

4 The BIOS Setup Utility

Configuration

After the Mpower 4 plus 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 Mpower 4 plus. 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 procedure is built into the system. Setup begins after the completed system is powered up. Once the system is powered up and goes through a memory test, the following screen appears on your monitor:

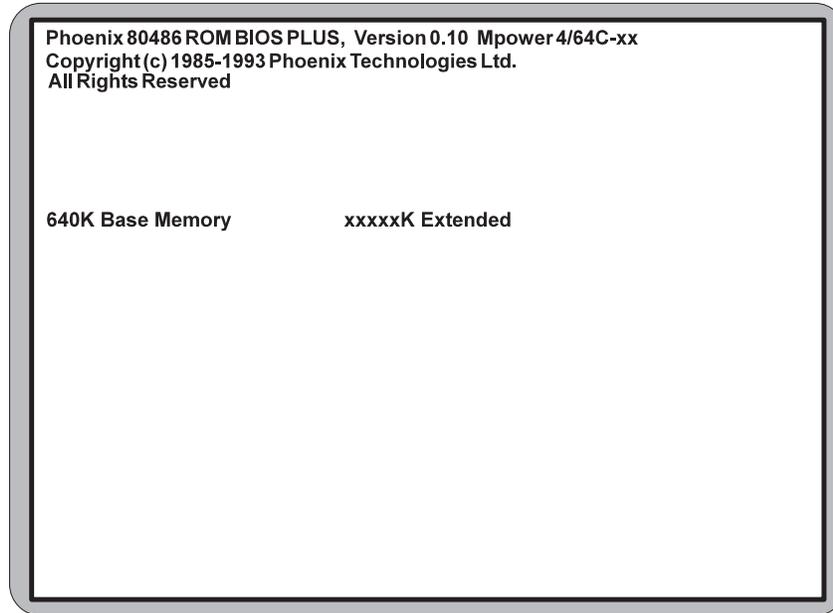


Figure 4-1 Power-Up Screen

If the system detects a configuration error, it displays an error message. After the error message, another message displays indicating the choice to press <F1> to continue (boot up), or <F2> to run the Setup procedure. Normally, you will press <CTRL>, <ALT>, and <ESC> simultaneously to begin the Setup procedure.

Running the Setup Procedure

Upon pressing <F2>, the CMOS Main Screen (Figure 4-2) should appear and the prompt should be on the time line. If the Power-Up Screen does not appear but a DOS prompt does (i.e., A:\ or C:\), press the <Ctrl>, <Alt>, and <Esc> keys simultaneously to begin the Setup procedure.

The Mpower 4 plus system board has two CMOS configuration screens: the Main Screen (Figure 4-2) and the Extended Screen (Figure 4-3). To toggle between the screens, press the PgUp/PgDn keys.

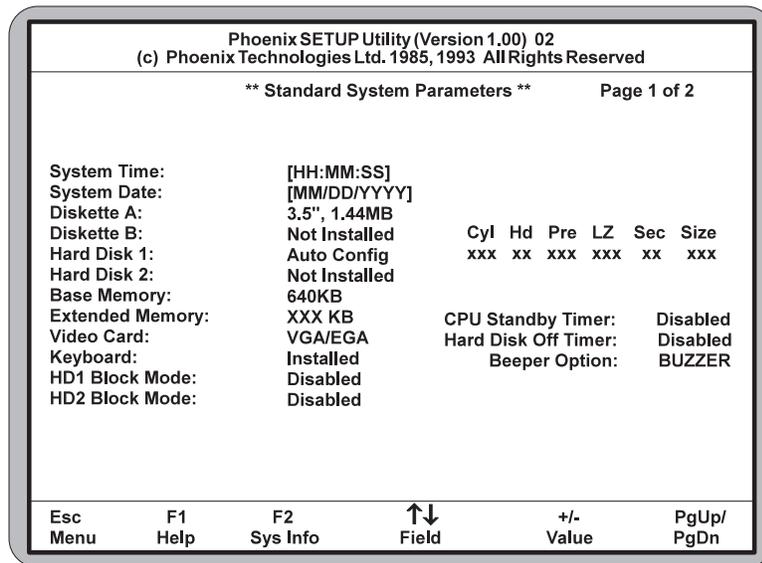


Figure 4-2 CMOS Main Screen

Now, configure the parameters to match your specific requirements. See the following pages for procedures on how to set the computer's parameters.

To return to the CMOS configuration screens at any time to change or view any of these parameters, press <Ctrl>, <Alt>, and <Esc> simultaneously.

Setting the CMOS Parameters

Before running the computer, certain parameters on the CMOS configuration screens must be set so the computer properly operates. First, set the parameters on the CMOS Main Screen, then press the PgUp/PgDn key and set the parameters on the CMOS Extended Screen.

Note:

Some of the parameters are already set and need not be changed. Only change the settings if necessary.

Setting the CMOS Main Screen

System Time and Date

To set the time, use the minus <-> key to decrease the number and the plus <+> key to increase the number. To move the prompt forward, use the right arrow <-> key; to move the prompt backward, use the left arrow <-> key. Follow the same procedure for the date.

Diskette A or B

This allows you to configure a diskette drive added or removed from your computer. Use the <+/-> keys to toggle between the options.

Hard Disk 1 or 2 (IDE Drives Only)

This selection allows you to configure a hard disk installed in your system. Use the <+/-> keys to toggle between the options. See Appendix C for a complete listing of all possible hard drive types.

To install most SCSI hard drives, select NOT INSTALLED. To install ESDI or RLL hard drives, select TYPE 1. To manually configure the hard drive, select USER CONFIG. Press the down arrow <↓> key and type in the appropriate parameters. To automatically configure an IDE hard drive, select AUTO CONFIG. Drives that can be Auto-Configured report parameters to the BIOS.

Base Memory and Extended Memory

Both of these memory settings are automatically configured. Press the down arrow <↓> key to move to the next selection.

Video Card

This sets the type of monitor required for your computer. The display peripheral supports VGA/EGA, Monochrome (MONO), or no monitor at all. Use the <+/-> keys to toggle between the options.

Keyboard

The keyboard function is set to INSTALLED for keyboard error reporting. To turn off keyboard error reporting, use the left/right arrow keys to toggle the keyboard NOT INSTALLED.

HD1 and HD2 Block Modes (IDE Drives Only)

The Block Modes (HD1 and HD2) are designed to improve the data transfer performance in AT IDE drives. This reduces the number of data transfer interrupts and generates an interrupt on every block (block size of 8 sectors), instead of generating an interrupt on every sector transfer. Use the <+/-> keys to select ENABLED to activate this feature. This option may not work with older or slower IDE drives. Check with your drive manufacturer to see if your drive can perform this function.

Beeper Option

This option allows you to select the type of Beeper for the system. You can select the beeper to be DISABLED, as well.

The "Green Section" of the BIOS

The "Green Section" of the BIOS conserves energy by putting components parts of the computer into "sleep modes." When a component is in a sleep mode, it consumes less energy.

The computer puts components into sleep mode if a specified time elapses and no keystrokes have been performed on the keyboard. These selections will not recognize any mouse movement; only activity involving the keyboard. For each selection, use the <+/-> keys to toggle between the numbers. Use the directional arrow keys to move to the next selection.

CPU Standby Timer: This selection can be set to one minute or in increments of five minutes (up to 70 minutes). After the allotted time, the CPU will reduce its speed to 8MHz. **The CPU Standby Timer must be DISABLED if a DX4-100MHz is installed.** The Scroll Lock light will flash to indicate reduced speed. To return to full processing speed, press any key.

Hard Disk Off Timer: When set to ENABLED, the hard drive spins down after 15 minutes to conserve energy and remains spun down until accessed.

Note:

Only a certain number of hard drives support the "green" features of the BIOS. Consult Micronics' Technical Support department for information on which peripherals support these features.

Setting the CMOS Extended Screen

Refer to Figure 4-3. CMOS Extended Screen. You can toggle between the Main and Extended screens using the PgUp and PgDn key.

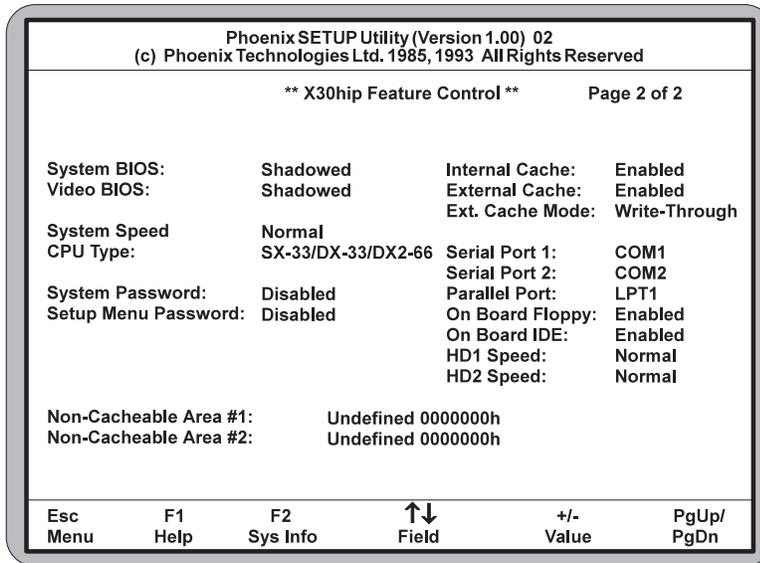


Figure 4-3 CMOS Extended Screen

System BIOS

The System BIOS Option allows you to Shadow, Shadow & Cache, or Disable the BIOS Shadow on the system board. Choosing SHADOWED copies the system BIOS into RAM for faster execution. Choosing SHADOWED & CACHED caches the shadowed system BIOS for even higher performance. This allows you to take advantage of the high-speed 32-bit bus and the 70 nanosecond RAM. Use the <+/-> key to toggle between the options.

Video BIOS

The Video BIOS Option allows you to Shadow, Shadow & Cache, or Disable the BIOS Shadow on the system board. Choosing SHADOWED copies the system's video BIOS into RAM for faster execution. Choosing SHADOWED & CACHED caches the shadowed video BIOS for even higher performance. Use the <+/-> key to toggle between the options. The System BIOS Shadow option must be set to SHADOW or SHADOW & CACHE before enabling the Video BIOS Shadow options.

System Speed

This parameter selects two speeds on the computer. When set to NORMAL, the system operates at full speed. For example, at 33MHz when the Turbo switch is on, the system has a Landmark 2.0 rating of 111.77 MHz. When set to SLOW, the system has a Landmark 2.0 rating of 55.5 MHz.

CPU Type

This option selects the CPU installed and has auto detection with corresponding jumper settings on board. You must choose the correct CPU selection with the corresponding CPU. This selection is for user-upgradeable CPUs.

System and Setup Menu Passwords

These parameters allow you to limit access to the system. The selections require a user-selected password be entered before allowing the system to boot or to allow entry into the setup screens.

The two passwords may or may not be the same. The passwords may be up to seven characters in length, include special characters, and are case sensitive. For example: PSWD\$2, Pswd\$2, psWD\$2, and pswd\$2 are all valid and are all different, even though they have the exact same characters.

After a password is entered and the system is rebooted, you are given three opportunities to enter the correct password. If an incorrect password is entered three times, the system no longer functions. The keyboard locks out and you need to press the reset button or turn the system off then on to restart the computer.

System Password

When enabled, the computer requires a password at boot. After entering the password, the system asks: "Do you want to change your password (Y/N)?" Press <Y> to change the password and <N> to keep it.

If no password has been entered or the CMOS memory has been cleared, the following message appears at boot up: "Password values are invalid. Do you want a password (Y/N)?"

Setup Password

If ENABLED, a password is required to enter Setup. If the password is lost or forgotten, the CMOS must be cleared.

Note:

After changing the setup menu and password to ENABLED, save the CMOS settings by pressing <Esc> followed by <F4>. After the system reboots, immediately press <Ctrl>, <Alt>, and <Esc> simultaneously. You will not be asked to enter a password until you attempt to enter the CMOS screen.

Internal Cache

The Mpower 4 plus has the option of activating or deactivating the internal 8K-byte cache of the 486 microprocessor. Choose ENABLED to activate the Internal Cache, or choose DISABLED to deactivate the on-chip cache. The Internal Cache must be ENABLED to activate the External Cache.

External Cache

The Mpower 4 plus has the option of either 64K, 128K or 256K of external cache memory. Choose ENABLED to activate the external cache memory.

External Cache Mode

This selection sets the secondary cache scheme. Setting the scheme to WRITE-BACK and placing jumper blocks on W16 and W17 will improve performance up to 4%. Refer to Tables 2-7 and 2-10 for cache jumper configuration.

Serial Port 1

The Serial Port 1 can be selected as COM1 or COM3. Be sure this setting does not conflict with any add-on peripherals. The Serial Port 1 can also be set to DISABLED if the on-board port is not used.

Serial Port 2

The Serial Port 2 can only be selected as COM2. The on-board ATI local bus video uses the I/O address normally used by COM4. Serial Port 2 can also be set to DISABLED if the on-board port is not used.

Parallel Port

The Parallel Port selection can be selected as LPT1 or LPT2. The Parallel Port can also be set to DISABLED, if the on-board port is not used. Be sure this setting does not conflict with any add-on peripherals.

On Board Floppy

The On Board Floppy controller can be set to ENABLED or DISABLED.

On Board IDE

The On Board IDE controller can be set to ENABLED or DISABLED.

HD1 Speed

The speed of Hard Disk 1 can be set for NORMAL, MEDIUM, or FAST. To improve the performance of your system, see the manufacturer's specifications to determine the optimal setting. The default setting is NORMAL.

HD2 Speed

The speed of Hard Disk 2 can be set for NORMAL, MEDIUM, or FAST. To improve the performance of your system, see the manufacturer's specifications to determine the optimal setting. The default setting is NORMAL.

Non-Cacheable Area #1 and #2

These two parameters allow a block of 32-bit memory to be set as NON-CACHEABLE. The size and address can be selected. The sizes include: 64K, 128K, 256K, 512K, 1M, 2M, and 4M.

To select the memory to be Non-Cacheable, use the <+/-> keys to change the first three zeros to the appropriate address (only these zeros can be changed). Area #1 must start from 0000000h to 0FF0000h (15.94MB), and area #2 must start from 0000000h to 3FF0000h (63.94MB). The default setting for both selections is UNDEFINED.

Re-Configuring Your Computer

Press the <Esc> key to reach the Exit Pop-Up Screen. Now select <F4> to save and initialize the new Setup.

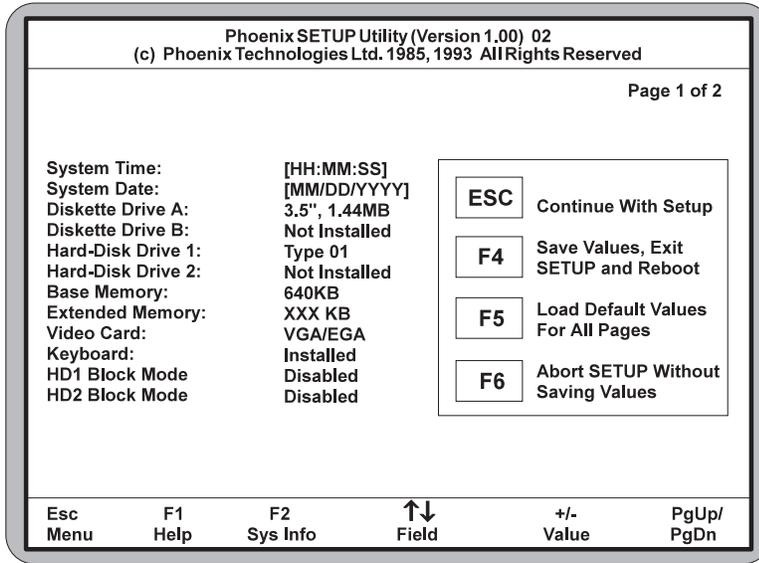


Figure 4-4 Exit Pop-up Screen