

MODEL PT7 PARALLEL PRINT SERIAL DATA TAP

Model PT7 taps into a parallel print cable connection and outputs an RS232 serial data stream to a capture system. The serial stream is real time print data that is synchronized with the printer data transfer. The data synchronization is on a per character basis.

The serial stream may be captured by a PC using a DB9 connector COM Port or a COM Port/USD Adapter. No data will be lost as hardware handshaking RTS/CTS is supported. Also the Model RT7 may be interfaced to an ethernet device server to network the print data.

Software terminal emulation programs may be used on the capture computer to display and save the print data into a file, (eg. Hyperterminal or Tera Term). Also, the user may develop software to receive the print data and manage it to suit an exact need, for example viewing, parsing and making it available to a database.. In that case the user is free of licensing agreements with 3rd party software. Photologic does not supply any software for this open hardware system.

The device is mainly used for plain Generic Text type print data, however many kinds of print emulations are supported as the interface is 8 bit. Such emulations may include that of laser printers using PCL , or printers using graphics, photos and rich text.

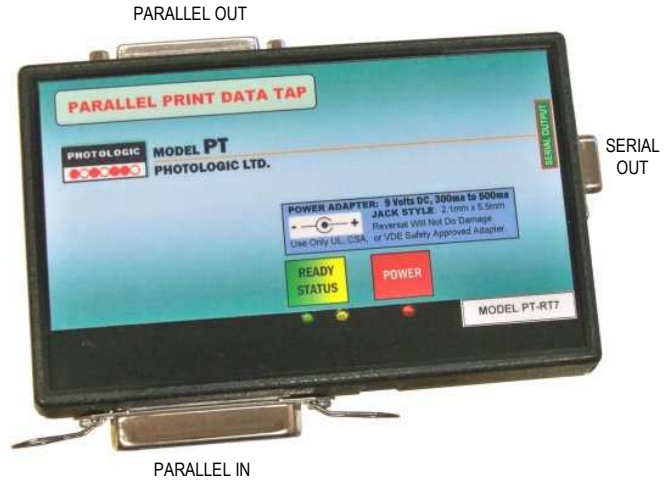
- Use to capture parallel print data to a serial PC COM port.
- Print through to printer or eliminate printer.
- No settings, - "just plug in"
- Can add device server for network access.

Model PT7 may attach to print cables from:

- ▶ DOS System
- ▶ UNIX
- ▶ Instruments & Analysers
- ▶ Machines
- ▶ Legacy Systems
- ▶ Weigh Scales
- ▶ Print Servers
- ▶ Alarm Systems

INTERFACE PORTS

Parallel Input:	Classic Centronics or IEEE-1284 Centronics	36 Pin Receptacle
Parallel Output:	Classic & IEEE-1284 Centronics compatible printers	DB25-F Connector LPT port Like PC LPT port
Serial Output:	RS-232	DB9-F mates with PC DB9-M Use straight-through extension cable.



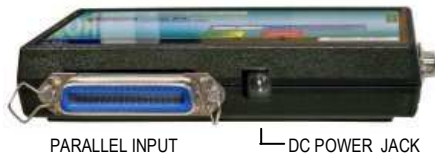
Printers may include:

- Desktop Dot Matrix
- POS Printers
- Thermal Label Printers
- Laser
- Ink Jet
- High Speed Band Printers

Example dot matrix printers:

- C. Itoh
- Centronics
- Dataproducts
- Epson
- Okidata
- Fujitsu
- Genicom
- HP
- IBM
- Panasonic
- Printronix
- Epson
- Tally
- Epson

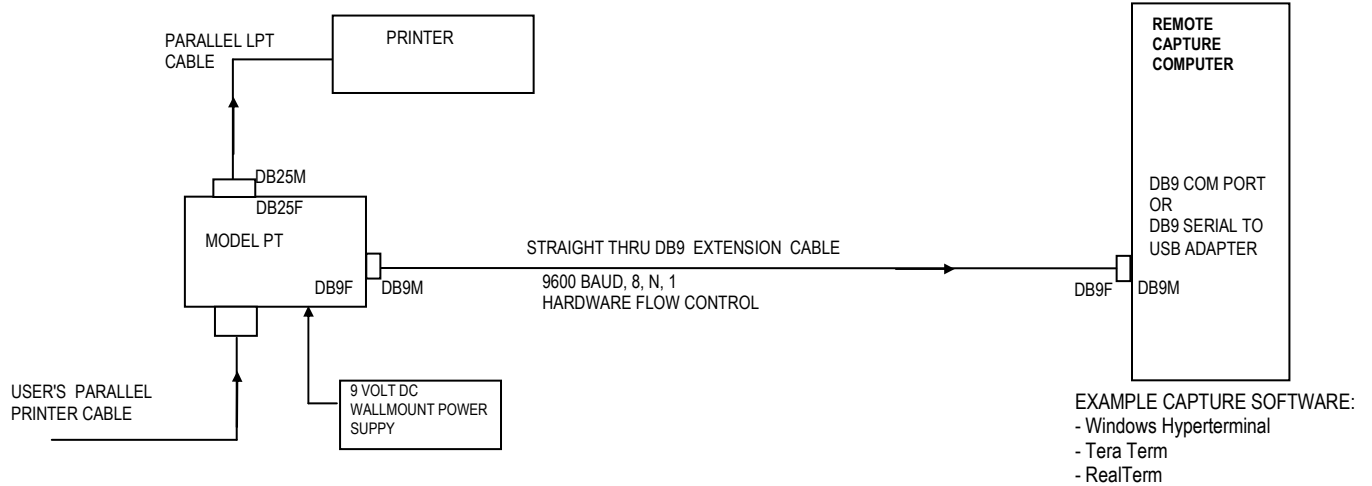
Not compatible are: "GDI" or "Winprint" Non-ASCII interfaces found on some ink jet printers.



RS-232 Serial Interface DB-9F Connector Signals:

PIN	SIGNAL	DIRECTION
1	+V	Output
2	Data to capture system	Output
3	No connection	Not used
4	No connection	Not used
5	Ground	Common
6	+V	Output
7	Busy (don't xmit) = -V	Input
8	+V	Output
9	No connection	Not used

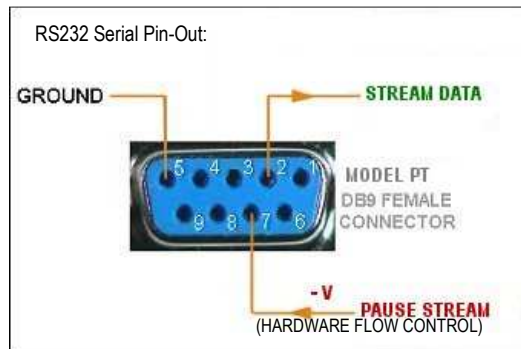
CONNECTION:



Transfer to printer is synchronized with serial port output on a per character basis. Printing is kept in step with serial output. See flow chart on following page. If the serial cable is disconnected, then printing reverts to normal pass through.



Plug on NUL PRINTER module to eliminate printer.



Use a "Straight Through" serial extension cable to connect to a PC or USB/COMM Port adapter.

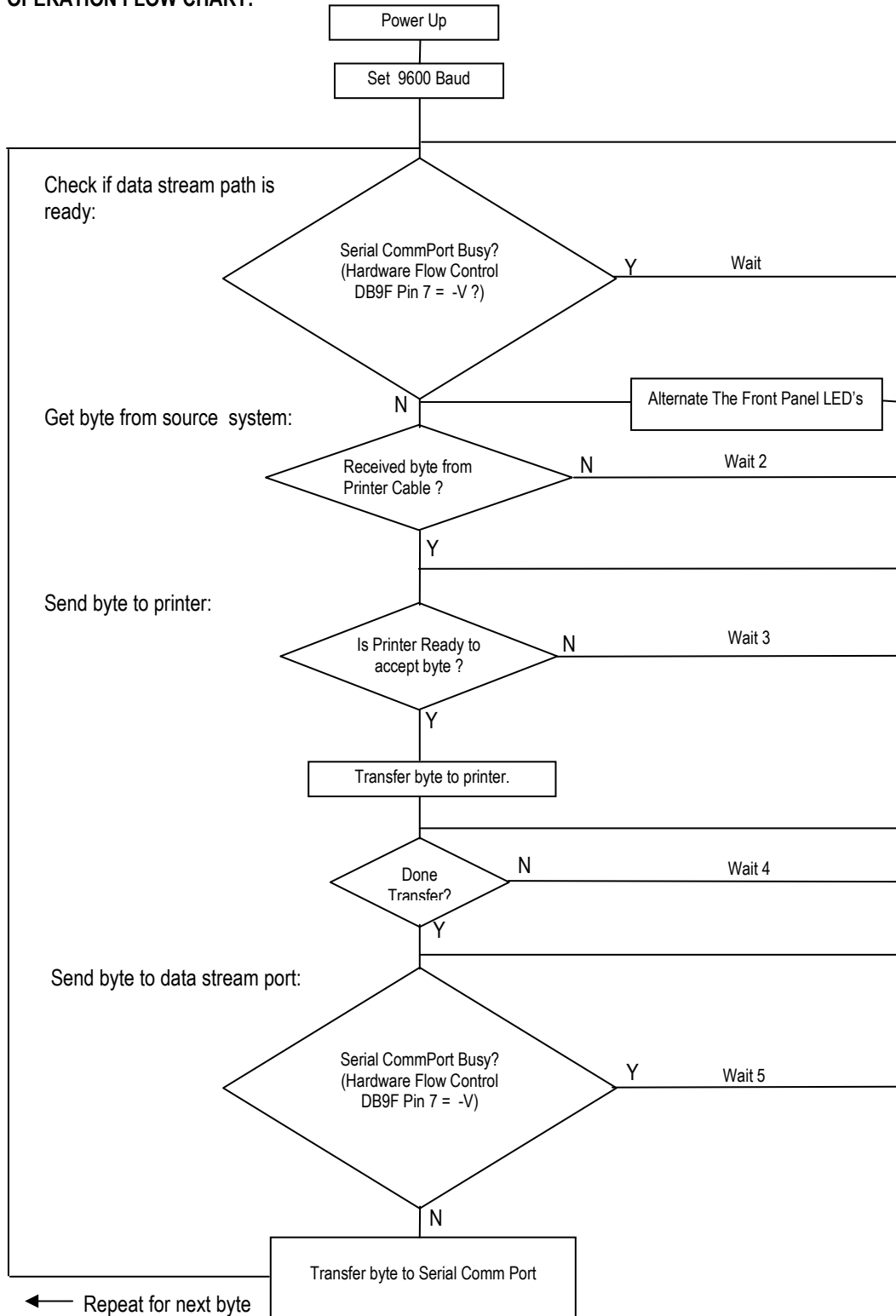
Set PC to HardwareFlow Control to prevent any loss of data.

Other signals that the PC may require (Pin 1, 8, 6) are supplied automatically enabled.

FRONT PANEL LED INDICATORS:

- | | |
|-----------------------------------|---|
| RED On: | Power On |
| GREEN & YELLOW Alternately blink: | Normal Ready Mode, waiting for print data. |
| GREEN Solid On, YELLOW Off | PC Flow Control is at Busy State, or printer is not accepting data. |
| GREEN Off, YELLOW Solid On | PC Flow Control is at Busy State, or printer is not accepting data. |
| GREEN Off, YELLOW Off | Error condition or no power . |

OPERATION FLOW CHART:



PT7.DOC

DOCUMENT: PT7.DOC REV. 1 NOV. 2011

Disclaimer This information is subject to change without notice. Please check with a Photologic Ltd. sales representative for availability and additional information. Photologic Ltd. assumes no responsibility for any errors that may appear in this document. No license, express, implied or otherwise, is granted under any patents, copyrights or other intellectual property rights of Photologic Ltd. or others. Descriptions of product device, software and other related information in this document are provided for illustrative purposes in product operation and application examples. The incorporation of this information in the design of customer's system shall be done under the full responsibility of customer. Photologic Ltd. bears no responsibility for any losses incurred by customers or third parties arising from the use of this product and information. While Photologic Ltd. endeavors to enhance the quality, and reliability of this product, customers agree and acknowledge that the possibility of defects thereof cannot be eliminated entirely.

AN EXAMPLE OF CAPTURING PRINT DATA TO A PC USING MODEL PT7

Display plain Generic Print Data on PC as well as continuous save to file.

Tera Term™ Example

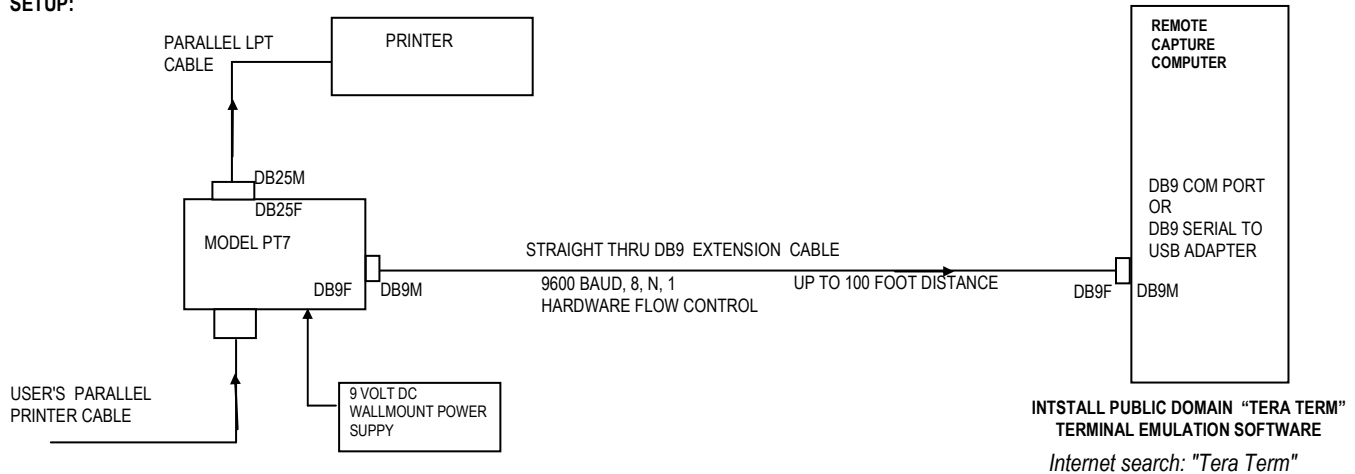


Ver 1.4

This example describes a system with the following features:

- ▶ Parallel print cable data is captured on a PC
- ▶ The printer still functions.
- ▶ The capture software "Tera Term" on the PC is open-source, free, popular terminal emulator for Microsoft Windows.
- ▶ The capture is mainly for print data that is plain "Generic Text".
- ▶ The capture not only displays the print data, but also continuously saves the data to a file.
- ▶ The capture displays plain "Generic Text" data. If the print data is not generic, then the display will not be suitable, however the capture to file should still be accurate.

SETUP:



Tera Term software is just one choice of many terminal emulators available. Other terminal emulators may be more robust and provide special features that you require. Internet search "terminal emulators".

Using A USB Com Port Adapter: The COM Port number of the USB Adapter should be between 1 and 4 unless newer versions of Tera Term exist (greater than ver. 1.4). Some USB adpters have a fixed Com Port number such as COM5, which would be unsuitable as Tera Term supports ports 1 to 4. In that case, choose a version of Tera Term or other terminal emulator software that has a choice of higher COM Port numbers.

Serial Extension Cable: You may install a serial extension cable with approximately 100 foot length, using the 9600 Baud rate of Model PT7.

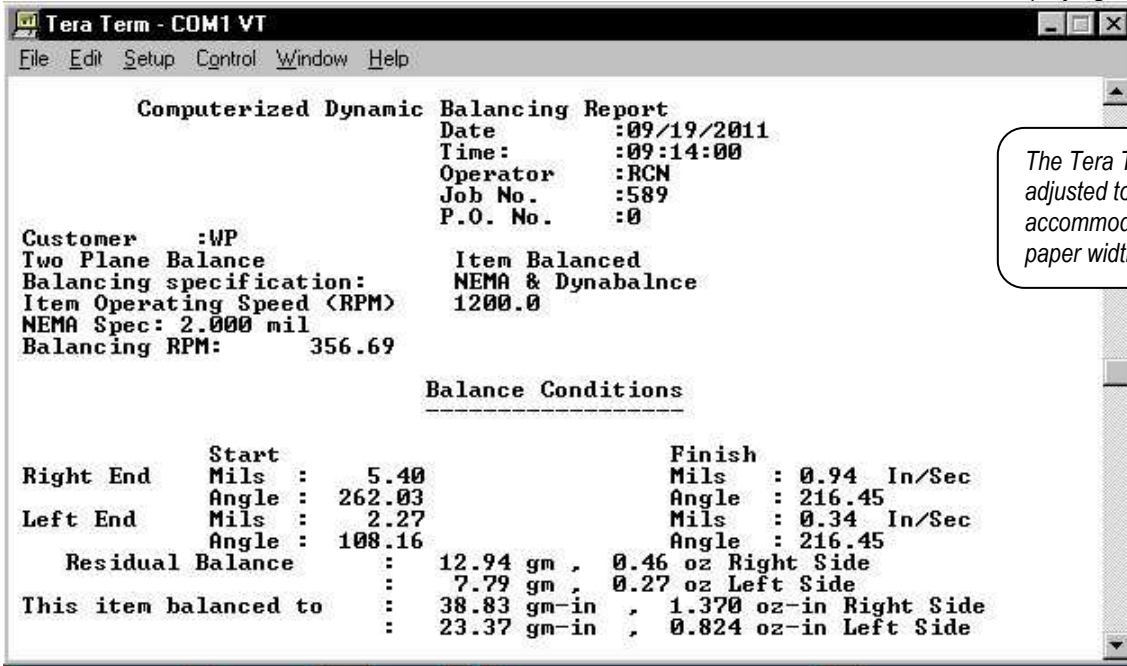
About Multiprinter Capturing: You should be able to capture multiple printer output using additional COM ports with extra connections of the terminal emulator program open. Eg. COM1, COM4, COM5 to capture from three printers. Use additional USB COM Port Adapters, or perhaps a multiple COM Port I/O card installed in the PC.

About Non-Generic Text Print Data: If control codes are present in the data, then they will not be interpreted with Tera Term software. They may display as garbage characters on the screen, and the printout may not be readable on the screen. However, the capture to file should be accurate, and could be used to either printout to a similar printer or be screen displayed using an emulation converter, eg. PCL emulation to .pdf. Some users develop software to parse the important data out of the log file.

If you wish to capture to an SD Memory Card, without using a PC, then consider Model PDX-R: <http://www.photologic.ca/pdxr.pdf>

Tera Term Display:

Print data is written to the Tera Term screen in real time. The data is saved to a file while it is displaying.

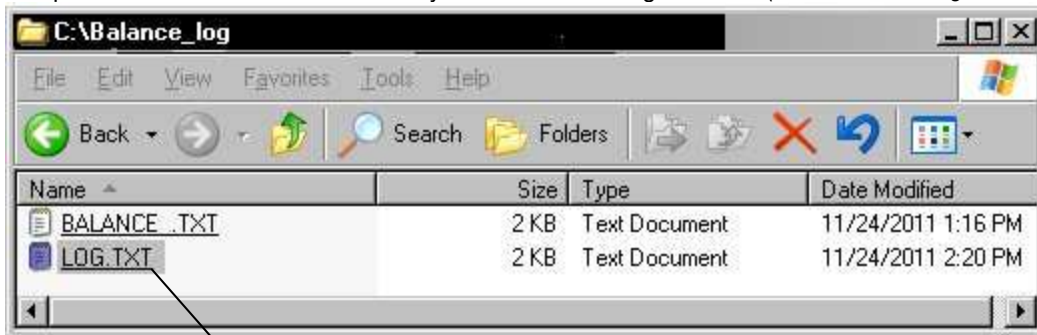


The Tera Term screen can be adjusted to different widths to accommodate various print paper widths. (Use Setup).

Scroll back several hundred lines

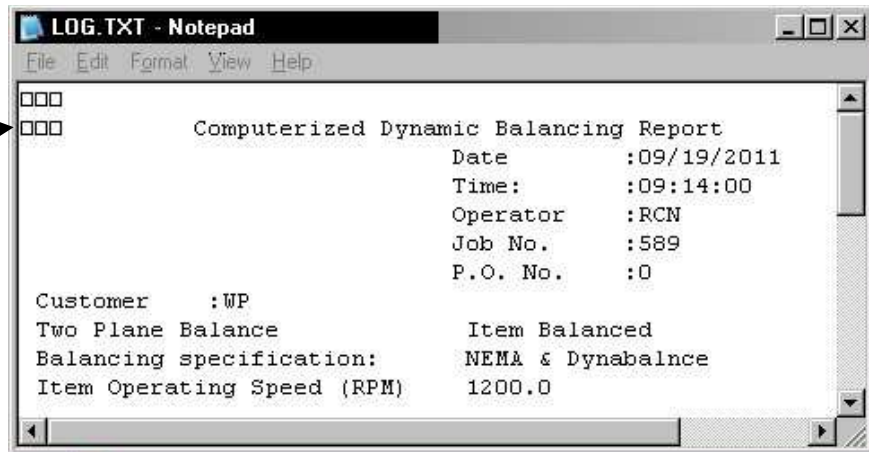
The printout is displayed in sync with the printer printing lines.

The print data is auto saved continuously as the data is being received: (set Tera Term "Log" enabled).



Can be opened in Notepad, Word

In Notepad, Linefeeds that are not paired with Carriage Returns may deformat the display slightly by substituting rectangular block characters.



ABOUT USING A DEVICE SERVER FOR NETWORK CONNECTION

The serial interface of Model PT7 may be connected to a device server to transfer the print data through a network. The device server has a settable IP Address. The TCP/IP connection can be supported by the user with various means such as:

1. "Serial Redirector Software", (eg. Lantronix free download "Com Port Redirector" which maps the TCP/IP connection back to a serial , com port on the capture system, saving the user from doing any development design work with TCP/IP).
2. TCP/IP terminal emulator software. Ref. Tera Term TCP/IP mode.
3. User development of a client server. (eg. Using Visual Basic TCP/IP object)

Example device servers are:



Physical connection of Device Server to Model PT7:

The serial link wiring to the device server varies between server manufacturers, but the user can usually make the link to the Model PT7 with the use of a combination of DB9 gender changer, nul connector or DB25/DB9 adapter connectors with a DB9 cable. The hardware flow control is supported to prevent loss of data.



DOCUMENT: PT7.DOC REV.1 NOV.2011

Disclaimer This information is subject to change without notice. Please check with a Photologic Ltd. sales representative for availability and additional information. Photologic Ltd. assumes no responsibility for any errors that may appear in this document. No license, express, implied or otherwise, is granted under any patents, copyrights or other intellectual property rights of Photologic Ltd. or others. Descriptions of product device, software and other related information in this document are provided for illustrative purposes in product operation and application examples. The incorporation of this information in the design of customer's system shall be done under the full responsibility of customer. Photologic Ltd. bears no responsibility for any losses incurred by customers or third parties arising from the use of this product and information. While Photologic Ltd. endeavors to enhance the quality, and reliability of this product, customers agree and acknowledge that the possibility of defects thereof cannot be eliminated entirely.

USING AN AC POWER ADAPTER

Applies to product models: • CS-HP • CS-ZN • NX-2 • CD-LG • DC-1 • OP • FIFO • SDX • PT7



Photologic Ltd. interface adapters use a commonly available and inexpensive AC Adapter. It is U.S. style 115v wall mount type.

OUTPUT:

9 Volts DC Unregulated. Choose 300ma to 500ma current rating.

PLUG STYLE:



Barrel: 2.1mm x 5.5mm

Also named "P5" plug style.

POLARITY:

Center contact is positive. Accidental reversal will not damage the interface adapter.



SOURCE:

Photologic Ltd. Supplies this device with the interface adapter equipment. As this is a common style AC Adapter, substitutes may be obtained from Radio/Television departments in Home Entertainment stores in shopping malls, or "Radio Shack™" stores. **AC Adapter must be UL, cUL, CSA, or VDE safety approved.**

FOR INTERNATIONAL INSTALLATIONS:

A substitute power supply for Euro AC mains may be used. Use the output specifications above.



PHOTOLOGIC LTD. TEL: (905) 377-8915 FAX: (905) 377-8692

www.photologic.ca