RHODEUS

DIAMOND SYSTEMS CORPORATION

Rugged, low-power, low-cost PC/104 Single Board Computer featuring integrated CRT/LCD video, Ethernet, and CompactFlash

- Low-power PC/104 form-factor single board computer
- Based on an AMD Geode LX800 CPU operating fanless at 500MHz
- Up to 1GB of SO-DIMM DDR SDRAM
- Comprehensive set of I/O interfaces:
  - two USB 2.0 ports
  - one RS-232/422/485 and one RS-232 serial port
  - 10/100Mbps Ethernet
  - one IDE port, supporting 2 devices
  - on-board CompactFlash Type II socket
  - VGA CRT or LVDS LCD display
- PC/104 (ISA) expansion
- -20°C to +71°C (-2°F to +160°F) or -40°C to +85°C (-40°F to +185°F) operating temperature

Low Cost SBC

Rhodeus is a full-featured, rugged, PC/104-expandable single board computer offering a wide range of system I/O at a low cost.

Low Power Consumption

Rhodeus combines a full set of embedded-PC functions with lower power consumption and rugged construction, allowing it to excel in applications with restricted airflow.

Wide Operating Temperature

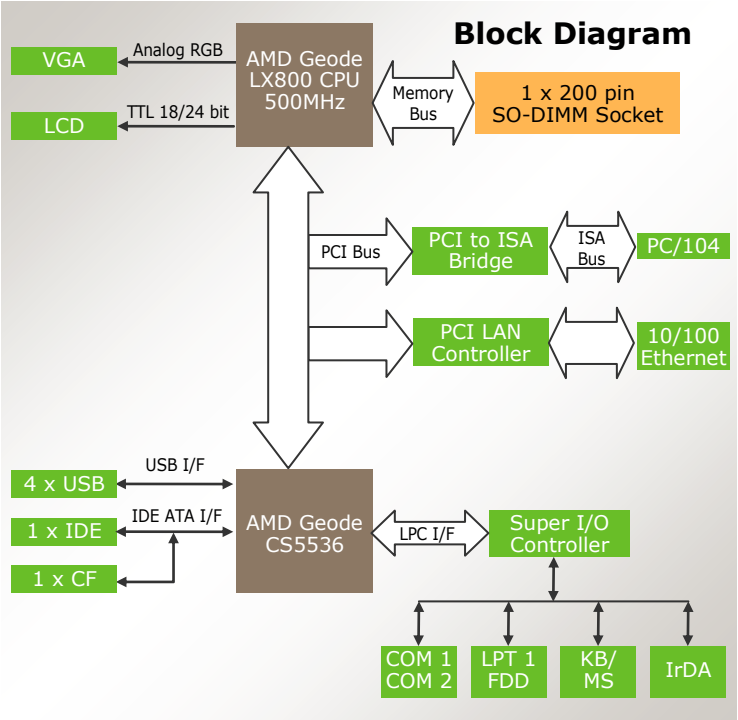
Rhodeus operates over the full extended operating temperature of -40°C to +85°C, allowing it to excel in harsh environments.

Fully Integrated Systems

Rhodeus is available as a complete system with your choice of operating system in a specially designed enclosure that eliminates cables and provides a rugged, compact, wide-temperature box PC ready for application download and deployment.

Rhodeus in Pandora Enclosure

Block Diagram



Rhodeus: PC/104 Single Board Computer

Specifications

Processor	AMD Geode LX800 at 500MHz
Chipset	AMD LX800 + CS5536
Cache	64k L1 cache and 128 L2 cache
Cooling	Heat sink, fan-less
Memory	Up to 1GB DDR SO-DIMM DRAM
Display type	VGA CRT or LVDS LCD
Display resolution	1280 X 1024 maximum
USB ports	2 USB 2.0
Serial ports	1 RS-232 1 RS-232/422/485
Parallel port	1 SPP/EPP/ECP mode
Floppy port	1 floppy connector
Networking	10/100Base-T Ethernet from Realtek 8100CL
Mass storage	1 IDE UDMA-33 port Supports 2 IDE devices
FlashDisk	1 Type II CompactFlash socket Supports up to 4GB
Keyboard/Mouse	PS/2
Audio	Speaker out
Hardware monitor	Integrated in W83627HG
Real-time clock	AMD Geode CS5536 built-in RTC with lithium battery
Watchdog timer	255-level reset
Expansion bus	PC/104 (ISA)
Input power	5V ±5%
Power consumption	5W typical @1A
Operating temperature	-20°C to +71°C (-2°F to +160°F) or -40°C to +85°C (-40°F to +185°F)
Dimensions	3.550 x 3.775 in. (90 x 96 mm)
Weight	2.5oz / 71g
RoHS	Compliant

Key Features

Rhodeus is a fanless PC/104 SBC based on the low-power AMD Geode LX800 processor clocked at 500MHz. It uses SO-DIMM DDR SDRAM, for up to 1GB of system memory.

The highly compact SBC integrates a full set of embedded-PC functionality within a low-power design, enabling it to operate in harsh environments where airflow for heat dissipation is restricted and bulky heat sinks or fans are unacceptable. This makes Rhodeus an excellent choice for embedded applications requiring 24x7 operation in unattended environments.

Rhodeus includes a comprehensive set of built-in I/O interfaces, including 10/100Mbps Ethernet, two serial ports, two USB 2.0 ports, a parallel port, IDE and floppy drive interfaces, LCD and CRT display interfaces, and a watchdog timer. Additional functions can be added by means of the on-board CompactFlash socket and the stackable PC/104 (ISA) expansion bus.

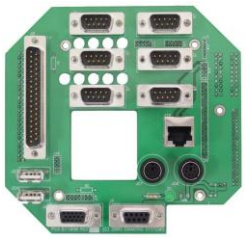
Software Support

Rhodeus supports Linux, Windows CE, Windows XP, and Windows Embedded Standard.

Cable Kit

A Rhodeus Cable Kit is available with all of the Rhodeus I/O cables.

Pandora cable-free enclosure system for Rhodeus SBCs



Panel I/O board provides industry-standard I/O connectors for Rhodeus SBCs

Ordering Information

RDS800-XT	Rhodeus SBC, 500MHz LX800, 0MB RAM, -40°C to +85°C operating temperature
RDS800-LC	Rhodeus SBC, 500MHz LX800, 0MB RAM, -20°C to +70°C operating temperature
MEM-256-04	256MB DDR SO-DIMM SDRAM
MEM-512-04	512MB DDR SO-DIMM SDRAM
MEM-1024-04	1024MB DDR SO-DIMM SDRAM
C-RDS-KIT	Rhodeus Cable Kit for all on-board I/O
PNL-RDS-01	Rhodeus Panel I/O Board with mounting hardware