EmETXe-i9652

COM Express Type 2 CPU Module

Quick Installation Guide

Version 1.2

Form Factor	CPU	Chipset
COM Express Type 2 CPU Module	*Intel® Core™ 2 Duo Processor, up to 800MHz FSB* *Intel® Celeron® M Processor with 533/667MHz FSB*	*Intel® GME965* *Intel® ICH8M*

VGA	Audio
Dual Channels 24-bit LVDS/Analog RGB	*HD Audio Interface*

I/O	LAN
PCI Express x16/ Express Card/ CF II/ SATA II/ USB/ IDE/ COM/ LPT/ FDD/ PCI	*RTL8111 Gigabit Ethernet*

♦ 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.

Copyright® 2011 All Rights Reserved.

4041965200120P

COM Express Introduction:

COM Express supports five pin-out Type apply to Basic and Extended form factors:
Module Type 1 and 10 supports single connector with two rows of pins (220 pins)
Module Type 2, 3, 4, 5 and 6 support two connectors with four rows of pins (440 pins)
Connector placement and most mounting holes have transparency between Form Factors.
The differences amount the Module Types are summarized in table below:

Module Type	1	10	2	3	4	5	6
Connectors	1	1	2	2	2	2	2
Connector Rows	A, B	A, B	A, B, C, D	A, B, C, D	A, B, C, D	A, B, C, D	A, B, C, D
PCIe Lanes (max)	6	4	22	22	32	32	24
PCI Bus	No	No	Yes	Yes	No	No	No
PATA - IDE	No	No	Yes	No	Yes	No	No
LAN (Max)	1	1	1	3	1	3	1
Serial Ports	No	0 / 2	No	No	No	No	0 / 2
Muxed SDVO	No	No	0 / 2	0 / 2	0 / 2	0 / 2	No
Digital Display I/F	No	No	No	No	No	No	0 / 3
USB 3.0 Ports	No	No	No	No	No	No	0 / 4

Packing List

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

1 x EmETXe-i9652 COM Express CPU Module

1 x Driver CD

1 x Quick Installation Guide

Specifications

Form Factor	COM Express Type 2 CPU Module
CPU	Intel® Core™ 2 Duo processor, up to 800MHz FSB Intel® Celeron® M processor with 533/667MHz FSB
Chipset	Intel® GME965 + Intel® ICH8M
System Memory	2 x 200-pin DDR2 SO-DIMM sockets supporting 533/667MHz SDRAM up to 4GB
VGA/LCD Controller	Integrated Intel® Graphics Media Accelerator X3100
Ethernet	1 x RTL8111 PCIe Gigabit Ethernet Controller
BIOS	AMI PnP Flash BIOS
Serial ATA	3 x Serial ATA with 300MB/s HDD transfer rate
IDE Interface	1 x Ultra ATA, supports 2 IDE devices
Universal Serial Bus	8 x USB 2.0
Digital Input/Output	8-bit programmable Digital Input/Output
Expansion Interface	1 x PCI Express x16 5 x PCI Express x1 4 x PCI
Operation Temp.	-20ºC ~ 70ºC (-4ºF ~ 158ºF)
Watchdog Timer	1 ~ 255 levels Reset
Dimension (L x W)	125 x 95 mm (4.9” x 3.7”)

Ordering Information

EmETXe-i9652	Socket P Intel® Core™ 2 Duo/Celeron® M COM Express CPU Module
HS-9455-C3	Heatsink w/ fan for socket type CPU module (125 x 96 x 39 mm)
PBE-1700	COM Express evaluation board in ATX form factor
CBK-04-1700-00	Cable kit
	1 x SATA cable 1 x COM cable 1 x FDD cable 1 x IDE cable

The Installation Paths of CD Driver

Windows 2000 & XP

Driver	Path
CHIPSET	\CHIPSET\INF 9.11
LAN	\ETHERNET\REALTEK\8111_WINXP_5764
VGA	\GRAPHICS\INTEL_2K_XP_32\1432

Windows 7

Driver	Path
CHIPSET	\CHIPSET\INF 9.11
LAN	Windows 7 built-in LAN driver
VGA	\GRAPHICS\INTEL_WIN7_32\1930 \GRAPHICS\INTEL_WIN7_64\1930

Connectors Quick Reference

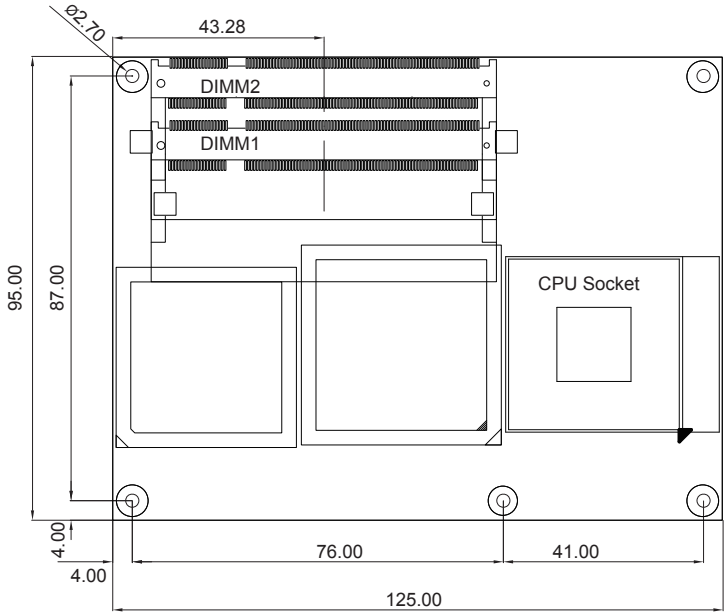
Board Layout Top View

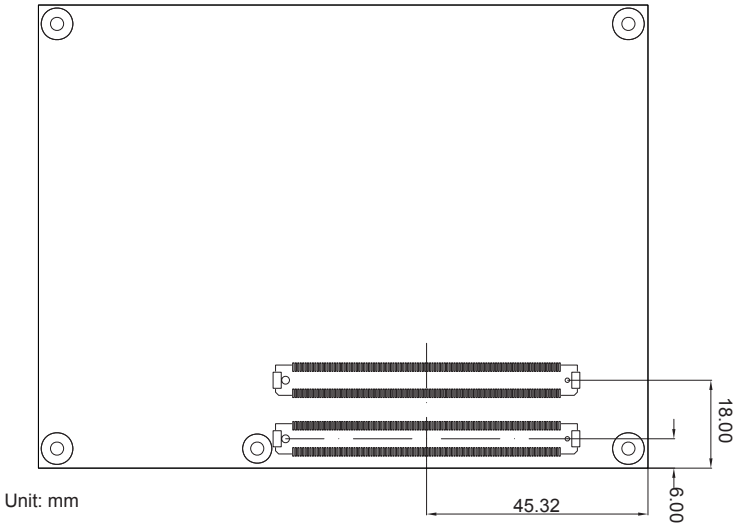
Board Layout Bottom View

COM Express AB Connector

COM Express CD Connector

Board Dimensions





Unit: mm

COM Express AB Connector

B1	GND	GND	A1
B2	GBE0_ACT#	GBE0_MDI3-	A2
B3	LPC_FRAME#	GBE0_MDI3+	A3
B4	LPC_AD0	GBE0_LINK100#	A4
B5	LPC_AD1	GBE0_LINK1000#	A5
B6	LPC_AD2	GBE0_MDI2-	A6
B7	LPC_AD3	GBE0_MDI2+	A7
B8	LPC_DRQ0#	GBE0_LINK#	A8
B9	LPC_DRQ1#	GBE0_MDI1-	A9
B10	LPC_CLK	GBE0_MDI1+	A10
B11	GND	GND	A11
B12	PWRBTN#	GBE0_MDI0-	A12
B13	SMB_CK	GBE0_MDI0+	A13
B14	SMB_DAT	GBE0_CTREF	A14
B15	SMB_ALERT#	SUS_S3#	A15
B16	N/C	SATA0_TX+	A16
B17	N/C	SATA0_TX-	A17
B18	SUS_STAT#	SUS_S4#	A18
B19	N/C	SATA0_RX+	A19
B20	N/C	SATA0_RX-	A20
B21	GND	GND	A21
B22	N/C	SATA2_TX+	A22
B23	N/C	SATA2_TX-	A23
B24	PWR_OK	SUS_S5#	A24
B25	N/C	SATA2_RX+	A25
B26	N/C	SATA2_RX-	A26
B27	WDT	BATLOW#	A27
B28	AC_SDIN2	ATA_ACT#	A28
B29	AC_SDIN1	AC_SYNC	A29
B30	AC_SDIN0	AC_RST#	A30
B31	GND	GND	A31
B32	SPKR	AC_BITCLK	A32
B33	I2C_CK	AC_SDOUT	A33
B34	I2C_DAT	BIOS_DISABLE#	A34
B35	THRM#	THRMTRIP#	A35
B36	USB7-	USB6-	A36
B37	USB7+	USB6+	A37
B38	USB_4_5_OC#	USB_6_7_OC#	A38
B39	USB5-	USB4-	A39
B40	USB5+	USB4+	A40
B41	GND	GND	A41
B42	USB3-	USB2-	A42
B43	USB3+	USB2+	A43
B44	USB_0_1_OC#	USB_2_3_OC#	A44
B45	USB1-	USB0-	A45
B46	USB1+	USB0+	A46
B47	EXCD1_PERST#	VCC_RTC	A47
B48	EXCD1_CPPE#	EXCD0_PERST#	A48
B49	SYS_RESET#	EXCD0_CPPE#	A49
B50	CB_RESET#	LPC_SERIRQ	A50
B51	GND	GND	A51
B52	N/C	N/C	A52
B53	N/C	N/C	A53
B54	GPO1	GPI0 D54	A54
B55	N/C	N/C	A55

B56	N/C	N/C	A56
B57	GPO2	GND	A57
B58	N/C	N/C	A58
B59	N/C	N/C	A59
B60	GND	GND	A60
B61	PCIE_RX2+	PCIE_TX2+	A61
B62	PCIE_RX2-	PCIE_TX2-	A62
B63	GPO3	GPI1	A63
B64	PCIE_RX1+	PCIE_TX1+	A64
B65	PCIE_RX1-	PCIE_TX1-	A65
B66	WAKE0#	GND	A66
B67	WAKE1#	GPI2	A67
B68	PCIE_RX0+	PCIE_TX0+	A68
B69	PCIE_RX0-	PCIE_TX0-	A69
B70	GND	GND	A70
B71	LVDS_B0+	LVDS_A0+	A71
B72	LVDS_B0-	LVDS_A0-	A72
B73	LVDS_B1+	LVDS_A1+	A73
B74	LVDS_B1-	LVDS_A1-	A74
B75	LVDS_B2+	LVDS_A2+	A75
B76	LVDS_B2-	LVDS_A2-	A76
B77	N/C	LVDS_VDD_EN	A77
B78	N/C	LVDS_A3+	A78
B79	LVDS_BKLT_EN	LVDS_A3-	A79
B80	GND	GND	A80
B81	LVDS_B_CK+	LVDS_A_CK+	A81
B82	LVDS_B_CK-	LVDS_A_CK-	A82
B83	CKLVDS_BKLT_CTRL	LVDS_I2C_CK	A83
B84	VCC_5V_SBY	LVDS_I2C_DAT	A84
B85	VCC_5V_SBY	GPI3	A85
B86	VCC_5V_SBY	KBD_RST#	A86
B87	VCC_5V_SBY	KBD_A20GATE	A87
B88	RSVD	PCIE0_CK_REF+	A88
B89	VGA_RED	PCIE0_CK_REF-	A89
B90	GND	GND	A90
B91	VGA_GRN	RSVD B91	A91
B92	VGA_BLU	RSVD	A92
B93	VGA_HSYNC	GPO0	A93
B94	VGA_VSYNC	RSVD	A94
B95	VGA_I2C_CK	RSVD	A95
B96	VGA_I2C_DAT	GND	A96
B97	TV_DAC_A	VCC_12V	A97
B98	TV_DAC_B	VCC_12V	A98
B99	TV_DAC_C	VCC_12V	A99
B100	GND	GND	A100
B101	VCC_12V	VCC_12V	A101
B102	VCC_12V	VCC_12V	A102
B103	VCC_12V	VCC_12V	A103
B104	VCC_12V	VCC_12V	A104
B105	VCC_12V	VCC_12V	A105
B106	VCC_12V	VCC_12V	A106
B107	VCC_12V	VCC_12V	A107
B108	VCC_12V	VCC_12V	A108
B109	VCC_12V	VCC_12V	A109
B110	GND	GND	A110

COM Express CD Connector

D1	GND	GND	C1
D2	IDE_D5	IDE_D7	C2
D3	IDE_D10	IDE_D6	C3
D4	IDE_D11	IDE_D3	C4
D5	IDE_D12	IDE_D15	C5
D6	IDE_D4	IDE_D8	C6
D7	IDE_D0	IDE_D9	C7
D8	IDE_REQ	IDE_D2	C8
D9	IDE_IOW#	IDE_D13	C9
D10	IDE_ACK#	IDE_D1	C10
D11	GND	GND	C11
D12	IDE_IRQ	IDE_D14	C12
D13	IDE_A0	IDE_IORDY	C13
D14	IDE_A1	IDE_IOR#	C14
D15	IDE_A2	PCI_PME#	C15
D16	IDE_CS1#	PCI_GNT2#	C16
D17	IDE_CS3#	PCI_REQ2#	C17
D18	IDE_RESET#	PCI_GNT1#	C18
D19	PCI_GNT3#	PCI_REQ1#	C19
D20	PCI_REQ3#	PCI_GNT0#	C20
D21	GND	GND	C21
D22	PCI_AD1	PCI_REQ0#	C22
D23	PCI_AD3	PCI_RESET#	C23
D24	PCI_AD5	PCI_AD0	C24
D25	PCI_AD7	PCI_AD2	C25
D26	PCI_C/BE0#	PCI_AD4	C26
D27	PCI_AD9	PCI_AD6	C27
D28	PCI_AD11	PCI_AD8	C28
D29	PCI_AD13	PCI_AD10	C29
D30	PCI_AD15	PCI_AD12	C30
D31	GND	GND	C31
D32	PCI_PAR	PCI_AD14	C32
D33	PCI_SERR#	PCI_C/BE1#	C33
D34	PCI_STOP#	PCI_PERR#	C34
D35	PCI_TRDY#	PCI_LOCK#	C35
D36	PCI_FRAME#	PCI_DEVSEL#	C36
D37	PCI_AD16	PCI_IRDY#	C37
D38	PCI_AD18	PCI_C/BE2#	C38
D39	PCI_AD20	PCI_AD17	C39
D40	PCI_AD22	PCI_AD19	C40
D41	GND	GND	C41
D42	PCI_AD24	PCI_AD21	C42
D43	PCI_AD26	PCI_AD23	C43
D44	PCI_AD28	PCI_C/BE3#	C44
D45	PCI_AD30	PCI_AD25	C45
D46	PCI_IRQC#	PCI_AD27	C46
D47	PCI_IRQD#	PCI_AD29	C47
D48	PCI_CLKRUN#	PCI_AD31	C48
D49	PCI_M66EN	PCI_IRQA#	C49
D50	PCI_CLK	PCI_IRQB#	C50
D51	GND	GND (FIXED)	C51
D52	PEG_TX0+	PEG_RX0+	C52
D53	PEG_TX0-	PEG_RX0-	C53
D54	PEG_LANE_RV#	TYPE0#	C54
D55	PEG_TX1+	PEG_RX1+	C55

D56	PEG_TX1-	PEG_RX1-	C56
D57	TYPE2#	TYPE1#	C57
D58	PEG_TX2+	PEG_RX2+	C58
D59	PEG_TX2-	PEG_RX2-	C59
D60	GND	GND	C60
D61	PEG_TX3+	PEG_RX3+	C61
D62	PEG_TX3-	PEG_RX3-	C62
D63	RSVD	RSVD	C63
D64	RSVD	RSVD	C64
D65	PEG_TX4+	PEG_RX4+	C65
D66	PEG_TX4-	PEG_RX4-	C66
D67	GND	RSVD	C67
D68	PEG_TX5+	PEG_RX5+	C68
D69	PEG_TX5-	PEG_RX5-	C69
D70	GND	GND	C70
D71	PEG_TX6+	PEG_RX6+	C71
D72	PEG_TX6-	PEG_RX6-	C72
D73	SDVO_CLK	SDVO_DATA	C73
D74	PEG_TX7+	PEG_RX7+	C74
D75	PEG_TX7-	PEG_RX7-	C75
D76	GND	GND	C76
D77	IDE_CBLID#	RSVD	C77
D78	PEG_TX8+	PEG_RX8+	C78
D79	PEG_TX8-	PEG_RX8-	C79
D80	GND	GND	C80
D81	PEG_TX9+	PEG_RX9+	C81
D82	PEG_TX9-	PEG_RX9-	C82
D83	RSVD	RSVD	C83
D84	GND	GND	C84
D85	PEG_TX10+	PEG_RX10+	C85
D86	PEG_TX10-	PEG_RX10-	C86
D87	GND	GND	C87
D88	PEG_TX11+	PEG_RX11+	C88
D89	PEG_TX11-	PEG_RX11-	C89
D90	GND	GND	C90
D91	PEG_TX12+	PEG_RX12+	C91
D92	PEG_TX12-	PEG_RX12-	C92
D93	GND	GND	C93
D94	PEG_TX13+	PEG_RX13+	C94
D95	PEG_TX13-	PEG_RX13-	C95
D96	GND	GND	C96
D97	PEG_ENABLE#	RSVD	C97
D98	PEG_TX14+	PEG_RX14+	C98
D99	PEG_TX14-	PEG_RX14-	C99
D100	GND	GND	C100
D101	PEG_TX15+	PEG_RX15+	C101
D102	PEG_TX15-	PEG_RX15-	C102
D103	GND	GND	C103
D104	VCC_12V	VCC_12V	C104
D105	VCC_12V	VCC_12V	C105
D106	VCC_12V	VCC_12V	C106
D107	VCC_12V	VCC_12V	C107
D108	VCC_12V	VCC_12V	C108
D109	VCC_12V	VCC_12V	C109
D110	GND	GND	C110

This page is intentionally left blank.