

## QUICK REFERENCE

### JUMPER SETTINGS (\* : Initial Setting)

● W1 - First Level Cache			
Write-Back *	1 - 2	Write-Through	2 - 3

● W2, W3 - Internal CPU Clock Speed Multiplier			
	Internal CPU Speed / Bus Clock	W2	W3
1.5 x	75MHz/50MHz; 90MHz/60MHz; 100MHz/66MHz	1-2	1-2
2 x	120MHz/60MHz; 133MHz/66MHz	1-2	2-3
2.5 x	150MHz/60MHz; 166MHz/66MHz	2-3	2-3
3 x	Reserved	2-3	1-2

● W4, W15 - Serial Port 2, RS-485 Setup			
(RS-422/485 mode only)	Loopback	Normal *	
W4: RTS2-CTS2	on	off	
W15: DSR2-DTR2	on	off	

● W5, 6, 14, 16, 17 - Serial Port 2 Setup					
(configure jointly)	W14	W5	W6	W16	W17
RS-232 *	off	1-2	1-2	1-2	1-2
RS-422/485	on	2-3	2-3	2-3	2-3

● W7, 23 - Feature Connector and Video Standby		
	W7	W23
Enabled *	on	off
Disabled	off	on

● W17 - Extended BIOS Modes		
	on	off
1-2	Reserved	Reserved *
3-4	VT100 Mode	Standard Mode *
5-6	Disable TEK. Extension	Enable TEK. Extension
7-8	Disable Onboard VGA	Enable Onboard VGA *

● W9 - Supervisor I/O (Base Address)				
	190h *	290h	390h	390h
1 - 2	on	on	off	off
3 - 4	on	off	on	off

● W13 - NMI on Power Fail Output	
Enabled	on
Disabled *	off

● W18 - SCSI Termination	
Controlled by Software	1-2
Disabled by Hardware	off
Controlled by Hardware * (Board is terminated)	2-3

● W19, 20, 21 - CPU / Bus Clock			
	W19	W20	W21
50MHz	2-3	1-2	2-3
60MHz	1-2	1-2	1-2
66MHz	1-2	2-3	2-3

● W22 - Panel Shift Clock	
Normal *	1-2
Inverse	2-3

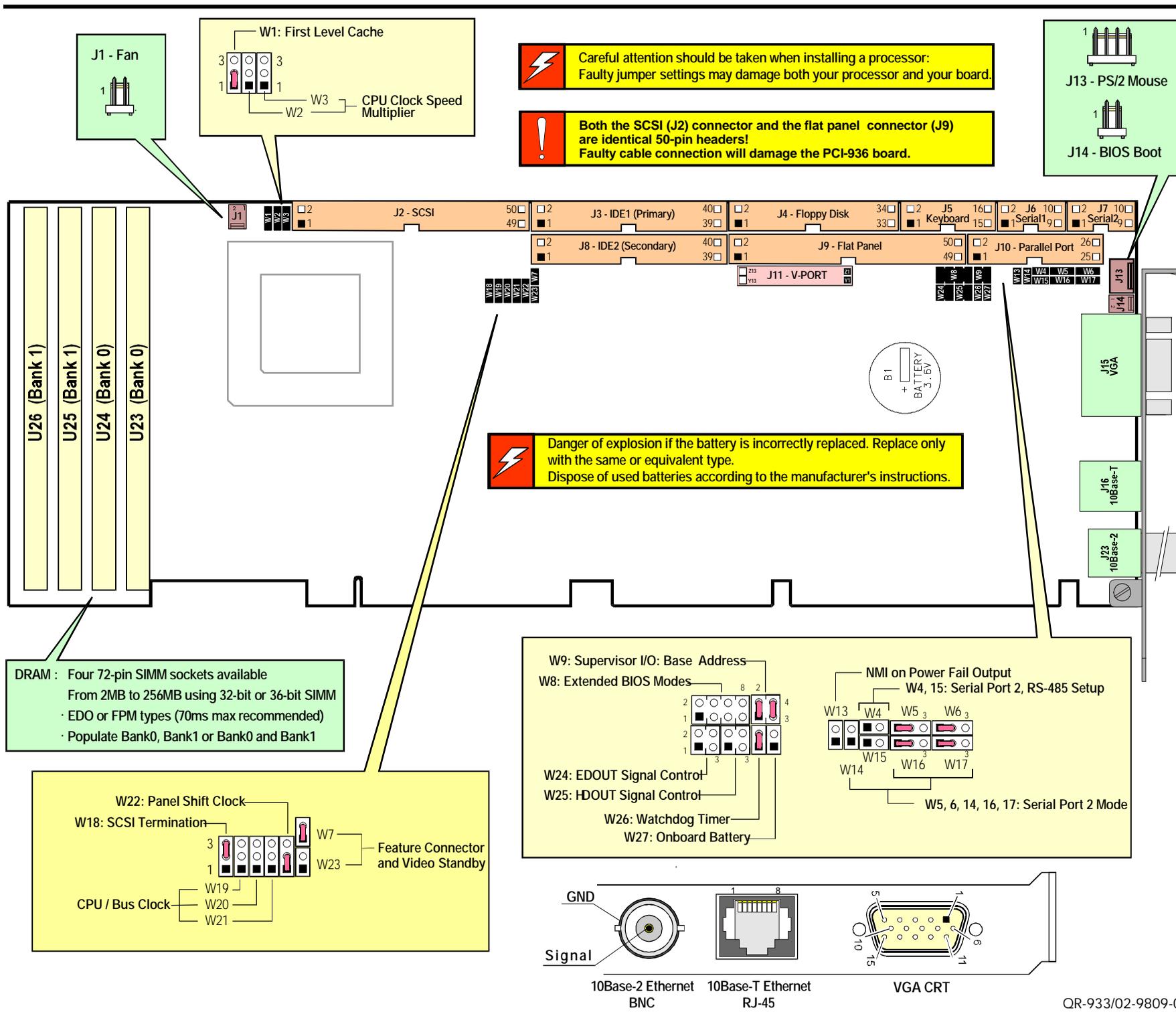
● W24, W25 - Serial Port 2, RS-485 Setup (Configure jointly)	
W24: 2.88MB High Density Floppy, EDOUT Signal	
EDOUT left to software *	none
EDOUT to pin 29 (J4); GND to pin 17 (J4)	1-3; 2-4
EDOUT to pin 17 (J4); GND to pin 29 (J4)	1-2; 3-4

W25: 2.88MB High Density Floppy, HDOUT Signal	
HDOUT left to software *	none
HDOUT to pin 33 (J4); GND to pin 27 (J4)	1-3; 2-4
HDOUT to pin 27 (J4); GND to pin 33 (J4)	1-2; 3-4

● W26 - Watchdog	
Enabled *	on
Disabled	off

● W27 - Board Batt.	
Enabled	on
Disabled *	off

● J14 - BIOS Boot Selection	
Normal (from Flash EPROM BIOS) *	off
Emergency (from EPROM BIOS)	on



# CONNECTOR PINOUTS

◆ J1 - CPU Fan			
1	+12V	2	GND

◆ J2 - FAST SCSI II Interface				* Active Low Signal	
Odd Pin Number		20-24 ; 28-30	GND	40	RST *
1-23 ; 27-49	GND	26	Term Power	42	MSG *
25	Not Connected	32	ATN	44	SEL *
Even Pin Number		34	GND	46	C/D *
2-16	[D0-D7]	36	BSY *	48	REQ *
18	DP *	38	ACK *	50	I/O *

◆ J3 - Enhanced IDE (Primary)				* Active Low Signal	
Odd Pin Number		29	DACK A *	20	N.C.
1	RESET *	31	IRQ14	28	N.C.
3-17	[HD7-HD0]	33 ; 35	SA1 ; SA0	30	GND
19	GND	37	CS0 A *	32	IOCS16 *
21	REQ A	39	ACTIVE *	34	N.C.
23	IOW *	Even Pin Number		36	SA2
25	IOR *	2 ; 22-26	GND	38	CS1 A *
27	IOCHRDY	4-18	[HD8-HD15]	40	GND

◆ J4 - Floppy Disk				* Active Low Signal	
Odd Pin Number		8	INDEX *	22	WDATA *
1-15; 19-25; 31	GND	10	MOTOR ON 0, 1 *	24	WENABLE *
17; 27; 29; 33	N.C. by default (or see W24/W25 setups)	12	DRIVE SEL. B	26	TRACK 0 *
Even Pin Number		14	DRIVE SEL. A	28	WPROTECT *
2	RPM/LC	16	MOTOR ON 2 *	30	RDATA *
4 ; 6	N.C.	18	DIR CONTROL *	32	HEAD SELECT *
		20	STEP *	34	DSKCHG

◆ J5 - Keyboard				* Active Low Signal		◆ J6 - Serial Port 1 / RS-232			
Odd Pin Number		7	SPKR OUT	15	ACT *	DCD 1	1	2	DSR 1
1	KBDCLK	9	KBDINH	Even Pin Number		RX 1	3	4	RTS 1
3	KBDATA	11	DOWNLD *	2-4 ; 10-14	GND	TX 1	5	6	CTS 1
5	VCC (+5V)	13	PBRES *	6-8 ; 16	VCC (+5V)	DTR 1	7	8	RI 1
				8-8 ; 16	VCC (+5V)	GND	9	10	N.C.

◆ J7 - Serial Port 2 / RS-232				◆ J7 - Serial Port 2 / RS-485			
DCD 2	1	2	DSR 2	DCD 2	1	2	DSR 2
RX 2	3	4	RTS 2	RX(-)	3	4	RX(+)
TX 2	5	6	CTS 2	TX(-)	5	6	TX(+)
DTR 2	7	8	RI 2	DTR 2	7	8	RI 2
GND	9	10	N.C.	GND	9	10	N.C.

◆ J8 - Enhanced IDE (Secondary)				* Active Low Signal	
Odd Pin Number		29	DACK B *	20	N.C.
1	RESET *	31	IRQ15	28	N.C.
3-17	[HD7-HD0]	33 ; 35	SA1 ; SA0	30	GND
19	GND	37	CS0 *	32	IOCS16 *
21	REQ B	39	ACTIVE *	34	GND
23	IOW *	Even Pin Number		36	SA2
25	IOR *	2 ; 22-26	GND	38	CS1 B *
27	IOCHRDY	4-18	[HD8-HD15]	40	GND

**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
3. When using a flat panel, make sure the proper video BIOS is installed

◆ J9 - Flat Panel		* Active Low Signal		◆ J10 - Parallel Port /Standard	
1-4	FP4-FP7	30, 31	GP0, GP1	Odd Pin Number	Even Pin Number
5-8	FP12-FP15	33	FPBL	STROBE *	1 2 AUTOFD *
9, 10, 11, 12	FP19, 18, 11, 10	35	LLCLK	[PD0-PD7]	3-17 4 ERROR *
13-16	FP23-FP20	36	GND	ACK *	19 6 INIT *
17	GND	37	FPVEE	BUSY	21 8 SELECTIN *
18	FPVDCLK	38	FPVCC	PE	23 10-18 Gnd
19, 21, 25	GND	39	FP2	SELECT	25 20-26 Gnd
20	FP9	40	GP2	◆ J11 - Video Feature	
22	LFS	41	STANDBY *	GND	Z1-3 Z13 OVRW *
23	FP3 (MOD)	42, 43	FP16, FP1	FCEVID *	Z4 Y1-8 FCP0-7
24	FP0	44	FP17	FCESYNC *	Z5 Y9 FCDCLK
26	FPDE	45, 46	N.C.	N.C.	Z6-7 Y10 FCBLANK *
27, 28, 32, 34	GND	47, 48	VCC (+5V)	GND	Z8-9 Y11 FCHSYNC
29	FP8	49, 50	+12V	GND	Z10-11 Y12 FVSYNC
				FCVCLK	Z12 Y13 GND

◆ J13 - PS/2 Mouse		◆ J14 - BIOS Boot	
1	MCLK	3	MDATA
2	GND	4	VCC (+5V)
		1	EMER *
		2	GND

◆ J15 - VGA			◆ J16 - 10Base-T Ethernet		◆ J23 - 10Base-2 Ethernet	
1	RED	6-8 A_GND	1	TXD+	5	N.C.
2	GREEN	12 N.C.	2	TXD-	6	RXD-
3	BLUE	13 HSYNC	3	RXD+	7	N.C.
4; 9; 11	N.C.	14 VSYNC	4	N.C.	8	N.C.
5; 10	GND	15 N.C.			Center	Signal
					Shield	GND

The Technical Reference Manual can be downloaded from [TEKNOR WEB site at www.teknor.com](http://www.teknor.com)  
To order a Technical Reference Manual hard copy, please contact Customer Service Department at **(450) 437-5682**

MEMORY MAPPING					
00000-9FFFF	0-640KB DRAM	CC000-CFFFF	Flash Window	E0000-FFFFF	System BIOS
A0000-BFFFF	Video DRAM	D4000-D7FFF	TEK BIOS Ext.(option)	100000 to top	1MB to top of RAM
C0000-C7FFF	Video BIOS	D8000-DFFFF	System DRAM		
C8000-CFFFF	TEK. BIOS Extension	D0000-D3FFF	Flash Window.(option)		

I/O MAPPING					
000-00F	DMA controller	0F0-0FF	Math coproc. config. reg	378-37A	Parallel Port (LPT1)
020-03F	Interrupt controller	170-177 ; 376	Secondary IDE	390-397	TEKNOR Ctrl Port(option)
040-043	Timer	190-197	TEKNOR Control Port	3BC-3BE	Parallel Port(option)
060-064	Keyboard (8742)	1F0-1F7 ; 3F6	Primary IDE	3E8-3EF	COM3
070-071	RTC, NMI mask	278-27A	Parallel Port(option)	3F0-3F7	Floppy Disk
080-09F	DMA Page Register	290-297	TEKNOR Ctrl Port(option)	3F8-3FF	COM1
0A0-0BF	Interrupt controller 2	2E8-2EF	COM4	3C0-3CF	Graphics controller
0C0-0DF	DMA controller 2	2F8-2FF	COM2	3D0-3DF	
0EC-0ED	Configuration registers	370-377	Floppy Disk (option)	3B0-3BB	

**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 properly inserted

# PCI-933 TECHNICAL SPECIFICATIONS

**CPU TYPE & SPEED**  
Pentium 100 to 166MHz

**SYSTEM MEMORY**  
DRAM: FPM or EDO : 2 to 256MB ; 72-pin SIMMs on four sockets  
Cache : 256KB standard ; write-through/write-back  
4KB NVRAM for PnP configuration

**BUS INTERFACE**  
PICMG : PCI rev 2.1 compliant ; ISA: drives up to 20 slots ; IBM PC/AT mechanical format

**DATA PATH**  
64-bit on CPU bus ; 32-bit on PCI bus ; 16-bit on ISA bus

**VIDEO**  
Cirrus Logic CL-GD7543 graphics processor with PCI local bus ; 2MB video memory (standard)  
24-bit per pixel true color DAC ; flat panel support for monochrome, D/D STN and TFT displays  
SVGA resolution up to 1024x728x64K colors ; GUI and video acceleration  
Simultaneous CRT / Flat Panel ; Video Feature Connector

**I/O**  
SERIAL : two RS-232 ports configurable as COM1-4 with RS-485 available on Serial Port 2  
PARALLEL : 1 bi-directional port (LPT1) with PC/XT, AT, PS/2, EPP and ECP modes  
HARD DISK : 2 Enhanced IDE channels ; drive up to 4 hard disks  
FLOPPY DISK : interface for 2 1.44 or 2.88MB floppy drives

**SCSI**  
Symbios RISC Engine ; Active terminations ; PCI Fast SCSI II, 8-bit bus ;  
Synchronous transfers up to 10MB/s ; Asynchronous transfers up to 5MB/s  
Full PCI-speed data transfers to host

**ETHERNET**  
10Base-T or 10Base-2 ; Bus master mode with DMA burst ; PnP compatible ; remote boot support

**BIOS**  
AMI BIOS ; PCI bridge aware ; Emergency BIOS ; BIOS in Flash ;  
Auto-configuration ; extended setup ; programmable bus and I/O speeds ; Power Management

**POWER SUPPLY**  
VOLTAGE : +5V ±5% ; +12V ±5% I PP CURRENT (+12V/-12V) : 100mA/10mA

Proc. Speed	PENTIUM			
	120MHz	133MHz	150MHz	166MHz
ICC typ.	3.80A	3.36A	3.48A	3.74A
ICC Susp.	1.60A	1.49A	1.53A	1.54A
Setup	8MB DRAM, 256KB cache, 1MB Video DRAM, kbd, FD, HD			

**OPERATING CONDITIONS**  
0°C to 62°C with airflow ; Tcase : 70° ; R.H. : 5% to 95% ; MTBF : > 115,000 hours (MIL-HDBK-217F)

**ELECTRICAL / MECHANICAL**  
Board dimensions : 4.8in. by 13.33in. / 121.9mm by 338.5mm  
Conforms to IEEE P996 PCI/AT bus spec. ; PCI Rev.2.1 spec. ; PICMG Rev.2.0

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