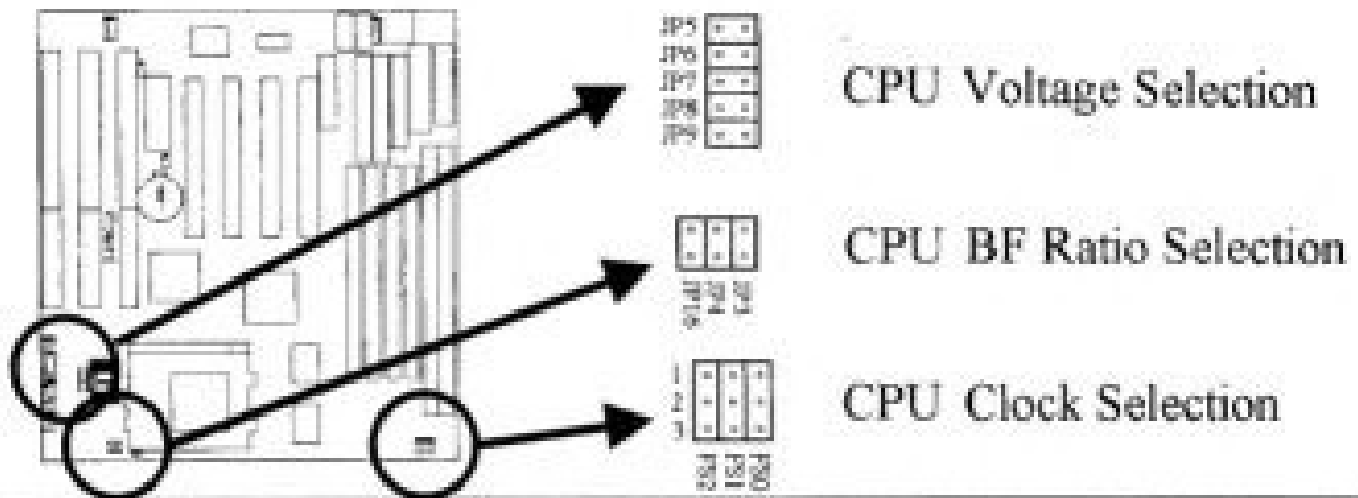


Quick Installation Chart

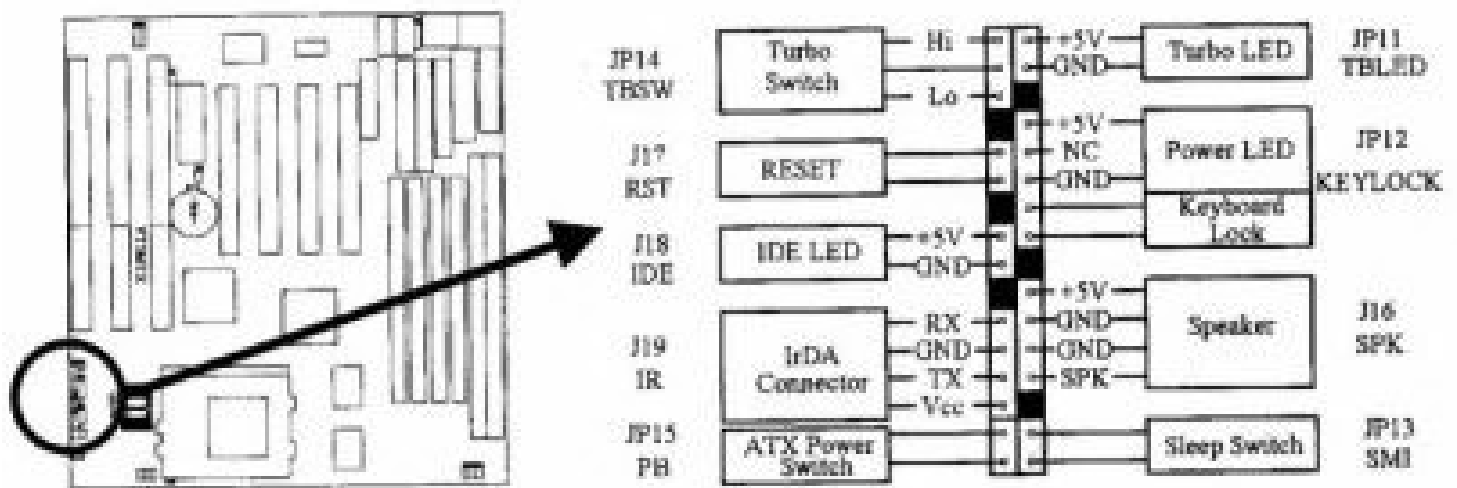
For your convenience, this chart lists all the CPUs supported by 586TX and their correspond jumper setting.



CPU TYPE	JP5-JP9	JP16	JP4	JP3	FS2	FS1	FS0
Pentium 100	JP6 close	open	open	open	1-2	2-3	1-2
Pentium 120	JP6 close	open	open	close	1-2	1-2	2-3
Pentium 133	JP6 close	open	open	close	1-2	2-3	1-2
Pentium 150	JP6 close	open	close	close	1-2	1-2	2-3
Pentium 166	JP6 close	open	close	close	1-2	2-3	1-2
Pentium 200	JP6 close	open	close	open	1-2	2-3	1-2
Pentium 166-MMX	JP9 close	open	close	close	1-2	2-3	1-2
Pentium 200-MMX	JP9 close	open	close	open	1-2	2-3	1-2
Pentium 233-MMX	JP9 close	open	open	open	1-2	2-3	1-2
AMD K5-PR90	JP5 close	open	open	open	1-2	1-2	2-3
AMD K5-PR100	JP5 close	open	open	open	1-2	2-3	1-2
AMD K5-PR133	JP5 close	open	open	close	1-2	2-3	1-2
AMD K5-PR166	JP5 close	open	close	close	1-2	2-3	1-2
AMD K6/166	JP8 close	open	close	close	1-2	2-3	1-2
AMD K6/200	JP8 close	open	close	open	1-2	2-3	1-2
AMD K6/233	JP7 close	open	open	open	1-2	2-3	1-2
Cyrix 6x86-P120+	JP5 close	open	open	close	1-2	1-2	1-2
Cyrix 6x86-P133+	JP5 close	open	open	close	2-3	1-2	1-2
Cyrix 6x86L-PR150+	JP9 close	open	open	close	1-2	1-2	2-3
Cyrix 6x86L-PR166+	JP9 close	open	open	close	1-2	2-3	1-2
Cyrix 6x86L-PR200+	JP9 close	open	open	close	2-3	1-2	2-3
Cyrix 6x86MX-PR166(66MHz)	JP8 close	open	open	close	1-2	2-3	1-2
Cyrix 6x86MX-PR166(60MHz)	JP8 close	open	close	close	1-2	1-2	2-3
Cyrix 6x86MX-PR200(75MHz)	JP8 close	open	open	close	2-3	1-2	2-3

Panel Connectors

- J2 Keyboard Connector
- J7 Primary IDE Port
- J4 Secondary IDE Port
- J3 Floppy Disk Drive Controller Port
- J6, J8 Serial Ports
- J9 Printer Port
- J20 Cooling Fan Power Connector
- J5 PS/2 Mouse Port



Connector		Function
TBLED	JP11	Turbo LED
KEYLOCK	JP12	Power LED and Keylock Switch
SMI	JP13	Sleep Switch
TBSW	JP14	Turbo Switch
PB	JP15	ATX Power Switch (for ATX Power Supply Only)
SPK	J16	Speaker
RST	J17	Reset Switch
IDE	J18	HDD LED

1.3 Specification

CPU :

- Supports 75-233 MHz Pentium Processors (P54C) , and Pentium Processors with MMX technology (P55C)
- Supports AMD K5/K6 PR serial CPUs
- Supports Cyrix 6x86/6x86L/6x86MX serial CPUs

Chipset :

- Intel 82430TX chipset

System Clock :

- Supports 50/55/60/66/75 MHz real time clock
- Supports 8 MHz AT bus speed

SIMM :

- Supports 70ns or faster Extended Data Output (EDO) or Fast Page Mode (FPM) SIMM in 2 banks, 4 72-pin 32-bit sockets using 4/8/16/32/64MB memory
- Supports up to a maximum of 256 MB system memory

DIMM :

- Supports 66MHz or faster 3.3V in 2 168-pin banks, 2 168-pin 64-bit DIMM sockets using 4/8/16/32/64/128 MB memory
- Supports up to a maximum of 256 MB system memory

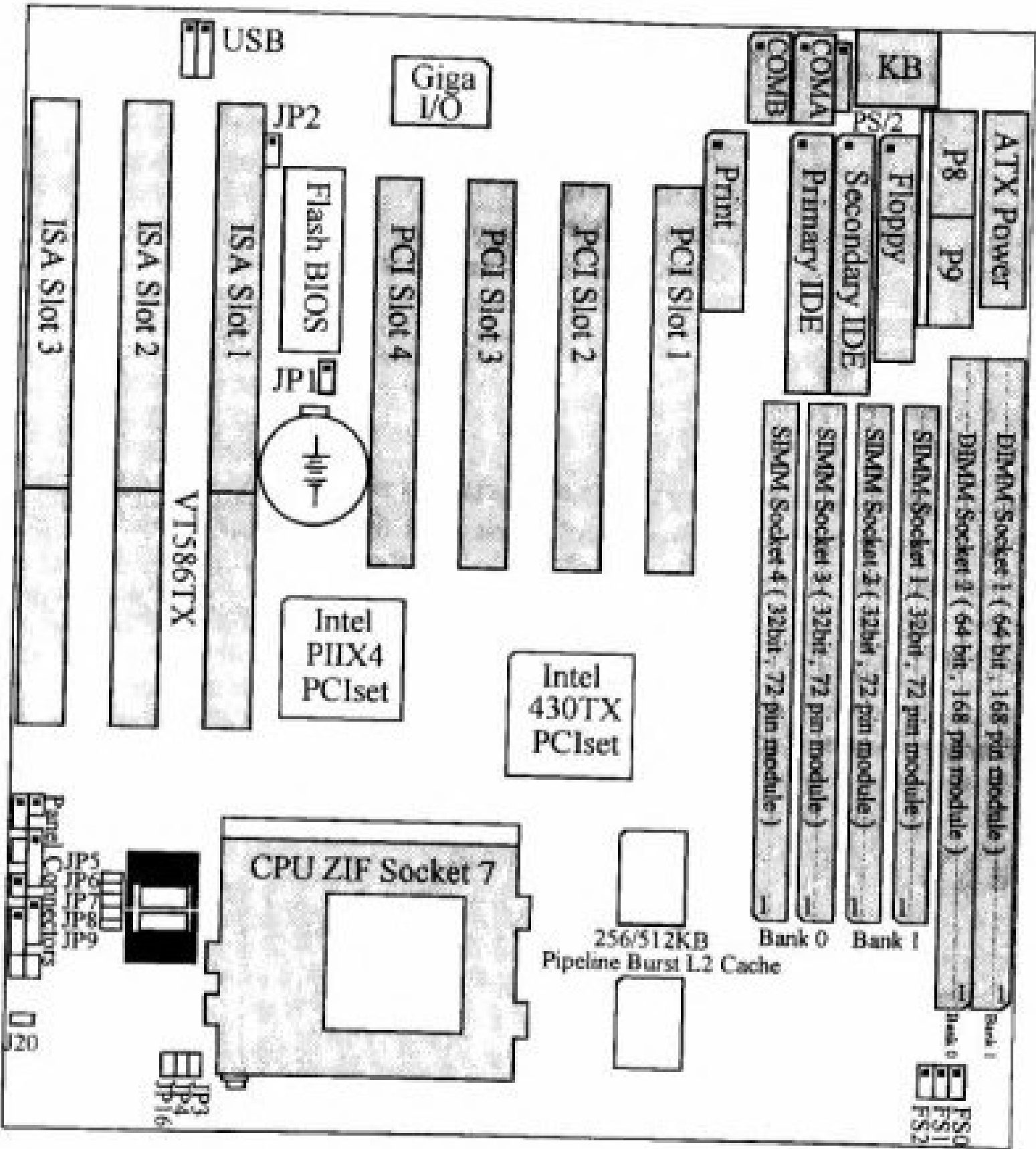
L2 Cache :

- Onboard 256 or 512KB Pipeline Burst Cache

IDE :

- Two channel PIO and PCI Bus Master IDE ports support up to 4 EIDE devices for HD or CD-ROM
- Supports PIO Mode 3 with data transfer rate up to 17 MB/Sec
- Supports PIO Mode 4 with data transfer rate up to 22 MB/Sec
- Supports Ultra DMA 33 (UDMA) with data transfer rate up to 33 MB/Sec
- Supports 120MB Floppy Drive

- BIOS** :
- Award BIOS V.4.51 with built-in Anti-Virus, DMI support, and green function (Plug-and-Play BIOS)
 - Supports NCR SCSI BIOS
 - Supports CD-ROM, SCSI, and LS120/ZIP boot up
- I/O Devices** :
- One FDD control port supports two of the 5.25" or 3.5" floppy drives up to 2.88 MB.
 - Two high-speed 16550 UART compatible serial ports
 - One parallel ports with ECP/ EPP compatibility.
 - One PS/2 mouse port
- IR Port** :
- One HPSIR/ASKIR compatible IrDA interface port. (Cable optional)
- USB Ports** :
- Two Universal Serial Bus (USB) ports support up to 127 peripheral devices. (Cable optional)
- Power Connector** :
- Supports AT and ATX power supply
 - Supports remote power-on function when using ATX power supply
 - Supports software power off function
 - Supports RTC Alarm.
- Expansion Slots** :
- Four 32-bit PCI expansion slots
 - Three 16-bit ISA expansion slots
 - Supports latest PCI 2.1 standard
- Operating System** :
- Supports Windows 95, Windows NT, MS-DOS V. 6.22, OS2, Novell, Unix, SCO UNIX.....
- Dimension** :
- 241mm x 221mm



2.1 Installation Procedure

- 1. Jumper setting (BIOS and CPU)**
- 2. Installation of CPU**
- 3. Installation of Memory**
- 4. I/O Connections & Panel Connections**

2.1.1 Jumper Setting

In this manual , (1-2) represents the first and second pins of the jumper. (2-3) represents the second and third pins of the jumper, and so on. "Close" means put on the jumper cap and "Open" means remove the jumper cap. On the motherboard, you will see three sets of jumpers with different color jumper caps:

Yellow Jumper Caps : Sets the Function and Voltage of Flash CMOS
JP1, JP2

Red Jumper Caps : Sets the voltage of CPU
JP5, JP6, JP7, JP8, JP9

Green Jumper Caps : Sets the type and speed of CPU
FS0, FS1, FS2, JP3, JP4, JP16

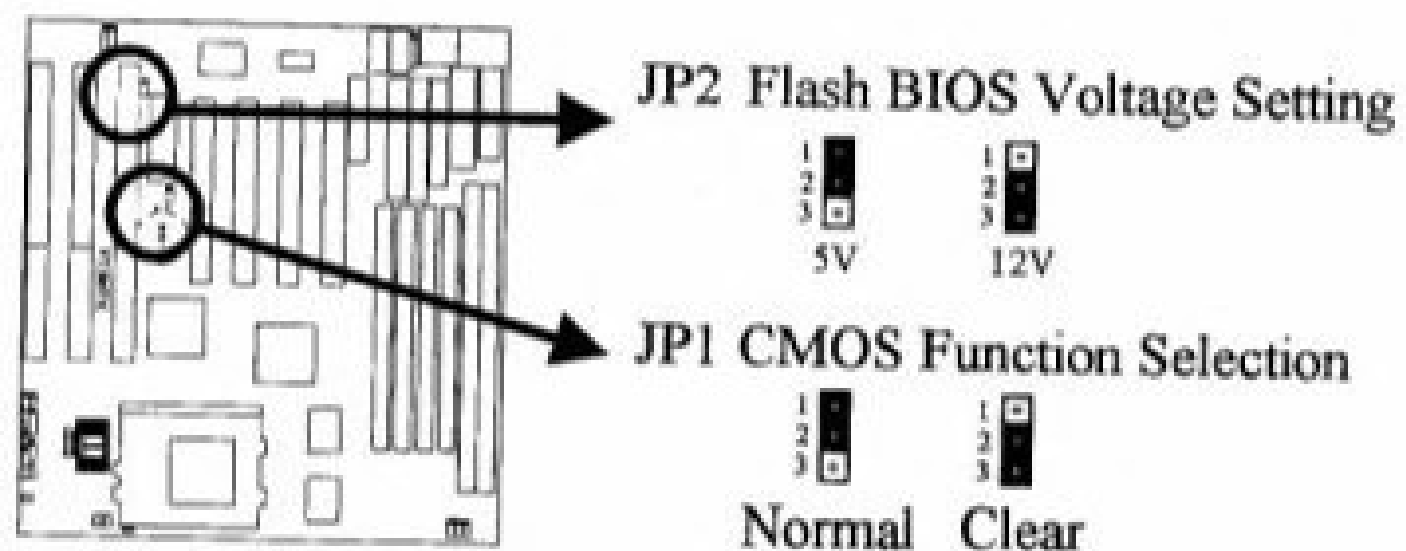
2.1.2 Flash BIOS Function and Voltage Setting (Yellow Jumper Caps)

JP1 : CMOS Function Selection

- 1-2 Closed : Keep CMOS setting (Default)
- 2-3 Closed : Clean CMOS setting

JP2 : Flash BIOS Voltage Setting

- 1-2 Closed : 5V (Default)
- 3-4 Closed : 12V



2.1.3 How to Remove the CMOS Setting

- (1) Turn off the power
- (2) Remove Yellow Jumper Cap from JP1 (1-2) and put on JP1 (2-3) to remove the CMOS setting
- (3) Remove Yellow Jumper Cap from JP1 (2-3) and put on JP1 (1-2)
- (4) Turn on the power
- (5) While the system reboots, press key to set the BIOS setup.

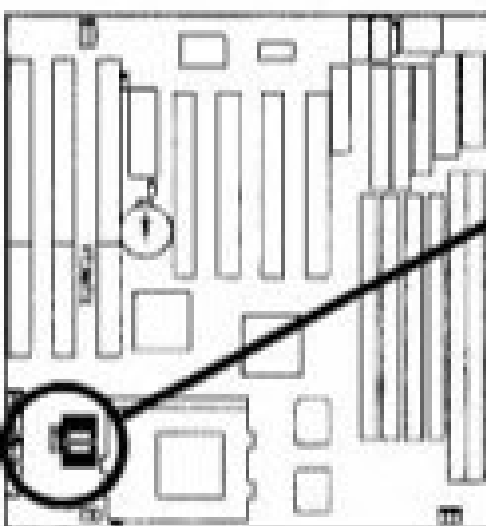
2.1.4 CPU Voltage Selection (Red Jumper Caps)

Before the use of this motherboard, make sure all jumpers are set correctly. The wrong setting might damage the CPU and the motherboard.

CPU Voltage may vary. Check with CPU manufacturer for its correct voltage.

Processor	Model	CPU Voltage	Jumper Setting
Intel/Cyrix	P55C-MMX/6x86L	2.8V	JP9 close
AMD/Cyrix	K6-166/200, 6x86MX	2.9V	JP8 close
AMD	K6-233	3.2V	JP7 close
Intel	P54C	3.4V	JP6 close
AMD/Cyrix	K5/6x86	3.5V	JP5 close

3.4V is the default setting (this setting is for Intel P54C CPUs)



CPU Voltage Selection

2.8V	2.9V	3.2V	3.4V	3.5V
Intel P55C Cyrix 6x86L	AMD K6 PR166/200	AMD K6 PR233	Intel P54C	AMD K5 Cyrix 6x86
JP5 <input type="checkbox"/>	JP5 <input type="checkbox"/>	JP5 <input type="checkbox"/>	JP5 <input type="checkbox"/>	JP5 <input checked="" type="checkbox"/>
JP6 <input type="checkbox"/>	JP6 <input type="checkbox"/>	JP6 <input type="checkbox"/>	JP6 <input checked="" type="checkbox"/>	JP6 <input type="checkbox"/>
JP7 <input type="checkbox"/>	JP7 <input type="checkbox"/>	JP7 <input checked="" type="checkbox"/>	JP7 <input type="checkbox"/>	JP7 <input type="checkbox"/>
JP8 <input type="checkbox"/>	JP8 <input checked="" type="checkbox"/>	JP8 <input type="checkbox"/>	JP8 <input type="checkbox"/>	JP8 <input type="checkbox"/>
JP9 <input checked="" type="checkbox"/>	JP9 <input type="checkbox"/>	JP9 <input type="checkbox"/>	JP9 <input type="checkbox"/>	JP9 <input type="checkbox"/>

2.1.5 CPU BF Ratio Selection

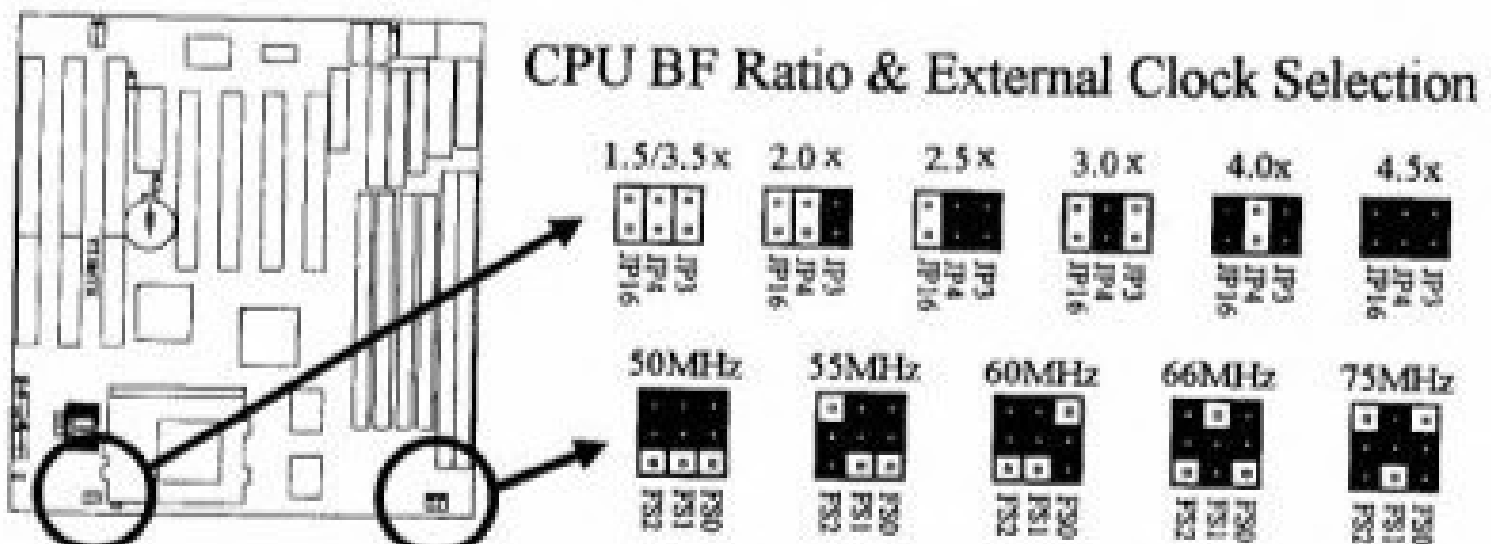
BUS/CORE	JP16		
1.5x/3.5x	open	open	open
2.0x	open	open	close
2.5x	open	close	close
3.0x	open	close	open
4.0x	close	open	close
4.5x	close	close	close

2.5x is the default setting (this setting is for Intel Pentium 166 CPU)

2.1.6 CPU External Clock Selection

Clock	FS2	FS1	FS0
50MHz	1-2	1-2	1-2
55MHz	2-3	1-2	1-2
60MHz	1-2	1-2	2-3
66MHz	1-2	2-3	1-2
75MHz	2-3	1-2	2-3

66MHz is the default setting (this setting is for Intel Pentium 166 CPU)



		JP16	JP4	JP5	PS2	PS1	PS0
Pentium 75	50MHz*1.5	open	open	open	1-2	1-2	1-2
Pentium 90	60MHz*1.5	open	open	open	1-2	1-2	2-3
Pentium 100	66MHz*1.5	open	open	open	1-2	2-3	1-2
Pentium 120	60MHz*2.0	open	open	close	1-2	1-2	2-3
Pentium 133	66MHz*2.0	open	open	close	1-2	2-3	1-2
Pentium 150	60MHz*2.5	open	close	close	1-2	1-2	2-3
Pentium 166(MMX)	66MHz*2.5	open	close	close	1-2	2-3	1-2
Pentium 200(MMX)	66MHz*3.0	open	close	open	1-2	2-3	1-2
Pentium 233(MMX)	66MHz*3.5	open	open	open	1-2	2-3	1-2
AMD K5-PR75	50MHz*1.5	open	open	open	1-2	1-2	1-2
AMD K5-PR90	60MHz*1.5	open	open	open	1-2	1-2	2-3
AMD K5-PR100	66MHz*1.5	open	open	open	1-2	2-3	1-2
AMD K5-PR133	66MHz*2.0	open	open	close	1-2	2-3	1-2
AMD K5-PR166	66MHz*2.5	open	close	close	1-2	2-3	1-2
AMD K6/166	66MHz*2.5	open	close	close	1-2	2-3	1-2
AMD K6/200	66MHz*3.0	open	close	open	1-2	2-3	1-2
AMD K6/233	66MHz*3.5	open	open	open	1-2	2-3	1-2
AMD K6/266	66MHz*4.0	close	open	close	1-2	2-3	1-2
Cyrix 6x86-P120+	50MHz*2.0	open	open	close	1-2	1-2	1-2
Cyrix 6x86-P133+	55MHz*2.0	open	open	close	2-3	1-2	1-2
Cyrix 6x86L-PR150+	60MHz*2.0	open	open	close	1-2	1-2	2-3
Cyrix 6x86L-PR166+	66MHz*2.0	open	open	close	1-2	2-3	1-2
Cyrix 6x86L-PR200+	75MHz*2.0	open	open	close	2-3	1-2	2-3
Cyrix 6x86MX-PR166(66MHz)	66MHz*2.0	open	open	close	1-2	2-3	1-2
Cyrix 6x86MX-PR166(60MHz)	60MHz*2.5	open	close	close	1-2	1-2	2-3
Cyrix 6x86MX-PR200(66MHz)	66MHz*2.5	open	close	close	1-2	2-3	1-2
Cyrix 6x86MX-PR200(75MHz)	75MHz*2.0	open	open	close	2-3	1-2	2-3
IBM 6x86-P133+	55MHz*2.0	open	open	close	2-3	1-2	1-2
IBM 6x86-P150+	60MHz*2.0	open	open	close	1-2	1-2	2-3
IBM 6x86-P166+	66MHz*2.0	open	open	close	1-2	2-3	1-2
IBM 6x86-P200+	75MHz*2.0	open	open	close	2-3	1-2	2-3

Processor	Cache	JP16	JP4	JP5	PS2	PS1	PS0
Pentium 75	50MHz*1.5	open	open	open	1-2	1-2	1-2
Pentium 90	60MHz*1.5	open	open	open	1-2	1-2	2-3
Pentium 100	66MHz*1.5	open	open	open	1-2	2-3	1-2
Pentium 120	60MHz*2.0	open	open	close	1-2	1-2	2-3
Pentium 133	66MHz*2.0	open	open	close	1-2	2-3	1-2
Pentium 150	60MHz*2.5	open	close	close	1-2	1-2	2-3
Pentium 166(MMX)	66MHz*2.5	open	close	close	1-2	2-3	1-2
Pentium 200(MMX)	66MHz*3.0	open	close	open	1-2	2-3	1-2
Pentium 233(MMX)	66MHz*3.5	open	open	open	1-2	2-3	1-2
AMD K5-PR75	50MHz*1.5	open	open	open	1-2	1-2	1-2
AMD K5-PR90	60MHz*1.5	open	open	open	1-2	1-2	2-3
AMD K5-PR100	66MHz*1.5	open	open	open	1-2	2-3	1-2
AMD K5-PR133	66MHz*2.0	open	open	close	1-2	2-3	1-2
AMD K5-PR166	66MHz*2.5	open	close	close	1-2	2-3	1-2
AMD K6/166	66MHz*2.5	open	close	close	1-2	2-3	1-2
AMD K6/200	66MHz*3.0	open	close	open	1-2	2-3	1-2
AMD K6/233	66MHz*3.5	open	open	open	1-2	2-3	1-2
AMD K6/266	66MHz*4.0	close	open	close	1-2	2-3	1-2
Cyrix 6x86-P120+	50MHz*2.0	open	open	close	1-2	1-2	1-2
Cyrix 6x86-P133+	55MHz*2.0	open	open	close	2-3	1-2	1-2
Cyrix 6x86L-PR150+	60MHz*2.0	open	open	close	1-2	1-2	2-3
Cyrix 6x86L-PR166+	66MHz*2.0	open	open	close	1-2	2-3	1-2
Cyrix 6x86L-PR200+	75MHz*2.0	open	open	close	2-3	1-2	2-3
Cyrix 6x86MX-PR166(66MHz)	66MHz*2.0	open	open	close	1-2	2-3	1-2
Cyrix 6x86MX-PR166(60MHz)	60MHz*2.5	open	close	close	1-2	1-2	2-3
Cyrix 6x86MX-PR200(66MHz)	66MHz*2.5	open	close	close	1-2	2-3	1-2
Cyrix 6x86MX-PR200(75MHz)	75MHz*2.0	open	open	close	2-3	1-2	2-3
IBM 6x86-P133+	55MHz*2.0	open	open	close	2-3	1-2	1-2
IBM 6x86-P150+	60MHz*2.0	open	open	close	1-2	1-2	2-3
IBM 6x86-P166+	66MHz*2.0	open	open	close	1-2	2-3	1-2
IBM 6x86-P200+	75MHz*2.0	open	open	close	2-3	1-2	2-3

2.3.4 I/O Connections/Panel Connections

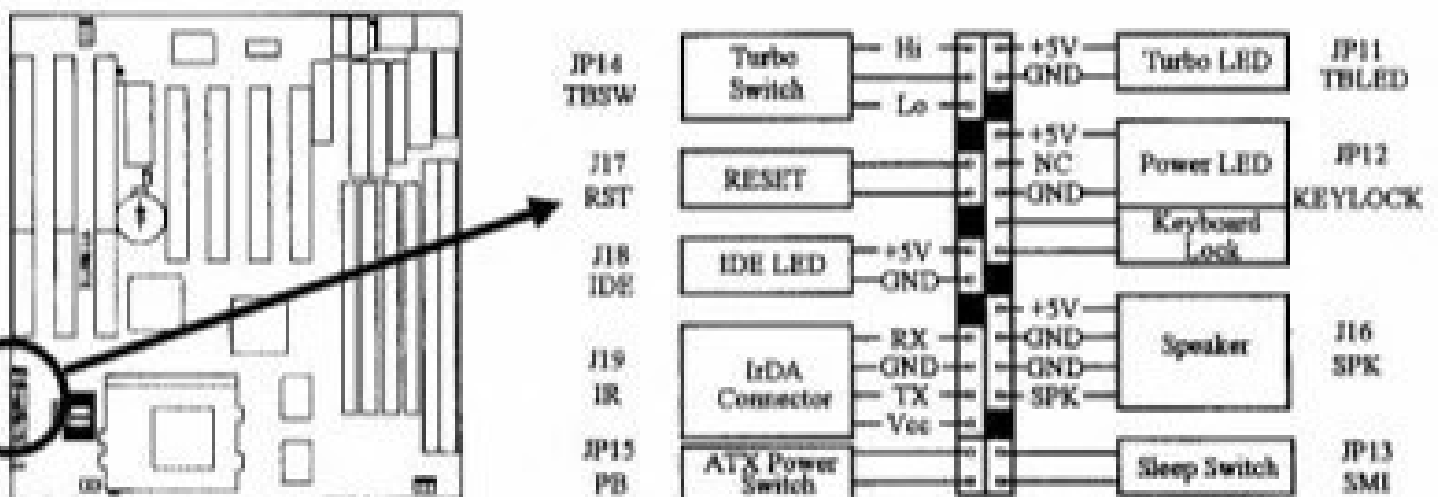
I/O Connections

ATX	ATX Power Connector
J1	AT Power Connector
J2	Keyboard Connector
J7	Primary IDE Port
J4	Secondary IDE Port
J3	Floppy Disk Drive Controller Port
J9	Printer Port
J6, J8	Serial Ports
J5	PS/2 Mouse Port
	Pin 1 : MS_DATA Pin 4 : Vcc
	Pin 2 : NC Pin 5 : MS_CLK
	Pin 3 : GND Pin 6 : NC
J14, J15	USB Connector (Cable optional)
	Pin 1 : Vcc Pin 3 : DATA+
	Pin 2 : DATA- Pin 4, 5 : GND
J19	IrDA Port (Cable optional)
	Pin 1 : IRRX Pin 3 : IRTX
	Pin 2 : GND Pin 4 : Vcc

Panel Connections

Connector		Function
TBLED	JP11	Turbo LED
KEYLOCK	JP12	Power LED and Keylock Switch
SMI	JP13	Sleep Switch
TBSW	JP14	Turbo Switch
PB	JP15	ATX Power Switch (for ATX Power Supply Only)
SPK	J16	Speaker
RST	J17	Reset Switch
IDE	J18	HDD LED

WARNING: To avoid the system from failing, turn off the power before connecting



2.2 Installation of CPU

Before installing CPU, make sure the power is off. Locate the white color level bar on the ZIF socket. Push level bar away from the socket and pull upward 90 degrees. Insert the CPU into the socket. Make sure the notch of the CPU corresponds with the white dot on the ZIF socket (the corner without pin socket). Do not push in the CPU. Make sure all pins are aligned with the CPU socket. Close the level bar.

2.3 Installation of Memory

586TX motherboard has 4 72-pin 32bit SIMM sockets divided into 2 banks (bank 0 and bank 1) and 2 168-pin 64-bit DIMM sockets divided into 2 banks. You can install Fast Page Mode (FPM) , Extended Data Output (EDO) and SDRAM memory at same time. Make sure you fill up each bank and use the same brand and same capacity memory in the same bank. This will increase the system reliability.

2.3.1 Install 72-pin SIMM (Single Inline Memory Module)

1. Before inserting the SIMM, make sure the PIN1 of the SIMM matches with the PIN1 on the SIMM socket.
2. Insert SIMM into the SIMM socket at a 45-degree angle. Do not push in.
3. After inserting the SIMM, flip the SIMM back to a vertical 90-degrees and you will feel a click.

WARNING: 72-pin SIMM memory must work in pairs. You have to install at least 2 pieces in the same bank.

2.3.2 Install 168-pin DIMM (Dual Inline Memory Module)

Insert DIMM into the DIMM sockets at a 90-degree angle and press down.

WARNING: The Bank 0 in DIMM sockets use the same address with the bank 0 in SIMM sockets. The Bank 1 in DIMM sockets share the same address with the bank 1 in SIMM sockets. To avoid the malfunction of the system, please do not install SIMM and DIMM at the same bank or same address.

2.3.3 Memory Configuration

Total System Memory	Bank 0		Bank 1	
	72pin SIMM Sockets 1&2	168pin DIMM Sockets 1	72pin SIMM Sockets 3&4	168pin DIMM Sockets 2
8MB	4MBx2pcs	8MB	—	—
16MB	8MBx2pcs	16MB	—	—
24MB	8MBx2pcs	16MB	4MBx2pcs	8MB
	4MBx2pcs	8MB	8MBx2pcs	16MB
32MB	16MBx2pcs	32MB	—	—
	8MBx2pcs	16MB	8MBx2pcs	16MB
40MB	16MBx2pcs	32MB	4MBx2pcs	8MB
	4MBx2pcs	8MB	16MBx2pcs	32MB
48MB	16MBx2pcs	32MB	8MBx2pcs	16MB
	8MBx2pcs	16MB	16MBx2pcs	32MB
64MB	32MBx2pcs	64MB	—	—
	16MBx2pcs	32MB	16MBx2pcs	32MB
72MB	32MBx2pcs	64MB	4MBx2pcs	8MB
	4MBx2pcs	8MB	32MBx2pcs	64MB
80MB	32MBx2pcs	64MB	8MBx2pcs	16MB
	8MBx2pcs	16MB	32MBx2pcs	64MB
96MB	32MBx2pcs	64MB	16MBx2pcs	32MB
	16MBx2pcs	32MB	32MBx2pcs	64MB
128MB	32MBx2pcs	64MB	32MBx2pcs	64MB
	64MBx2pcs	128MB	—	—
256MB	64MBx2pcs	128MB	64MBx2pcs	128MB

3.4 Chipset Features Setup

These settings are intended for the Chipset function on the motherboard. Fine tuning the options, enhances the performance of the system.

Figure 3.4 CHIPSET FEATURES SETUP SCREEN

ROM PCI / ISA BIOS (2A59IV59)	
CHIPSET FEATURES SETUP	
AWARD SOFTWARE, INC.	
Auto Configuration	Enabled
DRAM Timing	70ns
DRAM Leadoff Timing	10/6/4
DRAM Read Burst (EDO/FP)	x333/x444
DRAM Write Burst Timing	x333
Fast EDO Lead Off	Disabled
Refresh RAS# Assertion	5 CLKS
Fast RAS To CAS Delay	3
DRAM Page Idle Timer	2 clks
DRAM Enhanced Paging	Enabled
Fast MA to RAS#Delay	2 clks
SDRAM(CAS Lat/RAS-to-CAS)	1/3
SDRAM Speculative Read	Disabled
System BIOS Cacheable	Enabled
Video BIOS Cacheable	Enabled
8 Bit I/O Recovery Time	1
16Bit I/O Recovery Time	1
Memory Hole At 15M-16M	Disabled
PCI 2.1 Compliance	Disabled

ESC : Quit	↑ ↓ → ← : Select Item
F1 : Help	PGUP/PD+/+/- : Modify
F5 : Old Values	(Shift) F2 : Color
F6 : Load BIOS Defaults	
F7 : Load Setup Defaults	

3.4.1 Auto Configuration

The optimum value for the chipset and CPU will be automatically loaded when enabled.

3.4.2 DRAM Timing

This option must match the memory speed. If the installed memory is 70ns type, you should set it to "70". Default value is "70".