

Quick Installation Guide

Version 1.0

EmETX-i701

Low Voltage Pentium M 1.1 GHz ETX CPU
Module with VGA/LCD, Audio & LAN

EmETX-i702

Low Voltage Pentium M 1.4-1.7 GHz ETX
CPU Module with VGA/LCD, Audio & LAN

Part Number:4041070100100

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About this Quick Installation

This Quick Installation provides general information and installation instructions about the product. This Quick Installation is intended for experienced users and integrators with hardware knowledge of personal computers. If you are not sure about any description in this Quick Installation, please consult your vendor before further handling.

Warning

Single Board Computers and their components contain very delicate Integrated Circuits (IC). To protect the Single Board Computer and its components against damage from static electricity, you should always follow the following precautions when handling it :

1. Disconnect your Single Board Computer from the power source when you want to work on the inside
2. Hold the board by the edges and try not to touch the IC chips, leads or circuitry
3. Use a grounded wrist strap when handling computer components.
4. Place components on a grounded antistatic pad or on the bag that came with the Single Board Computer, whenever components are separated from the system
5. It possibly needs BIOS support in the case of using special backplane, otherwise, it might be not able to function completely.

Technical Support

If you have any technical difficulties, please consult the user's manual first at:

<ftp://ftp.arbor.com.tw/pub/install>

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

Specifications

System

- **Form Factor:** ETX form factor (ETX module)
- **CPU:** Intel Pentium M Micro-FCBGA Package 1.1GHz (i701) or 1.4~1.7GHz (i702), 1MByte L2 cache on die
- **BIOS:** Award BIOS
- **Chipset:** Intel 855GME, 400MHz FSB, graphics integrated
- **Super I/O:** Winbond W83627HF
- **Display Controller:**
 - Intel Extreme Graphics 2 Controller, LVDS Flat panel and CRT output
 - Up to 64Mbyte of dynamic Video RAM
 - Support 2D/3D graphics
 - Support dual display
 - Improved hardware motion compensation for MPEG2
- **LCD Support:**
 - Max. CRT QXGA 2048 x 1536
 - Max. LCD UXGA 1600 x 1200
 - 48bits Dual Channel LVDS
- **Memory:** DDR SODIMM Support DDR 200/266/333, 1GB Max.
- **LAN Chipset:**
 - Chipset: Intel 82562EZ
 - Interface: IEEE 802.3U compatible 10 Base-T / 100 Base-TX interface includes software driver and boot ROM function
- **Audio Function:**
 - AC97 controller v.2.2 compliant interface
 - Audio interface: Microphone in; Line in; Speaker out
- **Watchdog Timer:** 0 ~ 255sec/min, (W83627HF)

Multiple I/O

- **IDE Interface (on the carrier board):** Intel 82801DB (ICH4) builtin IDE interface support 2 IDE ports and up to four devices, Ultra DMA 100
- **Serial (on the carrier board):** 2 x RS-232C port (COM1/2)
- **Parallel (on the carrier board):** 1 x parallel port supports SPP/EPP/ECP mode share with floppy
- **USB:** 4 USB v2.0 ports
- **K/B & Mouse (on the carrier board):** One keyboard & mouse port support
- **IrDA (on the carrier board):** One IrDA port support

- *Real Time Clock:* RTC

- *Firmware Hub:* 4MB

Environment & Power Consumption

- *Power Requirement:* +5V/3.6A

- *Power Consumption:* Typical: 18W @ 5V (1.1GHz LV CPU)

- *Operating Temperature:* 0 ~ 60°C

- *Storage Temperature:* -30 ~ 85°C

- *Operative Humidity:* 5% ~ 95% (non condensing)

Mechanical

- *Dimension (L x W):* 114 x 95 mm (4.5" x 3.7")

- *Weight:* 85grams (0.19 lb)

Packing list

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

> 1 x EmETX-i701 ETX CPU module

OR

1 x EmETX-i702 ETX CPU module

> 1 x Quick Installation Guide

> 1 x CD driver

> 1 x Warranty Card

Ordering Codes

EmETX-i701/PM1100 Intel Pentium M 1.1GHz ETX Module

EmETX-i702 Intel Pentium M 1.4~1.7GHz ETX Module

PBE-1000 ATX form factor evaluation board for ETX modules

Heat Sink w/fan for EmETX-i701

Heat Sink w/fan for EmETX-i702

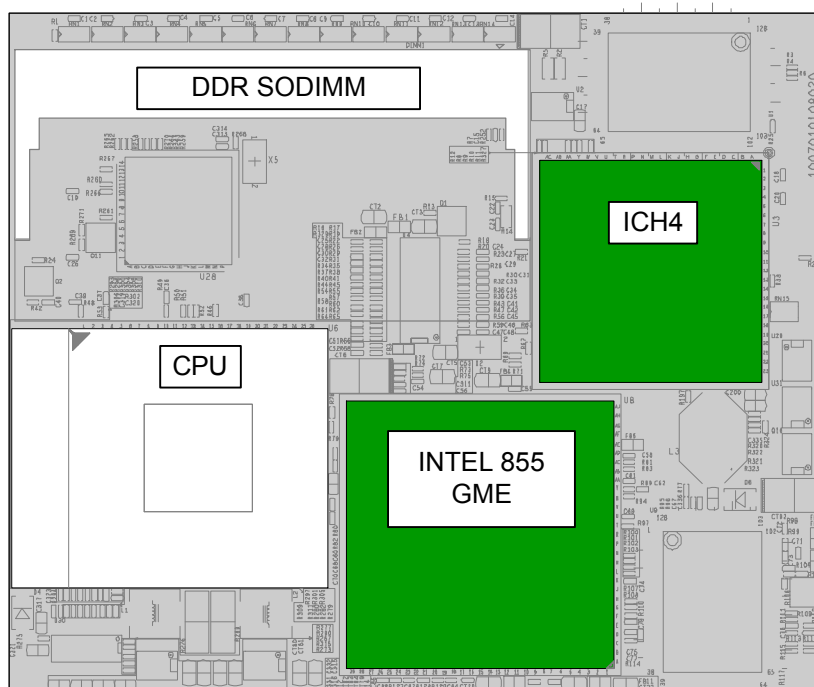
CPU:

Pentium-M 1.4GHz (μFCPGA 478pin)

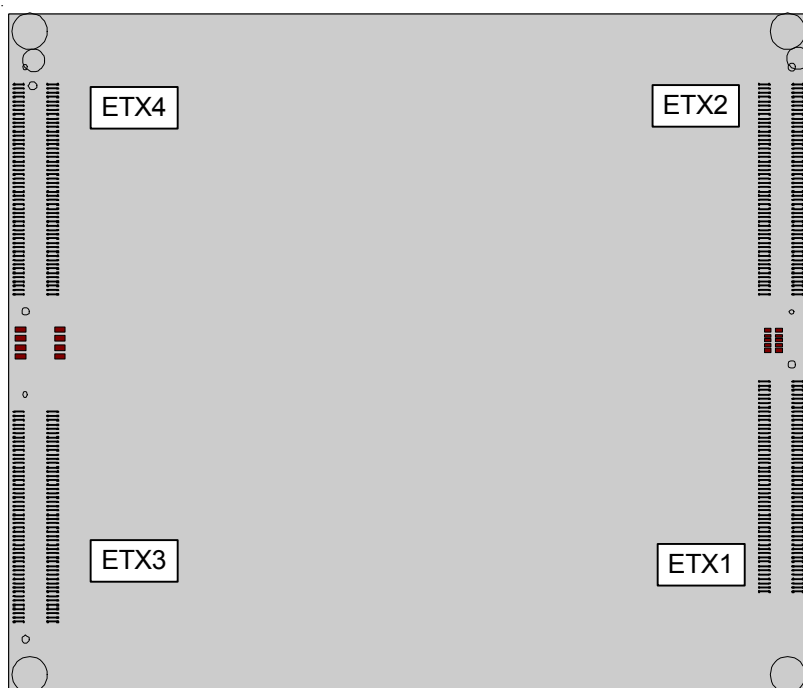
Pentium-M 1.6GHz (μFCPGA 478pin)

Pentium-M 1.7GHz (μFCPGA 478pin)

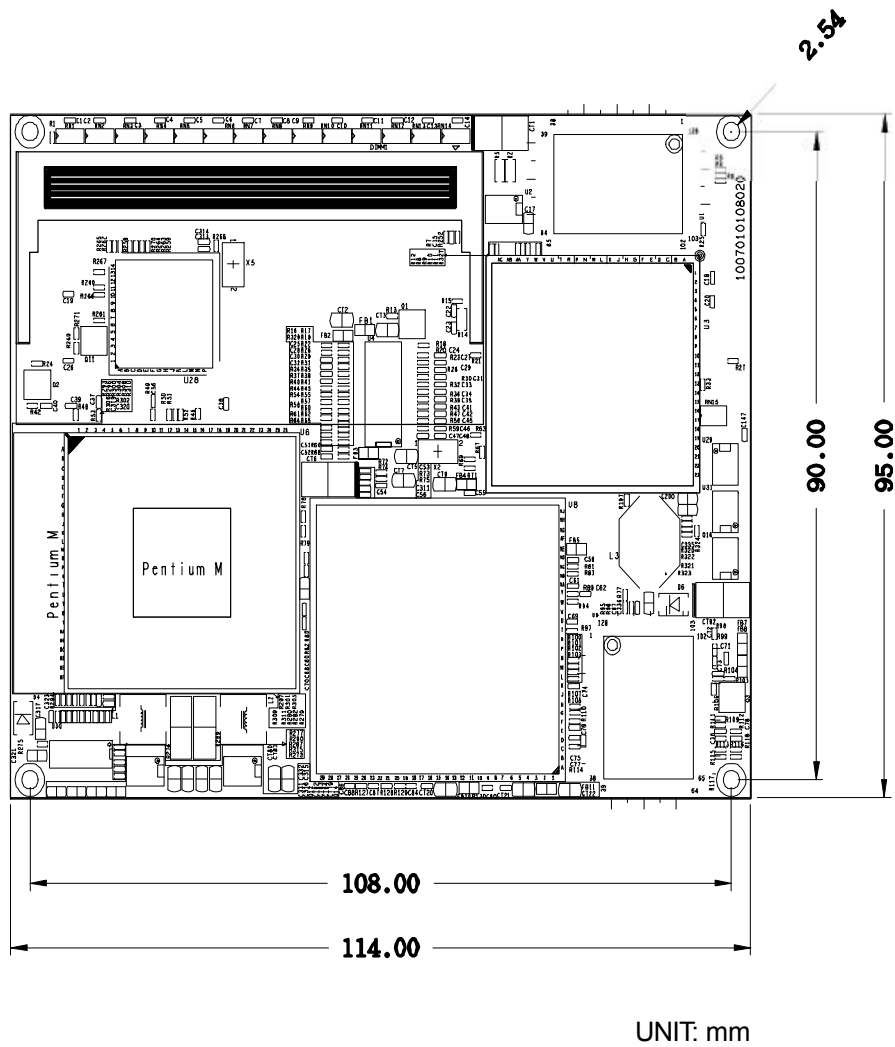
Board Layout Top View (Front)



Board Layout Top View (Back)



Board Dimension



Jumper/Connector Quick Reference

Connectors

Lable	Function
ETX1	PCI Bus, USB, Audio
ETX2	ISA Bus
ETX3	VGA,LCD,Video,COM1,COM2,LPT,IrDA,KB/MS
ETX4	IDE1,IDE2,Ethernet,Miscellaneous

ETX Connector

ETX1

ETX2

1	GND	GND	2	1	GND	GND	2
3	PCICLK3	PCICLK4	4	3	SD14	SD15	4
5	GND	GND	6	5	SD13	MASTER#	6
7	PCICLK1	PCICLK2	8	7	SD12	DREQ7	8
9	REQ#3	GNT#3	10	9	SD11	DACK#7	10
11	GNT#2	VCC3	12	11	SD10	DREQ6	12
13	REQ#2	GNT#1	14	13	SD9	DACK#6	14
15	REQ#1	VCC3	16	15	SD8	DREQ5	16
17	GNT#0	N.C	18	17	MEMW#	DACK#5	18
19	VCC	VCC	20	19	MEMR#	DREQ0	20
21	SERIRQ	REQ#0	22	21	LA17	DACK#0	22
23	AD0	VCC3	24	23	LA18	IRQ14	24
25	AD1	AD2	26	25	LA19	IRQ15	26
27	AD4	AD3	28	27	LA20	IRQ12	28
29	AD6	AD5	30	29	LA21	IRQ11	30
31	CBE#0	AD7	32	31	LA22	IRQ10	32
33	AD8	AD9	34	33	LA23	IO16#	34
35	GND	GND	36	35	GND	GND	36
37	AD10	AUXAL	38	37	SBHE#	M16#	38
39	AD11	MIC	40	39	SA0	OSC	40
41	AD12	AUXAR	42	41	SA1	BALE	42
43	AD13	ASVCC	44	43	SA2	TC	44
45	AD14	SNDL	46	45	SA3	DACK#2	46
47	AD15	ASGND	48	47	SA4	IRQ3	48
49	CBE#1	SNDR	50	49	SA5	IRQ4	50
51	VCC	VCC	52	51	VCC	VCC	52
53	PAR	SERR#	54	53	SA6	IRQ5	54
55	PERR#	N.C	56	55	SA7	IRQ6	56
57	PME#	USB2-	58	57	SA8	IRQ7	58
59	LOCK#	DEVSEL#	60	59	SA9	SYSCLK	60
61	TRDY#	USB3-	62	61	SA10	REFCH#	62
63	IRDY#	STOP#	64	63	SA11	DREQ1	64
65	FRAME#	USB2+	66	65	SA12	DACK#1	66
67	GND	GND	68	67	GND	GND	68
69	AD16	CBE#2	70	69	SA13	DREQ3	70
71	AD17	USB3+	72	71	SA14	DACK#3	72
73	AD19	AD18	74	73	SA15	IOR#	74
75	AD20	USB0-	76	75	SA16	IOW#	76
77	AD22	AD21	78	77	SA18	SA17	78
79	AD23	USB1-	80	79	SA19	SMEMR#	80
81	AD24	CBE#3	82	81	IOCHRDY	AEN	82
83	VCC	VCC	84	83	VCC	VCC	84
85	AD25	AD26	86	85	SD0	SMEMW#	86
87	AD28	USB0+	88	87	SD2	SD1	88
89	AD27	AD29	90	89	SD3	NOWS#	90
91	AD30	USB1+	92	91	DREQ2	SD4	92
93	PCIRST#	AD31	94	93	SD5	IRQ9	94
95	INTR#C	INTR#D	96	95	SD6	SD7	96
97	INTR#A	INTR#B	98	97	IOCHK#	RSTDRV	98
99	GND	GND	100	99	GND	GND	100

ETX Connector

ETX3

ETX4

1	GND	GND	2	1	GND	GND	2
3	R	B	4	3	SV_SB	PWGIN	4
5	HSY	G	6	5	PS_ON	SPEAKER	6
7	VSY	DDCK	8	7	PWRBTN#	BATT	8
9	N.C/DE	DDDA	10	9	N.C	LILED	10
11	TX2CLK#	TX2D3#	12	11	WDTOUT	ACTLED	12
13	TX2CLK+	TX2D3+	14	13	ROMKBCS#	SPEEDLED	14
15	GND	GND	16	15	N.C	12CLK	16
17	TX2D1+	TX2D2+	18	17	VCC	VCC	18
19	TX2D1#	TX2D2#	20	19	OVCR#	GPCS#	20
21	GND	GND	22	21	EXTSMI#	12DAT	22
23	TX1D3#	TX2D0+	24	23	SMBCLK	SMBDAT	24
25	TX1D3+	TX2D0#	26	25	SIDE_CS3#	CPUFAN	26
27	GND	GND	28	27	SIDE_CS1#	DASP#	28
29	TX1D2#	TX1CLK+	30	29	SIDE_A2	PIDE_CS3#	30
31	TX1D2+	TX1CLK#	32	31	SIDE_A0	PIDE_CS1#	32
33	GND	GND	34	33	GND	GND	34
35	TX1D0+	TX1D1+	36	35	PD33/66 SEL	PIDE_A2	36
37	TX1D0#	TX1D1#	38	37	SIDE_A1	PIDE_A0	38
39	VCC	VCC	40	39	SIDE_INTRQ	PIDE_A1	40
41	N.C.	N.C	42	41	SD33/66 SEL	N.C	42
43	N.C	BLON	44	43	SIDE_ACK#	PIDE_INTRQ	44
45	BIASON	DIGON	46	45	SIDE_RDY	PIDE_ACK#	46
47	N.C	N.C	48	47	SIDE_IOR#	PIDE_RDY	48
49	N.C	N.C	50	49	VCC	VCC	50
51	N.C	N.C	52	51	SIDE_IOW#	PIDE_IOR#	52
53	VCC	GND	54	53	SIDE_DRQ	PIDE_IOW#	54
55	STB#	AFD#	56	55	SIDE_D15	PIDE_DRQ	56
57	I.C	PD7	58	57	SIDE_D0	PIDE_D15	58
59	IRR#	ERR#	60	59	SIDE_D14	PIDE_D0	60
61	IRT#	PD6	62	61	SIDE_D1	PIDE_D14	62
63	RXD2	INIT#	64	63	SIDE_D13	PIDE_D1	64
65	GND	GND	66	65	GND	GND	66
67	RTS#2	PD5	68	67	SIDE_D2	PIDE_D13	68
69	DTR#2	SLIN#	70	69	SIDE_D12	PIDE_D2	70
71	DCD#2	PD4	72	71	SIDE_D3	PIDE_D12	72
73	DSR#2	PD3	74	73	SIDE_D11	PIDE_D3	74
75	CTS#2	PD2	76	75	SIDE_D4	PIDE_D11	76
77	TXD#2	PD1	78	77	SIDE_D10	PIDE_D4	78
79	R#2	PD0	80	79	SIDE_D5	PIDE_D10	80
81	VCC	VCC	82	81	VCC	VCC	82
83	RXD1	ACK#	84	83	SIDE_D9	PIDE_D5	84
85	RTS#1	BUSY#	86	85	SIDE_D6	PIDE_D9	86
87	DTR#1	PE	88	87	SIDE_D8	PIDE_D6	88
89	DCD#1	SLCT#	90	89	RING IN	WOL	90
91	DSR#1	MSCLK	92	91	RXD-	PIDE_D8	92
93	CTS#1	MSDAT	94	93	RXD+	SIDE_D7	94
95	TXD#1	KBCLK	96	95	TXD-	PIDE_D7	96
97	R#1	KBDAT	98	97	TXD+	HDRST#	98
99	GND	GND	100	99	GND	GND	100