

PCA-6154/6154L Half-size all-in-one Pentium® CPU Card with VGA and Fast Ethernet

Startup Manual

Packing List

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

- 1 PCA-6154/6154L all-in-one single board computer
- 1 hard disk drive (IDE) interface cable (40 pin)
p/n: 1701400601
- 1 floppy disk drive interface cable (34 pin)
p/n: 1701340700
- 1 parallel port adapter (26 pin) and COM2 adapter (9 pin)
p/n: 1701260303
- 1 USB cable
p/n: 1703100260
- 1 CPU fan with heatsink
- 1 6-pin mini-DIN keyboard & PS/2 mouse adapter
p/n: 1700060201
- 1 startup manual
- CD-ROM or disks for utility, drivers, and manual (in PDF format)
- 1 warranty certificate

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

Note 1: For detailed contents of the PCA-6154/L, please refer to the enclosed CD-ROM or disk (in PDF format).

Note 2: Acrobat Reader is acquired 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:

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

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

<http://support.advantech.com>

This manual is for the PCA-6154/L series Rev.A1

Part No. 2006615410
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1st Edition
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Specifications

Standard SBC Functions

- **CPU:** Intel Pentium® 100 ~ 233 MHz, Pentium MMX, AMD K5, AMD K6 200 / 266 MHz, AMD K6-2 266 ~ 300 MHz, Cyrix M1, Cyrix M2 up to PR-300 MHz, or IDT Win Chip C6 upto 200 MHz
- **BIOS:** Award 256 KB (2 Mbit) memory; supports plug and play, suspend to disk
- **Chipset:** SiS5598
- **L2 cache:** On-board 512 KB synchronous (pipeline burst) SRAM
- **Green function:** Features power management option via BIOS, activated by keyboard or mouse activity. Supports doze, sleep and suspend modes. APM 1.1 compliant
- **RAM:** Two 72-pin SIMM sockets. Supports 32-bit FPM or EDO DRAM with memory capacity from 8 ~ 128 MB.
- **IDE interface:** Handles up to two IDE HDDs or other IDE devices. Supports PIO mode 4 and Ultra DMA mode
- **FDD interface:** Supports up to two floppy disk drives.
- **Parallel port:** Configured to LPT1, LPT2, LPT3 or disabled. Supports multi-mode parallel port (SPP/ECP/EPP)
- **Serial ports:** Two 16C550 UARTs, one RS-232, one RS-232/422/485 interface
- **Watchdog timer:** Can generate a system reset. Software enabled/disabled. Time interval is from 1 to 62 seconds, jumperless with run-time setup
- **Keyboard/mouse connector:** 6-pin mini-DIN connector on the mounting bracket eases connection to a keyboard or PS/2 mouse. An on-board keyboard pin header connector is also available.
- **I/O bus expansion:** PC/104 connector with face-up installation
- **USB interface:** Two USB connectors with fuse protection. Complies with USB specification 1.0
- **Infrared port:** Fast IrDA. Transfer rate up to 4 Mbps. I/O port programmable to COM1 (3F8), COM2 (2F8), COM3 (3E8) or COM4 (2E8).

VGA interface

- **Chipset:** SiS5598 built-in VGA function
- **Architecture:** Universal memory architecture
- **Display memory:** Share system RAM 1 MB ~ 4 MB

100Base-T Ethernet interface (PCA-6154 only)

- **Chipset:** REALTEK RTL8139. PCI bus 100/10 Mbps Ethernet

Specifications Cont.

controller

- I/O address jumperless setting
- Built-in boot ROM

SSD function

- Supports M-Systems' DiskOnChip® 2000 Flash disk up to 144 MB

Mechanical and environmental specifications

- **Board size:** 185 x 122 mm
- **Max. power requirements:** +5 V @ 5.5 A, +12 V @ 100 mA
- **Operating temperature:** 0 ~ 60° C (32 ~ 140° F)
- **Board weight:** 0.5 kg (1.2 lbs)

Jumpers and Connectors

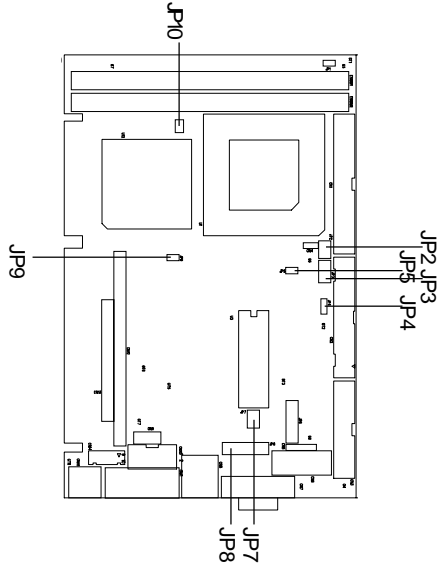
PCA-6154/6154L jumpers

Number	Function
JP2	CPU clock ratio select
JP3	CPU core voltage select
JP4	Watchdog timer select
JP5	Real-time clock (RTC) power and CMOS select
JP7	DiskOnChip® 2000 Flash disk memory segment
JP8	COM2 RS-232/422/485 selection
JP9	CPU clock select
JP10	CPU clock optimize enable

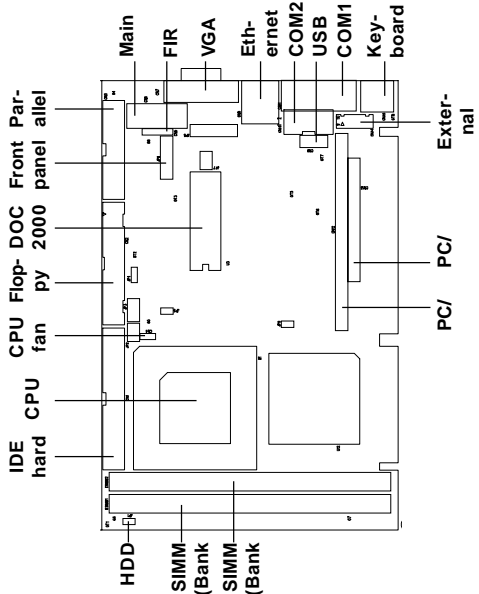
Table 1-2: PCA-6154/6154L connectors

Number	Function
CN1	IDE port
CN2	Floppy disk connector
CN3	Parallel port
CN4	CPU fan power connector
CN5	Infra red port
CN6	Main power connector
CN7	VGA connector
CN8	100/10 Mbps network connection (PCA6154 only)
CN9	USB 1 and USB 2 ports
CN10	COM2 port
CN11	COM1 port
CN12	PC/104 A ₁ ~ A ₃₂ , B ₁ ~ B ₃₂
CN13	PC/104 C ₁ ~ C ₂₀ , D ₁ ~ D ₂₀
CN14	External keyboard
CN15	Keyboard and PS/2 mouse
CN16	Front panel connector
CN17	HDD LED

Locating Jumpers



Locating jumpers (component side)



Locating connectors (component side)

CPU clock ratio select (JP2)

Pentium CPU, AMD K5, K6, Cyrix M1, IDT C6



* default setting

Refer to the CPU speed reference table (below) for instructions on adjusting the internal clocks according to the base CPU speed.

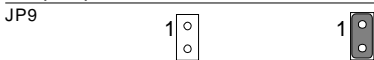
CPU speed reference table

CPU Speed (MHz)	100	*133	150	166	200	233	266	300
Clock setting	66	66	75	66	66	66	66	66
Frequency ratio	1.5	2	2	2.5	3.0	3.5	4	4.5

* default setting

System/PCI clock setting (JP9)

System (MHz)	*66	75
PCI (MHz)	33	37.5



* default setting

CPU voltage select (JP3)

Pentium CPU, AMD K5, K6, Cyrix M1, M2, IDT C6



* default setting

Watchdog timer system reset select (JP4)

***System Reset** **IRQ15**

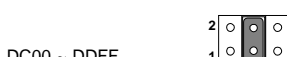
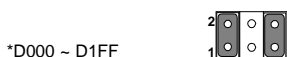


COM2 settings for RS-232/422/485 (JP8)			
Pins closed	*RS-232	RS-422	RS-485
1-2	on	off	off
3-4	off	on	on
5-6	off	off	on
7-8	off	on	on
7-9	on	-	-
10-12	-	on	on
11-12	on	-	-
13-14	-	on	-
13-15	on	-	-
16-18	-	on	-
17-18	on	-	-

* default setting

DOC2000 address setting (JP7)

Address **JP7**



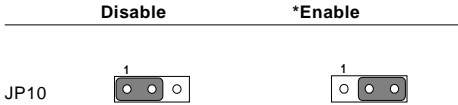
* default setting

RTC power and CMOS clear (JP5)

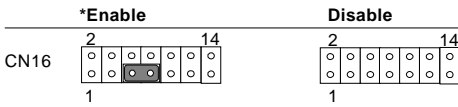


* default setting

DLL circuit for CPU clock optimization (JP10)

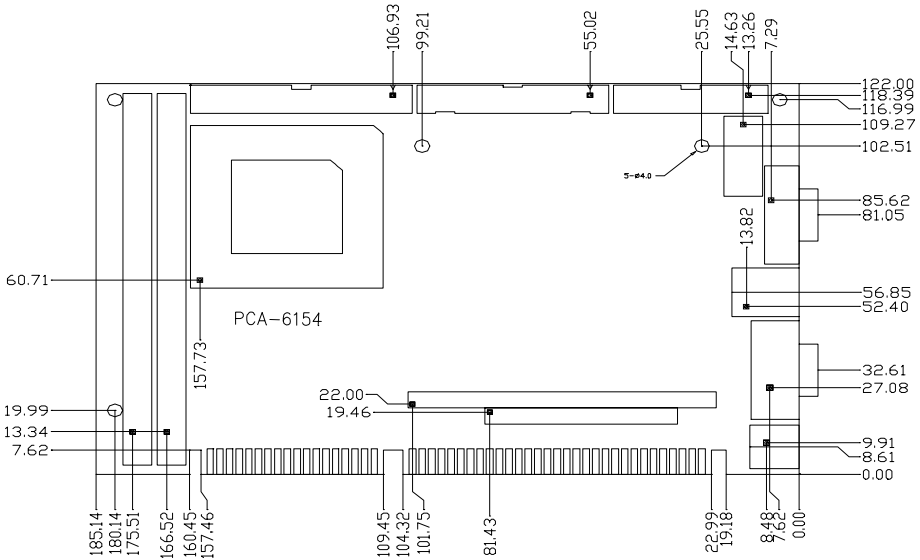


Buzzer enable/disable (CN16)



* default setting

PCA-6154 Mechanical Drawing



mechanical drawing (component side)