1.4 Function of jumpers and connectors

1.4.1 Jumpers Settings and Connectors

Connector Name	Pin Assignments	Description
External Battery Connector: J1 (4 Pins)	Pin 1: 6V battery input Pin 2: NC. Pin 3: Ground. Pin 4: Ground.	In case the on-board battery is out of work, the user can remove it from the mainboard and connect a 6V external battery to the 4 pin J1
Turbo Connector: JW4 (3 Pins)	Pin 1: +5VDC. Pin 2: Turbo signal. Pin 3: Ground.	1-2: Low speed mode. 2-3: Turbo mode.
Turbo LED Connector JW5 (2 Pins)	Pin 1: Anode terminal of LED. Pin 2: Cathode terminal of LED.	If the connection is correct, the turbo LED will light up when the system is in turbo speed mode. Otherwise the turbo LED will be off.
Hardware Reset Connector: JW3 (2 Pins)	Pin 1: Ground Pin 2: Reset input	Connect this switch to the cable of the chassis' reset button. Press and hold the reset button for at least one second to reset the system.
Keylock and Power LED connector: JW1 (5 Pins)	Pin 1: +5VDC. Pin 2: No connection. Pin 3: Ground. Pin 4: Keyboard inhibit Signal. Pin 5: Ground.	Connect this switch to the cable of the chassis' keylock button.
Speaker connector: JW2 (4 Pins)	Pin 1: Sound signal. Pin 2: Ground. Pin 3: Ground. Pin 4: +5VDC.	Connect to the speaker connector in the front panel of the chassis.
Keyboard connector: CN1 (5 Pins)	Pin 1: Keyboard clock. Pin 2: Keyboard data. Pin 3: No connection. Pin 4: Ground. Pin 5: +5VDC.	Connect to the Keyboard connector.

Connector Name	Pin Assignments	Function
Power input connector: CN2 (12 Pins)	Pin 1: Powergood. Pin 2: +5V. Pin 3: +12V. Pin 4: -12V. Pin 5: Ground Pin 6: Ground Pin 7: Ground Pin 8: Ground Pin 9: -5V Pin10: +5V Pin11: +5V Pin12: +5V.	Connect to the power connector from the power supply. Usually, the color marking of the power connector cables will be as listed above. Connect the power connector to the exact position. Any mistake will cause the mainboard power supply or add-on card to be damaged.
Monitor AC power connector JP8 (2 Pins)	Pin 1: signal Pin 2: Ground	Connect to Green PC Power supply connector.

Jumper No.	No. of Pins		Description	Default Setting
JP10	3	2-3 1-2	Discharge Normal	1-2
JP13	2	ON OFF	Enable Green PC Disable Green PC	ON
JP9	2		Factory reserved.	ON
JP19	2		Factory reserved.	OFF
JP36	2		Factory reserved.	ON

1.4.2 Installation of DRAMs

In order to provide flexible DRAM configurations between eight 30pin SIMM and two 72pin SIMM, six jumpers are implemented to configure the DRAMs.

Please notify that single side 72pin SIMM is equal to four 30pin SIMM(one bank) and double size 72pin SIMM is equal to eight 30pin SIMM(two banks).

The possible combinations of bank selection are as below:

JP39	JP40	JP41	JP42	JP43	JP44	Bank 0	Bank 1	Bank2	Bank3
*1-2	*1-2	*OFF	*1-2	*1-2	*1-2	SIM1-4	SIM5-8	SIM9(S)	SIM10(S)
1-2	1-2	OFF	1-2	1-2	1-2	SIM1-4	SIM5-8	SIM9(D)	SIM9(D)
2-3	2-3	OFF	2-3	1-2	1-2	SIM9(S)	SIM10(S)	SIM1-4	SIM5-8
2-3	2-3	OFF	2-3	2-3	1-2	SIM9(D)	SIM9(D)	SIM1-4	SIM5-8
2-3	2-3	ON	2-3	2-3	OFF	SIM9(D)	SIM9(D)	SIM10(D)	SIM10(D)
2-3	1-2	OFF	2-3	OFF	OFF	SIM9(S)	SIM5-8	SIM1-4	OFF
1-2	OFF	OFF	1-2	1-2	2-3	SIM1-4	SIM10(S)	SIM9(S)	OFF
1-2	OFF	OFF	1-2	1-2	2-3	SIM1-4	SIM10(S)	SIM9(D)	SIM9(D)
OFF	2-3	ON	2-3	2-3	OFF	SIM9(D)	SIM9(D)	SIM10(S)	SIM5-8

Note: (S) Single side 72pin SIMM
(D) Double side 72pin SIMM
* Default setting

The following table provides possible DRAM size configuration.

Bank 0	Bank 1	Bank 2	Bank 3	Total
1M				1MB
1M	1M			2MB
1M	1M	4M		6MB
1M	1M	4M	4M	10MB
1M	1M	16M		18MB
4M				4MB
4M	4M			8MB
4M	4M	4M		12MB
4M	4M	4M	4M	16MB
4M	16M			20MB
4M	4M	16M		24MB
4M	16M	16M		36MB
4M	4M	16M	16M	40MB
8M				8MB
8M	8M			16MB
8M	8M	8M		24MB
8M	8M	8M	8M	32MB
16M				16MB
16M	16M			32MB
16M	16M	16M		48MB
16M	16M	16M	16M	64MB

Note: 1MB = 256K x 36bits
4MB = 1M x 36bits
8MB = 2M x 36bits
16MB = 4M x 36bits

1.4.3 Installation of Cache memory

This mainboard supports very flexible Cache SRAM configuration: 128KB, 256KB, and 512KB.

Main Board Cache Size		128KB	256KB	512KB
TAG SRAM	Location	U36		
	Type	8Kx8	32Kx8	
Data SRAM	Location	U2, U4, U6, U8	U1-U8	U2,U4 U6,U8
	Type	32Kx8		128Kx8
Jumper setting	JP1	1-2	2-3	1-2
	JP2	1-2	2-3	1-2
	JP3	2-3	2-3	2-3
	JP20	1-2	2-3	2-3
	JP21	2-3	2-3	2-3
	JP38	1-2	1-2	2-3

1.4.4 Installation of CPU

The mainboard is equipped with a 237 pin socket for various CPUs : 80486 SX/DX/DX2, and 80487SX to be selected by six selection jumpers (JP15-JP16, JP18).

Jumper Setting	486DX/DX2	486SX	487SX
JP15	1-2	2-3	1-2
JP16	1-2	OFF	2-3
JP18	ON	OFF	ON

1.4.5 VL-Bus jumpers (for VESA mode only)

JP5 :	1-2	CPU frequency ≤ 33MHz
	2-3	CPU frequency > 33MHz
JP4 :	1-2	Zero wait write
	2-3	One wait write (default setting)

1.4.6 CPU frequency selection

	25MHz	33MHz	40MHz	50MHz
JP11	OFF	ON	OFF	ON
JP12	ON	ON	OFF	OFF
JP14	ON	OFF	ON	OFF