Quick Installation Guide

1001010

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

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 requlations concerning special waste.

Packing list

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

> 1 x 1001010 ETX Evaluation board

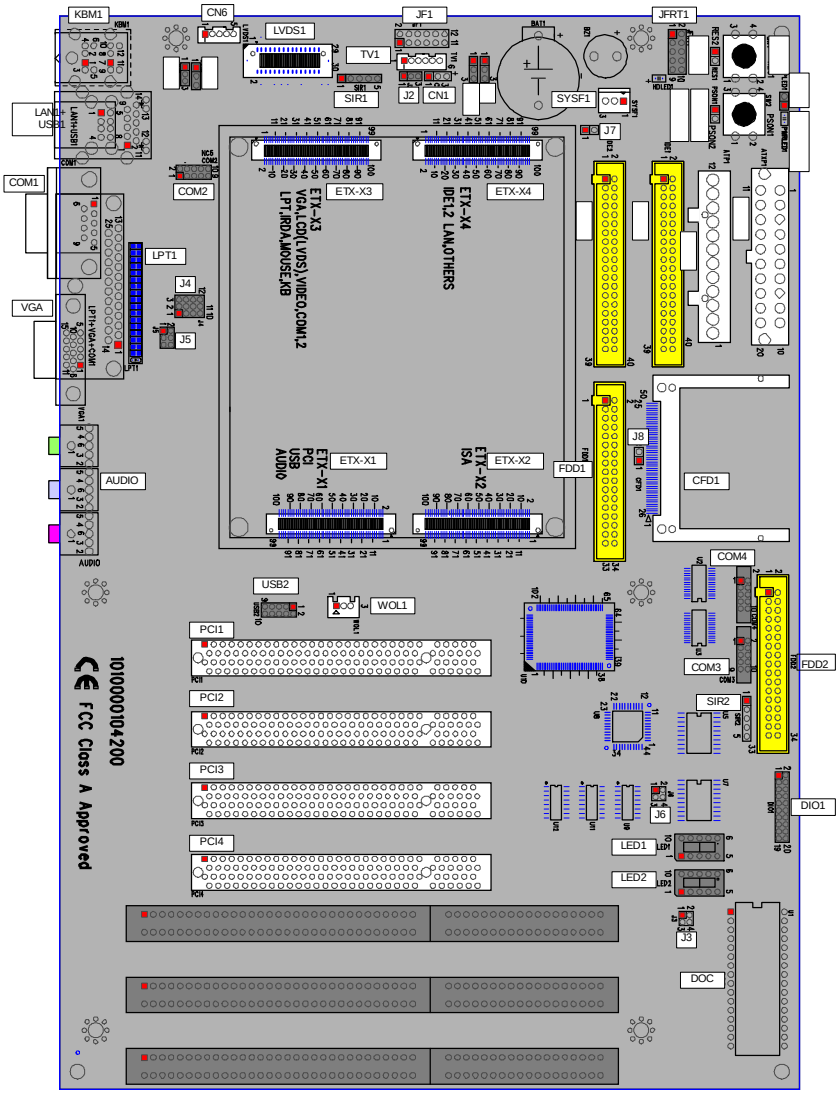
> 1 x Quick Installation Guide

> 1 x Warranty Card

Ordering Codes

1001010	ATX form factor carrier board with CF socket, DOC socket, two IDE connectoers, Audio in/out, P/S2 keyboard and Mouse , Parrarell port , 4 Serial ports, 4xPCI slots, 3xISA slots
Cable Kit	Cable Kit for 1001010

Board Layout Front



Specifications

General Specification

- ETX CPU Module socket
Support EmETX series ETX CPU module.
- FDD Interface
Two FDD ports, FDD2 shared with LPT for EmETX-i701/702 only.
- Enhanced IDE
Support 4 IDE Devices with Ultra DMA/100 mode
- Parallel Port
Support one SSP, ECP, and EEP ode bi-directional Parallel Port, shared with 2nd Floppy
- Serial Port
Support 4 COM
- KB/Mouse Connector
Keyboard/Mouse connector x 2
- USB Connector
4 USB ports
- Flash Memory Interface
- CF Connector
One CF socket supports Type I/II Compact Flash Card
- DOC Socket
One 32-pin DIP socket supports M-Systems DiskOnChip 2000 series
- Expansion Interface
- Four 32-bit PCI Slots on Board
- Three16-bit ISA Slots on Board
- Other Feature
TV Out (NTSC , PAL) , LVDS 32-bit , Debug Port Disp. 16-bit DIO , Wake On LAN ,

Jumper/Connector Quick Reference

Jumpers

Lable	Function
J1	Clear CMOS
J2	Watchdog Output
J3	DOC Base Address Select
J4	COM2 RS-232C/422/585 Select
J5	COM2 RS-232C/422/585 Select
J6	PORT80 Address Select
J7	CF IDE1 mode select (Master or Slave)
J8	IDE 100 or 33 mode select
JV9	LCD Voltage Select

Jumper/Connector Quick Reference

Connectors

Lable	Function
VGA1	VGA Display Connector
LVDS1	Dual Channel LVDS Connector(DF13 30-pin)
TV1	TV-OUT Connector
IDE1	IDE Hard Drive Connector
IDE2	IDE Hard Drive Connector
CFD1	Compact Flash Connector
USB1	USB0~1 Connector
USB2	USB2~3 Connector
AUDIO	Audio Connector
SIR1	IrDA Connector
DIO1	Digital I/O Connector
KBM1	Keyboard and PS/2 Mouse Connector
LPT1	Parallel Port Connector
COM1	COM1 RS-232C Serial Port Connector
COM2	COM2 RS-232C/422/485 Serial Port Connector
COM3	COM3 RS-232C Serial Port Connector
COM4	COM4 RS-232C Serial Port Connector
ATPWR	AT Power Connector
ATXPWR	ATX Power Connector
SYSF1	CPU Fan Power Connector
LAN1	10/100 Base Ethernet Connector
DOC	Disk On Chip
PSON1/2	Power Switch
RES1/2	Reset Switch
PLED	Power LED
JFRT1	Front Panel
WOL1	Wake On LAN
ETX-X1	PCI, USB , AUDIO
EXT-X2	ISA
ETX-X3	VGA, LCD(LVDS), VIDEO, COM1,2, LPT, IrDA, Mouse, KB
ETX-X4	IDE1,2, LAN, Others

CMOS Jumper Settings

CMOS Operation (J1)
Type : J1: onboard 3-pin header

If the 1001010 refuses to boot due to inappropriate CMOS settings here is how to proceed to clear (reset) the CMOS to its default values.

CMOS Setup (J1)	J1
Normal Operation	1-2
Clear CMOS	2-3
default setting 1-2	

Watchdog Timer

Watchdog (J2)
Type : J1: onboard 3-pin header

Mode Setting (J2)

Watchdog Mode	J2
RESET	1-2
NMI	2-3
Disable Watchdog Timer	OFF
default setting 1-2	

DOC Address Select

DOC Address Delect (J3)
Type : J3: onboard 2x2-pin header

Mode Setting (J3)

Based Address	1-2	3-4
D800	OFF	ON
D000	ON	OFF
Disable	OFF	OFF
Deafult setting D800		

COM2 RS-232C/422/485 Select

COM2 Mode Select (J4,J5)
Type : J4: onboard 3x4-pin header

J5: onboard 3x2-pin header

Mode Setting (J4, J5)

COM2	J4	J5
RS-232C	1-2,4-5,7-8,10-11	1-2
RS-422	2-3,5-6,8-9,11-12	3-4
RS-485	2-3,5-6,8-9,11-12	5-6
Deafult setting RS-232C		

PORT80 Address Select

PORT Address Select (J6)
Type : J6: onboard 2x2-pin header

J6

Mode Setting (J6)

Port Address	1-2	3-4
80H	ON	ON
81H	OFF	ON
90H	ON	OFF
91H	OFF	OFF
Deafult setting 80H		

LVDS Voltage Select

LVDS Voltage Select (JV9)
Type : JV9: onboard 3-pin header

Mode Setting (JV9)

Voltage	1-2	2-3
5V	ON	OFF
3.3V	OFF	ON
Disable	OFF	OFF
Deafult setting 3.3V		

CF IDE1 Mode Select

CF IDE1 Mode Select (J7)
Type : onboard 2-pin header

Mode Setting (J7)

J7	Function
ON	CF is IDE1 Master
OFF	CF is IDE1 Slave
Deafult setting ON	

IDE 100 or 33 Mode Select

IDE 100 or 33 Mode Select (J8)
Type : onboard 2-pin header

Mode Setting (J8)

J8	Function
ON	IDE supports Ultra DMA 100
OFF	IDE supports Ultra DMA 33
Deafult setting OFF	

Note : If J8 is set to ON , CF and HDD can't exist at the same time.

IrDA Connector (SIR1)

Connector : **SIR1**
Type : Onboard 5-pin header

Pin	Signal	Pin	Signal
1	+5V	2	NC
3	IRRX	4	GND
5	IRTX		

16-bit Digital I/O

16-bit General Purpose I/O (DIO1)

Connector : **DIO1**
Type : Onboard 20-pin header

Output Port I/O Based Address : 208hex
Input Port I/O Based Address : 200hex

Digital Output	Digital Input
Logic Level 0: 0.5V (max)	Logic Level 0: 0.8V (max)
Logic Level 1: 2.0V (min)	Logic Level 1: 2.0V (min)
Output Current per pin: ±25mA (max)	

Pin	Description	Pin	Description
1	DO0	2	DO1
3	DO2	4	DO3
5	DO4	6	DO5
7	DO6	8	DO7
9	GND	10	GND
11	DI0	12	DI1
13	DI2	14	DI3
15	DI4	16	DI5
17	DI6	18	DI7
19	+5V	20	+12V

* Note:

Output port : Pin1 ~ Pin8 <---> 208h~20Fh

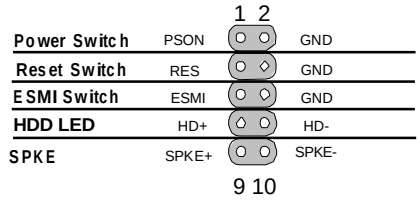
Input port : Pin11~Pin18 <---> 200h~207h

LVDS DF13 30-pin Connector(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	TX1OUT#3	28	TX2OUT#3
29	TX1OUT3	30	TX2OUT3

Switches and Indicators

Connector : JFRT1
Type : On-Board 10-pin header



Pin	Jumper	Description
1-2	PSON	ATX soft power switch
3-4	RES	reset function
5-6	ESMI	external SMI
7-8	HD	Hard Disk LED
9-10	SPKE	exteranal speaker

ETX Connector

ETX1

1	GND	GND	2
3	PCICLK3	PCICLK4	4
5	GND	GND	6
7	PCICLK1	PCICLK2	8
9	REQ#3	GNT#3	10
11	GNT#2	VCC3	12
13	REQ#2	GNT#1	14
15	REQ#1	VCC3	16
17	GNT#0	N.C	18
19	VCC	VCC	20
21	SERIRQ	REQ#0	22
23	AD0	VCC3	24
25	AD1	AD2	26
27	AD4	AD3	28
29	AD6	AD5	30
31	CBE#0	AD7	32
33	AD8	AD9	34
35	GND	GND	36
37	AD10	AUXAL	38
39	AD11	MIC	40
41	AD12	AUXAR	42
43	AD13	ASVCC	44
45	AD14	SNDL	46
47	AD15	ASGND	48
49	CBE#1	SNDR	50
51	VCC	VCC	52
53	PAR	SERR#	54
55	PERR#	N.C	56
57	PME#	USB2-	58
59	LOCK#	DEVSEL#	60
61	TRDY#	USB3-	62
63	IRDY#	STOP#	64
65	FRAME#	USB2+	66
67	GND	GND	68
69	AD16	CBE#2	70
71	AD17	USB3+	72
73	AD19	AD18	74
75	AD20	USB0-	76
77	AD22	AD21	78
79	AD23	USB1-	80
81	AD24	CBE#3	82
83	VCC	VCC	84
85	AD25	AD26	86
87	AD26	USB0+	88
89	AD27	AD29	90
91	AD30	USB1+	92
93	PCIRST#	AD31	94
95	INTR#C	INTR#D	96
97	INTR#A	INTR#B	98
99	GND	GND	100

ETX2

1	GND	GND	2
3	SD14	SD15	4
5	SD13	MASTER#	6
7	SD12	DREQ7	8
9	SD11	DACK#7	10
11	SD10	DREQ6	12
13	SD9	DACK#6	14
15	SD8	DREQ5	16
17	MEMW#	DACK#5	18
19	MEMR#	DREQ0	20
21	LA17	DACK#0	22
23	LA18	IRQ14	24
25	LA19	IRQ15	26
27	LA20	IRQ12	28
29	LA21	IRQ11	30
31	LA22	IRQ10	32
33	LA23	IO16#	34
35	GND	GND	36
37	SBHE#	M16#	38
39	SA0	OSC	40
41	SA1	BALE	42
43	SA2	TC	44
45	SA3	DACK#2	46
47	SA4	IRQ3	48
49	SA5	IRQ4	50
51	VCC	VCC	52
53	SA6	IRQ5	54
55	SA7	IRQ6	56
57	SA8	IRQ7	58
59	SA9	SYSCLK	60
61	SA10	REFCH#	62
63	SA11	DREQ1	64
65	SA12	DACK#1	66
67	GND	GND	68
69	SA13	DREQ3	70
71	SA14	DACK#3	72
73	SA15	IOR#	74
75	SA16	IOW#	76
77	SA18	SA17	78
79	SA19	SMEMR#	80
81	IOCHRDY	AEN	82
83	VCC	VCC	84
85	SD0	SMEMW#	86
87	SD2	SD1	88
89	SD3	NOWS#	90
91	DREQ2	SD4	92
93	SD5	IRQ9	94
95	SD6	SD7	96
97	IOCHK#	RSTDRV	98
99	GND	GND	100

ETX Connector

ETX3

1	GND	GND	2
3	R	B	4
5	HSY	G	6
7	VSY	DDCK	8
9	N.C	DDDA	10
11	TX2CLK#	TX2D3#	12
13	TX2CLK+	TX2D3+	14
15	GND	GND	16
17	TX2D1+	TX2D2+	18
19	TX2D1#	TX2D2#	20
21	GND	GND	22
23	TX1D3#	TX2D0+	24
25	TX1D3+	TX2D0#	26
27	GND	GND	28
29	TX1D2#	TX1CLK+	30
31	TX1D2+	TX1CLK#	32
33	GND	GND	34
35	TX1D0+	TX1D1+	36
37	TX1D0#	TX1D1#	38
39	VCC	VCC	40
41	N.C.	N.C	42
43	N.C	BLON	44
45	BIASON	ENVDD	46
47	N.C	N.C	48
49	N.C	N.C	50
51	N.C	N.C	52
53	VCC	GND	54
55	STB#	AFD#	56
57	N.C	PD7	58
59	IRRX	ERR#	60
61	IRTX	PD6	62
63	RXD2	INIT#	64
65	GND	GND	66
67	RTS#2	PD5	68
69	DTR#2	SLIN#	70
71	DCD#2	PD4	72
73	DSR#2	PD3	74
75	CTS#2	PD2	76
77	TXD#2	PD1	78
79	RI#2	PD0	80
81	VCC	VCC	82
83	RXD1	ACK#	84
85	RTS#1	BUSY#	86
87	DTR#1	PE	88
89	DCD#1	SLCT#	90
91	DSR#1	MSCLK	92
93	CTS#1	MSDAT	94
95	TXD#1	KBCLK	96
97	RI#1	KBDAT	98
99	GND	GND	100

ETX4

1	GND	GND	2
3	SV_SB	PWGIN	4
5	PS_ON	SPEAKER	6
7	PWRBTN#	BATT	8
9	KBINH	LILED	10
11	WDTRIG	ACTLED	12
13	ROMKBCS#	SPEEDLED	14
15	EXT_PRG	12CLK	16
17	VCC	VCC	18
19	OVCR#	GPCS#	20
21	EXTSMI#	12DAT	22
23	SMBCLK	SMBDAT	24
25	SIDE_CS3#	CPU_FAN	26
27	SIDE_CS1#	DASP_S	28
29	SIDE_A2	PIDE_CS3#	30
31	SIDE_A0	PIDE_CS1#	32
33	GND	GND	34
35	PDIAG_S	PIDE_A2	36
37	SIDE_A1	PIDE_A0	38
39	SIDE_INTRQ	PIDE_A1	40
41	N.C	N.C	42
43	SIDE_ACK#	PIDE_INTRQ	44
45	SIDE_RDY	PIDE_ACK#	46
47	SIDE_IOR#	PIDE_RDY	48
49	VCC	VCC	50
51	SIDE_IOW#	PIDE_IOR#	52
53	SIDE_DRQ	PIDE_IOW#	54
55	SIDE_D15	PIDE_DRQ	56
57	SIDE_D0	PIDE_D15	58
59	SIDE_D14	PIDE_D0	60
61	SIDE_D1	PIDE_D14	62
63	SIDE_D11	PIDE_D1	64
65	GND	GND	66
67	SIDE_D2	PIDE_D13	68
69	SIDE_12	PIDE_D2	70
71	SIDE_D3	PIDE_D12	72
73	SIDE_D11	PIDE_D3	74
75	SIDE_D4	PIDE_D11	76
77	SIDE_D10	PIDE_D4	78
79	SIDE_D5	PIDE_D10	80
81	VCC	VCC	82
83	SIDE_D9	PIDE_D5	84
85	SIDE_D6	PIDE_D9	86
87	SIDE_D8	PIDE_D6	88
89	-RI	LAN_WAKE	90
91	RXD-	PIDE_D8	92
93	RXD+	SIDE_D7	94
95	TXD-	PIDE_D7	96
97	TXD+	HDRST#	98
99	GND	GND	100

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