Maintenance and Service Guide

HP 3-in-1 NAS Docking Station

Document Part Number: 410057-001

September 2006

This guide is a troubleshooting reference used for maintaining and servicing the HP 3-in-1 NAS Docking Station. It provides comprehensive information on identifying docking station features, components, and spare parts; troubleshooting problems; and performing disassembly procedures.

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Product Description

The HP 3-in-1 NAS Docking Station provides an efficient, less-cluttered work environment, improved cable management, and wireless peripherals. It eliminates the need to purchase a separate monitor and USB hub.

HP 3-in-1 NAS Docking Station

The docking station is compatible with the following computer models:

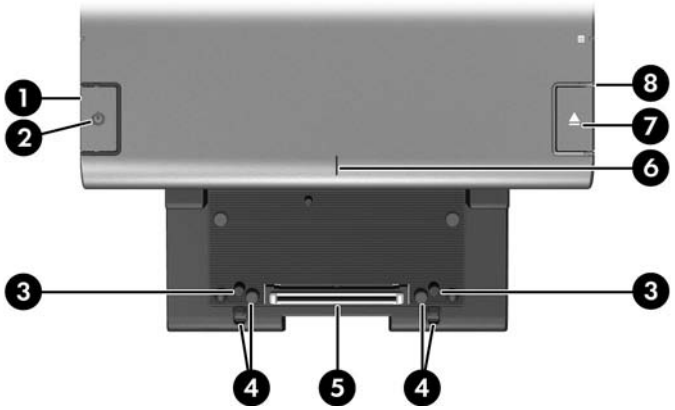
- HP Compaq nw9440 and nx9420 Notebook PCs
- HP Compaq nc6230 and nc6220 Notebook PCs
- HP Compaq nw8440, nc8430, and nx8420 Notebook PCs
- HP Compaq nc6140, nc6120, and nc6110 Notebook PCs
- HP Compaq nx7400 Notebook PC
- HP Compaq nx6125 and nx6115 Notebook PCs
- HP Compaq nc6400 Notebook PC
- HP Compaq nx6120 and nx6110 Notebook PCs
- HP Compaq nx6330 Notebook PC
- HP Compaq nc4400 Notebook PC
- HP Compaq nx6325 and HP Compaq nx6315 Notebook PCs
- HP Compaq tc4400 Tablet PC
- HP Compaq nc6300 and nx6300 Notebook PCs
- HP Compaq nc2400 Notebook PC

1.1 Features

- External AC adapter (charges the docked computer)
- Hard drive bay and power connector
- Security slots (2)
- Infrared pass-through support
- Lights (power, good dock, mute)
- Volume control wheel with mute button
- Connectors:
  - Audio-in (microphone) jack
  - Audio-out (headphone) jack
  - Composite video port
  - Digital video (DVI) port
  - Docking connector
  - ExpressCard slot
  - External monitor port
  - Keyboard connector
  - Mouse connector
  - Parallel port
  - Power connector
  - Powered USB 2.0 port
  - RJ-11 (modem) jack
  - RJ-45 (network) jack
  - S/PDIF (Sony/Philips Digital Interface) audio connector
  - Serial port
  - S-Video-out jack
  - Universal Serial Bus (USB) 2.0 connectors (6)

1.2 External Components

The external components on the top of the docking station are shown below and described in Table 1-1.



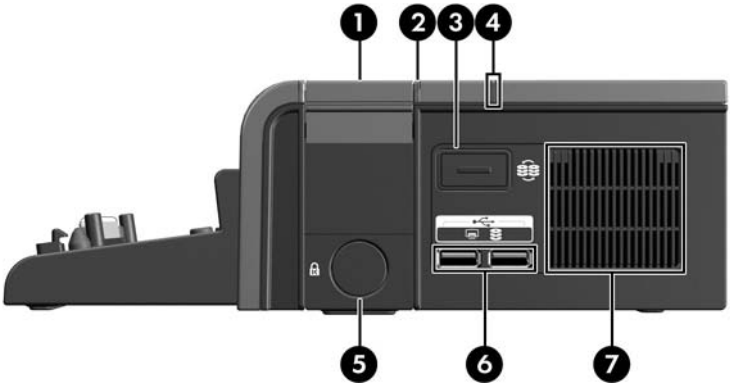
Top Components

Table 1-1

Top Components

Item	Component	Function
1	Power button	Turns on power to the computer.
2	Power light	On: The computer is on.
3	Docking posts (2)	Align and secure the computer for proper connection to the docking station.
4	Computer eject mechanisms (4)	Disconnect the computer from the docking station when you press the eject button.
5	Docking connector	Connects the computer to the docking station.
6	Visual alignment indicator	Helps you correctly align the computer when connecting it to the docking station.
7	Computer eject button	Ejects the computer from the docking station.
8	Docking light	On: The computer is properly docked.

The external components on the right side of the docking station are shown below and described in Table 1-2.



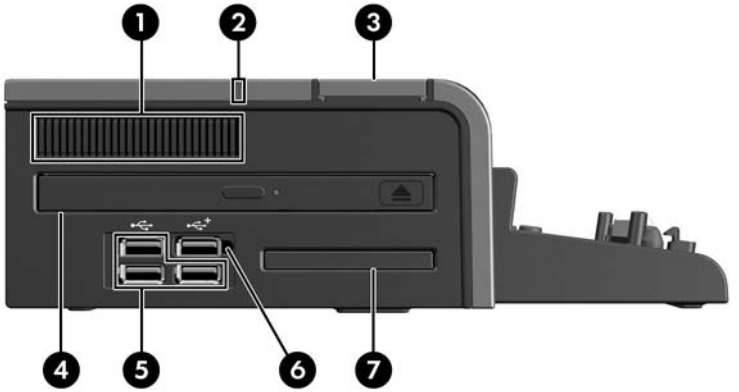
Right-Side Components

Table 1-2

Right-Side Components

Item	Component	Function
1	Computer eject button	Ejects the computer from the docking station.
2	Docking light	On: The computer is properly docked.
3	Backup button	Allows you to back up, restore, and synchronize information locally or through the Internet.
4	Drive light	On: The hard drive is being accessed.
5	Integrated cable lock slot	Supports the HP/Kensington Cable Lock, which secures the docking station, docked computer, hard drive, and MultiBay II drive.
6	Network USB ports (2)	Allow you to connect either a USB printer or a hard drive to the local area network.
7	Exhaust vent	Provides airflow to cool internal components. △ To prevent overheating, do not obstruct vents. Use the docking station only on a hard, flat surface. Do not allow another hard surface, such as an adjoining optional printer, or a soft surface, such as pillows or thick rugs or clothing, to block airflow. ✎ The docking station fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation.

The external component on the left side of the docking station is shown below and described in Table 1-3.



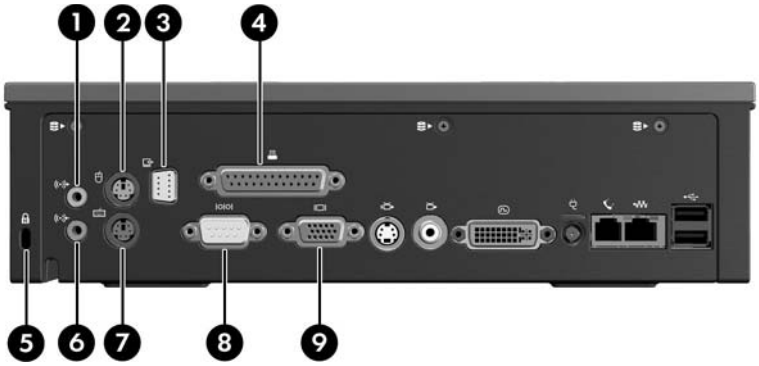
Left-Side Components

Table 1-3

Left-Side Components

Item	Component	Function
1	Exhaust vent	Provides airflow to cool internal components. ⚠ To prevent overheating, do not obstruct vents. Use the docking station only on a hard, flat surface. Do not allow another hard surface, such as an adjoining optional printer, or a soft surface, such as pillows or thick rugs or clothing, to block airflow. ✎ The docking station fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation.
2	MultiBay II	Supports one 9.5-mm MultiBay II drive such as a hard drive or an optical drive.
3	MultiBay II light	On: The MultiBay II drive is being accessed.
4	Power button	Turns on power to the computer.
5	USB 2.0 ports (3)	Connect USB devices.
6	Powered USB 2.0 port	Connects select USB devices, such as the HP External MultiBay II.
7	ExpressCard slot	Supports optional ExpressCard/54 or ExpressCard/34 cards.

The docking station rear panel components are shown below and described in Table 1-4.



Rear Panel Components, Part 1

Table 1-4

Rear Panel Components, Part 1

Item	Component	Function
1	Audio-out (headphone) jack	Connects an audio output device such as headphones or speakers.
2	Mouse connector	Connects a PS/2 mouse.
3	Monitor stand port	Connects an optional HP Monitor Stand to the docking station.
4	Parallel port	Connects a parallel device such as a printer.
5	Security cable slot	Connects an optional security cable.
6	Audio-in (microphone) jack	Connects home audio equipment such as CD and MP3 players.
7	Keyboard connector	Connects a PS/2 keyboard.
8	Serial port	Connects a serial device such as a handheld device.
9	External monitor port	Connects a VGA monitor.

The docking station rear panel components are continued below and described in Table 1-5.

Rear Panel Components, Part 2

Table 1-5

Rear Panel Components, Part 2

Item	Component	Function
1	S-Video-out jack	Connects an S-Video device such as a TV, VCR, or camcorder.
2	Composite video port	Connects a composite video device such as a TV.
3	Digital video (DVI) port	Connects a DVI device such as a flat-panel monitor (select models only).
4	Power light	On: The docking station is connected to AC power.
5	Power connector	Connects the docking station to the AC adapter.
6	RJ-11 (modem) jack	Connects an RJ-11 (modem) cable.
7	RJ-45 (network) jack	Connects an RJ-45 (network) cable.
8	USB 2.0 ports (2)	Connect USB devices.

1.3 Design Overview

This section presents a design overview of key parts and features of the docking station. Refer to Chapter 3, "Illustrated Parts Catalog," to identify replacement parts, and Chapter 5, "Removal and Replacement Procedures," for disassembly steps.

The docking station provides the following device connections:

- Audio-in (microphone)
- Composite video
- DVI
- ExpressCard
- External monitor
- Keyboard
- Monitor stand
- MultiBay II
- Power
- RJ-11 (modem)
- RJ-45 (network)
- S-Video-out
- Security cable
- Serial
- USB

CAUTION: To properly ventilate the docking station, allow at least a 7.6-cm (3-inch) clearance on the left and right sides of the unit.

The docking station uses an electric fan for ventilation. The fan is controlled by a temperature sensor and is designed to turn on automatically when high temperature conditions exist. These conditions are affected by high external temperatures, system power consumption, power management/battery conservation configurations, battery fast charging, and software.

2

Troubleshooting

WARNING: Only authorized technicians trained by HP should repair this equipment. All troubleshooting and repair procedures are detailed to allow only subassembly-/module-level repair. Because of the complexity of the individual boards and subassemblies, do not attempt to make repairs at the component level or modifications to any printed wiring board. Improper repairs can create a safety hazard. Any indication of component replacement or printed wiring board modification may void any warranty or exchange allowances.

This chapter contains troubleshooting information for the docking station. Carefully match the symptoms of the malfunction against the problem description in the troubleshooting tables to avoid a misdiagnosis. Refer to Chapter 5 for all removal and replacement procedures.

Follow these guidelines when troubleshooting:

- Complete the recommended actions in the order in which they are given.
- When the problem is resolved, do not complete the remaining troubleshooting steps.

2.1 Before Replacing Parts

When troubleshooting a problem, check the following list for possible solutions before replacing parts:

- Be sure that cables are connected properly to the suspected defective part.
- Be sure that all required device drivers are installed on the computer.

2.2 Problems and Solutions

The following tables list possible problems, the possible cause of each problem, and the recommended solution.

Table 2-1

Docking Problems and Solutions

Problem	Possible Cause	Solution
The computer is turned on and properly docked, but the power light and docking light are not on.	Power cord is not plugged into either the docking station or the AC outlet.	Properly plug in power cord.
Some of the ports or connectors do not work, even though the docking light is turned on.	The computer may be properly aligned, but is not fully seated or docked in the docking station.	Press the computer eject button to eject the computer from the docking station. Lift the computer away from the docking station. Then realign the computer visual alignment indicator with the indicator on the docking station, and then reconnect the computer. Be sure that the computer is properly aligned and seated, and fully docked by gently pressing down on the computer until you hear a click. If accessories are attached, they should now work properly.

Table 2-2

Undocking Problems and Solutions

Problem	Possible Cause	Solution
The computer will not disconnect from the docking station.	The connectors may be jammed.	Press the eject button all the way in. If the computer does not disconnect, repeat this procedure to disconnect the computer. ⚠ Applying excessive force may damage connector pins.
	The HP/Kensington Cable Lock is in the locked position.	Unlock the lock and then disconnect the computer.

Table 2-3

External Device Problems and Solutions

Problem	Possible Cause	Solution
The print driver was successfully installed, but I am unable to print.	The wrong print processor may be selected.	1. Select **Start > Printers and Faxes.** 2. Right-click the printer icon and click **Properties**. 3. Click the **Advanced** tab and click **Print Processor**. 4. Change the print processor to WINPRINT. 5. Click **OK**.

Table 2-3

External Device Problems and Solutions *(Continued)*

Problem	Possible Cause	Solution
A new device is not recognized as part of the system.	The computer may be properly aligned, but is not fully seated or docked in the docking station.	Press the computer eject button to eject the computer from the docking station. Lift the computer away from the docking station. Then realign the computer visual alignment indicator with the indicator on the docking station, and reconnect the computer. Be sure that the computer is properly aligned and seated, and fully docked by gently pressing down on the computer until you hear a click. If accessories are attached, they should now be recognized by the system.
	The device cable or power cord is loose.	■ Be sure that all cables are securely connected to the device and the docking station. ■ Be sure that all power cords are securely connected to the device or docking station and to an AC outlet.

Table 2-3

External Device Problems and Solutions *(Continued)*

Problem	Possible Cause	Solution
A new device is not recognized as part of the system. *(Continued)*	The device was connected while the system was on.	Turn off the computer, turn on the device (if applicable), and then turn on the computer.
	Cabling is incorrect.	Be sure that the device cable is in the correct connector on the docking station.
	You may need to install device drivers on the computer.	Install drivers according to the device manufacturer's instructions.

Table 2-4

Optical Drive Problems and Solutions

Problem	Possible Cause	Solution
The system cannot read the optical disc.	The disc is not properly seated in the media tray.	Remove the disc, reseat it in the media tray, and then close the media tray.
	The disc is upside down.	Remove the disc, turn it over, and then close the media tray.
	The disc may be dirty or scratched.	Replace the disc.
The system cannot eject the media tray.	The disc is not properly seated in the media tray.	Turn off the computer, and then manually eject the media tray.
	There is no power to the docking station.	Turn on power to the system, and then eject the disc.

Table 2-5

MultiBay II Problems and Solutions

Problem	Possible Cause	Solution
The MultiBay II drive is not recognized.	The drive is not properly inserted in the MultiBay II.	Remove the MultiBay II drive, and then reinsert it.
	The drive was inserted while the power was on.	Restart the computer while the drive is in the MultiBay II.

Getting More Information

- For comprehensive information about your computer, as well as governmental agency and safety information about the use of your computer, access the Help and Support Center by selecting **Start > Help and Support**.
- The HP Web site (http://www.hp.com) provides product news and software updates.

Customer Care

If you cannot solve a problem using the troubleshooting tips in this chapter, you may need to contact Customer Care.

For the fastest possible resolution of your problem, have the following information available when you call or e-mail:

- The computer and docking station model numbers
- Serial numbers for the computer and docking station
- Dates the computers and docking station were purchased
- Conditions under which the problem occurred
- Error messages that have been displayed
- Hardware configuration of the computer
- Hardware and software you are using
- The manufacturer and model of the printer or other accessories connected to the computer and docking station
- Configuration settings, including contents of the system files

To access Customer Care, visit the HP Web site at http://www.hp.com/support.

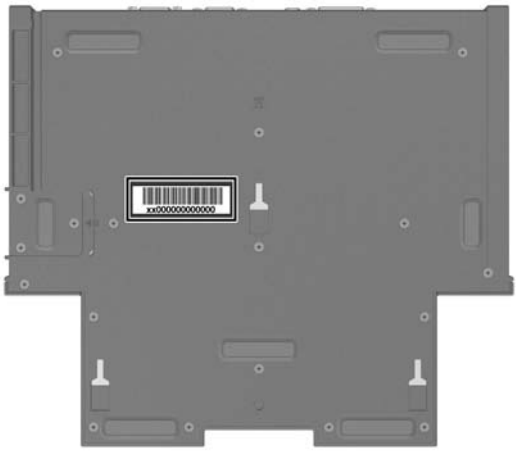
3

Illustrated Parts Catalog

This chapter provides an illustrated parts breakdown and a reference for spare part numbers and option part numbers.

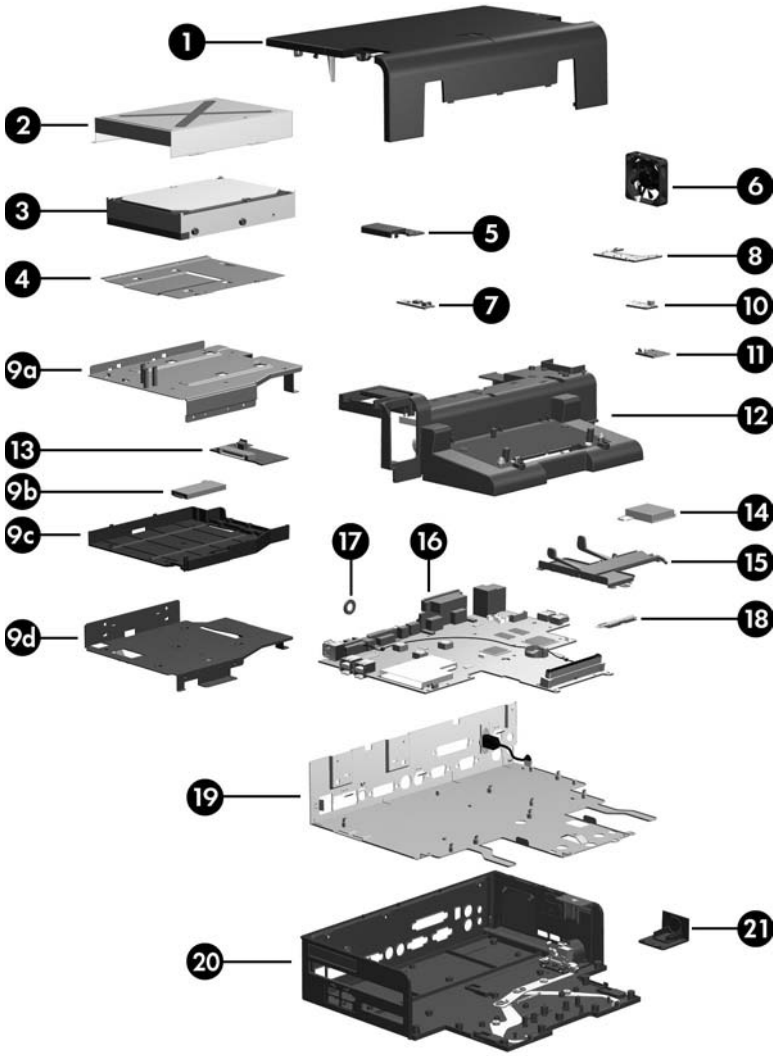
3.1 Serial Number Location

When ordering parts or requesting information, provide the docking station serial number and model number located on the bottom of the base plate.



Serial Number Location

3.2 Docking Station Major Components

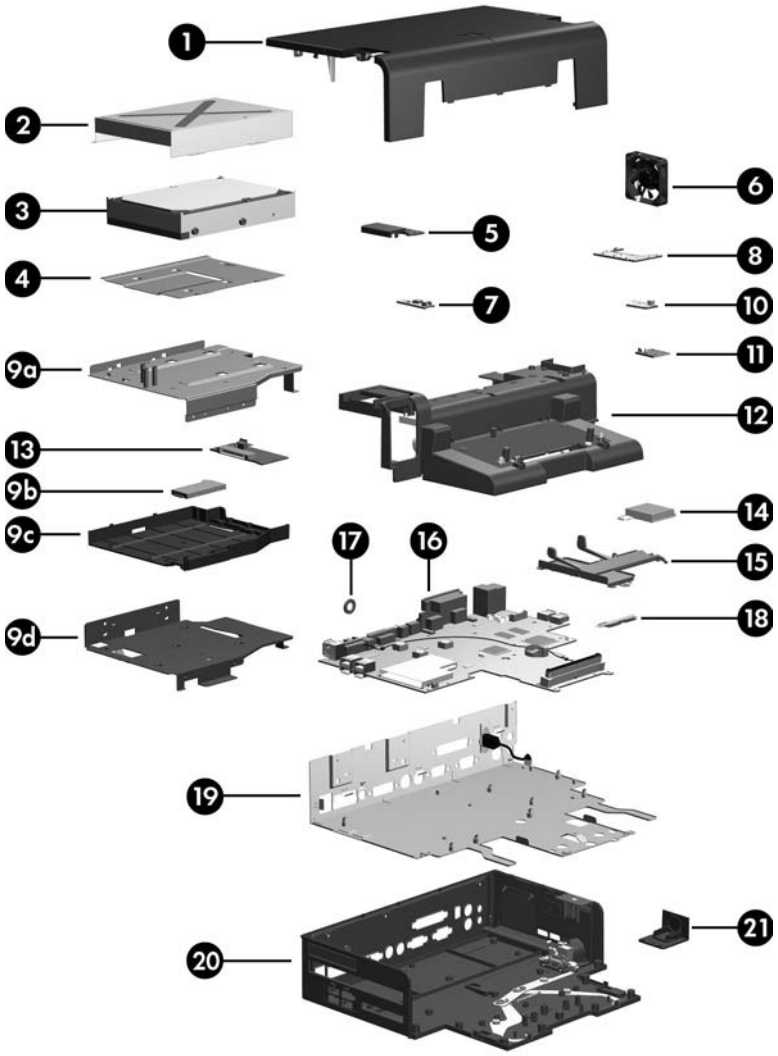


Docking Station Major Components

Table 3-1

Spare Parts: Docking Station Major Components

Item	Description	Spare Part Number
	HP 3-in-1 NAS Docking Station (complete assembly)	418148-001
1	**Top cover** (does not include HP logo)	435588-001
	HP Logo Kit (not illustrated)	435595-001
2	**Hard drive cover**	435594-001
3	**7200-rpm, 160-GB hard drive**	418149-001
4	**Hard drive bracket**	435593-001
5	**Power button actuator**	435601-001
6	**Fan**	418153-001
7	**Power button board** (includes power button board cable)	435584-001
8	**Docking LED board** (includes docking LED board cable)	435582-001
	MultiBay II assembly	435600-001
9a	MultiBay II top bracket	
9b	MultiBay II eject assembly	
9c	MultiBay II housing	
9d	MultiBay II bottom bracket	
10	**Backup button board** (includes backup button board cable)	435580-001
11	**MultiBay II LED board** (included with MultiBay II connector board, spare part number 435583-001)	
12	**Front enclosure**	435602-001
13	**MultiBay II connector board** (includes MultiBay II connector board cable and MultiBay II LED board)	435583-001



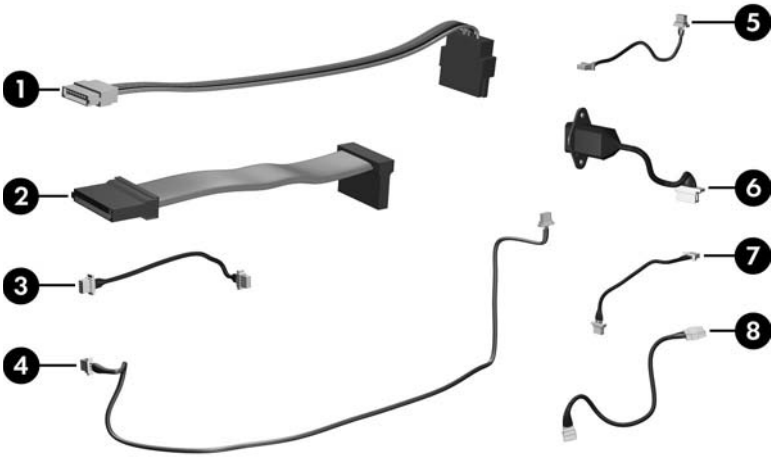
Docking Station Major Components

Table 3-1

Spare Parts: Docking Station Major Components *(Continued)*

Item	Description	Spare Part Number
14	**Heat sink**	435855-001
15	**Locking linkage**	435600-001
16	**System board** (includes RTC battery, ExpressCard assembly, modem connector and cable, and MultiBay II power cable)	435585-001
17	**Composite video port spacer**	435587-001
18	**EMI spring**	435592-001
19	**System board bracket**	435599-001
20	**Base enclosure**	435581-001
21	**Cable lock bezel**	435598-001
	Cable Kit (not illustrated)	435586-001
	Refer to Section 3.3, "Cable Kit," for Cable Kit spare part number and content information.	
	Plastics Kit (not illustrated)	435597-001
	Refer to Section 3.4, "Plastics Kit," for Plastics Kit spare part number and content information.	
	Bezel Kit (not illustrated)	435589-001
	Refer to Section 3.5, "Bezel Kit," for Bezel Kit spare part number and content information.	
	Screw Kit (not illustrated)	418152-001
	EMI absorber (not illustrated)	435590-001
	EMI bracket assembly (not illustrated)	435591-001

3.3 Cable Kit



Cable Kit Components

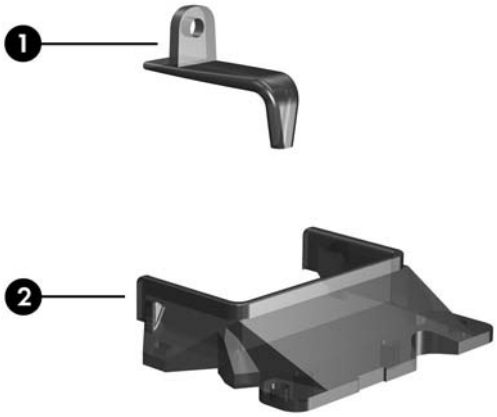
Table 3-2

Cable Kit

Spare Part Number Information

Item	Description	Spare Part Number
	Cable Kit	435586-001
1	Hard drive power cable	
2	Hard drive data cable	
3	Power button board cable	
4	MultiBay II LED board cable	
5	Backup button board cable	
6	Monitor stand port cable	
7	Docking LED board cable	
8	MultiBay II connector board cable	

3.4 Plastics Kit



Plastics Kit Components

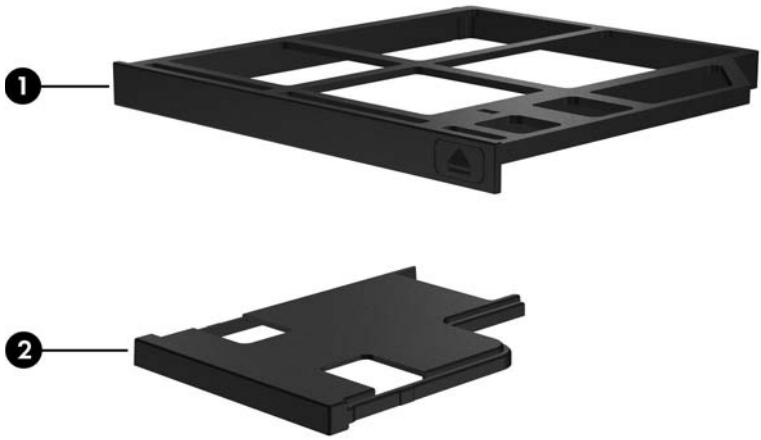
Table 3-3

Plastics Kit

Spare Part Number Information

Item	Description	Spare Part Number
	Plastics Kit	435597-001
1	Power connector LED lens	
2	Docking LED lens	

3.5 Bezel Kit



Bezel Kit Components

Table 3-4

Bezel Kit

Spare Part Number Information

Item	Description	Spare Part Number
	Bezel Kit	435589-001
1	MultiBay II slot bezel	
2	ExpressCard slot bezel	

3.6 Sequential Part Number Listing

Table 3-5

Spare Parts: Sequential Part Number Listing

Spare Part Number	Description
418148-001	HP 3-in-1 NAS Docking Station (complete assembly)
418149-001	7200-rpm, 160-GB hard drive
418152-001	Screw Kit
418153-001	Fan
435580-001	Backup button board (includes backup button board cable)
435581-001	Base enclosure
435582-001	Docking LED board (includes docking LED board cable)
435583-001	MultiBay II connector board (includes MultiBay II connector board cable and MultiBay II LED board)
435584-001	Power button board (includes power button board cable)
435585-001	System board (includes RTC battery, ExpressCard assembly, modem connector and cable, and MultiBay II power cable)
435586-001	Cable Kit
435587-001	Composite video port spacer
435588-001	Top cover (does not include HP logo)
435589-001	Bezel Kit

Table 3-5

Spare Parts: Sequential Part Number Listing *(Continued)*

Spare Part Number	Description
435590-001	EMI absorber
435591-001	EMI bracket assembly
435592-001	EMI spring
435593-001	Hard drive bracket
435594-001	Hard drive cover
435595-001	HP Logo Kit
435597-001	Plastics Kit
435598-001	Cable lock bezel
435599-001	System board bracket
435600-001	MultiBay II assembly (includes top and bottom brackets, housing, and eject assembly)
435600-001	Locking linkage
435601-001	Power button actuator
435602-001	Front enclosure
436855-001	Heat sink

4

Removal and Replacement Preliminaries

This chapter provides essential information for proper and safe removal and replacement service.

4.1 Tools Required

You will need the following tools to complete the removal and replacement procedures:

- Magnetic screwdriver
- Torx T8 screwdriver
- Phillips P0 and P1 screwdrivers
- Flat-bladed screwdriver

4.2 Service Considerations

The following sections include some of the considerations that you should keep in mind during disassembly and assembly procedures.

As you remove each subassembly from the docking station, place the subassembly (and all accompanying screws) away from the work area to prevent damage.

Plastic Parts

Using excessive force during disassembly and reassembly can damage plastic parts. Use care when handling the plastic parts. Apply pressure only at the points designated in the maintenance instructions.

Cables and Connectors

CAUTION: When servicing the docking station, ensure that cables are placed in their proper locations during the reassembly process. Improper cable placement can damage the docking station.

Cables must be handled with extreme care to avoid damage. Apply only the tension required to unseat or seat the cables during removal and insertion. Handle cables by the connector whenever possible. In all cases, avoid bending, twisting, or tearing cables. Ensure that cables are routed in such a way that they cannot be caught or snagged by parts being removed or replaced. Handle flex cables with extreme care; these cables tear easily.

4.3 Preventing Damage to Removable Drives

Removable drives are fragile components that must be handled with care. To prevent damage to the docking station, damage to a removable drive, or loss of information, observe the following precautions:

- Before removing or inserting a hard drive, shut down the docking station. If you are unsure whether the docking station is off or in hibernation, turn the docking station on, and then shut it down through the operating system.
- Before removing a diskette drive or optical drive, ensure that a diskette or disc is not in the drive and ensure that the optical drive tray is closed.
- Before handling a drive, ensure that you are discharged of static electricity. While handling a drive, avoid touching the connector.
- Handle drives on surfaces covered with at least one inch of shock-proof foam.
- Avoid dropping drives from any height onto any surface.
- After removing a hard drive or MultiBay II device, place it in a static-proof bag.
- Avoid exposing a hard drive to products that have magnetic fields, such as monitors or speakers.
- Avoid exposing a drive to temperature extremes or liquids.
- If a drive must be mailed, place the drive in a bubble pack mailer or other suitable form of protective packaging and label the package, “FRAGILE: Handle With Care.”

4.4 Preventing Electrostatic Damage

Many electronic components are sensitive to electrostatic discharge (ESD). Circuitry design and structure determine the degree of sensitivity. Networks built into many integrated circuits provide some protection, but in many cases, the discharge contains enough power to alter device parameters or melt silicon junctions.

A sudden discharge of static electricity from a finger or other conductor can destroy static-sensitive devices or microcircuitry. Often the spark is neither felt nor heard, but damage occurs.

An electronic device exposed to electrostatic discharge might not be affected at all and can work perfectly throughout a normal cycle. Or the device might function normally for a while, then degrade in the internal layers, reducing its life expectancy.

4.5 Packaging and Transporting Precautions

Use the following grounding precautions when packaging and transporting equipment:

- To avoid hand contact, transport products in static-safe containers, such as tubes, bags, or boxes.
- Protect all electrostatic-sensitive parts and assemblies with conductive or approved containers or packaging.
- Keep electrostatic-sensitive parts in their containers until the parts arrive at static-free workstations.
- Place items on a grounded surface before removing items from their containers.
- Always be properly grounded when touching a sensitive component or assembly.
- Store reusable electrostatic-sensitive parts from assemblies in protective packaging or nonconductive foam.
- Use transporters and conveyors made of antistatic belts and roller bushings. Ensure that mechanized equipment used for moving materials is wired to ground and that proper materials are selected to avoid static charging. When grounding is not possible, use an ionizer to dissipate electric charges.

4.6 Workstation Precautions

Use the following grounding precautions at workstations:

- Cover the workstation with approved static-shielding material (refer to Table 4-2, "Static-Shielding Materials").
- Use a wrist strap connected to a properly grounded work surface and use properly grounded tools and equipment.
- Use conductive field service tools, such as cutters, screwdrivers, and vacuums.
- When using fixtures that must directly contact dissipative surfaces, only use fixtures made of static-safe materials.
- Keep the work area free of nonconductive materials, such as ordinary plastic assembly aids and Styrofoam.
- Handle electrostatic-sensitive components, parts, and assemblies by the case or PCM laminate. Handle these items only at static-free workstations.
- Avoid contact with pins, leads, or circuitry.
- Turn off power and input signals before inserting or removing connectors or test equipment.

4.7 Grounding Equipment and Methods

Grounding equipment must include either a wrist strap or a foot strap at a grounded workstation.

- When seated, wear a wrist strap connected to a grounded system. Wrist straps are flexible straps with a minimum of one megohm ±10% resistance in the ground cords. To provide proper ground, wear a strap snugly against the skin at all times. On grounded mats with banana-plug connectors, use alligator clips to connect a wrist strap.
- When standing, use foot straps and a grounded floor mat. Foot straps (heel, toe, or boot straps) can be used at standing workstations and are compatible with most types of shoes or boots. On conductive floors or dissipative floor mats, use foot straps on both feet with a minimum of one megohm resistance between the operator and ground. To be effective, the conductive strips must be worn in contact with the skin.

Other grounding equipment recommended for use in preventing electrostatic damage includes:

- Antistatic tape
- Antistatic smocks, aprons, and sleeve protectors
- Conductive bins and other assembly or soldering aids
- Nonconductive foam
- Conductive tabletop workstations with ground cords of one megohm resistance
- Static-dissipative tables or floor mats with hard ties to the ground
- Field service kits
- Static awareness labels
- Material-handling packages
- Nonconductive plastic bags, tubes, or boxes
- Metal tote boxes
- Electrostatic voltage levels and protective materials

Table 4-1 shows how humidity affects the electrostatic voltage levels generated by different activities.

Table 4-1

Typical Electrostatic Voltage Levels

	Relative Humidity		
Event	**10%**	**40%**	**55%**
Walking across carpet	35,000 V	15,000 V	7,500 V
Walking across vinyl floor	12,000 V	5,000 V	3,000 V
Motions of bench worker	6,000 V	800 V	400 V
Removing DIPS from plastic tube	2,000 V	700 V	400 V
Removing DIPS from vinyl tray	11,500 V	4,000 V	2,000 V
Removing DIPS from Styrofoam	14,500 V	5,000 V	3,500 V
Removing bubble pack from PCB	26,500 V	20,000 V	7,000 V
Packing PCBs in foam-lined box	21,000 V	11,000 V	5,000 V

✎ A product can be degraded by as little as 700 V.

Table 4-2 lists the shielding protection provided by antistatic bags and floor mats.

Table 4-2

Static-Shielding Materials

Material	Use	Voltage Protection Level
Antistatic plastic	Bags	1,500 V
Carbon-loaded plastic	Floor mats	7,500 V
Metallized laminate	Floor mats	5,000 V

5

Removal and Replacement Procedures

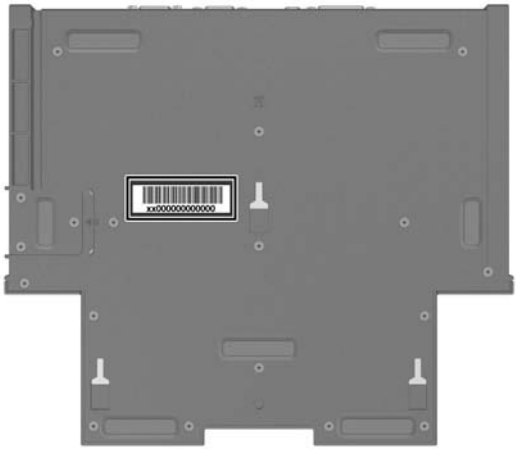
This chapter provides removal and replacement procedures.

There are as many as 76 screws and screw locks, in 9 different sizes, that must be removed, replaced, or loosened when servicing the docking station. Make special note of each screw and screw lock size and location during removal and replacement.

Refer to Appendix A, "Screw Listing," for detailed information on screw sizes, locations, and usage.

5.1 Serial Number

Report the docking station serial number to HP when requesting information or ordering spare parts. The serial number is located on the bottom of the docking station.



Serial Number Location

5.2 Disassembly Sequence Chart

Use the chart below to determine the section number to be referenced when removing docking station components.

Disassembly Sequence Chart

Section	Description	# of Screws Removed
5.3	Preparing the Docking Station for Disassembly	0
5.4	Cable Lock	3 to remove the cable lock bezel
5.5	Top Cover	3
5.6	Docking LED Board	2
5.7	Hard Drive	4 to remove the hard drive cover 0 to remove the hard drive 4 to remove the hard drive bracket
5.8	Fan	2
5.9	Backup Button Board	2
5.10	MultiBay II LED Board	2
5.11	Front Enclosure	11
5.12	Power Button Assembly	2

Disassembly Sequence Chart *(Continued)*		
5.13	RTC Battery	0
5.14	MultiBay II Assembly	2 to remove the heat sink 3 to remove the MultiBay II top bracket 1 to remove the MultiBay II eject assembly 4 to remove the MultiBay II connector board 7 to remove the MultiBay II housing 2 to remove the MultiBay II bottom bracket 2 to remove the locking linkage
5.15	System Board	9 to remove the system board 1 to remove the power connector LED lens 2 to remove the monitor stand cable 8 screw locks to remove the system board shield

5.3 Preparing the Docking Station for Disassembly

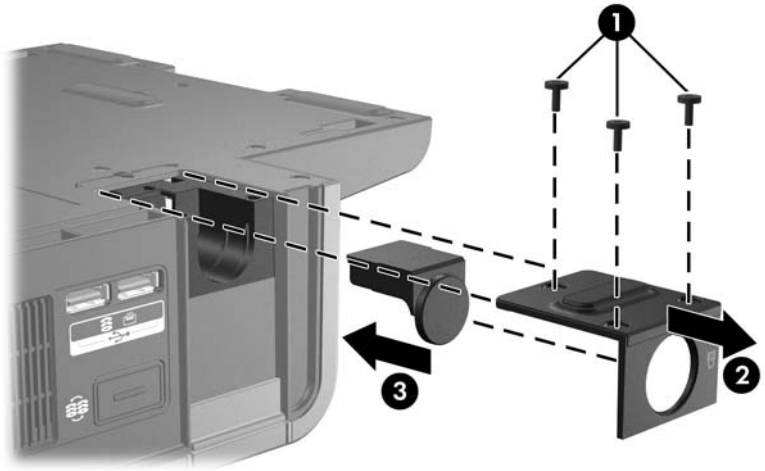
Before you begin any removal or installation procedures:

1. Shut down the computer. If you are unsure whether the computer is off or in hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all computers and external devices connected to the docking station.
3. Disconnect the power cord.

5.4 Cable Lock

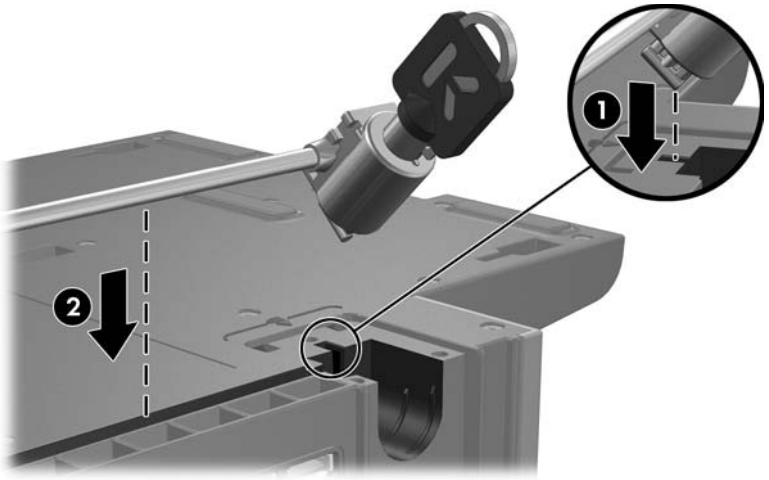
1. Prepare the docking station for disassembly (refer to Section 5.3).
2. Loop the cable around a stationary object.
3. Turn the docking station upside down.
4. Remove the three Torx8 T8M2.5×5.0 screws ❶ that secure the cable lock bezel to the base enclosure.
5. Remove the bezel ❷.
6. Remove the bezel blank ❸ from the cable lock bezel.

The cable lock bezel and blank bezel are available using spare part number 435598-001.



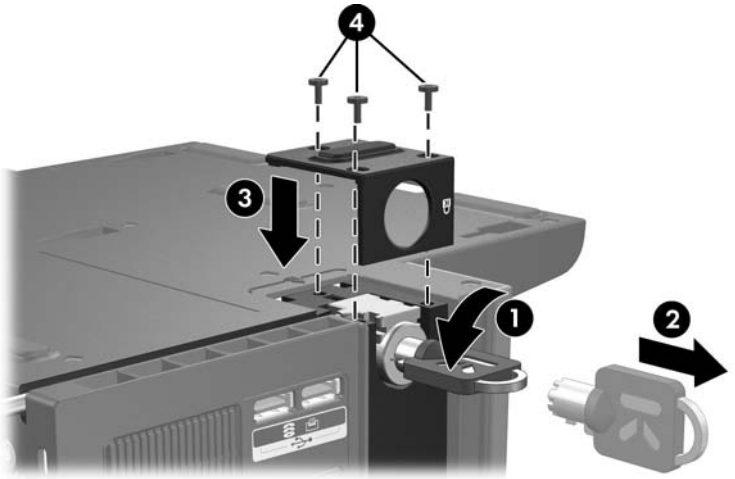
Removing the Cable Lock Bezel

7. Insert the key in the cable lock with the lock in the unlocked position.
8. Align the T-bar on the back of the lock with the notch in the cable lock slot ❶, and then slide the cable lock into the base enclosure ❷.



Installing the Cable Lock Assembly

9. Turn the key ❶ counterclockwise to lock the cable lock assembly.
10. Remove the key ❷.
11. Reinsert the cable lock bezel ❸.
12. Replace the screws ❹ to secure the cable lock bezel.

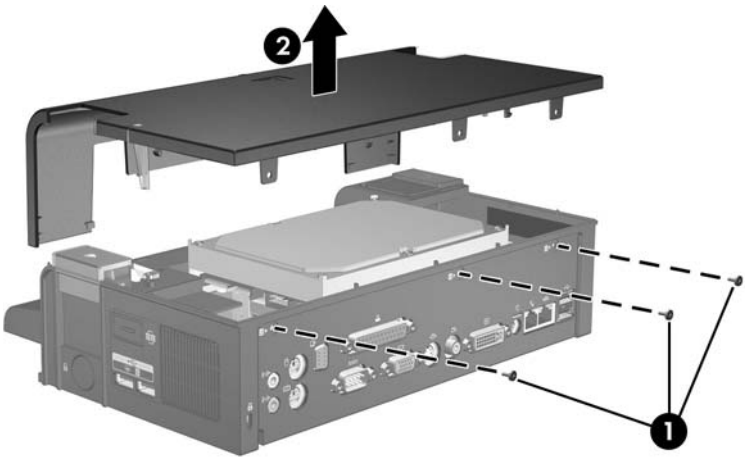


Installing the Cable Lock Bezel

5.5 Top Cover

Top Cover Spare Part Number Information	
Top cover	435588-001

1. Prepare the docking station for disassembly (refer to Section 5.3).
2. Position the docking station with the rear panel toward you.
3. Remove the three Torx8 T8M2.5×5.0 screws ❶ that secure the top cover to the docking station.
4. Remove the top cover ❷.



Removing the Top Cover

Reverse the above procedure to install the top cover.

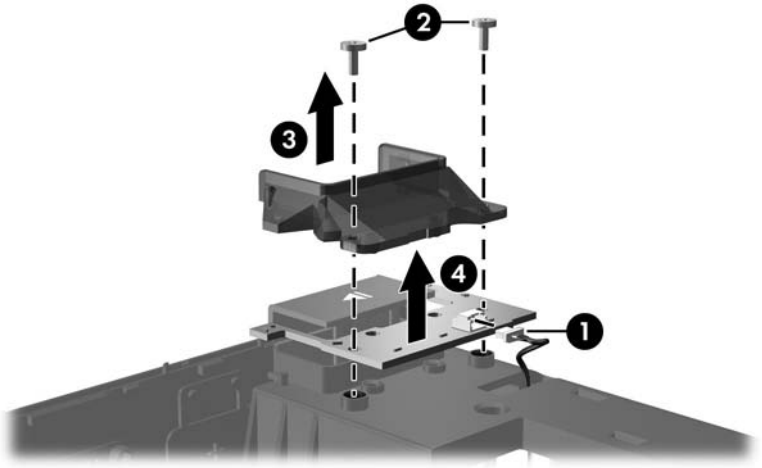
5.6 Docking LED Board

Docking LED Board Spare Part Number Information	
Docking LED board (includes docking LED board cable)	435582-001

1. Prepare the docking station for disassembly (refer to Section 5.3).
2. Remove the top cover (Section 5.5).

3. Disconnect the docking LED board cable ❶ from the docking LED board.
4. Remove the two Phillips PM2.5×7.0 screws ❷ that secure the docking LED board and lens to the docking station.
5. Remove the docking LED lens ❸ and docking LED board ❹.

The docking LED lens is available in the Plastics Kit, spare part number 435597-001.



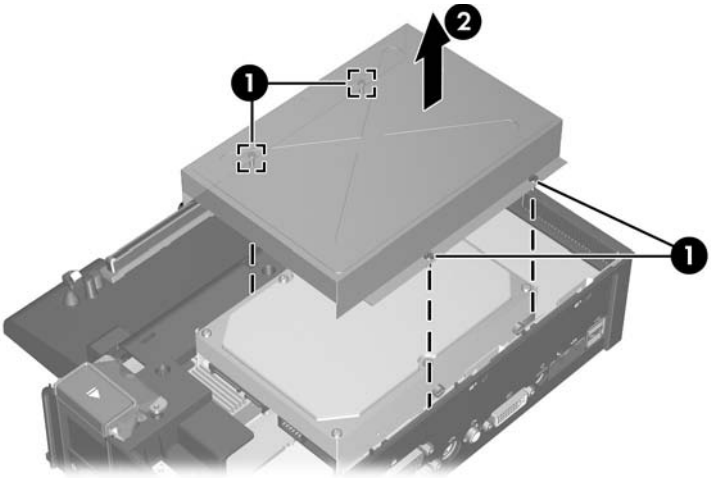
Removing the Docking LED Board and Lens

Reverse the above procedure to install the docking LED board.

5.7 Hard Drive

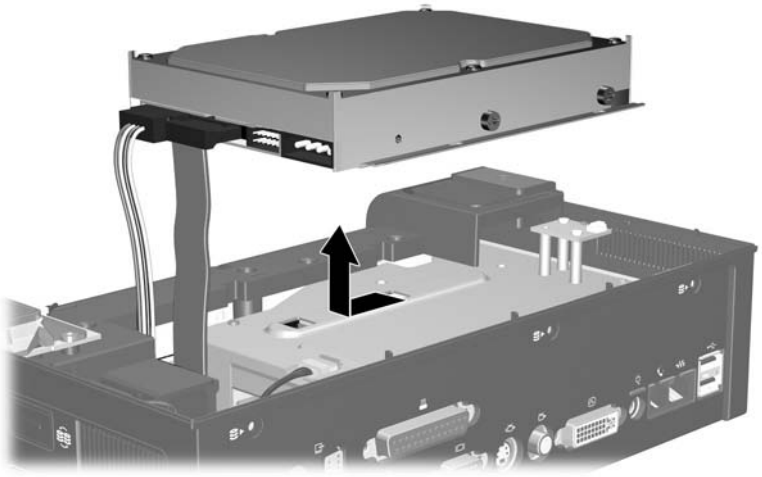
Hard Drive Spare Part Number Information	
Hard drive cover	435594-001
7200-rpm, 160-GB hard drive	418149-001
Hard drive bracket	435593-001

1. Prepare the docking station for disassembly (refer to Section 5.3).
2. Remove the top cover (Section 5.5).
3. Loosen the four Phillips PM2.5×5.0 captive screws ❶ that secure the hard drive cover to the docking station.
4. Remove the hard drive cover ❷.



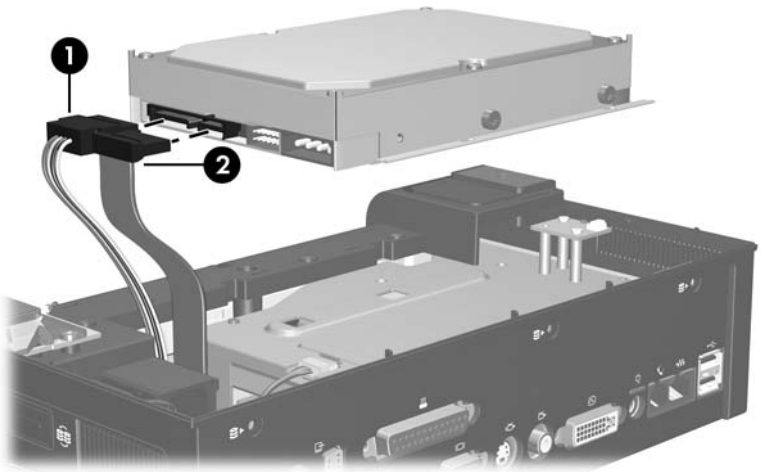
Removing the Hard Drive Cover

5. Slide the hard drive to the left, and then lift the hard drive straight up to release it from the docking station.



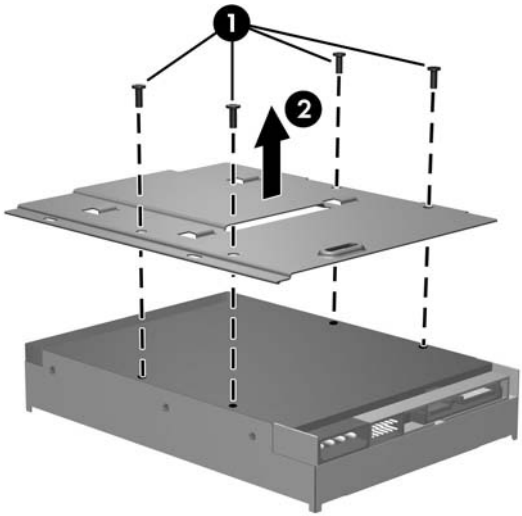
Releasing the Hard Drive

6. Disconnect the hard drive power cable ❶ and the hard drive data cable ❷ from the hard drive.
7. Remove the hard drive.



Removing the Hard Drive

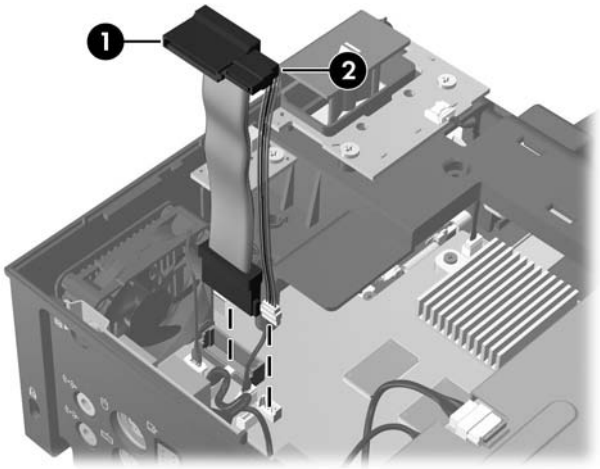
8. If it is necessary to replace the hard drive bracket, turn the hard drive upside down with the connector toward you.
9. Remove the four Phillips PM3.5×5.0 screws ❶ that secure the hard drive bracket to the hard drive.
10. Remove the hard drive bracket ❷ from the hard drive.



Removing the Hard Drive Bracket

11. If it is necessary to replace the hard drive power cable ❶ or the hard drive data cable ❷, disconnect each of the cables from the system board and replace them.

The hard power cable and data cable are available in the Cable Kit, spare part number 435586-001.



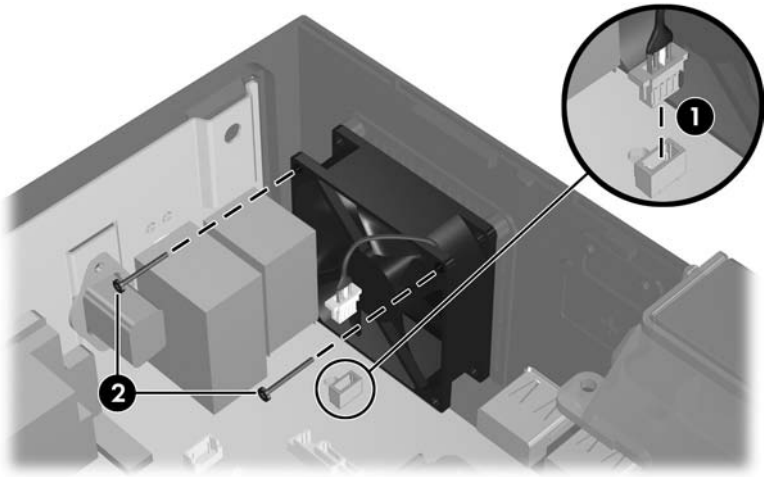
Removing the Hard Drive Power Cable and Hard Drive Data Cable

Reverse the above procedure to assemble and install the hard drive.

5.8 Fan

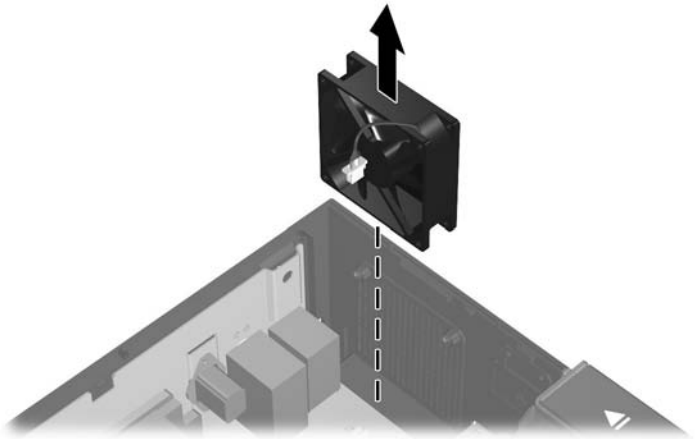
Fan Spare Part Number Information	
Fan	418153-001

1. Prepare the docking station for disassembly (refer to Section 5.3).
2. Remove the top cover (Section 5.5).
3. Remove the hard drive (Section 5.7).
4. Disconnect the fan cable ❶ from the system board.
5. Remove the two Phillips PM2.0×10.0 screws ❷ that secure the fan to the docking station.



Removing the Fan Screws

6. Remove the fan.



Removing the Fan

Reverse the above procedure to install the fan.

5.9 Backup Button Board

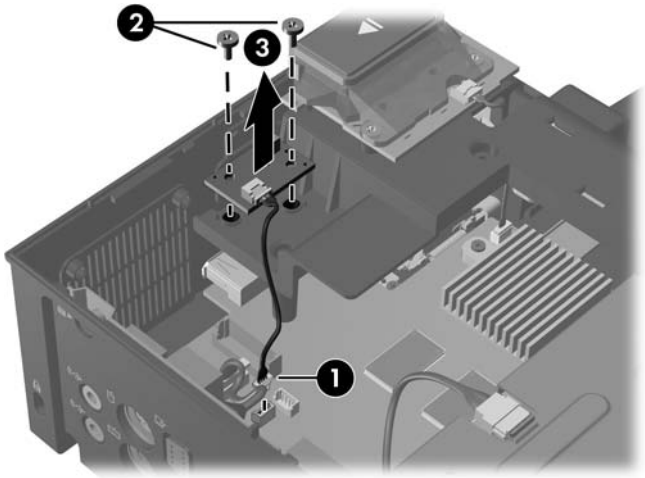
Backup Button Board Spare Part Number Information	
Backup button board (includes backup button board cable)	435580-001

1. Prepare the docking station for disassembly (refer to Section 5.3), and remove the following components:
   - ❏ Top cover (Section 5.5)
   - ❏ Hard drive (Section 5.7)
   - ❏ Fan (Section 5.8)

2. Disconnect the backup board cable ❶ from the system board.

The backup button board cable is included with the backup button board, and is also available in the Cable Kit, spare part number 435586-001.

3. Remove the two Phillips PM2.5×5.0 screws ❷ that secure the backup button board to the docking station.
4. Remove the backup button board ❸.



Removing the Backup Button Board

Reverse the above procedure to install the backup button board.

5.10 MultiBay II LED Board

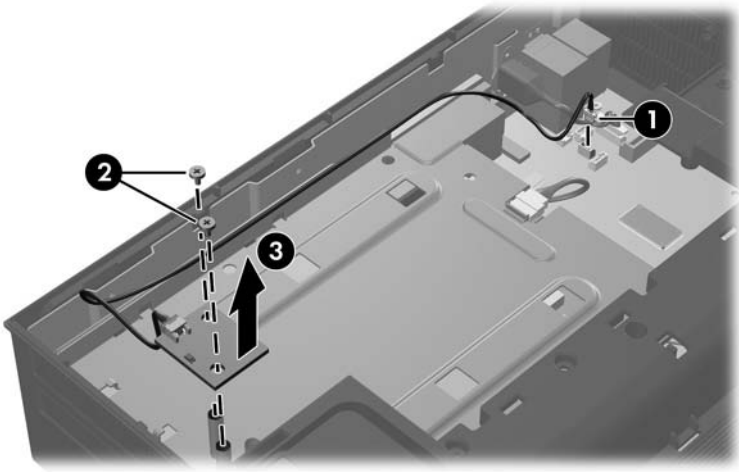
MultiBay II LED Board Spare Part Number Information
MultiBay II LED board (included with MultiBay II connector board, spare part number 435583-001)

1. Prepare the docking station for disassembly (refer to Section 5.3), and remove the following components:
   - ❏ Top cover (Section 5.5)
   - ❏ Hard drive (Section 5.7)
   - ❏ Fan (Section 5.8)

2. Disconnect the MultiBay II LED board cable ❶ from the system board.

The MultiBay II LED board cable is included with the MultiBay II LED board, and is also available in the Cable Kit, spare part number 435586-001.

3. Remove the two Phillips PM2.5×5.0 screws ❷ that secure the MultiBay II LED board to the docking station.
4. Remove the MultiBay II LED board ❸.



Removing the MultiBay II LED Board

Reverse the above procedure to install the MultiBay II LED board.

5.11 Front Enclosure

Front Enclosure Spare Part Number Information	
Front enclosure	435602-001

1. Prepare the docking station for disassembly (refer to Section 5.3), and remove the following components:
   - ❏ Top cover (Section 5.5)
   - ❏ Docking LED board and lens (Section 5.6)
   - ❏ Hard drive (Section 5.7)
   - ❏ Fan (Section 5.8)
   - ❏ Backup button board (Section 5.9)
2. Turn the docking station upside down with the rear panel toward you.

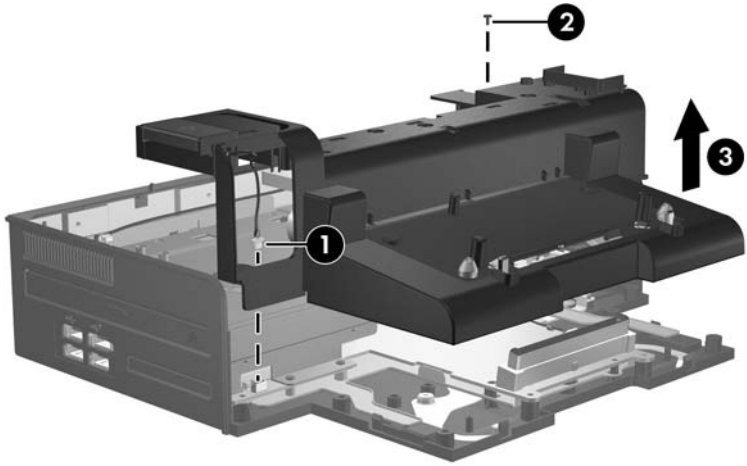
3. Remove the ten Torx8 T8M2.5×8.0 screws that secure the front enclosure to the docking station.

Removing the Front Enclosure Screws

4. Turn the docking station right-side up with the front toward you.
5. Disconnect the power button board cable ❶ from the system board.

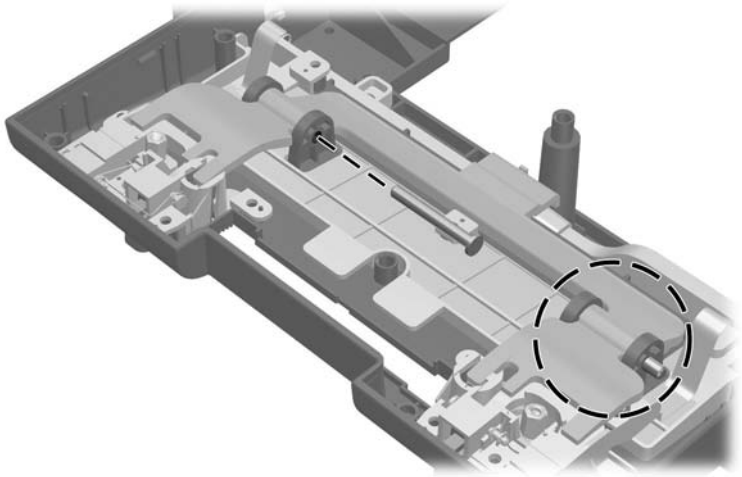
The power button board cable is included with the power button board, and is also available in the Cable Kit, spare part number 435586-001.

6. Remove the Phillips PM2.5×5.0 screw ❷ that secures the front enclosure to the docking station.
7. Lift the front edge of the front enclosure ❸ until it disengages from the docking station.
8. Remove the front enclosure.



Removing the Front Enclosure

After the front enclosure has been removed, turn the enclosure upside down with the front toward you. Ensure that the release assembly retention pins are properly inserted as indicated in the following illustration.



Release Assembly Retention Pins Locations

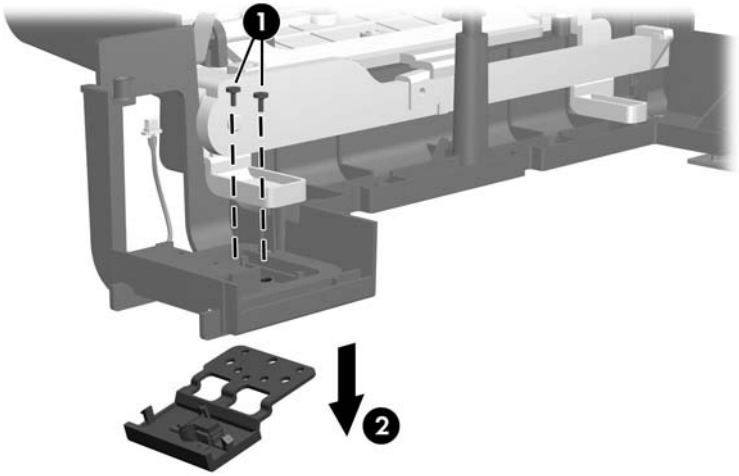
Reverse the above procedure to install the front enclosure.

5.12 Power Button Assembly

Power Button Assembly Spare Part Number Information	
Power button actuator	435601-001
Power button board (includes power button board cable)	435584-001

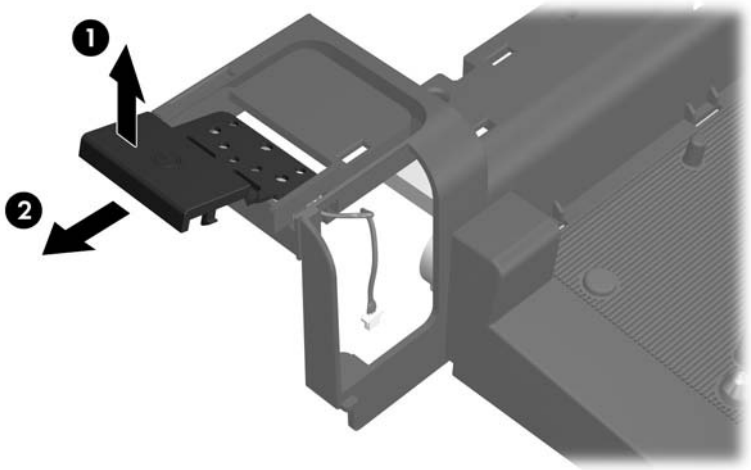
1. Prepare the docking station for disassembly (refer to Section 5.3), and remove the following components:
   - ❏ Top cover (Section 5.5)
   - ❏ Docking LED board and lens (Section 5.6)
   - ❏ Hard drive (Section 5.7)
   - ❏ Fan (Section 5.8)
   - ❏ Backup button board (Section 5.9)
   - ❏ Front enclosure (Section 5.11)
2. Turn the front enclosure upside down with the rear panel toward you.

3. Remove the two Phillips PM2.5×5.0 screws ❶ that secure the power button actuator to the docking station.
4. Use a flat-bladed tool to disengage the left side of the actuator ❷ from the front enclosure.



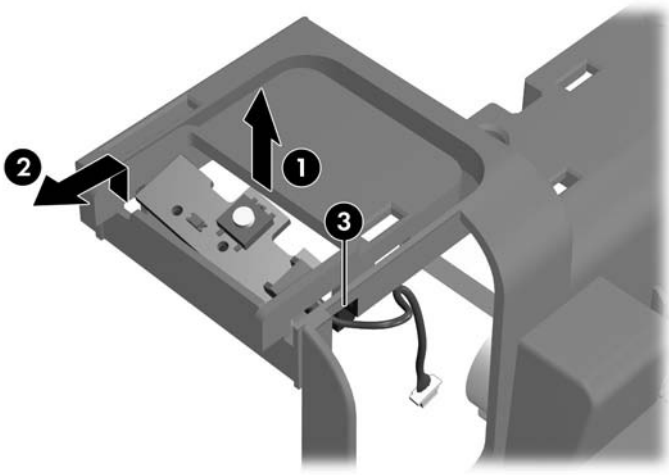
Removing the Power Button Actuator Screws

5. Turn the front enclosure right-side up with the front toward you.
6. Lift the left side of the power button actuator ❶ until it rests at an angle.
7. Slide the power button actuator ❷ up and away from the front enclosure.



Removing the Power Button Actuator

8. Lift the right side of the power button board ❶ until it disengages from the clips in the top cover.
9. Lift the rear edge of the power button board until it rests at an angle.
10. Slide the power button board ❷ out of the front enclosure.
11. Route the power button board cable ❸ out of the hole in the front enclosure.



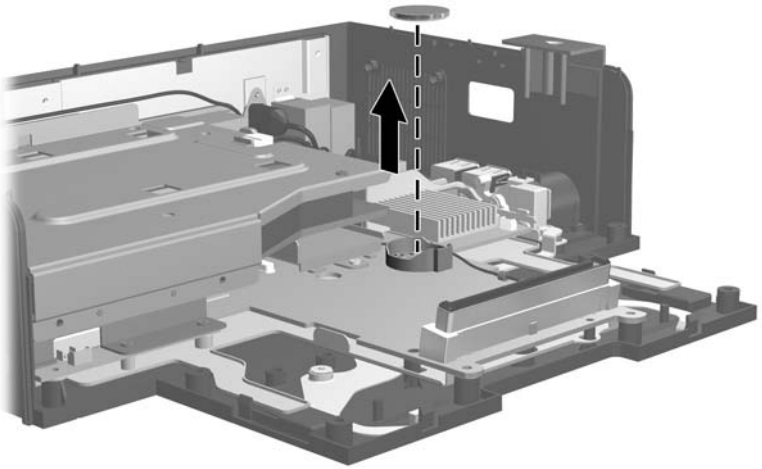
Removing the Power Button Board and Cable

Reverse the above procedure to install the power button assembly.

5.13 RTC Battery

The RTC battery is included with the system board, spare part number 435585-001.

1. Prepare the docking station for disassembly (refer to Section 5.3), and remove the following components:
   - ❏ Top cover (Section 5.5)
   - ❏ Docking LED board and lens (Section 5.6)
   - ❏ Hard drive (Section 5.7)
   - ❏ Fan (Section 5.8)
   - ❏ Backup button board (Section 5.9)
   - ❏ Front enclosure (Section 5.11)
2. Remove the RTC battery from the socket on the system board.



Removing the RTC Battery

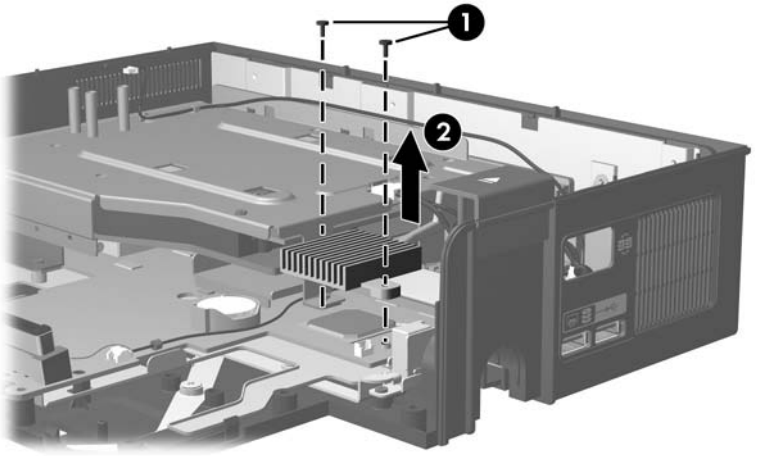
Reverse the above procedure to install the RTC battery. Make sure the RTC battery is installed with the "+" sign facing up.

5.14 MultiBay II Assembly

MultiBay II Assembly Spare Part Number Information	
MultiBay II assembly (includes MultiBay II top and bottom brackets, housing, and eject assembly)	435600-001
MultiBay II connector board (includes MultiBay II connector board cable and MultiBay II LED board)	435583-001
Heat sink	436855-001
Locking linkage	435600-001

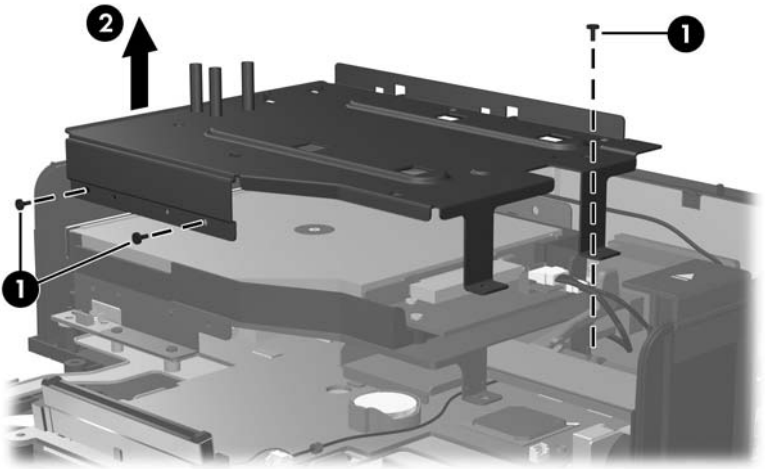
1. Prepare the docking station for disassembly (refer to Section 5.3), and remove the following components:
   - ❏ Top cover (Section 5.5)
   - ❏ Docking LED board and lens (Section 5.6)
   - ❏ Hard drive (Section 5.7)
   - ❏ Fan (Section 5.8)
   - ❏ Backup button board (Section 5.9)
   - ❏ Front enclosure (Section 5.11)

2. Remove the two Phillips PM2.5×10.0 screws ❶ that secure the heat sink to the docking station.
3. Remove the heat sink ❷.



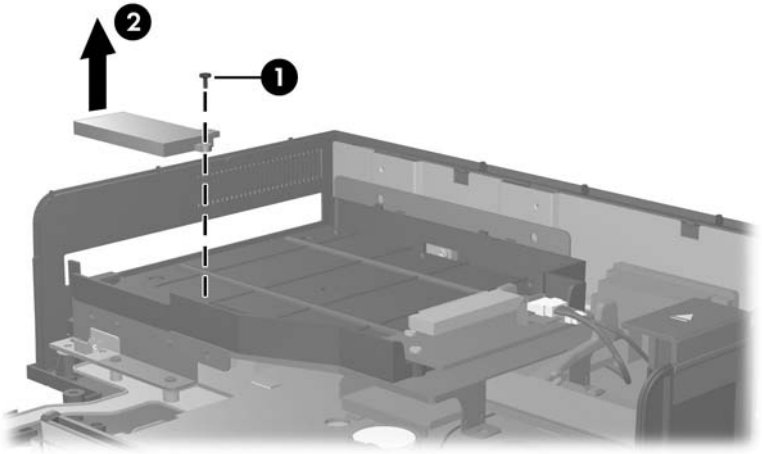
Removing the Heat Sink

4. Remove the three Phillips PM2.5×5.0 screws ❶ that secure the MultiBay II top bracket to the docking station.
5. Remove the MultiBay II top bracket ❷.



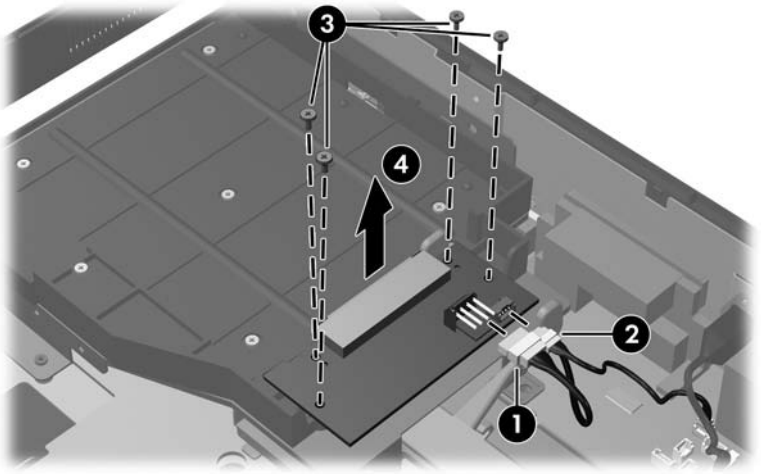
Removing the MultiBay II Top Bracket

6. Remove the Phillips PM2.0×6.0 screw ❶ that secures the MultiBay II eject assembly to the docking station.
7. Remove the MultiBay II eject assembly ❷.



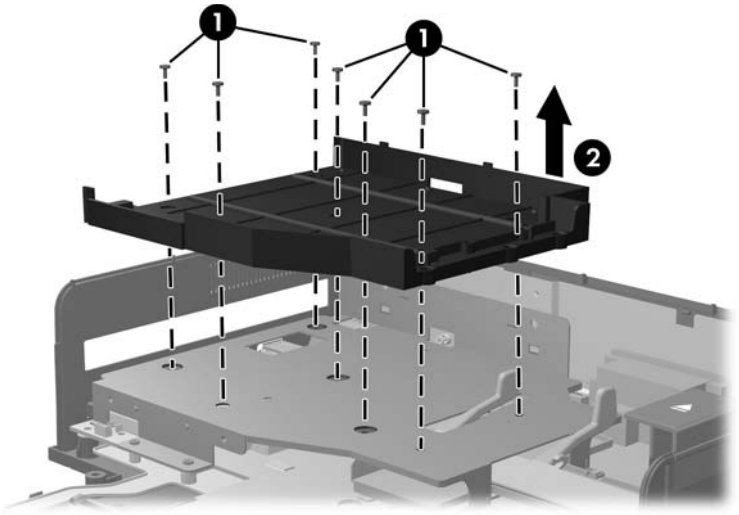
Removing the MultiBay II Eject Assembly

8. Disconnect the MultiBay II power cable ❶ and MultiBay II connector board cable ❷ from the MultiBay II connector board.
9. Remove the four Phillips PM2.5×5.0 screws ❸ that secure the MultiBay II connector board to the docking station.
10. Remove the MultiBay II connector board ❹.



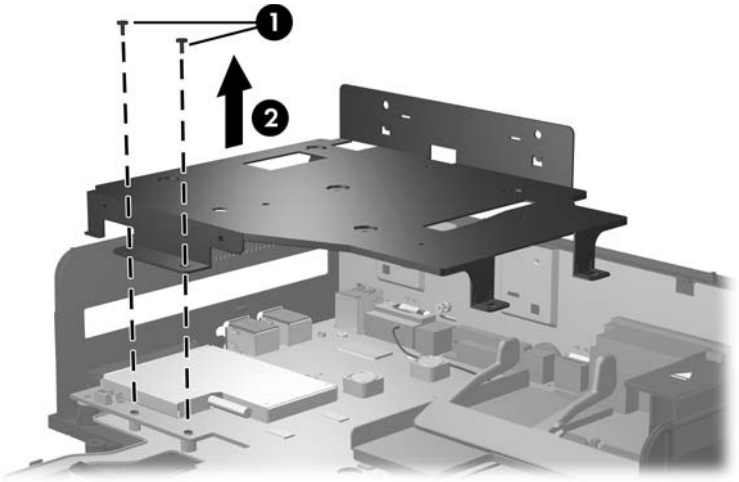
Removing the MultiBay II Connector Board

11. Remove the seven Phillips PM2.5×5.0 screws ❶ that secure the MultiBay II housing to the docking station.
12. Remove the MultiBay II housing ❷.



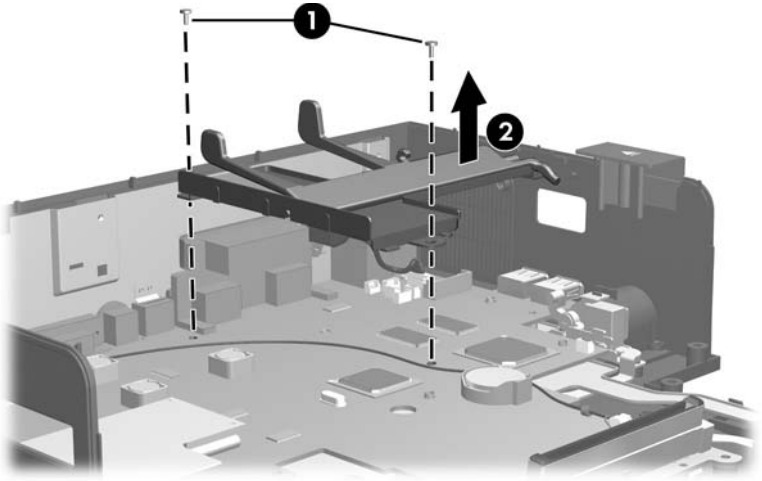
Removing the MultiBay II Housing

13. Remove the two Phillips PM2.5×5.0 screws ❶ that secure the MultiBay II bottom bracket to the docking station.
14. Remove the MultiBay II bottom bracket ❷.



Removing the MultiBay II Bottom Bracket

15. Remove the two Phillips PM2.5×5.0 screws ❶ that secure the locking linkage to the docking station.
16. Remove the locking linkage ❷.



Removing the Locking Linkage

Reverse the above procedure to install the MultiBay II assembly.

5.15 System Board

System Board Spare Part Number Information	
System board (includes RTC battery, ExpressCard assembly, modem connector and cable, and MultiBay II power cable)	435585-001
Composite video port spacer	435587-001
System board bracket	435599-001

1. Prepare the docking station for disassembly (refer to Section 5.3), and remove the following components:
   - ❏ Top cover (Section 5.5)
   - ❏ Docking LED board and lens (Section 5.6)
   - ❏ Hard drive (Section 5.7)
   - ❏ Fan (Section 5.8)
   - ❏ Backup button board (Section 5.9)
   - ❏ Front enclosure (Section 5.11)

2. Turn the docking station upside down with the rear panel toward you.
3. Remove the five Torx8 T8M2.5×8.0 screws that secure the system board and system board bracket to the base enclosure.

Removing the System Board Screws, Part 1

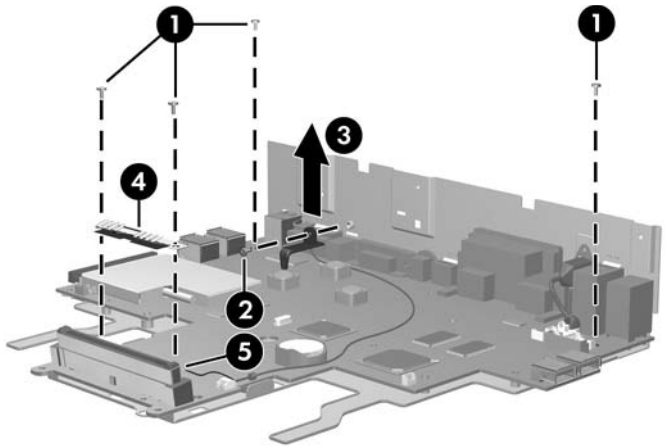
4. Turn the docking station right-side up with the front toward you.
5. Remove the four Phillips PM2.5×5.0 screws ❶ that secure the system board to the base enclosure.

The two screws that secure the front edge of the system board also secure the EMI spring ❹. The front right screw securing the system board also secures a ground loop ❺ on the modem cable.

The EMI spring is available using spare part number 435592-001.

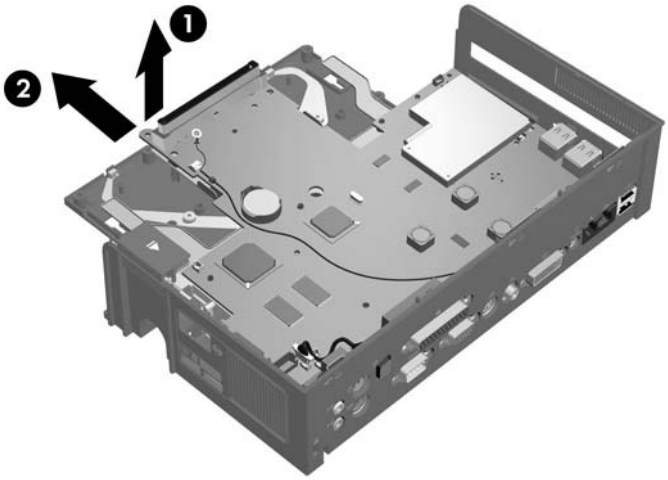
6. Remove the Phillips PM2.5×5.0 screw ❷ that secures the power connector LED lens to the base enclosure.
7. Remove the power connector LED lens ❸.

The power connector LED lens is available in the Plastics Kit, spare part number 435597-001.



Removing the System Board Screws, Part 2

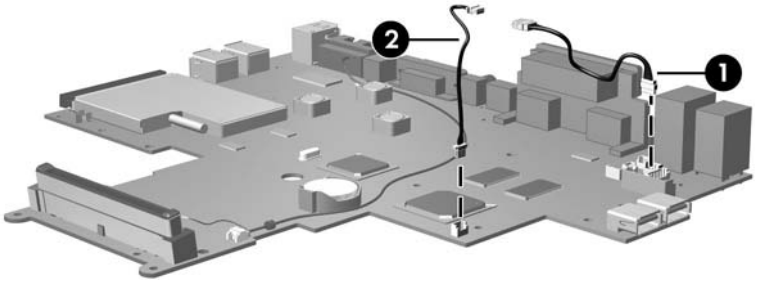
8. Lift the front edge of the system board and shield ❶ until they rest at an angle.
9. Slide the system board and shield ❷ forward and remove them.



Removing the System Board

10. If it is necessary to replace the MultiBay II connector board cable ❶ or docking LED board cable ❷, disconnect the cables from the system board and replace them with new cables.

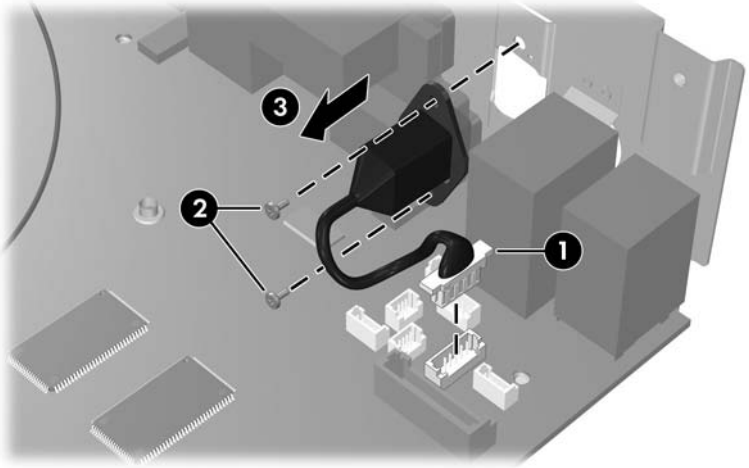
The docking LED board cable is included with the docking LED board, and is also available in the Cable Kit, spare part number 435586-001. The MultiBay II connector board cable is also available in the Cable Kit.



Removing the System Board Cables

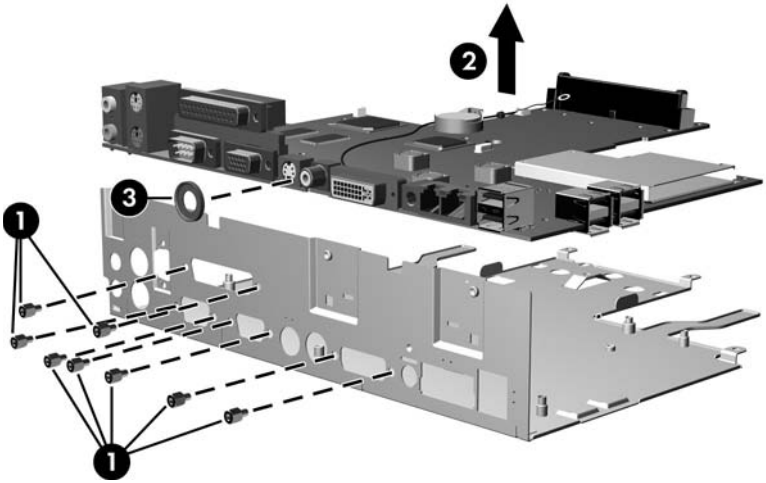
11. If it is necessary to replace the monitor stand port cable, position the system board and shield with the front toward you.
12. Disconnect the monitor stand port cable ❶ from the system board.
13. Remove the two Phillips PM2.5×5.0 screws ❷ that secure the monitor stand port cable to the system board shield.
14. Remove the monitor stand port cable ❸.

The monitor stand port cable is available in the Cable Kit, spare part number 435586-001.



Removing the Monitor Stand Port Cable

15. If it is necessary to remove the system board from the system board bracket, remove the eight Hex HM5.0×9.0 screw locks ❶ that secure the system board to the system board bracket.
16. Remove the system board ❷.
17. If it is necessary to replace the composite video port spacer, remover the spacer ❸ from the composite video port.



Removing the System Board from the System Board Shield

6

Specifications

This chapter provides physical and performance specifications.

Table 6-1

Docking Station

Dimensions		
Height	28.0 cm	11.02 in
Width	7.5 cm	2.95 in
Depth	24.6 cm	9.69 in
Weight	2.76 kg	6.09 lbs
Power supply (input)		
Rated voltage	100 V to 240 V	
Rated current	2.5 A	
Line frequency	50 Hz to 60 Hz	
Temperature		
Operating*	10°C to 35°C	50°F to 95°F
Nonoperating	-10°C to 60°C	14°F to 140°F

*Applicable product safety standards specify thermal limits for plastic surfaces. The docking station operates well within this range of temperatures.

Table 6-1

Docking Station *(Continued)*

Relative humidity (noncondensing)		
Operating	10% to 90%	
Nonoperating	5% to 90%, 38.7°C (101.6°F) maximum wet bulb temperature	
Maximum altitude		
Operating	0 m to 3,048 m	0 ft to 10,000 ft
Nonoperating	0 m to 9,144 m	0 ft to 30,000 ft
Shock		
Operating	40 G, 2 ms, half-sine	
Nonoperating	240 G, 2 ms, half-sine	
Vibration		
Operating	0.5 G zero-to-peak, 10 to 500 Hz, 0.25 oct/min sweep rate	
Nonoperating	1.5 G, zero-to-peak, 10 to 500 Hz, 0.5 oct/min sweep rate	

Table 6-2

Hard Drive - 160-GB*

Dimensions	
Height	25.4 mm
Width	89 mm
Weight	499 g
Interface type	AT 16 bit
Data transfer rate	
Disk to buffer	45 Mbytes/sec
Interface with or without IORDY	16.6 Mbytes/sec
Seek times (typical read, including setting)	
Single track	3 ms
Average	13 ms
Maximum	24 ms
Physical geometry	
Cylinders	84,543
Heads	4
Sectors	ID 528-710 OD 998-1216

✎ Certain restrictions and exclusions apply. Consult Customer Care for details.

*Total storage capacity is 160 billion bytes (for hard drives, 1 GB = 1 billion bytes); actual accessible capacity is less. Actual drive specifications may differ slightly.

Table 6-2

Hard Drive - 160-GB* *(Continued)*

Logical geometry	
Cylinders	16,383
Heads	16
Sectors	63
Total logical sections	320,173,056
Disk rotational speed	7200 rpm
Average latency	5.5 ms
Spin-up time (maximum)	7.0 s
Spin-down time (maximum)	100 s
Operating temperature	5°C to 55°C (41°F to 131°F)

✎ Certain restrictions and exclusions apply. Consult Customer Care for details.

*Total storage capacity is 160 billion bytes (for hard drives, 1 GB = 1 billion bytes); actual accessible capacity is less. Actual drive specifications may differ slightly.

A

Screw Listing

This appendix provides specification and reference information for the screws used on the docking station. All screws listed in this appendix are available in the Screw Kit, spare part number 418152-001.

Table A-1

Torx8 T8M2.5×5.0 Screw

mm	Color	Qty.	Length	Thread	Head Width
	Black	6	5.0 mm	2.5 mm	5.0 mm

Where used:

3 screws that secure the cable lock bezel to the docking station (documented in Section 5.4)

Torx8 T8M2.5×5.0 Screw Locations

Table A-1

Torx8 T8M2.5×5.0 Screw *(Continued)*

mm	Color	Qty.	Length	Thread	Head Width
	Black	6	5.0 mm	2.5 mm	5.0 mm

Where used:

3 screws that secure the top cover to the docking station (documented in Section 5.5)

Torx T8M2.5×5.0 Screw Locations

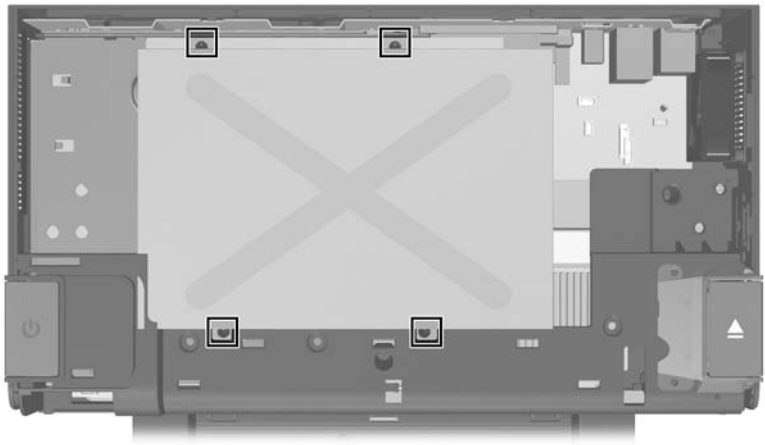
Table A-2

Phillips PM2.5×5.0 Screw

mm	Color	Qty.	Length	Thread	Head Width
	Black	36	5.0 mm	2.5 mm	5.0 mm

Where used:

4 screws that secure the hard drive cover to the docking station (screws are secured to the hard drive cover by C-clips; documented in Section 5.7)



Phillips PM2.5×5.0 Screw Locations

Table A-2

Phillips PM2.5×5.0 Screw *(Continued)*

mm	Color	Qty.	Length	Thread	Head Width
	Black	36	5.0 mm	2.5 mm	5.0 mm

Where used:

2 screws that secure the backup button board to the docking station (documented in Section 5.9)

Phillips PM2.5×5.0 Screw Locations

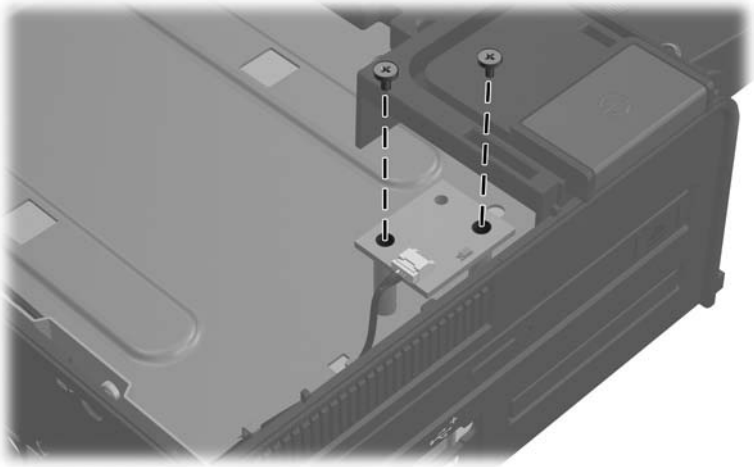
Table A-2

Phillips PM2.5×5.0 Screw *(Continued)*

mm	Color	Qty.	Length	Thread	Head Width
	Black	36	5.0 mm	2.5 mm	5.0 mm

Where used:

2 screws that secure the MultiBay II LED board to the docking station (documented in Section 5.10)



Phillips PM2.5×5.0 Screw Locations

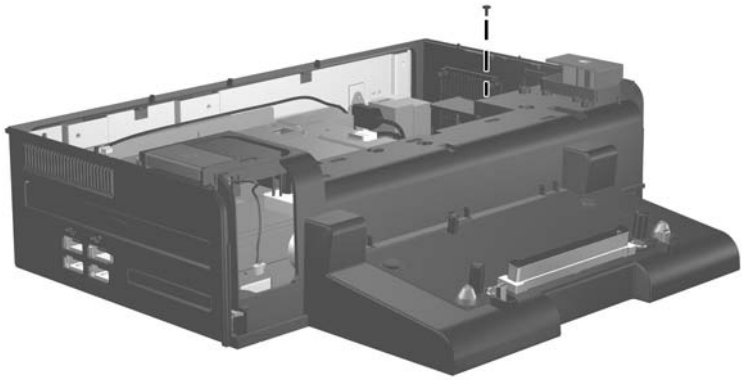
Table A-2

Phillips PM2.5×5.0 Screw *(Continued)*

mm	Color	Qty.	Length	Thread	Head Width
	Black	36	5.0 mm	2.5 mm	5.0 mm

Where used:

One screw that secures the front enclosure to the base enclosure (documented in Section 5.11)



Phillips PM2.5×5.0 Screw Location

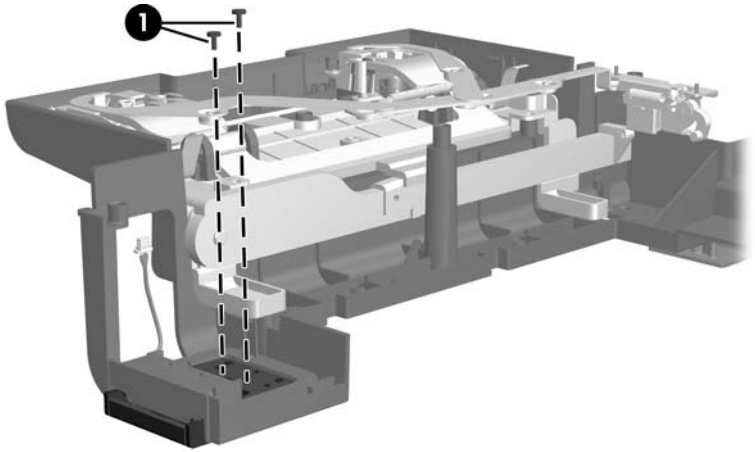
Table A-2

Phillips PM2.5×5.0 Screw *(Continued)*

mm	Color	Qty.	Length	Thread	Head Width
	Black	36	5.0 mm	2.5 mm	5.0 mm

Where used:

2 screws that secure the power button actuator to the front enclosure (documented in Section 5.12)



Phillips PM2.5×5.0 Screw Locations

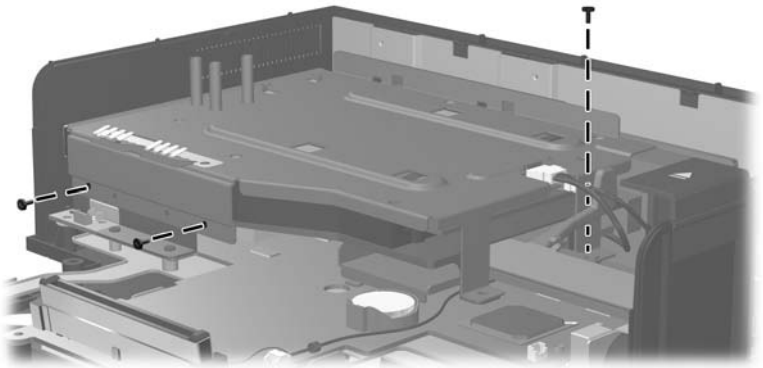
Table A-2

Phillips PM2.5×5.0 Screw *(Continued)*

mm	Color	Qty.	Length	Thread	Head Width
	Black	36	5.0 mm	2.5 mm	5.0 mm

Where used:

3 screws that secure the MultiBay II bracket to the base enclosure (documented in Section 5.14)



Phillips PM2.5×5.0 Screw Locations

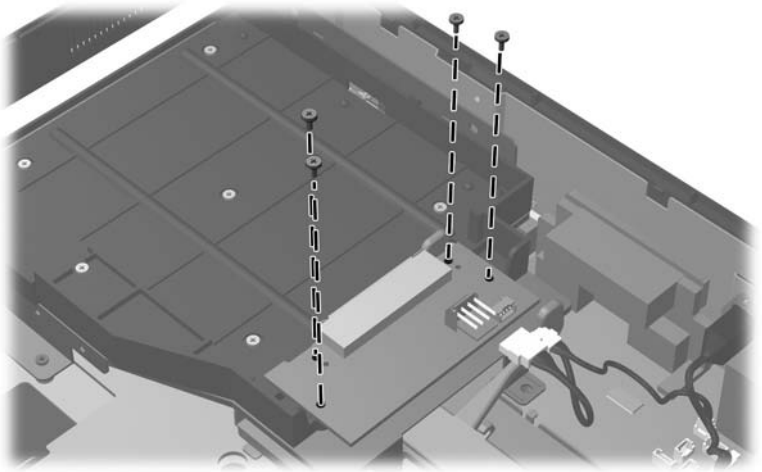
Table A-2

Phillips PM2.5×5.0 Screw *(Continued)*

mm	Color	Qty.	Length	Thread	Head Width
	Black	36	5.0 mm	2.5 mm	5.0 mm

Where used:

4 screws that secure the MultiBay II connector to the MultiBay II housing (documented in Section 5.14)



Phillips PM2.5×5.0 Screw Locations

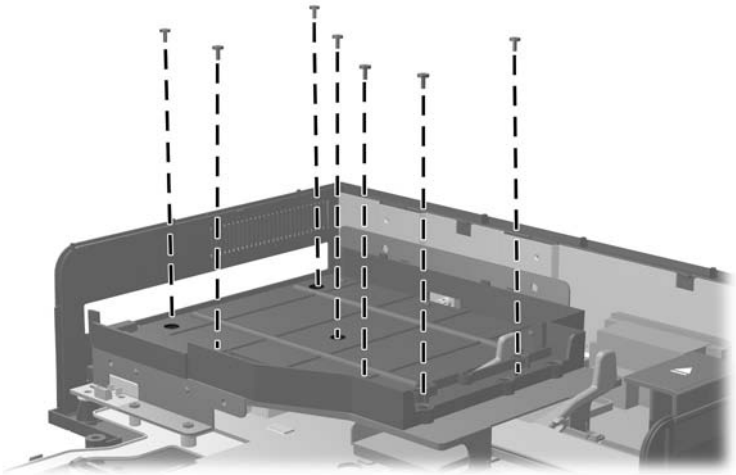
Table A-2

Phillips PM2.5×5.0 Screw *(Continued)*

mm	Color	Qty.	Length	Thread	Head Width
	Black	36	5.0 mm	2.5 mm	5.0 mm

Where used:

7 screws that secure the MultiBay II housing to the MultiBay II shield (documented in Section 5.14)



Phillips PM2.5×5.0 Screw Locations

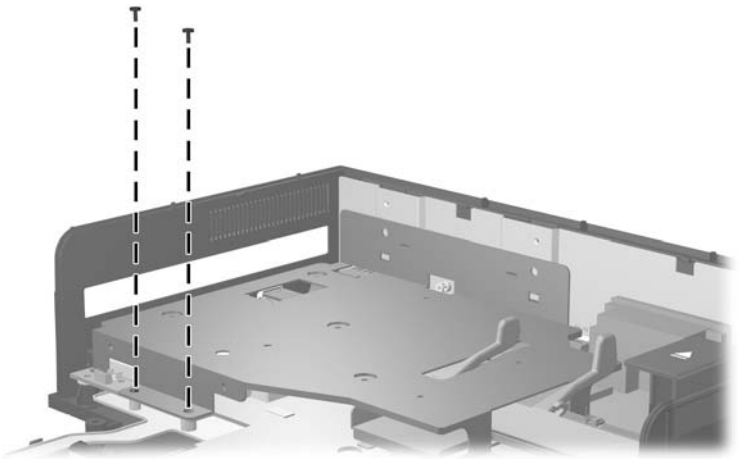
Table A-2

Phillips PM2.5×5.0 Screw *(Continued)*

mm	Color	Qty.	Length	Thread	Head Width
	Black	36	5.0 mm	2.5 mm	5.0 mm

Where used:

2 screws that secure the MultiBay II shield to the base enclosure (documented in Section 5.14)



Phillips PM2.5×5.0 Screw Locations

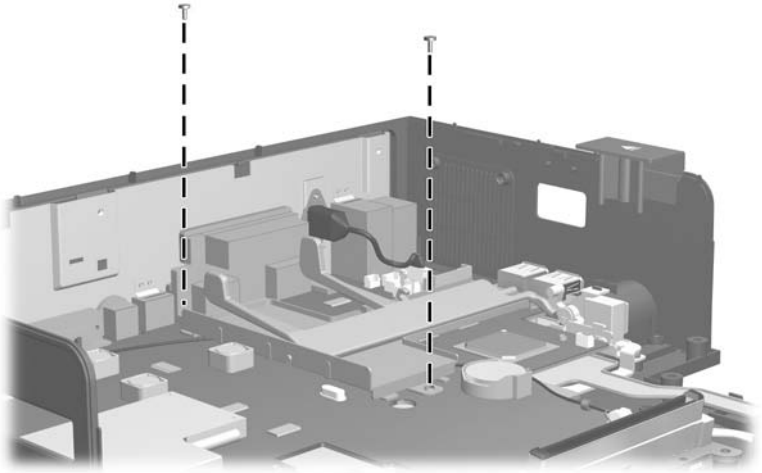
Table A-2

Phillips PM2.5×5.0 Screw *(Continued)*

mm	Color	Qty.	Length	Thread	Head Width
	Black	36	5.0 mm	2.5 mm	5.0 mm

Where used:

2 screws that secure the MultiBay II locking linkage to the base enclosure (documented in Section 5.14)



Phillips PM2.5×5.0 Screw Locations

Table A-2

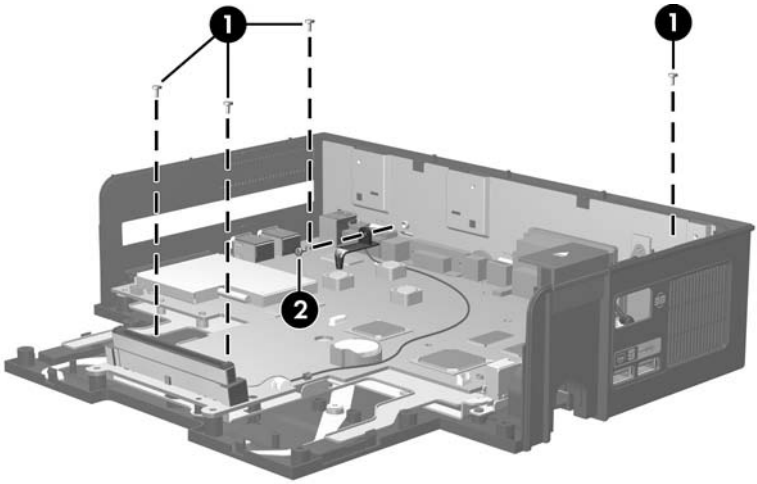
Phillips PM2.5×5.0 Screw *(Continued)*

mm	Color	Qty.	Length	Thread	Head Width
	Black	36	5.0 mm	2.5 mm	5.0 mm

Where used:

❶ Four screws that secure the system board, ground clip, and ground loop to the base enclosure (documented in Section 5.15)

❷ One screw that secures the power connector LED to the system board shield (documented in Section 5.15)



Phillips PM2.5×5.0 Screw Locations

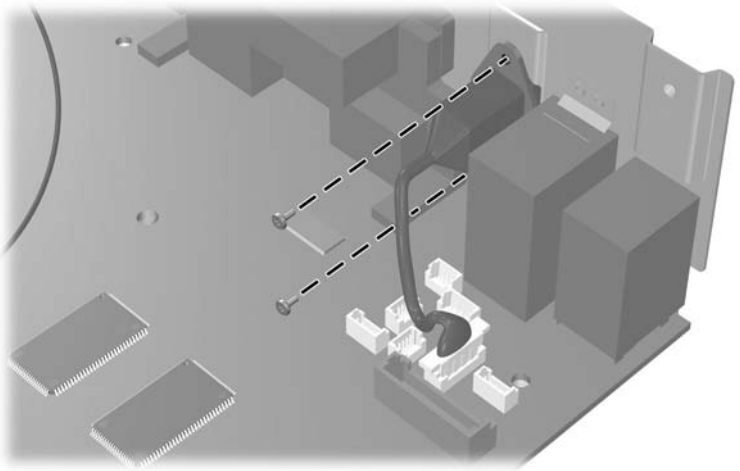
Table A-2

Phillips PM2.5×5.0 Screw *(Continued)*

mm	Color	Qty.	Length	Thread	Head Width
	Black	36	5.0 mm	2.5 mm	5.0 mm

Where used:

2 screws that secure the monitor stand connector cable to the system board shield (documented in Section 5.15)



Phillips PM2.5×5.0 Screw Locations

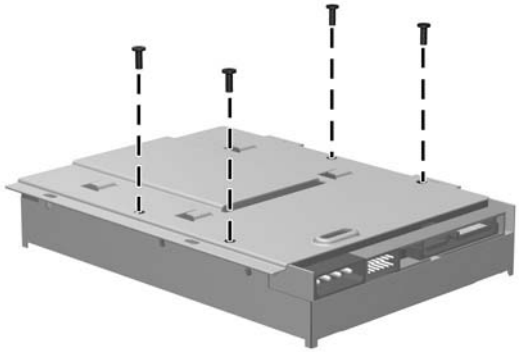
Table A-3

Phillips PM3.0×5.0 Screw

mm	Color	Qty.	Length	Thread	Head Width
	Silver	4	5.0 mm	3.0 mm	5.5 mm

Where used:

4 screws that secure the hard drive bracket to the hard drive (documented in Section 5.7)



Phillips PM3.0×5.0 Screw Locations

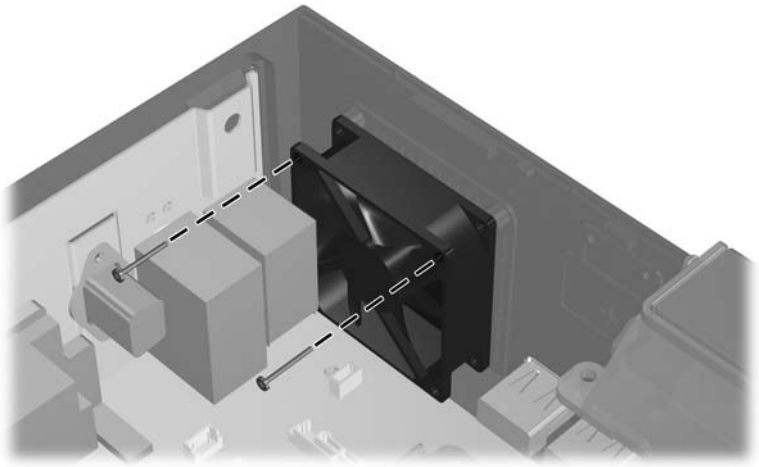
Table A-4

Phillips PM2.0×10.0 Screw

	Color	Qty.	Length	Thread	Head Width
mm	Black	2	10.0 mm	2.0 mm	5.0 mm

Where used:

2 screws that secure the fan to the docking station (documented in Section 5.8)



Phillips PM2.0×10.0 Screw Locations

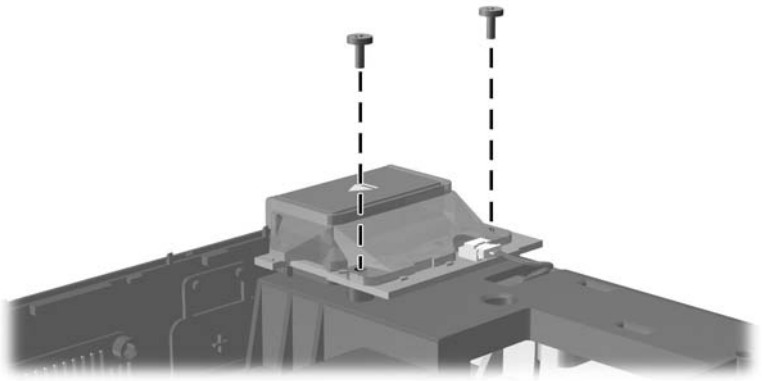
Table A-5

Phillips PM2.5×7.0 Screw

mm	Color	Qty.	Length	Thread	Head Width
	Black	2	7.0 mm	2.5 mm	5.0 mm

Where used:

2 screws that secure the docking LED lens and docking LED board to the docking station (documented in Section 5.6)



Phillips PM2.5×7.0 Screw Locations

Table A-6

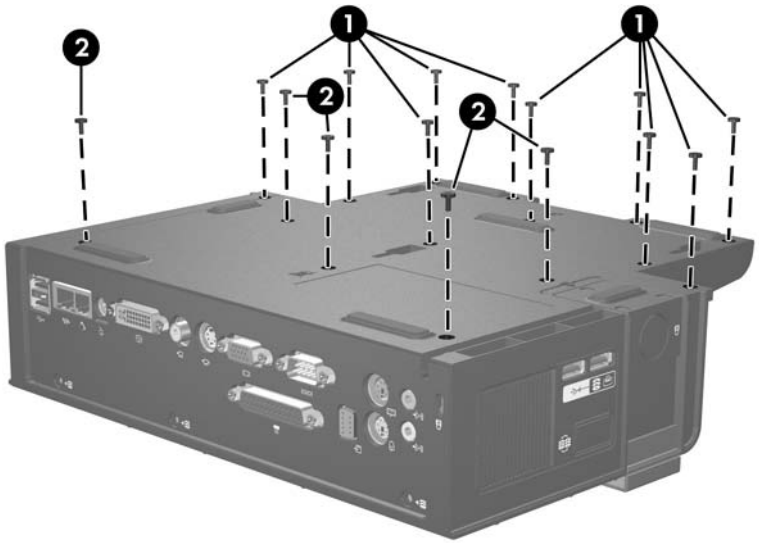
Torx8 T8M2.5×8.0 Screw

mm	Color	Qty.	Length	Thread	Head Width
	Black	15	8.0 mm	2.5 mm	5.0 mm

Where used:

❶ Ten screws that secure the front enclosure to the base enclosure (documented in Section 5.11)

❷ Five screws that secure the system board and system board bracket to the base enclosure (documented in Section 5.15)



Torx8 T8M2.5×8.0 Screw Locations

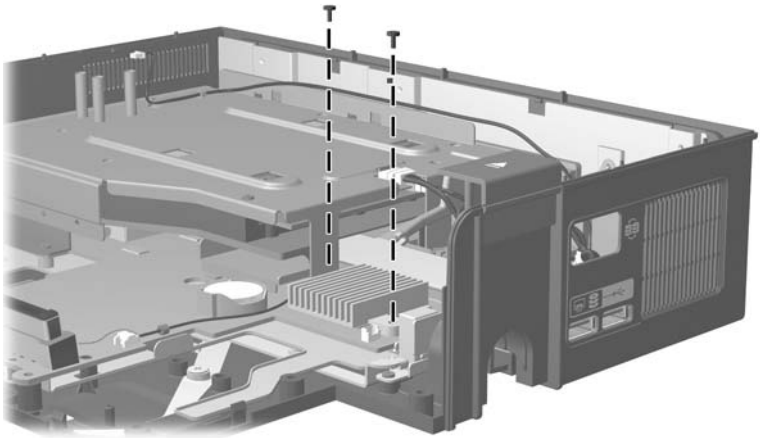
Table A-7

Phillips PM2.5×10.0 Screw

mm	Color	Qty.	Length	Thread	Head Width
	Black	2	10.0 mm	2.5 mm	5.0 mm

Where used:

2 screws that secure the heat sink to the base enclosure (documented in Section 5.14)



Phillips PM2.5×10.0 Screw Locations

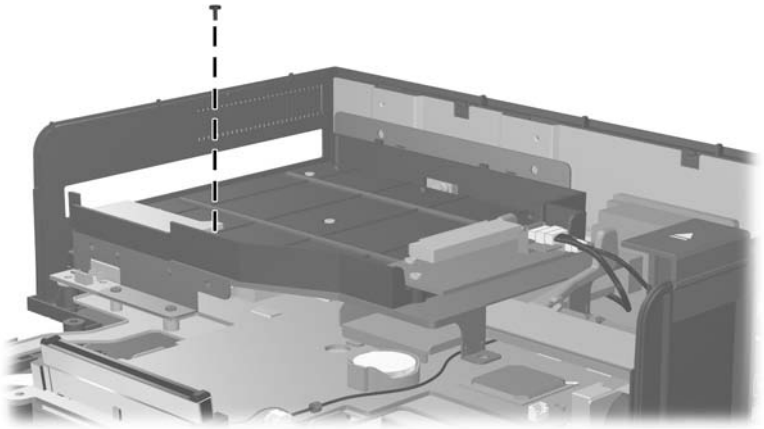
Table A-8

Phillips PM2.0×6.0 Screw

mm	Color	Qty.	Length	Thread	Head Width
	Black	1	6.0 mm	2.0 mm	5.0 mm

Where used:

One screw that secures the eject assembly to the MultiBay II housing (documented in Section 5.14)



Phillips PM2.0×6.0 Screw Location

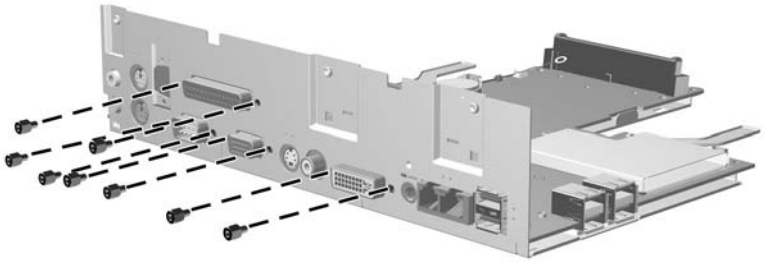
Table A-9

Hex HM5.0×9.0 Screw Lock

mm	Color	Qty.	Length	Thread	Head Width
	Silver	8	9.0 mm	3.0 mm	5.0 mm

Where used:

8 screw locks that secure the system board to the system board shield (documented in Section 5.15)



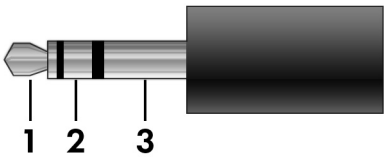
Hex HM5.0×9.0 Screw Lock Locations

B

Connector Pin Assignments

Table B-1

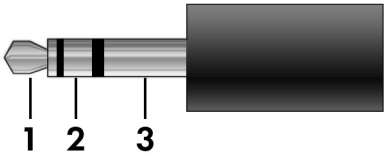
Audio-In (Microphone) Jack



Pin	Signal	Pin	Signal
1	Audio signal in	3	Ground
2	Audio signal in		

Table B-2

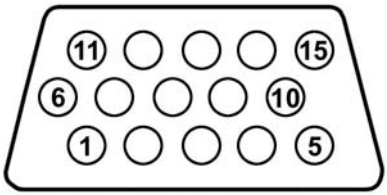
Audio-Out (Headphone) Jack



Pin	Signal	Pin	Signal
1	Audio out, left channel	3	Ground
2	Audio out, right channel		

Table B-3

External Monitor Port



Pin	Signal	Pin	Signal
1	Red analog	9	+5 VDC
2	Green analog	10	Ground
3	Blue analog	11	Monitor detect
4	Not connected	12	DDC 2B data
5	Ground	13	Horizontal sync
6	Ground analog	14	Vertical sync
7	Ground analog	15	DDC 2B clock
8	Ground analog		

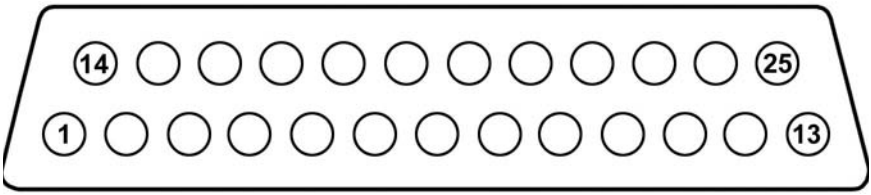
Table B-4

Keyboard/Mouse Connector

Pin	Signal	Pin	Signal
1	Keyboard/mouse DATA	4	+5 VDC
2	Keyboard/mouse DATA	5	Keyboard/mouse CLK
3	Ground	6	Keyboard/mouse CLK

Table B-5

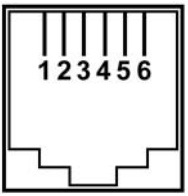
Parallel Port



Pin	Signal	Pin	Signal
1	Strobe	14	Auto linefeed
2	Data bit 0	15	Error
3	Data bit 1	16	Initialize printer
4	Data bit 2	17	Select in
5	Data bit 3	18	Ground
6	Data bit 4	19	Ground
7	Data bit 5	20	Ground
8	Data bit 6	21	Ground
9	Data bit 7	22	Ground
10	Acknowledge	23	Ground
11	Busy	24	Ground
12	Paper end	25	Ground
13	Select		

Table B-6

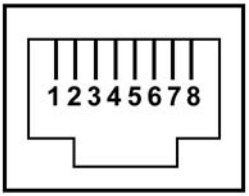
RJ-11 (Modem) Jack



Pin	Signal	Pin	Signal
1	Unused	4	Unused
2	Tip	5	Unused
3	Ring	6	Unused

Table B-7

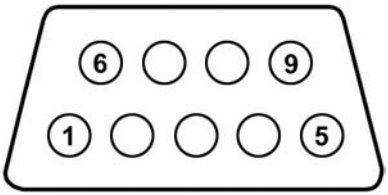
RJ-45 (Network) Jack



Pin	Signal	Pin	Signal
1	Transmit +	5	Unused
2	Transmit –	6	Receive –
3	Receive +	7	Unused
4	Unused	8	Unused

Table B-8

Serial Port



Pin	Signal	Pin	Signal
1	Carrier detect	6	Data set ready
2	Receive data	7	Ready to send
3	Transmit data	8	Clear to send
4	Data terminal ready	9	Ring indicator
5	Ground		

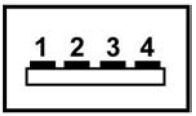
Table B-9

S-Video-Out Jack

Pin	Signal	Pin	Signal
1	TV-Ground	5	TV-CD
2	TV-CVBS	6	TV-Ground
3	TV-Ground	7	TV-YD
4	TV-Ground		

Table B-10

Universal Serial Bus



Pin	Signal	Pin	Signal
1	+5 VDC	3	Data +
2	Data –	4	Ground

C

Power Cord Set Requirements

3-Conductor Power Cord Set

The wide range input feature of the docking station permits it to operate from any line voltage from 100 to 120 or 220 to 240 volts AC.

The power cord set included with the docking station meets the requirements for use in the country where the equipment is purchased.

Power cord sets for use in other countries must meet the requirements of the country where the docking station is used.

General Requirements

The requirements listed below are applicable to all countries.

- The length of the power cord set must be at least 1.5 m (5.0 ft) and a maximum of 2.0 m (6.5 ft).
- All power cord sets must be approved by an acceptable accredited agency responsible for evaluation in the country where the power cord set will be used.
- The power cord sets must have a minimum current capacity of 10 amps and a nominal voltage rating of 125 or 250 V AC, as required by each country's power system.
- The appliance coupler must meet the mechanical configuration of an EN 60 320/IEC 320 Standard Sheet C13 connector for mating with the appliance inlet on the back of the docking station.

Country-Specific Requirements

3-Conductor Power Cord Set Requirements

Country/Region	Accredited Agency	Applicable Note Number
Australia	EANSW	1
Austria	OVE	1
Belgium	CEBC	1
Canada	CSA	2
Denmark	DEMKO	1
Finland	FIMKO	1
France	UTE	1
Germany	VDE	1
Italy	IMQ	1
Japan	METI	3

NOTES:

1. The flexible cord must be <HAR> Type HO5VV-F, 3-conductor, 1.0 mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country where it will be used.
2. The flexible cord must be Type SPT-3 or equivalent, No. 18 AWG, 3-conductor. The wall plug must be a two-pole grounding type with a NEMA 5-15P (15 A, 125 V) or NEMA 6-15P (15 A, 250 V) configuration.
3. The appliance coupler, flexible cord, and wall plug must bear a “T” mark and registration number in accordance with the Japanese Dentori Law. The flexible cord must be Type VCT or VCTF, 3-conductor, 1.00 mm² conductor size. The wall plug must be a two-pole grounding type with a Japanese Industrial Standard C8303 (7 A, 125 V) configuration.

3-Conductor Power Cord Set Requirements *(Continued)*

Country/Region	Accredited Agency	Applicable Note Number
Korea	EK	4
The Netherlands	KEMA	1
Norway	NEMKO	1
People's Republic of China	CCC	5
Sweden	SEMKO	1
Switzerland	SEV	1
Taiwan	BSMI	4
United Kingdom	BSI	1
United States	UL	2

NOTES:

1. The flexible cord must be <HAR> Type HO5VV-F, 3-conductor, 1.0 mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country where it will be used.
2. The flexible cord must be Type SPT-3 or equivalent, No. 18 AWG, 3-conductor. The wall plug must be a two-pole grounding type with a NEMA 5-15P (15 A, 125 V) or NEMA 6-15P (15 A, 250 V) configuration.
3. The appliance coupler, flexible cord, and wall plug must bear a "T" mark and registration number in accordance with the Japanese Dentori Law. The flexible cord must be Type VCT or VCTF, 3-conductor, 1.00 mm² conductor size. The wall plug must be a two-pole grounding type with a Japanese Industrial Standard C8303 (7 A, 125 V) configuration.
4. The flexible cord must be Type RVV, 3-conductor, 0.75 mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country where it will be used.
5. The flexible cord must be Type VCTF, 3-conductor, 0.75 mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country where it will be used.

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