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Find the *Advantech PSA-6144S* at our website: ***Click HERE***

PCA-6144S
Half-size 486 CPU Card with SSD
Startup Manual

Packing List

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

- 1 PCA-6144S CPU card
- 1 PCA-6144S User's Manual
- 1 6-pin mini-DIN keyboard and PS/2 mouse adaptor
- 1 hard disk drive (IDE) interface cable (40-pin)
- 1 floppy disk interface cable (34-pin)
- 1 parallel port adaptor (26-pin) kit
- 1 utility disk system BIOS and SSD setup utility
- 1 jumper package

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

Note:1 *For detailed information of the PCA-6144S, please refer to the enclosed CD-ROM or disk (in PDF format).*

Note 2: *Acrobat Reader is required to view any PDF file. Acrobat Reader can be downloaded at:* ***www.adobe.com/Prodindex/acrobat/readstep.html***
(Acrobat is a trademark of Adobe.)

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

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This manual is for the PCA-6144S series Rev.A1

Part No. 2006614411 2nd Edition
Printed in Taiwan May 2001

Specifications

Standard SBC Functions

System

- **CPU:** Intel® 80486DX/DX2/DX4 series
  AMD 80486DX2/DX4 series, 5 x 86
  Cyrix 80486DX2/DX4 series, 5 x 86
- **BIOS:** AWARD Flash BIOS, supports plug and play
- **Chipset:** VIA VT82C496G
- **Secondary level cache:** 128 KB
- **Green function:** Supports power management option via BIOS, activated by keyboard or mouse activity. Supports doze, sleep, and suspended mode. APM 1.1 compliant
- **RAM:** 1 MB to 64 MB, two 72-pin SIMM socket, accepts 1,2,4,8,16, and 32 MB SIMMs
- **EIDE interface:** Supports up to two IDE devices. BIOS supports larger than 528 MB HDD and up to 8.4 GB 32-bit host data transfer, PIO Mode 3 transfer capabilities (>10 MB/sec)
- **Floppy disk drive interface:** Supports up tp two floppy disk drives, 5¼" (360 KB and 1.2 MB) and/or 3½" (720 KB, 1.44 MB, and 2.88 MB)
- **Parallel port:** One enhanced parallel port, supports SPP/EPP/ECP parallel mode
- **Serial ports:** Two 16C550 UARTs, one RS-232, one RS-232/422/485 interface
- **Watchdog timer:** 63-level timer interval, jumperless setup, generates system reset or IRQ15
- **Flash RAM/ROM disk:** 1.44 MB solid state disk, MS-DOS compatible, using Flash/ROM, SRAM and ROM device
- **Keyboard/PS/2 mouse connector:** A 6-pin mini DIN connector is located on the mounting bracket for easy connection of a keyboard or a PS/2 mouse. An on-board keyboard 5-pin male keyboard header connector is also available.
- **I/O bus expansion:** PC/104 connector with face-up installation

Mechanical and Environmental

- **Power supply:** +5 V, @ 3.5 A
- **Operating temperature:** 32 ~ 140° F (0 ~ 60° C)
- **Board size:** 185 mm x 122 mm

Jumpers and Connectors

The following table lists the jumpers and connectors on the PCA-6144S.

PCA-6144S Jumpers

Number	Function	Default
JRN1	CPU select	
JRN2	CPU select	
JRN3	CPU select	default
JP1	CPU select	close
JP2	CPU select	1-2
JP3	CPU select	
JP4	CPU select	
JP5	CPU select	
JP6	CPU select	
JP7	CPU voltage select	1-2
JP8	CPU voltage select	
JP9	CPU frequency select	2-3
JP10	CPU frequency select	2-3
JP11	CPU frequency select	1-2
JP12	Reserved	1-2
JP13	CN4 function select	1-2
JP14	CN4 function select	1-2
JP15	Watchdog function select	2-3
JP16	COM2 function select	3-6
JP17	COM2 function select	2-3
JP18	COM2 function select	2-3
JP19	COM2 function select	2-3
JP20	COM2 function select	2-3
JP21	SSD I/O address select	close
JP22	SSD I/O address select	close
JP23	SSD memory select	
JP24	SSD memory select	
JP25	SSD memory select	
JP26	CMOS data erase	2-3
J1	Power LED and Keylock	3-4
J2	External speaker connector	
J3	Reset switch	
J4	HDD LED	
J5	Battery low LED	
J6	IR connector	
J7	Battery connector	2-3

PCA-6144S Connectors

Number	Function	Default
CN1	Enhanced IDE connector	
CN2	FDC connector	
CN3	Parallel port connector	
CN4	Keyboard connector	
CN5	SBC power connector	
CN6	SBC power connector	
CN7	PC/104 connector	
CN8	PC/104 connector	
COM1	Serial port 1	
COM2	Serial port 2	

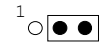
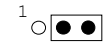
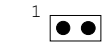
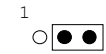
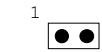
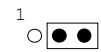
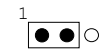
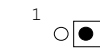
Note: The following sections tell how to make each connection. In most cases, you will simply need to connect a standard cable.

CPU Jumper Settings

Voltage

	5V	*3.3V	3.45V	3.6V
JP7				
JP 8				

Frequency

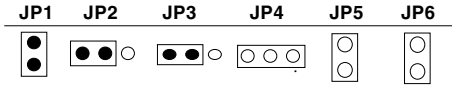
	25M	*33M	40M
JP9			
JP10			
JP11			

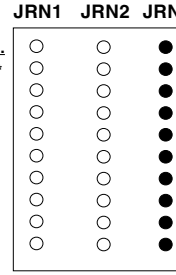
* Default Setting

CPU type select

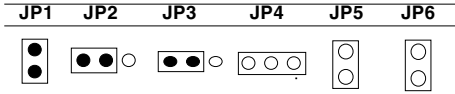
In order for the system to function properly, the jumpers must be set to accomodate the CPU installed on the CPU card.

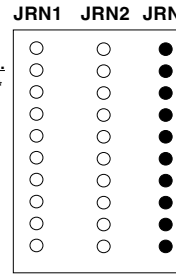
CPU type select



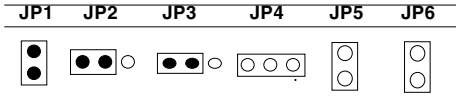


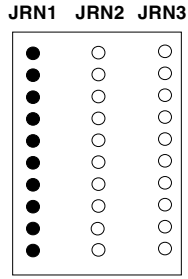
CPU Type	Volt.	Freq.
Cyrix 5 x 86-100	3.45 V*	33M*





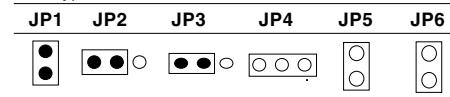
CPU Type	Volt.	Freq.
Cyrix 5 x 86-120	3.3 V*	40M*

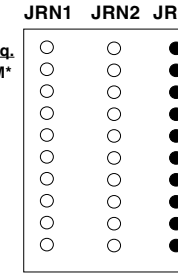




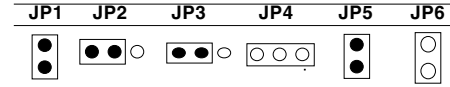
CPU Type	Volt.	Freq.
AMD DX2-66 (NV8T) AMD DX4-100 (NV8T)	3.3 V*	33M*

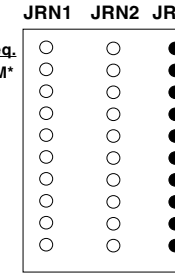
CPU type select



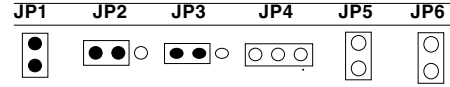


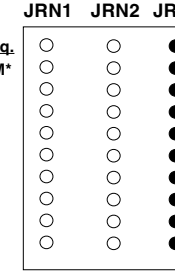
CPU Type	Volt.	Freq.
Cyrix DX4-100 (SV8B) Intel DX4-100 SGS DX4-100	3.3 V*	33M*





*CPU Type	Volt.	Freq.
*AMD 5 x 86-133	3.3 V*	33M*



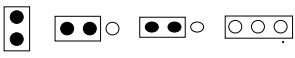


CPU Type	Volt.	Freq.
DX4-120	3.3 V*	40M*

* Default setting

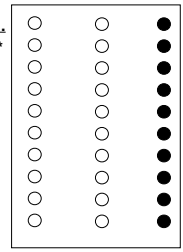
CPU type select

JP1 JP2 JP3 JP4 JP5 JP6



JRN1 JRN2 JRN3

CPU Type	Volt.	Freq.
Intel DX-33 Intel DX2-66	5 V*	33M*

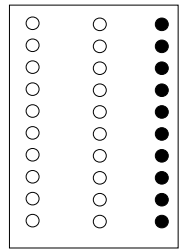


JP1 JP2 JP3 JP4 JP5 JP6

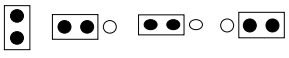


JRN1 JRN2 JRN3

CPU Type	Volt.	Freq.
Intel DX2-50	5 V*	25M*

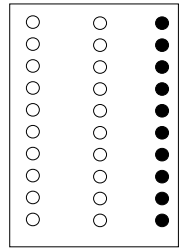


JP1 JP2 JP3 JP4 JP5 JP6



JRN1 JRN2 JRN3

CPU Type	Volt.	Freq.
Intel DX4-75 (P24D)	5 V*	33M*



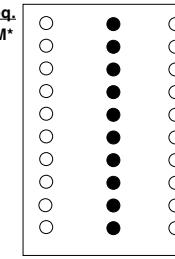
CPU type select

JP1 JP2 JP3 JP4 JP5 JP6

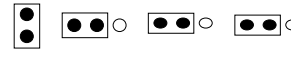


JRN1 JRN2 JRN3

CPU Type	Volt.	Freq.
Cyrix DX2-66 SGS DX2-66	5 V*	33M*

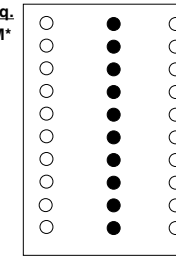


JP1 JP2 JP3 JP4 JP5 JP6

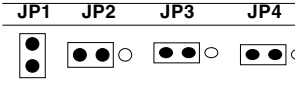


JRN1 JRN2 JRN3

CPU Type	Volt.	Freq.
Cyrix DX2-80V	3.6 V*	40M*

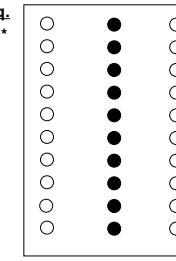


JP1 JP2 JP3 JP4 JP5 JP6



JRN1 JRN2 JRN3

CPU Type	Volt.	Freq.
Cyrix DX4-100 TI DX2-66	3.45 V*	33M*

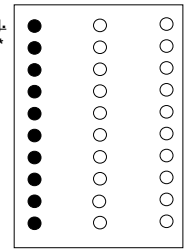


CPU type select

JP1	JP2	JP3	JP4	JP5	JP6



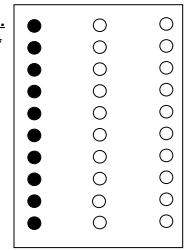
CPU Type	Volt.	Freq.	JRN1	JRN2	JRN3
AMD DX-40	5 V*	40M*			



JP1	JP2	JP3	JP4	JP5	JP6

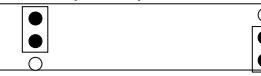


CPU Type	Volt.	Freq.	JRN1	JRN2	JRN3
AMD DX2-80	5 V*	40M*			



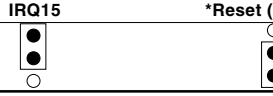
IRQ12 setting (JP12)

	*PS2 Mouse (default)	IRQ12
JP12		



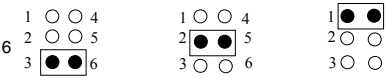
Watchdog timer system reset/IRQ15 select (JP15)

	IRQ15	*Reset (default)
JP15		



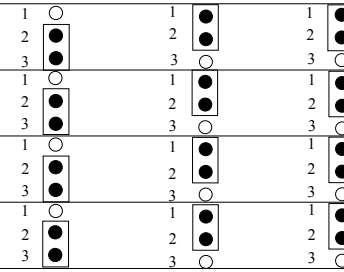
COM2 settings for RS-232/422/485

	*RS-232	RS-422	RS-485
JP16			



COM2 settings for RS-232/422/485

	*RS-232	RS-422	RS-485
JP17			
JP18			
JP19			
JP20			



CMOS backup select

	Clean CMOS	*Battery Backup
JP26		



SSD Device Select [JP23(U4), JP24(U11),JP25(U12)]

	JP23(U4)	JP24(U11)	JP25(U12)
Flash	open	open	open
ROM	open	open	open
SRAM	closed	closed	closed

*default setting

SSD I/O address select (JP12)

	JP21
disabled	
210H	
220H	
230H	

The CPU has its own buzzer. You can also connect to the external speakeron your computer chassis. Pin assignments for J12 are as follows:

External speaker (J2)

Pin	Function
1	+5 Vcc
2	No connection
3	Internal Buzzer
4	Speaker Out

J2: 

Spkr. Out GND+5V

Battery Installation Setup (J7)

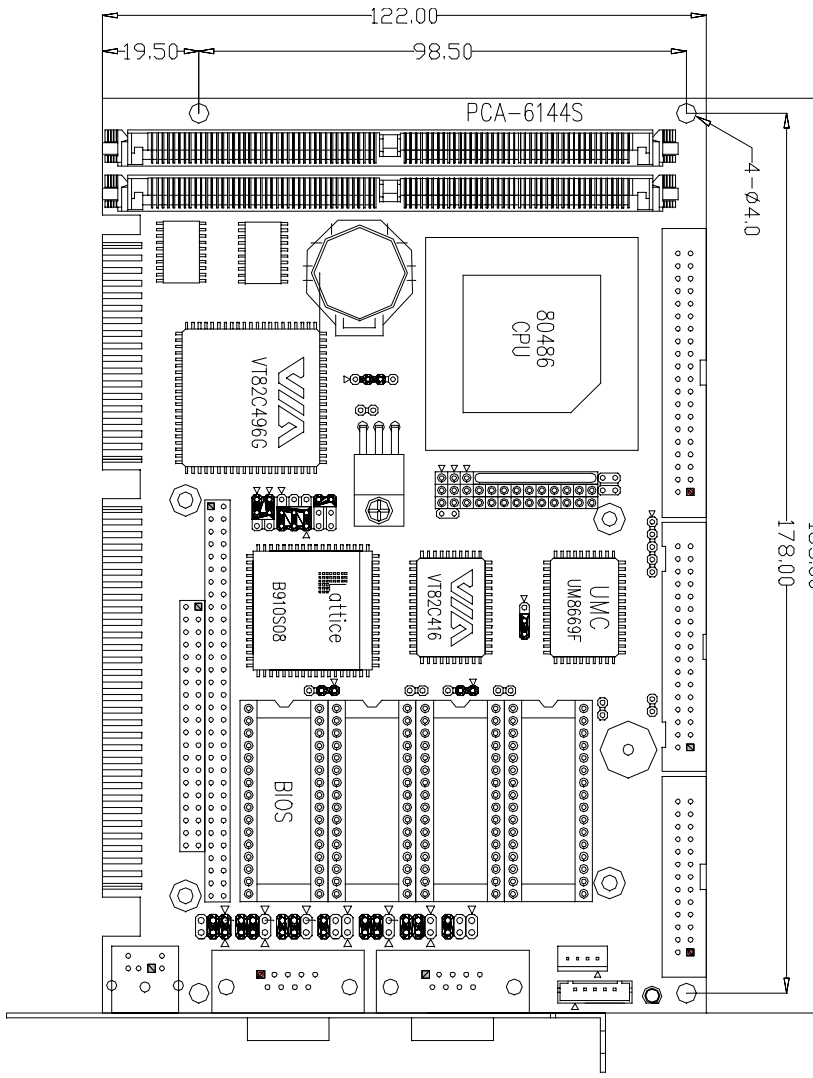
	None	Internal (default)	4 pin ext.	2 pin ext.
Pin 4 GND Pin 3 Power Pin 2 Int. Batt. Pin 1 Power				

Note: This battery is provided for the RTC and SSD.

Mini-Din function select (JP13, JP14)

	JP14	JP14
Both PS/2 Keyboard and Mouse		
PS/2 Mouse only		

Mechanical Drawing



PCA-6144 Board Dimensions

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