

Cool RoadRunner-945GSE

PC/104-Plus Single Board Computer
Intel® Atom™ N270

Features

Intel Atom N270, 1.6GHz

512MB/1 GB/2 GB soldered DDR2-RAM

Graphics up to 2048x 1536 pixel

CRT and LVDS, with backlight

Gigabit LAN

8 x USB 2.0

2 x serial, RS232/RS422/RS485

2 GB Solid State Disk

2xSATA

LEMT

Low power consumption

Optional, extended temperature range

-40°C...+85°C



The Cool RoadRunner-945GSE delivers high computing performance while consuming only little power. Its Atom processor was created with today's most advanced semiconductor technology and is especially suitable for low-power embedded devices.

The PC/104-Plus board comes complete as a stand-alone embedded PC yet provides easy extension using standard peripheral cards. It features a three-chip solution with a processor running at 1.6GHz and a maximum of 2GB soldered DDR2-RAM. The Northbridge 82945GSE has an integrated enhanced graphics controller that handles 2D and speeds up 3D graphics and provides MPEG2 decoding. The video data is available on VGA and LVDS ports. An 82801GBM controller hub handles most of the other interfaces, among them high definition audio.

Two SATA ports enable usage of harddisk storage, while a 2GB IDE solid state disk allows construction of fully operating PC systems without moving parts.

A Gigabit Ethernet port, 8 USB 2.0 host ports, and flexible serial interfaces provide very versatile connectivity to networks and external peripherals. I²C (System Management Bus) signals are available, too.

The CRR-945GSE operates from a single 5V supply. To conserve even more power, ACPI, advanced power management, and PCIe power management are supported.

The integrated LiPPERT Enhanced Management Technology (LEMT) provides housekeeping functions like power sequencing and has features that make the system designer's life easier. Among those are secure Flash areas and various types of operating state counters.

Supported operating systems are Windows, Windows Embedded, Linux and QNX.

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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THE EMBEDDED PC COMPANY

Cool RoadRunner-945GSE

PC/104-Plus Single Board Computer

Intel® Atom™ N270

Technical Data

Board Format	PC/104-Plus with wings, 115.6 x 95.9mm	SSD	2 GB Solid State Disk with > 100.000 write cycles and wear levelling
Processor	Intel Atom N270	Watchdog	Yes
Speed	1.6GHz	Status LED	HDD, power, standby, power mode, life, 3x Ethernet, watchdog
Core Logic	Northbridge Intel 945GSE Southbridge Intel ICH7-M	Operating temperature	0 °C...+60°C (commercial, all versions) -20 °C...+60°C (industrial, all versions) -40°C...+85°C (extended, optional)
RAM	512 MB or 1 GB SDDR2, 533 MHz opt. 2 GB. Soldered on board	PCI Bus	PC/104-Plus
FSB	533MHz	ISA Bus	PC/104
Graphics	Intel Graphics Media Accelerator 950	I²C bus	Supported
CRT	Analog VGA 2048 x 1536 pixel at 85 Hz max.	RTC Backup	On-board battery
LVDS	Single channel, 18 bits 1600 x 1200 pixel at 60 Hz max.	Power Supply	5 V ±5 % All necessary voltages are generated on-board.
Audio	HD Audio - Analog input/output (max 96/192 kHz sampling rate) - S/PDIF input/output (max. 24 bit, max. 192 kHz sampling)	Power Consumption	12.5 watts
USB	8 x USB 2.0 host	Cooling	Passive
Ethernet	1000/100/10 MBit	MTBF	>100.000 h (t.b.d.)
Serial	2 x RS232/RS485, selectable in BIOS	BIOS	Award BIOS BIOS parameters are also saved in FEPROM
SATA	2 host ports	Supported OS	Windows XP, XP Embedded, Windows CE, Linux, QNX



Ordering Information

Ordering Number	Description
t03-0021-10	PC/104-Plus processor module with Intel Atom N270, 512MB
t03-0022-10	PC/104-Plus processor module with Intel Atom N270, 1 GB

Note: t denotes the temperature range. Use 7 for commercial, 8 for industrial and 9 for extended temperature range