS - ENABLE/DISABLE FORM FEED MODE

By responding to the Enter Request: message at the end of the main configuration menu with "H" (Enable/Disable Form Feed Mode), you may enable form feed and select when form feed occurs, or disable form feed.

Print Master II will respond with:

```
Enter Request :H
```

Port	Logical Name (Computer)	Form Begin	Feed End	I.D. Page	Timeout In Sec	Port Sel Mode
1	Device A	Off	Off	Off	20	Anytime
2	Device B	Off	Off	Off	20	Anytime
3	Device C	Off	Off	Off	20	Anytime
4	Device D	Off	Off	Off	20	Anytime
5	Device E	Off	Off	Off	20	Anytime
6	Device F	Off	Off	Off	20	Anytime
7	Device G	Off	Off	Off	20	Anytime

```
Enter Port Number (ENTER = Exit) : 1
```

Type the desired port number followed by <ENTER>. For example, if you type "3" and <ENTER>, Print Master II will respond with:

```
Form Feed at the Beginning of Printing is ( Off )
Enter 1 for ON, 2 for OFF , ENTER for no change:
```

You should then enter "1" if you wish to enable form feed at the beginning of printing, "2" if you wish to disable form feed at the beginning of printing or type <ENTER> if no change from the present condition is required. For example, if you entered "1", Print Master II will respond with:

```
Form Feed at the Beginning of Printing is ( On )
Enter 1 for ON, 2 for OFF , ENTER for no change:
```

If no additional change is required, type <ENTER> for no change, and Print Master II will respond with:

Form Feed at the End of Printing is ( Off )  
Enter 1 for ON, 2 for OFF , ENTER for no change :

You should then follow the same procedure as above to enable or disable form feed at the end of printing. For example, if you type <ENTER> for no change, Print Master II will respond with:

Port	Logical Name (Computer)	Form Begin	Feed End	I.D. Page	Timeout In Sec	Port Sel Mode
1	Device A	Off	Off	Off	20	Anytime
2	Device B	Off	Off	Off	20	Anytime
3	Device C	Off	Off	Off	20	Anytime
4	Device D	Off	Off	Off	20	Anytime
5	Device E	Off	Off	Off	20	Anytime
6	Device F	Off	Off	Off	20	Anytime
7	Device G	Off	Off	Off	20	Anytime

Enter Port Number (ENTER = Exit) :

You may now set the form feed mode for another port or exit by typing <ENTER>. Print Master II will save the new form feed settings permanently in non-volatile memory and return to the main configuration menu (see *Section 7.2.1*).

## 7.2.10 ALL 800C, 800D, 800E MODELS - PROGRAM I.D. PAGE MESSAGE

By responding to the Enter request: message at the end of the main configuration menu with "I" (Program I.D. Page Message), you may program the content of this identifying message. Note that the I.D. Page Message is a prefix for the logical name of the device from which the data is being sent.

Print Master II will respond with:

```
Enter Request :I

I.D. Page Message is :
      This Print Job is for :
Enter C to change, or ENTER for no change :
```

If you desire to make a change, enter "C". Print Master II will respond with:

```
Enter I.D Page Message (Max. 80 characters)
and/or Control-C when done :
```

Type the new message, followed by Control-C. Note that the message will print on paper exactly as it is placed on the CRT screen. The message may appear on one line or several lines. If several lines are desired, each line must be ended by *Carriage Return* (Control-M) and *Line Feed* (Control-J).

For example, if you type THIS IS THE NEW MESSAGE, the Print Master II will respond with:

```
I.D. Page Message is :
      THIS IS THE NEW MESSAGE
Enter C to change, or ENTER for no change:
```

If no change in the message is desired, type <ENTER> and the current message will be retained. Print Master II will save the new I.D. Page Message permanently in non-volatile memory and return to the main configuration menu (see *Section 7.2.1*).

## 7.2.11 ALL 800C, 800D, 800E MODELS - ENABLE/DISABLE I.D PAGE MESSAGE

By responding to the Enter Request: message at the end of the main configuration menu with "J" (Enable/Disable I.D. Page Message), you may cause the I.D. Page Message to print or not to print by individual port. Print Master II will respond with:

Enter Request :J

Port	Logical Name (Computer)	Form Begin	Feed End	I.D. Page	Timeout In Sec	Port Sel Mode
1	Device A	Off	Off	Off	20	Anytime
2	Device B	Off	Off	Off	20	Anytime
3	Device C	Off	Off	Off	20	Anytime
4	Device D	Off	Off	Off	20	Anytime
5	Device E	Off	Off	Off	20	Anytime
6	Device F	Off	Off	Off	20	Anytime
7	Device G	Off	Off	Off	20	Anytime

Enter Port Number (ENTER = Exit) :

Type the desired computer port number followed by <ENTER>. For example, if you entered "1" and Enter for Port 1, Print Master II will respond with:

I.D. Page Message Switch is ( Off )  
Enter 1 for ON, 2 for OFF , ENTER for no change:

You should enter "1" to cause the I.D. Page Message to print, "2" to cause the I.D. Page Message not to print or type <ENTER> if no change in the present condition is required. For example, if you type "1" to enable the I.D. Page Message, Print Master II will respond with:

```
I.D. Page Message Switch is ( On )
Enter 1 for ON, 2 for OFF , ENTER for no change:
```

If no further change is required for Port 1, type <ENTER> and Print Master II will respond with:

Port	Logical Name (Computer)	Form Begin	Feed End	I.D. Page	Timeout In Sec	Port Sel Mode
1	Device A	Off	Off	Off	20	Anytime
2	Device B	Off	Off	Off	20	Anytime
3	Device C	Off	Off	Off	20	Anytime
4	Device D	Off	Off	Off	20	Anytime
5	Device E	Off	Off	Off	20	Anytime
6	Device F	Off	Off	Off	20	Anytime
7	Device G	Off	Off	Off	20	Anytime

```
Enter Port Number (ENTER = Exit) :
```

You may now enter another port number or exit by typing <ENTER>. Print Master II will save the enabling or disabling of the I.D. Page Message permanently in non-volatile memory and return to the main configuration menu (see *Section 7.2.1*).

## 7.2.12 ALL 800C, 800D, 800E MODELS - SELECT PRINT SCHEDULE FOR I.D. PAGE

By responding to the Enter Request: message at the end of the main configuration menu with "K" (Select Print Schedule for I.D. Page), you may schedule the I.D. Page Message to print before or after a print job. This scheduling is done at the printer port.

Print Master II will respond with:

Enter Request :K

Port	Logical Name (Printer)	I.D. Page Schedule
8	Device H	Before

Enter Port Number (ENTER = Exit) :

Type the desired printer port number followed by <ENTER>. For example, if you type "8" and <ENTER>, Print Master II will respond with:

I.D. Page is to be Printed ( Before ) the Print Job  
Enter A for After, B for Before, ENTER for no change :

Type "A" if you wish the I.D. Page Message to print after the print job or "B" if you wish the I.D. Page Message to print before the print job. You can also type <ENTER> for no change. For example, if you type "A", Print Master II will respond with:

I.D. Page is to be Printed ( After ) the Print Job  
Enter A for After, B for Before, ENTER for no change :

If no further change is required for Port 8, type <ENTER>. Print Master II will respond with the status and the prompt:

Port	Logical Name (Printer)	I.D. Page Schedule
8	Device H	After

Enter Port Number (ENTER = Exit) :

You may now reconfigure another port or exit by typing <ENTER>. Print Master II will save the new I.D. Page Message print schedule permanently in non-volatile memory and return to the main configuration menu (see *Section 7.2.1*).

### **7.2.13 EXIT**

By responding to the Enter Request: message at the end of the main configuration menu with "X" (Exit), Print Master II will return to the operating mode.

## **8 MAINTENANCE**

Since there are no adjustments and no moving parts in the Print Master II, preventative maintenance is unnecessary.

If you find it necessary to return the Print Master II to the factory for warranty work or factory-set changes, follow the procedure listed under *Section 9* for repacking.

Before you ship your unit, please call BayTech to get a Return Authorization number. BayTech cannot accept warranty or no-charge returns without this number.

Ship your unit to the address listed under *Section 10*.

## **9 REPACKING FOR SHIPPING**

If you need to repack your unit for shipping, please choose a heavy cardboard box for packing. Surround your unit with sufficient insulation (a minimum of 2-inches) to withstand the rigors of transport. Be sure to seal the box securely with strapping or packing tape. Masking tape or cellophane tape is not recommended.

If you are returning your unit for warranty work or repair, please call BayTech to get a Return Authorization number. BayTech cannot accept no-charge returns without this number. Please refer to *Section 10*.

## 10 TECHNICAL SUPPORT

In the event that you have problems with Print Master II, BayTech has a staff of applications engineers on duty to assist you from 7 am to 6 pm (CST or CDT), Monday through Friday.

**IMPORTANT:** Before you call BayTech Technical Support, please check the Troubleshooting section of this manual (see *Appendix C*).

When you call BayTech Technical Support, please have the following information available to help the applications engineers answer your questions more accurately and more quickly:

1. Identify which Print Master II you are using and have the serial number handy (located on the back of the unit).
2. Identify what computers, printers or other peripherals you have connected to the Print Master II.
3. Identify any special equipment you are using (e.g., in-line spoolers, networks, software drivers, etc.).
4. Identify what cables you are using, what the lengths of the cables are, and who sold you the cables.
5. Identify any special options you may have ordered with your the Print Master II.
6. Identify the software packages you are using.
7. If possible, have a print-out of the Print Master II's configuration status ready when you call.

**IMPORTANT:** Always call BayTech before dismantling your equipment. Always call BayTech before returning Print Master II to BayTech for repair.

If you have questions that are not answered in this manual, please contact BayTech Technical Support for assistance.

**Bay Technical Associates, Inc.  
200 N. Second Street, P.O. Box 387  
Bay Saint Louis, Mississippi 39520 U.S.A.**

**Phone: 228/467-8231 or  
800/523-2702  
FAX: 228/467-4551  
Web Site: [www.baytechdcd.com](http://www.baytechdcd.com)**

# 11 FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFACE STATEMENT\*

This equipment generates and uses radio frequency energy and, if not installed and used properly (that is, in strict accordance with the manufacturer's instructions) may cause interference to radio and television reception. The equipment has been type tested and found to comply within the limits for a Class A computing device in accordance with the specifications in Subpart J of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference in a commercial/business installation. However, there is no guarantee that interference to radio or television reception will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

1. Reorient the receiving antenna.
2. Relocate the computer equipment with respect to the receiver.
3. Move the computer away from the receiver.
4. Plug the computer into a different outlet so that computer and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions.

The Federal Communications Commission has prepared a booklet entitled "How to Identify and Resolve Radio - TV Interference Problems" which may be helpful to you. This booklet (stock #004-000-00345-4) may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

\*Use of a shielded interface cable is required to comply within the Class A limits in Subpart J of Part 15 of FCC rules.

## **APPENDIX A**

### **CABLING TO PRINT MASTER II**

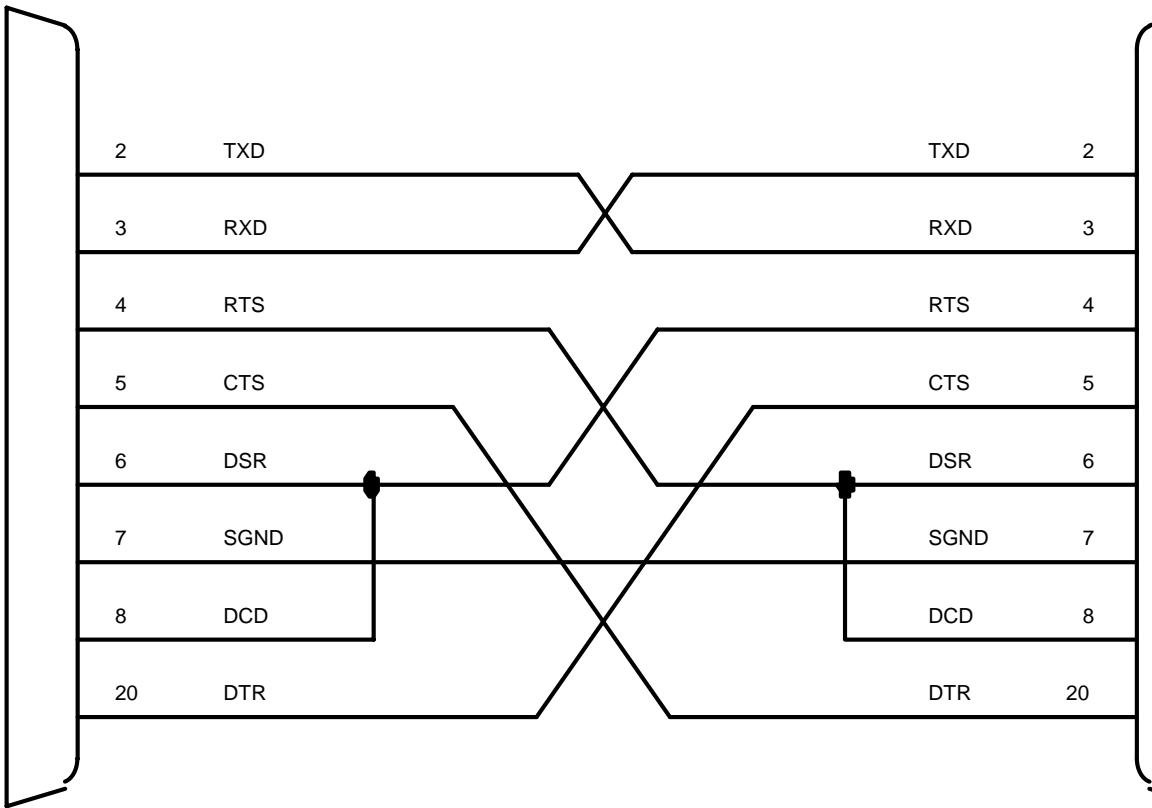
#### **A.1 BETWEEN PRINT MASTER II AND IBM PC, IBM PC/XT OR IBM PS/2 (DB-25 CONNECTOR)**

RECOMMENDED CABLING USING HARDWARE OR  
XON/XOFF HANDSHAKING

PRINT MASTER II  
FEMALE DB-25

PC  
FEMALE DB-25



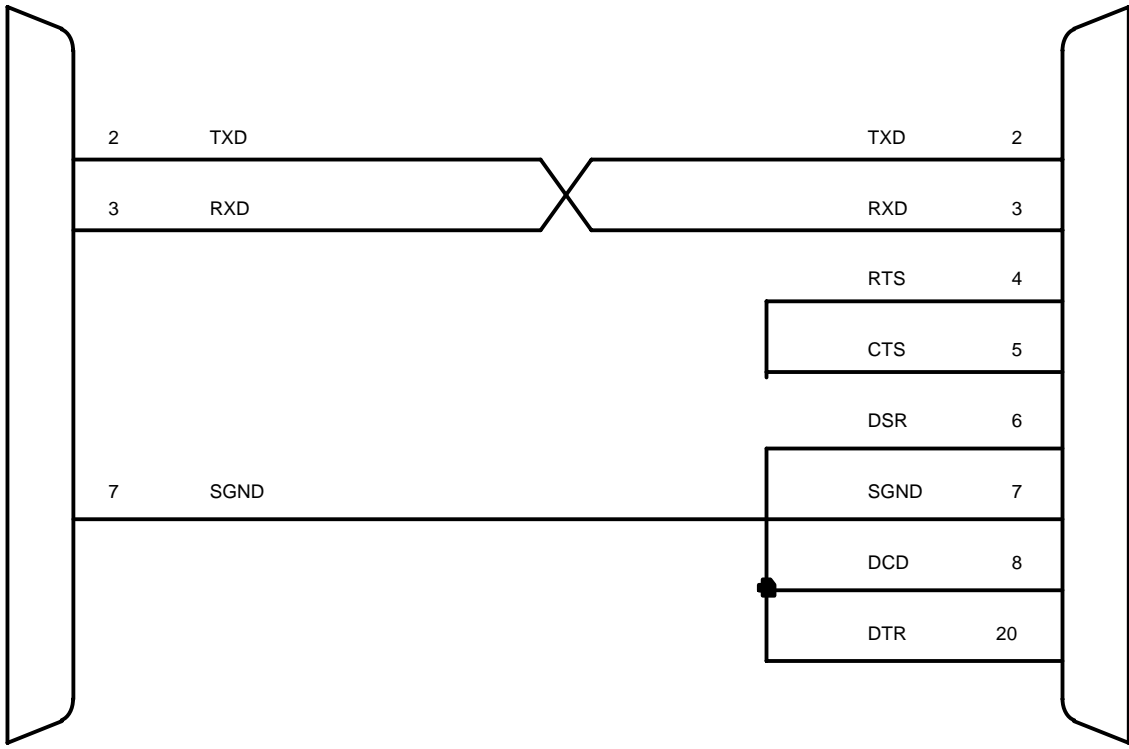


## MINIMUM CABLING USING XON/XOFF HANDSHAKING

PRINT MASTER II  
FEMALE DB-25

PC  
FEMALE DB-25



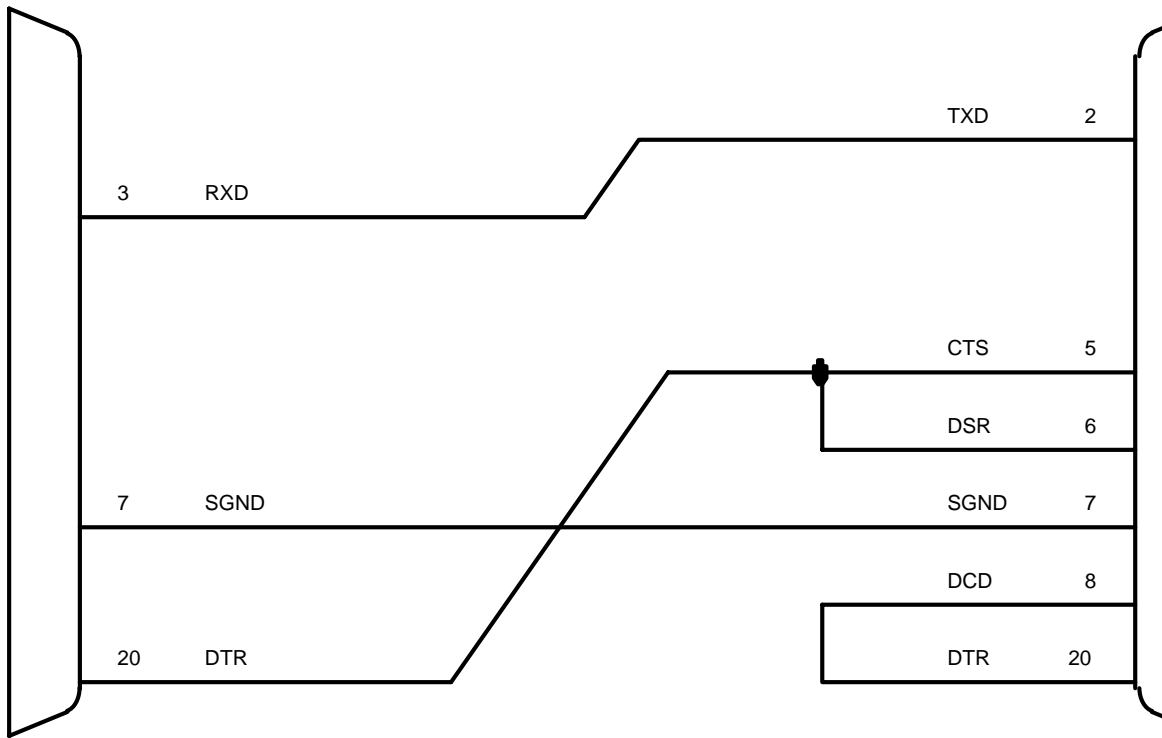


# MINIMUM CABLING USING HARDWARE HANDSHAKING FOR ONE-WAY DATA TRANSFERS

PRINT MASTER II  
FEMALE DB-25

PC  
FEMALE DB-25



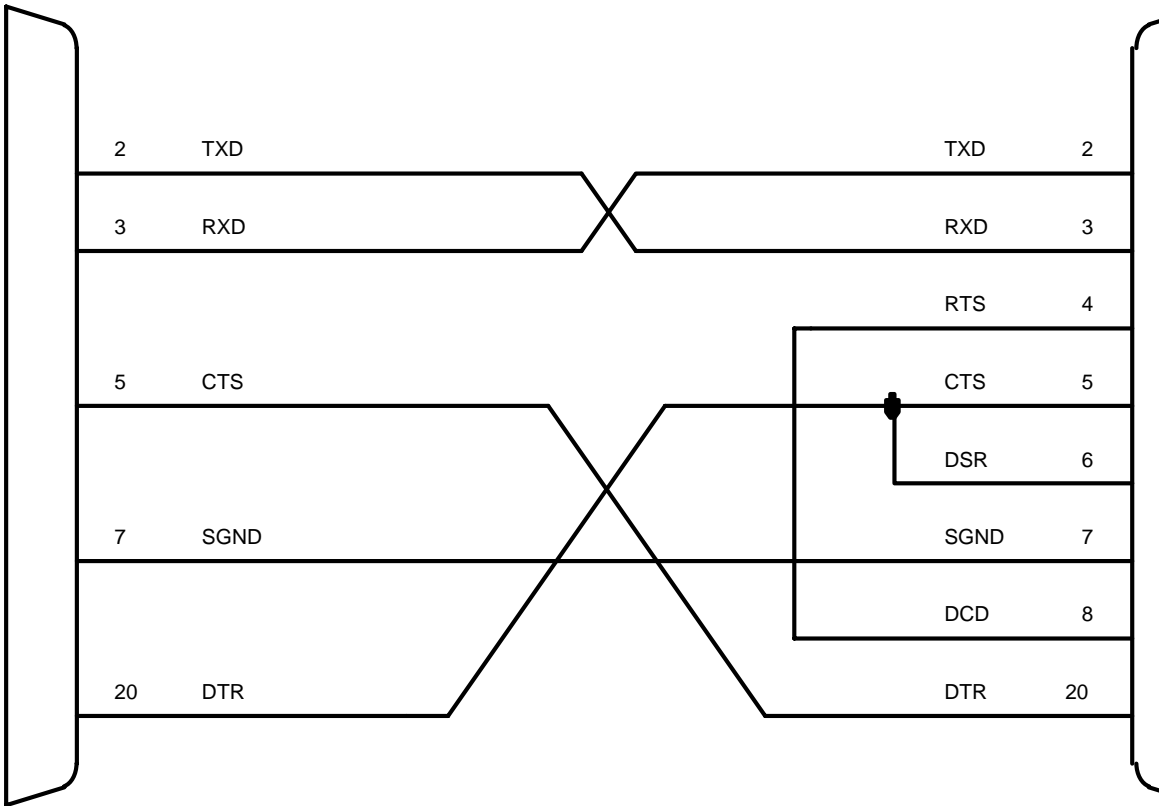


## MINIMUM CABLING USING HARDWARE HANDSHAKING FOR TWO-WAY DATA TRANSFERS

PRINT MASTER II  
FEMALE DB-25

PC  
FEMALE DB-25





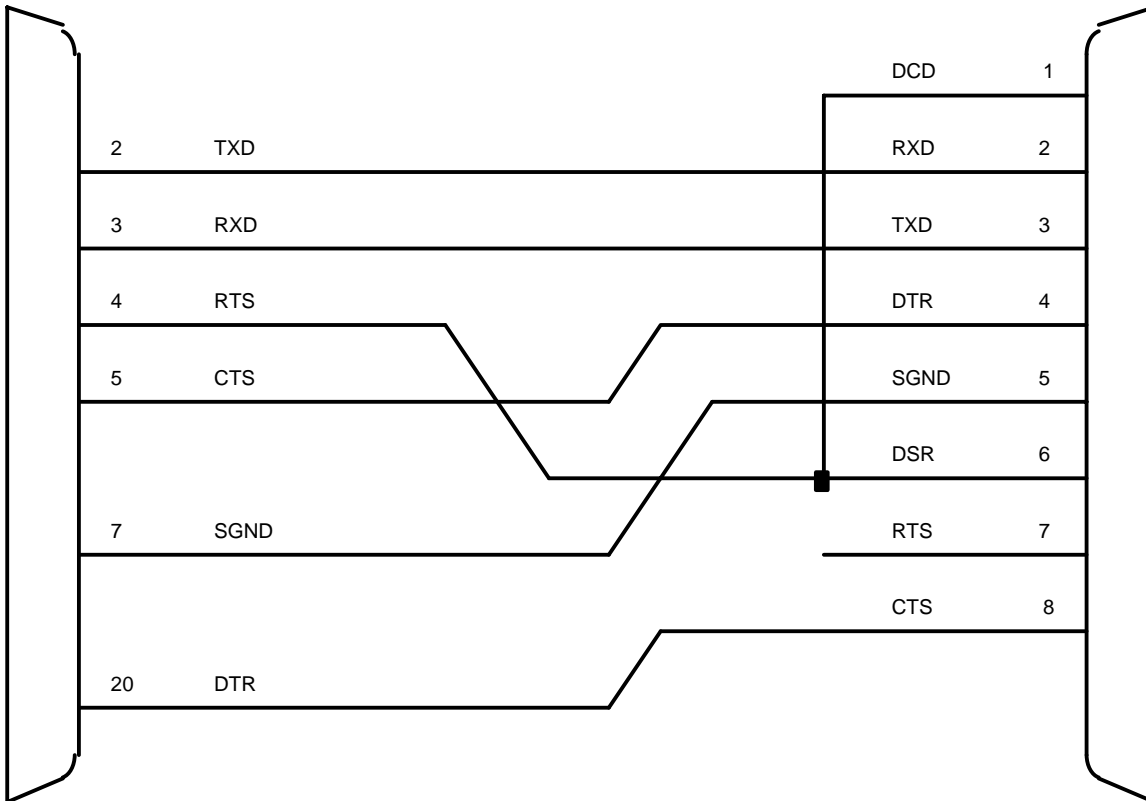
## **A.2 BETWEEN PRINT MASTER II AND IBM PC/AT (DE-9 CONNECTOR)**

### **RECOMMENDED CABLING USING HARDWARE OR XON/XOFF HANDSHAKING**

PRINT MASTER II  
FEMALE DB-25

AT  
FEMALE DE-9



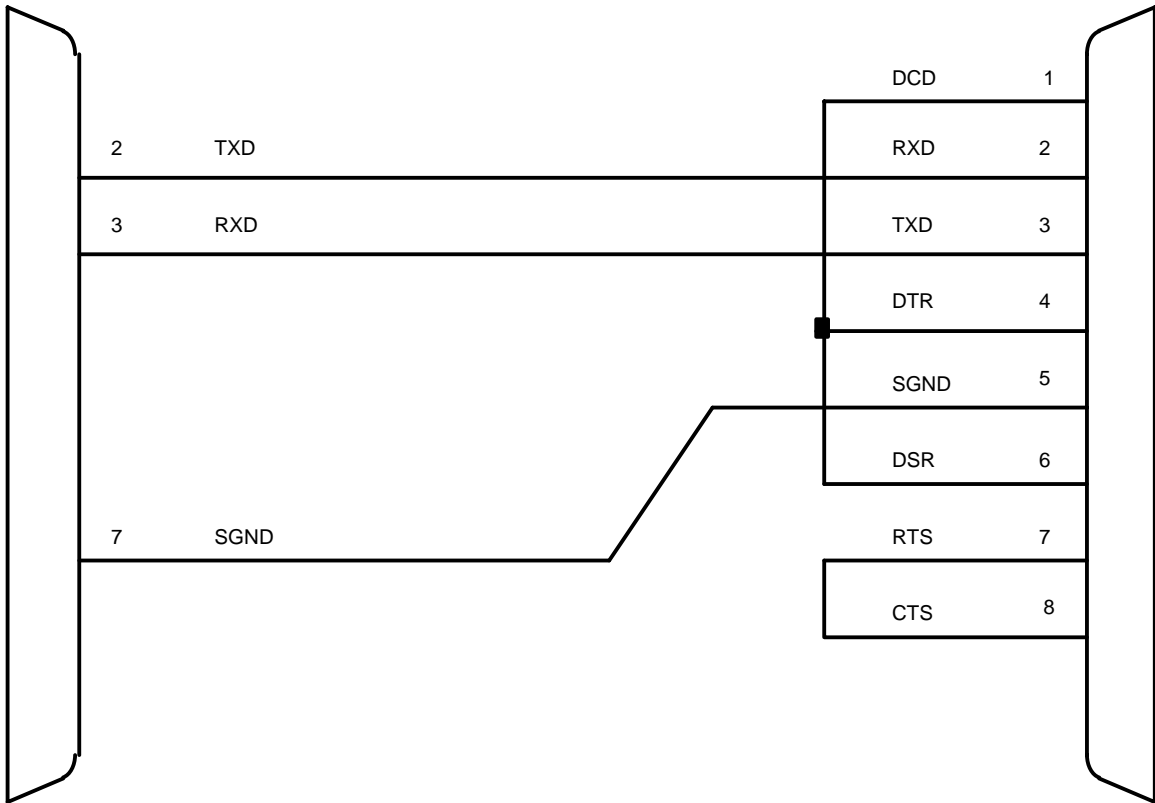


### MINIMUM CABLING USING XON/XOFF HANDSHAKING

PRINT MASTER II  
FEMALE DB-25

AT  
FEMALE DE-9



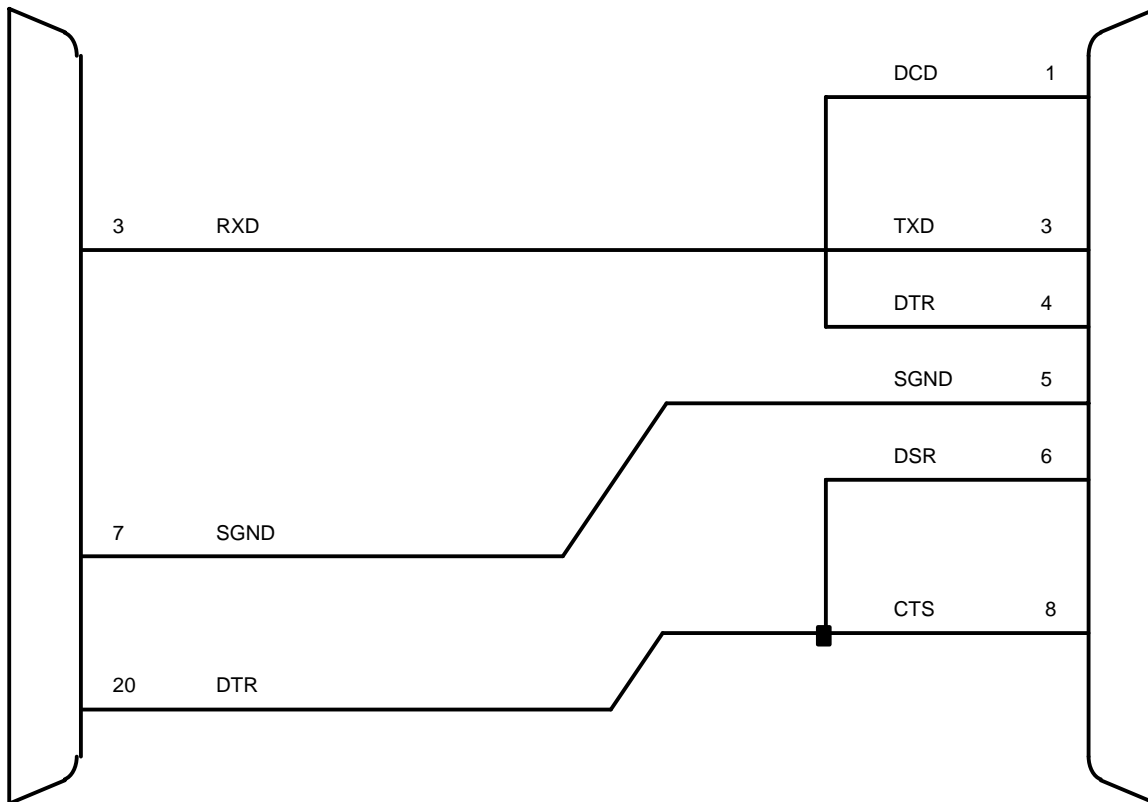


# MINIMUM CABLING USING HARDWARE HANDSHAKING FOR ONE-WAY DATA TRANSFERS

PRINT MASTER II  
FEMALE DB-25

AT  
FEMALE DE-9



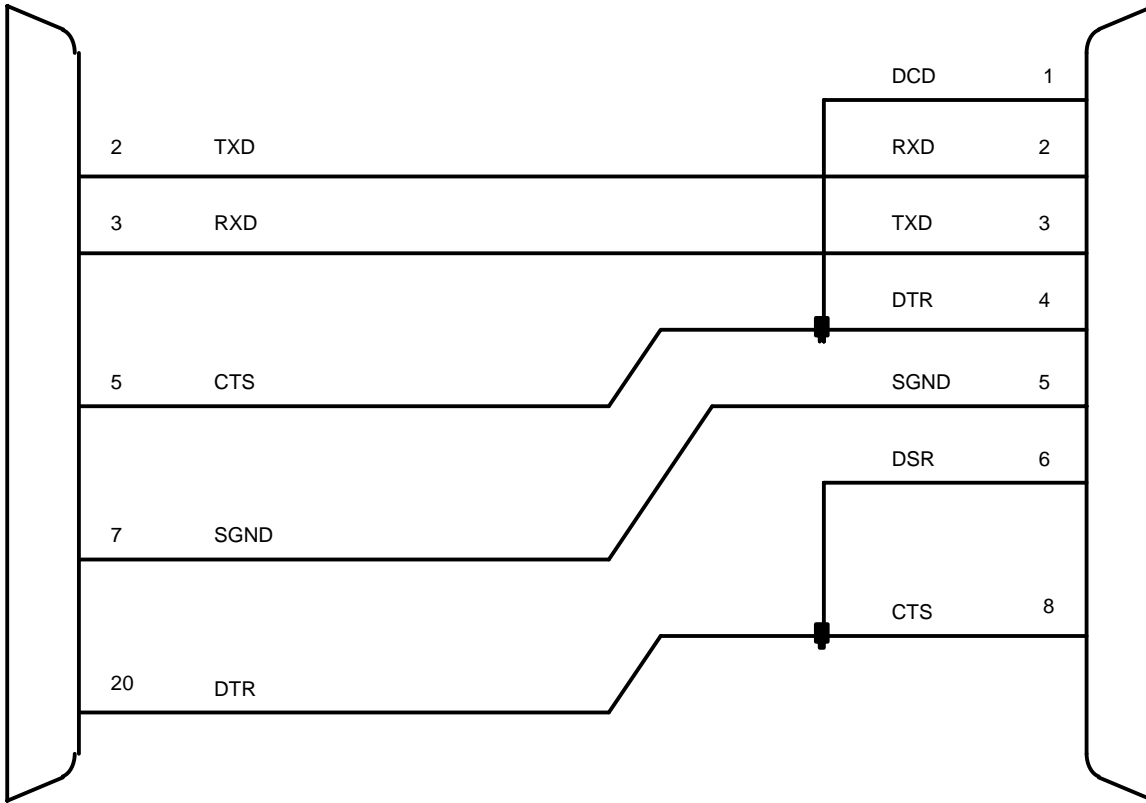


## MINIMUM CABLING USING HARDWARE HANDSHAKING FOR TWO-WAY DATA TRANSFERS

PRINT MASTER II  
FEMALE DB-25

AT  
FEMALE DE-9





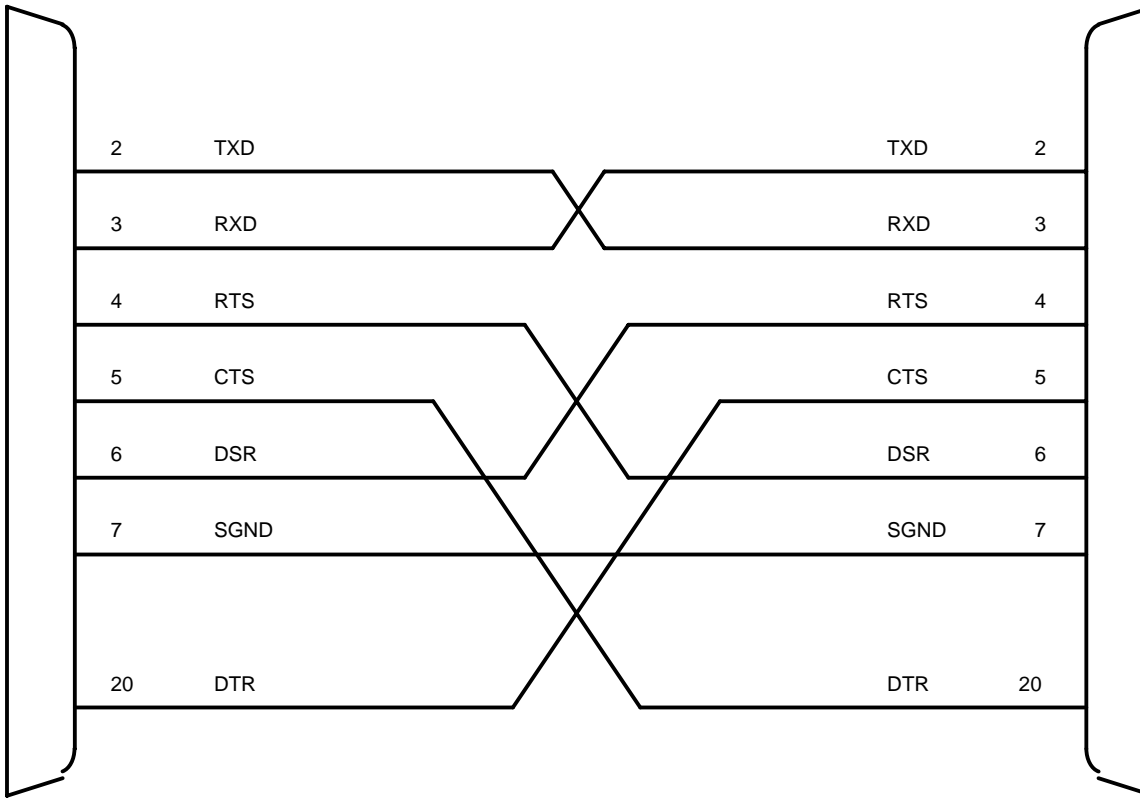
### **A.3 BETWEEN PRINT MASTER II AND HEWLETT PACKARD LASERJET**

#### **RECOMMENDED CABLING USING HARDWARE OR XON/XOFF HANDSHAKING**

PRINT MASTER II  
FEMALE DB-25

HP LASERJET  
MALE DB-25



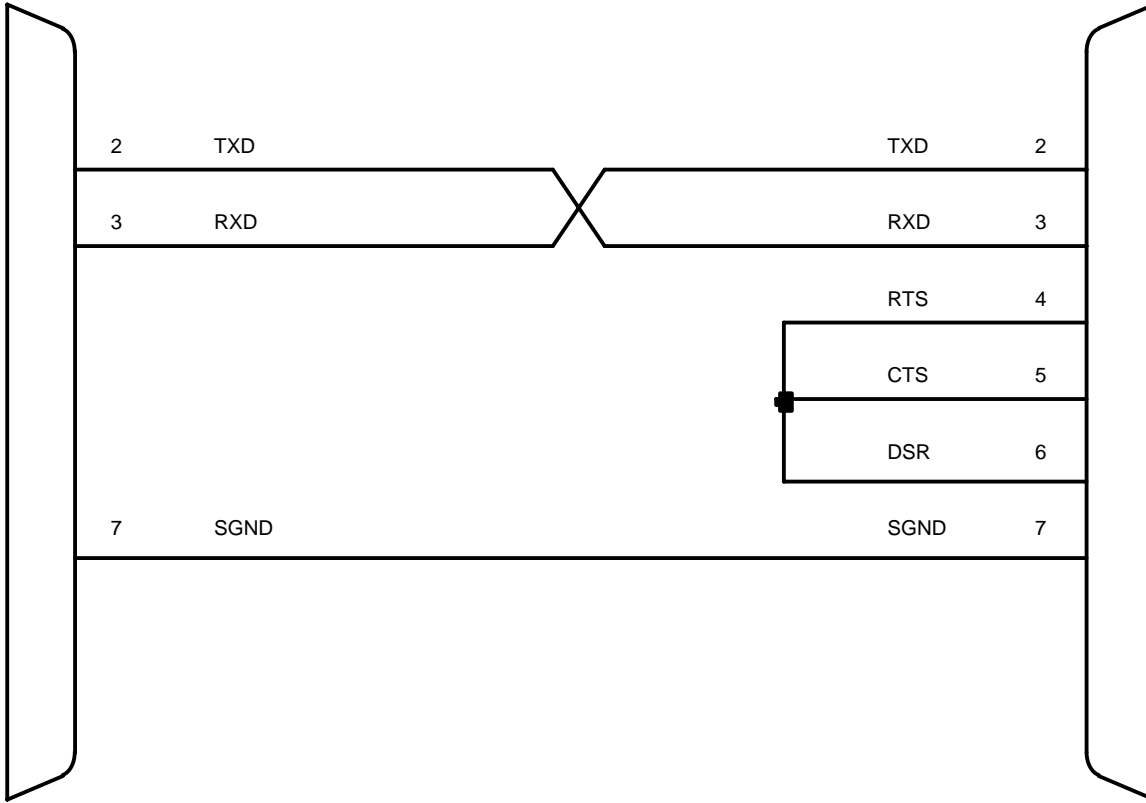


**MINIMUM CABLING USING XON/XOFF HANDSHAKING**

PRINT MASTER II  
 FEMALE DB-25

HP LASERJET  
 MALE DB-25



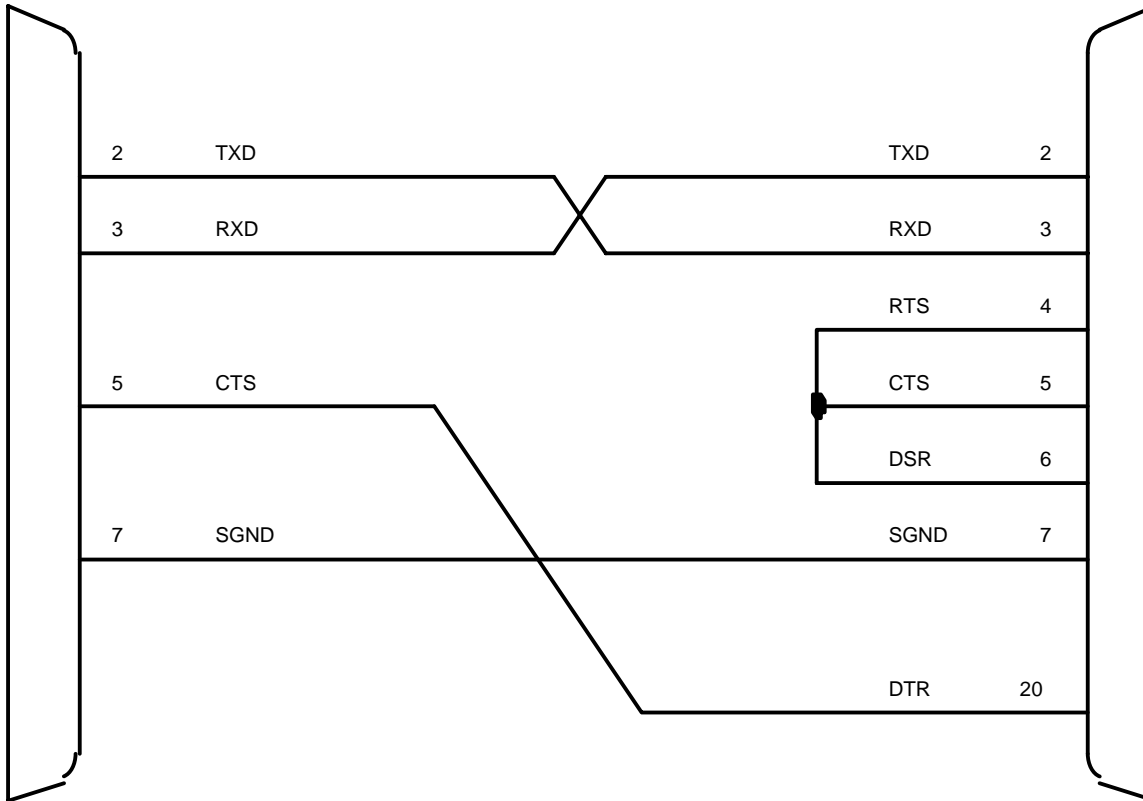


# MINIMUM CABLING USING HARDWARE HANDSHAKING

PRINT MASTER II  
FEMALE DB-25

HP LASERJET  
MALE DB-25





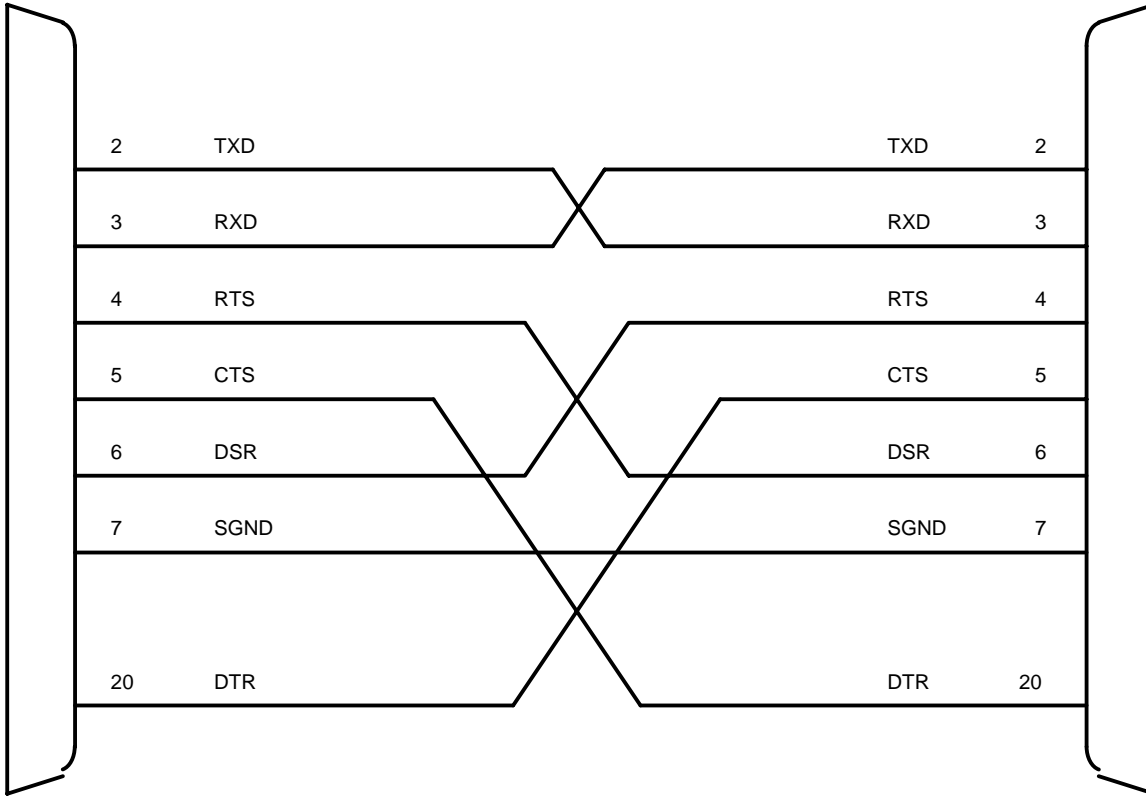
#### A.4 BETWEEN PRINT MASTER II AND HEWLETT PACKARD DRAFTMASTER I PLOTTER

#### RECOMMENDED CABLING USING HARDWARE OR XON/XOFF HANDSHAKING

PRINT MASTER II  
FEMALE DB-25

HP PLOTTER  
MALE DB-25





## **A.5 BETWEEN PRINT MASTER II AND ANY CENTRONICS PRINTER**

PRINT MASTER II  
MALE DB-25

PRINTER  
36-PIN CENTRONICS

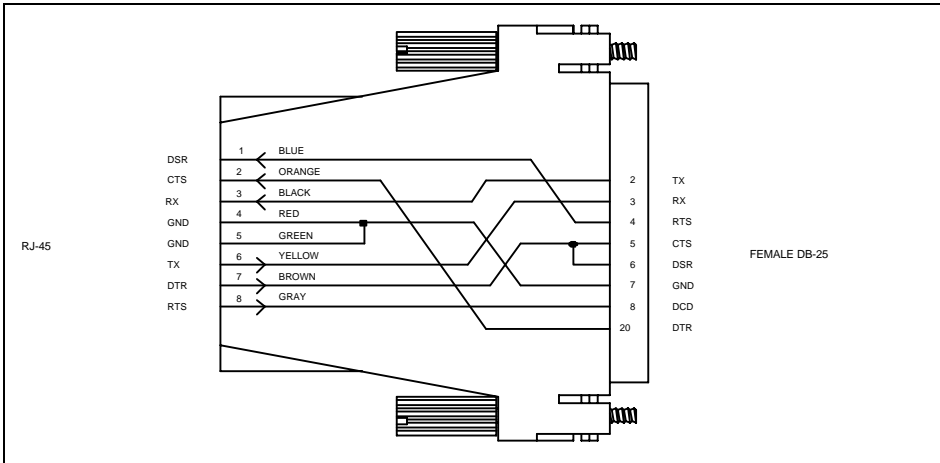


1		STROBE	>	1
2		DATA 0	>	2
3		DATA 1	>	3
4		DATA 2	>	4
5		DATA 3	>	5
6		DATA 4	>	6
7		DATA 5	>	7
8		DATA 6	>	8
9		DATA 7	>	9
10	<	ACKNOWLEDGE		10
11	<	BUSY		11
12	<	PAPER OUT		12
13	<	SELECT		13
14		AUTO FEED/OV	>	14
15	<	ERROR		32
16		INIT PRINTER	>	31
17		SELECT INPUT/OV	>	16
18		OV		19
19		OV		20
20		OV		21
21		OV		22
22		OV		23
23		OV		24
24		OV		25
25		OV		26

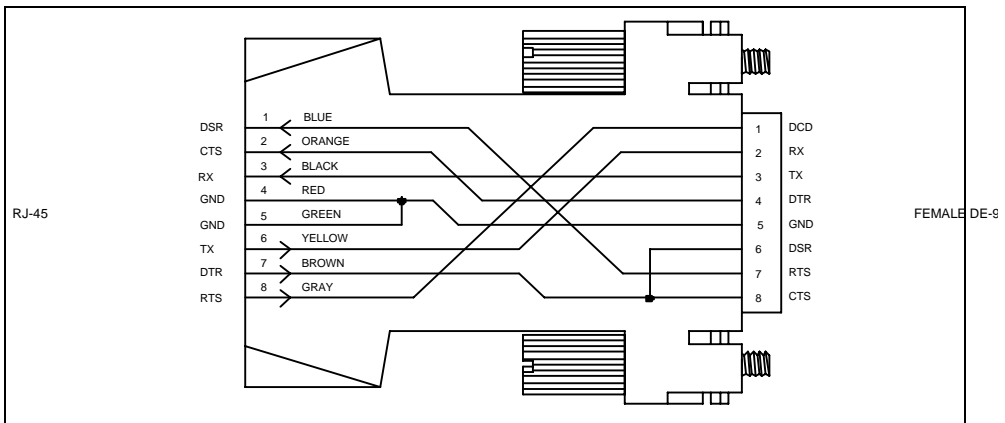
## A.6 MODEL 810C - MODULAR CABLING

### COMPUTER INTERFACE

To interface your computers or terminals to Print Master II refer to the RJ-45 adapter drawings below. Refer to *Figure 6* if your computers or terminals have DB-25 male connectors (most IBM XT and PS/2 type computers). Refer to *Figure 7* if your computers have DE-9 male connectors (IBM AT type computers).



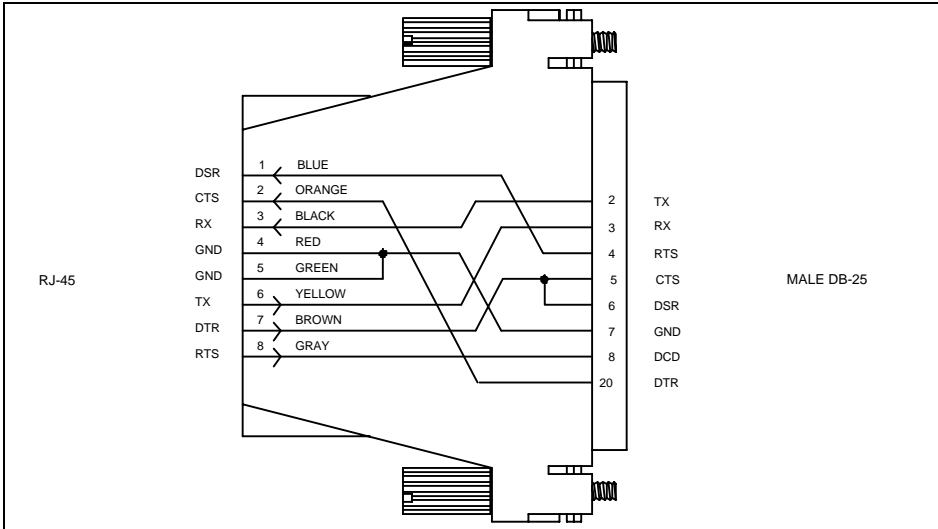
**Figure 6:** XT, PS/2 Computer/Terminal Adapter  
BayTech Part No. 25FRJ45PC



**Figure 7:** AT Computer Adapter  
BayTech Part No. 9FRJ45PC

## PRINTER/PLOTTER INTERFACE

To interface your EIA-232 serial printers or plotters to Print Master II refer to *Figure 8*.



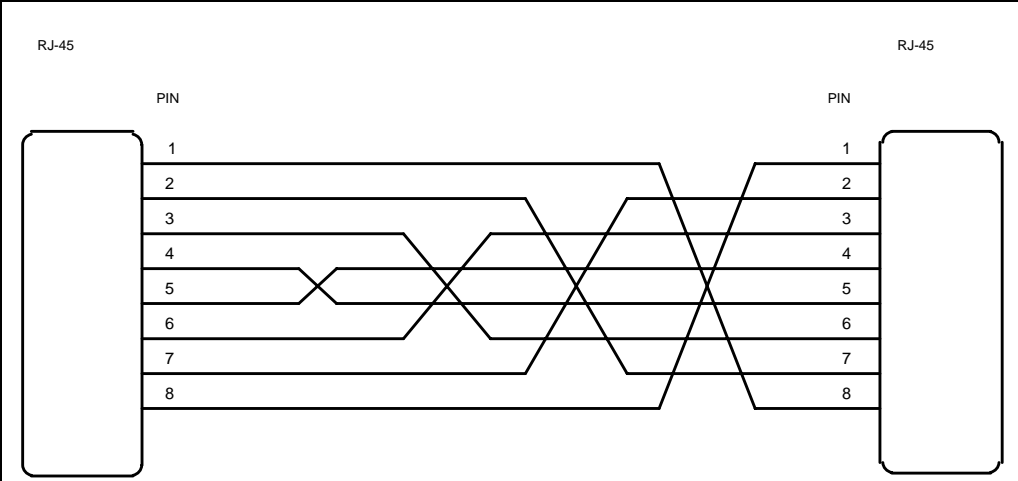
**Figure 8:** Printer/Plotter Adapter  
BayTech Part No. 25MRJ45PR

## MODEM INTERFACE

To interface your asynchronous modem to Print Master II refer to *Figure 9*.



**IMPORTANT:** When modular connectors are used as shown in Figures 6 - 9 above, crossed RJ-45 cables are required. The RJ-45 cable, between the Print Master II and your connected equipment must be crossed. See the cable diagram below.



**Figure 10:** Crossed RJ-45 Cable  
BayTech Part No. RJ08X010 (10 feet)

## **APPENDIX B**

### **TROUBLESHOOTING**

**Please check this troubleshooting guide before calling BayTech Tech Support.**

**NOTE:** This troubleshooting guide is geared towards the IBM PC family and compatibles. The term "PC" as used below refers to any IBM PC, AT, XT or compatible.

#### **PROBLEM: DATA DOES NOT PRINT**

##### **SYMPTOM: NO PORT LEDs ILLUMINATE**

CAUSE: PC serial cable or com port.

SOLUTIONS:

- 1) Check cabling between PC and Print Master II.
- 2) Check handshaking lines using TERM program. All lines (except DCD which is not used) should be high. If lines are high, turn Print Master II off. You should notice CTS and DSR lines go low. If they do not go low, there is a good chance cable is incorrect (see *Appendix A*). Typing characters from TERM should illuminate PC LED on Print Master II.
- 3) Check installation procedures for PC's serial port. COM1 must generate an interrupt on IRQ4 (COM2 on IRQ3). Also, check any jumpers for defining port configuration which should be jumpered for DTE, not DCE.

CAUSE: PC parallel cable.

SOLUTION: Check cable's continuity and pin configuration.

CAUSE: Print Master II is connected to a non-designated COM port.

SOLUTION: Make sure Print Master II is connected to a designated PC COM port. Check using TERM program. Turn Print Master II off, and you should **not** see CTS/DSR lines toggle if you are on a non-designated COM port.

CAUSE: PC is connected to Print Master II port which is configured as a printer port.

SOLUTION: Enter Print Master II's configuration mode and in the Status menu, check the port assignment.

CAUSE: LPTX not rerouted to COMX port for PC serial communication.

SOLUTION: Reroute LPT port as follows:  
MODE LPTX:=COMX (X = 1, 2 or 3)

CAUSE: Print Master II is in configuration mode (all LEDs will be illuminated).

SOLUTION: Exit configuration mode or recycle power.

**SYMPTOM: PC AND PRINTER PORT LEDs  
ILLUMINATE**

CAUSE: Printer cable.

SOLUTION: Correct parallel or serial cable between  
Print Master II and printer.

CAUSE: Printer is off-line.

SOLUTION: Make sure printer is on-line.

CAUSE: Serial parameters do not match between Print  
Master II and computer or printer.

SOLUTION: Enter Print Master II's configuration mode  
and match to the PC the baud rate, word size,  
stop bits, parity and handshaking.

**SYMPTOM: ON POWER-UP, ALL LEDs COME ON AND  
STAY ON**

CAUSE: Print Master II failure.

SOLUTION: Call BayTech tech support.

## **PROBLEM: PRINTS GARBAGE**

### **SYMPTOM: MISSING CHARACTERS**

**CAUSE:** Incorrect cable type.

**SOLUTION:** Check manual for correct pin-outs between PC and Print Master II, and between Print Master II and printer. Check handshaking. A way to check is to force an error condition at the printer (i.e. remove paper tray from laser printer or turn off-line with power still applied). Send print job to printer. If printer LED goes off, you can conclude no handshaking was done. On serial ports, check Print Master II configuration to match handshaking (i.e. you must be using CTS/DTR or XON/XOFF for both Print Master II and printer). Also check pin 20 of peripheral to pin 5 of Print Master II and/or pin 11 on parallel ports for continuity by using an ohm meter to check resistance from end to end.

**CAUSE:** Parallel cable length.

**SOLUTION:** Parallel cable should not exceed 15 feet. Use shorter length or higher-quality cable.

**CAUSE:** Configuration problem.

**SOLUTION:** Check baud rate, word size, stop bits and parity on serial ports. It is best to be at 8 word size and no parity. BayTech does not recommend a configuration of 7 word size with even or odd parity.

## **SYMPTOM: RANDOM GARBAGE CHARACTERS**

CAUSE: Serial port configuration.

SOLUTION: In Print Master II's configuration mode, match baud rates, word size, stop bits, parity, and handshaking with the connected device.

CAUSE: Cable length.

SOLUTION: If serial cable, length should not exceed 150 feet. If parallel cable, length should not exceed 15 feet. Use shorter cable.

## **PROBLEM: CANNOT CONFIGURE PRINT MASTER II**

### **SYMPTOM: CONTROL-T (OR F1 IN TERM PROGRAM) SENT IN DUMB TERMINAL MODE DOES NOT INVOKE CONFIGURATION MENUS.**

CAUSE: Cable.

SOLUTION: Use correct serial cable between PC and Print Master II. Check handshaking lines in TERM program.

CAUSE: Port configuration.

SOLUTION: Match baud rate, word size, stop bits, parity and handshaking lines between Print Master II and PC. This can be done using TERM program. On the 804A and 808A, check parallel cable between Print Master II and printer.

CAUSE: Port selection.

SOLUTION: Be sure PC COM port is connected to configuration port of Print Master II.

CAUSE: Software.

SOLUTION: Use dumb terminal or a PC running a terminal emulation program: TERM supplied by BayTech, or another program such as CrossTalk.

CAUSE: User activity.

SOLUTION: Wait until current activity between PC and printer is completed. There should be no red LEDs illuminated when trying to enter the configuration mode.

CAUSE: Bad PC COM port.

SOLUTION: Try a different COM port or PC.

CAUSE: PC serial card uses IRQ4 instead of IRQ3.

SOLUTION: Reconfigure serial card, use different serial card or different terminal emulation program.

### **PROBLEM: CANNOT SELECT PRINTER**

CAUSE: Port selection.

SOLUTION: Port Select Code may be going out on wrong port; e.g. Port Select Code is going out LPT1 and Print Master II is connected to COM1. Also make sure selected port is designated as a printer port and not as a computer port.

CAUSE: Improper Port Select Code.

SOLUTION: Match Port Select Code you are sending to Port Select Code specified in configuration mode. Check case of Port Select Code (upper or lower). Also, remove any spaces between Port Select Code and port number.

CAUSE: You are in Port Select Mode B with zero (0) timeout.

SOLUTION: Switch to Port Select Mode A or enter a timeout value, both via configuration mode.

**NOTE:** Any select sequence will not be recognized after 16 characters in Print Select Mode 1.

**SYMPTOM: SOME SORT OF PORT SELECT CODE PRINTS ON DOCUMENT WHEN USING RAMEXEC.**

CAUSE: Port Select Code does not match Port Select Code configured in Print Master II.

SOLUTION: Match the Port Select Code exactly with that configured in Print Master II.

**PROBLEM: CANNOT SELECT PRINTER DURING PRINT JOB**

CAUSE: You are using Port Select Mode B (port selection at beginning of sending only).

SOLUTION: Switch to Port Select Mode A in configuration (port selection anytime while sending).

**PROBLEM: PRINT JOB SWITCHES PRINTERS  
IN THE MIDDLE OF A PRINT JOB**

CAUSE: Timeout period too short.

SOLUTION: Increase input inactivity timeout period via configuration mode.

CAUSE: Port Select Code sent in the middle of the document.

SOLUTION: Verify that Port Select Code is not contained in the document. Do not activate the hot key software while the print job is still being sent by the computer.

CAUSE: Characters used in Port Select Code are too common and may inadvertently appear somewhere in print job.

SOLUTION: Change Port Select Code to a unique character sequence.

**PROBLEM: PRINT JOBS INTERMIX**

CAUSE: Timeout period is too short.

SOLUTION: Increase input inactivity timeout period via configuration mode.

**PROBLEM: PRINT MASTER II DOES NOT TIMEOUT**

CAUSE: Timeout is set to zero (0).

SOLUTION: Increase input inactivity timeout period via configuration mode.

**PROBLEM: PRINT JOBS ARE LOST WHEN MORE THAN ONE USER IS SENDING PRINT JOBS.**

CAUSE: Printer port is not connected or is connected to a powered-down printer. Data is sent to a non-connected or powered-down printer and is lost.

SOLUTION: Select a printer that is physically connected to Print Master II and powered on.

**NOTE:** Printer ports that do not have a printer physically connected should be reconfigured to a computer port.

**PROBLEM: HOT KEY SOFTWARE HANGS UP PC WHEN EXECUTED.**

CAUSE: LPTX not rerouted for serial communication.

SOLUTION: Reroute LPTX using this command:  
MODE LPTX:=COMX. X=1, 2 or 3.

CAUSE: Floating condition on DSR or CTS lines.

SOLUTION: Using TERM program, check handshaking line. Power down Print Master II. If DSR, DCD and CTS lines do not go low, cable wiring needs to be checked.

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## OTHER BAYTECH PRODUCTS

**Print Master 700 Series** printer controllers are made in several different configurations satisfying various interface requirements. Each unit allows computers to share, select and/or contend for printers easily and economically, without switching cables. The internal buffering system allows simultaneous, high-speed input from all connected computers and output to all printers. Models come in six, eight, and ten port sizes. All have a 1 MB, dynamically allocated buffer that may be expanded to 2 MB. The **706A** and **708A** all parallel port models feature super fast throughput (up to 60,000 characters per second) and an expandable buffer size up to 4 MB.

**Print Master II 800 Series** peripheral sharing devices connect between your computers, printers, plotters, modems and other peripherals. These models allow any of your computers to access any of your peripherals -- and talk to other computers so files can be transferred and data shared. Plus, a built-in buffer spools output data until your peripherals can receive it, freeing your computers to go on to other tasks. Models come in four, eight, and ten ports. Four port models have a 1 MB standard buffer which is expandable to 2 MB. Eight and ten port models have a 256 KB buffer which may be increased to 1.2 MB.

**Model 24SII DES Data Exchange System** is the fastest peripheral sharing solution available with throughput speeds up to 60,000 characters per second. The total number of ports may be expanded from 4 to 24 ports using 4-port I/O modules. Any port can be configured as an input or output port. The standard 1.0 MB buffer can be increased to 16 MB by user installed memory packages. Plus, using popular communications software, this unit allows for computer to computer high speed data transfer as well as modem sharing.

**LaserShare** is an intelligent printer controller that allows up to four or eight computers to send data to a single HP LaserJet laser printer.

**LaserShare MIO** installs into the HP LaserJet Series IIISi, Series 4, and Series 4Si and will support serial speeds up to 460K bps.

LaserShare connects directly into the optional I/O or MIO slot of the laser printer. Power is taken directly from the laser printer so there is no need for a power cord. LaserShare and LaserShare MIO can accept data from all ports simultaneously. Print jobs are printed on a first-in first-out basis. All LaserShare models come standard with a buffer that can range from 256K to 4MB. The buffer on LaserShare MIO models may range from 1MB to 4MB. **LaserShare 4C** and **LaserShare 4C MIO** come with four EIA-232C serial ports.

**LaserShare 8C** and **LaserShare 8C MIO** come with eight serial ports, **LaserShare 4E** comes with two parallel and two serial ports, and **LaserShare 4A** and **LaserShare 4A MIO** come with four parallel ports.

\* The LaserShare device for the Brother HL8e and HL8v is referred to as **LaserShare 4CB**. This device is available with four (4) serial computer ports and a fixed buffer size of 256KB.

The BayTech **PS-4A**, **PS-4C**, and **PS-4A** models are user configurable, high speed, network print servers that support up to four printers. The **PS-4A** has four parallel ports, the **PS-4C** will have four high speed serial ports, and the **PS-4E** has two parallel and two high speed serial ports. The BayTech **LaserShare Network PS-MIO** is a network print server card which installs into the MIO slot of the HP LaserJet Series IIISi, Series 4, and Series 4Si laser printers. Each BayTech print server is compatible with Novell NetWare using normal NetWare commands and utilities (i.e., PCONSOLE, CAPTURE, and NPRINT). You may use an Ethernet 10BASE2 (thin coax) or 10BASE-T (twisted pair) network interface. The BayTech print server services up to 32 print queues distributed on as many as 32 file servers.

**TRAN-X** high speed parallel/serial converter products allow you to extend parallel cables to 1000+ feet and allow your network server, graphics workstation, or PC to send/receive data at speeds up to 46,000 characters per second. You can use the Tran-x Series with BayTech Model 24SII, LaserShare, or network print servers for the fastest long distance peripheral sharing solution available anywhere. Modular cabling provides simplicity in connections between remote devices. **Tran-x LPT-460** card plugs directly into your PC expansion slot. **Tran-x PS-02** connects to your PC's parallel port. **Tran-x SP-01** connects to the Centronics connector of a parallel printer. **Tran-x SP-02** connects to the DB-25 parallel port of the BayTech 700 Series Print Master, 800 Series Print Master II, or Model 24/24SII DES peripheral sharing units.

**"500H" Series, Model 24SII DAC, and Model 16M DAC Data Acquisition and Control** units connect between one host computer and multiple peripheral devices. These models are often used in industrial process-control environments (e.g., for allowing control of multiple numerical or assembly-line machines), in exchanging data between point-of-sale devices, or for operating a number of laboratory instruments or business machines from a central computer. They are especially effective in adapting small low-cost personal computers to these applications. Each unit features six modes of operation which may be easily configured to your application. The **500H** series models are available with either 5 or 9 ports. The **Model 24SII DAC** unit is expandable from 4 to 24 ports and the **Model 16M DAC** unit is expandable from 4 to 60 ports in 4-port modular increments.

**Telplex Models TX102, TX104 and TX108** are asynchronous statistical multiplexers which multiplex and demultiplex two, four, or eight communications channels over a single channel. This single channel is typically a telephone line or cable. The **TX24** and **TX16M** are expandable by four port slide-in modules. Programmable features include serial port parameters (baud rate, word size, etc.), data flow control, user-programmable strings to be sent to an external modem, and remote diagnostics and configuration capability. These units must be purchased in pairs.

**Telplex Model TX104M** is an asynchronous statistical multiplexer with built-in modem. Four individual communications channels are multiplexed into a single dial-up or leased telephone line, cutting phone line costs to a minimum. The TX104M features a V.22 bis internal modem which provides reliable communication at speeds up to 4800 bps. With V.42 bis protocol, the TX104M provides error correction and Classes 2-4 data compression. Compatible with most computers, printers, or peripherals, the TX104M ensures rapid throughput, and offers a variety of user-programmable features in order to meet your specific application requirements.

The **BX2448** is a V.22 bis external modem which uses dial-up or leased telephone lines and comes equipped with many advantageous features, such as MNP Class 5 data compression, which enables data transmission at speeds to 4800 bps and, MNP Classes 2 - 4 error correction. A wide selection of user-programmable features allows you to customize the modem to your own individual application situation.

## **500 SERIES MULTIPOINT CONTROLLERS**

Included in the **500 Series** line of multipoint controllers are units intended for the following applications:

**Port Expansion (A-Series):** Allows a single serial port on a computer to individually access up to 17 peripheral devices with full duplex communication.

**Single Port Contention (DQ-Series):** Allows up to 17 terminals to contend for a single port on a computer system.

**Multiple Port Contention (B-Series):** Allows either 6, 8 or 12 terminals to contend for either 3, 4 or 6 computer ports respectively.

**Networking (F-Series):** Networks either 5 or 9 ports together, i.e., allows any port to connect to any other port on the multipoint controller. These also have host port control which allows a host computer system to make and/or break any connection between two ports on the multipoint controller.

**Broadcasting (G-Series):** Will simultaneously broadcast whatever data is received on the host port out to either 4 or 8 peripheral devices while sending data from a single selected peripheral device back to the host device. This unit is also capable of operating in a port expansion mode such as the **A-Series**.

**Auto T-Switch (T-Series):** Allows a group of up to 6 terminals to switch between two computer systems.

**NOTE:** All ports on the **500 Series** are standard with EIA-232 ports. EIA-422 and Current Loop ports are optionally available.

If you have questions concerning any of BayTech's products, please feel free to call a BayTech Applications Engineer at either (800)523-2702 or (601)467-8231.

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