

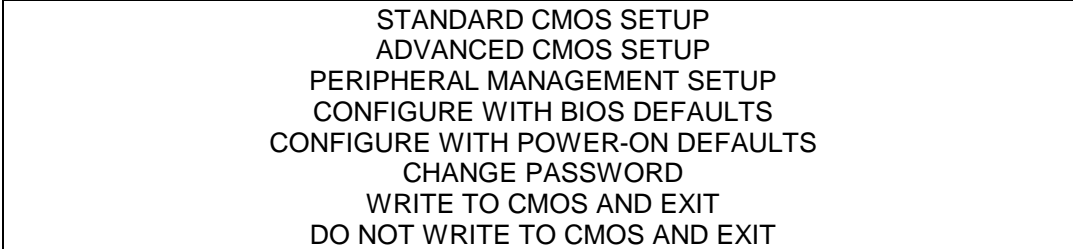
# Premiere/PCI LPX Low Profile AMIBIOS Setup, Error Codes & Upgrades

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## **ENTERING THE SETUP PROGRAM**

Press and hold the <DEL> or <F1> key during the power-up sequence. Figure C-1 shows the first screen.



The image shows a text-based menu for the BIOS setup program. The menu items are listed vertically and centered on the screen:

- STANDARD CMOS SETUP
- ADVANCED CMOS SETUP
- PERIPHERAL MANAGEMENT SETUP
- CONFIGURE WITH BIOS DEFAULTS
- CONFIGURE WITH POWER-ON DEFAULTS
- CHANGE PASSWORD
- WRITE TO CMOS AND EXIT
- DO NOT WRITE TO CMOS AND EXIT

Figure C-1. Opening Screen on Entering Setup Program

## **OVERVIEW OF SELECTIONS**

### *STANDARD CMOS SETUP*

Allows the user to modify basic options, such as time, date, floppies, hard drives and keyboard.

### *ADVANCED CMOS SETUP*

Allows the user to modify more advanced features, including enabling or disabling parity checking, cache, numlock, shadowing, IDE DMA transfer modes, ISA interrupts, and ISA linear frame buffer.

### *PERIPHERAL MANAGEMENT SETUP*

Allows the user to modify the peripheral options associated with the SMC37C665 I/O controller, including serial and parallel port addresses.

### *CONFIGURE WITH BIOS DEFAULTS*

Reloads CMOS with default values from the ROM table.

### *CONFIGURE WITH POWER-ON DEFAULTS*

Reloads CMOS with power-up values.

### *CHANGE PASSWORD*

Allows the user to specify a password that will be needed to enter the Setup program or boot DOS. Once the password is specified, it can be changed, deleted or disabled using this utility. To delete or disable the password function, simply enter a carriage return instead of a new password. If the password is forgotten, a jumper on the board can be moved to clear the password.

### *WRITE TO CMOS AND EXIT*

Saves the configuration and any changes made to CMOS.

### *DO NOT WRITE TO CMOS AND EXIT*

Allows the user to exit the setup utility without saving any configuration changes to CMOS.

## STANDARD CMOS SETUP

DATE	Specify the current date
TIME	Specify the current time
Floppy Drive A: Floppy Drive B:	If present, select the size and type If present, select the size and type
Drive C: Type  Drive D: Type Drive E: Type Drive F: Type	There are three choices for configuring an IDE hard drive: <ul style="list-style-type: none"> <li>• Auto Configure; the BIOS automatically senses a hard drive in the system and configures it appropriately</li> <li>• User Type 1; allows the user to explicitly configure the hard drive in the event the hard drive in the system does not support the identify drive command needed to support auto-configuration</li> <li>• User Type 2; Same as user type 1</li> </ul> Support for multiple IDE drives. Same options as Drive C: Support for multiple IDE drives. Same options as Drive C: Support for multiple IDE drives. Same options as Drive C:
Drive C: Timeout  Drive D: Timeout Drive E: Timeout Drive F: Timeout	Timeout specification for the IDE auto-configuration. If the drive does not auto-configure in this amount of time, there will be an error message. Default is 5 seconds. Choices are 0, 5, 15, and 31 seconds. Same as the Drive C: Timeout description Same as the Drive C: Timeout description Same as the Drive C: Timeout description
Keyboard	Installed or Not Installed. Default is Installed.
Base Memory Extended Memory	Reports the amount of base memory. There are no options. Reports the amount of extended memory. There are no options.

## ADVANCED CMOS SETUP

Typematic Rate Programming	Enabled or Disabled. Default is disabled. When enabled, the following two typematic options are valid.
Typematic Rate Delay (msec.)	250, 500, 750 or 1000 millisecond delay. Default is 500. Determines how long it takes for the auto-repeat function to start when a person is holding down a key on the keyboard.
Typematic Rate (Chars/sec)	6, 30, 24, 20, 15, 12, 10 or 8 characters/second. Default is 15. Determines the speed at which characters repeat when you hold down a key on the keyboard. The higher the number, the faster the repeat.
Hit <F1> Message Display	Enabled or Disabled. Default is disabled. If enabled, the message "Hit <F1> to Enter Setup" appears on the screen during the power up sequence.
System Boot Up Num Lock	On or Off. Default is on, reflecting the state of the "Num Lock" keyboard feature when the system boots.
System Boot Up Sequence	Drive A: before C:, Drive C: before A:, or Drive C: Only. Default is to check Drive A: before C: for an operating system, which allows the user to boot from a floppy if necessary.
System Boot Up CPU Speed	High or Low. Default is High. If high is selected, boot up will occur at full speed. If low is selected, the board is put into de-turbo mode, which results in slower operation.
Cache Memory	Enabled or Disabled. Default is enabled. Both the L1 and L2 cache are enabled or disabled by this selection.
Network Password Checking	Enabled or Disabled. Default is disabled. If enabled, the user is prompted for a password when trying to connect to a network.
ISA Linear Frame Buffer	Disabled, 1 MB, 2 MB, or 4 MB. Default is disabled. The linear frame buffer is primarily for ISA video cards. If enabled, improvement may be noted in performance of ISA video cards using the linear frame buffer. It also provides a means to access memory located on the ISA bus immediately below 16MB.

## ADVANCED CMOS SETUP (CONTINUED)

Set Linear Frame Address to	Displayed automatically when you enable the ISA linear frame buffer; otherwise becomes N/A.
Disable Shadow Memory Size	Enabled or Disabled. Default is disabled. This selection is tied to the next selection "Disable Shadow Memory Base". If the shadow memory base is set to either C0000H or D0000H, then you can select a shadow memory size of either 16, 32, 48, or 64 KBytes.
Disable Shadow Memory Base	Allows the user to alter where non-shadowed memory is located. The choices are either in the C0000H or D0000H range. There are several options within each range. For example, within the C0000H range you can choose C0000H, C4000H, C8000H, or CC000H. This setting affects the previous menu selection. Once you have made your selection in this menu your choices in the previous menu "Disable Shadow Memory Size" may be altered. The maximum size of the shadow memory is 64KB. You can only achieve 64 KB if you specify the Shadow Memory Base to be at C0000H or D0000H. As you select the other shadow memory base options, you will notice that the shadow memory size begins to get smaller.
Base Memory Size	640/512. Default is 640KB. Provides a means to disable on-board DRAM to access memory locations from 80000-9FFFFH on the ISA bus.
IDE DMA Transfer Mode	Default is disabled. When enabled, the user can choose from 3 different types of IDE DMA transfers: Standard (compatible), Type B, or Type F. Type F is the fastest DMA transfer mode.
IDE Multiple Sector Mode	Default is disabled and this selection is tied to the previous selection (IDE DMA Transfer Mode). When enabled, choices are 1, 2, 4, 8, 16, 32, or 64 sectors per burst (S/B). This setting programs the IDE DMA cycles to transfer multiple sectors per burst. A setting of 64 S/B assures the maximum burst size supported by the drive that is installed in the system.
Enhanced ISA Timing	Enabled or Disabled. Default is disabled. When enabled, the ISA bus will run at 10 MHz. This results in faster system performance if the ISA agents in the system can tolerate 10 MHz (instead of the standard 8 MHz).
ISA IRQ 9	Free or Used. If an ISA agent in the system uses this interrupt, it must be specified here as used. The PCI auto-configuration code checks this entry and may attempt to use the interrupt if it is free.
ISA IRQ 10	Free or Used. If an ISA agent in the system uses this interrupt, it must be specified here as used. The PCI auto-configuration code checks this entry and may attempt to use the interrupt if it is free.
ISA IRQ 11	Free or Used. If an ISA agent in the system uses this interrupt, it must be specified here as used. The PCI auto-configuration code checks this entry and may attempt to use the interrupt if it is free.

## PERIPHERAL MANAGEMENT SETUP

Programming option	Auto or Manual. Default is Auto, meaning that the peripherals controlled by the SMC665 I/O component are automatically configured during power up. If Auto is selected, the following menu options have no effect. If Manual is selected, settings must be entered for all of the following peripherals.
On-Board Floppy Drive	Enabled or disabled.
On-Board IDE drive	Enabled or disabled.
First Serial Port Address	Disabled, 2E8H, 3E8H, 2F8H, or 3F8H. The address is automatically set in auto programming mode, although this entry will show "disabled"
Second Serial Port Address	Disabled, 2E8H, 3E8H, 2F8H, or 3F8H. The address is automatically set in auto programming mode, although this entry will show "disabled"
Parallel Port Address	Disabled, 278H, 378H, or 3BCH. The address is automatically set in auto programming mode, although this entry will show "disabled"
IRQ active State	High or low. Default is High.
Parallel Port Mode	Normal or Extended. Default is normal. Extended enables the port for bi-directional operation.

# AMIBIOS Error messages and Beep Codes

Errors can occur during the POST (Power On Self Test), which is performed every time the system is powered on. Fatal errors, which prevent the system from continuing the boot process, are communicated through a series of audible beeps. Other errors are displayed in the following format:

ERROR Message Line 1

ERROR Message Line 2

For most displayed error messages, there is only one message. If a second message appears, it is "RUN SETUP". If this message occurs, press <F1> to run AMIBIOS Setup.

## BEEP CODES

<i>Beeps</i>	<i>Error Message</i>	<i>Description</i>
1	Refresh Failure	The memory refresh circuitry on the motherboard is faulty.
2	Parity Error	Parity error in the first 64 KB of memory.
3	Base 64 KB Memory Failure	Memory failure in the first 64 KB.
4	Timer Not Operational	Memory failure in the first 64 KB of memory, or Timer 1 on the motherboard is not functioning.
5	Processor Error	The CPU on the motherboard generated an error.
6	8042 - Gate A20 Failure	The keyboard controller (8042) may be bad. The BIOS cannot switch to protected mode.
7	Processor Exception Interrupt Error	The CPU generated an exception interrupt.
8	Display Memory Read/Write Error	The system video adapter is either missing or its memory is faulty. This is not a fatal error.
9	ROM Checksum Error	ROM checksum value does not match the value encoded in BIOS.
10	CMOS Shutdown Register Rd/Wrt Error	The shutdown register for CMOS RAM failed.
11	Cache Error / External Cache Bad	The external cache is faulty.

## ERROR MESSAGES

<i>Error Message</i>	<i>Explanation</i>
8042 Gate - A20 Error	Gate A20 on the keyboard controller (8042) is not working. Replace the 8042.
Address Line Short!	Error in the address decoding circuitry on the motherboard.
Cache Memory Bad, Do Not Enable Cache!	Cache memory is defective. Replace it.
CH-2 Timer Error	Most AT systems include two timers. There is an error in timer 2.
CMOS Battery State Low	CMOS RAM is powered by a battery. The battery power is low. Replace the battery.
CMOS Checksum Failure	After CMOS RAM values are saved, a checksum value is generated for error checking. The previous value is different from the current value. Run AMIBIOS Setup.
CMOS System Options Not Set	The values stored in CMOS RAM are either corrupt or nonexistent. Run Setup.
CMOS Display Type Mismatch	The video type in CMOS RAM does not match the type detected by the BIOS. Run AMIBIOS Setup.
CMOS Memory Size Mismatch	The amount of memory on the motherboard is different than the amount in CMOS RAM. Run AMIBIOS Setup.

## ERROR MESSAGES (CONTINUED)

CMOS Time and Date Not Set	Run Standard CMOS Setup to set the date and time in CMOS RAM.
Diskette Boot Failure	The boot disk in floppy drive A: is corrupt. It cannot be used to boot the system. Use another boot disk and follow the screen instructions.
Display Switch Not Proper	Some systems require a video switch on the motherboard be set to either color or monochrome. Turn the system off, set the switch, then power on.
DMA Error	Error in the DMA controller.
DMA #1 Error	Error in the first DMA channel.
DMA #2 Error	Error in the second DMA channel.
FDD Controller Failure	The BIOS cannot communicate with the floppy disk drive controller. Check all appropriate connections after the system is powered down.
HDD Controller Failure	The BIOS cannot communicate with the hard disk drive controller. Check all appropriate connections after the system is powered down.
INTR #1 Error	Interrupt channel 1 failed POST.
INTR #2 Error	Interrupt channel 2 failed POST.
Invalid Boot Diskette	The BIOS can read the disk in floppy drive A:, but cannot boot the system. Use another boot disk.
Keyboard Is Locked...Unlock It	Keyboard lock on the system is engaged. The system must be unlocked to continue.
Keyboard Error	There is a timing problem with the keyboard. Set the <i>Keyboard</i> option in Standard CMOS Setup to <i>Not Installed</i> to skip the keyboard POST routines.
KB/Interface Error	There is an error in the keyboard connector.
Off Board Parity Error	Parity error in memory installed in an expansion slot. The format is: OFF BOARD PARITY ERROR ADDR (HEX) = (XXXX) XXXX is the hex address where the error occurred.
On Board Parity Error	Parity error in motherboard memory. The format is: OFF BOARD PARITY ERROR ADDR (HEX) = (XXXX) XXXX is the hex address where the error occurred.
Parity Error ????	Parity error in system memory at an unknown address.

## ISA NMI MESSAGES

<i>ISA NMI Message</i>	<i>Explanation</i>
Memory Parity Error at xxxxx	Memory failed. If the memory location can be determined, it is displayed as xxxxx. If not, the message is <i>Memory Parity Error ????</i> .
I/O Card Parity Error at xxxxx	An expansion card failed. If the address can be determined, it is displayed as xxxxx. If not, the message is <i>I/O Card Parity Error ????</i> .
DMA Bus Time-out	A device has driven the bus signal for more than 7.8 microseconds.

# BIOS Upgrades & Recovery

The Premiere/PCI LPX incorporates the AMIBIOS in a Flash memory component. Flash BIOS allows easy upgrades without the need to replace an EPROM. The upgrade utility fits on a floppy diskette and provides the capability to save, verify, and update the system BIOS. The upgrade utility can be run from a hard drive or a network drive, but no memory managers can be installed during upgrades.

## ***USING THE UPGRADE UTILITY***

If the utility is obtained from the bulletin board, UNZIP the archive and copy the files to a bootable MS-DOS 3.3, 4.01, 5.0, or 6.0 diskette. Reboot the system with the upgrade diskette in the bootable floppy drive and follow the directions in the easy to use menu-driven program.

## ***RECOVERY MODE***

In the unlikely event that a FLASH upgrade is interrupted catastrophically, it is possible the BIOS may be left in an unusable state. Recovering from this condition requires the following steps (be sure a power supply and speaker have been attached to the board, and a floppy drive is connected as drive A:):

1. Change Flash Recovery jumper (RCVR FLASH) to the recovery mode position.
2. Install the bootable upgrade diskette into drive A:
3. Reboot the system.
4. Because of the small amount of code available in the non-erasable boot block area, no video is available to direct the procedure. The procedure can be monitored by listening to the speaker and looking at the floppy drive LED. When the system beeps and the floppy drive LED is lit, the system is copying the recovery code into the FLASH device. As soon as the drive LED goes off, the recovery is complete.
5. Turn the system off.
6. Change the "FLASH RECOVERY" jumper back to the default position.
7. Leave the upgrade floppy in drive A: and turn the system on.
8. Continue with the original upgrade.