



Maintenance and Service Guide

HP TouchSmart 9100 Business PC

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Maintenance and Service Guide


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About This Book

 **WARNING!** Text set off in this manner indicates that failure to follow directions could result in bodily harm or loss of life.

 **CAUTION:** Text set off in this manner indicates that failure to follow directions could result in damage to equipment or loss of information.

 **NOTE:** Text set off in this manner provides important supplemental information.

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1 Product Description

The HP TouchSmart 9100 Business PC transforms the PC experience with its All-in-One form factor and touch-enabled features. The PC can be used as an everyday desktop, but is better suited to reaching customers with interactive touch-enabled applications.

The HP TouchSmart 9100 features a certified Windows 7 multi-touch touchscreen that enables users to interact with the PC using gestures and manipulation. Users can optimize the potential of the HP TouchSmart 9100 with third-party touch applications to improve workflow and information delivery.

The sleek, space-saving, All-in-One design of the PC has the following built-in features:

- 58.42 cm (23-inch) diagonal full HD widescreen display, multi-touch enabled
- Integrated VGA camera
- Speakers
- WLAN and Bluetooth connectivity

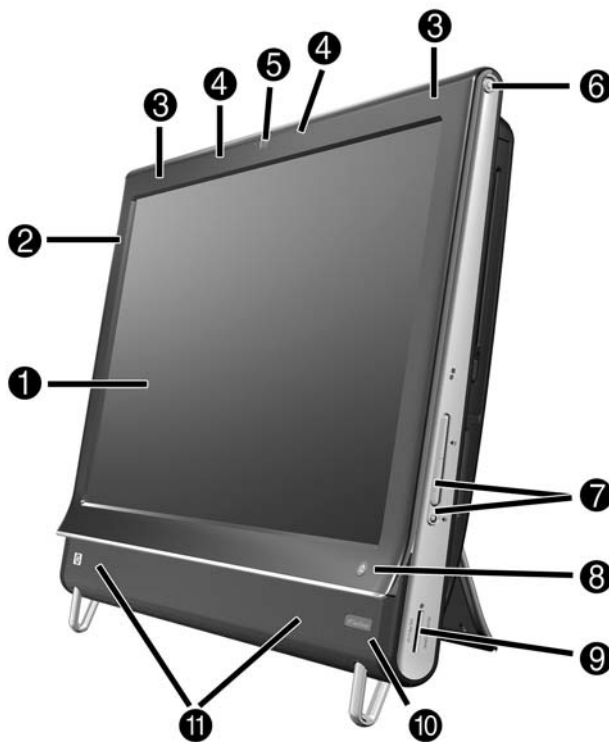
The HP TouchSmart 9100 uses the All-in-One form factor and allows businesses to reach their customers in a new engaging user-friendly way. The PC focuses on providing real-time information and features video-conferencing capabilities.

The HP TouchSmart 9100 is designed for use in:

- Conference rooms
- High traffic, customer-facing areas
- Kiosks
- Education and training

2 Components

Front and right side



Item	Item	Component
1	LCD display optimized for Touch	State-of-the-art 58.4-cm (23-in) diagonal widescreen high-definition display with HP BrightView technology.* HP BrightView technology improves the contrast and clarity of your display. In addition, it boasts a high resolution of 1920 x 1080 and a fast response time of 5 ms.** * High definition (HD) content is required to view HD images. Most current DVDs do not provide HD images. **All specifications represent the typical specifications provided by Hewlett-Packard's component manufacturers; actual performance may vary either higher or lower.
2	Bluetooth (select models only)	Use Bluetooth to connect to Bluetooth-enabled devices. The diagram shows the internal location of Bluetooth (not visible externally).

3	Built-in wireless LAN (select models only)	<p>Use the built-in wireless LAN to connect to the Internet through your existing wireless network. The diagram shows the internal location of the wireless LAN (top left and right, not visible externally).</p> <p>The wireless LAN supports IEEE 802.11 b/g/n.</p>
4	Microphone array	<p>Use the built-in digital microphones to record sound for your webcam videos, and to use instant messenger or chat software to have video chats online. The microphone is designed to provide a cleaner sound by filtering out ambient noise in your environment. It is designed to record from a distance of up to one-half meter (2 feet) away from the computer.</p>
5	Webcam	<p>Create videos and snapshots that you can view, send by e-mail, and upload to video sharing sites. Use the built-in webcam and microphone array to have video chats with friends and family.*</p> <p>To adjust the viewing angle of the webcam shot, tilt the screen, or use the adjust lever immediately behind the webcam. You can also choose how tightly you want to crop the view of the camera, creating a close-up view of your face or including more of the background.</p> <p>* Internet access required.</p>
6	Power/Sleep button	<p>Press the Power/Sleep button to turn on your HP TouchSmart 9100 Business PC, or to put it into Sleep mode.</p> <p>To turn off your computer, tap the Start button, and then select Shut Down. Or tap the arrow next to the Shut Down button to switch users, log off, lock, restart, or sleep.</p>
7	Volume, and mute controls	<p>Adjust the sound level up or down, or mute.</p>
8	HP TouchSmart buttonHP TouchSmart button	<p>Turn your HP TouchSmart 9100 Business PC on and open your HP TouchSmart software. Or, if the computer is already turned on, press the button to open the HP TouchSmart software for quick access to your music, photos, videos, or the Web. The HP TouchSmart button cannot turn the computer off.</p>
9	Memory card reader	<p>Use the built-in memory card reader to easily access photos and other files directly from a memory card.</p> <p>Supported formats include xD media (xD), Secure Digital (SD), Secure Digital High Capacity (SDHC), MultiMediaCard (MMC), Memory Stick (MS), and Memory Stick Pro (MS-Pro) memory cards.</p> <p>Your memory card reader also supports adapters for the following memory cards: Mini SD, RS MMC, Micro SD, MS-Duo, and MS Duo Pro.</p>
10	IR receiver window (select models only)	<p>Infrared (IR) receiver window, located on the lower-right side of the computer. Allows for use with a remote control.</p>
11	Internal Speakers	<p>Use the built-in, high-quality stereo speakers for a powerful media experience when listening to music, or when watching your home videos and DVDs.</p>

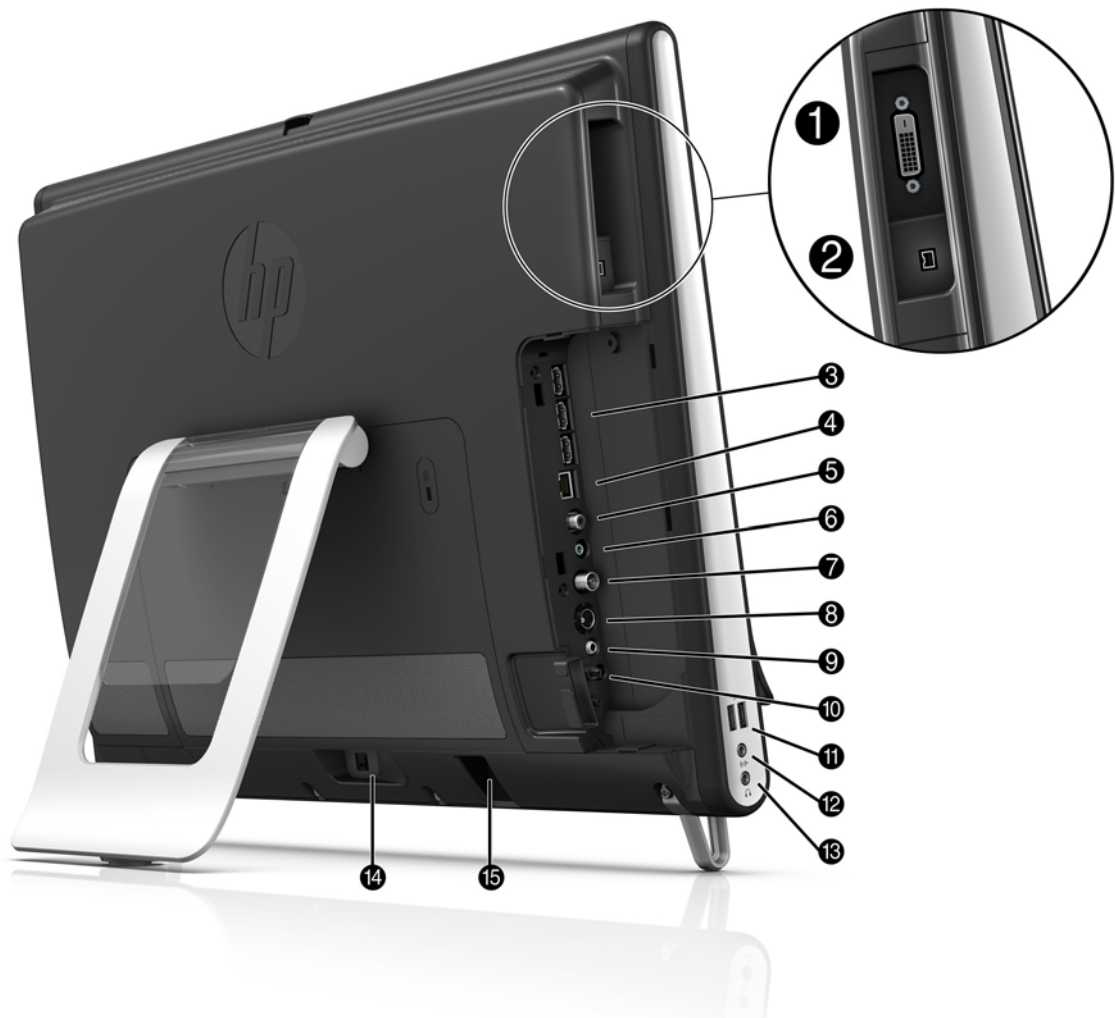
12	Slot-loading CD/DVD drive (located on back side panel)CD/DVD slot	Watch a DVD or listen to a CD. Burn CDs and DVDs. Read and write DVD-RAM, CD-R/RW, and DVD+/-R/RW. Read and play CD-ROM, DVD-ROM, CD Audio, DVD+/-R dual layer (DL), DVD-Video, and Video CD.
13	B-CAS card slot (select models only)	Insert your B-CAS card (provided by HP), to decrypt high-definition television signals.

Lower left-side components



Item	Item	Component
1	USB 2.0	Connect USB devices (USB 2.0) such as printers, external hard disk drives, digital cameras, and MP3 players.
2	Audio line in	Connect MP3 players or other audio players. This connector is not for headphones or a microphone.
3	Headphones	Connect headphones to the port to listen to music without disturbing anyone.

Rear components



Item	Item	Component
1	DVI Video Out	Provides digital video output for use with a second monitor or projector.
2	IEEE 1394 port	Provides connectivity to data storage devices and DV (digital video) cameras.
3	USB 2.0 ports (3)	Connect USB devices (USB 2.0) such as printers, external hard disk drives, digital cameras, and MP3 players.
4	Ethernet LAN	Connect to the Internet through your wired network.
5	Digital Audio port (SPDIF Out)	Connect to your home theater system or your surround sound digital speakers. Supports 3.1, 4.1, and 5.1 speakers.
6	Audio line out	Connect external 2.0 and 2.1 powered speakers.
7	TV In (TV tuner models only)	Connect your TV signal source to watch, record, and pause live TV. This is an F-type coaxial TV input signal connector.
8	S-Video In (TV tuner models only)	Capture analog video from a video camera, or connect to a set-top box for TV input.

9	Stereo Audio In (TV tuner models only)	Connect audio for A/V input from a set-top box, digital video camera, or other video device.
10	IR emitter (blaster) (select models only)	Adhere to your TV set-top box IR receiver area to receive the remote control signal while watching and recording TV programs. This is not required if you do not use a set-top box. A remote control is included with select models only.
11	USB 2.0 ports (2)	Connect USB devices (USB 2.0) such as printers, external hard disk drives, digital cameras, and MP3 players.
12	Audio Line In	Connect MP3 players or other audio players. This connector is not for headphones or a microphone.
13	Headphone jack	Connect headphones to the port to listen to music without disturbing anyone.
14	Power connector	Plug the power adapter into the computer.
15	Wireless keyboard and mouse receiver	Preinstalled receiver for using a wireless keyboard and mouse.

Activity LED indicator lights



Item	Item	Component
1	Webcam	Indicates webcam activity.
2	Power	Indicates the power state; blue indicates power on, and amber indicates Sleep mode.
3	Hard disk drive	Indicates hard disk drive activity.
4	Memory card reader	Indicates memory card reader activity. When the LED is flashing, do not remove your memory card. When the LED is off, no card is inserted. A solid LED indicates that a card is inserted with no read or write capacity. A flashing LED indicates that there is memory card activity, and that a card has read/write capacity.
5	Remote control IR receiver (select models only)	Indicates that your computer is working with your remote control to navigate windows, record TV shows, and perform other activities in Windows Media Center.
6	Wireless keyboard and mouse receiver	Indicates wireless signals received from the wireless keyboard and mouse. The LED is visible from the back of the computer.
7	Optical Disc Drive	Indicates Optical Disc Drive is in use.

Computer stand

The HP TouchSmart 9100 Business PC is shipped with the computer stand collapsed against the back of the computer. To assure that the computer is in a stable position on your desktop, pull the computer stand open until it snaps into place. Then, if you want to change the angle of the HP TouchSmart 9100, hold each side of the computer, and tilt it (the monitor moves forward; the stand stays in place) to an angle of between 5 degrees and 40 degrees from the vertical.



CAUTION: The computer stand stays in place as you increase the angle; the computer moves forward. Take care that the computer screen does not move off the table.

CAUTION: Make sure the angle of the computer is at least 5 degrees from the vertical; otherwise the computer will be unstable and could fall over.

3 Spare Parts

See the following available spare parts for the HP TouchSmart PC.

Processors and system board

Description	Spare Part Number
Intel Core 2 Duo T9600 (2.80-GHz, 6-MB L2 cache) processor	613452-001
Intel Core 2 Duo P8700 (2.53-GHz, 3-MB L2 cache) processor	613454-001
Intel Core 2 Duo P7570 (2.26-GHz, 3-MB L2 cache) processor	593893-001
Intel Core 2 Duo T6670 (2.20-GHz, 2-MB L2 cache) processor	613453-001
Intel Core 2 Duo T6570 (2.10-GHz, 2-MB L2 cache) processor	593892-001
System board	602998-001

Drives

Description	Spare Part Number
Hard drives	
500 GB, 7200 rpm, SATA	595170-001
320 GB, 7200 rpm, SATA	505914-001
250 GB, 7200 rpm, SATA	595171-001
Solid-State Drive (SSD), 64-GB	581057-001
Hard drive adapter, 2.5-inch	586721-001
Optical drives	
Blu-ray Disc ROM with SuperMulti DVD±R/RW DL Drive	583093-001
DVD±RW SuperMulti Drive with LightScribe	583092-001
DVD-ROM drive (includes bezel)	615647-001

Memory

Description	Spare Part Number
SODIMM, 4 GB, PC10600, DDR3-1333	593896-001
SODIMM, 2 GB, PC10600, DDR3-1333	593895-001

Misc Boards

Description	Spare Part Number
TV tuner, PCIe x1 card, includes hardware kit	582726-001
GeForce GT230 1-GB PCIe graphics card	593888-001
DVI+1394 connector board	662720-001
802.11b/g/n WLAN PCIe adapter	593897-001
Antenna (for use with 802.11b/g/n WLAN PCIe adapter)	593890-001
Webcam module	647443-001
Power adapter board	653268-001

Power Adapters

Description	Spare Part Number
Power adapter, 120W	593891-001
Power adapter, 150W	505911-001
Power cord	142766-005

Keyboards and Mice

Description	Spare Part Number
Keyboard (blue, USB)	
For use in Brazil	596411-201
For use in the People's Republic of China	596411-AA1
For use in French Canada	596411-121
For use in Japan	596411-291
For use internationally	596411-371
For use in Latin America	596411-161
For use in Thailand	596411-281
Keyboard (wireless, 2.4 GHz)	
For use in Brazil	596413-201
For use in the People's Republic of China	596413-AA1
For use in France	596413-051
For use in Hong Kong	596413-AC1
For use internationally	596413-371
For use in Latin America	596413-161
For use in Japan	596413-291
For use in Thailand	596413-281
For use in the United States	596413-001
Keyboard (USB, blue)	
For use in Taiwan	630888-AB1
Mice	
Mouse, optical, USB	596410-001
Mouse, wireless, 2.4 GHz	596412-001

Misc Parts

Description	Spare Part Number
LCD display kit (includes inverter board and front bezel)	605166-001
Rear cover assembly	669261-001
Rear frame trim assembly kit	
Right	647992-001
Left	647991-001
Fan/blower	659243-001
Fan sink	
MXM graphics	659244-001
Integrated graphics	634467-001
Stand assembly	651741-001
Chin assembly	640295-001
Media card reader, 6-in-1	655974-001
Wall mount assembly, VESA	593887-001
Remote control	
For use in North America	609935-001
For use in the Asia/Pacific and Latin American regions	610850-001
Bluetooth cable	593889-001
Hard drive SATA cable	653041-001
Foot assembly	660280-001

4 Removal and Replacement Procedures

The following sections provide information about disassembling various components of the HP TouchSmart PC.

Preparing to disassemble the HP TouchSmart PC

To avoid injury and equipment damage, always complete the following steps in order, when opening the HP TouchSmart PC.

1. Remove all media (CD, DVD, etc.) from the computer.
2. Disconnect any external devices that are connected to the computer.
3. Shut down the computer.
4. After the system has completely shut down, disconnect the power adapter from the back of the HP TouchSmart PC.



5. Remove the connector cover by inserting your finger under the gap on the bottom-left side of the cover and then pulling gently.

6. Disconnect all other attached cables from the back of the HP TouchSmart PC.
7. Place the computer face down on a soft flat surface. HP recommends that you set down a blanket, towel, or other soft cloth to protect the touch screen surface from scratches or other damage.
8. Using the notch on the wireless keyboard and mouse receiver, pull the receiver out of and away from the back of the computer.

⚠ WARNING! Beware of sharp edges inside the chassis.

To upgrade your hard disk drive, see [Removing the hard drive on page 21](#).

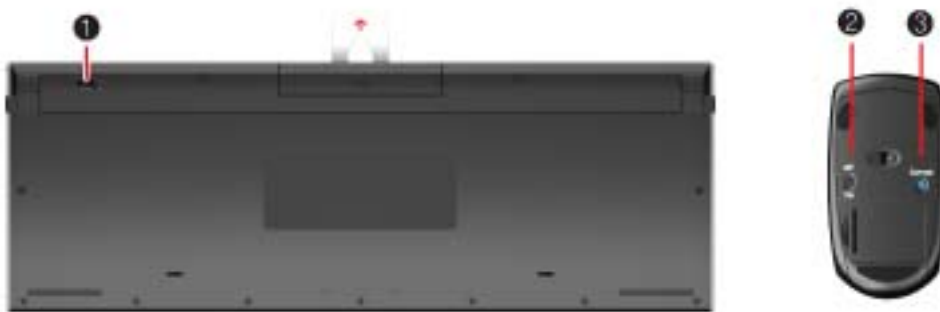
Synchronizing the wireless keyboard or mouse

The wireless keyboard and mouse are pre-synchronized for your convenience, to work with your HP TouchSmart PC. They should work immediately after pulling the battery tabs, which activate the pre-installed batteries, and turning the mouse switch on **(2)**.

You may need to manually synchronize the wireless keyboard or mouse if they are not functioning.

To synchronize them:

- Make sure the keyboard and mouse are next to the HP TouchSmart PC, within 30 cm (1 foot) and away from interference from other devices.
- **Keyboard:** Press the connect button on the bottom of the keyboard **(1)** for five seconds. The blue activity LED from the wireless receiver illuminates when the synchronization command has been received and turns off when synchronization is complete.
- **Mouse:** Press the connect button on the bottom of the mouse **(3)** for five seconds. The blue activity LED from the wireless receiver illuminates when the synchronization command has been received and turns off when synchronization is complete.



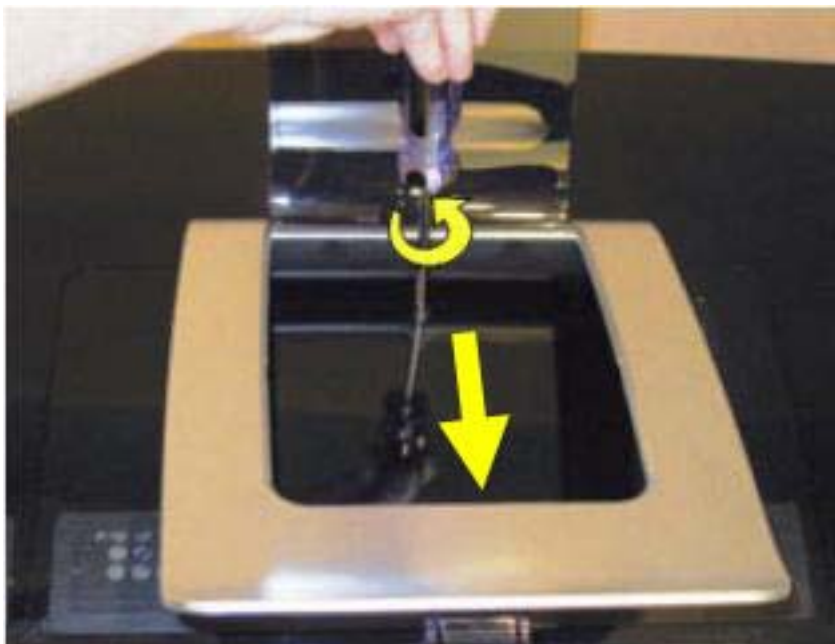
If this does not work, remove and then reinsert the wireless keyboard and mouse receiver from the back of the computer and then synchronize the keyboard and mouse again.

Hard drive/memory cover

1. Prepare the computer for disassembly (see [Preparing to disassemble the HP TouchSmart PC on page 12](#)).
2. Place the computer face down on a soft, flat surface.
3. Lift the stand and pull up on the stand flip cover.



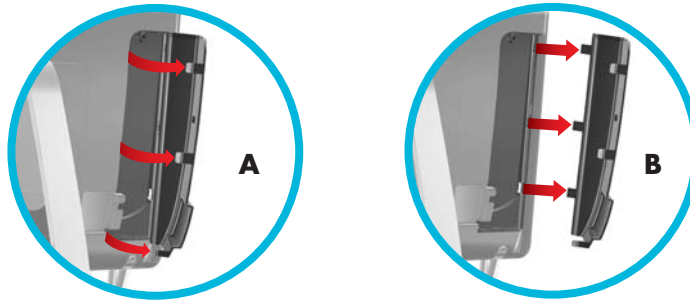
4. Remove the screw that secures the hard drive/memory cover to the computer, and then pull the bottom edge of the cover away from the computer.



To install the hard drive/memory cover, reverse the removal procedures.

I/O cover

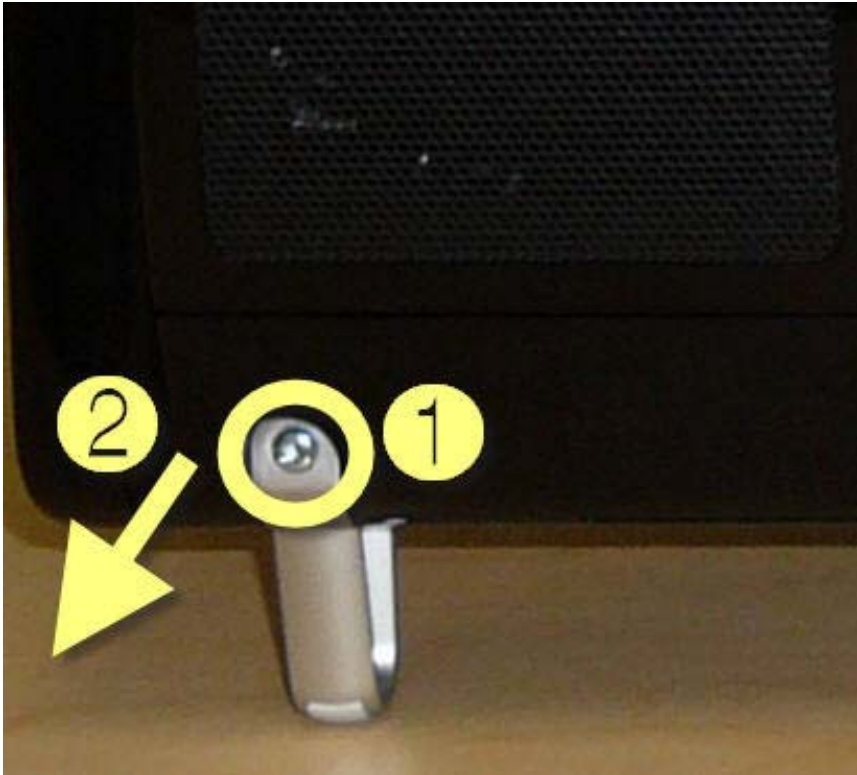
- ▲ Remove the connector cover on the back of the computer by inserting your finger under the gap on the bottom-left side of the cover (A), and then pulling straight out gently (B).



To install the I/O cover, reverse the removal procedures.

Feet

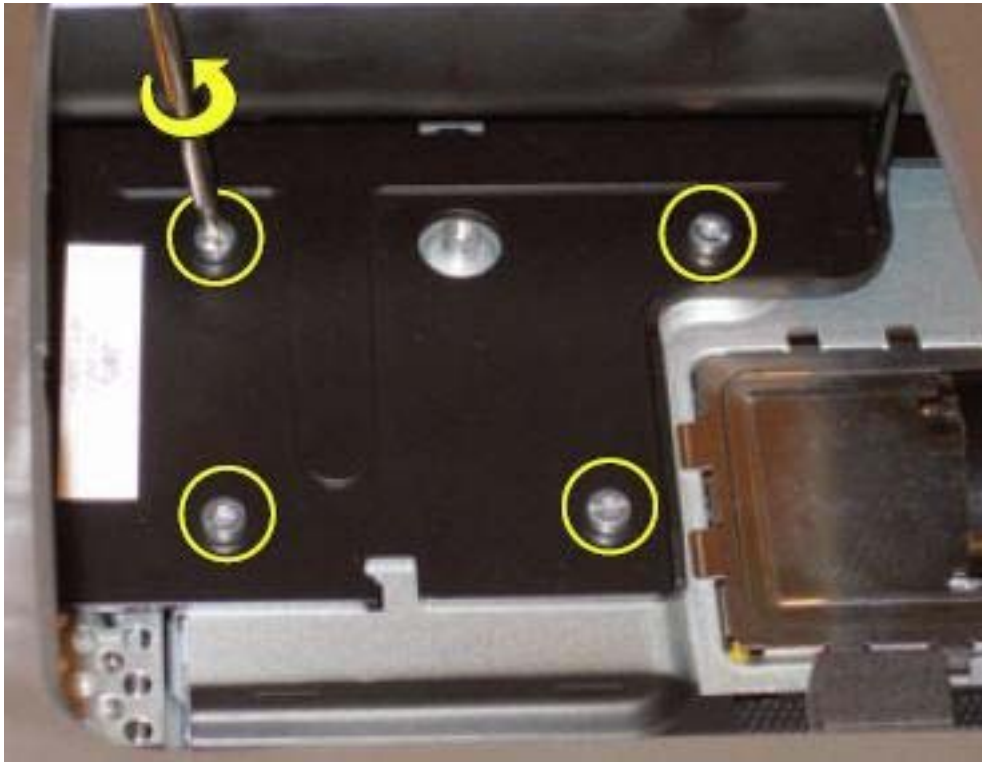
1. Prepare the computer for disassembly (see [Preparing to disassemble the HP TouchSmart PC on page 12](#)).
2. Place the computer face down on a soft, flat surface.
3. Remove the screw that secures the foot to the computer **(1)**.
4. Slide the foot off the computer **(2)**.



To install the feet, reverse the removal procedures.

Stand

1. Prepare the computer for disassembly (see [Preparing to disassemble the HP TouchSmart PC on page 12](#)).
2. Place the computer face down on a soft, flat surface.
3. Remove the hard drive/memory cover (see [Hard drive/memory cover on page 14](#)).
4. Remove the four screws that secure the stand to the computer.



5. Lift the stand straight up and off the computer.



To install the stand, reverse the removal procedures.

When installing the stand, make sure the two tabs fit into the slots in the computer so the stand sits flush on the back of the computer.

Adding Memory

The HP TouchSmart PC comes with random access memory (RAM), which temporarily stores data and instructions on your computer. The HP TouchSmart PC ships with one or two memory modules that you can replace.

Before you begin

Observe the following requirements before removing and replacing the memory module.

The motherboard contains sockets for SODIMMs (small outline dual in-line memory modules).

To determine which type and speed of memory module your HP TouchSmart PC uses, and for specific memory module information and specifications, go to <http://www.hp.com/support>

CAUTION: Using the wrong type of memory module could damage the computer.

Removing a memory module


1. Prepare the computer for disassembly (see [Preparing to disassemble the HP TouchSmart PC on page 12](#)).
2. Place the computer face down on a soft, flat surface.

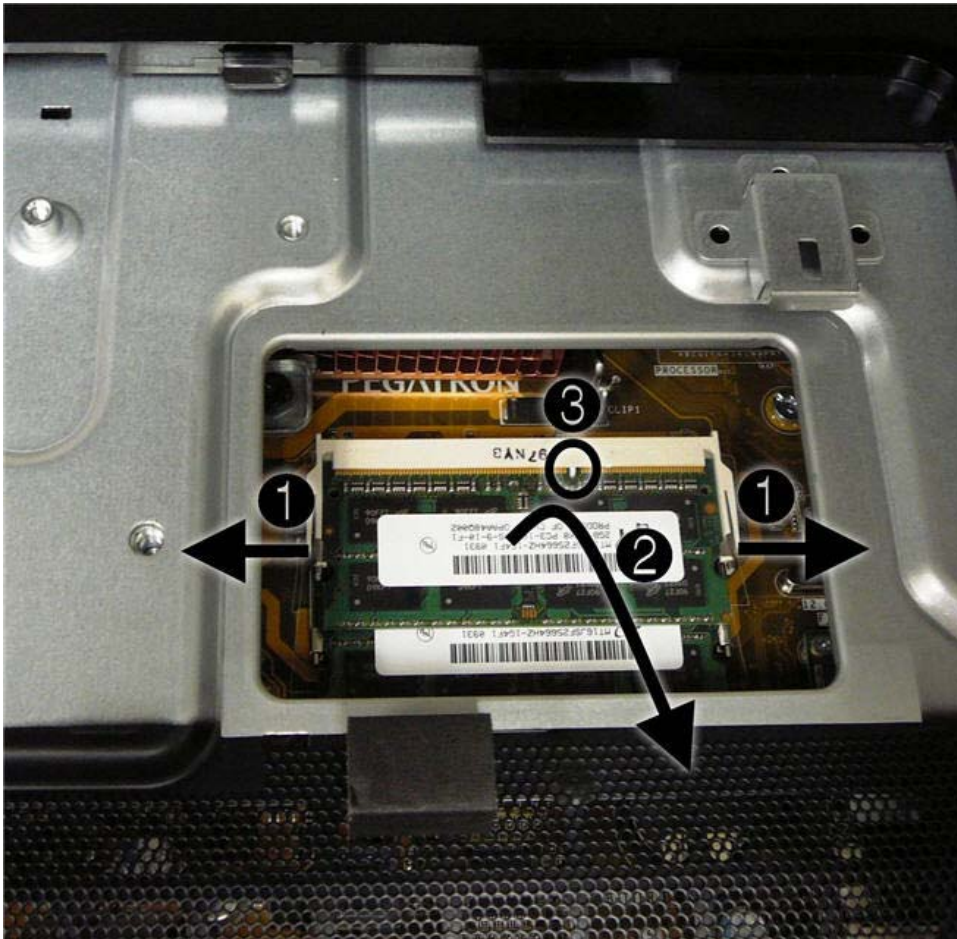
3. Remove the hard drive/memory cover (see [Hard drive/memory cover on page 14](#)).
4. Lift the cover off the memory module slot.



5. Push the two latches of the retaining clips away from the memory module **(1)**. The memory module pops up at an angle.

- Lift the memory module from the memory socket by pulling the module away from the slot at an angle **(2)**.

 **NOTE:** Memory modules are designed with a notch **(3)** to prevent incorrect insertion into the memory module slot.

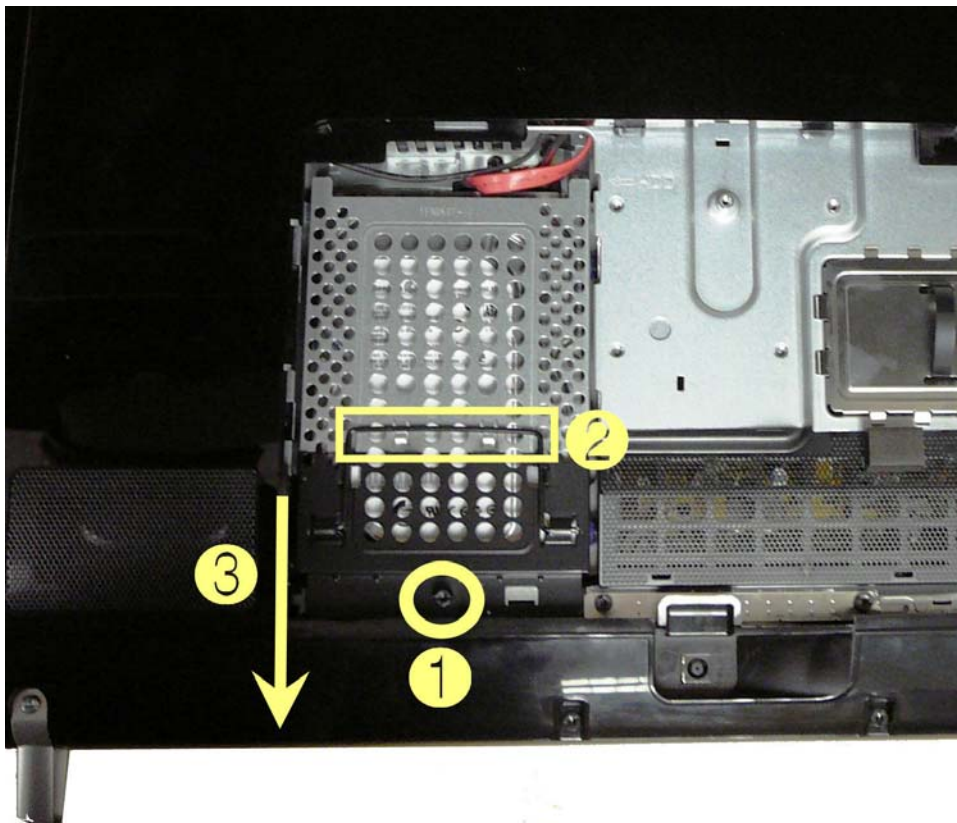


- Store the memory module in antistatic packaging.

To reinstall memory, reverse the removal procedure.

Removing the hard drive

1. Prepare the computer for disassembly (see [Preparing to disassemble the HP TouchSmart PC on page 12](#)).
2. Place the computer face down on a soft, flat surface.
3. Remove the hard drive/memory cover (see [Hard drive/memory cover on page 14](#)).
4. Remove the stand (see [Stand on page 17](#)).
5. Loosen the captured screw **(1)** that secures the hard drive to the computer.
6. Pull up on the handle **(2)** of the hard drive assembly, and pull the assembly partially out of the computer **(3)**.



7. Remove the power/data cable from the rear of the hard drive.
8. Remove the hard drive from the computer.

To remove the hard drive from the hard drive cage:

1. Remove the four screws, two on each side, that secure the hard drive into the hard drive cage.
2. Lift the cage off the hard drive.

Back cover

1. Prepare the computer for disassembly (see [Preparing to disassemble the HP TouchSmart PC on page 12](#)).
2. Place the computer face down on a soft, flat surface.
3. Remove the hard drive/memory cover (see [Hard drive/memory cover on page 14](#)).
4. Remove the stand (see [Stand on page 17](#)).
5. Remove the I/O cover (see [I/O cover on page 15](#)).
6. Remove the feet (see [Feet on page 16](#)).
7. Squeeze the larger of the two pegs **(1)** holding the I/O cable clip in place and pull the clip off the pegs **(2)**.



8. Remove the side trims from each side by prying them at the bottom **(1)** and lifting up and off the computer **(2)**.



9. Remove the optical drive cover.



10. If the computer includes a game console cover, press the side tab and remove the game console cover.
11. Remove the 13 screws that secure the back cover to the computer, as follows:
 - three under each side panel
 - three in the I/O connector area
 - two at the bottom of the back cover
 - two near the optical drive
 - three below the black mesh cover toward the bottom
12. Lift the back cover off the computer.

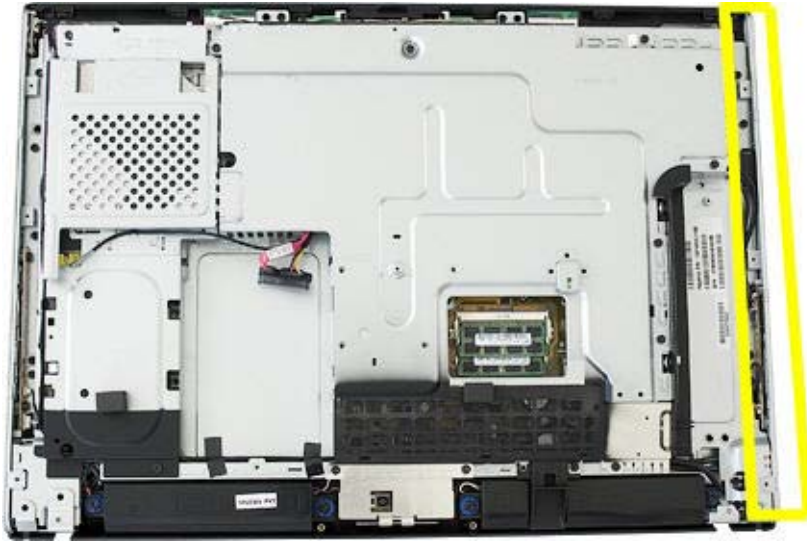
To install the back cover, reverse the removal procedures.

When installing the back cover, note that the back cover has several tabs at the top of the cover that fit into slots in the top inside of the computer.

Bluetooth module

1. Prepare the computer for disassembly (see [Preparing to disassemble the HP TouchSmart PC on page 12](#)).
2. Place the computer face down on a soft, flat surface.
3. Remove the hard drive/memory cover (see [Hard drive/memory cover on page 14](#)).
4. Remove the stand (see [Stand on page 17](#)).
5. Remove the I/O cover (see [I/O cover on page 15](#)).
6. Remove the feet (see [Feet on page 16](#)).
7. Remove the back cover (see [Back cover on page 22](#)).

8. Partially remove the left side cap by lifting it straight up and off the computer and resting it next to the computer with the cables attached.



9. Locate the Bluetooth holder and module assembly.



10. Push in on the side of the Bluetooth holder, and pull the holder off the computer.
11. Unplug the Bluetooth cable from the Bluetooth module, and then remove the holder assembly from the computer.
12. Remove the Bluetooth module from the holder by pulling on the small arm at the mouth of the holder, and then sliding the module out of the holder.

To install the Bluetooth module, reverse the removal procedures.

Optical drive

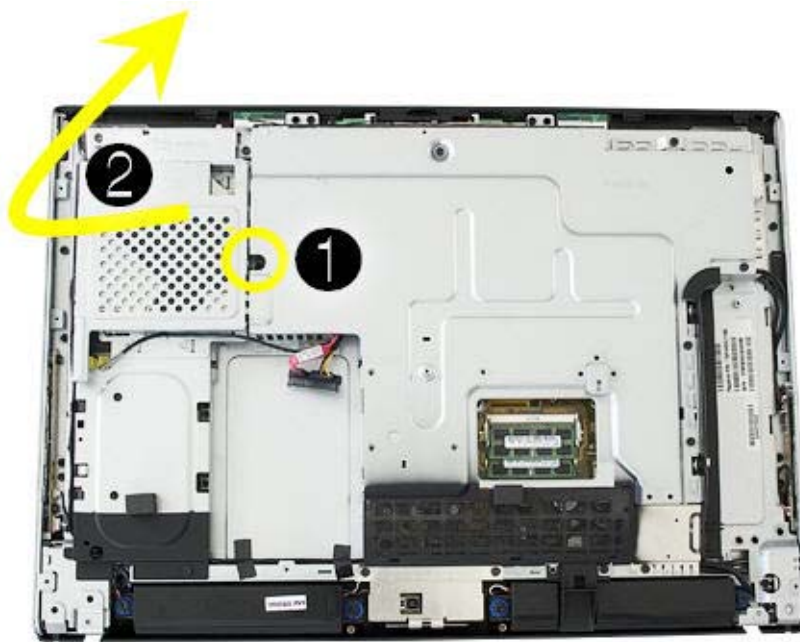
CD and DVD media can be removed from the optical drive manually, even if the system is not running.

1. Prepare the computer for disassembly (see [Preparing to disassemble the HP TouchSmart PC on page 12](#)).
2. Place the computer face down on a soft, flat surface.
3. Remove the hard drive/memory cover (see [Hard drive/memory cover on page 14](#)).
4. Remove the stand (see [Stand on page 17](#)).
5. Remove the I/O cover (see [I/O cover on page 15](#)).
6. Remove the feet (see [Feet on page 16](#)).
7. Remove the back cover (see [Back cover on page 22](#)).
8. Disengage the optical drive eject button connector from the cable guide at the side of the optical drive cage.



9. Loosen the captured screw that secures the optical drive cage to the computer **(1)**.

10. Slide the cage out to the side and pull it partially out of the unit **(2)**.



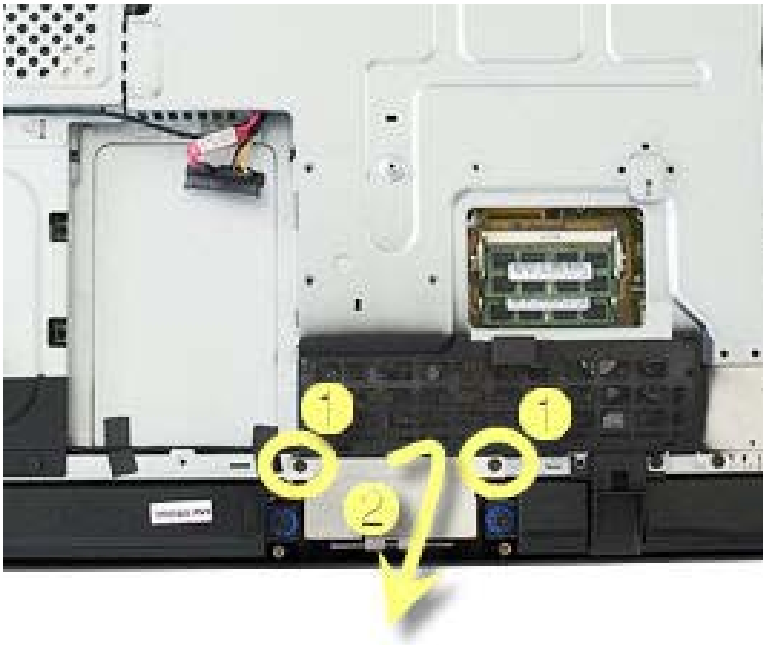
11. Remove the power/data connector cable from the back of the optical drive, and then remove the drive cage assembly from the computer.

To remove the optical drive from the cage:

1. Remove the four screws, two on each side of the cage.
2. Slide out the optical drive.

Amp board shield

1. Prepare the computer for disassembly (see [Preparing to disassemble the HP TouchSmart PC on page 12](#)).
2. Place the computer face down on a soft, flat surface.
3. Remove the hard drive/memory cover (see [Hard drive/memory cover on page 14](#)).
4. Remove the stand (see [Stand on page 17](#)).
5. Remove the I/O cover (see [I/O cover on page 15](#)).
6. Remove the feet (see [Feet on page 16](#)).
7. Remove the back cover (see [Back cover on page 22](#)).
8. Remove the amp board shield by removing the two screws **(1)**, rotating the top outward and then lifting the shield off the computer **(2)**.

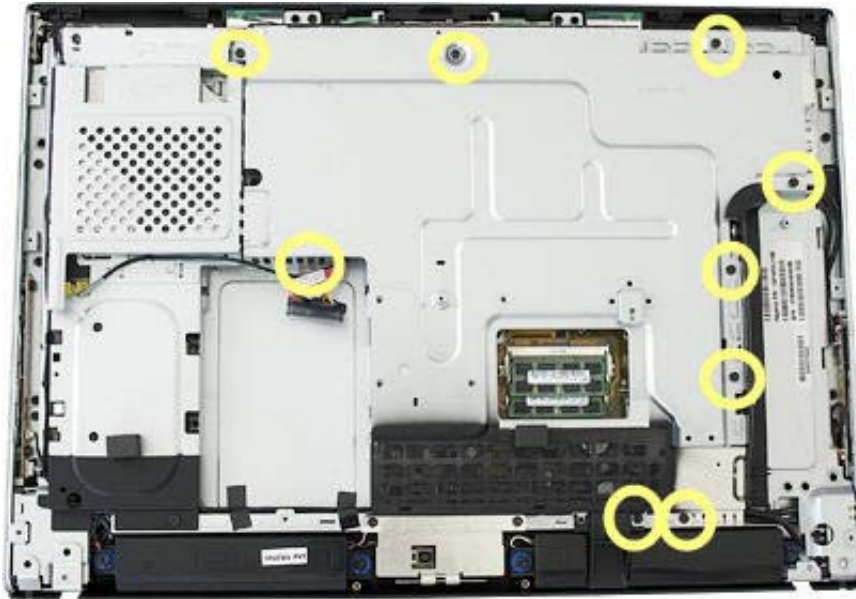


To install the amp board shield, reverse the removal procedures.

System board shield

1. Prepare the computer for disassembly (see [Preparing to disassemble the HP TouchSmart PC on page 12](#)).
2. Place the computer face down on a soft, flat surface.
3. Remove the hard drive/memory cover (see [Hard drive/memory cover on page 14](#)).

4. Remove the stand (see [Stand on page 17](#)).
5. Remove the I/O cover (see [I/O cover on page 15](#)).
6. Remove the feet (see [Feet on page 16](#)).
7. Remove the back cover (see [Back cover on page 22](#)).
8. Remove the amp board shield (see [Amp board shield on page 28](#)).
9. Remove the system board shield by removing the nine screws that secure it to the computer, and then lifting it off the computer.

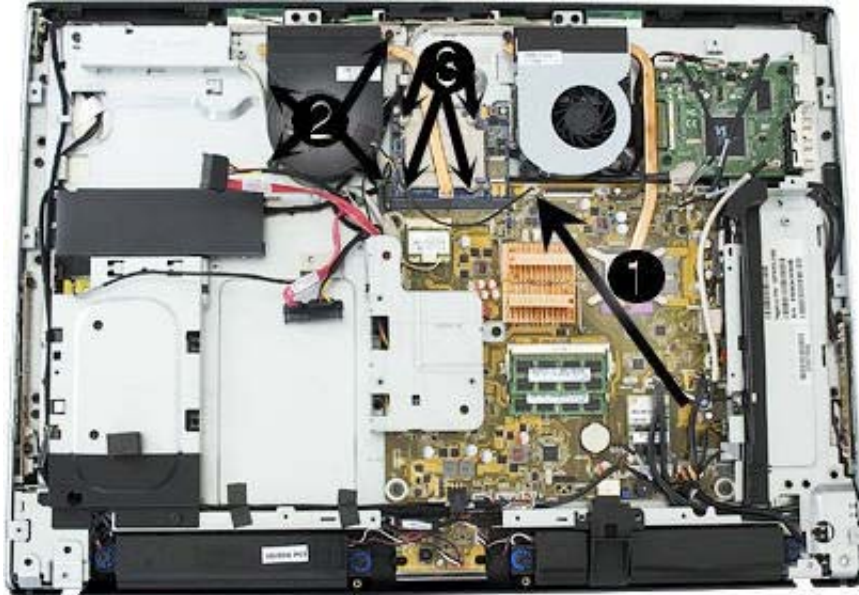


To install the system board shield, reverse the removal procedures.

Graphics card – Discrete or UMA

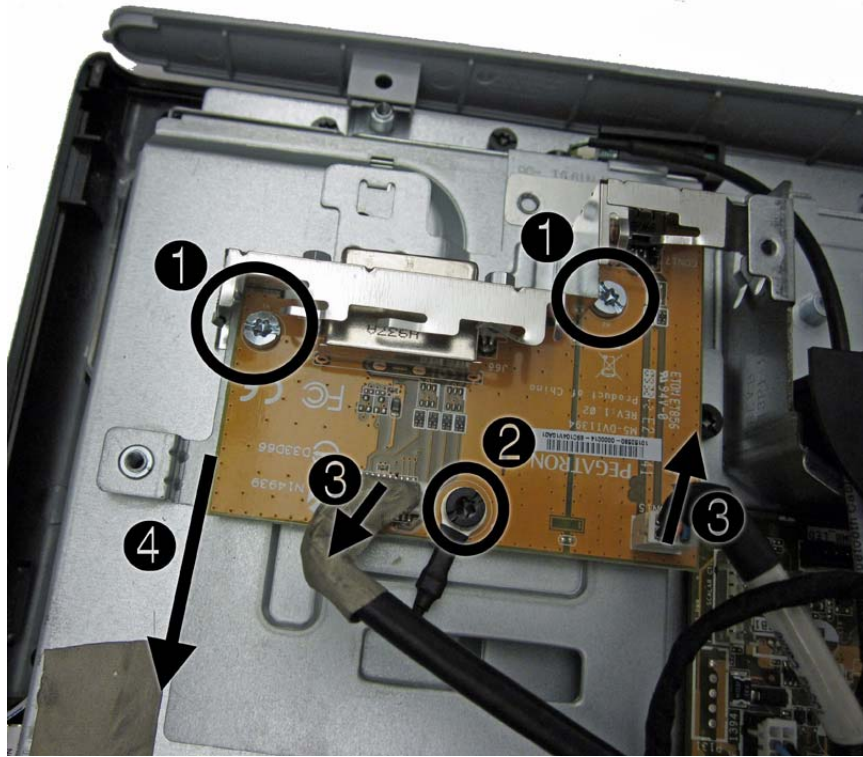
1. Prepare the computer for disassembly (see [Preparing to disassemble the HP TouchSmart PC on page 12](#)).
2. Place the computer face down on a soft, flat surface.
3. Remove the hard drive/memory cover (see [Hard drive/memory cover on page 14](#)).
4. Remove the stand (see [Stand on page 17](#)).
5. Remove the I/O cover (see [I/O cover on page 15](#)).
6. Remove the feet (see [Feet on page 16](#)).
7. Remove the back cover (see [Back cover on page 22](#)).
8. Remove the amp board shield (see [Amp board shield on page 28](#)).
9. Remove the system board shield (see [System board shield on page 28](#)).

10. If the computer uses discrete graphics, disconnect the fan cable from the system board **(1)**, remove the four screws **(2)** that secure the fan to the computer, and then loosen the four captive screws **(3)** that secure the heat sink to the graphics card in the order indicated on the heat sink.



11. Lift the thermal kit off the system board. The graphics card is located under the metal heat sink.
12. Remove the two screws that secure the graphics card to the system board.
13. Lift the card to a 45-degree angle, and then remove it from the slot at an angle.
– or –
14. If the computer uses UMA graphics, remove the two silver screws **(1)** that secure the graphics card to the system board.
15. Remove the black screw **(2)** that secures the UMA DVI cable to the card.
16. Disconnect the DVI cable **(3)** and the 1394 cable **(3)** from the graphics card.

17. Pull the card away from the I/O cover (4) and remove it from the computer.



To install the graphics card, reverse the removal procedures.

Before reinstalling the system board shield, make sure the small EMI shield near the hard drive is correctly installed.

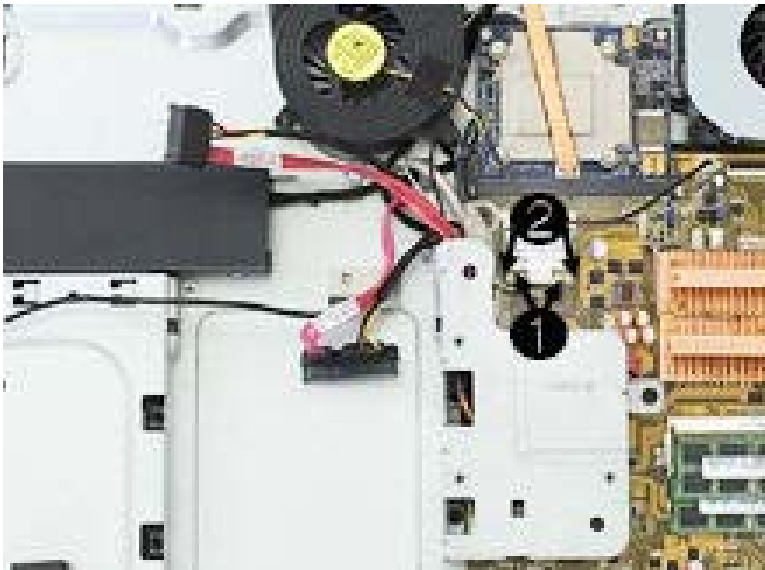
When reinstalling a discrete graphics card, be sure to remove all old thermal material and apply new thermal material.

When installing a new discrete graphics card, be sure to apply thermal material.

WLAN module

1. Prepare the computer for disassembly (see [Preparing to disassemble the HP TouchSmart PC on page 12](#)).
2. Place the computer face down on a soft, flat surface.
3. Remove the hard drive/memory cover (see [Hard drive/memory cover on page 14](#)).
4. Remove the stand (see [Stand on page 17](#)).
5. Remove the I/O cover (see [I/O cover on page 15](#)).
6. Remove the feet (see [Feet on page 16](#)).
7. Remove the back cover (see [Back cover on page 22](#)).
8. Remove the amp board shield (see [Amp board shield on page 28](#)).

9. Remove the system board shield (see [System board shield on page 28](#)).
10. Disconnect the two antenna cables from the module (1).
11. Remove the two screws that secure WLAN module to the system board (2).



12. Lift the module up to a 45 degree angle, and then remove it from the slot at an angle.

To install the WLAN module, reverse the removal procedures.

WLAN modules include a notch that prevents incorrect installation.

TV tuner module

1. Prepare the computer for disassembly (see [Preparing to disassemble the HP TouchSmart PC on page 12](#)).
2. Place the computer face down on a soft, flat surface.
3. Remove the hard drive/memory cover (see [Hard drive/memory cover on page 14](#)).
4. Remove the stand (see [Stand on page 17](#)).
5. Remove the I/O cover (see [I/O cover on page 15](#)).
6. Remove the feet (see [Feet on page 16](#)).
7. Remove the back cover (see [Back cover on page 22](#)).
8. Remove the amp board shield (see [Amp board shield on page 28](#)).
9. Remove the system board shield (see [System board shield on page 28](#)).

10. Locate the TV tuner module on the system board.



11. Detach the side USB I/O module connectors from the system board, and then move them aside to gain access to the TV tuner module.
12. Disconnect the antenna cable from the top of the module.
13. Disconnect the AV input connector from the side of the module.
14. Remove the two screws that secure the TV tuner module to the system board.
15. Lift the module up to a 45 degree angle, and then remove it from the slot at an angle.

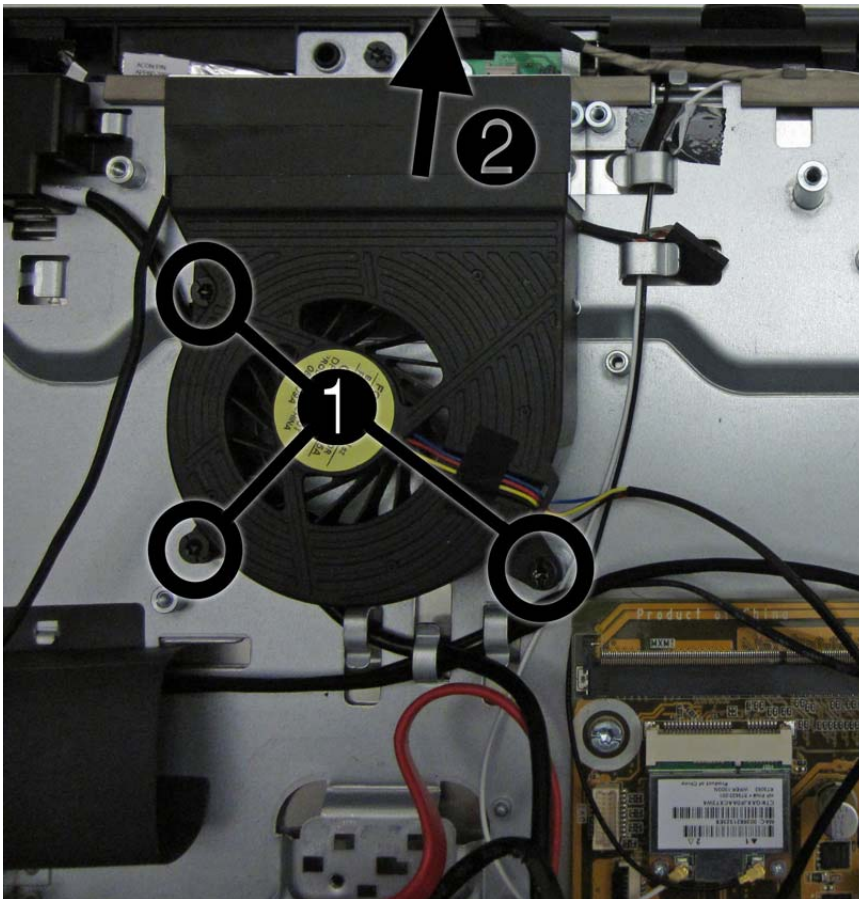
To install the TV tuner module, reverse the removal procedures.

TV tuner modules include a notch that prevents incorrect installation.

Fan – UMA graphics systems

To remove the fan on computers with discrete graphics, see [Graphics card – Discrete or UMA on page 29](#).


1. Prepare the computer for disassembly (see [Preparing to disassemble the HP TouchSmart PC on page 12](#)).
2. Place the computer face down on a soft, flat surface.
3. Remove the hard drive/memory cover (see [Hard drive/memory cover on page 14](#)).
4. Remove the stand (see [Stand on page 17](#)).
5. Remove the I/O cover (see [I/O cover on page 15](#)).
6. Remove the feet (see [Feet on page 16](#)).
7. Remove the hard drive (see [Removing the hard drive on page 21](#)).
8. Remove the back cover (see [Back cover on page 22](#)).
9. Disconnect the fan cable from the system board, remove the three screws **(1)** that secure the fan to the computer, and then lift the fan off the system board **(2)**.

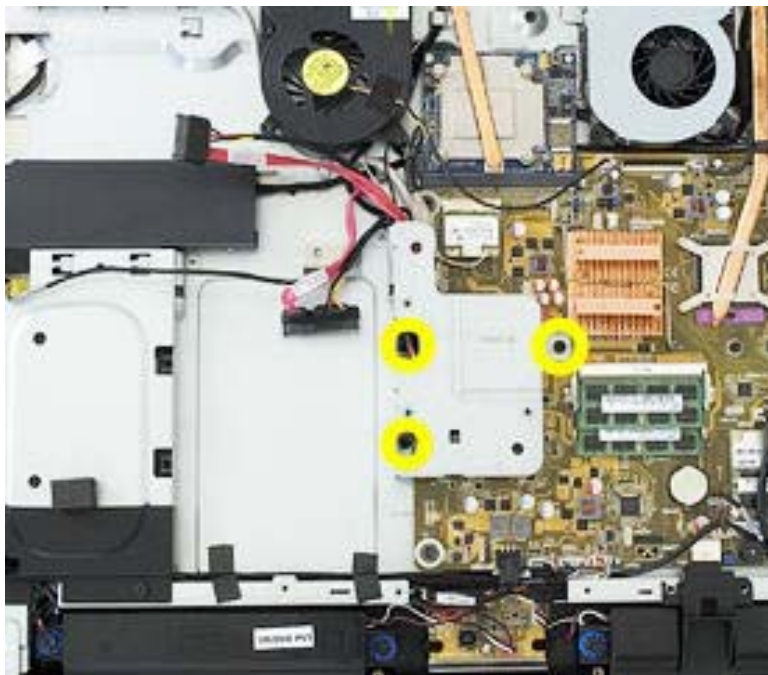


To install the fan, reverse the removal procedures.

System board

1. Prepare the computer for disassembly (see [Preparing to disassemble the HP TouchSmart PC on page 12](#)).
2. Place the computer face down on a soft, flat surface.
3. Remove the hard drive/memory cover (see [Hard drive/memory cover on page 14](#)).
4. Remove the stand (see [Stand on page 17](#)).
5. Remove the I/O cover (see [I/O cover on page 15](#)).
6. Remove the feet (see [Feet on page 16](#)).
7. Remove the hard drive (see [Removing the hard drive on page 21](#)).
8. Remove the back cover (see [Back cover on page 22](#)).
9. Remove the fan (see [Fan – UMA graphics systems on page 34](#)).
10. Remove the amp board shield (see [Amp board shield on page 28](#)).
11. Remove the system board shield (see [System board shield on page 28](#)).
12. Remove the fan sink, thermal kit, and graphics card (as necessary) (see [Graphics card – Discrete or UMA on page 29](#)).
13. Remove the frame support by removing the three screws that secure the frame support to the computer, and then lifting the support out of the computer.

 **NOTE:** The system board (right) screw is longer than the other screws.

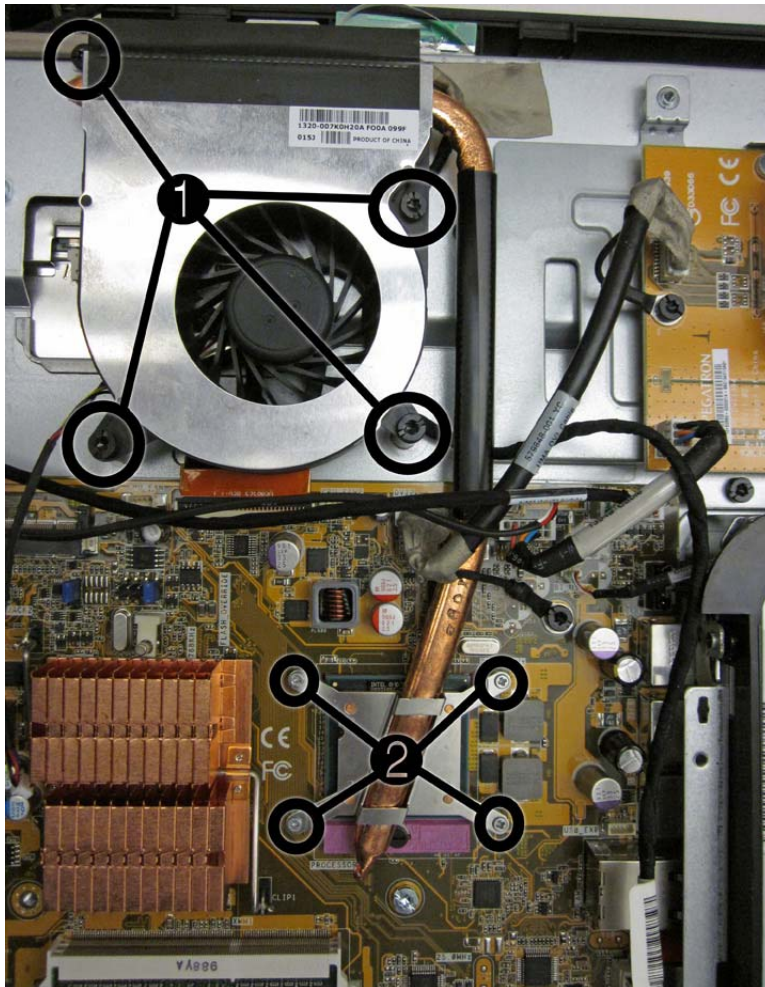


14. Remove the USB wireless mouse and keyboard receiver, as well as its housing, by pulling both devices straight out of and off the computer.



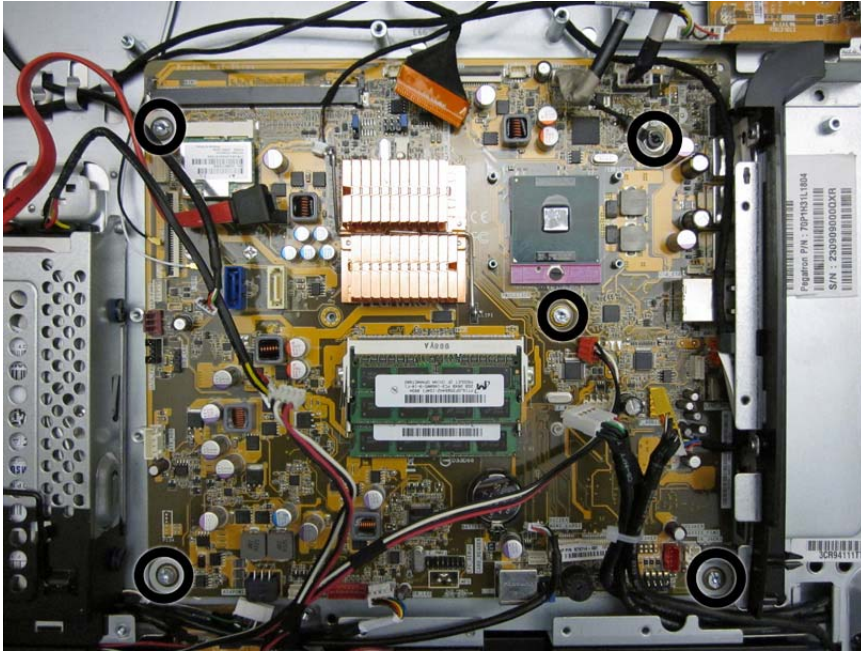
15. Remove the WLAN module (see [WLAN module on page 31](#)).
16. Remove the TV tuner module (see [TV tuner module on page 32](#)).
17. If the computer uses discrete graphics, remove the graphics card (see [Graphics card – Discrete or UMA on page 29](#)). Skip to step 16.


- 18.** If the computer uses UMA graphics, disconnect the fan sink cable from the system board, remove the four black screws **(1)** that secure the fan sink to the computer, remove the four silver screws that secure the processor heat sink to the system board **(2)**, and then lift the fan sink off the system board.




- 19.** Detach all remaining connectors from the system board.

20. Remove the five remaining screws securing the system board to the computer.



 **NOTE:** If the computer has a gaming console, the black screw is a grounding screw for the gaming console DVI connector.

21. Lift the left side of the system board, and then pull the system board out of the computer to the left at an angle.

 **NOTE:** If replacing the system board, remove the processor and memory and install into the new system board.

To install the system board, reverse the removal procedures.

Processor

1. Prepare the computer for disassembly (see [Preparing to disassemble the HP TouchSmart PC on page 12](#)).
2. Place the computer face down on a soft, flat surface.
3. Remove the hard drive/memory cover (see [Hard drive/memory cover on page 14](#)).
4. Remove the stand (see [Stand on page 17](#)).
5. Remove the I/O cover (see [I/O cover on page 15](#)).
6. Remove the feet (see [Feet on page 16](#)).
7. Remove the hard drive (see [Removing the hard drive on page 21](#)).
8. Remove the back cover (see [Back cover on page 22](#)).
9. Remove the amp board shield (see [Amp board shield on page 28](#)).

- 10.** Remove the system board shield (see [System board shield on page 28](#)).
- 11.** Remove the processor thermal kit as follows:
 - a.** Disconnect the fan cable from the system board **(1)**.
 - b.** Remove the four screws that secure the fan to the system board **(2)**.
 - c.** Loosen the four captive screws in the order indicated on the heat sink **(3)**.

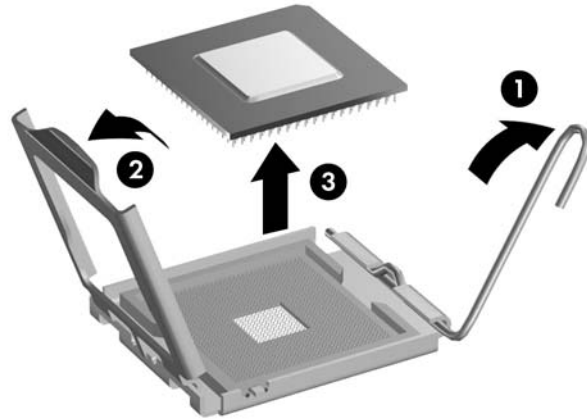


- d.** Lift the thermal kit from the system board.
- 12.** Rotate the locking lever to its full open position **(1)**.
- 13.** Raise and rotate the microprocessor retainer to its full open position **(2)**

14. Carefully lift the processor from the socket **(3)**.

⚠ CAUTION: Do NOT handle the pins in the processor socket. These pins are very fragile and handling them could cause irreparable damage. Once pins are damaged it may be necessary to replace the system board.

CAUTION: The heat sink must be installed within 24 hours of installing the processor to prevent damage to the processor's solder connections.



To install a new processor:

1. Place the processor in its socket and close the retainer.

2. Secure the locking lever.

If reusing the existing heat sink, go to step 3.


If using a new heat sink, go to step 6.

3. If reusing the existing heat sink, clean the bottom of the heat sink with the alcohol pad provided in the spares kit.

4. Apply the thermal material provided in the spares kit to the top of the processor and install the heat sink atop the processor.

5. If using a new heat sink, remove the protective covering from the bottom of the heat sink and place it in position atop the processor.

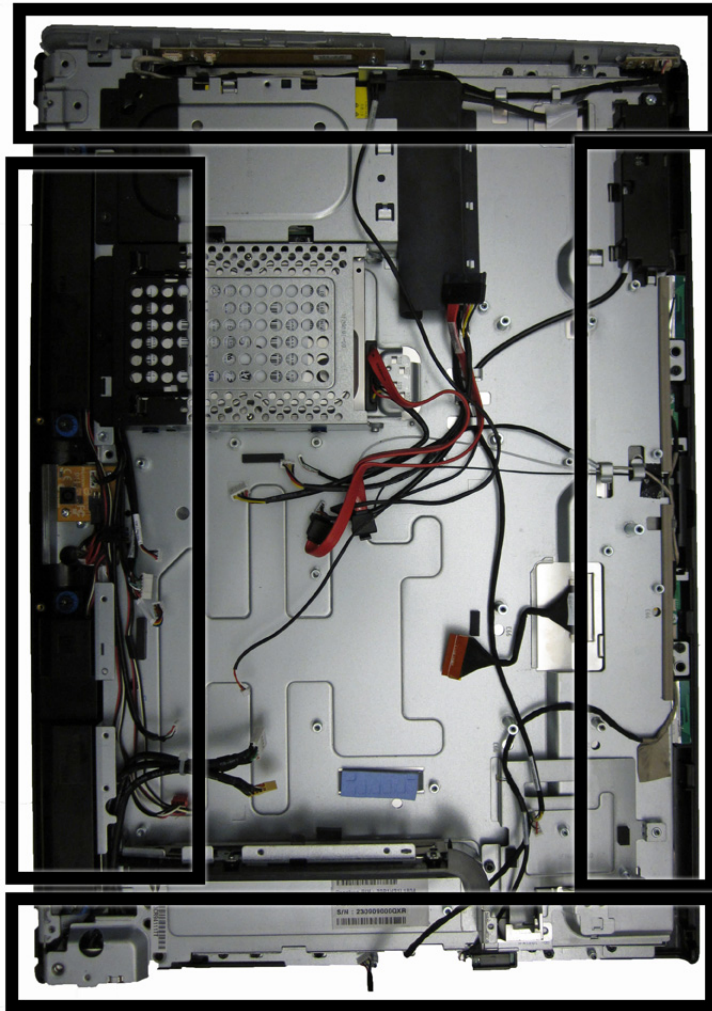
Touch panel assembly

 **NOTE:** Return the entire touch panel assembly, including bezel, to the factory for service.

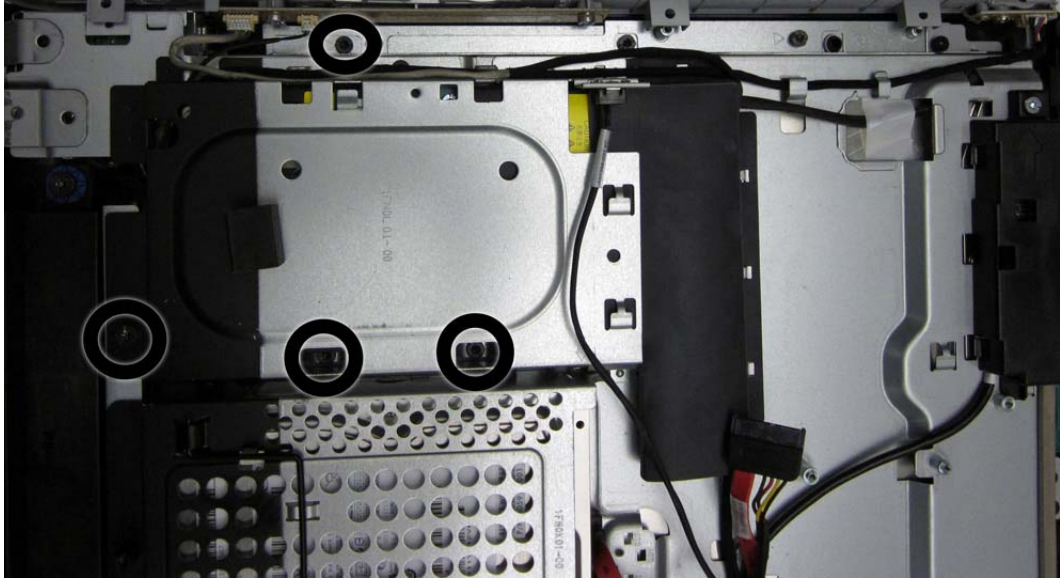
1. Prepare the computer for disassembly (see [Preparing to disassemble the HP TouchSmart PC on page 12](#)).
2. Place the computer face down on a soft, flat surface.
3. Remove the hard drive/memory cover (see [Hard drive/memory cover on page 14](#)).
4. Remove the stand (see [Stand on page 17](#)).
5. Remove the I/O cover (see [I/O cover on page 15](#)).
6. Remove the feet (see [Feet on page 16](#)).
7. Remove the hard drive (see [Removing the hard drive on page 21](#)).
8. Remove the back cover (see [Back cover on page 22](#)).
9. Remove the amp board shield (see [Amp board shield on page 28](#)).
10. Remove the system board shield (see [System board shield on page 28](#)).
11. Remove the fan sink, thermal kit, and graphics card (as necessary) (see [Graphics card – Discrete or UMA on page 29](#)).
12. Remove the two side silver caps (only one shown in image below) by pulling them straight off. You have to disconnect cables from the left side cap.



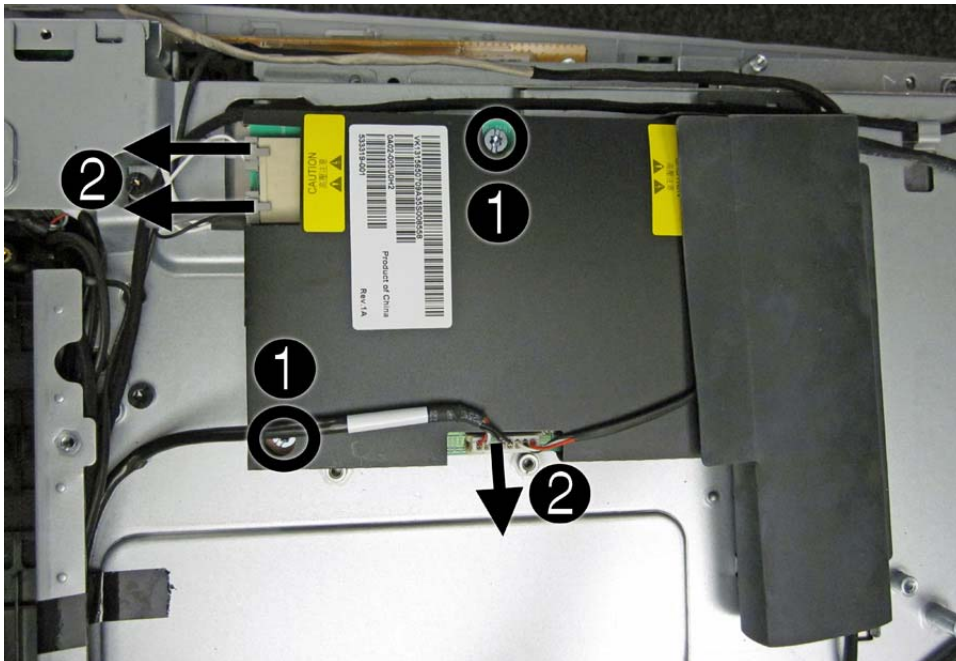
- 13.** Remove the 12 screws that secure the touch panel bracket/metal holder to the front plastics. The screws are located around the edges of the touch panel.



14. Remove the four screws that secure the inverter cover to the computer, and then remove the cover from the computer.



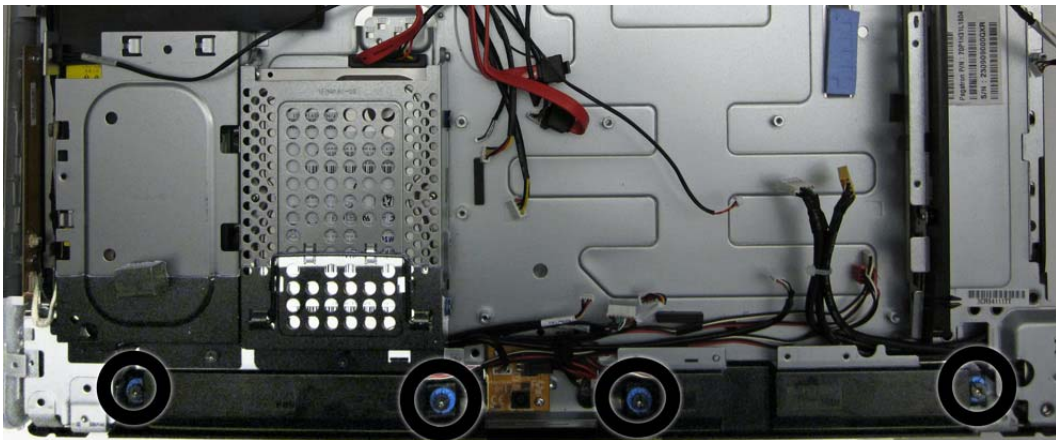
15. To remove the inverter:
 - a. Remove the two black baffles from the board.
 - b. Disconnect the two cables (1) from the inverter board.
 - c. Remove the two screws (2) that secure the board to the computer.
 - d. Remove the inverter from the computer.



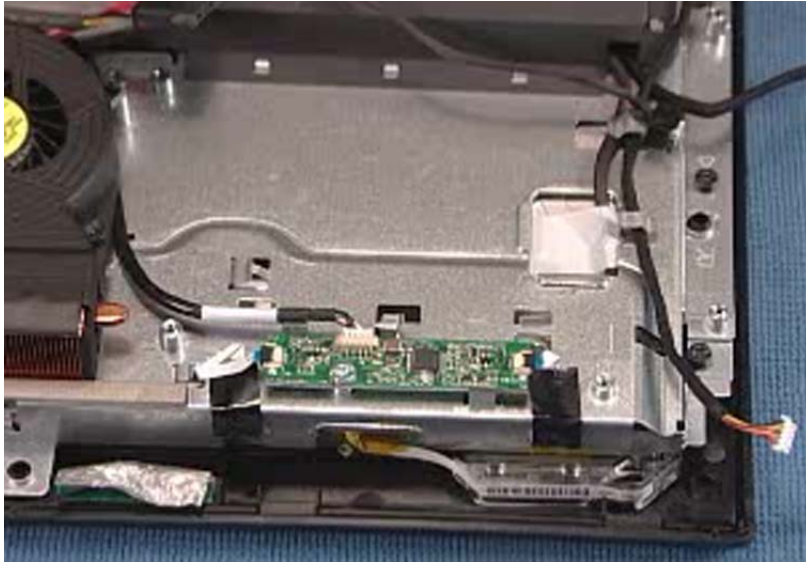
16. Remove the two screws from under the inverter cover.



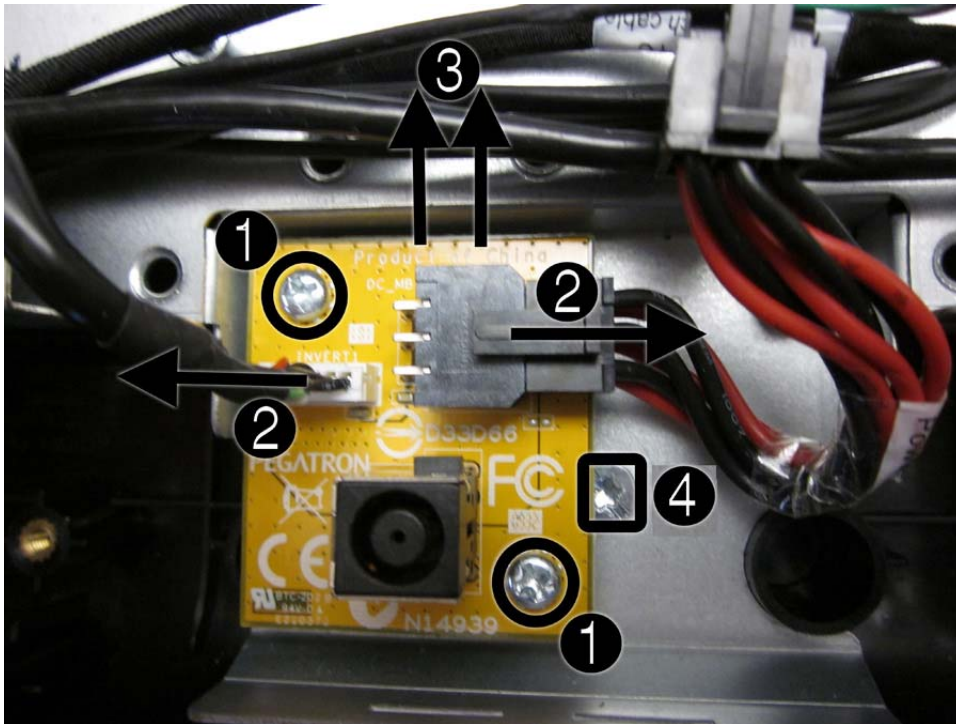
17. Remove the four screws (two per speaker) that secure the speakers, and then lift the speakers off.



- 18.** Remove the flat ribbon connectors and tape from the DSP board.



- 19.** Remove the two screws **(1)** that secure the yellow amp board with two connectors.
- 20.** Disconnect the two cables **(2)** from the board, and then lift the board from the computer **(3)**.
- 21.** Remove the screw beneath the board **(4)**.

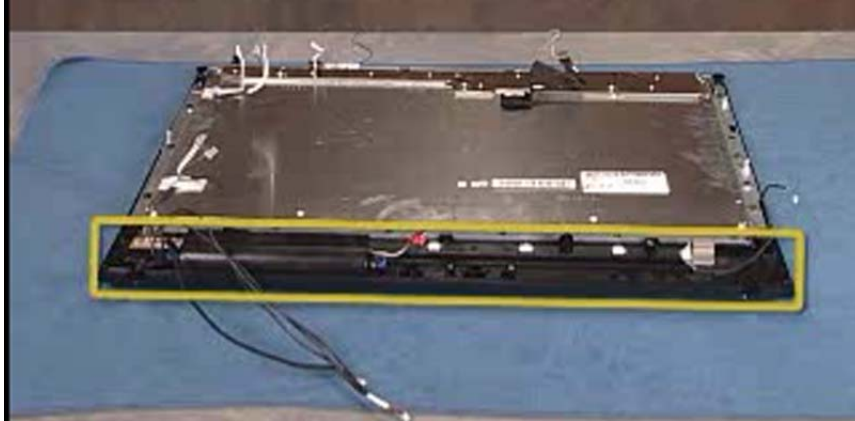


- 22.** Disconnect the remaining cables from the touch panel.

- 23.** To remove the touch panel from the base pan, separate the plastics from the display panel assembly by prying the plastic from both bottom corners of the computer (left side shown below), and then lift the base pan from the touch panel assembly.



- 24.** Remove the chin from the touch panel kit by unlatching the two pairs of tabs (right side shown in following image) that secure the chin to the front bezel, and then rotating the chin off the bezel.



25. Remove the hot start board from the computer by removing the two Torx screws and lifting the board off the touch screen assembly.



To install the touch panel, reverse the removal procedures.

Installing a Security Lock

A security lock (sold separately) enables you to secure your computer from theft and unwanted changes. A security lock is a key lock device that has a wire cable attached. You attach one end of the cable to your desk (or other stationary object) and the other to this security slot on the computer. Secure the security lock with the key.



5 Computer Setup (F10) Utility

Computer Setup (F10) Utilities


Access the BIOS Setup Utility by pressing the F10 button during startup. Use Computer Setup (F10) Utility to do the following:

- Change factory default settings.
- Set the system date and time.
- Set, view, change, or verify the system configuration, including settings for processor, graphics, memory, audio, storage, communications, and input devices.
- View processor and memory settings
- Modify the boot order of bootable devices such as hard drives, diskette drives, optical drives, or USB media.
- Run hard drive self-tests.
- Establish a supervisor password that controls access to Computer Setup (F10) Utility and the settings described in this section.

Using Computer Setup (F10) Utilities

Computer Setup can be accessed only by turning the computer on or restarting the system. To access the Computer Setup Utilities menu, complete the following steps:

1. Turn on or restart the computer.
2. As soon as the computer is turned on, press **F10** before the system boots to the operating system to enter Computer Setup. Press **Enter** to bypass the title screen, if necessary.

 **NOTE:** If you do not press **F10** at the appropriate time, you must restart the computer and again press **F10** before the unit boots to the operating system to access the utility.

3. The Computer Setup Utility screen is divided into menu headings and actions.

Five menu headings appear on the Computer Setup Utility screen:

- Main
- Advanced

- Boot
- Power
- Exit

Use the arrow keys to select the appropriate heading, then press [Enter](#). Use the arrow (up and down) keys to select the option you want, then press [Enter](#). To return to the previous screen, press [Esc](#).

4. To apply and save changes, press the [F10](#) key.

If you have made changes that you do not want applied, press the [F5](#) key to return to the default values.

CAUTION: Do NOT turn the computer power OFF while the ROM is saving the Computer Setup (F10) changes because the CMOS could become corrupted. It is safe to turn off the computer only after exiting the F10 Setup screen.

Table 5-1 Computer Setup (F10) Utility Main Menu

Heading	Table
Main	Computer Setup—Main on page 51
Advanced	Computer Setup—Advanced on page 52
Boot	Computer Setup—Boot on page 54
Power	Computer Setup—Power on page 53
Exit	Computer Setup—Exit on page 55

Computer Setup—Main

NOTE: Support for specific Computer Setup options may vary depending on the hardware configuration.


Table 5-2 Computer Setup—Main

Option	Description
System Time	Allows you to set system time.
System Date	Allows you to set system date.
Language	Allows you to select language.
Floppy Diskette A:	Allows you to set drive A to: <ul style="list-style-type: none"> • Disabled • 1.44 MB 3.5" • Not Installed

Table 5-2 Computer Setup—Main (continued)

1st Drive	For each, allows you to:
2nd Drive	<ul style="list-style-type: none">• Port Configuration (disable/enable)• (view only)<ul style="list-style-type: none">◦ Capacity (Size - HDD only)◦ Transfer Mode• Smart Support - run HDD self-test for selected channel:<ul style="list-style-type: none">◦ SMART Status Check◦ SMART Short Self-Test◦ SMART Extended Self-Test
System Information	(view only) <ul style="list-style-type: none">• Installed Memory• Memory Bank 1• Memory Bank 2• BIOS Revision• Core Version• Product Number• Model Number• Serial Number (press Enter to change)• Asset Tag (press Enter to change)

Computer Setup—Advanced

 **NOTE:** Support for specific Computer Setup options may vary depending on the hardware configuration.

 **WARNING!** Setting items on this menu to incorrect values may cause your system to malfunction.

Table 5-3 Computer Setup—Advanced

Option	Description
CPU Type	(view only)
CPU Speed	(view only)
Cache RAM	(view only)
SATA1 Controller	Allows you to disable/enable the SATA Controller.

Table 5-3 Computer Setup—Advanced (continued)

SATA Controller Mode	If SATA1 Controller is enabled, allows you to set the mode to: <ul style="list-style-type: none">• IDE• AHCI
USB Ports	Allows you to enable/disable individual USB ports (USB Port 1 through USB Port 7).
Onboard LAN	Allows you to disable/enable onboard LAN controller.
Onboard LAN Boot ROM	Allows you to disable/enable the boot ROM of the onboard LAN chip.
Onboard 1394	Allows you to disable/enable onboard 1394 port.
Onboard WLAN	Allows you to set the on-board WLAN to: <ul style="list-style-type: none">• Enabled• Disabled
Onboard TV-Tuner	Allows you to set the on-board TV tuner to: <ul style="list-style-type: none">• Enabled• Disabled
Security Option	Checks password while invoking Setup or while invoking Setup as well as on each System boot. Set to: <ul style="list-style-type: none">• Setup• System
Supervisor Password	Allows you to view the supervisor password.
User Password	Allows you to view the user password.
Onboard Audio	Allows you to set the on-board audio to: <ul style="list-style-type: none">• Enabled• Disabled
Change Supervisor Password	Allows you to change the supervisor password.

Computer Setup—Power


 **NOTE:** Support for specific Computer Setup options may vary depending on the hardware configuration.

Table 5-4 Computer Setup—Power

Option	Description
--------	-------------

Table 5-4 Computer Setup—Power (continued)

After AC Power Failure	Allows you to select system restart behavior after power loss: <ul style="list-style-type: none"> • Stay Off • Power On • Auto
XD (Execute Disable)	Disables/enables the processor's XD feature.
Virtualization Technology	Allows you to disable/enable Virtualization Technology.
S5 Maximum Power Savings	Disables/enables S5 Maximum Power Savings. Enabling this feature reduces the power of this system as much as possible in the S5 state. This feature must be disabled if you want to enable Wake on LAN from S5.
WOL in S5	Disables/enables limited Wake on LAN from S5. Note that the computer can only wake from S5 during a normal shutdown event. The S5 Maximum Power Savings feature must be disabled in order to enable limited Wake on LAN from S5.

Computer Setup—Boot



NOTE: Support for specific Computer Setup options may vary depending on the hardware configuration.

Table 5-5 Computer Setup—Boot

Option	Description
Boot-time Diagnostic Screen	Disables/enables POST diagnostic messages display.
Esc: Boot Menu	Disables/enables POST Esc: Boot Menu message display,
F9: Diagnostics	Disables/enables POST F9: Diagnostics message display,
F10: Setup	Disables/enables POST F10: Setup message display,
F11: Recovery	Disables/enables POST F11: Recovery message display,
F12: Boot From LAN	Disables/enables POST F12: Boot From LAN message display,
(Boot Device Priority)	Allows you to specify which device groups will boot first, second, third, and fourth or to disable any of the four: <ul style="list-style-type: none"> 1st Boot Device <ul style="list-style-type: none"> • CD-ROM Group 2nd Boot Device <ul style="list-style-type: none"> • HDD Group 3rd Boot Device <ul style="list-style-type: none"> • Floppy Group 4th Boot Device <ul style="list-style-type: none"> • Network Boot Group <p>NOTE: MS-DOS drive lettering assignments may not apply after a non-MS-DOS operating system has started.</p>
Floppy Group Boot Priority	Specifies boot device priority within removable devices.

Table 5-5 Computer Setup—Boot (continued)

CD-ROM Group Boot Priority	Specifies boot device priority within CD/DVD drives.
HDD Group Boot Priority	Specifies boot device priority within hard drives.
Network Group Boot Priority	Specifies boot device priority within bootable network devices.

Computer Setup—Exit


 **NOTE:** Support for specific Computer Setup options may vary depending on the hardware configuration.

Table 5-6 Computer Setup—Exit

Option	Description
Exit Saving Changes	Press Enter to exit saving changes.
Exit Discarding Changes	Press Enter to exit discarding changes.
Load Setup Defaults	Press Enter to load setup defaults.
Discard Changes	Press Enter to discard changes.
Save Changes	Press Enter to save changes.

BIOS updates

HP periodically releases system BIOS updates, which are available from the HP website. These updates often contain fixes for known issues in the BIOS.

To find out whether a PC needs a BIOS update, compare the current BIOS version number against the latest version available for download. To determine the current BIOS version, you should perform the following steps:

1. Click **Start**, and then select **Shut Down**.
2. Select **Restart**, and then click **OK**.
3. When the first screen displays, press [F10](#) to enter Setup. The BIOS revision number is listed on the Main menu.
4. Write down the current BIOS version that is listed.
5. To exit Setup, press [Esc](#), select **Yes**, and then press [Enter](#).

6 Software Troubleshooting

Your computer uses the operating system and installed software programs during normal operation. If your computer works improperly or stops because of the software, you may be able to repair it.

Some software repairs are as simple as restarting your computer, and others require performing a system recovery from files on your hard disk drive.

Software Repair Overview

The most efficient way to repair software problems is simply to restart the computer or turn the computer off completely and then power it back up again. If this does not work, then explore the following methods for fixing your computer if you are experiencing software problems:

- Updating Drivers
- Microsoft System Restore
- Software Program and Hardware Driver Reinstallation
- System Recovery

Updating Drivers

A *driver* is a software program that enables your computer to communicate with an attached device, such as a printer, hard disk drive, mouse, or keyboard.

Complete the following procedure to update a driver, or to revert to an earlier version of the driver if the new one does not solve your problem:

1. Click the **Start** button.
2. Type *Device Manager* into the Start Search box, and then click **Device Manager** to open the Device Manager window.
3. Click the plus sign (+) to expand the type of device for which you want to update or rollback, (for example, DVD/CD-ROM drives).
4. Double-click the specific item (for example, HP DVD Writer 640b).

5. Click the **Driver** tab.
6. To update a driver, click **Update Driver**, and follow the on-screen instructions.

– or –

To revert to an earlier version of a driver, click **Rollback Driver**, and follow the on-screen instructions.

Microsoft System Restore

Microsoft Windows 7 includes a feature that enables you to restore your computer configuration to a configuration that was in use before the current software problem existed. The feature does this by creating a restore point where it records the computer settings at that time and date.

When a new program is installed, the operating system automatically creates a restore point before it adds the new software. You can also set restore points manually.

If you experience a problem that you think may be due to software on your computer, use System Restore to return the computer to a previous restore point.



NOTE: Always use this System Restore procedure before you use the system recovery program.

To start a System Restore:

1. Close all open programs.
2. Click the **Start** button, right-click **Computer**, and then click **Properties**.
3. Choose **System protection, System Restore**, and then click **Next**.
4. Follow the on-screen instructions.

To manually add restore points:


1. Close all open programs.
2. Click the **Start** button, right-click **Computer**, and then click **Properties**.
3. Click **System protection**.
4. Under Protection Settings, select the disk for which you want to create a restore point.
5. Click **Create**.
6. Follow the on-screen instructions.

For more information about software restore points:

1. Click the **Start** button, and then click **Help and Support**.
2. Type *system restore* into the **Search** box, and then press [Enter](#).

Software Program and Hardware Driver Reinstallation

If an individual factory-installed software program or hardware driver is damaged, you can reinstall it by using the Recovery Manager program (select models only).

 **NOTE:** Do not use the Recovery Manager program to reinstall software programs that came on CDs or DVDs included in the computer box. Reinstall these programs directly from the CDs or DVDs.

Before you uninstall a program, be sure you have a way to reinstall it. Check that it is still available from where you initially installed it (for example, discs or the Internet). Or check that the program is in the list of programs you can reinstall from the Recovery Manager.

To check the list of installable programs in the Recovery Manager:

1. Click the **Start** button, **All Programs, Recovery Manager**, and then click **Recovery Manager**. If prompted, click **Yes** to allow the program to continue.
2. Under I need help immediately, click **Software Program Reinstallation**.
3. Click **Next** at the Welcome screen.


A list of programs opens. Check whether your program is there.

To uninstall a program:

1. Close all software programs and folders.
2. Uninstall the damaged program:
 - a. Click the Start button, and then click **Control Panel**.
 - b. Under **Programs**, click **Uninstall a program**.
 - c. Select the program you want to remove, and then click **Uninstall**.
 - d. Click **Yes** if you want to continue with the uninstall process.

To reinstall a program using the Recovery Manager:

1. Click the **Start** button, click **All Programs**, click **Recovery Manager**, and then click **Recovery Manager**.
2. Click **Software Program Reinstallation**.
3. Click **Next** at the Welcome screen.
4. Choose the program you want to install, click **Next**, and follow the on-screen instructions.
5. When you have finished reinstalling, restart the computer.

 **NOTE:** Do not skip this last step. You must restart the computer when you are finished recovering software programs or hardware drivers.

Creating data backup discs

Use CD or DVD recording (or burning) software that is installed on your computer to create backup discs of important information, including personal files, e-mail messages, and Web site bookmarks. You can also move data to an external hard disk drive.

When writing data to a backup disc, use software that includes write verification functionality. This feature compares the data on your hard disk drive with the data copied to the disc to ensure it is an exact copy. Depending on your disc recording software, you may need to manually enable this feature (refer to the software documentation).

If you encounter recording issues, try alternate media (different types or brands). Also, use the Windows Explorer tool to view your files and verify content was copied over. To open Windows Explorer, right-click the **Start** button, and then click **Explore**.

Clearing CMOS

When the BIOS has been incorrectly configured, it is sometimes necessary to clear all CMOS settings.

To clear the CMOS, users need to perform the following steps:

⚠ CAUTION: Before attempting to remove or touch any parts from the motherboard, check that the power cord is disconnected from the electrical outlet. Failing to do so can cause hardware damage and even physical injury.

1. Shut down the operating system and turn off the computer and any external devices.
2. Disconnect the power cords of the computer and any external devices from the power outlet.
3. Disconnect any external devices that are connected to the computer.
4. Remove the chassis cover.

5. Locate the CMOS jumper header on the motherboard.



⚠ CAUTION: Removing the incorrect jumper can cause the system configuration to be changed or even cause irreparable hardware damage.

6. Set the jumper to cover the middle and third pins for at least five seconds.
7. Set the jumper back in its original position.
8. Replace the hood cover.
9. Reconnect the external equipment.
10. Plug in the computer and turn on the power. Allow the operating system to start.

Clearing BIOS passwords

If a user has configured a power-on or setup password using the BIOS and then loses the password, they cannot access the BIOS in order to change or clear the password.

In this event, to clear the power-on or setup passwords—or to disable the power-on or setup password feature—users need to perform the following steps:

⚠ CAUTION: Before attempting to remove or touch any parts from the motherboard, check that the power cord is disconnected from the electrical outlet. Failing to do so can cause hardware damage and even physical injury.

1. Shut down the operating system and turn off the computer and any external devices.
2. Disconnect the power cords of the computer and any external devices from the power outlet.
3. Disconnect any external devices that are connected to the computer.
4. Remove the chassis cover.

5. Locate the BIOS password jumper header on the motherboard.



⚠ CAUTION: Removing the incorrect jumper can cause the system configuration to be changed or even cause irreparable hardware damage.

6. Move the jumper to cover the middle and third pins for at least five seconds. This clears the current passwords.
7. Replace the jumpers in their default positions.
8. Replace the chassis cover.
9. Reconnect the external equipment.
10. Plug in the computer and turn on the power. Allow the operating system to start.

Power-On Self Test (POST)

When the system is turned on, all installed components are tested to verify that they are working properly. This series of tests is called the Power-On Self-Test.

The POST runs basic tests on the following system components:

- Installed hardware
- Memory
- Cache
- PCI data path
- Flash ROM

If an error occurs during POST, the HP TouchSmart 9100 Business PC does one or both of the following:

- Displays an error message describing the problem
- Sounds a beep code

Troubleshooting

Media Card Reader

Cause	Solution
Clicking Stop in the Safely Remove Hardware window with the USB Mass Storage Device selected results in the operating system no longer recognizing the Memory Card Reader.	Restart the PC to have it recognize the Memory Card Reader again.

Optical disk drive (ODD)

Cause	Solution
8 cm optical discs are sometimes rejected by the drive or become stuck in the drive.	Insert the disc in the center of the slot, instead of inserting towards the top or bottom of the slot.

The HP TouchSmart 9100 includes the following specific tests:

- Screen Health test to support the touch-enabled display
 - a. Verifies the touch signal strength and available touch regions.
 - b. Screen Coverage test analyzes all touch regions.
 - c. If below the test threshold, logs a warning in the test log.
 - d. Clean the bezel and run the test again.
- Webcam test
- Microphone test

Determining Whether the System Is 64- or 32-bit


1. Tap the **Start** button, and then tap **Help and Support**.
2. Tap **Troubleshooting Tools**, and then tap **System Information**.
3. Tap **Touch here to open System Information**.
4. After the System Information displays, view **Operating System, Name**. It will appear as either (64-bit) or (32-bit).

7 System Recovery

System recovery completely erases and reformats the hard disk drive, deleting all data files you have created. System recovery reinstalls the operating system, programs, and drivers. However, you must reinstall any software that was not installed on the computer at the factory. This includes software that came on CDs included in the computer accessory box, and software programs you installed after purchase.

You must choose from the following methods for performing a System Recovery:

Recovery Image—Run the system recovery from a recovery image stored on your hard disk drive. The recovery image is a file that contains a copy of the original factory-shipped software. To perform a system recovery from the recovery image on your hard disk drive.

 **NOTE:** The recovery image uses a portion of the hard disk drive that cannot be used for data storage.

Recovery Discs—Run the system recovery from a set of recovery discs that you create from files stored on your hard disk drive.

Creating Recovery Discs

Complete the procedure described in this section to create a set of recovery discs from the recovery image stored on your hard disk drive. This image contains the operating system and software program files that were originally installed on your computer at the factory.

You can create only one set of recovery discs for your computer. Furthermore, the recovery discs you create can be used only with your computer.

Choosing Recovery Discs

To create recovery discs, your computer must have a DVD writer.

- Use DVD+R or DVD-R blank media to create your system recovery discs.
- You cannot use DVD+RW, DVD-RW, DVD+RW DL, DVD-RW DL, DVD+R DL, DVD-R DL, or CD discs to create recovery discs.

Use high-quality discs to create your set of recovery discs. The verification standard for the recovery disc creation process is very high. You may see error messages such as *Recording failure when writing disc* or *Error detected during disc verification*.

Your discs may be rejected if they are not defect-free. You will be prompted to insert a new blank disc to try again. It is normal that some of your discs may be rejected.

The number of discs in the recovery disc set depends on your computer model (typically 1–3 DVD discs). The Recovery Disc Creator program tells you the specific number of blank discs needed to make the set.

The process takes some time to verify that the information written on the disc is correct. You can quit the process at any time. The next time you run the program, it resumes where it left off.

To create recovery discs:

1. Close all open programs.
2. Tap the **Start** button, **All Programs, Recovery Manager**, and then tap **Recovery Disc Creation**. If prompted, tap **Yes** to allow the program to continue.
3. Follow the on-screen instructions. Label each disc as you make it (for example, Recovery 1, Recovery 2).
4. Store the Recovery discs in a safe place.

System Recovery Options

You should attempt system recovery in the following order:

1. Through the hard disk drive, from the Windows 7 Start menu.
2. Through the hard disk drive, by pressing the **F11** key on the keyboard during system startup.
3. Through recovery discs that you create.
4. Through recovery discs purchased from HP Support. To purchase recovery discs, go to <http://www.hp.com/support> and visit the Software & Driver downloads page for your computer model.

System recovery from the Windows 7 Start menu

If the computer is working, and Windows 7 is responding, use these steps to perform a system recovery.




NOTE: System Recovery deletes any data or programs that you created or installed after purchase. Therefore, ensure you have backed up to a removable disc any data that you want to keep.

1. Turn off the computer.
2. Disconnect all peripheral devices from the computer, except the monitor, keyboard, and mouse.
3. Turn on the computer.
4. Tap the **Start** button, **All Programs, Recovery Manager**, and then tap **Recovery Manager**. If prompted, tap **Yes** to allow the program to continue.
5. Under I need help immediately, tap **System Recovery**.

6. Tap **Yes**, and then tap **Next**.

Your computer restarts.

 **NOTE:** If your system does not detect a recovery partition, it will prompt you to insert a recovery disc.


7. Under I need help immediately, tap **System Recovery**.
8. If you are prompted to back up your files, and you have not done so, select **Back up your files first (recommended)** button, and then tap **Next**. Otherwise, select **Recover without backing up your files** button, and then tap **Next**.

System recovery begins. After system recovery is complete, tap **Finish** to restart the computer.

9. Complete the registration process, and wait until you see the desktop.
10. Turn off the computer, reconnect all peripheral devices, and turn the computer back on.

System recovery at system startup

If Windows 7 is not responding, but the computer is working, use these steps to perform a system recovery:

 **NOTE:** System Recovery deletes any data or programs that you created or installed after purchase. Therefore, ensure you have backed up to a removable disc any data that you want to keep.

1. Turn off the computer. If necessary, press and hold the On button until the computer turns off.
2. Disconnect all peripheral devices from the computer, except the monitor, keyboard, and mouse.
3. Press the On button to turn on the computer.
4. As soon as you see the initial company logo screen appear, repeatedly press the **F11** key on your keyboard until the *Windows is Loading Files* message appears on the screen.
5. Under I need help immediately, tap **System Recovery**.
6. If you are prompted to back up your files, and you have not done so, select **Back up your files first (recommended)** button, and then tap **Next**. Otherwise, select **Recover without backing up your files** button, and then tap **Next**. Otherwise, select **Recover without backing up your files** button, and then tap **Next**.

System recovery begins. After system recovery is complete, tap **Finish** to restart the computer.

7. Complete the registration process, and wait until you see the desktop.
8. Turn off the computer, reconnect all peripheral devices, and turn the computer back on.

Starting system recovery from recovery discs


This section contains the procedure for performing a system recovery from the recovery discs you created.



NOTE: System Recovery deletes any data or programs that you created or installed after purchase. Therefore, ensure you have backed up to a removable disc any data that you want to keep.

To perform a system recovery program using recovery discs:

1. If the computer is working, create a backup DVD containing all the data files you want to save. When you are done, remove the backup disc from the disc tray.

 **CAUTION:** All data on the hard disk drive will be deleted. You will lose data if it is not backed up.

2. Disconnect all peripheral devices from the computer, except the keyboard and mouse.
3. Insert recovery disc #1 into the DVD drive tray, and close the tray.
4. If the computer works, click the **Start** button, click the **Arrow** button next to **Shut Down**, and then click **Shut Down**.

– or –

If the computer is not responding, press and hold the On button for approximately 5 seconds, or until the computer turns off.

5. Disconnect all peripheral devices from the computer, except the monitor, keyboard, and mouse.
6. Press the On button to turn on the computer.

If you are prompted to choose between running System Recovery from disc or from hard drive, select **Run program from disc**, and then click **Next**.

7. Under I need help immediately, tap **Factory Reset**.
8. If you are prompted to back up your files, and you have not done so, select **Back up your files first (recommended)** button, and then tap **Next**. Otherwise, select **Recover without backing up your files** button, and then click **Next**.
9. If you are prompted to insert the next recovery disc, do so.
10. When the Recovery Manager is finished, remove all recovery discs from the system.
11. Click **Finish** to restart the computer.

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