

4 The BIOS Setup Utility

Configuration

After the M4Li system board and all hardware is installed, the system is ready for configuration. Before turning on the computer, make sure all cables are correctly connected and all jumpers are correctly set.

It is recommended you keep the computer cover off the first time you boot the system. If you have any difficulties, they will be easier to correct.

Initial Boot Up

Power up the M4Li. If the system doesn't properly boot, check all your cables and peripherals for bad connections. You may also get beep codes or error messages. If this occurs, consult Appendices A and/or B for a guide to possible solutions.

After the system properly boots, it is ready to be configured. The following pages explain the proper procedures for BIOS configuration.

Setup

The Setup program is used to configure the computer's BIOS (Basic Input/Output System). The computer's BIOS is responsible for configuring the system board and providing hardware information to the operating system. In order for the computer to run properly, run the Setup procedure after first installing the system board and whenever you make a hardware change to the system.

After the system is turned on and goes through a memory test, the Power-Up Screen (Figure 4-1) will appear on your monitor:

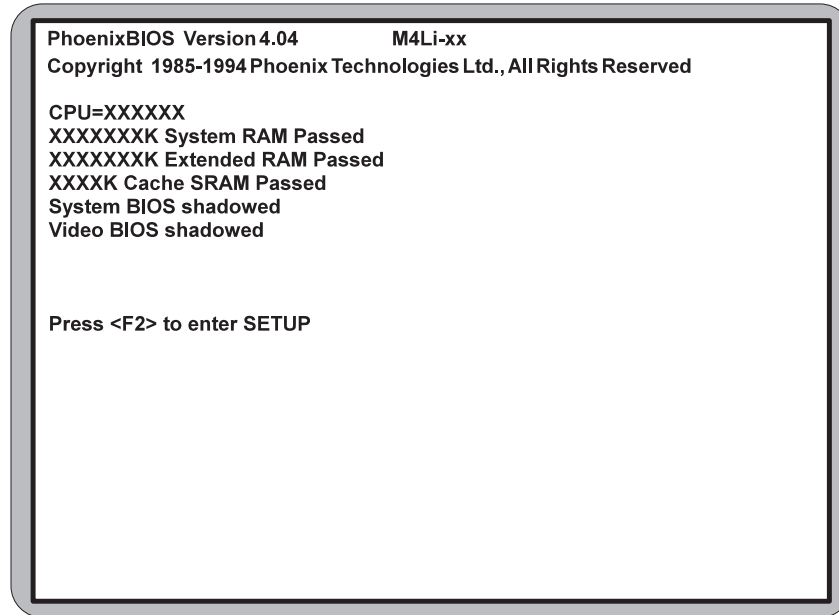


Figure 4-1 Power-Up Screen

When “Press <F2> to enter SETUP” appears at the bottom of the screen, press the <F2> key to begin the Setup procedure. The CMOS Main Screen (Figure 4-2) should appear and the prompt should be on the time line. The Setup procedure can only be activated during the boot sequence.

Running the Setup Procedure

The M4Li system board has four primary CMOS configuration screens: the Main Screen (Figure 4-2), the Advanced Screen (Figure 4-8), the Security Screen (Figure 4-10), and the Exit Screen (Figure 4-12). To toggle between the screens, press the right arrow <→> and the left arrow <←> keys.

Setting the Main Screen

The CMOS Main Screen (Figure 4-2) is used to set the time and date, to set the floppy drive types, to configure the hard disks, and to configure the video. This section explains how to configure each of these categories. To move between the categories, use the up arrow <↑> and the down arrow <↓>.

PhoenixBIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.				
Main	Advanced	Security	Power	Exit
System Time: [HH:MM:SS] System Date: [MM/DD/YYYY] Diskette A: [1.44 MB, 3 1/2"] Diskette B: [Not Installed]			Item Specific Help <Tab>, <Shift-Tab>, or <Enter> selects field.	
▶IDE Adapter 0 Master: [None] ▶IDE Adapter 0 Slave: [None] ▶IDE Adapter 1 Master: [None] ▶IDE Adapter 1 Slave: [None]				
Video System: [EGA/VGA] Video BIOS: [Shadowed] System BIOS: [Shadowed]				
▶Boot Sequence: [A: then C:] Cache: [Enabled]				
System Memory: 640 KB Extended Memory: xxx MB				
F1 Help ↑↓ Select Item +/- Change Values F9 Setup Defaults Esc Exit ←→ Select Menu Enter Select Sub-Menu F10 Previous Values				

Figure 4-2 CMOS Main Screen

System Time and Date

To set the time, use the <-> key to decrease the number and the <+> key to increase the number. To move the prompt forward, use the <Tab> key; to move the prompt backward, use the <Shift-Tab> key. To set the date, use the

up and down arrows<↑/↓> to highlight the System Date and follow the same procedure used to set the time.

Diskette A or B

To configure a floppy drive added to or removed from your computer, use the up and down arrow keys <↑/↓> to select the drive you wish to set. Use the <+/-> keys to change the setting until it matches the floppy drive you have installed. The BIOS supports 2.88MB, 1.44MB, 1.2MB, 720KB, and 360KB floppy drives.

IDE Adapters (Hard Disk Setup)

If you are setting up a SCSI hard disk, you will need to select None in the IDE Device parameters (see your SCSI card manual for more details).

To install an IDE device, select the device you wish to configure and press <Enter>. An IDE Device submenu will appear. (Figure 4-3).

PhoenixBIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.		
Main		
IDE Adapter 0 Master (None)		Item Specific Help
Autotype Fixed Disk:	[Press Enter]	Attempts to automatically detect the drive type for drives that comply with ANSI specifications
Type:	[None]	
Cylinders:		
Heads:		
Sectors/Track:		
Landing Zone:		
Write Precomp:		
Multi-Sector Transfers:	[Auto]	
LBA Mode Control:	[Disabled]	
32 Bit I/O:	[Enabled]	
Transfer Mode:	[Standard]	
F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults Esc Exit ←→ Select Menu Enter Execute Command F10 Previous Values		

Figure 4-3 IDE Device Submenu

Autotype Fixed Disk

The easiest way to set your IDE devices is to let the BIOS do it for you. When the IDE Device submenu first appears, the Autotype Fixed Disk selection will

be highlighted. Simply press <Enter>, and the remaining information will automatically be entered.

Do not adjust the rest of the settings unless absolutely necessary. The BIOS will automatically enter the correct settings.

Type

This category selects the drive type installed in the system. The options are 1-39, User, and none. It is doubtful you will find your drive in 1-39.

If Autotype Fixed Disk does not find your drive's parameters, you will need to fill this information in manually under the User category. This information may be in the manual that came with your system. If not, contact your dealer or the hard drive manufacturer to fill in this category.

If you are using a SCSI hard drive, select None and refer the documentation which came with the SCSI adapter.

Multiple-Sector Transfers

This category determines the number of sectors per block for multiple sector transfers. The options are Disabled (default), 2 Sectors, 4 Sectors, 8 Sectors, and 16 Sectors. If you used Autotype Fixed Disk, this section will automatically be filled in.

LBA Mode Control

Enable LBA (Logical Block Addressing) to support IDE drives larger than 528MB in size. The default setting is Disabled.

32-Bit I/O

This category allows the user to enable the 32-bit I/O function of the PCI IDE controller. Select Disabled if your drive will not run at this speed. The default setting is Enabled.

Transfer Mode

This category provides the transfer modes for the PCI IDE controller. The options are Fast PIO 3, Fast PIO 2, Fast PIO 1, and Standard (default).

Fast PIO 3 is equivalent to Mode 3 supporting a minimum cycle time of 180ns (11.1 MB/sec.). Fast PIO 2 supports a minimum cycle time of 240ns (8.33 MB/sec.). Fast PIO 1 supports a minimum cycle time of 383ns (5.22 MB/sec.). Standard supports a minimum cycle time of 600ns (3.3 MB/sec.).

See your drive specifications before setting this category.

Video System

This sets the type of video board installed into the system. You may choose from: EGA/VGA (default), CGA 80x25, MONO, and Not Installed.

Video BIOS

The Video BIOS category allows you to Shadow or Shadow & Cache the video BIOS. Choosing Shadowed copies the video BIOS into RAM for faster execution. Choosing Shadowed & Cached caches the shadowed video BIOS for even higher performance. To disable the Video BIOS category, select Disabled.

System BIOS

The System BIOS Option allows you to Shadow or Shadow & Cache the System BIOS Shadow on the system board. Choosing Shadowed copies the system's BIOS into RAM for faster execution. Choosing Shadowed & Cached caches the shadowed BIOS for even higher performance. To disable the System BIOS category, select Disabled.

Boot Options Submenu

Move the prompt to Boot Sequence and press <Enter>. The following screen (Figure 4-4) will appear.

PhoenixBIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.		
Main		
Boot Options		Item Specific Help
Boot Sequence:	[A: then C:]	Order system searches drives for a boot disk.
SETUP Prompt:	[Enabled]	
POST Errors:	[Enabled]	
Floppy Check:	[Enabled]	
Numlock:	[Auto]	
F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults		
Esc Exit ←→ Select Menu Enter Select Sub-Menu F10 Previous Values		

Figure 4-4 Boot Options Submenu

Boot Sequence

This category selects the order the system searches for a boot disk and can be set for:

A: then C:

C: then A:

C: only (System never attempts booting from floppy.)

SETUP Prompt

When enabled, this category allows the system to display the “Press <F2> to enter SETUP” message during boot.

Post Errors

When enabled, this category allows the system to display the “Press <F1> to resume, <F2> to SETUP” message if errors occur during boot. If disabled, the system will ignore any errors and will always attempt to boot.

Floppy Check

When enabled, this category verifies the floppy drive is installed while the system is booting. For faster booting, select DISABLED.

Numlock

Setting this to On will activate Numlock upon boot. Setting this to Auto will activate Numlock if the BIOS detects a numeric keyboard. It may also be set to Off.

Cache

This category allows you to enable the external cache. For optimal performance, select Enabled.

System Memory

The System Memory category identifies the size of the base memory. It cannot be changed.

Extended Memory

The Extended Memory category automatically detects the amount of memory installed above the amount in the System Memory category. Because the BIOS automatically calculates the amount of memory installed in your system, you cannot change this category without adding or removing memory.

Setting the Advanced Screen

To move to the Advanced Screen, use the left and right arrow keys <←/→> keys until you see the screen below (Figure 4-5).

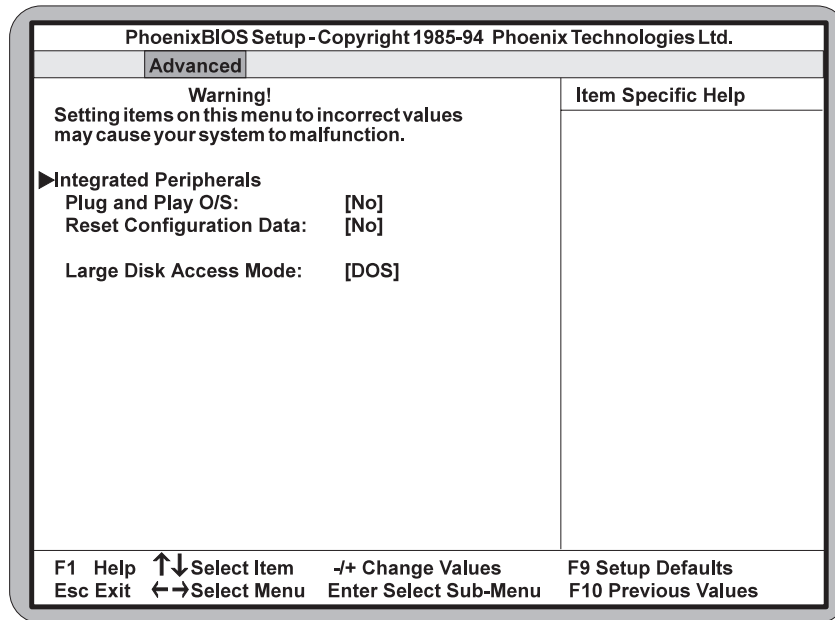


Figure 4-5 Advanced Screen

Integrated Peripherals Submenu

The Integrated Peripherals submenu (Figure 4-6) allows you to individually enable or modify the disk controllers, I/O ports, and other settings. Use the up and down arrow keys <↑/↓> to select a category and the plus and minus keys <+/-> to change the settings.

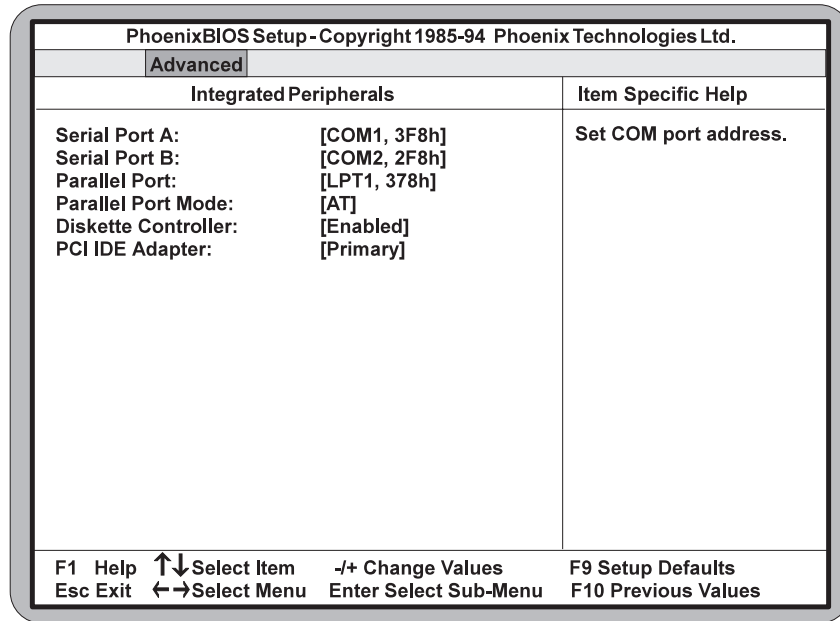


Figure 4-6 Integrated Peripherals Submenu

Serial Port A

Serial Port A may be set for Auto (default), COM1, COM2, COM3, COM4, or may be disabled.

Serial Port B

Serial Port B may be set for Auto (default), COM1, COM2, COM3, COM4, or may be disabled.

Parallel Port

The parallel port may be set for Auto (default), LPT1, LPT2, or may be disabled.

Parallel Port Mode

The parallel port may be set for output mode (AT) (default), bidirectional mode (PS/2), Enhanced Capabilities Port mode (ECP), or may be disabled.

Diskette Controller

The on board floppy disk controller may be enabled or disabled.

PCI IDE Adapter

The on board PCI IDE controller may be set for Primary (up to two hard disks), Both (up to four hard disks), or it may be disabled.

Plug and Play O/S

This category, when set to Yes, allows the system to work with a Plug and Play operating system such as Windows 95. The default setting is No.

Reset Configuration Data

Select Yes if you want to clear the system configuration data. The default setting is No.

Large Disk Access Mode

If you are using a DOS operating system (MS-DOS, DR-DOS, or PC-DOS), set this to DOS. If you are using anything else, set this to OTHER.

Security Screen

The Security Screen (Figure 4-7) controls access to the computer. The security screen allows for settings of two passwords. The Supervisor Password allows access to the system and Setup. The User Password will allow access to the system, but not to all Setup features.

PhoenixBIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.				
Main	Advanced	Security	Power	Exit
Supervisor Password is: Disabled User Password is: Disabled Set Supervisor Password: [Press Enter] Set User Password: Press Enter Password on Boot: [Disabled] Diskette access: [User] Fixed disk boot sector: [Normal]			Item Specific Help	
F1 Help ↑↓ Select Item +/- Change Values F9 Setup Defaults Esc Exit ←→ Select Menu Enter Select Sub-Menu F10 Previous Values				

Figure 4-7 Security Setup Screen

Supervisor Password is

If a Supervisor Password has been set up for the system, it will read “Supervisor Password is ENABLED.” If the password has not been set up, it will be disabled (default).

User Password is

If a User Password has been set up for the system, it will read “User Password is ENABLED.” If the password has not been set up, it will be disabled (default).

Set Supervisor Password

Press the <Enter> key to enter the Supervisor Password submenu (Figure 4-8).

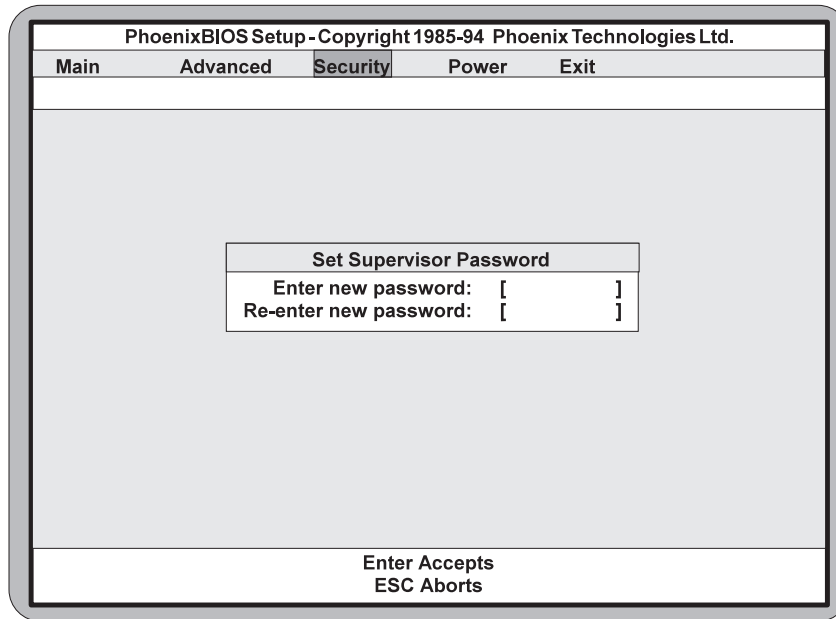


Figure 4-8 Supervisor Password Submenu

Type the password and press the <Enter> key. Retype the password and press the <Enter> key again. Write down the password somewhere safe so it will not be forgotten. The password may be disabled by setting the new password to nothing (pressing the <Enter> key without first typing a password).

Warning:

If you forget the Supervisor Password, it cannot be disabled without discharging the CMOS.

Set User Password

Follow the same procedure used to set the Supervisor Password.

Note:

When a password has been entered, it is saved immediately. All other changes may still be discarded (see Exit Screen).

Password on Boot

When enabled, the system will require a password to be entered upon boot. Either the Supervisor or User Password may be entered.

Diskette Access

This category allows floppy disk access with an option of the supervisor or user. Selecting Supervisor will give floppy disk access to the supervisor only. Selecting User (default) will give floppy disk access to both the user and the supervisor. If the passwords are enabled, this option may only be changed by the supervisor.

Fixed Disk Boot Sector

This category allows the boot sector of the fixed disk to be write protected. The default setting is Normal. When set for Write Protect, it serves as a form of virus protection. If the passwords are enabled, this option may only be changed by the supervisor.

Power Screen

The Power Screen controls the power management functions or the “Green Section” of the system. To move to the Advanced Screen, use the left and right arrow keys <←/→> keys until you see the screen below (Figure 4-9) .

PhoenixBIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.				
Main	Advanced	Security	Power	Exit
			Item Specific Help	
APM:		[Disabled]		
Power Management Mode:		[Disabled]		
Standby Timeout:		[Disabled]		
Suspend Timeout:		[Disabled]		
Standby CPU Speed:		[Disabled]		
Fixed Disk Timeout:		[Disabled]		
CRT Standby:		[Disabled]		
Standby Break Events:				
IRQ3:		[Disabled]		
IRQ4:		[Disabled]		
IRQ5:		[Disabled]		
IRQ7:		[Disabled]		
IRQ9:		[Disabled]		
IRQ10:		[Disabled]		
IRQ11:		[Disabled]		
IRQ12:		[Disabled]		
F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults Esc Exit ←→ Select Menu Enter Select Sub-Menu F10 Previous Values				

Figure 4-9 Power Screen

APM

When enabled the power management features are active. The default setting is Disabled. If you enable this category, you must also set the other power management options below.

Power Management Mode

This category may be set for Maximum Power Savings, Medium Power Savings, Minimum Power Savings, Customized, or Disabled (default). If you set this category for Maximum, Medium, or Minimum power savings, you do not need to make any more adjustments. If you select Customized, you must set the following five categories.

Standby Timeout

The Standby Timeout category is used to set the amount of time that must elapse for the system to enter the power saving mode. The options are

Disabled (default), 1 min., 15 min., 30 min., 45 min., 60 min., 2 Hr., 3 Hr., or 4 Hr.. Before making changes, “Customized” must be selected in the Power Management Mode category.

Suspend Timeout

The Suspend Timeout category is used to set the amount of time that must elapse after the Standby Timer is activated. The options are Disabled (default), 1 min., 15 min., 30 min., 45 min., 60 min., 2 Hr., 3 Hr., and 4 Hr.. Before making changes, “Customized” must be selected in the Power Management Mode category.

Standby CPU Speed

This category is used to set the CPU speed during power saving mode. The options are Maximum, Medium, Minimum, and Slowest (default). Before making changes, “Customized” must be selected in the Power Management Mode category.

Fixed Disk Timeout

This category is used to set the amount of time which must elapse before the IDE drive enters spin-down mode to conserve power. The options are Disabled (default), 1 min., 2 min., 5 min., 10 min., or 15 min. Before making changes, “Customized” must be selected in the Power Management Mode category.

Note:

Do not enable this category unless your IDE drive supports spin-down mode.

CRT Standby

Selecting Enabled will power down the display while the system is in power saving mode. The default setting is disabled. Before making changes, “Customized” must be selected in the Power Management Mode category.

Exit Screen

After you have completed configuring the BIOS, select the Exit Screen (Figure 4-10).

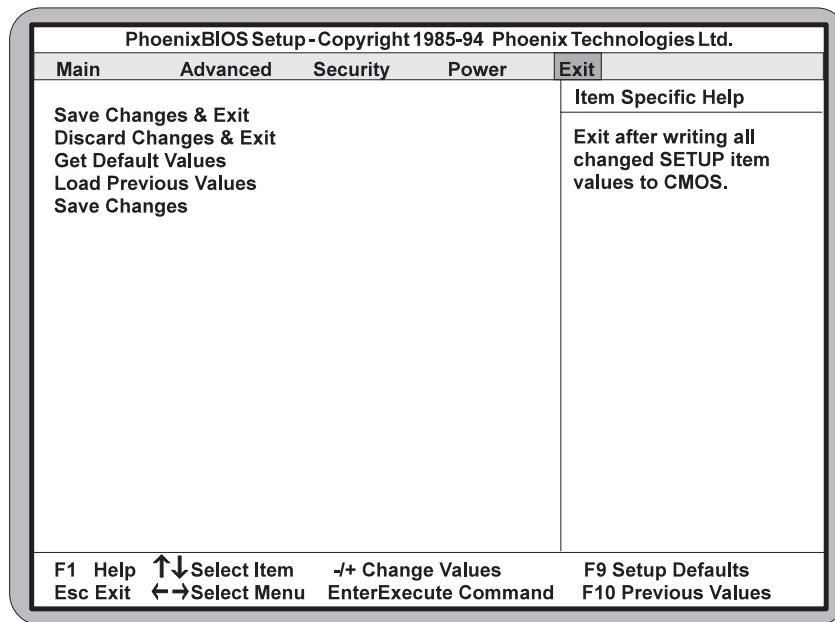


Figure 4-10 Exit Screen

Choose “Save Changes and Exit” and reboot the computer. The computer is ready for use.