chapter *4*
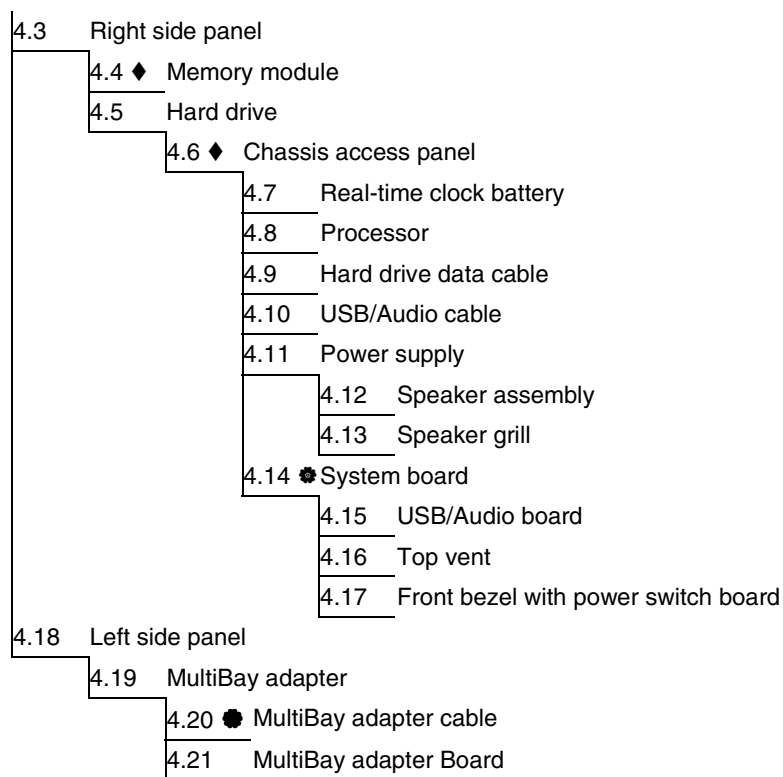
REMOVAL AND REPLACEMENT

4.1   Disassembly Sequence Chart

Use the chart below to determine the disassembly sequence for removing components from the computer.

4.3   Right side panel

    4.4 ♦ Memory module

    4.5   Hard drive

        4.6 ♦ Chassis access panel

            4.7   Real-time clock battery

            4.8   Processor

            4.9   Hard drive data cable

            4.10   USB/Audio cable

            4.11   Power supply

                4.12   Speaker assembly

                4.13   Speaker grill

             4.14 ✿ System board

                4.15   USB/Audio board

                4.16   Top vent

                4.17   Front bezel with power switch board

4.18   Left side panel

    4.19   MultiBay adapter

        4.20 ❂ MultiBay adapter cable

        4.21   MultiBay adapter Board

♦Memory modules must be removed before removing the chassis access panel.

❂System board must be removed before removing the MultiBay adapter cable.

4.2   Disassembly Preparation

See Chapter 3, "Removal and Replacement Preliminaries and Routine Care," for initial procedures.

To prepare the computer for disassembly:

1. Remove any MultiBay device from the computer.

2. Turn off the computer and any peripheral devices that are connected to it.

$\triangle$ **CAUTION:** Turn off the computer before disconnecting any cables.

$\triangle$ **CAUTION:** When the computer is plugged into an AC power source, there is always voltage applied to the system board. You must disconnect the power cord from the power source before opening the computer to prevent system board or component damage.

3. Disconnect the power cord from the electrical outlet and then from the computer.

4. Disconnect all peripheral device cables from the computer.

   During disassembly, label each cable as you remove it, noting its position and routing. Keep all screws with the units removed.

$\triangle$ **CAUTION:** The screws used in the computer are of different thread sizes and lengths; using the wrong screw in a component may damage the unit.

$\triangle$ **CAUTION:** Static electricity can damage the electrical components of the computer or optional equipment. Before beginning these procedures, ensure that you are discharged of static electricity by briefly touching a grounded metal object. For more information, refer to Chapter 3, "Removal and Replacement Preliminaries."

4.3   Right Side Panel

1. Prepare the computer for disassembly (Section 4.2).

2. Press down on the tab on the top of the right side panel (as viewed from the front) and rotate the panel away from the computer.

3. Lift the panel from the two tabs on the bottom wing of the chassis to gain full access to the right side of the computer.
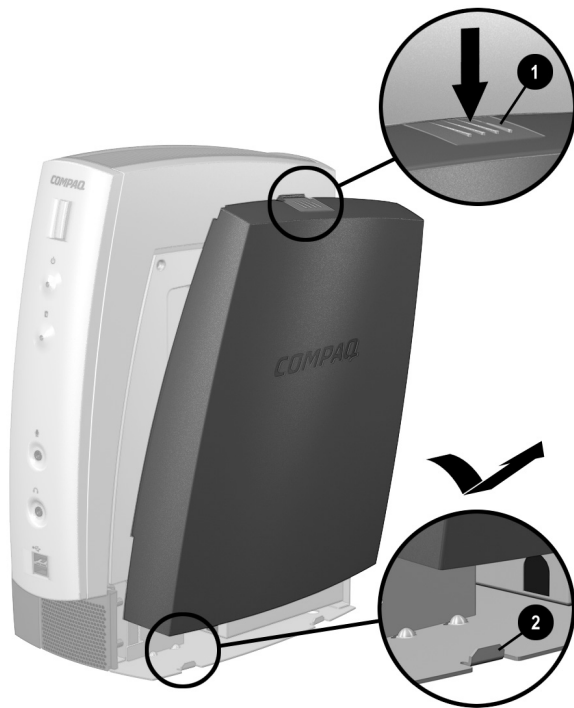
To replace the panel, reverse the previous steps.

4.4   Memory Module

It may be easier to install the memory modules if the computer is laying on its side on a protected surface.

1. Prepare the computer for disassembly (Section 4.2).

2. Remove the right side panel (Section 4.3).

3. Press outward on both latches ❶ of the DIMM socket. The latches are used to secure the DIMM in position and also to eject them from the socket when pressed outward.

   Match the notch on the module with the tab on the memory socket. Push the module down into the socket ❷, ensuring that the module is fully inserted and properly seated ❸ with the latches pushed in.
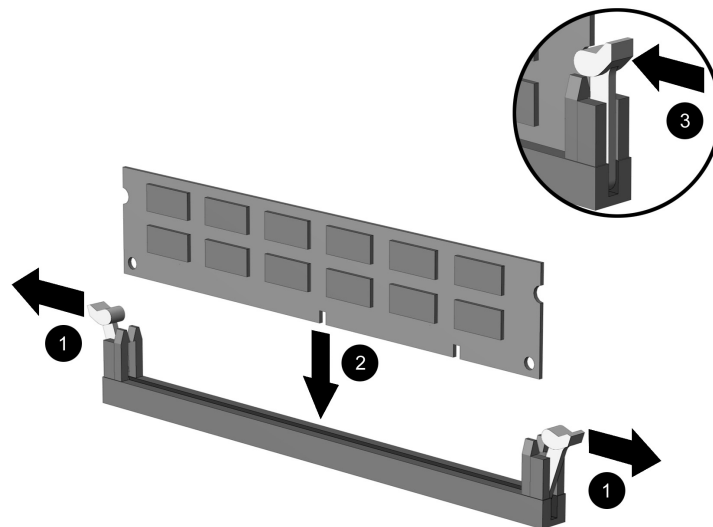
4. Repeat step 3 for any additional modules that you want to install.

5. Reinstall the computer's right access panel.

6. Turn on the computer.

   When a memory module has been removed, moved, or added, Memory Change Alerts, a feature of Intelligent Manageability, alerts the system administrator and end user. The system automatically recognizes the added memory.

4.5　Hard Drive

1. Prepare the computer for disassembly (Section 4.2).

2. Remove the right side panel (Section 4.3).

3. Remove the EMI cover ❶ from the side of the chassis by snapping it out of the chassis slots.

4. Disconnect the flat ribbon data cable ❷ from the hard drive by pulling up on the green tab on the cable end.

5. Disconnect the power cable ❸ from the hard drive by pulling up on the connector.

⚠️ **CAUTION:** Always pull on the connector and not the cables to prevent damaging the cable assembly.
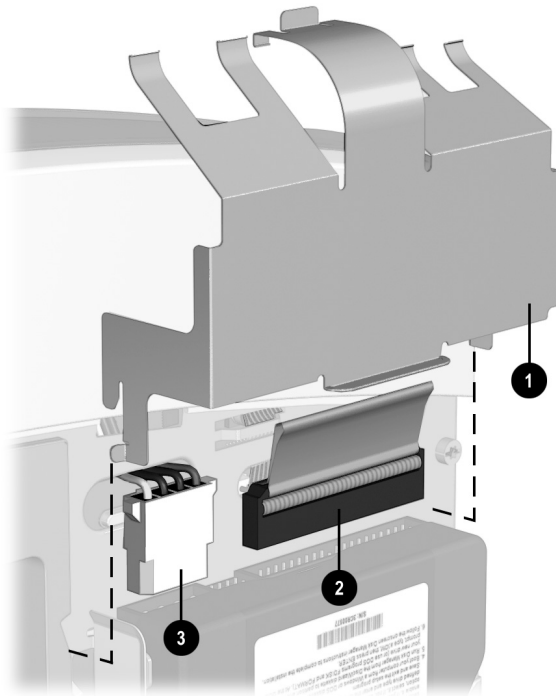
6. Pull forward the hard drive retaining latch located on the front edge of the drive holder and then, lift the drive up and out of the drive holder.

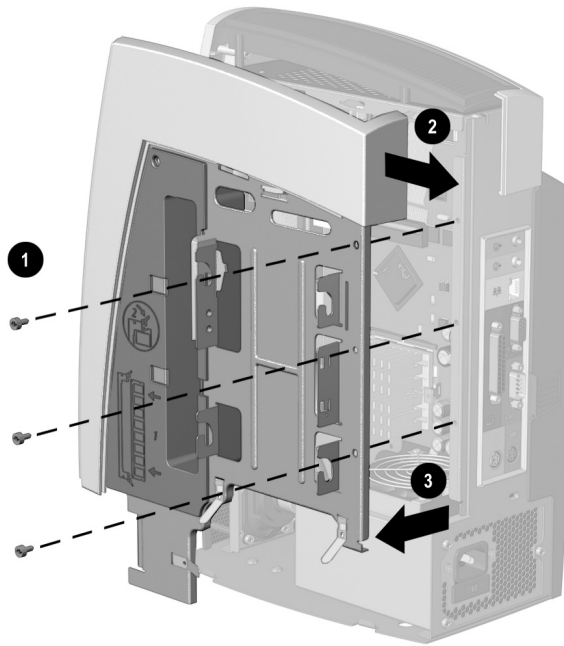To install the hard drive, reverse the previous steps.

> The drive mounting screws should be factory-installed in the replacement hard drive.

⚠️ **CAUTION:** The EMI cover must be installed in the chassis after reattaching the drive cables to prevent excessive electronic interference.

4.6   Chassis Access Panel

1. Prepare the computer for disassembly (Section 4.2).

2. Remove the right side panel (Section 4.3).

3. Remove the memory module (Section 4.4).

4. Remove the hard drive (Section 4.5).

5. Remove the three screws ❶ that secure the chassis access panel to the chassis.

6. Slide the panel about 0.5" to the rear of the computer ❷ to disengage the clips at the top and remove the access panel from the chassis ❸ after threading the hard drive data and power cables through the cutouts in the panel.

To reinstall the chassis access panel, reverse the previous steps.

> When reinstalling the chassis access panel, ensure that the bottom of the panel is set within the guide slots on the bottom wing of the chassis.

> The plastic trim is permanently attached to the chassis access panel.

4.7　Real-Time Clock Battery

For ease of handling, Compaq recommends that the computer be placed on its side on a protected surface for this operation.

1. Prepare the computer for disassembly (Section 4.2).

2. Remove the right side panel (Section 4.3).

3. Remove the memory modules (Section 4.4).

4. Remove the hard drive (Section 4.5).

5. Remove the chassis access panel (Section 4.6).

6. Lift the battery out of the holder.

7. Slide the replacement battery into position with the positive side up. The battery holder automatically secures the battery in the proper position.
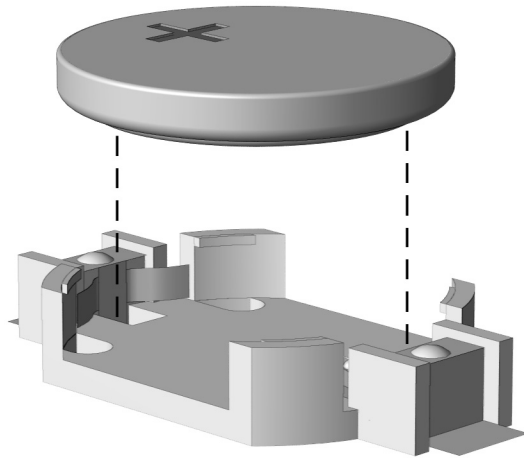
8. Replace the chassis access panel

9. Reconnect the AC power cord and turn on the computer.

10. Reset the date and time, your passwords, and any special system setups, using Compaq Computer Setup.

⚠ **WARNING:** This computer contains a lithium-ion battery pack. There is a risk of fire and chemical burn if the battery pack is handled improperly. Do not disassemble, crush, puncture, short external contacts, dispose in water or fire, or expose it to temperatures higher than 60ºC (140ºF).

In North America, dispose of nickel metal hydride or lithium-ion batteries by taking advantage of the Compaq battery recycling program. You will be provided with a postage-paid battery pack mailer preaddressed to a reclamation facility where the metals are recycled. Call the telephone number listed for your location in the *Contacting Customer Support* guide for more information.

In Europe, do not dispose of batteries with general household waste. Dispose of or recycle them by using the public collection system or returning them to Compaq, your authorized Compaq partners, or their agents.

4.8   Processor

For ease of handling, Compaq recommends that the computer be placed on its side on a protected surface for this operation.

1. Prepare the computer for disassembly (Section 4.2).

2. Remove the right side panel (Section 4.3)

3. Remove the memory modules (Section 4.4).

4. Remove the hard drive (Section 4.5).

5. Remove the chassis access panel (Section 4.6).

6. Remove the heatsink retaining clip by pressing down on the clip's extended tab ❶ until it releases from the safety catch.

7. Twist the processor slightly to break its adhesion to the processor and remove the heatsink ❷ from the processor.

8. Release the original processor from the socket by pulling the handle on the ZIF socket out and upward ❸.

9. Lift the processor ❹ out of the socket.
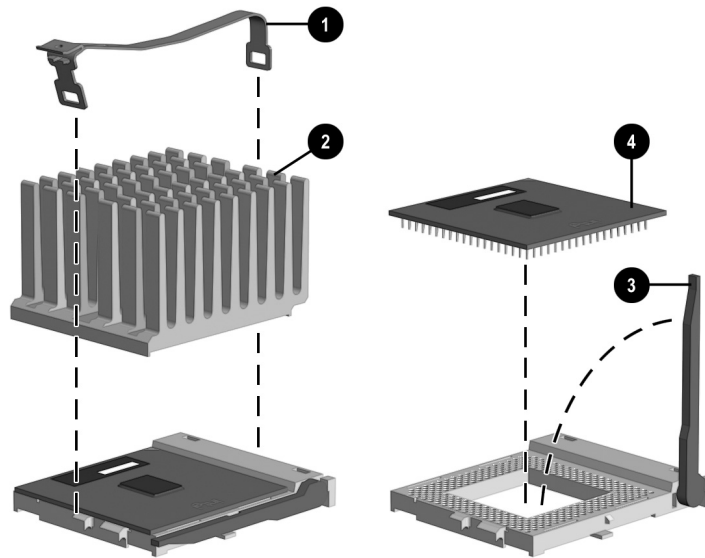
To reinstall the processor, reverse the previous steps.

When replacing the processor, make sure that the two clipped corners of the processor pins align with the clipped corners on the ZIF socket.

When installing the heatsink, the step on the bottom of the heatsink should be placed over the hinge pin on the ZIF socket. This is the only position in which the heatsink is in full contact with the processor.
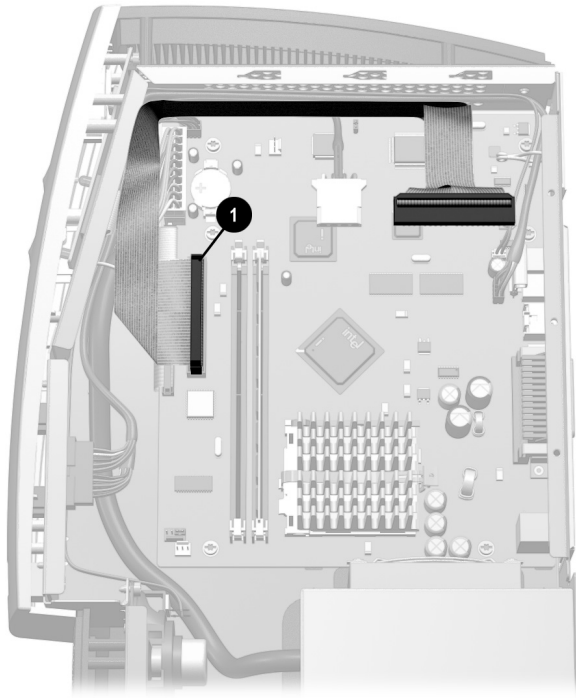
4.9   Hard Drive Data Cable

For ease of handling, Compaq recommends that the computer be placed on its side on a protected surface for this operation.

1. Prepare the computer for disassembly (Section 4.2).

2. Remove the right side panel (Section 4.3).

3. Remove the memory modules (Section 4.4).

4. Remove the hard drive (Section 4.5).

5. Remove the chassis access panel (Section 4.6).

6. Disconnect the main power cable from the system board by first releasing the locking clip ❶ that secures the cable connector to the connector on the system board (P1) and then pulling up on the cable connector ❷. This cable must be disconnected to access the hard drive data cable.
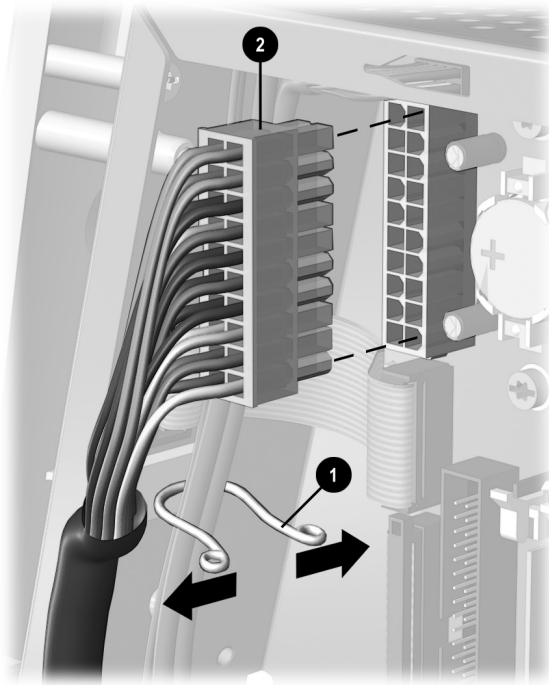
7. Disconnect the hard drive data cable connector ❶ from the system board.

8. Remove the folded hard drive data cable from the chassis. The data cable has been folded at the factory and is tucked behind the main power cable.
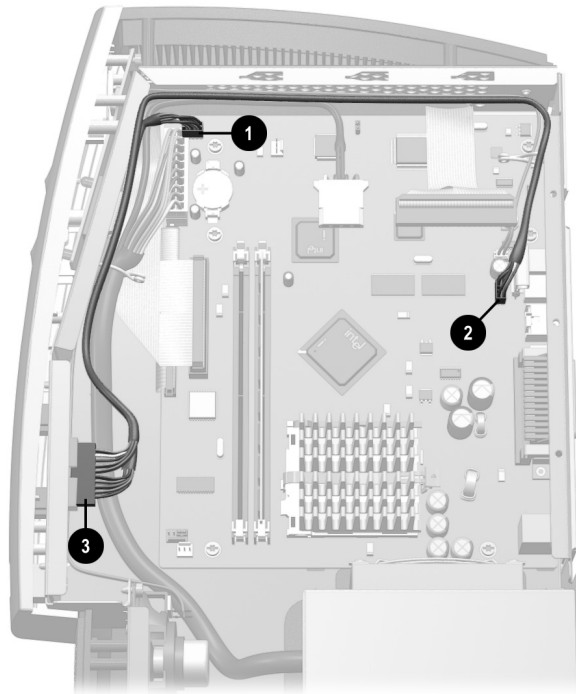
To reinstall the data cable, reverse the previous steps.

4.10   USB/Audio Cable

For ease of handling, Compaq recommends that the computer be placed on its side on a protected surface for this operation.

It is not necessary to remove the system board to remove this cable.

1. Prepare the computer for disassembly (Section 4.2).

2. Remove the right side panel (Section 4.3).

3. Remove the memory modules (Section 4.4).

4. Remove the hard drive (Section 4.5).

5. Remove the chassis access panel (Section 4.6).

6. Disconnect the main power cable connector (P1) from the system board to access the USB connector on the system board.

7. Disconnect the USB connector ❶ from the system board.

8. Release the two cable twists that secure the power cable harness to the chassis. The USB/audio cable is nested behind the power cable harness.

9. Disconnect the audio cable ❷ from the top right corner of the system board.

10. Disconnect the USB/audio cable connector ❸ from the back of the front-mounted USB/audio board.
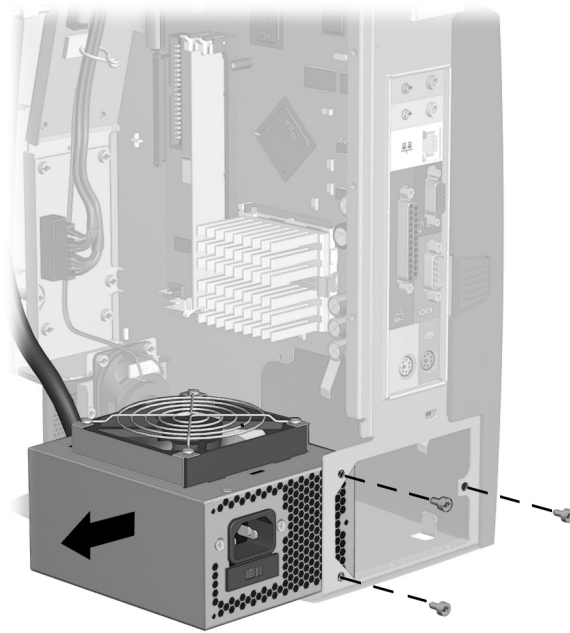

To reinstall the audio cable, reverse the previous steps.

4.11   Power Supply

For ease of handling, Compaq recommends that the computer be placed on its side on a protected surface for this operation.

1. Prepare the computer for disassembly (Section 4.2).

2. Remove the right side panel (Section 4.3).

3. Remove the memory modules (Section 4.4).

4. Remove the hard drive (Section 4.5).

5. Remove the chassis access panel (Section 4.6).

6. Disconnect the main power cable connector (P1) from the system board.

7. Release the cable twist that secures the power cable harness to the chassis, then remove the power cable from the chassis.

8. Remove the three screws that secure the power supply to the chassis.
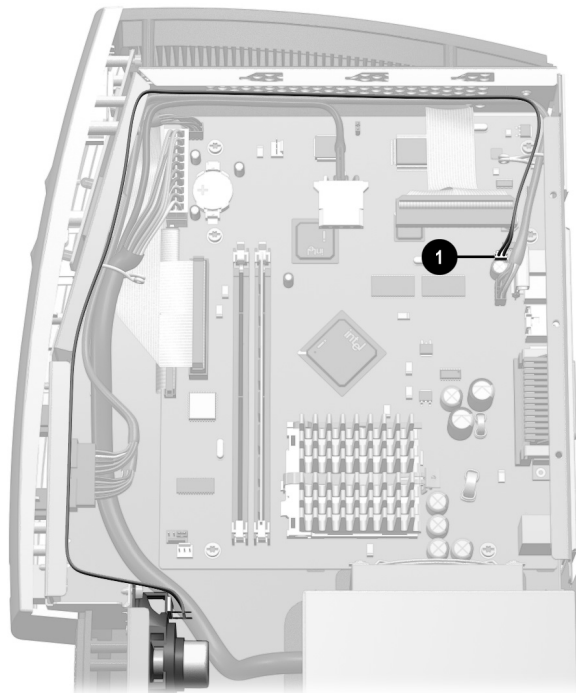
9. Remove the power supply from the chassis.

To reinstall the power supply, reverse the previous steps.
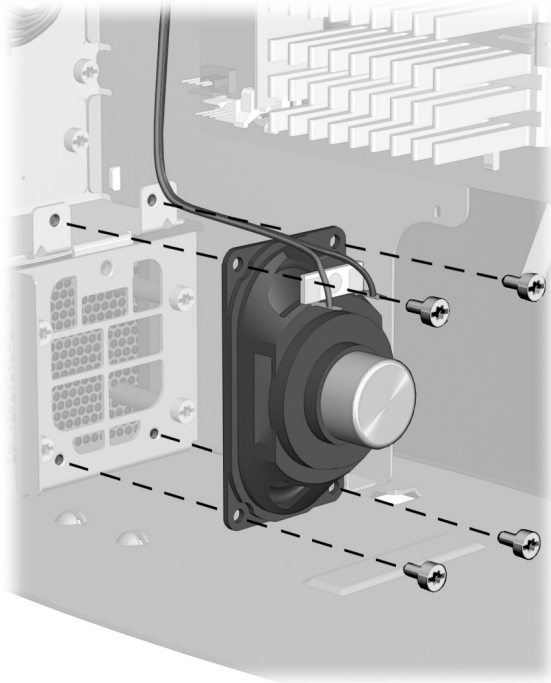
4.12   Speaker Assembly

For ease of handling, Compaq recommends that the computer be placed on its side on a protected surface for this operation.

1. Prepare the computer for disassembly (Section 4.2).

2. Remove the right side panel (Section 4.3).

3. Remove the memory modules (Section 4.4).

4. Remove the hard drive (Section 4.5).

5. Remove the chassis access panel (Section 4.6).

6. Remove the power supply (Section 4.11).

7. Release the two cable twists that secure the wiring harnesses to the chassis.

8. Disconnect the speaker cable from the system board ❶ and remove the cable from behind the other wiring bundles.

9. Remove the four screws that secure the speaker to the front of the chassis and then remove the speaker assembly.

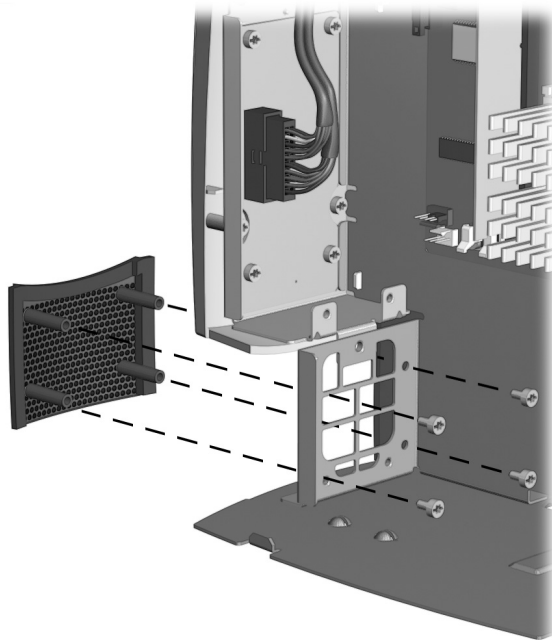To reinstall the speaker assembly, reverse the previous steps.

4.13   Speaker Grill

For ease of handling, Compaq recommends that the computer be placed on its side on a protected surface for this operation.

1. Prepare the computer for disassembly (Section 4.2).

2. Remove the right side panel (Section 4.3).

3. Remove the memory modules (Section 4.4).

4. Remove the hard drive (Section 4.5).

5. Remove the chassis access panel (Section 4.6).

6. Remove the power supply (Section 4.11).

7. Remove the speaker assembly (Section 4.12).

> It is not necessary to remove the speaker cable from the system board if the speaker is not damaged.

8. Remove the four screws that secure the speaker grill to the front of the chassis and then remove the speaker grill.
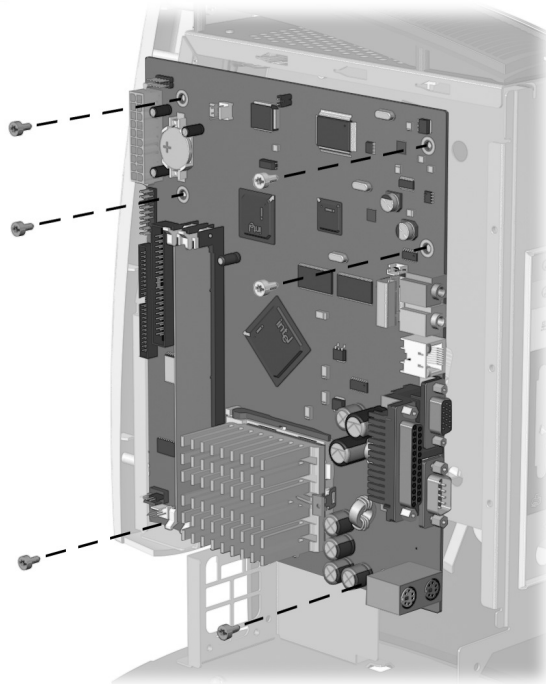

To reinstall the speaker grill, reverse the previous steps.

4.14   System Board

For ease of handling, Compaq recommends that the computer be placed on its side on a protected surface for this operation.

1. Prepare the computer for disassembly (Section 4.2).

2. Remove the right side panel (Section 4.3).

3. Remove the memory modules (Section 4.4).

4. Remove the hard drive (Section 4.5).

5. Remove the chassis access panel (Section 4.6).

6. Disconnect all cables from the system board.

7. Remove the six screws that secure the system board to the chassis and then, remove the system board.

8. Reinstall the system board by reversing the previous steps.

9. Reconnect the AC power cord and turn on the computer.

10. Reset the date and time, recreate the passwords, and recreate any special system setups, using Compaq Computer Setup.

4.15   USB/Audio Board

For ease of handling, Compaq recommends that the computer be placed on its side on a
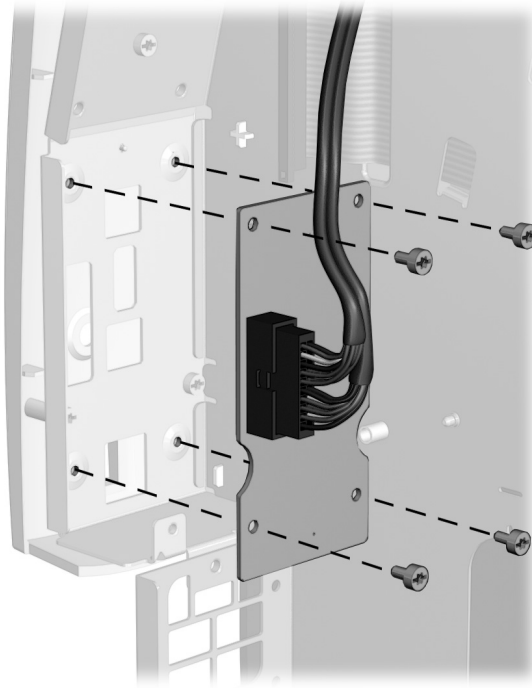protected surface for this operation.

> ⚠ **CAUTION:** The system board must be removed from the chassis before the USB/audio board is
> removed. Failure to do so may cause damage to system board components and/or the threaded
> mounting holes.

1. Prepare the computer for disassembly (Section 4.2).

2. Remove the right side panel (Section 4.3).

3. Remove the memory modules (Section 4.4).

4. Remove the hard drive (Section 4.5).

5. Remove the chassis access panel (Section 4.6).

6. Remove the system board from the chassis (Section 4.14).

7. Remove the I/O panel by pushing it towards the inside of the chassis and then, lifting it
   out of the cutout.

8. Remove the four screws that secure the USB/audio board to the inside of the chassis, then remove the board from the chassis.
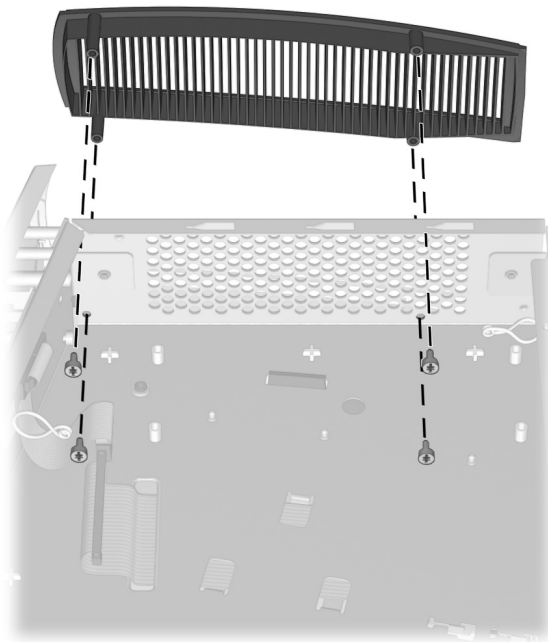
To reinstall the audio board, reverse the previous steps.

4.16   Top Vent

For ease of handling, Compaq recommends that the computer be placed on its side on a protected surface for this operation.

1. Prepare the computer for disassembly (Section 4.2).

2. Remove the right side panel (Section 4.3).

3. Remove the memory modules (Section 4.4).

4. Remove the hard drive (Section 4.5).

5. Remove the chassis access panel (Section 4.6).

6. Remove the system board (Section 4.14).

7. Remove the four screws that secure the top vent to the chassis, then remove the top vent.

To reinstall the top vent, reverse the previous steps.

4.17   Front Bezel Assembly

For ease of handling, Compaq recommends that the computer be placed on its side on a protected surface for this operation.

1. Prepare the computer for disassembly (Section 4.2).

2. Remove the right side panel (Section 4.3).

3. Remove the memory modules (Section 4.4).

4. Remove the hard drive (Section 4.5).

5. Remove the chassis access panel (Section 4.6).

6. Remove the system board (Section 4.14).

7. Remove the five screws that secure the front bezel to the chassis, then remove the front bezel assembly complete with the power switch board.
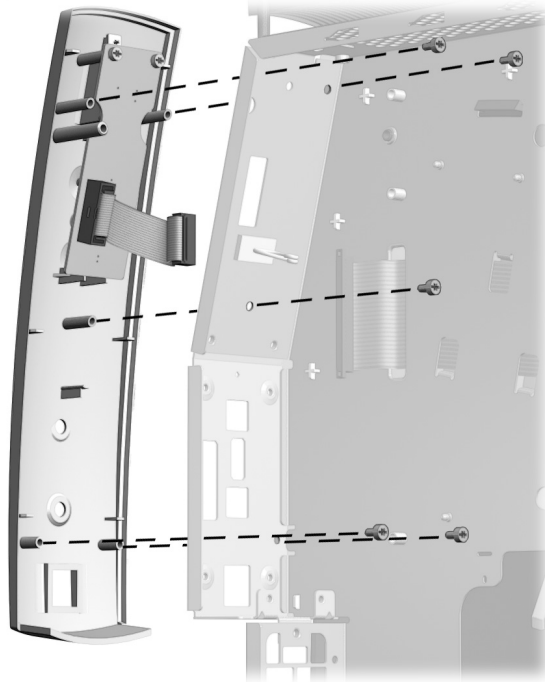
To reinstall the front bezel assembly, reverse the previous steps.

4.18   Left Side Panel

1. Prepare the computer for disassembly (Section 4.2).

2. Press down on the tab on the top of the left side panel ❶ (as viewed from the front) and rotate the panel away from the computer ❷.

3. Lift the panel from the two tabs on the bottom wing of the chassis to gain full access to the left side of the computer.
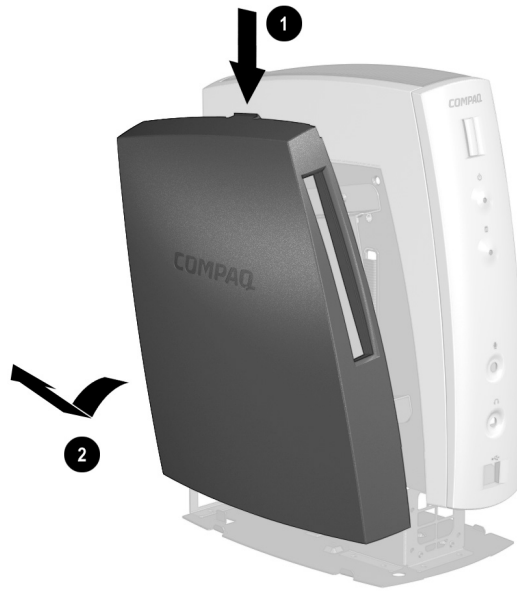
To replace the panel, reverse the previous steps.

4.19   MultiBay Adapter

For ease of handling, Compaq recommends that the computer be placed on its side on a protected surface for this operation.

> It is not necessary to remove the system board to remove either the MultiBay adapter or the MultiBay adapter board.

1. Prepare the computer for disassembly (Section 4.2).

2. Remove the left side panel (Section 4.18).

3. Unscrew the retaining screw ❶ that is used to keep the eject lever spring in place and then, remove the return spring ❷.

> Do not remove the retaining screw from the eject lever; instead, back it out only far enough to allow the spring to be easily removed.

4. Remove the five screws ❸ that secure the MultiBay to the side of the chassis.

⚠ **CAUTION:** When removing the MultiBay, do not allow it to hang by the data cable as doing so may damage the cable.
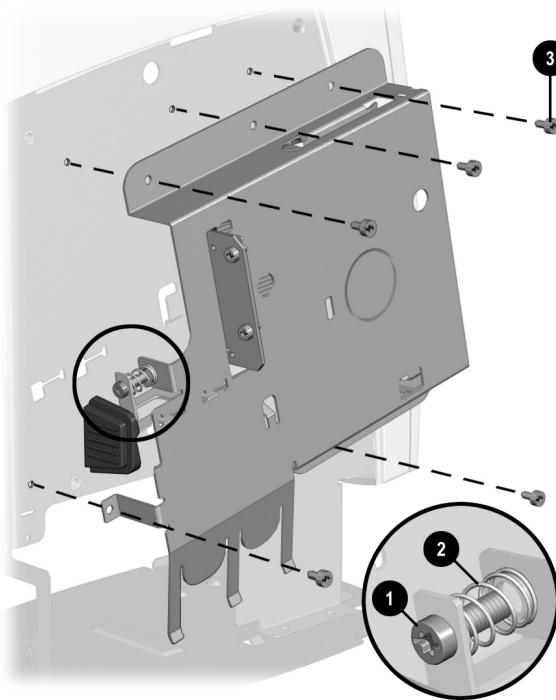
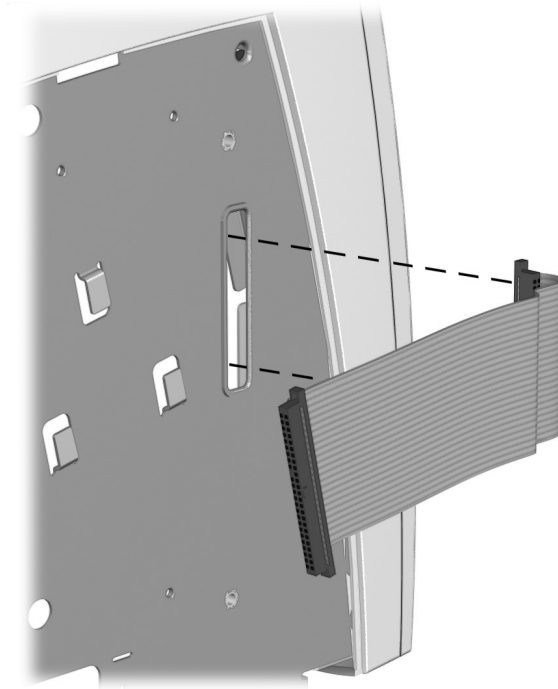To replace the MultiBay adapter, complete the following steps:

1. Place the MultiBay adapter in position on the chassis and insert the eject lever into the chassis slots.

2. Install the top three screws that hold the MultiBay in position and then, install the bottom two screws.

3. Install the return spring and then, screw the spring retaining screw all the way in to prevent the return spring from escaping and then replace the left side panel.

4.20   MultiBay Adapter Cable

For ease of handling, Compaq recommends that the computer be placed on its side on a protected surface for this operation.

> The system board must be removed before the MultiBay adapter cable can be removed from the chassis.

1. Prepare the computer for disassembly (Section 4.2).

2. Remove the right side panel (Section 4.3).

3. Remove the memory modules (Section 4.4).

4. Remove the hard drive (Section 4.5).

5. Remove the chassis access panel (Section 4.6).

6. Remove the system board (Section 4.14).

7. Remove the left side panel (Section 4.18).

8. Remove the MultiBay adapter from the chassis (Section 4.19).

9. Disconnect the MultiBay adapter cable from the adapter card.

10. Flex the flat ribbon data cable to remove it from the built-in cable guides on the side of the chassis and carefully thread the system-board end of the cable out of the chassis opening.

To replace the cable, reverse the previous steps.

4.21   MultiBay Adapter Board

For ease of handling, Compaq recommends that the computer be placed on its side on a protected surface for this operation.

> It is not necessary to remove the system board to perform this operation.

1. Prepare the computer for disassembly (Section 4.2).

2. Remove the left side panel (Section 4.18).

3. Remove the MultiBay adapter from the chassis (Section 4.19).

⚠ **CAUTION:** When removing the MultiBay, do not allow it to hang by the data cable as that may damage the cable.

4. Disconnect the adapter cable from the adapter board.
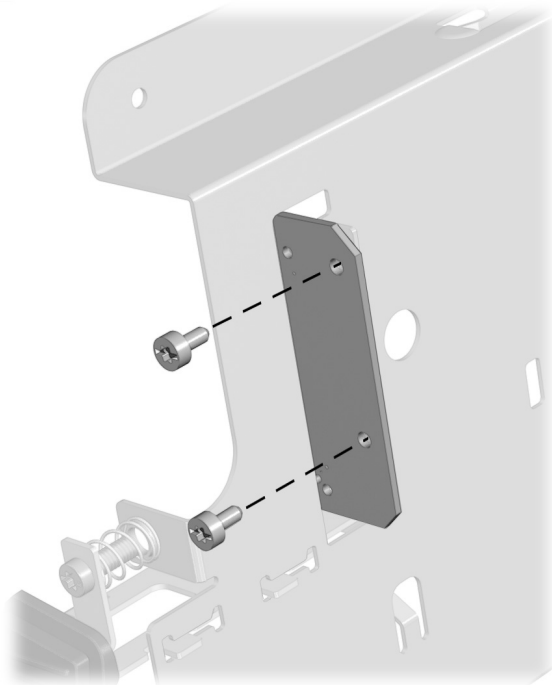
5. Remove the two screws that secure the board to the MultiBay Adapter.