PCI-947

Celeron Pentium III Single Board Computer with DVI

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,J6, J11,J15	DIMM Memory	J16	Hardware Monitor
J2	EIDE - Primary	J17	ATX auxiliary
J3	Floppy	J18	Compact Flash
J4, J5	Serial Ports 1 & 2	J19	Mouse PS/2
J7	Secondary IDE	J20	PS/2 Keyb & Mouse
J8	USB Port	J21	USB
J9	Multifunction Keyb., speaker etc.	J22	CPU Fan
J10	Parallel Port	J23	CPU Fan
J12	Power Button	J24	Battery
J13	SCSI	J25	SCSI LED Connector
J14	Flat Panel	J26	Ethernet
		J27	External Power
		P1	DVI

JUMPER SETTINGS (* : Default Setting)

W1- SCSI Termination

No termination	Off
Controlled by software	1-2
Hardware terminated	2-3

W7 - Battery Source

On Board	1-2
* External	2-3
Battery disconnected	Off

W4 - Video Enable

* Enabled	Off
Disabled	On

W9 - VT-100 Enable

* Disabled	Off
Enabled	On

W8 - Reserved

W2, W3 - COM2 Terminations

RS-422/485 modes only	W2	W3
With termination resistors	On	On
* Without termination resistors	Off	Off

W5 - Compact Flash Disk

* Slave	Off
Master	On

W6 - Power Fail : Source Detection

* Offboard Battery	1-2
Onboard Battery	2-3

NOTE 1
To prevent the board from spurious PFI (Power Fail Interrupt), the jumper cap W6 must always be installed at either 1-2 or 2-3 position.

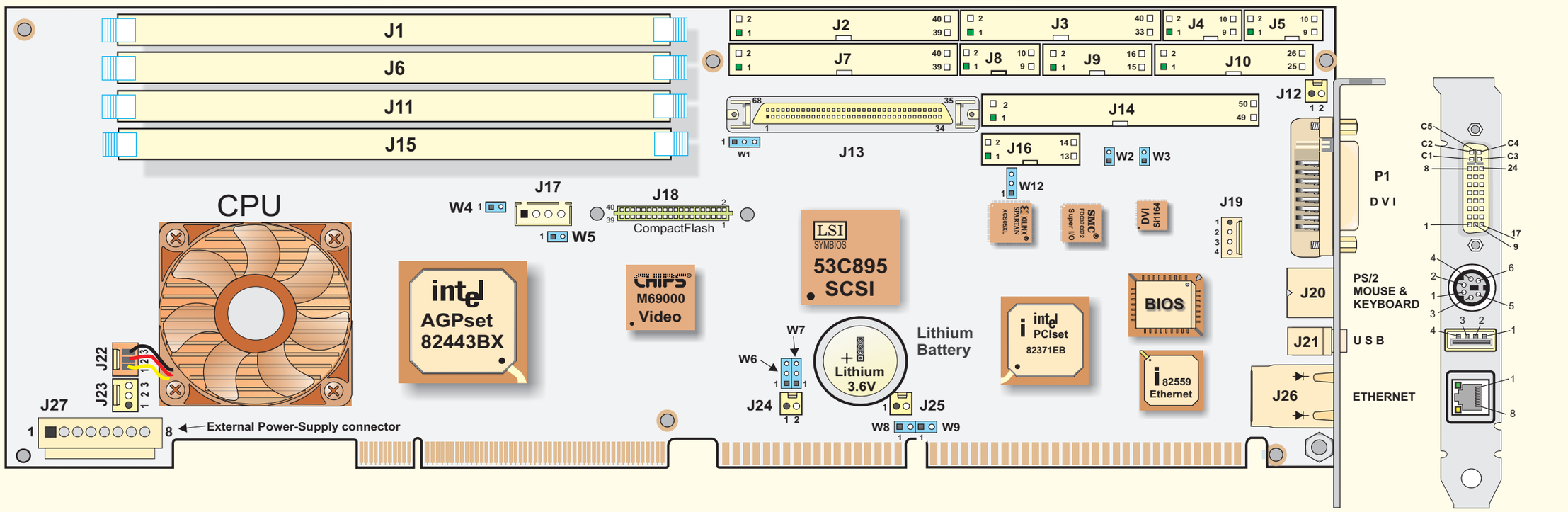
W12 - Flat Panel Clock Setting

* Falling Edge (Normal mode)	1-2
Rising Edge (Inverted mode)	2-3

Ethernet Connector

Green : Integrity
Lights ON when the link is established

AMBER: Activity
Lights ON while transferring



Connector Pinouts

PCI-947

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J2 - Primary IDE. J7 - 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	GND	34	DIAG#.
19	GND	31	J2 IRQ14 J7 IRQ15	4-18	D8-D15	36	A2
21	REQ	33; 35	A1; A0	20	N.C.	38	CS 1 #
23	IOW #	37	CS0 #	28	PRIMPDI [1]	40	GND

1 470 ohm pull-down

J3 - Floppy Disk

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

J4, J5 - 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.

J5 - Serial Port 2 - RS-485

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

J8 - USB (header)

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

J9 - Keyboard / Speaker

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

J10 - 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
SELECT	25	20-26	GND

J12 - Power Button

1	PWRBTR#	2	GND

J14 - FLAT PANEL

	ROW A		ROW A
1	ENAVCC	2	VCCV
3	ENAVEE	4	STBY#
5	ENABKL	6	GND
7	M/DE	8	VCCV
9	GND	10	LP/DE
11	FLM	12	GND
13	SHFCLK	14	GND
15	FP0	16	FP1
17	GND	18	FP2
19	FP3	20	GND
21	FP4	22	FP5
23	GND	24	FP6
25	FP7	26	GND
27	FP8	28	FP9
29	GND	30	FP10
31	FP11	32	GND
33	FP12	34	FP13
35	GND	36	FP14
37	FP15	38	GND
39	FP16	40	FP17
41	GND	42	FP18
43	FP19	44	GND
45	FP20	46	FP21
47	GND	48	FP22
49	FP23	50	GND

J16 - Hardware Monitor

GND	1	2	JPWRBT#
JS0FT0FF#	3	4	GND
JGPIO1	5	6	JGPIO2
JAPFLT#	7	8	JCPUFLT#
JEXTFLT#	9	10	GND
JFANFLT#	11	12	N.C.
JCHASINT#	13	14	GND

J17 - ATX

1	PW-OK	3	PS-ON
2	5VSB	4	GND

J19 - KEYBOARD

1	MOUSE:CLK	3	MOUSE:DATA
2	GND	4	VCC

J20 -PS/2 Keyb. & Mouse

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

J21 - USB PORT

1	USB1:VCC
2	USB1:DATA-
3	USB1:DATA+
4	USB1:GND

J18 - 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

P1 - D V I

1	TMDS_2-	16	HP_DET
2	TMDS_2+	17	TMDS_0-
3	SHIELD_2-4	18	TMDS_0+
4	N.C.	19	SHIELD_0-5
5	N.C.	20	N.C.
6	DDC_CLK	21	N.C.
7	DDC_DATA	22	SHIELD_CLK
8	VSYNC	23	TMDS_CLK+
9	TMDS_1-	24	TMDS_CLK-
10	TMDS_1+		
11	SHIELD_1-3	C1	RED
12	N.C.	C2	GREEN
13	N.C.	C3	BLUE
14	VCC	C4	HSYNC
15	GND	C5	GND

J26 - Ethernet

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

J25 - SCSI LED

1	LED +	2	LED -

J27 - External Power

VCC	1	2	VCC
N.C.	3	4	GND
GND	5	6	GND
N.C.	7	8	+12V

J22, J23 - CPU FAN

1	Sense
2	+12V
3	GND

J24 - External Battery

1	EXTBAT	2	GND

J13 - HD68 SCSI

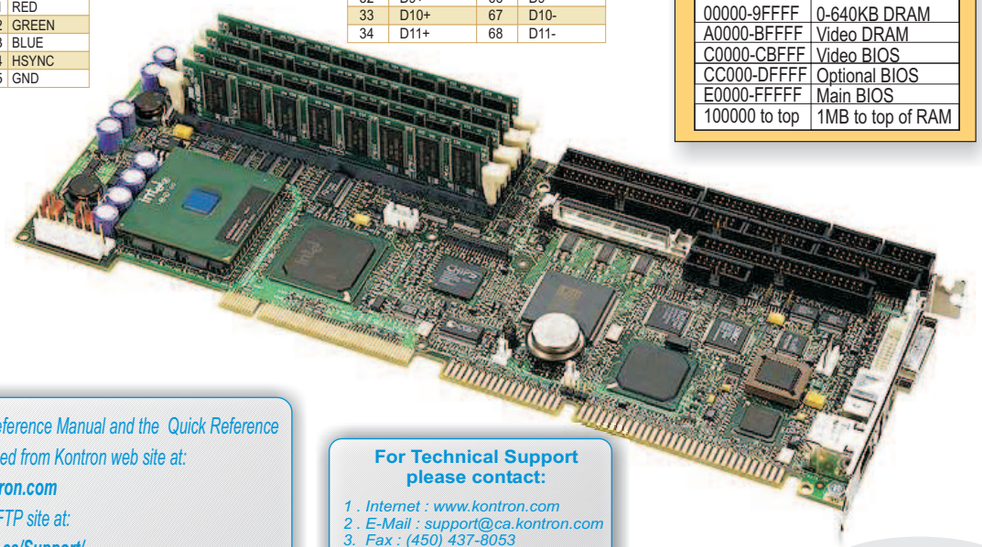
1	D12+	35	D12-
2	D13+	36	D13-
3	D14+	37	D14-
4	D15+	38	D15-
5	DPH+	39	DPH-
6	D0+	40	D0-
7	D1+	41	D1-
8	D2+	42	D2-
9	D3+	43	D3-
10	D4+	44	D4-
11	D5+	45	D5-
12	D6+	46	D6-
13	D7+	47	D7-
14	DPL+	48	DPL-
15	GND	49	GND
16	DIFFSENS	50	GND
17	TERMPWR	51	TERMPWR
18	TERMPWR	52	TERMPWR
19	N.C.	53	N.C.
20	GND	54	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-

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, 290, 390	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 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



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/

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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Specifications

CPU
Celeron, Pentium III Single Board Computer.

Bus Interfaces
Front side bus at 66 or 100MHz
33MHz PCI Bus
ISA Bus (8.33MHz)
AGP 2X Bus (66 MHz)

Memory
Four 168-pin latching DIMM sockets, 64/72-bit
Up to 1GB of SDRAM
256KB Advanced Tranfer Cache Level 2

Data Path
64-bit CPU Bus, 32-bit AGP and PCI bus, 16-bit ISA bus

I/O
SERIAL: Two (One RS-232 COM1, COM2 configurable as RS-232/422/485)
PARALLEL: One bi-directional with all IEEE 1284 protocols supported
ETHERNET: One 10Base-T/100Base-TXthroughRJ-45, Bus Master
PCI Rev. 2.1compliant
LAN bootable - Wake On Lan (Intel 82559)
EIDE: Two channel Bus Master PCI EIDE; supports up to four EIDE type 4 drives (master/slave configuration); LBA, PIO Modes 0-4 and Ultra DMA/33
FLOPPY DISK: Up to 2 floppy drives (1.44MB)
USB: Two ports, serial transfers up to 1.5MB/s
CompactFlash™ Module :Optional bootable CompactFlash module

Video
AGP 2X 64-bit CRT controller with 2MB, 83MHz SDRAM memory
Chips and Technologies 69000
Supports resolution up to 800x600, 16.8M colors
1024 x 768, 64K colors, or 1280 x 1024, 256 colors, non interlaced
Compatible with CGA, EGA, Hercules, MDA, VGA, SVGA, XGA, and SXGA

DVI Support
Supports DVI output up to XGA through Silicon Image SIL 164 PanelLink transmitter

Flat Panel Support
Supports 3.3V STN/TFT displays through standard flat panel (50-pins)

OS Compatibility
Windows® 95/98, Windows® NT 4.0, Windows® 2000, QNX™, Linux, and FreeBSD

Mechanical
338 x 122 x 36mm at CPU / fan (13.32 x 4.80 x 1.40in. at CPU / fan)
Conforms to IEEE P996 PC/AT bus, PCI Rev. 2.1, and PICMG Rev. 2.0

Power Specifications
Supply Voltages : +5V ±5%; +12V ±5%
Supply Currents : TBD
ATX connector

Environmental

	Operating	Storage and Transit
Temp.:	0 to-55°C/32 to 131°F (with 100 CFM minimum airflow)	-40 to +70°C/-40 to +158°F
Humidity:	5% to 95% @ 40°C/104°F non-condensing	5% to 95% @ 40°C/104°F non-condensing

Reliability
MTBF : > 100,000 hours @ 55°C/131°F (MIL- HDBK-217F)
Board serial number in EEPROM
USB, keyboard, mouse voltage protected by self-resetting fuses
2 years limited warranty

Designed to meet or exceed:
Safety : UL 1950; CSA C22.2 No 950; EN 60950; IEC950
EMI/EMC : FCC 47 CFR Part 15/PISPR22, Class B;
CE Mark to EN55022