

IBM PC Type 6344

User Guide Update

Includes updates for:

- Using BIOS setup configuration features**
- Adding system board components**



First Edition (May 2000)

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About this update

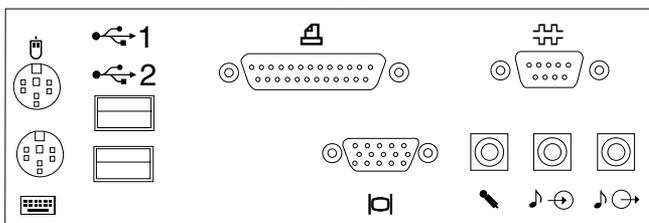
This *User Guide Update* applies only to IBM® PC Type 6344 computers distributed in North America, Central America, and South America. (See “Update Applicability” on page 2 if you are not sure that this update applies to your computer.)

Contents:

Update Applicability	2
Attaching speakers	2
BIOS Setup configuration	2
Starting and using the Configuration/Setup Utility program	3
Viewing and changing settings	4
Exiting from the Configuration/Setup Utility program	5
Using Security Profiles by Device	6
Using passwords	7
Using a power-on password	7
Using an administrator password	8
Other settings in the Configuration/Setup Utility program	10
Changing keyboard speed	10
Setting video memory amount	10
Setting the startup sequence	10
Setting remote administration	11
Interrupt and DMA resources	11
Power management features	12
Quick reference for network-related settings	15
Adding and replacing system board components	18
Identifying system board components	19
Removing the battery	20

Update Applicability

This update applies if the connectors and the connector symbols on the rear of the computer resemble the following figure.



Attaching speakers

Only powered speakers can be used on these models. If speakers were supplied with your computer, follow the instructions that come with the speakers to attach them to your computer. In addition to controlling the speaker volume with the software volume-control program, as described in the *User Guide*, you can also use the volume control available on most powered speakers.

BIOS Setup configuration

The following information replaces the BIOS Setup configuration information in "Chapter 6. BIOS Setup configuration" and elsewhere in your computer *User Guide*.

The Configuration/Setup Utility program is stored in the electrically erasable programmable read-only memory (EEPROM) of your computer.

Using this program, you can view and change the configuration settings of your computer regardless of which operating system you are using. (Note that the settings you select using your operating system might override any similar settings in the Configuration/Setup Utility program.)

Starting and using the Configuration/Setup Utility program

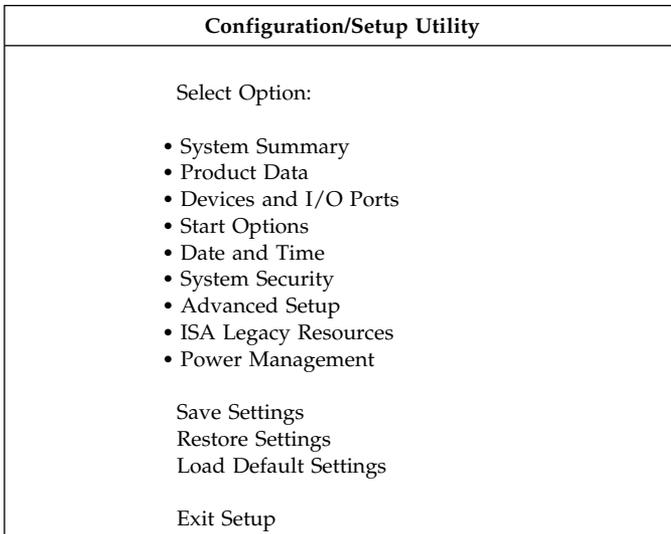
To start the Configuration/Setup Utility program:

1. If your computer is already on when you start this procedure, you must shut down the operating system, turn off the computer, wait a few seconds until all in-use lights go off. (Do not use Ctrl+Alt+Del to restart the computer.)
2. Press and hold F1 while turning on the computer. If you have not set a password, the Configuration/Setup Utility program menu is displayed. If you have set a password, the Configuration/Setup Utility program menu is not displayed until you type your password at the prompt and press Enter.

Note that the Configuration/Setup Utility program is started automatically when a hardware configuration change is detected during POST.

The menu you see on your computer might look slightly different from the menu shown here, but it will operate the same way.

Note the the Configuration/Setup Utility program is started automatically when a hardware configuration change is detected during POST.



Viewing and changing settings

The Configuration/Setup Utility program menu lists items that identify system configuration topics. You might see symbols next to configuration menu items. See the following table for the meaning of the symbols.

Symbol	Explanation
•	An additional menu or screen is available
▶	A change to that item has been made in the system configuration or the Configuration/Setup Utility program has detected an error and attempted to correct it. Also, an additional menu might follow a menu item with a ▶ beside it.
*	A system resource conflict was detected. Resolve this conflict before exiting from the Configuration/Setup Utility program so that your computer will function properly.
[]	In the Configuration/Setup Utility program menus, the configuration information you can change is enclosed in brackets like these. You cannot change information that is not surrounded by brackets.

When working with the Configuration/Setup Utility program menu, you must use the keyboard. Refer to the following table for the keys used to accomplish various tasks.

Keys	Function
↑ ↓	Use these arrow keys to move among menu items until the item you want is highlighted.
← →	Use these arrow keys to display and toggle among choices for a menu item.
Enter	Press this key to select a highlighted menu item.
Esc	Press this key to exit from a menu after viewing or making changes to the settings in the menu.
+	Use this key in some menus to increase the numerical value of a setting.
-	Use this key (the minus or hyphen key) in some menus to decrease the numerical value of a setting.
0-9	Use these number keys in some menus to change the numerical value of a setting.
F1	Press this key for help on a selected menu item.
F9	Press this key if you changed and saved the setting of a selected menu item and you want to restore the setting that was active before you made the change.
F10	Press this key to return the setting of a selected menu item to a default value.

Note: Active keys are displayed at the bottom of each screen; not all of the above keys are active on every menu.

In the Configuration/Setup Utility program menus, the configuration information you can change is enclosed in brackets like these []. You cannot change information that is not surrounded by brackets.

Exiting from the Configuration/Setup Utility program

When you finish viewing or changing settings, press Esc until you return to the Configuration/Setup Utility program menu. Depending on where you are in the program, you might have to press Esc several times to get back to the Configuration/Setup Utility program menu. If you want to save the changes or settings, select Save Settings before you exit. Otherwise, your changes will not be saved.

Using Security Profiles by Device

Setting Security Profiles by Device enables you to control which devices require a password before they start up. You can set three classes of devices to request a password before they will start up:

- Removable media, such as diskette drives and CD-ROM drives
- Hard disk drives
- Network devices

You can set these devices to request a user password, an administrator password, or not require a password at all. This way, if you have a power-on or administrator password set for your system, you can set these devices so that they will not prompt you for a password at start up so that you need only enter your password when your operating system prompts you for its password.

You can set IDE Controller to Enable or Disable to control access to the hard disk. You can set Diskette Drive Access to Enable or Disable to control access to the diskette drive. You can set Diskette Write Protect to Enable or Disable to control writing to your diskette or other removable media drives.

To set Security Profiles by Device:

1. Start the Configuration/Setup Utility program (see “Starting and using the Configuration/Setup Utility program” on page 3).
2. From the Configuration/Setup Utility program menu, select **System Security** and press Enter.
3. Select **Security Profile by Device** and press Enter.
4. Select the desired devices and settings and press Enter.
5. Press Esc twice to return to the Configuration/Setup Utility program menu.
6. Before you exit from the program, select **Save Settings** from the Configuration/Setup Utility program menu.
7. To exit from the Configuration/Setup Utility program, press Esc and follow the instructions on the screen.

Using passwords

You can use passwords to provide security for your computer and data. You can set two kinds of passwords: a power-on password and an administrator password. You do not have to set a password of either type to use your computer. However, if you decide to set one, read the following sections before you do so.

Using a power-on password

The *power-on* password feature deters unauthorized persons from gaining access to your computer.

With a password set, when you enter the password, it does not appear on the screen. If you type the wrong password, you receive a screen message telling you so. When you type the correct password, the keyboard and mouse unlock, and the computer begins normal operation. (If you type the wrong password three times, turn off the computer and start again.)

Setting, changing, and deleting a power-on password

A power-on password can be any combination of up to seven characters (A–Z, a–z, and 0–9).

Attention

Keep a record of your power-on password in a secure place. If you lose or forget your password, you cannot change or delete it without removing the computer cover and moving a jumper on the system board. Refer to “Erasing a lost or forgotten password” on page 9 for further information.

To set, change, or delete a power-on password:

1. Start the Configuration/Setup Utility program (see “Starting and using the Configuration/Setup Utility program” on page 3).
2. From the Configuration/Setup Utility program menu, select **System Security** and press Enter.
3. Select **Power-On Password** and press Enter.
4. To delete a power-on password, select **Delete Power-On Password** and go to step 9 on page 8.
5. To change a power-on password, select **Change Power-On Password** and follow the instructions on the screen.

6. To set a new password, type your new password and press Down Arrow (↓).
7. Type your new password again.
8. Select **Change Power-On Password** and follow the instructions on the screen.
9. Press Esc twice to return to the Configuration/Setup Utility program menu.
10. Before you exit from the program, select **Save Settings** from the Configuration/Setup Utility program menu.
11. To exit from the Configuration/Setup Utility program, press Esc and follow the instructions on the screen.

Using an administrator password

Setting an administrator password deters unauthorized persons from changing configuration settings. If you are responsible for maintaining the settings of several computers, you might want to set an administrator password.

After you set an administrator password, a password prompt appears each time you try to access the Configuration/Setup Utility program. If you type the wrong password, you receive a message telling you so. If you type the wrong password three times in succession, you must turn the computer off and start again.

If both a power-on and administrator password are set, you can type either of the passwords. However, in order to change any settings, you must use your administrator password. If you enter the power-on password, you only will be able to view limited information.

Setting, deleting, or changing an administrator password

An administrator password can be any combination of up to seven characters (A-Z, a-z, and 0-9).

To set, change, or delete an administrator password:

1. Start the Configuration/Setup Utility program (see “Starting and using the Configuration/Setup Utility program” on page 3).
2. From the Configuration/Setup Utility program menu, select **System Security** and press Enter.
3. Select **Administrator Password** and press Enter.
4. To delete an administrator password, select **Delete Administrator Password** and go to step 8 on page 9.

5. To set an administrator password, type your password, press Down Arrow (↓), and type your password again.
6. At **Power-On Password Changeable by User**, select **Yes** or **No**. Press Left Arrow (←) or Right Arrow (→) to toggle between selections. (If you select **Yes** and an administrator password is set, the power-on password can be changed without having to enter the administrator password. If you select **No** and an administrator password is set, the power-on password cannot be changed unless the administrator password is entered.)
7. Select **Change Administrator Password** and follow the instructions on the screen.
8. Press Esc until you return to the Configuration/Setup Utility program menu.
9. Before you exit from the program, select **Save Settings** from the Configuration/Setup Utility program menu.
10. To exit from the Configuration/Setup Utility program, press Esc and follow the instructions on the screen.

Erasing a lost or forgotten password

Important

If possible, record the configuration information of your computer *before* moving the Clear CMOS/Recovery Jumper.

To erase a lost or forgotten password:

1. Turn off the computer and all attached devices.
2. Unplug the power cord.
3. Remove the cover.
4. Locate the Clear CMOS/Recovery Jumper on the system board. (See 19 for location of jumper.)
5. Move the jumper from its normal position (covering pins 1 and 2) to pins 2 and 3.
6. Move the jumper back to its normal position (covering pins 1 and 2).
7. Replace the computer cover, plug in the power cord, and restart the computer.

Your password and other configuration information has been erased from memory. After clearing CMOS memory, you must reconfigure the computer. Use the Configuration/Setup Utility program to reset the date

and time, passwords, and any other configuration information you have changed.

Other settings in the Configuration/Setup Utility program

The information in this section includes instructions for changing some other settings in the Configuration/Setup Utility program. (When in the program, you can select Help to learn more about items within the program.)

Changing keyboard speed

You can change the speed at which the keyboard responds when you hold down a key. This setting can be found under Start Options. The default *typematic rate* is 30 characters per second (fast rate).

Setting video memory amount

You can select the amount of system memory that is reserved for the integrated video. To access this setting, select Devices and I/O Ports, then Video Setup. The amount can be set to either 512 KB or 1 MB. (Operating systems that use SVGA will allocate additional system memory.)

Setting the startup sequence

Your computer can be started from several devices including the hard disk drive, diskette drive, CD-ROM drive, or from the network. The startup program looks for these devices in a selected sequence. You can use Configuration/Setup Utility program to select the startup sequence.

To set the primary startup sequence:

1. Start the Configuration/Setup Utility program (see “Starting and using the Configuration/Setup Utility program” on page 3).
2. Select **Start Options** and press Enter.
3. Select **Startup Sequence** from the Start Options menu and press Enter.
4. Select **First Startup Device** and press Enter.
5. Use the arrow keys to make your selection and press Enter.
6. If necessary, repeat the above steps for **Second Startup Device**, **Third Startup Device**, and **Fourth Startup Device**.

Note: You also can enable or disable the Automatic Power On Startup Sequence feature and set a device sequence, or set a device sequence for the Error Startup Sequence feature from this menu. Select either of these features, then press the F1 key for more on the use of the feature.

7. Press Esc until you return to the Configuration/Setup Utility program menu.
8. Before you exit from the program, select **Save Settings** from the Configuration/Setup Utility program menu and press Enter.
9. To exit from the Configuration/Setup Utility program, press Esc and follow the instructions on the screen.

Setting remote administration

You can remotely update the system programs, such as POST and BIOS, from a network server by enabling remote administration. If you have set an administrator password for your computer, the password does *not* have to be entered in order to remotely update programs. Consult your network administrator for information on setting up your network server to perform POST and BIOS updates.

To set remote administration, follow these steps:

1. Start the Configuration/Setup Utility program. See “Starting and using the Configuration/Setup Utility program” on page 3.
2. Select **System Security** and press Enter.
3. Select **Remote Administration** and press Enter.
4. To enable update remote administration, select **Enabled**. To disable, select **Disabled**. Press Enter.
5. Before you exit from the program, select **Save Settings** from the Configuration/Setup Utility program menu.
6. To exit from the Configuration/Setup Utility program, press Esc and follow the instructions on the screen.

Interrupt and DMA resources

This section lists the settings for the default interrupt and direct memory access (DMA) resources for your computer. The interrupt and DMA settings might change when your computer is reconfigured.

Table 1. Interrupt resources

Interrupt request	System resource
0	Timer
1	Keyboard
2	Interrupt controller
3	Available
4	Serial port A
5	Available
6	Diskette
7	Parallel port
8	Real time clock
9	ACPI
10	Available
11	Available
12	Mouse
13	Coprocessor
14	IDE drives
15	IDE drives

Note: IRQs 4 and 7 can be modified to alternative settings or disabled.

Table 2. DMA Resources

DMA request	System resource
0	Available
1	Available
2	Diskette
3	Parallel port
4	System resource
5	Available
6	Available
7	Available

Power management features

Your computer comes with built-in energy-saving capabilities. You can view and change energy-saving settings using the power management menu in the Configuration/Setup Utility program. This section describes the power management features in your computer and provides instructions for using these features.

Attention

If a device, such as a monitor, does not have power-management capabilities, it can be damaged when exposed to a reduced-power state. Before you make energy-saving selections for your monitor, check the documentation that comes with your monitor to see if it supports Display Power Management Signaling (DPMS).

ACPI BIOS IRQ

Automatic Configuration and Power Interface (ACPI) BIOS IRQ enables the operating system to control the power-management features of your computer. You can use the ACPI BIOS IRQ setting to configure the interrupts that this feature uses so that you can free resources for other devices. Not all operating systems support ACPI BIOS IRQ. Refer to your operating system documentation to determine if ACPI is supported.

Note: Press the computer power-on button to wake up from ACPI suspend mode.

Setting power management features

Important

If you only have USB devices connected, you might not be able to wake the system once it has gone to a low-power state.

With power management, the computer and monitor (if the monitor supports DPMS) can be set to go into a reduced-power state if they are inactive for a specified length of time.

- **Time to Low Power:** When you enable **Automatic Hardware Power Management**, you can use this option to specify the amount of time that the computer must be inactive before power-management features take affect. You can select from 5 minutes to 1 hour.
- **System Power:** With this option, you can select **On** if you want the computer to remain on, or **Off** if you want the computer to shut down.
- **Display:** You can use this option to select one of the following reduced-power states:
 - **Standby:** In this mode, the screen is blanked, but the screen image is restored *immediately* when any activity is detected.
 - **Suspend:** In this mode, the monitor uses less power than in Standby mode. The screen is blanked, but the screen image is restored *within a few seconds* after any activity is detected.
 - **OFF:** In this mode, the monitor power is turned off. To restore power to the monitor, you must press the monitor power switch. On some monitors, you might have to press the power switch twice.

If **OFF** is selected, you must specify the **Time to Display 'off'**. You can select 5 minutes to 1 hour.

Note: *Time to display off* is the amount of time after the reduced-power state begins until the display turns off.

- **Disable:** In this mode, the monitor is unaffected by the power-management settings.
- **IDE Drives:** You can use this selection to specify if the IDE drives should be enabled or disabled when power management options take affect.

To set power-management features:

1. Start the Configuration/Setup Utility program (see “Starting and using the Configuration/Setup Utility program” on page 3).
2. Select **Power Management** and press Enter.
3. Select **APM** and press Enter.
4. Set **Automatic Hardware Power Management** to Enabled.
5. Select values for power management (time to low power, system power, processor speed, display, and time to display off), as desired.
6. Select **Low Power Entry Activity Monitor** or **Low Power Exit Activity Monitor** and press Enter.
7. Set to **Enabled** or **Disabled** devices you want to be monitored for power management.
Note: If all devices are set to disabled, you must restart the computer to wake the system.
8. Press **Esc** three times to return to the Configuration/Setup Utility program menu.
9. Before you exit from the program, select **Save Settings** from the Configuration/Setup Utility program menu.
10. To exit from the Configuration/Setup Utility program, press Esc and follow the instructions on the screen.

Setting automatic power-on features

You can use the Automatic Power-On features on the Power Management menu to enable and disable features that automatically turn on your computer. You must also select the startup sequence you want to use for the type of power-on event selected.

- **Wake on LAN:** If you have remote-network-management software and a Wake on LAN supported network adapter, you can use the IBM-developed Wake on LAN® feature. When you set Wake on LAN to **Enabled**, your computer will turn on when it receives a specific signal from another computer on your local area network (LAN). For more information, see the documentation that comes with your network adapter.

- **Modem Ring Detect:** If your computer has a wake-on-ring supported modem and you want the computer to turn on automatically when a ring is detected on the modem, set this feature to **Enabled**.
- **Wake Up on Alarm:** With this feature, you can specify a date and time at which the computer will be turned on automatically. This can be either a single event, a daily event, or a weekly event.
- **PCI Wake Up:** If this setting is enabled, your computer turns on in response to wake-up requests from PCI devices that support this feature.

To set automatic power-on features, follow these steps:

1. Start the Configuration/Setup Utility program (see “Starting and using the Configuration/Setup Utility program” on page 3).
2. Select **Power Management** and press Enter.
3. Select **Automatic Power On** and press Enter.
4. Select the menu item for the feature you want to set. Use Left Arrow (←) or Right Arrow (→) to select either **Enabled** or **Disabled**. Press Enter.
5. Select Startup Sequence for the feature. Use Left Arrow (←) or Right Arrow (→) to select either **Primary** or **Automatic**. If you select **Automatic**, make sure **Automatic Power On Startup Sequence** in the Startup Sequence menu is set to **enabled**. Otherwise, the system will use the **Primary** startup sequence.
6. Press Esc until you return to the Configuration/Setup Utility program menu.
7. Before you exit from the program, select **Save Settings** from the Configuration/Setup Utility program menu and press Enter.
8. To exit from the Configuration/Setup Utility program, press Esc and follow the instructions on the screen.

Quick reference for network-related settings

Some models come with an Ethernet adapter. The following instructions are guidelines to help you if your computer is using an Ethernet adapter to network with other computers.

The following tables are not intended to help determine which settings to choose. They are intended only to help you quickly find the steps necessary to get to the choices for specific network settings. You can then view the current setting or select a different setting. When finished, you can either save the settings and exit the utility program or exit without saving the settings.

The steps in the following tables always start at the Configuration/Setup Utility program main menu.

<i>Table 3 (Page 1 of 4). Network-related settings</i>		
To configure:	Select:	Comments:
Remote Administration	<ol style="list-style-type: none"> 1. System Security 2. Remote Administration 3. Enabled or Disabled 	Enable Remote Administration to allow POST/BIOS updates over the LAN.
Ethernet adapter	<ol style="list-style-type: none"> 1. Start options 2. Network Setup 3. Network boot F12 option 4. Enabled or Disabled 	
Automatic Power On Startup Sequence	<ol style="list-style-type: none"> 1. Start Options 2. Startup Sequence 3. Automatic Power On Startup Sequence 4. Enabled or Disabled. If you select Enabled, continue to the next step. 5. Select the first, second, third, and fourth startup devices. 	You might not be able to select four startup devices for your model.
Wake on LAN	<ol style="list-style-type: none"> 1. Power Management 2. Automatic Power On 3. PCI Wake Up and press Enter. 4. Enabled or Disabled. If you select Enabled, continue to the next step. 5. Startup Sequence 6. Primary or Automatic. Go back to the main menu. 7. Start Options 8. Startup Sequence 9. The first, second, third, and fourth primary startup devices 10. Automatic Power On Startup Sequence 11. The first, second, third, and fourth startup devices 	You might not be able to select four startup devices for your model.

Table 3 (Page 2 of 4). Network-related settings

To configure:	Select:	Comments:
Wake on PCI	<ol style="list-style-type: none"> 1. Power Management 2. Automatic Power On 3. PCI Wake Up and press Enter. 4. Enabled or Disabled. If you select Enabled, continue to the next step. 5. Startup Sequence 6. Primary or Automatic. Go back to the main menu. 7. Start Options 8. Startup Sequence 9. The first, second, third, and fourth primary startup devices 10. Automatic Power On Startup Sequence 11. The first, second, third, and fourth startup devices 	You might not be able to select four startup devices for your model.
Wake on Alarm	<ol style="list-style-type: none"> 1. Power Management 2. Automatic Power On 3. Wake up on Alarm. 4. Disabled or event parameters (single event, daily event, weekly event). After you select the event, continue to the next step. 5. Alarm parameters 6. Startup Sequence (Primary or Automatic) 7. Start Options 8. Startup Sequence 9. The first, second, third, and fourth primary startup devices 10. Automatic Power On Startup Sequence 11. The first, second, third, and fourth startup devices 	You might not be able to select four startup devices on your model.

Table 3 (Page 3 of 4). Network-related settings

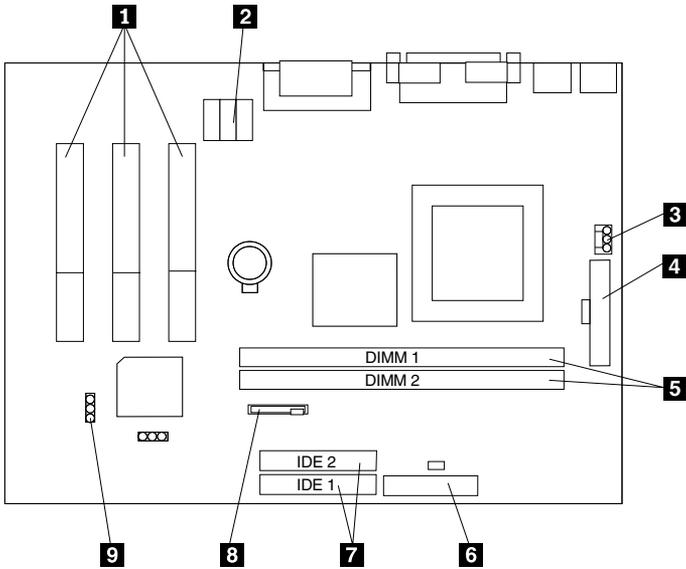
To configure:	Select:	Comments:
Modem Ring Detect	<ol style="list-style-type: none">1. Power Management2. Automatic Power On3. MODEM Ring Detect4. Enabled or Disabled. If you select Enabled, go to the next step.5. Startup Sequence6. Primary or Automatic. Go back to the main menu.7. Start Options8. The first, second, third, and fourth primary startup devices9. Automatic Power On Startup Sequence10. The first, second, third, and fourth startup devices	You might not be able to select four startup devices for your model.

Adding and replacing system board components

Refer to the following information when you add or replace system board components, such as memory connectors, the computer battery or need to locate other components on the system board.

Identifying system board components

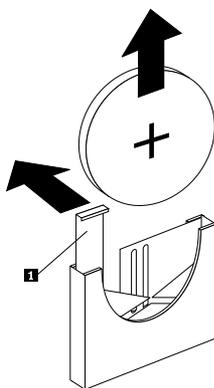
The following figure replaces the figure of the Type 6344 system board in "Chapter 9. Adding and Replacing system board components" of the *User Guide*.



- | | | | |
|----------|-------------------------------|----------|----------------------------|
| 1 | PCI adapter card connectors | 6 | Diskette drive connector |
| 2 | CD-ROM audio signal connector | 7 | IDE connectors |
| 3 | Processor fan power connector | 8 | Battery |
| 4 | Power supply connector | 9 | Clear CMOS/recovery jumper |
| 5 | Memory module sockets | | |

Removing the battery

Before removing the battery, be sure to read the lithium battery notice located in the safety notices section of the *Quick Reference*. To remove the battery from your computer, note the orientation of the battery in the bracket; then, press outward on the metal latch **1** and lift the battery out. Insert a new 3V lithium battery (CR2032) into the bracket. After the battery is replaced, reset the system time and date and any other configuration changes you have made.





Part Number: 06P1884

06P1884

