

## Chapter 1

### Hardware Configuration

Your computer system is a high-performance computer system board that supports a Pentium™ CPU running at 75, 90, 100, 120, 133, 150, 166MHz and future Pentium Processor upgradable. The motherboard is equipped with on-board pipelined cache. The motherboard offers floppy drive interface, IDE interface for HDD and CD-ROM Drive, two serial ports and an ECP/EPP capable parallel port. In addition to the hardware features, Windows 95™ ready Plug and Play and Advanced Power Management (APM) are supported.

#### Features :

##### Processor

- Intel™ Pentium™(75/90/120/133/150/166/180/200)/Cyrix™ 6x86 (100/120/133)/AMD5K86™ (75/90)

##### Upgradability

- Pentium Over Drive™ Processor.

##### Chip Set

- Intel™ 430HX

##### External Cache

- Direct mapped L2 write back cache.
- 256/512KB on-board Synchronous Pipelined Burst SRAM.

##### Memory

- 8MB to 128MB.
- 72pins standard SIMMs.
- Fast Page Mode and Extended Data output (EDO).
- SIMMs depth of 512KB,1MB,2MB,4MB,8MB and 16MB.
- System BIOS, video BIOS and adapter BIOS shadow.

##### On-Board I/O

- Support two PCI enhanced IDEs PIO mode 3 and mode 4 HDDs. Twin headers for four IDE devices including IDE HDDs and CD-ROMs.
- Support two FDDs of 360KB,720KB,1.2MB,1.44MB and 2.88MB.
- One ECP/EPP parallel port.
- Two 16550UA UART serial ports.
- Two USB ports and One game port.
- One PS/2 mouse port (Options).

**On Board Multimedia System (For Multimedia Version only)**

- On-board crystal C54236 chipset (Sound Blaster Pro™, Windows® Sound System and Direct Sound Compatible).
- Full duplex stereo code
- General MIDI, MPU401 interface.
- One game/MIDI port for joystick or external MIDI device application.

**Expansion Slot**

- Three ISA bus slots (One ISA shared slot).
- Four PCI bus slots (One PCI shared slot).

**Power Management**

- Support SMM and APM.
- Comply to Energy Star "Green" PC program.

**Plug and Play**

- Support PnP for DOS and Windows® 3.1 as well as Windows® 95.
- Plug and Play specification 1.1.

**Battery**

- On-board lithium, Nicd or Alkaline battery.

**Board Size**

- 220mm x 265mm

**Wavetable Daughtercard (Optional)**

- Crystal CRD9233 chipset.
- 32-note polyphony and 16-part multi-timbral.
- Reverb & chorus effects processing on board (Optional Cs8905A chipset).
- Wavetable compatible connector for audio system.

**Sound System Setup and update information**

Please refer to the "read me" files in the accompanying diskettes for sound system setup.

## Hardware Setup

This chapter explains how to configure the motherboard's hardware. After you install the motherboard, you can set jumpers, install memory on the motherboard, and make case connections. Refer to this chapter whenever you upgrade or reconfigure your system.

### Jumper Settings

#### CPU Type

	Cyrix™	Intel™ / AMD™
JP1	Closed	Closed
JP2	Open	Closed

#### DRAM Type Select

	Open	66MHz DRAM Refresh rate
JP5	Closed	60MHz DRAM Refresh rate

#### CPU Clock

	JP6	JP7	JP14
50MHz	Closed	Closed	Open
60MHz	Closed	Open	Closed
66MHz	Open	Closed	Closed
55MHz	Open	Open	Closed

	JP3	JP4	JP6	JP7	JP14
Intel Pentium-75	1-2	1-2	Closed	Closed	Open
Intel Pentium-90	1-2	1-2	Closed	Open	Closed
Intel Pentium-100	1-2	1-2	Open	Closed	Closed
Intel Pentium-120	2-3	1-2	Closed	Open	Closed
Intel Pentium-133	2-3	1-2	Open	Closed	Closed
Intel Pentium-150	2-3	2-3	Closed	Open	Closed
Intel Pentium-166	2-3	2-3	Open	Closed	Closed
Intel Pentium-180	1-2	2-3	Closed	Open	Closed
Intel Pentium-200	1-2	2-3	Open	Closed	Closed
Cyrix 6x86-P120+ 100MHz	2-3	1-2	Closed	Closed	Open
Cyrix 6x86-P133+ 110MHz	2-3	1-2	Open	Open	Closed
Cyrix 6x86-P150+ 120MHz	2-3	1-2	Closed	Open	Closed
Cyrix 6x86-P166+ 133MHz	2-3	1-2	Open	Closed	Closed
AMD 5K86-P75(AMD-SSA/5-66)	2-3	1-2	Open	Closed	Closed
AMD 5K86-P75(AMD-SSA/5-75)	1-2	1-2	Closed	Closed	Open
AMD5K86-P90(AMD-SSA/5-90)	1-2	1-2	Closed	Open	Closed

**Second Level Cache Configuration**

	Cache Size	Setting
JP8	512KB	Closed
	256KB	Open

**Flash BIOS Type Select**

	JP16
	ROM
1-2	5V Flash
2-3	12V Flash

**CPU Core-voltage select (For Multi-voltage version only)**

	JP100
2.50V	Open
2.70V	1-2
2.88V	3-4
3.38V	5-6
3.53	7-8

**CPU Bus-voltage select (For Multi-voltage version only)**

	JP101
3.52V	Open
3.38V	Closed

**Power source selection for the CPU Bus section (For Multi-voltage version only)**

	JP102, JP103, JP104, JP105
Intel P54C	1-2
Intel P55C	2-3
Cyrix 6x86	1-2
AMD 5k86 (SSA/5)	1-2
AMD 5k86 (dual voltage)	2-3

**CPU Voltage Select (For Two voltage version only)**

	JP21
	Voltage
1-2	3.3V
2-3	3.5V

**CMOS Data Clear**

	Close	Clear
JP18	Open*	Normal

**Connectors**

Once you have fastened the motherboard into the system case, the next step is to connect the internal cables. The motherboard connectors have varying numbers of pins and are the points of contact between the motherboard and other parts of the computer.

**CN1 - PS/2 Keyboard Connector (optional)**

Pin	Description	Pin	Description
1	Keyboard	4	+5V DC
2	NC	5	Keyboard Clock
3	Ground	6	NC

**CN2-Keyboard Connector**

A standard five-pin female DIN keyboard connector is located at the rear of the board. Plug the keyboard jack into this connector.

Pin	Description	Pin	Description
1	Keyboard Clock	4	Ground
2	Keyboard Data	5	+5V DC
3	NC		

**J1 - USB Connector**

Pin	Description	Pin	Description
1	USBP0-	7	USBP1+
2	GND	8	GND
3	USBP0+	9	VCC
4	GND	10	GND
5	USBP1-	11	VCC
6	GND	12	GND

**J4 - Keyboard & Power LED Connector**

Pin	Description	Pin	Description
1	LED Power	4	Keyboard Inhibitor
2	NC	5	Ground
3	Ground		

**J5 - Power Supply Connector**

The motherboard requires a power supply with at least 200 Watts and a "power good" signal. PW1 has two six-pin male header connectors. Plug the dual connectors from the power directly onto the board connector while making sure the black leads are in the center.

Pin	Description	Pin	Description
12	+5V DC	6	Ground
11	+5V DC	5	Ground
10	+5V DC	4	-12V DC
9	+5V DC	3	+12V DC
8	Ground	2	+5V DC
7	Ground	1	Power Good

**J8 - IDE LED**

Pin	Description	Pin	Description
1	-Cathode	2	+Anode

**J9 - Parallel Port Connector**

Pin	Description	Pin	Description
1	STROBE-	14	Ground
2	AUTO FEED-	15	Data Bit 6
3	Data Bit 0	16	Ground
4	ERROR-	17	Data Bit 7
5	Data Bit 1	18	Ground
6	INIT -	19	ACJ-
7	Data Bit 2	20	Ground
8	SLCT IN-	21	BUSY
9	Data Bit 3	22	Ground
10	Ground	23	PE (PaperEnd)
11	Data Bit 4	24	Ground
12	Ground	25	SLCT
13	Data Bit 5	26	N.C.

**J11, J12 - Serial Ports Connectors**

Pin	Description	Pin	Description
1	RLSD	6	DSR
2	RX	7	RTS
3	TX	8	CTS
4	DTR	9	RI
5	GND	10	N.C.

**J13 - IR Connector**

Pin	Description	Pin	Description
1	VCC	6	GND
2	VCC	7	SOUT2
3	IRRX1	8	IRSL1
4	IRRX2	9	RISL2
5	GND	10	VCC

**J16 - Game Port Connector**

Pin	Description	Pin	Description
1	VCC	9	GND
2	VCC	10	JBCY-
3	JAB1	11	JACY
4	JBB1-	12	JBB2-
5	JACX	13	JAB2
6	JBCX-	14	MIDI_RXD
7	GND	15	VCC
8	MIDI_TXD	16	NC

**J19 - Speaker Connector**

Pin	Description	Pin	Description
1	Data out	3	Ground
2	NC	4	+5V

**J20 - Reset Switch Connectors**

Pin	Description	Pin	Description
1	Reset	2	Ground

**PS1 - PS/2 Mouse Connector (Optional)**

Pin	Description	Pin	Description
1	VCC	4	GND
2	N.C.	5	Mouse clock
3	Mouse Data		

## Memory Configuration

Table 1 shows the possible memory combination. The motherboard will support both Fast Page DRAM or EDO DRAM SIMMs, but they cannot be mixed within the same memory bank. If Fast Page DRAM and EDO DRAM SIMMs are installed in separate banks, each bank will be optimized for maximum performance.

SIMM 1 (Bank 0) SIMM Type (Size)	SIMM 2 (Bank 0) SIMM Type (Size)	SIMM 3 (Bank 1) SIMM Type (Size)	SIMM 4 (Bank 1) SIMM Type (Size)	Total System Memory
Empty	Empty	4 MB	4 MB	8 MB
Empty	Empty	8 MB	8 MB	16 MB
Empty	Empty	16 MB	16 MB	32 MB
Empty	Empty	32 MB	32 MB	64 MB
4 MB	4 MB	Empty	Empty	8 MB
4 MB	4 MB	4 MB	4 MB	16 MB
4 MB	4 MB	8 MB	8 MB	24 MB
4 MB	4 MB	16 MB	16 MB	40 MB
4 MB	4 MB	32 MB	32 MB	72 MB
8 MB	8 MB	Empty	Empty	16 MB
8 MB	8 MB	4 MB	4 MB	24 MB
8 MB	8 MB	8 MB	8 MB	32 MB
8 MB	8 MB	16 MB	16 MB	48 MB
8 MB	8 MB	32 MB	32 MB	80 MB
16 MB	16 MB	Empty	Empty	32 MB
16 MB	16 MB	4 MB	4 MB	40 MB
16 MB	16 MB	8 MB	8 MB	48 MB
16 MB	16 MB	16 MB	16 MB	64 MB
16 MB	16 MB	32 MB	32 MB	96 MB
32 MB	32 MB	Empty	Empty	64 MB
32 MB	32 MB	4 MB	4 MB	72 MB
32 MB	32 MB	8 MB	8 MB	80 MB
32 MB	32 MB	16 MB	16 MB	96 MB
32 MB	32 MB	32 MB	32 MB	128 MB