



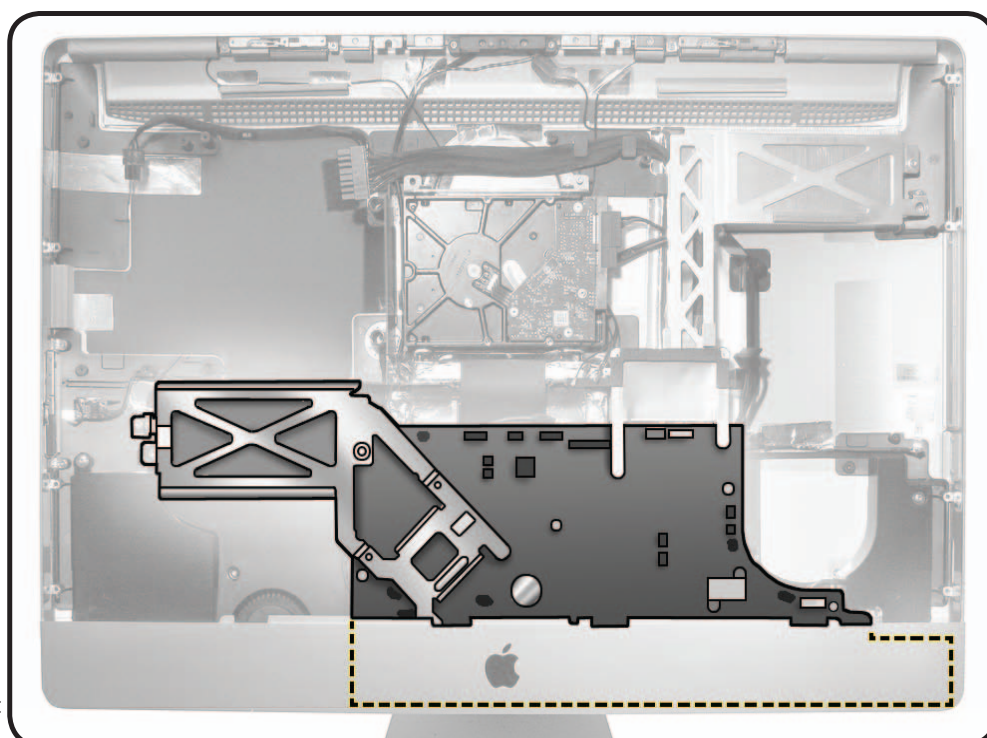
Logic Board

First Steps

Remove

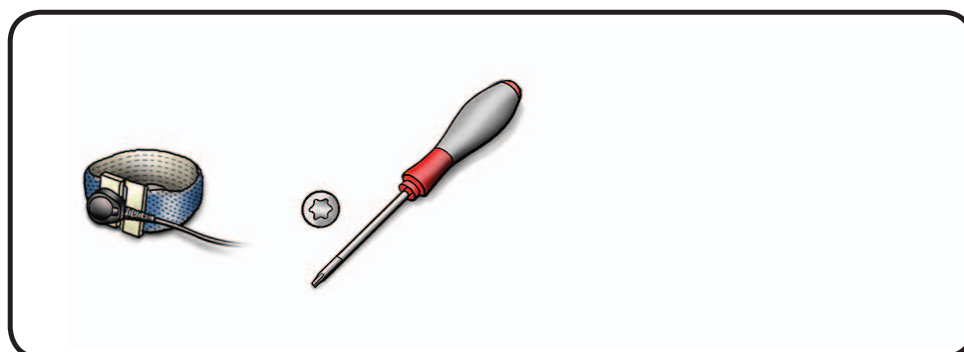
- Glass panel
- LCD panel
- Power supply
- AirPort card
- Backlight pressure wall
- Optical drive
- Optical fan
- IR board
- Memory

Note: The SSD-only CTO option has a hard drive power plug, on the back of the logic board. It shorts out the HDD power when no HDD is present. Transfer this plug (922-9877) if replacing the logic board.



Tools

- Torx T10 screwdriver
- ESD-wrist strap and mat
- Mini DisplayPort and USB cables for reassembly





Removal

- 1 Carefully disconnect 11 cables from the logic board.

(A) right skin temp sensor

(B) HDD fan

(C) camera/
Bluetooth/temp
sensor

(D) right speaker

(E) left speaker

(F) secure digital
(SD)

(G) microphone

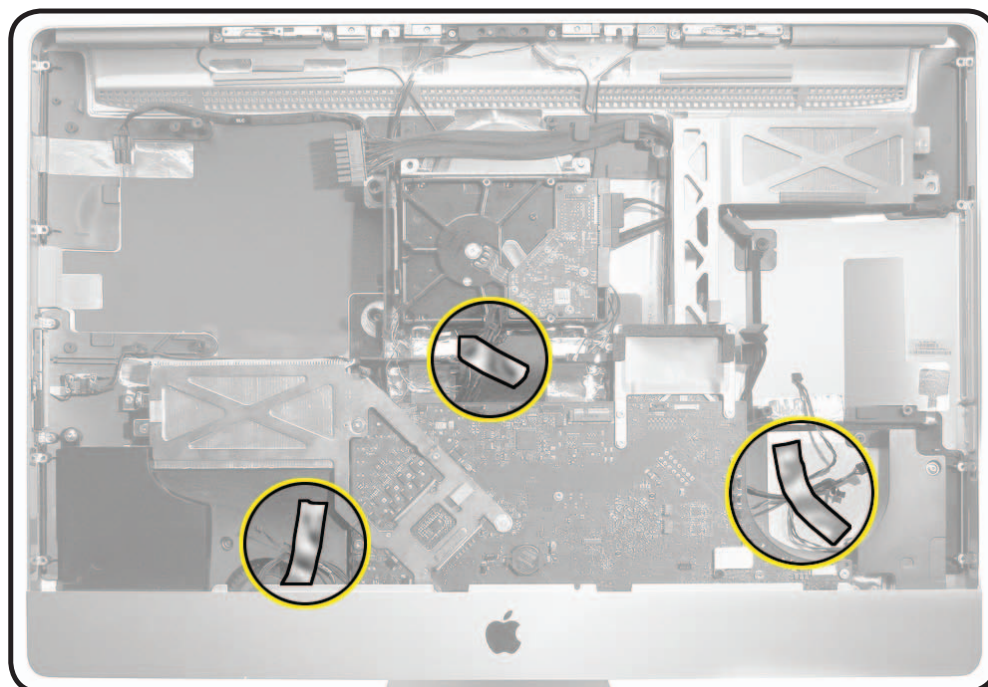
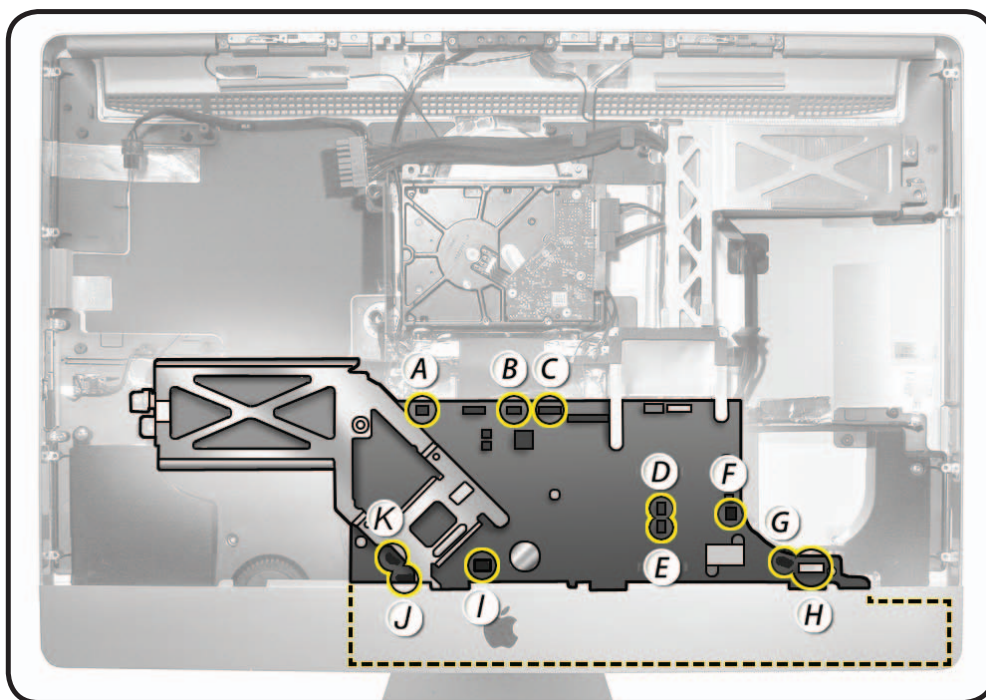
(H) audio cable

(I) power button

(J) ambient temp
sensor

(K) CPU fan

- 2 Tape cables back for easy reassembly.





3 Remove 8 T10 screws,
(in graphic: S=short,
M=medium, L=long)

- 922-6800, (2) short



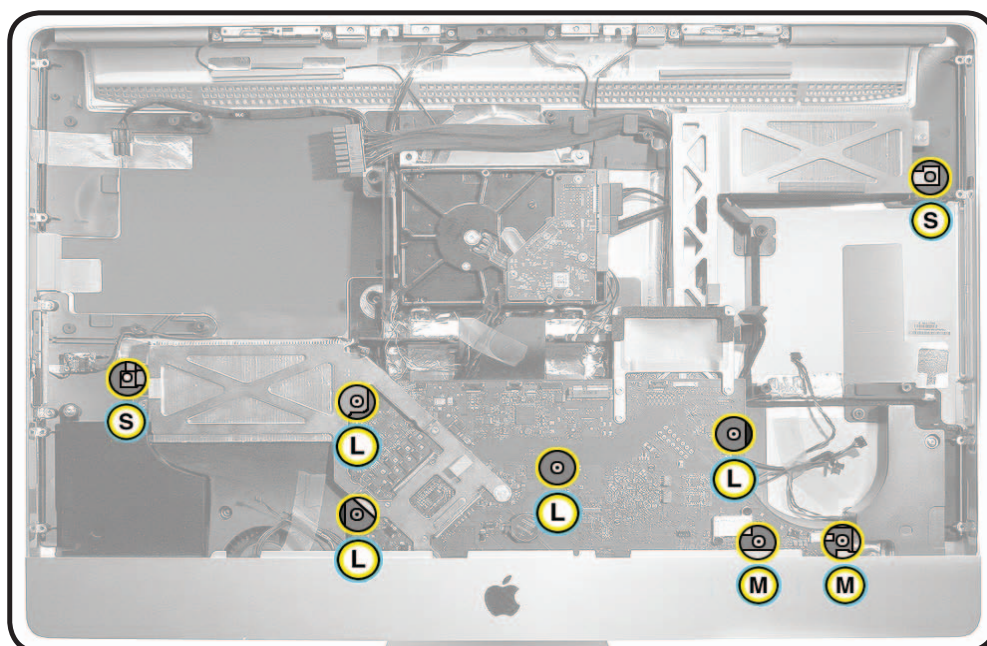
- 922-9883 (2)
20mm, medium



- 922-9884 (3)
24mm, long



- 922-9881 (1, in
middle of board),
longest thread

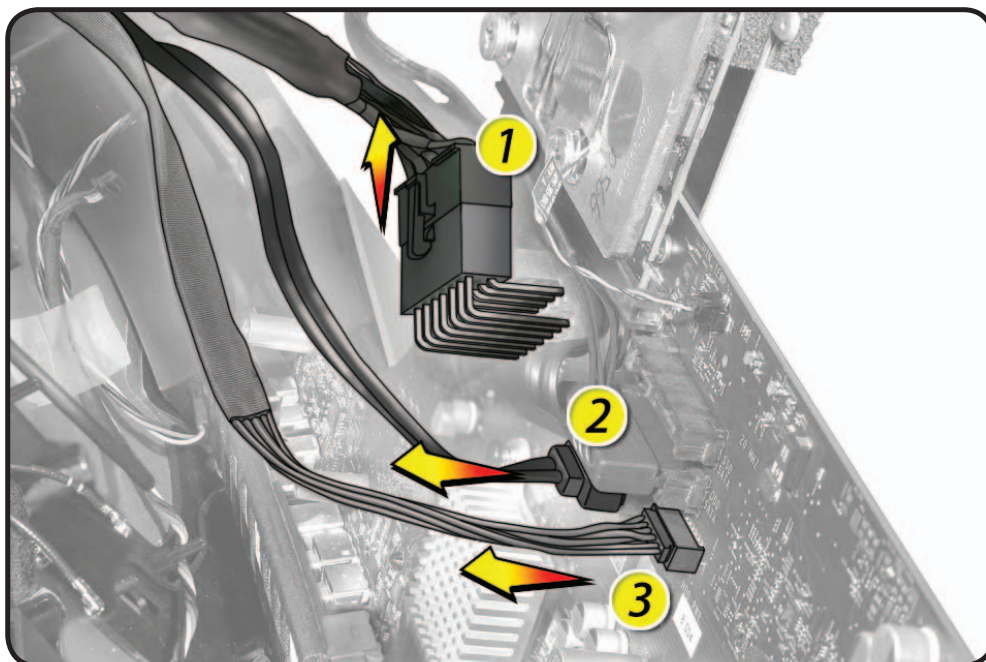




- 4** Gently pull board forward and disconnect 3 cables on the back side of logic board.

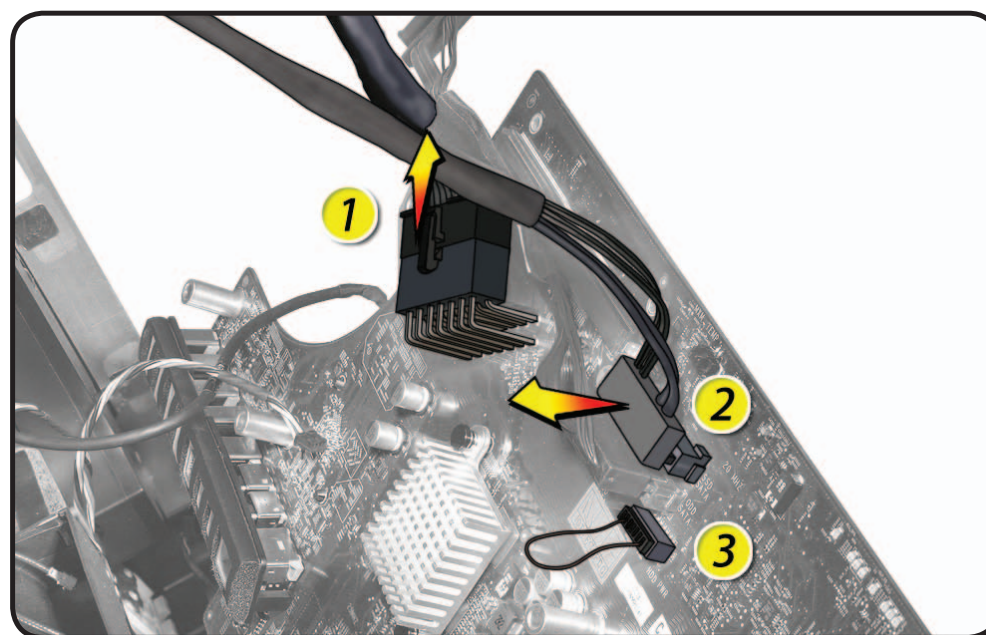
Note: Hard drive configuration shown. See next step for SSD cable configuration graphic.

- DC power cable (#1)
- HD data cable (#2)
- HD power cable (#3)



- 5** On the SSD-only config, disconnect:
- DC power cable (#1)
 - SSD SATA cable (#2)

Note: The SSD-only CTO option has a hard drive power plug (#3), on the back of the logic board. It shorts out the HDD power when no HDD is present. Transfer this plug (922-9877) if replacing the logic board.

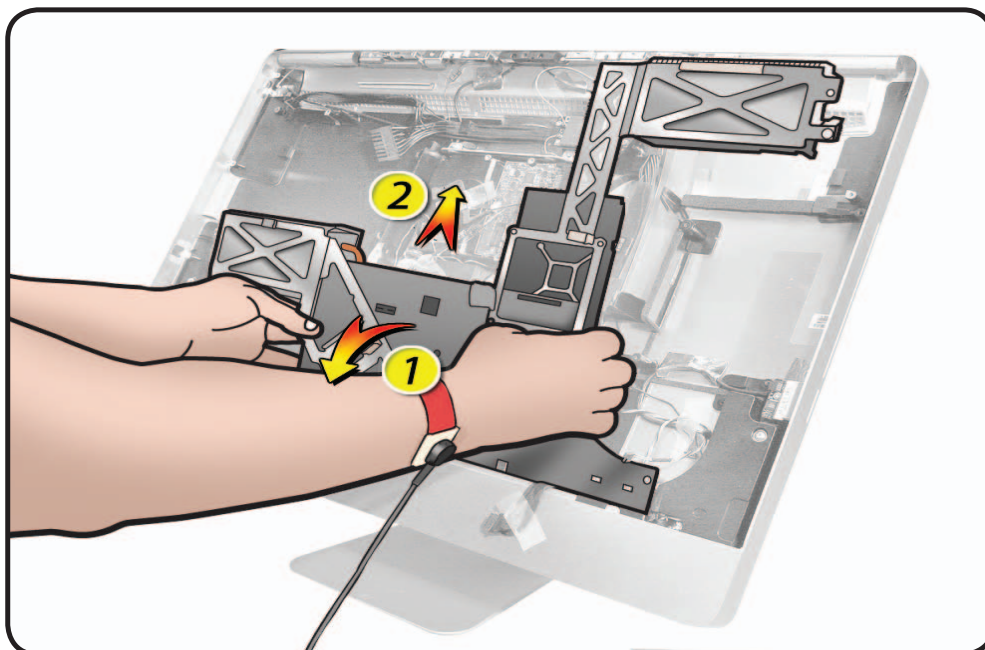




- 6 Carefully lift board up and out of rear housing.

Replacement Note:

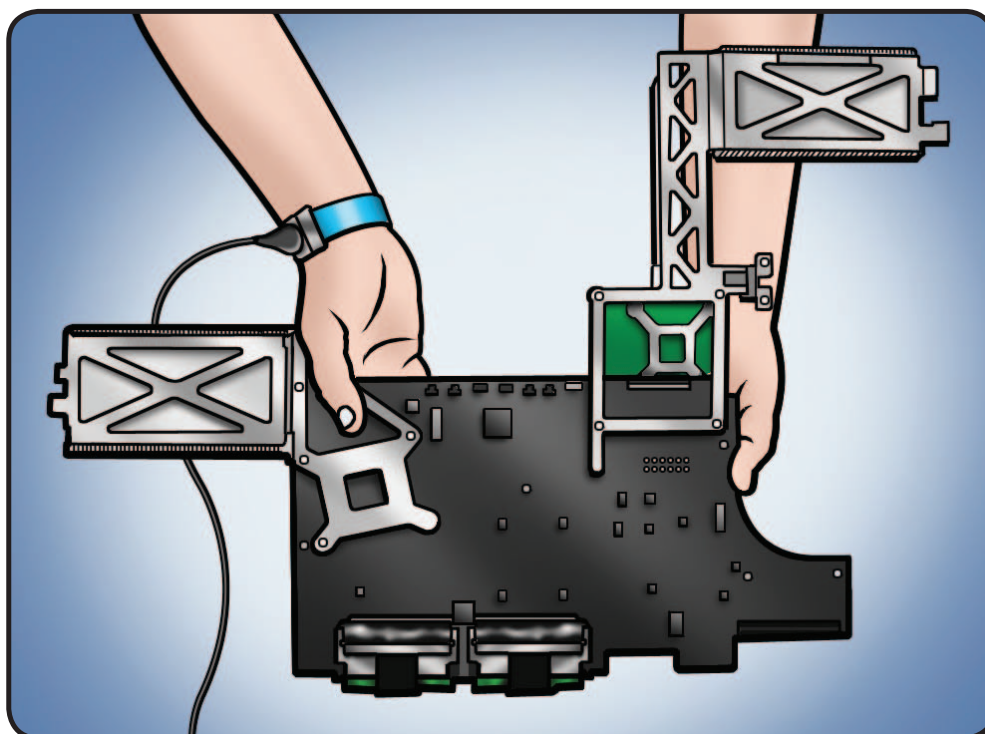
If replacing the logic board, transfer the memory and video card to replacement board.



Handling the Logic Board

Important: Always use 2 hands to support board and heat sink. Handling board incorrectly could flex board and damage chips and circuits.

Never handle board by heat sink or metal frame.

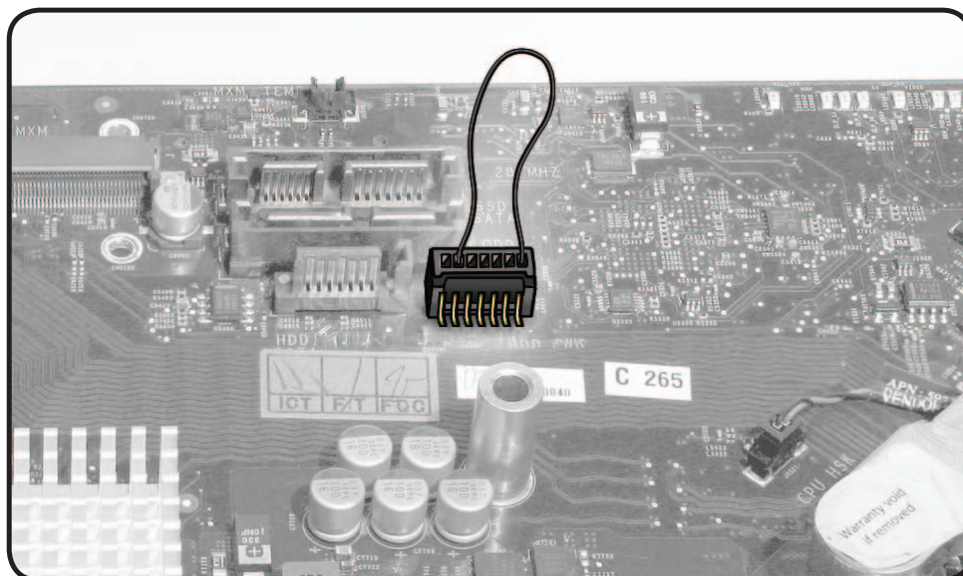




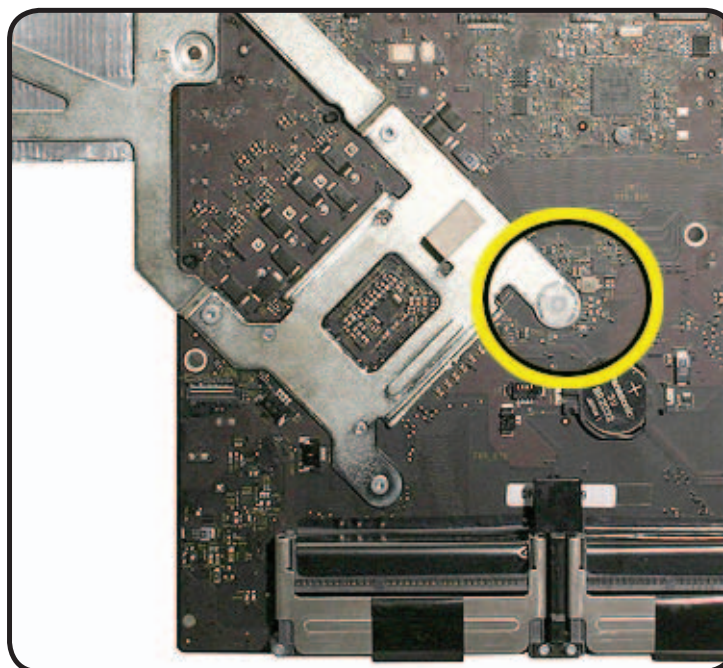
Reassembly

- 1 Transfer:
 - HDD Power plug (shown) on SSD-only configs
 - memory (install after logic board is in place)
 - video card
 - optical, HDD, & SSD data cables

Important: If plug is not transferred to SSD-only board, the fans will run at full speed.



- 2 Verify that tamper indicator labels on front and back of heat sink assembly are intact. If labels have been removed or tampered with, logic board is not eligible for exchange.





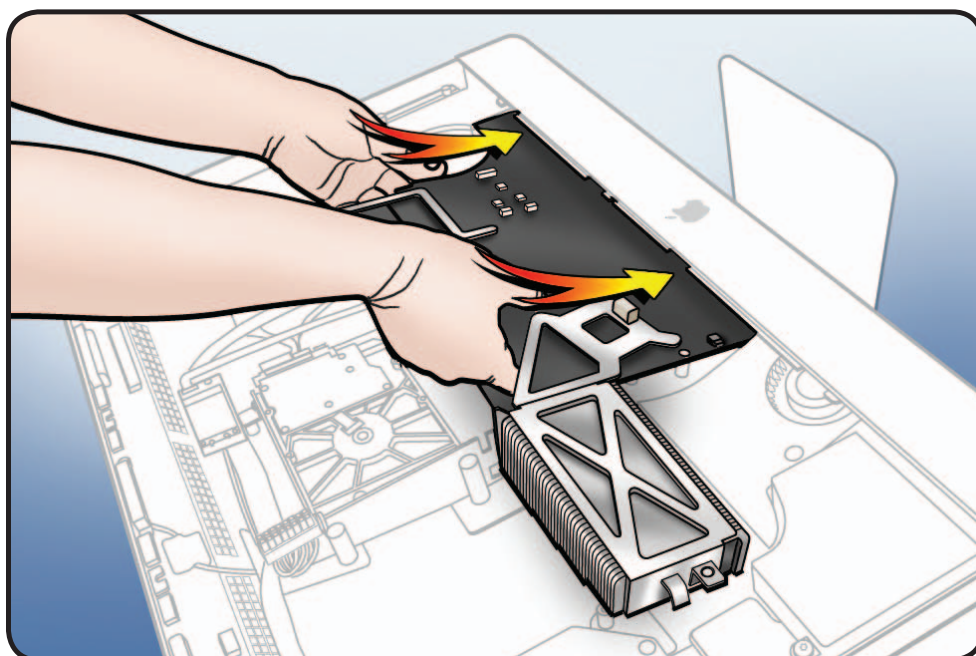
3 Apply new Ethernet ID label (included in box with new logic board) to bottom of stand.

4 Use the [Blank Board Serializer tool](#) to set computer's serial number on new logic board.

5 **Note:** You can install the logic board with the computer positioned as shown or with the computer standing upright.

Important: Make sure the memory modules are removed for installation and no cables are trapped between the logic board and rear housing.

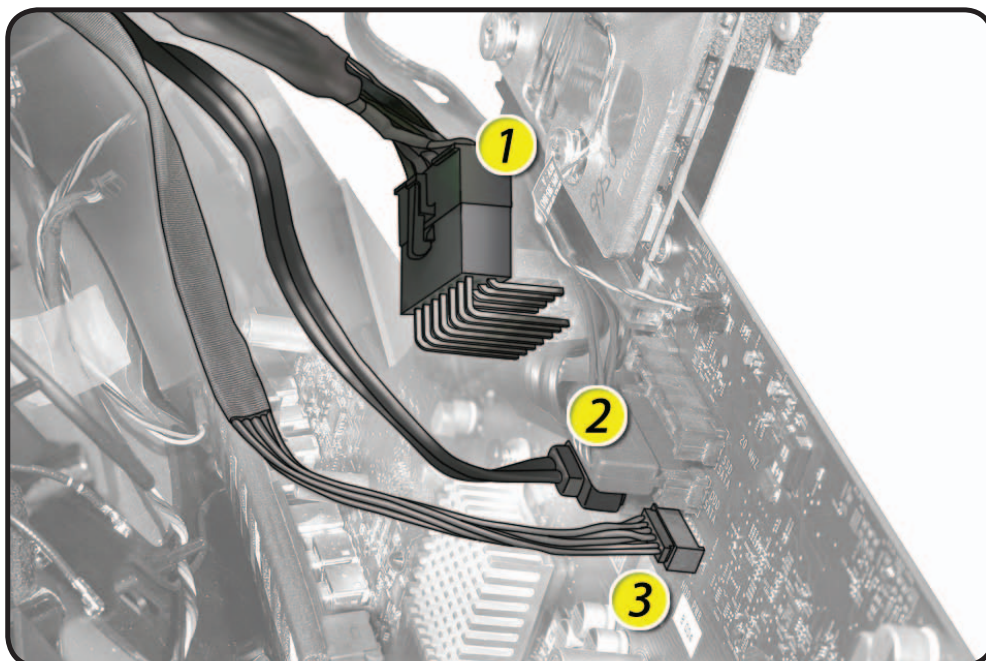
Line up board with edge of CPU fan and screw standoffs.





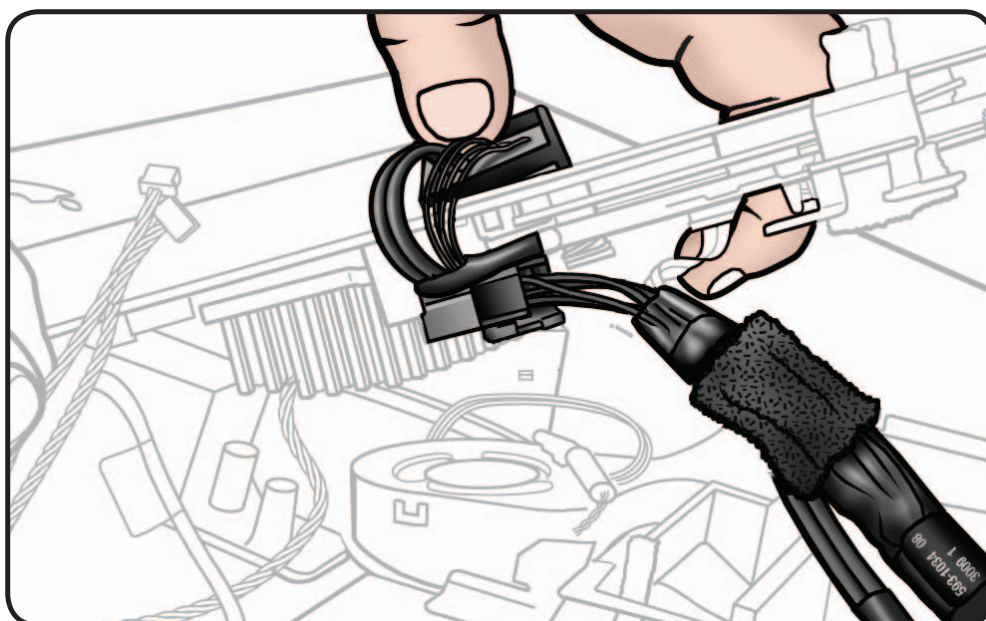
- 6** Connect cables on the back side, connections vary depending on the drive configuration:
- DC power cable (#1)
 - SSD data cable (#2)
 - HD data cable (#3)

Important! Make sure the DC power cable (#1) is securely inserted into connector.



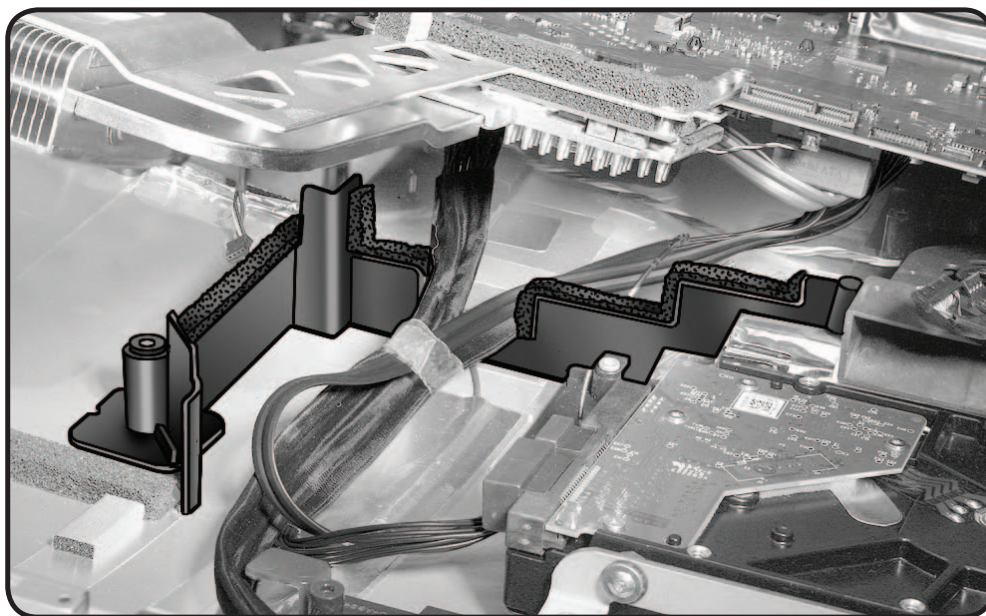
- 7** Observe how the optical data cable routes over top of DC power cable and extends out to the side.

Keep the optical cable out of the way as the board is lowered into place.



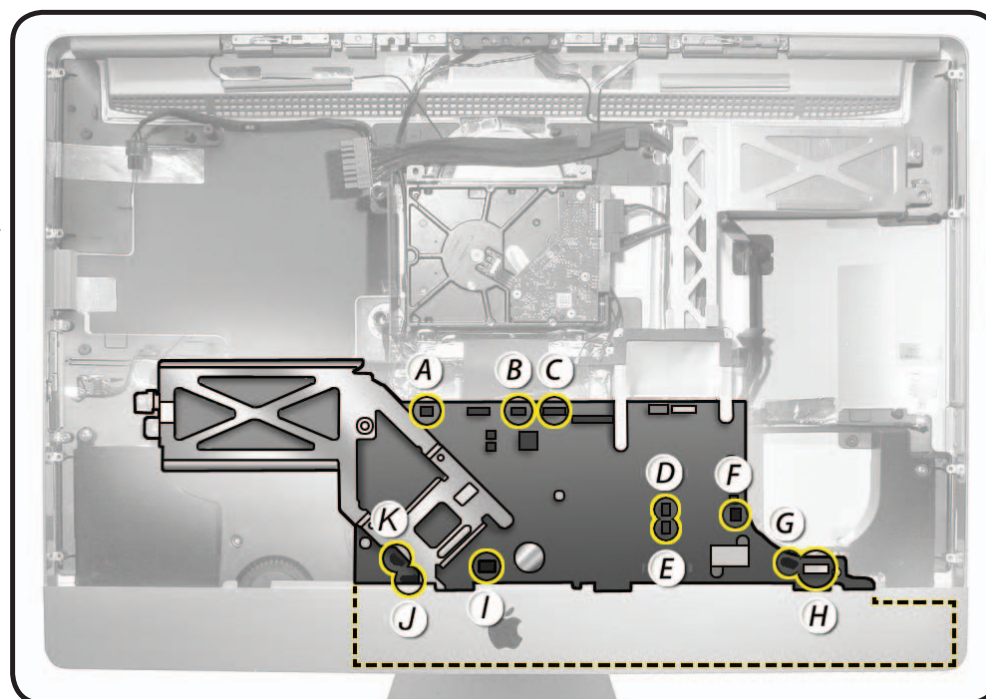


- 8** As you the lower board, position cables into lowest notch on pressure wall.



- 9** Carefully connect 11 cables from the logic board.

- (A) right skin temp sensor
- (B) HDD fan
- (C) camera/Bluetooth/temp sensor
- (D) right speaker
- (E) left speaker
- (F) secure digital (SD)
- (G) microphone
- (H) audio cable
- (I) power button
- (J) ambient temp sensor
- (K) CPU fan

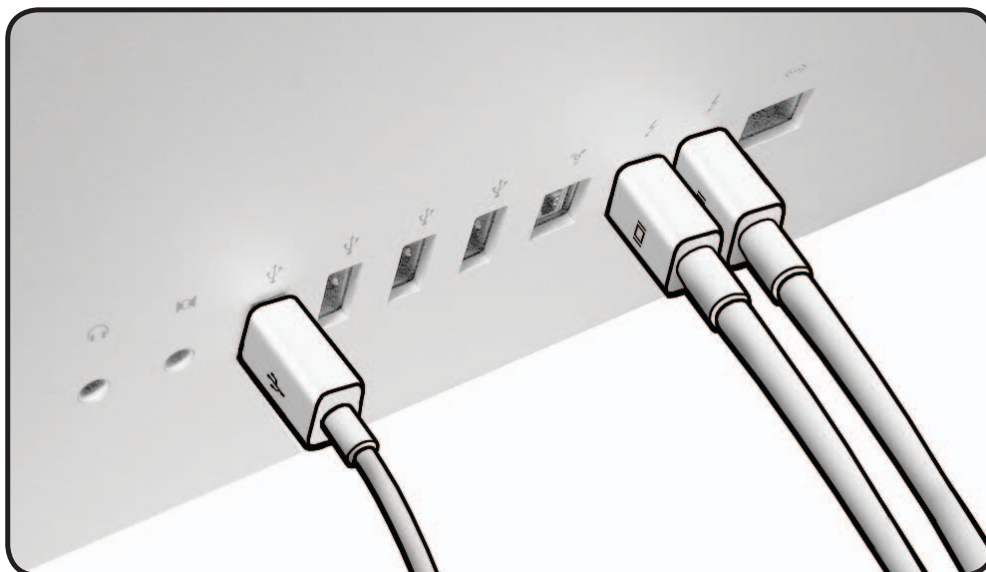




10 Important

Reassembly Note:

The Thunderbolt ports have a precise fit. To properly align logic board with rear housing, you **MUST** plug in two Mini DisplayPort cables and one USB cable (in the furthest left USB port) while tightening screws.



11 Replace 8 T10 screws, (in graphic: S=short, M=medium, L=long)

- 922-6800, (2) short



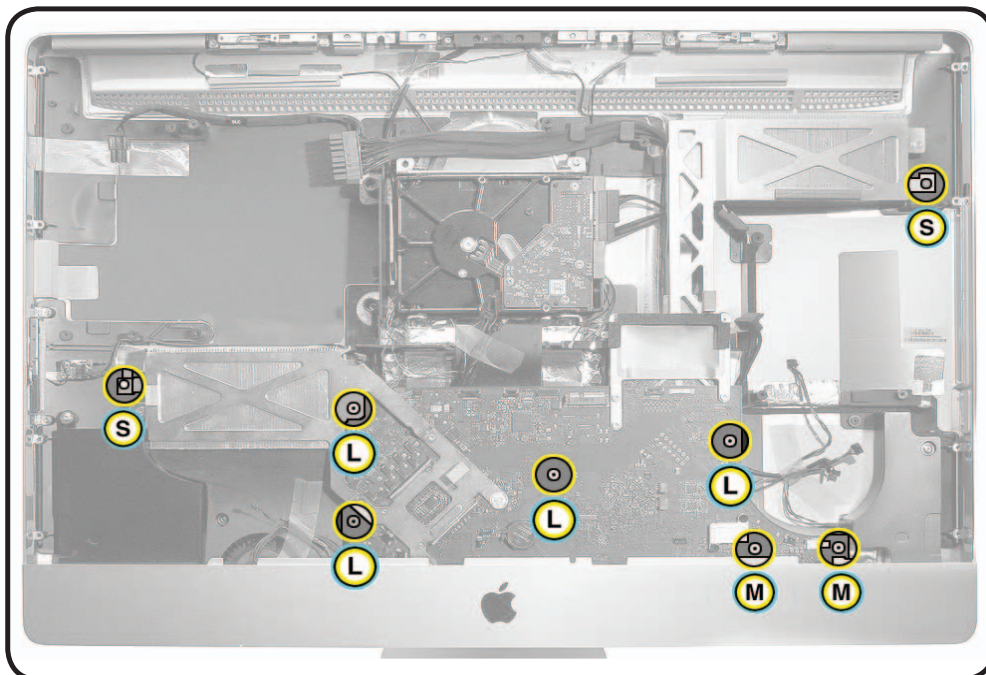
- 922-9883 (2)
20mm, medium



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24mm, long



- 922-9881 (1, in
middle of board),
longest thread





12 Replace remaining modules.

13 Replace EMI tape on panel before replacing glass panel.

Note: Replacement EMI tape is included with all service parts that involve panel removal and is available separately, 922-9908, Pkg. of 10.

