

Quick Guide

Before You Begin

Copyright Notice.....	3
Trademarks.....	3
Warnings.....	3

Installation Notes

Mainboard Connectors.....	4
Microprocessor Supported.....	5
CPU Core Speed Derivation Procedure.....	5
DIMM Specifications.....	6
Installing the Processor Retention Mechanism.....	7
Installing the Heat Sink Support Base.....	8
Installing the Retention Cap.....	9
Jumpers.....	10
BIOS Default Setup.....	12



FCC-B Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

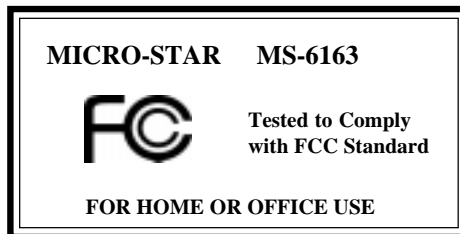
Notice 1

The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Notice 2

Shielded interface cables and A.C. power cord, if any, must be used in order to comply with the emission limits.

VOIR LA NOTICE D'INSTALLATION AVANT DE RACCORDER AU RESEAU.



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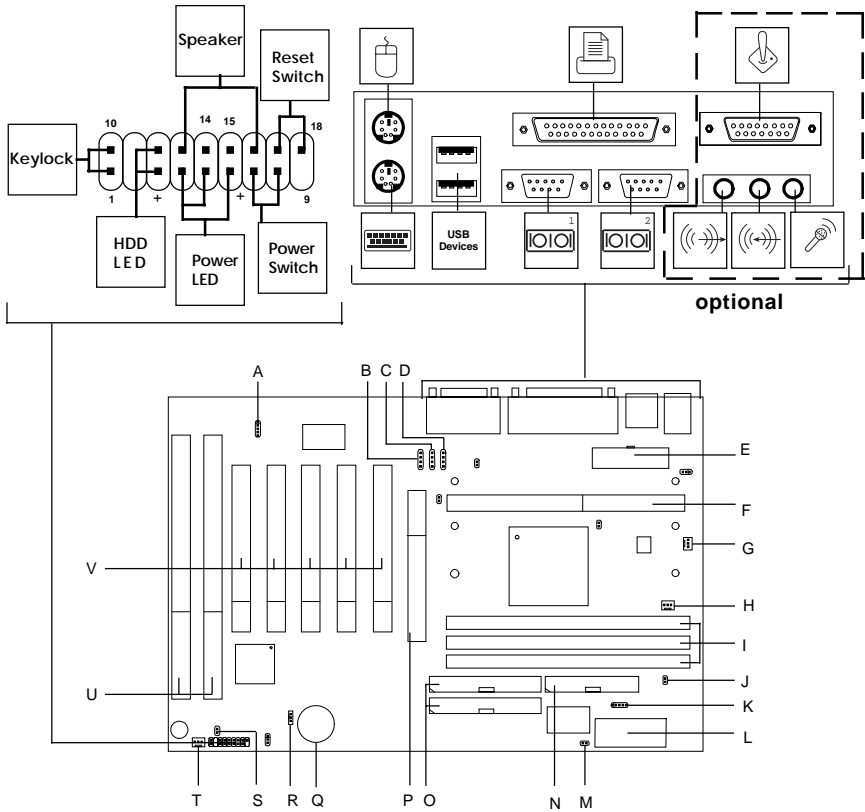


WARNINGS

This guide is intended for technically qualified personnel with experience configuring and installing mainboard.

The mainboard should always be disconnected from its AC power source before connecting or disconnecting any cables or installing or removing any mainboard components. Failure to follow this can result in personal injury or may damage the mainboard.

MS-6163 ATX BX13 Mainboard Connectors



A	Modem Ring Wake Up connector	L	BIOS chipset
B	CD-In Audio connector	M	Power Switch connector
C	Aux-In Audio connector	N	Floppy Drive connector
D	Modem-In Audio connector	O	Hard Drive connectors
E	Power connector	P	Accelerated Graphics Port (AGP) slot
F	Slot 1 (processor slot)	Q	Battery
G	Power supply fan connector (optional)	R	Wake Up on LAN connector
H	Processor fan connector	S	Power Saving Switch connector
I	DIMM sockets	T	Chassis fan connector
J	Chassis Intrusion Switch connector	U	ISA slots
K	IR connector	V	PCI slots

Note: Optional components do not come on all MS-6163 ATX BX13 Mainboard.

Microprocessor Supported:

Support 66MHz and 100MHz Front Side Bus (FSB). The mainboard supports the following processor:

- 233MHz Intel Pentium® II processor
- 266MHz Intel Pentium® II processor
- 300MHz Intel Pentium® II processor
- 333MHz Intel Pentium® II processor
- 350MHz Intel Pentium® II processor
- 400MHz Intel Pentium® II processor
- 450MHz Intel Pentium® II processor
- And faster.....
- 266MHz Intel Celeron™ processor
- 300MHz Intel Celeron™ processor
- 333MHz Intel Celeron™ processor

CPU Core Speed Derivation Procedure

This mainboard can use CMOS to set the Core/Bus (Fraction) ratio of the CPU. The actual core speed of the CPU is the Host Clock Frequency multiplied by the Core/Bus ratio. For example:

$$\begin{array}{lcl}
 \text{If} & \frac{\text{CPU Clock}}{\text{Core/Bus ratio}} & = & 66\text{MHz} \\
 & & = & 3.5 \\
 \text{then} & \text{CPU core speed} & = & \text{Host Clock} \times \text{Core/Bus ratio} \\
 & & = & 66\text{MHz} \times 3.5 \\
 & & = & 233\text{MHz}
 \end{array}$$

DIMM Specifications

The mainboard supports SDRAM DIMMs with the following specifications:

- 168-pin 3.3V DIMMs
- 66MHz or 100MHz unbuffered SDRAM
- ECC(1-bit Error Code Correct) memory
- 8MB, 16MB, 32MB, 64MB, 128MB, and 256MB memory modules

SDRAM Memory Addressing

DRAM Tech.	DRAM Density & Width	DRAM Addressing	Address Size		MB/DIMM	
			Row	Column	Single no. Side(S) pcs.	Double no. Side(D) pcs.
16M	1Mx16	ASYM	11	8	8MBx4	16MBx8
	2Mx8	ASYM	11	9	16MBx8	32MBx16
	4Mx4	ASYM	11	10	32MB	64MB
64M	2Mx32	ASYM	11	9	32MBx2	64MBx4
	2Mx32	ASYM	12	8	16MBx2	32MBx4
	4Mx16	ASYM	11	10	32MB	64MB
	4Mx16	ASYM	13	8	32MB	64MB
	8Mx8	ASYM	13	9	64MB	128MB
	16Mx4	ASYM	13	10	128MB	256MB
64M	2Mx32	ASYM	12	8	16MB	32MB
	4Mx16	ASYM	13	8	32MB	64MB
	8Mx8	ASYM	13	9	64MB	128MB
	16Mx4	ASYM	13	10	128MB	256MB



WARNING!

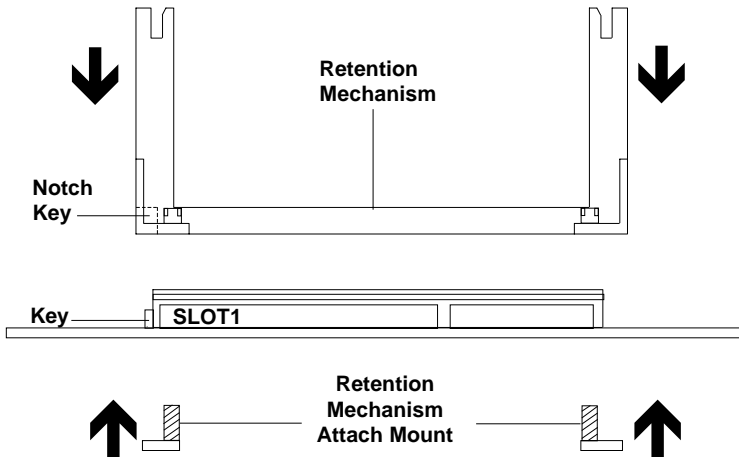
There are two kinds of DIMM specification supported by this mainboard: PC100 and PC66. If you use 66MHz CPU Bus Frequency, these two DIMM Specs. is supported. If you use 100 MHz CPU Bus Frequency, only PC100 DIMM Specs. is supported.

Installing the Processor Retention Mechanism

Step 1: Insert the Retention Mechanism Attach Mount at the bottom of the mainboard.

Step 2: Install the Retention Mechanism.

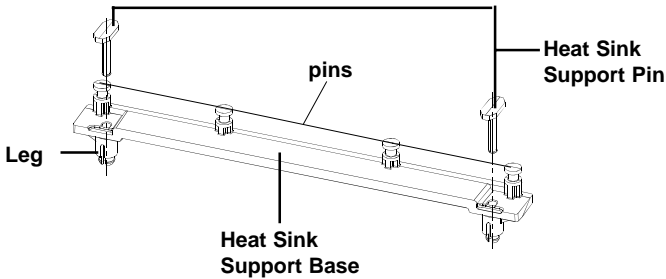
Look for the key on Slot 1, and match it with the Notch Key on the Retention Mechanism for proper direction. Then, attach the Retention Mechanism to the Retention Mechanism Attach Mount. Use a Screwdriver to secure the Retention Mechanism.



Note: The Universal Retention Mechanism provided can also be used by both the Intel Celeron™ processor and Intel Boxed Celeron™ processor.

Installing the Heat Sink Support Base

Look for the Two holes across Slot 1, and match it with the Two legs of the Heat Sink Support Base for the proper direction. Take note that one hole/leg is bigger than the other. The Four top pins of the Heat Sink Support Base should also be oriented towards Slot 1.



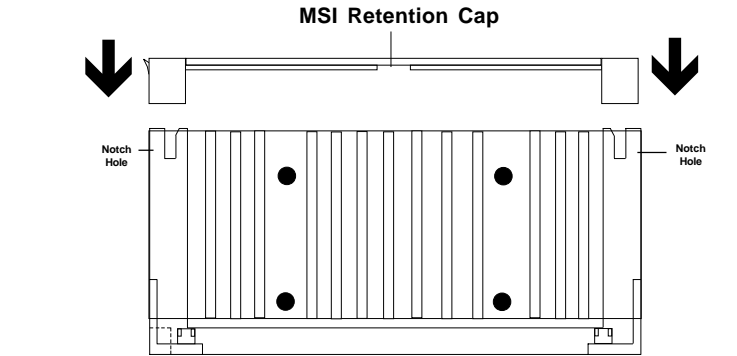
Push the Heat Sink Support Base onto the mainboard, until you hear a click sound. Check for a perfect fit.

Install the Heat Sink Support Pin

Push the Heat Sink Support Pins onto the two holes of the Heat Sink Support Base. Check for a perfect fit. These pins are used to secure the Heat Sink Support Base.

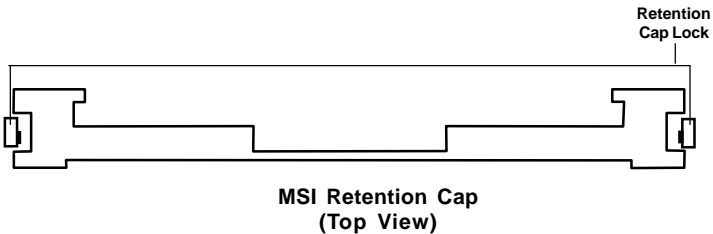
Installing the Retention Cap

The MSI Retention Cap is specially designed to hold Intel® Celeron™ processor and Intel® Pentium® II processor (S.E.C.C. 2).



Lock the processor by putting the MSI Retention Cap provided. The MSI Retention Cap will only fit in one direction.

Procedure for detaching the MSI Retention Cap:




To remove the Retention Cap.

- Pull the the Retention Cap Lock outward.
- Pull one side upward at a time.



Jumpers

A Jumper is a set of two or more metal pins in a plastic base attach to the mainboard. A jumper cap is a plastic cap with metal plate inside, which fits into two pins to create a contact between the two. Some jumpers contains two to three pins or more.

Jumper setting are always shown in bird's-eye view on the manual/guide. A bar  marks a connection between pins. The jumpers are always shown in this style.

Clear CMOS Jumper: JBAT1



A battery must be used to retain the mainboard configuration in CMOS RAM. If you use the on-board battery, you must short 1-2 pins of JBAT1 to keep the CMOS data.

CMOS	JBAT1
Keep data (default)	short 1-2 
Clear data	short 2-3 

Note: To short the CMOS data, turn off the system and unplug the power cord for about 10 seconds afterwhich, move jumper cap from pin 1-2 to 2-3 and back to 1-2 pin position. Avoid clearing the CMOS while the system is on; it will damage the mainboard.

CPU Bus Frequency Selector: SW2



The SW2 is used to set the CPU Bus Frequencies from 66MHz to 100MHz. When SW2 is shorted, this will automatically detect the CPU Bus Frequency. When SW2 is open, if you used 66MHz CPU Bus Frequency, this will set it virtually into 100MHz.

CPU Bus Frequency	SW2
Automatically detect 66MHz and 100MHz FSB	short 
Virtually set 66MHz to 100MHz FSB	open 

Note: This function only works with 66MHz FSB processor only.

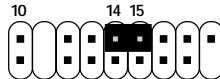
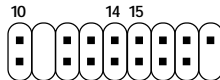
Keyboard Power: JKBV

The JKBV jumper is for setting keyboard power. This function is provided by keyboard and PS/2 mouse power on function.

Keyboard Power	JKBV
5V_Standby	short 1-2 
5V (default)	short 2-3 

Onboard Buzzer: JFP

The JFP front panel connector Pin 14 & 15 is used to enable or disable the buzzer.

Buzzer	JFP
Enable	short 14-15 
Disable	open 14-15 

BIOS Default Setup

The following is a list of the BIOS default setup settings.

BIOS Features Setup

Virus Protection By	None
CPU Internal Cache	Enabled
External Cache	Enabled
CPU L2 Cache ECC Checking	Enabled
Quick Power on Self Test	Disabled
Boot From LAN First	Disabled
Boot Sequence	A,C,SCSI
Swap Floppy Drive	Disabled
Boot Up Floppy Seek	Enabled
Floppy FIFO Control	Disabled
Boot up NumLock status	On
Gate A20 Option	Fast
Security Option	Setup
PCI/VGA palette snoop	Disabled
OS select for DRAM>64MB	Non-OS2
Report No FDD For WIN 95	Yes
Video BIOS Shadow	Enabled

Chipset Features Setup

SDRAM Controlled By	Manual
SDRAM RAS-To-CAS Dealy	3
SDRAM RAS Precharge Time	3
Auto Configuration	Enabled
SDRAM CAS Latency Time	3
DRAM Data Integrity Mode	Non-ECC
System BIOS Cacheable	Disabled
Video BIOS Cacheable	Disabled
Video RAM Cacheable	Disabled
8 Bit I/O Recovery Time	1
16 Bit I/O Recovery Time	1
Memory Hole at 15M-16M	Disabled
Passive Release	Enabled
Delayed Transaction	Enabled
AGP Aperture Size (MB)	64

Power Management Setup

ACPI Function	Enabled
Power Management	User Define
PM Control by APM	Yes
Video Off Method	DPMS
Video Off After	Standby
Modem Use IRQ	3
Doze Mode	Disable
Standby Mode	Disable
Suspend Mode	Disable
HDD Power Down	Disable
Throttle Duty Cycle	62.5%
VGA Active Monitor	Enabled
Soft-Off by PWR-BTTN	Instant-Off
CPUFAN off in Suspend	Enabled
Resume by Ring	Disabled
Resume by Alarm	Disabled
Date(of Month) Alarm	2
Time(hh:mm:ss) Alarm	0:0:0
Wake Up On LAN	Enabled
Restore AC/Power Loss	Power On
Power Status LED	Single Color
Wake Up on LAN	Enabled
IRQ 8 Clock Event	Disabled

** Reload Global Timer Events **

IRQ [3-7,9-15],NMI	Disabled
Primary IDE 0	Enabled
Primary IDE 1	Enabled
Secondary IDE 0	Disabled
Secondary IDE 1	Disabled
Floppy Disk	Disabled
Serial Port	Enabled
Parallel Port	Disabled

PNP/PCI Configuration Setup

PnP OS Installed	No
Resources Controlled By	Manual
Reset Configuration Data	Disabled
IRQ-3 assigned to	Legacy ISA
IRQ-4 assigned to	Legacy ISA
IRQ-5 assigned to	PCI/ISA PnP
IRQ-7 assigned to	PCI/ISA PnP
IRQ-9 assigned to	PCI/ISA PnP
IRQ-10 assigned to	PCI/ISA PnP
IRQ-11 assigned to	PCI/ISA PnP
IRQ-12 assigned to	PCI/ISA PnP
IRQ-14 assigned to	PCI/ISA PnP
IRQ-15 assigned to	PCI/ISA PnP
DMA-0 assigned to	PCI/ISA PnP
DMA-3 assigned to	PCI/ISA PnP
DMA-5 assigned to	PCI/ISA PnP
DMA-6 assigned to	PCI/ISA PnP
DMA-7 assigned to	PCI/ISA PnP
Assign IRQ for VGA	Enabled
Assign IRQ for USB	Enabled
Used MEM base addr	N/A
Used MEM Length	8K

Integrated Peripherals

IDE HDD Block Mode	Enabled
IDE Primary Master PIO	Auto
IDE Primary Slave PIO	Auto
IDE Secondary Master PIO	Auto
IDE Secondary Slave PIO	Auto
IDE Primary Master UDMA	Auto
IDE Primary Slave UDMA	Auto
IDE Secondary Master UDMA	Auto
IDE Secondary Slave UDMA	Auto
On-Chip Primary PCI IDE	Enabled
On-Chip Primary PCI IDE	Enabled
USB Keyboard Controller	Disabled
Onboard FDC controller	Enabled
Onboard Serial Port 1	3F8/IRQ4
Onboard Serial Port 2	2F8/IRQ3
UART Mode Select	Normal
Onboard Parallel Mode	378/IRQ3
Parallel Port Mode	SPP

CPU Plug and Play II

Adjust CPU Voltage	2.00V
CPU Speed	Manual
CPU Frequency	68/34MHz
Post Showing	
Chassis Fan Detected	Disabled
Power Fan Detected	Disabled
CPU Fan Detected	Enabled
Chassis Intrusion Detect	Disabled
Voltage Detected	Enabled
Vcore Voltage Detected	Enabled
+1.5V Voltage Detected	Enabled
+3.3V Voltage Detected	Enabled
+5.0V Voltage Detected	Enabled
+12V Voltage Detected	Enabled
-12V Voltage Detected	Enabled
-5.0V Voltage Detected	Enabled
VBAT Voltage Detected	Enabled
5VSB Voltage Detected	Enabled
System Monitor	
Chassis Fan RPM	0
Power Fan RPM	0
CPU Fan RPM	6327
System Temperature	26°C/78°F
CPU Temperature	28°C/82°F
Top Tech II	Disabled
Top Tech II Temperature	26°C/78°F
CPU Critical Temp	Disabled
Shutdown Temp	Disabled