



Hardware Manual



MERLIN

Hardware Manual

Code: D2100001GG

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The Merlin system conforms to European Community Regulation 89/336/EEC covering Electro-magnetic compatibility and to the standard 73/23/EEC covering electrical product safety and subsequent variations.



Disposal instructions


IT



Il simbolo  sul prodotto o sulla confezione indica che il prodotto non deve essere considerato come un normale rifiuto domestico, ma deve essere portato nel punto di raccolta appropriato per il riciclaggio di apparecchiature elettriche ed elettroniche. Provvedendo a smaltire questo prodotto in modo appropriato, si contribuisce a evitare potenziali conseguenze negative per l'ambiente e la salute, che potrebbero derivare da uno smaltimento inadeguato del prodotto. Per informazioni più dettagliate sul riciclaggio di questo prodotto, contattare l'ufficio comunale, il servizio locale di smaltimento rifiuti o il fornitore da cui è stato acquistato il prodotto.


EN



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FR



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DE



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ES



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PT



O símbolo  no produto ou na embalagem indica que este producto não pode ser tratado como lixo doméstico. Em vez disso, deve ser entregue ao centro de recolha selectiva para a reciclagem de equipamento eléctrico e electrónico. Ao garantir uma eliminação adequada deste produto, irá ajudar a evitar eventuais consequências negativas para o meio ambiente e para a saúde pública, que, de outra forma, poderiam ser provocadas por um tratamento incorrecto do produto. Para obter informações mais detalhadas sobre a reciclagem deste produto, contacte os serviços municipalizados locais, o centro de recolha selectiva da sua área de residência ou no distribuidor onde adquirir o produto.

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Chapter 1

Preliminary operations

- List of supplied materials.
- Before installing.
- Notes on the guarantee.

List of supplied materials

The following is a list of materials supplied inside the package:

- Merlin system (with Compact Flash installed) complete with bench support;
- Power supply
- 3 x power supply adapters.

Upon request:

- optional internal USB kit.

Before installing

After checking the contents, conserve the packaging, as it may be useful when transporting the system.

After unpacking the system, arrange the material on a bench and carefully carry out the procedures described in the following chapters.

Notes on the guarantee

Marposs is under no obligation to notify clients of any subsequent modifications to the product. Under no circumstances should unauthorised personnel tamper with the equipment on the basis of the descriptions provided in this manual.

The guarantee shall be declared null and void in the event of evidence of such tampering.

This material is provided for information only. The material should be considered as current, complete and up to date, however no guarantee or promise is given that it is. THIS MATERIAL IS SUPPLIED "AS IS" WITHOUT GUARANTEES OF ANY KIND

Chapter 2

General description

- This chapter describes the main features of the system.

Presentation

The Merlin System is a compact, rational machine from MARPOSS, offering performance to satisfy any needs.

It is based on the Main Board PXA, equipped with the Intel PXA270@520MHz microprocessor.

The system's uncluttered front panel contains only the 8.4" LCD display and the touch screen sensor.

The system uses mainly USB communication ports that can be used for a wide range of peripheral devices, providing the benefits of the plug&play and hot-insertion functions, the versatility of the devices that can be connected via this interface.

The connections panel is completed by a 10/100Mbps Ethernet connection and an RS232 serial port.

The Merlin system is also equipped with an USB client port for connection to a PC (possibly via a USB HUB) that acts as a USB Host.

The system has also been designed to be compatible with suitably configured WinCE systems.

The system has been manufactured so that it is easy to install and maintain.



Front view

General technical specifications

Front panel specifications

Protection	IP65
Input device	Touch screen
Display LCD 8.4"	8.4" VGA colour TFT typically 350 cd/mq - 2 x CCFL

Rear panel specifications

Protection	IP50
Connections	4 x USB host ports 1 x USB client port 1 x 10/100Mbps Ethernet port 1 x RS232 serial port
Reset	button
Power supply	Circular connector Bipolar switch protection earth connecting screw

Technical specifications

Mounting	On a bench base with adjustable joint, or with a VESA mounting	
Motherboard	Main Board PXA	
Processor	Intel PXA270 @ 520MHz	
RAM	128MByte SDRAM soldered	
NoVRAM	64MByte Flash soldered	
Video interface	16 bit SVGA (5bit Blue / 6bit Green / 5bit Red)	
Video RAM	4 MB memory shared with the system memory	
Resolution/Colours	800 x 600	64k
Serial interface	1 x RS-232	
Ethernet	10/100 Mbps (RJ45)	
USB host interface	4 connectors located on the rear of the machine (1.1) 1 internal located on the motherboard (1.1)	
USB client interface	1 connector located on the rear of the machine (1.1)	
Expansion	1 Type 1 Compact Flash module	
Power supply	24Vdc (18-36V)	
Power consumption	12W (max) excluding any peripheral devices	
Relative humidity	max 80% without condensation	
Storage temperature	-20°C ÷ +60°C	
Working temperature	5°C ÷ 45°C	

Dimensions and weight (see also Chapter 4 “Dimensions”)

Dimension	230 x 180 x 45 mm.
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Weight	1.5 kg
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Options

Internal USB kit	1 x 1.1 port
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System architecture and configuration

The Merlin System is produced by assembling the following mechanical/electronic components:

- Plastic front panel with touch screen sensor
- 8.4” LCD TFT display
- electronic board and inverter for the LCD display
- case for containing the electronic components
- plastic rear panel

Front panel

The front panel is simple, without ports or indicators. It houses the 4-wire resistive touch screen managed by a dedicated controller.

LCD display

The 8.4” LCD display module has a maximum resolution of 800x600, an active matrix, back-lit by two fluorescent lamps. Luminosity is set by a configuration jumper.

8.4” display specification

Dimensions	8.4”
Technology	LCD-TFT active matrix
Visible area	170.4 (A) x 127.8 (L) mm
Resolution	800 x 600

Colours	262144 (64k used)
Dot Pitch	0.213 mm
Luminescence	Typically 350 cd/m ²
Horizontal view angle (left and right)	Typically 100°
Vertical view angle (above and below)	Typically 90°
Contrast value at optimum angle	Typically 250:1
Response (Rise)	Maximum 50 ms
Response (Decay)	Maximum 50 ms
Power supply	3.3 V
Surface coating	Antireflection
Back lighting	2 CCFL (Cold Cathode Fluorescent Lamp)

TFT-LCD display quality

LCD displays may contain faulty pixels (permanently on or permanently off). However, the special production process used to manufacture the LCD panels means that faults are extremely rare, bearing in mind the high number of RGB elements in a panel. The manufacturer declares the maximum acceptable number of defects, and these figures are listed in the following table:

LCD Panel	Maximum acceptable number of pixels permanently on	Maximum acceptable number of pixels permanently off	Maximum acceptable number of faulty pixels (on and off)
8.4"	8	8	15

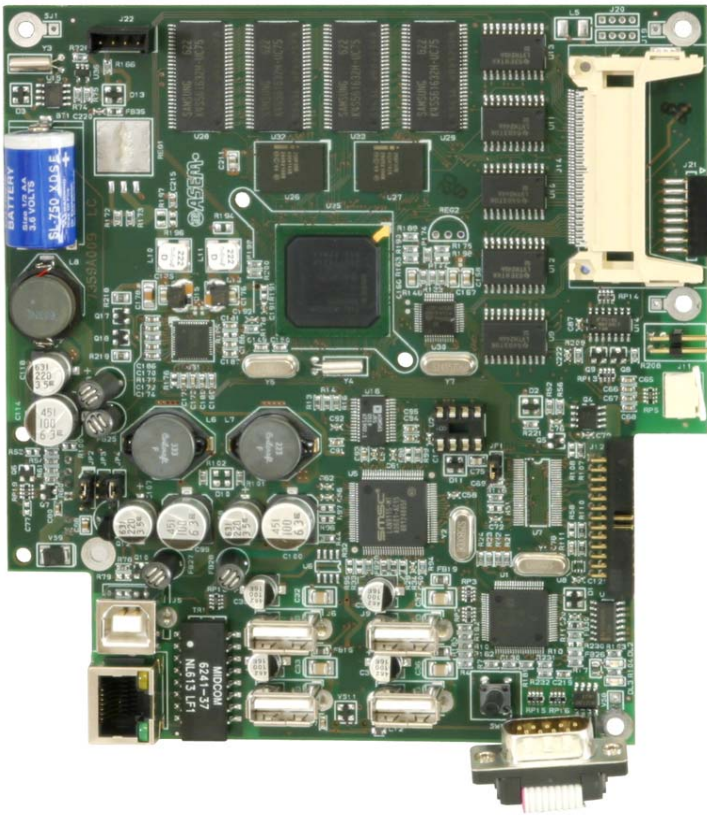
Electronic boards

The machine contains the motherboard with the PXA270 microprocessor, an EMI filtering on power supply unit and an inverter for cold cathode lamps.

The components are mounted on both sides of the motherboard; the microprocessor is mounted on the side facing the rear of the terminal for improved heat dissipation via an Aluminium bridge to the supporting frame.

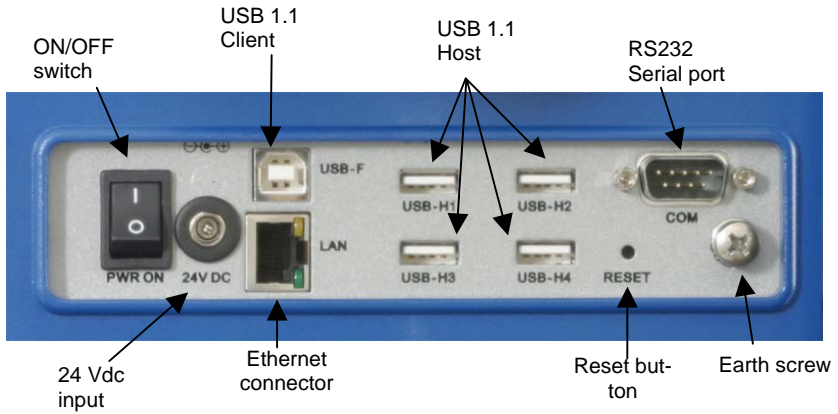
The power supply board is also fitted with a fuse in series with the main 4A power supply; the fuse is soldered and located in an easily accessible position.

The inverter is mounted next to the motherboard.



PXA270 board

Rear panel connectors



rear panel connectors

Chapter 3

Installation

- Mounting on the bench base
- Earth connection
- Connecting the power supply

Installing on the bench base

The system is normally mounted on the dedicated bench support base using 4 M4x8 screws.

Twist the knob on the base to loosen the mounting and adjust the position of the system as required.



(bench base view)

Earth connection

As the system will normally be supply by a 220 V_{AC} to 24 V_{DC} converter, for safety reasons it is necessary to connect the metal case to earth using the earth screw.

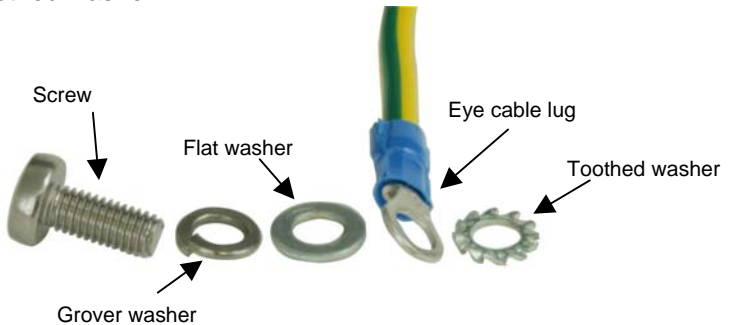
The procedure is as follows:

- Remove the earth screw.



(sequence 1 of 2)

- Insert the eye cable lug between the washers according to the following sequence:
 1. Screw (M5x8)
 2. Grover washer
 3. Flat washer
 4. Eye cable lug
 5. Toothed washer



(sequence 2 of 2)

- Reconnect the earth screw to the system.

Power supply

The system requires a nominal 24V_{DC} (+18V÷36V) power supply that can be disconnected by the system power switch. The power supply is connected via a coaxial 5mm jack plug, with the internal pole connected to positive potential.



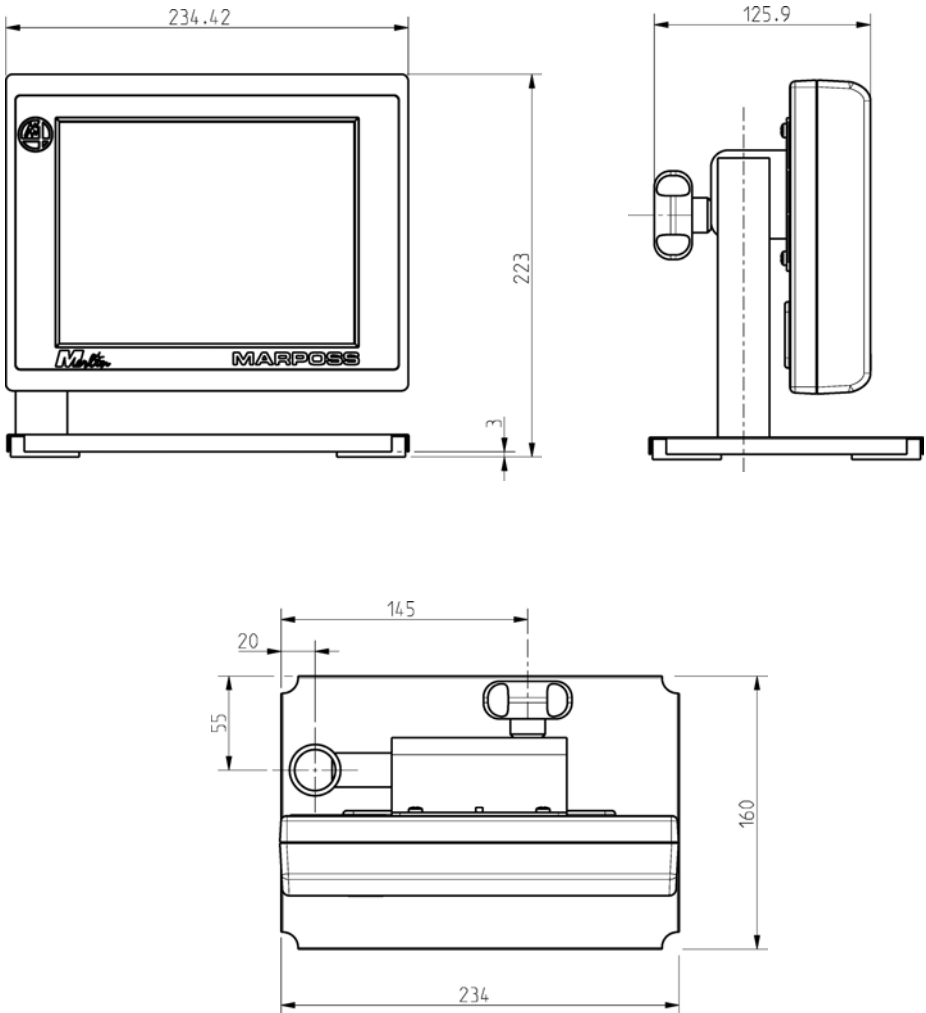
Power switch


Chapter 4


Dimensions

This chapter illustrates the external dimensions of the device

External dimensions



	<p style="text-align: center;">BATTERIES</p> <p style="text-align: center;">This device contains batteries that should <u>not</u> be removed by the user.</p> <p>Improper battery removal by non-authorized personnel may damage the device and will void the warranty. Battery removal must be performed exclusively by Marposs Service personnel, whom the user must contact in case of problems.</p>
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Consult the official site Marposs: www.marposs.com for a full and updated address list

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