

Dell Vostro 330 Owner's Manual

Regulatory Model W02C
Regulatory Type W02C001



Notes, Cautions, and Warnings



NOTE: A NOTE indicates important information that helps you make better use of your computer.



CAUTION: A CAUTION indicates potential damage to hardware or loss of data if instructions are not followed.



WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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Working on Your Computer

1

Before Working Inside Your Computer

Use the following safety guidelines to help protect your computer from potential damage and to help to ensure your personal safety. Unless otherwise noted, each procedure included in this document assumes that the following conditions exist:

- You have read the safety information that shipped with your computer.
- A component can be replaced or--if purchased separately--installed by performing the removal procedure in reverse order.



WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.



CAUTION: Many repairs may only be done by a certified service technician. You should only perform troubleshooting and simple repairs as authorized in your product documentation, or as directed by the online or telephone service and support team. Damage due to servicing that is not authorized by Dell is not covered by your warranty. Read and follow the safety instructions that came with the product.



CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface, such as a connector on the back of the computer.



CAUTION: Handle components and cards with care. Do not touch the components or contacts on a card. Hold a card by its edges or by its metal mounting bracket. Hold a component such as a processor by its edges, not by its pins.



CAUTION: When you disconnect a cable, pull on its connector or on its pull-tab, not on the cable itself. Some cables have connectors with locking tabs; if you are disconnecting this type of cable, press in on the locking tabs before you disconnect the cable. As you pull connectors apart, keep them evenly aligned to avoid bending any connector pins. Also, before you connect a cable, ensure that both connectors are correctly oriented and aligned.



NOTE: The color of your computer and certain components may appear differently than shown in this document.

To avoid damaging your computer, perform the following steps before you begin working inside the computer.

1. Ensure that your work surface is flat and clean to prevent the computer cover from being scratched.
2. Turn off your computer (see Turning Off Your Computer).



CAUTION: To disconnect a network cable, first unplug the cable from your computer and then unplug the cable from the network device.

3. Disconnect all network cables from the computer.
4. Disconnect your computer and all attached devices from their electrical outlets.
5. Press and hold the power button while the computer is unplugged to ground the system board.
6. Remove the cover.



CAUTION: Before touching anything inside your computer, ground yourself by touching an unpainted metal surface, such as the metal at the back of the computer. While you work, periodically touch an unpainted metal surface to dissipate static electricity, which could harm internal components.

Recommended Tools


The procedures in this document may require the following tools:


- Small flat-blade screwdriver
- Phillips screwdriver
- Small plastic scribe
- Flash BIOS update program media

Turning Off Your Computer



CAUTION: To avoid losing data, save and close all open files and exit all open programs before you turn off your computer.

1. Shut down the operating system:
 - In Windows 7:
Click **Start** , then click **Shut Down**.
 - In Windows Vista:

Click **Start** , then click the arrow in the lower-right corner of the **Start** menu as shown below, and then click **Shut Down**.



- In Windows XP:
Click **Start** → **Turn Off Computer** → **Turn Off**. The computer turns off after the operating system shutdown process is complete.
2. Ensure that the computer and all attached devices are turned off. If your computer and attached devices did not automatically turn off when you shut down your operating system, press and hold the power button for about 6 seconds to turn them off.

After Working Inside Your Computer

After you complete any replacement procedure, ensure you connect any external devices, cards, and cables before turning on your computer.

1. Replace the cover.



CAUTION: To connect a network cable, first plug the cable into the network device and then plug it into the computer.

2. Connect any telephone or network cables to your computer.
3. Connect your computer and all attached devices to their electrical outlets.
4. Turn on your computer.
5. Verify that the computer works correctly by running the Dell Diagnostics.

Cover

2

Removing The Cover

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the two screws securing the back cover to the computer.



3. Slide the back cover away from the stand.



4. Remove the back cover.



Installing The Cover

1. Place the back cover on the computer.
2. Slide the back cover towards the stand.
3. Install the two screws that secure the back cover to the computer.
4. Follow the procedures in *After Working Inside Your Computer*.

Front Stand

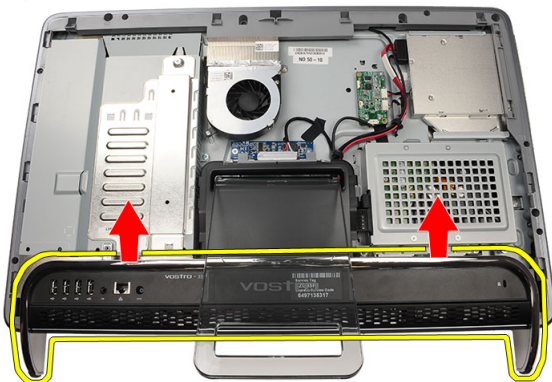
3

Removing The Front Stand

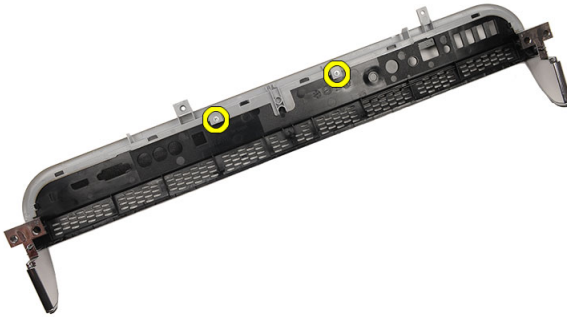
1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the *cover*.
3. Remove the screws that secure the front stand to the computer.



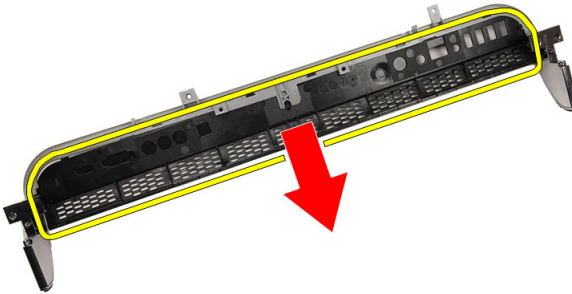
4. Fold the back stand as far as it will go and then lift the front stand out of the computer.



5. Remove the screws securing the I/O bracket to the front stand.



6. Remove the I/O panel.



Installing The Front Stand

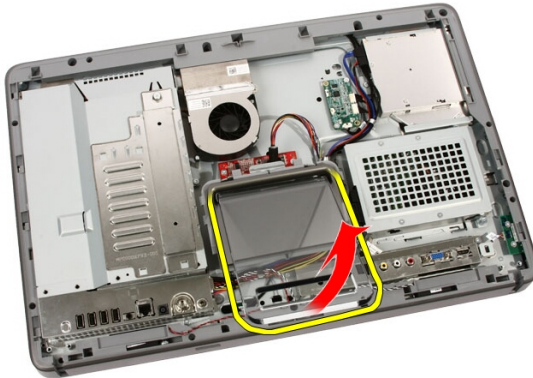
1. Place the I/O panel on the front stand.
2. Replace the screws securing the I/O bracket to the front stand.
3. Fold the back stand as far as it will go and then place the front stand on the computer
4. Replace the screws that secure the front stand to the computer.
5. Replace the *cover*.
6. Follow the procedures in *After Working Inside Your Computer*.

Back Stand Cover

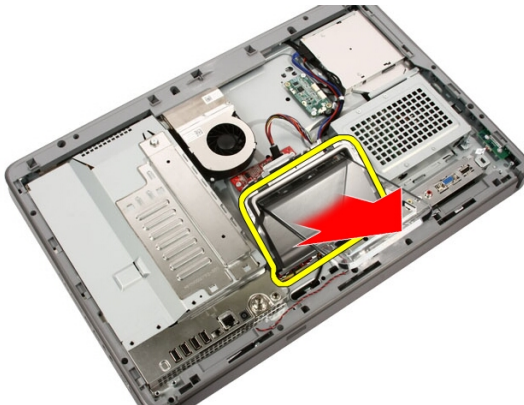
4

Removing The Back Stand Cover

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the *cover*.
3. Remove the *front stand*.
4. Push the back stand to its maximum extent.



5. Slide the stand cover through the stand and remove the back stand cover from the computer.



Installing The Back Stand Cover

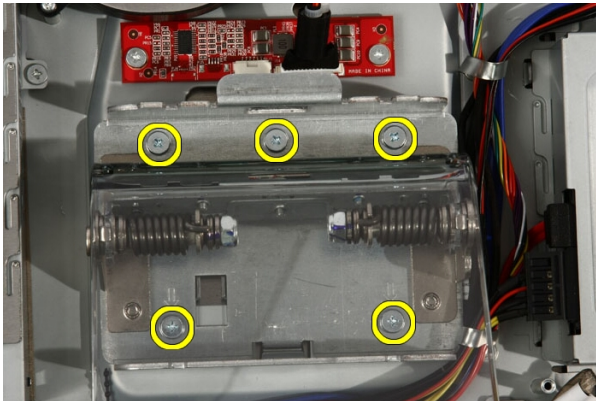
1. Push the back stand to its maximum extent.
2. Slide the stand cover through the stand and install the back stand cover on the computer.
3. Replace the *cover*.
4. Follow the procedures in *After Working Inside Your Computer*.

Back Stand

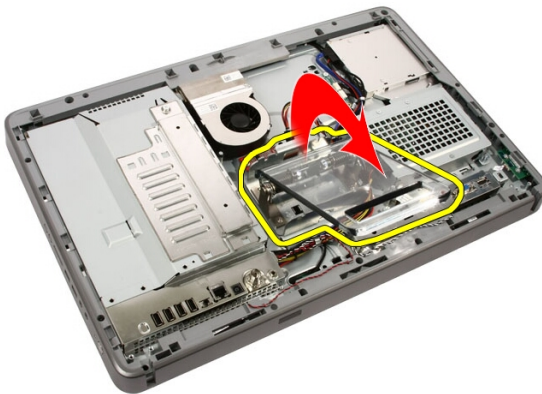
5

Removing The Back Stand

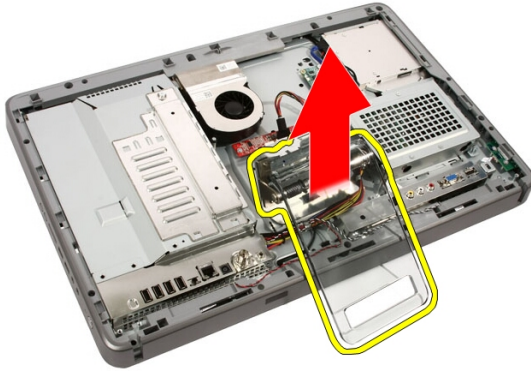
1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *cover*.
3. Remove the *front stand*.
4. Remove the *back stand cover*.
5. Remove the screws that secure the back stand to the computer.



6. Tilt the back stand forward to disengage the tab securing it to the chassis.



7. Remove the back stand.



Installing The Back Stand

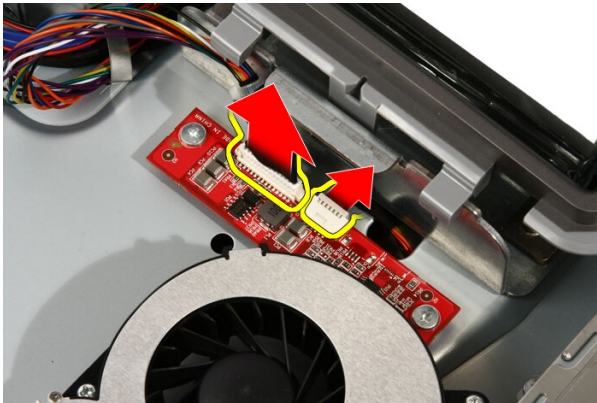
1. Place the back stand on the computer.
2. Tilt the stand forward to engage the tab securing it to the chassis.
3. Replace the screws that secure the back stand to the computer.
4. Follow the procedures in *After Working Inside Your Computer*.

Converter Board

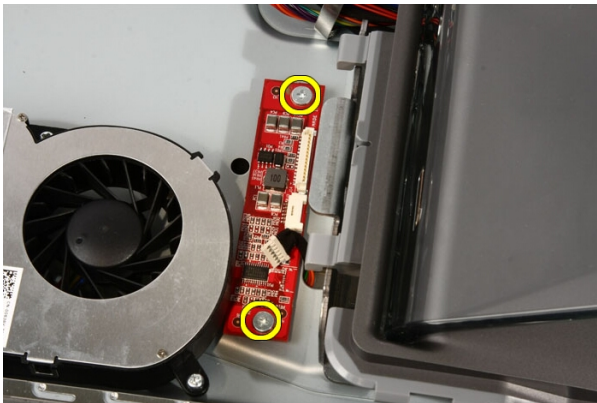
6

Removing The Converter Board

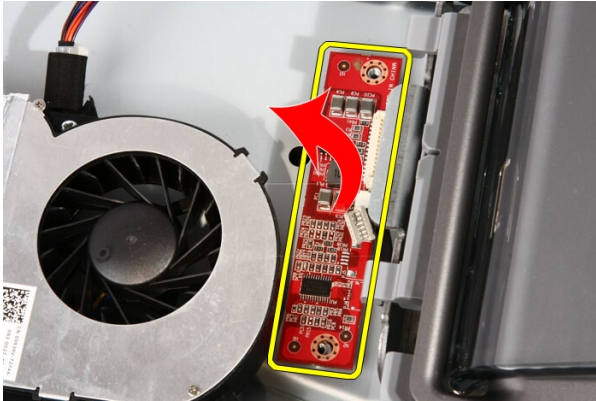
1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the *cover*.
3. Disconnect the cables from the converter board.



4. Remove the screws that secure the converter board to the computer.



5. Remove the converter board from the computer.



Installing The Convertor Board

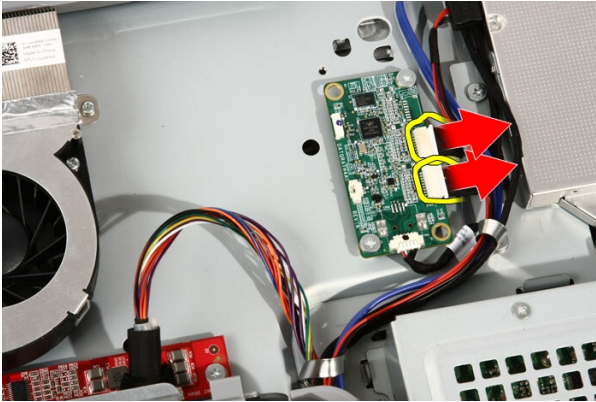
1. Place the convertor board on the computer.
2. Replace the screws that secure the convertor board to the computer.
3. Connect the display and power cables to the convertor board.
4. Replace the *cover*.
5. Follow the procedures in *After Working Inside Your Computer*.

Touch-Control Board

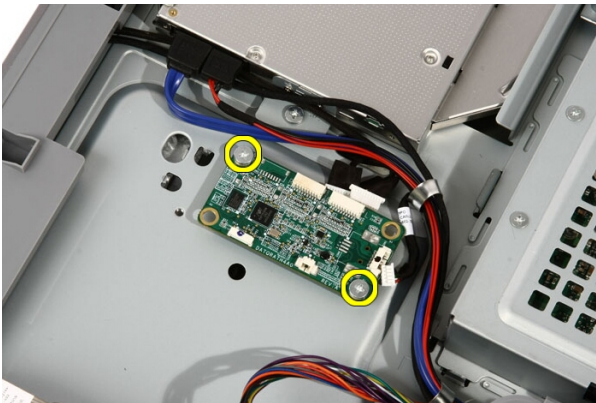
7

Removing The Touch-Control Board

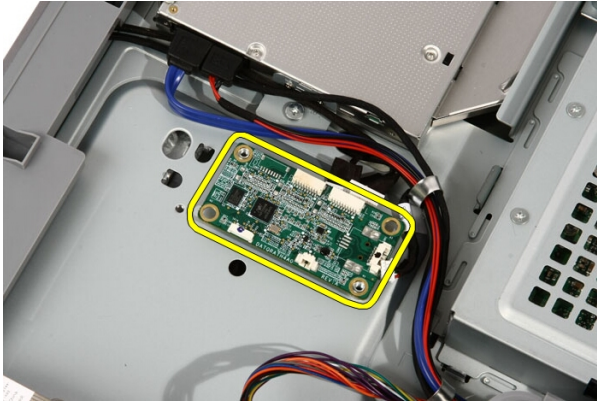
1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *cover*.
3. Disconnect the cables from the touch-control board.



4. Remove the screws that secure the touch-control board.



5. Remove the touch-control board from the computer.



Installing The Touch-Control Board

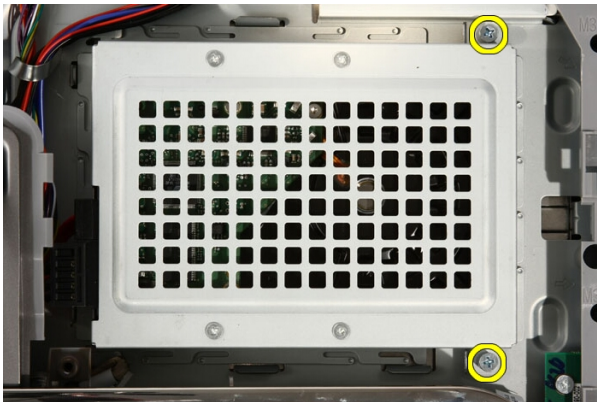
1. Place the touch-control board on the computer.
2. Replace the screws that secure the touch-control board.
3. Connect the cables to the touch-control board.
4. Replace the *cover*.
5. Follow the procedures in *After Working Inside Your Computer*.

Hard Drive

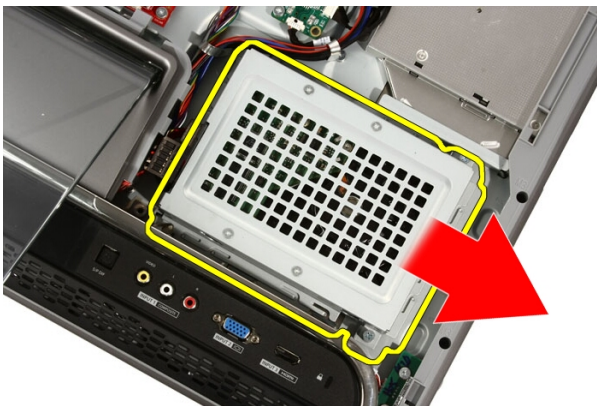
8

Removing The Hard Drive

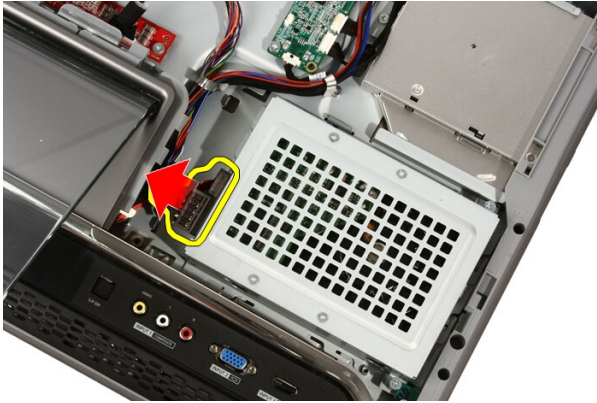
1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the *cover*.
3. Loosen the captive screws that secure the hard drive cage to the computer.



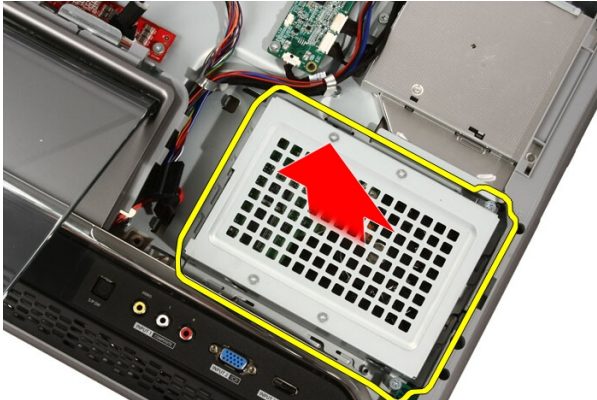
4. Slide the hard drive bracket away from the computer to release the tabs from the computer.



5. Disconnect the power cable and SATA cable.



6. Lift the hard drive out of the computer.



7. Remove the screws that secure the hard drive to the hard drive bracket.



8. Lift the hard drive bracket from the hard drive.



Installing The Hard Drive

1. Place the hard drive bracket on the hard drive.
2. Replace the screws securing the hard drive to the hard drive bracket.
3. Place the hard drive on the computer.
4. Connect the power cable and SATA cable.
5. Slide the hard drive bracket towards the computer to secure the tabs to the computer.
6. Tighten the captive screws that secure the hard drive cage to the computer.
7. Replace the *cover*.
8. Follow the procedures in *After Working Inside Your Computer*.

Memory

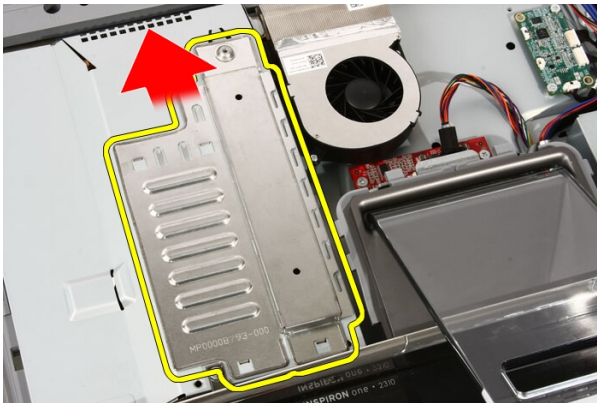
9

Removing The Memory

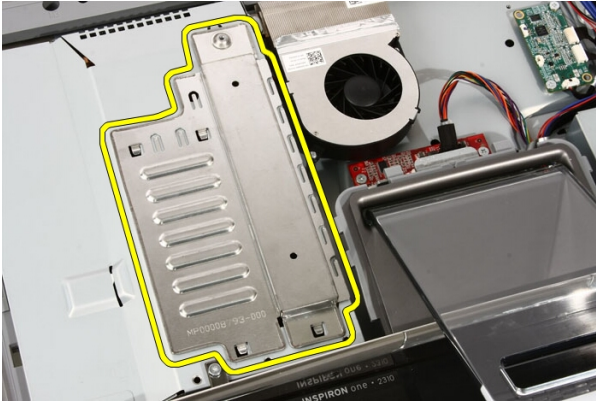
1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the *cover*.
3. Remove the screw that secures the memory cover to the computer.



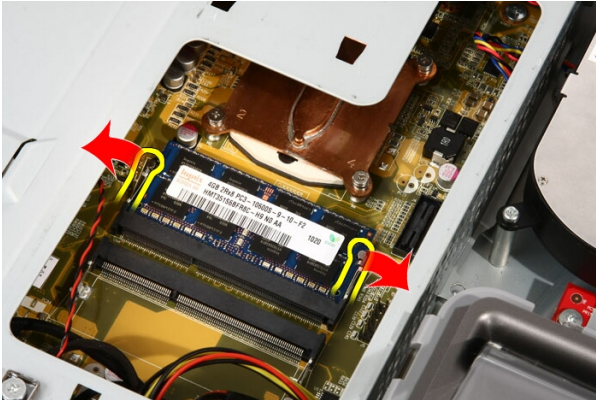
4. Slide the memory cover towards the top of the computer.



5. Remove the memory cover from the computer.



6. Spread the retainer clips until the memory pops out.



7. Pull out the memory out of the computer.



Installing The Memory

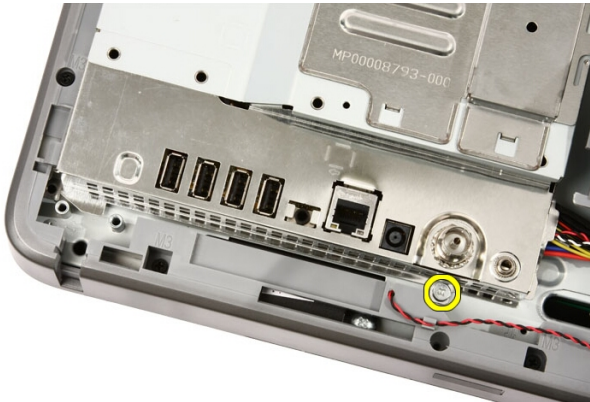
1. Insert the memory into the memory slot at a 45-degree angle and press down till it clicks into place.
2. Replace the memory cover and slide it towards the bottom of the computer.
3. Replace the screw that secures the memory cover to the computer.
4. Replace the *cover*.
5. Follow the procedures in *After Working Inside Your Computer*.

System Board Shield

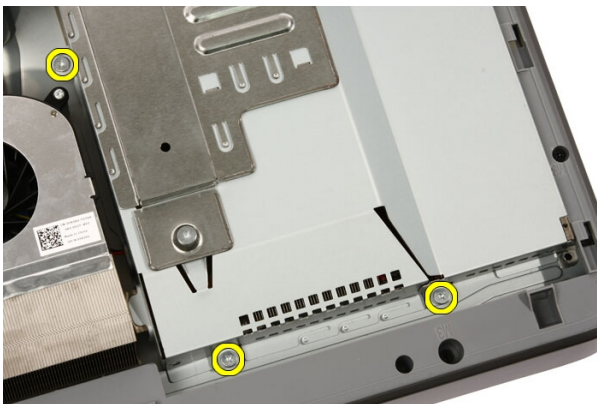
10

Removing The System Board Shield

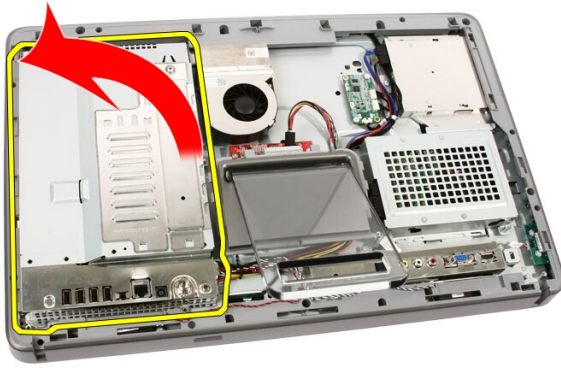
1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the *cover*.
3. Remove the *front stand*.
4. Remove the single screw along the bottom edge of the system board shield.



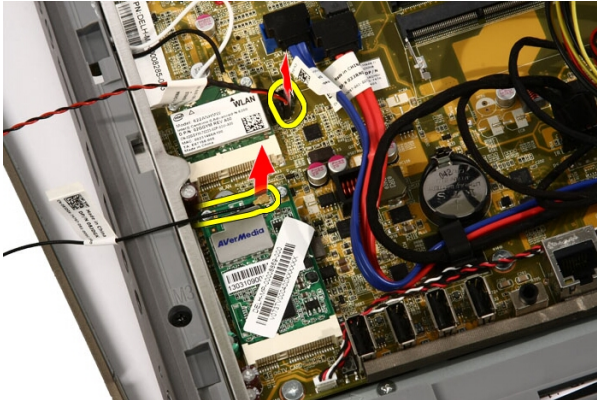
5. Remove the screws that secure the upper part of the system board shield.



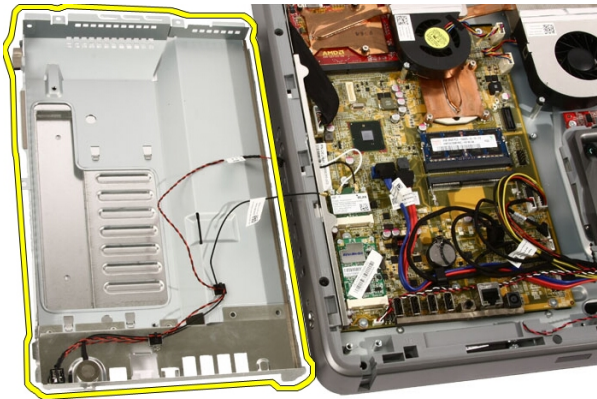
6. Carefully tilt the system board shield and place it next to the computer.



7. Disconnect the TV Tuner cable and IR Blaster cable.



8. Remove the system board shield from the computer.



Installing The System Board Shield

1. Connect the TV Tuner cable and IR Blaster cable to the system board.
2. Carefully tilt the system board shield and place it on the system board.
3. Replace the screws that secure the upper part of the system board shield.
4. Replace the single screw along the bottom edge of the system board shield.
5. Replace the *front stand*.
6. Replace the *cover*.
7. Follow the procedures in *After Working Inside Your Computer*.

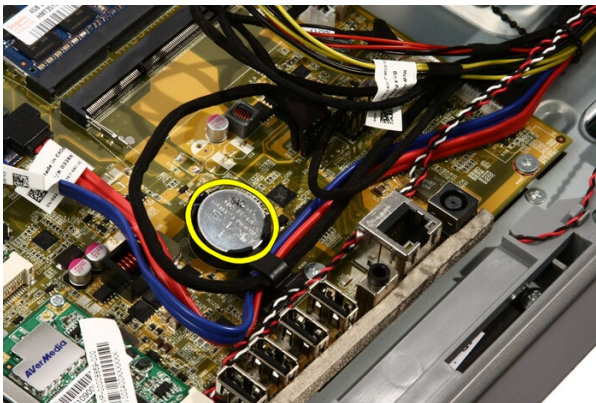
Coin-Cell Battery

Removing The Coin-Cell Battery

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the *cover*.
3. Remove the *front stand*.
4. Remove the *system board shield*.
5. Press the coin-cell battery release tab till the battery pops out.



6. Remove the coin-cell battery from the socket.



Installing The Coin-Cell Battery

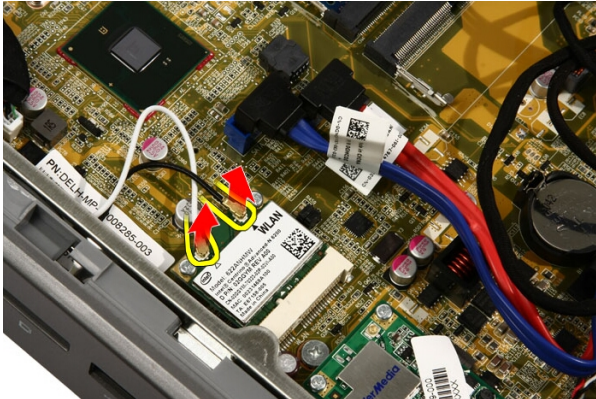
1. Place the coin-cell battery into it's socket.
2. Press the battery till it snaps into the coin-cell battery socket.
3. Replace the *system board shield*.
4. Replace the *front stand*.
5. Replace the *cover*.
6. Follow the procedures in *After Working Inside Your Computer*.

Wireless Local Area Network (WLAN) Card

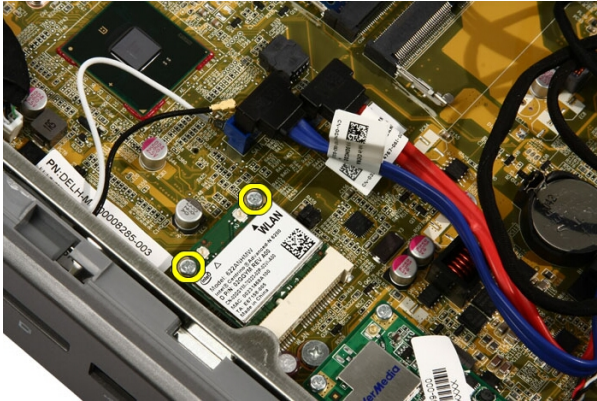
12

Removing The WLAN Card

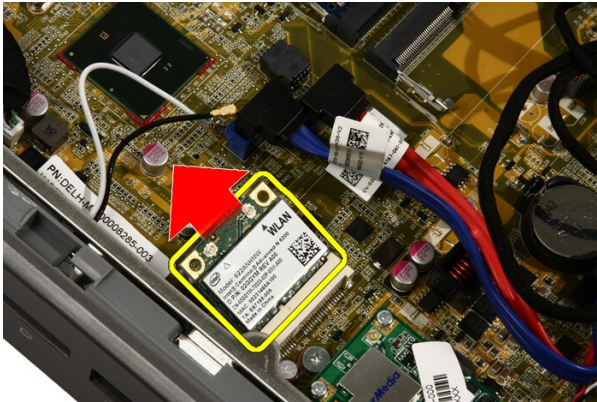
1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the *cover*.
3. Remove the *front stand*.
4. Remove the *system board shield*.
5. Disconnect the antenna cables.



6. Remove the screws that secure the WLAN card to the computer.



7. Pull the WLAN card out and remove it from the computer.



Installing The WLAN Card

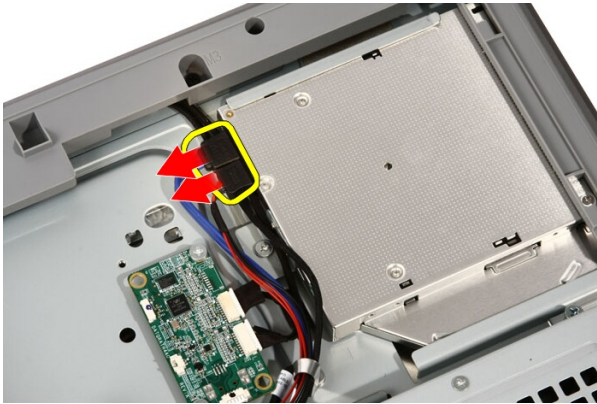
1. Insert the WLAN card into the socket at a 45-degree angle.
2. Press down the WLAN card and replace the screw that secures the WLAN card to the system board.
3. Connect the antenna cables. Connect the black cable and white cable to the connector marked with a black and white triangle respectively.
4. Replace the *system board shield*.
5. Replace the *front stand*.
6. Replace the *cover*.
7. Follow the procedures in *After Working Inside Your Computer*.

Optical Drive

13

Removing The Optical Drive

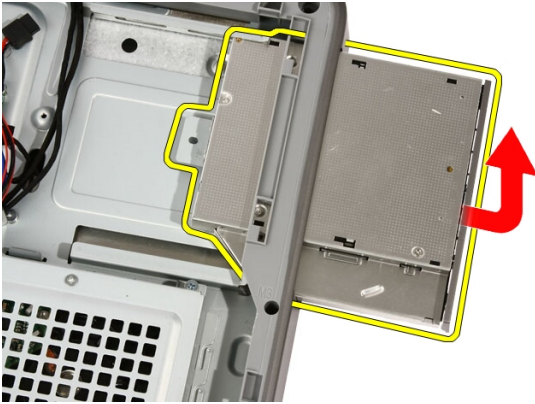
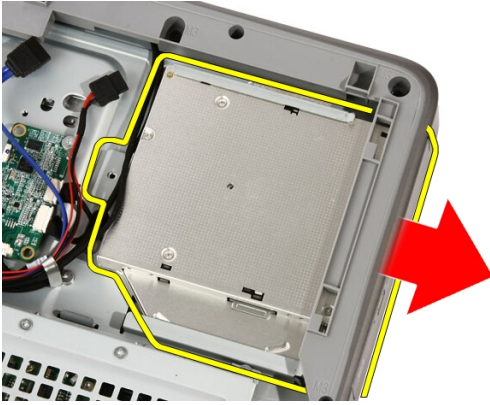
1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *cover*.
3. Disconnect the SATA and power cables from the optical drive.



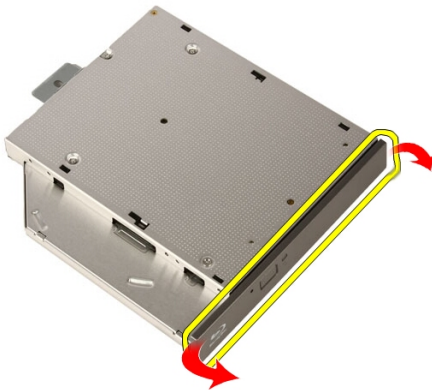
4. Remove the screws that secure the optical drive to the computer.



5. Slide the optical drive out of the computer.



6. Pry the bezel off the optical drive, to use on the replacement optical drive.



Installing The Optical Drive

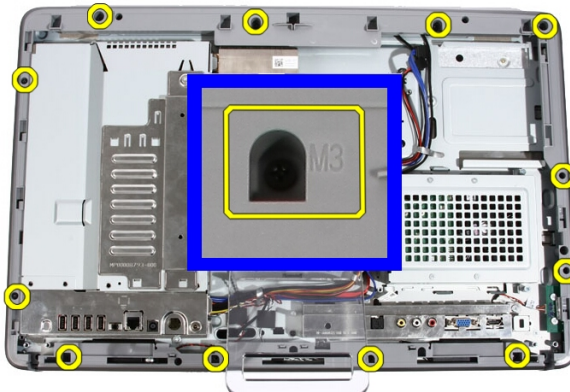
1. Push the bezel onto the optical drive.
2. Slide the optical drive into your computer.
3. Replace the screws that secure the optical drive to the computer.
4. Connect the SATA and power cables from the optical drive.
5. Replace the *cover*.
6. Follow the procedures in *After Working Inside Your Computer*.

Middle Bezel

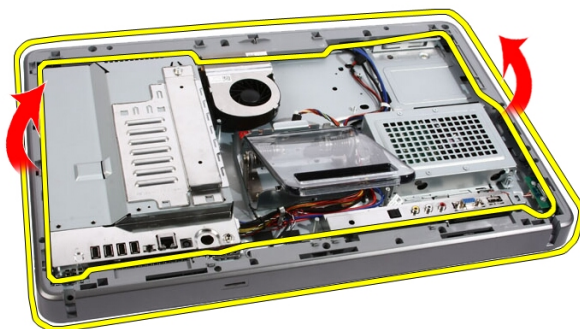
14

Removing The Middle Bezel

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *cover*.
3. Remove the *front stand*.
4. Remove the *system board shield*.
5. Remove the screws that secure the middle bezel to the computer. The screws are marked **M3** as shown in the image below.



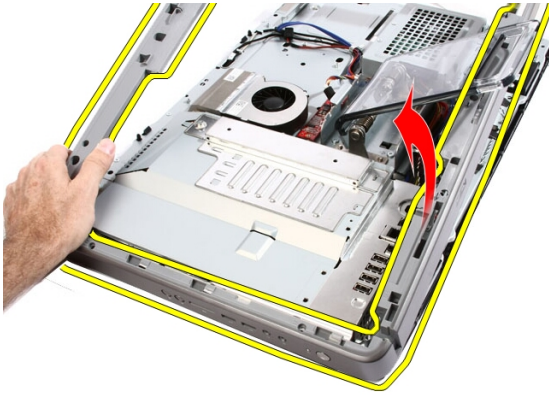
6. Work the middle bezel loose from the chassis.



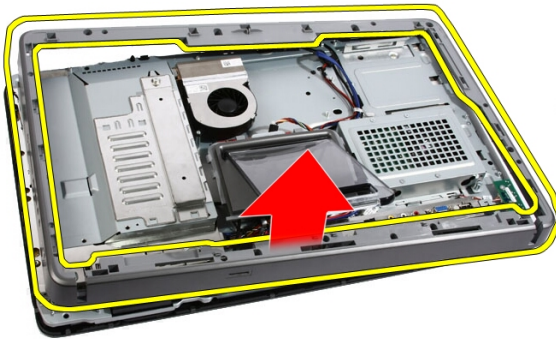
7. If needed, carefully pry the middle bezel up a little, near the ports on the right side of the computer. The tabs on the bottom of the middle bezel attach to the chassis here.



8. Tilt the frame up at an angle to loosen the snap tabs from the chassis.



9. Remove the middle bezel.



Installing The Middle Bezel

1. Place the middle bezel on the computer.
2. Press the middle bezel into the computer till all the tabs snap into place.
3. Replace the screws that secure the middle bezel to the computer.
4. Replace the *system board shield*.
5. Replace the *front stand*.
6. Replace the *cover*.
7. Follow the procedures in *After Working Inside Your Computer*.

Speaker

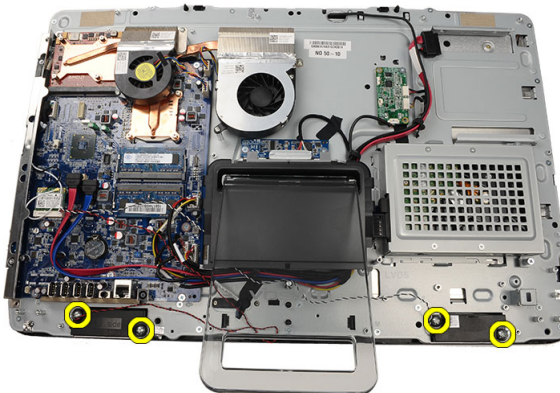
15

Removing The Speakers

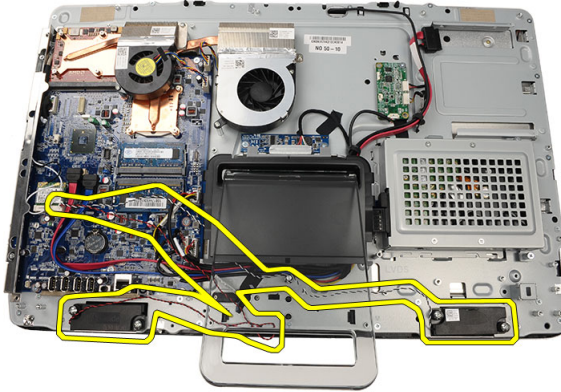
1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the *cover*.
3. Remove the *front stand*.
4. Remove the *system board shield*.
5. Disconnect the speaker cable from the system board.



6. Remove the screws that secure the speakers to the system board.



7. Remove the speakers from the system board.



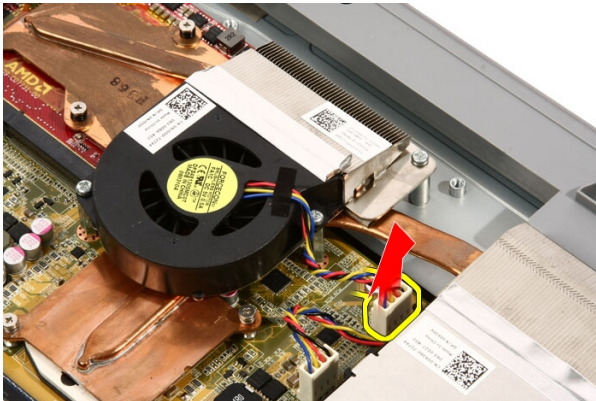
Installing The Speakers

1. Place the speakers on the system board.
2. Replace the screws that secure the speakers to the system board.
3. Connect the speaker cable to the system board.
4. Replace the *system board shield*.
5. Replace the *front stand*.
6. Replace the *cover*.
7. Follow the procedures in *After Working Inside Your Computer*.

Video Card Fan

Removing The Video Card Fan

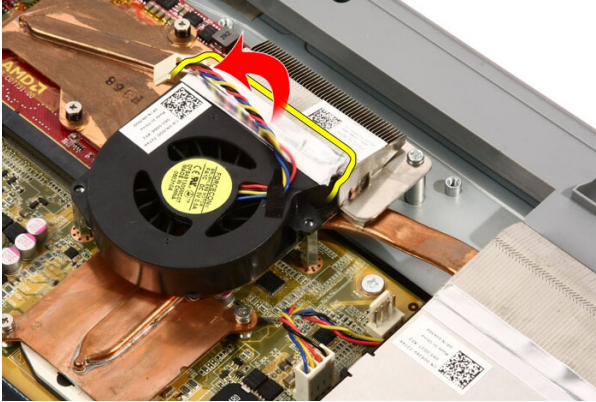
1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the *cover*.
3. Remove the *front stand*.
4. Remove the *system board shield*.
5. Disconnect the video card fan cable from the system board.



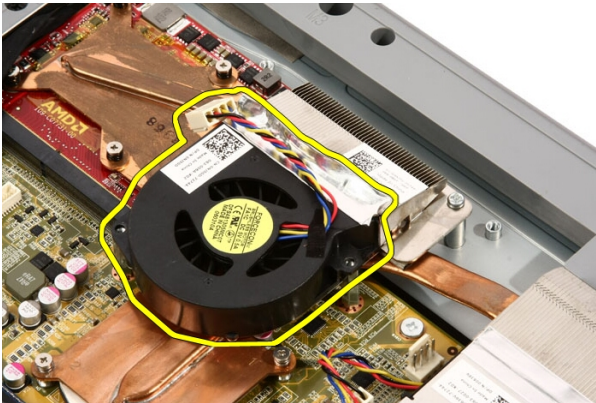
6. Remove the screws that secure the video card fan to the computer.



7. Peel back the tape sealing the video card fan to the video card heat sink.



8. Remove the video card fan from the computer.



Installing The Video Card Fan

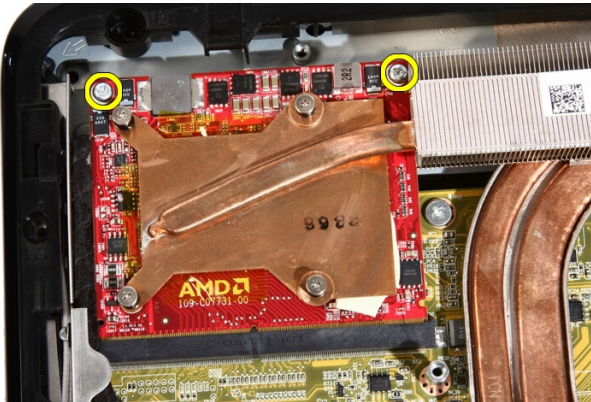
1. Place the video card on the computer and paste the tape to seal the video card fan to the video card heat sink.
2. Replace the screws that secure the video card fan to the computer.
3. Connect the video card fan cable to the system board.
4. Replace the *system board shield*.
5. Replace the *front stand*.
6. Replace the *cover*.
7. Follow the procedures in *After Working Inside Your Computer*.

Video Card And Heat Sink

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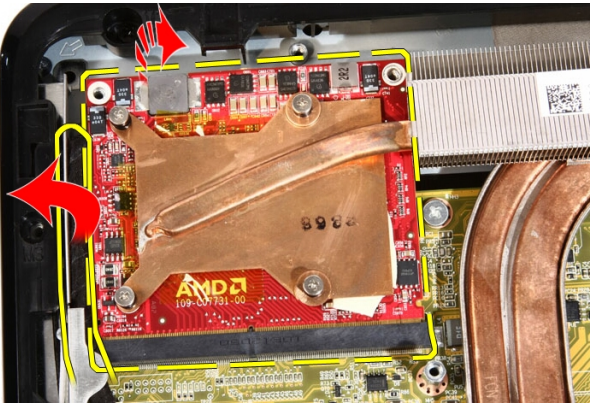
Removing The MXM Video Card And Heat Sink

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *cover*.
3. Remove the *front stand*.
4. Remove the *system board shield*.
5. Remove the *video card fan*.
6. Remove the screws that secure the MXM card and heat sink to the system board

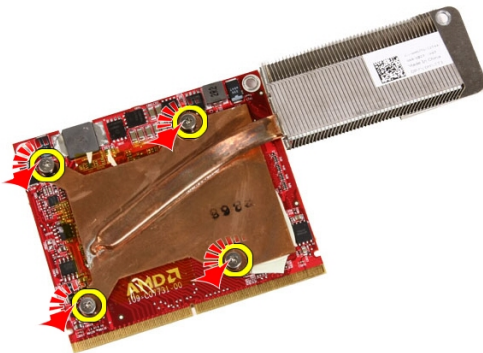


The card will pop out at an angle.

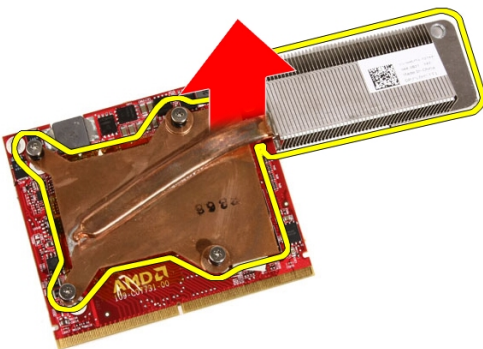
7. Remove the MXM video card and heat sink out of the socket.



8. Remove the screws that secure the heat sink to the MXM video card.



9. Pull the heat sink away from the MXM video card.



10. Pull the MXM video card away from the base plate.

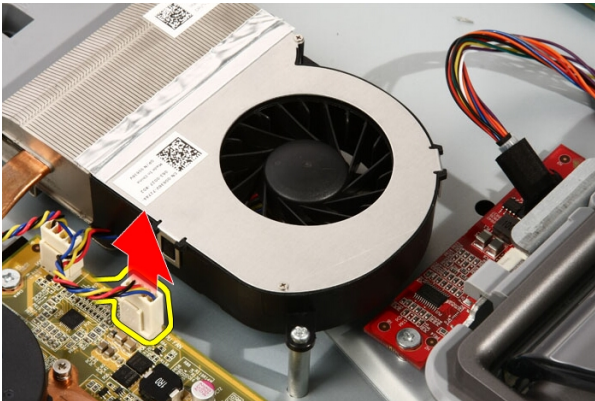


Installing The MXM Video Card And Heat Sink

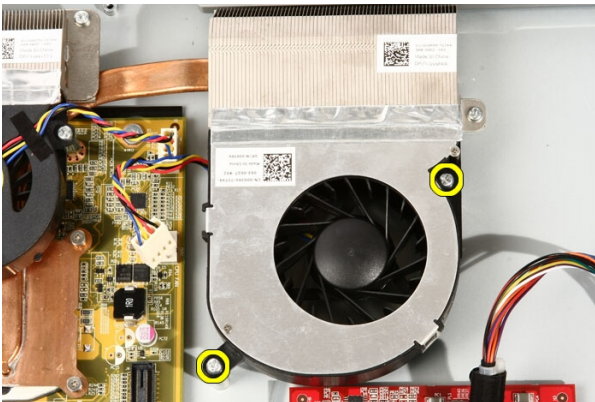
1. Place the video card on the base plate.
2. Place the heat sink on the video card.
3. Replace the screws that secure the heat sink to the video card.
4. Place the video card and heat sink into it's socket.
5. Replace the screws that secure the video card and heat sink to the system board.
6. Replace the *video card fan*.
7. Replace the *system board shield*.
8. Replace the *front stand*.
9. Replace the *cover*.
10. Follow the procedures in *After Working Inside Your Computer*.

Removing The Processor Fan

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the *cover*.
3. Remove the *front stand*.
4. Remove the *system board shield*.
5. Disconnect the processor fan cable from the system board.



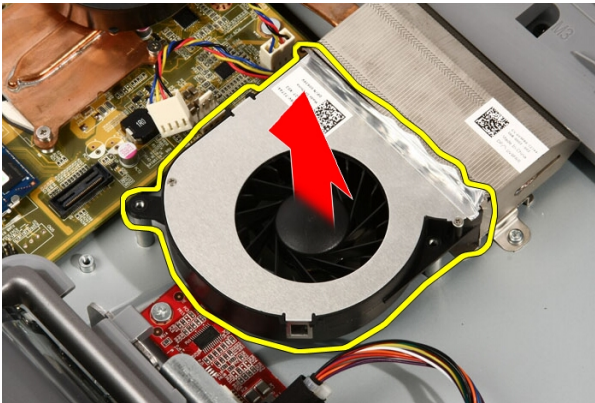
6. Remove the screws that secure the processor fan to the system board.



7. Peel back the tape sealing the processor fan to the heat sink.



8. Remove the processor fan from the computer.



Installing The Processor Fan

1. Place the processor fan on the heat sink and paste the tape that secures the processor fan to the heat sink.
2. Replace the screws that secure the processor fan to the system board.
3. Connect the processor fan cable to the system board.
4. Replace the *system board shield*.
5. Replace the *front stand*.
6. Replace the *cover*.
7. Follow the procedures in *After Working Inside Your Computer*.

Removing The Processor Heat Sink

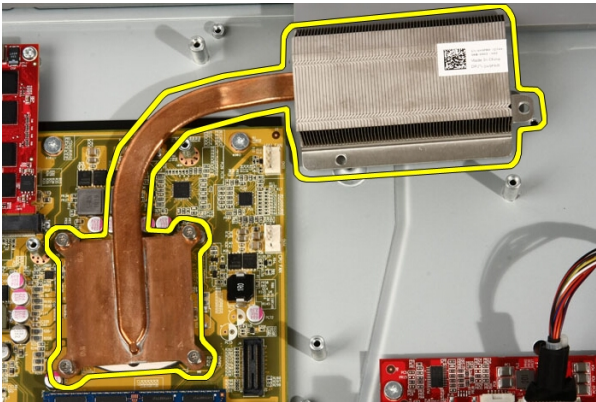
1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the *cover*.
3. Remove the *front stand*.
4. Remove the *system board shield*.
5. Remove the *video card fan*.
6. Remove the *video card and heat sink assembly*.
7. Remove the *processor fan*.
8. Remove the screws that secure the heat sink to the computer.



9. Remove the screws that secure the heat sink to the system board.



10. Remove the heat sink from the computer.

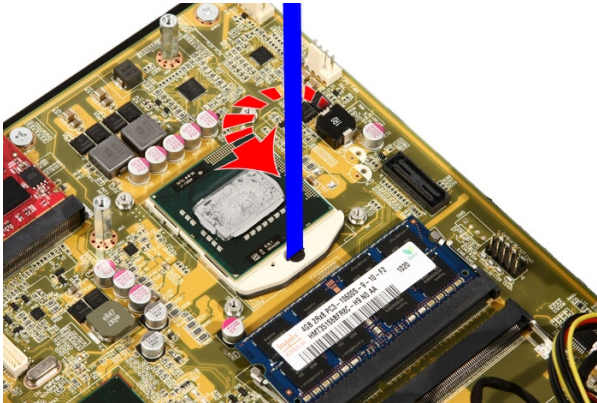


Installing The Processor Heat Sink

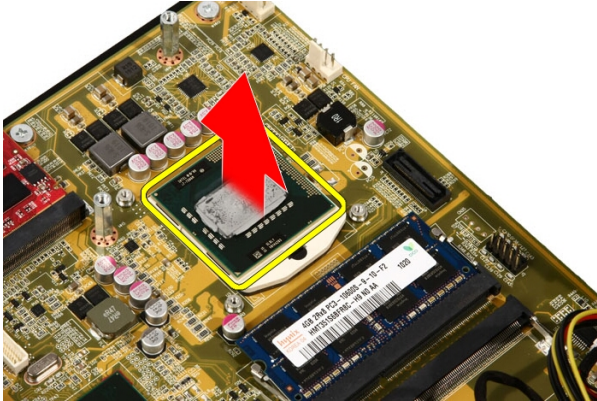
1. Place the heat sink on the computer and replace the screws that secure the heat sink to the system board.
2. Replace the screws that secure the heat sink to the computer.
3. Replace the *processor fan*.
4. Replace the *video card fan*.
5. Replace the *video card and heat sink assembly*.
6. Replace the *system board shield*.
7. Replace the *front stand*.
8. Replace the *cover*.
9. Follow the procedures in *After Working Inside Your Computer*.

Removing The Processor

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *cover*.
3. Remove the *front stand*.
4. Remove the *system board shield*.
5. Remove the *video card fan*.
6. Remove the *video card and heat sink assembly*.
7. Remove the *processor fan*.
8. Remove the *processor heat sink*.
9. Unlock the process screw by turning it counter-clockwise until it clicks in the unlocked position.



10. Remove the processor from the socket on the system board.



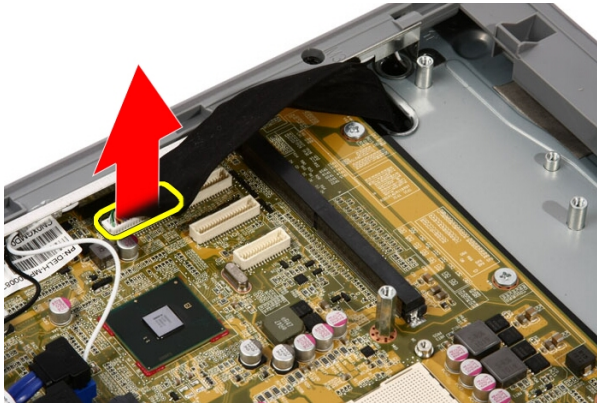
Installing The Processor

1. The processor is notched at one end with a triangle marking. The same marking is also notched on the processor socket. Align these two notches and slide the processor into the socket and it should slide in nicely and fit into the socket without any force.
2. Lock the processor into the socket by turning the screw clockwise until it clicks into the locked position.
3. Replace the *processor heat sink*.
4. Replace the *processor fan*.
5. Replace the *video card fan*.
6. Replace the *video card and heat sink assembly*.
7. Replace the *system board shield*.
8. Replace the *front stand*.
9. Replace the *cover*.
10. Follow the procedures in *After Working Inside Your Computer*.

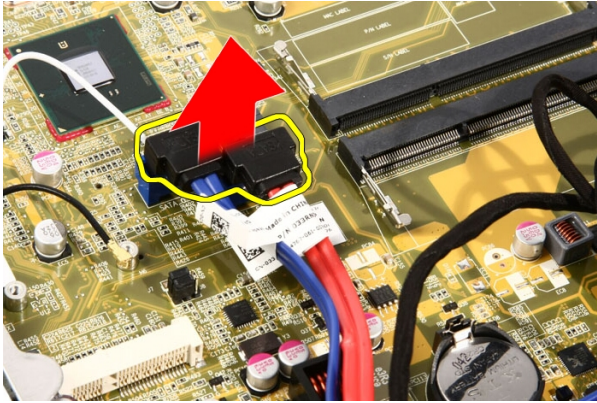
System Board

Removing The System Board

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *cover*.
3. Remove the *front stand*.
4. Remove the *system board shield*.
5. Remove the *WLAN card*.
6. Remove the *video card fan*.
7. Remove the *video card and heat sink assembly*.
8. Remove the *processor fan*.
9. Remove the *processor heat sink*.
10. Remove the *processor*.
11. Disconnect the AV cable from the system board.



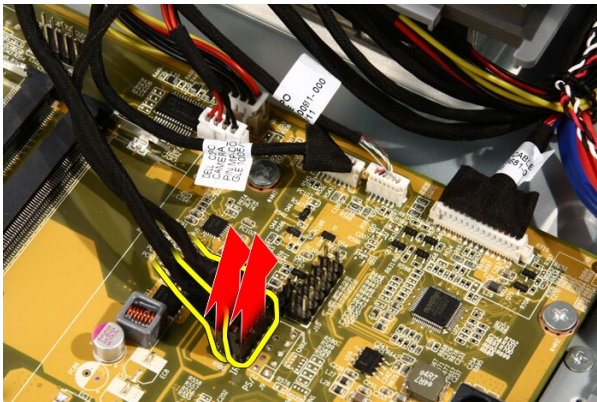
12. Disconnect the SATA cable from the system board.



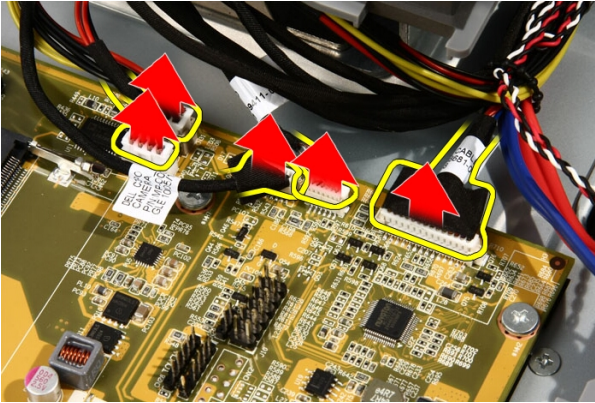
13. Open the cable clamp and free the cables.



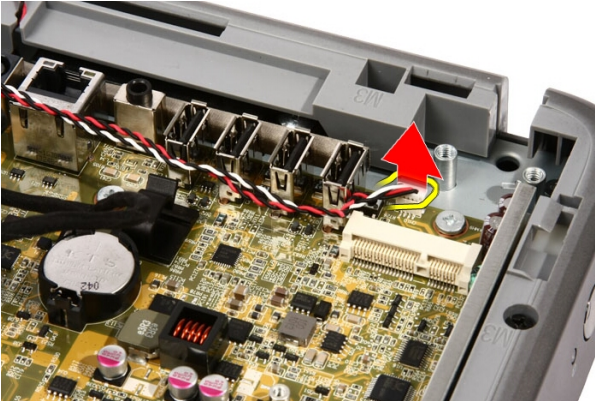
14. Disconnect the two cables.



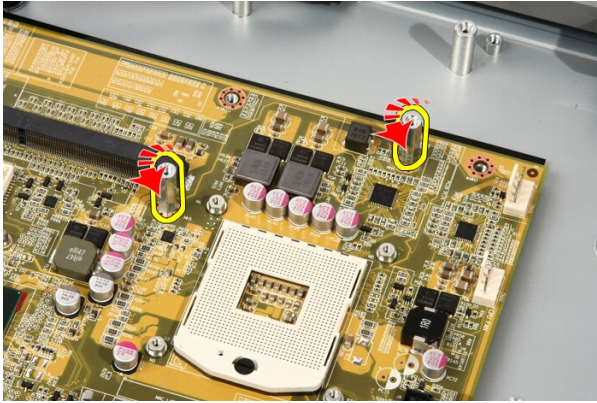
15. Disconnect the five cables.



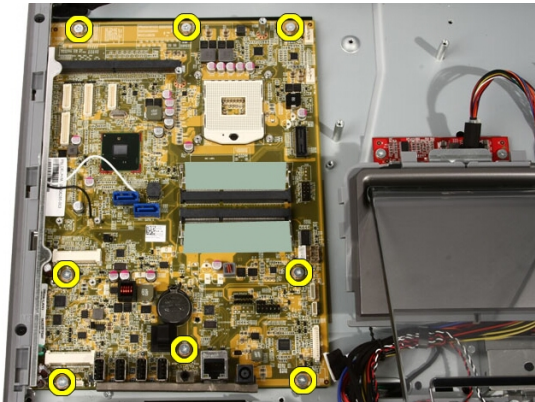
16. Disconnect the speaker cable.



17. Remove the mounting post for the video card fan.



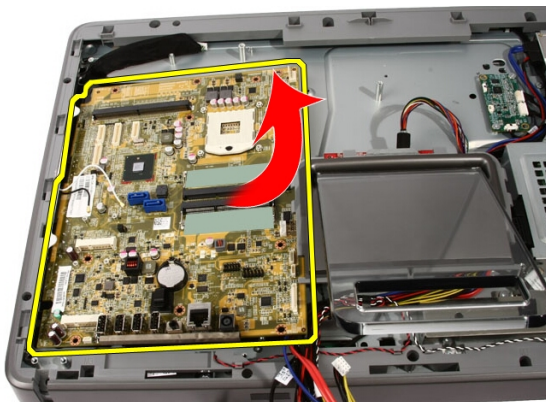
18. Remove the screws that secure the system board to the computer.



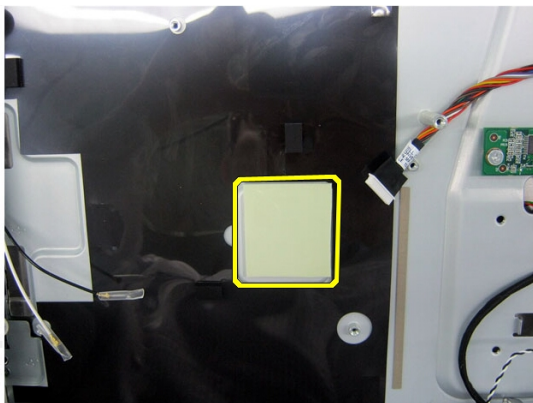
19. Push the system board towards the middle of the computer and lift it out of the computer.



20. Remove the system board from the computer.



21. Remove the thermal pads located on the chassis under the system board.



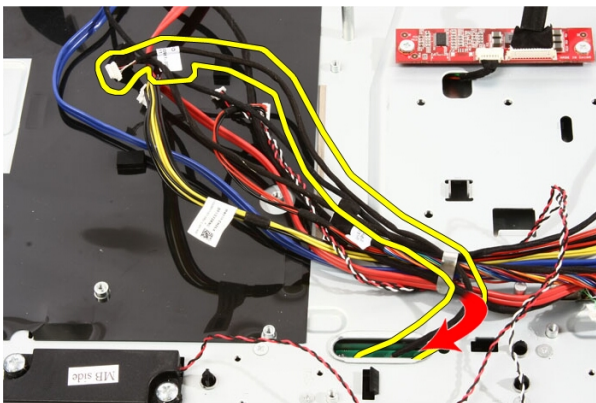
Installing The System Board

1. Replace the thermal pads under the system board.
2. Replace the two thermal pads under the memory slots.
3. Replace the screws that secure the system board to the computer.
4. Replace the mounting post for the video card fan.
5. Connect the speaker cable.
6. Connect the five cables.
7. Connect the two cables.
8. Tie the cables using a cable clamp for better cable management.
9. Connect the SATA cables to the system board.
10. Connect the AV cable to the system board.
11. Replace the *processor heat sink*.
12. Replace the *processor fan*.
13. Replace the *video card fan*.
14. Replace the *video card and heat sink assembly*.
15. Replace the *memory*.
16. Replace the *system board shield*.
17. Replace the *front stand*.
18. Replace the *cover*.
19. Follow the procedures in *After Working Inside Your Computer*.

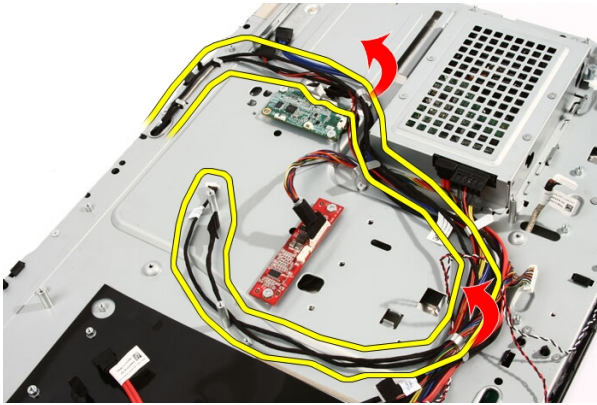
Front Bezel

Removing The Front Bezel

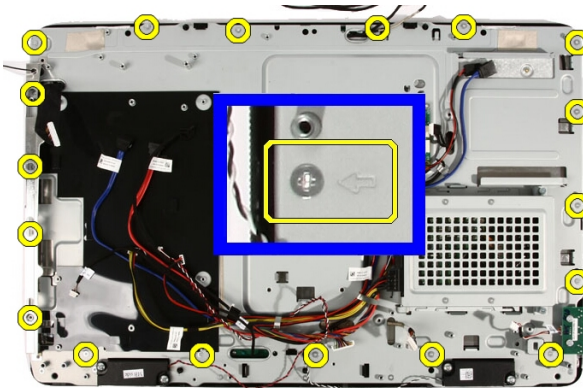
1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *cover*.
3. Remove the *front stand*.
4. Remove the *system board shield*.
5. Remove the *WLAN card*.
6. Remove the *video card fan*.
7. Remove the *video card and heat sink assembly*.
8. Remove the *processor fan*.
9. Remove the *processor heat sink*.
10. Remove the *processor*.
11. Remove the *system board*.
12. Remove the *middle bezel*.
13. Route the Bluetooth cable through the routing slot on the chassis.



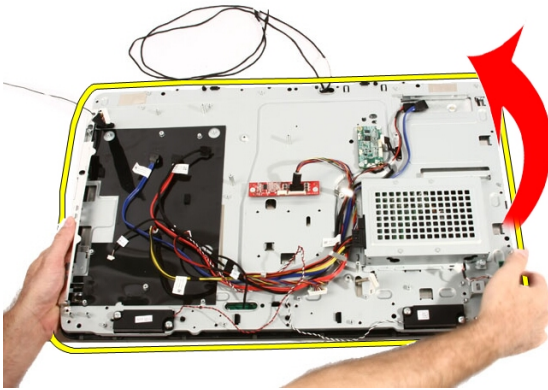
14. Un-thread the IR cable and camera cable.



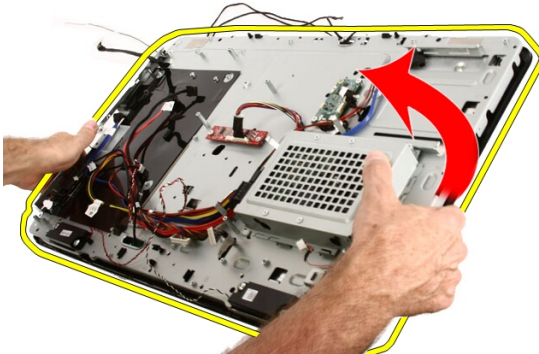
15. Remove the screws that secure the front bezel to the chassis. The screws are marked with an arrow as shown in the image below.



16. Hold the assembly together and carefully turn it over.



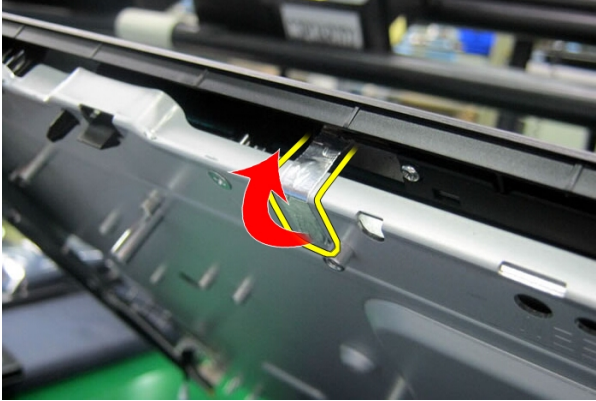
17. Hold the panels tightly so the display panel does not fall and get damaged.



18. Lay the assembly on the soft surface.



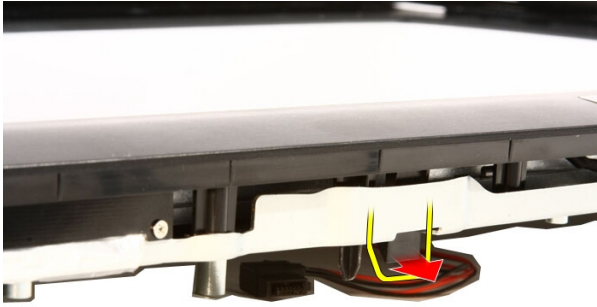
19. Peel the tape connecting the web camera to the chassis.



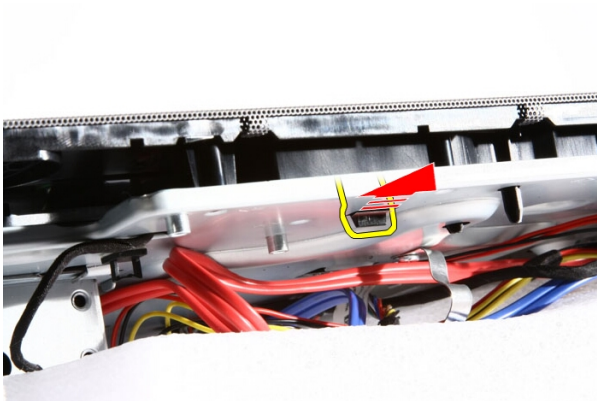
20. Locate the two tabs that secure the bezel.



21. Pull the tab to release it.



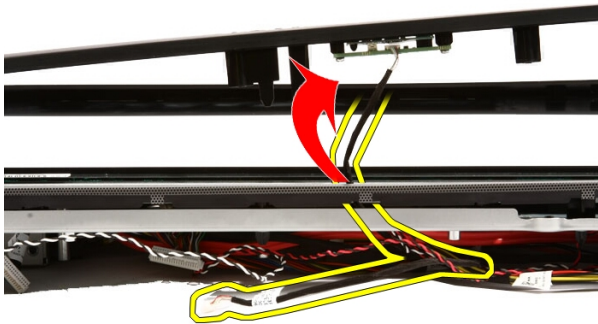
22. Push the tab at the bottom edge of the bezel toward the outside the computer and release it.



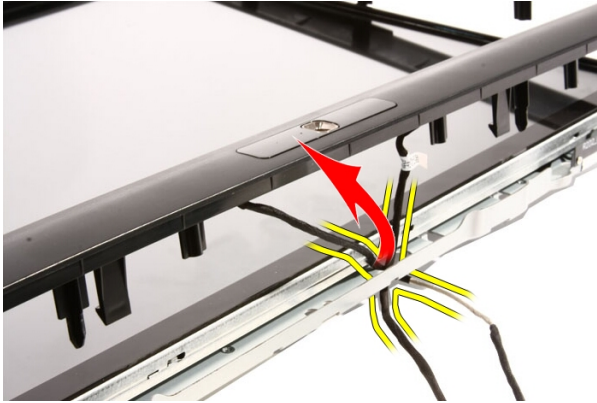
23. Lift the bottom edge of the bezel a little.



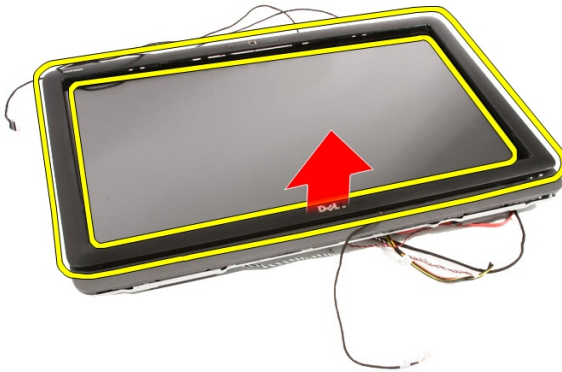
24. Carefully route the Bluetooth cable out through the routing slot.



25. Carefully route out the IR cable and camera cable out through the routing slot.



26. Lift the front bezel off the chassis.



Installing The Front Bezel

1. Place the front bezel on the chassis.
2. Carefully route in the IR cable and camera cable out through the routing slot.
3. Carefully route-in the Bluetooth cable through the routing slot.
4. Press the bezel till it snaps into the chassis.
5. Hold the assembly together and carefully turn it over.
6. Replace the screws that secure the front bezel to the chassis. The screws are marked with an arrow.
7. Thread the IR cable and camera cable.
8. Route the bluetooth cable through the routing slot on the chassis.
9. Replace the *processor*
10. Replace the *processor heat sink*.
11. Replace the *processor fan*.
12. Replace the *video card fan*.
13. Replace the *video card and heat sink assembly*.
14. Replace the *system board shield*.
15. Replace the *front stand*.
16. Replace the *cover*.
17. Follow the procedures in *After Working Inside Your Computer*.

Display Panel

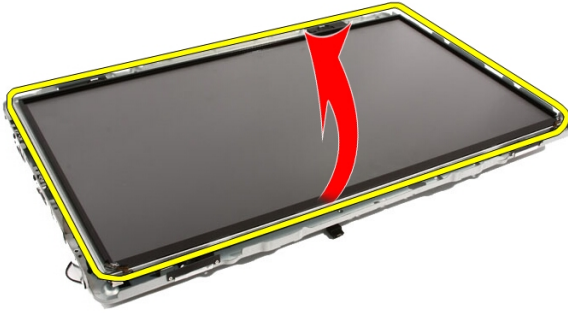
23

Removing The Display Panel

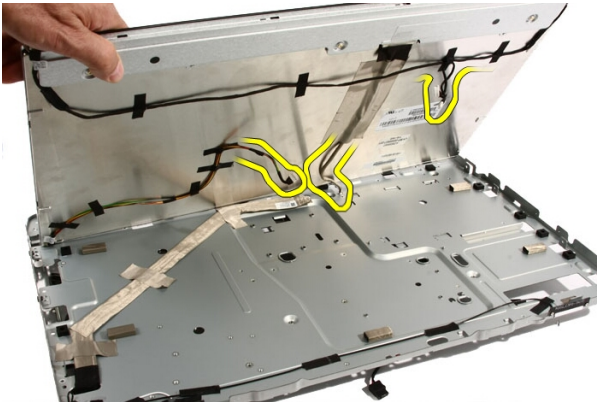
1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the *cover*.
3. Remove the *front stand*.
4. Remove the *system board shield*.
5. Remove the *WLAN card*.
6. Remove the *video card fan*.
7. Remove the *video card and heat sink assembly*.
8. Remove the *processor fan*.
9. Remove the *processor heat sink*.
10. Remove the *processor*.
11. Remove the *system board*.
12. Remove the *middle bezel*.
13. Remove the *front bezel*.
14. Remove the screws on both sides of the display panel that secure the display panel to the chassis.



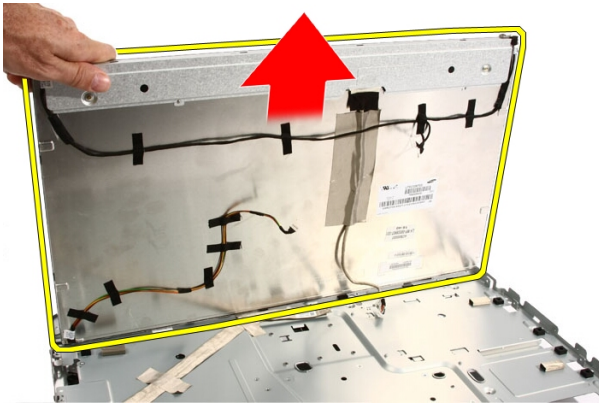
15. Tilt the panel up. Keep holding it so it will not slip down and get damaged.



16. As you lift the panel, check that all four cables are free of their routing holes.



17. Remove the display panel.



Installing The Display Panel

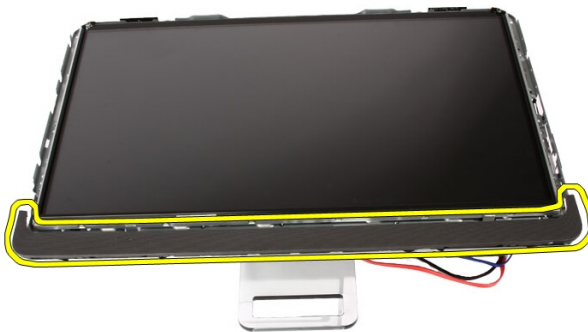
1. Route all the cables through their routing slots.
2. Place the display panel on the frame.
3. Replace the screws that secure the display panel to the chassis.
4. Route the IR and Bluetooth cables through their respective routing holes.
5. Press the bezel on to the display till all the tabs snap into place.
6. Replace the web camera.
7. Carefully turn the assembly over.
8. Replace the screws that secure the front bezel to the chassis.
9. Route the IR cable and camera cable thorough their routing slots.
10. Connect the camera cables to the DSP board.
11. Connect the display power cable to the converter.
12. Route the Bluetooth cable through the routing slot.
13. Replace the *front bezel*.
14. Replace the *middle bezel*.
15. Replace the *processor*.
16. Replace the *processor heat sink*.
17. Replace the *processor fan*.
18. Replace the *video card fan*.
19. Replace the *video card and heat sink assembly*.
20. Replace the *system board shield*.
21. Replace the *front stand*.
22. Replace the *cover*.
23. Follow the procedures in *After Working Inside Your Computer*.

Speaker Cover

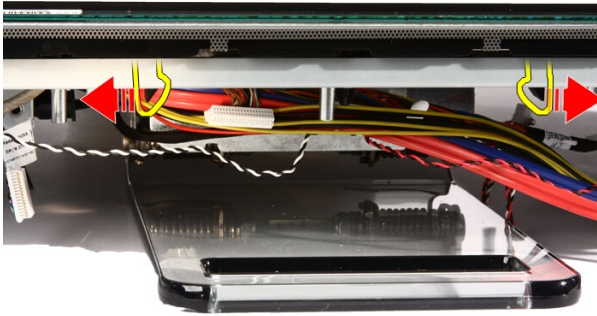
24

Removing The Speaker Cover

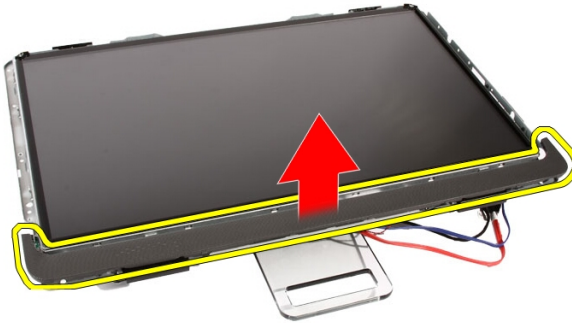
1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *cover*.
3. Remove the *front stand*.
4. Remove the *system board shield*.
5. Remove the *WLAN card*.
6. Remove the *video card fan*.
7. Remove the *video card and heat sink assembly*.
8. Remove the *processor fan*.
9. Remove the *processor heat sink*.
10. Remove the *processor*.
11. Remove the *system board*.
12. Remove the *middle bezel*.
13. Remove the *front bezel*
14. Locate the speaker panel.



15. Push the two snap tabs toward the outside of the computer to release the cover.



16. Lift the speaker cover off the chassis.



Installing The Speaker Cover

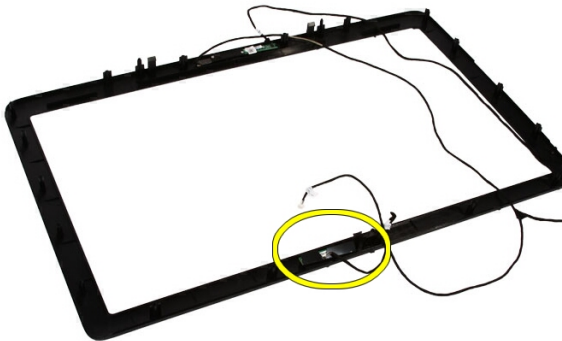
1. Push the speaker cover into its slot on the chassis till the tabs snap into place.
2. Replace the *front bezel*.
3. Replace the *middle bezel*.
4. Replace the *processor*.
5. Replace the *processor heat sink*.
6. Replace the *processor fan*.
7. Replace the *video card fan*.
8. Replace the *video card and heat sink assembly*.
9. Replace the *system board shield*.
10. Replace the *front stand*.
11. Replace the *cover*.
12. Follow the procedures in *After Working Inside Your Computer*.

Bluetooth Card

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Removing The Bluetooth Card

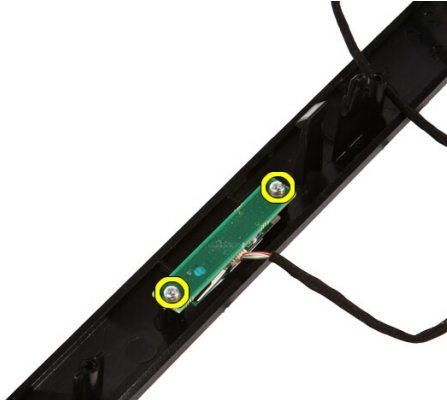
1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *cover*.
3. Remove the *front stand*.
4. Remove the *system board shield*.
5. Remove the *WLAN card*.
6. Remove the *video card fan*.
7. Remove the *video card and heat sink assembly*.
8. Remove the *processor fan*.
9. Remove the *processor heat sink*.
10. Remove the *processor*.
11. Remove the *system board*.
12. Remove the *middle bezel*.
13. Remove the *front bezel*
14. Locate the Bluetooth card.



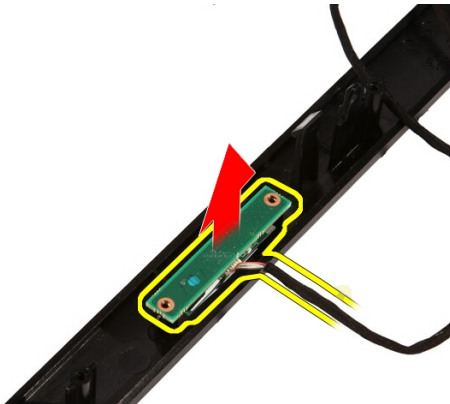
15. Remove the Mylar cover.



16. Remove the screws that secure the Bluetooth card to the front bezel.



17. Remove the Bluetooth card with its cable.

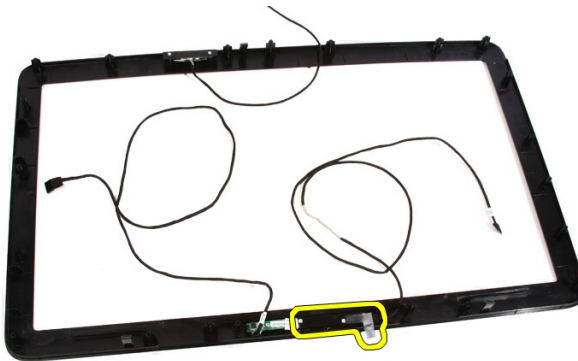


Installing The Bluetooth Card

1. Place the Bluetooth card at it's location on the front bezel.
2. Replace the screws that secure the Bluetooth card to the front bezel.
3. Replace the Mylar cover.
4. Replace the *front bezel*.
5. Replace the *system board*.
6. Replace the *processor heat sink*.
7. Replace the *processor fan*.
8. Replace the *video card fan*.
9. Replace the *video card and heat sink assembly*.
10. Replace the *WLAN card*.
11. Replace the *system board shield*.
12. Replace the *front stand*.
13. Replace the *cover*.
14. Follow the procedures in *After Working Inside Your Computer*.

Removing The Web Camera

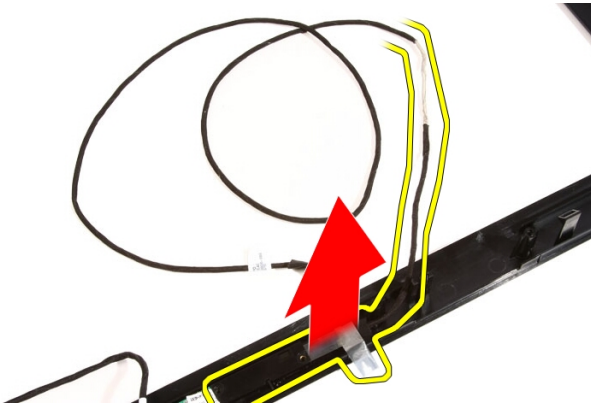
1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the *cover*.
3. Remove the *front stand*.
4. Remove the *system board shield*.
5. Remove the *WLAN card*.
6. Remove the *video card fan*.
7. Remove the *video card and heat sink assembly*.
8. Remove the *processor fan*.
9. Remove the *processor heat sink*.
10. Remove the *processor*.
11. Remove the *system board*.
12. Remove the *middle bezel*.
13. Remove the *front bezel*.
14. Locate the camera board.



15. Remove the screws that secure the camera board to the front bezel.



16. Remove the camera board along with the cable.

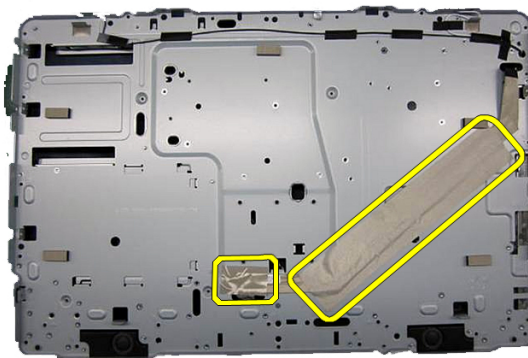


Installing The Web Camera

1. Place the camera at it's location on the front bezel.
2. Replace the screws that secure the security camera board to the front bezel.
3. Replace the *front bezel*.
4. Replace the *middle bezel*.
5. Replace the *system board*.
6. Replace the *processor heat sink*.
7. Replace the *processor fan*.
8. Replace the *video card fan*.
9. Replace the *video card and heat sink assembly*.
10. Replace the *WLAN card*
11. Replace the *system board shield*.
12. Replace the *front stand*.
13. Replace the *cover*.
14. Follow the procedures in *After Working Inside Your Computer*.

Removing The AV Cable

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the *cover*.
3. Remove the *front stand*.
4. Remove the *system board shield*.
5. Remove the *WLAN card*.
6. Remove the *video card fan*.
7. Remove the *video card and heat sink assembly*.
8. Remove the *processor fan*.
9. Remove the *processor heat sink*.
10. Remove the *processor*.
11. Remove the *system board*.
12. Remove the *middle bezel*.
13. Remove the *front bezel*.
14. Remove the *display panel*.
15. Remove the tapes that secure the AV cable, as shown in the image.

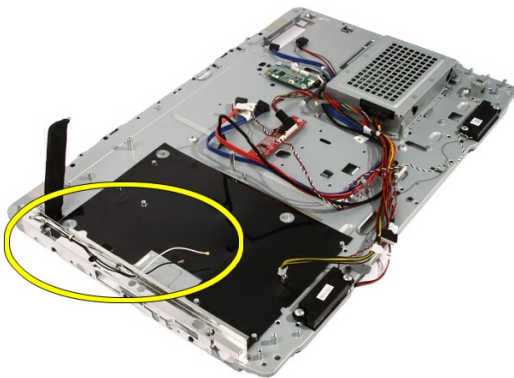


Installing The AV Cable

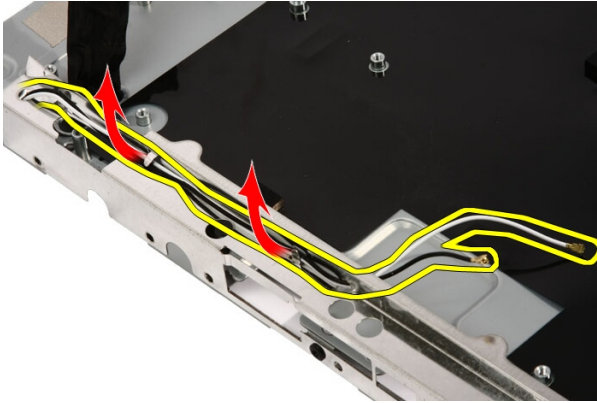
1. Replace the one large tape and one small tape securing the AV cable, as shown in the image.
2. Replace the *front bezel*.
3. Replace the *middle bezel*.
4. Replace the *system board*.
5. Replace the *processor heat sink*.
6. Replace the *processor fan*.
7. Replace the *video card fan*.
8. Replace the *video card and heat sink assembly*.
9. Replace the *WLAN card*
10. Replace the *system board shield*.
11. Replace the *front stand*.
12. Replace the *cover*.
13. Follow the procedures in *After Working Inside Your Computer*.

Removing The Antenna

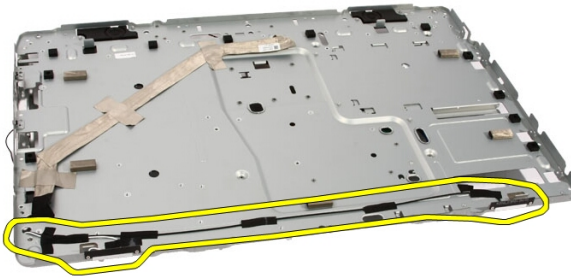
1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the *cover*.
3. Remove the *front stand*.
4. Remove the *system board shield*.
5. Remove the *WLAN card*.
6. Remove the *video card fan*.
7. Remove the *video card and heat sink assembly*.
8. Remove the *processor fan*.
9. Remove the *processor heat sink*.
10. Remove the *processor*.
11. Remove the *system board*.
12. Remove the *middle bezel*.
13. Remove the *front bezel*.
14. Remove the *display panel*.
15. Locate the antenna cables.



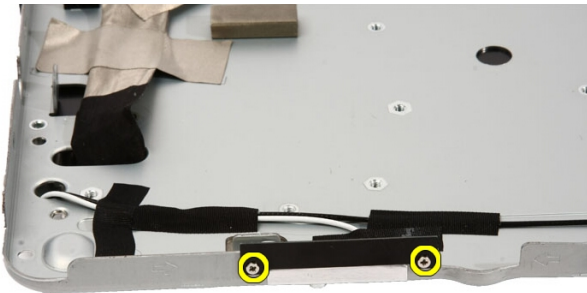
16. Work the cables through the routing hole and remove them from the clips. Then turn the chassis over.



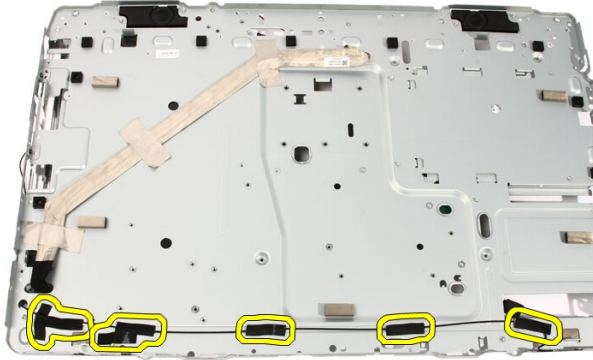
17. Locate the cables and antennae.



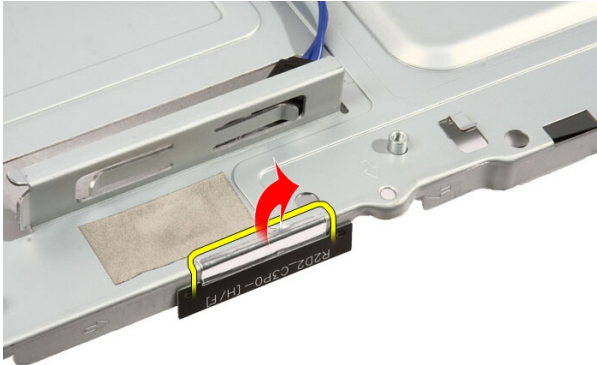
18. Remove the screws that secure the antenna to the chassis.



19. Peel up the tape securing the cables. Then turn the chassis over.



20. Peel up the metal tape connecting the antenna to the chassis.




21. Remove the antenna with their cables.

Specifications

Specifications



NOTE: Offerings may vary by region. For more information regarding the configuration of your computer, click Start  (or Start in Windows XP) Help and Support, and then select the option to view information about your computer.

System Information

System Chipset	Intel HM57 chipset
DMA Channels	two 82C37 DMA controllers with seven independently programmable channels
Interrupt Levels	<ul style="list-style-type: none">• two cascaded 82C59 with 15 interrupts• integrated I/O APIC capability with 24 interrupts
BIOS Chip (NVRAM)	2 MB (64 KB)

Processor

Processor type	<ul style="list-style-type: none">• Intel Core i3• Intel Core i5• Intel Core i7• Intel Pentium Dual Core
Total Cache	up to 6 MB cache depending on processor type

Memory

Speed	1333 MHz
Connectors	two DIMM slots
Capacity	1 GB, 2 GB, and 4 GB
Minimum Memory	2 GB

Memory

Maximum memory 8 GB

Video

Video Type:

Integrated	Intel HD Graphics
Discrete	ATI Mobility Radeon HD 5470

Video Memory:

Integrated	up to 384 MB of shared video memory
Discrete	1 GB DDR3

Audio

Integrated dual-channel High-Definition audio

Communication

Network adapter network interface card capable of 10/100/1000 Mb/s communication

Wireless

- internal wireless local area network (WLAN)
- Bluetooth wireless support

Expansion Bus

Bus Type MXM, SATA 1.0A and 2.0, USB 2.0

Bus Speed PCIe X16

Expansion Cards

Mobile PCI Express Module (MXM) one

Drives

Externally Accessible one 5.25-inch SATA drive bay

Controls and Lights

		system board or the power supply. Blinking amber light indicates that the computer has detected an error during the Power-on self-test (POST).
	Drive activity light	white light — Blinking white light indicates that the computer is reading data from or writing data to the hard drive.
Back of the computer:		
	Link integrity light on integrated network adapter	green — a good 10 Mbps connection exists between the network and the computer. orange — a good 100 Mbps connection exists between the network and the computer. yellow — a good 1000 Mbps connection exists between the network and the computer. off (no light) — the computer is not detecting a physical connection to the network.
	Network activity light on integrated network adapter	yellow light — a blinking yellow light indicates that network activity is present.

AC Adapter

Input voltage	100 VAC to 240 VAC
Input current	1.5 A / 1.6 A/ 2.3 A/ 2.5 A

AC Adapter

Input frequency	50 Hz to 60 Hz	
Output power	90 W / 130 W	
Output current:		
	90 W	4.62 A
	130 W	6.70 A
Coin-cell battery	3 V CR2032	
Dimensions:	90 W	130 W
	Height	32 mm (1.26 inches) 25.40 mm (1 inch)
	Width	128 mm (5.04 inches) 154 mm (6.06 inches)
	Depth	52 mm (2.05 inches) 76.20 mm (3.00 inches)
Temperature range:		
	Operating	0 °C to 40 °C (32 °F to 104 °F)
	Storage	−40 °C to 70 °C (−40 °F to 158 °F)

Physical

Height	420 mm (16.5 inches)	
Width	570 mm (22.4 inches)	
Depth	90 mm (3.5 inches)	
Weight:		
	Touchscreen	8.95 kg (19.73 lb)
	Non-touchscreen	8.15 kg (17.97 lb)

Environmental

Temperature range:		
	Operating	0 °C to 35 °C (32 °F to 95 °F)
	Storage	−40 °C to 65 °C (−40 °F to 149 °F)

Environmental

Relative humidity (maximum):

Operating	10 % to 90 % (non-condensing)
Storage	5 % to 95 % (non-condensing)

Maximum vibration:

Operating	0.66 GRMS
Storage	1.3 GRMS

Shock (maximum):

Operating	140 G
Storage	163 G

Altitude:






Operating	-15.2 m to 3048 m (-50 ft to 10,000 ft)
Storage	-15.2 m to 10668 m (-50 ft to 35,000 ft)



Airborne contaminant level

G1 as defined by ISA-71.04-1985





Diagnostic Beep Codes

No POST with three beeps is accompanied by a blinking amber power LED. All other beep codes will be accompanied by a solid white power LED. Refer to the table below for each scenario.

Power LED Status	Beep	Description	Failure Coverage
	1	BIOS ROM checksum in progress or failure. BIOS Chip	System board failure, covers BIOS corruption or ROM error
	2	No RAM Detected	Memory failure
	3	Chipset Error (North and South Bridge Chipset, DMA/IMR/Timer Error for Intel platform); Chipset Error Time-Of-Day Clock test failure. Gate A20 failure Super I/O chip failure Keyboard controller test failure.	System board Failure
	4	RAM Read/Write failure	Memory failure
	5	RTC Power Fail	CMOS battery failure

Power LED Status	Beep	Description	Failure Coverage
	6	Video BIOS Test Failure	Video card failure
	7	CPU Failure	CPU

Diagnostic Power LED Codes

Power LED Light Status	Power State
	Power is off or the system is in an S4 (hibernate) or S5 (Powered Off) power state. LED is blank.
	The computer is in power-on state.
	The system board cannot start initialization. There may be an issue with the system board, memory, processor or the power supply.
	The system board cannot start initialization or in an S3 (Sleep state) power state. There is a power problem, a device may be malfunctioning or incorrectly installed.

Diagnostic Error Messages

If the computer has an issue or error, it may display a System Message that will help the user identify the cause and action needed to resolve the issue. If the message received is not listed in the following examples, see the documentation for either the operating system or the program that was running when the message appeared.

Diagnostic Error Messages	Description
Alert! Previous attempts at booting this system have failed at checkpoint [nnnn]. For help in resolving this problem, please note this checkpoint and contact Dell Technical Support.	The computer failed to complete the boot routine three consecutive times for the same error.
System fan failure	Possible fan failure
CPU fan failure	CPU fan has failed
Hard-disk drive failure	Possible hard disk drive failure during POST.
Hard-disk drive read failure	Possible hard disk drive failure during HDD boot test.
Keyboard failure	Keyboard failure or loose cable. If reseating the cable does not solve the problem, replace the keyboard.
RTC is reset, BIOS Setup default has been loaded. Strike the F1 key to continue, F2 to run the setup utility.	RTC Jumper may be wrongly set.
No boot device available	<p>No bootable partition on hard disk drive, the hard disk drive cable is loose, or no bootable device exists.</p> <ul style="list-style-type: none"> • If the hard drive is your boot device, ensure that the cables are connected and that the drive is installed properly and partitioned as a boot device. • Enter system setup and ensure that the boot sequence information is correct.
No timer tick interrupt	A chip on the system board might be malfunctioning or motherboard failure
USB over current error	Disconnect the USB device. The USB device needs more power for it to function properly. Use an external power source to connect the USB device, or if the device has two USB cables, connect both of them.

Diagnostic Error Messages**Description**

CAUTION - Hard Drive SELF MONITORING SYSTEM has reported that a parameter has exceeded its normal operating range. Dell recommends that you back up your data regularly. A parameter out of range may or may not indicate a potential hard drive problem.

S.M.A.R.T error, possible hard disk drive failure.

Entering System Setup

1. Turn on (or restart) your computer.
2. When the blue DELL logo is displayed, you must watch for the F2 prompt to appear.
3. Once the F2 prompt appears, press <F2> immediately.



NOTE: The F2 prompt indicates that the keyboard has initialized. This prompt can appear very quickly, so you must watch for it to display, and then press <F2> . If you press <F2> before you are prompted, this keystroke will be lost.

4. If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft Windows desktop. Then, shut down your computer and try again.

System Setup Overview

System Setup allows you to:

- change the system configuration information after you add, change, or remove any hardware in your computer.
- set or change a user-selectable option such as the user password.
- read the current amount of memory or set the type of hard drive installed.

Before you use System Setup, it is recommended that you write down the System Setup screen information for future reference.



CAUTION: Unless you are an expert computer user, do not change the settings for this program. Certain changes can cause your computer to work incorrectly.

System Setup Screens

Menu — Appears on top of the System Setup window. This field provides a menu to access the System Setup options. Press < Left Arrow > and < Right Arrow > keys to navigate. As a **Menu** option is highlighted, the **Options List** lists the options that define the hardware installed on your computer.

Options List — Appears on the left side of the System Setup window. The field lists features that define the configuration of your computer, including installed hardware, power conservation, and security features. Scroll up and down the list with the up- and down-arrow keys. As an option is highlighted, the **Options Field** displays the option's current and available settings.

Options Field — Appears on the right side of **Options List** and contains information about each option listed in the **Options List**. In this field you can view information about your computer and make changes to your current settings. Press <Enter> to make changes to your current settings. Press <ESC> to return to the **Options List**.

Help — Appears on the right side of the System Setup window and contains help information about the option selected in **Options List**.



NOTE: Not all settings listed in the Options Field are changeable.

Key Functions — Appears below the **Options Field** and lists keys and their functions within the active system setup field.

Use the following keys to navigate through the System Setup screens:

Keystroke	Action
< F2 >	Displays information on any selected item in the System Setup.
< Esc >	Exit from current view or switch the current view to the Exit page in the System Setup.
< Up Arrow > or < Down Arrow >	Select an item to display.
< Left Arrow > or < Right Arrow >	Select a menu to display.
– or +	Change existing item value.
< Enter >	Select the sub menu or execute command.
< F9 >	Load setup default.
< F10 >	Save current configuration and exit System Setup.

System Setup Options

Main

The Main tab lists out the primary hardware features of the computer. The table below defines the function of each option.

System Information	Displays the computer model number.
BIOS Version	Displays the BIOS revision.
System Date	Re-sets the date on the computer's internal calendar.
System Time	Re-sets the time on the computer's internal clock.
Service Tag	Displays the service tag of your computer.
Asset Tag	Displays the asset tag of your computer.
Processor Information	
Processor Type	Displays the type of processor.
L2 Cache Size	Displays the processor L2 cache size.
L3 Cache Size	Displays the processor L3 cache size.
Memory Information	
Memory Installed	Displays the total computer memory.
Memory Speed	Displays the memory speed.
Memory Technology	Displays the type and technology.
Device Information	
SATA 0	Displays the model number and capacity of the hard drive.
SATA 1	Displays the model number and capacity of the hard drive.

Advanced

The Advanced tab allows you to set various functions that affect the performance of the computer. The table below defines the function of each option and its default value.

CPU Configuration

Hyper-threading	Enable or disable processor hyper-threading.	Default: Enabled
Multi Core Support	Displays the number of active cores.	Default: All
Limit CPUID Value	Enable or disable the Limit CPUID Value feature.	Default: Enabled
CPU XD Support	Enable or disable the CPU XD feature.	Default: Enabled
Intel Virtualization Technology	Enable or disable the Intel Virtualization feature.	Default: Enabled
Intel SpeedStep	Enable or disable the Intel SpeedStep feature.	Default: Enabled

System Configuration

Onboard Audio Controller	Enable or disable the onboard audio controller.	Default: Enabled
Onboard LAN Controller	Enable or disable the onboard LAN controller.	Default: Enabled
Onboard LAN Boot ROM	Enable or disable the onboard LAN boot ROM.	Default: Disabled
SATA Mode	Allows you to choose the SATA operation mode.	Default: AHCI
USB Controller	Enable or disable the USB controller.	Default: Enabled
DVMT/FIXED Memory	Displays the total amount of DVMT/FIXED memory on the computer.	

Power Management

AC Recovery	Allows the computer to restore the AC power Loss.	Default: Power Off
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Remote Wake up	Allows the computer to be remotely turned on.	Default: Enabled
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Auto Power On	Enable or disable the computer to power on automatically.	Default: Disabled
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Post Behavior

NumLock Key	Enable or disable the NumLock State light during POST.	Default: On
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Keyboard Error Report	Enable or disable the Keyboard Error Report to be displayed during POST.	Default: Enabled
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Security

The Security tab displays the security status and allows you to manage the security features of the computer.

Admin Password Status	Specifies whether an admin password has been assigned.
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Set Admin Password	Allows you to set an admin password.
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HDD Protection	Allows you to set a Hard Drive password.
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Boot

The Boot tab allows you to change the boot sequence.

Exit

This section allows you to save, discard, and load default settings before exiting from System Setup.

Contacting Dell



NOTE: If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

1. Visit **support.dell.com**.
2. Select your support category.
3. If you are not a U.S. customer, select your country code at the bottom of the page, or select **All** to see more choices.
4. Select the appropriate service or support link based on your need.

