

Serial488/p

Miniature Serial to IEEE 488 Converter



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Serial488/p Installation Guide

p/n 224-0900 Rev. 1.0

Description

The Serial488/p is a transparent RS-232 to IEEE 488 converter that enables any computer with an RS-232 port to send data to an IEEE 488 (HP-IB) printer or plotter. The Serial488/p operates transparently, eliminating the need for software modification on the host computer. The unit automatically converts serial data from the host computer into the IEEE 488 protocol. The user must simply attach the Serial488/p to the IEEE 488 port on the printer or plotter, and then attach a serial cable from the computer to the Serial488/p.

Configuration

The Serial488/p comes pre-configured from the factory with the following settings:

Baud Rate: 9600

Data Bits: 8 bit ASCII

Parity: None

Stop Bits: 1 or 2

Handshaking: RTS/CTS

Printer or Plotter IEEE 488 Address: 05

These factory settings cannot be changed. The serial port settings of your computer must match the above specifications in order for the Serial488/p to operate correctly.

Installation

Simply attach the Serial488/p to the IEEE 488 port of the printer or plotter as shown in Figure 1.

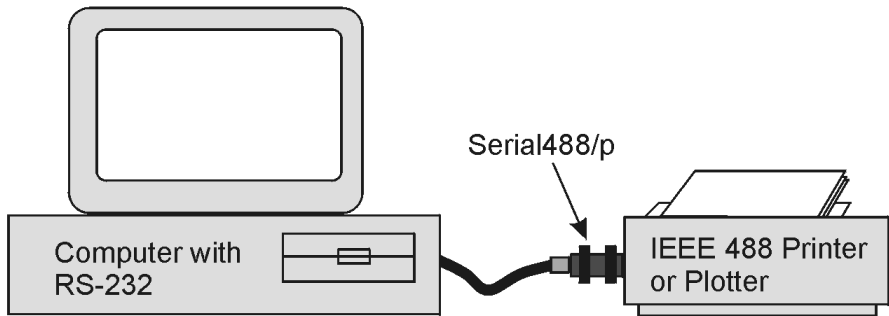


Figure 1: Serial488/p System Diagram

Next connect the male end of the serial cable (CA-35) to the Serial488/p and the female end to the serial port of the PC. If the serial port to be used has a 9-pin connector, the adapter cable supplied with the CA-35 must be used.

The Serial488/p is shipped with a standard, straight-through serial cable, CA-35. If this cable does not meet your needs, match our cable to the cable wiring and pinout diagrams shown in Figures 2 and 3.

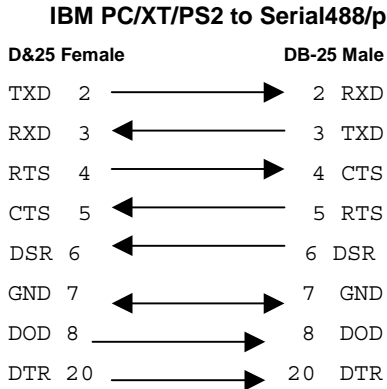


Figure 2: IBM PC/XT/PS2 to Serial488/p Wiring (CA-35)

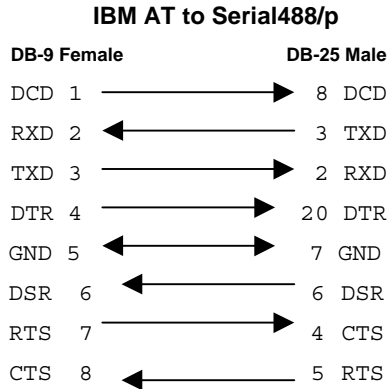


Figure 3: IBM AT to Serial488/p Wiring (CA-35 with adapter)

Now set the printer address to **5** or **LISTEN ALWAYS**. The Serial488/p issues a **LISTEN** command to the device at address **5** before each character is sent. Printers in **LISTEN ALWAYS** mode will ignore these **LISTEN** commands.

Initialization

If your computer is a PC, at the DOS prompt type the following command line to initialize your PC's serial port for operation:

```
MODE COMn:9600,N,8,1
```

where **n** is the number of the **COM** port being used. A return display of this command prompt indicates successful initialization. The Serial488/p is now ready for operation.

Verification

Once the PC has been initialized, issue one of the following commands to ensure that your system has been properly configured and connected.

If you have an IEEE 488 printer, at the DOS prompt type the following command:

```
ECHO HELLO WORLD > COMn
```

where **n** is the number of the COM port being used. The message **HELLO WORLD** should appear at the printer.

If you have an HPGL device, at the DOS prompt type the following:

```
ECHO SP1;PD;PU;SPO: > COMn
```

where **n** is the number of the **COM** port being used. This should cause the plotter to pick up a pen, draw a dot and put the pen away.

Consult your printer/plotter's manual for other commands that may be used to test the operation of your devices, or consult your computer's manual for commands used to communicate with the serial port.

Troubleshooting

If you receive unexpected or incorrect printer operation, error messages, or no output to the printer/plotter, consult the following table for possible solutions.

Symptom	Problem/Solution
Data write faults from DOS or similar error from user's program	Computer needs to see DSR or DCD. Check handshaking, in particular the DCD, DTR and DSR lines.
Data prints properly for a short time, then prints incorrect data	RTS and CTS not connected properly. Check handshaking, in particular the RTS and CTS lines.
Data prints properly for a short time, then prints incorrect data	Computer configured for Xon, Xoff or no handshaking. Configure hardware (CTS/RTS) handshaking.
Program starts to send data, but nothing happens on the printer/plotter	Incorrect printer address. Select IEEE address 5 or Listen Always.
Program appears to send the data properly, but nothing happens on the printer/plotter	Incorrect serial port settings. Recheck the serial port settings and match to Serial488/p settings.
No response on the printer/plotter	Incorrect cable connections. Check cable wiring.
No response on the printer/plotter	Faulty hardware or Serial488/p. If possible test serial port card or contact the factory.

Once you have thoroughly rechecked the above, retype the initialization command line to re-initialize.

Specifications

RS-232 INTERFACE:

Duplex: Full

Data Bits: 8 bit ASCII

Stop Bits: 1 or 2

Parity: None

Baud Rate: 9600

Terminator: All terminators received on the serial port are automatically transmitted on the IEEE 488 port

Handshaking: Supports Clear To Send (CTS) and Request To Send (RTS)

Serial I/O Buffers: 120 character input buffer

Connector: Accepts 25-pin Sub-D male (DB25P)

IEEE 488 INTERFACE:

Addressing: Communicates with an IEEE 488 device set to address 05

Terminator: Transmits all terminators received from serial port

Connector: Plugs directly into a standard IEEE 488 female receptacle, either directly on an IEEE 488 device or on a cable

GENERAL:

Power: Draws less than 5mA from the DTR or DSR serial lines on the host computer

Environment: 0° to 50°C; 0 to 90% RH non-condensing

Dimensions: 50mm deep x 60mm wide x 25mm high 2"x2.3"x0.9"

Weight: 50.2g (1.8 oz.)

Specifications subject to change without notice.

Warranty

IOtech, Inc. warrants this product to be free from defects in material and workmanship. Our obligation under this warranty is to repair or replace, at our option, any product or part thereof which proves defective upon examination within the time period indicated on the product warranty card from the time of shipment. No other warranty is expressed or implied.

For service or applications assistance, contact the factory:

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