PCI-990

Dual Pentium III Single Board Computer

kontron

Board Rev. 2

QUICK REFERENCE

Document version 1.4

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

First Level Debugging

1 . Remove all peripheral boards and keep only the SBC.
2 . Remove all cables from the SBC except the video cable.
3 . Make sure the memory is working well and is properly inserted.

Connectors

J1-J4,	DIMM Memory	J15	Multifunction
J5	EIDE - Primary	J16, J17	LAN 2, LAN 1
J6	EIDE - Secondary	J18	CompactFlash
J7	Parallel Port	J19	External Power
J8	SCSI LVD Chan.B	J20,J21,J22	64-bit Mezzanine
J9	SCSI LVD Chan.A	J23	USB (faceplate)
J10	Floppy	J24	Video (SVGA)
J11	Hardware Monitor	J25	CPU Fan 1
J12	USB (header)	J26	CPU Fan 0
J13, J14	Serial Ports 1 & 2		

JUMPER SETTINGS (* : Default Setting)

W1, W2 - COM2 RS485 Termination

	W1	W2
RS-422/485 modes only		
With termination resistors	On	On
* Without termination resistors	Off	Off

W6 - Reserved

*	Off
	On

W3 - Battery Source

On Board	1-2
* Disconnected	Off

W7 - VT-100

* Disabled	Off
Enabled	On

W4 - Compact Flash Disk

Slave	Off
* Master	On

W8 - Test Mode

* Reserved	Off
Reserved	On

W5- SCSI Termination

Channel	A	B
Always disabled	Off	Off
Software En/dis	1-3	2-4
Always Enabled	3-5	4-6

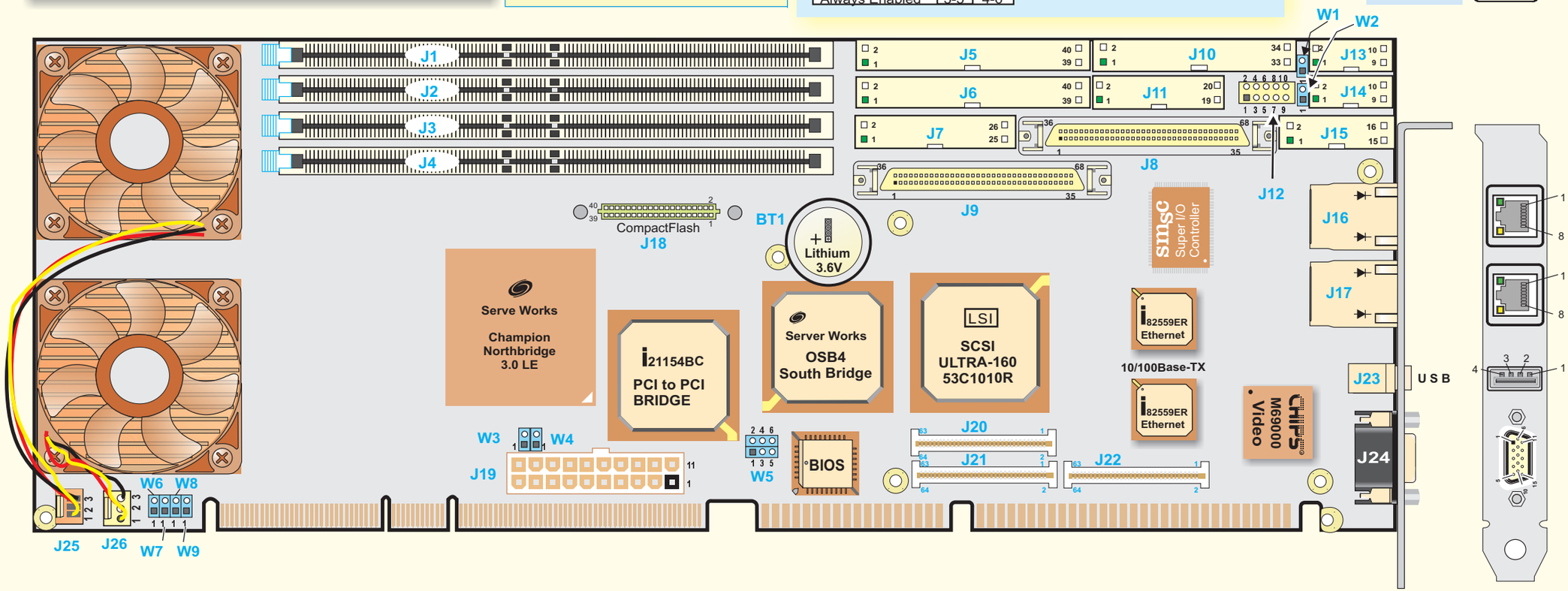
W9 - BMC

BMC in normal mode	Off
* BMC in RESET	On

Ethernet Connector

Green : Link
Lights ON when the link is established

AMBER: Activity
Lights ON while transferring



Connector Pinouts

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J5 - Primary IDE. J6 - Secondary IDE

Odd Pin Number				Even Pin Number			
1	RST#	25	IOR #	39	ACT#	30	GND
3-17	D7-D0	27	IORDY	2; 22-26	GND	32	N.C.
19	GND	29	DACK#	4-18	D8-D15	34	J6 PDIAG#
21	REQ	31	J5 IRQ14 J6 IRQ15	20	N.C.	36	A2
23	IOW #	33; 35	A1; A0	28	PRIMPDI [1]	38	Cs1 #
		37	CS0 #			40	GND

[1] 470 ohm pull-down

J7 - Parallel Port /Standard

STB#	1	2	ALF#
[D0-D7]	3-17	4	ERR#
ACK#	19	6	INIT#
BUSY	21	8	SLCTIN#
PE	23	10-18	GND
SLCT	25	20-26	GND

J12 - USB Header

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

J10 - Floppy Disk

Odd Pin Number					
1-15; 19-25; 31	GND	8	INDEX #	22	WDATA #
17; 27; 31	N.C.	10	MTR0#	24	WGATE#
29	FDETECT	12	DSEL1#	26	TRK0#
Even Pin Number		14	DSEL0#	28	WRPROT#
2	DENSEL#	16	MTR1#	30	RDATA#
4; 6	N.C.	18	DIR#	32	HDSEL#
		20	STEP #	34	DSKCHG#

J11 - Hardware Monitor

GND	1	2	PWR_BTN
PS_ON#	3	4	GND
IPMB0_SDA	5	6	IPMB0_SCL
VCCSB	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

J13, J14 - Serial 1/2 - RS-232

DCD	1	2	RXD
TXD	3	4	DTR
GND	5	6	DSR
RTS	7	8	CTS
RI	9	10	Not Conn.

J14 - Serial Port 2 - RS-485

RESERVED	1	2	RESERVED
RX(-)	3	4	RX(+)
TX(-)	5	6	TX(+)
RESERVED	7	8	RESERVED
GND	9	10	Not Conn.

J15 - 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
IDEACT#	15	16	VCC

J16, J17 - Ethernet 1, 0

1	TX+	5	RJ1 [1]
2	TX-	6	RX-
3	RX+	7	RJ2 [1]
4	RJ1 [1]	8	RJ2 [1]

[1] Lines terminated with 75 ohm resistors

J23 - USB (Faceplate)

1	USB2:VCC
2	USB2:DATA-
3	USB2:DATA +
4	USB2:GND

J25, J26 - CPU FAN

1	Sense
2	+12V
3	GND

J24 - Video SVGA

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

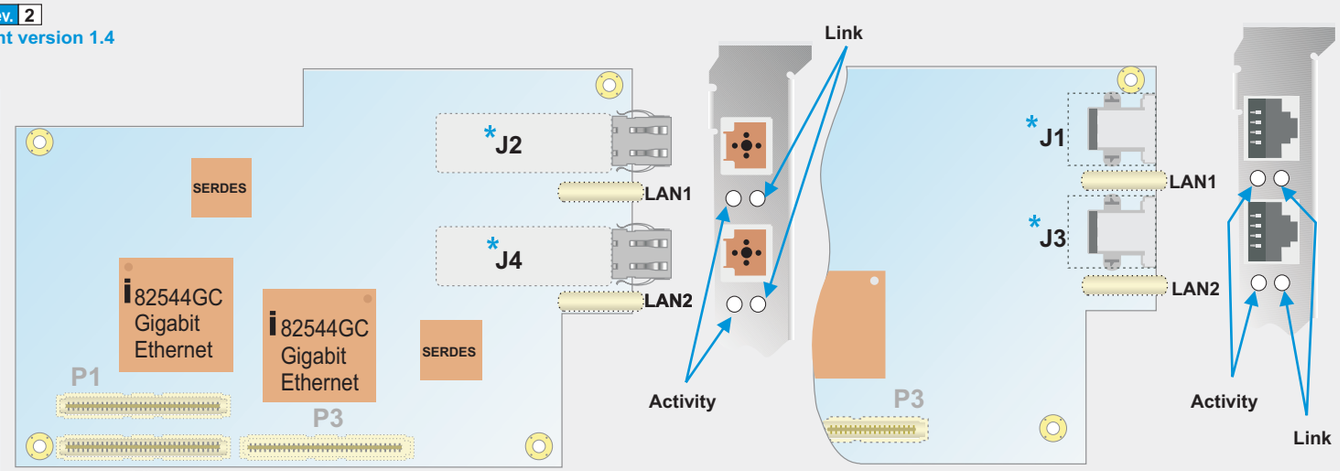
Active low Signal

J8, J9 - HD68 SCSI ULTRA-160 CHANNEL B and A

1	D12+	35	D12-
2	D13+	36	D13-
3	D14+	37	D14-
4	D15+	38	D15-
5	DPH+	39	DPH-
6	D0+	40	D0-
7	D1+	41	D1-
8	D2+	42	D2-
9	D3+	43	D3-
10	D4+	44	D4-
11	D5+	45	D5-
12	D6+	46	D6-
13	D7+	47	D7-
14	DPL+	48	DPL-
15	GND	49	GND
16	DIFFSENS	50	GND
17	TERMPWR	51	TERMPWR
18	TERMPWR	52	TERMPWR
19	N.C.	53	N.C.
20	GND	54	GND
21	ATN+	55	ATN-
22	GND	56	GND
23	BSY+	57	BSY-
24	ACK+	58	ACK-
25	RESET+	59	RESET-
26	MSG+	60	MSG-
27	SEL+	61	SEL-
28	CD+	62	CD-
29	REQ+	63	REQ-
30	IO+	64	IO-
31	D8+	65	D8-
32	D9+	66	D9-
33	D10+	67	D10-
34	D11+	68	D11-

J19 - External Power

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



MTRJ Connector (optical interfacce)

* Note : These connector numbers are for mezzanine only

RJ-45 Connector (copper interface)

J18 - CompactFlash (IDE1)

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	DIOR#
17	PDIAG#	18	DIOW#
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	IOSC16#	40	GND

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
190-19F	Kontron Control Port

I/O MAPPING

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 3DF/3B0-3BB	Graphic Controller

MEMORY MAPPING

00000-9FFFF	0-640KB DRAM
A0000-BFFFF	Video DRAM
C0000-CBFFF	Video BIOS
CC000-DFFFF	Optional BIOS
E0000-FFFFF	Main BIOS
100000 to top	1MB to top of RAM

For Technical Support please contact:

1. Internet : www.kontron.com
2. E-Mail : support@ca.kontron.com
3. Fax : (450) 437-8053
4. Tel : (800) 354-4223

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