


## 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	200MHz/66MHz	2-3	1-2

 Careful attention should be taken when installing a processor:  
Faulty jumper settings may damage both your processor and your board.

● W4 - SCSI Termination	
Controlled by Software	1-2
Disabled by Hardware	off
Controlled by Hardware * (Board is terminated)	2-3

● W5, 6, 7 - CPU / Bus Clock			
	W5	W6	W7
50MHz	1-2	2-3	2-3
60MHz	1-2	1-2	1-2
66MHz	2-3	1-2	2-3

● W8 - Extended BIOS Modes		
	on	off
1-2	Serial Download	Normal Mode *
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

● W15, W16 - Serial Port 2, RS-485 Setup		
(RS-422/485 mode only)	Loopback	Normal *
W15: RTS2-CTS2	on	off
W16: DSR2-DTR2	on	off

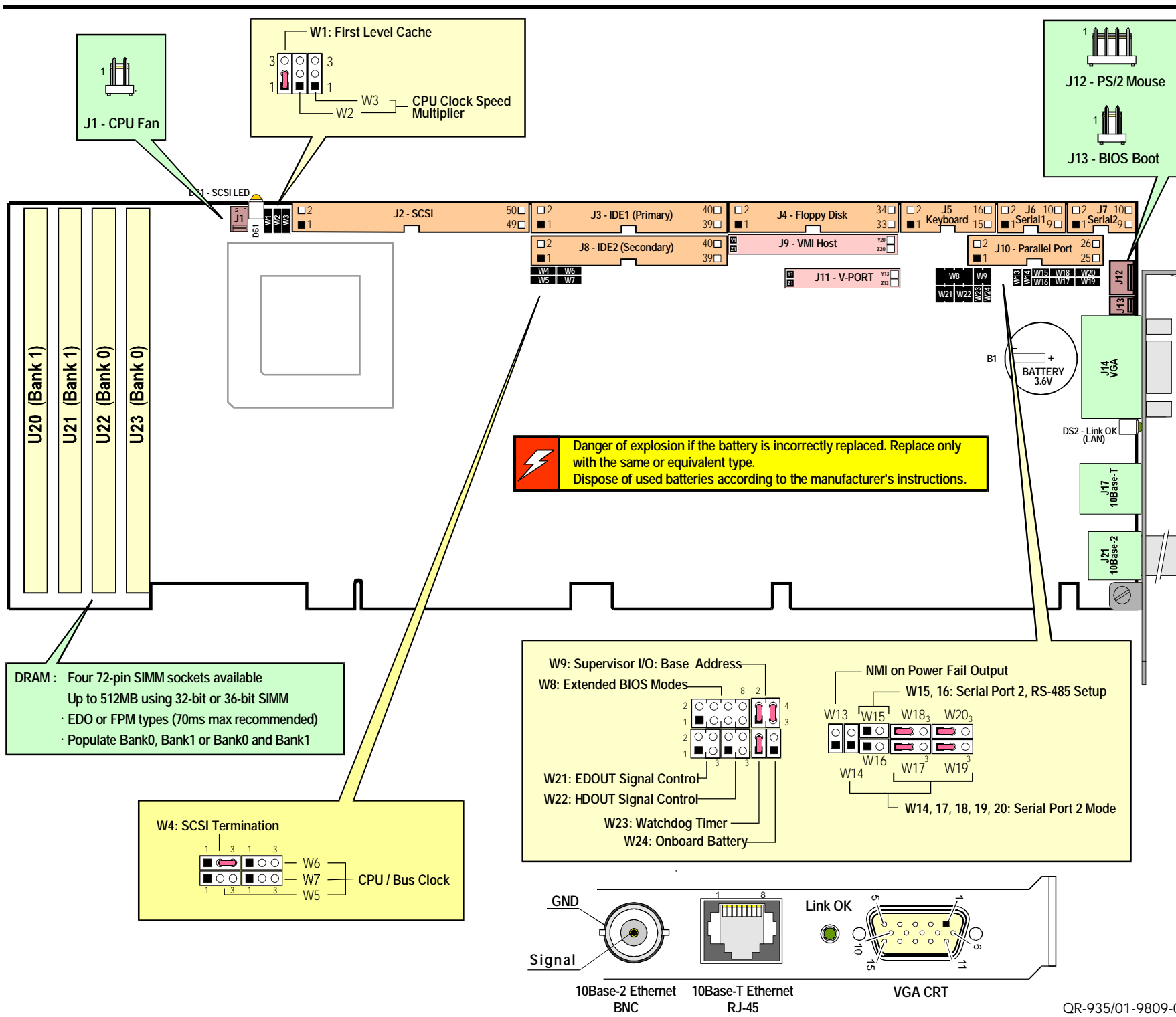
● W14, 17, 18, 19, 20 - Serial Port 2 Setup					
(configure jointly)	W14	W17	W18	W19	W20
RS-232 *	off	1-2	1-2	1-2	1-2
RS-422/485	on	2-3	2-3	2-3	2-3

● W21, W22 - Serial Port 2, RS-485 Setup (Configure jointly)			
W21: 2.88MB High Density Floppy, EDOUT Signal		W22: 2.88MB High Density Floppy, HDOUT Signal	
EDOUT left to software *	none	HDOUT left to software *	none
EDOUT to pin 29 (J4) : GND to pin 17 (J4)	1-3 ; 2-4	HDOUT to pin 33 (J4) : GND to pin 27 (J4)	1-3 ; 2-4
EDOUT to pin 17 (J4) : GND to pin 29 (J4)	1-2 ; 3-4	HDOUT to pin 27 (J4) : GND to pin 33 (J4)	1-2 ; 3-4

● W23 - Watchdog	
Enabled *	on
Disabled	off

● W24 - Board Batt.	
Enabled	on
Disabled *	off

● J13 - 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	CS1 A *	32	Pull Up	
21	REQ A	39	ACTIVE *	34	N.C.	
23	IOW *	Even Pin Number		36	SA2	
25	IOR *	2 ; 22-26	GND	38	CS3 A *	
27	DRDY *	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	RPML/C	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	
							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	CS1 A *	32	Pull Up	
21	REQ B	39	ACTIVE *	34	GND	
23	IOW *	Even Pin Number		36	SA2	
25	IOR *	2 ; 22-26	GND	38	CS3 B *	
27	DRDY *	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 - VMI Host		* Active Low Signal		◆ J10 - Parallel Port (Std mode)			
Z1	+12V	Y1	HD0	Odd Pin Number	Even Pin Number		
Z2	HD1	Y2	GND	STROBE *	1	2	AUTOFD *
Z3	GND	Y3, Y4	HD2, HD4	[PD0-PD7]	3-17	4	ERROR *
Z4	HD3	Y5, Y6	HD5, HD7	ACK *	19	6	INIT *
Z5, Z16	VCC	Y7, Y8	HA0, HA2	BUSY	21	8	SELECTIN *
Z6	HD6	Y9	VCC	PE	23	10-18	GND
Z7	OSC14M	Y10	LRESET *	SELECT	25	20-26	GND
Z8, Z9	HA1, HA3	Y11	GND	◆ J11 - Video Feature			
Z10	GND	Y12	R/W *	GND	Z1-3	Z13	OVRW *
Z11	DS *	Y13	DTACK *	FCEVID *	Z4	Y1-8	FCP0-7
Z12	RD *	Y14	INTVID *	FCESYNC *	Z5	Y9	FCDCLK
Z13	VCC3	Y15	N.C.	N.C.	Z6-7	Y10	FCBLANK *
Z14, Z15	N.C.	Y16	VCC3	GND	Z8-9	Y11	FCHSYNC
Z17-Z18	P8-P9	Y17-Y18	P12-P13	GND	Z10-11	Y12	FCVSYNC
Z19-Z20	P10-P11	Y19-Y20	P14-P15	FCVCLK	Z12	Y13	GND

◆ J12 - PS/2 Mouse				◆ J13 - BIOS Boot	
1	MCLK	3	MDATA	1	EMER *
2	GND	4	VCC (+5V)	2	GND

◆ J14 - VGA			◆ J17 - 10Base-T Ethernet			◆ J21 - 10Base-2 Ethernet			
1	RED	6-8	A_GND	1	TXD+	5	N.C.		
2	GREEN	12	SDA	2	TXD-	6	RXD-	Center	Signal
3	BLUE	13	HSYNC	3	RXD+	7	N.C.		
4; 9; 11	N.C.		14	VSYNC	4	N.C.		Shield	GND
5; 10	GND		15	SCL					

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	TEK. BIOS Extension
A0000-BFFFF	Video DRAM	D0000-D3FFF	Flash Window
C0000-CBFFF	Video BIOS	D4000-D7FFF	TEK BIOS Ext.(option)
D8000-DFFFF	System DRAM	E0000-FFFFF	System BIOS
100000 to top	1MB to top of RAM		

▶ I/O MAPPING			
000-00F	DMA controller 1	0F0-0FF	Math coproc. config. reg
020-03F	Interrupt controller 1	170-177 ; 376	Secondary IDE
040-043	Timer	190-197	TEKNOR Control Port
060-064	Keyboard (8742)	1F0-1F7 ; 3F6	Primary IDE
070-071	RTC, NMI mask	278-27A	Parallel Port(option)
080-09F	DMA Page Register	290-297	TEKNOR Ctrl Port(option)
0A0-0BF	Interrupt controller 2	2E8-2EF	COM4
0C0-0DF	DMA controller 2	2F8-2FF	COM2
0EC-0EF	Configuration registers	370-377	Floppy Disk (option)
378-37A	Parallel Port (LPT1)	390-397	TEKNOR Ctrl Port(option)
3BC-3BE	Parallel Port(option)	3E8-3EF	COM3
3F0-3F7	Floppy Disk	3F8-3FF	COM1
3C0-3CF	Graphics controller	3D0-3DF	
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-935 TECHNICAL SPECIFICATIONS

**CPU TYPE & SPEED**  
Pentium 100, 120, 133, 150, 166 AND 200MHz

**SYSTEM MEMORY**  
DRAM: up to 256MB FPM or EDO ; 72-pin SIMMs on four sockets  
Cache : 256KB standard or 512 option ; write-through/write-back  
Flash Disk: 2 or 4MB optional ; 4KB Serial NOVRAM

**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-GD5462 graphics processor with PCI local bus ; 2MB video memory (standard)  
24-bit per pixel true color DAC ; GUI and video acceleration  
SVGA resolution up to 1600x1200x256K colors ; VMI connectors  
500MHz data transfer rate using Rambus DRAM

**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 EPROM ; shadowing in RAM  
Auto-configuration ; extended setup ; programmable bus and I/O speeds ; Power Management

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

Proc. Speed	PENTIUM					
	100MHz	120MHz	133MHz	150MHz	166MHz	200MHz
ICC typ.	4.0A	4.25A	3.91A	3.96A	4.02A	4.50A
ICC Susp.	1.89A	2.03A	1.85A	1.82A	1.88A	1.92A
Setup	16MB DRAM, 512KB cache, 2MB Video DRAM, SCSI, kbd, FD, HD					

**OPERATING CONDITIONS**  
0°C to 70°C with airflow ; Tcase : 85° ; R.H. : 5% to 95% ; MTBF : > 100,000 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

**Contact TEKNOR INC. for Technical Support**

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