

Chapter 1

Introduction

The MS-6330 Lite ATX VA mainboard is a high-performance computer mainboard based on VIA® KT133 chipset. The MS-6330 Lite is designed for the AMD® Socket processor for inexpensive business/personal desktop markets.

The KT133 chipset consists of the VT8363 system controller (552 pin BGA) and the VT82C686A/686B PCI to ISA bridge (352 pin BGA). The system controller provides superior performance between the CPU, DRAM, AGP bus, and PCI bus with pipelined burst, and concurrent operation.

The VT8363 supports six banks of DRAM's up to 1.5 GB and full AGP v2.0 capability for maximum bus utilization including 1x, 2x and 4x mode transfers, SBA (SideBand Addressing), Flush/Fence commands, and pipelined burst. The chip also supports enhanced PCI bus commands such as Memory-Read-Line, Memory-Read-Multiple and Memory-Write-Invalid commands to minimize snoop overhead.

The VT82C686A/686B integrates all system control functions such as ACPI (Advanced Configuration and Power Interface). The ACPI provides more Energy Saving Features for the OSPM (OS Direct Power Management) function. The VT82C686A/686B chipset also improves the IDE transfer rate by supporting Ultra DMA-33/66 IDE that transfers data at the rate 33/66MB/sec. The optional VT82C686B can support Ultra DMA-100 IDE that transfers data at the rate 100MB/sec.

This mainboard which supports KT133 chipset coupled with VT8363 and VT82C686A/686B is ideal for high performance, high quality, high energy efficiency and high integration desktop AGP/PCI computer systems.

Mainboard Features

CPU

- Socket A for AMD® PGA Duron/Athlon processor.
- Support 500MHz, 550MHz, 600MHz, 650MHz up to 1.2GHz.

Chipset

- VIA® KT133
 - FSB @200MHz
 - AGP 4x and PCI Advanced high performance memory controller
 - Support PC100/133 SDRAM,
- VIA® VT686A/686B chipset (352 BGA)
 - Enhanced Power Management Features
 - Integrated Super I/O (FDC, LPT, COM 1/2, and IR)
 - Dual bus Master IDE Ultra DMA33/66
 - Dual bus Master IDE Ultra DMA100 (for VT686B only)
 - Integrated Hardware Soundblaster
 - Direct Sound AC97 Audio
 - ACPI

Clock Generator

- 100MHz clocks are supported (200MHz Internal System Bus)

MainMemory

- Support six memory banks using three 168-pin unbuffered DIMM.
- Support a maximum memory size of 1.5GB (32M x 8).
- Support 3.3v SDRAM DIMM.

Slots

- One AGP (Accelerated Graphics Port) slot.
 - AGP specification compliant
 - Support AGP 2.0 1x/2x/4x
- One CNR (Communication Network Riser) slot.
- Five 32-bit Master PCI bus slots
- Supports 3.3v/5v PCI bus Interface.

On-Board IDE

- An IDE controller on the VIA® VT686A/686B Chipset provides IDE HDD/CD-ROM with PIO, Bus Master and Ultra DMA 33/66 operation modes. (The optional VT686B can support up to Ultra DMA 33/66/100 modes.)
- Can connect up to four IDE devices.

On-Board Peripherals

- On-Board Peripherals include:
 - 1 floppy port supports 2 FDD with 360K, 720K, 1.2M, 1.44M and 2.88Mbytes.
 - 2 serial ports (COMA + COM B)
 - 1 parallel port supports SPP/EPP/ECP mode
 - 2 USB ports
 - 1 IrDA connector for SIR/ASKIR/HPSIR.
 - 1 Audio/Game port

Audio

- Chip Integrated
 - Direct Sound AC97 Audio

BIOS

- The mainboard BIOS provides “Plug & Play” BIOS which detects the peripheral devices and expansion cards of the board automatically.
- The mainboard provides a Desktop Management Interface (DMI) function which records your mainboard specifications.

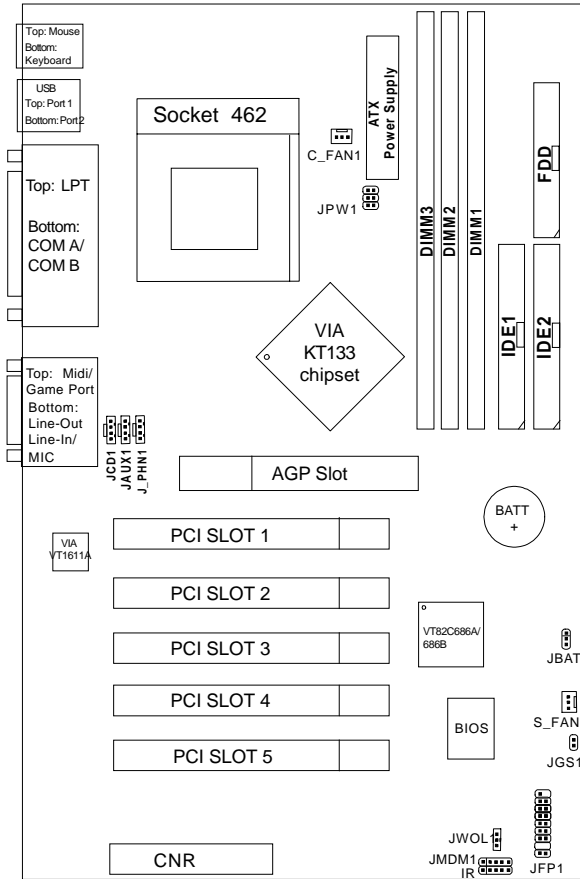
Dimension

- ATX Form Factor: 30.4cm x 20.3cm

Mounting


- 6 mounting holes.



Mainboard Layout




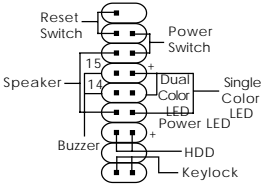
MS-6330 Lite ATX VA Mainboard


Jumper & Connector Description

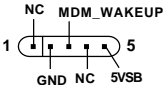
JPW1  To supply the mainboard with 3.3V power, the jumper must be short. Otherwise, the mainboard will not have any power and cannot work.
Always short


JBAT1  A battery must be used to retain the mainboard configuration in CMOS RAM. Short 1-2 pins of JBAT1 to store the CMOS data.

Keep Data Clear Data


JGS1  Attach a power saving switch to **JGS1**. When the switch is pressed the system immediately goes into suspend mode.


JFP1  The Keylock (reserved), Power Switch, Reset Switch, Power LED, Speaker, and HDD LED are all connected to the JFP1 connector block.
Note: There are two types of LED:
a. 3-pin single color LED connect to pin 4, 5, & 6.
b. 2-pin dual color LED connect to pin 5 & 6. (ACPI request)

JWOL1  The JWOL1 connector is use for LAN add-on cards that supports Wake Up on LAN function.

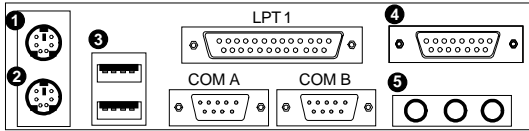
JMDM1  The JMDM1 connector is for use with Modem add-on card that supports the Modem Wake Up function.

IR  This connector is for optional wireless transmitting and receiving infrared module.

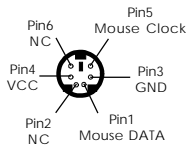
JAUX1  This connector is for DVD Add on Card with Line In connector.

JCD1  This connector is for CD-ROM audio connector.

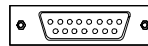
Mainboard Connectors



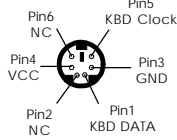
1 Mouse Connector



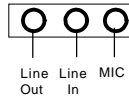
4 Joystick/MIDI



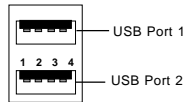
2 Keyboard Connector



5 Audio Ports



3 USB Ports



PIN	SIGNAL
1	VCC
2	-Data
3	+Data
4	GND

Chapter 2

AWARD® BIOS SETUP

Award® BIOS ROM has a built-in Setup program that allows users to modify the basic system configuration. This type of information is stored in battery-backed RAM (CMOS RAM), so that it retains the Setup information when the power is turned off.

Entering Setup

Power on the computer and press immediately to allow you to enter Setup. The other way to enter Setup is to power on the computer. When the below message appears briefly at the bottom of the screen during the POST (Power On Self Test), press key or simultaneously press <Ctrl>, <Alt>, and <Esc> keys.

TO ENTER SETUP BEFORE BOOT, PRESS <CTRL-ALT-ESC>
OR KEY

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the “RESET” button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to,

PRESS <F1> TO CONTINUE, <CTRL-ALT-ESC>
OR TO ENTER SETUP

Getting Help

Main Menu

The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu/Option Page Setup Menu

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window, press <Esc>.

The Main Menu

Once you enter Award® BIOS CMOS Setup Utility, the Main Menu (Figure 1) will appear on the screen. The Main Menu allows you to select from twelve setup functions and two exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

CMOS Setup Utility - Copyright(C) 1984-2000

Standard CMOS Features	Frequency/Voltage Control
Advanced BIOS Features	Load Fail-Safe Defaults
Advanced Chipset Features	Load Optimized Defaults
Integrated Peripherals	Set Supervisor Password
Power Management Setup	Set User Password
PnP/PCI Configurations	Save & Exit Setup
PC Health Status	Exit Without Saving
<hr/>	
Esc : Quit	↑↓→← : Select Item
F10 : Save & Exit Setup	
<hr/>	
Time, Date, Hard Disk Type...	

Standard CMOS Setup

The items in Standard CMOS Setup Menu are divided into 10 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
Standard CMOS Setup

Date(mm:dd:yy): Time(hh:mm:ss):	Fri,May 5,2000 00:00:00	Item Help
IDE Primary Master IDE Primary Slave IDE Secondary Master IDE Secondary Slave	Press Enter27326MB Press Enter None Press Enter None Press Enter None	Menu Level >
Drive A Drive B	1.44M, 3.5in. None	
Video Halt On	EGA/VGA All, But Keyboard	
Based Memory Extended Memory Total Memory	640K 64512K 1024K	
↑ ↓ → ← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults		

Advanced BIOS Features

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
Advanced BIOS Features

Anti-Virus Protection	Disabled	Item Help
CPU Internal Cache	Enabled	
External Cache	Enabled	Menu Level >
CPU L2 Cache ECC Checking	Enabled	
Quick Power On Self Test	Enabled	
First Boot device	Floppy	
Second Boot device	HDD-0	
Third Boot device	LS/ZIP	
Boot other device	Enabled	
Swap Floppy Drive	Disabled	
Boot Up Floppy Seek	Disabled	
Boot Up Numlock Status	On	
Gate A20 Option	Normal	
Typeomatic Rate Setting	Disabled	
Typeomatic Rate (Chars/Sec)	6	
Typeomatic Delay (Msec)	250	
Security Option	Setup	
OS Select for DRAM > 64MB	Non-OS2	
Video BIOS Shadow	Enabled	
C8000-CBFF Shadow	Disabled	
CC000-CFFF Shadow	Disabled	
D0000-D3FF Shadow	Disabled	
D4000-D7FF Shadow	Disabled	
D8000-DBFF Shadow	Disabled	
DC000-DFFF Shadow	Disabled	
↑ ↓ → ← Move Enter:Select +/-/PU/PD=Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults		

Advanced Chipset Features

The Advanced Chipset Features Setup option is used to change the values of the chipset registers. These registers control most of the system options in the computer.

Choose the “ADVANCED CHIPSET FEATURES” from the Main Menu and the following screen will appear.

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
Advanced Chipset Features

DRAM Timing by SPD	No	Item Help
SDRAM CAS Latency	3	
DRAM Clock	100MHz	Menu Level >
Memory Hole	Disabled	
P2C/C2P Concurrency	Enabled	
Fast R-W Turn Around	Disabled	
System BIOS Cacheable	Disabled	
Video RAM Cacheable	Disabled	
AGP Aperture Size	64M	
AGP 4X Mode	Enabled	
AGP Driving Control	Auto	
AGP Driving Value	DA	
K7 CLK_CTL Select	Default	
OnChip USB	Enabled	
USB Keyboard Support	Disabled	
USB Mouse Support	Disabled	
OnChip Sound	Auto	
OnChip Modem	Auto	
CPU to PCI Write Buffer	Enabled	
PCI Dynamic Bursting	Enabled	
PCI Master 0 WS Write	Enabled	
PCI Delay Transaction	Enabled	
PCI#2 Access #1 Retry	Disabled	
AGP Master 1 WS Write	Enabled	
AGP Master 1 WS Read	Enabled	
Memory Parity/ECC Check	Disabled	

↑ ↓ → ← Move Enter:Select +/-/PU/PD=Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults

Note: Change these settings only if you are familiar with the chipset.

Integrated Peripherals

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
 Integrated Peripherals

Onchip IDE Channel0	Enabled	Item Help
Onchip IDE Channel1	Enabled	
IDE Prefetch Mode	Enabled	Menu Level >
Primary Master PIO	Auto	
Primary Slave PIO	Auto	
Secondary Master PIO	Auto	
Secondary Slave PIO	Auto	
Primary Master UDMA	Auto	
Primary Slave UDMA	Auto	
Secondary Master UDMA	Auto	
Secondary Slave UDMA	Auto	
Init Display First	PCI Slot	
IDE HDD Block Mode	Enabled	
Onboard FDD Controller	Enabled	
Onboard Serial Port 1	Auto	
Onboard Serial Port 2	Auto	
UART 2 Mode	Standard	
X IR Function Duplex	Half	
X TX,RX inverting enable	No, Yes	
Onboard Parallel Port	378/IRQ7	
Onboard Parallel Mode	Normal	
ECP Mode Use DMA	3	
Parallel Port EEP Type	EEP 1.9	
Onboard Legacy Audio	Enabled	
Sound Blaster	Disabled	
SB I/O Base Address	220H	
SB IRQ Select	IRQ 5	
SB DMA Select	DMA1	
MPU-401	Disabled	
MPU-4-1 I/O Address	330-333H	
Game Port (200-207H)	Enabled	
↑↓ →← Move Enter:Select +/-/PU/PD=Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults		

Power Management Setup

The Power Management Setup allows you to configure your system to most effectively save energy while operating in a manner consistent with your own style of computer use.

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
Power Management Setup

IPCA Function	Enabled	Item Help
Power Management	Press Enter	
ACPI Suspend Type	S1(POS)	Menu Level >
PM Control by APM	Yes	
Video Off Option	Suspend->Off	
Video Off Method	V/H SYNC+Blank	
MODEM Use IRQ	3	
Soft-Off by PWRBTN	Instant-Off	
State After Power Failure	Auto	
LED In Suspend	Blink	
Wake Up Events	Press Enter	
↑↓ → ← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults		

PnP/PCI Configuration Setup

This section describes configuring the PCI bus system. PCI, or **P**ersonal **C**omputer **I**nterconnect, is a system which allows I/O devices to operate at speeds nearing the speed the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
PnP/PCI Configuration Setup

PnP OS Installed	No	Item Help
Reset Configuration Data	Disabled	
Resources Controlled By	Auto (ESCD)	Menu Level >
IRQ Resources	Press Enter	
DMA Resources	Press Enter	
PCI/VGA Palette Snoop	Disabled	
Assign IRQ for VGA	Enabled	
Assign IRQ for USB	Enabled	
INT Pin 1 Assignment	Auto	
INT Pin 2 Assignment	Auto	
INT Pin 3 Assignment	Auto	
INT Pin 4 Assignment	Auto	
↑ ↓ → ← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults		

PC Health Status (Optional)

This section helps you to get more information about your system including CPU temperature, FAN speed and voltages. It is recommended that you contact with your motherboard supplier to get proper value about your setting of the CPU temperature.

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
 PC Health Status

Current CPU Temp.	33°C/91°F	Item Help
Current System Temp.	23°C/73°F	
Current CPUFan Speed	6124Rpm	Menu Level >
Current SYSFan Speed	0Rpm	
Vcore	1.70V	
3.3V	3.30V	
5V	4.92V	
12V	11.40V	
↑ ↓ → ← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults		

Frequency/Voltage Control

This section is for setting CPU Frequency/Voltage Control.

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
Frequency/Voltage Control

Auto Detect DIMM/PCI Clk Enabled Spread Spectrum Modulated Enabled	Item Help
	Menu Level >
↑ ↓ → ← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults	

Load Fail-Safe/Optimized Defaults

Load Fail-Safe Defaults

When you press <Enter> on this item, you get a confirmation dialog box with a message similar to:

Load Fail-Safe Defaults (Y/N) ? N

Pressing 'Y' loads the BIOS default values for the most stable, minimal-performance system operations.

Load Optimized Defaults

When you press <Enter> on this item, you get a confirmation dialog box with a message similar to:

Load Optimized Defaults (Y/N) ? N

Pressing 'Y' loads the default values that are factory settings for optimal performance system operations.

Set Supervisor/User Password

You can set either supervisor or user password, or both of them. The differences are:

Supervisor password: Can enter and change the options of the setup menus.

User password: Can only enter but do not have the right to change the options of the setup menus. When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

ENTER PASSWORD:

Type the password, up to eight characters in length, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To disable a password, just press <Enter> when you are prompted to enter the password. A message will confirm the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

PASSWORD DISABLED.

When a password has been enabled, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This would prevent unauthorized use of your computer.

You determine when the password is required within the BIOS Features Setup Menu and its Security option. If the Security option is set to “System”, the password will be required both at boot and at entry to Setup. If set to “Setup”, prompting only occurs when trying to enter Setup.