

6. ACCESSORIES

Power Supplies

UK Charger Unit	MPS101
Euro Charger Unit	MPS102
USA Charger Unit	MPS103
Universal Charger Unit	MPS160

Mains Leads for MPS160 Universal Power Adaptor

Mains Lead with US style plug	MGK50
Mains Lead with UK style plug	MGK51
Mains Lead with Euro style plug	MGK52

Paper

Thermal Paper Roll, 25m	MM58
Thermal Paper Roll, 10m	MM58/10
Continuous Thermal Label Roll, 6m	ML58/C48

Data Cables

Serial Cable, RJ12/D9	MGK20
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Replacement Battery

Battery, AA 1.2V, Ni-MH (4 required)	MJ10.01
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Mounting Options

Protective Boot with magnetic inserts	MPB500
Carry Case with shoulder strap and belt loop	MPH501
Detachable Magnetic Plate	MFP92
Detachable Mounting Plate	MFP93
Detachable Belt Loop	MFP94
Detachable Belt Loop with stud fixing	MFP95
Detachable Belt Clip	MFP96
Wall Mounting Kit including fixings	MFP97

Low profile paper lid (10m paper roll capacity) available on request.

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MCP7810-244/UG/B
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INSTRUMENTS

All instruments designed and manufactured in Great Britain. The manufacturer reserves the right to alter specifications without prior notice

MCP7810-244 THERMAL PRINTER User Guide



Features

- Easy-Load paper feature
- RS232 Interface
- Rechargeable NiMH, AA batteries
- Recharge from mains or 12V vehicle supply
- High speed, high resolution printing capability
- Quiet, non-impact system
- Maintenance-free
- Ultra-Compact and light weight
- High reliability line head mechanism
- Versatile for use with text or graphics
- 19200 Baud Rate
- 48 characters per line
- Barcode capability
- Windows driver for XP and 2000
- Low Profile paper lid and range of mounting options available



1. PRINTER SPECIFICATIONS

Average printing speed	10 lines per second (max)	Character set	ASCII
Dimensions	85.5mm x150 mm x55 mm, low profile printer 45mm height	Country codes	USA, France, Germany, UK, Denmark I/II, Sweden, Italy, Spain & Japan
Weight	Approx. 400 gms inc batteries and paper roll	Interface	Protocol configurable
Internal power supply	4 x 1.2V NiMH 1600mAh, AA cells	RS232	Baud rates 19200 Hardware handshaking
Paper width	58mm	IBuffer size	5 Kbytes
Paper length	25m	MTBF	Approx. 10 million lines (20°C, print ratio = 25%)
Operating range	0°C to +50°C		
Storage range	-20°C to +60°C		
Charging range	+10°C to +45°C		

2. PREPARATION

2.1 Insert Batteries

Martel Instruments take every precaution possible to ensure your printer reaches you in perfect condition. To aid this we remove the rechargeable batteries from the unit for transit.

When you receive your printer you should be able to locate 4 x rechargeable NiMH batteries in the packaging. Remove the battery cover from the base of the printer and insert the batteries, taking care to ensure the batteries are inserted correctly using the illustration guide inside the battery compartment to guarantee the batteries are correctly positioned.

2.2 Charge Printer

Before attempting to use a new Martel printer you need to charge it for 16 hours. This will ensure optimum battery capacity and life.

2.3 Check Paper

Make sure a thermal paper roll is present in the paper reservoir and the leading edge emerges from the printer over the tear bar. The paper should feed from the bottom front face of the roll.

2.4 Attach Data Cable

When using RS232 interface insert a suitable data cable into the RJ12 connector in the base of the printer. For pin connections see page 2.

2.5 Serial Interface

For RS232C the printer is fitted with a 6-way RJ12 socket (Fig 1 illustrates the pin numbers for the connector), the pin assignments and interface signals are defined below.

PIN	Signal	I/O	Definition
1	GND	N/A	Signal ground
2	TxD	0	Transmitted data to host
3	RxD	1	Received data from host

PIN	Signal	I/O	Definition
4	CTS	0	Clear to Send
5	n/c	N/A	No connection
6	n/c	N/A	No connection



Fig 1: Pin Numbers for Serial Interface Connector

3. PRINTER OPERATION

3.1 Battery Charging

When the printer is first delivered there may be little or no charge in the printer's batteries. The printer should be **turned off**, connected to the MPS adapter and allowed to charge for 16 hours before it is used for the first time.

It is recommended to connect the printer to the MPS power adapter and recharge the batteries as soon as the Status LED indicates low battery (see table 5.2)

It is permissible to leave the printer permanently connected to the MPS power adapter to trickle charge the batteries. If the printer is asleep it will wake up when the adapter is connected and will not sleep while it is connected. To fast charge the batteries, the printer must be off.

If the batteries in the printer become exhausted, printing will become faint, erratic or not possible at all. **Turn off** the printer and recharge the batteries for at least 15 minutes before attempting further printing. The MPS adapter cannot supply the full power requirements for the printer during printing, so the batteries must be partially charged before printing is possible.

The printer should only be used in conjunction with an MPS101(UK), MPS102(EURO), MPS103(US) or MPS160(UNI) power adapter. Users wishing to provide their own power source must contact Martel. **The use of an unapproved source may void the printer's warranty.**

3.2 Power On Procedure

Check the batteries are sufficiently charged. Open the paper cup lid by pulling the central lever upwards and forwards from its locked position. To avoid damage do not use excessive force. Ensure that a paper roll is present and that there are no foreign objects inside the paper reservoir. Close the lid by applying equal amounts of pressure on each side of the lid until it is in the locked position. The paper should emerge from the printer over the tear bar.

When the Status indicator is off, the printer is off. A brief press of the Mode button turns the printer on, the Status indicator will illuminate and the printer mechanism will reset. A brief press of the Mode button will turn the printer off. When the printer is asleep, pressing the Mode button will wake up the printer.

3.4 Paper Tear Procedure

When removing printout from the printer, pull the printout toward the front of the printer and tear from one side to the other across the serrated edge.

4. PRINTER MAINTENANCE

4.1 Power On Self Test

The self test procedure will check most of the printer functions, except for the serial Interface, i.e: Printer mechanism, Control circuitry, Firmware version, Print quality. When the printer is off, press and hold the Mode button depressed for approximately 2 seconds. Release the button, the printer will power on and print a self-test report.

4.2 Status LED

The printer incorporates an LED indicator to report its condition. If there is a fault, the LED will flash in sequence. The fault can be identified by counting the number of flashes.

LED Indication	Condition	Solution
On	Printer On	-
Off	Printer Off or Asleep	-
Short flash every second	Fast Charging	-
* * *	Paper out	Fit new paper
** ** *	Thermal head too hot	Allow head to cool
*** ** *	Battery cut-out (no charge remaining)	Recharge battery
**** ** *	Battery low (approx. 20% charge remaining)	Recharge battery

4.3 Paper Out

The printer will automatically detect when the printer paper has run out, and report this using the Status LED. Use the Mode button to feed through the last few centimetres of paper and fit a new roll as described below.

4.4 Head Thermal Limit

After extensive printing the print head temperature may rise to an unusable level. The Status LED will report when this occurs, and printing will be suspended until the head temperature returns to normal levels.

4.5 Opening the Paper Cup Lid

Pull the central lever on the paper cup lid upwards and forwards until it is released from its locked position. To avoid damage do not use excessive force.

4.6 Replacing Paper Roll

If the paper roll needs replacing, open the paper cup lid and remove the spool and any remaining paper. Reel off a few centimetres from a new roll of paper. Hold approximately 5cm of paper outside the printer, place the new roll into the paper reservoir with the paper feeding from the bottom front of the roll, with the leading edge over the tear bar. Close the lid by applying equal amounts of pressure on each side of the paper cup lid until the lid is in the locked position.

5. Disposal

At the end of its working life the printer should be disposed of in accordance with The Waste Electrical and Electronic Regulations ("the WEEE Regulations"), if in use within the EU, and in accordance with national requirements in other countries.

This printer contains NiMH batteries that should be disposed of by a qualified recycler or hazardous material handler.