EmETX-a58M1

ETX® CPU Module
Quick Installation Guide
Version 1.0

Form Factor	CPU	LAN
ETX CPU Module	*Soldered onboard AMD G-Series Processor*	*Realtek RTL8105E 10/100 Base-T Ethernet*

Video	Audio	I/O
Dual Channels 24-bit LVDS, Analog RGB/DVI, DDI port	*Realtek ALC662 HD AUDIO CODEC, Mic-in/ Line-in/ Line-out*	*PCI/ PCIe/ SATA/ USB/ COM*

♦ Technical Support

If you have any technical difficulties, please consult the user’s manual first at:
http://www.arbor-technology.com

Please do not hesitate to call or e-mail our customer service when you still can not find out the answer.
http://www.arbor-technology.com
E-mail: info@arbor.com.tw

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.

Copyright® All Rights Reserved.

4041580100100P

Packing List

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

1 x EmETX-a58M1 ETX® CPU Module

1 x Driver CD
1 x Quick Installation Guide

Ordering Information

EmETX-a58M1-212JC	AMD GX-212JC ETX 3.02 CPU module
EmETX-a58M1-218GL	AMD GX-218GL ETX 3.02 CPU module
HS-58M1-F2	Heat Spreader, Threaded standoffs,114*95*9mm,W/PAD
HS-58M1-C1	Heat Spreader, 114*95*28mm,W/FAN
PBE-1000 R2.1	ETX® evaluation board in ATX form factor
CBK-05-1000-00	Cable kit 1 x FDD cable 3 x COM port cables 1 x USB cable 2 x IDE cables 1 x TV-out cable

The Installation Paths of CD Driver

Windows 7

Driver	Path
CHIPSET	\EmETX-58M1\Chipset\Win7_Win10\16.40.2802-161004a-308065C-AES
LAN	\EmETX-58M1\LAN\Install_Win7_7101_09212016
AUDIO	\EmETX-58M1\Audio

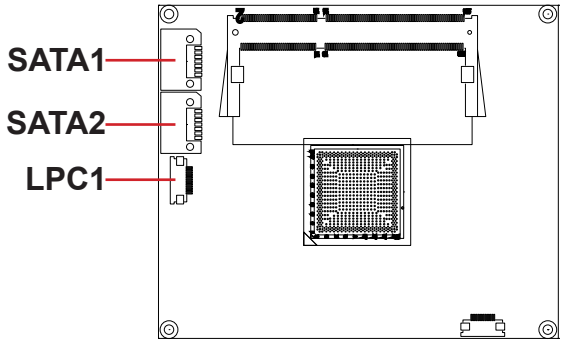
Windows 10

Driver	Path
CHIPSET	\EmETX-58M1\Chipset\Win7_Win10\16.40.2802-161004a-308065C-AES
LAN	\EmETX-58M1\LAN\Install_Win10_10010_09212016
AUDIO	\EmETX-58M1\Audio

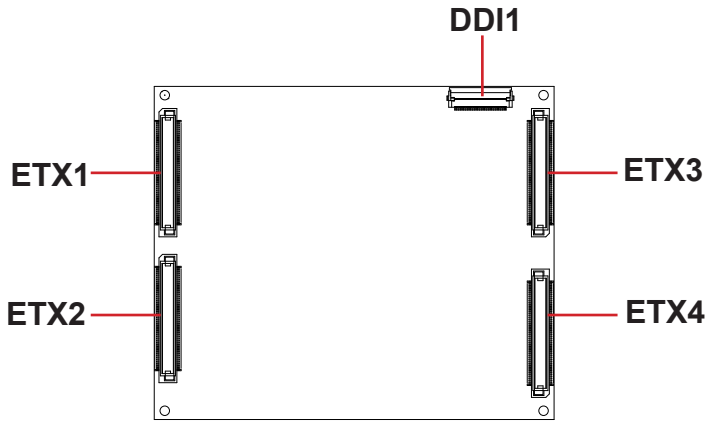
Specifications

Form Factor	ETX® CPU Module
CPU	Soldered onboard AMD G-Series Processor GX-212JC/GX-218GL
System Memory	1 x DDR3 SO-DIMM socket, supporting up to 8GB 1333MT/s SDRAM
BIOS	AMI BIOS
Watchdog Timer	1~255 level Reset
Super IO Chipset	Fintek F71869ED
Serial Port	2 x COM Ports (1 x RS-232, 1 x RS-232/422/485 selectable via PBE-1000)
Parallel Port	1 x SPP/EPP/ECP mode
KB/MS	Support PS/2 interface Keyboard and Mouse
USB 2.0	4 x USB 2.0 ports
Expansion	4 x PCI (OEM Request)
Storage	2 x Serial ATA ports with 600MB/s HDD transfer rate
	Two PATA ports via JMB368 PCIe to PATA controllers
Ethernet Chipset	1 x Realtek RTL8105E PCIe 10/100Base-T Ethernet controller
Audio	Realtek ALC662 HD Audio CODEC, Mic-in/ Line-in/ Line-out
Graphic Chipset	Integrated in AMD Radeon™ HD 8000E Graphics
Graphic Interface	Analog RGB/DVI: Analog RGB, with resolution up to LCD: Dual Channels 24-bit LVDS DDI port: 1 x DDI port
Power Requirement	DC 5V, 5VSB
Power Consumption	2.66A@5V(GX-212JC typical)
Operation Temp.	0 ~ 60ºC (0 ~ 140ºF)
Operating Humidity	0 ~ 95% @ 60ºC (non-condensing)
Dimension (L x W)	114 x 95 mm (4.5" x 3.7")

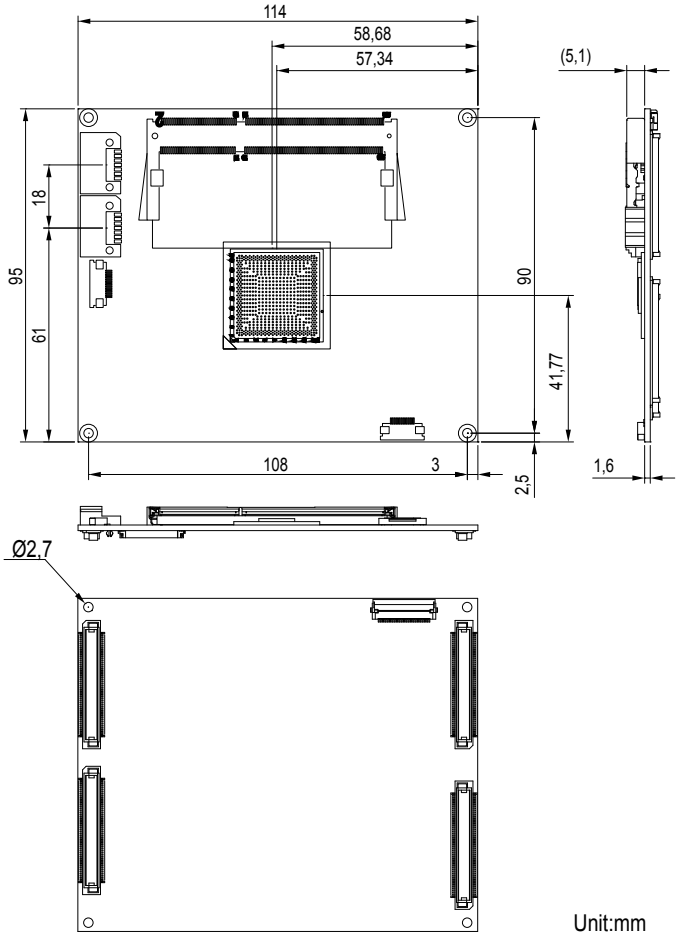
Board Layout Top View



Board Layout Bottom View

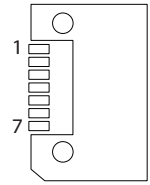


Board Dimensions



SATA1, SATA2 Connectors

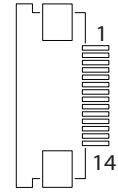
Pin	Description
1	GND
2	TX+
3	TX-
4	GND
5	RX-
6	RX+
7	GND



LPC1 Connector

Connector type: FPC12-14P-P0.5 (Hirose)

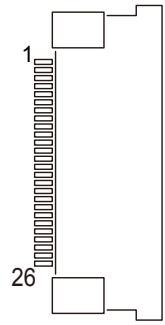
Pin	Description	Pin	Description
1	LAD0	8	BUF_PLT_RST#
2	LAD1	9	GND
3	LAD2	10	PCLK_CONN
4	LAD3	11	GND
5	GND	12	GND
6	LFRAME#	13	+3.3V
7	INT_SERIRQ	14	+3.3V



DDI1 Connector

Connector type: FH12-26S-0.5SH (Hirose)

Pin	Description	Pin	Description
1	GND	14	N/C
2	DDI_TX0+	15	DDI_AUX+
3	DDI_TX0-	16	DDI_AUX-
4	GND	17	GND
5	DDI_TX1+	18	DDI_HPD
6	DDI_TX1-	19	SMB_DAT
7	GND	20	SMB_CLK
8	DDI_TX2+	21	GND
9	DDI_TX2-	22	GND
10	GND	23	GND
11	DDI_TX3+	24	+3.3V
12	DDI_TX3-	25	+3.3V
13	GND	26	+5V



ETX1 Connector

A1	GND	GND	A2
A3	PCI_CLK3	PCI_CLK4	A4
A5	GND	GND	A6
A7	PCI_CLK1	PCI_CLK2	A8
A9	REQ#3	GNT#3	A10
A11	GNT#2	VCC3	A12
A13	REQ#2	GNT#1	A14
A15	REQ#1	VCC3	A16
A17	GNT#0	N.C	A18
A19	VCC	VCC	A20
A21	SERIRQ	REQ#0	A22
A23	AD0	VCC3	A24
A25	AD1	AD2	A26
A27	AD4	AD3	A28
A29	AD6	AD5	A30
A31	C/BE#0	AD7	A32
A33	AD8	AD9	A34
A35	GND	GND	A36
A37	AD10	LINE-L	A38
A39	AD11	MICL	A40
A41	AD12	LINE-R	A42
A43	AD13	ASVCC	A44
A45	AD14	LOUT-L	A46
A47	AD15	ASGND	A48
A49	C/BE#1	LOUT-R	A50
A51	VCC	VCC	A52
A53	PAR	SERR#	A54
A55	PERR#	N.C	A56
A57	PME#	USB8N	A58
A59	LOCK#	DEVSEL#	A60
A61	TRDY#	USB9N	A62
A63	IRDY#	STOP#	A64
A65	FRAME#	USB8P	A66
A67	GND	GND	A68
A69	AD16	CBE#2	A70
A71	AD17	USB9P	A72
A73	AD19	AD18	A74
A75	AD20	USB0N	A76
A77	AD22	AD21	A78
A79	AD23	USB1N	A80
A81	AD24	C/BE#3	A82
A83	VCC	VCC	A84
A85	AD25	AD26	A86
A87	AD28	USB0P	A88
A89	AD27	AD29	A90
A91	AD30	USB1P	A92
A93	PCI_RST#	AD31	A94
A95	INT_PIRQB#	INT_PIRQC#	A96
A97	INT_PIRQD#	INT_PIRQA#	A98
A99	GND	GND	A100

ETX2 Connector

B1	GND	GND	B2
B3	N.C	N.C	B4
B5	N.C	N.C	B6
B7	N.C	N.C	B8
B9	N.C	N.C	B10
B11	N.C	N.C	B12
B13	N.C	N.C	B14
B15	N.C	N.C	B16
B17	N.C	N.C	B18
B19	N.C	N.C	B20
B21	N.C	N.C	B22
B23	N.C	N.C	B24
B25	N.C	N.C	B26
B27	N.C	N.C	B28
B29	N.C	N.C	B30
B31	N.C	N.C	B32
B33	N.C	N.C	B34
B35	GND	GND	B36
B37	N.C	N.C	B38
B39	N.C	N.C	B40
B41	N.C	N.C	B42
B43	N.C	TC	B44
B45	N.C	N.C	B46
B47	N.C	N.C	B48
B49	N.C	N.C	B50
B51	VCC	VCC	B52
B53	N.C	N.C	B54
B55	N.C	N.C	B56
B57	N.C	N.C	B58
B59	N.C	N.C	B60
B61	N.C	N.C	B62
B63	N.C	N.C	B64
B65	N.C	N.C	B66
B67	GND	GND	B68
B69	N.C	N.C	B70
B71	N.C	N.C	B72
B73	N.C	N.C	B74
B75	N.C	N.C	B76
B77	N.C	N.C	B78
B79	N.C	N.C	B80
B81	N.C	N.C	B82
B83	VCC	VCC	B84
B85	N.C	N.C	B86
B87	N.C	N.C	B88
B89	N.C	N.C	B90
B91	N.C	N.C	B92
B93	N.C	N.C	B94
B95	N.C	N.C	B96
B97	N.C	N.C	B98
B99	GND	GND	B100

ETX3 Connector

C1	GND	GND	C2
C3	CRT_RED	CRT_BLUE	C4
C5	HSY	CRT_GREEN	C6
C7	VSY	CRT_DDC_CLK	C8
C9	N.C	CRT_DDC_DATA	C10
C11	LVDS_B_CLK-	LVDS_B3-	C12
C13	LVDS_B_CLK+	LVDS_B3+	C14
C15	GND	GND	C16
C17	LVDS_B1+	LVDS_B2+	C18
C19	LVDS_B1-	LVDS_B2-	C20
C21	GND	GND	C22
C23	LVDS_A3-	LVDS_B0+	C24
C25	LVDS_A3+	LVDS_B0-	C26
C27	GND	GND	C28
C29	LVDS_A2-	LVDS_A_CLK+	C30
C31	LVDS_A2+	LVDS_A_CLK-	C32
C33	GND	GND	C34
C35	LVDS_A0+	LVDS_A1+	C36
C37	LVDS_A0-	LVDS_A1-	C38
C39	VCC	VCC	C40
C41	LVDS_I2C_DAT	N.C.	C42
C43	LVDS_I2C_CLK	LVDS_-BLON	C44
C45	LVDS_BKLT_CTRL	LVDS_ENVDD	C46
C47	N.C.	N.C.	C48
C49	N.C.	N.C.	C50
C51	LPT_FLPY#	N.C.	C52
C53	VCC	GND	C54
C55	STB#	AFD#	C56
C57	N.C.	PD7	C58
C59	IRRX	ERR#	C60
C61	IRTX	PD6	C62
C63	SIN2	INIT#	C64
C65	GND	GND	C66
C67	RTS2#	PD5	C68
C69	DTR2#	SLIN#	C70
C71	DCD2#	PD4	C72
C73	DSR2#	PD3	C74
C75	CTS2#	PD2	C76
C77	SOUT2	PD1	C78
C79	RI2#	PD0	C80
C81	VCC	VCC	C82
C83	SIN1	ACK#	C84
C85	RTS1#	BUSY	C86
C87	DTR1#	PE	C88
C89	DCD1#	SLCT	C90
C91	DSR1#	MCLK	C92
C93	CTS1#	MDAT	C94
C95	SOUT1	KCLK	C96
C97	RI1#	KDAT	C98
C99	GND	GND	C100

ETX4 Connector

D1	GND	GND	D2
D3	5V_SB	ETX_PWGIN	D4
D5	PSON#	ETX_SPEAK_OUT	D6
D7	CB_PWR_BTN#	+V3.3A_RTC	D8
D9	N.C	LILED1	D10
D11	WDTRST#	ACTLED1	D12
D13	N.C	SPLED1	D14
D15	N.C	I2C0_CLK	D16
D17	VCC	VCC	D18
D19	USB_-OC	N.C	D20
D21	EXSMI	I2C0_DAT	D22
D23	SCLK0	SDATA0	D24
D25	IDE_SDCS3-	SMB_ALERT#	D26
D27	IDE_SDCS1-	N.C	D28
D29	IDE_SDA2	IDE_PDCS3-	D30
D31	IDE_SDA0	IDE_PDCS1-	D32
D33	GND	GND	D34
D35	PDIAG_S	IDE_PDA2	D36
D37	IDE_SDA1	IDE_PDA0	D38
D39	IDE_SDDINTRQ	IDE_PDA1	D40
D41	-BATLOW	N.C	D42
D43	IDE_SDDACK-	IDE_PDDINTRQ	D44
D45	IDE_SDIORDY	IDE_PDDACK-	D46
D47	IDE_SDIOR-	IDE_PDIORDY	D48
D49	VCC	VCC	D50
D51	IDE_SDIOW-	IDE_PDIOR-	D52
D53	IDE_SDDREQ	IDE_PDIOW-	D54
D55	IDE_SDD15	IDE_PDDREQ	D56
D57	IDE_SDD0	IDE_PDD15	D58
D59	IDE_SDD14	IDE_PDD0	D60
D61	IDE_SDD1	IDE_PDD14	D62
D63	IDE_SDD13	IDE_PDD1	D64
D65	GND	GND	D66
D67	IDE_D2	IDE_PDD13	D68
D69	IDE_D12	IDE_PDD2	D70
D71	IDE_D3	IDE_PDD12	D72
D73	IDE_D11	IDE_PDD3	D74
D75	IDE_D4	IDE_PDD11	D76
D77	IDE_D10	IDE_PDD4	D78
D79	IDE_D5	IDE_PDD10	D80
D81	VCC	VCC	D82
D83	IDE_D9	IDE_PDD5	D84
D85	IDE_D6	IDE_PDD9	D86
D87	IDE_D8	IDE_PDD6	D88
D89	LPC_PME#	IDE_CBLID_P	D90
D91	RDN0	IDE_PDD8	D92
D93	RDP0	IDE_SDD7	D94
D95	TDN0	IDE_PDD7	D96
D97	TDP0	IDE_RST#	D98
D99	GND	GND	D100