

# **IP100**

5.25-inch form factor  
ETX Base Board

## **USER'S MANUAL**

Version 1.0A

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# Introduction

## Product Description

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The IP100 5.25-inch base board is designed for ETX CPU modules with dimensions of 100mm x 114mm. It packs all the PC connectors for the ETX CPU module to be a high-performance functional embedded board.

The IP100 includes the following features:

- Two Intel 82559 Ethernet controllers
- Pin header for four USB ports
- PS2 keyboard/mouse pin header
- Pin header for VGA CRT connector
- 18-bit LVDS connector (Hirose DF13)
- Pin header for COM 1 and COM2 ports
- Pin header for IDE and FDD connectors
- Pin header for parallel port connector
- DiskOnChip socket supports 2MB to 144MB flash disks
- One 32-bit PCI expansion slot
- One PC/104 expansion connector
- 4 PCB layers
- 203mm x 146mm

*DiskOnChip flash disks* are storage devices that has no moving parts and emulates FDD/HDD with Flash/RAM/ROM offering reliable data/program storage and long life span. They are reliable and suitable for industrial or other harsh environments characterized by motion, shock, vibration, adverse temperature, dust and humidity. Other features include faster data access, longer MTBF, lower power consumption, cost effective for small capacity and small form factor.

*PC/104* is an ISA interface that supports compact-form-factor PC/104 modules (3.6" x 3.8"). It supports self-stacking and pin-and-socket connector. PC/104 features a standard form factor for Embedded applications. It is reliable, small in size and has low power consumption. Flexible mechanical configurations can be attained with PC/104. Modules support various functions such as display, audio, GPS, PCMCIA, fax/modem, Ethernet, SCSI, RS-232/422/485, digital I/O and SSD.

## Checklist

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Your IP100 package should include the items listed below. Damaged or missing items should be reported to your supplier.

- The IP100 Embedded Little Board
- This User's Manual
- One compact disc containing the following:
  - Intel 82559 Ethernet Drivers
- Optional cables such as:
  - 1 Audio Cable
  - 1 44-pin IDE Ribbon Cable
  - 1 44-pin to 40-pin IDE Ribbon Cable
  - 2 COM Port Cables
  - 1 Printer Port Cable
  - 1 PS/2 Keyboard/Mouse Cable
  - 1 VGA Cable
  - 1 RJ45 LAN Cable or IBLD dual RJ45 Cable



## Installations

This section provides information on how to use the jumpers and connectors on the IP100 in order to set up a workable system. The topics covered are:

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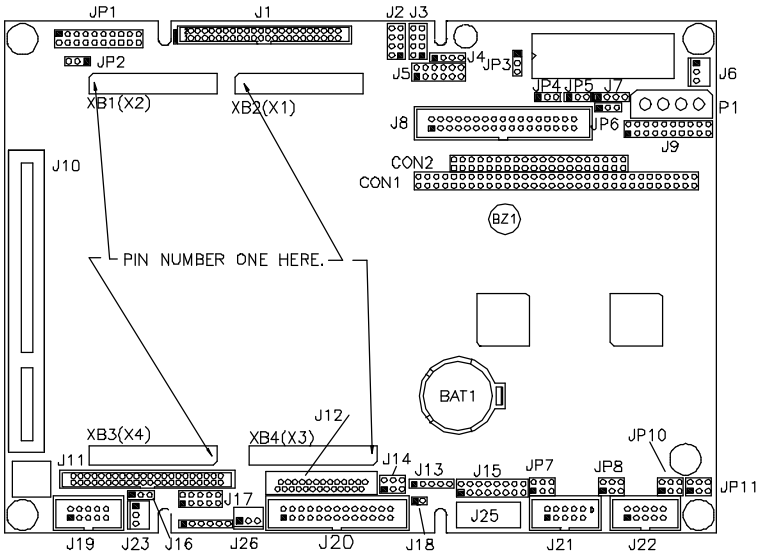
## Setting the Jumpers

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Jumpers are used on the IP100 to select various settings and features according to your needs and applications. Contact your supplier if you have doubts about the best configuration for your needs. The following lists the connectors on IP100 and their respective functions.

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

## Jumper Locations on IP100





**NOTE:**

Before installing the ETX CPU module, make sure of the pin orientation of both the ETX interface connectors and the ETX module connector before plugging the module. Once the module is slightly plugged in, use an even force to fully plug in the module.



**JP2: LCD Power Setting**

JP2	Setting	Function
 1 2 3	Pin 1-2 Short/Closed	3.3V
 1 2 3	Pin 2-3 Short/Closed	5V

**JP4: Onboard LAN2 Enable/Disable**

JP4	Setting	LAN2 Function
 1 2 3	Pin 1-2 Short/Closed	Enabled
 1 2 3	Pin 2-3 Short/Closed	Disabled

**JP5: Onboard LAN1 Enable/Disable**

JP5	Setting	LAN1 Function
 1 2 3	Pin 1-2 Short/Closed	Enabled
 1 2 3	Pin 2-3 Short/Closed	Disabled

**JP10, JP11, JP8: RS232/RS422/RS485 (COM2) Selection**

JP10, JP11, JP8	Pin Short	Function
<p>JP10 JP11 JP8</p>	JP10: 1-2 JP11: 3-5, 4-6 JP8: 3-5, 4-6	RS232
<p>JP10 JP11 JP8</p>	JP10: 3-4 JP11: 1-3, 2-4 JP8: 1-3, 2-4	RS422
<p>JP10 JP11 JP8</p>	JP10: 5-6 JP11: 1-3, 2-4 JP8: 1-3, 2-4	RS485

**JP6: DiskOnChip Address Select**

JP6	Setting	Address
<p>1 2 3</p>	Pin 1-2 Short/Closed	D0000-D7FF
<p>1 2 3</p>	Pin 2-3 Short/Closed	D8000-DFFF

**JP7: COM1/2 RS232 +5V / +12V Power Setting**

JP7 Pin #	Signal Name	JP7	Signal Name	JP7 Pin #
1	+5V		+5V	2
3	Pin 9 (COM1)		Pin 9 (COM2)	4
5	+12V		+12V	6

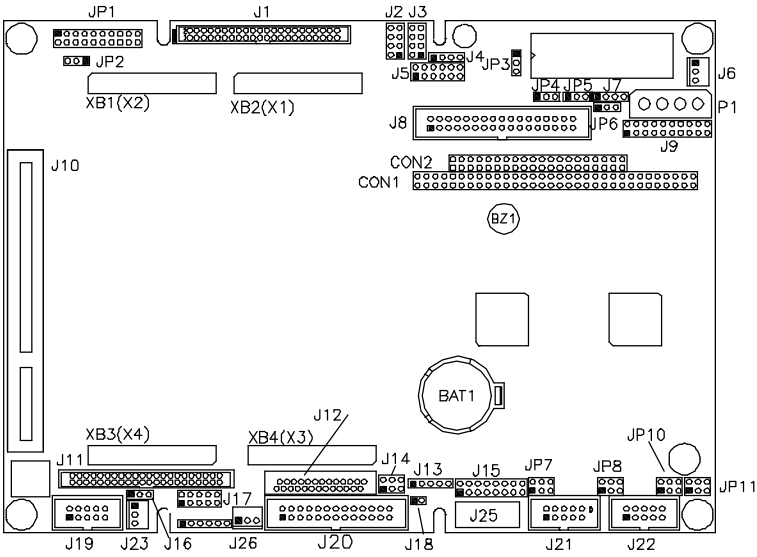
COM1 Settings: Pin 1-3 short = +5V, Pin 3-5 short = +12V  
 COM2 Settings: Pin 2-4 short = +5V, Pin 4-6 short = +12V

## Connectors on IP100

The connectors on IP100 allows you to connect external devices such as keyboard, floppy disk drives, hard disk drives, printers, etc. The following table lists the connectors on IP100 and their respective functions.

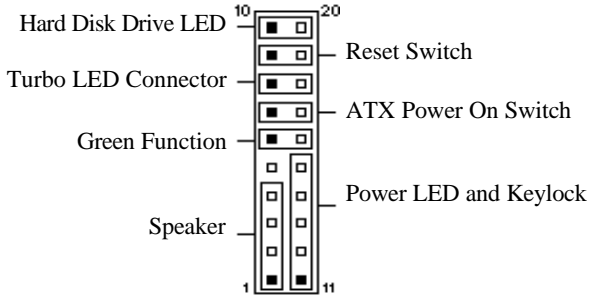
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Connector Locations on IP100



**JP1: System Function Connector**

The System Function Connector provides interfaces for light indicators of system activities (HDD/Power) and computer status switches.



**Speaker: Pins 1 - 4**

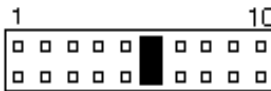
This connector provides an interface to a speaker for audio tone generation. An 8-ohm speaker is recommended.



Pin #	Signal Name
1	Speaker out
2	No connect
3	Ground
4	+5V

**Green Function: Pins 6 and 16**

This connector is for the “Green Switch” on the control panel, which, when pressed, will force the system immediately into the power saving (sleep) mode.



Pin #	Signal Name
6	Sleep
16	Ground

**ATX Power ON Switch: Pins 7 and 17**

This 2-pin connector connects to the power switch. When pressed, the power switch will force the system to power on. When pressed again, it will force the system to power off.



**Power LED and Keylock: Pins 11 - 15**

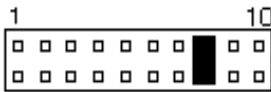
The power LED indicates the status of the main power switch. The keylock switch, when closed, will disable the keyboard function.



Pin #	Signal Name
11	Power LED
12	No connect
13	Ground
14	Keylock
15	Ground

**Turbo LED Connector: Pins 8 and 18**

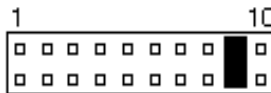
There is the no turbo/deturbo function on the embedded board. The Turbo LED on the control panel will always be on when attached to this connector.



Pin #	Signal Name
8	5V
18	Ground

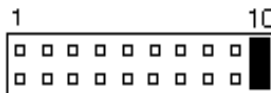
**Reset Switch: Pins 9 and 19**

The reset switch allows the user to reset the system without turning the main power switch off and then on. Orientation is not required when making a connection to this header.



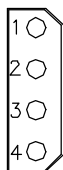
**Hard Disk Drive LED Connector: Pins 10 and 20**

This connector connects to the hard drive activity LED on control panel. This LED will flash when the HDD is being accessed.



### P1: Main Power Connector

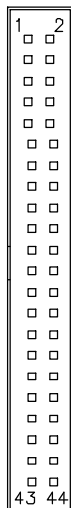
The P1 main power connector has the following pin assignments.



Pin #	Signal Name
1	+5V
2	Ground
3	Ground
4	+12V

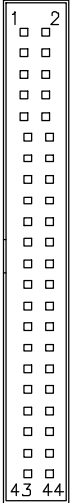
### J1, J11: EIDE Connectors

J1 is the *primary* IDE connector. J11 is the *secondary* IDE connector.



J1: IDE1

Signal Name	Pin #	Pin #	Signal Name
Reset IDE	1	2	Ground
Host data 7	3	4	Host data 8
Host data 6	5	6	Host data 9
Host data 5	7	8	Host data 10
Host data 4	9	10	Host data 11
Host data 3	11	12	Host data 12
Host data 2	13	14	Host data 13
Host data 1	15	16	Host data 14
Host data 0	17	18	Host data 15
Ground	19	20	Key
DRQ0	21	22	Ground
Host IOW	23	24	Ground
Host IOR	25	26	Ground
IOCHRDY	27	28	Host ALE
DACK0	29	30	Ground
IRQ14	31	32	No connect
Address 1	33	34	No connect
Address 0	35	36	Address 2
Chip select 0	37	38	Chip select 1
Activity	39	40	Ground
Vcc	41	42	Vcc
Ground	43	44	N.C.

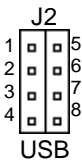


J11: IDE2

Signal Name	Pin #	Pin #	Signal Name
Reset IDE	1	2	Ground
Host data 7	3	4	Host data 8
Host data 6	5	6	Host data 9
Host data 5	7	8	Host data 10
Host data 4	9	10	Host data 11
Host data 3	11	12	Host data 12
Host data 2	13	14	Host data 13
Host data 1	15	16	Host data 14
Host data 0	17	18	Host data 15
Ground	19	20	Key
DRQ0	21	22	Ground
Host IOW	23	24	Ground
Host IOR	25	26	Ground
IOCHRDY	27	28	Host ALE
DACK1	29	30	Ground
MIRQ0	31	32	No connect
Address 1	33	34	No connect
Address 0	35	36	Address 2
Chip select 0	37	38	Chip select 1
Activity	39	40	Ground
Vcc	41	42	Vcc
Ground	43	44	N.C.

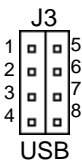
### J2, J3: USB0/USB1 Connectors

The following table shows the pin outs of the USB pin headers connectors. Overall, the two pin headers support four USB ports.



USB

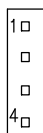
Signal Name	Pin	Pin	Signal Name
Vcc	1	5	Vcc
USB0-	2	6	USB1-
USB0+	3	7	USB1+
Ground	4	8	Ground



USB

Signal Name	Pin	Pin	Signal Name
Vcc	1	5	Vcc
USB2-	2	6	USB3-
USB2+	3	7	USB3+
Ground	4	8	Ground

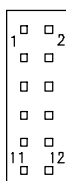
### J4: CD-In Audio Connector



Pin #	Signal Name
1	CD Audio L
2	Ground
3	Ground
4	CD Audio R

### J5: Audio Connector

J5, a 12-pin header connector, supports an optional external connector supporting 3 sockets for Line Out, Line In and Mic functions. The following table shows the pin assignments of this connector.



Signal Name	Pin #	Pin #	Signal Name
Line Out R	1	2	Line Out L
Ground	3	4	Ground
Line In R	5	6	Line In L
Ground	7	8	Ground
Mic	9	10	BIAS
Ground	11	12	NC

### J6: System Fan Power Connector

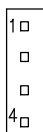
J6 is a 3-pin header for a CPU fan. The fan must be a 12V fan.



Pin #	Signal Name
1	No connect
2	+12V
3	Ground

### J7: Peripheral Power Connector

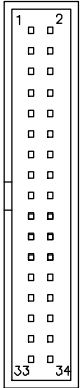
The J7 peripheral power connector has the following pin assignments.



Pin #	Signal Name
1	Ground
2	-5V
3	Ground
4	-12V

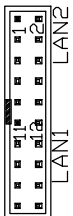
### J8: External Floppy Drive Connector

J8 a 34-pin header for the external FDD connector.



Signal Name	Pin #	Pin #	Signal Name
Ground	1	2	RM/LC
Ground	3	4	No connect
Ground	5	6	No connect
Ground	7	8	Index
Ground	9	10	Motor enable 0
Ground	11	12	Drive select 1
Ground	13	14	Drive select 0
Ground	15	16	Motor enable 1
Ground	17	18	Direction
Ground	19	20	Step
Ground	21	22	Write data
Ground	23	24	Write gate
Ground	25	26	Track 00
Ground	27	28	Write protect
Ground	29	30	Read data
Ground	31	32	Side 1 select
Ground	33	34	Diskette change

### J9: Primary and Secondary LAN Connector



Signal Name	Pin #	Pin #	Signal Name
LED1+	1	11	LED1-
RX+	2	12	RX-
LED2-	3	13	Ground
LED2+	4	14	Ground
TX+	5	15	TX+
LED3+	6	16	LED3-
RX+	7	17	RX-
LED4-	8	18	Ground
LED4+	9	19	Ground
TX+	10	20	TX-

**Note:** LED1 is Link ACT LED (LAN2)  
 LED2 is LAN2 speed LED (10M: no light, 100M: light)  
 LED3 is Link ACT LED (LAN1)  
 LED4 is LAN1 Speed LED (10M: no light, 100M: light)

**J12: External Slim Type Floppy Drive Connector**

J12 is a 26-pin connector for the slim type FDD connector.

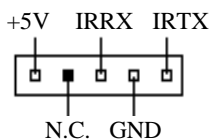
Pin	Signal	Pin	Signal
1	VCC	2	INDEX
3	VCC	4	DRV_SEL
5	VCC	6	DSK_CH
7	NC	8	NC
9	NC	10	MOTOR
11	DINST	12	DIR
13	NC	14	STEP
15	GND	16	WDATA
17	GND	18	EGATE
19	GND	20	TRACK
21	NC	22	WPROT
23	GND	24	RDATA
25	GND	26	SIDE

**J10: PCI Slot**

J10 of the IP100 is a 32-bit PCI slot supporting PCI cards for added functions.

**J13: IrDA Connector**

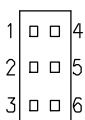
This connector is used to connector to infrared modules that supports wireless communication.



Pin #	Signal Name
1	+5V
2	No Connect
3	Ir RX
4	Ground
5	Ir TX

**J14: TV-Out Connector (For SMI SM721 VGA)**

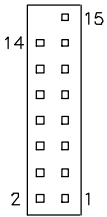
J14 is a 6-pin header that supports an S-video TV out cable.



Signal Name	Pin #	Pin #	Signal Name
Comp output	1	4	Ground
S-Y for S-video	2	5	Ground
S-C for S-video	3	6	Ground

**J15: VGA CRT Connector**

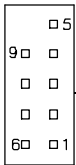
J15 is a 15-pin header for an external VGA CRT female connector.



Signal Name	Pin	Pin	Signal Name
Red	1	2	Vcc
Green	3	4	Ground
Blue	5	6	N.C.
N.C.	7	8	DDDA
Ground	9	10	H-Sync
Ground	11	12	V-Sync
Ground	13	14	DDCK
Ground	15	16	N.C.

**J17: PS/2 Keyboard/Mouse Connector**

J17, a 10-pin header connector, has functions for both keyboard and mouse. The following table shows the pin assignments of this connector.



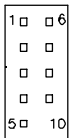
Signal Name	Pin #	Pin #	Signal Name
N.C.	10	5	N.C.
KB clock	9	4	Mouse clock
KB data	8	3	Mouse data
Vcc	7	2	Vcc
Ground	6	1	Ground

**J18: LCD Inverter Backlight Control**

J18, a 2-pin header is used for the LCD inverter backlight control.

**J19: ETX LAN RJ45 Connector**

J19 is the RJ45 connector headers for the integrated LAN of the ETX CPU module.



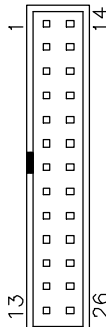
Signal Name	Pin #	Pin #	Signal Name
LED1+	1	6	LED1-
RX+	2	7	RX-
LED2-	3	8	Ground
LED2+	4	9	Ground
TX+	5	10	TX-

**Note:** LED1 is Link ACT LED

LED2 is LAN speed LED (10M: no light, 100M: light)

### J20: Parallel Port Connector

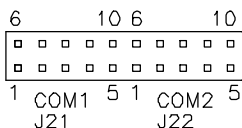
The following table describes the pin out assignments of this connector.



Signal Name	Pin #	Pin #	Signal Name
Line printer strobe	1	14	AutoFeed
PD0, parallel data 0	2	15	Error
PD1, parallel data 1	3	16	Initialize
PD2, parallel data 2	4	17	Select
PD3, parallel data 3	5	18	Ground
PD4, parallel data 4	6	19	Ground
PD5, parallel data 5	7	20	Ground
PD6, parallel data 6	8	21	Ground
PD7, parallel data 7	9	22	Ground
ACK, acknowledge	10	23	Ground
Busy	11	24	Ground
Paper empty	12	25	Ground
Select	13	N/A	N/A

### J21, J22: COM1, COM2 Serial Ports

J21 (COM1) and J22 (COM2) are the onboard serial ports on the IP100.



Pin #	Signal Name (RS-232)
1	DCD, Data carrier detect
2	RXD, Receive data
3	TXD, Transmit data
4	DTR, Data terminal ready
5	Ground
6	DSR, Data set ready
7	RTS, Request to send
8	CTS, Clear to send
9	RI, Ring indicator
10	No Connect.

J22 (COM2) is jumper selectable for RS-232, RS-422 and RS-485.

Pin #	Signal Name		
	RS-232	R2-422	RS-485
1	DCD	TX-	DATA-
2	RX	TX+	DATA+
3	TX	RX+	NC
4	DTR	RX-	NC
5	Ground	Ground	Ground
6	DSR	RTS-	NC
7	RTS	RTS+	NC
8	CTS	CTS+	NC
9	RI	CTS-	NC
10	NC	NC	NC

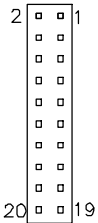
### J23: CPU Fan Power Connector

J23 is a 3-pin header for a CPU fan. The fan must be a 5V fan.



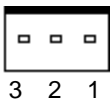
Pin #	Signal Name
1	No connect
2	+5V
3	Ground

### J25: 18-Bit LVDS Connector (DF13-20)



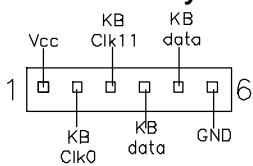
Signal Name	Pin #	Pin #	Signal Name
TX0-	2	1	TX0+
Ground	4	3	Ground
TX1-	6	5	TX1+
5V/3.3V	8	7	Ground
NC	10	9	NC
TX2-	12	11	TX2+
Ground	14	13	Ground
TXC-	16	15	TXC+
5V/3.3V	18	17	ENABKL
+12V	20	19	+12V

### J26: ATX Power Control Connector



Pin #	Signal Name
1	Ground
2	PS-ON (soft on/of)
3	5VSB (Standby +5V)

**J27: External Keyboard Connector**



1	Vcc
2	KBClk (J17 pin4)
3	KBClk
4	KBDAT (J17 pin3)
5	KBDAT
6	Ground



**XB1: ETX Interface for ISA Bus Signals**

Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	GND	2	GND	51	VCC	52	VCC
3	SD14	4	SD15	53	SA6	54	IRQ5
5	SD13	6	MASTERJ	55	SA7	56	IRQ6
7	SD12	8	DREQ7	57	SA8	58	IRQ7
9	SD11	10	DACKJ7	59	SA9	60	SYSCLK
11	SD10	12	DREQ6	61	SA10	62	REFSHJ
13	SD9	14	DACKJ6	63	SA11	64	DREQ1
15	SD8	16	DREQ5	65	SA12	66	DACKJ 1
17	MEMWJ	18	DACKJ5	67	GND	68	GND
19	MEMRJ	20	DREQ0	69	SA13	70	DREQ3
21	LA17	22	DACKJ0	71	SA14	72	DACKJ3
23	LA18	24	IRQ14	73	SA15	74	IORJ
25	LA19	26	IRQ15	75	SA16	76	IOWJ
27	LA20	28	IRQ12	77	SA18	78	SA17
29	LA21	30	IRQ11	79	SA19	80	SMEMRJ
31	LA22	32	IRQ10	81	IOCHRD Y	82	AEN
33	LA23	34	1016J	83	VCC	84	VCC
35	GND	36	GND	85	SD0	86	SMEMWJ
37	SBHEJ	38	M16J	87	SD2	88	SD1
39	SA0	40	OSC	89	SD3	90	NOWSJ
41	SA1	42	BALE	91	DREQ2	92	SD4
43	SA2	44	TC	93	SD5	94	IRQ9
45	SA3	46	DACKJ2	95	SD6	96	SD7
47	SA4	48	IRQ3	97	IOCHKJ	98	RSTDRV
49	SA5	50	IRQ4	99	GND	100	GND

**XB2: ETX Interface for PCI-Bus, USB, Audio**

Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	GND	2	GND	51	VCC	52	VCC
3	PCICLK3	4	PCICLK4	53	PAR	54	SERRJ
5	GND	6	GND	55	GPERRJ	56	N C
7	PCICLK1	8	PCICLK2	57	PMEJ	58	USB20
9	REQJ3	10	GNTJ3	59	LOCKJ	60	DEVSELJ
11	GNTJ2	12	3V	61	TRDYJ	62	USB30
13	REQJ2	14	GNTJ1	63	IRDYJ	64	STOPJ
15	REQJ 1	16	3V	65	FRAMEJ	66	USB21
17	GNTJ0	18	N.C.	67	GND	68	GND
19	VCC	20	VCC	69	AD16	70	CBEJ2
21	SERIRQ	22	REQJ0	71	AD17	72	USB31
23	AD0	24	3V	73	AD19	74	AD18
25	AD1	26	AD2	75	AD20	76	USB00
27	AD4	28	AD3	77	AD22	78	AD21
29	AD6	30	AD5	79	AD23	80	USB10
31	CBFJ0	32	AD7	81	AD24	82	CBEJ3
33	AD8	34	AD9	83	VCC	84	VCC
35	GND	36	GND	85	AD25	86	AD26
37	AD10	38	AUXAL	87	AD28	88	USB01
39	AD11	40	MIC	89	AD27	90	AD29
41	AD12	42	AUXAR	91	AD30	92	USB11
43	AD13	44	ASVCC	93	PCIRSTJ	94	AD31
45	AD14	46	SNDL	95	IRQY	96	IRQZ
47	AD15	48	ASGND	97	IROW	98	IRQX
49	CBEJ1	50	SNDR	99	GND	100	GND

**XB3: ETX Interface for IDE 1, IDE 2, Ethernet, etc.**

Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	GND	2	GND	51	SIDE IOWJ	52	PIDE_IORJ
3	5V SB	4	PWGIN	53	SIDE DRQ	54	PIDE_IOWJ
5	PS ON	6	SPEAKER	55	SIDE D15	56	PIDE DRQ
7	PWRBTNJ	8	BATT	57	SIDE DO	58	PIDE D15
9	KBINH	10	LILED	59	SIDE D14	60	PIDE DO
11	NC	12	ACTLED	61	SIDE D1	62	PIDE D14
13	NC	14	SPEEDLED	63	SIDE D13	64	PIDE D1
15	NC	16	NC	65	GND	66	GND
17	VCC	18	VCC	67	SIDE D2	68	PIDE D13
19	OVCRJ	20	GPCSJ	69	SIDE D12	70	PIDE D2
21	EXTSMI	22	NC	71	SIDE D3	72	PIDE D12
23	SMBCLK	24	SMBDATA	73	SIDE-D 1	74	PIDE D3
25	SIDE_CS3J	26	N.C.	75	SIDE D4	76	PIDE D11
27	SIDE CS1J	28	DASP S	77	SIDE D10	78	PIDE D4
29	SIDE A2	30	PIDE_CS3J	79	SIDE D5	80	PIDE D10
31	SIDE AO	32	PIDE CS1J	81	VCC	82	VCC
33	GND	34	GND	83	SIDE-D9	84	PIDE D5
35	NC	36	PIDE_A2	85	SIDE D6	86	PIDE D9
37	SIDE AI	38	PIDE_A0	87	SIDE-D8	88	PIDE D6
39	SIDE INTRO	40	PIDE A1	89	N.C.	90	N.C.
41	N.C.	42	N.C.	91	RXD-	92	PIDE D8
43	SIDE_AKJ	44	PIDE INTRO	93	RXD+	94	SIDE D7
45	SIDE_RDY	46	PIDE_AKJ	95	TXD-	96	PIDE D7
47	SIDE_IORJ	48	PIDE RDY	97	TXD+	98	HDRSTJ
49	VCC	50	VCC	99	GND	100	GND

**XB4: ETX Interface for VGA, LCD, Video, COM, COM2, LPT/Floppy, IrDA, Mouse, Keyboard, LCD**

Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	GND	2	GND	51	N C	52	N C
3	R	4	B	53	VCC	54	GND
5	HSY	6	G	55	/STB	56	/AFD
7	VSY	8	DDCK	57	ic.	58	PD7
9	NC	10	DDDA	59	IRRX	60	/ERR
11	NC	12	NC	61	IRTX	62	PD7
13	NC	14	NC	63	RXD2	64	/INIT
15	GND	16	GND	65	GND	66	GND
17	NC	18	NC	67	RTS2J	68	PD5
19	NC	20	NC	69	DTR2J	70	/SLIN
21	GND	22	GND	71	DCD2J	72	PD4
23	NC	24	NC	73	DSR2J	74	PD3
25	NC	26	NC	75	CTS2J	76	PD2
27	GND	28	GND	77	TXD2J	78	PD1
29	TX2#	30	TXCLK	79	RI2J	80	PDO
31	TX2	32	TXCLK#	81	VCC	82	VCC
33	GND	34	GND	83	RXD1	84	/ACK
35	TX0	36	TX1	85	RTS1J	86	/BUSY
37	TX0#	38	TX1#	87	DTR1J	88	PE
39	VCC	40	VCC	89	DCD1J	90	/SLCT
41	JILI_DAT	42	LTGIO0	91	DSR1J	92	MSCLK
43	JILI_CLK	44	BLON#	98	CTS1J	94	MSDAT
45	BIASON	46	DIGON	95	TXD1	96	KBCLK
47	COMP	48	Y	97	RI1J	98	KBDAT
49	NC	50	C	99	GND	100	GND