
Em104-a5362

PC/104 CPU Module

Quick Installation Guide

Version 1.2

Form Factor
<i>PC/104 CPU module</i>

CPU
<i>AMD Geode™ LX800</i>

Chipset
<i>AMD LX800 CS5536</i>

Video
<i>Analog RGB/ TTL LCD</i>

LAN
<i>1 x Realtek 8100C 10/100 Base-T Ethernet</i>

I/O
<i>PC104 / USB / IDE / COM / LPT / FDD</i>

◆ Technical Support

If you have any technical difficulties, please consult the user's manual first at:
<ftp://ftp.arbor.com.tw/pub/manual>

Please do not hesitate to call or e-mail our customer service when you still can not find out the answer.

<http://www.arbor.com.tw>

E-mail: info@arbor.com.tw

Declaration of Conformity

FCC Class A

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions : (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



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4041536200120P

Packing List

Before you begin installing your single board, please make sure that the following materials have been shipped:



1 x Em104-a5362



1 x Driver CD



1 x Quick Installation Guide

If any of the above items is damaged or missing, contact your vendor immediately.

Ordering Information

Em104-a5362VL/ LX800	PC/104 CPU module with AMD Geode™ LX800 500MHz, CRT/LCD & LAN
CBK-09-5362-00	Cable Kit 1 x USB Cable 2 x COM Port Cables 1 x FDD Flat Cable 1 x IDE Cable 1 x Parallel Port Cable 1 x LAN Cable 1 x VGA Cable 1 x KB/MS Cable

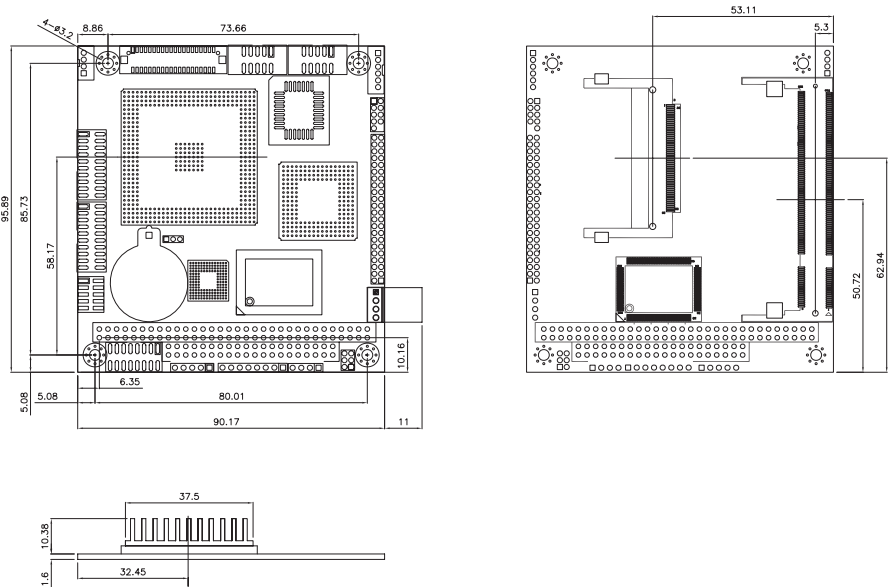
Specifications

Form Factor	PC/104 CPU module
Processor	AMD Geode™ LX800
Cache	64K L1 cache and 128K L2 cache
Chipset	AMD LX800 + CS5536
System Memory	1 x 200 pins DDR SO-DIMM up to 1GB SDRAM
VGA/ LCD Controller	AMD Geode LX series CPU integrated VGA controller with 2D Engine (Shared memory Max. 64MB)
Ethernet	Realtek 8100CL 10/100 base-T Ethernet
LCD	Supports 18/24-bit TTL up to 1280 x 1024
I/O Chips	W83627HG
BIOS	Phoenix-Award BIOS
IDE Interface	1 x Ultra DMA 33, support 2 IDE devices
Serial Port	2 x RS-232 ports COM2: RS-232/RS-422/RS-485 selectable
Parallel Port / Floppy	1 x SPP/EPP/ECP mode 1 x Floppy connector
KBMS	Standard PS/2 Keyboard and Mouse
Universal Serial Bus	2 x USB 2.0 ports
PCI to ISA bridge	ITE8888G
Expansion Bus	PC/104 interface
Flash Disk	1 x CF type II Socket
Hardware Monitor	Integrated in W83627HG
RTC	AMD Geode CS5536 built-in RTC with lithium battery
Power Input Connector	1*4 pins power connector
Operation Temp.	-20 ~ 70°C (-4 ~ 158°F)
Watchdog Timer	1 ~ 255 Level Reset (Sec. or Min.)
Dimension (L x W)	96 x 90 mm (3.8" x 3.5")

The Installation Paths of CD Driver

Driver	Path
CHIPSET	\Chipset\AMD\LX
ISA	\ISA\ITE8888
LAN	\Ethernet\REALTEK\8100C
VGA	\Graphics\AMD\LX

Board Dimensions



Jumpers/ Connectors Quick Reference

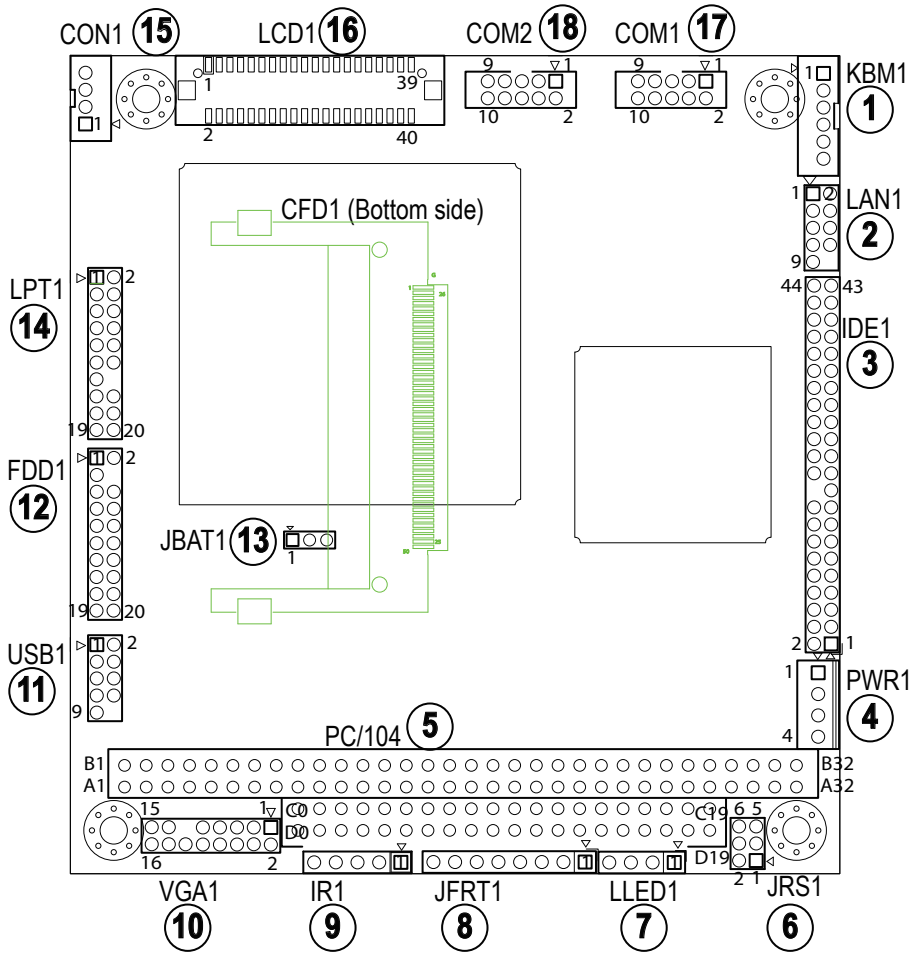
Jumpers

Label	Function
JRS1	COM2 RS-232/422/485 Selection
JBAT1	Clear CMOS Setting

Connectors

Label	Function
CFD1	CompactFlash Type II Socket
COM1 ~ COM2	Serial Port Connectors
CON1	RS-422/485 Connector
DIMM1	200-pin DDR SO-DIMM Socket
FDD1	Floppy Disk Drive Connector
IDE1	Primary IDE Connector
IR1	Infrared (IR) Connector
JFRT1	Front Panel (Switches and Indicators)
KBM1	PS/2 interface Keyboard and Mouse Connector
LAN1	Ethernet Connector
LCD1	TTL LCD Panel Connector
LLED1	LAN LED Connector
LPT1	Parallel Port Connector
PC/104	PC/104 connector for ISA Interface
PWR1	4P Small AT Power Connector
USB1	USB1, 2 Connector
VGA1	Analog RGB Display Connector

Connectors Quick Reference



Jumpers

JRS1: COM2 RS-232/422/485 Selection (6)

Connector type: 2.00mm pitch 2x3-pin headers

Mode	RS-232 (Default)	RS-422	RS-485
1-2	Short	Open	Open
3-4	Open	Short	Open
5-6	Open	Open	Short





JBAT1: Clear CMOS Setting (13)

Connector type: 2.00mm pitch 1x3-pin headers

Pin	Mode
1-2	Keep CMOS (Default)
2-3	Clear CMOS




Connectors

KBM1: Keyboard & Mouse Connector (1)

Connector type: 2.0mm pitch 1x6-pin box wafer connector.

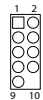
Pin	Description
1	KB_DATA
2	GND
3	MS_DATA
4	KB_CLK
5	PS2_VCC
6	MS_CLK



LAN1: Ethernet Connector (2)

Connector type: 2.00mm pitch 2x5-pin headers

Pin	Desc.	Pin	Desc.
1	TX+	2	TX-
3	RX+	4	N/C
5	N/C	6	RX-
7	N/C	8	N/C
9	GND	10	N/C (Key)



IDE1: Primary IDE Connector (3)

Connector type: 2.00mm pitch 2x22-pin box headers



Pin	Description	Pin	Description
1	RESET#	2	GND
3	DATA7	4	DATA8
5	DATA6	6	DATA9
7	DATA5	8	DATA10
9	DATA4	10	DATA11
11	DATA3	12	DATA12
13	DATA2	14	DATA13
15	DATA1	16	DATA14
17	DATA0	18	DATA15
19	GND	20	N/C (Key)
21	REQ	22	GND
23	IO WRITE	24	GND
25	IO READ	26	GND
27	IO READY	28	IDESSEL
29	DACK	30	GND
31	IRQ14	32	N/C
33	ADDR1	34	DIAG
35	ADDR0	36	ADDR2
37	CS#2	38	CS#3
39	IDEACTP	40	GND
41	+5V	42	+5V
43	GND	44	N/C

PWR1: Power Supply Connector (4)

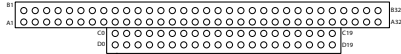
Connector type: 2.54mm pitch 1x4-pin wafer one wall connector

Pin	Description
1	+5V
2	GND
3	GND
4	+12V



PC/104: PC/104 ISA Interface (5)

Connector type: PC/104 press fit 2x20-pin connector



LLED1: LAN LED indicators (7)

Connector type: 2.54mm pitch 1x4-pin headers

Pin	Description
1	LAN1_ACTIVE-
2	LAN1_ACTIVE+
3	LAN1_LINK-
4	LAN1_LINK+



JFRT1: Switches and Indicators (8)

It provides connectors for system indicators that provides light indication of the computer activities and switches to change the computer status.

Connector type: 2.54mm pitch 1x8-pin headers

Pin	Description
1	RESET+
2	RESET-
3	PWRLED+
4	PWRLED-
5	HDD LED+
6	HDD LED-
7	SPK OUT+
8	SPK OUT-



IR1: Infrared Connector (9)

Connector type: 2.54mm pitch 1x5-pin headers

Pin	Description
1	+5V
2	N/C
3	IRRX
4	GND
5	IRTX



VGA1: Analog RGB Output Connector (10)

Connector type: 2.00mm pitch 2x8-pin headers

Pin	Description	Pin	Description
1	RED	2	GREEN
3	BLUE	4	N/C
5	GND	6	GND
7	GND	8	GND
9	N/C	10	GND
11	N/C (key)	12	VDDAT
13	HSYNC	14	VSYNC
15	VDCLK	16	N/C



USB1: USB Connector (11)

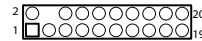
Connector type: 2.00mm pitch 2x5-pin headers

Pin	Desc.	Pin	Desc.
1	+5V	2	+5V
3	USBD-	4	USBD-
5	USBD+	6	USBD+
7	GND	8	GND
9	GND	10	N/C (Key)



FDD1: FDD Connector (12)

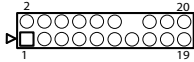
Connector type: 2.00mm pitch 2x10-pin headers



Pin	Description	Pin	Description
1	GND	2	DRV DEN0
3	GND	4	N/C (Key)
5	GND	6	DRV DEN1
7	-WDATA	8	-INDEX
9	-WGATE	10	-MOA
11	-TRACK0	12	-DSB
13	-WP	14	-DSA
15	-RDATA	16	-MOB
17	-HEAD	18	-DIR
19	-DSKCHG	20	-STEP

LPT1: Parallel Port Connector (14)

Connector type: 2.0mm pitch 2x10-pin headers



Pin	Description	Pin	Description
1	STROBE	2	AFD
3	PTD0	4	ERROR
5	PTD1	6	INIT
7	PTD2	8	SLIN
9	PTD3	10	GND
11	PTD4	12	GND
13	PTD5	14	N/C (Key)
15	PTD6	16	BUSY
17	PTD7	18	PE
19	ACK	20	SELECT

CON1: RS-422/ 485 Connector (15)

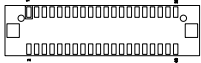
Connector type: 2.00mm pitch 1x4-pin box wafer connector

Pin	RS-422	RS-485
1	TX+	DATA+
2	TX-	DATA-
3	RX+	N/C
4	RX-	N/C



LCD1: TTL LCD Connector (16)

Connector type: DF-13-40DP-1.25V



Pin	Description	Pin	Description
2	VDD5	1	VDD5
4	GND	3	GND
6	VDD3	5	VDD3
8	GND	7	Vcon (N.C.)
10	LPD1	9	LPD0
12	LPD3	11	LPD2
14	LPD5	13	LPD4
16	LPD7	15	LPD6
18	LPD9	17	LPD8
20	LPD11	19	LPD10
22	LPD13	21	LPD12
24	LPD15	23	LPD14
26	LPD17	25	LPD16
28	LPD19	27	LPD18
30	LPD21	29	LPD20
32	LPD23	31	LPD22
34	GND	33	GND
36	FP_VS	35	DOTCLK
38	FP_HS	37	DE
40	ENVDD	39	BLON

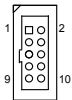
COM1, 2: Serial Port Connectors (17, 18)

COM1: RS-232.

COM2: RS-232/422/485 selectable.

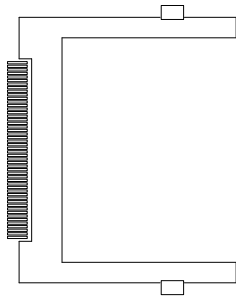
Connector type: 2.00mm pitch 2x5-pin box headers

Pin	Description	Pin	Description
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	N/C



CFD1: CompactFlash Type II Socket

CFD1 does not support hot swap.



Pin	Description	Pin	Description
1	GND	26	GND
2	DATA3	27	DATA11
3	DATA4	28	DATA12
4	DATA5	29	DATA13
5	DATA6	30	DATA14
6	DATA7	31	DATA15
7	CS#1	32	CD#3
8	GND	33	GND
9	GND	34	IO READ
10	GND	35	IO WRITE
11	GND	36	+5V
12	GND	37	IRQ14
13	+5V	38	+5V
14	GND	39	CSEL
15	GND	40	N/C
16	GND	41	IDE RESET
17	GND	42	DRDY
18	ADDR2	43	DREQ
19	ADDR1	44	DACK
20	ADDR0	45	DASP
21	DATA0	46	DIAG
22	DATA1	47	DATA8
23	DATA2	48	DATA9
24	N/C	49	DATA10
25	GND	50	GND