



**Quick Installation Guide**

1001020

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# Warning

ETX Carrier Board 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 ETX Carrier Board 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 ETX Carrier Board, whenever components are separated from the system
5. The whole functions described in this document can only work if the board use dedicated BIOS.

## Replacing the lithium battery

Incorrect replacement of the lithium battery may lead to a risk of explosion. The lithium battery must be replaced with an identical battery or a battery type recommended by the manufacturer (CR2032).

Do not throw lithium batteries into the trashcan. It must be disposed of in accordance with local regulations concerning special waste.

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## Packing list

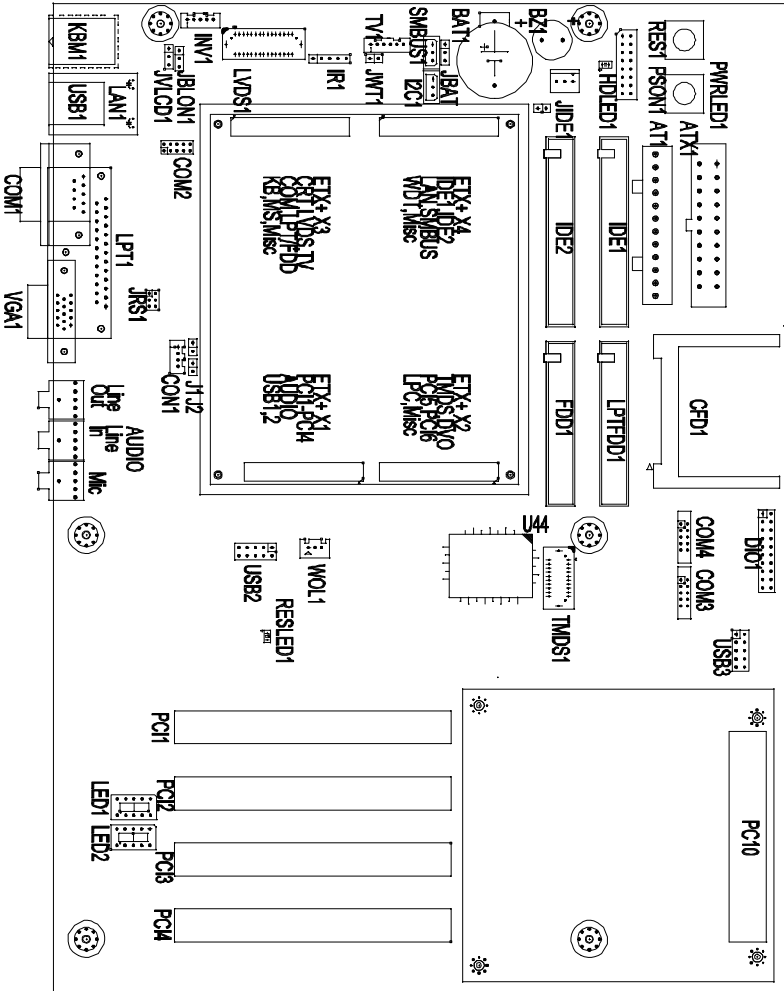
Before you begin installing your single board, please make sure that the following materials have been shipped:

- > 1 x 1001020
- > 1 x Warranty Card
- > 1 x Quick Installation Guide

## Ordering Codes

<b>1001020</b>	<b>ETXP CARRIER B/D for 3311000 &amp; 3311010</b>
<b>Daughter Board</b>	<b>DVI daughter board</b>

# Board Layout





<b>Specification</b>		
<b>I/O</b>	Serial Port	3 x RS-232 ports (COM1/3/4)
		1 x RS-232/422/485 port (COM2)
	Parallel Port	SPP/EPP/ECP mode shared with Floppy
	ATA/IDE	2 x Ultra DMA 100, support 4 IDE drives
	USB Port	Six USB 1.1 compliant or USB 2.0 compliant
	KB/MS	1 x PS2 K/B and Mouse
	Expansion Bus	4 x PCI , 1 x PC104 Plus expansion slots
<b>Secondary Super I/O Controller</b>	Floppy	Floppy shared with parallel port
<b>Ethernet</b>	Connector	RJ45 with LEDs on bracket
<b>Audio</b>	Interface	MIC-In/ Line-In/ Line-out
<b>Display</b>	Video	TV-out, NTSC, PAL, CRT, LVDS, DVI
	Digital I/O	Onboard 20-pin header, 8bit in, 8bit out
	POST Code	Integrated POST diagnostic function with dual LED readout provides detailed debug information for ETX system booting process
<b>Mechanical and Environmental</b>	Power Input	AT Type: P9/P8 12Pin connector
	( thro. BIOS )	ATX Type: 20Pin source with 3-pin ATX control
	Dimension (L x W)	305 x 192 mm ( 12" x 7.6" )
	Weight	0.493 Kg

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## Jumper/Connector Quick Reference

Label	Function
JBAT1	Clear CMOS
JIDE1	IDE1 DMA Mode Selection
JRS1	COM2 RS-232 / 422 / 485 Select
J1, J2	RS422/485 Terminator
JVLCD1	LVDS Panel Voltage Selects
JBLON1	LCD Backlight On Control Mode
JWT1	Watchdog Selection

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## Jumper/Connector Quick Reference

Label	Function
PCI1,2,3,4	32Bit PCI Interface Slot
PC104P1	PC104+ for PCI Interface
KBM1	PS/2 Keyboard and Mouse
VGA1	CRT Display
TMDS1	TMDS LCD Connector
TV1	TV-Out Connector
INV1	LCD Inverter Connector
LVDS1	LVDS LCD Panel Connector
COM1	Serial Port (COM1)
CON1	RS-422 / 485 Output share COM2 Resource
IR1	Infrared (IR) Connector
LPT1	Parallel Port
LAN1	USB1/2 + LAN1 Connector
AUDIO1	Audio Port
AT1	AT Power Connector
ATX1	ATX Power Connector
CPUF1	CPU Fan connector
JFRT1	Front Panel (Switches and Indicators)
SMBUS1	SMBUS Connector
I2C1	I2C Connector
DIO1	Digital I/O Connector
PSON1	Power On Button
RES1	Reset Button
WOL1	Wake On LAN Connector
LPTFDD1	LPT Share FDD Connector
IDE1	Primary IDE Connector
IDE2	Secondary IDE Connector
CFD1	Compact Flash Socket Share IDE1 Resource
BZ1	Internal Buzzer

## CMOS Jumper Settings

CMOS Setup (JBAT1)

Type : onboard 3-pin header



**CMOS Setup (JBAT1)**

**JBAT1**

Keep CMOS	1-2	ON
Clear CMOS	2-3	ON
default setting		

## IDE1 DMA Mode Selection

Jumper: JIDE1

Type: Onboard 2-pin header

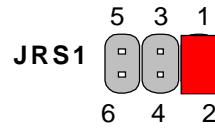


DMA Mode	JIDE1
UDMA	ON (default)
DMA33	OFF

## Serial Port Selection (RS232C/422/485)

RS-232/422/485 Mode on COM2 (JRS1)

The onboard COM2 port can be configured to operate in RS-422 mode or in different RS-422/485 modes.



Mode Selection	JRS1	1-2	3-4	5-6
RS-232		ON	OFF	OFF
RS-422		OFF	ON	OFF
RS-485		OFF	OFF	ON
Default setting	RS-232			

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## RS422/485 Terminator

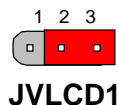
Jumper: J1 & J2  
Type: Onboard 2-pin header



Terminator	J1	J2
RS-422	ON	ON (default setting)
RS-485	ON	OFF

## LCD Voltage Selection

Jumper: JVLCD1  
Type : onboard 3-pin header



The voltage of LCD panel could be selected by JVLCD1 in 5V or 3.3V.

Mode	JVLCD1
3.3V	2-3
5V	1-2
default setting	3.3V

## LCD Backlight On Control Mode

Jumper: JBLON1  
Type: Onboard 3-pin header



Active Mode	JBLON1
High Active	1-2 (default setting)
Low Active	2-3

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## Watchdog Timer

Watchdog Output (JWT1)

### Mode Setting

JWT1 

Watchdog Mode	JWT1
Enable	On
Disable	Off
default setting	Enabled

Note: This function depends on ETX CPU module.

## 32Bit PCI Interface Slot

### PCI Routing

PCI Slot	IDSEL	INT
PC104+_1	AD17	C
PC104+_2	AD18	D
PC104+_3	AD19	A
PC104+_4	AD20	B
PCI1	AD19	A
PCI2	AD20	B
PCI3	AD21	C
PCI4	AD22	D

Note: Because PC104+\_3,4 share PCI1,2 CLK  
They can both be bus master devices.

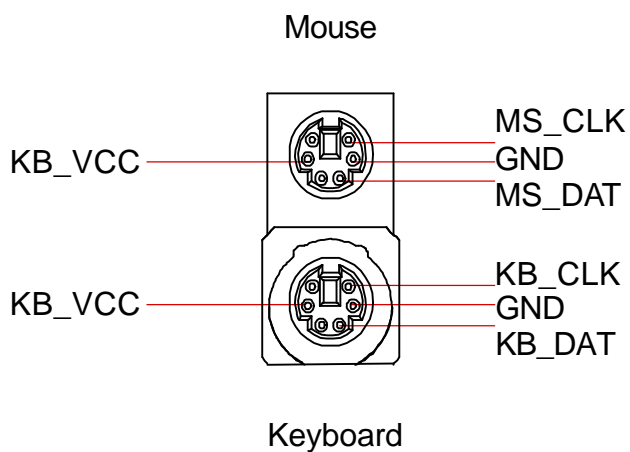
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## PS/2 Keyboard and Mouse

This connector supports standard PS/2 Keyboard and Mouse

Connector : KBM1  
Type: 6-pin Female\*2

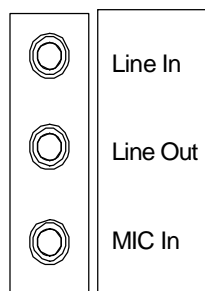
Purple: Standard PS/2 Keyboard  
Green: Standard PS/2 Mouse



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## Audio Port

Connector : Audio1  
Type: Triple Stack Audio Jack



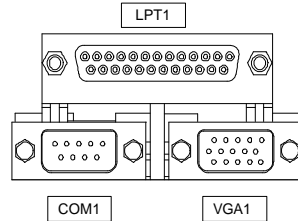
## COM1/VGA1/LPT1 Connector

This connector supports CRT, Serial Port Connectors and Standard Parallel Port

Type: D-Sub 9-pin COM1 & D-Sub 15-pin (Male) VGA1; D-Sub 25-pin (Female) LPT Connector

Connector : COM1

Type : 9-pin D-sub male connector on board



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

Connector : **VGA1**

Type : external 15-pin D-sub female connector on board

Pin	Description	Pin	Description	Pin	Description
1	RED	6	GND	11	NC
2	GREEN	7	GND	12	VDDAT
3	BLUE	8	GND	13	HSYNC
4	NC	9	Vcc	14	VSYNC
5	GND	10	GND	15	VDCLK

Connector : **LPT1**

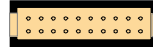
Type : external D-Sub 25-pin female connector on board

Pin	Description	Pin	Description
1	#STROBE	2	#AUTO FEED
3	DATA0	4	#ERROR
5	DATA1	6	#INITIALIZE
7	DATA2	8	#SELECT INPUT
9	DATA3	10	GND
11	DATA4	12	GND
13	DATA5	14	GND
15	DATA6	16	GND
17	DATA7	18	GND
19	#ACKNOWLEDGE	20	GND
21	BUSY	22	GND
22	PAPER EMPTY	24	GND
25	SELECT		

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## TMDS Connector

Connector : TMDS1



**TMDS1**

Type: Onboard DF-13 20-pin header

Pin	Description	Pin	Description
1	Vcc (+5V)	2	Vcc (+5V)
3	TXO+	4	CLK+
5	TXO-	6	CLK-
7	GND	8	GND
9	TX1+	10	DDC CLK
11	TX1-	12	DDC Data
13	GND	14	GND
15	TX2+	16	Hot Plug Detect
17	TX2-	18	NC
19	GND	20	NC

Optional: SCDB-1223 for DVI Interface

## TV-out Connector

Connector : TV1



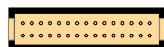
Type: Onboard 6-pin mini boxheader

1	TV-CVBS
2	GND
3	TV_Y
4	GND
5	TV_C
6	GND

## LVDS LCD Connector

Connector : LVDS1

Type : onboard DF-13 30-pin header



LVDS1

Pin	Signal	Pin	Signal
1	VDD	2	VDD
3	TX1CLK+	4	TX2CLK+
5	TX1CLK-	6	TX2CLK-
7	GND	8	GND
9	TX1D0+	10	TX2D0+
11	TX1D0-	12	TX2D0-
13	GND	14	GND
15	TX1D1+	16	TX2D1+
17	TX1D1-	18	TX2D1-
19	GND	20	GND
21	TX1D2+	22	TX2D2+
23	TX1D2-	24	TX2D2-
25	GND	26	GND
27	TX1D3+	28	TX2D3+
29	TX1D3-	30	TX2D3-

## LCD Inverter Connector

Connector : INV1

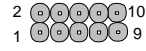
Type : Onboard 5-pin mini boxheader



Pin	Description	Pin	Description
1	+12 V	2	GND
3	backlight on/off	4	brightness control
5	GND		

## RS-232 Serial Port(COM2/ COM3/COM 4)

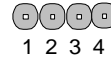
Connector : **COM2 / COM3 / COM4**  
 Type : onboard 10-pin header



<b>COM2 / 3 / 4</b>			
Pin	Description	Pin	Description
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	NC

## RS422/485 Output Connector

Connector: **(CON1)**  
 Type: onboard 2.0 pitch 4-pin wafer



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

RS-422/RS-485 Select by JRS1, share COM2 resource.

## IrDA Connector

Connector : **IR1**  
 Type : Onboard 5-pin header



Pin	Signal	Pin	Signal	<b>IR1</b>
1	+5V	2	NC	
3	IRRX	4	GND	
5	IRTX			

Note: This function depends on ETX CPU module.

## USB/ LAN Connector

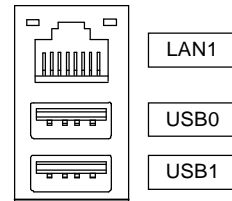
Connector : LAN1/LAN2

Type : RJ-45 Ethernet Connector

Pin	1	2	3	4	5	6	7	8
Description	TX+	TX-	RX+	NC	NC	RX-	NC	NC

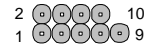
Connector : This connector supports USB 2.0 x4  
Type : USB 2.0 x4

Pin	1	2	3	4
Description	VCC	USB-	USB+	GND



Connector : USB1 Connector (USB2, 3)

Type: onboard 2.54pitch 10-pin headers for two USB ports



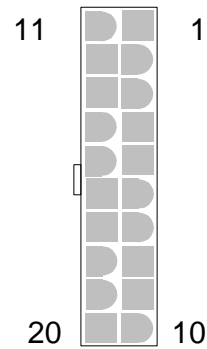
Pin	Description	Pin	Description	<b>USB2 / 3</b>	
1	VCC	2	VCC		
3	USBD2-	4	USBD3-		
5	USBD2+	6	USBD3+		
7	GND	8	GND		
9	GND	10	N.C		

## ATX Power Connector

Connector : **ATX1**

Type: Standard 20-pin (2\*10) Power Connector

Pin	Description	Pin	Description
11	3.3V	1	3.3V
12	-12V	2	3.3V
13	GND	3	GND
14	PS-ON	4	5V
15	GND	5	GND
16	GND	6	5V
17	GND	7	GND
18	-5V	8	PW-OK
19	5V	9	5VSB
20	5V	10	+12V



## CPU Fan Connector

Connector : **CPUF1**

Type : onboard 3-pin wafer connector



Pin	Description
1	GND
2	+12V
3	FAN_CTL

## I2C Connector

Connector: I2C1

Type: onboard 2.5 pitch 3-pin wafer



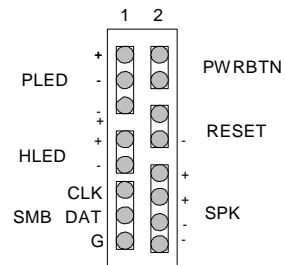
Pin	Description
1	DATA
2	CLK
3	GND

## Front Panel (Switches and Indicators)

Connector : **JFRT1**

Type: onboard 2.54pitch 16-pin (2\*8) header

Pin	Description	Pin	Description
1	Power LED+	2	PWRBTN+
3	GND	4	PWRBTN-
5	GND	6	RESET+
7	HDD LED+	8	RESET-
9	HDD LED-	10	SPEAKER+
11	SMBCLK	12	SPEAKER+
13	SMBDATA	14	SPEAKER-
15	GND	16	SPEAKER-



## External SMBus Connector

Connector : SMBUS1

Type : onboard 2.5 pitch 3-pin wafer



**SMBUS1**

Pin	Description
1	SMBDATA
2	SMBCLK
3	GND

## 16-bit General Purpose I/O

Connector : **DIO1**

Type : Onboard 20-pin header

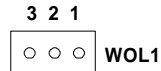


Pin	Description	Pin	Description
1	DIO0	2	DIO1
3	DIO2	4	DIO3
5	DIO4	6	DIO5
7	DIO6	8	DIO7
9	GND	10	GND
11	DIO8	12	DIO9
13	DIO10	14	DIO11
15	DIO12	16	DIO13
17	DIO14	18	DIO15
19	+5V	20	+12V

## Wake On LAN

Connector: **WOL1**

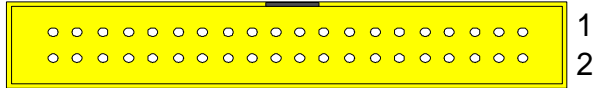
Type : onboard 3-pin wafer connector



Pin	Description
1	5V_SB
2	GND
3	WOL_CTL

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## Enhanced IDE Connector



Connector : **IDE1 and IDE2**

Type : Two onboard 40-pin box headers, primary and secondary IDE

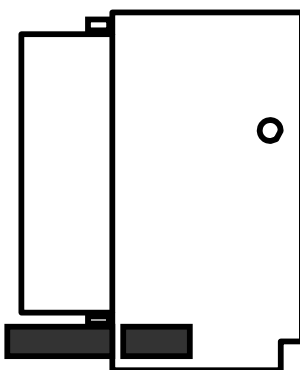
Pin	Description	Pin	Description
1	#RESET	2	GND
3	D7	4	D8
5	D6	6	D9
7	D5	8	D10
9	D4	10	D11
11	D3	12	D12
13	D2	14	D13
15	D1	16	D14
17	D0	18	D15
19	GND	20	NC/(Vcc)
21	REQ	22	GND
23	#IOW	24	GND
25	#IOR	26	GND
27	#IRDY	28	IDESEL
29	#DACK	30	GND
31	IRQ	32	NC (-IOCS16)
33	ADDR1	34	CBLID
35	ADDR0	36	ADDR2
37	#CS1	38	#CS3(#HD SELECT1)
39	#ACT	40	GND

## Compact Flash Connector

Connector : **CFD1**

Type : 50-pin compact flash type I/II

Pin	Description	Pin	Description	Pin	Description
1	GND	18	ADDR2	35	IO WRITE
2	DATA3	19	ADDR1	36	+5V
3	DATA4	20	ADDR0	37	IRQ15
4	DATA5	21	DATA0	38	+5V
5	DATA6	22	DATA1	39	CSEL
6	DATA7	23	DATA2	40	N/C
7	CS#1	24	N/C (-IOCS16)	41	IDE RESET
8	GND	25	GND	42	IO READY
9	GND	26	GND	43	N/C
10	GND	27	DATA11	44	+5V
11	GND	28	DATA12	45	DASP
12	GND	29	DATA13	46	DIAG
13	+5V	30	DATA14	47	DATA8
14	GND	31	DATA15	48	DATA9
15	GND	32	CS#3	49	DATA10
16	GND	33	GND	50	GND
17	GND	34	IO READ		



Note: CFD1 shares the resources with IDE1 and is not hot-swappable

Any advice or comments about our products and service, or anything we can help you with please don't hesitate to contact with us. We will do our best to support you for your products, projects and business

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