

MCP7830X

Infra-Red THERMAL PRINTER

User Guide



Features

- Easy-Load paper feature
- IrDA, RS232 and HPIR Interface
- External Power
- 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
- 24, 32 or 48 characters per line
- Barcode capability
- Low power mode
- Range of configurable options
- Windows drivers on request
- Low Profile paper lid and range of mounting options available

1. PRINTER SPECIFICATIONS

Average printing speed	10 lines per second (max)
Dimensions	85.5mm x150 mm x55 mm, low profile printer 45mm height
Weight	Approx. 250 gms inc paper roll
External power supply	5Vdc +/-0.5V, 4A Peak
Paper width	58mm
Paper length	25m (std printer), 10m (low profile printer)
Operating range	0°C to +50°C
Storage range	-20°C to +60°C

Character set	ASCII
Country codes	USA, France, Germany, UK, Denmark I/II, Sweden, Italy, Spain & Japan
Interface	Protocol configurable
RS232	Baud rates configurable between 300 & 19200
	Handshaking configurable, Hardware or Software
IrDA	V1.0 physical layer
HPIR	1 start, 8 data, 4 error detection Infra-red 940nm, 33KHz modulated

Buffer size	5 Kbytes
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MTBF	Approx. 10 million lines (20°C, print ratio = 25%)
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2. PREPARATION

2.1 Power Supply

Power is supplied to the printer from a 5Vdc external supply via a 2.5mm/5.5mm connector (+ve outer)

The printer should only be used in conjunction with a MPS120 Universal power adaptor. **The use of an unapproved source may void the printer's warranty.** Ensure that the power adaptor is correctly fitted to the connector in the base of the printer and that it is operational.

2.2 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.

2.3 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.

2.4 Serial Interface

The interface can be selected from RS232, IrDA and HPIr via Configuration Options (see page 2).

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 CONFIGURATION

3.1 Configuration Options

The printer incorporates a number of configurable *options*, each of which has a number of *settings*. The default settings of the standard printer are detailed in the table below in bold. To change the setting of any option, follow the procedure below:

1. Ensure the printer is OFF.
2. Press and hold the Mode button. After about five seconds, the Status light will flash five times to show that the printer is in *configuration mode*. Release the Mode button.
3. Press the Mode button the same number of times as the *option* that you wish to change (for example to change baud rate, press the Mode button twice).
4. After a short delay, the Status light will flash the same number of times as the option that you have chosen. If you have made a mistake at this stage, simply wait: after a delay, the printer will power-on without changing any options.
5. To proceed with configuration, press the Mode button the same number of times as the *setting* that you wish to make (for example, to set the baud rate to 19200, press the Mode button once).

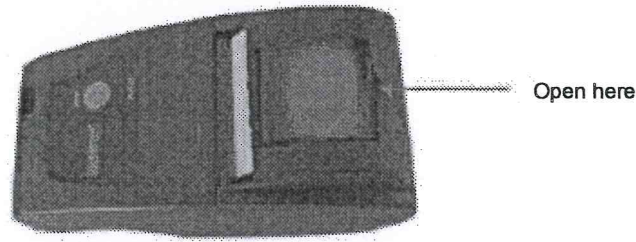
Option	Description	Setting No	Setting
1	IrDA Protocol	1	8, No Parity
		2	8, Odd Parity
		3	8, Even Parity
		4	7, Odd Parity
		5	7, Even Parity
		6	HPIr Mode
		7	IrMP Mode
2	IrDA Baud Rate	1	19200 baud
		2	9600 baud
		3	4800 baud
		4	2400 baud
		5	1200 baud
		6	600 baud
		7	300 baud
3	RS232 Protocol	1	8, No parity
		2	8, Odd parity
		3	8, Even parity
		4	7, Odd parity
		5	7, Even parity
4	RS232 Baud Rate	1	19200 baud
		2	9600 baud
		3	4800 baud
		4	2400 baud
		5	1200 baud
		6	600 baud
		7	300 baud
5	RS232 Flow	1	None
		2	Software
		3	Hardware
6	Font	1	Arial 16, 24 CPL
		2	Arial 12, 32 CPL
		3	Arial 8, 48 CPL
		4	Roman 8, 24 CPL
		5	Ecma 94, 24 CPL

Option	Description	Setting No	Setting
7	Character Format	1	Normal
		2	Double Width
		3	Double Height
		4	Double Width and Height
8	Print Density	1	Lowest
		2	
		3	
		4	Highest
9	Printer Current	1	Highest
		2	
		3	
		4	Lowest
10	Print Format	1	Standard paper, normal printing
		2	Standard paper, upside down printing
		3	Labels, normal printing
		4	Labels, upside down printing
11	Low Power Mode	1	None
		2	Sleep after 1 minute
		3	Sleep after 2 minutes
		4	Sleep after 5 minutes
		5	Sleep after 10 minutes
		6	Off after 1 minute
		7	Off after 2 minutes
		8	Off after 5 minutes
		9	Off after 10 minutes

4. PRINTER OPERATION

4.1 Power On Procedure

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.

4.2 Low Power Mode

The printer incorporates two low-power modes, configured via option 11, page 2.

In **Sleep mode** the printer enters low power mode after a preset period of inactivity. Once asleep, the printer can be woken by sending a NULL character 1 sec before data to be printed, OR the printer can be woken by pressing the Mode button.

In **Auto Off mode** the printer cannot be woken by data transfer and must be powered-on manually.

4.3 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.

5. PRINTER MAINTENANCE

5.1 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.

5.2 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
*****	Power low	Check correct power adaptor is in use

5.3 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.

5.4 Head Thermal Limit

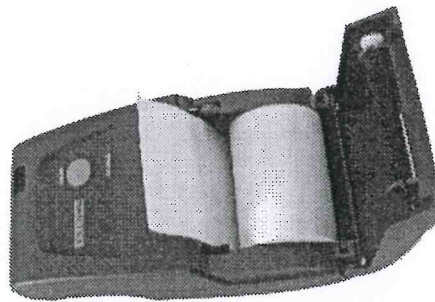
After extensive printing the print head temperature may rise to an unusable level. The Status LED will report when this occurs, and printing will be suspended until the head temperature returns to normal levels.

5.5 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.

5.6 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.

6. 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.