cPCI-CXS

Celeron Based System Processor

teknor applicom

Rev. 0

QUICK REFERENCE

JUMPER SETTINGS (* : Default Setting)

W1 - VT100/Download Mode	
VT-100 mode	1-2
Download mode	3-4
Normal mode *	off

W2 - Bus Speed	
66/100MHz *	off
66MHz	on

W3 - CompactFlash	
Master	on
Slave *	off

W4 - Onboard Battery	
Connected	on
Disconnected *	off

W5 - Remote Reset	
Through COM1	1-2
Through COM2	2-3
Disabled *	off

W6 - Onboard Video	
Disabled	on
Enabled *	off

W7, W9 - COM2 Terminations		
RS-422/485 modes only	W7	W9
With termination resistors	on	on
Without termination resistors *	off	off

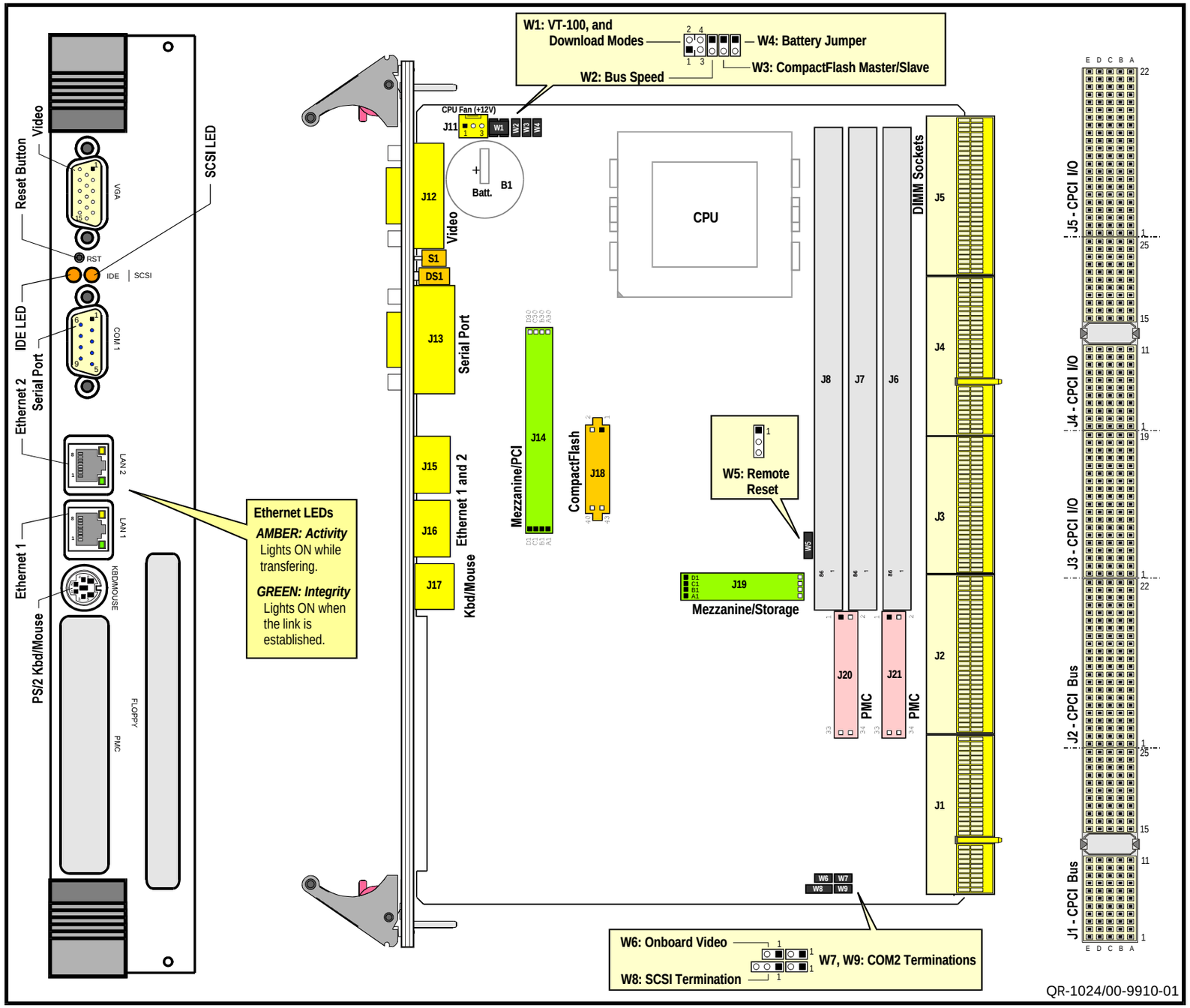
W8 - SCSI Termination	
Software controlled	1-2
Hardware controlled *	2-3
Disabled	off

Before Powering ON the Board

1 . Ensure the power supply is correctly applied
2 . Make sure all cables are connected to the adequate connector

First Level Debugging

1 . Remove all peripheral boards from the backplane. Only keep 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.



QR-1024/00-9910-01

CONNECTOR PINOUTS

J1 / J2 - CompactPCI Bus

	ROW A	ROW B	ROW C	ROW D	ROW E
1	+5V	-12V	/TRST	+12V	+5V
2	TCK	+5V	TMS	TDO	TDI
3	/INTA	/INTB	/INTC	+5V	/INTD
4	N.C.	GND	VI/O	IRQ14	IRQ15
5	N.C.	N.C.	/RST	GND	/GNT0
6	/REQ0	GND	+3.3V	CLK0	AD31
7	AD30	AD29	AD28	GND	AD27
8	AD26	GND	VI/O	AD25	AD24
9	/CBE3	N.C.	AD23	GND	AD22
10	AD21	GND	+3.3V	AD20	AD19
11	AD18	AD17	AD16	GND	/CBE2
15	+3.3V	/FRAME	/IRDY	GND	/TRDY
16	/DEVSEL	GND	VI/O	/STOP	/LOCK
17	+3.3V	SDONE	/SBO	GND	/PERR
18	/SERR	GND	+3.3V	PAR	/CBE1
19	+3.3V	AD15	AD14	GND	AD13
20	AD12	GND	VI/O	AD11	AD10
21	+3.3V	AD9	AD8	N.C.	/CBE0
22	AD7	GND	+3.3V	AD6	AD5
23	+3.3V	AD4	AD3	+5V	AD2
24	AD1	+5V	VI/O	AD0	/ACK64
25	+5V	/REQ64	/PME	+3.3V	+5V
26	CLK1	GND	/REQ1	/GNT1	/REQ2
27	CLK2	CLK3	/SYSEN	/GNT2	/REQ3
28	CLK4	GND	/GNT3	/REQ4	/GNT4
29	VI/O	N.C.	N.C.	GND	N.C.
30	N.C.	GND	VI/O	N.C.	N.C.
31	N.C.	N.C.	N.C.	GND	N.C.
32	N.C.	GND	VI/O	N.C.	N.C.
33	N.C.	N.C.	N.C.	GND	N.C.
34	N.C.	GND	VI/O	N.C.	N.C.
35	N.C.	N.C.	N.C.	GND	N.C.
36	N.C.	GND	VI/O	N.C.	N.C.
37	N.C.	N.C.	N.C.	GND	N.C.
38	N.C.	GND	VI/O	N.C.	N.C.
39	N.C.	N.C.	N.C.	GND	N.C.
40	N.C.	GND	/FAL	/REQ5	/GNT5
41	N.C.	N.C.	/DEG	GND	N.C.
42	N.C.	GND	/PRST	/REQ6	/GNT6
43	N.C.	N.C.	N.C.	GND	N.C.
44	N.C.	GND	N.C.	N.C.	N.C.
45	CLK5	GND	N.C.	GND	N.C.
46	CLK6	GND	N.C.	N.C.	N.C.
47	N.C.	N.C.	N.C.	N.C.	N.C.

J4 / J5 - CompactPCI I/O

	ROW A	ROW B	ROW C	ROW D	ROW E
1	I2C-CLK	I2C-DATA	LID	/XFan0-Fail	/XFan1-Fail
2	SM-ByPass	/SCD11	/SCD10	/SCD9	/SCD8
3	SIO	/SREQ	/SCD	/SSEL	/SMSG
4	/SRST	/SACK	/SBSY	GND	/SATN
5	GND	/WIDEPS	TermPwr	TermPwr	GND
6	GND	/SDPL	/SCD7	/SDC6	/SCD5
7	/SCD4	/SCD3	/SCD2	/SCD1	/SCD0
8	/SDPH	/SCD15	/SCD14	/SCD13	/SCD12
9	GND	GND	/S5HEALTHY	VSDA	/S5PCIRST
10	VSCL	HSYNC	VSYNC	RED	GREEN
11	BLUE	GND	/S6BDSEL	GND	GND
15	GND	+5V	+5V	/S6HEALTHY	/S6PCIRST
16	TX+0	TX-0	ERX+0	ERX-0	GND
17	/BRSTDRV	GND	SDD7	SDD8	SDD6
18	SDD9	SDD5	SDD10	SDD4	SDD11
19	SDD3	SDD12	SDD2	SDD13	SDD1
20	SDD14	SDD0	SDD15	GND	/S7BDSEL
21	SDREQ	GND	/SDIOW	GND	/SDIOR
22	GND	SIORDY	/S7HEALTHY	/SDDACK	IRQ15
23	/IO16	SDA1	GND	SDA0	SDA2
24	/SCS1	/SCS3	SEC-PD1	GND	/SM_BIT
25	/S7PCIRST	/S8BDSEL	/S8HEALTHY	/S8PCIRST	+5V
26	/BRSTDRV	/BRSTDRV	PDD7	PDD8	PDD6
27	PDD9	PDD5	PDD10	PDD4	PDD11
28	PDD3	PDD12	PDD2	PDD13	PDD1
29	PDD14	PDD0	GND	PDD15	IRQ14
30	PDREQ	PIORDY	/PDIOW	/PDDACK	/PDIOR
31	IO16	GND	/PDIAG	PDA0	PDA2
32	/PCS1	/PCS3	PDA1	PRI-PD1	/FD-DrvEn0
33	/FD-DrvEn1	/FD-INDEX	/FD-Mtr0	/FD-DS1	/FD-DS0
34	/FD-MTR1	/FD-DIR	/FD-Step	/FD-WDat	/FD-WGate
35	/FD-TRK0	/FD-WrtPrt	/FD-RData	/FD-HDSel	/FD-DkChg
36	/DCD2	GND	RXD2	/DSR2	TXD2
37	/RTS2	/CTS2	/RI2	+5V	/DTR2
38	/DCD1	+5V	RXD1	/DSR1	TXD1
39	/RTS1	/CTS1	/RI1	GND	/DTR1
40	SLCT	PE	BUSY	/ACK	PD7
41	PD6	PD5	PD4	PD3	/SLCTIN
42	PD2	/INIT	PD1	/ERR	PD0
43	ALF	USBD1+	USBD1-	GND	USBV0
44	/STB	GND	USBV1	USBD0+	USBD0-
45	+5V	/SMBDATA	/SMBAlert	GND	SMBClk
46	KBDATA	KBCLK	VCC-KBD	MDATA	MCLK
47	/PBRST	GND	/DIAG-OC	+5V	SPK-Out

J3 - CompactPCI I/O

	ROW A	ROW B	ROW C	ROW D	ROW E
1	VP-OUT	ZVPCLK	VP-IN	DiffAdd1	GND
2	GND	VSCL2	GND	DiffSTRB	GND
3	N.C.	+5V	DiffDat1	GND	DiffAdd0
4	N.C.	DiffDat2	DiffDat3	DiffDat0	/EN-CAM
5	N.C.	GND	N.C.	GND	VP2
6	SpeedLed 0	LinkLed 0	ActLed 0	LinkLed 1	SpeedLed 1
7	ActLed 1	SD7	SD6	SD5	SD4
8	GND	+5V	+5V	SD3	SD2
9	ETX+1	ETX-1	ERX+1	ERX-1	GND
10	GND	/WR_80	SD1	+12V	+12V
11	/DCD4	GND	RXD4	/DSR4	TXD4
12	/RTS4	/CTS4	/RI4	+5V	/DTR4
13	/DCD3	+5V	RXD3	/DSR3	TXD3
14	/RTS3	/CTS3	/RI3	GND	/DTR3
15	/S2BDSEL	/S3BDSEL	/S3PCIRST	SD0	/S4BDSEL
16	/S2HEALTHY	/S3HEALTHY	N.C.	N.C.	SPDIAG
17	/S2PCIRST	IRQ11	IRQ9	/S4HEALTHY	/S4PCIRST
18	IRQ7	/S-IDE-Act	/HD_ACT	IRRX - 2	IRTX - 2
19	/PWRBT	EXT-SMI	NMI	/S5BDSEL	PWROK-33

J19 - Mezzanine (Storage)

	ROW A	ROW B	ROW C	ROW D
1	VCC	VCC	VCC	VCC
2	VCC	VCC	VCC	PDD0
3	MCLK	MDATA	PDD1	PDD2
4	KBDAT	KBCLK	PDD3	PDD4
5	VCC-KBD	GND	PDD5	PDD6
6	GND	GND	PDD7	PDD8
7	GND	GND	PDD9	PDD10
8	GND	GND	PDD11	PDD12
9	GND	GND	PDD13	PDD14
10	/FD-DS1	/FD-DRVEN0	PDD15	/BRSTDRV
11	/FD-DRVEN1	/FD-MTR1	/PDIOW	PDREQ
12	/FD-INDEX	/FD-DS0	PIORDY	/PDIOR
13	/FD-DskChg	FDET	IRQ14	/PDDACK
14	/FD-MTR0	/FD-DIR	PDA0	PDA1
15	/FD-STEP	/FD-WDATA	PDA2	GND
16	/FD-GATE	/FD-TRK0	/HD-ACT	/PCS1
17	/FD-WRTPTR	/FD-RDATA	/PCS3	/PDIAG
18	/FD-HSEL	+12V	IO16	+12V

J14 - Mezzanine (PCI)

	ROW A	ROW B	ROW C	ROW D
1	5V_KEY	Reserved	+5V	AD00
2	VI/O (5V)	AD02	AD01	+5V
3	AD05	GND	AD04	AD03
4	/C-BE0	AD07	GND	AD06
5	GND	AD09	AD08	GND
6	AD11	VI/O (5V)	AD10	MM66EN
7	AD14	AD13	GND	AD12
8	+3.3V	/C-BE1	AD15	+3.3V
9	/SERR	GND	/SB0	PAR
10	GND	/PERR	+3.3V	SDONE
11	/STOP	+3.3V	/LOCK	GND
12	+3.3V	/TRDY	GND	/DEVSEL
13	/FRAME	GND	/IRDY	+3.3V
14	GND	AD16	+3.3V	/C-BE2
15	AD18	+3.3V	AD17	GND
16	AD21	AD20	GND	AD19
17	+3.3V	AD23	AD22	+3.3V
18	IDSEL0	GND	IDSEL1	IDSEL2
19	AD24	/C-BE3	VI/O (5V)	IDSEL3
20	GND	AD26	AD25	GND
21	AD29	+5V	AD28	AD27
22	+5V	AD30	GND	AD31
23	/REQ0	GND	/REQ1	VI/O (5V)
24	GND	/REQ2	+5V	/GNT0
25	/GNT1	VI/O (5V)	/GNT2	GND
26	+5V	CLK0	GND	CLK1
27	CLK2	+5V	CLK3	GND
28	GND	/INTD	+5V	/RST
29	+12V	/INTA	/INTB	/INTC
30	-12V	Reserved	Reserved	3.3V_KEY

J12 - VGA

1	RED	9	VCC
2	GREEN	12	VSDA
3	BLUE	13	HSYNC
4 ; 11	N.C.	14	VSYNC
5; 10	GND	15	VSCL
6; 7; 8	A_GND		

J13 - COM1

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

J17 - Keyboard/Mouse

1	KBDATA	4	VCC
2	MDATA	5	KBCLK
3	GND	6	MCLK

J18 - CompactFlash

1-9	D11-D15	2	GND
11	/CS1	4-12	D3-D7
13	/DMACK	14	/CS0
15	/DMARQ	16	/IOR
17	/PDIAG	18	/IOW
19	IRQ	20	VCC
21	VCC	22	VCC
23	GND	24	GND
25	/RESET	26	GND
27	CSEL (W3)	28	A2
29	A1	30	/ASP
31	A0	32	IORDY
33	D0	34	D8
35	D1	36	D9
37	D2	38	D10
39	/IOCS16	40	GND

J11 - Fan + Tachometer

1	Tachometer	2	+12VDC	3	GND

J15/J16 - Ethernet 2 and 1

1	TX+	3	RX+	5	N.C.	7	N.C.
2	TX-	4	N.C.	6	RX-	8	N.C.

J20 - PCI Mezzanine Card (PMC)

1	N.C.	33	/FRAME	2	-12V	34	GND
3	GND	35	GND	4	/INTA	36	/IRDY
5	/INTB	37	/DEVSEL	6	/INTC	38	VCC
7	/BMode1	39	GND	8	VCC	40	/LOCK
9	/INTD	41	/SDone	10	N.C.	42	/SB0
11	GND	43	PAR	12	N.C.	44	GND
13	PCLK	45	VCC	14	GND	46	AD15
15	GND	47	AD12	16	/GNT	48	AD11
17	/REQ	49	AD9	18	VCC	50	VCC
19	VCC	51	GND	20	AD31	52	/CBE0
21	AD28	53	AD6	22	AD27	54	AD5
23	AD25	55	AD4	24	GND	56	GND
25	GND	57	VCC	26	/CBE3	58	AD3
27	AD22	59	AD2	28	AD21	60	AD1
29	AD19	61	AD0	30	VCC	62	VCC
31	VCC	63	GND	32	AD17	64	N.C.

J21 - PCI Mezzanine Card (PMC)

1	+12V	33	GND	2	N.C.	34	N.C.
3	N.C.	35	/IRDY	4	N.C.	36	3.3V
5	N.C.	37	GND	6	GND	38	STOP
7	GND	39	/PERR	8	N.C.	40	GND
9	N.C.	41	3.3V	10	N.C.	42	SERR
11	/BMode2	43	/CBE1	12	3.3V	44	GND
13	/PCIRST	45	AD14	14	/BMode3	46	AD13
15	3.3V	47	GND	16	/BMode4	48	AD10
17	N.C.	49	AD8	18	GND	50	3.3V
19	AD30	51	AD7	20	AD29	52	N.C.
21	GND	53	3.3V	22	AD26	54	N.C.
23	AD24	55	N.C.	24	3.3V	56	GND
25	/IDSEL	57	N.C.	26	AD23	58	N.C.
27	3.3V	59	GND	28	AD20	60	N.C.
29	AD18	61	N.C.	30	GND	62	3.3V
31	AD16	63	GND	32	/CBE2	64	N.C.

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
170-177 ; 376	Secondary IDE
190-197	TEKNOR Ctrlr. Port
1F0-1F7 ; 3F6	Primary IDE
278-27A	Parallel Port (opt.)
290-297	TEK. Ctrlr Port (opt.)
2E8-2EF	COM4
2F8-2FF	COM2 (or COM1)
370-377	Floppy Disk (optional)
378-37A	Parallel Port (LPT1)
390-397	TEK. Ctrlr Port (opt.)
3BC-3BE	Parallel Port (opt.)
3E8-3EF	COM3
3F0-3F7	Floppy Disk
3F8-3FF	COM1 (or COM2)
3C0-3CF, 3D0-3DF, 3B0-3BB	Graphics Controller

MEMORY MAPPING

00000-9FFFF	0-640KB DRAM	C0000-CBFFF	Video BIOS	E0000-FFFFF	System BIOS
A0000-BFFFF	Video DRAM	CC000-DFFFF	System DRAM	100000 - top	System DRAM

The Technical Reference Manual can be downloaded from TEKNOR WEB site at **www.teknor.com.**
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cPCI-CXS TECHNICAL SPECIFICATIONS

CPU TYPE & SPEED
333MHz, Intel Pentium II Dixon processor ; Intel 440BX chipset

MEMORY
. Up to 768MB of SDRAM on three 168-pin DIMMs; 3.3V, 64/72-bit single-sided or double-sided
. On-die 128KB L2 Cache at full CPU speed
. Flash Memory: 512KB for BIOS field upgrade
. EIDE compatible CompactFlash, bootable (on Primary EIDE)

BUS INTERFACE
CompactPCI Bus (J1, J2) ; PCI Mezzanine (PMC) ;
TEKNOR mezzanine (PCI and AT bus - FD and EIDE interface) ; SMBus

DATA PATH
64-bit on CPU and video ; 32-bit on local PCI bus and CompactPCI bus

VIDEO
64-bit AGP video processor (Intel 69000) with 2MB video memory
Up to 1024x768x64K colors or 1280x1024x256 colors CRT only

I/O
SERIAL : Four serial ports configurable (COM1-4) with RS-422/485 available on COM3
PARALLEL : 1 bi-directional port (LPT1) with all IEEE 1284 modes supported
HARD DISK : 2 channel PCI EIDE ; drive up to 4 hard disks (including CompactFlash)
FLOPPY DISK : interface for two 1.44 floppy drives through TEKNOR mezzanine

SCSI
16-bit Ultra Wide SCSI up to 40MB/s (Adaptec AIC 7880)

ETHERNET
Two PCI 10/100MB Ethernet, 10/100Base-TX (Intel 82559)

PCI-PCI BRIDGE
Supports up to seven REQ/GNT to drive directly seven CompactPCI slots through CompactPCI backplanes (DEC 21150)

FRONT PLATE CONNECTORS
CRT (15-pin D-Sub) ; serial COM1 (9-pin D-Sub) ; Ethernet (RJ-45 with built-in LEDs) ;

POWER SUPPLY
+3.3V ±5% / 2.0A max +5V ±5% / 5.0A max +12V ±5% / 0.75A max

OPERATING CONDITIONS
0°C to 60°C (w/airflow) ; R.H. : 5% to 95% @ 40°C ; MTBF : > 95,000 hours (MIL-HDBK-217F)

ELECTRICAL / MECHANICAL
Board dimensions : 6Ux8HP (dual slot); 9.2x6.3x1.6 in. / 233x160x41mm
Conforms to IEEE 1101.10 and PICMG 2.0 Rev 2.1

For Technical Support, please contact:

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