Встраиваемые одноплатные компьютеры Biscuit серии PCM-3000

ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ

PCM-3343

DM&P Vortex86DX-1GHz PC/104 SBC, LCD, LAN, CFC, On board memory

Features

- Ultra low power, fanless DM&P Vortex86DX- 1 GHz and 256 MB on-board DDR2 memory
- CRT+LCD dual video outputs, 24-bit LVDS/TTL support
- Integrated Floating-point Unit
- Supports 2 LAN ports in standard PC/104 96 x 90 mm dimension
- Supports Embedded Software APIs and Utilities

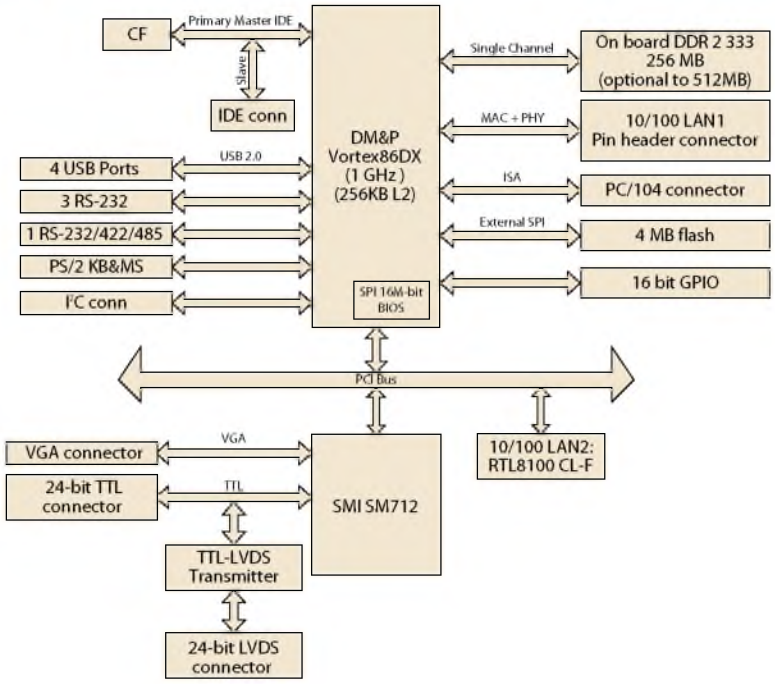
Software APIs: Watchdog, I²C, Brightness, GPIO, Backlight On/Off

Utilities: BIOS flash, eSOS, Flash Lock, Embedded Security ID

Specifications

Processor System	CPU	DM&P Vortex86DX 1.0 GHz, supports Floating Point Unit (FPU)
	Frequency	1.0 GHz
	L2 Cache	256 KB
	System Chipset	DM&P Vortex86DX- 1 GHz
	BIOS	Award integrated 16 Mbit ROM in SOC
Memory	Technology	DDR2 333 MHz SDRAM on board
	Max. Capacity	512 MB
	On board memory	On board 256 MB (512 MB supported by request)
Display	Chipset	SMI SM712
	VRAM	4 MB internal memory
	Graphic Engine	62.5 MHz single clock/cycle engine (EM+) 86 MHz single clock/cycle engine (EM4+) Designed to accelerate DirectDraw
	LVDS	Supports up to 1024 x 768 @ 24-bit LVDS LCD Panel
	CRT	Supports up to 1024 x 768 @ 85 Hz
	TTL LCD	Supports up to 1024 x 768 @ 24 bit TFT LCD Panel
	Dual Display	CRT+TTL, CRT+LVDS
Ethernet	Speed	10/100 Mbps
	Controller	LAN1: FE LAN on Vortex86DX SOC LAN2: FE LAN RTL8100C-LF
	Connector	Pin header
Watchdog Timer		System reset Software programmable from 30.5μ sec. to 512 sec. x 2 sets
Storage	CompactFlash	Compact Flash socket(Type I/II),shared with primary IDE
	IDE	1
	SPI Flash	Optional onboard 4 MB SPI Flash Disk (Support by request for boot device or storage on DOS OS)
Internal I/O	USB	4 x USB 2.0
	Serial	3 RS-232, 1 RS-232/422/485
	IDE	1
	KB/Mouse	1
	GPIO	16-bit general purpose input/output
	I²C	1
Expansion	PC/104 slot	1
Power	Power Type	AT
	Power Supply Voltage	5V only to boot up (12 V is optional for LCD inverter and add on card)
	Power Consumption (Typical: Idle in WinXPe)	0.74 @ 5 V (Vortex86DX 1 GHz, DDR2 667 256 MB)
	Power Consumption (Max, test in passmark burn-in program)	0.85 A @5 V (Vortex86DX 1 GHz, DDR2 667 256 MB)
	Battery	3 V/210 mAH
Environment	Operation	0 ~ 60° C (32 ~ 140° F) (operation humidity: 40° C @ 85% RH non-condensing)
	Non-Operation	-40° C ~ 85° C and 60° C @ 95% RH non-condensing
Physical Characteristics	Dimensions (L x W)	96 x 90 mm (3.8" x 3.5")
	Weight	0.097 kg (0.214lb)

Board Diagram



Ordering Information

Model	CPU	L2 Cache	Memory	CRT	LVDS	TTL	LAN	USB 2.0	RS-232	RS-232 /422/485	IDE	KB/MS	External SPI flash	Thermal solution	Expansion	Operation Temp
PCM-3343L-256A1E	DM&P Vortex86DX 1 GHz	256 KB	Onboard 256M	-	-	-	1 FE	2	1	1	1	Yes	-	Passive	PC/104	0 ~ 60° C
PCM-3343F-256A1E	DM&P Vortex86DX 1 GHz	256 KB	Onboard 256M	Yes	Yes	1	2 FE	4	3	1	1	Yes	-	Passive	PC/104	0 ~ 60° C
PCM-3343Z-256A1E	DM&P Vortex86DX 800 MHz	256 KB	Onboard 256M	Yes	Yes	1	2 FE	4	3	1	1	Yes	-	Passive	PC/104	-20 ~ 80° C
PCM-3343Z2-256A1E	DM&P Vortex86DX 800 MHz	256 KB	Onboard 256M	Yes	Yes	1	2 FE	4	3	1	1	Yes	-	Passive	PC/104	-40 ~ 85° C

Packing List

Part No.	Description	Quantity
	PCM-3343 SBC	
	Startup Manual	
	Utility CD	
1700060202	CABLE 6P-6P-6P PS/2 KB & MOUSE 20 cm	x 1
1703060053	PS2 Cable 6P (MINI-DIN)-6P (Wafer 2.0 mm) 6 cm	x 1
1703100260	USB cable 2 port 2.0 mm pitch w/ bracket 26 cm	x 1
1701200220	RS-232 x 2 ports 2.0mm pitch 22 cm	x 1
1703040157	RS-422/485 W/D-SUB COM 4P 15 cm	x 1
1700000898	VGA cable D-SUB 15P(F)/12P-1.25 mm 15 cm	x 1
1700017863	LAN cable RJ45/2 x 5P-2.0 15 cm	x 1
9660104000	PC/104 screw and copper post package	x 1

Optional Accessories

Part No.	Description
1701440350	IDE cable 44P/44P/44P 35 cm

Embedded OS/API

Embedded OS/API	Part No.	Description
WinCE 5.0	2070009763	CE 5.0 Pro PCM-3343 V1.3 ENG
WinCE 6.0	2070009536	CE 6.0 Pro PCM-3343 V1.3 ENG
Win XPE	2070009528	XPE WES2009 Vortex86DX V4.0 ENG
	2070009529	XPE WES2009 Vortex86DX V4.0 MUI24
Software API	205E343000	SUSI 3.0 SW API for PCM-3343 B:20091209 XP

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.

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.

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.

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

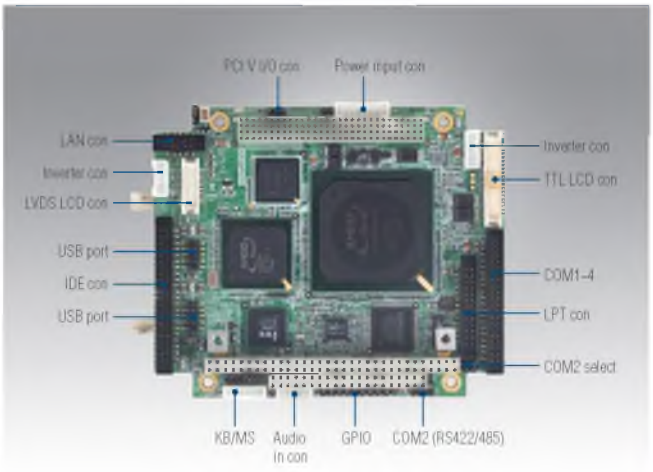
The eSOS is a small OS stored in BIOS ROM. It will boot up in case of a main OS crash. It will diagnose the hardware status, and then send an e-mail to a designated administrator. The eSOS also provides remote connection: Telnet server and FTP server, allowing the administrator to rescue the system.

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.

PCM-3353

AMD LX800 PC/104-Plus CPU Module



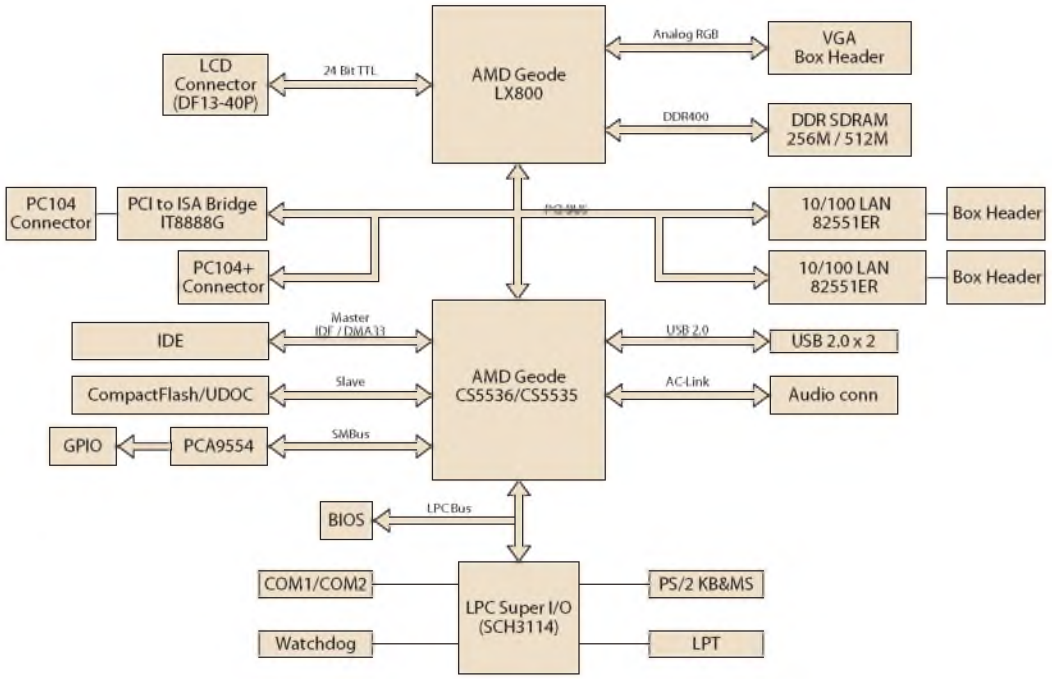
Features

- AMD low power LX800/500 MHz Processor
- Supports DDR memory
- 18/24-bit TFT LCD interface
- 18-bit LVDS LCD interface
- 10/100 Mbps Ethernet
- Supports three RS-232, one RS-232/422/485, and four USB 2.0 ports
- PC/104-Plus expansion connector
- Supports AC97 2.0 compliant Audio

Specifications

Processor System	CPU	AMD Geode™ LX800, 500 MHz
	L2 Cache	128 KB
	Chipset	AMD Geode LX800
	BIOS	Award 4-Mbit
Memory	Technology	DDR 333/400 MHz
	Max. Capacity	1 GB
	Socket	1 x 200-pin SODIMM
SSD	CompactFlash	Card Type I
I/O Interface	LPT	1
	RS-232	3
	RS-232/422/485	1
	K/B	1
	Mouse	1
	USB	4 x USB 2.0
	Audio	AC97, Line-in, Line-out, Mic-in
	GPIO	8-bit general purpose Input/Output
EIDE	Mode	UDMA 33
	Channel	1
Expansion Slot	PCI/104-Plus	1
Ethernet	Speed	10/100 Mbps
	Controller	Intel 82551ER
	Interface	1 x RJ-45 by cable
Display	Controller	AMD Geode LX800
	VRAM	Optimized Shared Memory Architecture up to 64 MB system memory
	TTL LCD	1 x 24-bit TTL
	LVDS LCD	1 x 18-bit LVDS
	Dual Simultaneous Display	CRT + TTL, CRT + LVDS
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Power	Power Type	AT
	Power Supply Voltage	5V only to boot up (12 V is optional for LCD inverter and add on card)
	Power Consumption: Typical (WinXP Idle Mode)	+5 V @ 1.35 A, +12 V @ 0.1 A
	Power Consumption: Max. Test in HCT	+5 V @ 1.51 A, +12 V @ 0.1 A
	Power Management	APM1.2
	Battery	Lithium 3 V / 196 mAH
Watchdog Timer	Output	System reset
	Interval	Programmable 1 ~ 255 sec
Physical Characteristics	Dimensions (L x W)	96 x 115 mm (3.8" x 4.5")
	Weight	0.162 kg (0.357 lb)) (with heat-sink)

Board Diagram



Ordering Information

Part No.	CPU	Chipset	CRT	TTL	LVDS	LAN	USB2.0	RS-232	RS232/422/485	LPT/KB/MS	Audio	PC/104+ connector	Thermal Solution	Operating Temp.	Embedded OS
PCM-3353F-L0A1E	AMD LX800	CS5536	Yes	18/24-bit	18-bit	1 FE	4	3	1	Yes	Yes	Yes	Passive	0 ~ 60° C	Optional
	AMD LX800	CS5536	Yes	18/24-bit	18-bit	1 FE	4	3	1	Yes	Yes	Yes	Passive	-20 ~ 80° C	Optional
	AMD LX800	CS5536	Yes	18/24-bit	18-bit	1 FE	4	3	1	Yes	Yes	Yes	Passive	-40 ~ 85° C	Optional

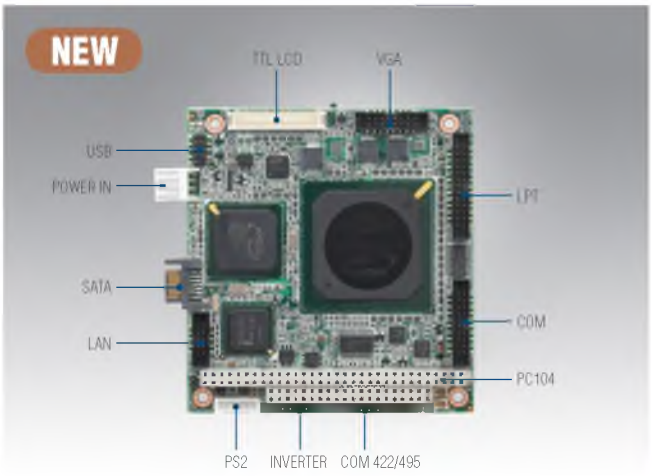
Note: For wide temperature, please contact sales rep.

Packing List

Part No.	Description	Quantity
	PCM-3353 SBC	1
1700003491	AT Power cable	1
1700000918	Audio cable	1
1701400181	Four COM cable	1
1703040157	RS-422/485 COM cable	1
1703060053	Keyboard/Mouse cable	1
1700060202	Y cable (for KB/MS extension)	1
1701100202	Ethernet RJ-45 Conn. conversion cable	1
1700260250	LPT port cable	1
1701440350	IDE cable 44P/44P/44P	1
1700000898	VGA cable	1
1703100121	USB cable (bracket type with two USB ports)	2
	Startup manual	1
	CD-ROM (Manual, Driver, Utility)	1

PCM-3355

AMD LX800/LX600 PC/104 CPU Module



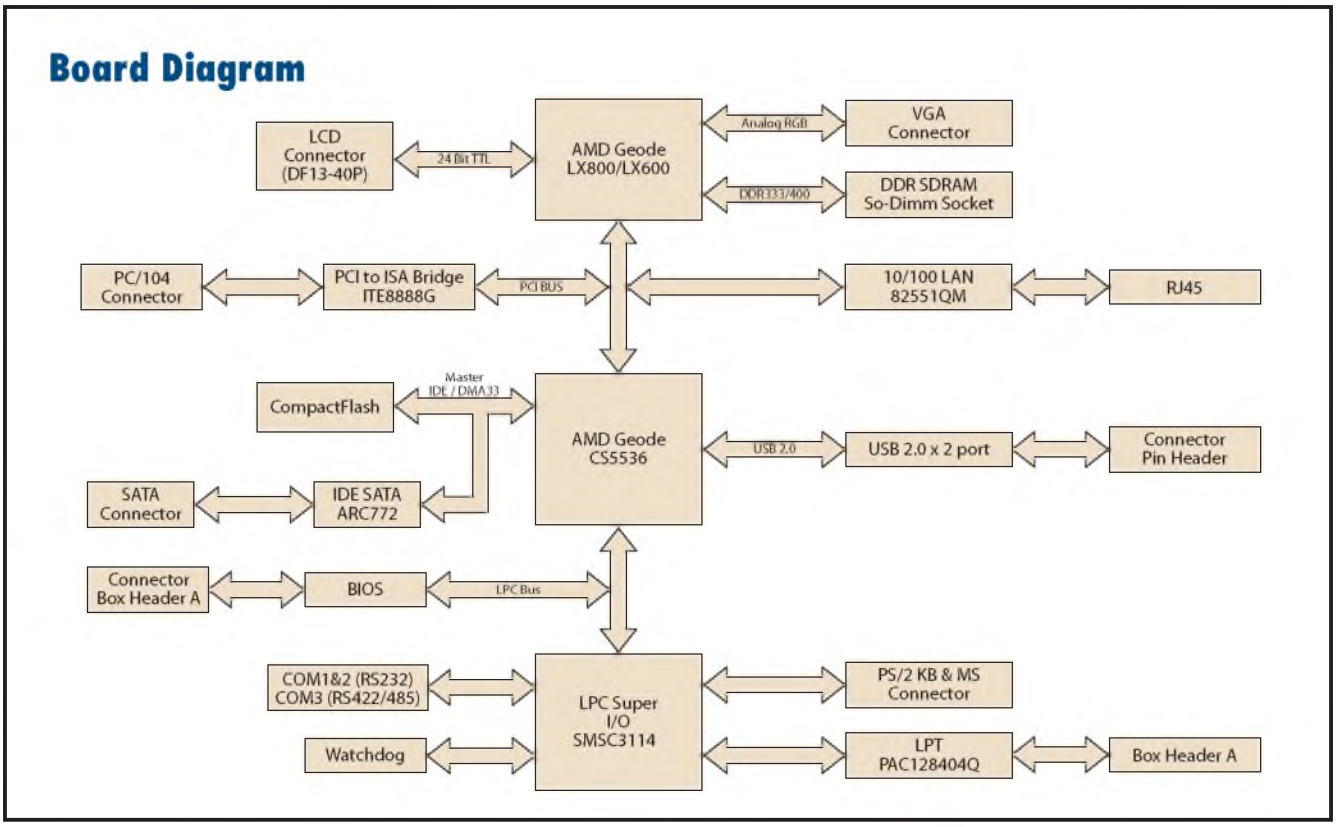
Features

- AMD low power LX800/500 MHz and LX600/366 MHz Processor
- Supports DDR memory
- 24-bit TFT LCD interface
- 10/100 Mbps Ethernet
- Supports two RS-232, one RS-422/485, and two USB 2.0 ports
- PC/104 expansion connector
- Supports Serial ATA Interface

Specifications

Processor System	CPU	AMD Geode™ LX800, 500 MHz	AMD Geode™ LX600, 366 MHz
	L2 Cache	128 KB	128 KB
	Chipset	AMD Geode LX800	
	BIOS	Award 4-Mbit	
Memory	Technology	DDR 333/400 MHz	
	Max. Capacity	1 GB	
	Socket	1 x 200-pin SODIMM	
SSD	CompactFlash	Card Type I	
I/O Interface	LPT	1	
	RS-232	2	
	RS-422/485	1	
	K/B	1	
	Mouse	1	
	USB	2 x USB 2.0	
	Audio	-	
	GPIO	-	
SATA	Max. Data Transfer Rate	66 MB/s (Transfer from IDE)	
	Channel	1	
Expansion Slot	PC/104	1	
Ethernet	Speed	10/100 Mbps	
	Controller	Intel 82551QM	
	Interface	1 x RJ-45 by cable	
Display	Controller	AMD Geode LX800	
	VRAM	Optimized Shared Memory Architecture up to 64 MB system memory	
	TTL LCD	1 x 24-bit TTL	
	Dual Simultaneous Display	CRT + TTL	
Environment	Operating Temperature	0 ~ 60° C (32 ~ 140° F)	
	Operating Humidity	0% ~ 90% relative humidity, non-condensing	
Power	Power Type	AT	
	Power Supply Voltage	5V only to boot up (12 V is optional for LCD inverter and add on card)	
	Power Consumption: Typical (WinXP Idle Mode)	+5 V @ 1.35 A, +12 V @ 0.1 A	
	Power Consumption: Max, Test in HCT	+5 V @ 1.51 A, +12 V @ 0.1 A	
	Power Management	APM1.2	
	Battery	Lithium 3 V / 210 mAH	
Watchdog Timer	Output	System reset	
	Interval	Programmable 1 ~ 255 sec	
Physical Characteristics	Dimensions (L x W)	96 x 90 mm (3.8" x 3.5")	
	Weight	0.162 kg (0.357 lb) (with heat-sink)	

Board Diagram



Ordering Information

Part No.	CPU	Chipset	Memory	TTL	SATA	LAN	USB2.0	RS-232	RS232/422/485	LPT/KB/MS	Audio	PC/104 connector	Thermal Solution	Operating Temp.	Embedded OS
PCM-3355F-L0A1E	AMD LX800	CS5536	DIMM	24-bit	Yes	1 FE	2	1	1	Yes	-	Yes	Passive	0 ~ 60° C	Optional
PCM-3355L-J0A1E	AMD LX600	CS5536	DIMM	24-bit	No	1 FE	2	1	1	Yes	-	Yes	Passive	0 ~ 60° C	Optional
PCM-3355Z-512LA1E	AMD LX800	CS5536	512MB bundle	24-bit	Yes	1 FE	2	1	1	Yes	-	Yes	Passive	-20 ~ 80° C	Optional
PCM-3355Z2-512LA1E	AMD LX800	CS5536	512MB bundle	24-bit	Yes	1 FE	2	1	1	Yes	-	Yes	Passive	-40 ~ 85° C	Optional

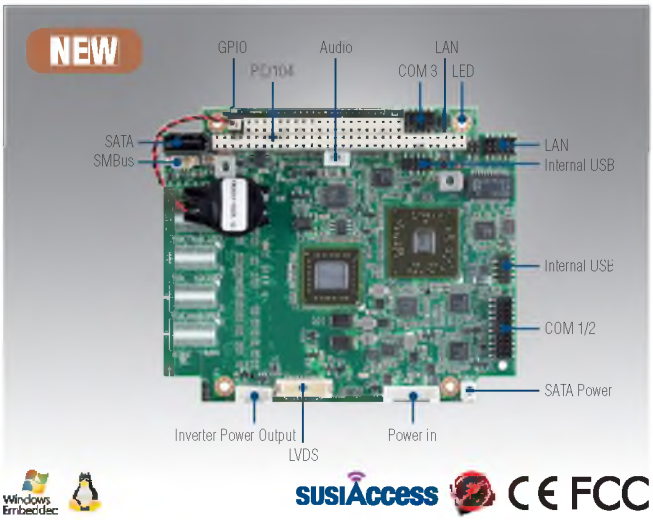
Note: For wide temperature, please contact sales rep.

Packing List

Part No.	Description	Quantity
	PCM-3355 SBC	1
1700008894	SATA cable	1
1703060053	Keyboard/Mouse cable	1
1700060202	Y cable (for KB/MS extension)	1
1700005158	Ethernet RJ-45 Conn. conversion cable	1
1700260250	LPT port cable	1
1701160150	VGA cable	1
1703100121	USB cable (bracket type with two USB ports)	2
1703040157	RS-422/485 COM cable	1
1701200220	RS-232 COM cable	1
	Startup manual	1
	CD-ROM (Manual, Driver, Utility)	1

PCM-3356

AMD T16R PC/104 SBC, VGA, LVDS, LAN, USB, COM, SATA



Features

- AMD® G-Series™ Processor T16R 615 MHz
- Supports up to 4 GB DDR3 SODIMM
- Supports 18-bit LVDS and VGA
- Supports 3 COM ports, 4 USB 2.0 ports, dual GbE and audio codec
- Supports extended temp: -40 ~ 85° C
- Expansion: PC/104 and half size mini PCIe
- Supports SUSIAccess and Embedded Software APIs

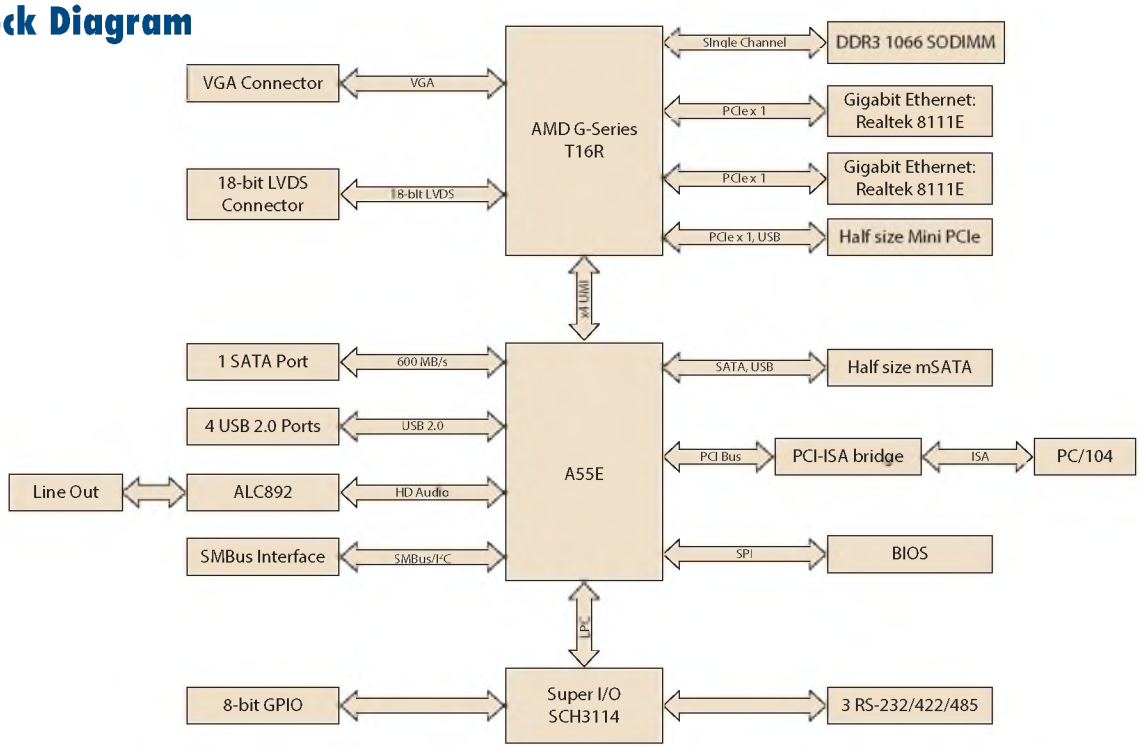
Software APIs: Watchdog, SMBus, H/W Monitor, GPIO, Brightness Control, Backlight On/Off

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU	AMD® G-Series™ Processor T16R 615MHz
	Frequency	615 MHz
	L2 Cache	512 KB
	System Chipset	AMD G-Series + A55E
	BIOS	AMI 32-Mbit
Memory	Technology	DDR3 1066 MHz
	Max. Capacity	4 GB
	Socket	1 x 204-pin SODIMM
Display	Chipset	AMD G-Series
	Graphics Engine	DirectX 11 graphics with UVD 3.0, Open CL 1.1, Open GL 4.0 Hardware decode (UVD 3) for H.264, VC-1 and MPEG2
	VRAM	Optimized shared memory Architecture up to 384 MB system memory
	LVDS	Supports up to 1280 x 800 @ 18-bit LVDS
	VGA	Supports up to 1920 x 1200 at 85Hz
	Dual Display	LVDS + VGA
Ethernet	Interface	10/100/1000 Mbps
	Controller	LAN1: Realtek RTL8111E-VB-GR LAN2: Realtek RTL8111E-VB-GR
	Connector	Box header
Audio	Chipset	Realtek ALC892, High Definition Audio (HD), Line out
WatchDog Timer		Output System reset, Programmable 1 ~ 255 sec
Internal I/O	SATA	1 x SATA 2.0
	mSATA	1 (Half size)
	USB	4 x USB 2.0
	Seriel	3 x RS-232/422/485 with auto flow control (ESD protection: Air gap ±15kV, Contact ±8kV)
	SMBUS	1
	GPIO	8-bit GPIO
Expansion	PC/104 Slot	1
	Mini PCI Express	1 (Half size)
Power	Power Type	AT/ATX
	Power Supply Voltage	5V only to boot up (12 V is optional for LCD inverter and add on card)
	Power Consumption (Typical)	1.38 A @ +5 V (6.9 Watts)
	Power Consumption (Max, test in HCT)	1.65 A @ +5 V (8.25 W)
	Power Management	ACPI 4.0
	Battery	Lithium 3 V / 210 mAH
Environment	Operation	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 85% RH non-condensing)
	Non-Operation	-40° C ~ 85° C and 60° C @ 95% RH non-condensing
Physical Characteristics	Dimensions (L x W)	96 x 115 mm (3.8" x 4.5")
	Weight	0.590 kg (1.30 lb)
	Height	Top side:19.5 mm (F), Bottom side:10.6 mm

Block Diagram



Ordering Information

Part Number	CPU	Memory	VGA	LVDS	GbE	USB 2.0	RS-232/422/485	Audio	mSATA	miniPCIe	Expansion	Thermal Solution	Operating Temp
PCM-3356F-M0A1E	T16R	SODIMM	1	18-bit	2	4	3	Yes	1	1 (half size)	PC/104	Passive	0 ~ 60° C
PCM-3356Z-2GM0A1E	T16R	2GB Bundle	1	18-bit	2	4	3	Yes	1	1 (half size)	PC/104	Passive	-20 ~ 80° C
PCM-3356Z2-2GM0A1E	T16R	2GB Bundle	1	18-bit	2	4	3	Yes	1	1 (half size)	PC/104	Passive	-40 ~ 85° C

Packing List

Part No.	Description	Quantity
	PCM-3356 SBC	
	Startup Manual	
1700018799	M Cable SATA 7P/SATA 7P 90/180 25cm	1
1700000898	VGA cable D-SUB 15P(F)/12P-1.25MM 14CM x1	1
1703100121	2*5P-2.0/USB-A(F)*2 12CM x2	2
1701200220	COM RS-232 Cable 2*10P-2.0/D-SUB 9P(M)*1 22CM x1	1
1700019414	COM RS-422/485 Cable 2*5P-2.0/D-SUB 30CM x1	1
1700003491	ATX/AT power cable 1*8P-2.0/B4P-5.08*2 15cm x1	1
1700018259	SATA power cable for 5V connector, 1*5P-3.81/1*2P-2.0 20CM C=R,B	1
1700020638-01	Audio cable 1*3P-2.0/Phone JACK 20cm x1	1
1700017863	LAN cable RJ45/2*5P-2.0 15cm x2	2
1960058627T001	Heatsink for PCM-3356 (105 x 77.97 x 19.5 mm)	1
9689000002	mini jumper pack (black) x1	1
9660104000	PC/104 screw and copper post package x1	1

Optional Accessories

Part No.	Description
165313222B	PC/104 connector 64-pin (Long pin)
165312022B	PC/104 connector 40-pin (Long pin)
1703150102	SATA Power cable B4P-5.08/SATA 15P 10cm x1

Embedded OS/API

Embedded OS/API	Part No.	Description
WES7	2070012057	image WES7E PCM-3356 V5.1.5
Win XPE	2070012056	image WES2009 PCM-3356 V4.4 24MUI; SA
WinCE 6.0		WinCE 6.0
WinCE 7.0	2070012240	image WEC7 PCM-3356 V1.0 Eng
Linux		Ubuntu 12.04
Software API		SUSI V3.0

PCM-3362

Intel® Atom N450 PC/104-Plus SBC, CRT, LVDS, LAN, USB, COM, SATA, On-board Flash

Features

- Intel® Atom N450 1.67 GHz Processor and DDR2 667 SDRAM up to 2 GB
- Supports extended temperature -40 ~ 85° C
- Standard 96 x 90 mm dimension and PC/104-Plus expansion connector
- On board 2 GB flash (4 GB optional)
- Supports embedded software APIs and Utilities
- Software API: Watchdog/GPIO/Hardware Monitor/I²C/Brightnes/Backlight on/off/Speedstep/throttling
- Software Utility: Monitoring/eSOS/Embedded Security ID

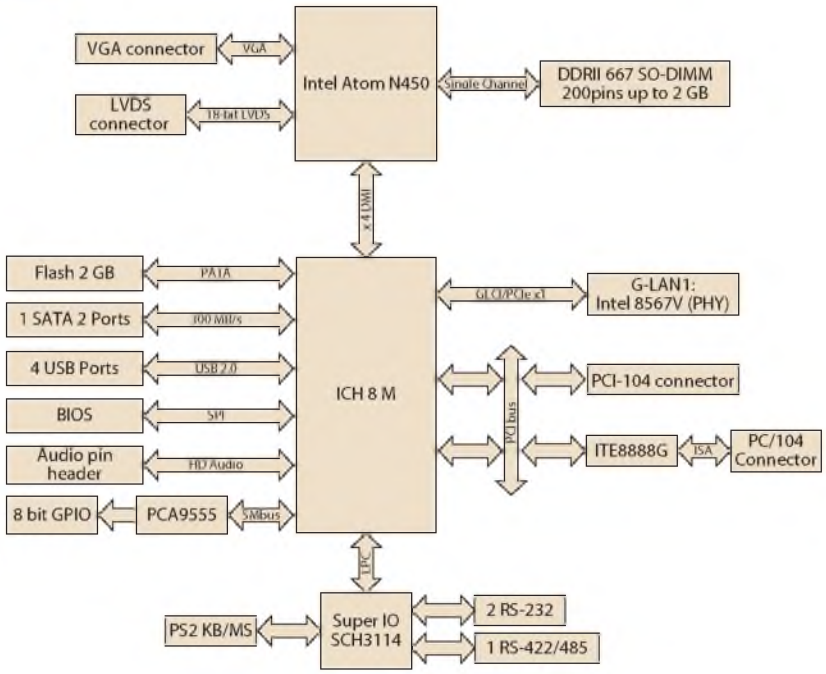
Software APIs: Watchdog, I²C, Brightness, H/W Monitor, GPIO, Backlight On/Off

Utilities: Monitoring, eSOS, Embedded Security ID

Specifications

Processor System	CPU	Intel Atom N450 1.67 GHz
	Front Side Bus	667 MHz
	Frequency	1.67 GHz
	L2 Cache	512 KB
	System Chipset	Intel Atom N450 + ICH8M
	BIOS	AMI 16 Mbit
Memory	Technology	DDR2 667 MHz
	Max. Capacity	2 GB
	Socket	1 x 200-pin SODIMM
Display	Chipset	Intel Atom N450 1.67 GHz
	VRAM	Shared system memory up to 224 MB
	Graphic Engine	Intel Gen 3.5 DX9, MPEG2 Decode in HW Embedded Gen3.5+ GFX Core
	LVDS	Singe channel 18-bit LVDS up to WXGA 1366 x 768
	CRT	Supports up to SXGA 1400 x 1060 @ 60 Hz
	Dual Display	CRT+LVDS
Ethernet	Speed	10/100/1000 Mbps
	Controller	Intel 82567V
	Connector	Pin header
WatchDog Timer		Output System reset Programmable 1 ~ 255 sec
Storage	SATA	1
	On board Flash	2 GB
Internal I/O	USB	4 x USB 2.0
	Seriel	2 RS-232, 1 RS-422/485
	KB/Mouse	1
	GPIO	8-bit general purpose input/output
	I²C	1
Expansion	PC/104-Plus slot	1
Power	Power Type	AT/ATX
	Power Supply Voltage	5V only to boot up (12 V is optional for LCD inverter and add on card)
	Power Consumption (Typical)	+5 V @ 2 A, +12 V @ 5mA
	Power Consumption (Max, test in HCT)	+5 V @ 2.37 A, +12 V @ 7mA
	Battery	Lithium 3 V / 210 mAH
Environment	Operation	0 ~ 60° C (32 ~ 140° F) (operation humidity: 40° C @ 85% RH Non-Condensing)
	Non-Operation	-40° C ~ 85° C and 60° C @ 95% RH Non-Condensing
Physical Characteristics	Dimensions (L x W)	96 x 90 mm (3.8" x 3.5")
	Weight	0.162 kg (0.357 lb) (with heat-sink)

Board Diagram



Ordering Information

Part No.	CPU	Chipset	On board flash	CRT	TTL	LVDS	LAN	USB2.0	RS-232	RS-422/485	Operating Temp.	Embedded OS
PCM-3362N-S6A1E	Atom N450	ICH8M	2 GB	Yes	-	18-bit	1 GbE	4	2	1	0 ~ 60° C	Optional
PCM-3362Z-1GS6A1E	Atom N450	ICH8M	2 GB	Yes	-	18-bit	1 GbE	4	2	1	-20 ~ 80° C	Optional
PCM-3362Z2-1GS6A1E	Atom N450	ICH8M	2 GB	Yes	-	18-bit	1 GbE	4	2	1	-40 ~ 85° C	Optional

Packing List

Part No.	Description	Quantity
	PCM-3362 SBC	
	Startup Manual	
	Utility CD	
1700000898	VGA cable D-SUB 15P(F)/12P-1.25 mm15 cm	x1
1700003491	AT power cable 1 x 8P-2.0/B4P-5.08 x 2 15 cm	x1
1700060202	Cable 6P-6P-6P PS/2 KB & Mouse 20 cm	x1
1703040157	RS-422/485 W/D-SUB COM 4P 15 cm	x1
1703060053	PS2 Cable 6P (MINI-DIN)-6P (Wafer 2.0 mm) 6 cm	x1
1700002332	ATX power cable 20P-13P/8P/3P/3P 13 cm	x1
1703100260	USB cable 2port 2.0 mm pitch w/ bracket 26 cm	x1
1700071000	SATA data cable 7p 100 cm	x1
1703150102	SATA power cable B4P-5.08/SATA 15P 10 cm	x1
1701200220	RS-232 x 2 ports 2.0 mm 22 cm	x1
1700017863	LAN cable RJ45/2 x 5P-2.0 15 cm	x1
9660104000	PC/104 screw and copper post package	x1

Optional Items

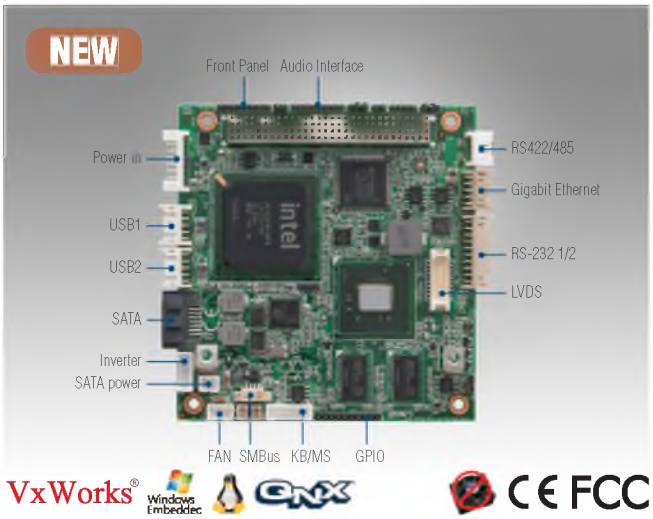
Part No.	Description
1960047106T001	PCM-3362 heatspreader

Embedded OS

Part No.	Description
WinCE 6.0	TBD
Win XPE	2070009030: XPE WES2009 Luna Pier V4.0 ENG 2070009031: XPE WES2009 Luna Pier V4.0 MUI24
SUSI	205E362000: SUSI 3.0 SW API for PCM-3362 B:20091015 XP

PCM-3363

Intel® Atom™ N455/D525 PCI-104 SBC, CRT, LVDS, Ethernet, USB, COM, SATA, Onboard Memory



VxWorks® Windows Embedded QNX CE FCC

Features

- Intel® Atom N455 1.66 GHz Single Core/D525 Dual Core 1.8 GHz Processor
- Supports extended temperature -40 ~ 85° C
- 24-bit LVDS support and onboard 1 GB DDR3 800 MHz memory
- HALT tested and 100% locked connector
- Supports Lite iManager and embedded software APIs and Utilities

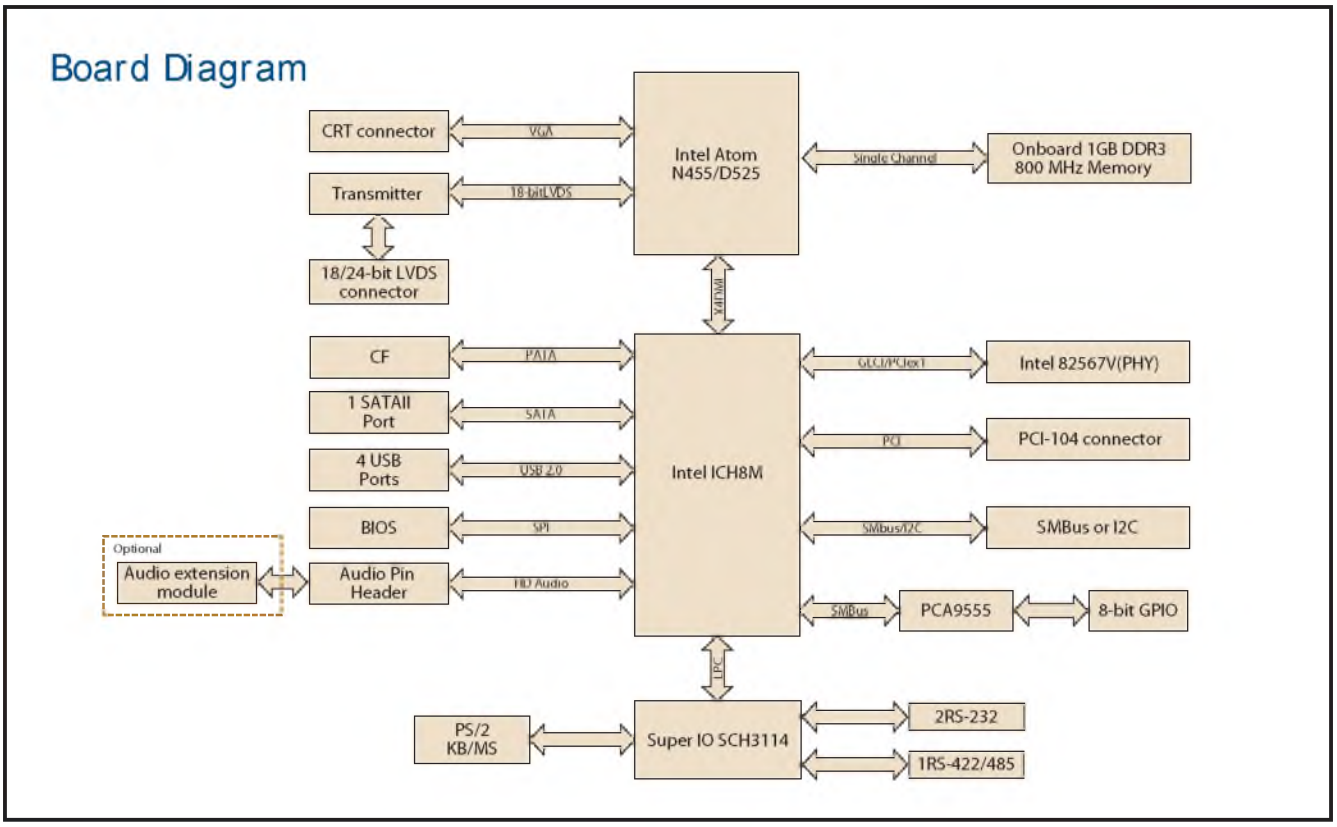
Software APIs: Watchdog, SMBus, I²C, Brightness, H/W Monitor, GPIO, Backlight On/Off, CPU Speed, System Throttling

Utilities: Monitoring, eSOS, Embedded Security ID, Flash Lock

Specifications

Processor System	CPU	Intel Atom N455 Single Core 1.66 GHz Intel Atom D525 Dual Core 1.8 GHz
	Front Side Bus	667/800 MHz
	Frequency	1.66 GHz/1.8 GHz
	L2 Cache	512 KB/1 MB
	System Chipset	Intel Atom N455/D525 + ICH8M
	BIOS	AMI 16 Mbit
Memory	Technology	DDR3 800 MHz
	Max. Capacity	1 GB
	On board memory	1GB DDR3 800 MHz Memory
Display	Chipset	Intel Atom N455/D525
	VRAM	Shared system memory up to 224 MB
	Graphics Engine	Intel Atom N455 Single Core: Gen 3.5 graphic core, DX9 compliant, MPEG2 Hardware Acceleration, 200 MHz Intel Atom D525 Dual Core: Gen 3.5 graphic core, DX9 compliant, MPEG2 Hardware Acceleration, 400 MHz
	LVDS	Singe channel 18/24-bit single channel LVDS up to 1366 x 768 (WXGA)
	VGA	Intel Atom N455 Single Core up to 1400 x 1050(SXGA) Intel Atom D525 Dual Core up to 2048 x 1536
	Dual Display	CRT+LVDS
Ethernet	Interface	10/100/1000 Mbps
	Controller	ICH8M + Intel 82567V (PHY), support Wake-on-LAN
	Connector	Locked Box Header
WatchDog Timer		Output System Reset, Programmable counter from 1 ~ 255 minutes/ seconds
Storage	CompactFlash	1 CompactFlash socket (Type I/II)
	SATA	SATAII, up to 3.0 GB/s (300 MB/s)
Internal I/O	USB	4 x USB 2.0
	Serial	2 RS-232 from COM1/2, 1 RS-422/485 from COM3 (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV)
	SMBus	1 (allow to configure to I²C by customer's request)
	Keyboard/Mouse	1
	GPIO	8-bit general purpose input/output
	Audio	Intel High Definition audio interface (requires an audio extension module P/N: PCA-AUDIO-HDA1E)
Expansion	PCI-104 slot	1
Power	Power Type	AT
	Power Supply Voltage	5 V + 5% only to boot up (12 V is optional for LCD inverter and add on card)
	Power Management	ACPI
	Power Consumption (Typical)	N455: 1.404A @ +5V; D525: 1.85 A @ +5V
	Power Consumption (Max, test in HCT)	N455: 2.365A @ +5V; D525: 2.695 A @ +5V
	Battery	Lithium 3 V / 210 mAH
Environment	Operational	0 ~ 60° C (32 ~ 140° F) (Operational humidity: 40° C @ 95% RH Non-Condensing)
	Non-Operational	-40° C ~ 85° C and 60° C @ 95% RH Non-Condensing
Physical Characteristics	Dimensions (L x W)	96 x 90 mm (3.8" x 3.5")
	Weight	0.162 kg (0.357 lb)) (with heat-sink)
	Height	Top Side: 14.4 mm, 19.4 mm (D, Z & Z2); Bottom Side: 10.6 mm

Board Diagram



Ordering Information

Part Number	CPU	L2 Cache	Memory	CRT	LVDS	GbE	USB 2.0	RS-232	RS-485	Thermal Solution	Operating Temp
PCM-3363N-1GS6A1E	Atom N455 (1.66 GHz)	512 KB	Onboard 1 GB DDR3	1	18/24-bit	1	4	2	1	Passive	0 ~ 60° C
PCM-3363D-1GS8A1E	Atom D525 (1.8 GHz)	1 MB	Onboard 1 GB DDR3	1	18/24-bit	1	4	2	1	Active	0 ~ 60° C
PCM-3363Z-1GS6A1E	Atom N455 (1.66 GHz)	512 KB	Onboard 1 GB DDR3	1	18/24-bit	1	4	2	1	Passive	-20 ~ 80° C
PCM-3363Z2-1GS6A1E	Atom N455 (1.66 GHz)	512 KB	Onboard 1 GB DDR3	1	18/24-bit	1	4	2	1	Passive	-40 ~ 85° C

Packing List

Part No.	Description	Quantity
	PCM-3363 SBC	
	Startup Manual	
	Utility CD	
1700000898	VGA cable D-SUB 15P(F)/12P-1.25 MM 15 cm	1
1700003491	AT power cable 1*8P-2.0/B4P-5.08*2 15 cm	1
1700060202	Cable 6P-6P-6P PS/2 KB & Mouse 20cm	1
1703040157	RS-422/485 W/D-SUB COM 4P 15 cm	1
1703060053	PS2 Cable 6P (MINI-DIN)-6P (Wafer 2.0 mm) 6 cm	1
1700019000	USB cable 2-port 2.0 mm pitch w/ bracket 26 cm (w/ locked)	1
1700008941	SATA data cable 7p 32 cm (w/ locked)	1
1703150102	SATA power cable B4P-5.08/SATA 15P 10 cm	1
1700018999	RS232 x2 ports 2.0 mm 22 cm (w/ locked)	1
1700019001	LAN cable RJ-45/2*5P-2.0 15 cm (w/ locked)	1
9660104000	PC/104 screw and copper post package	1
1960051405N001	Heatsink with FAN for PCM-3363D only (79.66 x 77.97 x 17.22 mm)	1
1960051403N001	Heatsink for PCM-3363N only (79.66 x 77.97 x 12.22 mm)	1
1960051404N001	Heatsink for PCM-3363Z series only (79.66 x 77.97 x 17.22 mm)	1

Optional Accessories

Part No.	Description
1960051701N001	Heat spreader (79.66 x 77.98 x 10.32 mm) for PCM-3363
1653130421	PCI-104 connector 120-pin (Long pin)
PCA-AUDIO-HDA1E	Audio Extension module with bracket
1700018427	Audio cable connecting PCM-3363 and PCA-AUDIO-HDA1E
1700018259	SATA power cable for onboard connector (5V only)

Embedded OS/ API

Embedded OS/API	Part No.	Description
WinCE		CE 6.0 R3
Win XPE	2070009030	XPE WES2009 Luna Pier V4.0 ENG
	2070009031	XPE WES2009 Luna Pier V4.0 MUI24
QNX		V6.5
Linux		Ubuntu 10.04
VxWorks		V6.8
Software API		SUSI V3.0

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.

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.

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.

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.

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