PCA-6185 Pentium®4 SBC with 64-bit PCI-X bus, VGA, Dual GbE and SCSI Startup Manual

Packing List

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

- 1 PCA-6185 socket 478 Pentium® 4 processor-based single board computer
- 1 FDD cable p/n: 1700340640
- 2 UDMA 100 HDD cables p/n: 1701400452
- 1 printer (parallel port) and COM port cable kit p/n: 1701260305
- 1 ivory cable for PS/2 keyboard and PS/2 p/n: 1700060202
- 1 USB cable (optional) p/n: 1700100170
- This startup manual
- CD disc and manual (in PDF format)

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

Note 1: For detailed contents of the PCA-6185, please refer to the manual in the enclosed CD Disc (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.)

Caution: The computer is provided with a battery-powered Real-time Clock circuit. There is a a danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer. Discard used batteries according to manufacturer's instruction.

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

http://www.advantech.com

http://www.advantech.com/nc

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

http://service.advantech.com.tw/eservice/

This manual is for the PCA-6185 series Rev. A1.

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Specifications

Standard SBC Functions

- **CPU:** Socket 478 for Intel® Pentium® 4 processor, FSB 400/533
- **BIOS:** Award 4 Mb Flash memory BIOS
- **Chipset:** ServerWorks GC-SL
- **System Memory:** Three 184-pin DIMM sockets accept 4 GB registered DDR SDRAM, supports ECC
- **Enhanced IDE interface:** Supports up to four EIDE devices. BIOS auto-detect, PIO Mode 4, Ultra DMA 33/66/100
- **FDD interface:** Supports up to two FDDs
- **Serial ports**: Two serial RS-232 ports
- **Parallel port:** One parallel port, supports SPP/EPP/ECP mode
- **Keyboard/mouse connector:** Supports one standard PS/2 keyboard and mouse
- **Watchdog timer:** 63 level timer intervals
- **USB (1.1):** Four Universal Serial Bus ports

VGA Interface

- **Chipset:** ATI 3D Rage XL, 8 MB SDRAM
- **Interface:** PCI

Ethernet Interface

- **Chipset:** Broadcom BCM5703 for single port, BCM5704 for dual ports
- **Ethernet interface:** Single or Dual 10/100/1000 Mbps Ethernet, 64-bit PCI-X
- **Connection**: On-board RJ-45 connector x 2

SCSI Interface

- **Chipset:** Adaptec AIC 7902
- **Interface:** Dual channel Ultra 320 SCSI, 64-bit PCI-X

Mechanical and Environmental

- **Dimensions (L x W):** 338 x 122 mm
- **Power supply voltage:** +5 V ± 12 V
- **Power requirements:** 2.36 A@ +5V, 11 mA@-5V, 5.42 A @ 12V, 212 mA @ -12V (typical, Pentium® 4 2.4GHz and 1GB SDRAM)
- **Operating temperature:** 0 ~ 60°C (depending on CPU)
- **Weight:** 0.5 kg (weight of board)

PCA-6185 Pentium® 4 SBC 64-bit PCI-X bus, VGA, Dual GbE and SCSI

Jumpers and Connectors

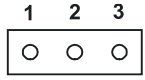
The board has a number of jumpers that allow you to configure your system to suit your application.

The table below lists the function of each of the jumpers and connectors.

Label	Function
J1	CMOS clear
JP1	PCI bus type setting
JP2	Reserved (2-3 must short)
JP7	CPU FSB Frequency selection

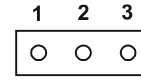
Label	Function
CN1	Primary IDE connector
CN2	Secondary IDE connector
CN3	Floppy drive connector
CN4	Parallel port
CN5	Auxiliary ATX12 V power input
CN6	USB 0, 1 port
CN7	VGA connector
CN8	LAN1
CN9	Serial port: COM1
CN10	Serial port: COM2
CN11	PS/2 keyboard and mouse connector
CN12	External keyboard connector
CN14	CPU FAN connector
CN16	Power LED
CN17	External speaker
CN18	Reset connector
CN19	HDD LED connector
CN20	ATX feature connector
CN21	ATX soft power switch
CN26	USB 2,3 port
CN29	SM BUS Connector
CN33	Auxiliary 4-pin power input
CN34	LAN2
CN35	System Fan
CN40	PCI-X daughter board connector for SCSI & LAN
CN50	Ultra 320 SCSI 1
CN51	Ultra 320 SCSI 2

J1: CMOS clear function	
Closed pins	Result
1-2	Keep CMOS data (default)
2-3	Clear CMOS



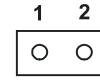
JP1 = PCI bus type setting selection

Closed pins	Result
1-2	PCI only, 33 or 66 MHz depending on add-on cards or backplane setting
2-3	PCI-X enabled, PCI/PCI-X mode depending on add-on cards or backplane setting. Up to 66 MHz only
None	PCI-X 100 MHz (Depending on backplane and add-on cards)



JP7 = CPU FSB Frequency Setting

Closed pins	Result
1-2	533 MHz
None	400 MHz



Software Installation

The CD disc contains a driver installer program that will lead you through the installation of various device drivers neededto take full advantage of your CPU card.

PCA-6185 Comparison

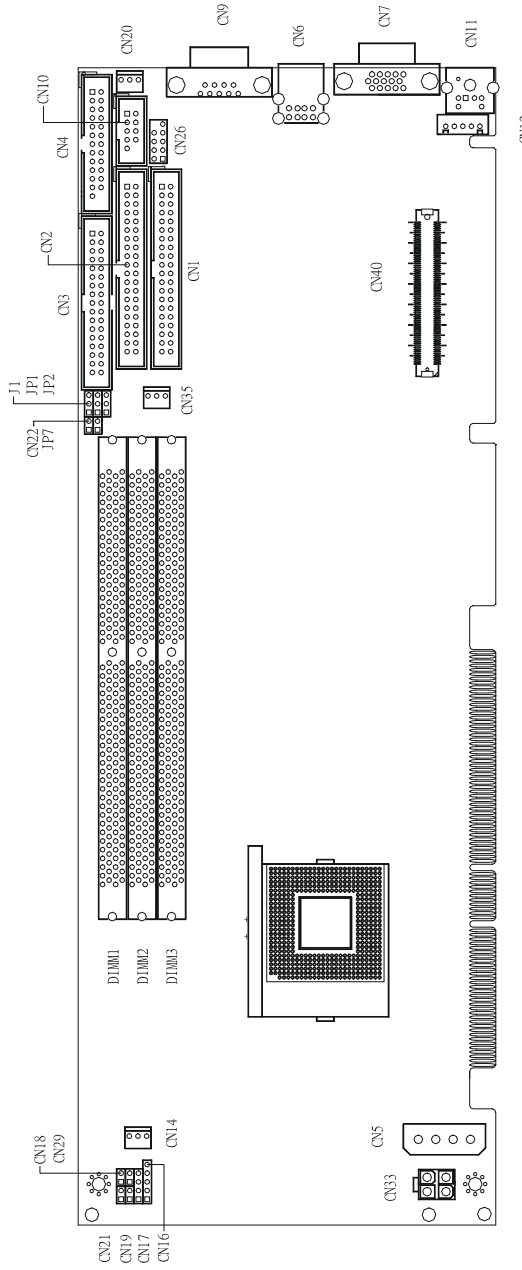
ITEM	VGA	GbE	SCSI Connector
PCA-6185V-00A1	Y	N	N
PCA-6185VG-00A1	Y	Single	N
PCA-6185G2-00A1	Y	Dual	N
PCA-6185F-00A1	Y	Dual	Y

Note1: Shall any incompatibility occur when using add-on cards running at 66MHz PCI or 66 MHz PCI-X, please lower down the PCI bus frequency to 33MHz by setting jumpers on the backplane. You can find how to set the jumpers on the User's Note of the backplane.

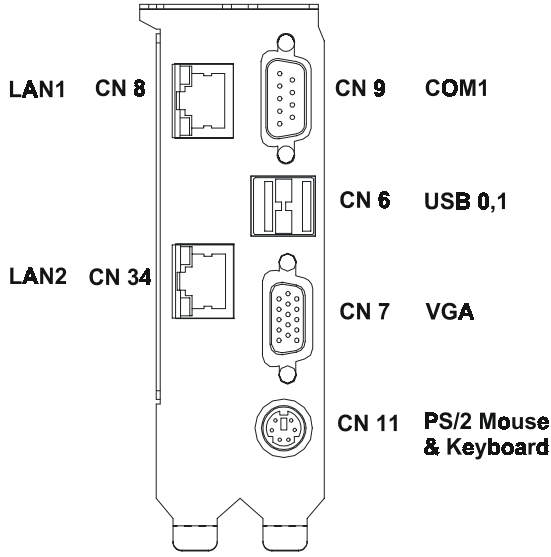
Note 2: Due to the limitation of the GC-SL chipset, the PCI slot with ID select=AD31 on backplanes will not work.

Note 3: The PCA-6185 does not support "Wake-on-LAN" feature

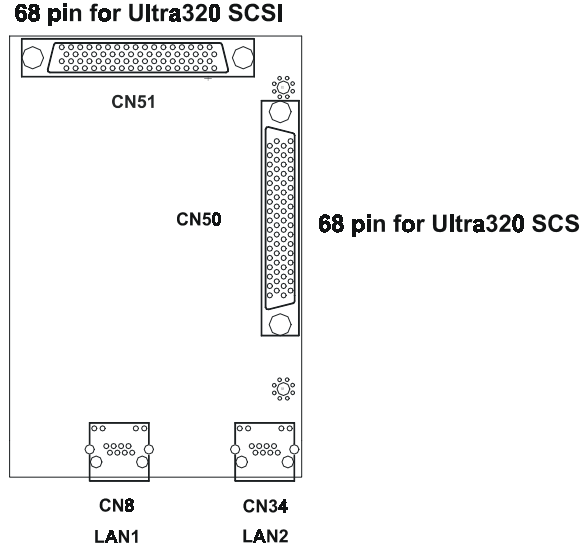
Note 4: The PCA-6185 supports 66MHz PCI-X operation when it is used with PCI-X compatible add-on cards and backplanes. The PCA-6106P3VX-A1 and PCA-6103P2VX-A1 support PCI-X operation.



Location of PCA-6185 jumpers and connectors



I/O Extension Bracket



Daughter Board Layout