Service Source

Troubleshooting

iPod Hi-Fi

Troubleshooting

Contents

General Information

The first task of the service provider will be to determine if there is a repairable problem with the iPod Hi-Fi and whether the repair is covered under warranty.

The kinds of problems you might see include:

In the next section we will discuss the individual troubleshooting steps as they apply to this product. As a reminder, the troubleshooting steps are:

1. Gather information
2. Verify the problem
3. Try quick fixes
4. Run diagnostics
5. Try systematic fault isolation
6. Research
7. Escalate
8. Repair or replace
9. Verify the repair
10. Inform the user
11. Complete administrative tasks

Note: If you are not familiar with the **Apple General Troubleshooting Flowchart**, see the self-paced course **General Troubleshooting Theory**.

Troubleshooting Steps

You perform the first few steps of troubleshooting[1] regardless of whether there is a repairable problem or abuse.

Gather Information

In addition to the normal information you might gather about a problem, with this product look especially for evidence of someone attempting to pry open the black faceplate, damage to the white case, and/or damage to the wide-range drivers or woofer. (If you are not familiar with the normal information to gather, or any of the other steps, see **General Troubleshooting Theory**.)

Evidence of tampering (left) and black faceplate (right)

Verify the Problem

Verify that the symptom exists as the customer reports it. In trying to recreate the symptom, look for any of the following:

- Scratches on the white case or other evidence of trying to open the case

1 Throughout the manual, when we refer to a troubleshooting process, we are referring to the process documented in the **Apple General Troubleshooting Flowchart**.

- Torn or punctured wide-range drivers or woofer
- The black faceplate not being flush with the white case

Note: At this point in the troubleshooting you may have enough information to determine whether any repair will be covered by warranty or not.

Try Quick Fixes

Quick fixes that may apply to the symptom you are troubleshooting include:

- Make sure the volume is not turned down all the way on either the iPod Hi-Fi or the sound source (iPod or audio in)
- Check sound with a known-good iPod with known-good music
- Try controlling the volume on the touch pad and/or using a known-good remote control
- Switch input sources from a known-good iPod to a known-good external (auxiliary) source, and back
- Use a known-good power cord and/or set of fresh batteries

For more details, see the Symptom Charts section.

Run Diagnostics

Run the following functional screening tests:

- Left/Right channels
- AC vs. DC supply
- LED
- Audio in

Try Systematic Fault Isolation

There are no applicable systematic fault isolation techniques that the service technician can try, other than those covered by the Verify Problem and Try Quick Fixes steps.

Research

If you have not located the trouble following the steps thus far, try researching the symptoms. Research resources include:

- Symptom Charts section of this manual
- GSX
  gsx.apple.com
  Enter serial number and click Coverage Check
- Service Source
  service.info.apple.com
  Check Quick Links and/or Technical Resources

Check options under appropriate Product Service pop-up menu

- Product support page
  service.info.apple.com
  Choose iPod Hi-Fi Support Page from the appropriate Product Service pop-up menu
- Knowledge Base
  search.info.apple.com
  keyword `kipodhifi`
- Self-paced service training
  service.info.apple.com
  Choose Service Training from the Product Service pop-up menu

Escalate

Follow the practices and policies of your business or agency.

Repair or Replace

Once you locate the trouble you will most likely need to send the unit to the Apple Repair Center so they can replace a part.

Also be aware of the following parts that customers may replace themselves (known as Do-It-Yourself parts):

- Battery door
- Remote control
- Remote control battery tray
- Dock inserts
- Power cable
- Grille

Note: For the current list of Do-It-Yourself parts, see the product support website.

Verify the Repair

To verify the repair:

1. Try to recreate the original symptoms. You should not be able to. (If you can, return to the beginning of the troubleshooting flowchart.)
2. Complete the testing procedures (Apple Repair Center only).
3. There are no preventive maintenance tasks for this product, other than what is included in the testing procedures.

Inform the User

Include in the case notes all that you have done. The customer may like a copy of any diagnostic reports.

Complete Administrative Tasks

There are no particular administrative tasks for this product, other than those required by the internal policies of your business or agency.

Symptom Charts

The symptoms discussed in this section include:

When to Use the Symptom Charts

Before turning to the symptom charts, you should have completed the following steps on the Apple General Troubleshooting Flowchart:

1. Gather information
2. Verify the problem
3. Try quick fixes

You consult the symptom charts as part of the Research troubleshooting step (and sometimes as part of the Try Quick Fixes step).

How to Use the Symptom Charts

The Symptom Charts included in this chapter will help you diagnose specific symptoms related to the product. Cures are listed on the charts in the order of most likely solution: try the cures in the order presented. Verify whether or not the product continues to exhibit the symptom. If the

symptom persists, try the next cure.

Note: If a step instructs you to replace a module, reinstall the original module before you proceed to the next step.

Hear Buzz with Auxiliary Input and High Volume

1. Verify that the buzzing sound is present only when there is an appropriate plug in the audio input port and the volume is set high.
2. Is the buzzing present only under these two conditions?
   Yes: This is normal behavior. Proceed to the Inform Customer step on the flowchart; do not dispatch this unit to the Apple Repair Center.
   No: Locate the trouble by proceeding to the Verify Problem step on the flowchart. Begin by discovering precisely under what circumstances you can hear the buzzing.

Left/Right Sound Distortion

1. Using a known-good iPod with standard music files and the left/right channels test on the functional screening test, verify that the sound is outside the sound quality specification, if you have not already done so. (If you do not have the functional screening test, you must use your best judgement.)
2. Does the sound quality fall within range?
   Yes: The unit is operating normally. Proceed to the Inform Customer step on the flowchart; do not dispatch this unit to the Apple Repair Center. When speaking with the customer, offer a copy of the diagnostics report and suggest ways the customer might check the quality of his or her music files.
   No: A **speaker connection** may be loose, or one of more of the **speakers** may need to be replaced. Add the details of what tests you ran and the test results to the case notes. Dispatch to the Apple Repair Center.

Left/Right Channel Issues

1. Using a known-good iPod with standard music files and the left/right channels test on the functional screening test, verify that the sound is outside the sound quality specification, if you have not already done so. (If you do not have the functional screening test, you must use your best judgement.)
2. Does the sound quality fall within range?
   Yes: The unit is operating normally. Proceed to the Inform Customer step on the flowchart; do not dispatch this unit to the Apple Repair Center. When speaking with the customer, offer a copy of the diagnostics report and suggest ways the customer might check the quality of his or her music files.
   No: The MLB may need to be replaced. Add the details of what tests you ran and the test results to the case notes. Dispatch to the Apple Repair Center.

No Audio Amplification

1. Using a known-good iPod with standard music files, verify that you cannot hear audio amplification. You may have already done this as part of the Gather Information or Verify Problem steps.
2. Is the audio amplification good?
   Yes: The unit is operating normally. Proceed to the Inform Customer step on the flowchart; do not dispatch this unit to the Apple Repair Center. When speaking with the customer, suggest ways the customer might check the quality of his or her music files.
   No: Continue with the next step.
3. Visually inspect the woofer (remove the grille). You may have already done this as part of Verify Problem.
4. Is the woofer damaged, for example, is the cone torn or punctured?
   Yes: Apple considers this type of damage abuse for purposes of determining the cost of repair. Inform the customer that you can have the woofer replaced, but there will be a charge. If the customer agrees to the charge, update the case notes with the troubleshooting steps you performed and the results, and dispatch the unit to the Apple Repair Center.
   No: The woofer connection may be loose, the woofer may be damaged or not working, the MLB may be defective, or other connections may be loose. Update the case notes with the troubleshooting steps you performed and the results, and dispatch the unit to the Apple Repair Center.

You Cannot Switch the Audio Input Source from Analog to Digital

1. If you have not already done so, verify the symptom with known-good analog and digital input sources.
2. Does the symptom persist?
   Yes: The digital/analog switch on the audio in assembly may have failed. Update the case notes with the troubleshooting steps you performed and the results, and dispatch the unit to the Apple Repair Center.
   No: Inform the customer that the trouble appears to be with his or her audio input source. Proceed to the Complete Administrative Tasks on the flowchart, including updating the case notes. Do not dispatch this unit to the Apple Repair Center.

Audio In Does Not Work

1. If you have not already done so, verify the symptom with a known-good auxiliary input device and plug, and known-good sound files.
2. Does the symptom persist?
   Yes: Continue with the next step.
   No: Continue with the next step.
3. Verify whether you can hear sound from a known-good iPod connected through the dock connector.

4. Can you hear sound from the iPod?
   Yes: If you can hear sound from the iPod, but not from the audio in source, the audio in assembly may have failed. Continue with the next step.
   No: If you cannot hear sound from either the audio in source or the iPod, the speaker connection(s) may be loose or the speaker(s) may be defective. Continue with the next step.
5. Run the audio in test from the functional screening test.
6. Does the unit pass the test?
   Yes: Make sure that all the products in the system besides the iPod Hi-Fi are known-good (for example, the iPod, the sound files, the audio device plugged in to the audio in port, and it's sound files); make sure the volume is set to a level you would normally be able to hear. Continue from step 2.
   No: The audio in assembly may have failed. Update the case notes with the troubleshooting steps you performed and the results, and dispatch the unit to the Apple Repair Center.

Poor Sound Quality

1. Do you hear a buzzing sound?
   Yes: Follow the steps for Hear Buzz When Have Auxiliary Input and High Volume.
   No: Continue with the next step.
2. Using a known-good iPod with standard music files, verify that the sound quality is poor, if you have not already done so.
3. Is the sound quality poor?
   Yes: The unit could have a leakage problem or it could have a defective rubber seal. Update the case notes with the troubleshooting steps you performed and the results, and dispatch the unit to the Apple Repair Center.
   No: The unit is operating normally. Proceed to the Inform Customer step on the flowchart; do not dispatch this unit to the Apple Repair Center. When speaking with the customer, suggest ways the customer might check the quality of his or her music files.

No Sound

1. Using a known-good iPod with standard music files, verify that you hear no sound, if you have not already done so.
2. Do you hear sound?
   Yes: If you hear sound and the quality is good, the unit is operating normally. Proceed to the Inform Customer step on the flowchart; do not dispatch this unit to the Apple Repair Center. When speaking with the customer, suggest ways the customer might check the quality of his or her music files. If you hear sound, but the quality is poor, continue troubleshooting using one of the other sound quality symptoms.
   No: A speaker connection may be loose, or one of more of the speakers may need to be replaced. Add the details of what tests you ran and the test results to the case notes. Dispatch to the Apple Repair Center.

No/Incorrect Volume Control

1. Using a known-good remote, attempt to adjust the volume of the iPod Hi-Fi. Also make sure you are using a known-good iPod with standard music files. You may have already done this as part of the Gather Information or Verify Problem steps.
2. Can you control the volume with the remote?
   Yes: The sound board appears to be working normally, but the distance between the control buttons and the board may exceed specifications. Update the case notes with the troubleshooting steps you performed and the results, and dispatch the unit to the Apple Repair Center.
   No: The sound board may be malfunctioning. Update the case notes with the troubleshooting steps you performed and the results, and dispatch the unit to the Apple Repair Center.

Unit Will Not Run Off Batteries

1. Verify whether the unit will run off a known-good power outlet. You may have already done this as part of the Gather Information or Verify Problem steps.
2. Does the unit run properly when connected to a known-good power outlet?
   Yes: Continue with the next step.
   No: Troubleshoot as for **No Power at All**.
3. Run the DC supply test from the functional screening test.
4. Does the unit pass the DC supply test?
   Yes: Return to the customer as operating normally, or troubleshoot as for **Battery Life Too Short**. Update the case notes accordingly.
   No: The battery terminals on the unit may be damaged, the battery connection may be loose, or the MLB may be malfunctioning. Update the case notes with the troubleshooting steps you performed and the results, and dispatch the unit to the Apple Repair Center.

Unit Will Not Run Off AC Adapter

1. Verify whether the unit will run off known-good batteries. You may have already done this as part of the Gather Information or Verify Problem steps.
2. Does the unit run properly when using known-good batteries?
   Yes: Continue with the next step.
   No: Troubleshoot as for **No Power at All**.
3. Run the AC supply test from the functional screening test.
4. Does the unit pass the AC supply test?
   Yes: Make sure that all the products in the system besides the iPod Hi-Fi are known-good (for example, the iPod, the sound files, the batteries); make sure the volume is set to a level you would normally be able to hear. Continue from step 2.
   No: The MLB may be malfunctioning or the unit may have a loose connection. Update the

case notes with the troubleshooting steps you performed and the results, and dispatch the unit to the Apple Repair Center.

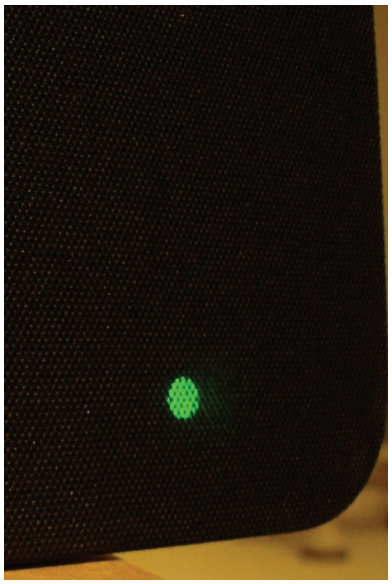
Battery Life Too Short

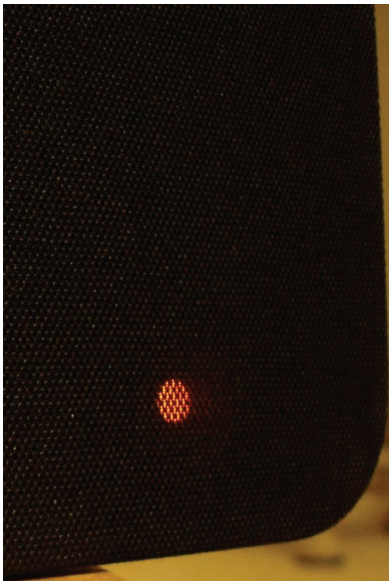
1. Verify that the battery life is less than three hours given fresh, name-brand non-expired, unmixed batteries.
   Note any behavior of the LED indicator light. You may have already done this as part of the Gather Information or Verify Problem steps."
2. Is the battery life too short, given fresh batteries and the usage pattern?
   Yes: The MLB may be malfunctioning, the volume control may be malfunctioning, or the iPod connector may be defective. Update the case notes with the troubleshooting steps you performed and the results, and dispatch the unit to the Apple Repair Center.
   No: The unit is operating normally. Proceed to the Inform Customer step on the flowchart; do not dispatch this unit to the Apple Repair Center. When speaking with the customer, set expectations about battery life for the usage pattern.

iPod Connection Does Not Work

1. Inspect the iPod connector for broken, bent, or missing pins, foreign materials in the well, or contamination left on your finger when you run it lightly over the connector.
2. Did you find any items listed in step 1?
   Yes: Add the specifics of what you found to the case notes. Apple considers this type of damage abuse for purposes of determining the cost of repair. If you found foreign material or contamination, try to remove it. Continue with the next step.
   No: Continue with the next step.
3. Verify the problem with a known-good iPod and known-good sound files.
4. Are you able to hear good sound from the iPod and iPod Hi-Fi?
   Yes: You may have resolved the problem sufficiently for the customer, especially given the cost of what would be an out-of-warranty repair. Proceed to the Inform Customer step on the flowchart; do not dispatch this unit to the Apple Repair Center.
   No: The iPod connector may need to be replaced. Inform the customer of the potential charge if you have found evidence of abuse. Update the case notes with the troubleshooting steps you performed and the results, and dispatch the unit to the Apple Repair Center.

LED Does Not Respond or Responds Incorrectly





1. Verify that the unit responds normally except for the indicator light. In other words, you can adjust volume using the touch pad and the remote, for example.
2. Is the problem restricted to the LED indicator light behavior only?
   Yes: The LED assembly and/or LED indicator light may have failed. Update the case notes with the troubleshooting steps you performed and the results, and dispatch the unit to the Apple Repair Center.
   No: Return to the beginning of the flowchart. Try to discover the true failure by doing things that would normally elicit LED signals, like inserting or running off batteries, controlling the iPod through the remote control, and adjusting the iPod Hi-Fi volume.

You Cannot Control the Unit with the Remote

1. Verify the behavior of the remote.
   Does the iPod Hi-Fi LED indicator light flash amber when you press the remote?
   Yes: Verify that you are asking the unit to do something it can. For example, if you press the increase volume button on the remote when the volume is already set to the maximum, the iPod Hi-Fi LED indicator light will flash amber: it cannot implement the command.
   No: Continue with the next step.
2. Does the iPod Hi-Fi LED indicator light flash green when you press the remote?
   Yes: Verify that the iPod Hi-Fi responds appropriately to the command from the remote. If it does not, troubleshoot as for **No Power at All**.
   No: Continue with the next step.
3. Does the iPod Hi-Fi LED indicator light flash any color when you press the remote?
   Yes: The color is either amber or green. Return to the previous step.
   No: The remote may have failed. Continue with the next step.

4. If you have not already, try using a known-good remote.

5. Does using the known-good remote remove the symptom?
   Yes: The original remote has failed. Replace it. Do not dispatch the unit to Apple Repair Center.
   No: As part of Gather Information, Verify Problem, and/or Try Quick Fixes, you may have already tried controlling the iPod Hi-Fi directly (not using a remote). If you have not, try that now. Continue with the next step.

6. Does the iPod Hi-Fi operate normally when you control it directly (not using a remote)?
   Yes: The IR sensor could be malfunctioning. Add the details about what troubleshooting steps you have taken and the results to the case notes and dispatch the iPod Hi-Fi to the Apple Repair Center.
   No: Troubleshoot as for **No Power at All**.

Remote Control Does Not Work

1. If you have not already, verify that the iPod Hi-Fi works properly using a known-good remote.

2. Does the iPod Hi-Fi work properly using a known-good remote?
   Yes: The remote has failed. Replace the part and proceed to Verify Repair on the flowchart. Do not dispatch this unit to the Apple Repair Center.
   No: Verify that the iPod Hi-Fi works when you control it directly (not using a remote). Continue with the next step.

3. Does the iPod Hi-Fi operate normally when you control it directly (not using a remote)?
   Yes: The IR sensor could be bad. Add the details about what troubleshooting steps you have taken and the results to the case notes and dispatch the iPod Hi-Fi to the Apple Repair Center.
   No: The sound board may be malfunctioning or the distance between the control buttons and the board may exceed specifications (if you cannot control the volume), or the MLB may be malfunctioning. Add the details about what troubleshooting steps you have taken and the results to the case notes and dispatch the iPod Hi-Fi to the Apple Repair Center.

Unit Unusually Hot

1. Verify that the unit is hotter than other similar products running for the same amount of time, if you have not already done so.

2. Is the iPod Hi-Fi hotter than similar products and/or too hot to hold?
   Yes: The MLB assembly may be malfunctioning. Update the case notes with the troubleshooting steps you performed and the results, and dispatch the unit to the Apple Repair Center.
   No: The unit is operating normally. Proceed to the Inform Customer step on the flowchart; do not dispatch this unit to the Apple Repair Center.

No Power or Response at All

1. If you have not done so already, verify the problem with a known-good iPod and power cord.
2. Do you see or hear any response with battery power?
   Yes: Note any response in the case notes, including LED indicator light behavior, and continue with the next step.
   No: The battery connector may need to be replaced. Update the case notes with the troubleshooting steps you performed and the results, and dispatch the unit to the Apple Repair Center.
3. Do you see or hear any response when connected to AC power?
   Yes: The battery connector may need to be replaced. Update the case notes with the troubleshooting steps you performed and the results, and dispatch the unit to the Apple Repair Center.
   No: The power supply (part of the MLB assembly) may need to be replaced. Update the case notes with the troubleshooting steps you performed and the results, and dispatch the unit to the Apple Repair Center.