Veriton 7200
Service Guide

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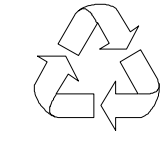

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Conventions

The following conventions are used in this manual:

`Screen messages`	Denotes actual messages that appear on screen.
NOTE	Gives bits and pieces of additional information related to the current topic.
WARNING	Alerts you to any damage that might result from doing or not doing specific actions.
CAUTION	Gives precautionary measures to avoid possible hardware or software problems.
IMPORTANT	Reminds you to do specific actions relevant to the accomplishment of procedures.

Preface

Before using this information and the product it supports, please read the following general information.

1. This Service Guide provides you with all technical information relating to the BASIC CONFIGURATION decided for Acer's "global" product offering. To better fit local market requirements and enhance product competitiveness, your regional office MAY have decided to extend the functionality of a machine (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.
2. Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. If, for whatever reason, a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

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System Specifications

Overview

The Veriton 7200 supports Intel® Pentium IV (Willamette 478/Northwood) Flip Chip-Pin Grid Array 2 processor (FC-PGA2) based Micro ATX, IBM PC/AT compatible system with PCI/AGP bus.

Features

Performance

- Intel Pentium® IV processor with Intel NetBurst™ micro-architecture and integrated 256KB/ 512KB on-die L2 cache memory in Flip Chip 2 (FC)-mPGA 478 socket form factor, with supporting CPU clock up to 2.4GHz+.
- System Front Side bus speed:400 MHz.
- Maximum of 1GB DRAM within 3 DIMM sockets up to 3GB.
- Integrated LAN Controller (82801BA+PLC82562ET).
- 3.5-inch and 5.25-inch floppy disk drives.
- CD-ROM, DVD-ROM or CD-RW drive
- 1x/2x/4x AGP slot (1.5V only)
- High capacity, Enhanced-IDE hard disk
- Power management features
- CPU SMM (System Management Mode), STOP clock control
- On-board PCI master enhanced local bus IDE (Embedded in 82801BA chipset).
  - PIO mode 4
  - Multiword DMA Mode 2
  - Ultra DMA/33, Ultra DMA/66 & Ultra DMA/100 modes
- Plug-and-Play (PnP) feature
- ACPI 1.0 b Compliant Power management and Configuration Support
- Software shutdown for Windows 95/98/ME/2000/XP
- Hardware monitor function
- On-board DC-DC converter(VRM 9.2 spec)

Multimedia

- 128-bit graphics accelerator installed in the AGP Pro card slot
- Cathode-ray tube(CRT) support
- Liquid crystal display (LCD) support(optional)
- An additional AGP card 1.5V slot, supports 1X, 2X and 4X
- 3-D quality audio system via onboard audio controller
- Audio-in/Line-in, Audio-out/Line-out/Headphone-out, Mic-in, and Game/MIDI interface

NOTE: The system has dual RJ-11 phone jacks for line and phone on Modem card (option). One microphone jack and one speaker jack on FPIO board.

Connectivity

- One AGP and three PCI slots
- USB and PS/2 compatible mouse and keyboard interfaces
- Two high-speed NS 16C550-compatible serial ports
- One multi-mode parallel port
- Four USB ports (available on front and rear panels) with Plug and Play function
- High-speed 56K V9.0 fax/data/voice PCI modem (optional)
- One RJ45 connector supports IEEE 802./802.3u 10Base-T/100Base-TX-compatible network with remote wake-up function

Expansion

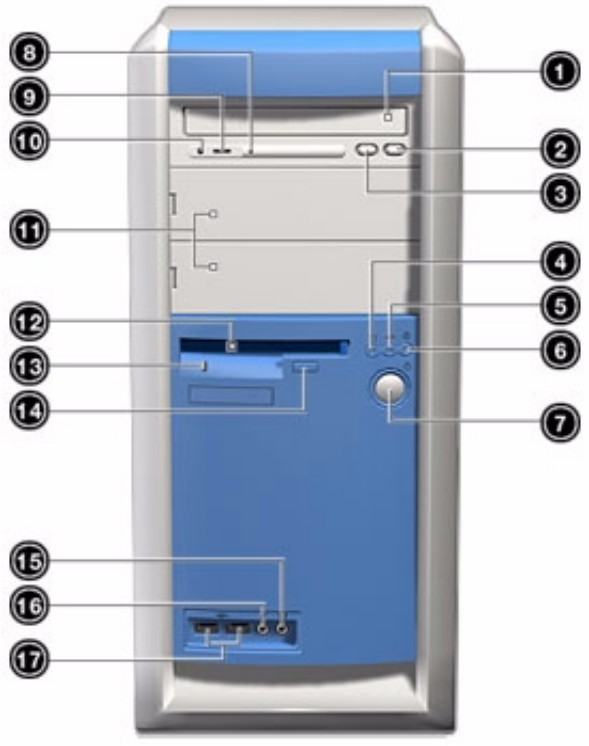
- 3 PCI slots + 3 DIMM slots + 1 AGP slot
- Upgradeable memory and hard disk

Human-centric design and ergonomics

- Mini-tower form factor
- Separate computer stand and rubber stands for quick and easy positioning
- Space-saver solution
- Accessible I/O ports
- Smooth and stylish design
- Low emission and low radiation

Front Panel-Veriron 7200

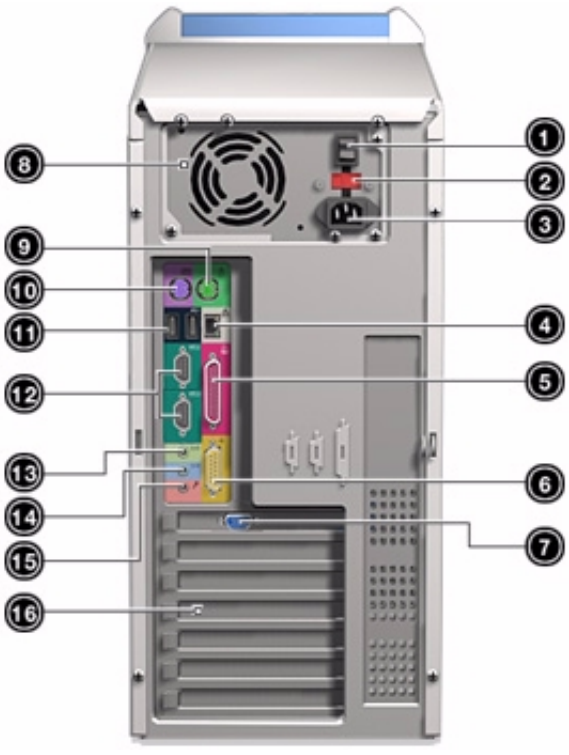
The computer's front panel consists of the following:



Label	Icon	Color	Description
1			CD-ROM/DVD-ROM tray
2			Stop/Eject Button
3			Skip/Forward Button
4			Hard disk drive activity light-emitting diode (LED)
5			LAN activity LED
6			Power LED
7			Power switch
8			CD-ROM/DVD-ROM LED
9			Volume Control Tuner
10			CD-ROM/DVD-ROM Headphone/Earphone port
11			5.25-inch drive bays

Label	Icon	Color	Description
12			3.5-inch floppy disk drive
13			Floppy drive LED
14			Floppy drive eject button
15			Speaker-out/Line-out port
16		Pink	Microphone-in port (front)
17		Black	USB ports

Rear Panel-Veriton 7200

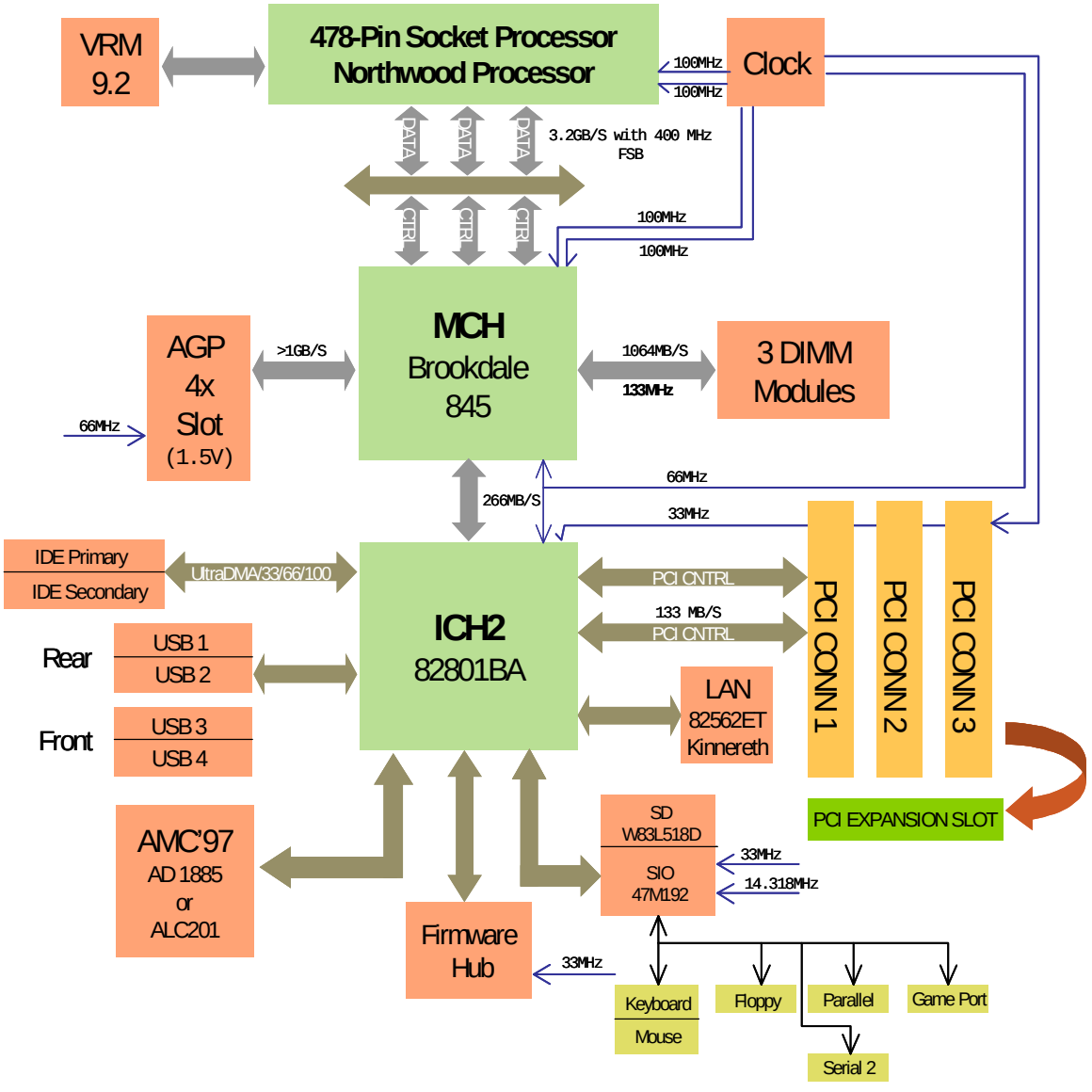


Label	Icon	Color	Description
1			Power Switch
2			Voltage Selector Switch (some)
3			Power cord socket
4		White	Network port
5		Burgundy	Parallel/printer port
6		Gold	Game/MIDI port
7			CRT/LCD monitor port*
8			Power supply
9		Green	PS/2 mouse port

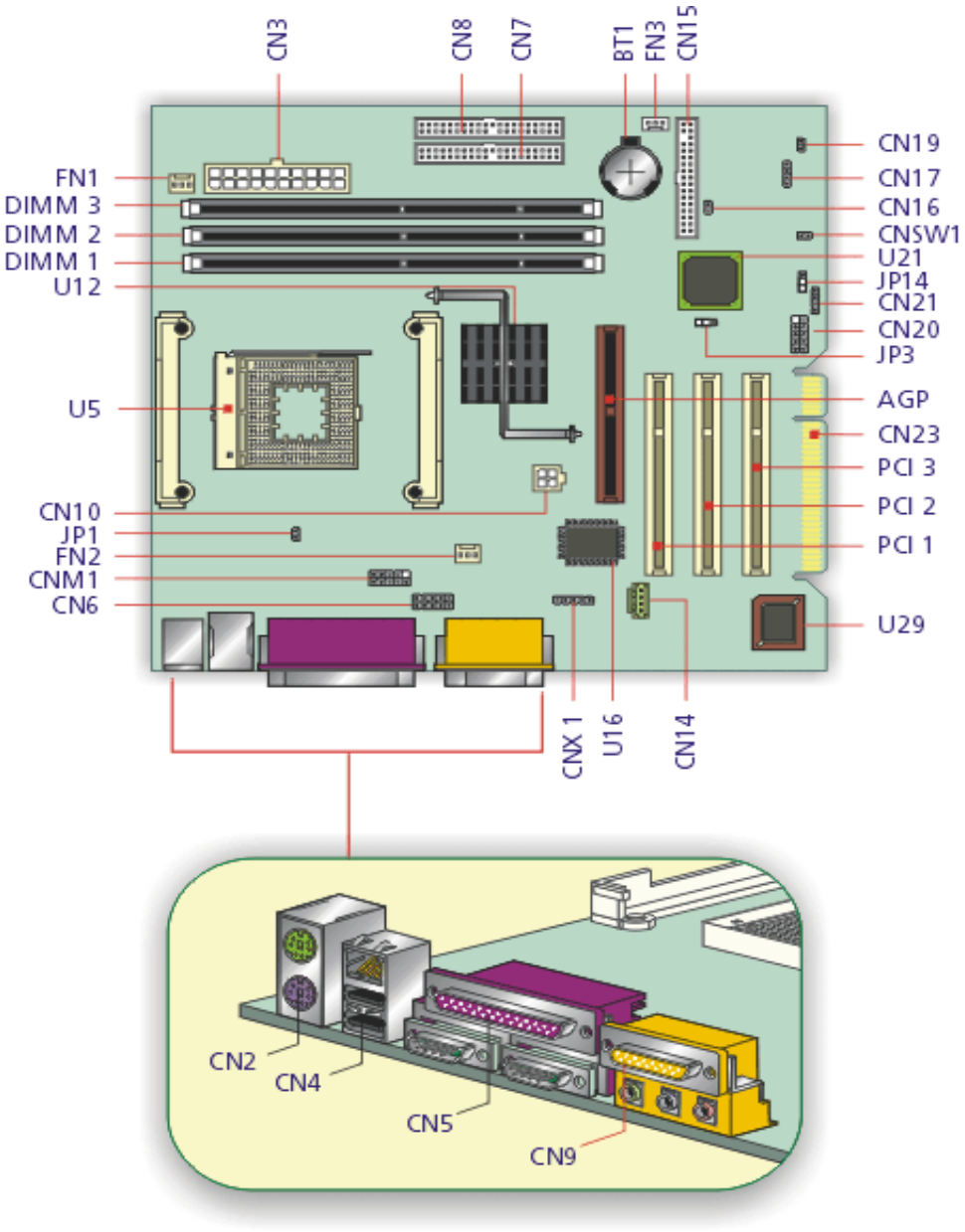
Label	Icon	Color	Description
10		Purple	PS/2 keyboard port
111		Black	USB ports
12		Teal or Turquoise	Serial port
13		Lime	Audio-out/Line-out jack
14		Light blue	Audio-in/Line-in jack
15		Pink	Microphone-in port (rear)
16			Expansion slots

NOTE: *The CRT monitor port is automatically disabled when an add-on VGA card is installed into the system. Connect the monitor to the VGA port instead.

System Block Diagram



Main Board Layout



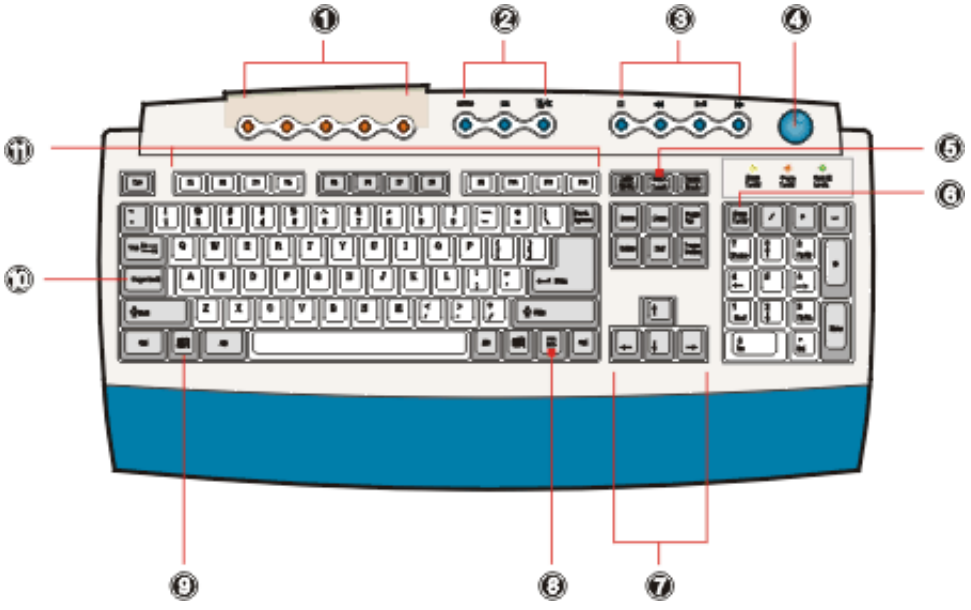
Label	Component	Label	Component
AGP	AGP slot	CNM1	Smart card connector (com2)*
BT1	Battery	CNSW1	IDE cold swap pin
CN2	PS/2 mouse (upper) and keyboard (lower) ports	DIMM1	Memory slot 1
CN3	Power connector	DIMM2	Memory slot 2
CN4	Network (upper) and USB (lower) ports	DIMM3	Memory slot 3
CN5	Parallel port (upper) and serial ports (lower)	FN1	3-pin fan SYS connector
CN6	Memory Stick Connector	FN2	3-pin fan CPU connector
CN7	IDE 2 connector	FN3	3-pin fan SYS connector
CN8	IDE 1 connector	PCI1	PCI slot 1
CN9	Game/MIDI (upper), line-out (left), line-in (middle) and mic-in (right) connectors	PCI2	PCI slot 2
CN10	Power connector (+12V)	PCI3	PCI slot 3
CN14	CD-in connector	U5	CPU socket
CN15	FDD connector	U12	Intel 845 socket
CN16	Intrusion connector	U16	SMSC chipset
CN17	HDD LED connector	U21	Intel ICH2 chipset
CN19	Power button	U29	BIOS chipset
CN20	Front USB connector	JP1	LAN active LED connector
CN21	Power/Suspend LED connector	JP3	Model Select
CN23	EXT PCI slot	JP14	1-2 Clear CMOS 2-3 Normal**
CNX1	Audio FPIO connector		

NOTE: Shared connection with serial port 2

NOTE: ** Default Settings

Keyboard

The keyboard has full-sized keys that include separate cursor keys, two Windows keys and twelve function keys.



Icon	Component	Description
1	Programmable keys	Help you directly access a URL (Web site) or launch any program, file, or application in your system. The fifth key is set to launch the media player. To configure the settings of each key, right-click on the Magic Keyboard icon located on your Windows desktop.
2	Internet/Suspend keys	Consist of three buttons: • **Email** : launches the email application that came bundled with your system. • **Web browser** WWW : launches the browser application that came bundled with your system. • **Suspend/Resume** : puts the system to sleep when pressed. To wake up the system press it again.
3	Multimedia keys	Allow you to do the following: • **Play/Pause** button : press to start playing the audio track or video file. Press again to pause. • Stop Button : press to stop playing the audio track or video file. • **Forward** Button : press to skip forward to the next track or file and start playing. • **Backward** button : press to skip backward to the previous track or file and start playing.

Icon	Component	Description
4	Volume control/Mute knob 	Controls the speaker volume. Turn it clockwise or counterclockwise to adjust the volume. Press it to toggle between mute and sound.
5	Scroll Lock	When activated, the screen moves one line up or down when you press the up arrow or down arrow respectively. Take note that **Scroll Lock** may not work with some applications.
6	Num Lock	When activated, the keypad is set to numeric mode, i.e., the keys function as a calculator (complete with arithmetic operators such as +, -, * and /).
7	Cursor keys	Also called arrow keys, let you move the cursor around the screen. They serve the same function as the arrow keys on the numeric pad when the **Num Lock** is toggled off.
8	Application key 	Opens the applications context menu (same function as clicking the right button of the mouse).
9	Windows logo key 	**Start** button. Combinations with this key perform special functions, such as: • **Windows + Tab**: Activates the next Taskbar button • **Windows + E**: Explore My Computer • **Windows + F:** Find Document • **Windows + M**: Minimize All • **Shift + Windows + M**: Undo Minimize All • **Windows + R**: Displays Run dialog box
10	Caps lock	When activated, all alphabetic characters typed appear in uppercase (same function as pressing **SHIFT** + <letter>).
11	Function keys	Access most of the computer's controls like screen brightness, volume output and the BIOS utility.

Hardware Specifications and Configurations

Processor

Item	Specification
Type	Intel® Pentium IV processors with mPGA478 package
Slot	Socket mPGA478
Speed	Internal : 1.4~2.4GHz+ External: 400MHZ Data Bus Frequency
Minimum operating speed	0 MHz (If **Stop CPU Clock in Sleep State the BIOS Setup** is set to **Enabled**.)
Voltage	Processor voltage can be detected by the system without setting any jumper.

BIOS

Item	Specification
BIOS code programmer	Award
BIOS version	V6.0
BIOS ROM type	Intel FWH (e.g., SST49LF002A)
BIOS ROM size	2MB
Support protocol	PCI 2.1, APM1.2, DMI 2.00.1, E-IDE, ACPI 1.0, ESCD 1.03, ANSI ATA 3.0, PnP 1a, Bootable CD-ROM 1.0, ATAPI
Boot from CD-ROM feature	Yes
Support to LS-120 drive	No
Support to BIOS boot block feature	Yes

NOTE: The BIOS can be overwritten/upgraded using the FLASH utility (AWDFLASH.EXE).

BIOS Hotkey List

Hotkey	Function	Description
CTRL + **ALT** + **ESC**	Enter BIOS Setup Utility	Press while the system is booting to enter BIOS Setup Utility.
ALT + **ESC**	Enable hidden page of BIOS Setup Utility	Press in BIOS Setup Utility main menu screen, the Advanced Options menu then appears. The items on the Advanced Options menu are: Memory/Cache Options PnP/PCI Options Chips Options

This section has two table lists, system memory specification and the possible combinations of memory module.

System Memory

Item	Specification
Memory socket number	3 sockets (3 banks)
Support memory size per socket	64/128/256/512MB
Support maximum memory size	3GB
Support memory type	SDRAM
Support memory speed	133MHz(PC133)
Support memory voltage	3.3V
Support memory module package	168 -pin DIMM
Support to parity check feature	Yes
Support to Error Correction Code (ECC) feature.	Yes
Memory module combinations	You can install memory modules in any combination as long as they match the Memory Combination specifications.

Memory Combinations

DIMM 1	DIMM 2	DIMM 3	TOTAL
X*	Y*	Z*	3GB
64M	0M	0M	64M
128M	0M	0M	128M
256M	0M	0M	256M
64M	64M	0M	128M
128M	128M	0M	256M
256M	256M	0M	512M
64M	64M	64M	192M
128M	128M	128M	384M
256M	256M	256M	768M

Cache Memory

Item	Specification
First-Level Cache Configurations	
Cache function control	Enable/Disable by BIOS Setup (Advanced options)
Second-Level Cache Configurations: Below information is only applicable to system with installed Pentium 4 processor.	
L2 Cache RAM size	Pentium IV processor: 256 KB
L2 Cache RAM speed	The same with the processor core clock frequency
L2 Cache function control	Enable/Disable by BIOS Setup

NOTE: *X, Y, Z: 0~1GB

Video Interface

Item	Specification
Video controller resident bus	AGP bus
Video interface support	1x / 2x / 4x AGP Signaling and 2x / 4x Fast Writes The AGP buffers operate only 1.5V mode

Audio Interface

Item	Specification
Audio controller	Embedded in Intel 82801BA ICH II
Audio controller resident bus	AC'97 link
Audio function control	Enable/disable by BIOS Setup
Mono or stereo	Stereo
Resolution	16 bits
Compatibility	AC'97 2.1 compliant Sound Blaster Pro compatible Mixed digital and analog high performance chip Enhanced stereo full duplex operation High performance PCI audio accelerator Full native DOS games compatibility High-Quality ESFM music synthesizer MPU-401(UART mode) interface for wavetable synthesizers and MIDI devices Integrated dual game port Meets PC 97/PC98 and WHQL specifications
Music synthesizer	Yes
Sampling rate	44.1 KHz
MPU-401 UART support	Yes
Microphone jack	Supported On audio-I/O board (connects via CN6)
Headphone jack	Supported On audio-I/O board (connects via CN6)
Package	QFP64

IDE Interface

Item	Specification
IDE controller	Embedded in Intel 82801BA ICH II
IDE controller resident bus	PCI bus
Number of IDE channel	2 on-board: 40-pin hard disk drive connector,
Support IDE interface	E-IDE (up to PIO mode 4 and Ultra DMA/33, Ultra DMA/66 and Ultra DMA/100 mode 2) ANSIS ATA rev.4.0 ATAPI
Support bootable CD-ROM	Yes

Floppy disk drive Interface

Item	Specification
Floppy disk drive controller	Embedded in SMSC LPC 47M192
Floppy disk drive controller resident bus	LPC
Support FDD format	360KB, 720KB, 1.2MB, 1.44MB, 2.88MB; 3-mode

Parallel Port

Item	Specification
Parallel port controller	Embedded in SMSC LPC 47M192
Parallel port controller resident bus	LPC
Number of parallel ports	1
Support ECP/EPP	SPP/ECP / EPP 1.7 & 1.9
Connector type	25-pin D-type female connector
Parallel port function control	Enable/disable by BIOS Setup
Optional ECP DMA channel (in BIOS Setup)	DMA channel 1 DMA channel 3
Optional parallel port I/O address (via BIOS Setup)	378h 278h
Optional parallel port IRQ (via BIOS Setup)	IRQ5 IRQ7

Serial Port

Item	Specification
Serial port controller	Embedded in SMSC LPC 47M192
Serial port controller resident bus	LPC
Number of serial port	2
Serial ports location	COM1, COM 2
16550 UART support	Yes
Connector type	10-pin connector
Optional serial port I/O address (via BIOS Setup)	3F8h, 2F8h, 3E8h, 2E8h
Optional serial port IRQ (via BIOS Setup)	4, 3

Modem

Item	Specification
Fax modem data baud rate (bps)	14.4K bps
Data modem data baud rate (bps)	56K bps
Voice modem	Yes
Modem connector type	Not Applicable
Full duplex	Not applicable

USB Port

Items	Specifications
Universal HCI	USB 1.1
USB Class	Support legacy keyboard for legacy mode

Memory Address Map

Address	Size	Function
000000 - 07FFFF	512KBytes	Host Memory
080000 - 09FFFF	128KBytes	Host/PCI Memory
0A0000 - 0BFFFF	128KBytes	PCI/ISA Video Buffer Memory
0C0000 - 0C7FFF	32KBytes	Video BIOS Memory
0C8000 - 0DFFFF	96KBytes	ISA Card BIOS & Buffer Memory
0E0000 - 0EFFFF	64KBytes	BIOS Extension Memory Setup and Post Memory PCI Development BIOS
0F0000 - 0FFFFF	64KBytes	System BIOS Memory
100000 - UPPER LIMIT		Main Memory
UPPER LIMIT - 4GBytes		PCI Memory

Note : UPPER LIMIT means the maximum size of installed memory.

The Main Memory Maximum size is 768M Bytes.

Onboard Device ID & IRQ Map

Device	AD#	IDSEL	Route Reg.	Mask
Intel 845 MCH	AD11	00h		
P2P	AD30	13h		
(Func.0) ICH2 (LPC)	AD31	14h		
(Func.1) ICH2 (IDE)	AD31	14h		
(Func.2) ICH2 (USB)	AD31	14h	68h	FFh
(Func.3) ICH2 (SMBUS)	AD31	14h		
(Func.5) ICH2 (AC97 Audio)	AD31	14h	61h	FFh
PCI Slot 1	AD16	05h	60h	FFh
PCI Slot 2	AD17	06h	61h	FFh
PCI Slot 3	AD21	07h	62h	FFh

PCI Slot IRQ Routing Map

PCI INTX#	INTA	INTB	INTC	INTD
PCI 1	Route 1	Route 2	Route 3	Route 4
PCI 2	Route 2	Route 3	Route 4	Route 1
PCI 3	Route 3	Route 4	Route 1	Route 2

I/O Address Map

Hex Range	Devices
000-00F	DMA Controller-1
020-021	Interrupt Controller-1
040-043	System Timer
060-060	Keyboard Controller 8742
061-061	System Speaker
070-071	CMOS RAM Address and Real Time Clock
081-08F	DMA Controller-2
0A0-0A1	Interrupt Controller-2
0C0-0DF	DMA Controller-2
0F0-0FF	Math Co-Processor
170-177	Secondary IDE
1F0-1F7	Primary IDE
278-27F	Parallel Printer Port 2
2F8-2FF	Serial Asynchronous Port 2
378-37F	Parallel Printer Port 1
3F0-3F5	Floppy Disk Controller
3F6-3F6	Secondary IDE
3F7-3F7	Primary IDE
3F8-3FF	Serial Asynchronous Port 1
0CF8	Configuration Address Register
0CFC	Configuration Data Register
778-77A	Parallel Printer Port 1

IRQ Assignment Map

IRQx	System Devices	Add-On-Card Devices
IRQ0	Timer	N (Notes)
IRQ1	Keyboard	N
IRQ2	Cascade Interrupt Control	N
IRQ3	Serial Alternate	Reserved
IRQ4	Serial Primary	Reserved
IRQ5	Parallel Port (Alternate)	Reserved
IRQ6	Floppy Diskette	Reserved
IRQ7	Parallel Port	Reserved
IRQ8	Real Time Clock	N
IRQ9	N	Reserved
IRQ10	N	Reserved
IRQ11	N	Reserved
IRQ12	PS/2 Mouse	Reserved
IRQ13	Math Co-processor Exception	N
IRQ14	Fix Diskette	Reserved
IRQ15	Fix Diskette	Reserved

NOTE: N - Not be used.

DRQ Assignment Map

DRQx	System Devices	Add-On-Card Devices
DRQ0	N (Notes)	Reserved
DRQ1	N	Reserved
DRQ2	Floppy Diskette	N
DRQ3	N	Reserved
DRQ4	Cascade	N
DRQ5	N	Reserved
DRQ6	N	Reserved
DRQ7	N	Reserved

NOTE: N - Not to be used.

Main Board Major Chips

Item	Controller
North Bridge	Intel 82845GMCH
South Bridge	Intel 82801BA ICH II
Super I/O controller	SMSC LPC47M192
Audio controller	Built-in Intel 82801 ICH II
LAN controller	Intel 82562ET
HDD controller	Built-in Intel 82801BA ICH II
Keyboard controller	Built-in Intel 82801BA ICH II
RTC	Built-in Intel 82801BA ICH II

Environmental Requirements

Item	Specifications
Temperature	
Operating	+10 to +45°C
Non-operating	-10 to +60°C
Non-operating	-20 to +60°C (Storage package)
Humidity	
Operating	20% to 80% RH, non-condensing
Non-operating	20% to 80% RH, non-condensing (Unpacked)
Non-operating	20% to 80% RH, non-condensing (Storage package)
Vibration	
Operating: Sweep rate: Direction: Test cycles:	5~16.2 Hz 0.38mm (peak to peak) 16.2~250 Hz 0.2G 1 octave/minute X, Y, Z axis 2 cycles per axis
Non-operating: (Packed) Sweep rate: Direction: Test cycles:	5~27.1 Hz 0.6G 27.1~50 Hz 0.4mm (peak to peak) 50~500 Hz 2.0G 0.5 cotave/minute X, Y, Z axis 4 cycles per axis

Mechanical Specifications

Item	Specification
Weight One 3.5 FDD and one 3.5 HDD (without packing)	Depends on local configuration

Switching Power Supply 200W

A-1 Inpute frequency

Normal Frequency	Frequency Variation Range
50Hz	47Hz to 53Hz
60Hz	57Hz to 63Hz

A-2 Input voltage

Nominal Voltage	Variation Range
100 - 120 VRMS	90-132 VRMS
200 - 240 VRMS	180-264 VRMS

A-3 Input current

Input Current	Measuring Range
4A	90 -132 VRMS
3A	180 - 264 VRMS

- This :4A: includes the oultet supply current: 2A
- Measure at line input 90 VRMS and maximum load condition

Output Requirements	Regulation	Current Rating(Max)
+5V	+-5%	8A
+12V	+-5%	8A
-12V	+-10%	0.3A
+3.3V	+-5%	10A
-5V	+-10%	0.2A
+5Vaux	+-5%	3A

NOTE: 1. +5V & +3.3V total power is 80W max .

Power Management Functions

Device Standby Mode

- Independent power management timer for hard disk drive devices (0-15 minutes, time step=1 minute).
- Hard disk drive goes into Standby mode (for ATA standard interface).
- Disable V-sync to control the VESA DPMS monitor.
- Resume method: device activated (Keyboard for DOS, keyboard & mouse for Windows).
- Resume recovery time: 3-5 sec.

Global Standby Mode

- Global power management timer (2-120 minutes, time step=10 minute).
- Hard disk drive goes into Standby mode (for ATA standard interface).
- Disable H-sync and V-sync signals to control the VESA DPMS monitor.
- Resume recovery time: 7-10 sec.

Suspend Mode

- Independent power management timer (2-120 minutes, time step=10 minutes) or pushing external switch button
- CPU goes into SMM.
- CPU asserts STPCLK# and goes into the Stop Grant State.
- LED on the panel turns amber color.
- Hard disk drive goes into SLEEP mode (for ATA standard interface).
- Disable H-sync and V-sync signals to control the VESA DPMS monitor.
- Return to original state by pushing external switch button.

Suspend to RAM

- The system context is maintained in system memory
- Power is shut to non-critical circuits.
- Memory is retained, and refreshes continually.
- All clocks shut except RTC.
- Return to original state by pushing external switch button & “PME” events at ACPI mode.

System Utilities

Most systems are already configured by the manufacturer or the dealer. There is no need to ru Setup when starting the computer unless you get a Run Setup message.

The Setup program loads configuration values into the battery-backed nonvolatile memory called CMOS RAM. This memory area is not part of the system RAM.

NOTE: If you repeatedly receive Run Setup messages, the battery may be bad. In this case, the system cannot retain configuration values in CMOS.

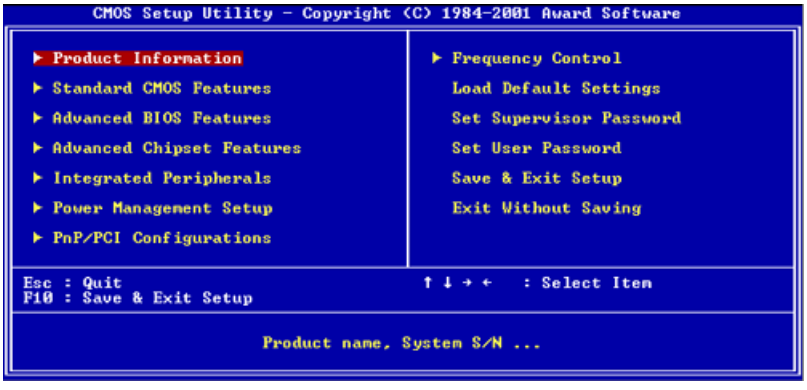
Before you run Setup, make sure that you have saved all open files. The system reboots immediately after you exit Setup.

Entering Setup

To enter Setup, press the key combination Ctrl + Alt + Esc during the POST (Power-on self-test).

NOTE: You must press Ctrl + Alt + Esc simultaneously while the system is booting.

The Setup Utility main menu then appears:



The above screen is the BIOS Utility Basic Level screen. It allows you to view and change only the basic configuration of your system.

The command line at the bottom of the menu tells you how to move within a screen and from one screen to another.

- To select an option, move the highlight bar by pressing ↑, ↓, ←, or →, then press Enter.
- To change a parameter setting, press Pg Up or Pg Dn until the desired setting is found, or press Enter to pop out the screen with available items for selection.
- Press Esc to return to the main menu. If you are already in the main menu, press Esc again to exit Setup.

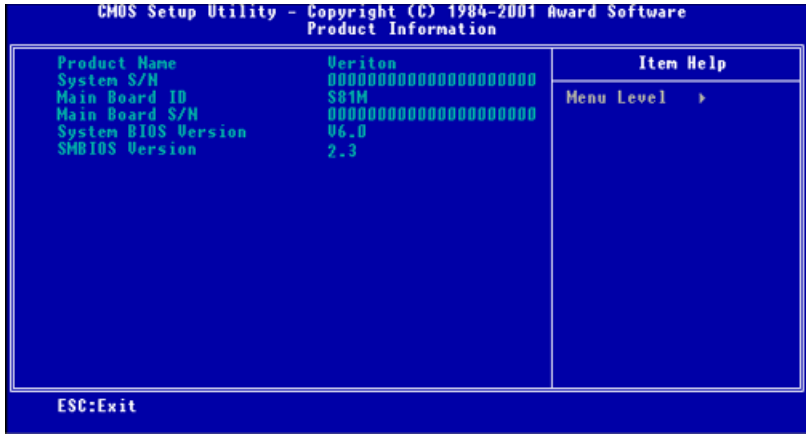
The parameters on the screens show default values. These values may not be the same as those in your system.

The grayed items on the screens have fixed settings and are not user-configurable.

Product Information

The screen below appears if you select Product Information from the main menu:

The Product Information menu contains general data about the system, such as the product name, serial number, BIOS version, etc. These information is necessary for troubleshooting (maybe required when asking for technical support).



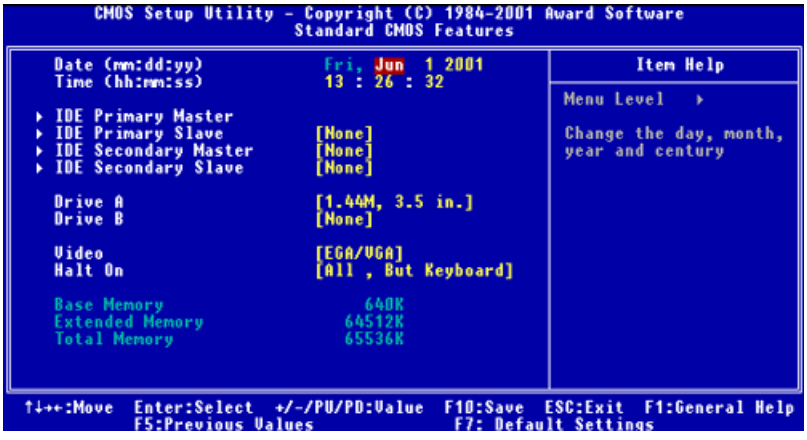
The following table describes the parameters found in this menu:

Parameter	Description
Product Name	Displays the model name of your system.
System S/N	Displays your system's serial number.
Main Board ID	Displays the main board's identification number.
Main Board S/N	Displays your main board's serial number.
System BIOS Version	Specifies the main version of your BIOS utility.
SMBIOS version	The System Management Interface (SM) BIOS allows you to check your system hardware components without actually opening your system. Hardware checking is done via software during start up. This parameter specifies the version of the SMBIOS utility installed in your system.

Standard CMOS Features

Select “Standard CMOS Features” from the main menu to configure the drives installed in your system.

The following screen shows the Disk Drives menu:



The following table describes the parameters found in this menu.

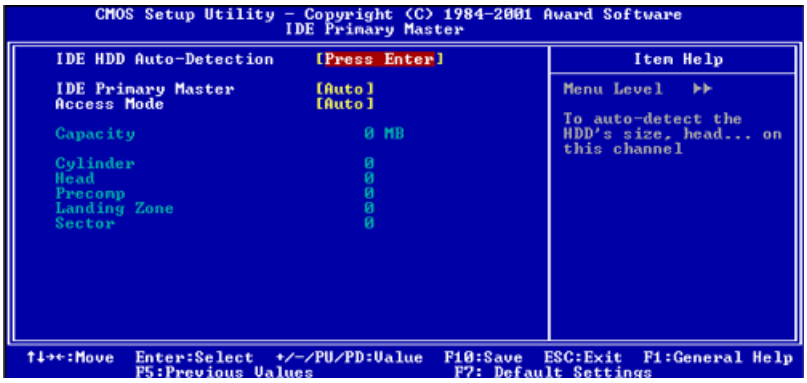
Parameter	Description	Options
Date	Lets you set the date following the weekday-month-day-year format	**Weekday**: Sun, Mon....Sat **Month**: Jan, Feb...Dec **Day**: 1 to 31 **Year:** 1980 to 2079
Time	Lets you set the time following the hour-minute-second format	**Hour:** 0 to 23 **Minute**: 0 to 59 **Second**: 0 to 59
IDE Primary Master	Lets you configure the hard disk drive connected to the master port of IDE channel 1. To enter the IDE Primary Master setup, press ENTER . The IDE CD-ROM is always automatically detected.	**IDE Device Model Number** None
IDE Primary Slave	Lets you configure the hard disk drive connected to the slave port of IDE channel 1. To enter the IDE Primary Slave setup, press ENTER . The IDE CD-ROM is always automatically detected.	**IDE Device Model Number** None
IDE Secondary Master	Lets you configure the hard disk drive connected to the master port of IDE channel 2. To enter the IDE Secondary Master setup, press ENTER . The IDE CD-ROM is always automatically detected.	**IDE Device Model Number** None
IDE Secondary Slave	Lets you configure the hard disk drive connected to the slave port of IDE channel 2. To enter the IDE Secondary Slave setup, press ENTER . The IDE CD-ROM is always automatically detected.	**IDE Device Model Number** None
Drive A	Allows you to configure your floppy drive A.	**1.44 MB, 3.5-inch** None 360 KB, 5.25-inch 1.2 MB, 5.25-inch 720 KB, 3.5-inch 2.88 MB, 3.5-inch

Parameter	Description	Options
Drive B	Allows you to configure your floppy drive B.	**None** 360 KB, 5.25-inch 1.2 MB, 5.25-inch 720 KB, 3.5-inch 1.44 MB, 3.5-inch 2.88 MB, 3.5-inch
Video	This item specifies the type of video card in use. The default setting is VGA/EGA. Since current PCs use VGA only, this function is almost useless and may be disregarded in the future.	**EGA/VGA** CGA40 CGA80 Mono
Halt On	This parameter enables you to control the system stops in case of Power-on self-test (POST) errors.	**All Errors** No Errors All, But Keyboard All, But Diskette All, But Disk/Key
Base Memory	Refers to the portion of memory that is available to standard DOS programs. DOS systems have an address space of 1 MB, but the top 384 KB (called high memory) is reserved for system use. This leaves 640 KB of conventional memory. Everything above 1 MB is either extended or expanded memory.	
Extended Memory	Memory above and beyond the standard 1 MB (megabyte) of base memory that DOS supports. Extended memory is only available in PCs with an Intel 80286 or later microprocessor. Extended memory is not configured in any special manner and is therefore unavailable to most DOS programs. However, MS Windows and OS/2 can use extended memory.	
Total Memory	Total base, and extended memory, and I/O ROM 384KB available to the system.	

IDE Primary Master/Slave and IDE Secondary Master/Slave Setup

The following screen appears if you select any of the IDE drive parameters:

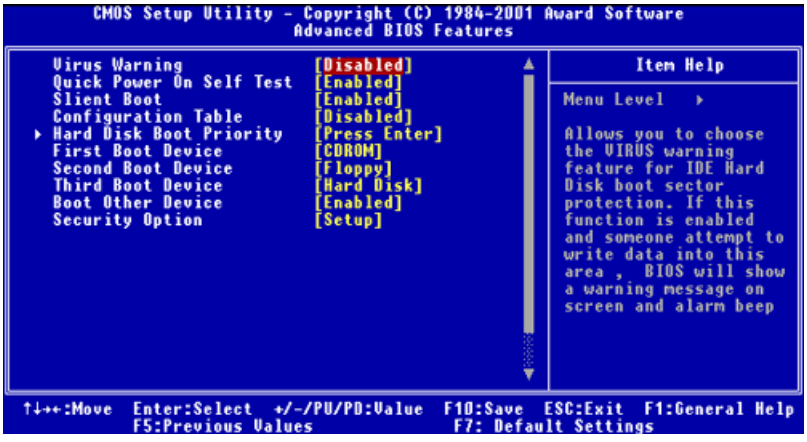
The following table describes the parameters found in this menu.



Parameter	Description	Options
IDE HDD Auto-Detection	Auto-detects your hard disk drive.	**Press Enter**
IDE Primary Master	Displays the device type	**Auto** None Manual
Access Mode	Selects the HDD access mode	**Auto** Large LBA CHS
Capacity	Shows the size of your hard disk in MB.	xxxxx MB
Cylinder	Shows your hard disk's number of cylinders.	0 to 65535
Head	Shows your hard disk's number of heads	0 to 255
Precomp	Selects the Precomp number for old HDD parking	0 to 65535
Landing Zone	Selects the Landing Zone number for old HDD parking	0 to 65535
Sector	Shows your hard disk's number of sectors	0 to 255

Advanced BIOS Features

The following screen shows the Advanced BIOS Features.



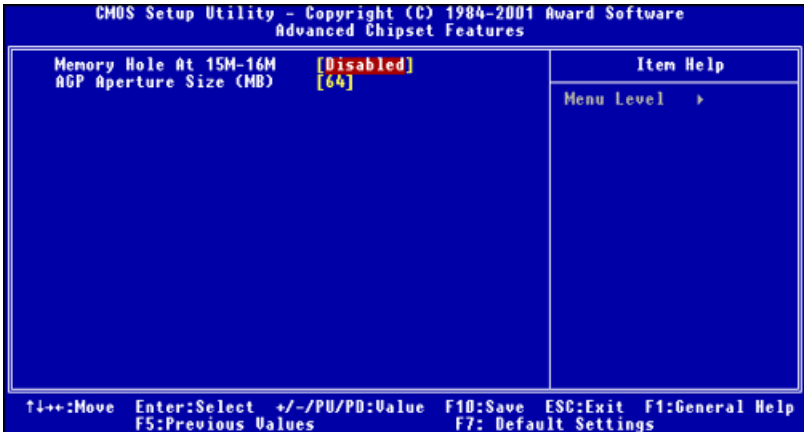
The following table describes each Advanced BIOS Features parameter. Settings in boldface are the default and suggested settings.

Parameter	Description	Options
Virus Warning	Allows you to choose the Virus warning feature for the IDE hard disk boot sector protection. If this function is enabled and someone attempts to write data into this area, BIOS will show a warning message on screen and alarm beep.	**Disabled** Enabled
Quick Power On Self Test	This parameter speeds up POST by skipping some items that are normally checked.	**Enabled** Disabled
Silent Boot	This item is used to decide if the system logo displays when the system boots up.	**Enabled** Disabled
Configuration Table	Displays preboot system configuration table when enabled.	**Disabled** Enabled
Hard Disk Boot Priority	Select Hard Disk Boot Device Priority	**Press Enter** Show Hard Disk Model
First Boot Device	This parameter allows you to specify the system boot up search sequence.	**CD-ROM,** Floppy, LS120, Hard Disk, ZIP100, LAN (on board LAN-- Boot from LAN), Disabled
Second Boot Device	This parameter allows you to specify the system boot up search sequence.	**Flopp** , LS120, Hard Disk, CD-ROM, ZIP100, LAN (on board LAN-- Boot from LAN), Disabled
Third Boot Device	This parameter allows you to specify the system boot up search sequence.	**Hard Disk,** Floppy, LS120, CD-ROM, ZIP100, LAN (on board LAN-- Boot from LAN), Disabled
Boot Other Device	This parameter allows you to specify the system boot up search sequence.	**Enabled** Disabled

Parameter	Description	Options
Security Option	The **Setup** option limits access only to BIOS setup. To disable the security option, select Password Setting from the main menu, don't type anything and just press ENTER . The **System** option limits access to both the System boot and BIOS setup. A prompt asking you to enter your password appears on the screen every time you boot the system.	**Setup** System

Advanced Chipset Features

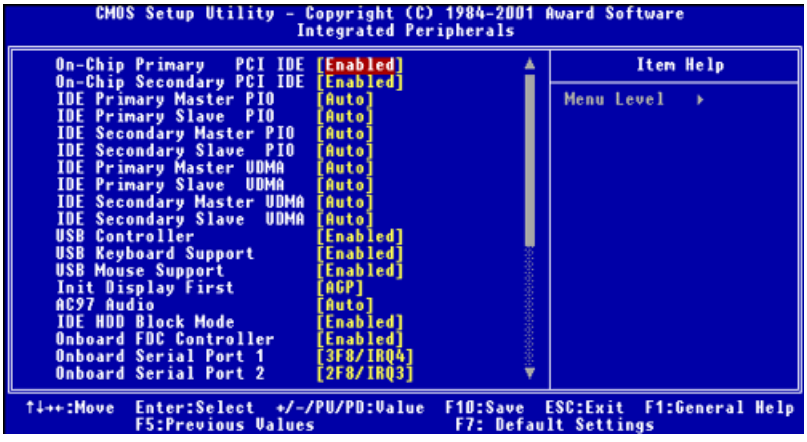
The following screen shows the Advanced Chipset Features.

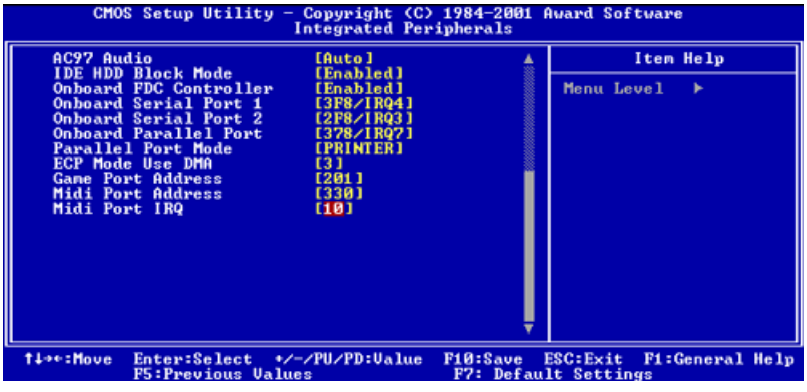


The following table describes each Advanced Chipset Features parameter. Settings in boldface are the default and suggested settings.

Parameter	Description	Options
Memory Hole at 15M-16M	This option lets you reserve system memory area for special ISA cards. The chipset accesses code/ data of these areas from the ISA bus directly. Normally, these areas are reserved for memory mapped I/O cards.	**Disabled** Enabled
AGP Aperture Size (MB)	This item lets you determine the effective size of the AGP Graphic Aperture.	**64**, 4, 8, 16, 32, 128 and 256

Integrated Peripherals





The following table describes each Integrated Peripherals parameter. Settings in boldface are the default and suggested settings.

Parameter	Description	Options
On-Chip Primary PCI IDE On-Chip Secondary PCI IDE	These parameters let you enable or disable the IDE devices connected to the primary and secondary IDE connectors.	**Enabled** Disabled
IDE Primary Master PIO IDE Primary Slave PIO IDE Secondary Master PIO IDE Secondary Slave PIO	Setting these items to Auto activates the HDD speed auto-detect function. The PIO mode specifies the data transfer rate of the HDD. For example, mode 0 data transfer rate is 3.3 MB/s, mode 1 is 5.2 MB/s, mode 2 is 8.3 MB/s, mode 3 is 11.1 MB/s and mode 4 is 16.6 MB/s. If your hard disk performance becomes unstable, you may manually try the slower mode. **Caution:** It is recommended that you connect the first IDE device of each channel to the endmost connector of the IDE cable.	**Auto** Mode 1 Mode 2 Mode 3 Mode 4
IDE Primary Master UDMA IDE Primary Slave UDMA IDE Secondary Master UDMA IDE Secondary Slave UDMA	These items allow you to set the Ultra DMA/33/66/100 mode supported by the hard disk drive connected to your primary and secondary IDE connectors.	**Auto** Disabled
USB controller	This item is used to enable or disable the On-chip USB.	**Enabled** Disabled

Parameter	Description	Options
USB Keyboard Support	This item lets you enable or disable the USB keyboard driver within the onboard BIOS. The keyboard drive simulates legacy keyboard command and lets you use a USB keyboard during POST or after boot if you don't have a USB driver in the operating system.	**Enabled** Disabled
USB Mouse Support	This item lets you enable or disable the USB mouse driver within the onboard BIOS. The mouse drive simulates legacy mouse command and lets you use a USB mouse during POST or after boot if you don't have a USB driver in the operating system.	**Enabled** Disabled
Init Display First	If you installed a PCI VGA card and an AGP card at the same time, this item lets you decide which one is the initial display card.	**AGP** PCI
AC97 Audio	Enabling the on-die AC97 Audio if no add-on PCI Audio device.	**Auto** Disabled
IDE HDD Block Mode	This feature enhances disk performance by allowing multisector data transfers and eliminates the interrupt handling time for each sector. Most IDE drives, except with old designs, can support this feature.	**Enabled** Disabled
Onboard FDC Controller	Setting this parameter to Enabled allows you to connect your floppy disk drives to the onboard floppy disk connector instead of a separate controller card. Change the setting to Disabled if you want to use a separate controller card.	**Enabled** Disabled
Onboard Serial Port 1	This item allows you to assign an address and interrupt for the board serial port.	**3F8/ IRQ4** Auto 2F8/ IRQ3 3E8/ IRQ4 2E8/ IRQ3 Disabled
Onboard Serial Port 2	This item allows you to assign an address and interrupt for the board serial port.	**2F8/ IRQ3** Auto 3F8/ IRQ4 3E8/ IRQ4 2E8/ IRQ3 Disabled
Onboard Parallel Port	This item controls the onboard parallel port address and interrupt. **NOTE:** If you are using an I/O card with a parallel port, make sure that the addresses and IRQs do not conflict.	**378/ IRQ7** 3BC/ IRQ7 278/ IRQ7 Disabled
Parallel Port Mode	IBM PC/AT and PS/2 compatible bi-directional parallel port. Enhanced Parallel Port (EPP)-compatible with EPP1.7 and EPP 1.9. Extended Capabilities Port (ECP) Specification by Microsoft and HP. IEEE 1284 compliant	**Printer** Show SPP PP1.9+ECP Printer EPP1.7+SPP EPP!.7+ECP
ECP Mode Use DMA	Selects the ECP Mode DMA Channel.	**3** 1
Game Port Address	Selects the Game Port Address.	**201** 209 Disabled

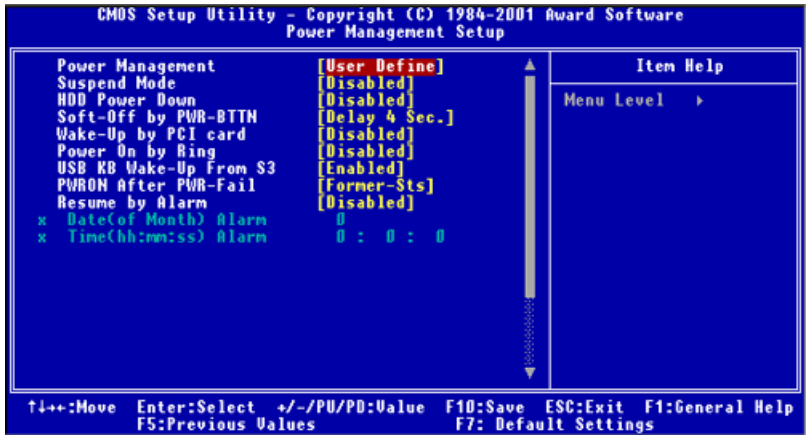
Parameter	Description	Options
Midi Port Address	Selects the Midi Port Address.	**330** 300 Disabled
Midi Port IRQ	Selects the Midi Port IRQ.	**10** 5

Power Management Setup

The Power Management menu lets you configure the system power-management feature. It works only in APM mode.

IMPORTANT: If an ACPI-aware operating system such as Windows 98 or Windows 2000 is installed in ACPI mode, the operating system will use the ACPI interfaces. Then the settings in Power Management page is non-effective.

The following screen shows the Power Management parameters and their default settings:



The following table describes the parameters found in this menu.

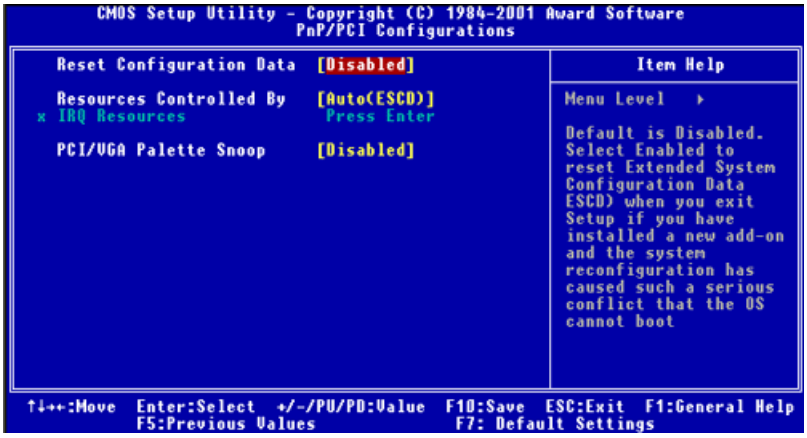
Parameter	Description	Options
Power Management (Function Enabled in APM Mode)	This function allows you to set the default parameters for power-saving modes. Set it to Disable to turn off the power management function. Set it to User Define to choose your own parameters. See the Power Management Mode Table.	**User Define** Max Saving Min Saving Disabled
Suspend Mode (Function Enabled in APM Mode)	This item lets you set the period of time after which the system enters into Suspend mode. The Suspend mode can be Power On Suspend or Suspend to Hard Drive, and it is selected in the “Suspend Mode Option”.	**Disabled**, 1 min., 2 min., 4 min., 8 min., 12 min., 20 min., 30 min., 40 min., and 1 Hour
HDD Power Down (Function Enabled in APM Mode)	This option lets you specify the IDE HDD idle time before the device enters the power down state. This item is independent from the power states previously described in this section (Standby and Suspend).	**Disabled** 1 min 15 min
Soft-Off by PWR-BTTN (Function Enabled in ACPI and APM Mode)	This is a specification of ACPI and supported by hardware. When Delay 4 sec. is selected, the soft power switch on the front panel can be used to control power On, Suspend and Off. If the switch is pressed less than 4 sec. during power On, the system will go into Suspend mode. If the switch is pressed longer than 4 sec, the system will be turned Off. The other setting is Instant-Off, where the soft power switch is only used to control On and Off, there is no need to press 4 sec, and there is no Suspend.	**Delay 4 sec**. Instant-Off
Wake-Up by PCI Card (Function Enabled in ACPI and APM Mode)	Use PCI PME# Wake-Up system . PCI must meet PCI 2.2 specification.	**Disabled** Enabled
Power-On by Ring (Function Enabled in ACPI and APM Mode)	When Enabled, any fax/ modem activity wakes up the system from suspend mode.	**Disabled** Enabled
USB KB Wake-up from S3 (Function Enabled in ACPI mode)	When enabled, any USB keyboard activity wakes up the system from S3 (STR, Suspend to RAM) mode.	**Enabled** Disabled
PWRON After PWR-Fail (Function Enabled in ACPI and APM Mode)	Use this option to determine the manner by which the system will power on after a powe failure. Former Sts (former status) - System would return to its former running state prior to the power failure. On - System would be on full on state upon resuming from power failure. Off - System would remain off.	**Former-Sts** On Off
Resume by Alarm (Function Enabled in ACPI and APM Mode)	Use this option to set the date and time for your computer to boot up. Date (of month) Alarm* - Indicate month when system will boot up. Set it to 0 if you want to boot everyday. Time (hh:mm:ss) Alarm* - Indicate the hour, minute and second when system will boot up.	**Disabled** Enabled * Set Resume by Alarm to Enabled, then press ENTER to show the range of Date and Time Alarm.

NOTE: In ACPI mode: Valid-S5 and S4. In APM mode: Valid- shutdown

Power Management Mode Table

Mode	Doze	Standby	Suspend	HDD Power Down
Max Saving	1 hour	1 hour	1 hour	15 min
Min Saving	1 min	1 min	1 min	1 min

PnP/PCI Configurations

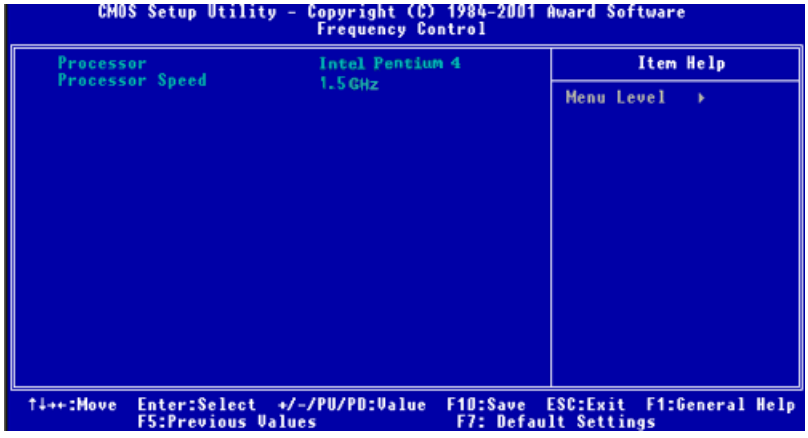


The table below describes each PnP/PCI configuration parameter. Settings in boldface are the default and suggested settings.

Parameter	Description	Options
Reset Configuration Data	Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system configuration has caused such a serious conflict that the OS cannot boot.	**Disabled** Enabled
Resources Controlled By	Setting this option to Manual allows you to individually assign the IRQs and DMAs to the ISA and PCI devices. Set this to Auto to enable the auto-configuration function.	**Auto (ESCD)** Manual
IRQ Resources IRQ 3 (COM2) IRQ 4 (COM1) IRQ 5 (Network/Sound or Others) IRQ 7 (Printer or Others) IRQ 9 (Video or Others) IRQ 10 (SCSI or Others) IRQ 11 (SCSI or Others) IRQ 12 (PS/2 Mouse) IRQ 14 (IDE1) IRQ15 (IDE2)	If your ISA card is not PnP compatible and requires a special IRQ to support its function, set the selected IRQ to Legacy ISA. This setting informs the PnP BIOS to reserve the selected IRQ for the installed legacy ISA card. The default is PCI/ISA PnP. Take note that PCI cards are always PnP compatible (except old PCI IDE cards).	**PCI/ISA PnP** Legacy ISA

Parameter	Description	Options
PCI/VGA Palette Snoop	This parameter permits you to use the palette snooping feature if you installed more than one VGA card in the system. The PVI/VGA palette snoop function allows the control palette register (CPR) to manage and update the VGA RAMDAC (Digital Analog Converter, a color data storage) of each VGA card installed in the system. The snooping process lets the CPR send a signal to all the VGA cards so that they can update their individual RAMDACs. The signal goes through the cards continuously until all RAMDAC data has been updated. This allows the display of multiple images on the screen. **NOTE:** Some VGA cards have required settings for this feature. Check your VGA card manual before setting this parameter.	**Disabled** Enabled

Frequency Control



The following table describes the parameters found in this menu.

Parameter	Description
Processor	Indicates the type of processor installed in your computer.
Processor Speed	Indicates the processor speed.

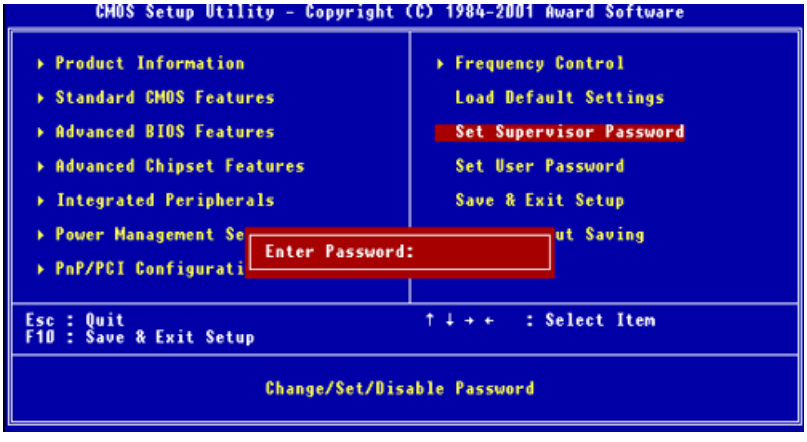
System Security

The Setup program has a number of security features to prevent unauthorized access to the system and its data.

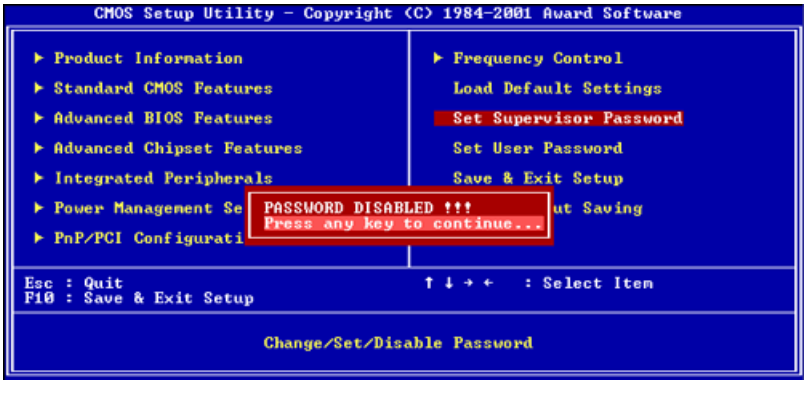
Supervisor Password

To set a password:

1. At the prompt, type your password. Your password can be up to 8 alphanumeric characters. When you type the characters, they appear as asterisks on the password screen box.
2. After typing the password, press ENTER .
3. At the next prompt, re-type your password and press ENTER again to confirm the new password. After the password entry, the screen automatically reverts to the main screen.



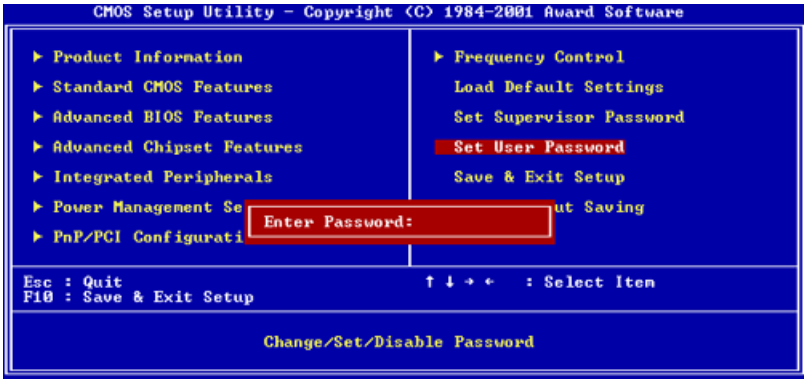
To disable the password, press ENTER when prompted to enter the password. The screen displays a message confirming that the password has been disabled.



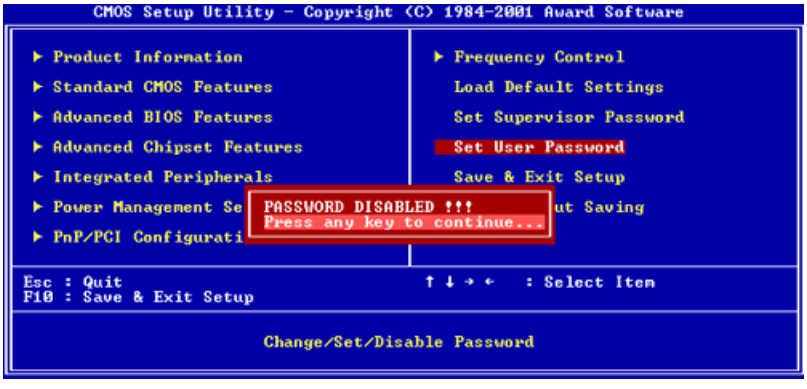
User Password

To set a password:

1. At the prompt, type your password. Your password can be up to 8 alphanumeric characters. When you type the characters, they appear as asterisks on the password screen box.
2. After typing the password, press ENTER .
3. At the next prompt, re-type your password and press ENTER again to confirm the new password. After the password entry, the screen automatically reverts to the main screen.



To disable the password, press ENTER when prompted to enter the password. The screen displays a message confirming that the password has been disabled.



Bypassing the Password

If you forgot your password, you can bypass the password security feature thru hardware configuration.

RTC Battery

Follow these steps to bypass the password:

1. Turn off and unplug the system.
2. Open the system housing. Take off battery and short it.
3. Place on RTC battery, reboot the system and enter setup menu, to load default setting.

Clear CMO

Follow these steps to bypass the password:

1. Reset CMOS, by adjusting JP7 to **1-2**
2. Reboot the system.
3. Adjust the JP7 back to **2-3**

NOTE: Please refer to the followin

JP3: Model Select

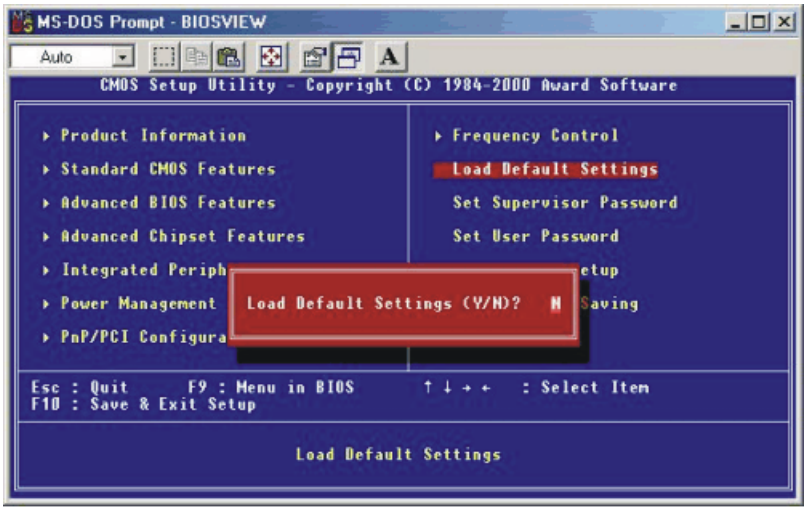
JP3	Model Select
1-2	Veriton
2-3	Extensa

JP7: Clear CMOS

JP7	CMOS Check
1-2	Clear CMOS
2-2	Normal

Load Default Settings

You need to reload the BIOS default settings every time you make changes to your system hardware configuration (such as memory size, CPU type, hard disk type, etc.); otherwise, BIOS will keep the previous CMOS settings. Selecting this option displays the following dialog box:

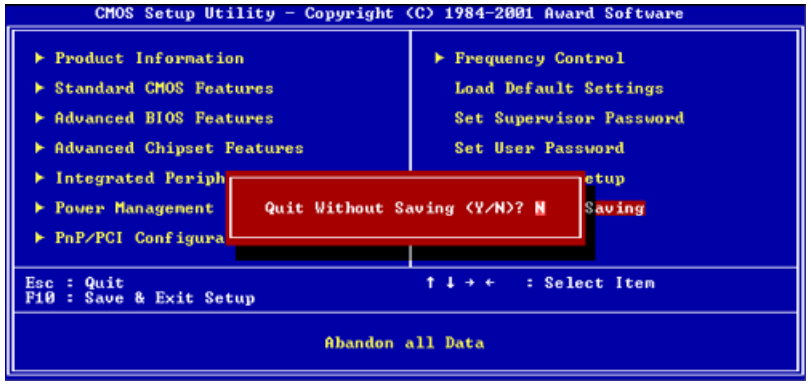


Choosing **Yes** enables BIOS to automatically detect the hardware changes that you have made in your system. This option also allows you to restore the default settings.

Choosing **No** returns you to the main menu without loading the default settings.

Exiting Setup

To exit the BIOS utility, simply press ESC. The following dialog box appears:



Select **Yes** to exit Setup. Select **No** to return to the main menu.

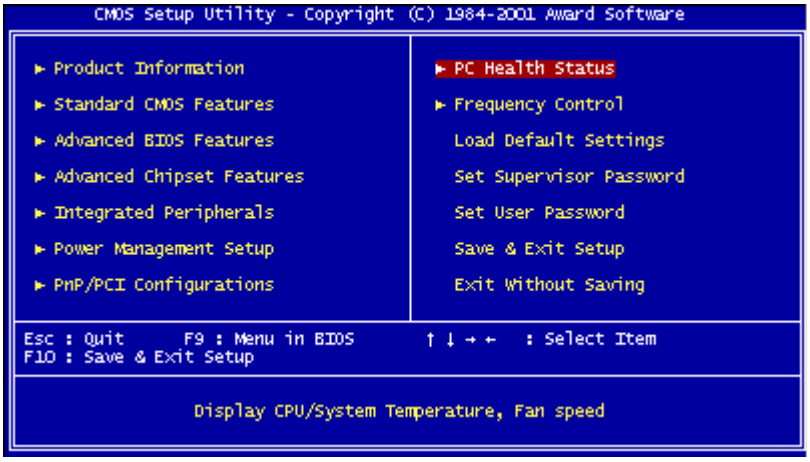
If you have made changes in the parameter settings, you will be asked if you want to keep the changes made to the BIOS. Select **Yes** to save your changes before you exit Setup. Select **No** to discard all changes and exit Setup.

Advanced Options

NOTE: The Advanced Options menu is available only when you press ALT + F4 in the main menu.

The “Advanced Options” menu allows you to configure the system memory and PCI device settings.

The following screen shows the Advanced Options parameter:

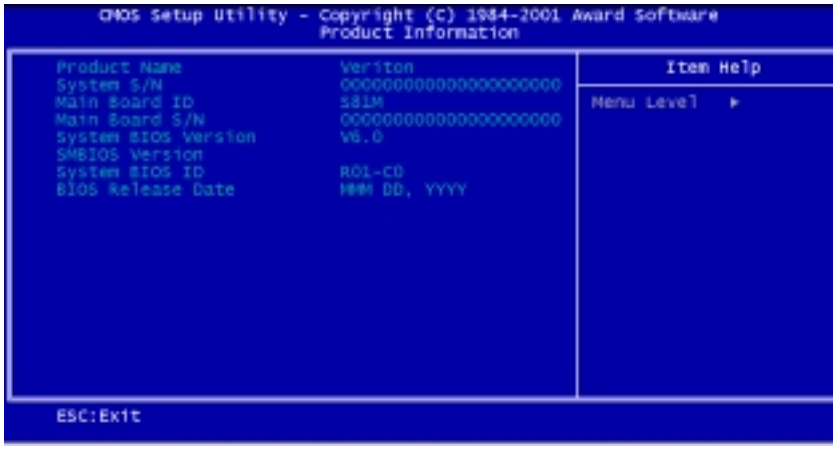


CAUTION: Do not change any settings in the Advanced Options menu if you are not a qualified technician to avoid damaging the system.

Product Information

Selecting “Product Information” from the Advanced Options menu displays the following secreen:

This menu lets you configure the system memory.

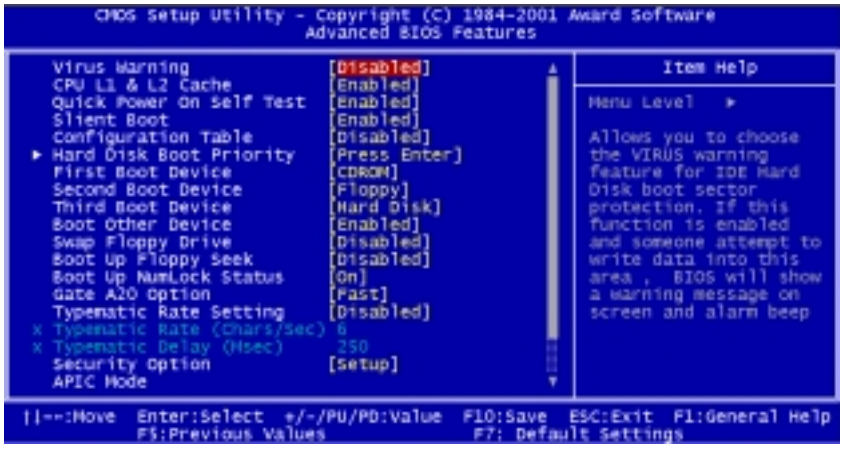


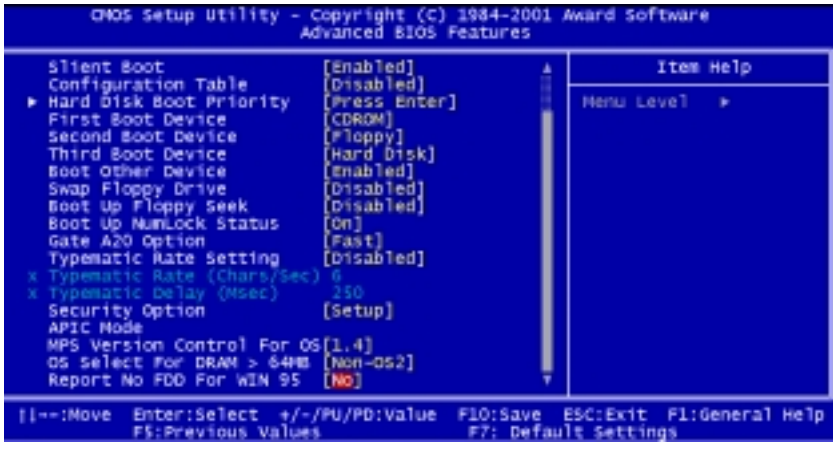
The following table describes the parameters found in this sub-menu

Parameter	Description
System BIOS ID	R01-C0. BIOS real version
BIOS release date	BIOS release date

Advanced BIOS Features

Selecting “Advanced BIOS Features” from the Advanced Options menu displays the following screen:





The following table describes the parameters found in the sub- menu. Settings in boldface are the default and suggested settings

.

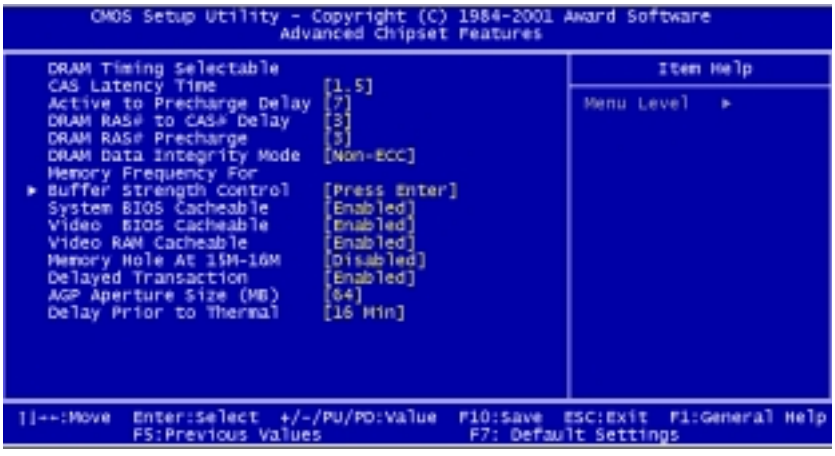
Parameter	Description	Options
CPU L1 & L2 Cache	CPU L1 & L2 cache enabled	**Enabled**/ Disabled
Swap Floppy Drive	If the system has two floopy drives, choose enabled to assign physical drive B to logical drive A and vice versa.	**Disabled/**Enabled
Boot Up Flopppy Seek	If the item is enabled, BIOS will test floppy drives to determine whether they have 40 or 80 tracks.	**Disabled/**Enabled
Boot Up NumLock Status	Selects power on state for NumLock.	**On**/ Off
Gate 20 Option	Fast: Lets chipset control Gate A20 Normal: A pin in the keyboard controller, controls Gate 20. Default is fast.	**Fast**/Normal
Typematic Rate Setting	Keystrokes repeat at a rate determined by the keyboard controller-- when enabled, the typematic rate and typematic delay can be selected. *Typematic Rate (Chars/Sec) 6 *Typematic Delay (MSec) 250	**Disabled/**Enabled

.

Parameter	Description	Options
APIC Mode	Advanced Interrupt Controller. The I/O APIC handles interrupts very differently than the 8259. (Refer to ICH2 EDS Rev 1.0 P6-39, 6.8)	**Enabled** Disabled
MPS Version Control For OS	Multi CPU for NT. system	**1.4**/ 1.1

Advanced Chipset Features

Selecting "Advanced BIOS Features" from the Advanced Options menu displays the following screen.

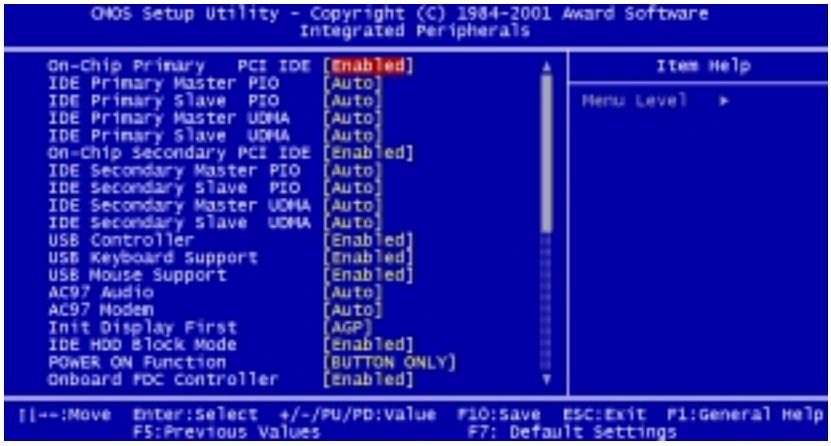


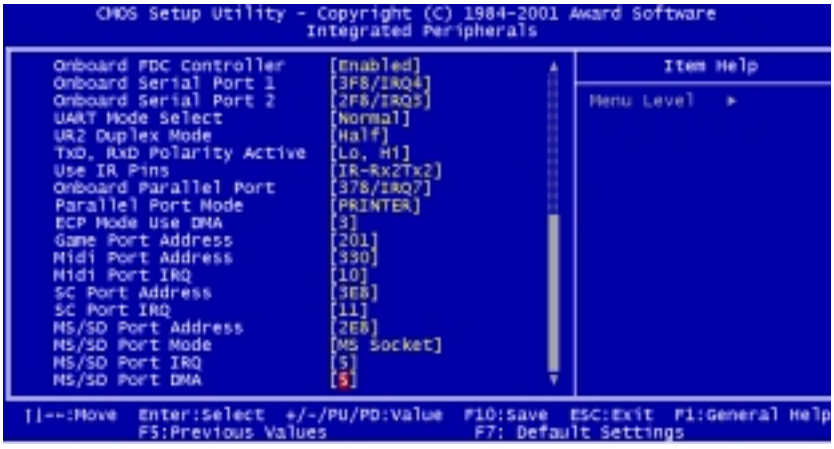
The following table describes the parameters found in the sub-menu. Settings in boldface are the default and suggested settings

.

Parameter	Description	Option
DRAM Timing Selectable	SDRAM Timing	
CAS Latency Time	The default setting by your DRAM's SPD.	**1.5**/2/2.5/3
Active to Precharge Delay	The default setting by your DRAM's SPD.	**7**/6/5
DRAM RAS #to CAS# Delay	The default setting by your DRAM's SPD.	**3**/2
DRAM RAS# Precharge	The default setting by your DRAM's SPD.	**3**/2
DRAM Data Integrity Mode	The default setting by your DRAM's SPD.	**Non-ECC**/ECCl
System BIOS Cacheable	E.F segment shadow RAM cacheable.	**Enabled**/Disabled
Video BIOS Cacheable	C segment shadow RAM cacheable.	**Enabled**/Disabled
Video RAM Cacheable	A.B segment shadow RAM cacheable.	**Enabled**/Disabled
Delayed Transaction	ICH2 enables delayed transactions for internal register, FWH, and LPC I/F accesses.	**Enabled**/Disabled
Delay Prior to Thermal	Enables Pentium 4 thermal function - 16 miuntes after POST.(only for ACPI OS)	**16/**4/8/32 minutes

Integrated Peripherals



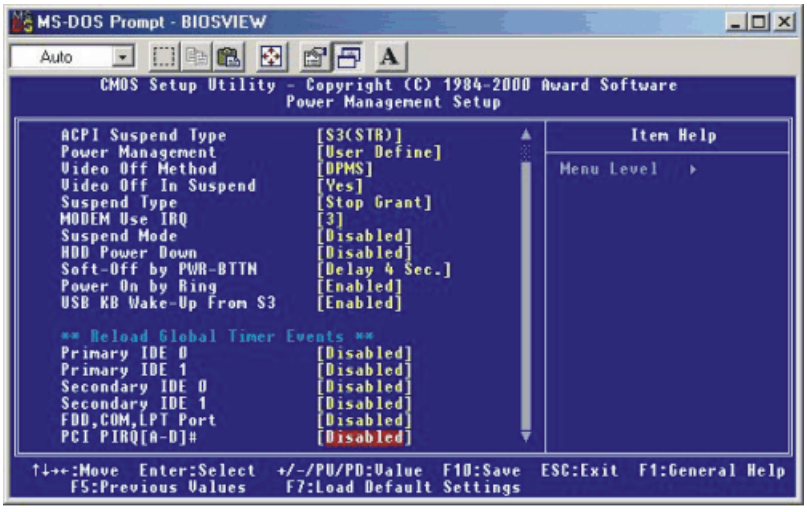


The following table describes the parameters found in the sub-menu. Settings in boldface are the default and suggested settings.

Parameter	Description	Option
AC97 Modem	Enabling the on-die AC97 MODEM if no add-on PCI MODEM device.	**Auto** Disabled
UART Mode Select	Selects the UART as Serial Port (Normal) or IRDA or ASKIR.	**Normal** IrDA ASKIR
UR2 Duplex Mode	Selects the speed of UR2 Duplex Mode.	**Half** Full
TxD, RxD Polarity Active	Selects the speed of TxD, RxD Polarity Active.	**Lo, Hi** Lo, Lo Hi, Lo Hi, Hi
Use IR Pins	Use IR Pins as IR-Rx2Tx2 or RxD2, TxD2	**IR-Rx2Tx2** RxD2, TxD2

Power Management Setup

Selecting “Power Management Setup” from the Advanced Options menu displays the following screen:



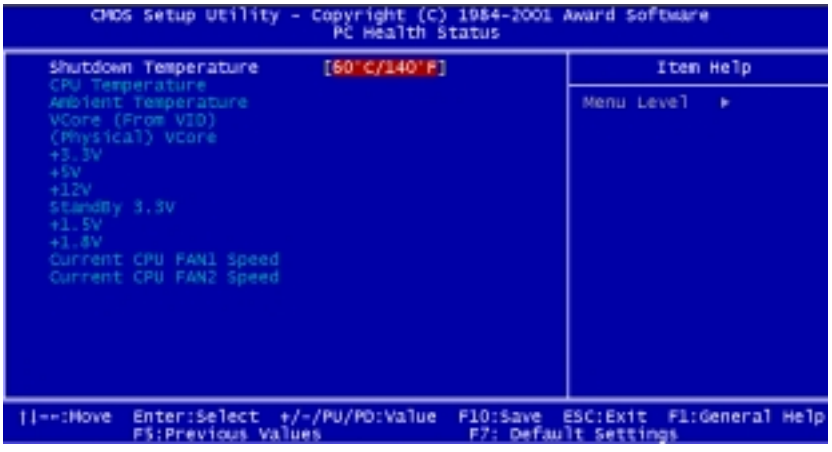
The following table describes the parameters found in the sub-menu. Settings in boldface are the default and suggested settings.

Parameter	Description	Option
ACPI Functiont	ACPI power management	**Enabled** Disabled
ACPI Suspend Type	Selects the ACPI Suspend Type as S3 (STR, Suspend to RAM) or S1 (POS, Power On Suspend)	**S3 (STR)** S1 (POS)
Video Off Method	Turn off the video by DPMS or Blank Screen or V/H SYNC + Blank Screen	**SYNC+BLANK** Blank Screen V/H
Video Off In Suspend	Turn off the video when entering the Suspend mode.	**Yes** No
Suspend Type	When entering the Suspend mode, Stop Grant won’t stop CPU Clock, PwrOn (Power On) Suspend will.	**Stop Grant** PwrOn Suspend
MODEM Use IRQ	This item lets you set an IRQ for the modem.	**3**, 4, 5, 7, 9, 10, 11, and N/A
Primary IDE 0*	To enable or disable the detection of Primary IDE 0 (HDD activities for power down state transition.	**Disabled** Enabled
Primary IDE 1*	To enable or disable the detection of Primary IDE 1 (HDD activities for power down state transition.	**Disabled** Enabled
Secondary IDE 0*	To enable or disable the detection of Secondary IDE 0 (HDD) activities for power down state transition.	**Disabled** Enabled
Secondary IDE 1*	To enable or disable the detection of Secondary IDE 1 (HDD) activities for power down state transition.	**Disabled** Enabled
FDD, COM, LPT port*	To enable or disable the detection of FDD, COM port, and LPT port activities for power down state transition.	**Disabled** Enabled
PCI PIRQ [A-D]#*	To enable or disable the detection of PCI PIRQ [A-D]# activities for power down state transition.	**Disabled** Enabled

NOTE: These are global timer events.

PC Health Status

Selecting “ PC Health Status” from the Advanced Options menu displays the following screen:

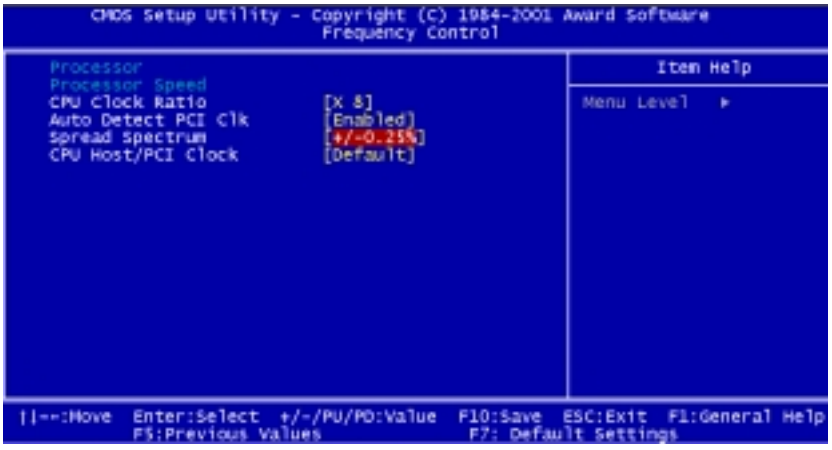


The following table describes the parameters found in the sub-menu.

Parameter	Dexcription	Option
Shutdown Temperature	CPU Temperature Ambient Temperature VCore (from VID) (Physical) VCore +3.3V +5V +12V Standby 3.3V +1.5V +1.8V Current CPU FAN1 Speed Current CPU FAN2 Speed	The option items vary depending on your BIOS.

Frequency Control

Selecting “ Frequency Control” from the Advanced Options menu displays the following screen:



The following table describes the parameters found in the sub-menu.

Parameter	Description	Option
CPU Clock Ratio	Core Clock Frequency to System Bus Ratio (RO)	The option items vary depending on your BIOS.
Auto Detect PCI C1K		**Enabled**/Disabled
Spread Spectrum	This parameter let you enable or disable the spread spectrum.	**+/-0.25%** Disabled -0.5% +/-0.5% +/-0.38
CPU Host/PCI Clock	Front side bus frequency/PCI clock.	**Default** 100/33 Mhz 105/35 Mhz 108/36 Mhz 114/38Mhz 120/40Mhz

Machine Disassembly and Replacement

This chapter contains 2 separate step-by-step procedures on how to disassemble the Veriton 7200 desktop computer for maintenance and troubleshooting.

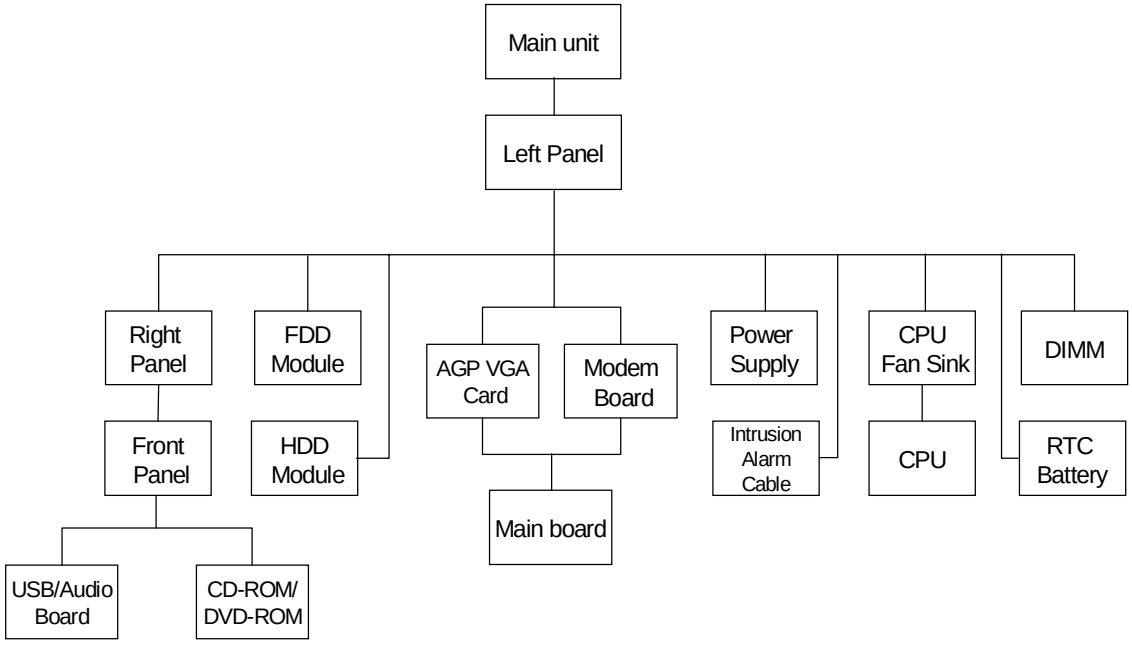
To disassemble the computer, you need the following tools:

- Wrist grounding strap and conductive mat for preventing electrostatic discharge
- Flat-bladed screwdriver
- Phillips screwdriver
- Hexagonal screwdriver
- Plastic stick

NOTE: The screws for the different components vary in size. During the disassembly process, group the screws with the corresponding components to avoid mismatches when putting back the components.

Disassembly Procedure Flowchart

The flowchart on the succeeding page gives you a graphical representation on the entire disassembly sequence and instructs you on the components that need to be removed during servicing.



Opening the Housing

This section tells you how to open the housing cover when you need to install additional components inside the system unit.

CAUTION: Before you proceed, make sure that you have turned off the system and all peripherals connected to it.

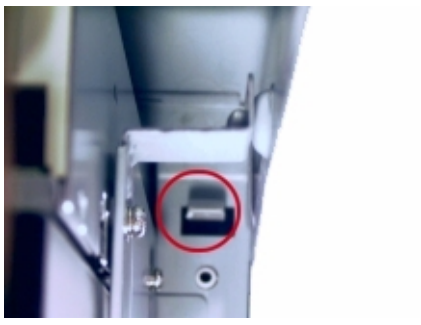
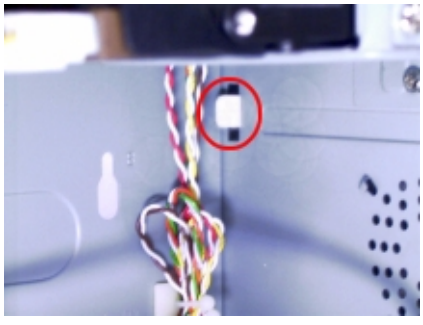
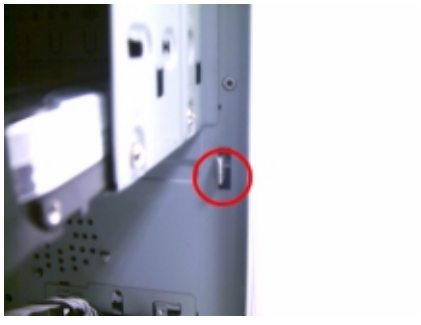
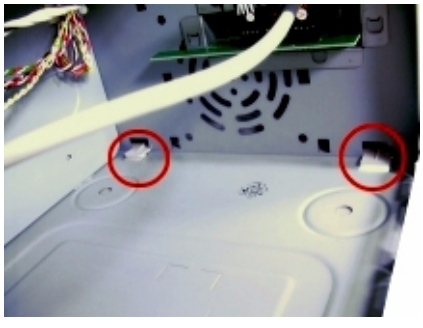
Removing the Housing

1. Turn off the system power and unplug all cables.
2. Place the system unit on a flat, steady surface.
3. Remove the four screws of the right panel and left panel using a screwdriver. Set the screws aside, you will need them when replacing the panel of the unit.
4. Slide the right panel out and then gently pull it outward to detach it from the housing. Do the same thing to the left panel.

.

Removing the Front Panel

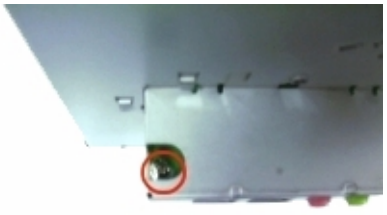
1. See “Removing the Housing” on page 54
2. Release the 6 latches as shown below that holds the front panel and then remove it from the housing.

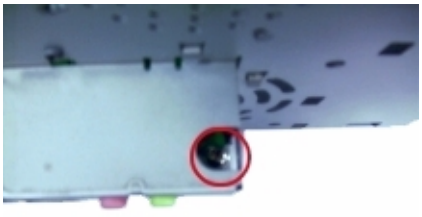






Removing the USB/ Audio Board

1. See “Removing the Housing” on page 54
2. See “Removing the Front Panel” on page 55
3. Disconnect the audio cable and the USB cable from the audio board.

4. Remove the two screws that hold the audio board, then remove it from the housing.

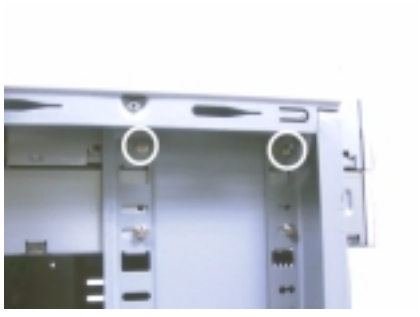




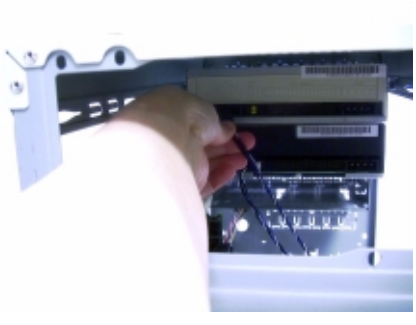
Removing the CD-ROM/DVD-ROM/CD-RW Drive

Follow these steps to remove the CD-ROM drive:

1. See “Removing the Housing” on page 54.
2. See “Removing the Front Panel” on page 55
3. Remove the four screws holding the CD-ROM drive.



4. Disconnect the power connector, CD-ROM drive cable, and audio cable, then remove the CD-ROM drive from the housing.

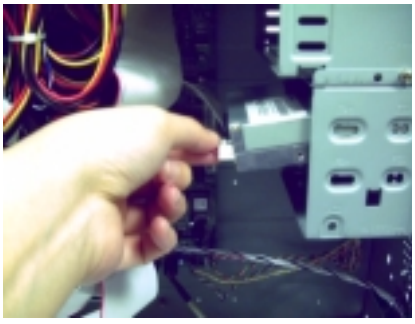


Removing the Floppy Disk Drive

Follow these steps to remove the diskette drive:

1. See “Removing the Housing” on page 54. (Remove the left panel only)
2. Remove the four screws holding the diskette drive.

3. Disconnect the power connector and the diskette drive cable, then remove the diskette drive from the housing.

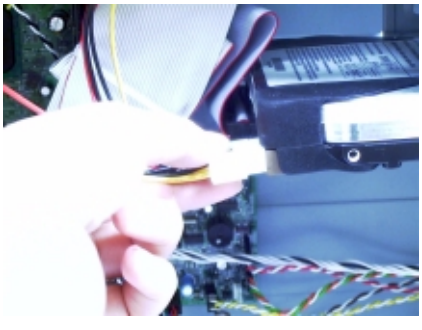


Removing the Hard Disk Drive Module

Follow these steps to remove the hard disk drive:

1. See “Removing the Housing” on page 54. (Remove the left panel only)
2. Remove the four screws that hold the hard disk drive to the disk frame. Set the screws aside.

3. Detach the power and disk drive cables from the hard disk drive, then detach the disk drive from the drive frame.



Removing the AGP VGA Card

1. See “Removing the Housing” on page 54. (Remove the left panel only)
2. Remove the screw on the bracket of the AGP card. Set the screw aside, you will need it when reinserting the AGP card.
3. Gently pull out the AGP card to remove it from the AGP slot.

Removing the Modem Card

1. See “Removing the Housing” on page 54. (Remove the left panel only)
2. Remove the screw on the bracket of the modem card. Set the screw aside, you will need it when reinserting the modem card.

3. Gently pull out the modem card to remove it from the PCI slot.

NOTE: When you turn on the system, BIOS automatically detects and assigns resources to the PCI or AGP devices.

Removing the Main Board

1. See “Removing the Housing” on page 54. (Remove the left panel only)
2. Put the housing to lying position with the open area facing upward.
3. See “Removing the AGP VGA Card” on page 59
4. See “Removing the Modem Card” on page 59
5. Remove the six screws holding the main board and then remove the main board from the housing.

Removing the Power Supply

1. See “Removing the Housing” on page 54. (Remove the left panel only)
2. Disconnect the power supply power connector from the main board.
3. Remove the four screws holding the power supply, and then remove the power supply from the housing..

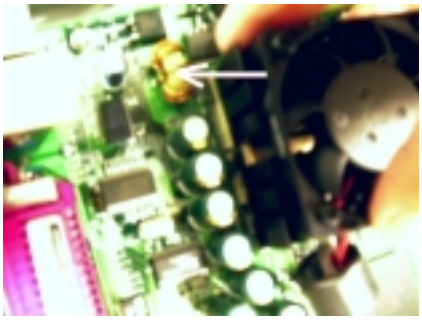
Removing the Intrusion Alarm

1. See “Removing the Housing” on page 54. (Remove the left panel only)
2. Remove the screw that secures the intrusion alarm and then remove it from the housing.

Removing the Processor

Follow these steps to remove the processor:

1. See “Removing the Housing” on page 54. (Remove the left panel only)
2. Detach the fan/heatsink cable connector .
3. Remove the fan/heatsink from the processor.



4. Pull the socket lever up to release the processor pins from the socket holes.
5. Pull out the processor from the socket.

.

WARNING:The heatsink becomes very hot when the system is On. Never touch the heatsink with any metal or with your hands.

Removing a DIMM

1. See “Removing the Housing” on page 54. (Remove the left panel only)
2. Press the latches on both sides of the DIMM socket outward, to release the DIMM.
3. Then gently lift the DIMM out to remove it.

Removing the RTC Battery

1. See “Removing the Housing” on page 54. (Remove the left panel only)
2. Put the housing to lying position with the open area facing upward.
3. Release the latch to release the RTC battery.

Troubleshooting

This chapter provides troubleshooting information for the Veriton 7200:

- Power-On Self-Test (POST
- Index of Error Message
- Index of Error Symptoms
- Undetermined Problems

Power-On Self-Test (POST)

Each time you turn on the system, the Power-on Self Test (POST) is initiated. Several items are tested during POST, but is for the most part transparent to the user.

The Power-On Self Test (POST) is a BIOS procedure that boots the system, initializes and diagnoses the system components, and controls the operation of the power-on password option. If POST discovers errors in system operations at power-on, it displays error messages on screen, generates a check point code at port 80h or even halts the system if the error is fatal.

The main components on the main board that must be diagnosed and/or initialized by POST to ensure system functionality are as follows:

- Microprocessor with built-in numeric co-processor and cache memory subsystem
- Direct Memory Access (DMA) controller (8237 module)
- Interrupt system (8259 module) or APIC (advance program interrupt controller)
- Three programmable timers (system timer and 8254 module)
- ROM subsystem
- RAM subsystem
- CMOS RAM subsystem and real time clock/calendar with battery backup
- Onboard serial interface controller
- Onboard parallel interface controller
- Embedded hard disk interface and one diskette drive interface
- Keyboard and auxiliary device controllers
- I/O ports
  - Two RS232 serial ports
  - One parallel port
  - One PS/2-compatible mouse port
  - OnePS/2-compatible keyboard port

NOTE: When Post executes a task, it uses a series of preset numbers called check points to be latched at port 80h, indicating the stages it is currently running. This latch can be read and shown on a debug board.

The following table describes the BIOS common tasks carried out by POST. Each task is denoted by an unique check point number. For other unique check point numbers that are not listed in the table, refer to the correspoing product service guide.

Post Checkpoints List: The list may vary accordingly depending on your BIOS

.

Checkpoint	Description
CFh	Test CMOS R/W functionality
C0h	Early chipset initialization: -Disable shadow RAM -Disable L2 cache (socket 7 or below) -Program basic chipset registers
C1h	Detect memory -Auto-detection of DRAM size, type and ECC. -Auto-detection of L2 cache (socket 7 or below)
C3h	Expand compressed BIOS code to DRAM
C5h	Call chipset hook to copy BIOS back to E000 & F000 shadow RAM.
0h1	Expand the Xgroup codes locating in physical address 1000:0
02h	Reserved

.

Checkpoint	Description
03h	Initial Superio_Early _Init switch
04h	Reserved
05h	1. Blank out screen 2. Clear CMOS error flag
06h	Reserved
07h	1. Clear 8042 interface 2. Initialize 8042 self-test
08h	1. Test special keyboard controller for Winbond 977 series Super I/O chips. 2. Enable keyboard interface.
09h	Reserved
0Ah	1. Disable PS/2 mouse interface (optional) 2. Auto detect ports for keyboard & mouse followed by a port & interface swap (optional). 3. Reset keyboard for Winbond 977 series Super I/Q chips.
0Bh	Reserved
0Ch	Reserved
0Dh	Reserved
0Eh	Test F000h segment shadow to see whether it is R/W-able or not. If test fails, keep beeping the speaker.
0Fh	Reserved
10h	Auto detect flash type to load appropriate flash R/W codes into the run time area in F000 for ESCD & DMI support.
11h	Reserved
12h	Use walking 1's algorithm to check out interface in CMOS circuitry. Also set real-time clock power status, and then check for override.
13h	Reserved
14h	Program chipset default values into chipset. Chipset default values are MODBINable by OEM customers.
15h	Reserved
16h	Initial Early_Init_Onboard_Generator switch.
17h	Reserved
18h	Detect CPU information including brand, SMI type (Cyrix or Intel) and CPU level (586 or 686)
19h	Reserved
1Ah	Reserved
1Bh	Initial interrupts vector table. If no special specified, all H/W interrupts are directed to SPURIOUS_INT_HDLR & S/W interrupts to SPURIOUS_soft_HDLR.
1Ch	Reserved
1Dh	Initial Early_PM_INIT switch.
1Eh	Reserved
1Fh	Load keyboard matrix (notebook platform)
20h	Reserved
21h	HPM initialization (notebook platform)
22h	Reserved

.

Checkpoint	Description
23h	1. Check validity of RTC value: e.g. a value of 5Ah is an invalid value for RTC minute. 2. Load CMOS settings into BIOS stack. If CMOS checksum fails, use default value instead. 3. Prepare BIOS resource map for PCI & PnP use. If ESCD is valid, take into consideration of the ESCD's legacy information. 4. Onboard clock generator initialization. Disable respective clock resource to empty PCI & DIMM slots. 5. Early PCI initialization -Enumerate PCI bus number -Assign memory & I/O resource -Search for a valid VGA device and VGA BIOS, and put it into C000:0
24h	Reserved
25h	Reserved
26h	Reserved
27h	Initialize INT 09 buffer
28h	Reserved
29h	1. Program CPU internal MTRR (P6 & PII) for 0-640K memory address. 2. Initialize the APIC for Pentium class CPU. 3. Program early chipset according to CMOS setup. Example: onboard IDE controller. 4. Measure CPU speed. 5. Invoke video BIOS.
2Ah	Reserved
2Bh	Reserved
2Ch	Reserved
2Dh	1. Initialize multi-language 2. Put information on screen display, including Award title, CPU type, CPU speed...
2Eh	Reserved
2Fh	Reserved
30h	Reserved
31h	Reserved
32h	Reserved
33h	Reset keyboard except Winbond 977 series Super I/O chips.
34h	Reserved
35h	Reserved
36h	Reserved
37h	Reserved
38h	Reserved
39h	Reserved
3Ah	Reserved
3Bh	Reserved
3Ch	Test 8254.
3Dh	Reserved
3Eh	Test 8259 interrupt mask bits for channel 1
3Fh	Reserved
40h	Test 8259 interrupt mask bits for channel 2.
41h	Reserved
42h	Reserved

.

Checkpoint	Description
43h	Test 8259 functionality
44h	Reserved
45h	Reserved
46h	Reserved
47h	Initialize EISA slot
48h	Reserved
49h	1. Calculate total memory by testing the last double word of each 64K page. 2. Program writes allocation for AMD K5 CPU.
4Ah	Reserved
4Bh	Reserved
4Ch	Reserved
4Dh	Reserved
4Eh	1. Program MTRR of M1 CPU. 2. Initialize L2 cache for P6 class CPU & program CPU with proper cacheable range. 3. Initialize the APIC for P6 class CPU. 4. On MP platform, adjust the cacheable range to smaller one in case the cacheable ranges between each CPU are not identical.
4Fh	Reserved
50h	Initialize USB
51h	Reserved
52h	Test all memory (clear all extended memory to 0)
53h	Reserved
54h	Reserved
55h	Display number of processors (multi-processor platform)
56h	Reserved
57h	1. Display PnP logo 2. Early ISA PnP initialization -Assign CSN to every ISA PnP device.
58h	Reserved
59h	Initialize the combined Trend Anti-Virus code.
5Ah	Reserved
5Bh	(Optional Feature) Show message for entering AWDFLASH.EXE from FDD(optional)
5Ch	Reserved
5Dh	1. Initialize Init_Onboard_Super_IO switch. 2. Initialize Init_Onboard_AUDIO switch.
5Eh	Reserved
5Fh	Reserved
60h	Okay to enter Setup utility; i.e. not until this POST stage can users enter the CMOS setup utility.
61h	Reserved
62h	Reserved
63h	Reserved
64h	Reserved
65h	Initialize PS/2 Mouse
66h	Reserved

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Checkpoint	Description
67h	Prepare memory size information for function call: INT 15h ax=E820h
68h	Reserved
69h	Turn on L2 cache
6Ah	Reserved
6Bh	Program chipset registers according to items described in Setup& Auto-configuration table.
6Ch	Reserved
6Dh	1. Assign resources to all ISA PnP devices. 2. Auto assign ports to onboard COM ports if the corresponding item in Setup is set to "AUTO"
6Eh	Reserved
6Fh	1. Initialize floopy controller 2. Set up floppy related fields in 40: hardware.
70h	Reserved
71h	Reserved
72h	Reserved
73h	(Optional Feature) Enter AWDFLASH.EXE if: -AWDFLASH is found in floppy drive -ALT+F2 is pressed
74h	Reserved
75h	Detect & install all IDE devices: HDD, LS120, ZIP,CDROM.....
76h	Reserved
77h	Detect serial ports & parallel ports
78h	Reserved
79h	Reserved
7Ah	Detect & install co-processor
7Bh	Reserved
7Ch	Reserved
7Dh	Reserved
7Eh	Reserved
7Fh	1. Switch back to text mode if full screen logo is supported. -If errors occur, report errors & wait for keys -If no erros occur or F1 key is pressed to continue: Clear EPA or customization logo.
80h	Reserved
81h	Reserved
82h	1. Call chipset power management hook. 2. Recover the text fond used by EPA logo (not for full screen logo) 3. If password is set, ask for password.
83h	Save all data in stack back to CMOS.
84h	Initialize ISA PnP boot devices.

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Checkpoint	Description
85h	1. USB final Initialization 2. NET PC: Build SYSID structure 3. Switch screen back to text mode. 4. Set up ACPI table at top of memory. 5. Invoke ISA adapter ROMs. 6. Assign IRQs to PCI devices 7. Initialize APM 8. Clear noise of IRQs/
86h	Reserved
87h	Reserved
88h	Reserved
89h	Reserved
90h	Reserved
91h	Reserved
92h	Reserved
93h	Read HDD boot sector information for Trend Anti-Virus code
94h	1. Enable L2 cache 2. Program boot up speed 3. Chipset final initialization 4. Power management final initialization 5. Clear screen & display summary table 6. Program K6 write allocation 7 Program P6 class write combining .
95h	1. Program daylight saving 2. Update keyboard LED & typematic rate
96h	1. Build MP table 2. Build & update ESCD 3. Set CMOS century to 20h or 19h 4. Load CMOS time into DOS timer tick 5. Build MSIRQ routing table
FFh	Boot attempt (INT 19h)

POST Error Messages List

If you cannot run the diagnostics program tests but did receive a POST error message, use “POST Error Messages List” to diagnose system problems. If you did not receive any error message, look for a description of your error symptoms in “Error Symptoms List” on page 73 .

NOTE: When you have deemed it necessary to replace an FRU, and have done so, you must run a total system check to ensure that no other activity has been affected by the change. This system check can be done through the diagnostics program.

NOTE: Check all power supply voltages, switch, and jumper settings before you replace the main board. Also check the power supply voltages if you have a “system no-power” condition.

If you are unable to correct the problem by using the “BIOS Messages List” table and “Error Symptoms List” table, go to “Undetermined Problems” on page 77.

To diagnose a problem, first find the BIOS error messages in the left column. If directed to a check procedure, replace the FRU indicated in the check procedure. If no check procedure is indicated, the first Action/FRU listed in right column is the most likely cause.

BIOS Messages	Action/FRU
CMOS Battery Bad	Battery should be replaced
CMOS Checksum Error	Check the battery and replace if necessary.
Disk Boot Failure	Insert system disk into Drive (A:)and press e . **NOTE:** If you assumed the system would boot from the hard drive, make sure the controller is inserted correctly and all cables are properly attached. Also be sure the disk is formatted as a boot device. Then reboot the system.
Diskette Drives or Types Mismatch Error	Run **Setup**
Display Switch Is Set Incorrectly	Determine which setting is correct, and then either turn off the system and change the jumper, or enter **Setup** and change the **VIDEO** selection.
Display Type Has Changed Since Last Boot	Configure the system for the new display type/
Error Encountered Initializing Hard Drive	Be sure the adapter is installed correctly and all cables are correctly and firmly attached. Also be sure the correct hard drive type is selected in **Setup**.
Error Encountered Initializing Hard Disk Controller	Make sure the cord is correctly and firmly installed in the bus. Be sure the correct hard drive type is selected in Setup. Also check if any jumper needs to be set correctly on the hard drive.
Floopy Disk CNTRLR Error or No CNTRLR Present	Make sure the controller is installed correctly and firmly. If there are no floppy drives installed, be sure the Diskette Drive selection in **Setup** is set to **None**.
Keyboard Error or No Keyboard Present	Make sure the keyboard is attached correctly and no keys are pressed during the boot. **NOTE:** If you are purposely configuring the system without a keyboard, set the error halt condition in Setup to HALT ON ALL, BUT KEYBOARD.This will cause BIOS to ignore the missing keyboard and continue the boot.
Memory Address Error	Use this location along with the memory map for your system to find and replace the bad memory chips.
Memory Parity Error	Use this location along with the memory map for your system to find and replace the bad memory chips.

BIOS Messages	Action/FRU
Memory Size Has Changed Since Last Boot	In EISA mode, use Configuration Utility to reconfigure the memory configuration. In ISA mode, enter **Setup** and enter the **new memory size** in the memory fields.
Memory Verify Error	Use this location along with your system's memory map to locate hte bad chip.
Offending Address Not Found	This message is used in conjunction with the I/O CHANNEL CHECK and RAM PARITY ERROR messages when the segment that has caused problem cannot be isolated.
Offending Segment	This message is used in conjunction with the I/O CHANNEL CHECK and RAM PARITY ERROR messages when the segment that has caused problem cannot be isolated.
Press A Key To Reboot	Press any key and the system will reboot.
Press **F1** to Disable NMI, **F2** to Reboot	When the BIOS detects a Non-maskable Interrupt condition during boot, this will allow you to disable the NMI and continue to boot, or you can reboot the system with the NMI enabled.
RAM Parity Error	Checking for segment
System Halted	Press CTRL + **ALT +** DEL to reboot. Or plug out AC and wait for 10 seconds, then plug in AC again. Press power button to boot the system again. .
Floppy Disk(s) Fail(80)	Unable to reset floppy subsystem
Floppy Disk(s) Fail (40)	Floopy Type mismatch
Hard Disk(s) Fail (80)	HDD reset failed
Hard Disk(s) Fail (40)	HDD controller diagnostics failed
Hard Disk(s) Fail (20)	HDD initialization error
Hard Disk(s) Fail (10)	Unable to recalibrate fixed disk
Hard Disk(s) Fail (08)	Sector Verify failed
Keyboard Is Locked Out	Unlock the key
Keyboard Error Or No Keyboard Present	Make sure the keyboard is attached correctly and no keys are pressed during the boot.
Manufacturing POST loop	System will repeat POST procedure infinitely while the P15 of keyboard controller is pull low. This is also used for M/B burn in test.
BIOS ROM Checksum Error	BIOS will boot from the boot block and read BIOS binarry file from FDD disk, then flash BIOS ROM (FWH - Firmware Hub).
Memory Test Fail	BIOS reports the memory test fail if the onboard memory is tested error

Error Symptoms List

NOTE: To diagnose a problem, first find the error symptom in the left column. If directed to a check procedure, replace the FRU indicated in the check procedure. If no check procedure is indicated, the first Action/ FRU listed in right column is the most likely cause.

Error Symptom	Action/FRU
Processor / Processor Fan	
NOTE: Normally, the processor fan should be operative, and the processor clock setting should be exactly set to match its speed requirement before diagnosing any processor problems.	
Processor fan does not run but power supply fan runs.	1. Ensure the system is not in power saving mode. See “Power Management” in chapter 2. 2. With the system power on, measure the voltage of processor fan connector. Its reading should be +12Vdc. Its reading should be +12Vdc. If the reading shows normal, but the fan still does not work, then replace a good fan. 3. Main board.
Processor test failed.	1. Processor. 2. Main board.
Main board and Memory	
NOTE: Ensure the memory modules are installed properly and the contact leads are clean before diagnosing any system problems.	
Memory test failed.	1. See "Memory" 2. Main board
Incorrect memory size shown or repeated during POST.	1. Insert the memory modules in the DIMM sockets properly, then reboot the system. 2. Memory module. 3. Main board.
System works but fails to enter power saving mode when the `Power Management Mode` is set to `Enabled`.	1. Enter BIOS Setup and load default settings. In Windows Systems, check settings in Power Management Property of Control Panel. 2. Reload software from Recovery CD.
Blinking cursor only; system does not work.	1. Diskette/IDE drive connection/cables 2. Diskette/IDE disk drives 3. See “Undetermined Problems”. 4. Main board
Diskette Drive	
NOTE: Ensure the diskette drive is auto-setting in BIOS Setup and its read/write head is clean before diagnosing any diskette drive problems.(If only one drive is installed, please make sure the drive is connected to master connector or the drive is set to master.)	
Media and drive are mismatched.	1. Ensure the diskette drive is configured correctly in the Disk Drives of BIOS Setup. 2. Ensure the diskette drive is correctly formatted. 3. Diskette drive connection/cable 4. Diskette drive 5. Main board
Diskette drive does not work.	1. Ensure the diskette drive is not set to `None` in the Disk Drives of BIOS Setup. 2. Diskette drive power 3. Diskette drive connection/cable 4. Diskette drive 5. Main board
Diskette drive read/write error.	1. Diskette. 2. Ensure the diskette drive is not set to `Write protect` in the Security Options of BIOS Setup. 3. Diskette drive cable. 4. Diskette drive. 5. Main board.

Error Symptom	Action/FRU
Diskette drive LED comes on for more than 2 minutes when reading data.	1. Diskette 2. Diskette drive connection/cable 3. Diskette drive 4. Main board
Diskette drive LED fails to light, and the drive is unable to access for more than 2 minutes.	1. Diskette 2. Diskette drive power 3. Diskette drive connection/cable 4. Diskette drive 5. Main board
Diskette drive test failed.	1. Diskette 2. Diskette drive 3. Diskette drive cable 4. Main board
Hard Disk Drive	
NOTE: Ensure hard disk drive is configured correctly in BIOS Setup, cable/jumper are set correctly before diagnosing any hard disk drive problems. (If only one drive is installed, please make sure the drive is connected to master connector or the drive is set to master.)	
Hard disk drive test failed.	1. Enter BIOS Setup and Load default settings. 2. Hard disk drive cable. 3. Hard disk drive. 4. Main board.
Hard disk drive cannot format completely.	1. Enter BIOS Setup and Load default settings. 2. Hard disk drive cable. 3. Hard disk drive. 4. Main board.
Hard disk drive has write error.	1. Enter BIOS Setup and Load default settings. 2. Hard disk drive.
Hard disk drive LED fails to light, but system operates normally.	1. With the system power on, measure the voltage of hard disk LED connector. 2. Hard drive LED cable.
CD/DVD-ROM Drive	
NOTE: Ensure CD/DVD-ROM drive is configured correctly in BIOS Setup, cable/jumper are set correctly and its laser beam is clean before diagnosing any CD/DVD-ROM drive problems.	
CD/DVD-ROM drive LED doesn't come on but works normally.	1. CD/DVD-ROM drive
CD/DVD-ROM drive LED flashes for more than 30 seconds before LED shutting off. Software asks to reinstall disc. Software displays a reading CD/DVD error.	1. CD/DVD-ROM may have dirt or foreign material on it. Check with a known good disc. 2. CD/DVD-ROM is not inserted properly. 3. CD/DVD-ROM is damaged.
CD/DVD-ROM drive cannot load or eject when the system is turned on and its eject button is pressed and held.	1. Disconnect all cables from CD/DVD-ROM drive except power cable, then press eject button to try to unload the disk. 2. CD/DVD-ROM drive power. 3. CD/DVD-ROM drive
CD/DVD-ROM drive does not read and there are no messages are displayed.	1. CD may have dirt or foreign material on it. Check with a known good disc. 2. Ensure the CD/DVD-ROM driver is installed properly. 3. CD/DVD-ROM drive.
CD/DVD-ROM drive can play audio CD but no sound output.	1. Ensure the headphone jack of the CD/DVD-ROM has an output. 2. Turn up the sound volume. 3. Speaker power/connection/cable. 4. CD/DVD-ROM drive.
Real-Time Clock	
Real-time clock is inaccurate.	1. Ensure the information in the `Date and Time` of BIOS Setup is set correctly. 2. RTC battery. 3. Main board

Error Symptom	Action/FRU
Audio	
Audio software program invokes but no sound comes from speakers.	1. Speaker power/connection/cable.
Modem	
Modem ring cannot wake up system from suspend mode.	1. For the External Modem, make sure Power on By Ring in BIOS Setup or Power Management is set to Enabled. For the PCI modem, make sure Wake up by PCI card is set to Enabled. 2. If PCI modem card is used, reinsert the modem card to PCI slot firmly or replace the modem card. 3. In Win 98, ensure the telephone application is configured correctly for your modem and set to receive messages and/or fax.
Data/fax modem software program invokes but cannot receive/send data/fax	1. Ensure the modem card is installed properly.
Fax/voice modem software program invokes but has no sound output. (Data files are received normally; voice from modem cannot be produced, but system sound feature works normally.)	1. Ensure the modem voice-in cable from modem adapter card to main board
Video and Monitor	
Video memory test failed. Video adapter failed.	1. Remove all non-factory-installed cards. 2. Load default settings (if screen is readable). 3. Main board
Display problem: - Incorrect colors No high intensity Missing, broken, or incorrect characters Blank monitor(dark) Blank monitor(bright) Distorted image Unreadable monitor Other monitor problems	1. Monitor signal connection/cable. 2. Monitor 3. Video adapter card 4. Main board
Display changing colors.	1. Monitor signal connection/cable 2. Monitor 3. Main board
Display problem not listed above (including blank or illegible monitor).	1. “Monitor". 2. Load default settings (if screen is readable). 3. Main board

Error Symptom	Action/FRU
Parallel/Serial Ports	
Execute “Load BIOS Default Settings” in BIOS Setup to confirm ports presence before diagnosing any parallel/serial ports problems.	
Serial or parallel port loop-back test failed.	1. Make sure that the LPT# or COM# you test is the same as the setting in BIOS Setup. 2. Loop-back. 3. Main board.
Printing failed.	1. Ensure the printer driver is properly installed. Refer to the printer service manual. 2. Printer. 3. Printer cable. 4. Main board.
Printer problems.	1. Refer to the service manual for the printer.
Keyboard	
Some or all keys on keyboard do not work.	1. Keyboard
Power Supply	
Pressing power switch does not turn off system. (Only unplugging the power cord from electrical outlet can turn off the system.)	1. Ensure the `Power Switch < 4 sec.` in BIOS Setup of `Power Management` is not set to Instant-off. 2. Power switch cable assembly
Pressing power switch does not turn on the system.	1. Ensure the power override switch (situated at the back of the machine, just above the connector for the power cable) is not set to OFF. 2. Power switch cable assembly.
Executing software shutdown from Windows98 Start menu does not turn off the system. (Only pressing power switch can turn off the system).	1. Load default settings. 2. Reload software from Recovery CD.
No system power, or power supply fan is not running.	1. Power Supply 2. Main board
Other Problems	
Any other problems.	1. Undetermined Problems

Undetermined Problems

If an error message is present, go to “POST Error Messages List” on page 71. If you did not receive any messages, if the symptom is listed in “or “Error Symptoms List” on page 73 . If you still cannot solve the problem, continue with this check:

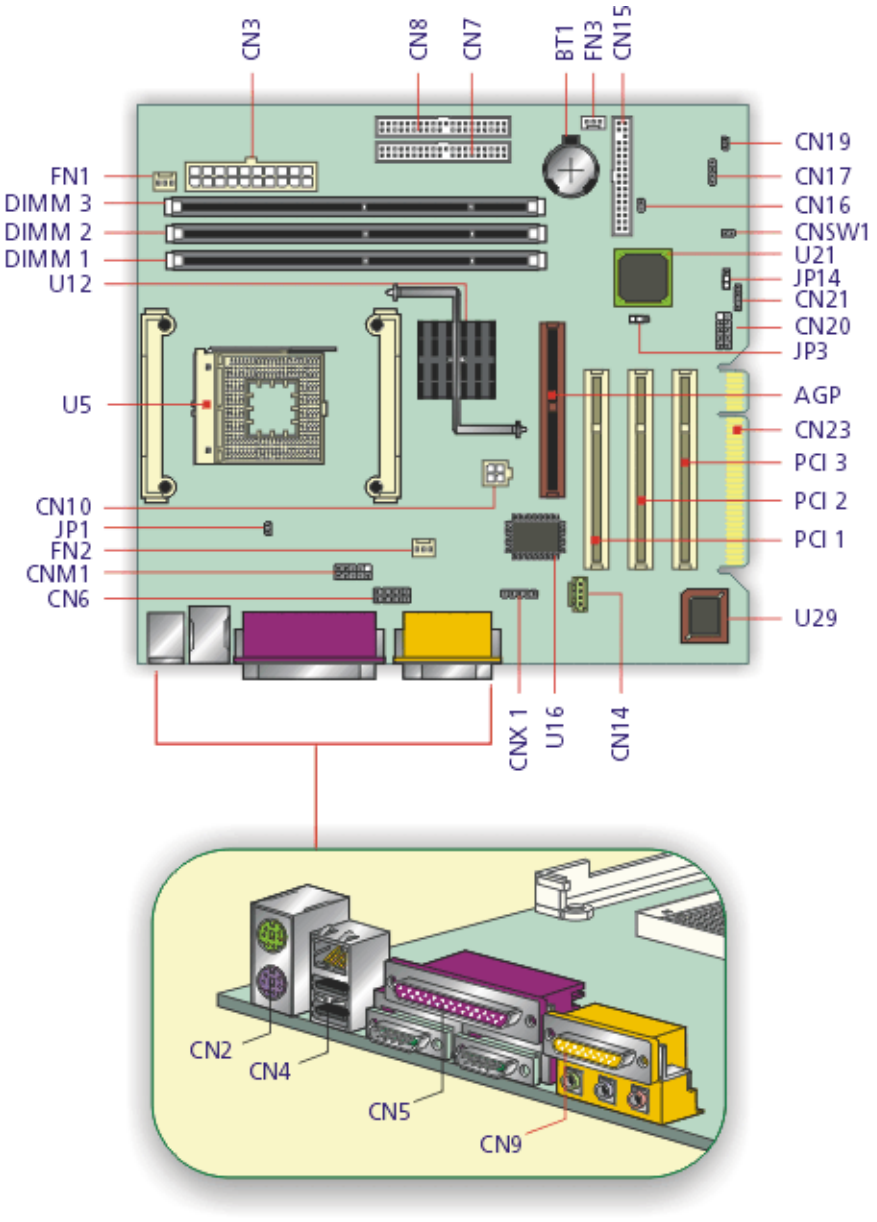
1. Check the power supply voltages. If the voltages are correct continue with the following steps:
2. Power off the system unit.
3. Perform the following checks, one by one, until you have isolated the problem FRU.
4. Load default settings in setup.
5. Check all main board jumper positions and switch settings.
6. Check all adapter card jumper positions.
7. Check all device jumper positions.
8. Check all cables and connectors for proper installation.
9. If the jumpers, switches and voltage settings are correct, remove or disconnect the following, one at a time:
10. Non-Acer devices
    - ❑ External devices
    - ❑ Any adapter card (modem card, LAN card or video card, if installed)
    - ❑ CD/DVD-ROM drive
    - ❑ Diskette drive
    - ❑ Hard disk drive
    - ❑ DIMM
    - ❑ Processor
    - ❑ Main board
11. Power on the system unit.
12. Repeat steps 2 through 5 until you find the failing device or adapter.

Jumper and Connector Information

Jumpers and Connectors

Refer to the following figure for the location of the jumpers and connectors on the main board:

Main board



Connector Description

Label	Component	Label	Component
AGP	AGP slot	CN23	EXT PCI slot
BT1	Battery	CNX1	Audio FPIO connector
CN2	PS/2 mouse (upper) and keyboard (lower) ports	CNM1	Smart card connector (com2)*
CN3	Power connector	CNSW1	IDE cold swap pin
CN4	Network (upper) and USB (lower) ports	DIMM1	Memory slot 1
CN5	Parallel port (upper) and serial ports (lower)	DIMM2	Memory slot 2
CN6	Memory Stick Connector	DIMM3	Memory slot 3
CN7	IDE 2 connector	FN1	3-pin fan SYS connector
CN8	IDE 1 connector	FN2	3-pin fan CPU connector
CN9	Game/MIDI (upper), line-out (left), line-in (middle) and mic-in (right) connectors	FN3	3-pin fan SYS connector
CN10	Power connector (+12V)	PCI1	PCI slot 1
CN14	CD-in connector	PCI2	PCI slot 2
CN15	FDD connector	PCI3	PCI slot 3
CN16	Intrusion connector	U5	CPU socket
CN17	HDD LED connector	U12	Intel 845 socket
CN19	Power button	U16	SMSC chipset
CN20	Front USB connector	U21	Intel ICH2 chipset
CN21	Power/Suspend LED connector	U29	BIOS chipset

NOTE: *Shared connection with serial port 2

Jumper Setting

Jumper	Function and settings
JP1	LAN active LED connector
JP3	Model Select
JP14	1-2 Clear CMOS 2-3 Normal*

NOTE: *: Default Settings.

FRU (Field Replaceable Unit) List

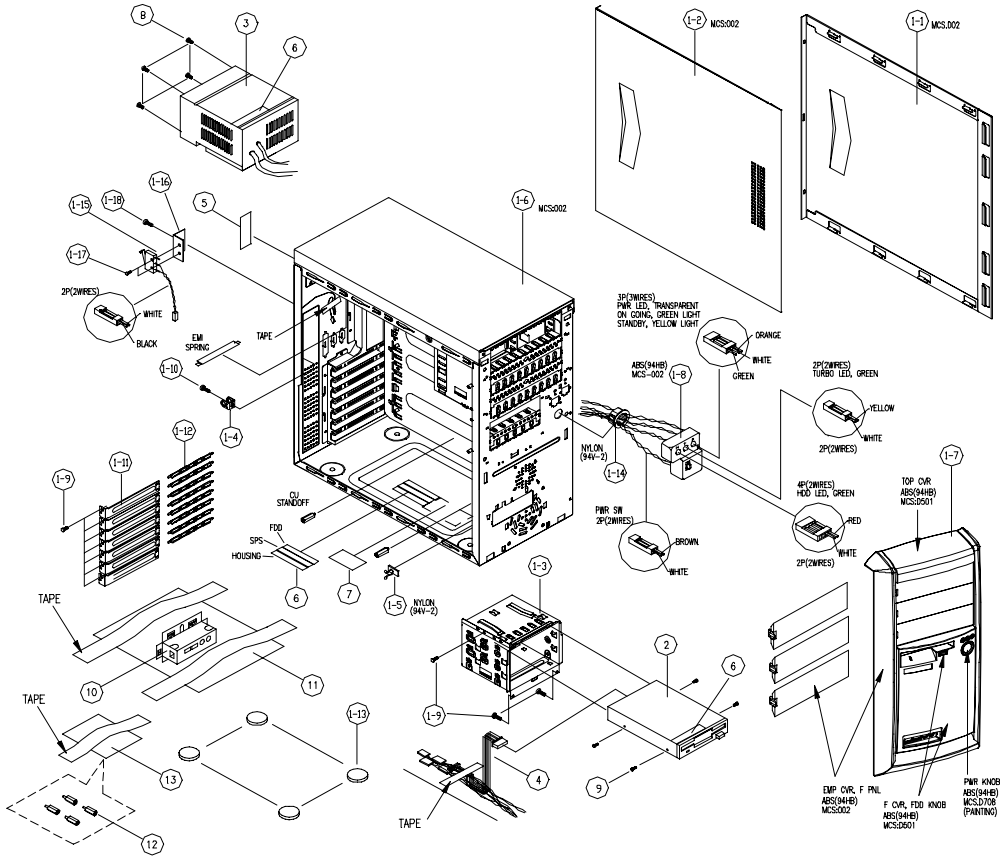
This chapter gives you the FRU (Field Replaceable Unit) listing in global configurations of Veriton 7200. Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization).

IMPORTANT: Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. For whatever reasons a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the local FRU list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

NOTE: To scrap or to return the defective parts, you should follow the local government ordinance or regulations on how best to dispose it, or follow the rules set by your regional Acer office on how to return it.

NOTE: The number indicates the location shown on exploded diagram or “NS” indicates “Not shown” on it.

Veriton 7200 Exploded Diagram



Picture	No.	Partname	Description
FDD/Floppy Disk Drive			
	2	FDD,1.44MB PANASONIC/ JU-256A047P V.H	FDD 1.44 JU-256A047P ACER V.H
Cables			
	NS	IDE CABLE,40PIN,3C 150+300MM	C.A 40P 3C 150+300MM IDE H61
	NS	FDD CABLE,34PIN,2C 350MM	C.A 34P 2C 350MM FDD M19A/FU
	NS	HDD CABLE 40PIN 3C 150+300MM ATA66	C.A. 40P 3C 150+300MM ATA66 H61
	NS	CDROM AUDIO CABLE,4PIN,2C 520MM	W.A 4P 2C AUDIO 520MM H61
	NS	AUDIO CABLE,6/5 PIN	W.A 6/5P 380MM IRDA TIFA

Picture	No.	Partname	Description
	NS	INTRUSION ALARM CABLE 2PIN 500MM	W.A. 2P ALARM SW 500MM CABLE 2
	NS	USB CABLE,10PIN 262MM	C.A USB/10P 260MM H61
	NS	LED Cable MODULE W/HOLDER	ASSY HLD LX45
Main Board			
	NS	MAINBOARD/S81M	S81M MB
Boards			
	NS	USB/AUDIO BOARD	S58M USB/AUDIO BOARD
Power Supply			
	3	POWER SUPPLY,200W,DELTA/DPS-200BP-112B	SPS 200W DELTA/DPS-200BP-112B

Picture	No.	Partname	Description
Case/Cover/Bracket assembly			
	1-7	FRONT PANEL W/O NAME PLATE W/ POWER KNOB	ASSY BZL VERITON NEW LOGO H80
	1-1	RIGHT COVER	CVR R SECC T-.8 LX45
	1-2	LEFT COVER	CVR L SECC T-.8 H80
	1-6	LOWER CASE	ASSY L-CASE W/USB HOLE H80
	1-3	FDD Bracket	FRAME FDD 3.5" SECC T-.6 LX45
	NS	EMPTY COVER	CVR EMPTY 525 CHA ABS 002 H80
Screws			
	NS	**SCREW PACK**	**ASSEMBLY SCREW PACK**
	1-18	SCREW	SCRW TAP HEX ZINC M3*.5*5
	1-9	SCREW	SCRW TAP HEX ZINC #6-32*4/16”
	12	SCREW	STAND SCREW CU MT85
	NS	SCREW	SCRW TAP HEX ZINC M3*.5*5

Picture	No.	Partname	Description
	NS	SCREW	SCRW TAP HEX ZINC #6-32*4/16”
	1-17	SCREW	SCREW MACH PAN M2*10L
	1-10	SCREW	SCRW MACH FLAT M3*0.5P*8L NI
	NS	SCREW	SCRW TAP HEX ZINC M3*.5*5
	NS	SCREW	SCRW TAP HEX ZINC #6-32*4/16”
Miscellaneous parts			
	NS	NAME PLATE	NAME PLATE 50*9.5MM H80(7200)
	NS	POWER BUTTON SPRING	SPRING PWR KNOB LX45
	NS	POWER BUTTON	PWR KNOB D708 H80 (VERITON)

Model Definition and Configuration

Veriton 7200

1. **Brand No: S81M MB**
2. **Project Name/ Code: S81M / 91.37P01.101**
3. **Description**

S81M uses INTEL Pentium 4 processor in the 478 Pin package and the Northwood Processor with the Brookdale chipset delivers a high performance and professional desktop platform solution.

With INTEL chipsets Brookdale MCH and ICH2, S81M provides the processor interface, DRAM interface, AGP interface, and HUB interface. The CPU interface supports the INTEL Pentium 4 processor subset of the Extended Mode of Scalable Bus Protocol. INTEL Brookdale is optimized for the INTEL Pentium 4 processor and INTEL Northwood processor. It supports a single channel of PC133 SDRAM. The MCH contains advanced power management logic.

Main Features

- Single Intel Pentium 4/ Northwood processor configurations at 400MT/ s
- GTL+ host bus with integrated termination supporting 32 bit host addressing
- Up to 3 GB (W/ 512Mb technology) of PC133 SDRAM
- 1.5v AGP interface with 4 x SBA/ Data Transfer and 2x / 4x Fast Write capability
- 8 bit, 66MHz 4x hub interface for highly concurrent operation
- 3 * 184 pin DIMM sockets (4M/ 8M/ 16M/ 32M/ 64M/ 128M/ 256M/ 512M DRAMs)
- ACPI 1.0 Power management compliant
- CPU clock throttling and clock stop control for complete ACPI S0 to S5 state support
- ACPI compliance BIOS
- ATA compliance hard disk power saving feature support Ultra DMA 100/ 66/ 33
- on-board PCI master enhanced local bus IDE
  - PIO mode 4
  - Multiword DMA Mode 4
  - Ultra DMA/ 33/ 66/ 100
- on-board serial ports - 2 high speed NS16C550 compatible UARTs with 16 byte FIFOs
- on-board parallel Port - SPP, EPP and ECP (IEEE 1284 compliant)
- on-board FDD interface - 1.2MB/ 1.44MB/ 2.88MB & 3 mode FDD
- PS/2 keyboard
- PS/2 mouse
- Plug-and-Play (PnP) feature
- Four USB connectors (Two USB on Port bracket, the other two on front panel)
- On board AC 97 Codec. (Realtex 201)
- On board RJ45 connector with Kinnereth PHY Chip for 10/100 Ethernet (Option)
- 1 AGP 4x Slot
- 3 + 2 PCI slots (with Golden finger for expanding)
- Software shutdown foe Windows 98, 2000, ME

Test Compatible Components

This computer's compatibility is tested and verified by Acer's internal testing department. All of its system functions are tested under Microsoft Windows XP Personal/Professional (Beta), Microsoft Windows ME (EN/TW) Environment, Microsoft Windows 2000 Professional (EN/TW), Microsoft Windows 98SE Environment (Driver Verify), Microsoft NT4.0 Workstation Environment (Driver Verify), Novell Netware 4.2 & 5.1 Environment and Linux Red Hat Environment.

Refer to the following lists for components, adapter cards, and peripherals which have passed these tests. Regarding configuration, combination and test procedures, please refer to the Veriton 7200 Compatibility Test Report released by the Acer Desktop System Testing Department.

Microsoft Windows XP Personal/ Professional (Beta) Test

Item	Specifications
Processor	Pentium 4 1.5GHz Pentium 4 1.7GHz Pentium 4 1.8GHz Pentium 4 1.9GHz
Memory	128MB 256MB
FDD	Panasonic JU256A046P
HDD	Seagate U6 20G 5400rpm Seagate U6 40G 5400rpm IBM Ericson 40G 7200rpm
CD-ROW DVD-ROM CD-RW	AOpen 52X Pioneer 16X AOpen 12x/0X/32
Mouse	Wheel Logitech /S48A S61 Logitec/930541-000 S59P Logitec Wheel USB Mouse
Keyboard	Darfon USB Keyboard
VGA Adapter	Leadtek Winfast 3D M64 B6 Leadtek Winfast 2MX32LP ATI Radeo VE 32M CRT+TV
Sound/MPEG Adapter	Onboard AD 1885 Diamond Monster Sound M80 PCI Card Creative Sound Blaster PCI 64
LAN Adapter	On-Die LAN 3COM 3C905C-TXM
Fax/Modem Adapter	Ambit 56K HCF Askey V.90 56K D/F HCF
USB Devices	HP Desk Jet 895C USB Printer Logitech Pagescan USB AcerScan Prisa 310U Charming USB Powered Speaker Acer USB Video Capture Kit (DVC-V6) iomega ZIP 100 USB

Microsoft Windows ME (EN/TW) Environment Test

Item	Specifications
Processor	Pentium 4 1.5GHz Pentium 4 1.7GHz Pentium 4 1.8GHz Pentium 4 1.9GHz
Memory	128 MB 256 MB
FDD	Panasonic JU256A046P
HDD	Seagate U6 20G 5400rpm Seagate U6 40G 5400rpm IBM Ericson 40G 7200rpm
CD-ROW DVD-ROM CD-RW	AOpen 52X Pioneer 16X AOpen 12x/0X/32
Modem	Ambit 56K, HCF Askey V.90, 56K,D/F, HCF
Mouse	Wheel Logitech /S48A S61 Logitec/930541-000 S59P
Keyboard	Darfon US 104 Keys
VGA Adapter	Leadtek Winfast 3D M64 B6 Leadtek Winfast 2MX32LP ATI Radeo VE 32M CRT+TV
Sound/MPEG Adapter	Onboard AD 1885 Diamond Monster Sound M80 PCI Card Creative Sound Blaster PCI 64
LAN Adapter	On-Die LAN 3Com 3C905CX-TXM
Fax/Modem Adapter	Ambit 56K HCF Askey V.90 56K D/F HCF
USB Joystick/Game Pad	Microsoft SideWinder Precision Pro USB Primax RAPTOR 3D USB Gamestick DEXXA USB Joystick J-ZB13
USB Devices	HP Desk Jet 895C USB Printer Logitech Pagescan USB AcerScan Prisa 310U Charming USB Powered Speaker Acer USB Video Capture Kit (DVC-V6) iomega ZIP 100 USB
Printer	HP Desk Jet 695C Epson Stylus Color 440 Brother HL-660 6PPM Laser Printer

Microsoft Windows 2000 Professional Environment Test

Item	Specifications
Processor	Pentium 4 1.5GHz Pentium 4 1.7GHz Pentium 4 1.8GHz Pentium 4 1.9GHz
Memory	128 MB 256 MB
FDD	Panasonic JU256A046P
HDD	Seagate U6 20G 5400rpm Seagate U6 40G 5400rpm IBM Ericson 40G 7200rpm
CD-ROW DVD-ROM CD-RW	AOpen 52X Pioneer 16X AOpen 12x/0X/32
Mouse	Wheel Logitech /S48A S61 Logitec/930541-000 S59P
Keyboard	Darfon US 104 Keys
VGA Adapter	Leadtek Winfast 3D M64 B6 Leadtek Winfast 2MX32LP ATI Radeo VE 32M CRT+TV
Sound Adapter	Onboard AD 1885 Diamond Monster Sound M80 PCI Card Creative Sound Blaster PCI 64
LAN Adapter	On-Die LAN 3Com 3C905CX-TXM
Fax/Modem Adapter	Ambit 56K HCF Askey V.90 56K D/F HCF
USB Devices	HP Desk Jet 895C USB Printer Logitech Pagescan USB AcerScan Prisa 310U Charming USB Powered Speaker Acer USB Video Capture Kit (DVC-V6) iomega ZIP 100 USB

Microsoft NT 4.0 Workstation Environment Test (Driver Verify)

Item	Specifications
Processor	Pentium 4 1.5GHz Pentium 4 1.7GHz Pentium 4 1.8GHz Pentium 4 1.9GHz
Memory	128 MB 128 MB
FDD	Panasonic JU256A046P
HDD	Seagate U6 20G 5400rpm Seagate U6 40G 5400rpm IBM Ericson 40G 7200rpm
CD-ROW DVD-ROM CD-RW	AOpen 52X Pioneer 16X AOpen 12x/0X/32
Modem	Ambit 56K, HCF Askey V.90, 56K,D/F, HCF
Mouse	Wheel Logitech /S48A S61 Logitec/930541-000 S59P
Keyboard	Darfon US 104 Keys
VGA Adapter	Leadtek Winfast 3D M64 B6 Leadtek Winfast 2MX32LP ATI Radeo VE 32M CRT+TV
LAN Adapter	On-Die LAN 3Com 3C905CX-TXM

Microsoft Windows 98SE Environment Test (Driver Verify)

Item	Specifications
Processor	Pentium 4 1.5GHz Pentium 4 1.7GHz Pentium 4 1.8GHz Pentium 4 1.9GHz
Memory	128 MB 256 MB
FDD	Panasonic JU256A046P
HDD	Seagate U6 20G 5400rpm Seagate U6 40G 5400rpm IBM Ericson 40G 7200rpm
CD-ROW DVD-ROM CD-RW	AOpen 52X Pioneer 16X AOpen 12x/0X/32
Modem	Ambit 56K, HCF Askey V.90, 56K,D/F, HCF
Mouse	Wheel Logitech /S48A S61 Logitec/930541-000 S59P
Keyboard	Darfon US 104 Keys
VGA Adapter	Leadtek Winfast 3D M64 B6 Leadtek Winfast 2MX32LP ATI Radeo VE 32M CRT+TV
LAN Adapter	On-Die LAN 3Com 3C905CX-TXM

Novell Netware 4.12 & 5.1 Environment Test

Item	Specifications
Processor	Pentium 4 1.5GHz Pentium 4 1.7GHz Pentium 4 1.8GHz Pentium 4 1.9GHz
Memory	128 MB 256 MB
FDD	Panasonic JU256A046P
HDD	Seagate U6 20G 5400rpm Seagate U6 40G 5400rpm IBM Ericson 40G 7200rpm
CD-ROW DVD-ROM CD-RW	AOpen 52X Pioneer 16X AOpen 12x/0X/32
Modem	Ambit 56K, HCF Askey V.90, 56K,D/F, HCF
Mouse	Wheel Logitech /S48A S61 Logitec/930541-000 S59P
Keyboard	Darfon US 104 Keys
VGA Adapter	Leadtek Winfast 3D M64 B6 Leadtek Winfast 2MX32LP ATI Radeo VE 32M CRT+TV
LAN Adapter	On-Die LAN 3Com 3C905CX-TXM

Linux Red Hat Environment Test

Item	Specifications
Processor	Pentium 4 1.4GHz Pentium 4 1.5GHz Pentium 4 1.7GHz
Memory	128 MB 256 MB
FDD	Panasonic JU256A046P
HDD	Seagate U6 20G 5400rpm Seagate U6 40G 5400rpm IBM Ericson 40G 7200rpm
CD-ROW DVD-ROM CD-RW	AOpen 52X Pioneer 16X AOpen 12x/0X/32
Modem	Ambit 56K, HCF Askey V.90, 56K,D/F, HCF
Mouse	Wheel Logitech /S48A S61 Logitec/930541-000 S59P
Keyboard	Darfon US 104 Keys
VGA Adapter	Leadtek Winfast 3D M64 B6 Leadtek Winfast 2MX32LP ATI Radeo VE 32M CRT+TV
LAN Adapter	On-Die LAN 3Com 3C905CX-TXM

Online Support Information

This section describes online technical support services available to help you repair your Acer Systems.

If you are a distributor, dealer, ASP or TPM, please refer your technical queries to your local Acer branch office. Acer Branch Offices and Regional Business Units may access our website. However some information sources will require a user i.d. and password. These can be obtained directly from Acer CSD Taiwan.

Acer's Website offers you convenient and valuable support resources whenever you need them.

In the Technical Information section you can download information on all of Acer's Notebook, Desktop and Server models including:

- Service guides for all models
- User's manuals
- Training materials
- Main manuals
- Bios updates
- Software utilities
- Schematics
- Spare parts lists
- Chips
- TABs (Technical Announcement Bulletin)

The service repair section provides you with downloadable information on:

- Troubleshooting guides
- Tooling box information
- Repair instructions for specific models
- Basic repair guidelines
- Debug cards for Acer's latest models

For these purposes, we have included an Acrobat File to facilitate the problem-free downloading of our technical material.

Also contained on this website are:

- Detailed information on Acer's International Traveler's Warranty (ITW)
- Returned material authorization procedures
- An overview of all the support services we offer, accompanied by a list of telephone, fax and email contacts for all your technical queries.

We are always looking for ways to optimize and improve our services, so if you have any suggestions or comments, please do not hesitate to communicate these to us.

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