

ePCI-200

Pentium® 4 Single Board Computer



Board Rev. 1

QUICK REFERENCE

Document version 1.4

An incorrect setting of W15 jumper can damage the CPU and the Board.

There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type. Dispose of used batteries according to the manufacturer's instructions.

First Level Debugging

1. Remove all peripheral boards and keep only the SHB.
2. Remove all cables from the SHB except the **video cable** and the **CPU Power Cable (connector J20)**.
3. Make sure the memory is working well and is properly inserted.

JUMPER SETTINGS

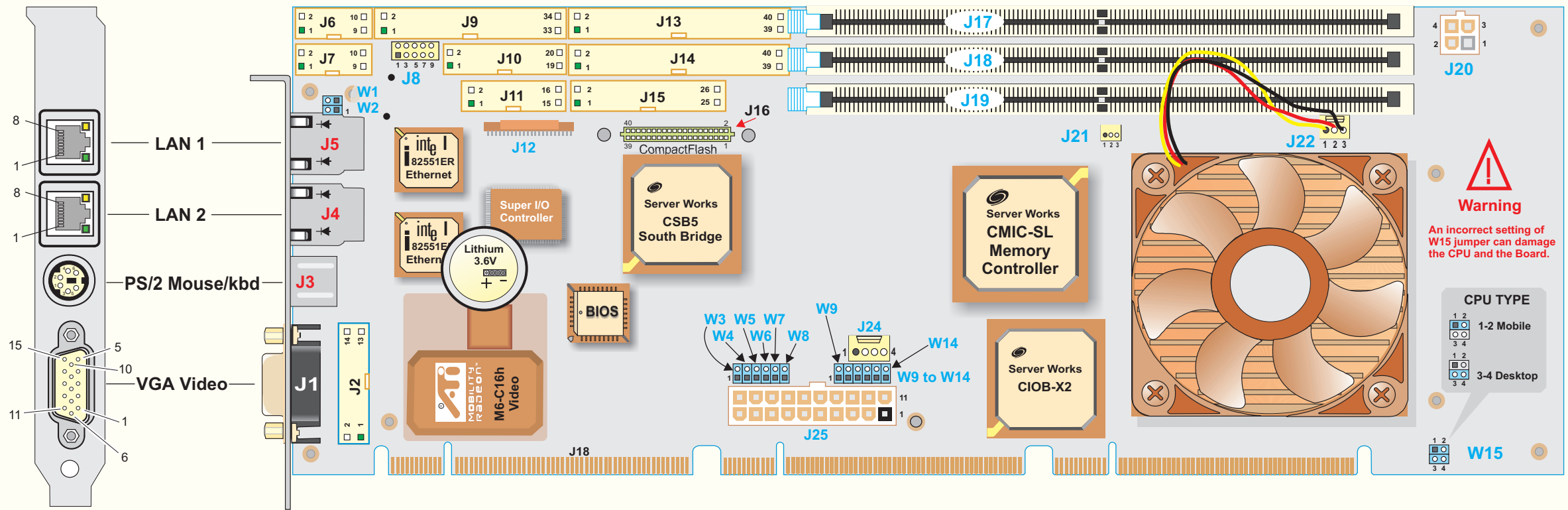
(* : Default Setting)

W1, W2 - COM2 Terminations RS-422/485 modes only W1 W2 With termination resistors On On * Without termination resistors Off Off		W8 - VT-100 Enable * Disabled Off Enabled On	
W3 - Test Mode * Reserved Off		W9 - Onboard Video Enable * Enabled Off Disabled On	
W4 - ATX Control Override * Normal Operation Off Turn Power Supply ON On		W10 - PCI-X Bus 100/133MHz * Operating at 100MHz Off Operating at 133MHz On	
W5 - Battery Source * Battery Disconnected Off Battery Connected On		W11-W13 Reserved * Reserved Off	
W6 - CMOS Memory * Normal Operation Off Clear CMOS Memory On		W14 - CPU Front Side Bus 133MHz (3.0 GHz) Off * 100MHz (1.7, 2.0 & 2.4 GHz) On	
W7 - Compact Flash Disk * Slave Off Master On		W15 - CPU Type Selection Mobile 1-2 Desktop 3-4	

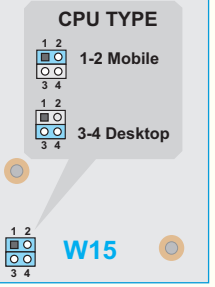
This jumper is critical

Connectors

- J1 Primary Video
- J2 Secondary Video & TV-OUT
- J3 PS/2 Keyboard/Mouse
- J4 Ethernet LAN2
- J5 Ethernet LAN1
- J6 Serial Port COM1 (header)
- J7 Serial Port COM2 (header)
- J8 USB0, 1 (header)
- J9 Floppy
- J10 Hardware Monitor
- J11 Multifunction
- J12 J1LI connector
- J13, 14 IDE0, IDE1
- J15 Parallel Port
- J16 CompactFlash
- J17-J19 Memory (DIMM)
- J20 CPU Power
- J21 CMIC Fan
- J22 CPU Fan
- J23 CPU Socket
- J24 POST Codes
- J25 ATX Power Supply



Warning
An incorrect setting of W15 jumper can damage the CPU and the Board.



Connector Pinouts

ePCI-200

QR Rev. 1.4

Board Rev. 1

J1 - Primary Video

Row 1 (1-5)		9	N.C.
1	RED	10	GND
2	GREEN	Row 3 (11-15)	
3	BLUE	11	N.C.
4	N.C.	12	SDATA
5	Gnd	13	HSYNC
Row 2 (6-10)		14	VSYNC
6-8	A_GND	15	SCLK

J4, J5 - Ethernet 2 & 1

1	TX+	5	NU ¹
2	TX-	6	RX-
3	RX+	7	NU ¹
4	NU ¹	8	NU ¹

¹Lines terminated with 75 ohm resistors
*Pinout from the faceplate view

J3 -PS/2 Keyb. & Mouse

1	KB:DATA	4	VCC
2	MOUSE:DATA	5	KB:CLK
3	GND	6	MOUSE:CLK

J2 - TV-Out/Secondary Video (header)

1	(TV-Out composite out) COMP	2	GND
3	(TV-Out S-Video chroma) C	4	Y (TV-Out S-Video luma)
5	GND	6	RED (Secondary CRT)
7	GND	8	GREEN (Secondary CRT)
9	GND	10	BLUE (Secondary CRT)
11	GND	12	HSYNC (Secondary CRT)
13	GND	14	VSYNC (Secondary CRT)

J6, J7 - Serial 1/2 - RS-232

DCD	1	2	DSR
RXD	3	4	RTS
TXD	5	6	CTS
DTR	7	8	RI
GND	9	10	N.C.

J7 - Serial Port 2 - RS-485

RSV	1	2	RSV
RX-	3	4	RX+
TX-	5	6	TX+
RSV	7	8	RI
GND	9	10	N.C.

J8 - USB 0, 1

USB0:VCC	1	2	USB1:VCC
USB0:DATA-	3	4	USB1:DATA-
USB0:DATA+	5	6	USB1:DATA+
USB0:GND	7	8	USB1:GND
GND	9	10	GND

J24 - POST CODE

1	+3.3V
2	POST:DATA
3	POST:CLOCK
4	GND

J9 - Floppy Disk

Odd Pin Number	8	INDEX #	22	WDATA #	
1-15, 19-25, 31	GND	10	MTR0#	24	WGATE#
17, 27, 33	N.C.	12	DSEL1#	26	TRK0 #
29	FEDTECT	14	DSEL0#	28	WRPROT#
Even Pin Number	16	MTR1#	30	RDATA#	
2	DENSEL#	18	DIR#	32	HSEL#
4, 6	Not Conn.	20	STEP #	34	DSKCHG#

J21 - CHIPSET FAN

1	Sense
2	+12V
3	GND

J22 - CPU FAN

1	Sense
2	+12V
3	GND

J20 - CPU POWER

1	GND	3	+12
2	GND	4	+12

The Technical Reference Manual and the Quick Reference can be downloaded from Kontron web site at: <http://www.kontron.com> or from Kontron FTP site at: <ftp://ftp.kontron.ca/Support/>

J10 - Hardware Monitor

GND	1	2	PWRBTN#
N.C.	3	4	GND
GPIO1/SMBDATA	5	6	GPIO2/SMBCLK
APFLT#	7	8	CPUFLT#
EXTFLT#	9	10	GND
FANFLT#	11	12	GND
CHASINT#	13	14	GND
FAN_TACH1	15	16	FAN_TACH2
FAN_TACH3	17	18	FAN_TACH4
FAN_TACH5	19	20	FAN_TACH6

J11 - Multifunction

KB:CLK	1	2	GND
KB:DATA	3	4	GND
VCC	5	6	VCC
SPEAKER	7	8	VCC
MOUSE:CLK	9	10	GND
MOUSE:DATA	11	12	GND
PBRES#	13	14	GND
IDE:ACT#	15	16	VCC

J25 - ATX Type BOARD POWER

1	VCC3	11	VCC3
2	VCC3	12	-12
3	GND	13	GND
4	VCC	14	PS_ON#
5	GND	15	GND
6	VCC	16	GND
7	GND	17	GND
8	PWRQ K	18	N.C.
9	+5VSB	19	VCC
10	+12V	20	VCC

J13 - Primary IDE. J14 - Secondary IDE

Odd Pin Number	25	IOR #	39	ACT#	30	GND	
1	RST#	27	IORDY	Even Pin Number	32	N.C.	
3-17	D7-D0	29	DACK#	2, 22-26, 30	GND	34	DIAG#.
19	GND	31	J13 IRQ14, J14 IRQ15	4-18	D8-D15	36	A2
21	REQ	33, 35	DA1, DA0	20	N.C.	38	CS1#
23	IOW #	37	CS0 #	28	PRIMPDI	40	GND

J15 - Parallel Port /Standard

STB#	1	2	ALF#
[D0-D7]	3-17	4	ERR#
ACK#	19	6	INIT#
BUSY	21	8	SLCTIN#
PE	23	Even	GND
SELECT	25	10-26	

J16 - CompactFlash

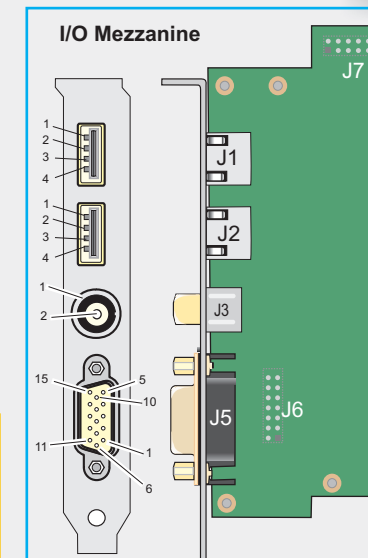
1	D11	2	GND
3	D12	4	D3
5	D13	6	D4
7	D14	8	D5
9	D15	10	D6
11	CS1#	12	D7
13	DMACK#	14	CS0#
15	DMARQ	16	IOR#
17	PDIAG#	18	IOW#
19	IRQ15	20	VCC
21	VCC	22	VCC
23	GND	24	GND
25	RESET#	26	GND
27	CSEL	28	A2
29	A1	30	DASP#
31	A0	32	IORDY
33	D0	34	D8
35	D1	36	D9
37	D2	38	D10
39	IOCS16#	40	GND

J12 - Jumptec Intelligent LVDS Interface

1	LCDFLM	21	evenLVD1+
2	LVD0-/oddLVD0-	22	N.C.
3	LVD0+/oddLVD0+	23	evenLVD2-
4	ENAVDD	24	evenLVD2+
5	LVD1-/oddLVD1-	25	GND
6	LVD1+/oddLVD1+	26	evenLVDC-
7	N.C.	27	evenLVDC+
8	LVD2-/oddLVD2-	28	GND
9	LVD2+/oddLVD2+	29	evenLVD3-
10	GND	30	evenLVD3+
11	LVC-/oddLVC-	31	VCC
12	LVC+/oddLVC+	32	VCC
13	GND	33	VCC
14	LVD3-/oddLVD3-	34	VCC
15	LVD3+/oddLVD3+	35	EnableBacklight
16	DDC_Data	36	GND
17	evenLVD0-	37	GND
18	evenLVD0+	38	+12V
19	DDC_Clock	39	+12V
20	evenLVD1-	40	+12V

I/O MAPPING

000-01F	DMA Controller 1
020-03F	Interrupt controller 1
040-05F	Timer
060-06F	Keyboard
070-07F	Real Time Clock
080-09F	DMA Page Register
0A0-0BF	Interrupt controller 2
0C0-0DF	DMA controller 2
0F0-0FF	Math Coprocessor
190-1AF	Kontron Control Port
170-177, 376	Secondary IDE
1F0-1F7, 3F6	Primary IDE
278-27A	Parallel Port (option)
2F8-2FF	COM2
370-377	Floppy Disk (option)
378-37A	Parallel Port (LPT1)
3BC-3BE	Parallel Port (option)
3F0-3F7	Floppy Disk
3F8-3FF	COM1
3C0-3CF/3D0	Graphic Controller
3DF/3B0-3BB	



J1, J2 - USB 0 & 1

1	VCC
2	DATA-
3	DATA+
4	GND

J3 - RCA Connector

1	GND
2	COMPOSITE

J5 - Secondary Video

Row 1 (1-5)		9	N.C.
1	RED	10	GND
2	GREEN	Row 3 (11-15)	
3	BLUE	11	N.C.
4	N.C.	12	N.C.
5	Gnd	13	HSYNC
Row 2 (6-10)		14	VSYNC
6-8	A_GND	15	N.C.