

MERLIN

25MHz Intel® 386EX single board computer

Features

- Intel® 386EX 25MHz processor
- 2Mbytes DRAM
- 1Mbyte Flash pre-loaded with either:
 - Datalight BIOS, ROM-DOS 6.22 and FlashFX Flash media management
 - RedBoot/eCos
- 512Kbytes battery backed SRAM (MERLIN-SE only)
- 10baseT Ethernet port with link status LED
- COM1 RS232 serial port via 20 way pin header
- COM2 RS485/422 serial port via 20 way pin header
 - Link selectable RS485/422 configuration
 - Link selectable line termination
- COM3 RS232 serial port with full-handshaking via DB9 plug
- Transmit and receive activity LED's for COM1 and COM2
- Real Time Clock (battery backed)
- Software watchdog with configurable timeout period
 - 0 - 171 seconds (in 40ns intervals)
- User LED onboard
- User-assigned jumper
- Dallas 48-bit unique ID tag
- Expansion port for custom hardware
 - 8-bit I/O, chip select, interrupt and 4 address lines
- 9 - 18V DC and 10 - 16V AC power input ranges
- Standard 1.3mm Power Jack input
- Rechargeable battery

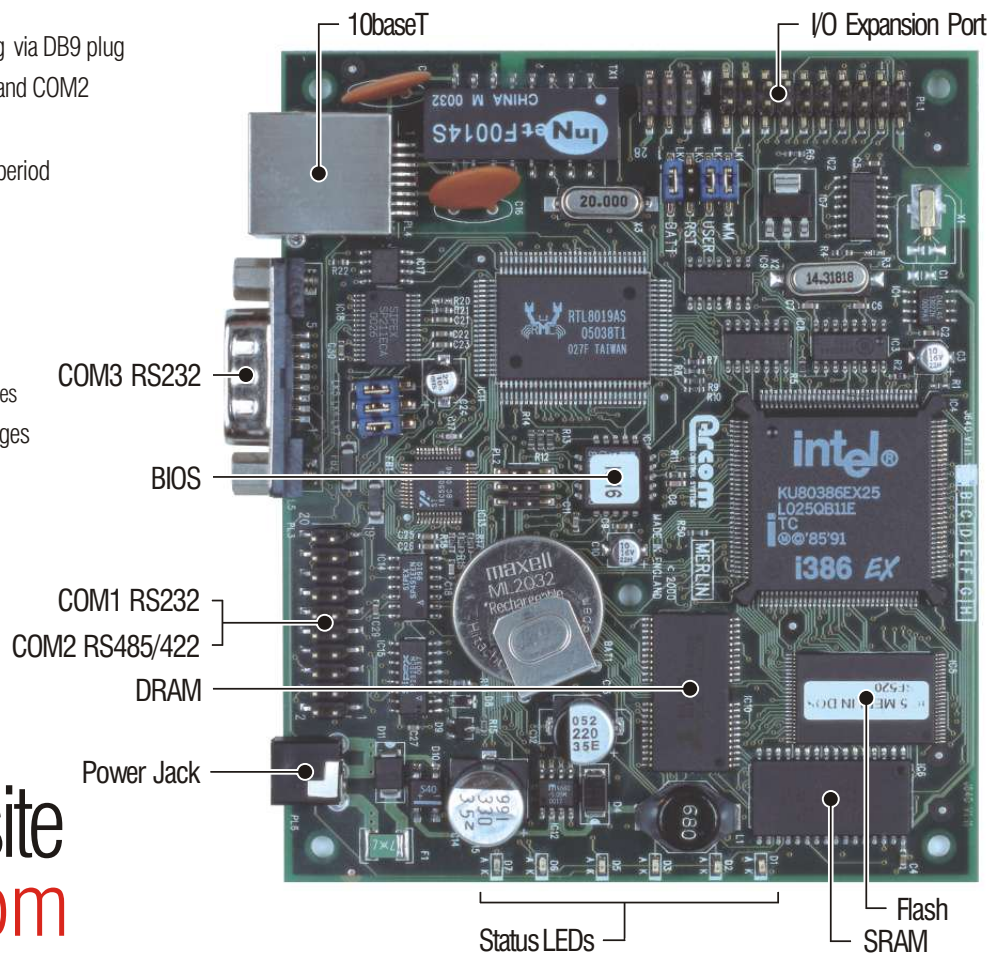
Also available:

- CE compliant enclosure
- eCos Development Kit
- ROM-DOS Development Kit

Description

The MERLIN single board computer is a low cost, small form factor single board computer which features the Intel® 25MHz 386EX CPU, along with three serial ports, 10baseT Ethernet, 2Mbytes DRAM, 1Mbyte Flash, optional 512K battery backed SRAM, Real Time Clock, I/O port and an onboard 9 - 18V DC (or 10 - 16V AC) power supply. The MERLIN is shipped with RedBoot/eCos or Datalight's ROM-DOS/sockets pre-loaded.

Development Kits are available for both the Datalight and eCos operating systems, allowing fast development of your application.



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Specifications

Temperature

- Operating -20°C to +70°C
- Storage -40°C to +70°C

Humidity

- 10% to 90% RH (non-condensing)

Real Time Clock accuracy

- +/- 1min/month @ 25°C

Software (ROM-DOS)

- Datalight ROM-DOS operating system
- Datalight FlashFX Flash media management
- Datalight Sockets TCP/IP stack

Software (eCos)

- RedBoot preloaded
- eCos drivers for all onboard functions

Power requirements

- 9 - 18V DC or 10 - 16V AC (350mA typ. @ 12V)

Battery

- 3.0V Lithium 65mAh (Rechargeable Coin Cell)

Dimensions

- 110mm x 92mm

Weight

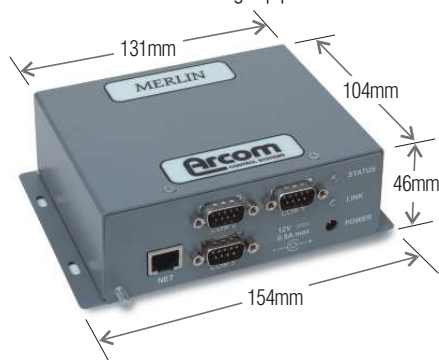
- 80 grams

MTBF (based on MIL-HDBK-217F using generic failure rates)

- 163,000 hours

MERLIN CE compliant compact enclosure

- A fully CE compliant enclosure for the MERLIN processor board
- Operating temperature range -20°C to 60°C
- 3 Serial ports (2 x RS232, 1 x RS485/422)
- RJ45 Ethernet (10baseTx)
- Power Requirements: 9 - 18V DC, 10 - 16V AC (typically 3.5W)
- Network Link LED and User LED light-pipes



Check our website for more details

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Ordering Information

MERLIN (DOS)	No SRAM fitted, ROM-DOS & Sockets pre-loaded
MERLIN-SE (DOS)	Fitted with 512Kbytes battery backed SRAM, ROM-DOS & Sockets pre-loaded
MERLIN-SE (eCos)	Fitted with 512Kbytes battery backed SRAM, RedBoot/eCos pre-loaded

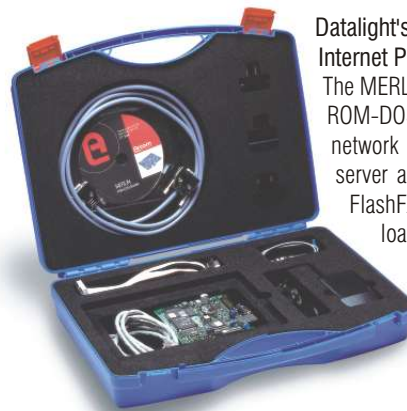
Note: The DOS and eCos variants of the MERLIN have different hardware memory mapping configurations. Thus the DOS variants do not support eCos, and vice-versa.

Typical Applications

The MERLIN is a low cost communication controller suitable for linking equipment with serial ports onto an Ethernet network. The MERLIN can also be used as a data logger and then transfer the information via ethernet or any serial modem (PSTN, ISDN or GSM) to a host server using FTP.

Associated Products

MERLIN ROM-DOS & Sockets Development Kits



Datalight's ROM-DOS OS and Sockets Internet Protocol Software

The MERLIN Development Kit features licensed ROM-DOS operating system and Sockets network communication application (HTTP server and FTP client/server) as well as the FlashFX Flash media management all pre-loaded and configured on to the Flash memory of the MERLIN embedded processor board.



MERLIN eCos Development Kit

The MERLIN eCos Development Kit includes the 25MHz i386EX based MERLIN SBC pre-installed with RedBoot, a fast, efficient network aware boot loader – ideal for quickly debugging and updating your eCos applications. RedBoot is based on eCos and offers the ability to download files via Ethernet or a serial port and to use a boot script to execute these from the embedded Flash or DRAM.

The Development Kit is supplied with eCos sources for the MERLIN and host development tools to enable you to develop your eCos application on Linux or Windows based host PCs. There are a wide range of features to enable you to create small footprint solutions for data acquisition systems, communication products and network aware embedded devices.

