iFi DC

iFi SilentPower DC Blocker Instruction Manual

Model: DC | Brand: iFi

1. Introduction

The iFi SilentPower DC Blocker is an innovative device designed to eliminate mechanical hum from audio equipment. This hum is often caused by DC (Direct Current) offset present in the AC (Alternating Current) mains power supply, which can saturate the toroidal transformers found in many amplifiers and other audio components. By effectively blocking this DC offset, the DC Blocker ensures a cleaner power supply, resulting in a quieter audio experience.

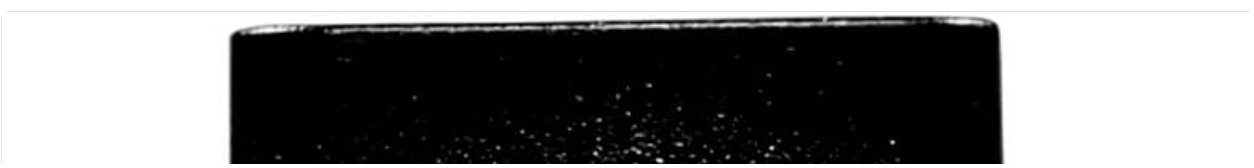
2. Product Features

- **DC Offset Blocking:** Actively blocks DC offset exceeding 1,000mV, preventing mechanical hum in audio transformers.
- **Equipment Safety:** Maintains the safety of connected equipment.
- **EMI Shielding Retention:** Ensures EMI shielding is retained, especially when used with compatible iFi products like the GND Defender.
- **Medical Grade IEC Connectors:** Equipped with hospital-grade IEC connectors for enhanced reliability and robustness.
- **SilentPower Range:** Part of the SilentPower range, offering versatile noise reduction solutions.

3. Setup and Installation

The iFi DC Blocker is designed for simple, plug-and-play installation. It should be connected directly to the IEC power inlet of the audio component experiencing mechanical hum.

1. Ensure your audio component is powered off and disconnected from the mains power supply.
2. Connect the iFi DC Blocker to the IEC power inlet of your audio component (e.g., amplifier, receiver). The DC Blocker has an IEC male connector on one end and an IEC female connector on the other.
3. Connect your existing IEC power cable from the wall outlet or power conditioner to the female IEC inlet of the iFi DC Blocker.
4. Power on your audio component. The DC Blocker will automatically begin to filter DC offset.



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90V-250V/7A

Figure 3.1: The iFi DC Blocker connected between a power cable and an audio component.

Figure 3.2: Detailed view of the iFi DC Blocker's connection to an audio device.

4. Operating Instructions

The iFi DC Blocker operates automatically once connected. It continuously monitors the incoming AC power for DC offset and actively removes it to prevent transformer hum. There are no user-adjustable settings.
The device is designed to be transparent to the audio signal, ensuring that only unwanted DC offset is removed without affecting sound quality.

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Video 4.1: A rotational view of the iFi DC Blocker, demonstrating its physical design and compact size.

5. Troubleshooting

The iFi DC Blocker is specifically designed to address mechanical hum caused by DC offset in the mains power supply. It is important to differentiate between various types of audio noise to ensure the correct solution is applied.

5.1 Identifying Hum and Buzz Issues

Hum and buzz can stem from several sources:

- **Mechanical Hum (Transformer Hum):** This is a physical buzzing sound emanating directly from the transformer inside an audio component, often an amplifier. It is caused by DC offset in the AC mains. The DC Blocker is designed to resolve this.
- **Hum or Buzz from Speakers/Headphones (Ground Loops):** This is an electrical noise heard through the speakers or headphones, typically a low-frequency hum. It is often caused by ground loops due to multiple earth connections in

the audio system. The DC Blocker is **not** designed to solve this issue. For ground loop hum, consider using products like the iFi GND Defender or iDefender for USB connections.

- **Missing Ground:** If touching a metal surface on your audio device reduces the hum, it may indicate a missing ground issue.

Figure 5.1: Flowchart for diagnosing hum and buzz issues in audio systems.

5.2 If Hum Persists After Installing DC Blocker

If you still experience hum after correctly installing the DC Blocker, it is likely that the noise is not caused by DC offset. Refer to the diagram above and consider the following:

- **Ground Loop Hum:** If the hum is coming from your speakers or headphones, it might be a ground loop. Try disconnecting cables one by one to identify the source. Products like the iFi GND Defender are designed for this.
- **Unbalanced Cables:** Using unbalanced cables (e.g., RCA, 1/4-inch tip-sleeve) can introduce hum. Ensure all audio connections are properly balanced where possible.
- **Equipment-Specific Noise:** Some hum can originate from the internal components of the equipment itself (e.g., aging tubes, faulty circuitry). The DC Blocker cannot resolve these internal issues.

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Video 5.2: An iFi audio video explaining common reasons for speaker buzz and how to diagnose them, including ground loops and missing earth connections.

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Video 5.3: An iFi audio video demonstrating the GND Defender, a product designed to address ground loop hum.

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Video 5.4: An iFi audio video showcasing the AC iPurifier, a related product for general mains audio noise elimination.

6. Specifications

Brand	iFi
Model Number	DC
Item Weight	2.56 ounces
Product Dimensions	6.8 x 3.7 x 3.2 inches
Compatible Devices	Devices with IEC power connectors
Connector Type	IEC C13/C14
Output Wattage	500 Watts

Maximum Rating	>10A, continuous current rating 7A
Voltage Compatibility	90-250V

Figure 6.1: Dimensions of the iFi DC Blocker.

7. Safety Information

- Always ensure the audio component is powered off before connecting or disconnecting the DC Blocker.
- Do not exceed the maximum continuous current rating of 7A or 500 Watts. Exceeding this limit may damage the device and void the warranty.
- The DC Blocker is designed for indoor use only. Avoid exposure to moisture or extreme temperatures.
- Do not attempt to open or modify the device. This will void the warranty and may pose a safety risk.
- Ensure proper ventilation around the device.

8. Warranty and Support

For warranty information, technical support, or further assistance, please visit the official iFi audio website or contact their customer service. Keep your proof of purchase for warranty claims.
iFi Audio Website: www.ifi-audio.com