Cool RoadRunner-LX800

PC/104-Plus Single Board Computer
AMD Geode™ LX800@1.0W

Features

AMD Geode™ LX800 Processor, 500 MHz

2 x RS232/RS422/RS485

1 GB DDR333 RAM max

Graphics up to 1920 x 1440 pixel
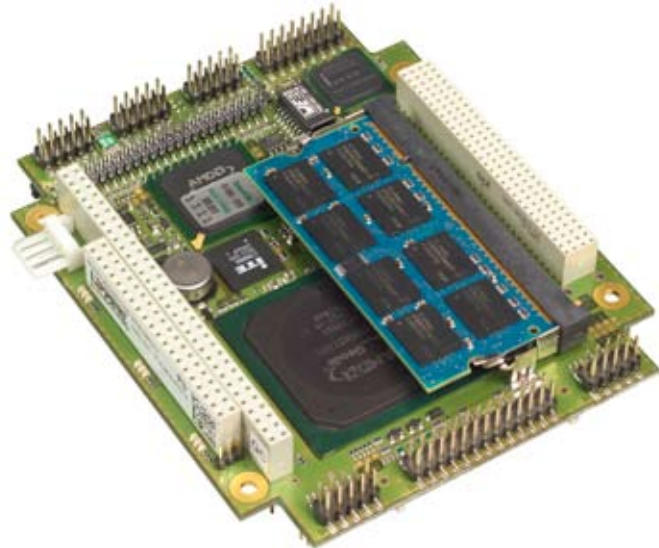
CRT, TFT, LVDS

IDE Ultra ATA100

LAN

4 x USB 2.0

CompactFlash™ socket

Only 6.5 W power consumption

Extended temperature range -40 ... +85°C

More Features

- PC/104, PC/104-Plus bus
- Watchdog
- AC97 sound

The Cool RoadRunner-LX800 is a high-performance PC/104-Plus board with AMD's Geode™ LX processor. The board comprises all peripherals for an embedded PC on a small 3.775" by 4.050" printed circuit board. The top-side connectors are fully plug-in compatible with LiPPERT's familiar Cool RoadRunner 2.

The Cool RoadRunner-LX800 integrates a powerful yet efficient processor together with a CS5536 I/O companion and a Super I/O chip to form a complete PC. There is a graphics controller with VGA, LVDS, and parallel TFT adapters. Backlighting is provided for LCD panels.

A fast 100/10BaseT Ethernet port, RS232/RS42/RS485 serial ports, and four USB 2.0 host ports handle external devices. There are PS/2 connectors for keyboard and mouse as well as a parallel printer port available. Audio according to AC97 is supported, too. An IDE ATA100 adapter connects storage devices. Applications that require non-moving storage can use the integrated CompactFlash socket.

System expansion is easily done using the PC/104 and PC/104-Plus connectors . PWM outputs and programmable general purpose digital signals are available on a supervisory connector.

The Cool RoadRunner-LX800 is powered by a 5V-only supply and supports ACPI, advanced power management and PCI power management.

Security critical applications take advantage of the Geode LX processor, too. It has an on-chip AES 128-bit crypto acceleration block capable of 44 Mbps throughput on either encryption or decryption. The AES block runs asynchronously to the processor core and is DMA based.

The Cool RoadRunner-LX800 runs Windows, Linux and VxWorks operating systems.

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

LiPPERT
THE EMBEDDED PC COMPANY

Cool RoadRunner-LX800

PC/104-Plus Single Board Computer
AMD Geode™ LX800@1.0W

Technical Specifications

Board Format	PC/104-Plus with wings, 96 mm x 115.6 mm (3.775" x 4.050")
Processor	AMD Geode LX800@1.0W
Speed	500 MHz
Core Logic	I/O companion: CS5536 Super I/O: ITE8712
RAM (max.)	1 GB DDR333-SODIMM
RAM clock	333 MHz
Graphics	Integrated in LX800 up to 254 MB video memory
CRT	Analog VGA 1920 x 1440 pixel at 85 Hz max.
LVDS	Single channel, 18 and 24 bits 1600 x 1200 pixel at 60 Hz max.
TFT	18 bits 1600 x 1200 pixel
USB	4 x USB 2.0 host
Ethernet	10/100 MBit with Intel 82551ER
Serial	2 x RS232/RS422/RS485
IDE	1 x Ultra ATA100 (ATA6) port
CompactFlash™	Socket type III
Audio	AC97 compatible
LPT	Multi-Mode™ bi-directional Parallel

PWM	4 PWM outputs, available on supervisory connector
Digital I/O	8 programmable signals, available on supervisory connector
Watchdog	Yes
Status LED	HDD, power, standby, power mode, live, 3x Ethernet, watchdog
Operating temperature	-20 °C … +60 °C -40 °C … +85 °C (optional)
ISA Bus	PC/104
PCI Bus	PC/104-Plus, 3.3V compliant. Peripherals need their own 3.3V supply.
RTC Backup	Gold Cap, optionally battery
Power Supply	5 V ±5% All necessary voltages are generated on-board.
Power Consumption	~6.5 W, depending on RAM configuration and processor load
Cooling	passive
MTBF	364.293 hours at 25 °C
BIOS	Insyde Technology BIOS parameters are also saved in FEPROM
Supported OS	Windows XP, XP Embedded, Windows CE, Linux, VxWorks

Ordering Information

Ordering Number	Description
*t*03-0010-10	PC/104+ CPU board with AMD Geode LX800 (500 MHz) processor.

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

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