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› HiFonics JUNO4DSP 4-Channel Amplifier with 6-Channel DSP User Manual

HiFonics JUNO4DSP

HiFonics JUNO4DSP 4-Channel Amplifier with 6-Channel DSP

User Manual

1. INTRODUCTION

Thank you for choosing the HiFonics JUNO4DSP 4-Channel Amplifier with 6-Channel DSP. This compact and powerful amplifier combines advanced Class D technology with an integrated 6-channel Digital Sound Processor (DSP) to deliver exceptional audio performance in your vehicle. This manual provides essential information for the proper installation, operation, and maintenance of your JUNO4DSP amplifier. Please read it thoroughly before use to ensure optimal performance and safety.

2. SAFETY INSTRUCTIONS

To prevent injury or damage to the amplifier, please observe the following safety precautions:

- **Professional Installation Recommended:** Installation of this product requires experience with electrical wiring and car audio systems. If you are unsure, seek professional assistance.
- **Power Disconnection:** Always disconnect the vehicle's battery negative terminal before starting any installation work to prevent electrical shock or short circuits.
- **Proper Wiring:** Ensure all wiring is correctly connected according to the diagrams in this manual. Incorrect wiring can cause damage to the amplifier, vehicle, or personal injury.
- **Ventilation:** Install the amplifier in a location that allows for adequate air circulation to prevent overheating. Do not cover the amplifier or install it in an enclosed space without ventilation.
- **Moisture and Heat:** Avoid installing the amplifier in areas exposed to direct sunlight, excessive heat, moisture, or dust.
- **Fuse Protection:** Always use the correct fuse rating as specified. Never replace a fuse with one of a higher rating.
- **Volume Levels:** Prolonged exposure to high volume levels can cause hearing damage. Adjust the volume to a comfortable level.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- HiFonics JUNO4DSP 4-Channel Amplifier with 6-Channel DSP
- Wiring Harness (High-Level Input / Speaker Output)
- USB Cable (Type A to Type B)
- ISO Cable (2.5 meters, for ISO JUNO4DSP variant)
- User Manual (this document)

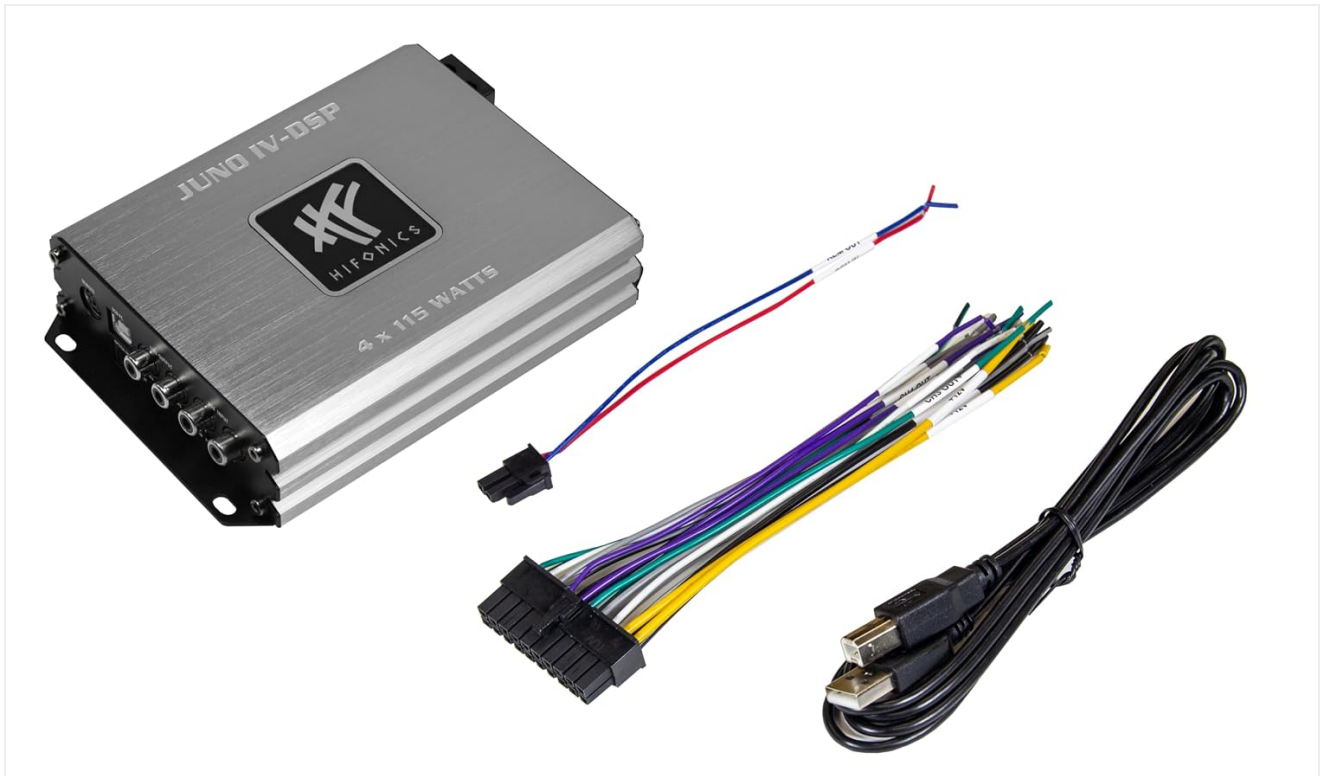


Figure 3.1: The HiFonics JUNO4DSP amplifier shown with its included wiring harness, USB cable, and ISO cable.

4. PRODUCT OVERVIEW

The JUNO4DSP is a versatile amplifier designed for car audio systems, featuring a powerful 4-channel amplifier section and a comprehensive 6-channel DSP. It supports various input and output options for flexible system integration.

4.1 Front Panel Connections



Figure 4.1: View of the front panel of the JUNO4DSP, showing various input and output ports.

- **REMOTE:** Port for optional wired remote control (HF-DMC) to adjust subwoofer volume, master volume, input source, and stored settings.

- **USB PC:** USB Type B port for connecting to a PC for DSP configuration using the "DSP Master" software.
- **OPTICAL IN:** Digital optical input for high-quality audio sources.
- **LINE OUTPUT (CH5, CH6):** Two RCA line outputs (2.7 V/RMS) for connecting external amplifiers, controlled by the integrated DSP.
- **AUX INPUT (R, L):** Stereo RCA auxiliary input for connecting external audio devices.
- **BT (Bluetooth):** Indicator for Bluetooth status. The integrated Bluetooth module allows for wireless music streaming (A2DP / aptX) and DSP configuration via smartphone or tablet app.
- **POW (Power Indicator):** Indicates power status.
- **PRO (Protection Indicator):** Indicates protection mode status.

4.2 Rear Panel Connections



Figure 4.2: View of the rear panel of the JUNO4DSP, showing power, speaker, and high-level input connections.

- **HIGH LEVEL INPUT:** 4-channel high-level input connector for connecting to factory head units or other sources without RCA outputs.
- **SPEAKER OUTPUT:** 4-channel speaker output connector for connecting to vehicle speakers.
- **POWER INPUT (+12V, GND):** Terminals for connecting the main power supply from the vehicle battery and ground.
- **REM IN:** Remote input terminal for turning the amplifier on/off with the head unit.
- **REM OUT:** 12V remote output port for controlling other devices.
- **AUTO TURN-ON Switch (ON/OFF):** Enables or disables the automatic turn-on function, which detects a DC offset or audio signal from the high-level input to power on the amplifier.
- **Fuse:** Integrated fuse for protection.

5. SETUP AND INSTALLATION

Proper installation is crucial for the performance and longevity of your JUNO4DSP amplifier. Refer to the diagrams and instructions below.

5.1 Mounting Location

- Choose a dry, well-ventilated location away from direct sunlight and heat sources.
- Ensure sufficient space around the amplifier for air circulation.
- Mount the amplifier securely to prevent movement during vehicle operation.

5.2 Power and Ground Connections

1. Disconnect the vehicle's negative battery terminal before proceeding.
2. Connect the **+12V POWER INPUT** terminal to the positive terminal of the vehicle battery using an appropriate gauge power cable. Install a fuse holder with the correct fuse rating (refer to specifications) as close to the battery as possible.
3. Connect the **GND POWER INPUT** terminal to a clean, unpainted metal surface of the vehicle chassis, ensuring a solid ground connection.
4. For traditional remote turn-on, connect the **REM IN** terminal to the remote output of your head unit. If using the auto turn-on feature, ensure the AUTO TURN-ON switch is set to ON.
5. The **REM OUT** terminal provides a 12V remote signal for other components.

5.3 Audio Input Connections

- **High-Level Input:** Use the provided wiring harness to connect the **HIGH LEVEL INPUT** to your factory head unit's speaker outputs. This is ideal for systems where RCA outputs are not available.
- **ISO Cable (JUNO4DSP ISO variant):** If you have the ISO variant, connect the 2.5-meter ISO cable directly to your car radio's ISO connector for plug-and-play integration. This allows for easy installation behind the radio. Vehicle-specific adapters may be required for non-ISO connections.
- **AUX Input:** Connect external audio sources (e.g., portable music players) to the **AUX INPUT (R, L)** RCA ports.
- **Optical Input:** For digital audio sources, connect an optical cable to the **OPTICAL IN** port.

5.4 Speaker Output Connections

Connect your speakers to the **SPEAKER OUTPUT** terminals using the provided wiring harness. Ensure correct polarity (+/-) for each speaker.

- The amplifier provides 4 speaker outputs.
- Refer to the wiring diagram on the amplifier's rear panel for channel assignments.

5.5 External Amplifier Connections (Line Output)

The JUNO4DSP features two additional DSP-controlled RCA line outputs (CH5, CH6) for connecting external amplifiers, such as a subwoofer amplifier. This allows for modular system expansion.

- Connect RCA cables from the **LINE OUTPUT (CH5, CH6)** to the input of your external amplifier.
- These outputs are fully controllable via the DSP software.

6. OPERATING INSTRUCTIONS

6.1 DSP Configuration (PC Software)

The JUNO4DSP's integrated 6-channel DSP can be configured using the "DSP Master" software on a PC.

1. Download the "DSP Master" software from the official HiFonics website.
2. Connect your PC to the amplifier's **USB PC** port using the provided USB cable.
3. Launch the "DSP Master" software and follow the on-screen instructions to configure your audio settings, including equalization, crossovers, time alignment, and more.

6.2 DSP Configuration and Audio Streaming (Bluetooth App)

The integrated Bluetooth module allows for wireless DSP configuration via a smartphone or tablet app, as well as A2DP/aptX audio streaming.



Figure 6.1: The JUNO4DSP amplifier alongside a smartphone displaying the "DSP Master" application for wireless configuration.

1. Download the "DSP Master" app from your device's app store (e.g., App Store for iOS).
2. Ensure Bluetooth is enabled on your smartphone/tablet.
3. Power on the JUNO4DSP amplifier.
4. Open the "DSP Master" app and connect to the JUNO4DSP via Bluetooth.
5. You can now wirelessly configure the DSP settings and stream audio from your device.

6.3 Optional Remote Control (HF-DMC)

An optional HF-DMC remote control can be connected to the **REMOTE** port for convenient adjustments.

- Adjust subwoofer volume.
- Control master volume.
- Select input sources.
- Recall stored DSP settings.
- Control music playback.

7. MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to clean the amplifier. Do not use abrasive cleaners or solvents.
- **Connections:** Periodically check all wiring connections to ensure they are secure and free from corrosion.
- **Ventilation:** Ensure that the ventilation openings are not blocked by dust or debris.
- **Fuse Replacement:** If the fuse blows, replace it only with a fuse of the same type and rating. Never use a higher-rated fuse.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
No Power / Amplifier not turning on	Blown fuse Loose power or ground connection No remote signal (if AUTO TURN-ON is OFF) AUTO TURN-ON switch set incorrectly	Check and replace fuse if necessary (use correct rating). Verify all power and ground connections are secure. Check remote wire connection or ensure AUTO TURN-ON is ON. Ensure AUTO TURN-ON switch is in the desired position (ON for automatic, OFF for remote wire).
No Sound Output	Input signal issue Speaker wiring incorrect or disconnected DSP settings misconfigured Amplifier in protection mode (PRO indicator lit)	Check audio source and input connections (High-Level, AUX, Optical, Bluetooth). Verify speaker connections and polarity. Review DSP settings using the PC software or app. Check for short circuits in speaker wiring or overheating. Allow amplifier to cool.
Distorted Sound	Input level too high Speaker impedance mismatch DSP settings incorrect	Reduce input gain or source volume. Ensure speakers are compatible with amplifier's impedance range. Adjust EQ, crossover, and other DSP settings.
Bluetooth Connection Issues	Bluetooth not enabled on device Amplifier not in pairing mode Interference	Ensure Bluetooth is active on your smartphone/tablet. Restart the amplifier and try pairing again. Move closer to the amplifier or reduce other wireless interference.

9. SPECIFICATIONS

Feature	Detail
Model	JUNO4DSP
Brand	Hifonics
Amplifier Type	4-Channel Class D with Integrated 6-Channel DSP
RMS Power Output (4 Ω)	4 x 75 W
RMS Power Output (2 Ω)	4 x 115 W
DSP Processor	Dual Core 32-bit / 122.88 MHz
Inputs	4 x High-Level Inputs, 1 x Stereo AUX IN (RCA), 1 x Stereo Bluetooth Audio Receiver, 1 x USB Type B (for PC), 1 x Optical In
Outputs	4 x Speaker Outputs, 2 x RCA Line Outputs (2.7 V/RMS)
Bluetooth	A2DP / aptX Audio Streaming, Wireless DSP Control

Feature	Detail
Special Features	MX-Connect Plug & Play, Auto Turn-On Function, 12V Remote Output Port, DSP Control via App or PC Software
Dimensions (L x W x H)	166 x 115 x 35 mm (6.54 x 4.53 x 1.38 inches)
Included Components	1 Car Power Amplifier, Wiring Harness, USB Cable, ISO Cable (for ISO variant)

10. SUPPORT AND WARRANTY

For technical support, warranty information, or service inquiries, please contact your authorized HiFonics dealer or visit the official HiFonics website. Keep your purchase receipt as proof of purchase for warranty claims.