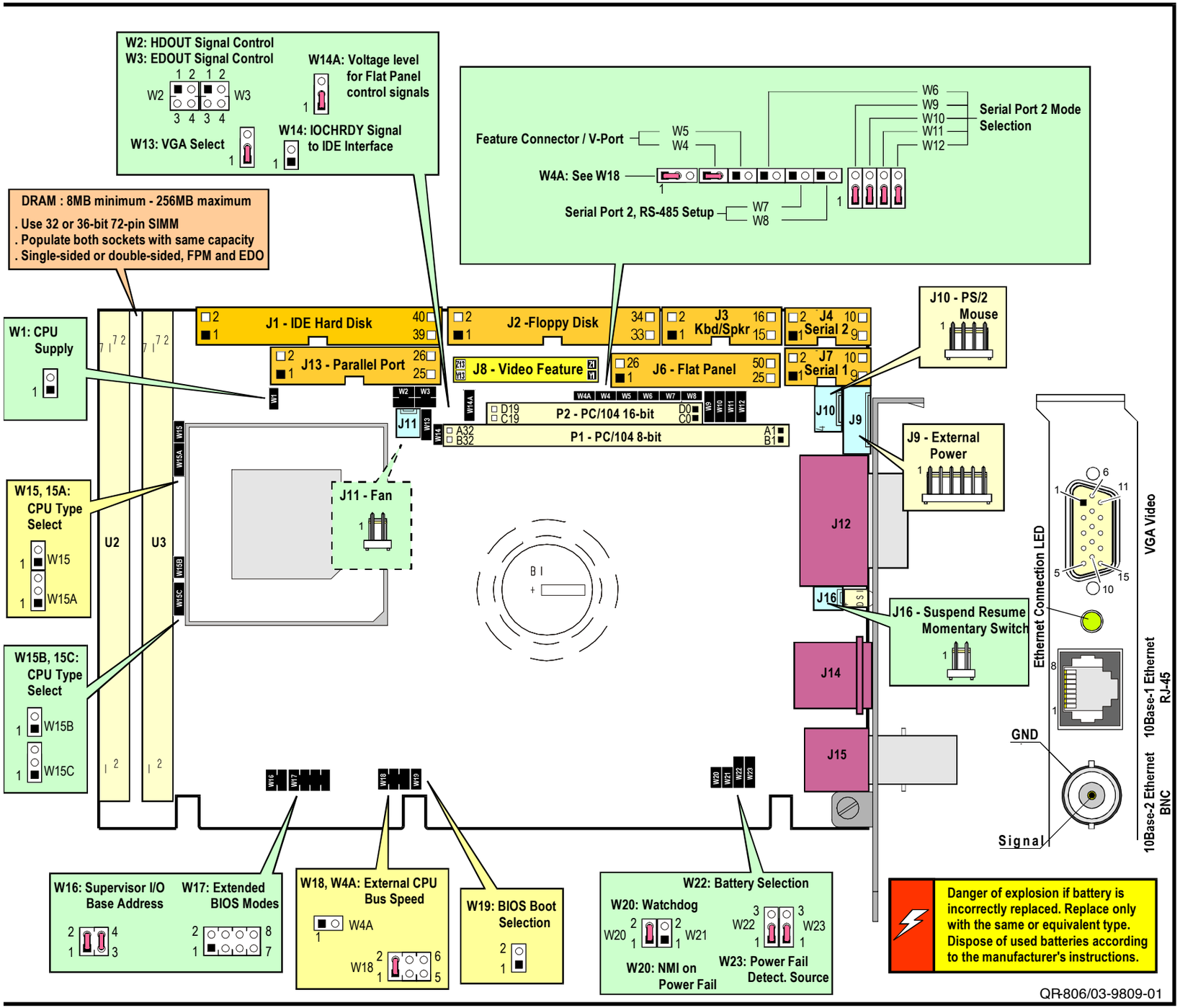
VIPer806

486/5x86 SINGLE BOARD COMPUTER

TEKNOR INDUSTRIAL COMPUTERS INC

QUICK REFERENCE



JUMPER SETTINGS (* : Initial Setting)

W1, W15, W15A, W15B, W15C - CPU Setups

AMD	Type Spec.	W1	W15	W15A	W15B	W15C
486DX2SV (3.3V)	Wr-Th/clk 2x	off	on	1-2	off	1-2
	Wr-Bk/clk 2x	off	on	2-3	on	2-3
486DX4SV (3.3V)	Wr-Th/clk 2x	off	on	1-2	off	1-2
	Wr-Bk/clk 2x	off	on	2-3	on	2-3
	Wr-Th/clk 3x	off	off	1-2	off	1-2
	Wr-Bk/clk 3x	off	off	2-3	on	2-3
5x86 or 486DX5 (133/3.3V)	Wr-Th/clk 3x	off	off	1-2	off	1-2
	Wr-Bk/clk 3x	off	off	2-3	on	2-3
	Wr-Th/clk 4x	off	on	1-2	off	1-2
	Wr-Bk/clk 4x	off	on	2-3	on	2-3

INTEL	Type Spec.	W1	W15	W15A	W15B	W15C
486DX/DX2	5V	on	off	1-2	off	1-2
486DX4 (3.3V)	Wr-Th/clk 2x	off	on	1-2	off	1-2
	Wr-Bk/clk 2x	off	on	2-3	on	2-3
	Wr-Th/clk 3x	off	off	1-2	off	1-2
	Wr-Bk/clk 3x	off	off	2-3	on	2-3

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

W2, W3 - HDOUT / EDOUT Signal Distribution (Configure jointly)

W2: 2.88MB High Density Floppy, HDOUT Signal	
HDOUT left to software *	none
HDOUT to pin 33 (J2) ; GND to pin 27 (J2)	1-3 ; 2-4
HDOUT to pin 27 (J2) ; GND to pin 33 (J2)	1-2 ; 3-4

W3: 2.88MB High Density Floppy, EDOUT Signal	
EDOUT left to software *	none
EDOUT to pin 29 (J2) ; GND to pin 17 (J2)	1-3 ; 2-4
EDOUT to pin 17 (J2) ; GND to pin 29 (J2)	1-2 ; 3-4

W4, W5 - Feature Connector/V-Port

(configure jointly)	W4	W5
Feature connector Enabled	off	on
Feature connector disabled *	on	off
V-Port Enabled (CL-GD7548 only)	off	off

W16 - Supervisor I/O Base Address

190H *	1-2 ; 3-4	390H	3-4
290H	1-2	390H	none

W4A, W18 - External CPU Bus Speed

	W4A	W18
25MHz	off	3-4
33MHz *	off	1-2

W17 - Extended BIOS Modes

	on	off *
1-2	Serial Download Mode	Normal Mode
3-4	VT100 Mode	Standard Mode
5-6	Disable TEK. Extension	Enable TEK. Extension
7-8	Disable Onboard VGA	Enable Onboard VGA

W6, 9, 10, 11, 12 - Serial Port 2 Setup

(configure jointly)	W6	W9	W10	W11	W12
RS-232 *	off	1-2	1-2	1-2	1-2
RS-422/485	on	2-3	2-3	2-3	2-3

W19 - BIOS Boot Selection

Emergency Boot (from EPROM BIOS)	on
Normal Boot (from Flash EPROM BIOS) *	off

W7, W8 - Serial Port 2 Signal Setup

(RS-422/485 mode only)	Loopback	Normal *
W7: RTS2-CTS2	on	off
W8: DSR2-DTR2	on	off

W20 - Watchdog

Enabled *	on
Disabled	off

W21 - NMI Setup

On Power Fail	on
Disabled *	off

W13 - VGA Select

Ready *	1-2
Local Ready	2-3

W14 - IOCHRDY

To IDE Interface	on
Disabled *	off

W22 - Battery Selection

Onboard *	1-2
External	2-3

W14A - Voltage Level for Flat Panel Control

5V signal level *	1-2
3.3V signal level	2-3

W23 - Power Fail Detection Source

External Power Fail Input to pin 6 of J9 *	1-2
Internal/External battery when less than 3V	2-3

This jumper does not select flat panel power supply

CONNECTOR PINOUTS

J1 - IDE Hard Disk — * Active Low Signal

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

J2 - Floppy Disk — * Active Low Signal

Odd Pin Number					
1-15; 19-25; 31	GND	8	INDEX *	22	WDATA *
17; 27; 29; 33	N.C. by default (or see W2/W3 setups)	10	MOTOR ON 0, 1 *	24	WENABLE *
		12	DRIVE SEL. B *	26	TRACK 0 *
Even Pin Number		14	DRIVE SEL. A *	28	WPROTECT *
2	DRVEND *	16	MOTOR ON 2 *	30	RDATA *
4 ; 6	N.C.	18	DIR CONTROL *	32	HEAD SELECT *
		20	STEP *	34	DSKCHG

J3 - Keyboard — * Active Low Signal

Odd Pin Number					
1	KCLK	7	SPKR OUT	15	HDACT *
3	KBDATA	9	KBDINH	Even Pin Number	
5	VCC (+5V)	11	DOWNLD *	2-4 ; 10-14	GND
		13	PBRES *	6-8 ; 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.

J4 - Serial Port 2 (RS-232)

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

J4 - Serial Port 2 (RS-422/485)

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.

J7 - Serial Port 1

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

J8 - Video Feature

GND	Z1-3	Z13	OVRW *
FCEVID *	Z4	Y1-8	FCP0-7
FCESYNC *	Z5	Y9	FCDCLK
N.C.	Z6-7	Y10	FCBLANK *
GND	Z8-9	Y11	FCHSYNC
GND	Z10-11	Y12	FCVSYNC
FCVCLK	Z12	Y13	GND

J6 - Flat Panel — * Active Low Signal

1-4	FP4-FP7	30, 31	GP0, GP1
5-8	FP12-FP15	33	FPBL
9, 10, 11, 12	FP19, 18, 11, 10	35	LLCLK
13-16	FP23-FP20	36	GND
17	GND	37	FPVEE
18	FPVDCLK	38	FPVCC
19, 21, 25	GND	39	FP2
20	FP9	40	GP2
22	LFS	41	STANDBY *
23	FP3 (MOD)	42, 43	FP16, FP1
24	FP0	44	FP17
26	FPDE	45, 46	N.C.
27, 28, 32, 34	GND	47, 48	VCC (+5V)
29	FP8	49, 50	+12V

J9 - External Power

1	VCC (+5V)	4	+12V
2	GND	5	-12V
3	GND.	6	Pow.Fail

J10 - PS/2 Mouse

1	MCLK	3	MDATA
2	GND	4	VCC (+5V)

J11 - CPU Fan

1	+12V	2	GND

J12 - CRT SVGA

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)

Odd Pin Number		Even Pin Number	
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 - 10Base-1 Ethernet

1	TXD+	5	N.C.
2	TXD-	6	RXD-
3	RXD+	7	N.C.
4	N.C.	8	N.C.

J15 - 10Base-2 Ethernet

1	Signal	Shield	

J16 - Susp./Res. Momentary

1	VCC (+5V)	2	Switch

P2/P1 - PC/104 — * Active Low Signal

	ROW A	ROW B	ROW C	ROW D
0			GND	GND
1	IOCHK*	GND	SBHE*	MEMCS16 *
2	SD7	RESET DRV	SA23	IOCS16 *
3	SD6	VCC (+5V)	SA22	IRQ10
4	SD5	IRQ9	SA21	IRQ11
5	SD4	-5V	SA20	IRQ12
6	SD3	DRQ2	SA19	IRQ15
7	SD2	-12V	SA18	IRQ14
8	SD1	0WS*	SA17	DACK0 *
9	SD0	+12V	MEMR *	DRQ0
10	IOCHRDY	N.C.	MEMW *	DACK5 *
11	AEN	SMEMW *	SD8	DRQ5
12	SA19	SMEMR *	SD9	DACK6 *
13	SA18	IOW *	SD10	DRQ6
14	SA17	IOR *	SD11	DACK7 *
15	SA16	DACK3 *	SD12	DRQ7
16	SA15	DRQ3	SD13	VCC (+5V)
17	SA14	DACK1 *	SD14	MASTER *
18	SA13	DRQ1	SD15	GND
19	SA12	REFRESH *	N.C.	GND
20	SA11	SYSCLK		
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	OSC		
31	SA0	GND		
32	GND	GND		

I/O MAPPING

000-00F	DMA controller 1	190-197	TEKNOR Control Port (opt.: 290-297 or 390-397)
020-03F	Interrupt Controller 1	1F0-1F7 ; 3F6-3F7	IDE Hard Disk
040-043	Counter/Timers	300-317	Ethernet Port (opt.: 320-337 or 340-357)*
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 (Serial P. 1)	COM1 by default (opt.: 2F8-2FF/COM2 or 3E8-3EF/COM3 or 2E8-2EF/COM4;)
0A0-0BF	Interrupt Controller 2		
0C0-0DF	DMA Controller 2		
0EA-0EB	Reserved for TEK-PAK	2F8-2FF (Serial P. 2)	COM2 by default (opt.: 3F8-3FF/COM1 or 3E8-3EF/COM3 or 2E8-2EF/COM4;)
024-026	Configuration Registers		
0F0-0FF	Math Coprocessor / Config. Reg.	3C0-3CF ; 3D0-3DF ; 3B0-3BB	Graphics Controller

* Other address ranges: 360-377, 380-397, 3A0-3B7, 3C0-3D7 and 3E0-3F7

MEMORY MAPPING

00000-9FFFF	0-640KB DRAM	CC000-CFFFF	Flash Window
A0000-BFFFF	Video DRAM	D8000-DFFFF	System DRAM
C0000-C7FFF	Video BIOS	E0000-FFFFF	System BIOS
C8000-CBFFF	TEK. BIOS Exten.	100000 to Top	System DRAM

Optional: D4000-D7FFF = TEK. BIOS Extens. ; D0000-D3FFF = Flash Window

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

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 properly inserted and good working

Contact TEKNOR INC. for Technical Support

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

VIPer806 TECHNICAL SPECIFICATIONS

CPU TYPE & SPEED
Pentium 5x86 @133MHz ; 486DX4 @100MHz ; 486DX2 @ 66MHz

SYSTEM MEMORY
DRAM: 1, 2, 4, 8, 16, 16, 16, 32, 48, 64, or 128MB using two 72-pin SIMMs
Cache: 8/16KB internal
Flash EPROM: 0, 2 or 4MB

BUS INTERFACE
PC/AT bus or stand-alone operation ; 100% IBM PC/AT compatible ; PC/104 compatible

DATA PATH
32-bit on CPU bus ; 16-bit on ISA bus

VIDEO
Cirrus Logic GD7543 video processor chip with local bus interface ; 1MB video DRAM
Flat panel supports for monochrome, S/S and D/D STN, EL and TFT displays
SVGA resolutions to 1024x768x256 colors or 1280x1024x16 colors
GUI and video acceleration ; Simultaneous CRT/flat panel support
Video feature connector

I/O
SMC FDC37C932 Ultra I/O ; PnP compatible
SERIAL : two RS-232 ports, configurable as COM1-4 with RS-485 available on COM2
PARALLEL : 1 bi-directional port (LPT1) with PC/XT, AT, PS/2, EPP and ECP modes
HARD DISK : local bus IDE interface
FLOPPY DISK : interface for two 1.44 or 2.88MB floppy drives

ETHERNET
10Base-T or 10Base-2 Ethernet option ; PnP compatible ; bus master mode with DMA bursts

BIOS FEATURES
AMI BIOS in Flash EPROM ; Auto configuration and extended setup
Programmable CPU and memory wait states ; BIOS shadowing in RAM
Extension for diskless, keyboardless and videoless 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%

	CURRENT		
Proc. Speed	**5x86**	**DX4**	**DX2**
ICC typ.: 5V	1.8A	2.1A	1.5A
ICC Susp.: 5V	0.5A	0.5A	0.7A
IPP: +12V/-12V	5/14mA	5/14mA	5/14mA
Setup	4MB DRAM ; 4MB Flash EPROM ; 1MB Video DRAM		

OPERATING CONDITIONS
0°C to 70°C with airflow ; R.H. : 5% to 95% ; MTBF : > 40,000 hours (MIL-HDBK-217F)

ELECTRICAL / MECHANICAL
Board dimensions : 4.8 in. x 7.125 in. (121 mm x 181 mm)
Conforms to IEEE P996 PC/AT bus electrical and mechanical specifications