



# LED Cinema Display (24-inch)

## Apple Recycler Guide

July 2023

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# About This Guide

Apple Recycler Guides provide guidance for electronics recyclers on how to disassemble products to maximize recovery of resources. The guides provide step-by-step disassembly instructions and information on the material composition to help recyclers direct fractions to the appropriate material recycler.

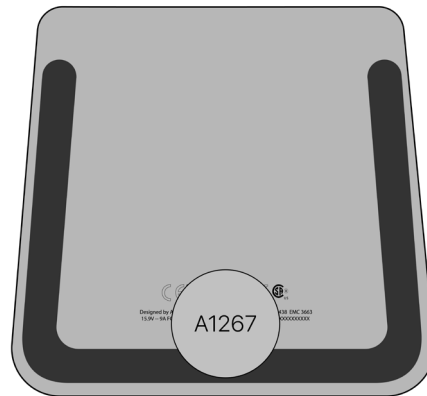
To conserve important resources, we work to reduce the materials we use and aim to one day source only recycled or renewable materials in our products. A key path to reaching that goal is resource recovery from end-of-life electronics.

Disassembly procedures are intended to be performed only by trained electronics recycling professionals. The recycler is responsible for independently evaluating and ensuring compliance with all applicable environmental, health, and safety laws related to the work. These include but are not limited to laws relating to the management, handling, shipping, and disposal of the outputs of this work as waste and laws in place to ensure the health and safety of all employees who support this work.

For questions or feedback about this guide, email [contactesci@apple.com](mailto:contactesci@apple.com).

## Identification

You can find the model number of the display on the bottom of the display stand. To view the model number, hold the sides of the display and gently lay the display facedown on a soft, clean towel or cloth.



*Model number:*

A1267

# Directive 2012/19/EU Annex VII Components

Directive 2012/19/EU Annex VII requirements apply to the following substances and components.

Substance/Component	Apple Part Name	Removal Instructions
Printed circuit board if the surface is greater than 10 square centimeters	Main logic board, display logic board, light-emitting diode (LED) logic boards, power supply logic board	Follow steps 1–15
Cover glass and liquid crystal display (LCD) cell if the surface is greater than 100 square centimeters	LCD cell	Follow steps 1–8
External electrical cables	Built-in Mini DisplayPort, MagSafe cable, USB 2.0 cord	Follow step 1
No further substances or components as listed in Annex VII		

# Safety Considerations

The recycler is responsible for independently evaluating all activities undertaken by its employees to perform or support the work and ensuring compliance with all applicable health and safety laws related to the work. These include but are not limited to laws relating to the health and safety of all employees who perform or support this work. The recycler is also responsible for evaluating the workspace and ensuring that the area in which the work is to be undertaken is designed using ergonomic best practices and meets all ergonomic requirements to ensure the protection of its employees.

## Personal Protective Equipment

Personal protective equipment should be worn during the entire recycling process.



Wear hand protection



Wear a mask



Wear eye protection



Wear foot protection



Wear protective clothing

## LED Safety

Broken LEDs must be handled properly to ensure the safety of your employees and mitigate any hazards. Package broken LEDs in an appropriate container to properly manage the hazards associated with the materials and store only with compatible materials. All waste must be properly classified, packaged, and labeled in accordance with all relevant laws and regulations.

## Hazard Warnings



Broken glass hazard



Sharp edges—cut hazard



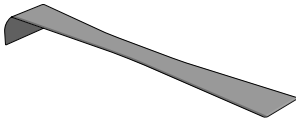
Chemical exposure hazard



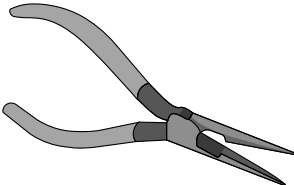
Chemical inhalation hazard

# Recommended Tools

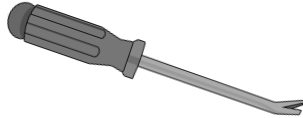
Flat surface scraper



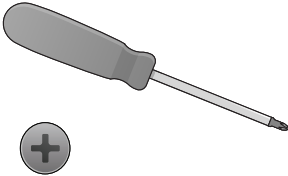
Long-nose pliers



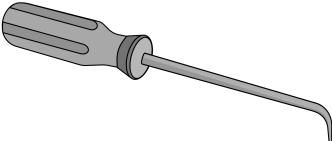
Nail-pulling screwdriver



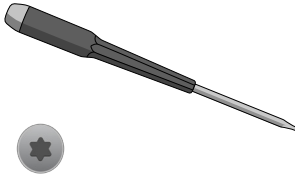
Phillips screwdriver



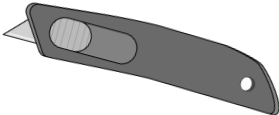
Precision pick



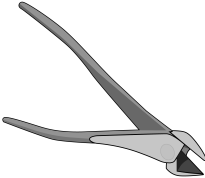
Torx T10 screwdriver



Utility knife



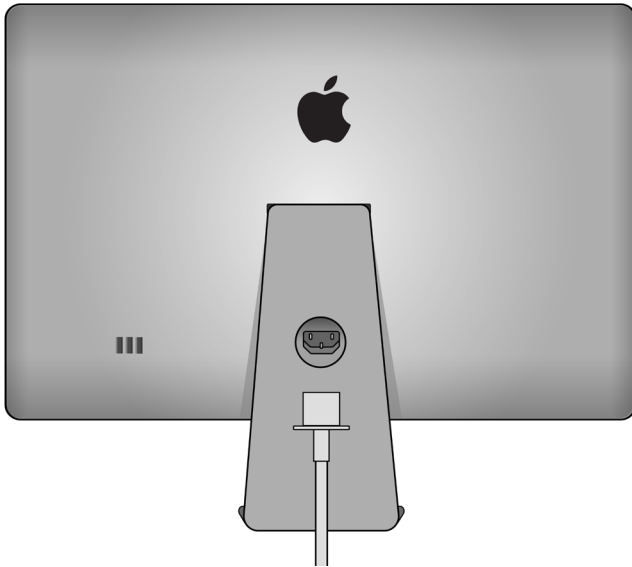
Wire cutters



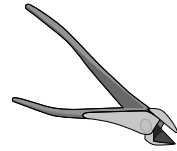
# Disassembly Instructions

## 1. Remove the cables.

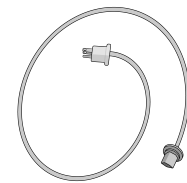
» *Unplug both ends of the power cable.*



### Tools Used



### Fraction



Power cable

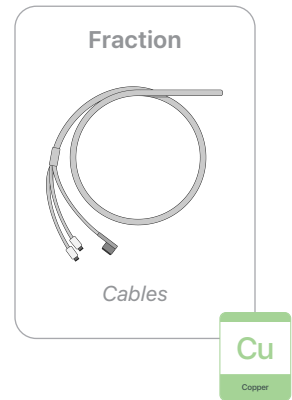
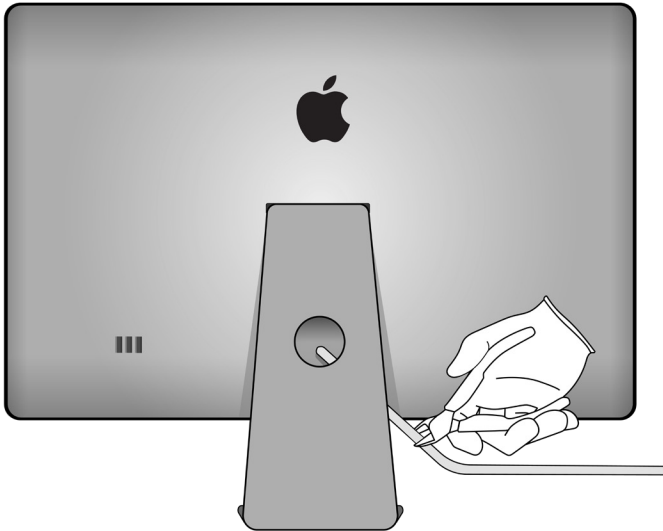
Cu

Copper

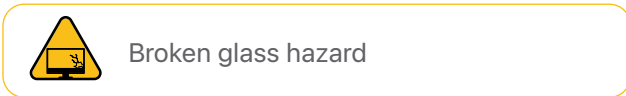
**Warning:** Before continuing disassembly, wait 10 minutes after unplugging the device for stored energy to discharge.



» Cut off the display cables.

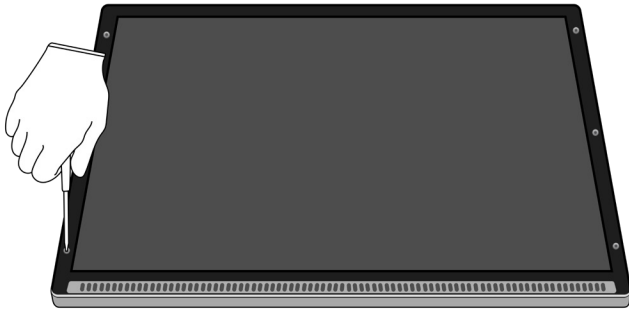


2. Pry in between the cover glass and the enclosure. Pull away the cover glass from the magnetic frame.

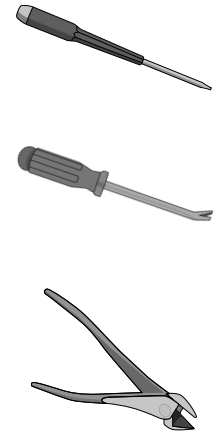


### 3. Remove the LCD cell and the LCD backlight unit.

- » *Unscrew the six Torx T10 fasteners holding the LCD cell and the LCD backlight unit to the enclosure.*



#### Tools Used



- » *Pry up the LCD backlight unit.*



Chemical exposure hazard

#### Fraction



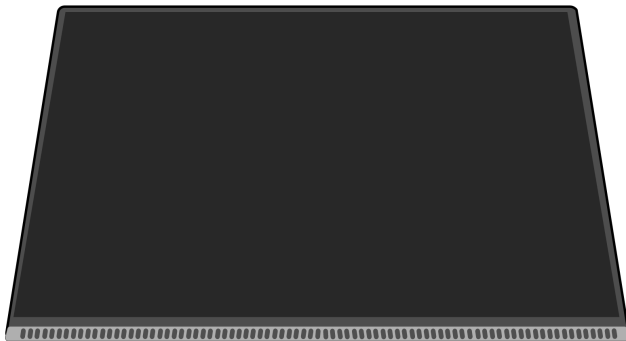
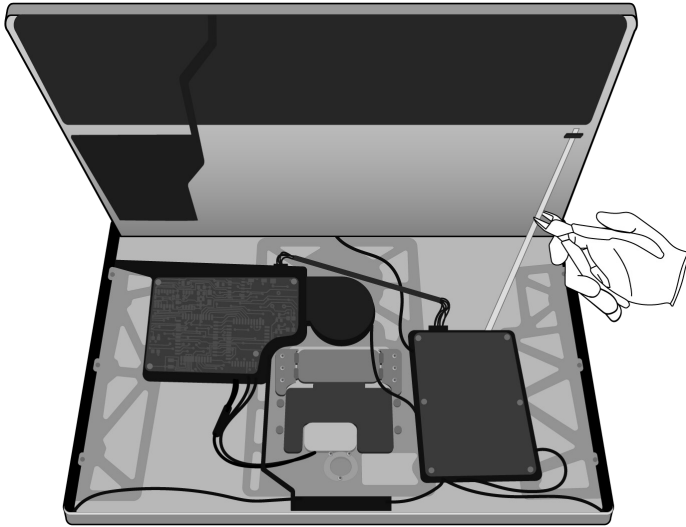
Fasteners (x6)

Fe

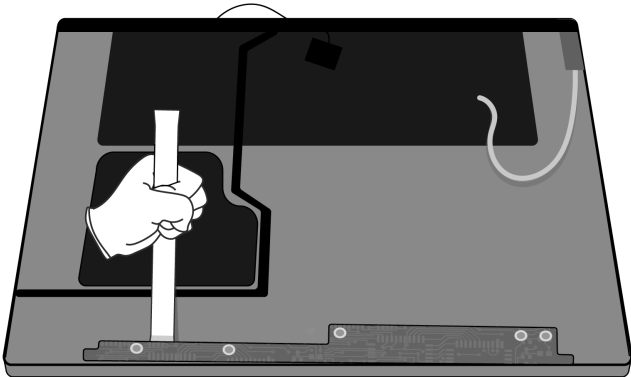
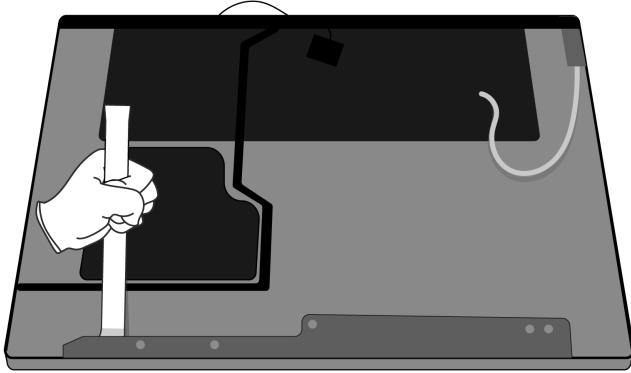
Ferrous



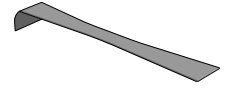
- » *Cut off the cables from the LCD backlight unit to remove the LCD cell and the LCD backlight unit. Set the enclosure aside.*



4. Place the LCD cell facedown. Pry off the display logic board and the display logic board cover.



Tools Used



Fraction



*Display logic board cover*

Fe

Ferrous

Fraction

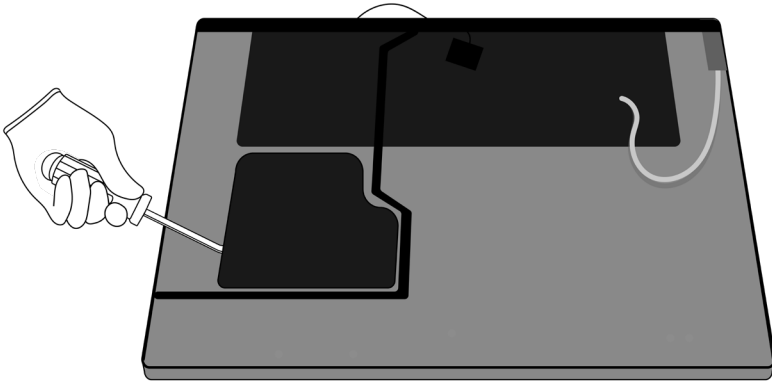


*Display logic board*

PMs

Precious Metals

**5.** Pry off the plastic sheet.



Tools Used



Fraction

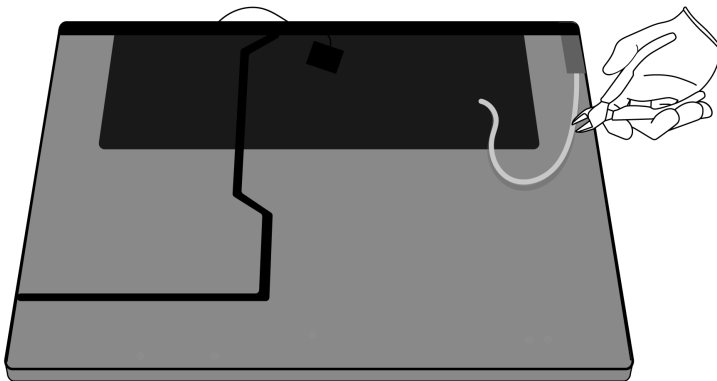


Plastic sheet

PL

Plastics

**6.** Cut off the wires from the back side of the display.



Tools Used



Fraction



Wires

Cu

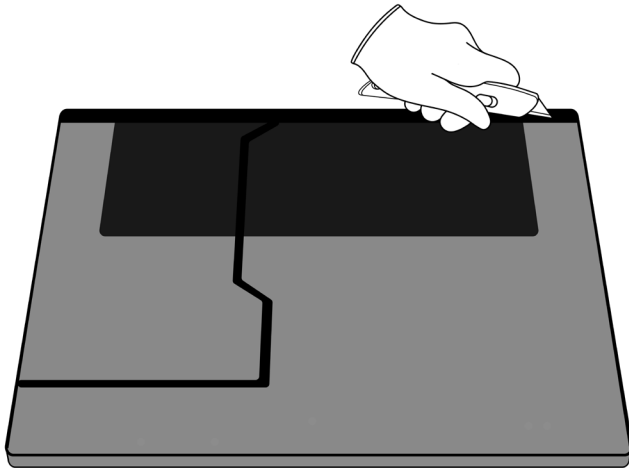
Copper

## 7. Remove the metal frame.

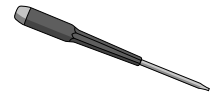
» *Cut the foil and the plastic tape around the display.*



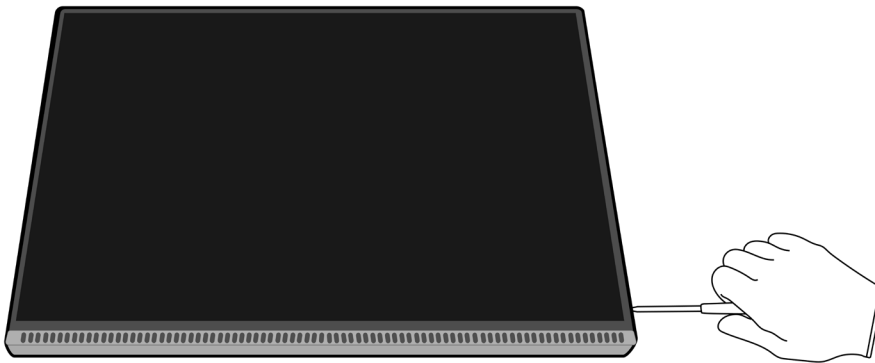
Sharp edges—cut hazard



### Tools Used



» *Unscrew the six Torx T10 fasteners.*



### Fraction

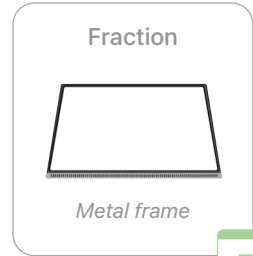
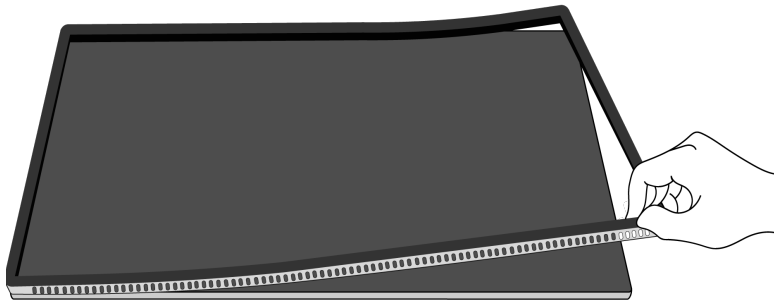


Fasteners (x6)

Fe

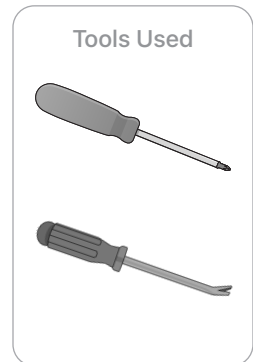
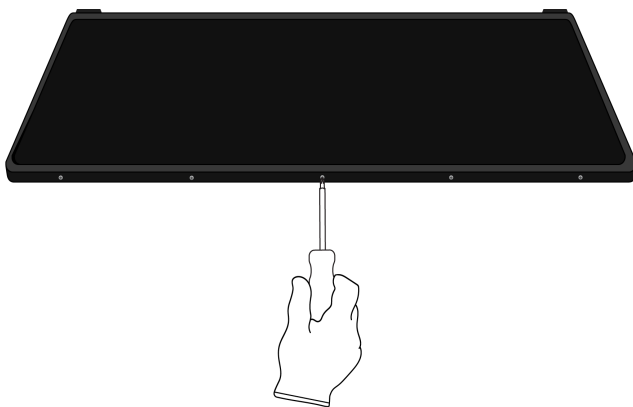
Ferrous

» Pull the metal frame off the LCD cell.



## 8. Remove the plastic frame and the LCD cell.

» Unscrew the five Phillips fasteners holding the plastic frame to the display.



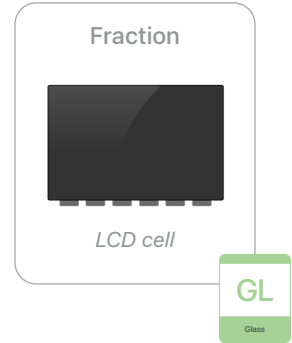
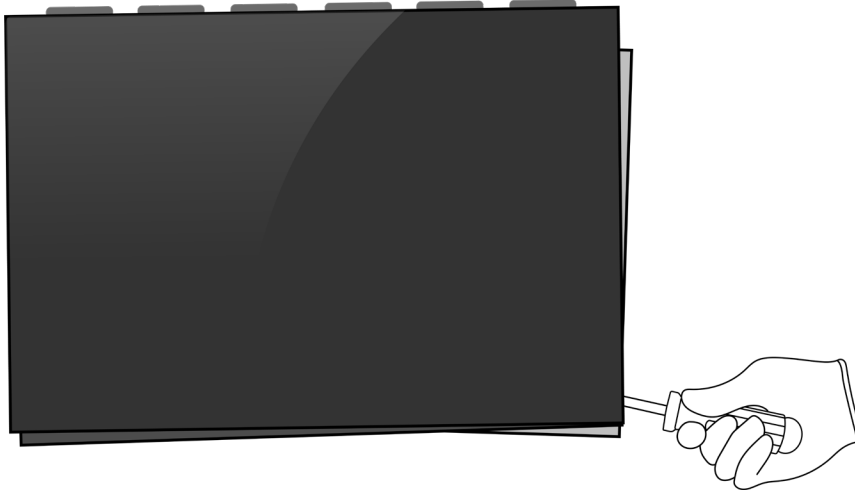
» *Pry the LCD cell off the plastic frame.*



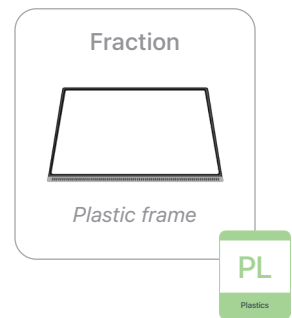
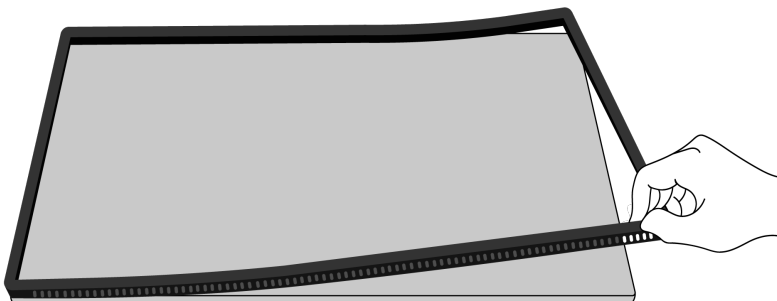
Broken glass hazard



Chemical exposure hazard

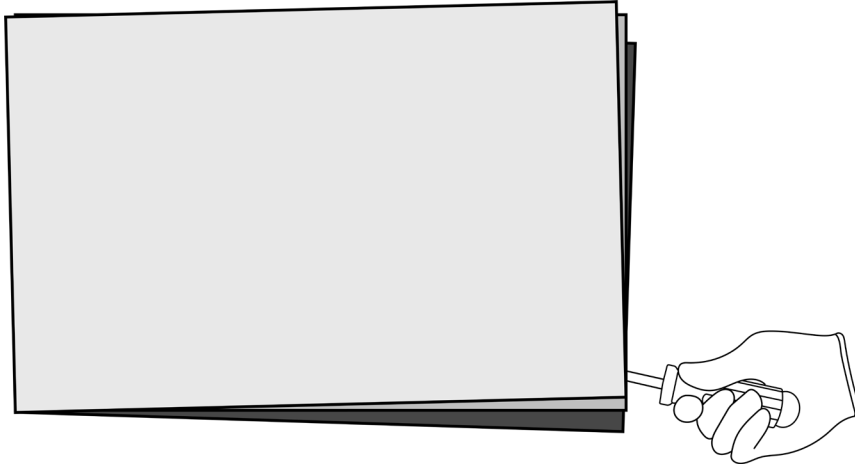


» *Pull off the plastic frame.*





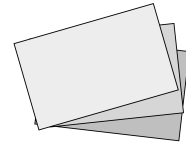
9. Remove the display films from the mid plate by prying up on a corner.



Tools Used



Fraction

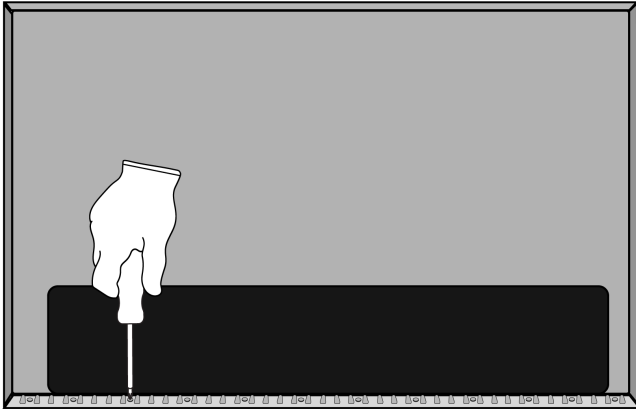


Display films



**10.** Remove the two LED logic boards from the mid plate by unscrewing the 17 Phillips fasteners. Pull out the LED logic boards.


 Chemical inhalation hazard



Tools Used




Fraction



Fasteners (x17)

Fe  
Ferrous

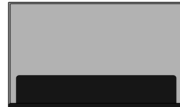
Fraction



LED logic boards

PMs  
Precious Metals

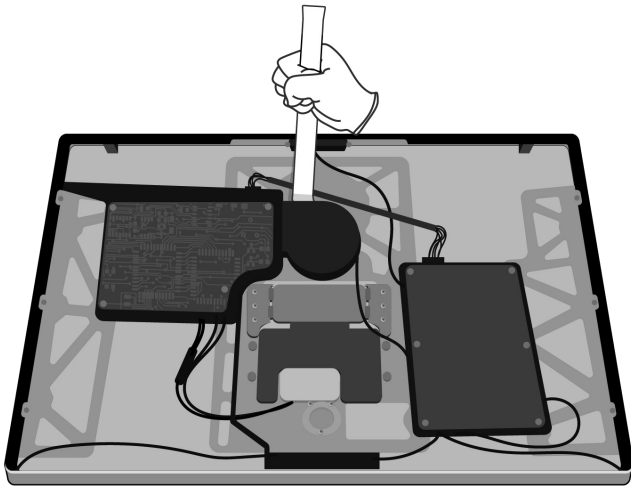
Fraction



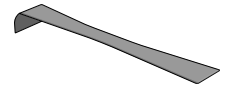
Mid plate

Al  
Aluminum

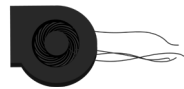
**11.** From the enclosure, pry off the fan.



Tools Used



Fraction

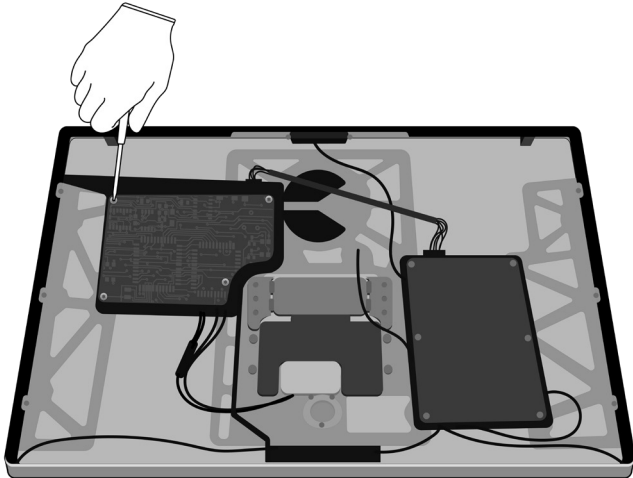


Fan

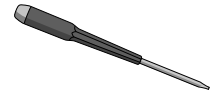
Cu

Copper

12. Remove the power supply logic board by unscrewing the four Torx T10 fasteners.



Tools Used



Fraction

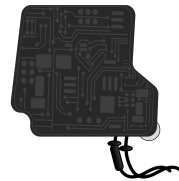


Fasteners (x4)

Fe

Ferrous

Fraction

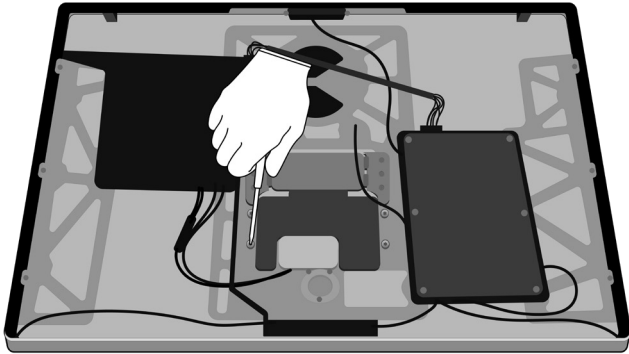


Power supply  
logic board

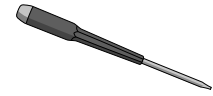
PMs

Precious  
Metals

- 13.** Remove the speaker by unscrewing the four Torx T10 fasteners.



Tools Used



Fraction



Fasteners (x4)

Fe

Ferrous

Fraction

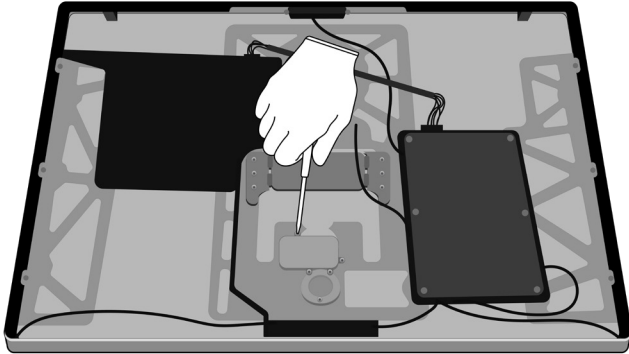


Speaker

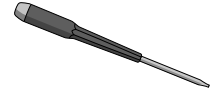
REE

Rare Earth Elements

14. Remove the AC power inlet by unscrewing the three Torx T10 fasteners.



Tools Used



Fraction

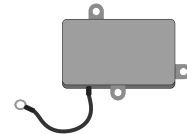


Fasteners (x3)

Fe

Ferrous

Fraction

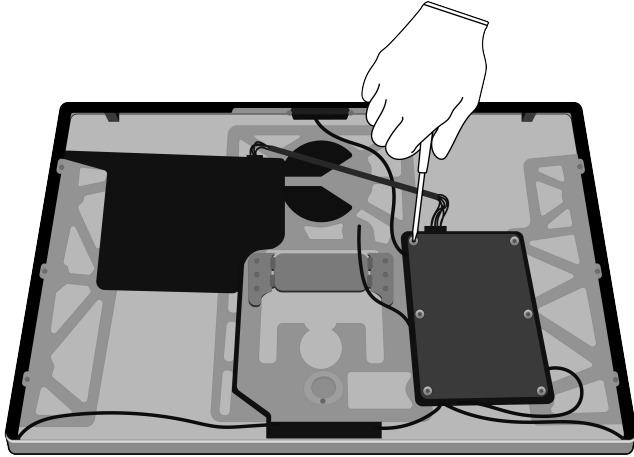


AC power inlet

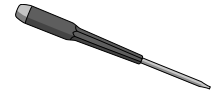
Cu

Copper

- 15.** Remove the main logic board by unscrewing the six Torx T10 fasteners.



Tools Used



Fraction

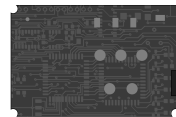


Fasteners (x6)

Fe

Ferrous

Fraction



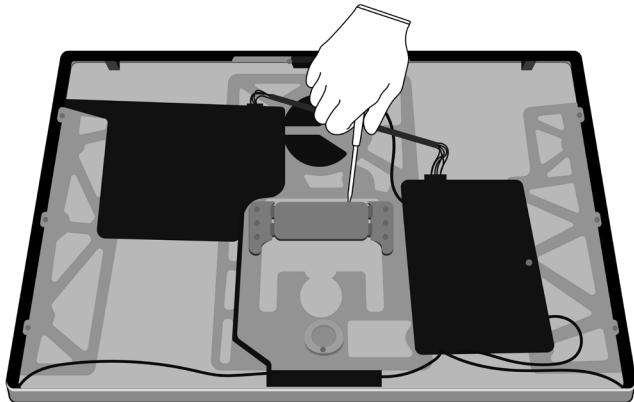
Main logic board

PMs

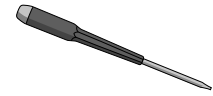
Precious Metals

## 16. Remove the stand.

- » Detach the hinge from the stand by removing the eight Torx T10 fasteners.



### Tools Used



### Fraction

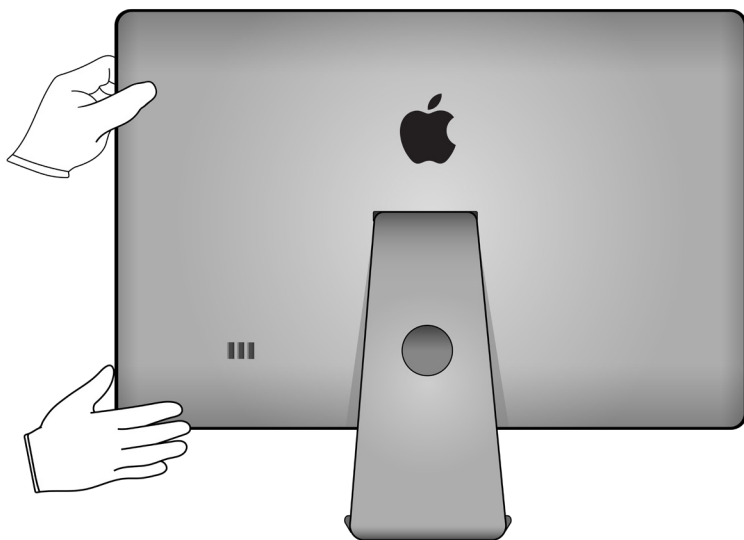


Fasteners (x8)

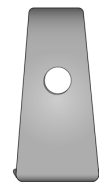
Fe

Ferrous

- » Slide the enclosure away from the stand.



### Fraction



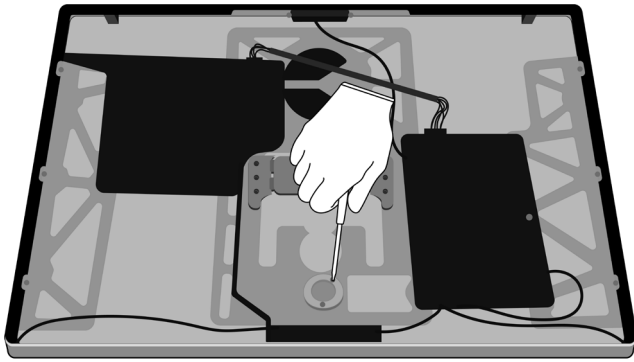
Stand

Al

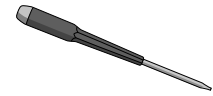
Aluminum



17. Remove the cable cover and the cable from the enclosure by unscrewing the two Torx T10 fasteners.



Tools Used



Fraction



Fasteners (x2)

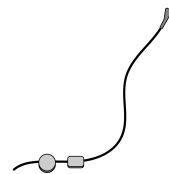


Cable cover

Fe

Ferrous

Fraction

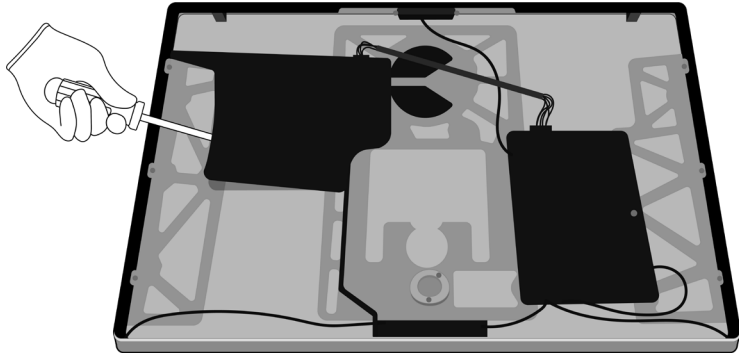


Cable

Cu

Copper

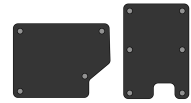
**18.** Pry the two plastic sheets off the enclosure.



Tools Used



Fraction

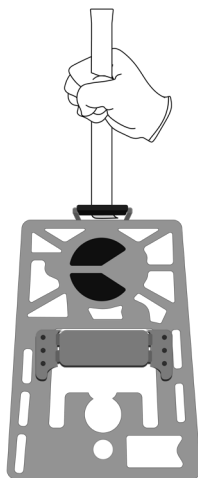
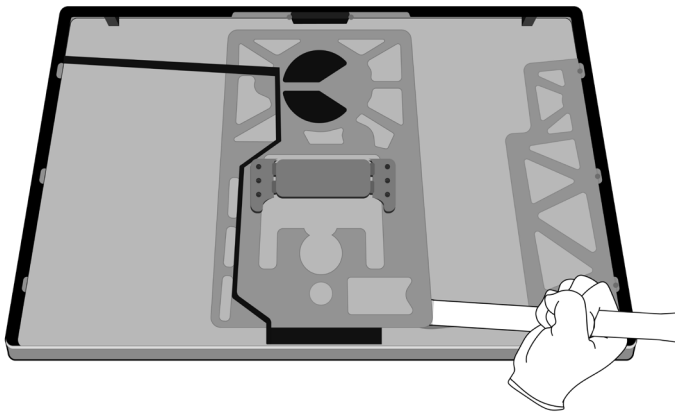
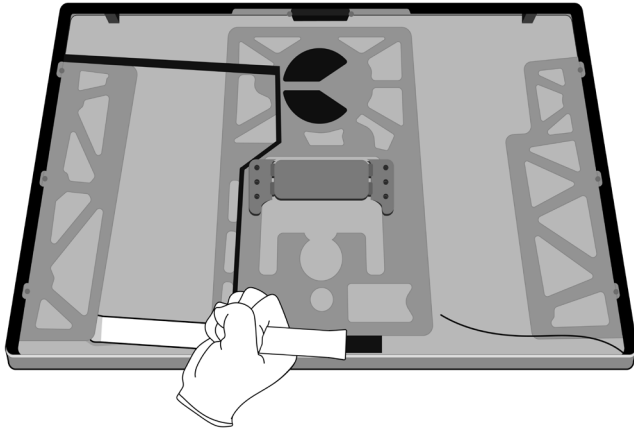


Plastic sheets

PL

Plastics

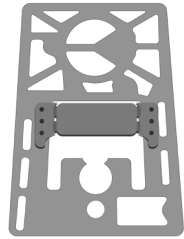
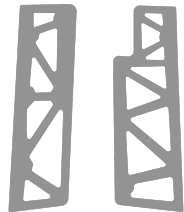
19. Pry the three brackets off the enclosure. Pry the camera off the larger bracket.



Tools Used



Fraction

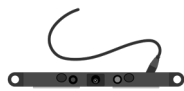


Brackets

Fe

Ferrous

Fraction

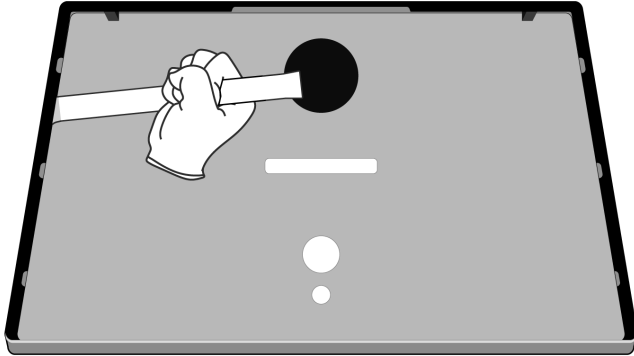


Camera

Cu

Copper

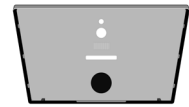
**20.** Pry the inner frame off the enclosure.



Tools Used



Fraction

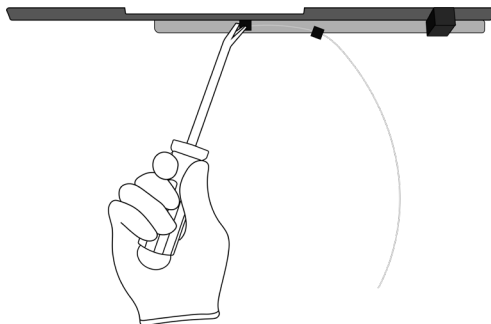


Enclosure

Al

Aluminum

**21.** Pry the microphone off the inner frame.



Tools Used



Fraction

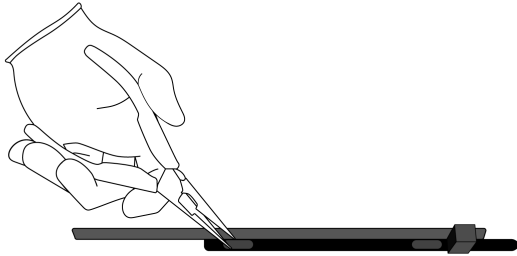


Microphone

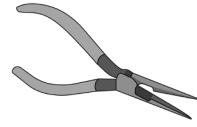
Cu

Copper

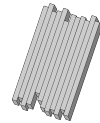
**22.** Remove the 25 magnets from the inner frame.



Tools Used



Fraction

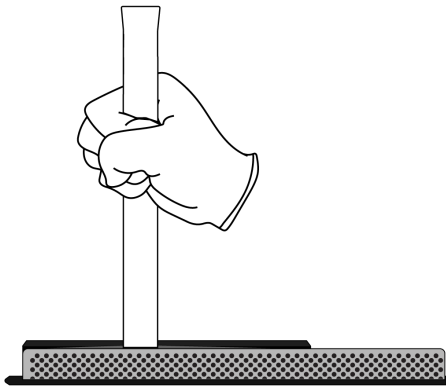


Magnets (x25)

REE

Rare Earth Elements

**23.** Remove the two speakers on the ends of the inner frame.



Tools Used



Fraction

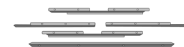


Speakers

REE

Rare Earth Elements

Fraction



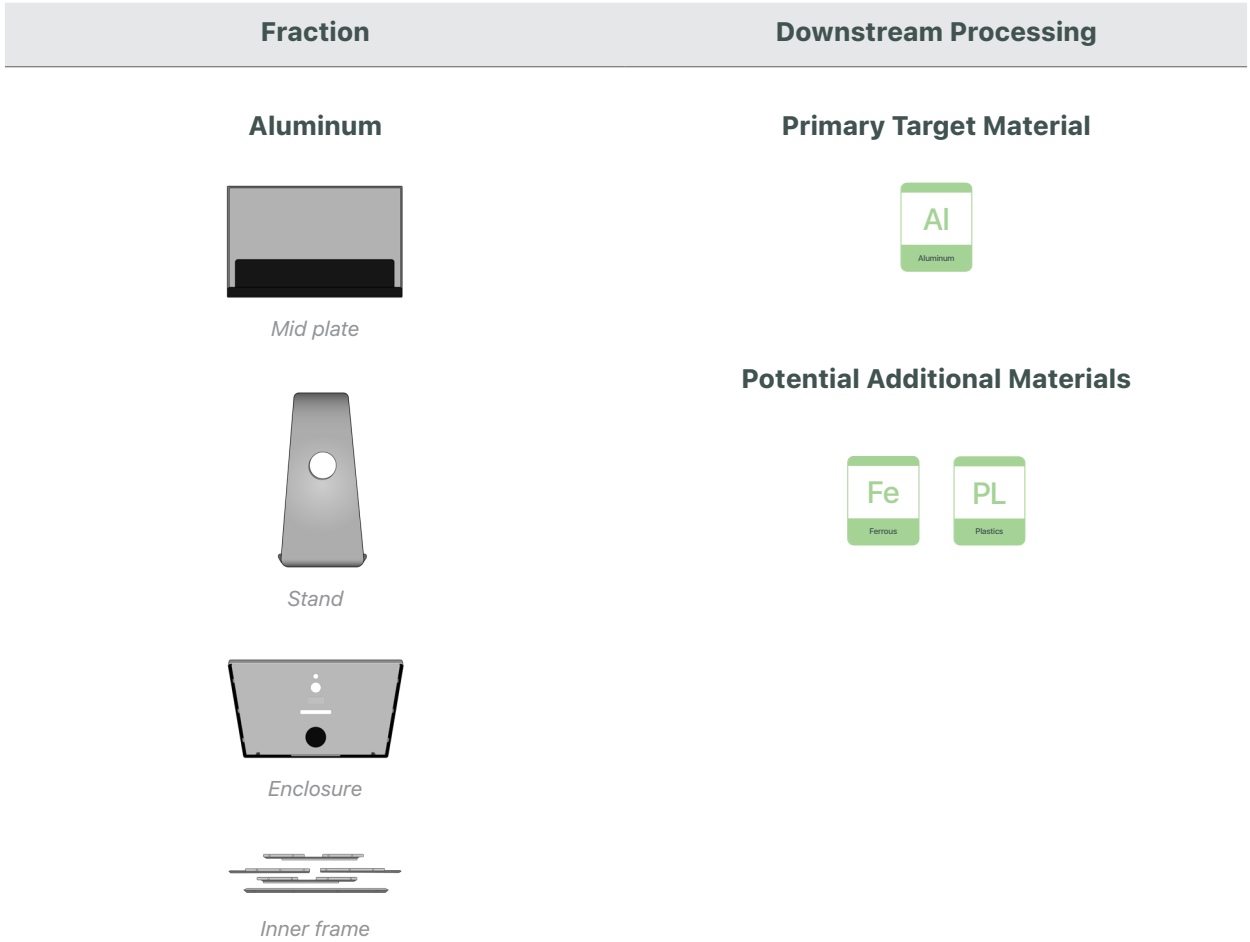
Inner frame

Al

Aluminum

# Material Categorization of Output Fractions

All outputs from this process must be managed, handled, and disposed of in accordance with applicable waste laws and regulations, including but not limited to the Waste Framework Directive and its national enactments in Europe.



**Fraction**

**Downstream Processing**

**Ferrous**

**Primary Target Material**



*Fasteners (x61)*



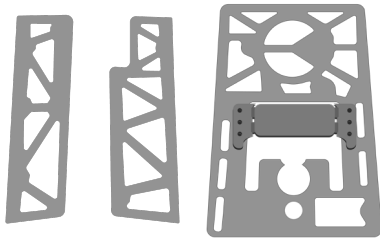
*Display logic board cover*



*Metal frame*



*Cable cover*



*Brackets*



**Fraction**

**Downstream Processing**

**Glass**



*Cover glass*



*LCD cell*

**Primary Target Material**



**Potential Additional Materials**



**Logic Boards**



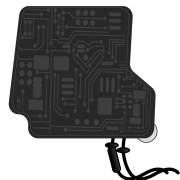
*Display logic board*



*LED logic boards*



*Main logic board*



*Power supply logic board*

**Primary Target Material**



**Potential Additional Materials**

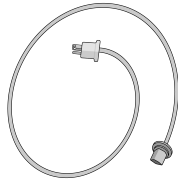




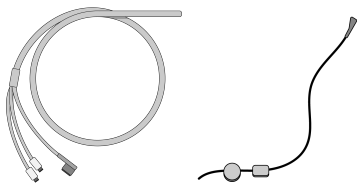
**Fraction**

**Downstream Processing**

**Mixed Electronics**



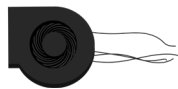
*Power cable*



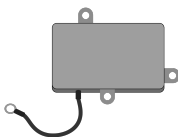
*Cables*



*Wires*



*Fan*



*AC power inlet*



*Camera*



*Microphone*

**Primary Target Material**



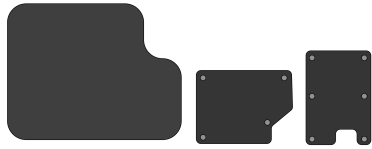
**Potential Additional Materials**



**Fraction**

**Downstream Processing**

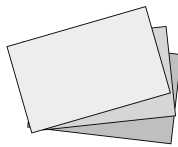
**Mixed Plastics**



*Plastic sheets*



*Plastic frame*

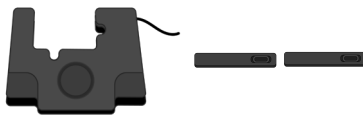


*Display films*

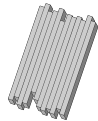
**Primary Target Material**



**Rare Earth Magnets**



*Speakers*



*Magnets (x25)*

**Primary Target Material**



**Primary Additional Materials**

