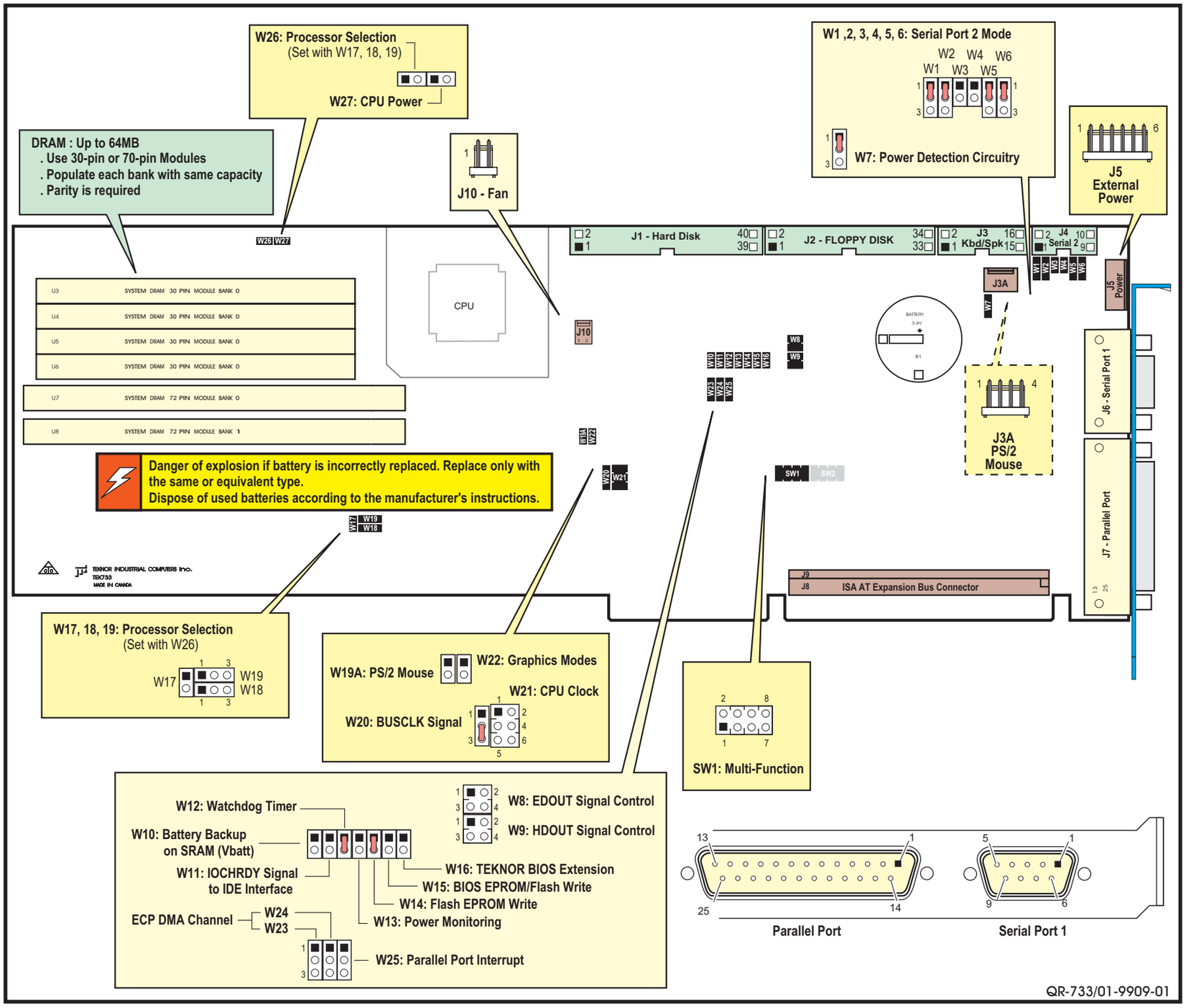


TEK-AT4L+

TEKNOR INDUSTRIAL COMPUTERS INC.

PC/AT INDUSTRIAL SBC

QUICK REFERENCE

JUMPER SETTINGS (* : Initial Setting)

W1, 2, 3, 4, 5, 6 - Serial Port 2 Mode

	W1	W2	W3	W4	W5	W6
RS-232 *	1-2	1-2	off	off	1-2	1-2
RS-485	2-3	2-3	on	on	2-3	2-3

W7 - Power Detection Circuitry

Power Failure Detection *	1-2
Low Battery Detection	2-3

W8, W9 - EDOUT / HDOUT Signal Distribution (Configure jointly)

W8: 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

W9: 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

W10 - Battery

Connected	on
Disconnected *	off

W11 - IOCHRDY

Disabled *	off
To IDE Interface	on

W12 - Watchdog

Disabled	off
Enabled *	on

W13 - Power Monitor

Enabled	on
Disabled *	off

W14 - Flash EPROM

Enable Write *	on
Disable Write	off

W15 - BIOS Write

EPROM BIOS *	off
Flash BIOS	on

W16 - TEK BIOS Exten

Enabled *	off
Disabled	on

W19A - PS/2 Mouse

Enabled	on
Disabled	off

W17, 18, 19, 26 - Processor Selection

Processor	W17	W18	W19	W26
486SX / SX2	off	1-2	off	off
486DX / DX2	1-2	2-3	1-2	off
486 Overdrive	1-2	2-3	2-3	off
486DX2 wb	1-2	2-3	1-2	off
486DX4	1-2	2-3	1-2	off
486DX4 wb	1-2	2-3	1-2	off
AMD 486DX2	1-2	2-3	1-2	1-2
AMD 486DX4	1-2	2-3	1-2	off
AMD 5x86	1-2	2-3	1-2	2-3

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

W20 - BUSCLK Signal

16MHz ASYNCH *	2-3
25MHz CPUCLK	1-2
33MHz CPUCLK	off

W21 - CPU Clock

	1-2	3-4	5-6
25/50MHz	on	on	on
33/66MHz	off	on	on

W22 - Graphics Modes

CGA, EGA, VGA *	off
Monochrome	on

W23, 24 - ECP DMA Channel

	W23	W24
DMA 1	1-2	1-2
DMA 3	2-3	2-3

W25 - Parallel Port Interrupt

IRQ 5 *	1-2
IRQ 7	2-3

W27 - CPU Power

3.3V	off
5.0V	on

SW1 - Extended BIOS Modes

	on	off
1-2	Boot from Flash	Boot from drive *
3-4	VT100/Downl on COM2	VT100/Downl on COM1*
5-6	VT100 mode	Standard mode *
7-8	Download mode	Normal mode *

CONNECTOR PINOUTS

J1 - IDE Channel — * Active Low Signal

Odd Pin Number				Even Pin Number	
1	RESET *	29	DACK *	20	N.C.
3-17	[HD7-HD0]	31	IRQ 14	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

1-33	GND	14	DRIVE SEL. A *	26	TRACK 0 *
2	RPM/LC	16	MOT. ENABLE B *	28	WPROTECT *
4 ; 6	N.C.	18	DIR CONTROL *	30	RDATA *
8	INDEX *	20	STEP *	32	HEAD SELECT *
10	MOT. ENABLE A *	22	WDATA *	34	DSKCHG
12	DRIVE SEL. B *	24	WENABLE *		

J3 - Multi-Function (Kbd, Spkr, Reset, LED) — * Active Low Signal

Odd Pin Number					
1	KCLK	7	SPKR OUT	15	HDACTIVE *
3	KBDATA	9	KBINH	Even Pin Number	
5	VCC (+5V)	11	DOWNLD *	2-4 ; 10-14	GND
		13	PBRES *	6-8 ; 16	VCC (+5V)

J3A - PS/2 Mouse

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

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-485)

Reserved	1	2	N.C.
RX(-)	3	4	RX(+)
TX(-)	5	6	TX(+)
N.C.	7	8	N.C.
GND	9	10	N.C.

J5 - External Power

1	VCC(+5V)
2	GND
3	GND
4	+12V
5	-12V
6	Power Failure Detect

J6 - Serial Port 1

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

J7 - Parallel Port (Standard Mode) — * Active Low Signal

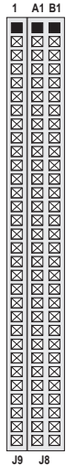
Odd Pin Number		Even Pin Number	
STROBE *	1	14	AUTOFD *
[D0-D7]	2-9	15	ERROR *
ACK *	10	16	INIT *
BUSY	11	17	SELECTIN*
PE	12	18-25	GND
SELECT	13		

J10 - Fan

1	+12V	2	GND

J8/J9 - ISA Bus and ISA AT Extension — * Active Low Signal

J9 - ISA AT Extension		J8 - ISA Bus		
			ROW A	ROW B
SBHE*	1	1	IOCHK*	GND
SA23	2	2	SD7	RESET DRV
SA22	3	3	SD6	VCC (+5V)
SA21	4	4	SD5	IRQ9
SA20	5	5	SD4	-5V
SA19	6	6	SD3	DRQ2
SA18	7	7	SD2	-12V
SA17	8	8	SD1	0WS*
SD8	9	9	SD0	+12V
SD9	10	10	IOCHRDY *	GND
SD10	11	11	AEN	SMEMW *
SD11	12	12	SA19	SMEMR *
SD12	13	13	SA18	IOW *
SD13	14	14	SA17	IOR *
SD14	15	15	SA16	DACK3 *
SD15	16	16	SA15	DRQ3
MEMCS16 *	17	17	SA14	DACK1 *
IOCS16 *	18	18	SA13	DRQ1
IRQ10	19	19	SA12	REFRESH *
IRQ11	20	20	SA11	SYSCLK
IRQ12	21	21	SA10	IRQ7
IRQ15	22	22	SA9	IRQ6
MASTER *	23	23	SA8	IRQ5
MEMR *	24	24	SA7	IRQ4
MEMW *	25	25	SA6	IRQ3
DACK5 *	26	26	SA5	DACK2 *
DRQ5	27	27	SA4	T/C
DACK6 *	28	28	SA3	BALE
DRQ6	29	29	SA2	VCC (+5V)
DACK7 *	30	30	SA1	OSC
DRQ7	31	31	SA0	GND



I/O MAPPING

000-00F	DMA controller 1	0F0-0FF	Math Coprocessor
020-03F	Interrupt Controller 1	1F0-1F7	Hard Disk
040-05F	Timer	201	Watchdog Timer, PDO, User
060-06F	Keyboard and Mouse	378-37A	LPT1
070-07F	Real Time Clock, NMI mask	2F8-2FF	COM2
080-09F	DMA Page Register	3F2-3F7	Floppy Disk
0A0-0BF	Interrupt Controller 2	3F8-3FF	COM1
0C0-0DF	DMA Controller 2		

MEMORY

00000-64MB	DRAM	600000-7FFFFF	SRAM	800000-FFFFFF	Flash

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**.

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

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

TEK-AT4L+ TECHNICAL SPECIFICATIONS

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

SYSTEM MEMORY
DRAM: 1, 2, 4, 8, 16, 32, or 64MB using two 72-pin SIMMs ; 4 or 16MB using four 30-pin SIMMs
SRAM: 128, 256, 512KB, 1MB, or 2MB
Flash EPROM: 2, 4 or 8MB ; Cache: 8/16KB internal

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

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

I/O
SERIAL: two serial ports, configurable as RS-232 (COM1-2) with RS-422/485 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

BIOS FEATURES
AMI BIOS ; Auto configuration and extended setup
Programmable CPU and memory wait states ; BIOS shadowing in RAM
Extension for diskless, keyboardless and videoless operations
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	**DX2 - 66MHz**	**DX4 - 100MHz**	**5x86**
ICC typ.: 5V	1.7A	2.1A	2.0A
IPP: +12V/-12V	5/10mA	5/10mA	5/10mA
Setup	8MB DRAM ; 1MB SRAM ; 2MB Flash		

OPERATING CONDITIONS
0°C to 70°C with airflow ; R.H. : 5% to 95% ; MTBF : > 200,000 hours (MIL-HDBK-217F)

ELECTRICAL / MECHANICAL
Board dimensions : 13.35 in. x 4.7 in. (339.09 mm x 121.92 mm)
Conforms to IEEE P996 PC/AT bus electrical and mechanical specifications

Contact TEKNOR INC. for Technical Support

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