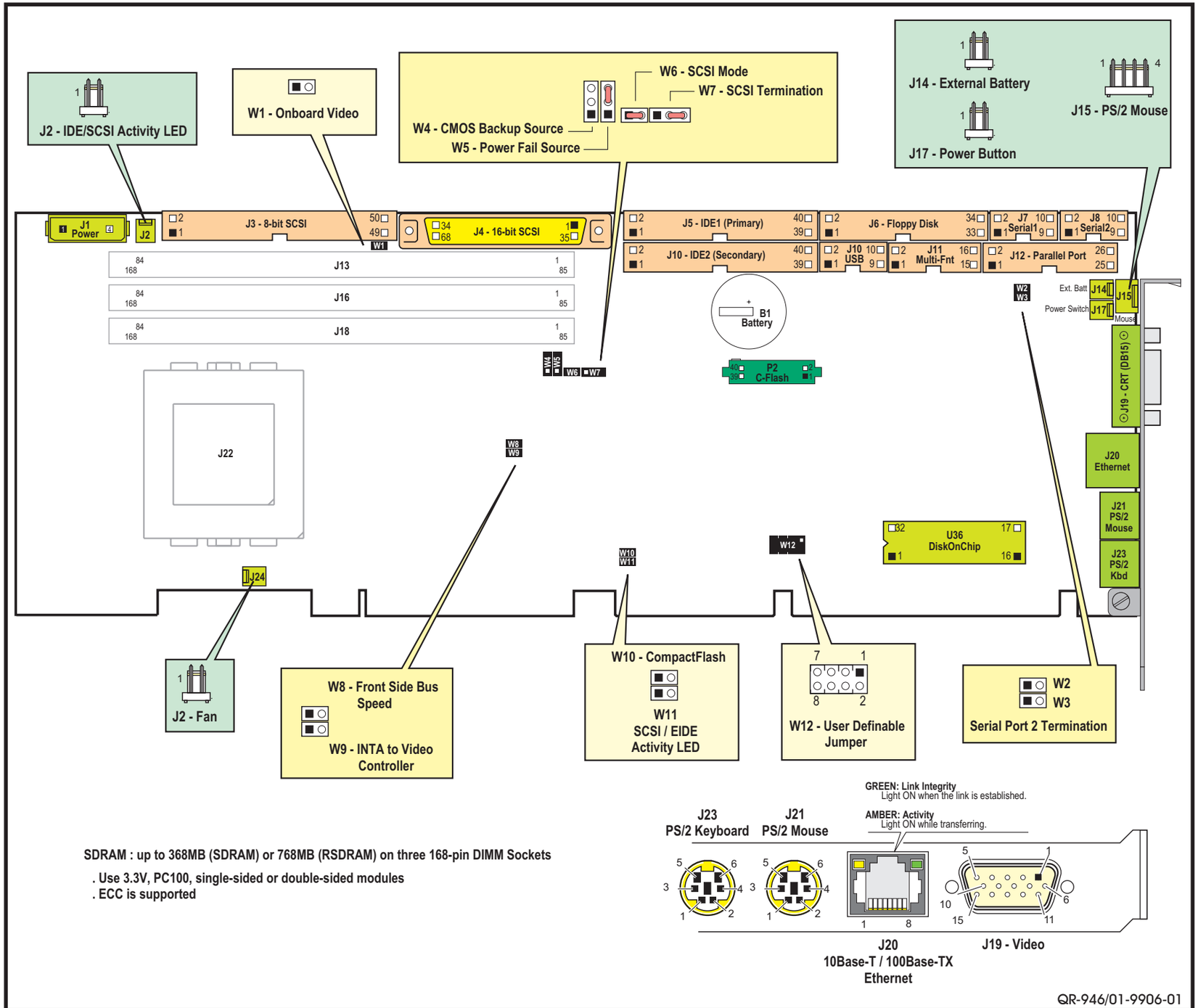
PCI-946

TEKNOR INDUSTRIAL COMPUTERS INC.

CELERON Single Board Computer

QUICK REFERENCE



JUMPER SETTINGS (* : Initial Setting)

W1 - Onboard Video

Enabled *	off
Disabled	on

W2, W3 - Serial Port 2 Termination

(set in RS-485 Mode only)	W2	W3
Termination Enabled	on	on
Termination Disabled *	off	off

W4 - CMOS Backup Source

Onboard Battery	1-2
External Power (3.6V only)	2-3
No Power (clear CMOS) *	off

W5 - Power Fail Source Selection

External Power (through J14)	1-2
Onboard Battery *	2-3

To prevent the board from inopportune PFI, the jumper cap must always be installed at either 1-2 or 2-3 position.

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.

W6 - SCSI Mode

16-bit: Wide Ultra SCSI II *	on
8-bit: Fast SCSI II and Fast-20 SCSI II	off

W7 - SCSI Termination

Controlled by Software	1-2
Board is hardware Terminated *	2-3
No Termination	off

W8 - Front Side Bus Speed

66MHz	on
66MHz / 100MHz *	off

W9 - INTA Assigned to Video Controller

Enabled	on
Disabled *	off

W10 - CompactFlash

Master	on
Slave *	off

W11 - SCSI / EIDE Activity Led

Combined	on
EIDE only *	off

W12 - User Definable Jumpers

	on	off
1-2	User Defined	User Defined
3-4	User Defined	User Defined
5-6	VT-100 Mode	Normal Mode *
7-8	User Defined	User Defined

Before Powering ON the Board

1. Ensure the power supply connector is connected properly (+5V, +12V, -12V).
2. Make sure all cables are connected to the right connectors..

First Level Debugging

1. Remove all peripheral boards from the backplane. 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.

CONNECTOR PINOUTS

J1 - Stand Alone Power

1	+12V
2	GND
3	GND
4	VCC

J2 - EIDE / SCSI Activity

1	VCC (+5V)
2	/SCLED

J3 - 8-bit SCSI

Odd Pin Number		32	/ATN
GND	1-21	34	GND
N.C.	23-27	36	/BSY
GND	29-49	38	/ACK
Even Pin Number		40	/RST
/D0-/D7	2-16	42	/MSG
/DPL	18	44	/SEL
GND	20-24	46	/CD
Term Power	26	48	/REQ
GND	28-30	50	/IO

J4 - 16-bit SCSI

GND	1-16	54	GND
Term Power	17-18	55	/SATN
N.C.	19	56	GND
GND	20-34	57	/SBSY
/SCD12	35	58	/SACK
/SCD13	36	59	/SRST
/SCD14	37	60	/SMSG
/SCD15	38	61	/SSEL
/SDPH	39	62	/SCD
/SCD0-/SCD7	40-47	63	/SREQ
/SDPL	48	64	/SIO
GND	49-50	65	/SCD8
Term Power	51	66	/SCD9
Term Power	52	67	/SCD10
N.C.	53	68	/SCD11

J5 - Enhanced IDE (Primary)

Odd Pin Number		25	/IOR	39	/ACTIVE	30	GND
1	/RESET	27	IOCHRDY	Even Pin Number		32	N.C.
3-17	[HD7-HD0]	29	/DACK	2; 22-26	GND	34	/PDIAG
19	GND	31	IRQ	4-18	[HD8-HD15]	36	ADD2
21	DREQ	33; 35	ADD1; ADD0	20	N.C.	38	/CS1
23	/IOW	37	/CS0	28	/SEL	40	GND

J7 - Serial 1 (RS-232)

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

J8 - Serial 2 (RS-232)

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

J8 - Serial 2 (RS-285)

/DCD 2	1	2	/DSR 2
RX(-)	3	4	RX(+)
TX(-)	5	6	TX(+)
/DTR 2	7	8	/RI 2
GND	9	10	N.C.

J6 - Floppy Disk

Odd Pin Number		8	/INDEX	22	/WDATA
1-15, 19-25, 31-33	GND	10	/MTR 0	24	/WGATE
17 : 27	N.C.	12	/DRIVE SEL. 1	26	/TRACK 0
29	/FD	14	/DRIVE SEL. 0	28	/WRITE PROTECT
Even Pin Number		16	/MTR 1	30	/RDATA
2	/DRVEN 0	18	/DIR CONTROL	32	/HEAD SELECT
4; 6	N.C.	20	/STEP	34	/DSKCHG

J9 - Enhanced IDE (Secondary)

Odd Pin Number		25	/IOR	39	/ACTIVE	30	GND
1	/RESET	27	IOCHRDY	Even Pin Number		32	N.C.
3-17	[HD7-HD0]	29	/DACK	2; 22-26	GND	34	PDIAG
19	GND	31	IRQ	4-18	[HD8-HD15]	36	ADD2
21	DREQ	33; 35	ADD1; ADD0	20	N.C.	38	/CS1
23	/IOW	37	/CS0	28	/SEL	40	GND

J10 - USB

VCC	1	2	VCC
USBD0-	3	4	USBD1-
USBD0+	5	6	USBD1+
GND	7	8	GND
GND	9	10	GND

J11 - Keyboard / Speaker

KBCLK	1	2	GND
KDATA	3	4	GND
VCC (+5V)	5	6	VCC (+5V)
SPEAKER	7	8	VCC (+5V)
N.C.	9	10	GND
/DOWNLD	11	12	GND
/PBRES	13	14	GND
/HDACT	15	16	VCC (+5V)

The Technical Reference Manual can be downloaded from the TEKNOR Web Site at **www.teknor.com**.

To order a hard copy of the Technical Reference Manual, contact Customer Service at **(450) 437-5682**.

J12 - Parallel Port (Std Mode)

/STROBE	1	2	/AUTOFD
[D0-D7]	3-17	4	/ERROR
/ACK	19	6	/INIT
BUSY	21	8	/SELECTIN
PE	23	10-18	GND
SELECT	25	20-26	GND

J14 - External Battery

1	EXTBATT
2	GND

J15 - PS/2 Mouse (Header)

1	MCLK
2	GND
3	MDATA
4	VCC

J17 - Power Button

1	PWRBTN
2	GND

J19 - VGA CRT

1	RED	9-11	N.C.
2	GREEN	10	GND
3	BLUE	12	I2CDATA
4	N.C.	13	HSYNC
5	GND	14	VSYNC
6-8	A_GND	15	I2CCLK

J20 - Ethernet

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

J21 - PS/2 Mouse (Mini-DIN)

DATA	1	4	VCC
N.C.	2	5	CLK
GND	3	6	GND

J23 - PS/2 Keyboard (Mini-DIN)

DATA	1	4	VCC
N.C.	2	5	CLK
GND	3	6	GND

J24 - CPU Fan

1	GND
2	+12V (fused)
3	Sense

U36 - DiskOnChip

N.C.	1-3 ; 28-30	22	/CE
A12	4	23	A10
A7-A0	5-12	24	/OE
D0-D2	13-15	25, 26, 27	A11, A9, A8
GND	16	31	/WE
D3-D7	17-21	32	VCC

P2 - 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	/DMA ACK	14	/CS0
15	DMA REQ	16	/IOR
17	PDIAG	18	/IOW
19	IRQ	20	VCC
21	VCC	22	VCC
23	GND	24	GND
25	/RESET	26	GND
27	CSEL	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



I/O MAPPING

000-01F	DMA Controller 1	278-27A	Parallel Port (option)
020-03F	Interrupt controller 1	290-297	TEKNOR Ctrl Port (option)
040-05F	Timer	2E8-2EF	COM4
060-06F	Keyboard	2F8-2FF	COM2
070-07F	Real Time Clock	370-377	Floppy Disk (option)
080-09F	DMA Page Register	378-37A	Parallel Port (LPT1)
0A0-0BF	Interrupt controller 2	390-397	TEKNOR Ctrl Port (option)
0C0-0DF	DMA controller 2	3BC-3BE	Parallel Port (option)
0F0-0FF	Math Coprocessor	3E8-3EF	COM3
190-197	Teknor Control Port	3F0-3F7	Floppy Disk
170-177, 376	Secondary IDE	3F8-3FF	COM1
1F0-1F7, 3F6	Primary IDE	3C0-3CF, 3D0-3DF, 3B0-3BB	Graphics Controller (I2C Port)

MEMORY MAPPING

00000-9FFFF	0-640KB DRAM
A0000-BFFFF	Video DRAM
C0000-CBFFF	Video BIOS
D0000-DFFFF	Free 64KB
E0000-EFFFF	BIOS POST (64KB)
F0000-FFFFF	Main BIOS (64KB)
100000 to top	1MB to top of DRAM

PCI-946 TECHNICAL SPECIFICATIONS

CPU TYPE & SPEED

Single CELERON processor from INTEL ; 300A, 366 and 433MHz ; PGA370 Package ; 82440BX AGPset ; temperature monitor and alarm

MEMORY

SYSTEM MEMORY: up to 368MB (SDRAM) or 768MB (RSDRAM), PC100
on three 168-pin DIMM sockets
Standard 3.3V only; single-sided or double-sided ; ECC supported

CACHE MEMORY: 128KB internal L2 cache ; 64-bit wide SPB non-blocking ECC running at the full CPU core speed

BUS INTERFACE

Front Side Bus (66/100MHz) ; AGP Bus ; ISA (8.33MHz) ; PCI (33MHz)

DATA PATH

64-bit on CPU and memory bus; 32-bit on PCI bus; 16-bit on ISA bus

VIDEO

C&T 69000 64-bit AGP Port video controller with 2MB video memory (83MHz SDRAM)
1280x1024x256 colors, CRT only
CGA, EGA, Hercules, MDA, VGA, SVGA, XGA and SXGA compatible

I/O

SERIAL: two RS-232 ports configurable as COM1-4 with RS-422/485 available on COM2
PARALLEL: multi-mode parallel port, EPP and ECP support
HARD DISK: Enhanced IDE for up to 2 devices ; UDMA 33
FLOPPY DISK: interface for two 360KB to 2.88MB floppy drives
CompactFLASH: optional bootable CompactFlash on Secondary IDE channel
DISK-ON-CHIP: optional non-volatil storage device compatible with hard disk R/W and boot
SCSI: Ultra-Wide SCSI (SCSI-3) 16-bit, 40MB/sec
USB: supports two ports,serial transfers up to 1.5MB/s

ETHERNET

10Base-T/100Base-TX through RJ-45 ; PCI Rev. 2.1 compliant bus master ; LAN bootable

POWER

VOLTAGE: +5V ±5% ; +12V ±5%
CURRENT: T.B.D.

OPERATING CONDITIONS

T.B.D.

ELECTRICAL / MECHANICAL

Board dimensions: 13.30 x 4.8 x 1.40 in. / 338 x 122 x 36 mm (at CPU/fan)
Conforms to IEEE P996 PC/AT bus spec ; PCI Rev.2.1 spec.; PICMG Rev.2.0

Contact TEKNOR INC. for Technical Support

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