

If you change the computer's hardware configuration, for example by adding more memory, you must record this in the hardware information. You can access the SETUP program at any time by pressing the following keys at the same time:

<Ctrl - Alt - S>

#### Using The Menu Program:

When you turn on the computer it first goes through a series of self tests. As part of these tests, the computer uses a record of the hardware present to check the system. This record is created by using software that is permanently recorded in the computer, called a SETUP program. If the self-test discovers a difference between the record and the existing hardware it displays a message on the screen asking you to run the SETUP program. You can then correct the record.

In most cases the record should be correct when you receive the computer. If so, the self-test finishes and the computer loads the Operating System into the computer's memory.

Even if you do not get any message to use the SETUP program, at sometime in the future you might want to change the equipment on your computer. As your need change, you will very likely have to reconfigure your system using the SETUP program to let the computer recognize these changes.

For example, you should run SETUP under all of the following conditions:

- You have setup the computer for the first time and you got a message stating that you should use the SETUP Program.

- You added or removed memory (RAM).

- You want to reset the system clock.

- You added an "external" video display and want the computer to recognize it's existence.

- You want to change the Expanded Memory.

- You want to automatically set the CPU clock speed so it runs either fast or slow.

- You want to redefine the Communication Ports to prevent any conflicts.

Note: The above are only examples.

The next section discusses how to use the SETUP Menu Program and how to switch and save your new settings. A brief discussion of the optional settings among the different submenus follows.

If the hardware configuration is changes or the "Self Test" does not pass, the following message appears on the screen. "Invalid

configuration information, please run SETUP program. Press the F1 key to continue, [F2] to run the setup utility." Press [F2] and wait for the SETUP Main Menu to appear on the screen. Check the SETUP menu and correct it, then press the escape key (ESC) to leave the program and reboot. You will see a list of items which can be highlighted. Press the [up] or [down] arrow keys to switch among the settings. Each choice in the list provides you with further access to a sub menu when you hit the [F1] key at a given highlighted field.

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#### Standard System Parameters

|                  |                |                             |
|------------------|----------------|-----------------------------|
| System Time:     | 15:00:00       | Video initial state         |
| System Date:     | April 12, 1992 | Video Display: LCD (Normal) |
|                  |                | LCD Contrast: Auto Map      |
| Diskette A:      | 3.5", 1.44 MB  | Font Select: Expanded       |
| Diskette B:      | Not Installed  | Cyl Hd Pre Lz Sec Size      |
| Hard Disk 1:     | Type 19        | 1024 7 512 1023 17 59       |
| Hard Disk 2:     | Not Installed  |                             |
| Base Memory:     | 640 KB         | Password: Disabled          |
| Extended Memory: | 1024 KB        |                             |
| Video Card:      | VGA/EGA        |                             |
| keyboard:        | Installed      |                             |
| CPU Speed:       | Fast           | Numlock on at boot: YES     |

Figure 2-2

NOTE: The Notebook uses the SETUP program and BIS from Phoenix Corp. The main object in this section is for you to understand the standard entries and parts of the record you can/might modify.

Function Keys in Setup Menu:

There is a menu bar across the bottom of the screen. It tells you which key to press to activate various program functions.

ESC: Pressing the Esc key brings up a menu that lets you exit the program in various ways.

FIELD: The arrow keys move the highlight bar between entries.

VALUES: After you highlight an entry field you can change most of the values using the plus and minus keys. This key changes to say "Numeric Value" for some entries. Memory entries and some other entries do this on page 2 and page 3 of the SETUP program.

PAGE: Pressing either PgUp or PgDn switches to another page of the SETUP program. To use the Page Keys you have to hold down the Fn key at the same time (lower left corner of the keyboard).

F1: When you press this key a window pops up with help information about the entry on the screen that is currently highlighted. Highlight then entry you have a question about before you press the key.

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Standard System Parameters

System Time: 20:51:50  
System Date: Oct 14, 1991  
  
Diskette A: 3.5: 1.44 MB  
Diskette B: Not Installed  
Hard Disk 1: Type 2  
Hard Disk 2: Installed  
Base Memory: 640 KB  
Extended Memory: Not Installed  
Video Card: VGA/EGA  
keyboard: Installed  
CPU Speed: Fast

|                   |                                     |
|-------------------|-------------------------------------|
| **Exiting SETUP** |                                     |
| ESC               | Continue with SETUP.                |
| F4                | Save values, exit SETUP, and reboot |
| F5                | Load default values for all pages.  |
| F6                | Reboot without saving values.       |

The SETUP program has three pages. The first page is for the "Standard System Parameters," the second is for setting up the VLSI82C310 chipsets, and the third page is for entering the power management settings. On the first page there are 15 entries. The correct information about the computer hardware should appear here. IF it is not correct, you must enter the appropriate entries. The correct default settings are as follows.

System Time: [Current Time]  
System Date: [Current Date]  
Base Memory: 640KB  
Extended Memory: 3072KB  
Video Card: VGA/EGA  
Keyboard: Installed  
CPU Speed: Fast  
Diskette A: 3.5", 1.44 MB  
Diskette B: Not Installed  
Hard Disk 1: Refer to Page A-2  
Hard Disk 2: Not Installed  
Video Display: LCD Normal

LCD Contrast: Auto Map  
Font Select: Expanded

Num Lock on at boot: Yes

Standard System Parameters:

The time and date should be the current time and date. If they are not correct, change the settings.

Base and Extended Memory:

The Notebook comes with 4MB system memory divided into base memory and extended memory.

The base memory should be set at 640KB. If the setting is not 640, you should type in 640. You do not need to type the "KB".

The extended memory settings vary with how much memory is installed in the computer. In the basic 4 MB configuration the extended memory setting is 3072KB. You'll note that 640KB base memory does not add up to 2 MB (4096KB). This is because the memory design of PC-compatible computers reserves the 384KB from 640KB to 1024KB for other uses. One of these uses is the BIOS shadow function mentioned in the description on page 2-14.

#### Video Card:

This setting should always be left at VGA/EGA. The Notebook's display runs at VGA resolution. If you connect an external monitor to the computer as described later in the manual, it should also be a VGA or multifrequency monitor with VGA resolution.

#### Keyboard:

This should always be set as installed. If you attach an external keyboard as described later in the manual, the computer automatically detects it and switches it to the external keyboard.

#### CPU Speed:

There are two settings for this; fast and slow. This setting defines what the default CPU operating speed is when you turn on the computer. In most cases you'll prefer the performance of the maximum processing speed. If you need to run the computer at the slower speed, you can always use the CPU key commands described later to temporarily switch to the slower speed.

#### Disk Drives:

The computer does not have a second floppy disk drive so the Diskette B is recorded as "Not Installed."

The floppy drive is a 3.5", 1.44 MB type. The hard drive type is located on the bottom of notebook, just below the rating label.

#### Video Display:

There are three settings for this: LCD (Normal), External CRT, Simulscan. You can choose any one to meet your requirement.

#### LCD Contrast:

There are two settings for this: Max. Contrast and Auto Map. Select Auto Map to make text mode display automatically map 256 colors into 64 shades of grey. Select Max. Contrast to provide the highest contrast level. It makes text vivid.

#### Font Select:

There are two settings for this: Normal Font and Expanded Font. Select Normal to use the normal font; select Expanded to use the expanded font.

#### Password:

This option provides the password setting for the system security. You

can leave it set to "Disabled" to choose not to need to key in a password while booting or entering the SETUP-Utility, or enter a password at less than 7 characters directly on this entry to protect your Notebook PC from unauthorized users.

When a password is set, the system locks up if you fail the password request 3 times when booting or entering the SETUP-Utility.

Pressing the backspace until "Disabled" appears to clear your password.

NumLock On At Boot:

This is used to select whether the embedded numeric keypad is selected when the system boots.

Check all settings on Page 1 and make sure the correct information is entered. When you're all set, you can go on to Page 2 as described below.

Setup Program Page 2

To access Page 2 of the SETUP program press the Fn and PgDn keys at the same time.

The default value on Page 2 of BIOS SETUP program screen.

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\*\* VLSI SCAMP Chip Set Feature Control \*\*

|                       |          |                  |          |
|-----------------------|----------|------------------|----------|
| Shadow BIOS ROM:      | Enabled  | Enabled EMS:     | Disabled |
| Shadow 16K at C0000h: | Disabled | EMS Memory Size: | 512 KB   |
| Shadow 16K at C4000h: | Disabled | Use RSVD Memory: | Disabled |
| Shadow 16K at C8000h: | Disabled |                  |          |
| Shadow 16K at CC000h: | Disabled |                  |          |
| Shadow 16K at D0000h: | Disabled |                  |          |
| Shadow 16K at D4000h: | Disabled |                  |          |
| Shadow 16K at D8000h: | Disabled |                  |          |
| Shadow 16K at DC000h: | Disabled |                  |          |

Chip Set Feature Control:

Shadow BIOS ROM & External ROMs:

The computer has some information permanently stored in a type of computer chip called a ROM (read Only Memory) chip. Among other things this is where the SETUP program is stored. It also contains a very basic level of software called the BIOS (Basic Input Output System) which the computer makes reference to while operating. Shadowing is the process of copying the contents from the ROMs to the reserved 384KB of system memory within the 640KB to 1MB range. The advantage of this procedure is that DRAM access time is typically much faster than ROM access time.

This setting should be set to Enabled if you want to speed up system BIOS operation, or improve video performance.

The other addresses listed in the left column can be left disabled. Each entry shadows 16KB in the reserved system memory area. You can enable all of these without any ill effect. You might not want to do this however, since leaving these disabled allows you to recover the unused reserved memory by using any of a number of programs designed for this purpose.

#### I/O Feature Control:

##### COM A & COM B:

This entry lets you disable/enable each serial communication device.

##### COM A/ COM B:

This entry lets you select which ports are connected to the two serial communications devices. The options are the serial port, the built-in trackball, and an internal modem, if installed. Pressing the space bar switches between the options.

##### Parallel Port:

This entry lets you disable/enable the default parallel communications device (LPT1).

#### Setup Program Page 3:

The BIOS Setup Program Page 3.

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\*\* Miser (tm) Power Management \*\*

|                             |                    |
|-----------------------------|--------------------|
| Power Management Features:  | Enabled            |
| Hard Drive Power Save Mode: | 1 min              |
| Doze Mode:                  | 4 sec              |
| Sleep Mode:                 | 1 min              |
| COM1/COM2:                  | Tracking Ball/COM2 |
| Internal Printer Port:      | LPT1 (378H)        |

Battery Low Warning: Beep

#### Global Power Management Feature:

These entries control the power saving features of the Notebook. If you intend to operate the computer on battery power, you should enable the "Power Management Features" entry and set the Doze Mode, Standby Mode, and Suspend Mode timers properly. If an AC power source is used, all features are disabled. If an AC power source is used, all Global Power Management features are disabled.

The timer values you select for the Doze, Standby, and Suspend modes affect each other. For example if you select 5 seconds, 4 minutes, and 6 minutes respectively, Doze mode takes effect after the system has been idle for 5 seconds. Standby mode takes effect 4 minutes after Doze mode

and Suspend mode takes effect 6 minutes after Doze mode.

If any mode is disabled, all modes that would normally follow that mode are also disabled, even if they have values selected. For example, if you set Doze mode to 5 seconds, disable Standby mode, and set Suspend mode takes effect 6 minutes after Doze mode.

#### Doze Mode:

This entry can be set from a maximum of 14 seconds to a Minimum of 0.1 second. If the system is idle for longer than the preset time, the power management feature automatically slows down the system clock. This action saves considerable power consumption.

#### Standby Mode:

Standby Mode is the medium power saving mode. The system supports a timer to count system idle time for Standby Mode operation. You can enable this entry by setting a timeout period ranging from 1 to 15 minutes. When the time expires, the power management system puts the system into a Standby Mode - all the peripheral are turned off and the system clock is decreased.

#### Suspend Mode:

Suspend Mode is the maximum power saving mode. You can enable this entry by setting a timeout period ranging from 2 minutes to 30 minutes in 2 minute increments.

After the timer times out or the S/R button is pressed, the power management unit can place the system in the suspend mode. It eliminates all power usage except the required minimum power to retain the state of the system before entering the suspend mode.

Only four activities can wake up the system, two of them are pressing the S/R button and connecting to AC power. The others are described as follows:

#### Modem Ring Resume:

This entry resumes the suspended system when the modem rings.

#### Alarm Resume:

If you want the system to resume operation from suspend mode at a specific time, enable this option and enter the time (in 24 hour format).

#### Battery Low Warning:

This entry controls warning beeps when the battery power becomes low.

#### Local Power Management:

This entry controls the local device power saving features that are independent of Global Power Management. these two features operate even if you use AC power.

Video Power Save Mode:

This value (1-15 minutes) determines when the display and backlight turn off.

Hard Disk Power Save Mode:

This major power of a Hard Disk is consumed on the spin-motor and the controller. If the time setting of this entry expires, the Hard Disk enters into the Standby mode. Whenever any access to the hard disk occurs, the hard disk automatically spins up.

Confirming The Setup:

After you confirm the setup information is correct, you must record the changes. To do this, press the Esc key. A window pops up explaining the exit choices. Press F4 to record the current values or press F6 if you do not want to make any changes. The computer restarts.

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