CHAPTER 2

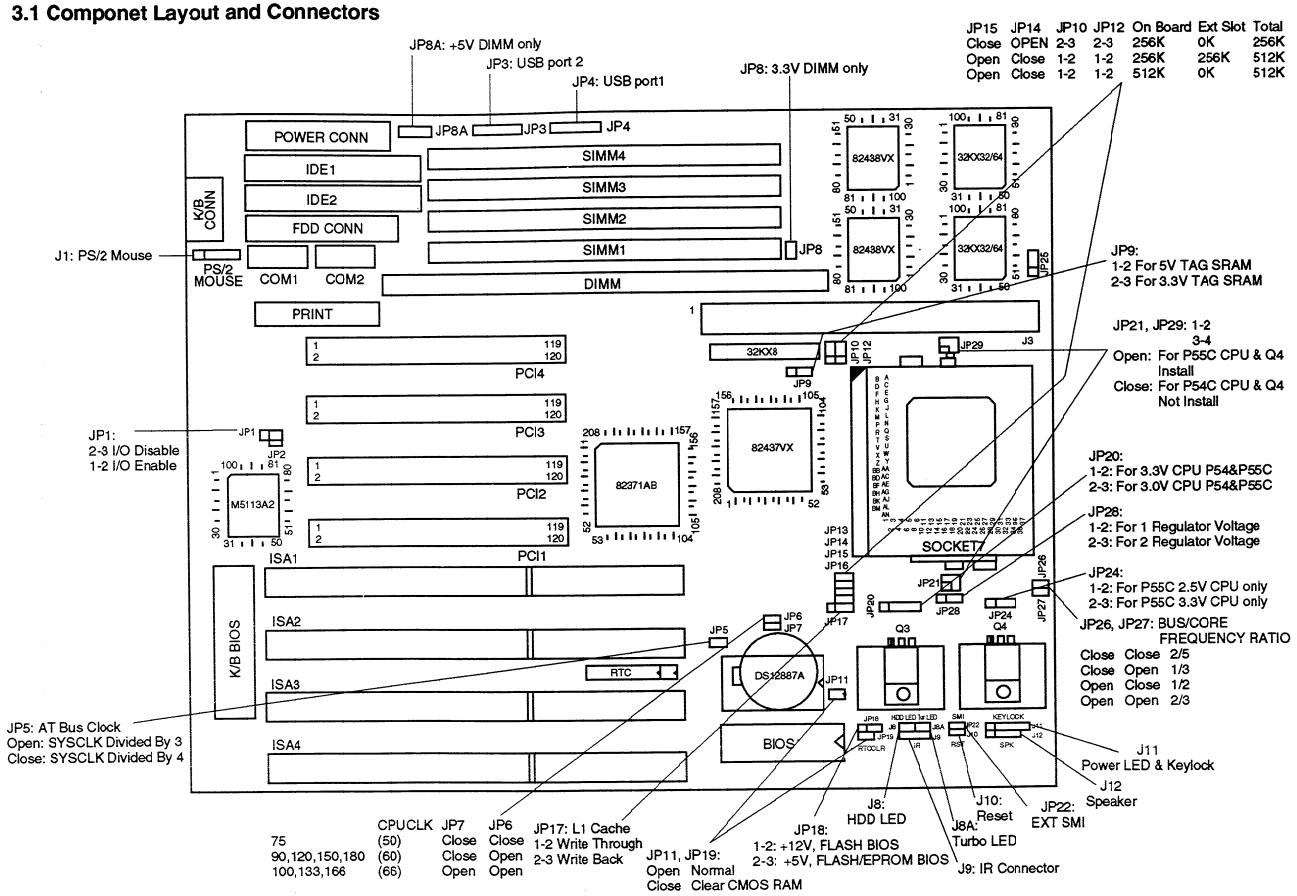
Product Specification

Product Specification 2

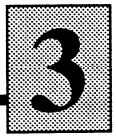
The BEK-5731 mainboard has many performance and system features integrated onto it, including the following:

- CPU TYPE : Supports P54CX family CPUs running at 75/90/100/120/133; 133/150, and 125/150/166/180/200 MHz speeds
  Supports SOCKET 7
- CHIPSET : INTEL Triton I VX (82437, 82371, 82438)
  Supports CPU address pipelining
- MEMORY : Integrated DRAM Controller
  – Concurrent Write Back
  – CAS#-before-RAS# Transparent DRAM Refresh
  – 4M, 8M, 16M, 32Mx 70ns Fast Page and EDO DRAM (72-pin SIMM)
  – On-board memory configurations from 4 to 128 Mbytes
  – Support dule side DIMM
- CACHE MEMORY : Integrated Second Level (L2) Cache Controller
  – Write Through and Write Back cache Modes
  – Direct Mapped Organization
  – Supports Pipeline Burst SRAMs Cache Slot and sync SRAMs Cache on Board.
  – Cache Size: 256, 512K option
- SLOT : 4-PCI 32 bit PCI bus slots
  4-ISA 16 bit slots
- PCI IDE : Integrated master mode IDE
  Two channels supported (up to four devices)
- I/O : Built in SUPER I/O Controller
  Support FDD, 2 Serial ports high speed UARTS W/i16550 FIFO & 1 parallel port with standard mode, ECP & EPP mode
  : USB support
- MOUSE : Support PS/2 MOSUE
- BIOS : On-board supports FLASH Memory for easy upgrade BIOS & AWARD BIOS
- PCB DIMENSION : 220mm x 280mm

3.1 Componet Layout and Connectors



Hardware Description



3.2 Jumper Switch Settings and connectors Summary

Before installing your PENTIUM PCI system board, make sure the jumpers and connectors are set to the correct position.

Sthere are:

JP11, JP19	CMOS RAM discharge
JP10, JP12, JP14, JP15	Cache memory install
JP6, JP7	CPU clock selection
JP26, JP27	CPU Type selection

The Connectors are:

JP8	ON Board IDE LED
PW1	Power connector
J10	Reset connector
JP8A	Turbo LED
J12	Speaker connector
J11	Keylock and Power LED

Note:
If your decide to change a jumper setting, make sure the board has been disconnected from the power source first. This is to protect both you and mainboard from damage.

Hardware Description 3

AT Bus CLOCK Select (JP5)

	JP5	CLOCK
	OPEN	For 75, 125 MHz CPU (divided by 3)
*	CLOSE	For other CPU (divided by 4)

Bus Fraction Core/Bus Ratio Select (JP26, JP27) & CPU Type Select (JP6, JP7)

	Ratio	CPU TYPE	JP7	JP6	JP27	JP26
	2/3	75 (50) MHz	CLOSE	CLOSE	OPEN	OPEN
		90 (60) MHz	CLOSE	OPEN	OPEN	OPEN
*		100 (66) MHz	OPEN	OPEN	OPEN	OPEN
	1/2	100 (50) MHz	CLOSE	CLOSE	CLOSE	OPEN
		120 (60) MHz	CLOSE	OPEN	CLOSE	OPEN
		133 (66) MHz	OPEN	OPEN	CLOSE	OPEN
	2/5	150 (60) MHz	CLOSE	OPEN	CLOSE	CLOSE
		166 (66) MHz	OPEN	OPEN	CLOSE	CLOSE
	1/3	180 (60) MHz	CLOSE	OPEN	OPEN	CLOSE

Pipeline Select (JP13)

	JP13	Address Pipeline
	OPEN	Disable Address Pipeline
*	CLOSE	Enable Address Pipeline

(1/3) PENTIUM 200(66)MHZ
JP7 JP6 JP27 JP26
OPEN OPEN OPEN CLOSE
5731P

Write-Back/Write-Through Cache Select (JP17)

	JP17	L1 Cache
*	2-3	Write-Back Cache
	1-2	Write-Through Cache

" * " is default. By the factory jumper setting.

Hardware Description 3

External Connections:

Keyboard Connector (KB1)
The keyboard connector is a 5-pin DIN connector
The pin assignments are:

PINOUT	ASSIGNMENTS
1	KEYBOARD CLOCK
2	KEYBOARD DATA
3	NO CONNECTION
4	GROUND
5	+5V

Keylock & Power LED (J11)

PINOUT	ASSIGNMENTS
1	POWER LED
2	NC
3	GROUND
4	KEYLOCK
5	GROUND

Turbo LED Connector (J8A)

PINOUT	ASSIGNMENTS
1	ANODE
2	CATHODE

Turbo Switch (Keyboard)

PINOUT	FUNCTION
Ctrol-ALT-	NORMAL
Ctrol-ALT+	TURBO

Power Connector (PW1)

The power connector is used to connect power lines and power good signal from the power supply's P8 & P9 connectors to the system board.
The pin assignments are:

PINOUT	ASSIGNMENTS
1	POWER GOOD
2	+5V
3	+12V
4	-12V
5	GROUND
6	GROUND
7	GROUND
8	GROUND
9	-5V
10	+5V
11	+5V
12	+5V

Reset Connector (J10)

PINOUT	ASSIGNMENTS
1	POWER GOOD
2	GROUND

Speaker Connector (J12)

PINOUT	FUNCTION
1	SPEAK OUT
2	GROUND
3	GROUND
4	+5

JP11, JP19: CMOS DISCHARGE

PINOUT	ASSIGNMENTS
OPEN	NORMAL
CLOSE	CLEAR CMOS RAM

JP18: BIOS TYPE

PINOUT	ASSIGNMENTS
2-3	+5V, FLASH/EPROM BIOS
1-2	+12V, FLASH BIOS

ON Board PCI IDE CONNECTOR (IDE1, IDE2)

J8: PRIMARY & SECONDARY HDD LED

PINOUT	ASSIGNMENTS
1	ANODE
2	CATHODE

ON Board PS/2 MOUSE (J1)

PINOUT	ASSIGNMENTS
1	MDATA
2	NC
3	GROUND
4	VCC
5	MCLK

JP4: USB PORT 1

PINOUT	ASSIGNMENTS
1	VCC
2	DATA –
3	DATA +
4	GROUND

JP3: USB PORT 2

PINOUT	ASSIGNMENTS
1	VCC
2	DATA –
3	DATA +
4	GROUND

CPU POWER:
JP20

	PINOUT	CPU VCORE VOLTAGE
*	1-2	3.4V
	2-3	3.0V

JP24:

PINOUT	CPU VCC3 VOLTAGE
1-2	2.5V
2-3	3.4V

JP21, JP29:

	PINOUT	ASSIGNMENTS
	1-3 2-4 OPEN	FOR P55C CUP & Q4, INSTALL
*	1-3 2-4 SHORT	FOR P54C CPU & Q4 NOT INSTALL

JP28: CPU REGULATOR VOLTAGE

PINOUT	ASSIGNMENTS
1-2	FOR 1 REGULATOR VOLTAGE
2-3	FOR 2 REGULATER VOLTAGE

JP8&JP8A: DIMM SOCKET POWER

PINOUT	ASSIGNMENTS
JP8	FOR 3.3V DIMM MEMORY ONLY
JP8A	FOR +5V DIMM MEMORY ONLY

3.3 Memory RAM Modules Installaton

The section describes the combination of BEK-5731 memory. The mainboard support 2 bank (bank0 and bank1) of 72 pin modules, accepts 4MB, 8MB, 16MB and 32MB DRAM on board.

Memory Configuraton Option

BANK 0 SIM1	BANK 0 SIM2	BANK 1 SIM3	BANK 1 SIM4	TOTAL MEMORY
4MB	4MB	—	—	8MB
8MB	8MB	—	—	16MB
16MB	16MB	—	—	32MB
32MB	32MB	—	—	64MB
4MB	4MB	4MB	4MB	16MB
4MB	4MB	8MB	8MB	24MB
8MB	8MB	8MB	8MB	32MB
8MB	8MB	16MB	16MB	48MB
16MB	16MB	16MB	16MB	64MB
16MB	16MB	32MB	32MB	96MB
32MB	32MB	32MB	32MB	128MB

3.4 Cache Memory Installaton

(1) 256KB Cache RAM
BANK0 (U29, U30): 32K*32 pipeline 2 PCS
TAG RAM (U17): 32K8 1PC

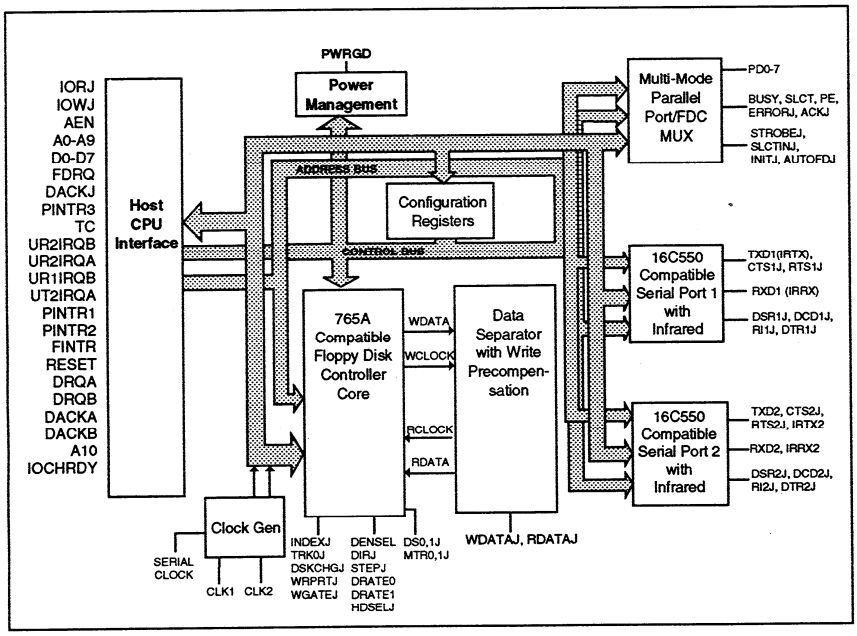
(2) 512KB Cache RAM
BANK0 (U29, U30): 64K*32 pipeline 2 PCS
TAG RAM (U17): 32K8 1PC

Note: JP9
1-2: 5V TAG RAM
2-3: 3.3V TAG RAM

JP15	JP14	JP10	JP12	ON BOARD TAG-SRAM	ON BOARD BURST-SRAM	EXTENSLOT BURST-SRAM	TOTAL BURST-SRAM
CLOSE	OPEN	2-3	2-3	0K	0K	256K	256K
CLOSE	OPEN	2-3	2-3	8K8	256K	0K	256K
OPEN	CLOSE	2-3	2-3	0K	0K	512K	512K
OPEN	CLOSE	1-2	1-2	32K*8	512K	0K	512K
OPEN	CLOSE	1-2	1-2	32K*8	256K	256K	512K

5731P15

Hardware Description



JP1: I/O CHIPSET HARDWARE DISABLE/ENABLE

PINOUT	ASSIGNMENTS
1-2	ENABLE ON BARD I/O
2-3	DISABLE ON BARD I/O

J9: IR CONNECT

PINOUT	ASSIGNMENTS
1	IRRX2
2	GROUND
3	IRTX2
4	VCC

J2: Serial-1
J7: Serial-2
J3: Print Port connector
J4: FDD Connector
J5 (IDE1): Primary IDE Connector
J6 (IDE2): Secondary IDE Connector