HARDWARE INSTALLATION PLUS

Due to some modification on the motherboard, some changes and additional functions are added on this part of manual.

Please refer to the following for the contents revision:

Page 2: CPU feature adjustment (Page 1-2 of the original manual).
Page 3: Mainboard layout (Page1-5 of the original manual).
Page 4: Additional jumper: CPU Bus Frequency Selector (J10).
Page 5: Memory Installation (Page 2-7 of the original manual).
Page 6, 7: Add Diagnostic LED function.
Page 8: Additional jumper: Power Saving LED Connector (JGL1).

Note: Chapter 2 pages 18-22, the joystick/midi and audio port connectors are removed from the modified motherboard.

Mainboard Features

CPU

- Socket 370 for Intel® Celeron™ & Pentium III Coppermine processor
- Supports 300MHz, 333MHz, 366MHz, 400MHz, 433MHz, 466MHz, 500MHz, 533MHz, 556MHz, 600MHz, and faster.

Chipset

- Intel® 82443BX/PIIX4E chipset.

FSB (Front Side Bus)

- 66.6MHz and 100MHz are supported.

Main Memory

- Supports four memory banks using three 168-pin unbuffered DIMM.
- Supports a maximum memory size of 512MB (8M x 8) registered DIMM only.
- Supports 3.3v SDRAM DIMM.

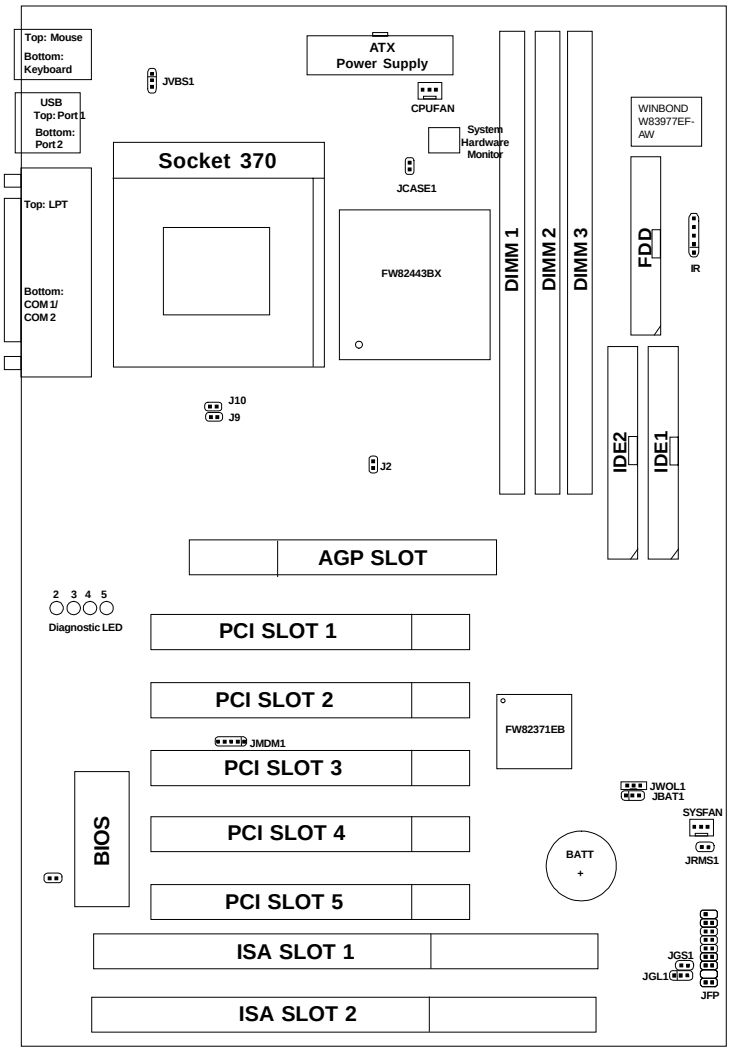
Slots

- One AGP slot.
  - AGP specification compliant
  - AGP 66/133MHz 3.3v device support
- Five 32-bit Master PCI Bus slots and two 16-bit ISA Bus slots (wherein one PCI/ISA slot is shared).
  *****See Chapter 2-31 for further details on PCI slots.
- Supports 3.3v/5v PCI bus Interface.

On-Board IDE

- An IDE controller on the Intel® PIIX4E PCI Chipset provides IDE HDD/ CD-ROM with PIO, Bus Master and Ultra DMA/33 operation modes.
- Can connect up to four IDE devices.

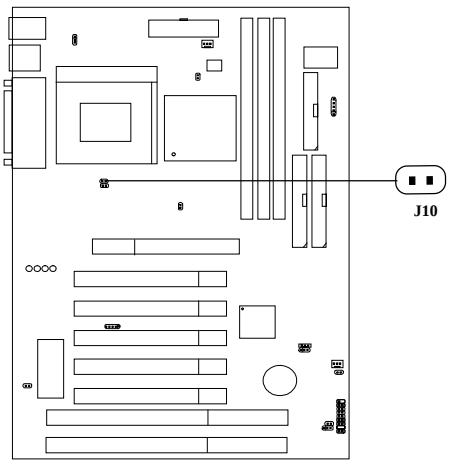
Mainboard Layout



MS-6153 ATX BX10 Mainboard

CPU Bus Frequency Selector 2: J10

The J10 is used to set the CPU Bus Frequency from 100MHz to 133MHz. When J10 is shorted, this will automatically detect the CPU Bus Frequency. When J10 is open, if you used 66/100MHz CPU, the Bus Frequency will be set virtually into 133MHz.



J10	Feature
	**Automatically detect 133MHz or others CPU Bus Frequency**
	**Virtually set CPU Bus Frequency into 133MHz or for Cyrix® CPU ***

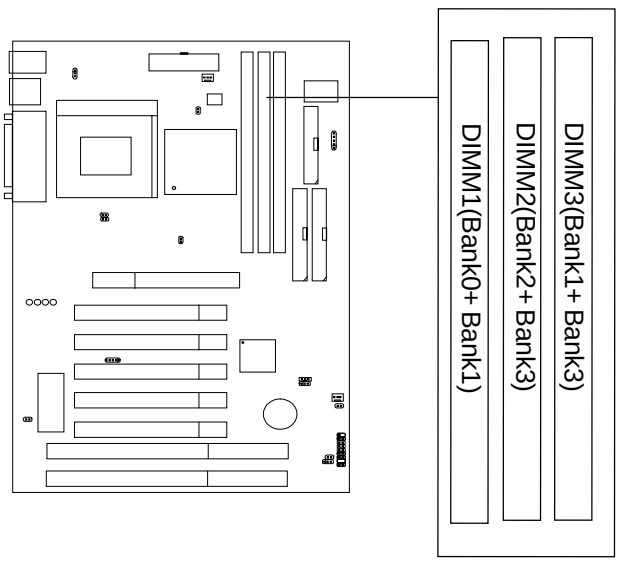
*Please see next page for detail.

NOTE: 1. This feature works with 100MHz FSB only.
2. If your CPU FSB supports 100MHz and you want to run it on 133MHz FSB, the J10 should be open. The AGP Bus will be set to run at 133MHz x 1/2=66MHz to make it stable.

Memory Installation

Memory Bank Configuration

The mainboard supports a maximum memory size of 512MB (8M x 8) or 1G (16M x 4) registered DIMM for SDRAM: It provides three 168-pin **unbuffered** DIMMs (Double In-Line Memory Module) sockets. It supports 8 MB to 512 Mbytes DIMM memory module.

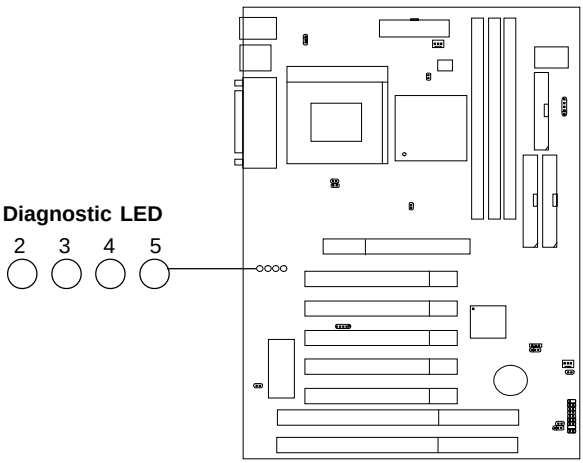


WARNING!

There are three kinds of DIMM specification supported by this mainboard: PC133, PC100 and PC66. If you use 66MHz CPU Bus Frequency, these three DIMM Specs. is supported. If you use 100MHz CPU Bus Frequency, PC100 & PC133 DIMM Specs. is supported. If you use 133MHz CPU Bus, only PC133 DIMM Specs. is supported.

Diagnostic LED

The mainboard provides a Special Diagnostic LED for users to be aware of their mainboard conditions. The LED helps user determine the problem of the mainboard.



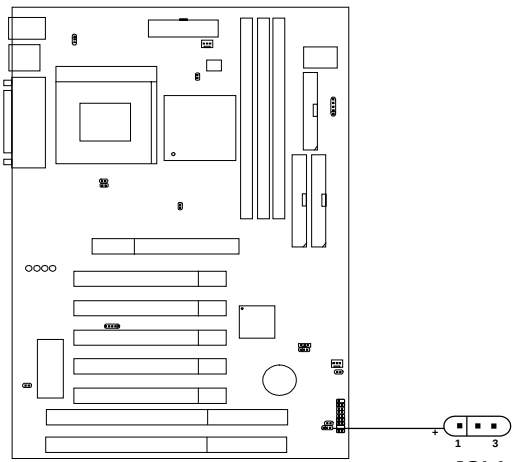
Diagnostic LED Function

Diagnostic LED 2 3 4 5	Description	Possible Problem/ Solution
0 0 0 0	System Power ON. This will start BIOS Initialization	The Processor might be damage or not installed properly Damage/Discharge Lithium Battery
0 0 0 1	Early Chipset Initialization	***
0 0 1 0	Memory Detection Test Testing Onboard memory size	The Memory module might be damage or not installed properly.
0 0 1 1	Decompressing BIOS image to RAM for fast booting.	***
0 1 0 0	Initializing Keyboard Controller	*If there is no keyboard connected, D-LED will blink 3 times.
0 1 0 1	Test shadow RAM (R/W Shadow RAM Area)	***
0 1 1 0	Processor Initialization This will show information regarding the processor (like brand name, system bus, etc...)	***
0 1 1 1	Testing RTC (Real Time Clock)	Low Lithium Battery *If RTC battery is low or failed, D-LED will blink 3 times.
1 0 0 0	Initializing Video Interface This will start detecting CPU clock, checking type of video onboard. Then, detect and initialize the video adapter	System D-LED will produce Beep sound The VGA card might be damage or not inserted properly. *If there is no VGA installed, D-LED will blink 3 times.
1 0 0 1	BIOS Sign On This will start showing information about Logo, processor brand name, etc.....	***
1 0 1 0	Testing Base and Extended Memory Testing base memory from 240K to 640K and extended memory above 1MB using various patterns.	***
1 0 1 1	Assign Resource to all ISA	***
1 1 0 0	Initializing Hard Drive Controller This will initialize IDE drive and controller	Check IDE cable for proper installation *If there is no HDD connected, D-LED will blink 3 times.
1 1 0 1	Initializing Floppy Drive Controller This will initialize Floppy Drive and controller	The Floppy Drive Cable might not be installed properly
1 1 1 0	Assign IRQs to PCI Devices	***
1 1 1 1	Operating System Booting.	***

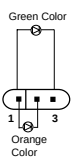
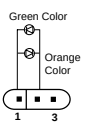
1 = GREEN 0 = RED ***** Check local Vendor for possible internal mainboard problem.**

Power Saving LED Connector: JGL1

JGL1 can be connected with an LED. There are two types of LED that you can use: 3-pin LED or 2-pin LED(ACPI request). When the 2-pin LED is connected to JGL1, the light will turn green, when system is On. During sleep mode, the 2-pin LED will change color from Green to Orange. For 3-pin LED, when LED is connected to JGL1, this will light when the system is On and blinks when it is in suspend/sleep mode.



JGL1

3-pin LED	2-pin LED
	
2-3 Single Color 1-3 Blink	1-2 Dual Color