

Lenovo ThinkPad T480s Motherboard Replacement

Use this guide to replace the motherboard in...

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INTRODUCTION

Use this guide to replace the motherboard in your Lenovo ThinkPad T480s laptop.

The motherboard, also known as a system board or mainboard, is the primary printed circuit board (PCB) in a computer that enables communication between the internal components.

Diagnosing a faulty motherboard is tricky since the symptoms are similar to other failing components. Signs of a faulty motherboard may include overheating, error codes, the <u>blue</u> <u>screen of death</u>, or failure of other ports and components.

Make sure to <u>disable the internal battery</u>, power down your device, and disconnect from any external power sources before you begin.

TOOLS:

Phillips #1 Screwdriver (1) iFixit Opening Tool (1) Phillips #0 Screwdriver (1) Spudger (1) ESD Safe Blunt Nose Tweezers (1)

Step 1 — Bottom Cover



Disable the battery, power down the device, and unplug the power adapter from your device before proceeding/beginning the guide.

• Loosen the six captive screws with a Phillips #1 screwdriver.



Step 2

- Remove the bottom cover with an opening tool.
- Start from the top edge near the hinge and work your way along the edge until all of the clips are unsnapped.



• Lift the bottom cover off.

Step 4 — Battery



• Use the Phillips #1 screwdriver to remove four 4.5mm screws that hold the battery down to the mid frame.



• Lift the battery near the connector and remove it from the system.

Step 6 — Keyboard



⚠ <u>Disable the battery</u>, power down, and unplug your device before you begin.

• Pry the left and right trackpad buttons up with a spudger.





• With a Phillips #0 screwdriver, loosen the two captive screws underneath the left and right trackpad buttons.

Step 8



- Wedge the spudger under the front edge of the keyboard to push the keyboard toward the back of the system.
- Lift the front edge of the keyboard up by a few millimeters.



Gently, pull the keyboard out from the bezel and flip it over.
It is connected to to the keyboard and trackpad cables so be sure not to yank it over to avoid tearing them.

Step 10



- Use the spudger to disconnect the trackpad cable from the system.
- *i* For more information on types of connectors, check out this <u>guide</u>.



• Use the spudger to disconnect the keyboard cable from the system.

Step 12



• Lift the keyboard off of the palm rest.

Step 13 — SSD



• Use the Phillips #1 screwdriver to remove one 2.8 mm screw securing the SSD.

Step 14



• Pull the SSD out of the socket.

Step 15 — RAM



- Pull the plastic film back.
- Push the clips outward to release the RAM stick.
- (i) My device doesn't have RAM so you don't see it.
- The RAM stick will pop out at an angle. Pull the RAM stick out at the same angle.

Step 16 — Wi-Fi Card



- Using the nylon spudger, pop the coaxial antenna wires off the Wi-Fi card.
- When reassembling, reattach the gray wire closest to the screw and the black wire on the other side of the gray wire.



• Use the Phillips #1 screwdriver to remove one 2.8mm screw holding the Wi-Fi card down to the motherboard.

Step 18



• Slide the Wi-Fi card out from the slot.

Step 19 – WWAN Card



- Flip the cardboard cover off of the WWAN card.
- Using the spudger, release the coaxial antenna wires from the WWAN card.
- When reassembling, reattach the blue wire on the left and the orange wire on the right.

Step 20



• Use a Phillips #1 screwdriver to remove one 2.8mm screw.



• Slide the WWAN card out from the slot.

Step 22 — Fan Assembly



• Use the spudger to disconnect the fan cable from the motherboard.



Loosen the six captive screws attaching the fan assembly to the motherboard.
This system was missing the two screws by the fan but I have highlighted them to show where they are located.

Step 24



• Lift the thermal fan assembly from the system and remove it.

Step 25 — SIM Card Tray



- Insert the SIM eject bit or a paper clip in the hole of the SIM tray to eject it.
- Remove the SIM tray.

Step 26 — Motherboard



• Use the spudger to disconnect the LCD cable from the motherboard.



• Use the spudger to disconnect the camera cable from the motherboard.

Step 28



• Remove all antenna cables from their routing.

Step 29



Use the spudger to disconnect the SD card reader/audio card cable from the board.
The cable is attached to the board with adhesive so you will need to peel the cable up.



• Use a connector puller or spudger to disconnect the coin cell battery from the board and pull the cable from the notch.

Step 31



• Use the spudger to disconnect the trackpad cable, the Hall sensor cable, and the smart card reader cable from the motherboard.



• Disconnect the USB Card cable from the motherboard using the spudger.

Step 33



• Use the spudger to disconnect the power button cable from the motherboard.



• Use the Phillips #1 screwdriver to remove the 4.6 mm screw from the USB-C bracket.

Step 35



• Lift the USB-C bracket from the system.



• Use the Phillips #1 screwdriver to remove the 4.7 mm screw from the trap door.

Step 37



• Lift the trap door out.



• Remove the 4.4 mm screw from the HDMI bracket using the Phillips #1 screwdriver.

Step 39



• Remove the HDMI bracket from the motherboard using your fingers.



• Using the Phillips #1 screwdriver, remove four 3.1 mm screws from the motherboard.

Step 41



• Lift the motherboard from the chassis to remove it from the device.

To reassemble your device, follow these instructions in reverse order.

Take your e-waste to an <u>R2 or e-Stewards certified recycler</u>.

Repair didn't go as planned? Try some <u>basic troubleshooting</u>, or ask our Answers community for help.