

# Cool RoadRunner-PM

PC/104-Plus Single Board Computer

Intel® Pentium® M Processor 0.6/1.0/1.4/1.8 GHz

## Features

Intel® Pentium® M or Celeron® M Processor

Up to 1 Gbyte DDR-SODIMM

SXGA: 2048 x 1536 pixel

Dual channel LVDS for displays

100/10 BaseT Ethernet

6 x USB 2.0

2 x RS232, RS485

AC97 Sound I/O

Power consumption: max. 18 W

Passive cooling possible

Extended temperature range @ 1.0 GHz



### More Features

- Watchdog
- Flash BIOS
- GoldCap for RTC backup



The Cool RoadRunner-PM provides embedded PC applications with the computing power of the Pentium® M 7xx processor. It is a complete single board computer, build according to the PC/104-Plus standard. There are several processor variants with different clock rates available: Pentium® M 738 @ 1.4 GHz and Pentium® M 745 @ 1.8 GHz, and a Celeron® M 373 @ 1.0 or 0.6 GHz.

The Cool RoadRunner-PM's i82855GME chipset features a fast Intel Extreme Graphics 2 graphics engine with 2D and 3D capabilities, delivering outstanding graphics performance for embedded computer applications. The main memory can be expanded up to 1 GByte using suitable DDR-SODIMM modules. As for network connectivity, there is a FastEthernet (100/10BaseT) controller integrated on board. There are two serial ports available.

The Cool RoadRunner-PM supports both, PCI and ISA bus for system extension. An AC-97 codec is also on-board for sound I/O. The ATA-100 compliant EIDE interface allows connection of standard hard disks or other storage devices.

The graphics and display controllers use up to 64 MB of memory, shared with the system RAM. An improved unified memory architecture (UMA) guarantees the maximum possible display performance. Display resolutions as high as 2048 x 1536 at 75 Hz are supported. In addition to ordinary SVGA-monitors, all kinds of TFT Flat Panels can be connected through the dual channel LVDS interface.

Troubleshooting is made easy with supervision LEDs for power, watchdog, Ethernet and life signalization on the module. System expansion is very easy using the PCI-104 bus.

LIPPERT is an independent design house and manufacturer that develops and builds special customer specific solutions. Please ask for a specific quotation.

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## Technical Specifications

<b>Board Format</b>	PC/104-Plus, 115.6 mm x 95.9 mm	<b>RTC Backup</b>	GoldCap
<b>Processor</b>	Intel® Pentium® M, Intel® Celeron® M	<b>Watchdog</b>	yes
<b>Speed</b>	1.8 GHz with Pentium® M 745 1.4 GHz with Pentium® M 738 1.0 GHz with Celeron® M 373 0.6 GHz with Celeron® M 373	<b>Status LED</b>	Power, Watchdog, Ethernet, IDE and life signalization
<b>FSB</b>	400 MHz	<b>ISA Bus</b>	PC/104
<b>Core logic</b>	Northbridge: Intel® i82855GME Southbridge: Intel® i82801DB Super I/O: National PC87364 PCI to ISA bridge: IT8888	<b>PCI Bus</b>	5 V compliant.
<b>RAM (max.)</b>	1024 Mbyte DDR-SODIMM	<b>Power Supply</b>	+5 V only. All necessary voltages are generated on-board.
<b>RAM clock</b>	Below 512 MB: PC2700/333 MHz 1024 MB: PC2100/266 MHz	<b>Power Consumption (maximum)</b>	0.6 GHz: ~14.0W 1.0 GHz: ~16.0 W 1.4 GHz: ~23.5 W 1.8 GHz: ~32.5 W
<b>Graphics</b>	up to 64 MB RAM, up to 2048 x 1536 pixel at 75 Hz	<b>Power Managment</b>	BIOS supports ACPI power saving modes
<b>CRT</b>	Analog VGA	<b>Operating temperature</b>	-20°C ... +60°C (standard, all versions) -40°C ... +85°C (extended, only Celeron® M)
<b>LVDS</b>	Dual channel	<b>MTBF</b>	174.636 h
<b>USB</b>	6 x USB 2.0	<b>Cooling</b>	The Cool RoadRunner-PM must always be operated with sufficient cooling measures. Warranty will be void if operated without cooling.
<b>Ethernet</b>	100/10 BaseT with i82562	<b>BIOS</b>	Phoenix FirstBIOS BIOS parameters are also saved in FEPROM
<b>Serial</b>	2 x RS232, RS485	<b>Supported OS</b>	Windows, Linux
<b>Keyboard, Mouse</b>	PS/2		
<b>IDE</b>	EIDE port according to ATA100		
<b>Sound I/O</b>	AC97 (Line-in, Line-out, Mic-in, CD-in) S/PDIF 2.3 compliant		



## Ordering Information

Ordering Number	Description
803-0015-10	PC/104-Plus board with 1.8 GHz Intel® Pentium® M 745, active cooler, DIMM socket max. 1 GB DDR-RAM, 6xUSB, IrDA, RTC, GoldCap, IDE, 2xCOM, PS/2 keyboard and mouse, watchdog, FastEthernet, LVDS, AC97 sound
803-0014-10	Like 804-0015-10 but with 1.4 GHz Intel® Pentium® M 738
t03-0013-10	Like 804-0014-10 but with 1.0 GHz Intel® Celeron® M 373
t03-0017-10	Like 804-0014-10 but with 600 MHz Intel® Celeron® M 373

**Note:** t denotes the temperature range. Substitute with 8 for standard and 9 for extended temperature range

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