Chapter 3: BIOS Utilities

This chapter provides information regarding the Power On Self Test (POST) and shows you how to use the System Configure Utility (SCU) to configure the system parameters. The settings made in BIOS SCU will affect the performance of the notebook.

Power on Self Test (POST)
System Configuration Utilities
Features of the SCU
- Startup Menu
- Memory Menu
- Disks Menu
- Components Menu
- Power Menu
- Exit Menu

Power on Self Test (POST)

The system BIOS (Basic Input/Output System) performs a series of Power On Self Test (POST) on system memory and key computer components every time the computer is turned on. If an error exists, the POST routine may halt execution (depending on the problem). If no error exists, the POST will initializes BIOS configuration, then boots the operating system

Post Message: Normal Operation

```
SystemSoft BIOS MobilePRO BIOS Version 1.01 (2482-00)-(R2.09)
Copyright 1983-1996 SystemSoft Corp. All Rights Reserved


450 MHz Pentium III with MMX CPU
L2 Cache: 256KB Installed
8 MB Video RAM
SystemSoft Plug-n-Play BIOS ver1.17.01


Base Memory          000640 Kb
Extended Memory      130048 Kb
Total Memory          131072 Kb


Auto Detecting IDE Devices[Done]
<CTRL-ALT-S> to enter System Configuration Utility
```

Note:

You may press the Spacebar key to skip the memory test.

POST Message: Error Detected

If an error is detected, you will see the following WARNING message. You may press F1 key to continue, or press the Ctrl-Alt-S keys simultaneously to enter the System Configuration Utility.

```
SystemSoft BIOS MobilePRO BIOS Version 1.01 (2482-00)-(R2.09)
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450 MHz Pentium III with MMX CPU
L2 Cache: 256KB Installed
8 MB Video RAM
SystemSoft Plug-n-Play BIOS ver1.17.01

Base Memory          000640 Kb
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Total Memory          131072 Kb

WARNING – HARD DISK CONTROLLER 1 FAILURE
Auto Detecting IDE Devices[Done]


<CTRL-ALT-S> to enter System Configuration Utility
Press F1 to Continue
```

System Configuration Utility

The System Configuration Utility (SCU) is a ROM-based configuration utility that displays the system's configuration status and provides users with a tool to set their system parameters. The settings are stored in non-volatile battery-backed CMOS RAM which saves the information even when the power is turned off, and retains it when the system is turned back on.

Information in the System Configuration Utility

The following shows the main menu and its submenu that may be changed within the System Configuration Utility.

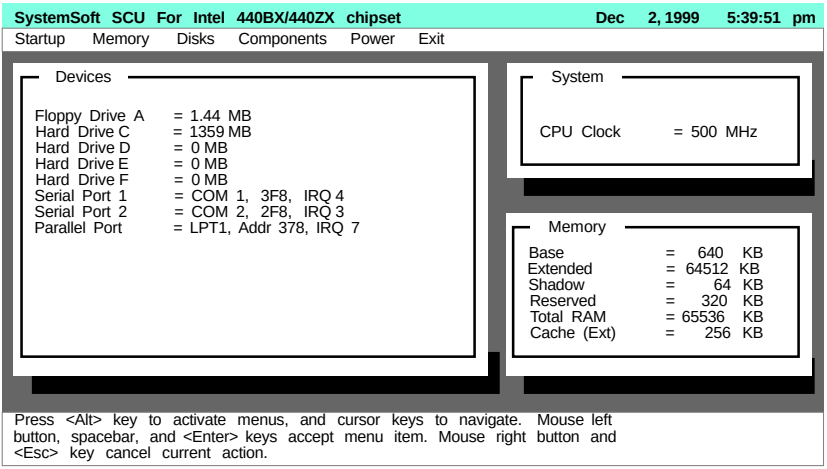
Menu Bar Items	Pull-down Menu Items
Startup	Date and Time, Fast Boot, Boot Device, Display, Enable Battery Low Beep, Enable LCD expand Mode, Enable Power On Beep, Enable PNP OS Support, Boot Password, SCU Password.
Memory	Cache Systems.
Disks	Diskette Drives, IDE Settings, Enable LS120 Drive.
Components	COM Ports, LPT Port, PS/2 Mouse Port, Keyboard Numlock, Keyboard Repeat
Power	Enable Power Saving, Low Power Saving, Medium Power Saving, High Power Saving, Customize, Suspend Controls, Resume Timer, Enable MODEM Ring Resume, Enable Battery Low Suspend.
Exit	Save and Exit, Exit (No Save), Default Settings, Restore Settings, Version Info.

Initiating the System Configuration Utility

The System Configuration Utility (SCU) will be accessed when pressing the Ctrl, Alt, and S keys simultaneously.

Press <CTRL-ALT-S> to enter System Configuration Utility

The above message only lasts seconds. If you miss it, the computer will initiate the boot process. You must reboot the system and try again within the time limit if you want to enter the System Configuration Utility.



Working with the Menu Bar

After entering the SCU, you may use the following keys to work with the menu bar (main menu).

Action	Keys Used	Description
Activate menus	Alt	Activate the System Configuration Utility.
Select menu bar item	Left arrow (←) Right arrow (→)	Move to a menu bar item on the left. Move to a menu bar item on the right.
	The highlighted letter key	Move to the corresponding menu bar item.
Accept menu item	Mouse left button Spacebar Enter	Enter the selected menu bar item to configure settings.
Cancel current action	Mouse right button Esc	Undo the current command.

Working with the Pull-down Menu (Submenu)

When the desired menu bar (main menu) item is highlighted, press the Enter key to enter the pull-down menu (submenu) for values setting. You may use the following keys to work with the pull-down menu.

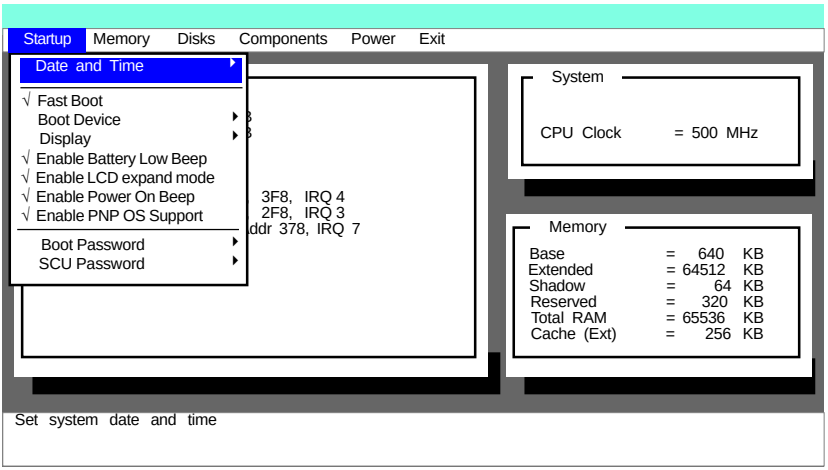
Action	Keys Used	Description
Select pull-down menu item	Down arrow (↓) Up arrow (↑)	Move to the next pull-down menu item. Move to the previous pull-down menu item.
	The highlighted letter key	Move to the corresponding pull-down menu item.
Select a control	Tab	Move between the options.
Change values	Down/Up arrows (↓)(↑)	Modify the settings.
Accept entries	Spacebar	Enable/disable the specified function. When a check mark (√) appears, the function is on.
	Enter	Choose <OK> from a list of options.
Reject entries	Esc	Undo the current setting.
	Enter	Choose <Cancel> from a list of options.
Activate accelerators	Alt	Initiate all the highlighted letters corresponding to their respective options.
Quit	Esc	Press the Esc key to close the pull-down menu.

Features of the SCU

Startup Menu

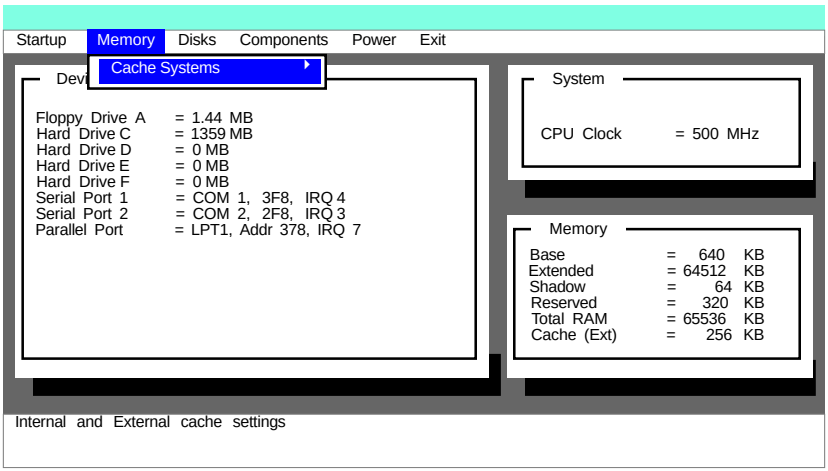
Item	Setting/Option		Function
Date and Time	Day/Month/Year Hour/Minute/Second		Set the current date and time.
Fast Boot	Enable		Initialize and quickly boot the system in a few seconds by skipping certain diagnostic tests.
	Disable		Disable the above.
Boot Device	1st Boot device	Hard Disk C	Select one of these drives as 1st choice for the BIOS for booting the system.
		CD-ROM Drive	
		Diskette A	
	2nd Boot Device	Hard Disk C	Select one of these drives as 2nd choice for the BIOS for booting the system.
		CD-ROM Drive	
		Diskette A	
	3rd Boot Device	Hard Disk C	Select one of these drives as 3rd choice for the BIOS for booting the system.
		CD-ROM Drive	
		Diskette A	
Display	LCD		Activate the system's LCD panel.
	CRT		Activate an external monitor
	LCD+CRT		Activate both the LCD and the CRT.
Enable Battery Low Beep	Enable		The system emits a series of warning beeps sound when the battery power becomes low.
	Disable		Disable the above.
Enable LCD Expand Mode	Enable		Stretch the display to fill the entire viewing area of the LCD panel.
	Disable		Disable the above.

Item	Setting/Option	Function
Enable PNP OS Support	Enable	Enable or disable PNP OS Support.
	Disable	
Enable power on Beep	Enable	The system emits a beep sound when the system power is on.
	Disable	Disable the above.
Boot Password	Enter old Power-On Password	Set password for booting computer. Users are authorized to start the system after entering correct password.
	Enter new Power-On Password	
	Verify new Power-On Password	
	Enable Password to Power-On	
SCU Password	Enter old Setup Password	Set password for modifying SCU. Users are authorized to change the SCU setting after entering correct password.
	Enter new Setup Password	
	Verify new Setup Password	
	Enable Setup Password	



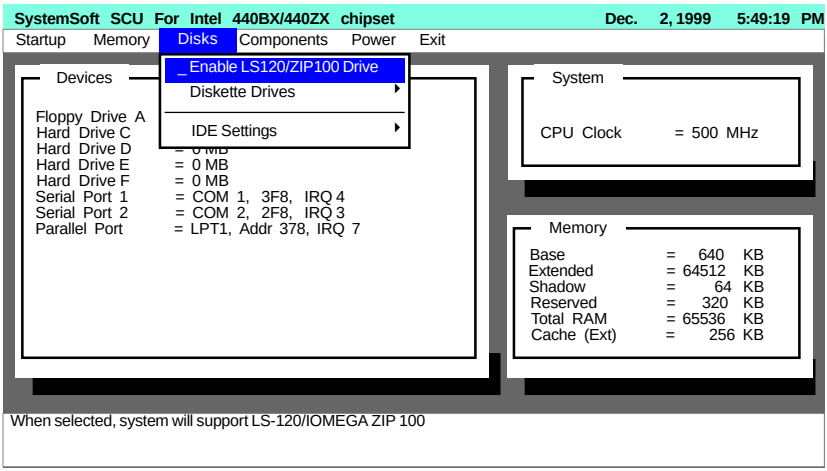
Memory Menu

Item	Setting/Option		Function
Cache Systems	L1 Cache	Disabled	Disable the processor's internal cache.
		Write Back	Enable the write-back policy for L1 memory to access only when necessary to update the cache contents with changes for faster performance.
	L2 Cache	Disabled	Disable the L2 cache controller.
		Write Back	Enable the write-back policy for L2 memory to access only when necessary to update the cache contents with changes for faster performance.
	BIOS Shadow	Cached	The process of shadowing copies instructions from system BIOS into RAM to improve system performance.
		Not Cached	Disable the above.
	Video Shadow	Cached	The process of shadowing copies instructions from video BIOS into RAM to improve system performance.
		Not Cached	Disable the above.



Disks Menu

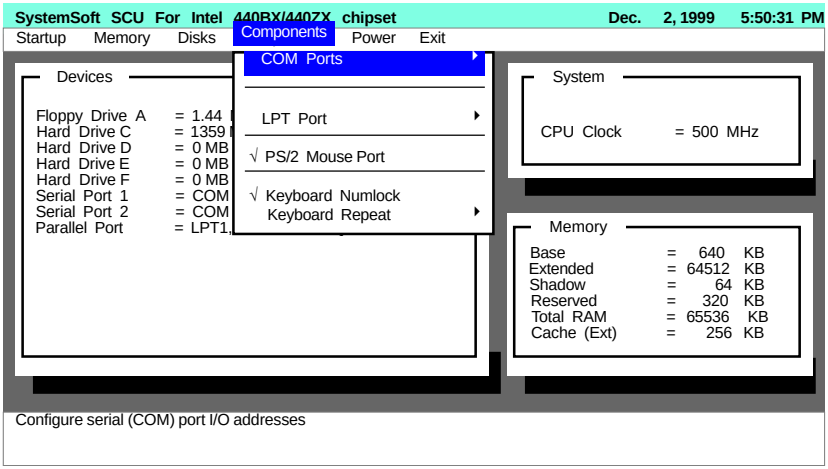
Item	Setting/Option		Function
Enable LS120 Drive	Enable		Enable or disable LS120 support.
	Disable		
Diskette Drives	Drive A	None	Configure diskette drives A.
		1.44 MB	
		2.88 MB	
IDE Settings	Primary HDD	Drive Enabled	Enable enhanced IDE settings. * This model does not support ZIP device.
		PIO Mode	
	CD-ROM/DVD-ROM	Drive Enabled	
		PIO Mode	
	LS120/ZIP/2nd HDD	Drive Enabled	
		PIO Mode	
	HDD UDMA/MDMA Function	Enable ULTRA DMA-33/multiword DMA function.	
	HDD 32Bit I/O	Enable 32 Bit I/O Function	



Components Menu

Item	Setting/Option		Function
COM Ports	COM A I/O Settings	None	Specify the COM A configuration. (COM3 & COM4 only for DOS mode & Non-PnP OS)
		COM1, 3F8, IRQ4	
		COM2, 2F8, IRQ3	
		COM3, 3E8, IRQ10	
		COM4, 2E8, IRQ11	
	COM B I/O Settings	None	Specify the COM B configuration. (COM3 & COM4 only for DOS mode & Non-PnP OS)
		COM1, 3F8, IRQ4	
		COM2, 2F8, IRQ3	
		COM3, 3E8, IRQ10	
		COM4, 2E8, IRQ11	
	Mode Setting For COM B	Normal (16550)	Define the COM B hardware.
		IrDA (HPSIR)	
		ASK IR	
		FAST IR	
	DMA Setting For Fast IR	DMA 0	Set the DMA channel for the Infrared port if FIR mode is used.
		DMA 1	
		DMA 3	
LPT Port	Port Address	None	Select parallel (printer) port I/O address and IRQ assignment.
		LPT1, Addr 378, IRQ7	
		LPT2, Addr 278, IRQ5	
		LPT3, Addr 3BC, IRQ7	
	Port Definition	Standard AT (Centronics)	
		Bidirectional (PS-2)	
		Enhanced Parallel (EPP)	
		Extended Capabilities (ECP)	
	DMA Setting For ECP Mode	DMA 1	Set the DMA channel for the parallel port if the ECP mode is used.
		DMA 3	
	EPP Type	EPP 1.9	Set the current type for EPP.

Item	Setting/Option		Function
PS/2 Mouse Port	Enable		Enable Onboard PS/2 Mouse Port.
	Disable		Disable the PS/2 mouse if IRQ resource is not enough.
Keyboard Numlock	Enable		Specify whether Num Lock is on or off at system boot time.
	Disable		
Keyboard Repeat	Key Repeat Rate	2 cps	Define the rate (characters per second) at which the keyboard repeats while a key is depressed.
		6 cps	
		10 cps	
		15 cps	
		20 cps	
		30 cps	
	Key Delay	¼ sec	The repeat key feature will be delayed by the selected time value.
		½ sec	
		¾ sec	
		1 sec	

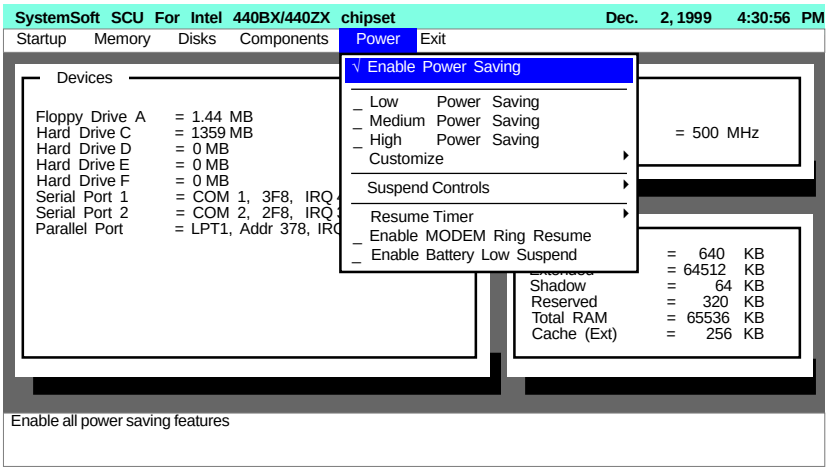

SystemSoft SCU For Intel 440BX/440ZX chipset
Dec. 2, 1999 5:50:31 PM
Startup Memory Disks Components Power Exit
Devices
Floppy Drive A = 1.44
Hard Drive C = 1359
Hard Drive D = 0 MB
Hard Drive E = 0 MB
Hard Drive F = 0 MB
Serial Port 1 = COM
Serial Port 2 = COM
Parallel Port = LPT1
COM Ports
LPT Port
√ PS/2 Mouse Port
√ Keyboard Numlock
Keyboard Repeat
System
CPU Clock = 500 MHz
Memory
Base = 640 KB
Extended = 64512 KB
Shadow = 64 KB
Reserved = 320 KB
Total RAM = 65536 KB
Cache (Ext) = 256 KB
Configure serial (COM) port I/O addresses

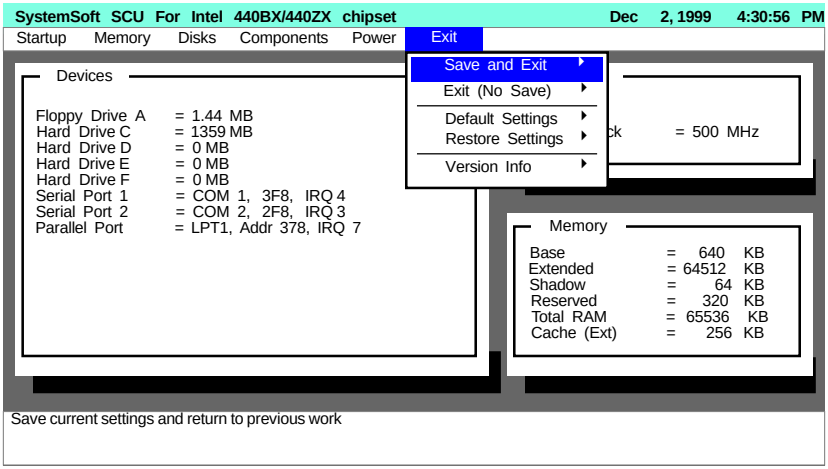
Power Menu

Item	Setting/Option		Function
Enable Power Saving	Enable		Enable/Disable all power saving features.
	Disable		
Low Power Saving	Enable		Enable/Disable the power saving to its lowest settings which results in max performance but shortest battery life.
	Disable		
Medium Power Saving	Enable		Enable/Disable the power saving to its medium settings which results in both moderate performance and battery life.
	Disable		
High Power Saving	Enable		Enable/Disable the power saving to its highest setting which results in min. performance but longest battery life.
	Disable		
Customize	Disk Standby	Always on	The hard disk will be powered down if it is not accessed within the specified period. Hard disk power will be restored when the disk drive is accessed again.
		5 sec	
		10 sec	
		20 sec	
		30 sec	
		1 min	
		5 min	
		10 min	
	Global Standby	Always on	The system power will be reduced if the system has been idle for the specified period. System power will be restored when any system activity is detected.
		1 min	
		2 min	
		4 min	
		6 min	
		8 min	
		12 min	
		16 min	

Item	Setting/Option		Function
Suspend Controls	Power Button Function	Power On/Off	The power button is switched to turn the system on or off.
		Suspend/Resume	The power button acts as a suspend/resume button for switching the system between a working state and the suspend mode.
			Pressing the power button for more than four seconds will generate a power button over-ride event to switch the system from a working state to the Soft-Off state.
	Suspend Type	Suspend To Disk	Specify the type of hardware suspend mode for power management.
		Suspend To RAM	
		Powered On Suspend	
	Suspend Timeout	Never	If the system has been idle for the specified period, the system will enter user-defined suspend.
		1 min	
		5 min	
		10 min	
		20 min	
		30 min	
Resume Timer	Alarm Resume	Enable	Resume the system from the configured suspend mode when resume alarm timer expires.
		Disable	
	Resume Month/Day/Hour/Minute		The system will resume at the specified time (month, day, hour and minute).

Item	Setting/Option	Function
Enable MODEM Ring Resume	Enable	Resume the system from suspend mode when a modem ring is detected.
	Disable	Disable the above.
Enable Battery Low Suspend	Enable	Enable suspend to disk on a low battery condition.
	Disable	Disable the above.



Exit Menu

Item	Function
Save and Exit	Save the current settings and reboot the system.
Exit (No Save)	Exit without saving any current changes.
Default Settings	Set the current setup to default settings (the original ones found in ROM).
Restore Settings	Restore the current setup settings to the original custom ones.
Version Info	Show current BIOS version information.