PCM-4862
486 SBC with VGA/LCD/Ethernet/SSD
Startup Manual

Packing List

Before you begin installing your card, please make sure that the following materials have been shipped:

- 1 PCM-4862 all-in-one single board computer
- 1 startup manual
- 1 CD-ROM or disk for utilities, drivers, and manual (in PDF format)

If any of these items are missing or damaged, contact your distributor or sales representative immediately.

Note: For detailed information on the PCM-4862, please refer to the enclosed CD-ROM or disk (in PDF format).

For more information on this and other Advantech products please visit our website at:

http://www.advantech.com
http://www.advantech.com/epc

For technical support and service for please visit our support website at:

http://support.advantech.com

This manual is for the PCM-4862.

Part No. 2006486210 1st edition
Printed in Taiwan Sep. 1999

Specifications

Standard SBC Functions

- **CPU:** 80486DX/100, DX-133
- **BIOS:** AWARD 128 KB Flash memory
- **Chipset:** VIA VT82C496G
- **2nd level cache:** On-board 128/512 KB (optional)
- **RAM memory:** 4 ~ 64 MB. Two 72-pin SIMM sockets (accept 4/8/16 or 32 MB)
- **Enhanced IDE hard disk drive interface:** Supports up to two IDE hard disks. BIOS auto-detect
- **Floppy disk drive interface:** Supports up to two floppy disk drives
- **Multi-mode parallel port:** Configured to LPT1 LPT2, LPT3 or disabled. Supports SPP/ECP/EPP
- **Serial ports:** One serial RS-232 port, one serial RS-232/422/485 port. Can be configured as COM1, COM2, COM3, COM4 or disabled individually. Two 16550 serial UARTs
- **Battery:** 3.6 V @ 600 mAh lithium battery for up to 10 years of data retention
- **Watchdog timer:** Can generate a system reset or IRQ15. Software enabled/disabled. Time interval is 1.6 seconds
- **DMA channels:** 7
- **Interrupt levels:** 15
- **Keyboard/mouse connector:** 8-pin connector supports standard PC/AT keyboard and a PS/2 mouse
- **Power management:** I/O peripheral devices support power saving and doze/standby/suspend modes. AMP 1.1 compliant

Local-bus Flat Panel/VGA Interface

- **Chipset:** C&T 65545
- **Display memory:** 512 KB DRAM (standard), 1 MB VRAM (optional)
- **Display type:** Supports CRT and flat panel (EL, LCD and gas plasma) displays. Simultaneous display of CRT and flat panel possible
- **CRT display mode:** Supports resolutions up to 800 x 600 @ 8 bpp (512 K memory) and 1024 x 768 @ 8 bpp (1 MB memory)
- **Panel display modes:** Supports resolutions up to 800 x 600 @ 256 colors (1 MB VRAM)

Ethernet Controller Function

- **Chipset:** Realtek RTL8019AS
- **Type:** 16-bit Ethernet, Novell NE 2000 compatible
- **Connector:** 10Base-T and AUI connector on board

Solid State Disk Function

- **Sockets:** Three 32-pin sockets for FLASH/EPROM
- **FLASH type:** ATMEL 29C010/29C040A (+5 V); AMD/Intel® 28F010 (+12 V)
- **Size:** 360 KB / 720 KB / 1.2 MB / 1.44 MB
- **Utility software:** Includes software to prepare files for EPROM
- **Supports M-Systems' DiskOnChip® (DOC) 2000**

PC/104 Bus Expansion

- **PC/104:** 104-pin connector for a 16-bit bus
- **Driving capacity:** Six PC/104 modules

Mechanical and Environmental

- **Dimension (L x W):** 203 mm x 146 mm (8" x 5.75")
- **Power supply voltage:** +5 V (4.75 V ~ 5.25 V)
- **Power requirements:** +5 V A @ 2 A (typical)
- **Operating temperature:** 0 ~ 60° C (32 ~ 140° F)
- **Weight:** 0.5 kg (1.1 lbs)

Jumpers and Connectors

The board has a number of jumpers that allow you to configure your system to suit your application.

The tables below lists the function of each of the board's jumpers and connectors:

Jumpers

Label	Function
J1	System clock setting
J2	System clock setting
J3	System clock setting
J4	CPU power supply
J5	CPU type select
J6	CPU power supply
J7	CPU type select
J8	CPU type select
J9	CPU type select
J10	CPU type select
J11	CPU type select
J12	CPU type select
J13	CPU type select
J14	CMOS setup
J15	ECP/EPP DMA channel
J16	ECP/EPP DMA channel

Jumpers (continued)

Label	Function
J17	**CPU type select**
J18	CPU type select
J19	CPU type select
J20	Parallel port IRQ
J21	Buzzer enable/disable
J22	Factory reserved
J23	Watchdog timer invokes IRQ15
J24	Watchdog timer invokes system reset
J26	Ethernet CRS LED
J27 (1,2)	SSD I/O address selection
J27 (3,4)	SSD I/O address selection
J27 (5,6)	SSD memory address selection
J27 (7,8)	SSD memory address selection
J27 (9,10)	SSD drive emulated
J27 (11,12)	SSD drive emulated
J28	Ethernet BNC LED
J29	SSD hardware enable/disable
J30	SSD device type and selection
J31	SSD device type and selection
J32	COM2 RS-232/422/485

Connectors

Label	Function
CN1	CRT display connector
CN2	Flat panel display connector
CN3	PC/104 ISA-bus expansion
CN4	Front panel connector
CN5	PC/104 ISA-bus expansion
CN6	Peripheral power connector (-5 V, -12 V)
CN7	Ethernet 10Base-2/10Base-5 AUI connector
CN8	Serial port COM2 (RS-232/422/485)
CN9	Keyboard and mouse connector
CN10	Ethernet 10Base-T connector
CN11	Main power connector (+5 V, +12 V)
CN12	IDE hard drive connector
CN13	Serial port COM1 (RS-232)
CN14	Fan power connector
CN15	Floppy drive connector
CN16	Parallel port connector
J25	External battery input for CMOS data retention

Jumper Settings

J1, J2, J3: CPU clock select

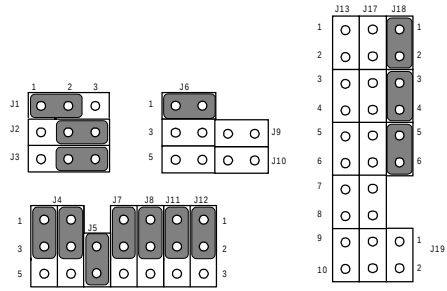
	25 MHz	*33 MHz	40 MHz
J1	2-3	1-2	2-3
J2	2-3	2-3	1-2
J3	1-2	2-3	1-2

J4, J6: CPU power supply select

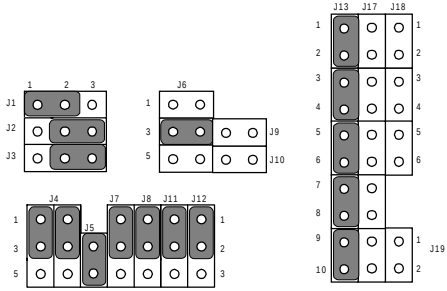
	*3.3 V	3.45 V	3.6 V	5 V
J4	1-3	1-3	1-3	3-5
	2-4	2-4	2-4	4-6
J6	1-2	3-4	5-6	---

J1 ~ J13 & J17 ~ J19: CPU type select

AMD 486DX2-66 (3 V) and AMD 486DX4-100



TI 486DX-66



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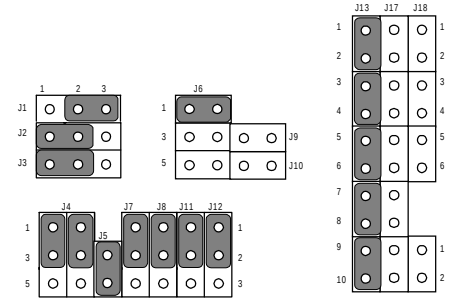

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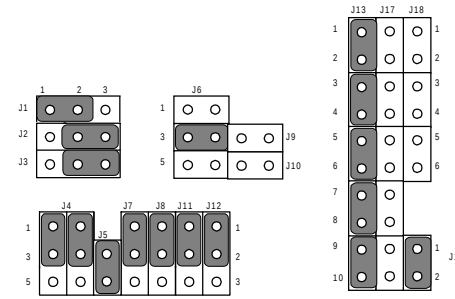
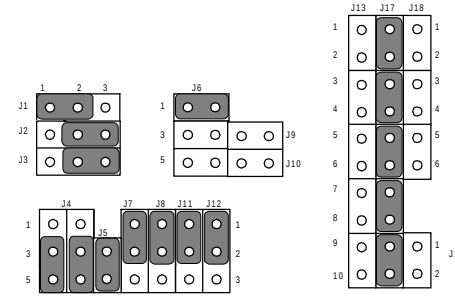


Cyrix 486DX2-66



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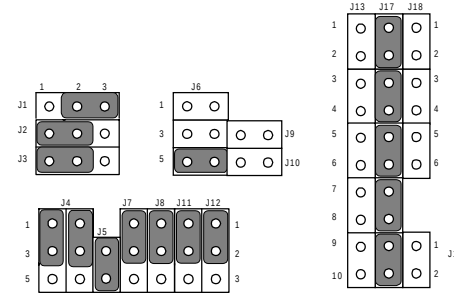
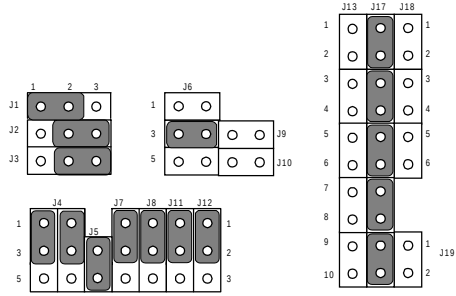
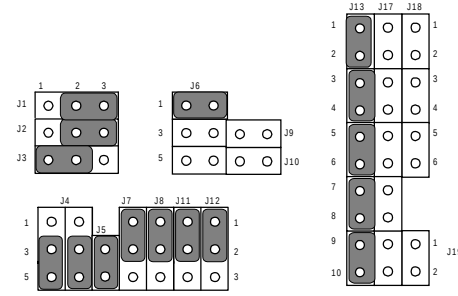


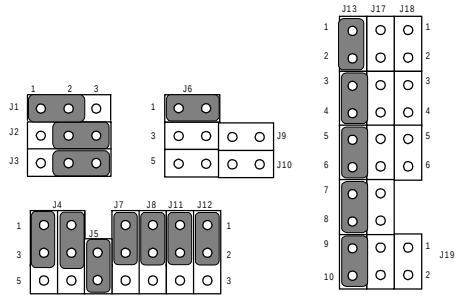
Cyrix 486DX4-100



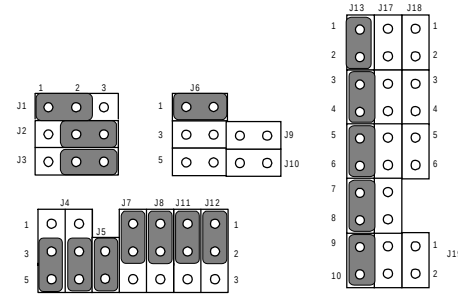
Intel® 486DX-25



Cyrix 5x86-100



Intel® 486DX2-66



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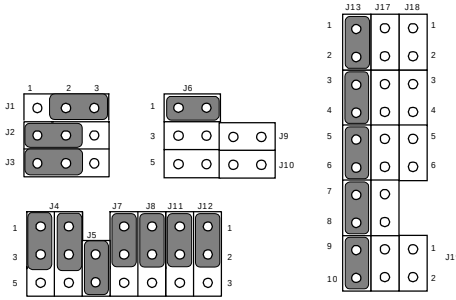
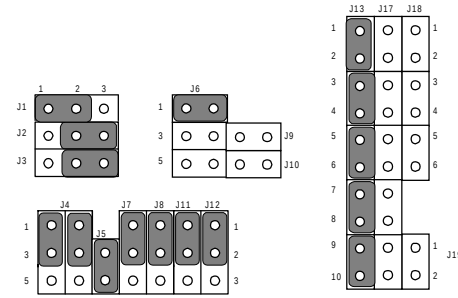
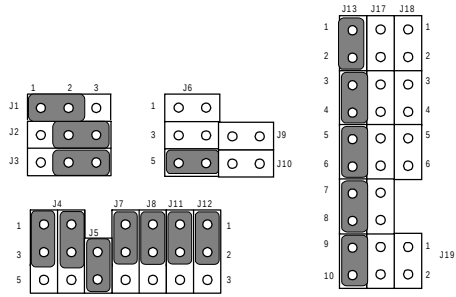


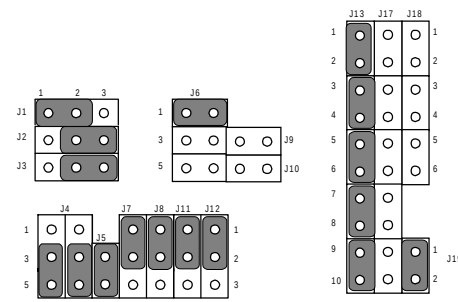
Intel® 486DX4-100 (default)



IBM 486DX4



SGS 486DX2-66



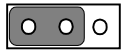
J14: CMOS setup

	*3.6 V battery on	Clear CMOS
	1-2	2-3

J15 & J16: ECP/EPP/DMA channel

	*DMA1	DMA3
J15		
J16		

J20: Parallel port IRQ select

IRQ5	*IRQ7
	

J21: Buzzer enable/disable

Enabled	Disabled
	

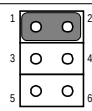
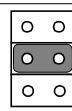
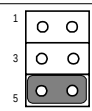
J23 & J24: Watchdog timer system reset/IRQ15

	*System reset	IRQ15
J23		
J24		

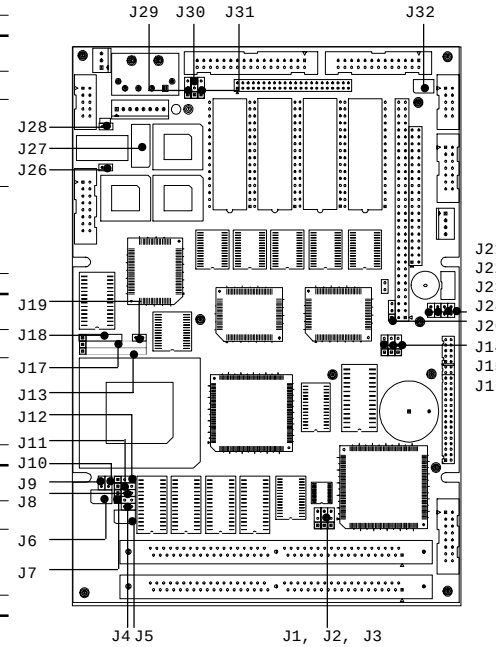
J27, J29 ~ J31: Solid state disk configuration

Number	Function
J27 (1,2)	SSD I/O address selection
J27 (3,4)	SSD I/O address selection
J27 (5,6)	SSD memory address selection
J27 (7,8)	SSD memory address selection
J27 (9,10)	SSD drive emulated
J27 (11,12)	SSD drive emulated
J29	SSD hardware enable/disable
J30	SSD ROM device selection
J31	SSD memory type selection

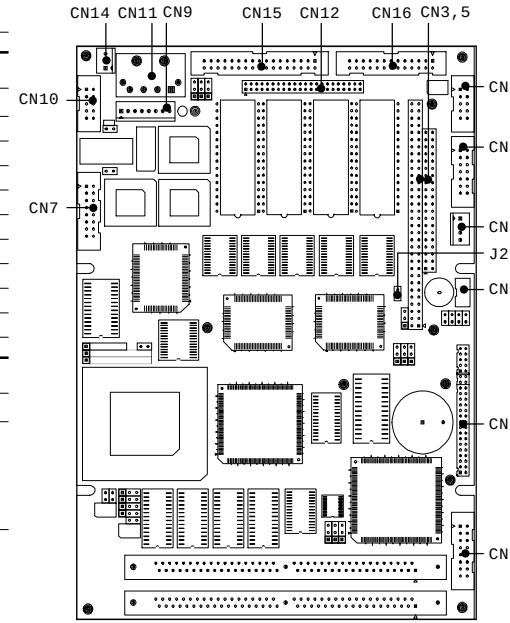
J32: COM2 select

*RS-232	RS-422	RS-485
		

Locating Jumpers



Locating Connectors



Mechanical Drawing