

# Cool RoadRunner-Atom

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-Atom 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. I<sup>2</sup>C (System Management Bus) signals are available, too.

The CRR-Atom 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



LIPPERT Embedded Computers GmbH  
Hans-Thoma-Str. 11 · D-68163 Mannheim  
Phone +49 621 43214-0 · Fax +49 621 43214-30  
sales@lippertembedded.com  
www.lippertembedded.com

LIPPERT Embedded Computers Inc.  
5555 Glenridge Connector, Suite 200  
Atlanta, GA 30342  
Phone (404) 459 2870 · Fax (404) 459 2871  
ussales@lippertembedded.com

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THE EMBEDDED PC COMPANY

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## Technical Data

<b>Board Format</b>	PC/104-Plus with wings, 115.6 x 95.9mm
<b>Processor</b>	Intel Atom N270
<b>Speed</b>	1.6GHz
<b>Core Logic</b>	Northbridge Intel 945GSE Southbridge Intel ICH7-M
<b>RAM</b>	512 MB or 1 GB SDDR2, 533 MHz opt. 2 GB. Soldered on board
<b>FSB</b>	533MHz
<b>Graphics</b>	Intel Graphics Media Accelerator 950
<b>CRT</b>	Analog VGA 2048 x 1536 pixel at 85 Hz max.
<b>LVDS</b>	Single channel, 18 bits 1600 x 1200 pixel at 60 Hz max.
<b>Audio</b>	HD Audio - Analog input/output (max 96/192 kHz sampling rate) - S/PDIF input/output (max. 24 bit, max. 192 kHz sampling)
<b>USB</b>	8 x USB 2.0 host
<b>Ethernet</b>	1000/100/10 MBit
<b>Serial</b>	2 x RS232/RS485, selectable in BIOS

<b>SATA</b>	2 host ports
<b>SSD</b>	2 GB Solid State Disk with > 100.000 write cycles and wear levelling
<b>Watchdog</b>	Yes
<b>Status LED</b>	HDD, power, standby, power mode, life, 3x Ethernet, watchdog
<b>Operating temperature</b>	0°C...+60°C (commercial, all versions) -20°C...+60°C (industrial, all versions) -40°C...+85°C (extended, optional)
<b>PCI Bus</b>	PC/104-Plus
<b>ISA Bus</b>	PC/104
<b>I<sup>2</sup>C bus</b>	Supported
<b>RTC Backup</b>	On-board battery
<b>Power Supply</b>	5 V ±5 % All necessary voltages are generated on-board.
<b>Power Consumption</b>	12.5 watts
<b>Cooling</b>	Passive
<b>MTBF</b>	>100.000 h (t.b.d.)
<b>BIOS</b>	Award BIOS BIOS parameters are also saved in FEPROM
<b>Supported OS</b>	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

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