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PCA-6153 Pentium® MMX CPU Card with VGA/LCD

Startup Manual

Packing List

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

- 1 PCA-6153 CPU card
- 1 6-pin mini-DIN keyboard and PS/2 mouse adaptor
- 1 hard disk drive (IDE) interface cables
- 1 parallel /1 serial port cable adaptor
- 1 CPU cooling fan for PGA socket Pentium® MMX use
- 1 floppy disk drive interface cable (34-pin)
- 2 VGA driver utility disks
- 1 system utility disk

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

Note 1: For detailed contents of the PCA-6153, 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.)

Specifications

Standard SBC Functions

- **CPU**: Intel® Pentium® 75/90/100/120/133/150/166 200 MHz and P55C, AMD K5, Cyrix 6x86 K6-200
- **BIOS**: Award 128 KB Flash memory; supports Plug and Play
- **Chipset**: SiS 5571

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

http://www.advantech.com
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For technical support and service, please visit our support website at:

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This manual is for the PCA-6153 series Rev.A1

Part No. 2006615310 1st Edition
Printed in Taiwan Oct. 1999

- **Green function**: Features power management via the BIOS, activated by mouse or keyboard activity. Supports doze, sleep, standby and suspend modes. APM 1.1 compliant
- **2nd level cache**: 512 KB pipeline burst SRAM
- **RAM**: Two 72-pin SIMM sockets. Supports 32-bit Normal or EDODRAM with memory capacity from 2 MB to 64 MB
- **Enhanced IDE interface**: Handles up to two IDE large HDDs orother IDE devices. Supports PIO mode 4 and DMA bus-mastermode
- **Floppy disk drive interface**: Supports up to two floppy disk drives: 3½" (720 KB or 1.44 MB) and/or 5¼" (360 KB or 1.2 MB)
- **Parallel port**: One parallel port configured to LPT1, LPT2, LPT3or disabled. Supports multimode parallel (SPP/EPP/ECP) port
- **Serial ports**: One RS-232, one RS-232/422/485 interface
- **Watchdog timer**: Can generate a system reset or IRQ 15. Software enabled/disabled. Time interval is from 1 to 63 seconds, jumperless with run-time setup
- **Keyboard and PS/2 mouse connector**: A 6-pin mini-DIN connector is located on the mounting bracket for easy connection to a keyboard or PS/2 mouse. An on-board keyboard pin header connector is also available.
- **PC/104 expansion**: 104-pin, 16-bit PC/104 module connector
- **I/O bus expansion**: ISA bus edge (golden finger) connector

PCI SVGA Interface

- **Controller**: C&T 65545/48/50 VGA (default=65550)
- **Display memory**: 2 MB on-board DRAM
- **Display resolution**:

- supports panel resolutions up to 1024 x 768
- supports non-interlaced CRT monitors, 1280 x 1024 with 16 colors

Mechanical and Environmental

- **Board size:** 185 mm x 122 mm
- **Max. power requirements**: +5 V (4.75 to 5.25 V) @ 5.5 A
- **Operating temperature**: 0 ~ 60° C (32 ~ 140° F)
- **Board weight**: 0.5 kg (1.2 lbs.)

Jumpers and Connectors

Connectors on the board link it to external devices such as hard diskdrives, a keyboard, or floppy drives. In addition, the board hasjumpers which you use to configure it for your application.

The table below lists the function of each of the board jumpers andconnectors. Later sections in this chapter give instructions on setting jumpers and detailed information on each jumper setting. Chapter 2 gives instructions for connecting external devices to your card.

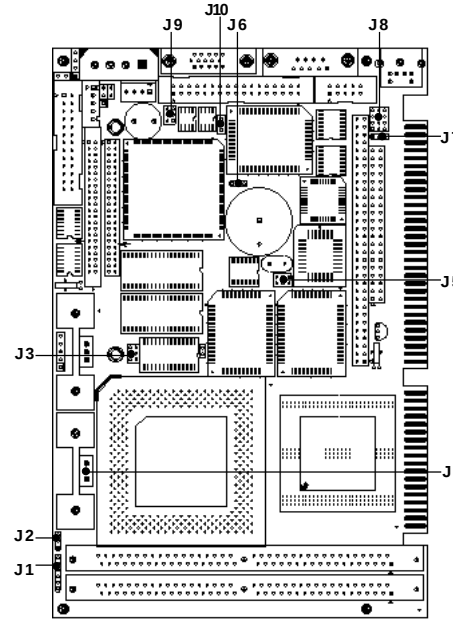
PCA-6153 Jumpers

Number	Function
J1	Chipset optimal timing settings
J2	CPU working voltage setting
J3	CPU clock ratio setting (pins 3-4, 5-6)
	Enable P55CT (pins 1-2), P55CT f ratio = 1(pins 7-8)
J4	Cache mode setting
J5	CPU/PCI clock setting
J6	CMOS setup
J7	Watchdog timer control
J8	RS-232/RS-422/RS-485 pin out select
J9	RS-232/RS-422/RS-485 select
J10	LCD voltage selector

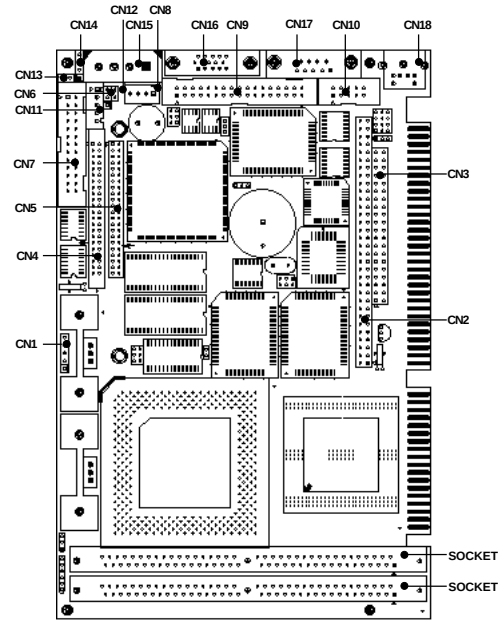
PCA-6153 Connectors

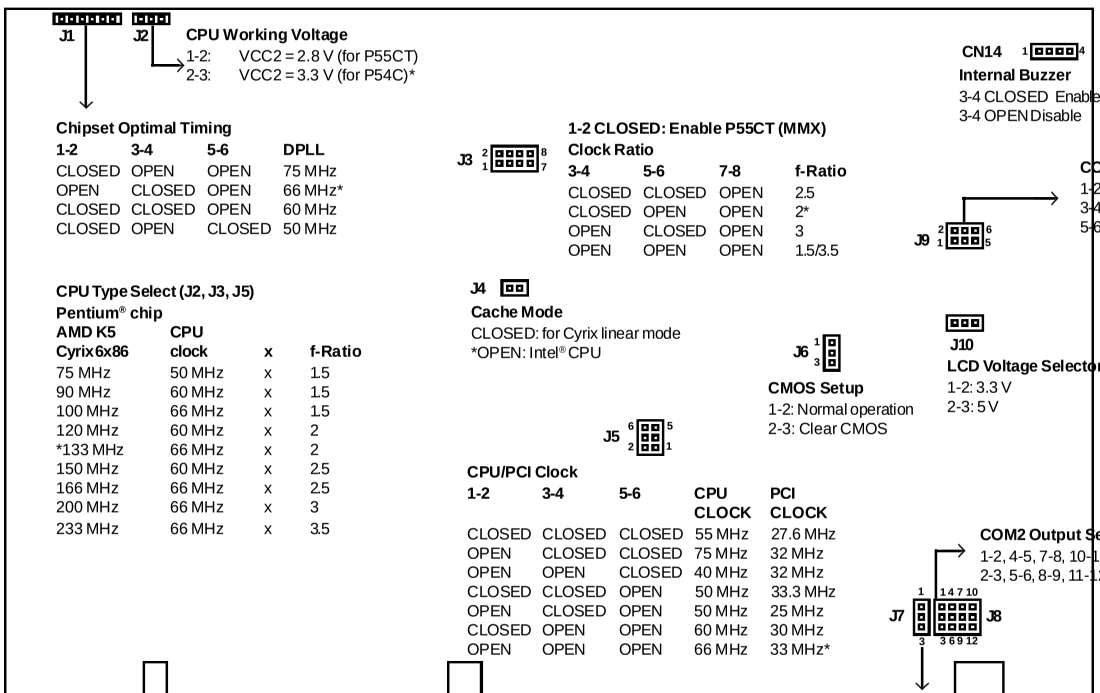
Number	Function
CN1	Keyboad lock/ Power LED
CN2	PC/104 connector
CN3	PC/104 connector
CN4	Enhanced IDE connector
CN5	Flat panel connector
CN6	Fan power
CN7	Parallel port connector (printer)
CN8	Peripheral power input connector
CN9	Floppy disk drive connector
CN10	COM2 connector
CN11	Auxiliary keyboard connector
CN12	Hard drive activity LED connector
CN13	Reset connector
CN14	Speaker out connector
CN15	Main power connector
CN16	VGA connector
CN17	COM1 connector
CN18	Keyboard and PS/2 mouse connector

Board Layout: Jumper Locations



Board Layout: Connector Locations





J1 J2

CPU Working Voltage
1-2: VCC2 = 2.8 V (for P55CT)
2-3: VCC2 = 3.3 V (for P54C)*

Chipset Optimal Timing

1-2	3-4	5-6	DPLL
CLOSED	OPEN	OPEN	75 MHz
OPEN	CLOSED	OPEN	66 MHz*
CLOSED	CLOSED	OPEN	60 MHz
CLOSED	OPEN	CLOSED	50 MHz

CPU Type Select (J2, J3, J5)
Pentium® chip

AMD K5 Cyrix 6x86	CPU clock	x	f-Ratio
75 MHz	50 MHz	x	1.5
90 MHz	60 MHz	x	1.5
100 MHz	66 MHz	x	1.5
120 MHz	60 MHz	x	2
*133 MHz	66 MHz	x	2
150 MHz	60 MHz	x	2.5
166 MHz	66 MHz	x	2.5
200 MHz	66 MHz	x	3
233 MHz	66 MHz	x	3.5

J3

1-2 CLOSED: Enable P55CT (MMX)
Clock Ratio

3-4	5-6	7-8	f-Ratio
CLOSED	CLOSED	OPEN	2.5
CLOSED	OPEN	OPEN	2*
OPEN	CLOSED	OPEN	3
OPEN	OPEN	OPEN	1.5/3.5

J4

Cache Mode
CLOSED: for Cyrix linear mode
*OPEN: Intel® CPU

J5

CPU/PCI Clock

1-2	3-4	5-6	CPU CLOCK	PCI CLOCK
CLOSED	CLOSED	CLOSED	55 MHz	27.6 MHz
OPEN	CLOSED	CLOSED	75 MHz	32 MHz
OPEN	OPEN	CLOSED	40 MHz	32 MHz
CLOSED	CLOSED	OPEN	50 MHz	33.3 MHz
OPEN	CLOSED	OPEN	50 MHz	25 MHz
CLOSED	OPEN	OPEN	60 MHz	30 MHz
OPEN	OPEN	OPEN	66 MHz	33 MHz*

J6

CMOS Setup
1-2: Normal operation
2-3: Clear CMOS

CN14

Internal Buzzer
3-4 CLOSED Enable
3-4 OPEN Disable

J9

COM2 Output Select
1-2: RS-232*
3-4: RS-422
5-6: RS-485

J10

LCD Voltage Selector
1-2: 3.3 V
2-3: 5 V

J7 J8

COM2 Output Select
1-2, 4-5, 7-8, 10-11 CLOSED for RS-232*
2-3, 5-6, 8-9, 11-12 CLOSED for RS-422/485

Watchdog Timer
1-2: Watchdog generates system reset signal*
2-3: Watchdog generates IRQ15

*** denotes default setting**

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