



Acer N50-650 Manual

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Self-Repair

This chapter highlights the limited self-repair capabilities of the product. Prior to performing self-repair, familiarize yourself with the Safety Guidelines and Recommended Equipment sections first as described in the chapter "**Disassembly Procedure**".

Depending on model, the following key components are eligible for self-repair (if applicable);

- PSU module
- HDD / SSD module
- DIMM module(s)
- WLAN module
- ODD module

If a particular key component is listed and thus would be eligible for self-repair, but is not described in the "**Disassembly Procedure**" section, then this component is either not present on the respective model, or it is present but embedded on the motherboard and therefore not eligible for self-repair.



NOTE:

Do not attempt to replace other components than those listed above.



NOTE:

For replacement parts, always use only Acer certified components in order to safeguard quality, optimum system performance, stability and reliability of the product.



NOTE:

Any damage to the product that occur during self-repair, or which has occurred as a result of a careless or unsuccessful self-repair attempt, is not covered by the standard product warranty.

Disassembly Procedures

Please refer to the "**Disassembly Procedure**" chapter for step by step disassembly instructions.

System BIOS & Driver Updates

Visit <http://www.acer.com/support> to discover the available system BIOS and Drivers for this product. After selecting the desired country/language, either enter the model name or product serial number, or select the product from the list of suggested models in order to get access to product-specific software and documentation.

Updating the System BIOS

- Download the desired system BIOS version from the website.
- Unzip the downloaded file to your computer.
- Double-click the extracted file in order to initiate the update process.
- The update process itself is fully automated and its progress is visualized by means

of a progress indicator.

- A visual notification is shown when the update is complete.

NOTE:





Upgrading the system BIOS incorrectly, or intermittence of the system BIOS update process could harm the product.

NOTE:

System BIOS upgrades or downgrades, if not performed by an Acer Service Center or authorized Service Partner, are at own risk.

Updating the Drivers:

Run Windows Update in order to get the latest drivers from Acer:

- Select the **Start**  button.
- Go to **Settings**  > **Update & Security**  > **Windows Update** .
- Available Drivers will be automatically listed on the screen.
- Press **Download** to start the download of the respective driver.
- Installation of the driver will start automatically once the download is completed.

Should a particular driver not be installed via Windows Update then it is also available for download from the Acer Support website.

To download and install Drivers from the Acer Support website:

- Go to <http://www.acer.com> and navigate to **Support**
- Click on **Drivers and Manuals**
- Enter the device serial number, SNID or model number and press **Find**
- Click on **Drivers** to get access to all available drivers for the respective product
- Find the desired driver and click **Download**
- Extract the file and start the installation
- On-screen instructions will provide guidance through the installation process
After successful driver installation, reboot the device before using it to ensure that the new or updated driver is successfully loaded.

Software Recovery

This product has embedded software recovery tools which can be used to either perform a partial or full software recovery, but also to create a Factory Default recovery media.

For more information about software recovery options, how to perform a software recovery or creating a Factory Default recovery media, please refer to chapter "Recovery" which is available in the User Manual of the product.



NOTE:

In the event of not being able to create a Factory Default recovery media, it is possible to obtain a copy of the recovery media through Acer Customer Service

(<http://www.acer.com/support>).

This is not a free of charge service.

Disassembly Procedure

Safety Guidelines

This chapter contains step by step procedures on how to remove and de-install components from the computer. Use the following safety guidelines to ensure your personal safety. Each procedure included in this chapter assumes that you are preparing your computer for recycling and disposal. **By performing any of these procedures you acknowledge that any remaining warranty applicable to your computer will be voided. Before you start any of the procedures in this chapter, make sure to read the following safety guidelines and the respective instructions within the chapter.**



CAUTION



- Turn off your computer and disconnect all power sources before opening the computer cover or panels.
- To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface at the same time as touching a connector on the back of the computer.
- Take off any metal objects on your arms or fingers such as bracelets, rings or watches and make sure your hands are completely dry. Even if your unit is unplugged, there may still be some remaining electric charge.
- If a component does not come out easily, do not forcefully remove it. Instead, check that you are removing it correctly and that no wires or other parts are in the way.
- 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.

Recommended Equipment

The following equipment are recommended to do the following maintenance procedures:

- Wrist grounding strap and conductive mat
- Flat screwdriver

- Philips screwdriver
- Polydrive screwdriver
- Plastic tweezers
- Flat plastic pry

WEEE Annex VII Component

These components are classified as requiring selective treatment.

Pre-disassembly Instructions

Do the following prior to starting any maintenance procedures:

1. Place the system on a stable work surface.
2. Remove AC power cord from the system and peripherals
3. Remove all cables from the system.



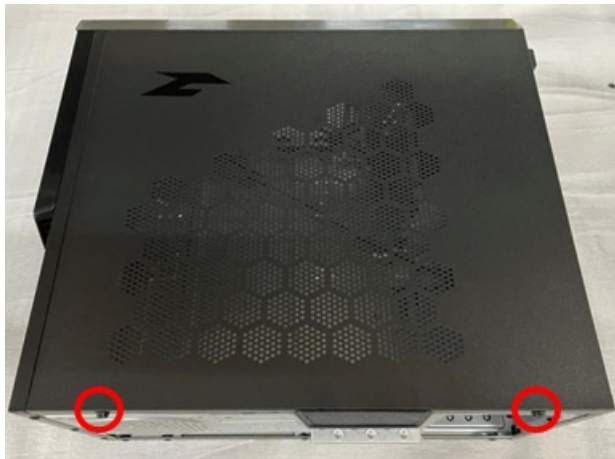
NOTE:

Make sure the system is completely powered off.

Chassis Door Removal

1. Remove the chassis door

1. Remove the two screws



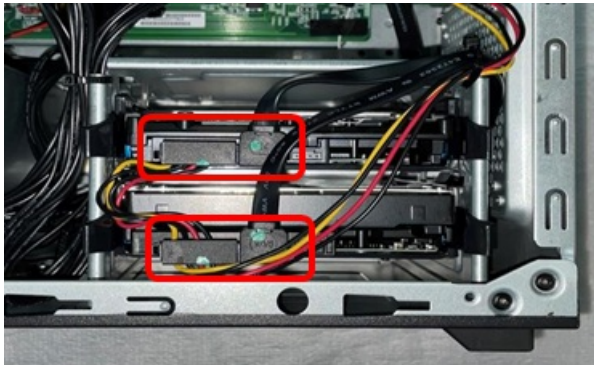
2. Remove the left side cover



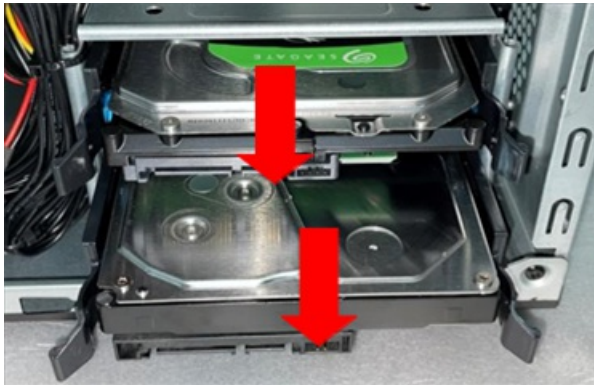
HDD Removal

2. Remove HDD

1. Disconnect the HDD power and SATA cables from HDD



2. Pull black rack out from HDD cage and take it off



3. Remove HDD from black rack



⚠ NOTE: HDD has been highlighted with the yellow rectangle as above image shows. WEEE Annex VII component.

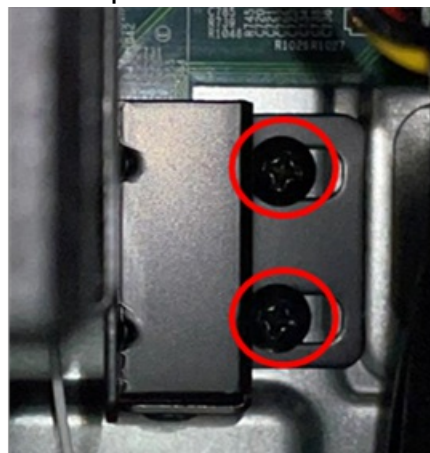
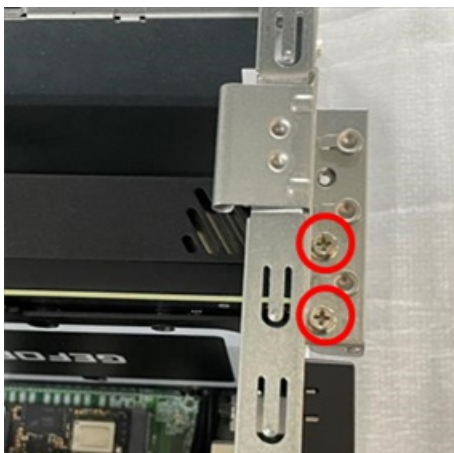
VGA card Removal

3. Remove VGA Card

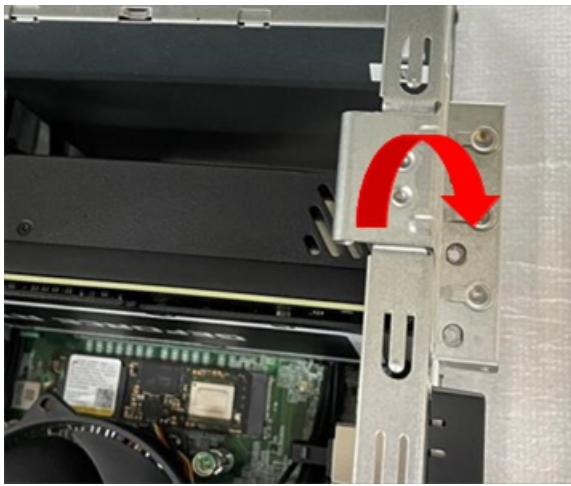
1. Disconnect VGA power-cable



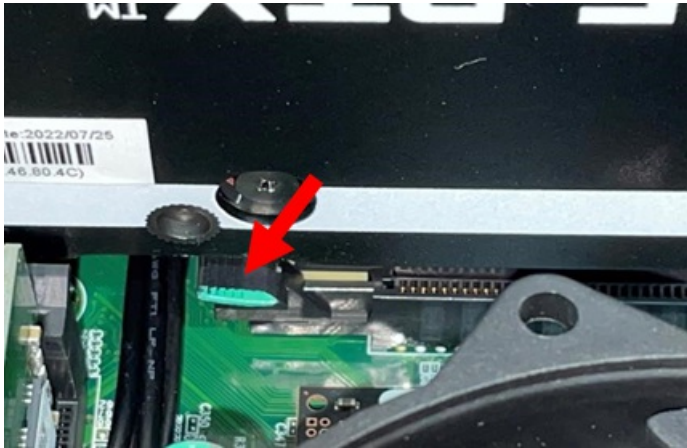
2. Remove the screws that secure the Graphic boards to the chassis



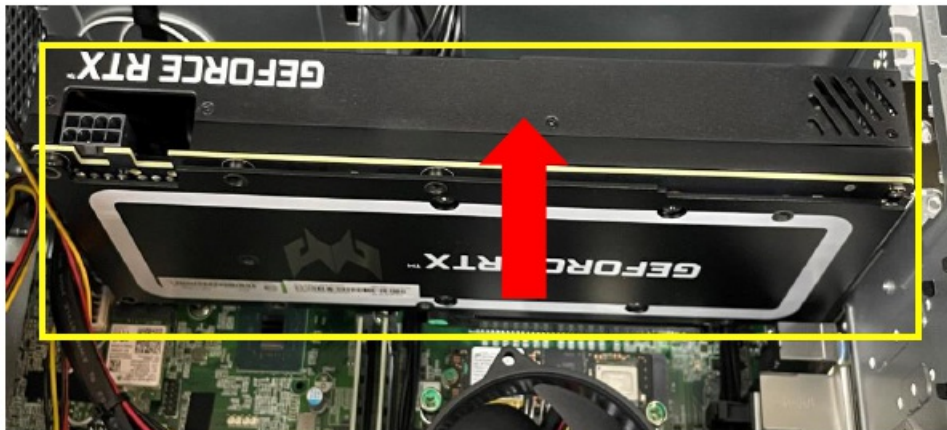
3. Open the PCI cover




4. Push the PCI slot latch & Disconnect PCI Card Hook



5. Remove the VGA from MB

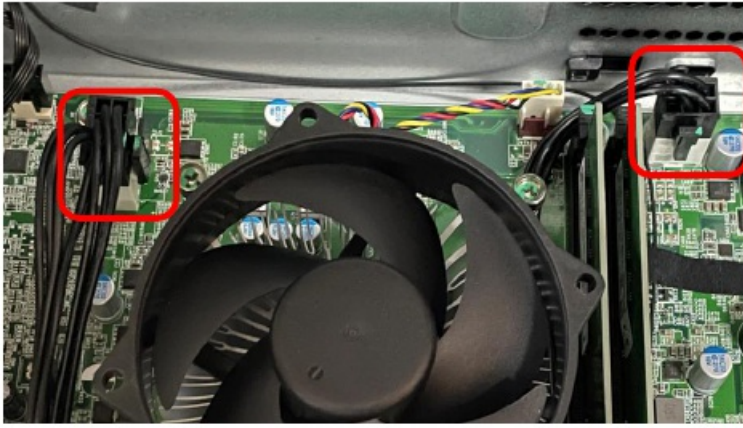


 **NOTE:** VGA card has been highlighted with the yellow rectangle as above image shows. WEEE Annex VII component.

PSU Removal

4. **Remove internal PSU**

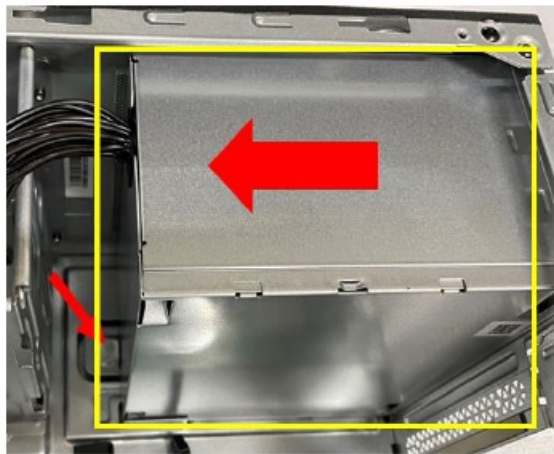
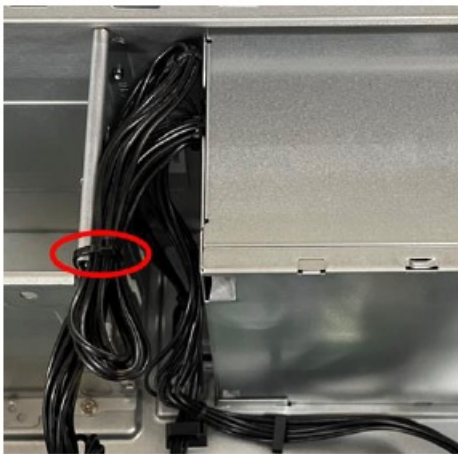
1. Disconnect PSU cable



2. Remove four screws of PSU



3. Cut the cable tie, and take out the PSU from chassis



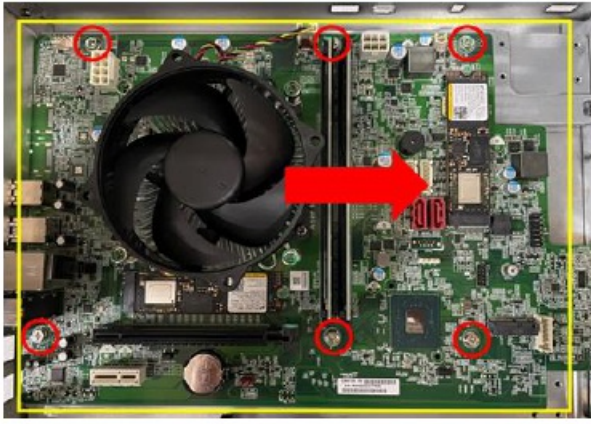
⚠ NOTE: PSU MB/PSU FAN/PSU CAPACITOR have been highlighted with the yellow rectangle as above image shows. WEEE Annex VII component.

Motherboard, MEM, CPU, Cooler, WLAN, SSD, RTC Battery Removal

5. Remove the Main Board

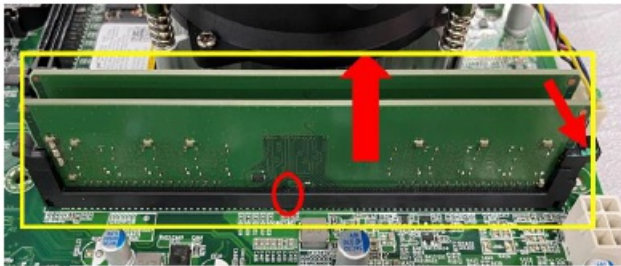
1. Remove these six screws from MB then take out MB from chassis

⚠ NOTE: Circuit boards $>10 \text{ cm}^2$ has been highlighted with the yellow rectangle as above image shows. Please detach the Circuit boards and follow local



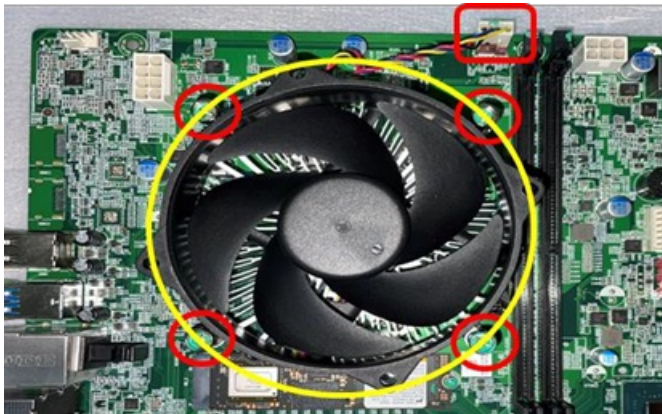
2. Remove the memory card

⚠ NOTE: MEMORY has been highlighted with the yellow rectangle as above image shows. WEEE Annex VII component.



3. Disconnect CPU fan power cable & Screw*4 from MB then remove CPU cooler

⚠ NOTE: CPU cooler has been highlighted with the yellow circle as above image shows. WEEE Annex VII component.



4. Unlock CPU socket latch and remove CPU

⚠ NOTE: CPU has been highlighted with the yellow circle as above image shows. WEEE Annex VII component.



5. Remove a screw fastening the M.2 SSD and pull it out of slot

NOTE: SSD has been highlighted with the yellow rectangle as above image shows. WEEE Annex VII component.



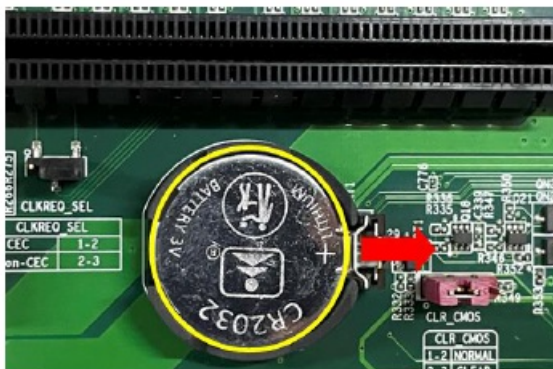
6. Remove the screw and WLAN cover, and WLAN card from MB

NOTE: WLAN card has been highlighted with the yellow rectangle as above image shows. WEEE Annex VII component.



7. Remove the battery from MB

NOTE: RTC battery has been highlighted with the yellow circle as above image shows. WEEE Annex VII component.



Troubleshooting

This chapter provides troubleshooting information for the N50-650 Service Guide

- Power-On Self-Test (POST)

- **POST Error Messages List**

Power-On Self-Test (POST)

Each time you turn on the system, the Power-on Self Test (POST) is initiated. Several items are tested during POST, but for the most part transparent to the user.

The Power-On Self Test (POST) is a BIOS procedure that boots the system, initializes and diagnoses the system components, and controls the operation of the power-on password option. If POST discovers errors in system operations at power-on, it displays error messages on screen, generates a check point code at port 80h or even halts the system if the error is fatal.

The main components on the main board that must be diagnosed and/or initialized by POST to ensure system functionality are as follows:

- Microprocessor with built-in numeric co-processor and cache memory subsystem
- Direct Memory Access (DMA) controller
- Interrupt system
- Three programmable timers
- ROM subsystem
- RAM subsystem
- CMOS RAM subsystem and real time clock/calendar with battery backup
- Onboard parallel interface controller
- Embedded hard disk interface and one diskette drive interface
- Keyboard and auxiliary device controllers
- I/O ports
- One parallel port
- One PS/2-compatible mouse port
- One PS/2-compatible keyboard port

POST Error Messages List

If you cannot run the diagnostics program tests but did receive a POST error message, use "POST Error

Messages List" to diagnose system problems. If you did not receive any error message, look for a description of your error symptoms in "Error Symptoms List".

If you are unable to correct the problem by using the "BIOS Messages List" table and "Error Symptoms List" table, go to "Undetermined Problems".

To diagnose a problem, first find the BIOS error messages in the left column. If directed to a check procedure, replace the FRU indicated in the check procedure. If no check procedure is indicated, the first Action/FRU listed in right column is the most likely

cause.

BIOS Messages	Action/FRU
BIOS ROM checksum error - System halted	The checksum of the BIOS code in the BIOS chip is incorrect, indicating the BIOS code may have become corrupt. Contact your system dealer to replace the BIOS.
CMOS Battery Failed	The CMOS battery is no longer functional. Contact your system dealer for a replacement the BIOS.
CMOS Checksum Error- defaults loaded	Checksum of CMOS is incorrect, so the system loads the default equipment configuration. A checksum error may indicate that CMOS has become corrupt. A weak battery may have caused this error. Check the battery and replace if necessary.
CPU at run	Displays the running speed of CPU.
Display switch is set incorrectly	The display switch on the motherboard can be set to either monochrome or color. This message indicates the switch is set to a different setting than indicated in Setup. Determine which setting is correct, and then either turn off the system and change the jumper, or enter Setup and change the Video selection.
Press ESC to skip memory test	The user may press Esc to skip the full memory test.
HARD DISK initializing - Please wait a	Some hard drives require extra time to initialize.

HARD DISK INSTALL FAILURE	Cannot find or initialize the hard drive controller or the drive. Make sure the controller is installed correctly. If no hard drives are installed, be sure the Hard Drive Selection in Setup is set to NONE.
Hard disk(s) diagnosis fail	The system may run specific disk diagnostic Routines. This message appears if one or more hard disks return an error when the diagnostics run.
Keyboard Error Or No Keyboard Present	Cannot initialize the keyboard. Make sure the keyboard is attached correctly and no keys are pressed during POST. To purposely configure the system without a keyboard, set the error halt condition in Setup to HALT ON ALL, BUT KEYBOARD. The BIOS then ignores the missing keyboard during POST.
Keyboard is locked out - Unlock the key	This message usually indicates that one or more keys have been pressed during the keyboard tests. Be sure no objects are resting on the keyboard.
Memory Test:	This message displays during a full memory test, counting down the memory areas being tested.
Memory test fail	If POST detects an error during memory testing, additional information appears giving specifics about the type and location of the memory error.
Override enabled - Defaults loaded	If the system cannot boot using the current CMOS configuration, the BIOS can override the current configuration with a set of BIOS defaults designed for the most stable, minimal performance system operations.
Press TAB to show POST screen	System OEMs may replace the Phoenix Technologies Award BIOS POST display with their own proprietary display. Including this message in the OEM display permits the operator to switch between the OEM display and the default POST display.
Primary master hard disk fail	POST detects an error in the primary master hard drive.

Primary slave hard disk fail	POST detects an error in the secondary master hard drive.
Secondary master hard disk fail	POST detects an error in the primary slave hard drive.
Secondary slave hard disk fail	POST detects an error in the secondary slave hard drive.

Exploded Diagrams

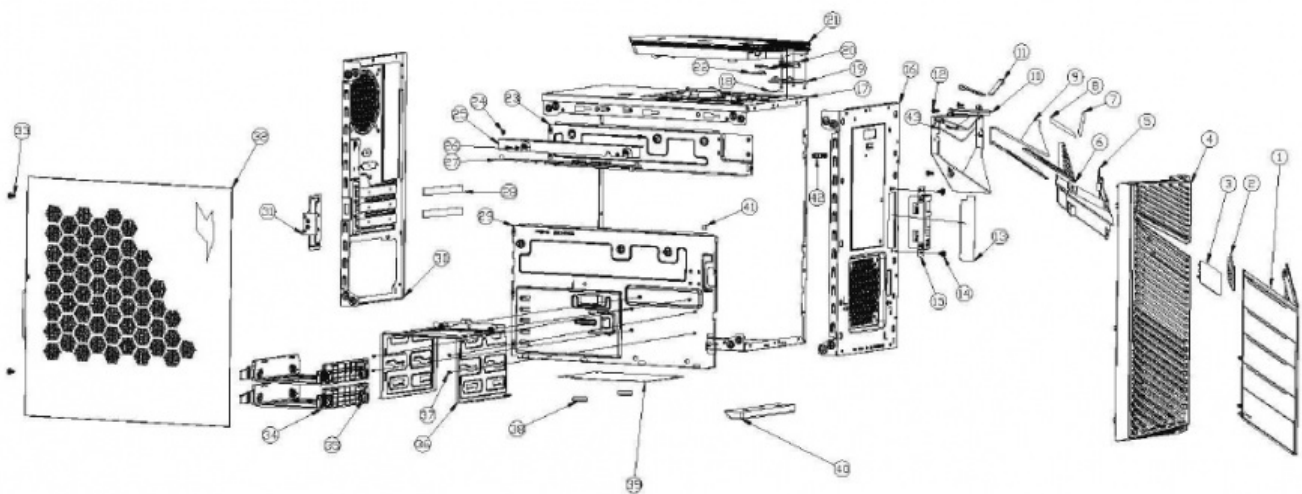


Figure 1 System Exploded Diagram

1. Front cover
2. Left rubber of front cover
3. Right rubber of front cover
4. Front main bezel
5. Red light cover
6. Silver light trim
7. Right double-sided adhesive
8. Left double-sided adhesive
9. Light spread sheet
10. Light shielding hood
11. Light bar
12. T3*8mm screw _black NI

13. FIO bracket Mylar 70* 17.1 *0.3mm

14. #6-32*5mm screw

15. SGCC FIO bracket

16. SGCC Front plate

17. The SGCC bottom cover

18. Mylar of power switch

19. Power switch cable

20. Power switch button

21. Top cover (with charge logo)

22. Charge lens

23. SGCC MB bracket 1

24. M3*4mm screw __Black Zn

25. #6-32 FH screw__ Black Zn

26. Side Light bar bracket

27. Side Light bar

28. PCI gasket (1.0*6.0*90mm)

29. SGCC MB bracket 2

30. SGCC rear plate

31. PCI cover

32. Left side cover

33. #6-32*5mm screw

34. HDD tool-less

35. HDD rubber

36. SGCC HDD bracket

37. #32*5mm screw __black ZN

38. Bottom steel net

39. Front rubber

40. Rear rubber

41. MB rubber

42. Black Clip







43. Acetate tape

FRU (Field Replaceable Unit) List

Please contact your local service center to find out how to obtain the part or replace your device

To remove your personal data

Whichever option chosen, you are then asked if you want to keep your files or delete everything. To delete your files select **Remove Everything**, click **Next**, then click **Reset**.

- Option 1: Select **Start**  > **Settings**  > **Update & Security**  > **Recovery**. Under **Reset this PC**, select **Get started**. [Open Recovery settings](#).
- Option 2: Restart your PC to get to the sign-in screen, then press and hold down the **Shift key** while you select the **Power**  icon > **Restart** in the lower-right corner of the screen. After your computer restarts, select **Troubleshoot** > **Reset this PC**.
- Option 3: Select **Start** , then press and hold down the **Shift key** while you select the **Power**  icon > **Restart** to restart your computer into Recovery Mode. After your computer restarts, select **Troubleshoot** > **Reset this PC**.

Documents / Resources

References

 [Support | Acer United States](#)

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