## B2 Audio B2-DSP-SIXTEN

# B2 Audio SixTen DSP Instruction Manual

Model: B2-DSP-SIXTEN
Brand: B2 Audio

## INTRODUCTION

This manual provides comprehensive instructions for the setup, operation, and maintenance of your B2 Audio SixTen DSP. This advanced digital signal processor offers precise audio customization with 6 inputs and 10 outputs, featuring 96 kHz, 32-bit resolution for superior sound quality. It includes wireless control via a dedicated iOS and Android application, allowing for real-time adjustments and optimal performance for your car audio system.

## WHAT'S IN THE BOX

- (1) B2 Audio SIXTEN, 6 Input - 10 Output 4v DSP
- Mounting hardware (screws, brackets)
- User Manual (this document)

## PRODUCT OVERVIEW

Figure 1: Angled view of the B2 Audio SixTen DSP, showcasing its compact metallic design and input/output ports.

Figure 2: Top view of the B2 Audio SixTen DSP, highlighting the B2 logo, SixTen DSP branding, Bluetooth and app store icons, and limiter indicators.

Figure 3: Input side of the B2 Audio SixTen DSP, showing the six AUX input RCA ports (AUX1-AUX6), power/ground/remote terminals, and the PRESET & RESET button.



Figure 4: Output side of the B2 Audio SixTen DSP, displaying the ten AUX output RCA ports (OUT1-OUT10).

**Official Product Video: Unboxing & Showcase**

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This video provides an unboxing and detailed showcase of the B2 Audio SixTen DSP, demonstrating its physical features and discussing its core functionalities.

## KEY FEATURES

- **Advanced Digital Signal Processing:** 6-input, 10-output DSP with 96 kHz, 32-bit resolution for crystal-clear audio and precise tuning.
- **Wireless Control via Bluetooth:** Adjust settings effortlessly using the iOS & Android app, offering real-time customization from your smartphone.
- **High-Voltage Output for Optimal Performance:** Each of the 10 output channels delivers a 4-volt signal, ensuring maximum clarity and power for your audio system.
- **Compact and Durable Design:** Engineered for seamless integration into any setup with a space-saving 4.5" x 5.75" x 1.5" form factor.
- **Professional-Grade Sound Quality:** Designed for audiophiles and car audio enthusiasts seeking precise frequency control, low distortion, and superior sound staging.

## SETUP

### 1. Power Connection

Connect the DSP to a stable 12V DC power source. Ensure proper grounding and remote turn-on connections. Refer to the wiring diagram in the included quick start guide for detailed instructions.

### 2. Audio Input/Output

Connect your audio source (e.g., head unit) to the DSP's AUX inputs using RCA cables. Connect the DSP's AUX outputs to your amplifiers' inputs. The DSP supports up to 6 inputs and 10 outputs.

### 3. App Installation & Bluetooth Pairing

Download the B2 Audio SixTen DSP app from your device's app store (iOS/Android) or by scanning the QR code provided in the packaging. Enable Bluetooth on your smartphone and pair it with the DSP. The app will guide you through the connection process.

## OPERATING THE DSP (APP INTERFACE)

The B2 Audio SixTen DSP is controlled entirely through its intuitive mobile application. Below are the main functions accessible via the app:

- **Routing (LR):** Configure input-to-output channel assignments. You can mix input signals and route them to any of the 10 output channels. Bluetooth audio input is also available for direct streaming.
- **Gain:** Adjust the overall main input gain and individual output channel gains. Channels can be linked for stereo adjustments.
- **Crossover:** Set high-pass (HPF) and low-pass (LPF) filters for each channel. Choose from various filter types (Butterworth, Bessel, Linkwitz) and slopes (e.g., 6dB/Oct to 48dB/Oct) to precisely manage frequency distribution to your speakers.
- **Limiter:** Protect your audio system by setting threshold, attack, and release parameters for each channel. This prevents signal clipping and speaker damage.
- **EQ Input (EQ IN):** Apply a 20-band parametric equalizer to the input signal for overall sound shaping.

- **EQ Channel (EQ CH):** Apply a 31-band parametric equalizer to each individual output channel for fine-tuning specific speakers or frequency ranges.
- **Polarity:** Adjust the phase (0° or 180°) of each output channel to correct phase issues and optimize sound staging.
- **Delay:** Implement time alignment for each channel in millimeters, milliseconds, or inches. This feature ensures that sound from all speakers arrives at the listening position simultaneously, creating a cohesive soundstage.
- **Monitor:** View real-time voltage output levels for each channel and monitor the noise gate status.
- **Memory:** Save and load up to 6 different audio presets directly on the device, or save local configurations on your phone for various listening preferences or vehicle setups.

## MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to clean the DSP unit. Avoid using harsh chemicals or abrasive cleaners.
- **Ventilation:** Ensure the DSP has adequate ventilation to prevent overheating. Do not block the cooling fins.
- **Connections:** Periodically check all wiring connections to ensure they are secure and free from corrosion.

## TROUBLESHOOTING

- **No Power:** Check power, ground, and remote turn-on connections. Ensure the vehicle's battery has sufficient charge.
- **No Audio Output:** Verify input and output RCA connections. Check gain settings in the app. Ensure channels are routed correctly.
- **Distorted Audio:** Check for clipping indicators on the DSP unit or in the app's monitor section. Reduce gain if clipping occurs. Verify speaker impedance and amplifier settings.
- **Bluetooth Connectivity Issues:** Ensure the DSP is powered on and within range. Restart the app and your device's Bluetooth. Forget and re-pair the device if necessary.
- **App Freezing/Crashing:** Close and restart the app. Ensure your device's operating system is up to date.

## SPECIFICATIONS

| Feature | Specification |
|---|---|
| Inputs | 6 (3 Left/3 Right) |
| Connectors | RCA |
| Input Level Max | 4.00 Vrms (+14dBu) |
| Outputs | 10 |
| Output Max Level | 3.50 Vrms (+13dBu) |
| Frequency Response | 10Hz to 24KHz (-1dB) |
| THD+N | <0.01% |
| Signal Latency | <0.6 ms |
| Bit Rate | 32-Bit |
| Sampling Frequency | 96kHz |
| Voltage DC | 9.5 - 15V DC |
| Maximum Consumption | 350mA |
| Package Dimensions | 7.75 x 6.75 x 2.75 inches |

| Item Weight | 1.06 pounds |
| --- | --- |
| Manufacturer | B2 Audio |
| Country of Origin | China |

## WARRANTY AND SUPPORT

The B2 Audio SixTen DSP comes with a standard manufacturer's warranty. For specific warranty details, claims, or technical support, please refer to the official B2 Audio website or contact their customer service directly. You may also find additional support resources on the product's Amazon listing page.

*Note: Tampering with the product's seals may void the warranty.*