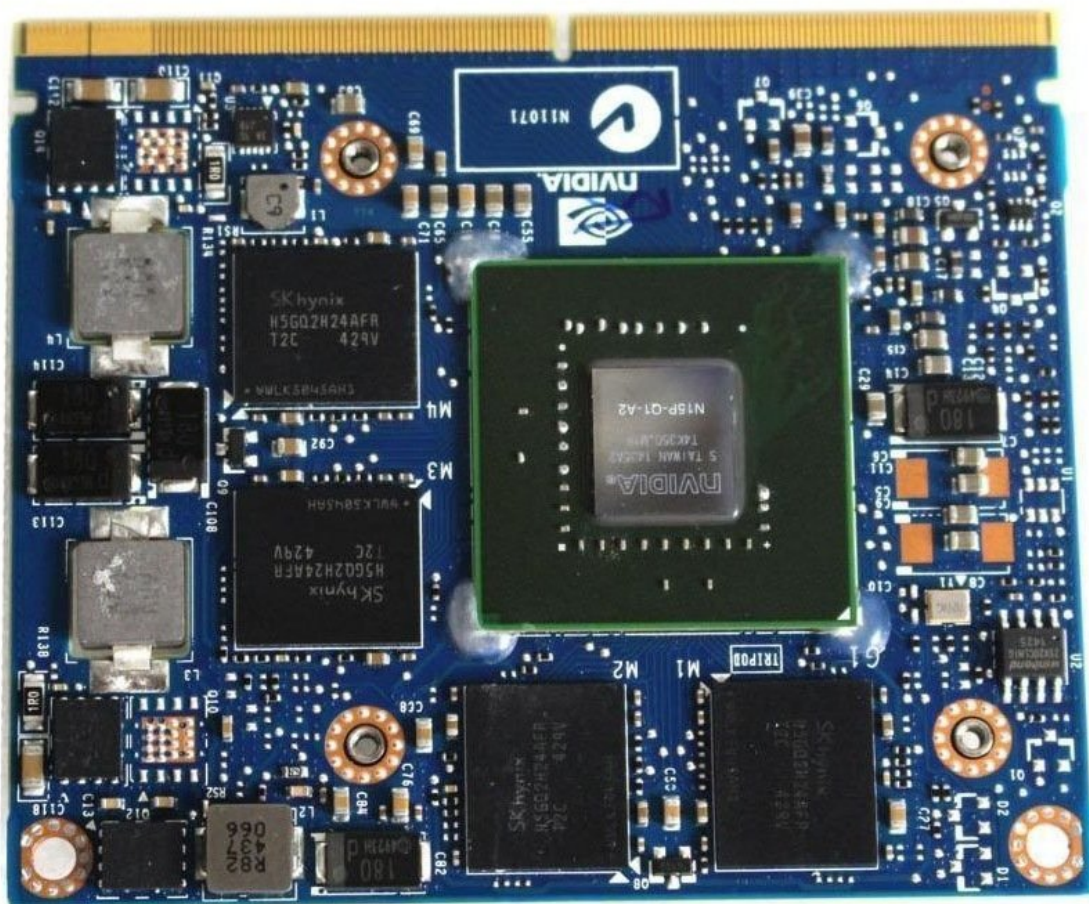




iMac Intel 27" (Late 2009 or Mid 2010) Graphics Card Replacement

If you are using the iMac 27" late 2009 or 2010...

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INTRODUCTION

If you are using the iMac 27" late 2009 or 2010 model for games, you might want to upgrade your graphics card to the 6 series of the last 2011 model.



TOOLS:

- [Heavy-Duty Suction Cups \(Pair\)](#) (1)
- [TR10 Torx Security Screwdriver](#) (1)
- [TR9 Torx Security Screwdriver](#) (1)



PARTS:

- [iMac 2011 Radeon 6970 2GB graphics card](#) (1)

Step 1 — Glass Panel



- Stick a heavy-duty suction cup near each of the two top corners of the glass panel.
 - ⓘ To attach the [suction cups](#), first position the suction cup with the movable handle parallel to the face of the glass panel (as indicated in the second picture).
 - While lightly holding the suction cup against the glass, raise the movable handle until it is parallel with the other handle (as indicated by the third picture).
 - ⓘ If your suction cups refuse to stick, try cleaning both the glass panel and the suction cup with a damp soft, lint-free cloth. (Dampen with distilled water, and if needed, an equal ratio of distilled water and white vinegar for best results.)
- ⚠ Do not use the suction cups to carry the display glass because if one of them fails to stick, you could drop the screen and break it.**
- ⓘ The original iMac box makes a good place to store the glass panel. Otherwise, a padded horizontal surface, like a towel on a desk, will do nicely.

Step 2



- Gently lift the glass panel perpendicular to the face of the LCD, enough to clear the steel mounting pins attached along the underside of the top edge of the glass panel.
- Pull the glass panel away from the lower edge of the iMac and carefully set it aside.
 - ⚠ Don't use the suction cups to carry the glass panel—if either one loses its grip, the panel could fall and break.
 - ⚠ After setting the glass panel down safely, be sure to release the suction cups, as the suction force over time can crack the glass.
- 🔧 During reinstallation, be sure to meticulously clean the inside of the glass panel and the face of the LCD as any dust or fingerprints trapped inside will be annoyingly visible when the machine is turned on.

Step 3 — Display



- Remove the eight T10 Torx screws securing the LCD to the outer case.

Step 4



- Carefully lay the iMac stand-side down on a flat surface.
 - ⓘ Due to tight tolerances, you will have to use a thin hooked tool to lift the display out of the outer case. As seen in the third picture, we made one out of a bent paperclip.
 - Use a thin hooked tool to lift one side of the top edge of the display by its steel outer frame.
 - ⓘ After lifting the top edge of the display on one side, hold it out of the outer case while you use a hooked tool to lift the other side.
- ⚠ Do not lift the top edge of the display out of the outer case too far, as several short ribbon cables still connect the two components.

Step 5



- Using your fingers, carefully pull the vertical sync cable out of its socket on the LED driver board near the top left corner of your iMac.

⚠ Be sure to pull the connector parallel to the LED driver board, straight out of its socket.

Step 6



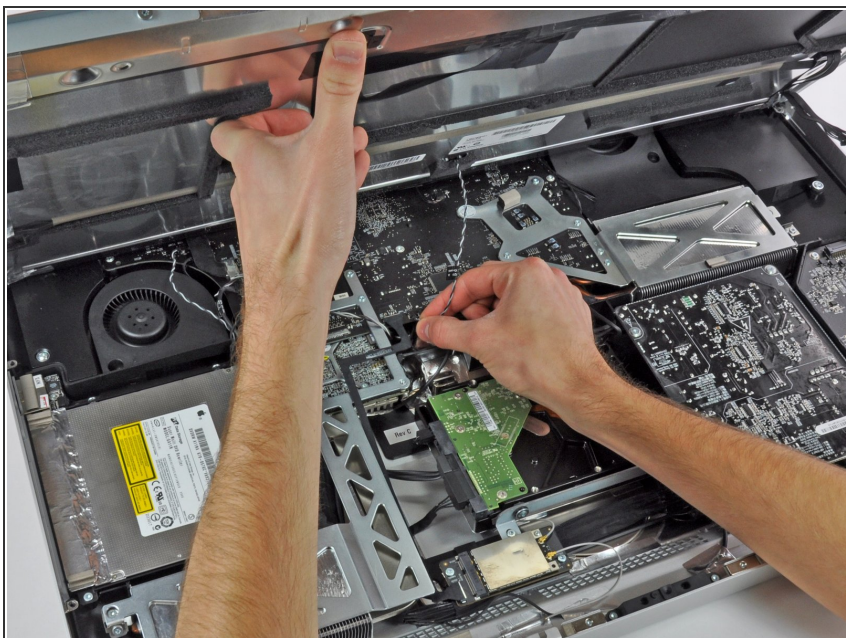
- Squeeze the two display data cable connector arms together to unlock it from its socket on the logic board.
- Pull the display data cable connector away from its socket on the logic board.

Step 7



- Rotate the display out of the outer case enough to disconnect the LED backlight power cable from the LED driver board.

Step 8



- Lift the display for enough clearance to disconnect the LCD thermal sensor cable connector from its socket on the logic board.
- ⓘ If your fan is spinning full speed after completion, check this connection or the hard drive's thermal sensor cable.

Step 9



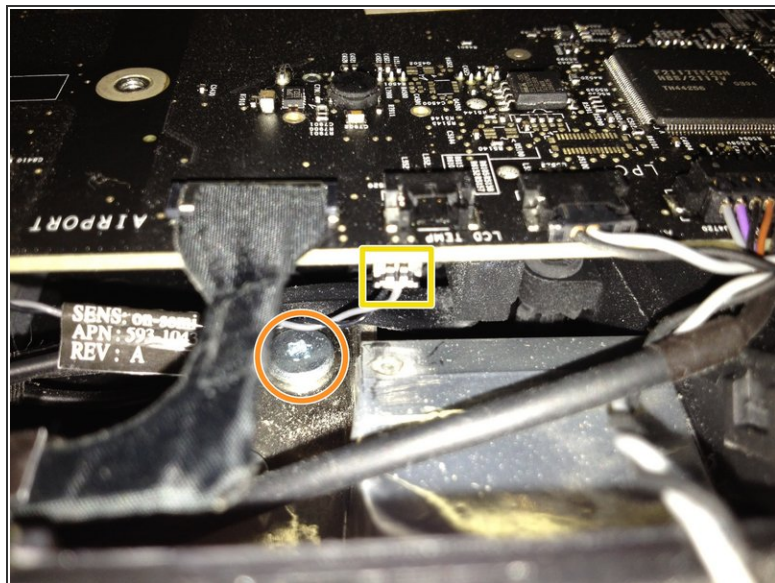
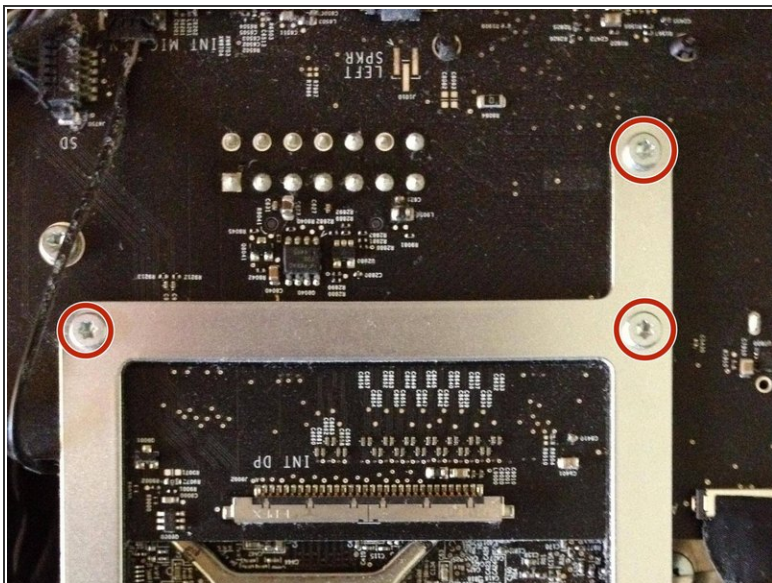
- Carefully pull the display toward the top edge of your iMac and lift it out of the outer case.

Step 10 — Remove the Hard Drive



- Remove the temperature sensor cable from the hard drive. This will allow the hard drive to be removed.
 - ⚠ Be careful with the display cables, they can be easily damaged upon installation/removal.
- ☑ Remember the position of this cable!
iFixit tip: the cable must later be reinstalled closest to the SATA connector. The black cable needs to point up towards the LCD.

Step 11



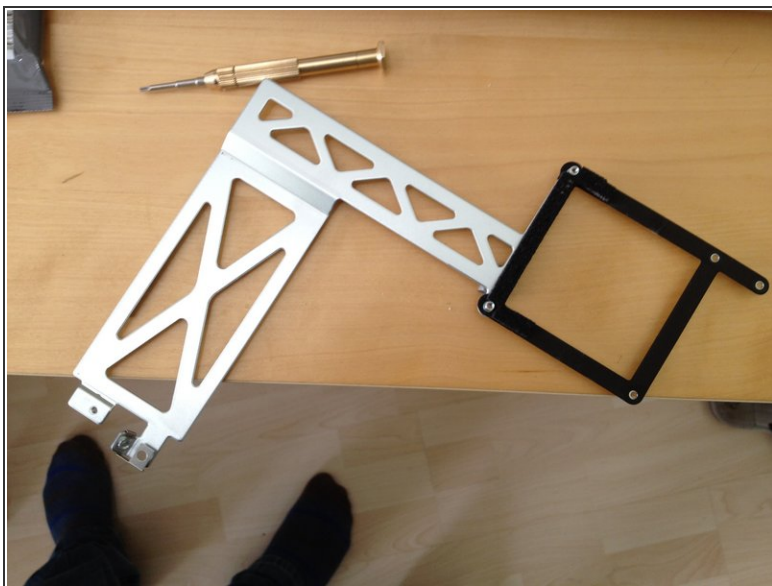
- Remove the three T9 Torx screws from the graphics card bezel.
 - Locate the large heatsink from the graphics card, which should be right above the optical drive.
 - Remove the single screw holding it in place.
 - Carefully remove the graphics card temperature sensor cable from underneath the motherboard.
- ✦ Remember the position as you need to plug in the new one here.

Step 12



- Slowly and carefully pull the graphics card up and away from the motherboard.
- ⚠ Make sure the metal bezel of the graphics card doesn't scratch the motherboard.
- You should be able to remove the graphics card easily when you remove the temperature sensor cable first.

Step 13



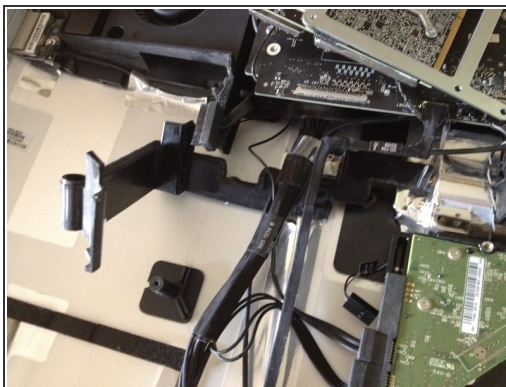
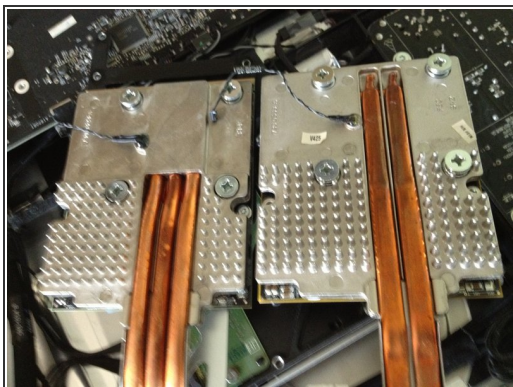
- Remove the metal bezel from the graphics card; only a couple of screws hold it in place.
- Store your graphics card in a safe place in case you need it again or want to reinstall it.
- The second image shows both the 4 and 6 series side by side. A little difference in height makes some extra work necessary (see the next step).

Step 14



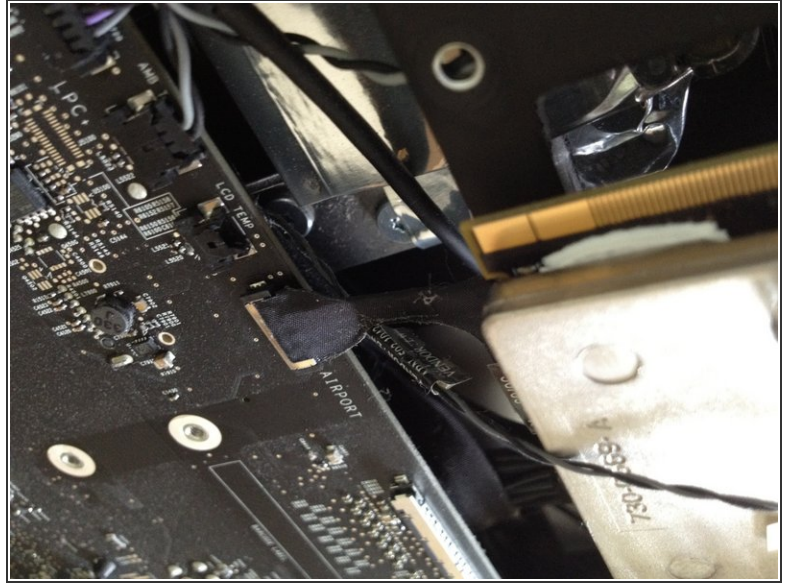
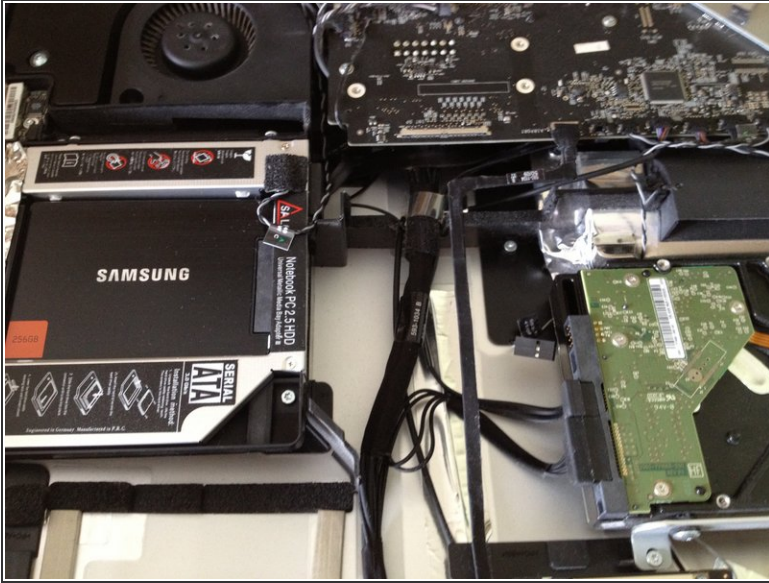
- You will need to remove the optical drive in order to remove the plastic piece mentioned in the next step. The drive is held in by 4 Torx screws.
- Once the screws are removed, the drive can be lifted and swung out of the way without removing any cables.

Step 15



- As the 6 series is slightly higher, we need to make a little space on the plastic holder which is beneath the card.
 - Remove the plastic part, which is shown on the 2nd picture, by removing one screw and carefully pull it from the aluminium case.
 - It's fastened with tape so don't worry about breaking anything.
 - After wiggling and navigating it around the cables, you should have it in your hands.
 - The rectangular space, in picture three where the large cable goes through, use a rotary tool to make it about 5mm wider and 2-3mm deeper.
 - The third image shows the final result we want to achieve.
 - The primary reason for this step is the heatpipe of the 6 series, which takes more space.
- i** Note: This is ONLY necessary on the late 2009 model, the 2010 models already have enough room.

Step 16



- Apply the metal bezel to the new 6 series graphics card. Make sure its aligned properly.
 - Now insert the 6 series graphics card carefully.
- ⚠ Make sure you don't damage the upper side of the motherboard when reinserting.
- When in place, fix it with the 3 screws.
 - Reinsert the temperature sensor cable. You need fine hands or a good tool to do so. Be patient with this step.

Step 17



- Reassemble the LCD display as explained on iFixit.
- No other work needs to be done. As you removed the power cable the SMC should reset, which is the chip configuring your hardware.
- If all goes well, you should be greeted with a welcome screen and "About This Mac" should show the image to the left.
- Note: I also replaced the optical drive with a 256GB SSD, which can be done easily during the installation process.
- Last tip: If you remove the optical drive for an SSD, make a minimal bootcamp partition and install Windows on it. It will save you a lot of trouble if you ever need one. Believe me, simply do it. Installing bootcamp with no optical drive is a pain.

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