WinFast® 6300MAX /MA Pro

Socket 370 Mainboard

User's Manual

Leadtek®

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Leadtek Research Inc.

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1. Quick Setting

WinFast 6300MAX and WinFast 6300MA Pro are two nearly identical models, the only difference is that WinFast 6300MAX supports an ADIMM slot while WinFast 6300MA Pro does not. WinFast 6300MA Pro users should disregard all descriptions concerning ADIMM.

1.1 WinFast 6300MAX Mainboard Layout
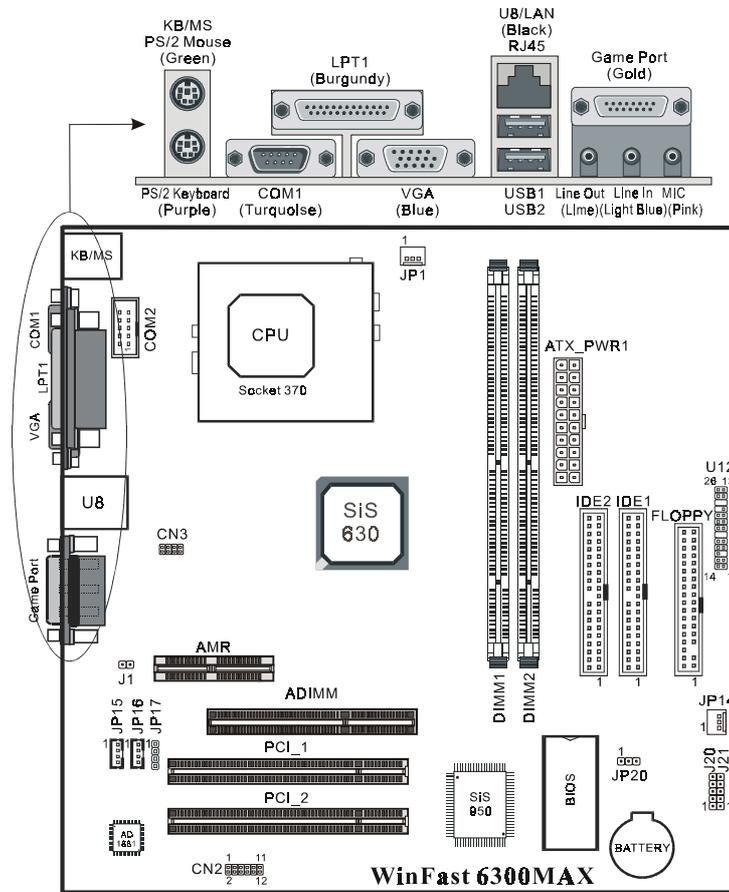
1.2 Jumper/Connector Listing

Jumper/Connector	Description
ADIMM	For VGA shared memory card (WinFast ADIMM-128) or TV, VGA and DVI card (WinFast ADIMM-DCT)
	Note: WinFast 6300MA Pro does not support this connector.
AMR	Audio Modem Riser

Jumper/Connector	Description
ATX_PWR1	ATX power connector
CN2	For three USB connectors
CN3	3D glasses connector (Optional)
COM2	COM2
DIMM1, DIMM2	Memory module 1, 2
FLOPPY	Floppy disk
Game Port	Midi/Joystick, Mic In, Line In, Line Out
IDE 1	Hard disk (Primary IDE)
IDE 2	Hard disk (Secondary IDE)
J1	SPDIF output (Option)
J20	IR connector
J21	CIR connector
JP1/CPU FAN	CPU fan connector
JP14/SYS FAN	System fan connector
JP15	Audio connector (CD)
JP16	Video input connector
JP17	Audio connector (AUX)
JP19	NTSC & PAL system selector. **[short]: PAL [open]: NTSC**
JP20	**Clear CMOS data.** **[1-2]: Clear CMOS data, [2-3]: Normal (Default)**
KB/MS	PS/2 mouse (upper), PS/2 keyboard (lower) connector
LPT1, COM1, VGA	Printer, COM1, VGA connector
PCI_1, PCI_2	PCI1, PCI2 Slots
U12	PWRBTN, RESET, KEY LOCK, SPEAKER, HDD_LED, POWER_LED, ACPI LED
U8	Ethernet (RJ45), USB1 and USB2 connectors

1.3   CPU and SDRAM Clock Frequency Selection

The CPU and SDRAM combined clock frequencies can be set at the **CPU HOST/SDRAM/PCI Clock** item of **X-BIOS** in the BIOS Setup menu. The choices are 66/66, 66/100 (Default), 70/105, 95/95, 95/126, 96/96, 97/97, 97/129, 99/99, 99/132, 100/100, 100/133, 100/150, 105/140, 110/147, 112/112, 115/153, 120/120, 133/100, 132/132, 133/133, 138/138, 140/140, 145/145, 147/147, 150/100, 160/160, and 166/110.

The X-BIOS is a valuable feature for those over-clocking users because the X-BIOS will intelligently judge the CPU Clock Frequency you selected in BIOS Setup. If the selected CPU clock is too high to be acceptable, the system will hang up with black screen after exiting BIOS Setup. At this point, turn on the system right after shutting it down will make the system set up to its default (66/100). Then you can press "DEL" key to re-enter BIOS Setup to select another CPU/SDRAM combination values or any other key to accept the default.

Press and hold the <INS> key until the monitor displays. This action will make the system set up to its default (66/100) automatically.

NOTE: If you shut down your engine very quickly after booting, say "within 3~4 seconds" after turning on the engine, the BIOS may misjudge and resulting circumstances like the above.

2.   Introduction

2.1   Overview

The WinFast 6300MAX/MA Pro - a Socket 370 Processor based Micro ATX Mainboard, integrating with onboard AC'97 Audio and Super AGP VGA for Hardware 2D/3D Video/Graphics Accelerators, is a high performance/cost index Desktop solution for Intel Socket 370 Celeron, CuMine Series and other compatible CPUs.

The mainboard uses the single chipset, SiS630, provides a high performance/low cost desktop solution for the socket 370 series CPUs based system by integrating a high performance North Bridge, advanced hardware 2D/3D GUI engine and Super-South bridge. In addition, SiS630 provides system-on-chip solution that complies with Easy PC Initiative which supports Instantly Available/OnNow PC technology.

By integrating the Super UltraAGP technology and advanced 128-bit graphic display interface, SiS630 delivers UltraAGP 4x performance and up to 1 GB/s memory bandwidth. Furthermore, SiS630 provides powerful slice layer decoding (IDCT and Motion Compensation) DVD accelerator to improve the DVD playback performance, in addition to providing the standard interface for CRT monitors.

SiS630 integrates all peripheral controllers /accelerators /interfaces. SiS630 provides a total communication solution including 10/100Mb Fast Ethernet for Office requirement. SiS630 offers AC'97 compliant interface that comprises digital audio engine with 3D-hardware accelerator, on-chip sample rate converter, and professional wavetable along with separate modem DMA controller. SiS630 also provides interface to Low Pin Count (LPC) operating at 33 MHz clock which is the same as PCI clock on the host, and dual USB host controller with five USB ports that deliver better connectivity and 2 x 12Mb bandwidth.

The built-in fast PCI IDE controller supports the ATA PIO/DMA, and the Ultra DMA33/66 function that supports the data transfer rate up to 66 MB/s. It provides the separate data path for two IDE channels that can eminently improve the performance under the multi-tasking environment.

WinFast 6300MAX has two types of optional add-on cards for the ADIMM slot, WinFast ADIMM-DCT and WinFast ADIMM-128. WinFast ADIMM-DCT supports with one of the following three functions: (1) Digital Video Interface (DVI) port for a standard interface between a personal computer and a digital flat panel monitor, (2) NTSC/PAL Video Output, (3) Secondary CRT Monitor. WinFast ADIMM-128 supports a "Share System Memory Architecture" that can flexibly utilize the frame buffer bandwidth up to 128bits, enhance the system performance up to 20~25%.

2.2   Specifications

CPU Support
- Intel Socket 370 Celeron, Pentium III series and other Socket 370 CPUs

Chipset
- SiS 630 chipset

Super I/O chip (SiS 950) on board
- One parallel (SPP/ECP/EPP)
- Two serial (16650A) compliant
- One floppy drive connector

Integrated 128-bit 2D/3D Graphics Accelerator
- Advanced HW acceleration for DVD playback including MC and IDCT
- Ultra-AGP™ architecture
- Fully DirectX 6 compliant graphics engine
- UMA architecture with 2/4/8/16/32/64MB system memory sharable as display memory
- Resolution up to 1920x1200 256/32K/64K/16M color @80Hz NI
- Support VESA, DDC1, DDC2B & DDC 3.0
- Driver support for Windows 95/98, Windows NT 4.0, and Windows 2000
- WinFast ADIMM-128: Optional Extended Graphics Memory (EGM) on ADIMM card for 128-bit memory accessing
- WinFast ADIMM-DCT: Support SiS301 video bridge interface for dual display NTSC/PAL TV or secondary CRT monitor or TFT digital LCD monitor

Integrated 3D Positional Audio Controller
- 64-voice polyphony wavetable synthesizer
- DirectSound 3D accelerator for IID, IAD and Doppler effects
- Full-duplex, independent sample rate converter for audio recording and playback
- AC'97 V2.1 interface for external Audio

Codec
- SoundBlaster Pro/16 compliant - driver support for Windows 95/98, Windows NT 4.0, and Windows 2000

Integrated Ethernet
- IEEE802.3, 10BASE-T, 100BASE-TX standards
- Supports On-Now, Wake-On-LAN, PCI power management 1.0a
- Driver support for Windows 95/98, Windows NT 4.0, Windows 2000

Modem
- AC'97 AMR/MDC HSP modem support

Integrated PC133 SDRAM Controller
- 2 DIMMs up to 1GB of system memory
- Virtual Channel Memory (VCM) support
- Synchronous or asynchronous Host/SDRAM bus frequency
- Support for Suspend-To-RAM (STR)
- Support 5 USB ports

Power Management
- ACPI 1.0, APM 1.2 compliant
- Wake-up events include power button, hot-key, keyboard password, modem ring, Ethernet, RTC alarm
- System sleeping states S1, S3, S5

Dual Ultra 33/66 IDE Controller
- Support up to PIO mode 4, Multi-word DMA mode2 and Ultra DMA33/66 MB/Sec
- Bus master drivers for all well known OS

Other feature support
- 2 PCI Master
- LPC 1.0 interface
- Integrated RTC w/ Y2K support
- Integrated keyboard/PS2 mouse controller
- I2C/SMbus interface
- Meet PC'99 requirement
- Hardware monitor support

2.3   Package Content

Accessories:
- IDE cable x 1
- FDD cable x 1
- Ultra ATA 66 IDE cable
- This user's manual

Optional Accessories:
- 3D glasses connector, COM2
- 3D glasses x 1
- USB module x 1
- WinFast ADIMM-DCT
- WinFast ADIMM-128

Mainboard & SCSI Software Pack CD:
- On board VGA driver (Support Windows 95/98/NT4.0/2000)
- PC health utility for Windows 95/98
- Onboard audio driver
- Onboard LAN driver
- AWARD flash utility
- User's manual

3. Hardware Setup

Static-Sensitive Devices

Static-sensitive electrical discharge can damage electronic components. To prevent damage to your system board, it is important to handle it very carefully. The following measures are generally sufficient to protect your equipment from static discharge.

Precautions

- Use a grounded wrist strap designed for static discharge.
- Touch a grounded metal object before you remove the board from the anti-static bag.
- Handle the board by its edges only; do not touch its components, peripheral chips, memory modules, or gold contacts.
- When handling chips or modules, avoid touching their pins.
- Put the system board and peripherals back into their anti-static bags when not in use.
- For grounding purposes, be sure your computer system's chassis provides excellent conductive contact between its power supply, case, the mounting fasteners, and the system board.

Unpacking

The system board is shipped in anti-static packaging to avoid static damage. When unpacking the board, be sure the person handling the board is static-protected.

3.1   CPU Installation

NOTE: When handling the processor package, avoid placing direct pressure on the label area of the fan.

Heat Sink

Please follow the instructions that came with your processor or heat sink to attach a heat sink to the processor, and also make sure a good contact is made between the CPU chip and the heat sink.

Processor

You are now ready to install the processor. Your mainboard has a 370-pin, PPGA type socket, which supports 370-pin (not SEPP type) Celeron/CuMine processors. Lift the lever on the PPGA socket and install with the notched corner of the processor oriented with pin 1. Fully seat the processor into the socket and then close the lever.
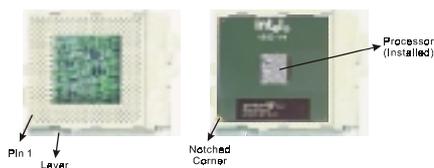
You should install the processor to the mainboard first, then install the mainboard in the chassis, then the memory and add-on cards, and finally the cables and drivers. Please follow the installation procedures in the order that will eliminate the common problems during the system installation.

NOTE: Always connect the power cord last and always remove it before adding, removing or changing any hardware components.

3.2   Memory Installation (DIMM1, DIMM2)

The mainboard provides two 168-pin DIMM (Double In-Line Memory Module) slots, DIMM1 and DIMM2. You can use SDRAM from 8, 16, 32, 64, 128, 256 to 512MB per DIMM slot, or you can use VCM from 32, 64, and 128MB.

IF you use 100Mhz CPU Bus/SDRAM bus synchronous frequency, you must use the qualified SDRAM that meets PC-100 specifications.
IF you use 133Mhz CPU Bus/SDRAM bus synchronous frequency, you must use the qualified SDRAM that meets PC-133 specifications.

DIMM Installation Procedures
The DIMM slot has two keys marked "VOLT" and "DRAM", making the module only fit in one direction. Note that the module must be a 3.3V unbuffered DIMM.
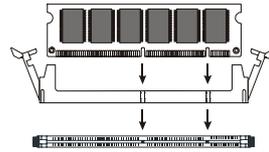
Step 1: Insert the module vertically into the DIMM socket and push it in.

Step 2: The plastic clip at the side of the DIMM socket will automatically close.

3.3 ADIMM Installation (For WinFast 6300MAX only)
Step 1: Position the optional card (WinFast ADIMM-128, WinFast ADIMM-DCT) over the ADIMM slot and insert one end of the board into the slot first.
Step 2: Firmly but gently press the bus connector on the bottom of the card into the slot. Make sure the metal contacts on the bottom of the host adapter are securely seated in the slot.
Step 3: For ADIMM-DCT, anchor the card's mounting bracket to the computer chassis and have it fastened with screws.
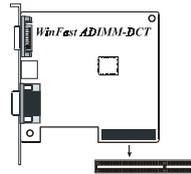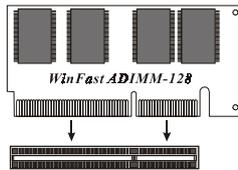
3.4 Case Signal Connector (U12)
- **Pins [1 & 2] PW-BTN:** Allows connecting to a push the power button on the system's case.
- **Pins [4 & 5] RESET:** Connects to the reset button on the system's case. The reset button is used to "cold-boot" the system without actually turning off the power, reducing wear and tear on the power supply. Avoid rebooting the system when the HDD LED is blinking.
- **Pins [7-10] SPEAKER:** Connects to the speaker on the system's case.
- **Pins [12 & 13] IDE1 and [25 & 26] IDE2:** IDE1/IDE2 hard disk LED shows the activity of a hard disk drive. Avoid turning the power off while the HDD LED is lit.
- **Pins [14-16] PWR-LED:** Power LED. It is always lighted after the system power is on.
- **Pins [17 & 18] KLOCK:** Keyboard lock switch lead. It connects to the case-mounted keylock switch. Allowing you to disable the keyboard function for security purpose.
- **Pins [20-22] ACPI-LED:** For ACPI LED connection on the case.
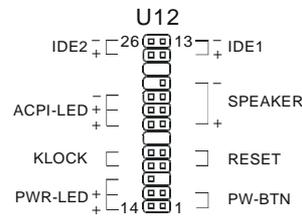
3.5 Hard Disk Connector (IDE1, IDE2)
The on-board Enhanced IDE controller can support up to 4 IDE hard drives or other ATAPI devices, such as CD-ROMs. This controller, as with all Enhanced IDE controllers, consists of both Primary (IDE 1) and Secondary (IDE 2) ports. Each port has an associated connector and cable, which can support up to 2 ATAPI devices each.

All IDE devices have jumpers, which allow the user to configure the device as either "Master" or "Slave". A Master device is one that is ALONE on the IDE cable, whereas a Slave device is installed as a SECOND device on the same cable. Keep in mind that the Master device will

appear before the Slave device in the CMOS Setup, as well as the Operating System software. *Refer to the device documentation for jumper settings.

The Secondary IDE port can be used for up to 2 additional ATAPI devices. Normally it's recommended that you connect your first hard drive to the Primary port, and the first CD-ROM to the Secondary.

Make sure to align the RED stripe on the ribbon cable with Pin-1 on the mainboard IDE connector. On most hard drives and CD-ROMs, the RED stripe should be oriented towards the power connector of the device.

When using Ultra ATA 66 IDE cable, the black color connector on the cable is for Master drive, gray for Slave drive, and blue for connecting onboard IDE port.
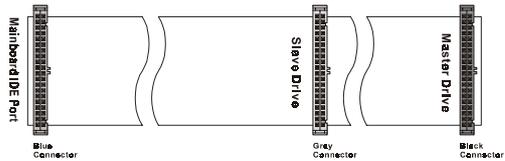
3.6   Floppy Disk Connector (FLOPPY)

The on-board floppy controller supports 2 floppy disk drives. Make sure the RED stripe on the ribbon cable is oriented towards Pin-1. Notice the "twist" between the sets of connectors on the floppy cable. The floppy drive "A" position is at the END of the cable, whereas floppy drive "B" is hooked to one of the connectors on the other side of the twist.

3.7   RJ45 Ethernet Connector and USB Connectors (U8/LAN, USB1, USB2)

U8/LAN is for RJ45 type LAN connector. USB1 and USB2 are for peripheral devices connectors.

3.8   Cooling Fans (JP1, JP14)

SYS FAN and CPU FAN are small 3-pin Header Connectors that provide 12-Volt power for CPU and System cooling fans. Plug in the fan cable to the connector.

3.9   Stereo Audio/Video In Connectors (JP15, 16, 17)

JP15 allows you to receive stereo audio input from an internal CDROM drive, JP17 for other auxiliary audio source and JP16 for video input.

3.10   PAL & NTSC System Selector (JP19)

JP19 allows you to choose the TV system between PAL and NTSC. Short position for PAL, and open for NTSC.

3.11   Power Supply Connector (ATX_PWR1)

This mainboard features an ATX-style Power Supply Connector. This connector is keyed to prevent connection in the wrong direction. Line up the locking mechanism on the connector from the Power Supply with the tab on the mainboard connector. Press down until the two connectors are locked.
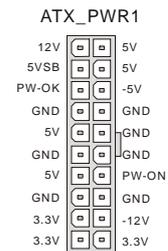
3.12   Serial, Parallel and VGA Ports (LPT1, COM1, VGA)

A 25-pin D-Sub header is provided on the back panel for a multi-mode bi-directional parallel port. One 9-pin D-Sub headers is provided on the back panel for Serial port COM1. One VGA port is also provided.

3.13   IrDA-Compliant Infrared Module Connector (J20, J21)

The IrDA connector bracket hooks directly to this connector on the mainboard. This connector provides support for the optional wireless transmitting and receiving infrared module. J20 is for IR and J21 is for CIR (Consumer IR).

3.14   Midi/Joystick, MIC, Line In, Line Out (Game Port)

* **Midi/Joystick:** Allow you to connect game joystick or game pad for playing games or connect Midi devices for playing or editing audio.
* **Mic:** Allows microphones to be connected for inputting voice.
* **Line In:** Allows tape players or other audio sources to be recorded by your computer or played through the Line Out.
* **Line Out:** Can be connected to headphones or speakers with amplifier.

3.15   PS/2 Keyboard and Mouse Connector (KB/MS)

These two connectors are located on the back panel of the mainboard.

3.16   3D Glasses (optional) + COM2 Connector (COM2, CN3)

These two connectors are used for connecting serial port COM2 and CN3 (for 3D glasses).

3D Glasses + COM2 Connector:

• 3D glasses connection Providing two 3D glasses connection socket for two persons to use simultaneously.
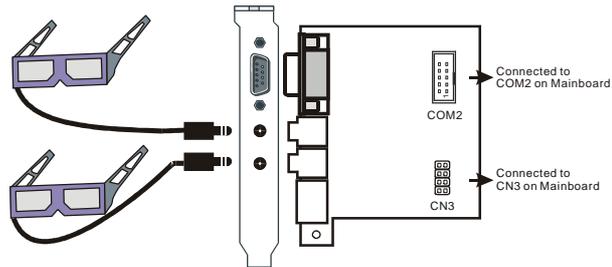
COM2 connector only:
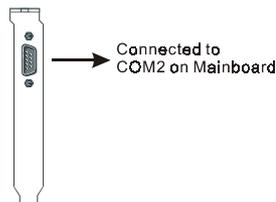
3.17   USB Connector (CN2)

Connecting a three-USB-connector on the back panel.
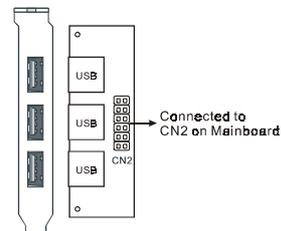
4.   BIOS Setup

To enter the Award BIOS program's main menu:
- Turn on or reboot the system.
- After the diagnostic checks, press the [Del] key to enter the Award BIOS Setup Utility.

To select items:
- Use the arrow keys to move to previous or next item.

To modify selected items:
- Use the [Up]/[Down] key to modify values within the selected fields.

4.1   Main Menu

Once you enter the AwardBIOS CMOS Setup Utility, a Main Menu appears on the screen. The Main Menu allows you to select the items. Press "Enter" key to the submenu.

```
    CMOS Setup Utility – Copyright (C) 1984-2000 Award Software
 ▶ Standard CMOS Features        ▶   <<< X-BIOS >>>
 ▶ Advanced BIOS Features            Load Basic Defaults
 ▶ Advanced Chipset Features         Load Best Defaults
 ▶ Integrated Peripherals            Set Password
 ▶ Power Management Setup            Save & Exit Setup
 ▶ PnP/PCI Configurations            Exit Without Saving
 ▶ PC Health Status
 Esc : Quit    F9: Menu in BIOS    ↑↓→←: Select Item
 F10 : Save & Exit Setup
                 Time, Date, Hard Disk Type…
```

4.2   Standard CMOS Features

```
    CMOS Setup Utility – Copyright (C) 1984-2000 Award Software
                      Standard CMOS Features
 Date (mm:dd:yy) : Tue, Jul 25 2000          Item Help
 Time (hh:mm:ss) : 00 : 00 : 00         Menu Level  ▶

 IDE Primary Master         Press Enter None
 IDE Primary Slave          Press Enter None
 IDE Secondary Master       Press Enter None
 IDE Secondary Slave        Press Enter None

 Drive A                    1.44M, 3.5 in
 Drive B                    None
 Video                      EGA/VGA
 Halt On                    All,But Keyboard
 Base Memory                640K
 Extended Memory            130048K
 Total Memory               131072K
 ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit
 F1:General Help F5:Previous Values F6:Basic Defaults F7:Best Defaults
```

Date [mm:dd:yy]
This item indicates the current date information. If you are running a Windows OS, this item is automatically updated whenever you make changes to the Windows Date.

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Time [hh:mm:ss]
The time format is <hour> <minute> <second>. The time is calculated based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00.

IDE Primary Master/Primary Slave/Secondary Master/Secondary Slave
After pressing [Enter], a menu window appears as shown below:

```
     CMOS Setup Utility – Copyright (C) 1984-2000 Award Software
                         IDE Primary Master
 ┌─────────────────────────────────────────────────┬───────────────────┐
 │ IDE HDD Auto-Detection       Press Enter         │     Item Help     │
 │ IDE Primary Master           Auto                │ Menu Level  ▶     │
 │ Access Mode                  Auto                │                   │
 │ Capacitor                                        │                   │
 │ Cylinder                                         │                   │
 │ Head                                             │                   │
 │ Precomp                                          │                   │
 │ Landing Zone                                     │                   │
 │ Sector                                           │                   │
 ├──────────────────────────────────────────────────┴──────────────────┤
 │ ↑↓→ ←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit        │
 │ F1:General Help F5:Previous Values F6:Basic Defaults F7:Best Defaults │
 └─────────────────────────────────────────────────────────────────────┘
```

The BIOS supports up to four IDE drives. This section does not show information about other IDE devices or hard drive types, such as the CD-ROM and the SCSI drives.

IDE HDD Auto-Detection
The "IDE HDD Auto-Detection" utility is a very useful tool especially when you do not know the type of hard disk you are using. You can use this utility to detect the hard disk size , model, and type automatically during POST.

The AwardBIOS supports 3 HDD modes: NORMAL, LBA and LARGE mode. The Generic access mode, neither BIOS nor IDE controller, will make transformations during accessing.

NOTE: *There must be some software involved to support LBA or LARGE mode of HDDs. All the software needed is located in the Award HDD Service Routine (INT 13h). It may fail to access a HDD with LBA (LARGE) mode selected if you are running under an Operating System, which replaces the whole INT 13h. UNIX operating system does not support either LBA or LARGE, and must utilize the Standard mode. UNIX can support drives larger than 528MB.*

AUTO Mode: The BIOS can automatically detect the specifications and optimal operating mode of almost all IDE drives. When you select type Auto for a hard drive, the BIOS detects its specifications during POST, every time the system boots.

IT IS RECOMMENDED THAT YOU SELECT THE TYPE AUTO FOR ALL DRIVES.

Drive A /Drive B [1.44M, 3.5 in / None]
Select the correct specifications for the diskette drive(s) installed on your computer.

Video [EGA/VGA]
Select the type of primary video subsystem on your computer. The BIOS usually detects the correct video type automatically, and also supports a secondary video subsystem that cannot be selected in Setup.

Halt On [All, But Keyboard]
During the power-on self test (POST), the system stops if the BIOS detects a hardware error. Select which kind of errors in the POST are sufficient to halt the system.

• **All, But Keyboard:** Post does not stop for the keyboard error, but stops for all other errors.
• **All, But Diskette:** Post does not stop for the diskette drives error, but stops for all other errors.
• **All, But Disk/Key:** Post does not stop for the keyboard/disk error, but stops for all other errors.
• **All Errors:** If the BIOS detects any non-fatal error, POST stops and prompts you to take corrective action.
• **No Errors:** Post does not stop for any error.

Memory

You can not change any value in the Memory fields that are only for your information. The fields show the total installed random access memory (RAM) and amounts allocated to base memory, extended memory, and other (high) memory.

RAM is the computer's working memory, where the computer stores programs and data currently being used, so they are accessible to CPU.

• **Base Memory:** Typically 640 KB. Also called conventional memory. The DOS operating system and conventional applications use this area.
• **Extended Memory:** Over the 1MB boundary.
• **Total Memory:** Total memory available from the system.

4.3   Advanced BIOS Features

```
     CMOS Setup Utility – Copyright (C) 1984-2000 Award Software
                      Advanced BIOS Features
 Anti-Virus Protection        Enabled        │       Item Help
 CPU Internal Cache           Enabled        │
 External Cache               Enabled        │  Menu Level  ▶
 CPU L2 Cache ECC Checking    Enabled        │
 Pentium III Serial Number    Enabled        │  Enabled copies Video
 Quick Power On Self Test     Enabled        │  BIOS to shadow RAM
 First Boot Device            HDD-0          │  Improves performance
 Second Boot Device           Floppy         │
 Third Boot Device            SCSI           │
 Boot Other Device            Enabled        │
 Swap Floppy Drive            Disabled       │
 Boot Up Floppy Seek          Disabled       │
 Boot Up NumLock Status       On             │
 Gate A20 Option              Fast           │
 Typematic Rate Setting       Enabled        │
 Typematic Rate (Chars/Sec)   6             │
 Typematic Delay (Msec)       250            │
 Security Option              Setup          │
 OS Select For DRAM > 64MB    Non-OS2        │
 Report No FDD For WIN 95     No             │
 Video BIOS Shadow            Enabled        │
 ↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit
 F1:General Help F5:Previous Values F6:Basic Defaults F7:Best Defaults
```

Anti-Virus Protection [Enabled]
The AwardBIOS will monitor the boot sector to see if there is virus. If virus is found, the BIOS will halt on the system and appears the following warning message.

```
              ! PBVA WARNING !
        Paragon Boot Virus analyzer has
    detected virus activity on hard disk.
           We recommend you to press:
         [Enter] Boot from clean disk
                [C] Continue Boot
```

NOTE: When enabling this item, the monitoring boot sector virus only happens at the booting period. After entering the system, this function is disabled automatically. So you can run any kind of program, such as many disk diagnostic programs, which attempts to access boot sectors or the partition table of hard disk drive when it is running.

CPU Internal Cache/External Cache [Enabled]
Cache memory is additional memory that is much faster than conventional DRAM (system memory). When the CPU requests data, the system transfers the requested data from the main DRAM into cache memory, for even faster access by the CPU.

CPU L2 Cache ECC Checking [Enabled]
Controls the ECC (Error Checking and Correcting) capability in the CPU level 2 cache.

Pentium III Serial Number [Enabled]
Controls the serial number of Pentium III CPU to be detected by Intel Corp.

Quick Power On Self Test [Enabled]
Select Enabled to reduce the amount of time required to run the POST. A quick POST skips certain steps. We recommend that you normally disable quick POST. Better to find a problem during POST than lose data during your work.

First/Second/Third Boot Device, Boot Other Device [HDD-0/Floppy/SCSI, Enabled]
This category determines which drive to be searched first, second or third for the disk operating system (i.e. DOS). You can use these settings to select your Priority Boot Up drives for Floppy drive A, IDE Hard Disk Drive C, D, E, F, or SCSI.

Swap Floppy Drive [Disabled]
This field is effective only in system with two floppy drives. This item allows you to determine whether to enable the swap floppy drive or not (i.e. physical floppy disk A assigned to logical drive B or physical drive B to logical drive A).

Boot Up Floppy Seek [Disabled]
During the "POST" process, BIOS will determine if the floppy disk drive installed is 40 or 80 tracks. 360K-type is 40 tracks. 760K, 1.2M and 1.44M are all 80 tracks. Few modern PCs have 40-track floppy drives, we recommend that you set this field to "Disabled" to save time.

Boot Up NumLock Status [On]
This field allows you to determine the default state of the numeric keypad. "On": keypad is number keys after boot up. "Off": keypad is arrow keys after boot up.

Gate A20 Option [Fast]
This item defines how the system handles legacy software that was written for an earlier generation of processors.

Typematic Rate Setting [Enabled]
When this item is set disabled, keep holding down a key on the keyboard will let the system to use the default typematic rate delay of 250 msec, and typematic rate of 6 chars/sec to input repeatedly. When enabled, you can adjust both settings. You can use this feature to accelerate cursor movement with the arrow keys.

Typematic Rate (Chars/Sec) [6]
When "Typematic Rate Setting" is enabled, its selections allow you to select the rate at which character repeats when you hold down a key.

Typematic Delay (Msec) [250]
When "Typematic Rate Setting" is enabled, its selections allow you to select the delay before key strokes begin to repeat.

Security Option [Setup]
If you have set a password at USER PASSWORD option in main menu, select whether the password is required every time the System boots, or only when you enter Setup.

OS Select For DRAM > 64MB [Non-OS2]
Choose OS2 when you are using OS/2 and SDRAM size greater than 64 MB. Choose Non-OS2 for other operating systems.

Report No FDD for WIN95 [No]
Select "Yes" to release IRQ6 when the system contains no floppy drive, for compatibility with Windows 95 logo certification. In the Integrated Peripherals screen, select Disabled for the Onboard FDC Controller field. You should select "Yes" if your operating system is Windows 95 and without a floppy disk equipped in your computer.

Video BIOS Shadow [Enabled]
Enabled: the contents of the video ROM is copied from ROM to RAM for faster execution.

4.4   Advanced Chipset Features

This section allows you to configure the system based on the specific features of the installed chipset. This chipset manages bus speeds and access to system memory resources, such as DRAM and the external cache. It also coordinates communications between the conventional ISA bus and the PCI bus. It must be stated that these items should never need to be altered. The default settings have been chosen because they provide the best operating conditions for your system. The only time you might consider making any changes would be if you discovered that data was being lost while using your system.

```
       CMOS Setup Utility - Copyright (C) 1984-2000 Award Software
                         Advanced Chipset Features
    ┌─────────────────────────────────────────────┬──────────────────────┐
    │ Auto Configuration          Auto            │       Item Help      │
    │ SDRAM RAS Active Time       6T              ├──────────────────────┤
    │ SDRAM RAS Precharg Time     4T              │ Menu Level  ▶        │
    │ RAS to CAS Delay            2T              │                      │
    │ SDRAM Background Command    Normal          │ 2.5ns, 2ns, 2ns, 1ns:│
    │ LD-Off RD/WR Cycles         Delay 1T        │ Mitac 0112RU25641    │
    │ Write Recovery Time         2T              │                      │
    │ VCM REF To ACT/REF Delay    10T             │                      │
    │ VCM ACT - ACT/REF Delay     9T              │                      │
    │ Early CKE Delay 1T Cntrl    Normal          │                      │
    │ Early CKE Delay Adjust      2ns             │                      │
    │▶Advanced RAM MODULE Ctl     Press Enter     │                      │
    │ Mem Command Output Time     Delay 1T        │                      │
    │ SDRAM/VCM CAS Latency       3T              │                      │
    │ System BIOS Cacheable       Enabled         │                      │
    │ Video RAM Cacheable         Enabled         │                      │
    │ Memory Hole at 15M-16M      Disabled        │                      │
    │ AGP Aperture Size           64MB            │                      │
    │ Graphic Window WR Combin    Enabled         │                      │
    │ Concurrent function(MEM)    Enabled         │                      │
    │ Concurrent function(PCI)    Enabled         │                      │
    │ CPU Pipeline Control        Enabled         │                      │
    │ PCI Delay Transaction       Enabled         │                      │
    │ Memory Parity Check         Enabled         │                      │
    ├─────────────────────────────────────────────┴──────────────────────┤
    │ ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit        │
    │ F1:General Help F5:Previous Values F6:Basic Defaults F7:Best Defaults│
    └─────────────────────────────────────────────────────────────────────┘
```

Auto Configuration [Auto]
Auto Configuration selects predetermined optimal values of chipset parameters. When "Disabled", chipset parameters revert to setup information stored in CMOS. Many fields in this screen are not available when Auto Configuration is "Enabled".

SDRAM RAS Active Time [6T]
The SDRAM ACT to PRE command period.

SDRAM RAS Precharg Time [4T]
The precharge time is the number of cycles it takes for the RAS to accumulate its charge before SDRAM refreshes. If insufficient time is allowed, refresh may be incomplete and the SDRAM may fail to retain data.

RAS to CAS Delay [2T]
This item allows you to determine the timing of the transition from RAS (Raw Address Strobe) to CAS (Column Address Strobe).

SDRAM Background Command [Normal]
When set to "Delay 1T", background commands are issued 1 clock behind memory address (MA). When set to "Normal", background command and MA are issued at the same time.

LD-Off RD/WR Cycles [Delay 1T]
When set to "Delay 1T", memory read/write command is issued 1 clock behind memory address (MA). When set to "Normal", both of them are issued at the same time.

Write Recovery Time [2T]
The period of Date-in to pre-command.

VCM REF To ACT/REF Delay [10T]
The period of VCM REF to REF/ACT command.

VCM ACT - ACT/REF Delay [9T]
The period of VCM ACT to ACT/REF command.

Early CKE Delay 1T Cntrl [Normal]
When enabled, CKE is driven out from flip-flop. It is used when system operates under low frequency and CKE delay adjustment method defined in Bits[3:1] can not meet setup time and hold time requirement.

Early CKE Delay Adjust [2ns]
To control the timing for CKE. Various delay options are provided to ensure that CKE can meet SDRAM setup time and hold time specification when CKE is driven out.

Advanced RAM MODULE Ctl [Press Enter]
In some special cases of the DRAM module, the DRAM timing should set to the best values for your system by your own. We suggest fine tuning by ± 1ns each time. For example: TheDRAM "Mitac 0112RU25641" timing values are 2.5ns, 2ns, 2ns, and 1ns.

Mem Command Output Time [Delay 1T]
This bit is used to control the timing to drive memory command onto memory bus. When heavy loading memory is used, signal propagation delay may be more than 1 clock. In this case, enabling this bit will force all memory command delay 1 clock except self refresh command and the reference clocks are adjustable clocks defined in regular 8Ch and 8Dh.

SDRAM/VCM CAS Latency [3T]
When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing. Do not reset this field from the default value specified by the system designer.

System BIOS Cacheable [Enabled]
Select Enabled to allow caching the system BIOS ROM at F0000h-FFFFFh to enhance the performance. The system error may occur if any program writes to this memory area.

Video RAM Cacheable [Enabled]
Select Enabled to allow caching the video memory (RAM) at A0000h-AFFFFh to enhance the performance. The memory access error may occur if any program writes to this area.

Memory Hole at 15M-16M [Disabled]
This item can be used to reserve memory space for some ISA expansion cards that require it.

AGP Aperture Size [64MB]
Select the size of the Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Go to www. agpforum.org for more information on AGP.

Graphic Window WR Combin [Enabled]
Select this item to enable or disable CPU support for WR Combin feature.

Concurrent function (MEM / PCI) [Enabled / Enabled]
Enable or Disable Memory/PCI bus utilization optimized.

CPU Pipeline Control [Enabled]
This item is set a timing parameter for CPU access.

PCI Delay Transaction [Enabled]
If the chipset of your mainboard has an embedded 32-bit write buffer to support delay

transaction cycles, you can enable this item to provide compliance with PCI Ver. 2.1.

Memory Parity Check [Enabled]
Select Enabled if the DRAM chips in your system support parity.

4.5   Integrated Peripherals

This Menu Setup allows you to configure your IDE, USB keyboard, Floppy Drive, Parallel Port, Serial Port, and IR function.

```
       CMOS Setup Utility – Copyright (C) 1984-2000 Award Software
                          Integrated Peripherals
┌──────────────────────────────────────────────┬──────────────────────┐
│ Internal PCI/IDE              Both            │      Item help        │
│ IDE Primary Master PIO        Auto            ├──────────────────────┤
│ IDE Primary Slave  PIO        Auto            │ Menu Level  ▶         │
│ IDE Secondary Master PIO      Auto            │                       │
│ IDE Secondary Slave  PIO      Auto            │                       │
│ Primary Master  UltraDMA      Auto            │                       │
│ Primary Slave   UltraDMA      Auto            │                       │
│ Secondary MasterUltraDMA      Auto            │                       │
│ Secondary Slave UltraDMA      Auto            │                       │
│ IDE Burst Mode                Enabled         │                       │
│ SIS-7018 AC97 AUDIO           Enabled         │                       │
│ SIS-7013 S/W Modem            Enabled         │                       │
│ SIS-900 10/100M ETHERNET      Enabled         │                       │
│ SIS-900 MAC Address Input     Press Enter     │                       │
│ USB Controller                Enabled         │                       │
│ USB Keyboard Support          Disabled        │                       │
│ IDE HDD Block Mode            Enabled         │                       │
│ Onboard FDC Controller        Enabled         │                       │
│ Onboard Serial Port 1         3F8/IRQ4        │                       │
│ Onboard Serial Port 2         2F8/IRQ3        │                       │
│ UART Mode Select              Normal          │                       │
│ UR2 Duplex Mode               Half            │                       │
│ Onboard Parallel Port         378/IRQ7        │                       │
│ Parallel Port Mode            SPP             │                       │
│ ECP Mode Use DMA              3               │                       │
│ Game Port Address             201             │                       │
│ Midi Port Address             330             │                       │
│ Midi Port IRQ                 10              │                       │
│ Init Display First            PCI Slot        │                       │
│ System Share Memory Size      16 MB           │                       │
│ Extend Graphics Memory                        │                       │
├──────────────────────────────────────────────┴──────────────────────┤
│ ↑ ↓ → ←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit       │
│ F1:General Help F5:Previous Values F6:Basic Defaults F7:Best Defaults  │
└──────────────────────────────────────────────────────────────────────┘
```

Internal PCI/IDE [Both]
The chipset contains a PCI IDE interface that supports two IDE channels: Primary (IRQ 14) and Secondary (IRQ 15). Each channel supports two IDE devices, so the system is capable of supporting a total of four IDE devices.

IDE Primary/Secondary Master/Slave PIO [Auto]
The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.

Primary Master/Slave Secondary Master/Slave UltraDMA [Auto]
Ultra DMA/33 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver). If your hard drive and your system software both support Ultra DMA/33, select Auto to enable BIOS support.

IDE Burst Mode [Enabled]
Choose enabled to reduce latency between each drive read/write cycle. It may cause instability in IDE subsystems that cannot support such fast performance. If you are getting disk drive errors, set this value to Disabled. This field does not appear when the Internal PCI/IDE field is Disabled.

SIS-7018 AC97 AUDIO [Enabled]
To enable or disable the onboard Audio Codec.

SIS-7013 S/W Modem [Enabled]
To enable or disable the onboard Modem Codec.

SIS-900 10/100M ETHERNET [Enabled]
To enable or disable the onboard Ethernet.

SIS-900 MAC Address Input [Press Enter] <For WinFast 6300MA Pro Only>
Please put in the MAC address ID that is printed on the label of the mainboard. If the MAC address ID is out of range and an error message appears " MAC address in APC and EEPROM Failed", you will have to enter the correct MAC address ID referring to the label on the mainboard.

NOTE: Every MAC address ID is unique. Two Ethernet users sharing the same MAC address ID will not be able to connect with the Ethernet. It is important to use the MAC address ID given by the label on the mainboard.

Warning: Do not clear "CMOS" after refreshing system BIOS unless you have restarted the computer. If you clear "CMOS" and do not reboot your system after refreshing system BIOS, permanent loss of the MAC address will result and you will have to recover it from a label on the mainboard.

USB Controller [Enabled]
Enable the system Universal Serial Bus (USB) controller when you have USB peripherals.

USB Keyboard Support [Disabled]
Choose "Enabled" if you use USB Keyboard.

IDE HDD Block Mode [Enabled]
Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support.

Onboard FDC Controller [Enabled]
This should be enabled if your system has a floppy disk drive (FDD) installed. When you add an additional higher performance controller this item should be set to Disabled.

Onboard Serial Port 1/Port 2 [3F8/IRQ4; 2F8/IRQ3]
Select an address and corresponding interrupt for the first and second serial ports.

UART Mode Select [Normal]
Select an infrared port mode - Normal, Askir and IrDA.

UR2 Duplex Mode [Half]
Choose an infrared mode in full duplex or half duplex.

Onboard Parallel Port [378/IRQ7]
Determine the I/O address to access onboard parallel port controller.

Parallel Port Mode [SPP]
Select an operating mode for the onboard parallel (printer) port. Four modes can be selected, SPP (Normal), EPP (Extended Parallel Port), ECP (Extended Capabilities Port), and ECP+EPP. Select Normal unless you are certain that both your hardware and software support EPP or ECP mode.

ECP Mode Use DMA [3]
This item is available while you set the Parallel Port Mode to ECP mode or ECP+EPP mode.

Game Port Address [201]
Select an address for the game port.

Midi Port Address [330]
Select an address for the midi port.

Midi Port IRQ [10]
If the other device uses the same IRQ with midi port, it will result in your midi port out of work.

Init Display First [PCI Slot]
When select PCI Slot the system will initial the PCI VGA card first. If there are no PCI VGA cards then the system will initial onboard Super AGP VGA. When select AGP, the system will initial from on board Super AGP VGA.

System Share Memory Size [16MB]
The memory size shared from system with the size of 2, 4, 8, 16, 32, and 64MB. If the EGM Support is "Yes", this item will be shown as 2+2, 4+4, 8+8, 16+16, 32+32, and 64+64MB.

Extend Graphics Memory <WinFast 6300MA Pro does not support this setting item>
If the ADIMM is installed, this item shows the memory size.

4.6   Power Management Setup

The Power Management Setup allows you to configure your system to the most effectively energy saving while in operating.

```
    CMOS Setup Utility – Copyright (C) 1984-2000 Award Software
                      Power Management Setup
┌─────────────────────────────────────────────┬──────────────────┐
│ ACPI function              Enabled           │    Item Help     │
│ ACPI Suspend Type          S1(POS)           ├──────────────────┤
│ Video Off Option           Susp,Stby -> Off  │ Menu Level  ▶    │
│ Video Off Method           V/H SYNC+Blank    │                  │
│ Switch Function            Break/Wake        │                  │
│ MODEM Use IRQ              3                  │                  │
│ Hot Key Function As        Disable           │                  │
│ HDD Off After              Disable           │                  │
│ Power Button Override      Instant Off       │                  │
│ IRQ [3-7,9-15], NMI        Enabled           │                  │
│ IRQ 8 Break Suspend        Disabled          │                  │
│ Ring Power Up Control      Enabled           │                  │
│ MACPME Power Up Control    Enabled           │                  │
│ PCIPME Power Up Control    Disabled          │                  │
│ KB Power ON Password       Enter             │                  │
│ Power Up by Alarm          Enabled           │                  │
│ Month Alarm                NA                │                  │
│ Day of Month Alarm         0                 │                  │
│ Time (hh:mm:ss) Alarm      0    0    0       │                  │
├─────────────────────────────────────────────┴──────────────────┤
│ ↑↓→ ←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit   │
│ F1:General Help F5:Previous Values F6:Basic Defaults F7:Best Defaults │
└─────────────────────────────────────────────────────────────────┘
```

ACPI function [Enabled]
Enable this function if you use ACPI compliant OS, such as Windows 98 or Windows 2000.

ACPI Suspend Type [S1(POS)]
The choice: S1, S3.

Video Off Option [Susp, Stby -> Off]
Select the power-saving modes during the monitor goes blank:

- **Always On:** Monitor remains on during power-saving modes.
- **Suspend – Off:** Monitor blanked when system enters Suspend mode.
- **Susp, Stby – Off:** Monitor blanked when system enters either Suspend or Standby mode.
- **All Modes – Off:** Monitor blanked when system enters any power saving mode.

Video Off Method [V/H SYNC+Blank]
This determines the manner in which the monitor is blanked:

- **V/H SYNC+Blank:** This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.
- **Blank Screen:** This option only writes blanks to the video buffer.
- **DPMS Supported:** Select this option if your monitor supports the Display Power Management Signaling (DPMS) standard of the Video Electronics Standards.

Switch Function [Break/Wake]
Press the power button will cause the system to wake up from suspend or standby mode.

MODEM Use IRQ [3]
Name the interrupt request (IRQ) line assigned to the modem (if any) on your system. Activity of the selected IRQ always awakens the system.

Hot Key Function As [Disable]
Set this option to Enable if your system has a hot key for soft power on.

HDD Off After [Disable]
After the selected period of drive inactivity, the hard disk drive powers down while all other devices remain active. By default, this item is Disabled, meaning that no matter what the mode the rest of the system is the hard drive will remain ready. You also have a range of choices from 1 to 15 minutes. This means that you can have your hard disk drive to be turned off after a selected number of minutes.

Power Button Override [Instant Off]
When you select "Instant off", pressing the power button will turn off the power. When select "Delay 4 Sec.", pressing the power button for less than 4 seconds forces the system to enter the SUSPEND mode, pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state.

IRQ [3-7, 9-15], NMI [Enabled]
Choose the "Enabled" to wake up your system from suspend or standby mode when activity is detected on a device using any of these IRQ addresses.

IRQ 8 Break Suspend [Disabled]
Choose the "Enabled" to wake up your system from suspend mode when activity is detected on a device using IRQ 8.

Ring Power Up Control [Enabled]
An input signal on serial Ring Indicator (RI) (in other words, an incoming call on the modem) will power up the system.

MACPME Power Up Control [Enabled]
When this item is enabled, it allows you to power up your system with the remote control.

PCIPME Power Up Control [Disabled]
When this item is enables, it allows you to power up your system with the remote control by using the PCI device.

KB Power ON Password [Enter]
Allows you to set a password for keyboard powering on.

Power Up by Alarm [Enabled]
Enable this item to set a date and time alarm that will automatically resume the system from a software power down.

Month Alarm [NA]
Set a month from NA to 12.

Day of Month Alarm [0]
Set a day from 0 to 31.

Time (hh:mm:ss) Alarm [0   0   0]
Set a time for the alarm in hours, minutes, and seconds.

4.7 PnP/PCI Configurations

The PCI Personal Component Interconnect Bus was developed primarily to address two important issues: (a) How to allow peripheral devices to take the fullest advantage of the power of CPU technology, and (b) Provide a simpler installation process for peripheral devices, such as Network cards, EIDE or SCSI controllers.

PCI accomplishes these goals with its 32-bit Data path Local Bus design, and support for Plug & Play. Unlike older expansion bus architectures, PCI provides peripherals with a direct connection to the CPU and memory. The PCI bus runs at 33Mhz and has a maximum transfer capability of 132MBps. With Plug & Play, the system BIOS automatically determines hardware resources for new peripherals, simplifying installation of multiple interface cards.

This Setup Menu provides configuration options for the PCI Bus and its assigned resources.

```
      CMOS Setup Utility – Copyright (C) 1984-2000 Award Software
                       PnP/PCI Configurations
┌──────────────────────────────────────────────┬──────────────────────┐
│ Reset Configuration Data     Disabled         │      Item Help       │
│                                               ├──────────────────────┤
│                                               │ Menu Level  ▶        │
│ Resources Controlled By      Auto(ESCD)       │                      │
│ IRQ Resources                Press Enter      │                      │
│                                               │                      │
│ PCI/VGA Palette Snoop        Disabled         │                      │
│                                               │                      │
└──────────────────────────────────────────────┴──────────────────────┘
 ↑ ↓ → ←:Move  Enter:Select +/-/PU/PD:Value  F10:Save  ESC:Exit
 F1:General Help F5:Previous Values F6:Basic Defaults F7:Best Defaults
```

Reset Configuration Data [Disabled]
- **Disabled:** Normal Setting
- **Enabled:** Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system cannot boot.

Resource Controlled by [Auto (ESCD)]
- **Manual:** The field defines that the PNP Card's resource is controlled by manual. You can setup whether IRQ-X or DMA-X is assigned to PCI/ISA PnP or Legacy ISA Cards.
- **Auto:** If your ISA card and PCI card are all PNP cards. Set this field to "Auto". The BIOS will assign the interrupt resource automatically.

4.8 PC Health Status
This menu shows the current temperature and voltage, and allows you to set up "CPU Warning Temperature" and " Shutdown Temperature".

4.9 X-BIOS

```
     CMOS Setup Utility – Copyright (C) 1984-2000 Award Software
                        <<<  X-BIOS  >>>
┌──────────────────────────────────────────────┬──────────────────────┐
│ Auto Detect PCI Clk        Disabled           │      Item Help       │
│ Spread Spectrum            Disabled           ├──────────────────────┤
│ CPU HOST/SDRAM/PCI Clock   66/100/33 MHz      │ Menu Level  ▶        │
│ CPU Clock Ratio Jumpless   x 5.0              │                      │
├──────────────────────────────────────────────┴──────────────────────┤
│ ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit         │
│ F1:General Help F5:Previous Values F6:Basic Defaults F7:Best Defaults │
└──────────────────────────────────────────────────────────────────────┘
```

Auto Detect PCI Clk [Disabled]
Enable or Disable automatically detects PCI frequency clock.

Spread Spectrum [Disabled]
When the system clock generator pulses, the extreme values of the pulse generate excess
EMI. Enabling pulse spectrum spread modulation changes the extreme values from spikes to
flat curves, thus reducing EMI. This benefit may in some cases be outweighed by problems
with timing-critical devices, such as a clock-sensitive SCSI device. You can reduce EMI by
setting this item to turn on the clock signal with spread spectrum support.

CPU HOST/SDRAM/PCI Clock [66/100/33 MHz]
This field allows you to set the CPU and SDRAM clock frequency. The choices are: 66/66,
66/100 (Default), 70/105, 95/95, 95/126, 96/96, 97/97, 97/129, 99/99, 99/132, 100/100,
100/133, 100/150, 105/140, 110/147, 112/112, 115/153, 120/120, 133/100, 133/134,
134/134, 138/138, 140/140, 145/145, 147/147, 150/100, 160/160, and 166/110.

CPU Clock Ratio Jumpless [x 5.0]
This item allows you to set CPU Core/Bus Ratio. It would be in vain to change this item if the
CPU is locked.

4.10   Load Basic Defaults

The BASIC Defaults have been set to provide the minimum requirements for your system to
operate. Its performance is lower than the "Load Best Defaults". We suggest you use "Load
Best Default". If your system card has compatibility issues, use the "Load Basic Defaults".

4.11   Load Best Defaults

The "Load Best Defaults" function loads the system manufacture default data. This is the
default setting from Leadtek. This function will be necessary when the system CMOS data is
corrupted or you forget your settings.

4.12   Set Password

Passwords can be set to provide protection for the BIOS configuration options, or to restrict
access to the computer itself.

When enabled, User Password will require all users to enter a password in order to enter the
BIOS setup (but can't change its contents).

The password check option is set in BIOS FEATURES SETUP by choosing either System
(the password prompt appears every time the system is powered on) or Setup (the password
prompt appears only when the user enters the BIOS Setup). The password is stored in
CMOS RAM, and can be cleared by removing the battery for a while and then re-installing it
back.

To set a password:

- Setup prompts for a password.
- Enter a 1~8 character password using letters, numbers, or a combination of both. The specific characters are not shown as you enter them. Press [ENTER].
- A confirmation box appears asking you to re-enter the password. Enter the password again. Press [ENTER].

To change a password:

- Enter the current password and press [Enter]. The screen does not display the characters entered. Enter in the new password, then the confirmation. You cannot change the current password unless you know it.

To erasing a password:

- If you know the current password, but want to disable password checking, follow the procedure for changing the password. When the Setup prompts for the new password, simply press [ENTER]. You will see a message indicating that the password is disabled.
- If you do not know the current password, you can clear the CMOS data by removing the battery for a while and then re-installing it back (this will clear all the user-defined BIOS).

4.13   Save & Exit Setup

The "SAVE & EXIT SETUP" option will bring you back to boot up procedure with all the changes you just recorded in the CMOS RAM.

4.14   Exit Without Saving

The "EXIT WITHOUT SAVING" option will bring you back to normal boot up procedure without saving any data into CMOS RAM, and will not destroy all the old data in CMOS.

5. Software Setup

5.1 Windows 95/98

Install Display Driver

Step 1: Insert the "WinFast Mainboard & SCSI Software Pack" CD into the CD-ROM drive.

Step 2: The "Autorun" will be automatically executed and the "WinFast-6300 Setup" window will appear on screen with selectable menus.

Step 3: Select and click "Install VGA Driver (For Windows9X Users)" menu, then follow the on-screen instruction choosing "Typical" setup type to install the driver automatically.

Step 4: Restart Windows.

Display Modes

When drivers were installed properly, click the mouse right button on Win95/98 desktop wallpaper area and select "Properties" menu. A window with a title name "Display Properties" will appear on the screen. Click the "Setting" tab and then click the "Advanced…" button. The "WinFast 6300MAX Properties" sheet will be shown on the screen. From the "Display Modes" tab, you may select desired resolution by changing "Desktop area", desired color by changing "Color" value, desired font size by changing "Font size", and desired refresh rate by changing "Refresh rate".

Different brands of monitors support different types of refresh rates. Before you change the current refresh rate to a new one, a message appears on the screen, indicating that it will take a few seconds to adjust your display settings. If the Windows does not reappear correctly, wait 15 seconds, and your original setting will be restored.

Click on the "OK" button, the Windows appears with two configurations: (1) If the monitor supports the adjusted refresh rate, a message will be shown on the screen. Click "Yes" within 15 seconds to keep the new setting. (2) If the monitor does not support the adjusted refresh rate, the screen will go blank and the Windows will restore your original refresh rate after 10 seconds.
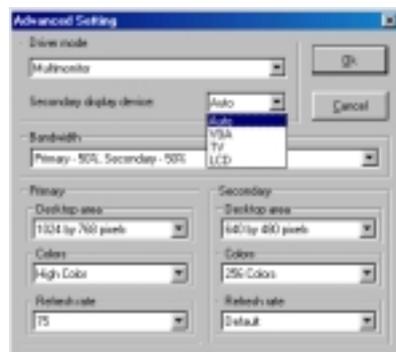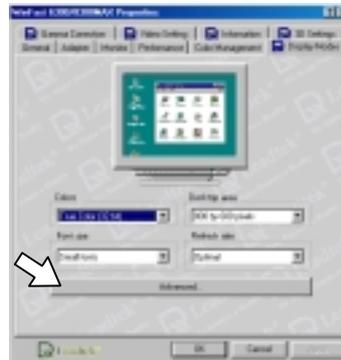
Advanced Setting for Display Modes

<WinFast 6300MA Pro does not support this setting item>

Once you installed the **WinFast ADIMM-DCT** optional add-on cards, the "Advanced..." tab will be enabled in the "Display Modes" window.

Click "Advanced..." tab to pop up the "Advanced Setting" window:

Select "Multimonitor" in the "Driver mode" tab. The "Secondary display device" will then be available to choose among **Auto**, **VGA**, **TV**, and **LCD** devices.

5.1.1 Gamma Correction

Use the "Change Bitmap" to select your favorite bitmap images. Use the "Gamma Correction" to tune your color style. Use the "Brightness" to turn brighter or darker. Use the "Reset All" to return to the original program default setting. Use the "TINT" slider to adjust the tint.
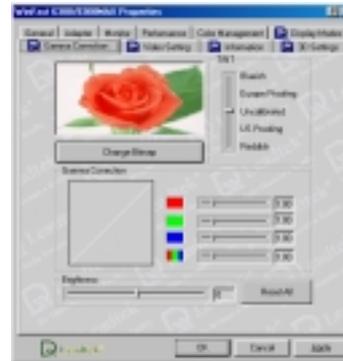
5.1.2 Video Setting

This application can only be used if a VCD/DVD playback is in operation. Select "Overlay" value and adjust the "Contrast" and "Brightness" by moving the scroll bar to the position you desire to get the most suitable viewing pleasure.

5.1.3 3D Settings

The "3D Settings" utility provides the tool to adjust brightness, speed and some advanced settings of 3D graphics. You can feel how those adjustments affect the display quality and performance directly through the demo window.

Color

Brightness: The brightness of 3D graphics can be adjusted by dragging the bar in the range from index 0 (darkest) to 255 (brightest). The corresponding value will be shown at the right side box.

Default: Clicking on the "Default" button will resume the brightness index to 0.

Full Screen: Clicking on the "Full Screen" button will run the demo in full screen mode. You can find out the brightness value is tuned appropriately or not very easily.

D3D

D3D Performance: The 3D performance can be adjusted by dragging the bar in the range from "Low" to "High". Enhancing the performance will sacrifice the display quality. Therefore, the higher the performance is, the lower the quality is. You have to take a balance between performance and quality. Meanwhile, the performance will be presented in the right side box in the unit of frame per second. The frame rate will dynamically change according to the display conditions.

Reset: Clicking on the "Reset" button will resume performance to medium.

Default: Clicking on the "Default" button will resume performance to medium.

Full Screen: Clicking on the "Full Screen" button will

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run the demo in full screen mode. You can find out the performance value is tuned appropriately or not very easily.

Advanced: Clicking on the "Advanced" button will pop up the D3D Advanced Settings window.

Stereo

Enable stereo: The first check box is used to switch between "enable" and "disable" 3D stereo function. Only after "enable" is selected, all other settings in this page can be accessed.

Stereo scale: Due to the fact that the distance between the right eye and the left eye is different from person to person. It is not possible to create the same stereo effect for everyone by a fixed scale. For making compensation for this, "Stereo scale" can be adjusted from index 0 to 50. You can select appropriate values for your situation.

Stereo offset: Stereo offset is used to adjust the position of a 3D image in the Z direction. It is scaled from 0 to 255. Selecting 0 will make image appeared like attaching on the screen; and selecting 255 will make image looked like far away from the observer.

Define hotkeys: There are two sets of hot key in 6300MAX utility – Hotkey1 and Hotkey2. Each of them can be started up by simultaneously pressing <Alt>, <Ctrl>, and a key defined by users.

5.1.4   Information

The product information of 6300MAX is recorded in this tab. You can identify the product name, chip type, software version, DRAM size, file version…etc directly and easily. It also helps Leadtek's customer service team to identify your configuration in order to provide prompt and effective technical support.

5.2 Windows NT 4.0

5.2.1 Install Windows NT 4.0 with the SiS630 onboard

Install Windows NT 4.0 in the usual way. When the installation is completed, Windows NT 4.0 will be booted on the VGA mode as it did not recognize the SiS630 during installation.

NOTE: Before installing the Windows NT 4.0 driver, make sure the Windows NT 4.0 version number is Windows NT 4.00.1381 or later. If your system is an older version, it is recommended that you upgrade the version to the latest one.

5.2.2 Install Display Driver

Step 1: Reboot the system and select "Windows NT 4.0 (VGA)" from the Boot Menu List.
Step 2: Insert the "WinFast Mainboard & SCSI Software Pack CD" into the CD-ROM drive. From your Windows NT 4.0 desktop wallpaper area, click right mouse button and select the "Properties" option. (or double click "Display" icon in control panel)
Step 3: From the "Display Properties" window, select the "Display Type" button where a window of "Display Type" appears on your screen.
Step 4: Select the "Change" button in the "Adapter Type" section, a window with a title name of "Change Display" will appear on your screen.
Step 5: Select "Have Disk" button; The "Install From Disk" window will appear on the screen.
Step 6: Specify the path X:\63008300\VGA\winnt40 (X means CD-ROM drive name) and select the "OK" button in the "Install From Disk" window; a window with a title name of "Third Party Drivers" will then appear on your screen, select the "Yes" button.
Step 7: Click "OK" button after the installation completed. Select the "Close" button in the "Display Type" window. Select the "Close" button in the "Display Properties" window.
Step 8: Click "Yes" button to restart the Windows NT 4.0.
Step 9: When the system is rebooted, select "Windows NT4.0" from the Boot Menu List. After logon Windows NT, the "Invalid Display Setting" applet will appear on your screen.

NOTE: This window only appears when using a new display driver for the first time.

Step 10: Choose the Resolution, Color Palette, Refresh Rate and Font Size you desire. You can use the "TEST" button to verify whether the monitor can support the specified function or not.
Step 11: Press the "OK" button to change display mode to the specified resolution, color palette, refresh rate and font size.

5.3 Install Audio Driver for Windows 95/98

Step 1: Insert the "WinFast Mainboard & SCSI Software Pack CD" into the CD-ROM drive.
Step 2: The "Autorun" will be automatically executed, and "WinFast-6300 Setup" window will appear on screen with selectable menus.
Step 3: Select and click "Install Audio Driver (For Windows9X Users)". You will see a popup menu showing "For Windows 95/98". Select the desired operating system and click.
Step 4: Select "Upgrade" and desired language. Windows will automatically copy files from CD to your hard drive. These are necessary files for installation of audio drivers to your system. After finishing copying files, click "Yes" to restart your computer.
Step 5: A dialog of "Found New Hardware (PCI Audio Drive)" will be shown on the screen. Keep clicking the "Next" buttons that follows, the Windows will automatically install the audio drivers onto your system.

5.4 Install Ethernet Driver for Windows 95/98/NT 4.0

Step 1: Insert the "WinFast Mainboard & SCSI Software Pack CD" into the CD-ROM drive.
Step 2: The "Autorun" will be automatically executed and "WinFast-6300 Setup" window will appear on screen with selectable menus.
Step 3: Select and click "Install LAN Driver". You will see a popup menu showing "For Windows 95/98" and "For Windows NT 4.0". Select the desired operating system and click.

Appendix A.   BIOS Flash Utility

If you get a new floppy disk or CD_ROM from your local dealer which contains a new version of the BIOS binary file, or you obtain the new BIOS binary file directly from our Web Site (www.leadtek.com.tw), please follow the steps below to update the BIOS.

NOTE: Please contact your dealer first to see if you need to update your BIOS. If you update BIOS without contacting your dealer, you might encounter problems and unable to start the computer.

Step 1:   Reboot into DOS or "Command Prompt Only" of Windows95/98
Step 2:   Insert the accompany CD into CD-ROM (or floppy disk to Drive A)
Step 3:   Copy "AWDFLASH.EXE" to a new directory from X:\FLASH sub-directory. (X: means CD-ROM drive letter)
Step 4:   Copy the new BIOS binary file to the above said new directory.
Step 5:   Change to the new directory and type the following command:
              AWDFLASH [Filename] ([Filename] means the file name of BIOS binary file)
A message will be displayed on your screen. Follow the instruction to finish the BIOS updating.

NOTE: Do not take any action before finishing the updating, otherwise you may encounter severe problems and need to have it sent for repair.

You can also use "AWDFLASH /?" command for help messages.

NOTE: It is recommended that the application being run under DOS prompt. Please do the following steps while in Windows 95/98 environment: Start your system when "Starting Windows 95 (or 98)..." message appears. Press F8 immediately to enter the "Startup Menu". Select the "Command Prompt Only" option.

Appendix B.   Technical Support

Technical support:
In the event of not finding solution for your problem, please contact our technical support staffs, or E-mail to <service@leadtek.com.tw>.

Be prepared of:

- **Product name**
It will be easier for our staffs to answer your question if you know the name of the product. The name is displayed during system booting.

- **Software driver version**
The utilities and drivers are updated from time to time, and can be downloaded from our Web Site <www.leadtek.com.tw>.

- **CPU type and speed**
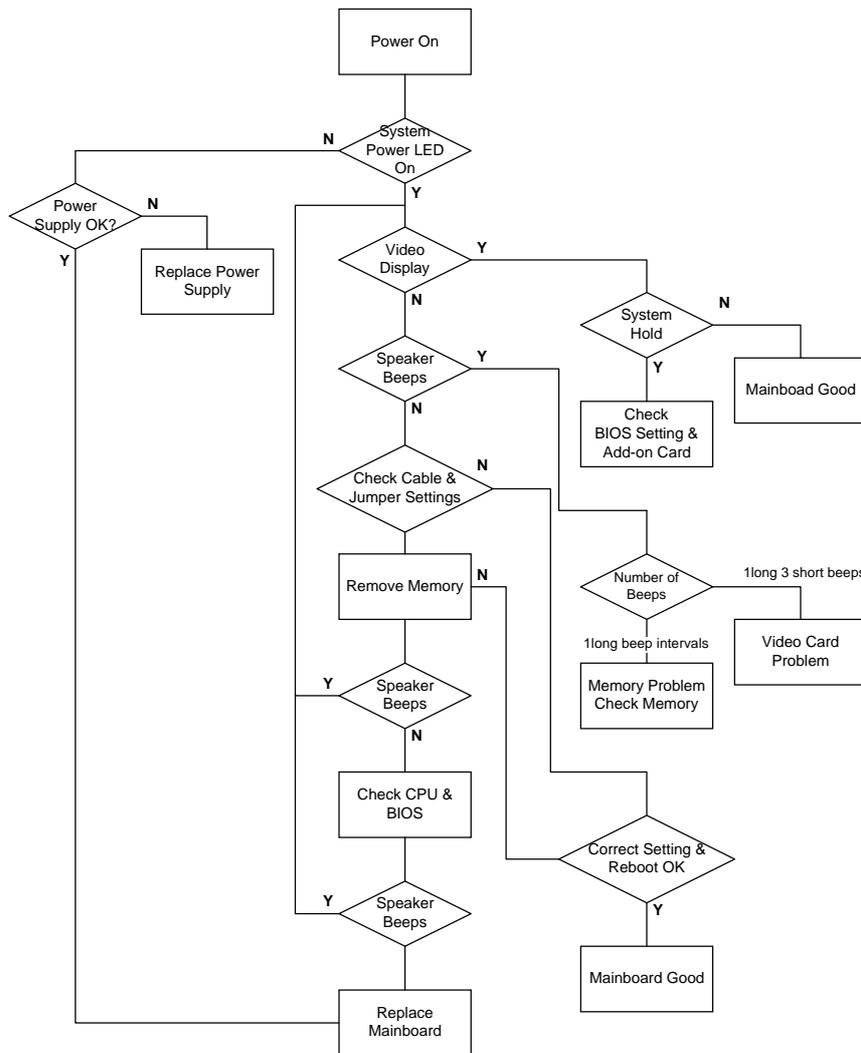We need to know the type of processor you are using and its speed.

- **Monitor manufacturer and model**
Please advise the type and supporting mode of the monitor you are using.

- **Detailed description of your problem**
Please describe in detail all the problems you encountered, including the type of software and hardware you are using, and the contents of your system files.

Appendix C.   Troubleshooting Flowchart

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                        ┌──────────┐
                        │ Power On │
                        └────┬─────┘
                             │
                        ╱─────────╲
              N        ╱  System   ╲
     ┌───────────────── Power LED   │
     │                 ╲    On      ╱
     │                  ╲─────────╱
 ╱────────╲                 │ Y
╱  Power   ╲    N           │
│ Supply OK?│──────┐   ╱─────────╲
╲          ╱       │  ╱  Video    ╲     Y       ┌──────────┐
 ╲────────╱        │  │ Display    │────────────┤          │
     │ Y           │  ╲           ╱              │          │
     │         ┌───┴──────┐ ╲────╱            ╱─────────╲
     │         │ Replace  │   │ N            ╱  System   ╲    N   ┌──────────┐
     │         │ Power    │   │             │   Hold      │──────┤ Mainboad │
     │         │ Supply   │ ╱─────────╲     ╲            ╱        │  Good    │
     │         └──────────┘╱  Speaker  ╲  Y  ╲─────────╱         └──────────┘
     │                     │  Beeps     │──┐      │ Y
     │                     ╲           ╱   │ ┌──────────┐
     │                      ╲─────────╱    │ │  Check   │
     │                          │ N        │ │ BIOS Setting &
     │                     ╱─────────╲     │ │ Add-on Card│
     │              N     ╱ Check Cable╲   │ └──────────┘
     │            ┌────── │ & Jumper    │  │
     │            │       ╲ Settings   ╱   │
     │            │        ╲─────────╱     │
     │            │            │           │
     │            │      ┌──────────┐  N   │    ╱─────────╲  1long 3 short beeps
     │            │      │ Remove   │──────┘   ╱ Number of ╲──────────┐
     │            │      │ Memory   │         │   Beeps     │         │
     │            │      └────┬─────┘          ╲           ╱       ┌──────────┐
     │            │           │                 ╲─────────╱        │  Video   │
     │            │      ╱─────────╲     1long beep intervals      │  Card    │
     │         Y ╱  Speaker  ╲             │                       │ Problem  │
     │         ┌─│  Beeps     │       ┌──────────┐                 └──────────┘
     │         │ ╲           ╱        │ Memory   │
     │         │  ╲─────────╱         │ Problem  │
     │         │      │ N             │ Check Memory│
     │         │ ┌──────────┐         └──────────┘
     │         │ │ Check CPU&│
     │         │ │ BIOS     │         ╱─────────╲
     │         │ └────┬─────┘        ╱ Correct   ╲
     │         │      │             │ Setting &   │
     │         │ ╱─────────╲        ╲ Reboot OK  ╱
     │      Y ╱  Speaker  ╲          ╲─────────╱
     │      ┌─│  Beeps     │              │ Y
     │      │ ╲           ╱         ┌──────────┐
     │      │  ╲─────────╱          │ Mainboard│
     │      │      │ N              │  Good    │
     │      │ ┌──────────┐          └──────────┘
     └──────┴─┤ Replace  │
              │ Mainboard│
              └──────────┘
```

Appendix D.   FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
- Shielded interface cables must be used in order to comply with emission limits. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Appendix E.   Limited Warranty

Leadtek warrants to the original purchaser of this product that it shall be free of defects resulting from workmanship or components for a period of one (1) year from the date of sale. Defects covered by this Limited Warranty shall be corrected either by repair or, at Leadtek's discretion by replacement. In the event of replacement, the replacement unit will be warranted for the remainder of the original one (1) year period or thirty (30) days, whichever is longer. THERE ARE NO OTHER ORAL OR WRITTEN WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THOSE OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

This Limited Warranty is nontransferable and does not apply if the product has been damaged by negligence, accident, abuse, misuse, modification, misapplication, shipment to the Manufacturer or service by someone other than the Leadtek Transportation charges to Leadtek are not covered by this Limited Warranty. To be eligible for warranty service, a defective product must be sent to and received by Leadtek within twelve (12) months of the date of sale and be accompanied with proof of purchase. Leadtek does not warrant that this product will meet your requirements; it is your sole responsibility to determine the suitability of this product for your purposes. Leadtek does not warrant the compatibility of this product with your computer or related peripherals, software.

LEADTEK'S SOLE OBLIGATION AND LIABILITY UNDER THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT OF A DEFECTIVE PRODUCT. THE MANUFACTURER SHALL NOT, IN ANY EVENT, BE LIABLE TO THE PURCHASER OR ANY THIRD PARTY FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LIABILITY IN TORT RELATING TO THIS PRODUCT OR RESULTING FROM ITS USE OR POSSESSION.

This limited warranty is governed by the laws of Taiwan.