4. BIOS CONFIGURATION

AMI's BIOS ROM has a built-in Setup program that allows users to modify the basic system configuration.

This type of information is stored in battery-backed CMOS SRAM so that it retains the Setup information when the power is turned off.

4.1. ENTERING SETUP

Power ON the computer and press <Del> immediately will allow you to enter Setup.

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

• **Press DEL to enter SETUP.**

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the "RESET" bottom on the system case.

You may also restart by simultaneously press <Ctrl>,<Alt>, and <Del> keys.

4.2. CONTROL KEYS

Up arrow	Move to previous item.
Down arrow	Move to next item.
Left arrow	Move to the item in the left hand.
Right arrow	Move to the item in the right hand.
Esc key	Main Menu - Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu - Exit current page and return to Main Menu.
PgUp key /+	Increase the numeric value or make changes.
PgDn key /–	Decrease the numeric value or make changes.
F1 key	General help, only for Status Page Setup Menu and Option Page Setup Menu.
F2 key	Change color from total 16 colors.
F3 key	Reserved.
F4 key	Reserved.
F5 key	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu.
F6 key	Load the default CMOS value from BIOS default table, only for Option Page Setup Menu.
F7 key	Load the default.
F8 key	Reserved.
F9 key	Reserved.
F10 key	Save all the CMOS changes, only for Main Menu.

4.3. GETTING HELP

4.3.1. Main Menu

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

4.3.2. Status Page Setup Menu / Option Page Setup Menu

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

4.4. THE MAIN MENU

Once you enter AMI BIOS CMOS Setup Utility, the Main Menu (Figure 4.1) will appear on the screen.

The Main Menu allows you to select setup functions and exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

```
          AMIBIOS SIMPLE SETUP UTILITY - VERSION 1.19
          (C)1998 American Megatrends, Inc. All Rights Reserved

   STANDARD CMOS SETUP              INTEGRATED PERIPHERALS

   BIOS FEATURES SETUP             SUPERVISOR PASSWORD

   CHIPSET FEATURES SETUP          USER PASSWORD

   POWER MANAGEMENT SETUP          IDE HDD AUTO DETECTION

   PNP/PCI CONFIGURATION           SAVE & EXIT SETUP

   LOAD BIOS DEFAULTS              EXIT WITHOUT SAVING

   LOAD SETUP DEFAULTS

 ESC : Quit   ↑ ↓ ← → : Select Item  (Shift)F2 : Change Color  F5  : Old Values
 F6  : Load BIOS Defaults    F7  : Load Setup Defaults         F10 : Save & Exit

               Time, Date, Hard Disk Type, ...
```
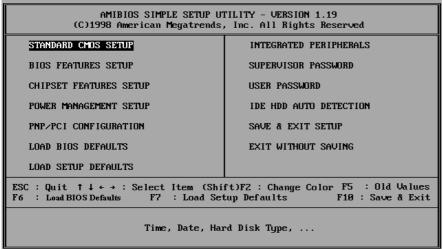
Figure 4.1: Main Menu

- Standard CMOS setup

  This setup page includes all the items in a standard compatible BIOS.

- BIOS features setup

  This setup page includes all the items of Award special enhanced features.

- Chipset features setup

  This setup page includes all the items of chipset special features.

- Power management setup

  This setup page includes all the items of Green function features.

- PNP/PCI configuration

  This setup page includes all the items of PNP/PCI configuration features.

- Load BIOS defaults

  BIOS defaults indicates the most appropriate value of the system parameter which the system would be in safe configuration.

- Load setup defaults

  Setup Defaults indicates the value of the system parameters that the system would be in the best performance configuration.

- Integrated Peripherals

  This setup page includes all the items of peripherals features.

- Supervisor Password

  Change, set, or disable password. It allows you to limit access to the system and Setup, or just to Setup.

- User Password

  Change, set, or disable password. It allows you to limit access to the system.

- IDE HDD auto detection

  Automatically configure hard disk parameter.

- Save & exit setup

  Save CMOS value changes to CMOS and exit setup.

- Exit without save

  Abandon all CMOS value changes and exit setup.

4.5. STANDARD CMOS SETUP MENU

The items in Standard CMOS Setup Menu (Figure 4.2) are divided into 9 categories. Each category includes no, one or more than one setup items. Use the arrows to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.
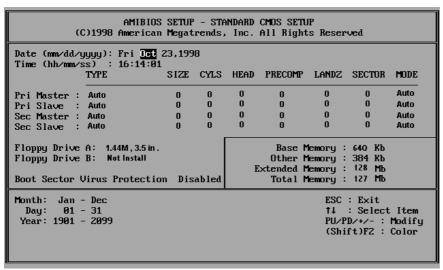
```
                   AMIBIOS SETUP - STANDARD CMOS SETUP
            (C)1998 American Megatrends, Inc. All Rights Reserved

Date (mm/dd/yyyy): Fri Oct 23,1998
Time (hh/mm/ss)  : 16:14:01
              TYPE        SIZE  CYLS  HEAD  PRECOMP  LANDZ  SECTOR  MODE

Pri Master : Auto          0     0     0      0       0      0     Auto
Pri Slave  : Auto          0     0     0      0       0      0     Auto
Sec Master : Auto          0     0     0      0       0      0     Auto
Sec Slave  : Auto          0     0     0      0       0      0     Auto

Floppy Drive A: 1.44M,3.5 in.            Base Memory : 640  Kb
Floppy Drive B:  Not Install            Other Memory : 384  Kb
                                     Extended Memory : 128  Mb
Boot Sector Virus Protection  Disabled     Total Memory : 127  Mb

Month:  Jan - Dec                         ESC : Exit
  Day:   01 - 31                          ↑↓  : Select Item
 Year: 1901 - 2099                        PU/PD/+/- : Modify
                                          (Shift)F2 : Color
```

Figure 4.2: Standard CMOS Setup Menu

• Date

The date format is <week>, <month> <day> <year>. Press <F3> to show the calendar.

Week	The day, from Sun to Sat, determined by the BIOS and is display-only
Month	The date, from 1 to 31 (or the maximum allowed in the month)
Day	The month, Jan. through Dec.
Year	The year, from 1994 through 2079

- Time

  The time format in <hour> <minute> <second>.

  The time is calculated base on the 24-hour military-time clock.

  For example, 1 p.m. is 13:00:00.

- Primary HDDs / Secondary HDDs

  The category identify the types of hard disk from drive C to drive F

  4 devices that has been installed in the computer.

  There are three options for definable type; User, Auto and None .

  Type User is user-definable; and type Auto means automatically detecting HDD's type and None means No IDE HDD installed.

  If you select Type User, related information is asked to be entered to the following items.

  Enter the information directly from the keyboard and press <Enter>.

  Those information should be provided in the documentation from your hard disk vendor or the system manufacturer.

CYLS.	number of cylinders
HEADS	number of heads
PRECOMP	write precomp
LANDZONE	landing zone
SECTORS	number of sectors

  If a hard disk has not been installed select NONE and press <Enter>.

- Drive A type / Drive B type

  The category identify the types of floppy disk drive A or drive B that has been installed in the computer.

None	No floppy drive installed
360K, 5.25 in.	5-1/4 inch PC-type standard drive; 360 kilobyte capacity.
1.2M, 5.25 in.	5-1/4 inch AT-type high-density drive; 1.2 megabyte capacity (3-1/2 inch when 3 Mode is Enabled).
720K, 3.5 in.	3-1/2 inch double-sided drive; 720 kilobyte capacity
1.44M, 3.5 in.	3-1/2 inch double-sided drive; 1.44 megabyte capacity.
2.88M, 3.5 in.	3-1/2 inch double-sided drive; 2.88 megabyte capacity.

- Memory

  The category is display-only which is determined by POST (Power On Self Test) of the BIOS.

  Base Memory

  The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system.

  The value of the base memory is typically 512 K for systems with 512 K memory installed on the motherboard, or 640 K for systems with 640 K or more memory installed on the motherboard.

  Extended Memory

  The BIOS determines how much extended memory is present during the POST.

  This is the amount of memory located above 1 MB in the CPU's memory address map.

Expanded Memory

Expanded Memory in memory defined by the Lotus / Intel / Microsoft (LIM) standard as EMS.

Many standard DOS applications can not utilize memory above 640, the Expanded Memory Specification (EMS) swaps memory which not utilized by DOS with a section, or frame, so these applications can access all of the system memory.

Memory can be swapped by EMS is usually 64K   within 1 MB or memory above 1 MB, depends on the chipset design.

Expanded memory device driver is required to use memory as Expanded Memory.

Other Memory

This refers to the memory located in the 640 to 1024 address space. This is memory that can be used for different applications.

DOS uses this area to load device drivers to keep as much base memory free for application programs. Most use for this area is Shadow RAM.
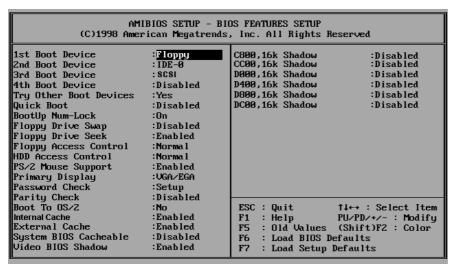
4.6. BIOS FEATURES SETUP

```
            AMIBIOS SETUP - BIOS FEATURES SETUP
       (C)1998 American Megatrends, Inc. All Rights Reserved

1st Boot Device        :Floppy      C800,16k Shadow        :Disabled
2nd Boot Device        :IDE-0       CC00,16k Shadow        :Disabled
3rd Boot Device        :SCSI        D000,16k Shadow        :Disabled
4th Boot Device        :Disabled    D400,16k Shadow        :Disabled
Try Other Boot Devices :Yes         D800,16k Shadow        :Disabled
Quick Boot             :Disabled    DC00,16k Shadow        :Disabled
BootUp Num-Lock        :On
Floppy Drive Swap      :Disabled
Floppy Drive Seek      :Enabled
Floppy Access Control  :Normal
HDD Access Control     :Normal
PS/2 Mouse Support     :Enabled
Primary Display        :VGA/EGA
Password Check         :Setup
Parity Check           :Disabled
Boot To OS/2           :No          ESC : Quit        ↑↓←→ : Select Item
Internal Cache         :Enabled     F1  : Help        PU/PD/+/- : Modify
External Cache         :Enabled     F5  : Old Values  (Shift)F2 : Color
System BIOS Cacheable  :Disabled    F6  : Load BIOS Defaults
Video BIOS Shadow      :Enabled     F7  : Load Setup Defaults
```

Figure 4.3: BIOS Features Setup

- 1st / 2nd / 3rd / 4th Boot Device

  The default value is Floppy or LS/ZIP A: or ATAPI ZIP C: or CDROM or SCSI or NETWORK or IDE-0~IDE-3 or Disabled.

Floppy	Boot Device by Floppy.
LS/ZIP A:	Boot Device by LS/ZIP A:.
ATAPI ZIP C:	Boot Device by ATAPI ZIP C:.
CDROM	Boot Device by CDROM.
SCSI	Boot Device by SCSI.
NETWORK	Boot Device by NETWORK.
IDE-0~IDE-3	Boot Device by IDE-0~IDE-3.
Disabled	Boot Device by Disabled.

- Try Other Boot Devices

  The default value is Yes.

Yes	Enable Try Other Boot Devices function.
No	Disable Try Other Boot Devices function.

- Quick Boot

   The default value is Disabled.

Enabled	Enabled Quick Boot Function.
Disabled	Disabled Quick Boot Function.

- Bootup Num-Lock

   Default value is On.

On	Keypad is number keys.
Off	Keypad is arrow keys.

- Floppy Drive Swap

   The default value is Disabled.

Enabled	Floppy A & B will be swapped under DOS.
Disabled	Floppy A & B will be normal definition.

- Floppy Drive Seek

   During POST, BIOS will determine if the floppy disk drive installed is 40 or 80 tracks. 360 type is 40 tracks while 720 , 1.2 and 1.44 are all 80 tracks.

   The default value is Enabled.

Enabled	BIOS searches for floppy disk drive to determine if it is 40 or 80 tracks. Note that BIOS can not tell from 720, 1.2 or 1.44 drive type as they are all 80 tracks.
Disabled	BIOS will not search for the type of floppy disk drive by track number. Note that there will not be any warning message if the drive installed is 360 .

- Floppy Access Control

   The default value is Normal.

Normal	Set Floppy Access Control : Normal.
Read Only	Set Floppy Access Control : Read Only.

● HDD Access Control

The default value is Normal.

Normal	Set HDD Access Control : Normal.
Read Only	Set HDD Access Control : Read Only.

● PS/2 Mouse Support

The default value is Enabled.

Enabled	Enabled PS/2 Mouse Support Function.
Disabled	Disabled PS/2 Mouse Support Function.

● Primary Display

The default value is VGA / EGA.

VGA / EGA	Set Primary Display to VGA / EGA.
CGA 40x25	Set Primary Display to CGA 40x25.
CGA 80x25	Set Primary Display to CGA 80x25.
Mono	Set Primary Display to Mono.
Absent	Set Primary Display to Absent.

● Password Check

The default value is Setup.

Setup	Set Password Check to Setup.
Always	Set Password Check to Always.

● Parity Check

The default value is Disabled.

Enabled	Enabled Parity Check Function.
Disabled	Disabled Parity Check Function.

● Boot To OS/2

The default value is No.

Yes	Enabled Boot To OS/2.
No	Disabled Boot To OS/2.

- Internal Cache

  The default value is Enabled.

Enabled	Enabled Internal Cache Function.
Disabled	Disabled Internal Cache Function.

- External Cache

  The default value is Enabled.

Enabled	Enabled External Cache Function.
Disabled	Disabled External Cache Function.

- System BIOS Cacheable

  The default value is Disabled.

Enabled	Enabled System BIOS Cacheable.
Disabled	Disabled System BIOS Cacheable.

- Video BIOS Shadow

  It determines whether video BIOS will copied to RAM, however, it is optional from chipset design. Video Shadow will increase the video speed.

  The default value is Enabled.

Enabled	Video shadow is enabled.
Disabled	Video shadow is disabled.
Cached	Video shadow is cached.

- C800 , 16k Shadow / D000 , 16k Shadow

  These categories determine whether optional ROM will be copied to RAM by 16 byte. The default value are Disabled.

Enabled	Optional shadow is enabled.
Disabled	Optional shadow is disabled.
Cached	Optional shadow is cached.

4.7. CHIPSET FEATURES SETUP

```
         AMIBIOS SETUP - CHIPSET FEATURES SETUP
         (C)1998 American Megatrends, Inc. All Rights Reserved

USB Function              :Enabled
USB Legacy Support        :Disabled
SDRAM CAS Latency         :Auto
DRAM Data Integrity Mode  :Parity
SDRAM Burst Mode          :Enabled
DRAM Timing               :Normal
Pipe Function             :Enabled
Gated Clock               :Disabled
Graphic Aperture Size     :64MB
Primary Frame Buffer      : All
VGA Frame Buffer          :Enabled
   Data Merge             :Disabled
Passive Release           :Enabled
ISA Line Buffer           :Enabled
Delay Transaction         :Disabled
AT Bus Clock              : Auto       ESC : Quit          ↑↓←→ : Select Item
AMD K6 Write Allocate     :Disabled    F1  : Help          PU/PD/+/- : Modify
Spread Spectrum           :Disabled    F5  : Old Values   (Shift)F2 : Color
                                       F6  : Load BIOS Defaults
                                       F7  : Load Setup Defaults
```

Figure 4.4: Chipset Features Setup

- USB Function

   The default value is Enabled.

Enabled	Enabled USB Function.
Disabled	Disabled USB Function.

- USB Legacy Support.

   The default value is Disabled.

Enabled	Enabled USB Legacy Support Function.
Disabled	Disabled USB Legacy Support Function.

- SDRAM CAS Latency

   The default value is Auto.

3	For Slower SDRAM DIMM module.
2	For Fastest SDRAM DIMM module.
Auto	CAS latency time will be set automatically if you have SPD on SDRAM.

- DRAM Data Integrity Mode

  The default value is Parity.

ECC	Set DRAM Data Integrity Mode to ECCMode.
Parity	Set DRAM Data Integrity Mode to ParityMode.

- SDRAM Burst Mode

  The default value is Enabled.

Enabled	Enabled SDRAM Burst X-1-1-1-1-1-1.
Disabled	Disabled SDRAM Burst X-1-1-1-1-1-1.

- DRAM Timing

  The default value is Normal.

Normal	For normal DRAM timing operation.
Fast	For Fastest DRAM timing operation.
Slow	For Slower DRAM timing operation.

- Pipe Function

  The default value is Enabled.

Enabled	Enabled Pipe Function.
Disabled	Disabled Pipe Function.

- Gated Clock

  The default value is Disabled.

Enabled	Enabled Gated Clock Function.
Disabled	Disabled Gated Clock Function.

- Graphics Aperture Size

  The default value is 64MB.

4M	Set Graphics Aperture Size to 4MB.
8M	Set Graphics Aperture Size to 8MB.
16MB	Set Graphics Aperture Size to 16MB.
32MB	Set Graphics Aperture Size to 32MB.
64MB	Set Graphics Aperture Size to 64MB.
128MB	Set Graphics Aperture Size to 128MB.
256MB	Set Graphics Aperture Size to 256MB.

- Primary Frame Buffer

  The default value is All.

All	Set Primary Frame Buffer to All.
1MB	Set Primary Frame Buffer to 1MB.
2MB	Set Primary Frame Buffer to 2MB.
4MB	Set Primary Frame Buffer to 4MB.
8MB	Set Primary Frame Buffer to 8MB.
16MB	Set Primary Frame Buffer to 16MB.
Disabled	Disabled Primary Frame Buffer.

- VGA Frame Buffer

  The default value is Enabled.

Enabled	Enable VGA Frame Buffer.
Disabled	Disable VGA Frame Buffer.

- Data Merge

  The default value is Disabled.

Enabled	Enable Data Merge.
Disabled	Disable Data Merge.

- Passive Release

  The default value is Enabled.

Enabled	Enable Passive Release.
Disabled	Disable Passive Release.

- ISA Line Buffer

  The default value is Enabled.

Enabled	Enable ISA Line Buffer.
Disabled	Disable ISA Line Buffer.

- Delay Transaction

  The default value is Disabled.

Enabled	Enable Delay Transaction.
Disabled	Disable Delay Transaction.

- AT Bus Clock

  The default value is Auto.

7.19MHz	Set AT Bus Clock to 7.19MHz.
PCICLK/2	Set AT Bus Clock to PCICLK/2.
PCICLK/3	Set AT Bus Clock to PCICLK/3.
PCICLK/4	Set AT Bus Clock to PCICLK/4.
PCICLK/5	Set AT Bus Clock to PCICLK/5.
PCICLK/6	Set AT Bus Clock to PCICLK/6.
Auto	Set AT Bus Clock to Auto.

- AMD K6 Write Allocate

  The default value is Disabled.

Enabled	Enabled AMD K6 Write Allocate.
Disabled	Disabled AMD K6 Write Allocate.

- Spread Spectrum

  The default value is Disabled.

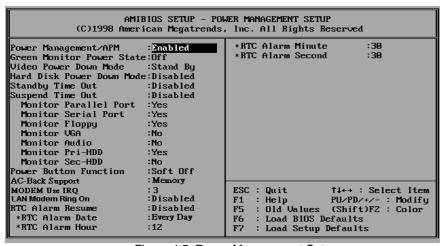 | Disabled | Normal. |
  |---|---|
  | 0.6%(CNTR) | Set Spread Spectrum 0.6%(Center Spread). |

4.8. POWER MANAGEMENT SETUP

```
        AMIBIOS SETUP - POWER MANAGEMENT SETUP
        (C)1998 American Megatrends, Inc. All Rights Reserved

Power Management/APM      :Enabled        *RTC Alarm Minute      :30
Green Monitor Power State:Off             *RTC Alarm Second      :30
Video Power Down Mode     :Stand By
Hard Disk Power Down Mode:Disabled
Standby Time Out          :Disabled
Suspend Time Out          :Disabled
  Monitor Parallel Port   :Yes
  Monitor Serial Port     :Yes
  Monitor Floppy          :Yes
  Monitor VGA             :No
  Monitor Audio           :No
  Monitor Pri-HDD         :Yes
  Monitor Sec-HDD         :No
Power Button Function     :Soft Off
AC-Back Support           :Memory
MODEM Use IRQ             :3               ESC : Quit          ↑↓←→ : Select Item
LAN Modem Ring On         :Disabled        F1  : Help          PU/PD/+/- : Modify
RTC Alarm Resume          :Disabled        F5  : Old Values  (Shift)F2 : Color
 *RTC Alarm Date          :Every Day       F6  : Load BIOS Defaults
 *RTC Alarm Hour          :12              F7  : Load Setup Defaults
```

Figure 4.5: Power Management Setup

*These four items will be available when RTC Alarm Resume is set to
 Enabled.

- Power Management / APM

  The default value is Enabled.

Enabled	Enable Green function.
Disabled	Disable Green function.

- Green Monitor Power State

  The default value is Off.

Off	Set Green Monitor Power State to Off.
Stand By	Set Green Monitor Power State to Stand By.
Suspend	Set Green Monitor Power State to Suspend.

●   Video Power Down Mode

   The default value is Stand By.

Disabled	Disabled Video Power Down Mode Function.
Stand By	Set Video Power Down Mode to Stand By.
Suspend	Set Video Power Down Mode to Suspend.

●   Hard Disk Power Down Mode

   The default value is Disabled.

Disabled	Disabled Hard Disk Power Down Mode Function .
Stand By	Set Hard Disk Power Down Mode to Stand By.
Suspend	Set Hard Disk Power Down Mode to Suspend.

●   Standby Time Out

   The default value is Disabled.

Disabled	Disabled Standby Time Out Function .
1min	Enabled Standby Time Out between 1min.
5min	Enabled Standby Time Out between 5min.
10min	Enabled Standby Time Out between 10min.
30min	Enabled Standby Time Out between 30min.
1hr	Enabled Standby Time Out between 1hr.
2hr	Enabled Standby Time Out between 2hr.
4hr	Enabled Standby Time Out between 4hr.

●   Suspend Time Out

   The default value is Disabled.

Disabled	Disabled Suspend Time Out Function .
1min	Enabled Suspend Time Out between 1min.
5min	Enabled Suspend Time Out between 5min.
10min	Enabled Suspend Time Out between 10min.
30min	Enabled Suspend Time Out between 30min.
1hr	Enabled Suspend Time Out between 1hr.
2hr	Enabled Suspend Time Out between 2hr.
4hr	Enabled Suspend Time Out between 4hr.

- Monitor Parallel Port

  The default value is Yes.

Yes	Enabled Monitor Parallel Port Function.
No	Disabled Monitor Parallel Port Function.

- Monitor Serial Port

  The default value is Yes.

Yes	Enabled Monitor Serial Port Function.
No	Disabled Monitor Serial Port Function.

- Monitor Floppy

  The default value is Yes.

Yes	Enabled Monitor Floppy Function.
No	Disabled Monitor Floppy Function.

- Monitor VGA

  The default value is No.

Yes	Enabled Monitor VGA Function.
No	Disabled Monitor VGA Function.

- Monitor Audio

  The default value is No.

Yes	Enabled Monitor Audio Function.
No	Disabled Monitor Audio Function.

- Monitor Pri-HDD

  The default value is Yes.

Yes	Enabled Monitor Pri-HDD Function.
No	Disabled Monitor Pri-HDD Function.

- Monitor Sec-HDD

  The default value is No.

Yes	Enabled Monitor Sec-HDD Function.
No	Disabled Monitor Sec-HDD Function.

- Power Button Function

  The default value is Soft Off.

Soft Off	Set Power Button Function to Soft Off.
Suspend	Set Power Button Function to Delay 4 sec.

- AC Back Function

  The default value is Memory.

Memory	This function depends on computer status.
Soft-Off	Set System Soft-Off Status.

- MODEM Use IRQ

  The default value is 3.

NA	Set MODEM Use IRQ to NA.
3	Set MODEM Use IRQ to 3.
4	Set MODEM Use IRQ to 4.
5	Set MODEM Use IRQ to 5.
7	Set MODEM Use IRQ to 7.
9	Set MODEM Use IRQ to 9.
10	Set MODEM Use IRQ to 10.
11	Set MODEM Use IRQ to 11.

- LAN / Modem Ring On

  The default value is Disabled.

Enabled	Enable Ring Resume From Soft Off function.
Disabled	Disable Ring Resume From Soft Off function.

- RTC Alarm Resume

   The default value is Disabled.

Enabled	Enable RTC Alarm Resume function.
Disabled	Disable RTC Alarm Resume function.

   If RTC Alarm Resume is Enabled.

Date Alarm :	Every Day,1~31
Hour Alarm :	0~23
Minute Alarm :	0~59
Second Alarm :	0~59

4.9. PNP/PCI CONFIGURATION

```
        AMIBIOS SETUP - PNP/PCI CONFIGURATION
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 Plug and Play Aware O/S    :No      IRQ5                 :PCI/PnP
 Clear NVRAM                :No      IRQ7                 :ISA/EISA
 PCI Latency Timer          :64      IRQ9                 :PCI/PnP
 Primary Graphics Adapter   :PCI     IRQ10                :PCI/PnP
 PCI VGA Palette Snoop      :Disabled IRQ11               :PCI/PnP
 OffBoard PCI IDE Card      :Auto    IRQ12                :PCI/PnP
*OffBoard PCI IDE Pri.IRQ   :Disabled IRQ14               :PCI/PnP
*OffBoard PCI IDE Sec.IRQ   :Disabled IRQ15               :PCI/PnP
 Assign IRQ to PCI VGA      :Yes
 PCI Slot1 IRQ Priority     :Auto
 PCI Slot2 IRQ Priority     :Auto
 PCI Slot3 IRQ Priority     :Auto
 DMA Channel 0              :PnP
 DMA Channel 1              :PnP
 DMA Channel 3              :PnP
 DMA Channel 5              :PnP    ESC : Quit        ↑↓←→ : Select Item
 DMA Channel 6              :PnP    F1  : Help        PU/PD/+/- : Modify
 DMA Channel 7              :PnP    F5  : Old Values  (Shift)F2 : Color
 IRQ3                       :ISA/EISA F6 : Load BIOS Defaults
 IRQ4                       :ISA/EISA F7 : Load Setup Defaults
```

Figure 4.6: PCI Slot Configuration

*These two items will be available when OffBoard PCI IDE Card is set to Slot 1.

- Plug and Play Aware O/S

    The default value is No.

Yes	Enable Plug and Play Aware O/S function.
No	Disable Plug and Play Aware O/S function.

- Clear NVRAM

    The default value is No.

Yes	Enable Clear NVRAM function.
No	Disable Clear NCRAM function.

- PCI Latency Timer

  The default value is 64.

32	Set PCI Latency Timer to 32.
64	Set PCI Latency Timer to 64.
96	Set PCI Latency Timer to 96.
128	Set PCI Latency Timer to 128.
160	Set PCI Latency Timer to 160.
192	Set PCI Latency Timer to 190.
224	Set PCI Latency Timer to 224.
248	Set PCI Latency Timer to 248.

- Primary Graphics Adapter

  The default value is PCI.

PCI	Set Primary Graphics Adapter to PCI.
AGP	Set Primary Graphics Adapter to AGP.

- PCI VGA Palette Snoop

  The default value is Disabled.

Enabled	Enabled PCI VGA Palette Snoop Function.
Disabled	Disabled PCI VGA Palette Snoop Function.

- OffBoard PCI IDE Card

  The default value is Auto.

Auto	Set OffBoard PCI IDE Card to Auto.
Slot 1	Set OffBoard PCI IDE Card to Slot 1.
Slot 2	Set OffBoard PCI IDE Card to Slot 2.
Slot 3	Set OffBoard PCI IDE Card to Slot 3.

- OffBoard PCI IDE Pri.IRQ

  The default value is Disabled.

Disabled	Disabled OffBoard PCI IDE Pri.IRQ .
INTA	Set OffBoard PCI IDE Pri.IRQ to INTA.
INTB	Set OffBoard PCI IDE Pri.IRQ to INTB.
INTC	Set OffBoard PCI IDE Pri.IRQ to INTC.
INTD	Set OffBoard PCI IDE Pri.IRQ to INTD.
Hardwired	Set OffBoard PCI IDE Pri.IRQ to Hard wired.

- OffBoard PCI IDE Sec.IRQ

  The default value is Disabled.

Disabled	Disabled OffBoard PCI IDE Sec.IRQ .
INTA	Set OffBoard PCI IDE Sec.IRQ to INTA.
INTB	Set OffBoard PCI IDE Sec.IRQ to INTB.
INTC	Set OffBoard PCI IDE Sec.IRQ to INTC.
INTD	Set OffBoard PCI IDE Sec.IRQ to INTD.
Hardwired	Set OffBoard PCI IDE Sec.IRQ to Hard wired.

- Assign IRQ to PCI VGA

  The default value is Yes.

Yes	Enabled Assign IRQ to PCI VGA Function.
No	Disabled Assign IRQ to PCI VGA Function.

- PCI Slot1 / Slot2 / Slot3 IRQ Priority

  The default value is Auto.

3~12	Set PCI Slot1 / Slot2 / Slot3 IRQ Priority between 3 to 12.
Auto	Set PCI Slot1 / Slot2 / Slot3 IRQ Priority to Auto.

- DMA Channel (0,1,3,5,6,7)

  The default value is PnP.

ISA/EISA	The resource is used by ISA/EISA device.
PnP	The resource is used by PnP device.

- IRQ (3,4,5,7,9,10,11,12,14,15)

  The default value is "ISA/EISA" or "PCI/PnP".

ISA/EISA	The resource is used by ISA/EISA device.
PCI/PnP	The resource is used by PCI/PnP device.

4.10. LOAD BIOS DEFAULTS


```
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   STANDARD CMOS SETUP              INTEGRATED PERIPHERALS

   BIOS FEATURES SETUP             SUPERVISOR PASSWORD

   CHIPSET FEATURES SETUP          USER PASSWORD

   POWER MANAGEMENT SE┌─────────────────────────┐O DETECTION

   PNP/PCI CONFIGURATI │ Load BIOS Defaults (Y/N) ? N │ SETUP

   LOAD BIOS DEFAULTS  └─────────────────────────┘T SAVING

   LOAD SETUP DEFAULTS

   ESC : Quit  ↑ ↓ ← → : Select Item (Shift)F2 : Change Color F5  : Old Values
   F6  : Load BIOS Defaults    F7  : Load Setup Defaults       F10 : Save & Exit

            Load BIOS Defaults except Standard CMOS SETUP
```
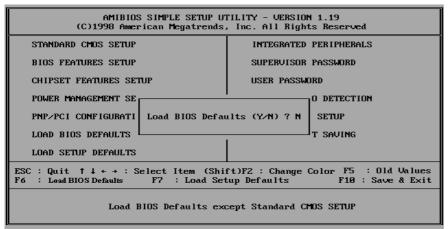
Figure 4.7: Load BIOS Defaults

- Load BIOS Defaults

  To load BIOS defaults value to CMOS SRAM, enter "Y". If not, enter "N".

4.11. LOAD SETUP DEFAULTS

```
╔══════════════════════════════════════════════════════════════╗
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║         (C)1998 American Megatrends, Inc. All Rights Reserved  ║
╠══════════════════════════════════════════════════════════════╣
║   STANDARD CMOS SETUP            INTEGRATED PERIPHERALS         ║
║                                                                ║
║   BIOS FEATURES SETUP            SUPERVISOR PASSWORD            ║
║                                                                ║
║   CHIPSET FEATURES SETUP         USER PASSWORD                 ║
║                                                                ║
║   POWER MANAGEMENT SE┌──────────────────────────┐O DETECTION   ║
║                      │                          │              ║
║   PNP/PCI CONFIGURATI│ Load SETUP Defaults (Y/N) ? N │ SETUP    ║
║                      │                          │              ║
║   LOAD BIOS DEFAULTS └──────────────────────────┘T SAVING      ║
║                                                                ║
║   LOAD SETUP DEFAULTS                                          ║
╠══════════════════════════════════════════════════════════════╣
║ ESC : Quit  ↑ ↓ ← → : Select Item (Shift)F2 : Change Color  F5  : Old Values ║
║ F6  : Load BIOS Defaults    F7  : Load Setup Defaults    F10 : Save & Exit ║
╠══════════════════════════════════════════════════════════════╣
║         Load SETUP Defaults except Standard CMOS SETUP         ║
╚══════════════════════════════════════════════════════════════╝
```

Figure 4.8: Load Setup Defaults

- Load SETUP Defaults

    To load SETUP defaults value to CMOS SRAM, enter "Y". If not, enter "N".

🕯 **If there is any problem occurred, loading BIOS DEFAULTS step is recommended.**
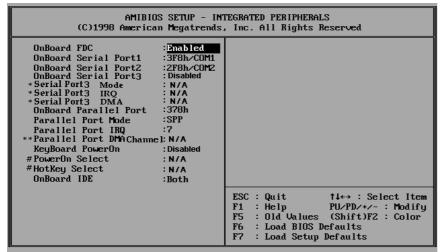
4.12. INTEGRATED PERIPHERALS

```
             AMIBIOS SETUP - INTEGRATED PERIPHERALS
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     OnBoard FDC            :Enabled
     OnBoard Serial Port1   :3F8h/COM1
     OnBoard Serial Port2   :2F8h/COM2
     OnBoard Serial Port3   :Disabled
   * Serial Port3  Mode     :N/A
   * Serial Port3  IRQ      :N/A
   * Serial Port3  DMA      :N/A
     OnBoard Parallel Port  :378h
     Parallel Port Mode     :SPP
     Parallel Port IRQ      :7
  **Parallel Port DMA Channel:N/A
     KeyBoard PowerOn       :Disabled
   #PowerOn Select          :N/A
   #HotKey Select           :N/A
     OnBoard IDE            :Both

                                     ESC : Quit         ↑↓←→ : Select Item
                                     F1  : Help         PU/PD/+/- : Modify
                                     F5  : Old Values   (Shift)F2 : Color
                                     F6  : Load BIOS Defaults
                                     F7  : Load Setup Defaults
```

Figure 4.9: Integrated peripherals

∗ These two items will Enabled when OnBoard Serial Port3 is set to
 Enabled.

∗∗The item will Enable when Parallel Port Mode is set to ECP

These two items will show up when KeyBoard PowerOn is set to Enabled

● OnBoard FDC

The default value is Enabled.

Enabled	Enabled OnBoard FDC Function.
Disabled	Disabled OnBoard FDC Function.
Auto	Set OnBoard FDC Function is Auto.

• OnBoard Serial Port 1

The default value is 3F8h/COM1.

Auto	BIOS will automatically setup the port 1 address.
3F8h/COM1	Enable OnBoard Serial port 1 and address is 3F8h.
2F8h/COM2	Enable OnBoard Serial port 1 and address is 2F8h.
3E8h/COM3	Enable OnBoard Serial port 1 and address is 3E8h.
2E8h/COM4	Enable OnBoard Serial port 1 and address is 2E8h.
Disabled	Disable OnBoard Serial port 1.

• OnBoard Serial Port 2

The default value is 2F8h/COM2.

Auto	BIOS will automatically setup the port 2 address.
3F8h/COM1	Enable OnBoard Serial port 2 and address is 3F8h.
2F8h/COM2	Enable OnBoard Serial port 2 and address is 2F8h.
3E8h/COM3	Enable OnBoard Serial port 2 and address is 3E8h.
2E8h/COM4	Enable OnBoard Serial port 2 and address is 2E8h.
Disabled	Disable OnBoard Serial port 2.

• OnBoard Serial Port 3

The default value is Disabled.

Auto	BIOS will automatically setup the port 3 address.
3F8h/COM1	Enable OnBoard Serial port 3 and address is 3F8h.
2F8h/COM2	Enable OnBoard Serial port 3 and address is 2F8h.
3E8h/COM3	Enable OnBoard Serial port 3 and address is 3E8h.
2E8h/COM4	Enable OnBoard Serial port 3 and address is 2E8h.
Disabled	Disable OnBoard Serial port 3.

• Serial Port 3 Mode

The default value is N/A.

FIR	Onboard I/O chip supports FIR.
IrDA	Onboard I/O chip supports IrDA.
ASKIR	Onboard I/O chip supports ASKIR.

- Serial Port 3 IRQ

  The default value is N/A.

3	Set Serial Port 3 IRQ to 3.
4	Set Serial Port 3 IRQ to 4.
5	Set Serial Port 3 IRQ to 5.
9	Set Serial Port 3 IRQ to 9.
10	Set Serial Port 3 IRQ to 10.
11	Set Serial Port 3 IRQ to 11.

- Serial Port 3 DMA

  The default value is N/A.

1	Set Serial Port 3 DMA to 1.
3	Set Serial Port 3 DMA to 3.

- OnBoard Parallel port

  The default value is 378h.

378h	Enable onBoard LPT port and address is 378h.
278h	Enable onBoard LPT port and address is 278h.
3BCh	Enable onBoard LPT port and address is 3BCh.
Auto	Set OnBoard LPT port is Auto.
Disabled	Disable onBoard LPT port.

- Parallel Port Mode

  The default value is SPP.

SPP	Using Parallel port as Standard Printer Port.
ECP	Using Parallel port as Extended Capabilities Port.
EPP	Using Parallel port as Enhanced Parallel Port.
ECP+EPP	Using Parallel port as ECP & EPP mode.

- Parallel Port IRQ

  The default value is 7.

7	Set Parallel Port IRQ to 7.
5	Set Parallel Port IRQ to 5.

- Parallel Port DMA Channel

  The default value is N/A.

1	Set Parallel Port DMA Channel to 1.
3	Set Parallel Port DMA Channel to 3.

- KeyBoard PowerOn

  The default value is Disabled.

Enabled	Enabled KeyBoard PowerOn.
Disabled	Disabled KeyBoard PowerOn.

- PowerOn Select

  The default value is N/A.

Hot Key	KB PWR ON/OFF Function Set Enabled, KB PWR ON/OFF Password : Enter will show up. When users enabled KB PWR ON/OFF Function, please set password with three different characters, and press the three different characters password at the same time. For example, if users set "abc"as password , then he would press"a" "b" "c" at the same time. (a-b-c is hot key) .
Pass Word	You can power on your system by entering the keyboard power on password. If your password consists of more than one character, you have to press the ENTER key after entering the password.

- HotKey Select

  The default value is N/A.

Ctrl-Alt-F1~F12	Set HotKey Select Function to Ctrl-Alt-F1~F12.
Ctrl-Alt-Ins	Set HotKey Select Function to Ctrl-Alt-Ins.
Ctrl-Alt-Del	Set HotKey Select Function to Ctrl-Alt-Del.
Ctrl-Alt-LShift	Set HotKey Select Function to Ctrl-Alt-LShift.
Ctrl-Alt-RShift	Set HotKey Select Function to Ctrl-Alt-RShift.

- OnBoard IDE

  The default value is Both.

Both	Set OnBoard IDE is Both.
Disabled	Disabled OnBoard IDE Function.
Primary	Set OnBoard IDE is Primary.
Secondary	Set OnBoard IDE is Secondary.

4.13.SUPERVISOR / USER PASSWORD

When you select this function, the following message will appear at the center of the screen to assist you in creating a password.
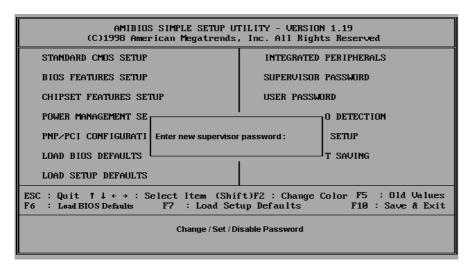
```
            AMIBIOS SIMPLE SETUP UTILITY - VERSION 1.19
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     STANDARD CMOS SETUP              INTEGRATED PERIPHERALS

     BIOS FEATURES SETUP              SUPERVISOR PASSWORD

     CHIPSET FEATURES SETUP           USER PASSWORD

     POWER MANAGEMENT SE                          O DETECTION

     PNP/PCI CONFIGURATI  Enter new supervisor password:   SETUP

     LOAD BIOS DEFAULTS                           T SAVING

     LOAD SETUP DEFAULTS

     ESC : Quit  ↑ ↓ ← → : Select Item (Shift)F2 : Change Color  F5  : Old Values
     F6  : Load BIOS Defaults     F7  : Load Setup Defaults        F10 : Save & Exit

                     Change / Set / Disable Password
```

Figure 4.10: Password Setting

Type the password, up to eight characters, and press <Enter>. The password typed now will clear previously entered password from CMOS memory.

You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To disable password, just press <Enter> when you are prompted to enter password. A message will confirm the password being disabled.

Once the password is disabled, the system will boot and you can enter Setup freely.

　　PASSWORD DISABLED

If you select System at Security Option of BIOS Features Setup Menu, you will be prompted for the password every time the system is rebooted or any time you try to enter Setup.

If you select Setup at Security Option of BIOS Features Setup Menu, you will be prompted only when you try to enter Setup.

4.14. IDE HDD AUTO DETECTION

```
            AMIBIOS SETUP - STANDARD CMOS SETUP
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Date (mm/dd/yyyy): Fri Oct 23,1998
Time (hh/mm/ss)  : 16:14:01
            TYPE         SIZE  CYLS  HEAD  PRECOMP  LANDZ  SECTOR  MODE

Pri Master : Auto          0    0     0      0       0       0    Auto
Pri Slave  : Auto          0    0     0      0       0       0    Auto
Sec Master : Auto          0    0     0      0       0       0    Auto
Sec Slave  : Auto          0    0     0      0       0       0    Auto

Floppy Drive A:  1.44M,3.5in.            Base Memory : 640  Kb
Floppy Drive B:   Not Install           Other Memory : 384  Kb
                                      Extended Memory : 128  Mb
Boot Sector Virus Protection   Disabled    Total Memory : 127  Mb

Month:  Jan - Dec                         ESC : Exit
  Day:   01 - 31                          ↑↓  : Select Item
  Year: 1901 - 2099                       PU/PD/+/- : Modify
                                          (Shift)F2 : Color
```

Figure 4.11: IDE HDD Auto Detection

The screen will display the¡ Standard CMOS Setup¡ önce you enter the menu.

User won' t need to make any changes to items in the menu. The system will auto detect the HDD and save it in the CMOS setup menu.
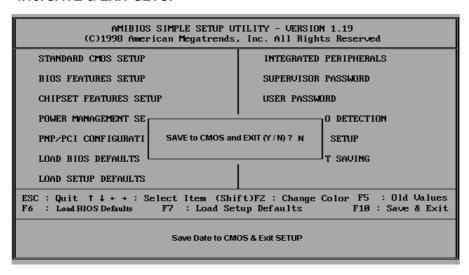
4.15. SAVE & EXIT SETUP

```
         AMIBIOS SIMPLE SETUP UTILITY - VERSION 1.19
         (C)1998 American Megatrends, Inc. All Rights Reserved

  STANDARD CMOS SETUP              INTEGRATED PERIPHERALS

  BIOS FEATURES SETUP              SUPERVISOR PASSWORD

  CHIPSET FEATURES SETUP           USER PASSWORD

  POWER MANAGEMENT SE                            O DETECTION

  PNP/PCI CONFIGURATI    SAVE to CMOS and EXIT (Y / N) ?  N    SETUP

  LOAD BIOS DEFAULTS                             T SAVING

  LOAD SETUP DEFAULTS

 ESC : Quit  ↑ ↓ ← → : Select Item  (Shift)F2 : Change Color  F5  : Old Values
 F6  : Load BIOS Defaults     F7  : Load Setup Defaults      F10 : Save & Exit


                    Save Date to CMOS & Exit SETUP
```

Figure 4.12: Save & Exit Setup

Type "Y" will quit the Setup Utility and save the user setup value to RTC CMOS SRAM.

Type "N" will return to Setup Utility.

4.16. EXIT WITHOUT SAVING

```
         AMIBIOS SIMPLE SETUP UTILITY - VERSION 1.19
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   STANDARD CMOS SETUP                  INTEGRATED PERIPHERALS

   BIOS FEATURES SETUP                  SUPERVISOR PASSWORD

   CHIPSET FEATURES SETUP               USER PASSWORD

   POWER MANAGEMENT SE                            O DETECTION

   PNP/PCI CONFIGURATI    Quit without saving (Y / N) ? N    SETUP

   LOAD BIOS DEFAULTS                             T SAVING

   LOAD SETUP DEFAULTS

   ESC : Quit  ↑ ↓ ← → : Select Item (Shift)F2 : Change Color  F5  : Old Values
   F6  : Load BIOS Defaults     F7  : Load Setup Defaults     F10 : Save & Exit

                    Abandon all Datas & Exit SETUP
```

Figure 4.13: Exit Without Saving

Type "Y" will quit the Setup Utility without saving to RTC CMOS SRAM.

Type "N" will return to Setup Utility.

5. Troubleshooting

How to remove *"?PCI Universal Serial Bus"* under the Windows 95 ?

Method 1:

1.Please Install Windows 95 OSR2.1 attached file "USBSUPP.EXE"

2.Run this file and then system will restart.

3.Please go to the Device Manager , and remove "?PCI Universal Serial Bus".

4.Please press "Refresh" buttom.

5.System will request your USB Driver under the directory c:\windows\system\openhci.sys

6.Choose this directory and press "OK", System will find Open HCI's USB Driver.

7.Restart your system.

Method 2:

1. Go to the web site of ALi (http://www.ali.com.tw/eframes.htm)

2. Download ALi USB Host Controller Supplement.

3. Install the file according to readme.

FCC Compliance Statement:

This equipment has been tested and found to comply with limits for a Class B digital device , pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in residential installations. 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 interference to radio or television equipment 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

-Move the equipment away from the receiver

-Plug the equipment into an outlet on a circuit different from that to which the receiver is connected

-Consult the dealer or an experienced radio/television technician for additional suggestions

You are cautioned that any change or modifications to the equipment not expressly approve by the party responsible for compliance could void Your authority to operate such equipment.

This device complies with Part 15 of the FCC Rules. Operation is subjected to the following two conditions 1) this device may not cause harmful interference and 2) this device must accept any interference received, including interference that may cause undesired operation.

Declaration of Conformity
We, Manufacturer/Importer
(full address)

G.B.T. Technology Träding GMBH
Ausschlager Weg 41, 1F, 20537 Hamburg, Germany

declare that the product
(description of the apparatus, system, installation to which it refers)

Mother Board
GA-5AA

is in conformity with
(reference to the specification under which conformity is declared)
in accordance with 89/336 EEC-EMC Directive

☐ **EN 55011**	Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM high frequency equipment	☐ **EN 61000-3-2*** ☒ **EN60555-2**	Disturbances in supply systems caused by household appliances and similar electrical equipment "Harmonics"
☐ **EN55013**	Limits and methods of measurement of radio disturbance characteristics of broadcast receivers and associated equipment	☐ **EN61000-3-3*** ☒ **EN60555-3**	Disturbances in supply systems caused by household appliances and similar electrical equipment "Voltage fluctuations"
☐ **EN 55014**	Limits and methods of measurement of radio disturbance characteristics of household electrical appliances, portable tools and similar electrical apparatus	☒ **EN 50081-1**	Generic emission standard Part 1: Residual, commercial and light industry
		☒ **EN 50082-1**	Generic immunity standard Part 1: Residual, commercial and light industry
☐ **EN 55015**	Limits and methods of measurement of radio disturbance characteristics of fluorescent lamps and luminaries	☐ **EN 55081-2**	Generic emission standard Part 2: Industrial environment
☐ **EN 55020**	Immunity from radio interference of broadcast receivers and associated equipment	☐ **EN 55082-2**	Generic immunity standard Part 2: Industrial environment
☒ **EN 55022**	Limits and methods of measurement of radio disturbance characteristics of information technology equipment	☐ **ENV 55104**	Immunity requirements for household appliances tools and similar apparatus
☐ **DIN VDE 0855** ☐ **part 10** ☐ **part 12**	Cabled distribution systems; Equipment for receiving and/or **distribution** from sound and television signals	☐ **EN 50091- 2**	EMC requirements for uninterruptible power systems (UPS)

$C\epsilon$ (EC conformity marking)

☒ **CE marking**

The manufacturer also declares the conformity of above mentioned product
with the actual required safety standards in accordance with LVD 73/23 EEC

☐ **EN 60065**	Safety requirements for mains operated electronic and related apparatus for household and similar general use	☐ **EN 60950**	Safety for information technology equipment including electrical business equipment
☐ **EN 60335**	Safety of household and similar electrical appliances	☐ **EN 50091-1**	General and Safety requirements for uninterruptible power systems (UPS)

Manufacturer/Importer

Signature : ___Rex Lin___

(Stamp)

Date : NOV. 25, 1998   Name   : ___Rex Lin___