

486 SINGLE BOARD COMPUTER

## QUICK REFERENCE

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

<b>W1 - IOCHRDY</b>	To IDE Interface	on	<b>W2 - Watchdog</b>	Enabled *	on	<b>W5 - SCSI I/O</b>	At 140h	on	<b>W6 - Flash BIOS</b>	Enable Writing	on
	Disabled *	off		Disabled	off		At 340h *	off		Disable Writing	off

<b>W3 - Power Fail</b>	Generate NM	on	<b>W4 - Flash Disk</b>	Enable Writing *	on	<b>W7 - Pixel Clock Polarity</b>	Positive *	1-2
	Disabled *	off		Disable Writing	off		Negative	2-3

W8, W9 - HDOUT / EDOUT Signal Distribution (Configure jointly)			
W8: 2.88MB High Density Floppy, EDOUT Signal		W9: 2.88MB High Density Floppy, HDOUT Signal	
EDOUT left to software *	none	HDOUT left to software *	none
EDOUT to pin 29 (J2) ; GND to pin 17 (J2)	1-3 ; 2-4	HDOUT to pin 33 (J2) ; GND to pin 27 (J2)	1-3 ; 2-4
EDOUT to pin 17 (J2) ; GND to pin 29 (J2)	1-2 ; 3-4	HDOUT to pin 27 (J2) ; GND to pin 33 (J2)	1-2 ; 3-4

W10 - Battery Selection	
Internal Battery *	1-2
External Battery	2-3

W23 - Supervisor I/O Base Address		
190H *	1-2 ; 3-4	390H
290H	1-2	390H

W11, W12 - Serial Port 2 Signal Setup		
(RS-422/485 mode only)	Loopback	Normal *
W11: DSR2-DTR2	on	off
W12: RTS2-CTS2	on	off

W26 - Extended BIOS Modes		
	on	off
1-2	Disable VGA	Enable VGA *
3-4	Not Used	Not Used *
5-6	VT100 Mode	Standard Mode *
7-8	Serial Download Mode	Normal Mode *

W13 - Power Fail Detection Source		
External Power Fail Input to pin 6 of J12 *	1-2	
Internal/External battery when less than 3V	2-3	

W14, W15 - DMA Signal for SCSI			
Request (W14)		Acknowledge (W15)	
DRQ 0	1-2	DACK 0	2-3
DRQ 5	2-3	DACK 5	1-2
None *	none	None *	none

W27 - PS/2 Mouse Interrupt	
Enabled	on
Disabled *	off

W16 - SCSI IRQ Channel		
IRQ 10	IRQ 11 *	No Inter. used
1-2	2-3	none

W28, W31 - DMA Signal for ECP Mode			
Request (W28)		Acknowledge (W31)	
DRQ 1	1-2	DACK 1	1-2
DRQ 3	2-3	DACK 3	2-3
None *	none	None *	none

W17, W18, W19, W20 - Serial Port 2			
	W17	W18	W19
RS-232 *	1-2	1-2	1-2
RS-422 / RS-485	2-3	2-3	2-3

W29 - CPU Clock (TCLK 2)	
66MHz	3-4 ; 5-6
50MHz	1-2 ; 3-4 ; 5-6

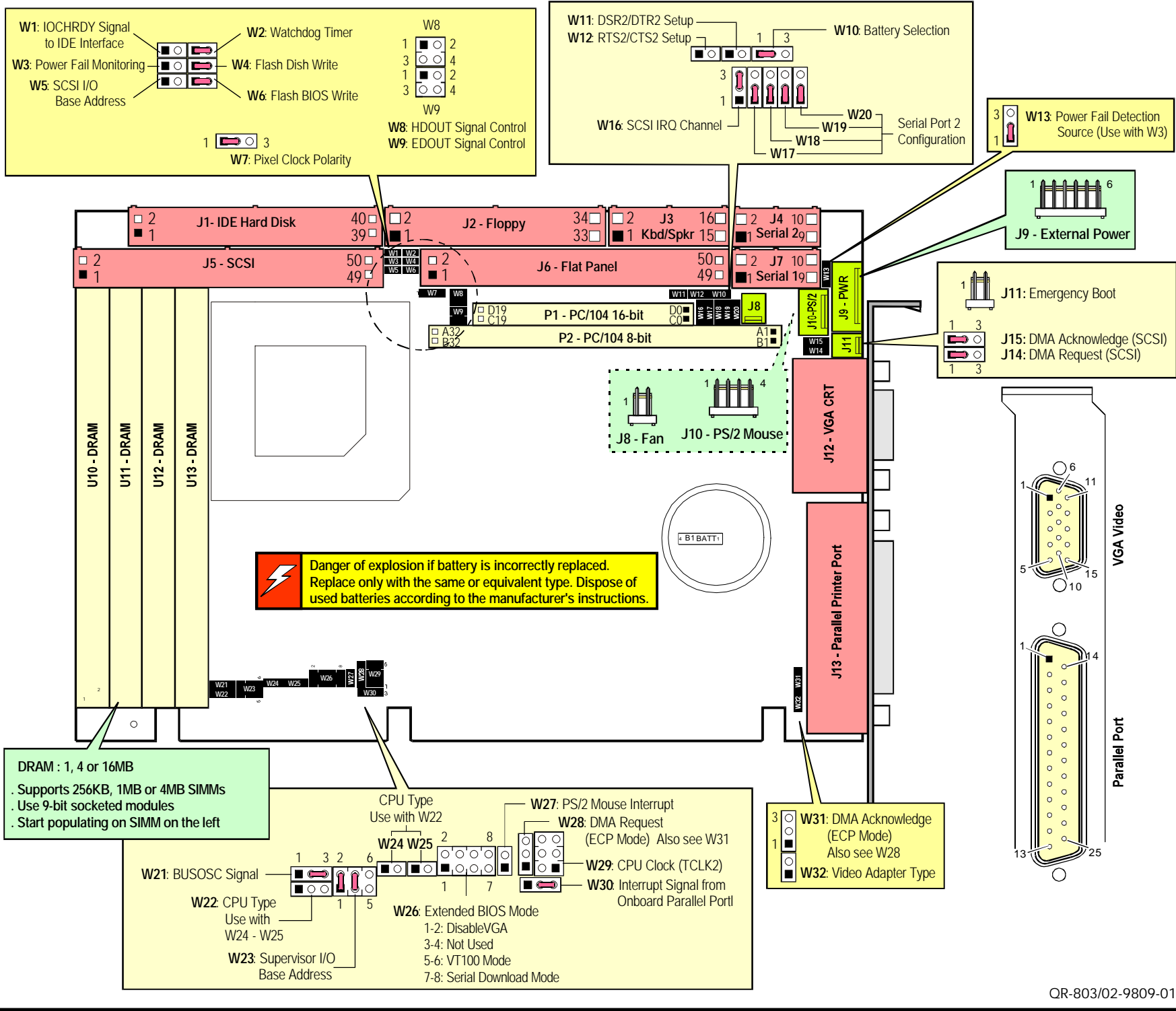
W21 - BUSOSC Signal		
16MHz Osc *	25MHz Sync	33MHz Sync
2-3	1-2	none

W30 - IRQ from Onboard Parallel Port	
IRQ 5 (Normally used for LPT2)	1-2
IRQ 7 (Normally used for LPT1) *	2-3
No IRQ used	none

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

W22, W24, W25 - CPU Type			
Processor	W22	W24	W25
SX	1-2	off	none
DX, DX2, DX4 overdrive	2-3	on	1-2

W32 - Video Type		J11 - BIOS Boot	
Monochrome	on	Emergency Boot	on
CGA/EGA/VGA *	off	Normal *	off



# CONNECTOR PINOUTS

◆ J1 - Enhanced IDE (Primary / Secondary)		* Active Low Signal	
Odd Pin Number (Primary)			
1	RESET *	29	N.C.
3-17	[SD7-SD0]	31	IRQ14
19	GND	33 ; 35	SA1 ; SA0
21	N.C.	37	CS0 *
23	IOW *	39	ACTIVE *
25	IOR *	<b>Even Pin Number (Primary)</b>	
27	IOCHRDY	2 ; 22-26	GND
		4-18	[SD8-SD15]
		20	N.C.
		28	BALE
		30	GND
		32	IOCS16 *
		34	N.C.
		36	SA2
		38	CS1 *
		40	GND

◆ J2 - Floppy Disk		* Active Low Signal	
Odd Pin Number			
1-15; 19-25; 31	GND	8	INDEX *
17; 27; 29; 33	N.C. by default (or see W8/W9 setups)	10	MOTOR ON 0, 1 *
		12	DRIVE SEL. B *
		14	DRIVE SEL. A *
		16	MOTOR ON 2 *
		18	DIR CONTROL
		20	STEP *
		22	WRITE DATA *
		24	WENABLE *
		26	TRACK 0 *
		28	WRITE PROTECT *
		30	READ DATA *
		32	HEAD SELECT *
		34	DSKCHG

◆ J3 - Keyboard		* Active Low Signal	
Odd Pin Number			
1	KBDCLK	7	SPKR OUT
3	KBDATA	11	DOWNLD *
5	VCC (+5V)	13	PBRES *
		15	DACT *
		Even Pin Number	
		2-4 ; 10-14	GND
		6-8 ; 16	VCC (+5V)

◆ J5 - SCSI Interface			
Odd Pin Number			
1-23 ; 27-49	GND	34	GND
25	Term Power	36	BSY *
		38	ACK *
		40	RESET *
		42	MSG *
		44	SEL *
		46	C/D *
		48	REQ *
		50	I/O *

◆ J6 - Flat Panel		* Active Low Signal	
Odd Pin Number			
1	FLM	4	SHFCLK
3-7	VCC (+5V)	6 ; 26	M/ACDCLK (DE) *
9-21	GND	8-14 ; 16-22	[P3-P0] ; [P7-P4]
23	N.C.	24	ENVDD *
25	ENVEE/ENBKL *	28-34	[P11-P8]
27	STNDBY *	36-42	[P15-P12]
29-49	GND	44	P8
		46	N.C.
		48	P16 (ACTI)
		50	P17 (ENBLK)

◆ J10 - PS/2 Mouse	
1	MCLK
2	GND
3	MDATA
4	VCC (+5V)

◆ J11 - Emergency Jumper	
1	EMER *
2	GND

◆ J12 - CRT VGA			
1	RED	6-8	A_GND
2	GREEN	12	N.C.
3	BLUE	13	HSYNC
4; 9; 11	N.C.	14	VSYNC
5; 10	GND	15	N.C.

◆ J13 - Parallel Port (Std Mode)			
1	STB *	15	ERR *
2-9	D0-D7	16	INIT *
10	ACK *	17	SLCTIN *
11	BUSY	18-20	GND
12	PE	21-23	GND
13	SLCT	24-25	GND

\* Active Low Signal

◆ P2/P1 - PC/104		* Active Low Signal	
ROW A	ROW B	ROW C	ROW D
0		GND	GND
1	IOCHK*	SBHE*	MEMCS16*
2	SD7	RESET DRV	IOCS16 *
3	SD6	VCC (+5V)	SA22
4	SD5	IRQ9	SA21
5	SD4	-5V	SA20
6	SD3	DRQ2	SA19
7	SD2	-12V	SA18
8	SD1	0WS*	SA17
9	SD0	+12V	MEMR *
10	IOCHRDY	N.C.	MEMW *
11	AEN	SMEMW *	SD8
12	SA19	SMEMR *	SD9
13	SA18	IOW *	SD10
14	SA17	IOR *	SD11
15	SA16	DACK3 *	SD12
16	SA15	DRQ3	SD13
17	SA14	DACK1 *	SD14
18	SA13	DRQ1	SD15
19	SA12	REFRESH *	N.C.
20	SA11	SYSCLK	GND
21	SA10	IRQ7	
22	SA9	IRQ6	
23	SA8	IRQ5	
24	SA7	IRQ4	
25	SA6	IRQ3	
26	SA5	DACK2 *	
27	SA4	T/C	
28	SA3	BALE	
29	SA2	VCC (+5V)	
30	SA1	QSC	
31	SA0	GND	
32	GND	GND	

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

I/O MAPPING			
000-00F	DMA controller 1	190-193	TEKNOR Control Port (opt.: 290-293 or 390-393)
020-03F	Interrupt Controller 1		
040-043	Counter/Timers	1F0-1F7 ; 3F6-3F7	IDE HD (opt.: 170-177 or 376-377)
060-064	Keyboard (8742)	3F0-3F7	Floppy Disk (opt.: 370-377)
070-071	Real Time Clock	378-37A	Parallel Port (opt.: 3BC-3BE or 278-27A)
080-09F	DMA Page Register	3F8-3FF	COM1 by default (opt.: 2F8-2FF/COM2 (Serial P. 1) or 3E8-3EF/COM3 or 2E8-2EF/COM4)
0A0-0BF	Interrupt Controller 2		
0C0-0DF	DMA Controller 2	2F8-2FF	COM2 by default (opt.: 3F8-3FF/COM1 (Serial P. 2) or 3E8-3EF/COM3 or 2E8-2EF/COM4)
0E0-0EF	Configuration Registers		
0F0-0FF	Math Coprocessor / Config. Reg.	3C0-3CF ; 3D0-3DF ; 3B0-3BB	Graphics Controller

MEMORY MAPPING	
00000-9FFFF	0-640KB DRAM
A0000-BFFFF	Video DRAM
C0000-C7FFF	Video BIOS
C8000-CBFFF	SCSI BIOS (optional = D8000-DBFFF)
CC000-CFFFF	Flash Window
D4000-D7FFF	TEK. BIOS Extension
F0000-FFFFF	System BIOS
10000 to Top	System DRAM

Optional: DC000-DFFFF | E0000-E3FFF | TEK. BIOS Extension | D0000-D3FFF | E8000-EBFFF | Flash Window

# VIPer803 TECHNICAL SPECIFICATIONS

☀ **CPU TYPE & SPEED**  
486SX (25/33MHz), 486DX (33MHz), 486DX2 (66MHz), 486DX4 (100MHz) - Internal Cache

☀ **SYSTEM MEMORY**  
DRAM: up to 1, 4, 16MB of system memory on four 9-bit SIMM sockets  
Flash EPROM: 1MB ; SRAM: 128 or 512KB  
Cache Memory - 8KB with 486SX, 486DX and 486DX2 ; 16KB with 486DX4 - 4-way internal

☀ **BUS INTERFACE**  
PC/AT bus or stand-alone operation ; compatibility: 100% IBM PC/AT ; PC/104

☀ **VIDEO**  
C&T 65535 video processor chip with local bus interface ; 1MB EDO video DRAM  
Flat panel supports for monochrome, S/S and D/D STN, EL and TFT displays  
Fully compatible with IBM VGA and enhanced BIOS-level backward compatibility with EGA, CGA Hercules, and MDA without using NMIs  
Simultaneous CRT and flat panel support

☀ **I/O**  
SERIAL : two RS-232 ports (COM1-4) with RS-422/485 available on COM2  
PARALLEL : 1 multiple mode parallel port (including EPP and ECP modes)  
HARD DISK : IDE interface supporting two drives in Master/Slave configuration  
FLOPPY DISK : interface for two 1.44 or 2.88MB floppy drives  
SCSI DRIVE : 10MB/sec. in synch. mode, 3.9MB/sec. in asynch. mode ; SCSI II command set

☀ **BIOS FEATURES**  
AMI BIOS supported in Flash memory to ease updates  
Programmable CPU and memory wait states ; BIOS shadowing in RAM  
Extension for diskless, keyboardless and videoleless operations ; Power management support  
MS-DOS and application bootup from Flash EPROM

☀ **SUPERVISOR UTILITIES**  
Watchdog timer ; Power Failure / low battery detection

☀ **POWER SUPPLY**  
VOLTAGE : +5V ±5% ; +12V ±5% ; IPP: +12V/10mA

Proc. Speed	486SX	486DX	486DX2	486DX4
ICC typ.: 5V	1.50A	1.50A	1.95A	2.20A
IPP: +12/-12V	10/5mA	10/5mA	10/5mA	10/5mA

☀ **OPERATING CONDITIONS**  
0°C to 70°C with airflow ; R.H. 5% to 95% ; MTBF : > 55,000 hours (485SX: 65,000 hours)

☀ **ELECTRICAL / MECHANICAL**  
Board dimensions : 4.8 in. x 7.1 in. (122 mm x 181 mm)  
Conforms to IEEE P996 PC/AT bus electrical and mechanical specifications

**Contact TEKNOR INC. for Technical Support**

1 . Tel : (800) 354-4223  
2 . Fax : (450) 437-8053

3 . Internet : [www.teknor.com](http://www.teknor.com)  
4 . E-Mail : [support@teknor.com](mailto:support@teknor.com)

**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

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