

## 3. Built-In BIOS Setup Program

This chapter contains information about:

- How the SETUP program allows you to configure the functions and devices of your computer
- How to configure each item on the SETUP Menu

Before the computer can operate, it must know what devices are installed in it. These devices include floppy and fixed-disk drives, video, and so forth. Taken together, the presence or absence of these devices comprise the system configuration. Use the SETUP program to verify or change the system configuration.

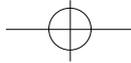
Ordinarily, there should be no need to run SETUP the time you start your system, since your computer comes from the factory ready to use. You must, however, run the SETUP program each time you make any changes to your computer's configuration, such as adding drives, and so forth. You can also run it to verify the system configuration.

### Starting SETUP

The SETUP program is permanently stored in a "Flash EEPROM" and not contained on disk. The SETUP program can be accessed :

- When powering up the system
- When resetting the system
- When the system detects an error and prompts for the SETUP program





### Accessing SETUP When Powering Up the System

To access the SETUP program when powering up the system, turn the computer power on. The system BIOS will first test the system components and then display a message similar to the following :

Press <DEL> to enter setup

Before the above message disappears, press the  key to activate the SETUP program.

### Accessing SETUP When Resetting the System

Reset the system by either pressing the reset button or the    key combination. The system will display the following message :

Press <DEL> to enter setup

Before the above message disappears, press  key to activate the SETUP program. You can prevent the system displaying this message using the SETUP prompt setting, described below.

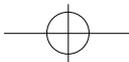
### Accessing SETUP When the System Prompts for the SETUP Program

If the system BIOS detects a software or hardware error during the self-testing process, the system displays the following message :

Press <F1> to continue, <DEL> to Enter SETUP

Press  to continue the boot sequence or  to run SETUP





3. Built-In BIOS Setup Program

Accessing SETUP Menus

SETUP provides access to primary menus from which you modify the system configuration. SETUP always displays the Main Menu when you start the program. Primary menus include :

**STANDARD CMOS SETUP**- This option allows users to check or modify the basic system configuration.

**BIOS FEATURES SETUP** - This option is used to set the various system options for the users, including the virus warning, external cache, security option, boot operations, and video BIOS shadow, etc..

**CHIPSET FEATURES SETUP** - This option allows users to control the features of chipset.

ROM PCI/ISA BIOS(CB647MLX)  
CMOS SETUP UTILITY  
AWARD SOFTWARE, INC.

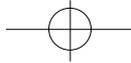
STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGURATION	SAVE & EXIT SETUP
LOAD BIOS DEFAULTS	EXIT WITHOUT SAVING
LOAD SETUP DEFAULTS	
ESC : Quit	
† : Select Item	
F10 : Save & Exit Setup	
(Shift)F2 : Change Color	
Time, Date, Hard Disk, Type ...	

Figure 3 -1. SETUP Main Menu



The instructions at the bottom of the Main Menu Screen show the items of each option.





**POWER MANAGEMENT SETUP**- This option allows users to set the power saving status for reducing the power consumption.

**PNP/PCI CONFIGURATION SETUP**- This option is used to set the various system function and internal addresses of the PCI devices. Allows users to configure system IRQ and DMA to PCI/ISA PnP or Legacy ISA .

**LOAD BIOS DEFAULTS** - Users can load the BIOS default values to boot the system safely.

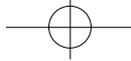
**LOAD SETUP DEFAULTS** - This option supports the better performance for the system. It is recommended to choose OPTIMUM Setting for the setup.

**INTEGRATED PERIPHERALS** - This option allows users to decide how many kinds peripherals need to change their I/O type , mode and used or not . This options also allows user to set the various system function and onboard PCI IDE controller.

**SUPERVISOR PASSWORD** - Password is required when entering and changing all of the SETUP option or booting your system. Users can change the current password stored in the CMOS by accessing this option.

**USER PASSWORD** - Password is required when booting your system and entering to change only the USER PASSWORD. Users can change the current password stored in the CMOS by accessing the option.





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**IDE HDD AUTO DETECTION** - This option can automatically detect the hard disk drive type(s) including the number of cylinders and heads, write precompensation time, read/write head landing zone, and number of sectors per track.

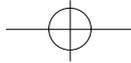
**HDD LOW LEVEL FORMAT** - This provides a hard disk low level format utility.

**SAVE & EXIT** - After saving the changes what you have made in the SETUP program, then exit and reboot the system.

**EXIT WITHOUT SAVING** - Abandon all previous settings, then exit and reboot the system.

After choosing an menu item from the SETUP main menu, move the cursor by using the , , ,  Arrow keys and press . To modify the setting of an option, simply press the  or  and the  or  keys. Press the  key when changing the color setting,  for a context sensitive help function, and the  key when quitting SETUP.





### 3.1 Standard CMOS Setup

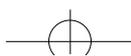
**ROM PCI/ISA BIOS (CB647MLX)  
STANDARD CMOS SETUP  
AWARD SOFTWARE, INC.**

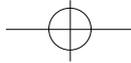
Data (mm:dd:yy) : Thu, Jun 12 1997	
Time (hh:mm:ss) : 17 : 58 : 42	
HARD DISKS	TYPE SIZE CYLS HEAD PRECOMP LANDZ SECTOR MODE
Primary Master	: Auto 0 0 0 0 0 0 Auto
Primary Slave	: Auto 0 0 0 0 0 0 Auto
Secondary Master	: Auto 0 0 0 0 0 0 Auto
Secondary Slave	: Auto 0 0 0 0 0 0 Auto
Drive A	: 1.44M, 3.5 in.
Drive B	: None
Video	: EGA/VGA
Halt On	: All, But Keyboard
Base Memory : 640K Extended Memory : 31744K Other Memory : 384K <hr/> TOTAL Memory : 32768K	
ESC : Quit	↑ : Select Item
F1 : Help	(Shift)F2 : Change Color
	PU/PD/+/- :Modify

Figure 3 -2 STANDARD CMOS Setup Menu

**Date** - Allows manual setting of the electronic calendar on the mainboard.

**Time** - Sets the system's internal clock which includes hours, minutes, and seconds.





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**Primary Master/Slave, Secondary Master/Slave** - Specifies the physical and electronic properties of the standard hard disk drives installed. Relevant specifications include the type, number of cylinders (CYLS), heads (HEAD), write pre-compensation time (PRECOMP), read/write head landing zone (LANDZ), number of sectors per track (SECTOR), and HDD mode (MODE). Selecting "AUTO" in the hard disk type item avoids the necessity of loading the HDD specifications and the function of the IDE HDD Auto Detection option in the main menu. The system BIOS will automatically detect the hard drive installed on the system upon bootup.

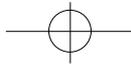
**Drive A:/ B:** - Specifies the capacity and format of the floppy drive installed in your system.

**Video** - Specifies the display adapter installed.

**Halt On** - Enables the system to halt on several conditions/options. The default value is set at "All, But Keyboard."

**Base / Extended / Other Memory** - A small section in the lower right corner of the screen displays important information about your system which includes the base, extended, and other memory sizes. They are updated automatically by the SETUP program according to the status detected by the BIOS self-test. This section of the Standard CMOS SETUP screen is for viewing purpose only and manual modifications are not allowed.





### 3.2 BIOS Features SETUP

**ROM PCI/ISA BIOS (CB647MLX)  
BIOS FEATURES SETUP  
AWARD SOFTWARE, INC.**

Virus Warning	: Disabled	Video BIOS Shadow	: Enabled
CPU Internal Cache	: Enabled	C8000-CBFFF Shadow	: Disabled
External Cache	: Enabled	CC000-CFFFF Shadow	: Disabled
CPU L2 Cache ECC Checking	: Enabled	D0000-D3FFF Shadow	: Disabled
Quick Power On Self Test	: Enabled	D4000-D7FFF Shadow	: Disabled
Boot Sequence	: A,C,SCSI	D8000-DBFFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	DC000-DFFFF Shadow	: Disabled
Boot Up Floppy Seek	: Enabled		
Boot Up NumLock Status	: On		
Gate A20 Option	: FAST		
Typematic Rate Setting	: Disabled		
Typematic Rate (Chars/Sec)	: 6		
Typematic Delay (Msec)	: 250	ESC : Quit	† : Select Item
Security Option	: Setup	F1 : Help	PU/PD/+/-: Modify
PCI/VGA Palette Snoop	: Disabled	F5 : Old Values (Shift)	F2 : Color
OS Select For DRAM > 64MB: Non-OS2		F6 : Load BIOS Defaults	
Report No FDD For WIN 95	: No	F7 : Load Setup Defaults	

Figure 3 -3. BIOS Features Setup Menu

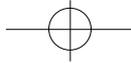
**Virus Warning** - Allows the virus warning feature for the hard disk boot sector to display a warning message and produce a beep sound whenever an attempt is made to write on the hard disk's boot sector. The default value for this option is "Disabled."

**CPU Internal Cache** - Enables the internal code/ data cache of CPU when set to "Enabled" (default).

**External Cache** - Enables the on-board secondary cache when set to "Enabled" (default).

**CPU L2 Cache ECC Checking**- Enables the ECC(Error Checking & Correction) Checking of Pentium L2 Cache when set to "Enabled" (default).





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**Quick Power On Self Test** - Allows the power on self test to run at either a fast or a normal speed. The available options are:

- Enabled (default)
- Disabled

**Boot Sequence** - Selects the drive where the system would search for the operating system to run with. The available options are:

- |                      |             |
|----------------------|-------------|
| A, C, SCSI (default) | C, A, SCSI  |
| C, CDROM, A          | CDROM, C, A |
| D, A, SCSI           | E, A, SCSI  |
| F, A, SCSI           | SCSI, A, C  |
| SCSI, C, A           | C only      |
| LS/ZIP, C            |             |

**Swap Floppy Drive** - "Enabled" will effectively change the A: drive to B: and the B: to A: drive. "Disabled" (default) sets the floppy drives in their default states.

- Disabled(default)
- Enabled

**Boot Up Floppy Seek** - Check if the floppy drives installed on the system are correct or not. This option's operation usually occurs when the magnetic heads of the floppy drives produce a sound during power on self test. The available options are :

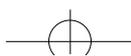
- Enabled(default)
- Disabled

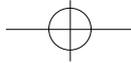
**Boot Up NumLock Status** - This allows users to determine the default state of the numeric keypad. By default, the system boots up with NumLock on.

- On (default)
- Off

**Gate A20 Option** - Boots the performance of system with software using the 80286 protected mode such as OS/2 UNIX. This option determines the accessibility of the extended memory. The available options are :

- FAST (default)
- Normal





**Typematic Rate Setting** - Defines the setting of the keyboard's typematic rate. The available options are :

- Disabled (default)
- Enabled

**Typematic Rate <Char/Sec>** - Specifies the key repeat rate, in seconds, of keyboard character. The available options are :

- 6 (default)
- 8/10/12/15/20/24/30

**Typematic Delay <Msec>** - Select the delay, in milliseconds, before a key repeat. The available options are :

- 250 (default)
- 500/750/1000

**Security Option** - Determines whether the password will be asked for in every boot (System), or when entering into the SETUP program(Setup-default). Refer to the section entitled SUPERVISOR PASSWORD for the password setting.

**PCI/VGA Palette Snoop** - Selects "Enabled" to solve the abnormal color in Windows while using ISA MPEG and PCI VGA card. The available options are:

- Disabled (default)
- Enabled

**OS Select For DRAM > 64MB** - Selects the OS if DRAM > 64MB. The available options are:

- Non-OSR2 (default)
- OS2

**Report No FDD For WIN 95** - Enables to release IRQ6 under when the floppy drive in CMOS Setup is set to NONE. When we select "Yes", BIOS reports the information to Windows 95 when no floppy drive is installed.

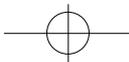
- No(default)
- Yes

**Video BIOS Shadow** - Enables the system shadowing and achieve the best performance of the system. The available options are:

- Enabled (default)
- Disabled

**C8000-CBFFF, CC000-CFFFF, D0000-D3FFF, D4000-D7FFF, D8000-DBFFF, DC000-DFFFF Shadow** - If you have a shadowing of the BIOS at any of the above segments, you may set the appropriate memory cacheable function to "Enabled". Otherwise, select "Disabled" (default).





### 3.3 Chipset Features Setup

**ROM PCI/ISA BIOS (CB647MLX)  
CHIPSET FEATURES SETUP  
AWARD SOFTWARE, INC.**

Auto Configuration	: Enabled	SDRAM CAS latency Time	: 3
DRAM Speed Selection	: 60ns	CPU Warring Temperature	: Disabled
MA wait State	: Slow	Current System Temp.	: 42 /109
EDO RAS# To CAS# Delay	: 3	Current CPU Temperature:	42 /107
EDO RAS# Precharge Time	: 3		
EDO DRAM Read Burst	: x333		
EDO DRAM Write Burst	: x222		
DRAM Data Integrity mode	: Non-ECC		
CPU-To-PCI IDE Posting	: Enabled		
System BIOS Cacheable	: Enabled		
Video BIOS Cacheable	: Enabled		
8 Bit I/O Recovery Time	: 1		
16 Bit I/O Recovery Time	: 1		
Memory Hole At 15M-16M	: Disabled		
Passive Release	: Disabled	ESC : Quit	↑ : Select Item
Delayed Transaction	: Disabled	F1 : Help	PU/PD/+/- : Modify
AGP Aperture Size(MB)	: 64	F5 : Old Values	(Shift)F2 : Color
SDRAM RAS-to-CAS Delay	: Fast	F6 : Load BIOS Defaults	
SDRAM RAS Precharge Time	: Slow	F7 : Load Setup Defaults	

Figure 3 -4 Chipset Features Setup Menu

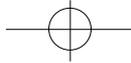
**Auto Configuration** - Loads the default values, if “Enabled” (default), for the following DRAM and cache options. Otherwise, “Disabled” allows you to program each option as required.

- Enabled (default)
- Disabled



The following items are controlled by Auto Configuration when users select “Enabled”. For this reason, their default values will be changed by the speed of CPU. These items are:  
 “DRAM Speed Selection”, “MA Wait State”, “EDO RAS# To CAS# Delay”, “EDO RAS# Precharge Time”, “EDO DRAM Read Burst” and “EDO DRAM Write Burst”.





**DRAM Speed Selection** - Configures the DRAM read/write speed for the maximum performance. The available options are :

- 50ns
- 60ns(default)

**MA Wait State** - select FAST or SLOW Memory Address bus timing. The available options are :

- Slow(default)
- Fast

**EDO RAS# To CAS# Delay** - sets the delay in assertion of CAS# from assertion of RAS# in 66 MHz clocks. The available options are :

- 3(default)
- 2

**EDO RAS# Precharge Time** - DRAM must continually be refreshed or it will lose its data. Normally, DRAM is refreshed entirely as the result of a single request. This option allows you to determine the number of CPU clocks allocated for the Row Address Strobe to accumulate its charge before the DRAM is refreshed. If insufficient time is allowed, refresh may be incomplete and data lost. The available options are :

- 3 (default)
- 4

**EDO DRAM Read Burst** - Determines the timing for burst read to the cache. If your DRAM type is EDO DRAM, we suggest you select x222(EDO) timing to get a better performance.

The available options are :

- x333(default)
- x222

**EDO DRAM Write Burst** - Determines the timing for burst write to the cache. If your DRAM type is EDO DRAM, we suggest you select x222 (EDO) timing to get a better performance.

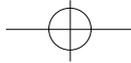
The available options are :

- x222(default)
- x333

**DRAM Data Integrity Mode** - Provides software configurability of selecting between ECC mode and non-ECC mode of operation of the DRAM interface. The available options are :

- NON-ECC(default)
- ECC





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**CPU-To-PCI IDE Posting** - When disabled, the Read/Write cycles are treated as normal I/O write transactions. The available options are :

- Enabled(default)
- Disabled

**System BIOS Cacheable** - Allows caching of the different segments where there is system BIOS shadowing. The available options are :

- Enabled (default)
- Disabled

**Video BIOS Cacheable** - Allows caching of the different segments where there is video BIOS shadowing. The available options are :

- Enabled (default)
- Disabled

**8 Bit I/O Recovery Time** - Defines the 8-bit I/O recovery time with one of the following system clock options. The available options are :

- 1 (default)
- 2/3/4/5/6/7/NA/8

**16 Bit I/O Recovery Time** - Defines the 16-bit I/O recovery time with one of the following system clock options. The available options are :

- 1 (default)
- 2/3/NA/4

**Memory Hole At 15M-16M** - Enables this option to reserve the certain space in memory for ISA cards. The available options are:

- Disabled (default)
- Enabled

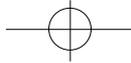
**Passive Release** - Enable or disables the passive release mechanism encoded on the PHOLD# Signal when "PCI to ISA/IDE Xecelerator" is a PCI master. The available options are:

- Enabled
- Disabled(default)

**Delayed Transaction** - Enable or disables the delayed transaction mechanism when "PCI to ISA/IDE Xecelerator" is the target of a PCI transaction. The available options are:

- Enabled
- Disabled(default)





**AGP Aperture Size(MB)** - sets to the effective size of the Graphics Aperture used in the particular PAC configuration. The 256MB aperture size is not practical for most applications and therefore the size must be set to a smaller practical value. The available options are:

- 64(default)
- 4/8/16/32/64/128/256

**SDRAM RAS-to-CAS Delay** - sets the delay in assertion of CAS# from the assertion of RAS# in 66MHz clocks. The available options are:

- Slow
- Fast (default)

**SDRAM RAS Precharge Time** - sets the RAS precharge requirements for the SDRAM memory type in 66MHz clocks.

The available options are:

- Slow(default)
- Fast

**SDRAM CAS latency Time** - sets the CLT timing parameter of SDRAM expressed in 66MHz clock. The available options are :

- 3(default)
- 2

**CPU Warning Temperature** - when set the temperature, CPU automatically downs the clock for cooling the CPU, if the temperature of CPU meets the predefined temperature.

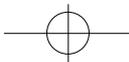
**Current System Temperature** - this item shows current system temperature.

Note that this item is SHOW-ONLY.

**Current CPU Temperature** - this item shows current CPU temperature.

Note that this item is SHOW-ONLY.





### 3.4 Power Management Setup

**ROM PCI/ISA BIOS (CB647MLX)**  
**POWER MANAGEMENT SETUP**  
**AWARD SOFTWARE, INC.**

Power Management	: User Define	雋雋 Reload Global Timer Events 雋雋
PM Control by APM	: Yes	IRQ [3-7, 9-15], NMI
Video Off Method	: DPMS	: Disabled
Video Off After	: Standby	Primary IDE 0
Modem Use IRQ	: NA	: Enabled
Doze Mode	: 4 Min	Primary IDE 1
Standby Mode	: 8 Min	: Enabled
Suspend Mode	: 12 Min	Secondary IDE 0
HDD Power Down	: Disable	: Disabled
Throttle Duty Cycle	: 62.5%	Secondary IDE 1
ZZ Active in Suspend	: Disabled	: Disabled
VGA Active Monitor	: Disabled	Floppy Disk
Soft-Off by PWR-BTNN	: Delay 4 Sec.	: Enabled
CPUFAN off Suspend	: Enabled	Serial Port
Resume by Ring	: Disabled	: Enabled
Resume by Alarm	: Disabled	Parallel Port
Wake up On LAN	: Disabled	
IRQ 8 Break Suspend	: Disabled	

ESC : Quit    †    : Select Item  
F1 : Help    PU/PD/+/- : Modify  
F5 : Old Values (Shift)F2 : Color  
F6 : Load Bios Defaults  
F7 : Load Setup Defaults

Figure 3 -5 Power Management Setup Screen

**Power Management-** Allows user determine how often the Power Saving activating. The available options are :

- Disable
- Max Saving
- Min Saving
- User Define(default)

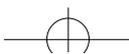
**PM Control by APM -** Sets the power management(PM) control by the APM. The available options are :

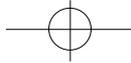
- Yes (default)
- No

**Video Off Method-** Sets the video power green method.

The available options are :

- V/H SYNC+Blank
- DPMS(default)
- Blank Screen





**Video Off After** - Turns off screen after selected standby or suspend mode.

The available options are :

- Suspend
- Doze
- Standby(default)
- N/A

**Modem Use IRQ** - In order to support resume on ring and to be compliant with APM 1.2, this option is required to be set same IRQ as the modem add-in-card used. The available options are :

- 3
- N/A(default)
- 4/5/7/9/10/11

**Doze Mode** - Sets the time interval after system inactivity when the system enters Doze mode. The available options are :

- 4 Min(default)
- 1/2/4/8/12/20/30/40 Min/1 Hour/Disable

**Standby Mode** - Sets the time interval after system inactivity when the system enters STANDBY mode. The available options are :

- 8 Min (default)
- 1/2/4/8/12/20/30/40 Min/1 Hour/Disable

**Suspend Mode** - Sets the timer interval after system inactivity when the system enters SUSPEND mode. The available options are :

- 12 Min (default)
- 1/2/4/8/12/20/30/40 Min/1 Hour/Disable

**HDD Power Down** - Sets the interval time to power down HDD.

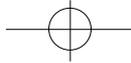
The available options are :

- disable(default)
- 1....15 Min

**Throttle Duty Cycle** - Selects the percentage of time the STPCLK# signal is asserted which the throttle mode. The available options are :

- 62.5%(default)
- 50.0%, 37.5%, 25.0%, 12.5%  
75.0%





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**ZZ Active in Suspend** - Determines whether to assert the ZZ signal while in suspend mode or not. The available options are :

- Disabled(default)
- Enabled

**VGA Active Monitor** - Determines whether to reload burst timer while PCI accesses to VGA I/O addresses or the A and B segment video memory ranges or not. The available options are :

- Enabled(default)
- Disabled

**Soft-Off by PWR-BTIN** - Sets power button override function. It needs to press power button for over 4 seconds to power off a system if this option is set by "Delay 4 Sec." The available options are :

- Delay 4 Sec(default)
- Instant-Off

**CPUFAN Off In Suspend** - Turns off CPU fan while in suspend mode.

The available options are :

- Enabled(default)
- Disabled

**Resume by Ring** - Sets to wake up/resume from suspend-off state by alarm interrupt. "Disabled" is a default. Selects "Enabled" to enter resume/wake up date, and times. The available options are :

- Disabled(default)
- Enabled

**Resume by Alarm** - Sets to wake up/resume from suspend-off state by alarm interrupt. "Disabled" is a default. Selects "Enabled" to enter resume/wake up date, and times. The available options are :

- Disabled(default)
- Enabled



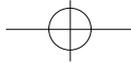
If users set the option to "Disabled", "Date(of Month) Alarm" and "Time(hh:mm:ss) Alarm" options below will not be shown on the screen.

**Date(of Month) Alarm / Time(hh:mm:ss) Alarm** - Set the alarm interrupt date and time.



The item "Break Event From Suspend" is for setting the resume events while system enters the suspend mode.



**CB647M-LX/EX User's Manual**

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**Wake Up On LAN** - sets to turn on the system from power off state. The available options are :

- Enabled
- Disabled(default)

**IRQ 8 Break Suspend** - The available options are :

- Disabled(default)
- Enabled



The item "Reload Global Timer Events" is for setting the wakeup events while system enters the standby mode.

**IRQ[3-7, 9-15], NMI** - The available options are :

- Disabled(default)
- Enabled

**Primary IDE 0/1, Secondary IDE 0/1** - The available options are :

- Disabled(default of secondary IDE 0/1)
- Enabled(default of Primary IDE 0/1)

**Floppy Disk** - The available options are :

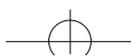
- Disabled
- Enabled(default)

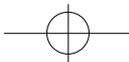
**Serial Port** - The available options are :

- Disabled
- Enabled(default)

**Parallel Port** - The available options are :

- Disabled
- Enabled(default)





3. Built-In BIOS Setup Program

3.5 PNP/PCI Configuration Setup

ROM PCI/ISA BIOS (CB647MLX)  
 PNP/PCI CONFIGURATION  
 AWARD SOFTWARE, INC.

PNP OS Installed : Yes	PCI IDE IRQ Map To : PCI-AUTO
Resources Controlled By : Auto	Primary IDE INT# : A
Reset Configuration Data : Disabled	Secondary IDE INT# : B
	Assign IRQ For VGA : Enabled
	Assign IRQ For USB : Enabled
ESC : Quit      † : Select Item F1 : Help    PU/PD/+/- : Modify F5 : Old Values    (Shift) F2 : Color F6 : Load Bios Defaults F7: Load Setup Defaults	

Figure 3-6 PNP/PCI Configuration Setup Screen

**PNP OS Installed** - Tells if PnP OS is installed. The available options are :

- No
- Yes(default)

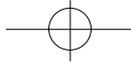
**Resources Controlled By** - Allows user what kind IRQs assignment to be used. The available options are :

- Auto(default)
- Manual



The default of "Resources Controlled By" is Auto. If users set to "Manual", the option for the setting "IRQ-3/IRQ-5/IRQ-7/IRQ-9/IRQ-10/IRQ-11/IRQ-12/IRQ-14/IRQ-15/DMA-0/DMA-1/DMA-3/DMA-5/DMA-6/DMA-7 assigned to" will be shown on the screen.





**Reset Configuration Data**- To clear the ESCD data which is stored in flash ROM, please set "Enable". This is a one short switch. After clearing the ESCD, the BIOS will change the value back to "Disabled". The available option are :

- Disabled(default)
- Enabled

**PCI IDE IRQ Map To** - Most of PCI IDE cards are non-PCI compliant. Defines the IRQ Routing to make them work properly. The available options are :

- PCI-AUTO(default)
- ISA
- PCI-SLOT 1
- PCI-SLOT 2
- PCI-SLOT 3
- PCI-SLOT 4



*If user sets this option to "ISA", both the "Primary IDE INT#" and "Secondary IDE INT#" options below will not be shown on the screen.*

**Primary IDE INT#** - Selects a PCI Interrupt pin which will be used by the primary channel of a PCI IDE card. The available options are :

- A (default)
- B/C/D

**Secondary IDE INT#** - Selects a PCI Interrupt pin which will be used by the secondary channel of a PCI IDE card. The available options are :

- B (default)
- A/C/D

**Used MEM base addr** - This option will be shown only when "Resources Controlled By" option is set to "Manual". The available options are :

- N/A (default)
- C800/CC00/D000/D400/D800/DC00

**Used MEM Length** - If the option "Used MEM base addr" is set to "N/A", this option will not be shown on the screen. The available options are :

- 8K(default)
- 16K/32K/64K

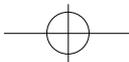
**Assign IRQ For VGA** - To assign IRQ which will be used by Video card. The available options are :

- Enabled(default)
- Disabled

**Assign IRQ For USB** - To assign IRQ which will be used by USB device. The available options are :

- Enabled(default)
- Disabled





3. Built-In BIOS Setup Program

3.6 Load BIOS Defaults

In the event of a loss in memory on the configuration SETUP, the user can restore the information on the BIOS by default values. Loading the BIOS defaults provides safety booting of the system.

3.7 Load SETUP Defaults

SETUP defaults are considered default values with which the system will be enabled to perform better. This due to the enabling of some options within the SETUP program. However, if problems are encountered after loading the Optimum Setting, reboot the system and load the BIOS defaults instead.

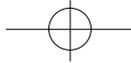
3.8 INTEGRATED PERIPHERALS

ROM PCI/ISA BIOS (CB647MLX)  
INTEGRATED PERIPHERALS  
AWARD SOFTWARE, INC.

IDE HDD Block Mode	: Enabled	OnBoard Parallel Port	:378/IRQ7
IDE Primary Master PIO	:Auto	Parallel Port Mode	: SPP
IDE Primary Slave PIO	:Auto		
IDE Secondary Master PIO	: Auto		
IDE Secondary Slave PIO	: Auto		
IDE Primary Master UDMA	: Auto		
IDE Primary Slave UDMA	: Auto		
IDE Secondary Master UDMA	: Auto		
IDE Secondary Slave UDMA	: Auto		
On-Chip Primary PCI IDE	: Enabled		
On-Chip Secondary PCI IDE	: Enabled		
USB Keyboard Support	:Disabled		
POWER ON Function	:BUTTON ONLY		
OnBoard FDC Controller	: Enabled	ESC : Quit	↑ : Select Item
Onboard Serial Port 1	:3F8/IRQ4	F1 : Help	PU/PD/+/- : Modify
Onboard Serial Port 2	:2F8/IRQ3	F5 : Old Values (Shift)	F2 : Color
UR2 Mode	:Standard	F6 : Load Bios Defaults	
		F7 : Load Setup Defaults	

Figure 3 -7 Integrated Peripheral Setup Screen





**IDE HDD Block Mode** - Determines whether block transfer mode want to use or not. The available options are :

- Enabled(default)
- Disabled

**IDE Primary/Secondary Master/Slave PIO** - Sets the advanced hard disk PIO transfer mode which effects your hard disk transfer rate. The program will auto detect the mode of this option you select "Auto". Otherwise, you must set this option by yourself.

The available options are :

- Auto (default)
- Mode 0
- Mode 1
- Mode 2
- Mode 3
- Mode 4

**IDE Primary/Secondary Master/Slave UDMA** - Sets the advanced hard disk Ultra DMA/33 transfer mode. The available options are :

- Auto (default)
- Disabled

**On-Chip Primary/Secondary PCI IDE** - Enables or Disables the primary/secondary PCI IDE of IDE controller. The available options are :

- Enabled (default)
- Disabled

**USB Keyboard Support** - Determines whether to support legacy USB keyboard or not. The available options are :

- Disabled (default)
- Enabled

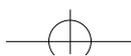
**Power On Function**- The item allows you to select a method for power-up.

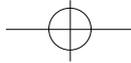
The available options are :

- Button Only(default) : It allows you to power-up the system by the Power Button.
- Password : It allows you to power-up the system by the password that you decided.
- Hot KEY : It allows you to power-up the system by the Hot-Key. (Ctrl-F12 combination OR PC98-KBD Power Button)



Please note that "Password Power On" & "Hot key Power On" are not function with a USB Keyboard.





### 3. Built-In BIOS Setup Program

**KB Power On Password** - This option will be shown only when the option “Power On Function” is set to ‘Password’. You’ll be asked to input a password that you want to use as a password.



When the power cord is disconnected abruptly or power source is disappeared, you should press the Power Button before enter a password that you decide to power-up the system. When you press the Power Button, the screen shows you the following message :

**Warning!!! Power cord is out.  
System will shutdown.**

and then system will be shutdown. After that, you can power-up the system with your password.

**Hot KEY Power On** - This option will be shown only when the option “Power On Function” is set to ‘HOT-KEY’. This item asks you to select a hot-key by which power-up the system. The available options are :

- Ctrl-F12
- PC98 KBD



PC98-KBD is available only when you are using PC98 Keyboard.

**Onboard FDC Controller** - Enables or Disables the FDD on-board controller. The available options are :

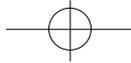
- Enabled (default)
- Disabled

**Onboard Serial Port 1/2** - Sets the I/O address for serial port 1/2.

- Auto
- 3F8 / IRQ4 (default of port 1)
- 3E8 / IRQ4
- Disabled
- 2F8 / IRQ3 (default of port 2)
- 2E8 / IRQ3







### 3.9 SUPERVISOR PASSWORD

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The SUPERVISOR PASSWORD utility allows you to set, change, and disable the password which is stored in the BIOS. To change the password setting, press <Enter> on the SUPERVISOR PASSWORD option of the main menu and then type the new password.

Configure the Security Option within the BIOS Features Setup corresponding to the setting in this utility. SUPERVISOR PASSWORD access right is higher than USER PASSWORD.

The password can be at most 8 characters long. The program will require you to confirm the new password before it exits and enables the utility. To disable the SUPERVISOR PASSWORD, press the <F1> when the program asks you to enter the new password.

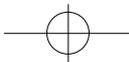
### 3.10 USER PASSWORD

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USER PASSWORD only can be used when the system is booting. Users only can enter SETUP screen to change the USER PASSWORD.

The password can be at most 8 characters long. The program will require you to confirm the new password before it exits and enables the utility. To disable the USER PASSWORD, press the <F1> as the program asks you to enter the new password.





### 3.11 IDE HDD Auto Detection

The IDE HDD Auto Detection provides auto configuration of the hard drive installed in the system. It supports LBA, Large, and Normal modes. If the system's hard disk drive has a capacity of over 528MB and supports LBA functions, you may enable either the LBA mode or the Large mode. On the other hand, if the hard disk drive's capacity is over 528MB but does not support LBA functions, you may enable the Large mode in order to use over 528MB.

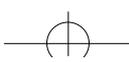


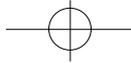
- a. The LBA and Large modes will only appear on the screen when the installed hard disk drive is specified to support the LBA mode.
- b. In the case when a hard disk drive's cylinder specification exceeds 1024, and does not support the LBA function, only the Large mode will be displayed on the screen.
- c. With a hard disk drive supporting cylinders below 1024, only the Normal mode will appear on the screen. The Normal mode will also be shown on the screen under conditions a & b above.
- d. Hard disk drives with less than 528MB total capacity must be set to Normal mode when combined with either old BIOS versions or the Award BIOS. LBA and Large modes are new specifications which may not be fully supported by all operating systems. An example of which is the current version of UNIX System (R3.2.4) which is still unable to support the LBA function. Therefore, determine the specifications of your hard disk drive and operating system before selecting the drive's mode.

**ROM PCI/ISA BIOS(CB647MLX)  
HDD AUTO DETECTION  
AWARD SOFTWARE. INC**

HDD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE	Primary
Master :									
Select Primary Master Option (N=Skip) : N									
OPTIONS	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE		
2(Y)	1674	811	64	0	3243	63	LBA		
1	1674	3244	16	65535	3243	63	NORMAL		
3	1674	811	64	65535	3243	63	LARGE		
Note : Some OSes (like SCO-UNIX) must use "NORMAL" for Installation									
ESC : Skip									

Figure 3-8 IDE HDD Auto Detection Screen





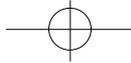
### 3. Built-In BIOS Setup Program

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After pressing the <Enter> key on this item of the main menu, the display screen will show the following screen.

Once the program detects the type of hard disk installed, it will display the relative information such as the type, cylinders, heads, write pre-compensation, landing zone, number of sectors per track, size and mode. A message asking you to accept the IDE HDD detected will also be flashed on the screen.





### 3.13 Quitting SETUP

After making all modifications in the SETUP program, go to the option “Save & Exit SETUP” then press the <Enter> key. The program will display the following screen.

Press <Y> to confirm the changes made, and the <N> or the <Esc> keys if further modifications are still necessary before exiting the SETUP program. Once the <Y> key is pressed, the system will automatically exit the program and reboot.

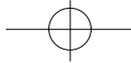
However, if you want to cancel all changes made under the SETUP program, go to the options “Exit Without Saving”

Press <Y> and the system will exit the SETUP program then reboot without saving any of the changes made.



You may also use the <F10> key to save the new settings.





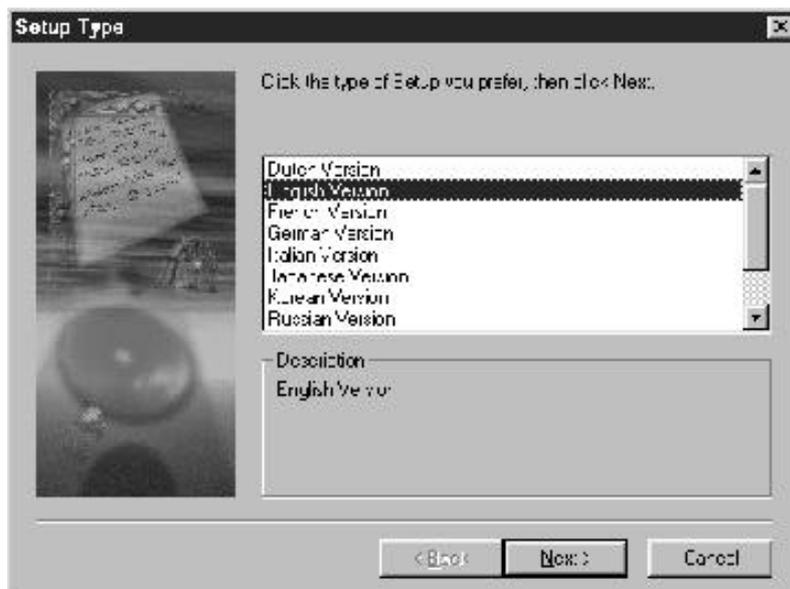
## 4. Audio

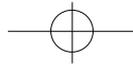
### Overview

CB647M-LX/EX motherboard uses Trident 4DWAVE-DX chipset for PCI audio. This PCI audio controller support 64 voice wavetable synthesizer with DLS, AC'97 CODEC, direct music, direct sound, and direct sound 3D. It is compatible with fully dos game, sound blaster, sound blaster pro, windows sound system, and MPU 401.

### Driver Installation

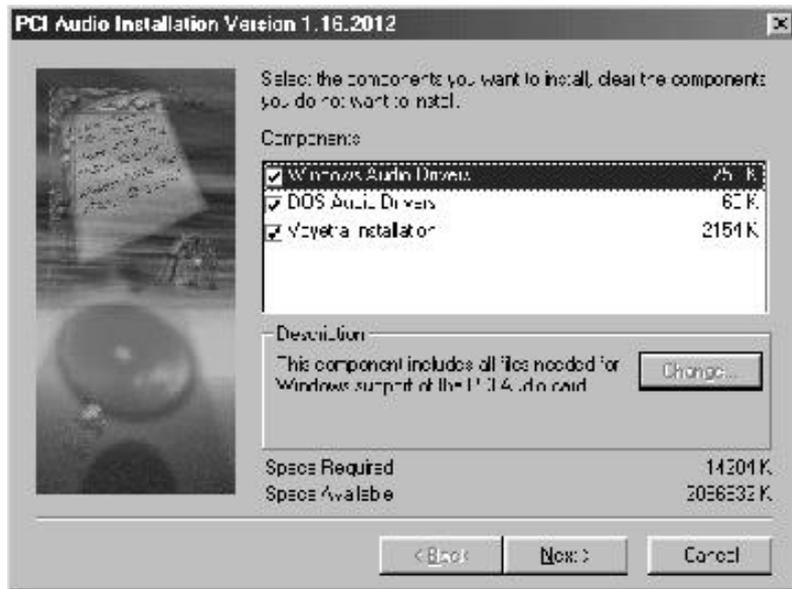
1. When you start your system, new hardware found wizard appears, then click cancel or press ESC button.
2. Insert the driver CD into CD-ROM drive, then open the sound folder in the CD.
3. Run the setup in the sound folder.
4. Setup Type wizard window appears. Select the language of your windows, then click next.





#### 4. Audio

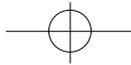
5. Select the type of driver to install then click next.



6. Then the setup program will install the Audio Station.

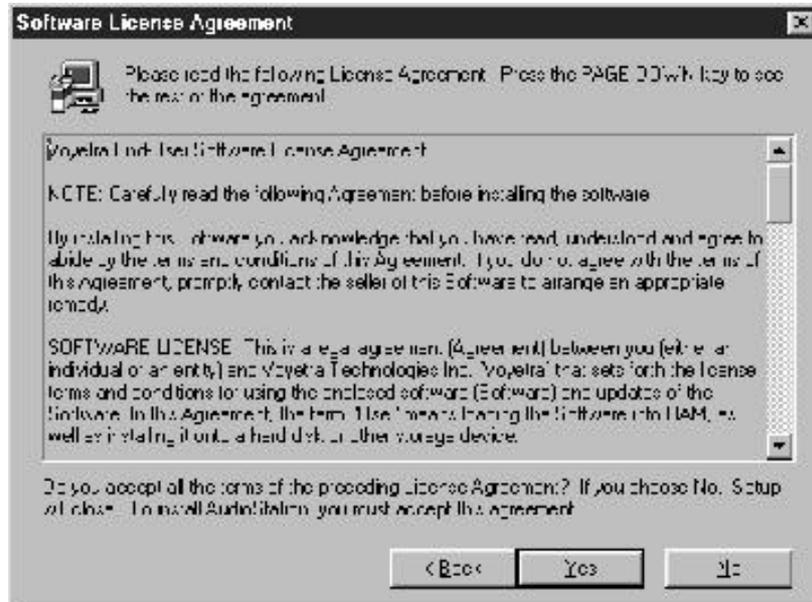
1) Click Next button.



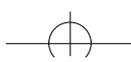


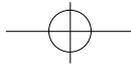
4. Audio

2) Click Yes button.



3) Click Next button



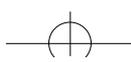
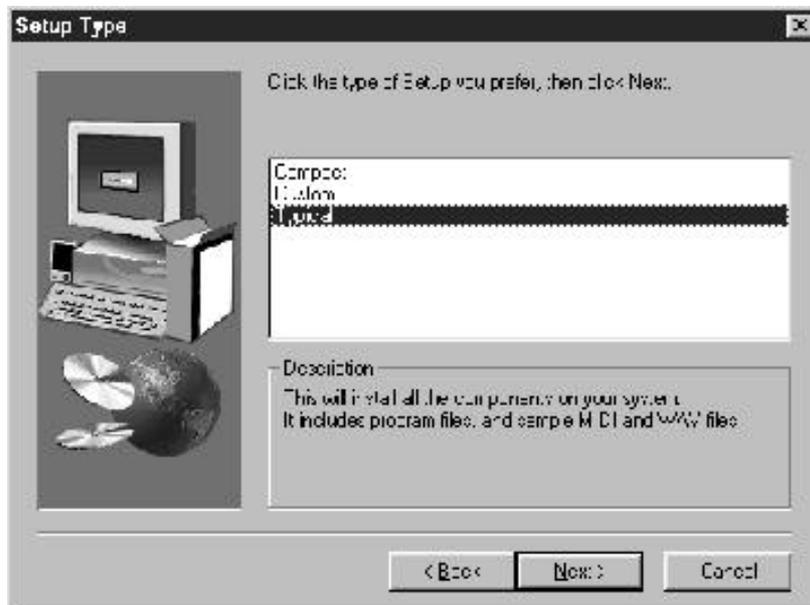


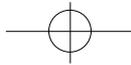
4. Audio

4) Click Next button.

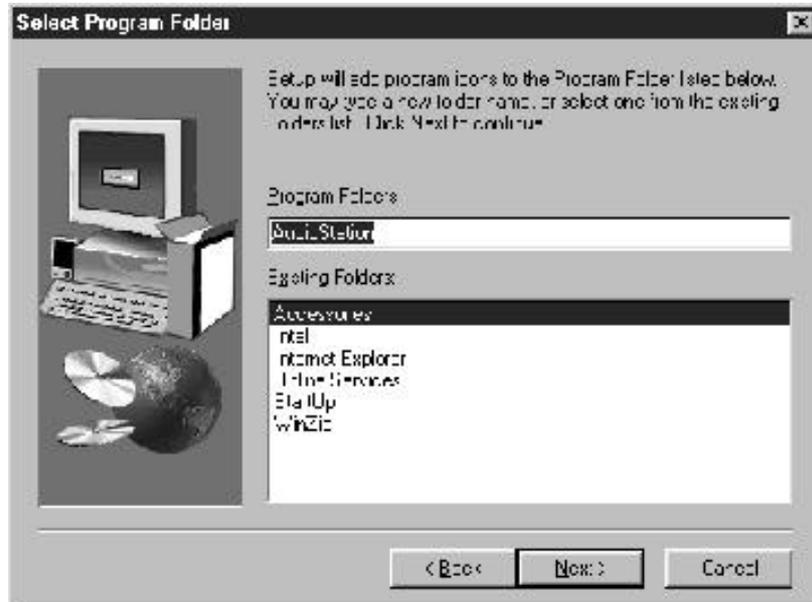


5) Click Next button.

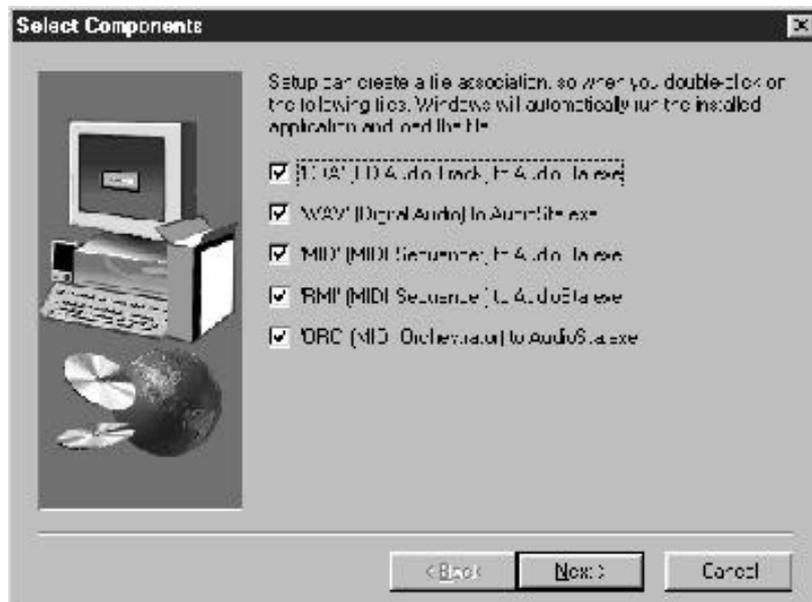


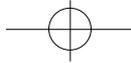


6) Click Next button.



7) Click Next button.





#### 4. Audio

##### 8) Click Finish button



7. After installing Audio Station your system will detect PCI multimedia device, legacy audio, and direct input driver.

8. Click Finish button to complete setup.

