Chapter 3.

BIOS Setup

This chapter provides information on how the SETUP program allows you to configure the function and device of your computer and how to configure each item on the SETUP menus.

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 first 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.

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

1. 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 Delete key to activate the SETUP program.

2. Accessing SETUP When Resetting the System

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

Press <DEL> to enter setup

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

3. 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 F1 to continue the boot sequence or Delete to run SETUP.

4. 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.

ROM PCI/ISA BIOS (CB650MBX) 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 Screen

■ **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.

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

■ **PNP/PCI CONFIGURATION** - 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** - User can load the BIOS default values to boot the system safely.

■ **LOAD SETUP DEFAULTS** - This option supports the better performance for the system.

■ **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 option also allows users 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.

■ **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.

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

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

To choose an menu item from the SETUP main menu, move the cursor by using the ↑, ↓, →, ← Arrow keys and press Enter. To modify the setting of an option, simply press the Page Up or + and the Page Down or − keys. Press the F2 key when changing the color setting, the F1 for a context sensitive help function, and the Esc key when quitting SETUP.

3.2 Standard CMOS Setup

ROM PCI/ISA BIOS (CB650MBX)
STANDARD CMOS SETUP
AWARD SOFTWARE, INC.

Date (mm:dd:yy) : Sat, Jan 30 1999
Time (hh:mm:ss) : 14 : 14 : 59

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

Total Memory : 32768K

ESC : Quit ↑ ↓ → ← : Select Item PU / PD / + / - : Modify
F1 : Help (Shift) F2 : Change Color

Figure 3-2 Standard CMOS Setup Screen

1. Date - Allows manual setting of the electronic calendar on the motherboard.

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

3. Primary Master / Primary Slave / Secondary Master / Secondary 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 avoid 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 boot-up.

Large Hard Disk Modes

The last of the drive parameter - Mode - has four options, Normal, LBA, Large, and Auto.

Normal : For IDE hard disks of 528MB or less.

LBA : This stands for Logical Block Addressing, a method used with SCSI and IDE disk drives to translate the cylinder, head, and sector specifications of the drive into addresses that can be used by an enhanced BIOS. LBA is used with drive's that are larger than 528MB.
The maximum drive size supported is 2 TB (2,099,511,627,776 bytes) ideally with FAT32.

FAT16 does not support partitions larger than 2GB.

FAT32 is an improvement, as it supports drives up to 2 Terabytes in size, and cluster sizes are 4K for partitions smaller than 8GB.

Large : For 1GB or smaller drives with more than 1024 cylinders and no LBA support. This access mode causes the operating system to treat the drive as if it has fewer than 1024 cylinders by dividing the cylinder total in half and doubling the most large IDE hard disk drives currently available use the LBA mode.

Use the Auto setting to automatically detect the correct mode for new drives.

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

5. Video - Specifies the display adapter installed.

6. Halt On - Enables the system to halt on errors with several condition options. The Choices : "All Errors", "All, But Keyboard", "All, But Diskette", "All, but Disk / key", "System Test Only", and "No Errors".

7. 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.

3.3 BIOS Features SETUP

ROM PCI/ISA BIOS (CB650MBX)
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 From LAN First	: Enabled	D8000-DBFFF Shadow	: Disabled
Boot Sequence	: A,C,SCSI	DC000-DFFFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	HDD S.M.A.R.T. Func.	: 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		
Security Option	: Setup		
PCI/VGA Palette Snoop	: Disabled	ESC : Quit	↑↓→← : Select Item
Assign IRQ For VGA	: Enabled	F1 : Help	PU/PD/+/- : Modify
Assign IRQ For USB	: Enabled	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 Screen

1. 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 Choices : Enabled, Disabled.

2. CPU Internal Cache - Enables the internal code / data cache of CPU when set to "Enabled".
The Choices : Enabled, Disabled.

3. External Cache - Enables the secondary cache of the Processor when set to "Enabled".
The Choices : Enabled, Disabled.

4. CPU L2 Cache ECC Checking - Enables the ECC(Error Checking & Correction) checking of Processor L2 Cache when set to "Enabled".
The Choices : Enabled, Disabled.

5. Quick Power On Self Test - Allows the power on self test to run at either a fast or a normal speed.
The Choices : Enabled, Disabled.

6. Boot From LAN First - This feature makes it possible to configure or reconfigure a system remotely, even with a blank hard disk drive.
Note. This item only function with the proper network environment.
The Choices : Enabled, Disabled.

7. Boot Sequence - Selects the drive where the system would search for the operating system to run with.

The Choices :
- A, C, SCSI
- 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

8. Swap Floppy Drive - "Enabled" will effectively change the A: drive to B: and the B: to A: drive.
"Disabled" sets the floppy drives in their default states.
The Choices : Enabled, Disabled.

9. 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 Choices : Enabled, Disabled.

10. 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.
The Choices : On, Off.

11. Gate A20 Option - Boots the performance of system with software using the 80286 protected mode such as OS/2 or UNIX. This option determines the accessibility of the extended memory.
The Choices : Fast, Normal.

12. Typematic Rate Setting - Defines the setting of the keyboard's typematic rate.
The Choices : Enabled, Disabled.

13. Typematic Rate <Char/Sec> - Specifies the key repeat rate, in seconds, of keyboard character.
The Choices : 6/8/10/12/15/20/24/30.

14. Typematic Delay <Msec> - Select the delay, in milliseconds, before a key repeat.
The Choices : 250/500/750/1000.

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

16. PCI/VGA Palette Snoop - Selects "Enabled" to solve the abnormal color in Windows while using ISA MPEG and PCI VGA card.
The Choices : Enabled, Disabled.

17. Assign IRQ For VGA - Sets the interrupt request (IRQ) line assigned to the VGA (if any) on your system.
The Choices : Enabled, Disabled.

18. Assign IRQ For USB - Sets the interrupt request (IRQ) line assigned to the USB on your system.
The Choices : Enabled, Disabled.

19. OS Select For DRAM > 64MB - Select the OS if DRAM > 64MB.
The Choices : Non-OS2, OS2.

20. Report No FDD For WIN 95 - Enables to release IRQ6 when the floppy drive in CMOS Setup to NONE. When you select "Yes", BIOS reports the information to Windows 95 when no floppy drive is installed.
The Choices : Yes, No.

21. Video BIOS Shadow - Enables the system shadowing and achieve the best performance of the system.
The Choices : Enabled, Disabled.

22. 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 shadowable function to "Enabled". Otherwise, select "Disabled".
The Choices : Enabled, Disabled.

23. HDD S.M.A.R.T. Func. - This item allows you to support Hard Disk S.M.A.R.T function.
S.M.A.R.T stands for Self - Monitoring, Analysis and Reporting Technology.
The Choices : Enabled, Disabled.

3.4 Chipset Features SETUP

ROM PCI/ISA BIOS (CB650MBX)
CHIPSET FEATURES SETUP
AWARD SOFTWARE, INC.

Auto Configuration	: Enabled	Spread Spectrum	: Disabled
EDO DRAM Speed Selection	: 60ns		
EDO CASx# MA Wait State	: 2	Current CPU Temp.	: 34°C/93°F
EDO RASx# Wait State	: 2	Current CPU FAN Speed	: 4963 RPM
SDRAM RAS-to-CAS Delay	: 3	Secondary FAN Speed	: 0 RPM
SDRAM RAS Precharge Time	: 3	Current SMPS FAN Speed	: 0 RPM
SDRAM CAS latency Time	: 3	CPU Core Voltage	: 2.00V
SDRAM Precharge Control	: Disabled	Logic Voltage (3.3V)	: 3.40V
DRAM Data Integrity Mode	: Non-ECC	Logic Voltage (5.0V)	: 5.14
System BIOS Cacheable	: Enabled	SMPS Voltage (12V)	: 11.52V
Video BIOS Cacheable	: Enabled	SMPS Voltage (-12V)	: -11.75V
8 Bit I/O Recovery Time	: 1	SMPS Voltage (-5.0V)	: -5.01V
16 Bit I/O Recovery Time	: 1	Chassis Intrusion	: Closed
Memory Hole At 15M-16M	: Disabled		
Passive Release	: Enabled		
Delayed Transaction	: Disabled	ESC : Quit	↑↓→← : Select Item
AGP Aperture Size (MB)	: 64	F1 : Help	PU/PD/+/- : Modify
		F5 : Old Values	(Shift) F2 : Color
		F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

Figure 3-4. Chipset Features Setup Screen

1. Auto Configuration

This item allows you to selects pre-determined optimal values of chipset parameters. When Disabled, chipset parameters revert to setup information stored in CMOS. Many fields in this screen are not available when Auto Configuration is Enabled.

The Choices : Enabled, Disabled.

***Note** : When this item is Enabled, the pre-defined items will become SHOW-ONLY.*

2. EDO DRAM Speed Selection

The DRAM timing is controlled by the DRAM Timing Register. The timings programmed into this register are dependent on the system design. Slower rates may be required in certain system designs to support loose layouts or slower memory.

The Choices : 50 ns, 60 ns.

3. EDO CASx# MA Wait State

You can select the timing control type of EDO DRAM CAS MA (memory address bus).

The Choices : 1, 2.

4. EDO RASx# Wait State

You can select the timing control type of EDO DRAM RAS MA (memory address bus).

The Choices : 1, 2.

5. SDRAM RAS-to-CAS Delay

This option specifies the length of the delay inserted between the RAS and CAS signals of the SDRAM system memory access cycle.

The Choices : 2, 3.

6. SDRAM RAS Precharge Time

This Option specifies the RAS precharge time for the SDRAM.

The Choices : 2, 3.

7. SDRAM CAS latency Time

You can select CAS latency time in HCLKs of 2/2 or 3/3. The system board designer should set the values in this field, depending on the DRAM installed. Do not change the values in this field unless you change specifications of the

installed DRAM or the installed CPU...
The Choices : 2, 3.

8. SDRAM Precharge Control

This item allows you to determine the use of "SDRAM Precharge".
The Choices : Enabled, Disabled.

9. DRAM Data Integrity Mode

Select Parity or ECC (Error-Correcting Code), according to the type of installed DRAM.
The Choices : Non-ECC, ECC.

10. System BIOS Cacheable

Selecting "Enabled" allows caching of the system BIOS ROM at F0000h - FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result.
The Choices : Enabled, Disabled.

11. Video BIOS Cacheable

Selecting "Enabled" allows caching of the system BIOS ROM at C0000h - C7FFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result.
The Choices : Enabled, Disabled.

12. 8 Bit I/O Recovery Time

The recovery time is the length of time, measured in CPU clocks, which the system will delay after the completion of an input/output request. This delay takes place because the CPU is operating so much faster than the input/output bus that the CPU must be delayed to allow for the completion of the I/O.
This item allows you to determine the recovery time allowed for 8 bit I/O.
The Choices : NA, 1 to 8 CPU clocks.

13. 16 Bit I/O Recovery Time

This item allows you to determine the recovery time allowed for 16 bit I/O.

The Choices : NA, 1 to 4 CPU clocks.

14. Memory Hole at 15M - 16M

You can reserve this area of system memory for ISA adapter ROM. When this area is reserved, it cannot be cached. The user information of peripherals that need to use this area of system memory usually discusses their memory requirements.

The Choices : Enabled, Disabled.

15. Passive Release

When Enabled, CPU to PCI bus accesses are allowed during passive release. Otherwise, the arbiter only accepts another PCI master access to local DRAM.

The Choices : Enabled, Disabled.

16. Delayed Transaction

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles.

Select Enabled to support compliance with PCI specification version 2.1.

The Choices : Enabled, Disabled.

17. AGP Aperture Size

Select the size of the Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation. See www.agpforum.org for AGP information.

The Choices : 4, 8, 16, 32, 64, 128, or 256.

18. Spread Spectrum

When this item is Enabled, the EMI noise can be extremely minimized. The choices : Disabled, 0.6%(DOWN), 1.5%(DOWN), 0.6%(CNTR), 1.5%(CNTR).

19. Current CPU Temp.

This item shows current CPU temperature. Note that this item is SHOW-ONLY.

20. Current CPU FAN Speed / Secondary FAN Speed / Current SMPS FAN Speed

These items show current states of the FAN speed. Note that these items are SHOW-ONLY.

21. CPU Core Voltage

This item shows voltage states of the CPU. Note that this item is SHOW-ONLY.

22. Logic Voltage (3.3V) / Logic Voltage (5.0V) / SMPS Voltage (12V) / SMPS Voltage (-12V) / SMPS Voltage (-5.0V)

These items show voltage states of the system power. Note that these items are SHOW-ONLY.

23. Chassis Intrusion

This item shows whether chassis has been opened, being opening, or not. Note that this item is SHOW-ONLY. If system chassis was opened once, BIOS is display below message.

"Warning!!! Chassis was opened."

3.5 Power Management SETUP

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

ROM PCI/ISA BIOS (CB650MBX)
POWER MANAGEMENT SETUP
AWARD SOFTWARE, INC.

ACPI function	: Enabled	** Reload Global Timer Events **	
Power Management	: User Define	IRQ [3-7, 9-15], NMI	: Disabled
PM Control by APM	: Yes	Primary IDE 0	: Enabled
Video Off Method	: DPMS	Primary IDE 1	: Enabled
Video Off After	: Standby	Secondary IDE 0	: Disabled
Modem Use IRQ	: 3	Secondary IDE 1	: Disabled
Doze Mode	: 4 Min	Floppy Disk	: Enabled
Standby Mode	: 8 Min	Serial Port	: Enabled
Suspend Mode	: 12 Min	Parallel Port	: Enabled
HDD Power Down	: Disable		
Throttle Duty Cycle	: 62.5%		
PCI/VGA Act-Monitor	: Disabled		
Soft-Off by PWR-BTTN	: Delay 4 Sec.		
CPUFAN off In Suspend	: Enabled		
PowerOn by Ring	: Disabled	ESC : Quit	↑↓→← : Select Item
Resume by Alarm	: Disabled	F1 : Help	PU/PD/+/- : Modify
		F5 : Old Values	(Shift) F2 : Color
Wake On LAN/PME Func.	: Disabled	F6 : Load BIOS Defaults	
IRQ 8 Break Suspend	: Disabled	F7 : Load Setup Defaults	

Figure 3-5. Power Management Setup Screen

1. ACPI Function

This item allows you to Enable ACPI (Advanced Configuration and Power Interface). The ACPI is the key element in OS directed power management (OSPM). ACPI involves the existing collection of power management BIOS code and APM.

The Choices : Enabled, Disabled.

2. Power management

This option allows you to select the type (or degree) of power saving for Doze, Standby, and Suspend modes. See the section PM Timers for brief description of each mode.

There are four selections for Power management, three of which have fixed mode settings.

Disable	No Power management. Disables all four modes.
Min Saving	Minimum power management. Doze Mode = 1 Hour, Standby Mode = 1 Hour, Suspend Mode = 1 Hour, and HDD Power Down = 15 Min.
Max Saving	Maximum power management. Doze Mode = 1 Min., Standby Mode = 1 Min., Suspend Mode = 1 Min., and HDD Power Down = 1 Min.
User Define	Allow you to set each mode individually. When not disabled, each of the ranges are from 1 Min. to 1 Hour, except for HDD Power Down which ranges from 1 Min. to 15 Min. and Disable.

3. PM Control by APM

When enabled, an Advanced Power Management (APM) device will be activated to enhance the Max. Power Saving mode and stop the CPU internal clock. If APM is installed on your system, selecting "Yes" gives you better power savings.

The Choices : Yes, No.

4. Video Off Method

This determines the manner in which the monitor is blanked.

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

5. Video Off After

When enabled, this feature allows the VGA adapter to operate in a power saving mode.

NA	Monitor will remain on during power saving mode.
Suspend	Monitor blanked when the system enters the Suspend mode.
Standby	Monitor blanked when the system enters the Standby mode.
Doze	Monitor blanked when the system enters any power saving mode.

6. MODEM Use IRQ

Name the interrupt request (IRQ) line assigned to the modem (if any) on your system. Activity of the selected IRQ awakens the system.

The Choices : 3, 4, 5, 7, 9, 10, 11, and NA.

7. Doze Mode

When enabled and after the set time of system inactivity, system enters Doze Mode and the CPU clock will run at slower speed while all other devices still operate at full speed.

The Choices : 1, 2, 4, 8, 12, 20, 30, 40(Min), 1 Hour, Disable.

8. Standby Mode

When enabled and after the set time of system inactivity, system enters Standby Mode and the CPU clock will run at slower speed while all other devices still operate at full speed.

The Choices : 1, 2, 4, 8, 12, 20, 30, 40(Min), 1 Hour, Disable.

9. Suspend Mode

When enabled and after the set time of system inactivity, system enters Suspend Mode.

The Choices : 1, 2, 4, 8, 12, 20, 30, 40(Min), 1 Hour, Disable.

10. HDD Power Down

This shuts down IDE hard disks that support a power saving modes after a specified period of time.

The settings range from 1 to 15 minutes and can be set manually when power management is in User Define Mode. This item does not affect SCSI hard disks.

The Choices : 1 to 15 (MIn), Disable.

11. Throttle Duty Cycle

When the system enters Doze mode, the CPU clock runs only part of the time. You may select the percent of time that the clock runs.

The Choices : 12.5%, 25.0%, 37.5%, 50.0%, 62.5%, and 75.0%

12. PCI/VGA Act-Monitor

When enabled, any video activity restarts the gloval timer for Standby mode.

The Choices : Enabled, Disabled.

13. Soft-Off by PWR-BTTN

When enabled, turning the system off with the on / off button places the system in a very low-power-usage state, with only enough circuitry receiving power to detect power button activity or Resume by Ring activity.

The Choices : Delay 4 sec, Instant-Off.

14. CPUFAN Off In Suspend

Turns the CPU fan off while in suspend mode.

The Choices : Enabled, Disabled.

15. PowerOn by Ring

An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system a soft off state.
The Choices : Enabled, Disabled.

16. Resume by Alarm

Sets to wake up / resume from suspend-off state by alarm interrupt.
"Disabled" is a default. Select "Enabled" to enter resume / wake up date, and times.
The Choices : Enabled, Disabled.

17. Wake On LAN/PME Func.

Sets to turn the system on from power off state by network, or any event on PCI cards.
The Choices : Enabled, Disabled.

18. IRQ 8 Break Suspend

You can disable monitoring of IRQ8 so it does not awaken the system from Suspend mode.
The Choices : Enabled, Disabled.

19. IRQ [3-7, 9-15], NMI

When an I / O device wants to gain the attention of the operating system (OS), it signals this by causing an IRQ to occur. When the OS is ready to respond to the request, it interrupts itself and performs the service. When set any IRQ item to "Enabled", Enabled IRQ events occuring at device(s) will awaken a system which has been powered down.
The Choices : Enabled, Disabled.

20. Primary IDE 0/Primary IDE 1/Secondary IDE 0/Secondary IDE 1

When set to Enabled, any event occurring at a HDD will awaken a system which has been powered down.

21. Floppy Disk

When set to Enabled, any event occurring at a floppy disk will awaken a system which has been powered down.

22. Serial Port

When set to Enabled, any event occurring at a serial port will awaken a system which has been powered down.

23. Parallel Port

When set to Enabled, any event occurring at a parallel port will awaken a system which has been powered down.

3.6 PNP/PCI Configuration

ROM PCI/ISA BIOS (CB650MBX) PNP/PCI CONFIGURATION AWARD SOFTWARE, INC.	
PNP OS Installed : Yes Resources Controlled By : Auto Reset Configuration Data : Disabled	Slot 1 Use IRQ No. : Auto Slot 2 Use IRQ No. : Auto Slot 3 Use IRQ No. : Auto Sound Use IRQ No. : Auto
	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

1. PNP OS Installed

If you plan to use an operating system that supports Plug and Play, you should set this line to "Yes".

When this line is set to "Yes", the BIOS will only initialize PnP PCI card boot devices.

Any other PnP PCI cards are initialized by the OS not change the default setting if your OS does not support Plug and Play.

The Choices : Yes, No.

2. Resources Controlled By

The Award Plug and Play BIOS has the capacity to automatically configure all of the boot and Plug and Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as Windows 95 & 98.

When this line is set to "Auto", the BIOS will automatically configure IRQ and DMA resources.

This is the recommended setting. If you set this line to "Manual", allows manual configuration. In general you should only need to this if you are installing an ISA card that requires manual configuration.

The Choices : Auto, Manual.

3. Reset Configuration Data

Normally, you leave this field "Disabled". If you need to clear Extended System Configuration (ESCD), set this to "Enabled". The ESCD data will clear automatically and the BIOS will reset this item to "Disabled" setting. Use this item if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the OS can not boot.

The Choices : Enabled, Disabled.

4. Slot # Use IRQ No.

This item allows you to select which IRQ is assigned to each slot.

The Choices : Auto, 5, 9, 10, 11.

5. Sound Use IRQ No.

This item allows you to select IRQ No. for onboard PCI sound.

The Choices : Auto, 5, 9, 10, 11.

3.7 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. This setting is not optimal and turn off all the performance features. Loading the BIOS defaults provides safety booting of the system.

3.8 Load SETUP Defaults

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

3.9 Integrated Peripherals

ROM PCI/ISA BIOS (CB650MBX) INTEGRATED PERIPHERALS AWARD SOFTWARE, INC.	
IDE HDD Block Mode : Enabled	Parallel Port Mode : SPP
IDE Primary Master PIO : Auto	
IDE Primary Slave PIO : Auto	Power ON Function : Button
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	
Init Display First : PCI Slot	
Onboard FDC Controller : Enabled	
Onboard Serial Port 1 : 3F8/IRQ4	ESC : Quit ↑↓→← : Select Item
Onboard Serial Port 2 : 2F8/IRQ3	F1 : Help PU/PD/+/- : Modify
UR2 Mode : Standard	F5 : Old Values (Shift) F2 : Color
	F6 : Load BIOS Defaults
Onboard Parallel Port : 378/IRQ7	F7 : Load Setup Defaults

Figure 3-7. Integrated Peripherals Screen

1. IDE HDD Block Mode

This allows your hard disk controller to use the fast block mode to transfer data to and from your hard disk drive (HDD).

Enabled : IDE controller uses block mode.

Disabled : IDE controller uses standard mode.

2. IDE Primary/Secondary Master/Slave PIO

The four IDE PIO (Programmed Input / Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports.

Mode 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.

3. IDE Primary/Secondary Master/Slave UDMA

Ultra DMA / 33 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 98 or a third-party IDE bus master driver). If your hard drive and your system both support Ultra DMA / 33, select Auto to enable BIOS support.

The Choices : Auto, Disabled.

4. On-Chip Primary/Secondary PCI IDE

The integrated peripheral controller contains an IDE interface with support for two IDE channels.

Select Enabled to activate each channel separately.

The Choices : Enabled, Disabled.

5. USB Keyboard Support

Select Enabled if your system contains a Unversal Serial Bus (USB) controller and you have a USB keyboard.

The Choices : Enabled, Disabled.

6. Init Dispaly First

This item allows you to select which video card display first when AGP and PCI video card are installed at the same time.

The Choices : AGP, PCI Slot.

7. Onboard FDC Controller

This should be enabled if your system has a floppy disk drive (FDD) installed on the system board and you wish to use it. Even when so

equipped, if you have a higher performance controller, you will need to disable this feature.
The Choices : Enabled, Disabled.

8. Onboard Serial Port 1 and 2

This item allows you to determine access onboard serial Port 1 / Port 2 controller with which I/O address.
The Choices : 3F8/IRQ4, 2E8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled, and Auto.

9. UR2 Mode

This item allows you to determine which InfraRed (IR) function of onboard I/O chip.
The Choices : Standard, IrDA 1.0, ASK IR.

10. Onboard Parallel Port

Select a logical LPT port name and matching address of the physical parallel (printer) port.
The Choices : 378/IRQ7, 278/IRQ5, 3BC/IRQ7, and Disabled.

11. Parallel Port Mode

Select an operating mode for the onboard parallel port. Select Compatible or Extended unless you are certain both your hardware and software support EPP or ECP mode.
The Choices : SPP, EPP, ECP, or ECP+EPP.

12. Power ON Function

This item allows you to select a methode for power on.
The available options are :

- Button (defualt) : It allows you to power on the system by the Power Button.
- Password : It allows you to power on the system by the Password that you entered. Allows you to enter a password 2 to 5 characters.

- Hot Key : It allows you to power on the system by the Hot-key.
(Ctrl-F12 combination or PC98-KBD's power button)

Password Power ON

This option will be shown only when the option "Power On Function" is set to "Password".

You will be asked to input a password that you entered the password.

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

Warning !!! Power cord was out !

System will Shutdown!!

and then system will be shutdown. After that, you can power on 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 to select a hot-key for power on the system.

The available options are : Ctrl-F12, PC98 KBD

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

Please note that “Password Power ON” and “Hot-key Power ON” are not function with USB keyboard.

3.10 Supervisor Password

The Supervisor Password utility allows you to set, change, and disable the password which is stored in the CMOS. 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 a new password.

3.11 User Password

The 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> when the program asks you to enter the new password.

3.12 IDE HDD Auto Detection

The IDE HDD Auto Detection provides auto configuration of the hard disk 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 support LBA functions, you may enable the Large mode in order to use over 528MB.

ROM PCI/ISA BIOS (CB650MBX)
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

HARD 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

1. The LBA and Large modes will only appear on the screen when the installed hard disk drive is specified to support the LBA mode.

2. In case when a hard disk drive's cylinder specification exceeds 1024, and does not support the LBA functions, only the Large mode will be displayed on the screen.

3. 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 1 & 2 above.

4. 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.

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.

```
SAVE to CMOS and EXIT (Y / N) ?N
```

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 in 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.