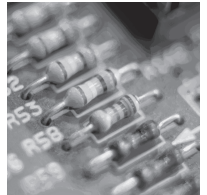


CMOS Passwords and Resources

OBJECTIVES

1. Use BIOS Features extended setup.
2. Use CMOS passwords.
3. Learn about power management settings.
4. Learn about integrated peripherals.



Hardware

RESOURCES

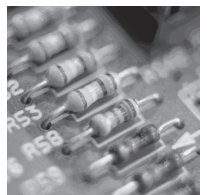
1. Marcraft 8000 Trainer
2. Windows Millennium installed
3. Phillips screwdriver

DISCUSSION

CMOS settings may differ from manufacturer to manufacturer. Passwords for computers can give you the necessary security for your computer. One of the biggest problems faced when repairing computers is CMOS passwords. You need to know what to do if the computer you are trying to repair has a password and you don't know what it is. The way to get around this is to clear the CMOS settings. This will clear out the password, but it will also clear out any custom settings that may have been set up.

PROCEDURE

1. **Preparing the system for adding a bootup password**
 - a. Start the computer.
 - b. Press DELETE to enter CMOS when prompted on the bottom of the screen.
 - c. Arrow down to Advanced BIOS Features Setup and press ENTER.
 - d. Arrow down to highlight the "Security" option.



Hardware

PROCEDURE - 3

- ___ e. Press PAGE DOWN to change it from Setup to System as shown in Figure 3-1.

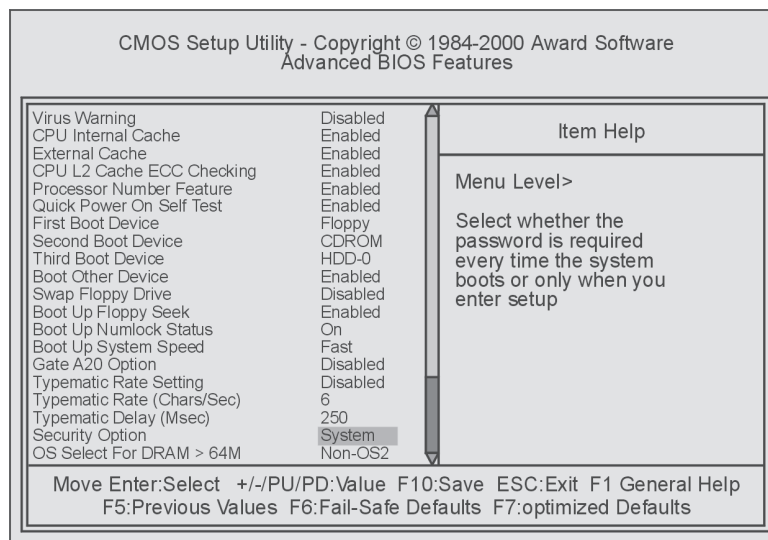


Figure 3-1:
Advanced BIOS
Features Screen

- ___ f. Press ESC.
- ___ g. Press F10.
- ___ h. Press Y.
- ___ i. Press ENTER to save and exit CMOS. The computer will reboot.

2. Setting up User Password for CMOS entry

- ___ a. Press CTRL+ALT+DELETE to reboot the computer.
- ___ b. Press the DELETE key when the computer is counting memory.
- ___ c. Arrow over and highlight Set User Password.
- ___ d. Press ENTER.
- ___ e. The Enter Password box will appear as in Figure 3-2.

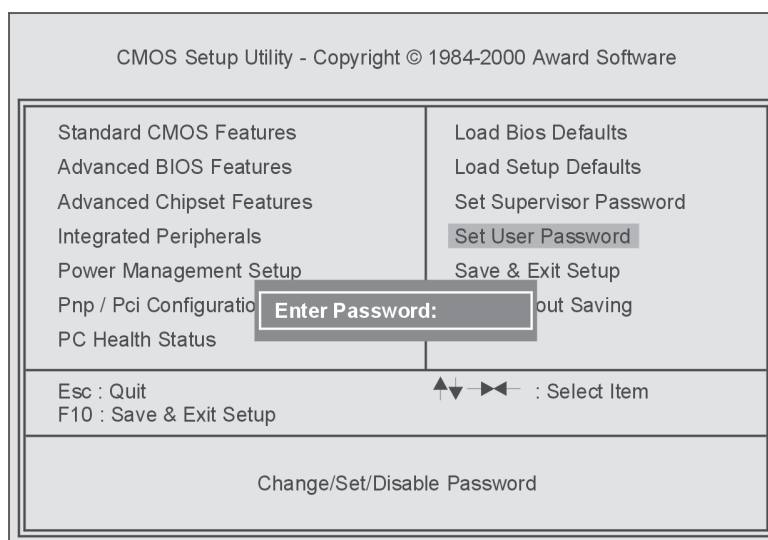


Figure 3-2:
The Enter Password
Box.

- ___ f. Type **marcraft** for the user password.
- ___ g. Press ENTER.

- ___ h. Type **marcraft** again to confirm it.
- ___ i. Press ENTER.
- ___ j. Press F10.
- ___ k. Press Y to save and exit CMOS.
- ___ l. Press ENTER.
- ___ m. The computer will reboot.
- ___ n. When prompted to enter password type **marcraft**.
- ___ o. The computer will boot to the software menu as in Figure 3-3.

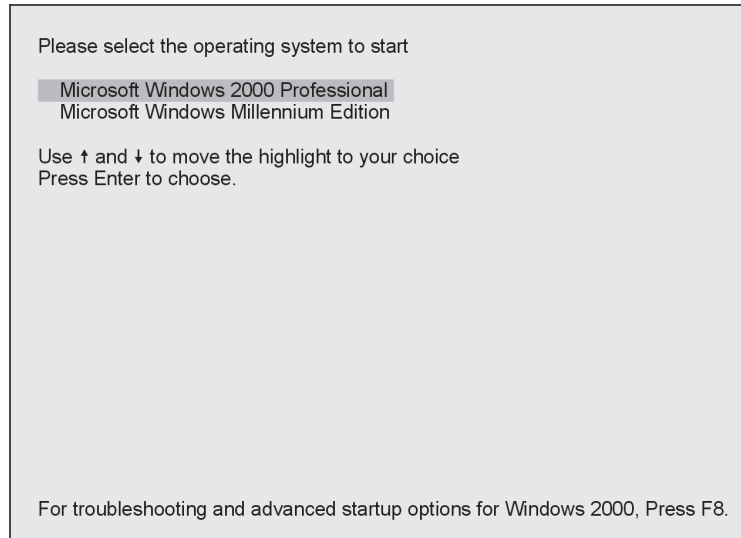


Figure 3-3:
The Software Menu

3. Disabling the User Password

- ___ a. Press CTRL+ALT+DELETE to reboot the computer.
- ___ b. Press DELETE to enter CMOS when prompted.
- ___ c. Enter **marcraft** when prompted.
- ___ d. Arrow over and highlight Set User Password.
- ___ e. Press ENTER.
- ___ f. Leave it blank and press ENTER. This should disable the password.
- ___ g. Press a key to continue.
- ___ h. Press F10.
- ___ i. Press Y.
- ___ j. Press ENTER to save and exit CMOS.
- ___ k. Press DELETE to enter CMOS. You should not be prompted for a password.

NOTE: There may come a time when you may not know the password and will need to get into CMOS setup. We will enable the password again and show you how to clear it and proceed to enter CMOS.

- ___ l. Arrow over to User Password.
- ___ m. Press ENTER.
- ___ n. Type **marcraft**.
- ___ o. Press ENTER.
- ___ p. Type **marcraft** again.
- ___ q. Press ENTER and confirm it.

PROCEDURE - 3

- ___ r. Press F10.
- ___ s. Press Y.
- ___ t. Press ENTER to save and exit CMOS.
- ___ u. Let the computer boot to the Password Prompt.
- ___ v. Turn the computer off.

4. Clearing the CMOS Settings

- ___ a. Remove the screws from the computer cover.
- ___ b. Remove the computer case cover.
- ___ c. Locate jumper JP32 in Figure 3-4.

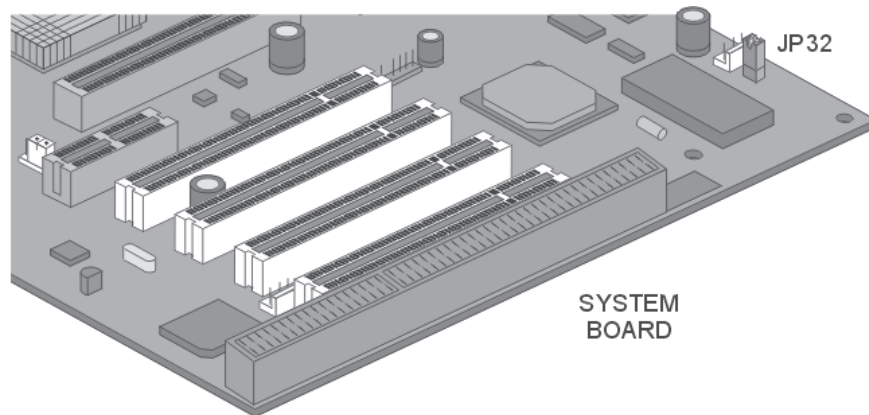


Figure 3-4:
Jumper JP32

NOTE: This is the jumper for clearing the CMOS on the Marcraft 8000 Trainer. See the system board book on other computers.

- ___ d. Move the jumper from pins 2 and 3 to pins 3 and 4, turn the computer on, and count to 20.
- ___ e. Turn the computer off and then return the jumper back to pins 2 and 3 on JP32.
- ___ f. Turn the computer on and press the DELETE key during the memory count. The password should be gone.
- ___ g. Press the ESC key and then press the ENTER key to reboot.
- ___ h. Write down the error message that appears when rebooting in Table 3-2.
- ___ i. Press F1 to continue booting.
- ___ j. Replace the case cover.
- ___ k. Screw on the cover.
- ___ l. Press CTRL+ALT+DELETE to reboot
- ___ m. Press the DELETE key to enter the CMOS setup.

NOTE: The default CMOS settings will be fine except that the time may have been reset to the BIOS date. If the time is reset, we can reset the time in CMOS by following Step 5 below.

5. Changing the Date and Time in CMOS

- ___ a. Press ENTER on the Standard CMOS Setup.
- ___ b. Highlight the month.

PROCEDURE - 3

- ___ c. Press PAGE DOWN on the month to change it to the desired month as shown in Figure 3-5.
- ___ d. Highlight the day.
- ___ e. Press PAGE DOWN or UP to change it to the correct day.
- ___ f. Highlight the year.
- ___ g. Press PAGE DOWN or UP to change it to the correct year.
- ___ h. Highlight the hour.
- ___ i. Press PAGE DOWN or UP to change it to the correct hour.
- ___ j. Highlight the minute.
- ___ k. Press PAGE DOWN or UP to change it to the correct minute.
- ___ l. Press ESC to Exit.

CMOS Setup Utility - Copyright © 1984-2000 Award Software Standard CMOS Features		
Date (mm:dd:yy)	Mon, June 19 2002	Item Help Change the day, month, year and century
Time (hh:mm:ss)	13 : 44 : 4	
IDE Primary Master	Press Enter 610 MB	
IDE Primary Slave	Press Enter None	
IDE Secondary Master	Press Enter None	
IDE Secondary Slave	Press Enter None	
Drive A	1.44M, 3.5 in.	
Drive B	None	
Video	EGA/VGA	
Halt On	All, But Keyboard	
Base Memory	640K	
Extended Memory	1571840K	
Total Memory	1572864K	
Move Enter:Select +/-PU/PD:Value F10:Save ESC:Exit F1 General Help F5:Previous Values F6:Fail-Safe Defaults F7:optimized Defaults		

Figure 3-5: Standard CMOS Features Screen

Power management in CMOS helps preserve power usage on a computer. Integrated peripherals are the input/output devices that are included on the motherboard. These are USB (universal serial bus), serial ports or COM ports, parallel ports (for printers and scanners), IDE hard drive controllers, and floppy-disk drive controllers.

We will now deal with Power Management Setup in the CMOS. Power Management is sometimes used for computers that are always on, but mostly it is used for battery-powered computers like laptops. By changing these settings you will be able to save power. You will also be able to let the computer know on which type of activity it should "wake up".

6. Power Management Setup

- ___ a. Arrow down to highlight Power Management Setup.
- ___ b. Press ENTER.
- ___ c. Arrow down to highlight Power Management, and press ENTER.
- ___ d. Press PAGE DOWN to change it to Min Savings as shown in Figure 3-6.

CMOS Setup Utility - Copyright © 1984-2000 Award Software Power Management Setup		
Power Management	Min Saving	Item Help Menu Level
Hdd Power Down	Disable	
Doze Mode	1 Hour	
Suspend Mode	1 Hour	
Move Enter:Select +/-PU/PD:Value F10:Save ESC:Exit F1 General Help F5:Previous Values F6:Fail-Safe Defaults F7:optimized Defaults		

**Figure 3-6:
Power Management
Screen**

PROCEDURE - 3

- ___ e. Write down the values in Table 3-3.
- ___ f. Press PAGE DOWN again so it displays Max Savings.
- ___ g. Write these values in Table 3-3.
- ___ h. Press PAGE DOWN until it displays User Defined settings.
- ___ i. Press the ESC key twice to return to the Main menu.

The Integrated Peripherals Setup can set the On-Chip Primary IDE to be enabled or disabled. We will get into this in more detail in the next lab along with the FDC Controller.

The On-Chip USB Controller can be either enabled or disabled. USB is a relatively new serial bus type, allowing up to 127 devices to be connected simultaneously through one USB port. It also allows for "hot-swapping" devices easily, which means changing the devices while the computer is still power on. See the Theory book for more on USB devices.

The Init Display First has a selection PCI slot (default) or AGP slot. This simply tells the computer what slot to first "snoop" for the video card. If the correct one is listed here it will make booting up slightly faster.

The Onboard serial port setting is one of the most used settings in this CMOS section. It allows you to select what COM port you want each serial port to be. The main reason this is important is that old modems work best if they are on one of the standard COM ports: 1, 2, 3, or 4. In order for the IRQ of the modem not to conflict with the IRQ of the COM port you must either change the modem or change the setting in CMOS. Usually you would just disable COM 2 and set the modem to use the COM 2 settings.

The Onboard Parallel port allows you to change the mode in which the parallel port operates. This is important because some devices, such as scanners, require the port to operate in ECP mode in order to communicate correctly. This is where you would change those settings.

7. Integrated Peripherals setup

- ___ a. Arrow up to highlight Integrated Peripherals.
- ___ b. Press ENTER. The Integrated Peripherals screen will appear as in Figure 3-7.

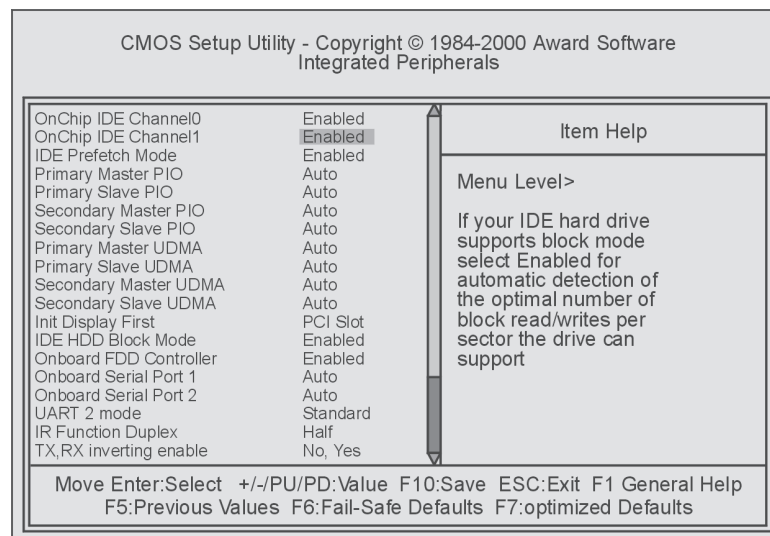


Figure 3-7:
Integrated
Peripherals Screen

- ___ c. Arrow down to highlight the Onboard Serial Port 1.
- ___ d. Press PAGE DOWN.
- ___ e. Write down all options available for Serial Port 1 in Table 3-4.
- ___ f. Change the setting back to Auto.

- ___g. Press ESC.
- ___h. Press F10.
- ___i. Press Y.
- ___j. Press ENTER to confirm and exit CMOS setup.

8. Verifying the computer is still booting properly

- ___a. The computer will boot up to the software menu.
- ___b. Arrow down to select Microsoft Windows Millennium Edition.
- ___c. Press ENTER.
- ___d. Windows Millennium Edition will boot up.
- ___e. Click on Start.
- ___f. Click on Shut Down.
- ___g. In the Shut Down Windows dialog box select “Shut down”.
- ___h. Click the OK button.



TABLES

Table 3-1

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Table 3-2

Error Message	

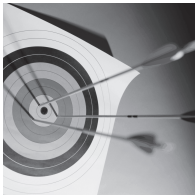
Table 3-3

Power Management	Min Savings	Max Savings
HDD PowerDown		
Doze Mode		
Suspend Mode		

PROCEDURE - 3

Table 3-4

Options available for Serial Port 1		



Feedback

LAB QUESTIONS

1. When will a user be prompted for a password if the Security Option is "Setup"?
2. When will a user be prompted for a password if the Security Option is "System"?
3. How do you reboot the computer without pushing the reset switch or the power switch?
4. How do you get into the CMOS of a computer if you don't know the system password that it is asking for?
5. When clearing the CMOS settings with the jumper, what time will the computer be set to?
6. What computer system is Power Management most useful to and why?
7. How many Serial Port settings can be set up in CMOS?