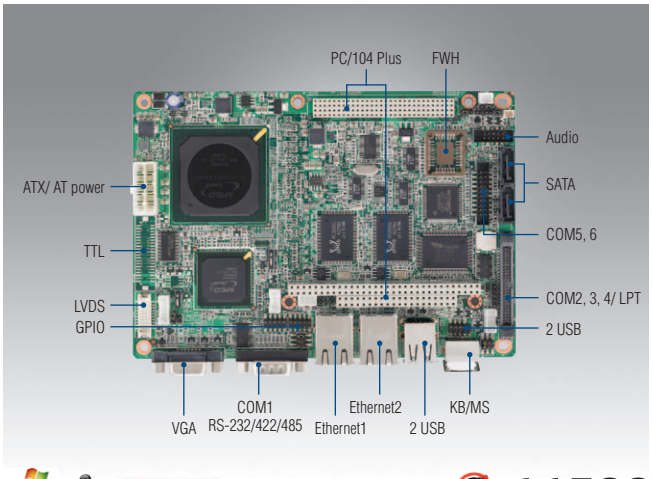
PCM-4373

AMD LX800 EPIC SBC with LVDS, TTL, VGA, Dual Ethernet, 6 COM, 2 SATA, PC/104-Plus



Features

- AMD low power LX800 500 MHz processor
- Total platform power consumption under 8 watts
- Display combination: VGA + 18-bit LVDS, or VGA + 24-bit TTL
- 6 COM ports (4 x RS-232/2 x RS-232/422/485, supports auto flow control)
- Supports embedded software APIs and utilities

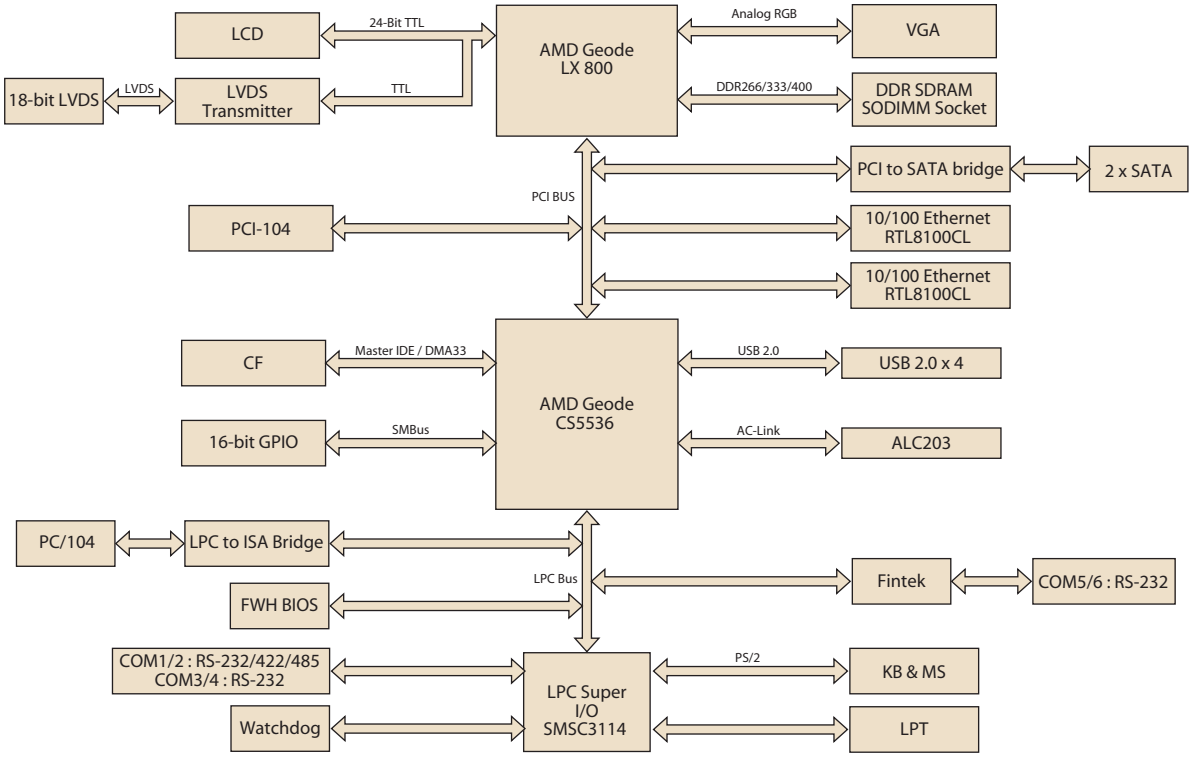
Software APIs: SMBus, H/W Monitor, Brightness, Watchdog, GPIO, Backlight On/Off

Utilities: BIOS Flash, Monitoring

Specifications

Processor System	CPU	AMD Geode LX800 processor, up to 500 MHz
	Frequency	500 MHz
	L2 Cache	128 KB
	System Chipset	AMD Geode LX800 + AMD Geode CS5536
	BIOS	Award 4-Mbit
Memory	Technology	DDR 333/400 MHz
	Max. Capacity	1 GB
	Socket	1 x 200-pin SODIMM
Display	Chipset	AMD Geode LX800
	VRAM	64 MB
	Graphics Engine	AMD 2D engine
	LVDS	1 x 18-bit LVDS
	VGA	1
	TTL LCD	1 x 24-bit TTL
	Dual Display	VGA + 18-bit LVDS, or VGA + 24-bit TTL
Ethernet	Speed	10/100 Mbps on Ethernet1, Ethernet2
	Controller	2 x Realtek RTL8100CL-LF
	Connector	RJ-45
Audio	Chipset	AC97, Line-in, Line-out, Mic-in
WatchDog Timer		255-level interval timer, programmable 1 ~ 255 sec, setup by software, jumperless selection, generates system reset
Storage	CompactFlash	Card Type I, Type II
	SATA	2 (Max. Data Transfer Rate 150 MB/s)
	Floppy	1 x FDD (Optional, share with LPT through customized cable)
Rear I/O	Serial	COM1: RS-232/422/485 (Supports Auto flow control)
	Ethernet	2
	PS/2 KB/Mouse	1
	VGA	1
	USB	2
Internal I/O	USB	2 x USB 2.0 (2 via USB DOM connector)
	Serial	COM3/4/5/6: RS-232, COM5/6 are only for PCM-4373F COM2: RS-232/422/485 (Supports Auto flow control)
	Parallel (LPT)	1
	FDD	Share with LPT (Optional)
	GPIO	16-bit GPIO
Expansion	PC/104-Plus slot	1
Power	Power Type	AT / ATX
	Power Supply Voltage	ATX: +5 V ± 5%, 12 V ±10%, 5 VSB AT: 5 V only to boot up, 12 V option for LCD Inverter and PC/104+
	Power Consumption (Typical)	5 V: 1.45 A (Geode LX800 with DDR333 1 GB)
	Power Consumption (Max, test in HCT)	5 V: 1.66 A (Geode LX800 with DDR333 1 GB)
	Power Management	APM, ACPI
	Battery	Lithium 3 V / 196 mAh
Environment	Operating	0 ~ 60° C (32 ~ 140° F), Operating humidity: 40° C @ 95% RH non-condensing
	Non-Operating	-40° C ~ 85° C and 60° C @ 95% RH non-condensing
Physical Characteristics	Dimensions (L x W)	115 x 165 mm (4.5" x 6.5")
	Weight	0.35 kg (0.77 lb) (with Heatsink)
	Total Height	27.0mm

Board Diagram



Ordering Information

Number	Chipset	L2 Cache	10/100 Ethernet	TTL	LVDS	VGA	USB 2.0	RS-232	RS-232/ 422/485	GPIO	LPT	CF	SATA	Audio	PC/104-Plus	Thermal Solution	Operation Temp.
PCM-4373L-J0A1E	AMD LX800	128 KB	1	24-bit	-	1	4	2	2	-	1	1	2	-	1	Passive	0 ~ 60° C
PCM-4373F-J0A1E	AMD LX800	128 KB	2	-	18-bit	1	4	4	2	16-bit	1	1	2	Yes	1	Passive	0 ~ 60° C

Packing List

Part No.	Description	Quantity
	PCM-4373 SBC	1
9689000002	Mini Jumper Pack	1
2006437300	Startup Manual	1
2066437300	Utility CD	1
1700002034	3 COM ports and LPT cable	1
1700002055	ATX power cable	1
1700003931	AT power cable	1
1700060202	6P-6P-6P PS/2 KB/MS	1
1700001267	cable USB x 2/10-2.0 mm 29 cm	1
1700008894	cable serial ATA 7P/7P 30 cm	2
1700008902	Audio Cable IDC-10P 2.0 mm 15 cm	1
1703150102	Wire BIG4P/Series ATA power 15P 10 cm	1
1960004868	Heatsink 39.5x39.6x9.8mm	1
1960004869	Heatsink 22.6x22.6x14.5mm	1

Optional Accessories

Part No.	Description
1701200220	Cable for 2 COM ports 20P 22 cm
1703040157	Wire RS-422/485 4P to D-SUB 15 cm

Embedded OS / API

Embedded OS	Part No.	Description
WinCE	2070005350	CE 5.0 PP PCM-4373 V5.00 ENG
Win XPE	2070005349	PCM-4373 XPE V3.01 ENG/CHT/CHS/ JPN (677.86 MB)
QNX		V6.4.1
Software API	205E000019	

Rear I / O View

Value-Added Software Services

Software API: An interface that defines the ways by which an application program may request services from libraries and/or operating systems. Provides not only the underlying drivers required but also a rich set of user-friendly, intelligent and integrated interfaces, which speeds development, enhances security and offers add-on value for Advantech platforms. It plays the role of catalyst between developer and solution, and makes Advantech embedded platforms easier and simpler to adopt and operate with customer applications.

Software APIs

Control

GPIO

General Purpose Input/Output is a flexible parallel interface that allows a variety of custom connections. It allows users to monitor the level of signal input or set the output status to switch on/off a device. Our API also provides Programmable GPIO, which allows developers to dynamically set the GPIO input or output status.

SMBus

SMBus is the System Management Bus defined by Intel® Corporation in 1995. It is used in personal computers and servers for low-speed system management communications. The SMBus API allows a developer to interface a embedded system environment and transfer serial messages using the SMBus protocols, allowing multiple simultaneous device control.

I²C

I²C is a bi-directional two wire bus that was developed by Philips for use in their televisions in the 1980s. The I²C API allows a developer to interface with an embedded system environment and transfer serial messages using the I²C protocols, allowing multiple simultaneous device control.

Monitor

Watchdog

A watchdog timer (WDT) is a device that performs a specific operation after a certain period of time if something goes wrong and the system does not recover on its own. A watchdog timer can be programmed to perform a warm boot (restarting the system) after a certain number of seconds.

Hardware Monitor

The Hardware Monitor (HWM) API is a system health supervision API that inspects certain condition indexes, such as fan speed, temperature and voltage.

Hardware Control

The Hardware Control API allows developers to set the PWM (Pulse Width Modulation) value to adjust fan speed or other devices; it can also be used to adjust the LCD brightness.

Display

Brightness Control

The Brightness Control API allows a developer to interface with an embedded device to easily control brightness.

Backlight

The Backlight API allows a developer to control the backlight (screen) on/off in an embedded device.

Power Saving

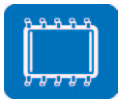
CPU Speed

Make use of Intel SpeedStep technology to reduce power power consumption. The system will automatically adjust the CPU Speed depending on system loading.

System Throttling

Refers to a series of methods for reducing power consumption in computers by lowering the clock frequency. These APIs allow the user to lower the clock from 87.5% to 12.5%.

Software Utilities



BIOS Flash

The BIOS Flash utility allows customers to update the flash ROM BIOS version, or use it to back up current BIOS by copying it from the flash chip to a file on customers' disk. The BIOS Flash utility also provides a command line version and API for fast implementation into customized applications.

Embedded Security ID

The embedded application is the most important property of a system integrator. It contains valuable intellectual property, design knowledge and innovation, but it is easily copied! The Embedded Security ID utility provides reliable security functions for customers to secure their application data within embedded BIOS.

Monitoring

The Monitoring utility allows the customer to monitor system health, including voltage, CPU and system temperature and fan speed. These items are important to a device; if critical errors happen and are not solved immediately, permanent damage may be caused.

eSOS

The eSOS is a small OS stored in BIOS ROM. It will boot up in case of a main OS crash. It will diagnose the hardware status, and then send an e-mail to a designated administrator. The eSOS also provides remote connection: Telnet server and FTP server, allowing the administrator to rescue the system.

Flash Lock

Flash Lock is a mechanism that binds the board and CF card (SQFlash) together. The user can "Lock" SQFlash via the Flash Lock function and "Unlock" it via BIOS while booting. A locked SQFlash cannot be read by any card reader or boot from other platforms without a BIOS with the "Unlock" feature.

Last updated : 9-May-2011