

[Manuals.plus](#) /

› [Pioneer](#) /

› Pioneer DEQ-80ACH Car DSP Audio Processor User Manual

Pioneer DEQ-80ACH

Pioneer DEQ-80ACH Car DSP Audio Processor

User Manual

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your Pioneer DEQ-80ACH Car DSP Audio Processor. Please read this manual thoroughly before using the product to ensure correct usage and optimal performance. Keep this manual for future reference.



Image 1: Front view of the Pioneer DEQ-80ACH Car DSP Audio Processor, showcasing its compact design and various input/output terminals.

2. PRODUCT FEATURES

The Pioneer DEQ-80ACH is a high-performance 12-channel digital signal processor designed to enhance your car audio experience. Key features include:

- **Advanced Equalization:** 31-segment parametric equalization for precise audio tuning.
- **Crossover Filters:** Independent high-pass and low-pass frequency dividers for each channel, supporting Bessel, Butterworth, and Linkwitz-Riley filter types.
- **Flexible Signal Management:** Signal mixing and routing functions for versatile system configurations.
- **Multiple Inputs:** Supports optical fiber, coaxial, and Bluetooth audio inputs for broad compatibility.
- **Control Options:** Tunable via dedicated software on computer and mobile phone platforms, with support for external wired control.
- **High-Quality Audio Components:** Features a Texas Instruments DSP and an imported CS8422 24-bit high-performance multi-format digital audio receiver.
- **Bluetooth Connectivity:** Built-in Bluetooth with aptX HD support for high-definition music streaming.
- **RCA Terminals:** Gold-plated RCA terminals for corrosion resistance and optimal signal transfer.
- **Low-Level Output:** RCA low-level outputs with large amplitude for stable signal delivery.

The machine can be tuned through the tuning software of the two platforms of computer and mobile phone, and supports external wire control.

Device control machine

- 31-segment parametric equalization of the output signal is adjustable
- Each channel is equipped with a high and low-pass independent frequency divider, Ningke Yirui, Bessel and Bart-Voss

Three professional filter types are available

- Signal mixing and mixing functions are convenient for all models to use
- Optical fiber/coaxial/Bluetooth input, rich system expandability
- Colorful software UI, pioneer classic style
- Black King Kong sound quality capacitor, mellow tone, so that the sound quality results achieve the best
- RCA gold-plated terminal, corrosion-resistant, beautiful appearance. And greatly reduce the transmission

process. Signal loss

- RCA low-level output, large amplitude, stable IOVPP
- Cool hand-sliding adjustment in EQ icon equalization mode
- External Bluetooth interface, support APTXHD Bluetooth signal input, Bluetooth high-definition music signal output

入

- Texas Instruments original authentic DSP and audio decoder
- Imported digital decoding chip CS8422, 24-bit high-performance multi-format digital audio receiver, The dynamic range is 140dB, THD+N is 120dB, the analog power supply is 3, 3V, and the digital interface is 120dB. 1.8V to 5,0V. Mainly used in home theater systems, TVs, media centers, reverb and Effect processor

Image 2: Overview of the Pioneer DEQ-80ACH's key product characteristics, highlighting its tuning capabilities and input/output options.

3. SETUP AND INSTALLATION

Proper installation is crucial for the performance and longevity of your DSP. It is recommended that installation be performed by a qualified professional.

3.1 Power Connection

- Connect the DSP to a stable 12V DC power source within the 9V-16V operating range.
- Ensure proper grounding to prevent noise and interference.
- The unit supports high-level input startup (FL+/FL-ACC Input) or an optional +12V startup voltage output (0.2A) for remote turn-on.

3.2 Audio Input Connections

- **High-Level Input:** Connect up to 4 channels of high-level audio input from your car's head unit or factory amplifier.
- **Low-Level Input:** Connect up to 2 channels of low-level RCA input from your head unit.
- **Digital Inputs:** Utilize the optical fiber or coaxial inputs for digital audio sources.
- **Bluetooth Input:** Pair your device via Bluetooth for wireless audio streaming.

3.3 Audio Output Connections

- The DSP provides 2 channels of low-level RCA output for external amplifiers.
- It also features 4 channels x 50W power output for direct speaker connection.

4. OPERATING INSTRUCTIONS

The Pioneer DEQ-80ACH is primarily controlled and tuned using dedicated software on a computer or mobile application.

4.1 Software/App Control

- Download and install the official Pioneer DSP tuning software on your computer or the mobile application on your smartphone.
- Connect your device to the DSP via USB (for PC) or Bluetooth (for mobile app).
- The software/app provides access to all tuning parameters, including 31-segment parametric equalization, crossover settings, time alignment, and signal mixing.

4.2 Bluetooth Audio Streaming

- Enable Bluetooth on your mobile device.
- Search for available devices and select the Pioneer DEQ-80ACH.
- Once paired, you can stream high-definition audio directly to the DSP.

5. MAINTENANCE

To ensure the longevity and optimal performance of your Pioneer DEQ-80ACH, follow these maintenance guidelines:

- Keep the unit clean and free from dust and debris. Use a soft, dry cloth for cleaning.
- Avoid exposing the unit to extreme temperatures, moisture, or direct sunlight.
- Ensure all connections are secure and free from corrosion.
- Do not attempt to open the casing or perform repairs yourself, as this may void the warranty and cause damage.

6. TROUBLESHOOTING

If you encounter issues with your Pioneer DEQ-80ACH, refer to the following common troubleshooting steps:

- **No Power:** Check all power connections, including the main power, ground, and remote turn-on wire. Ensure the vehicle's battery has sufficient charge.
- **No Sound:** Verify all audio input and output connections. Check the volume levels on your head unit and within the DSP software/app. Ensure the correct input source is selected.

- **Distorted Sound:** Check for proper gain staging throughout your audio system. Ensure speaker wires are not shorted. Review EQ settings for any extreme adjustments.
- **Bluetooth Connection Issues:** Ensure the DSP's Bluetooth is enabled and discoverable. Delete previous pairings on your mobile device and re-pair. Try restarting both the DSP and your mobile device.
- **Software/App Connection Issues:** Ensure the correct drivers are installed for PC connection. For mobile apps, verify Bluetooth is active and the app has necessary permissions.

If problems persist after attempting these steps, contact customer support or a qualified service technician.

7. SPECIFICATIONS

Feature	Specification
Processor Type	12-channel Digital Signal Processor (DSP)
Dynamic Range (RCA)	≥100dB
Signal-to-Noise Ratio (RCA Input)	≥90dB
Total Harmonic Distortion	≤0.05%
Frequency Response	20Hz-20KHz
Input Impedance (Low Level)	20KΩ
Input Impedance (High Level)	240Ω
Output Impedance	51Ω
Power Supply	DC 9V-16V (Nominal 12 Volts)
Output Power	4 channels x 50W
Input Signal	4 channels high level, 2 channels low level
Output Signal	2 channels low level, 4CHx50W power output
Dimensions (L*W*H)	162mm x 152mm x 40mm
Bluetooth	Built-in, supports APTXHD
Equalizer	31-segment parametric equalizer
Decoding Chip	CS8422, 24-bit
DSP Manufacturer	Texas Instruments

CAR AND MUSIC Product parameters

Processor	12-channel digital signal processor	Input impedance	Low (10K Ω) high (240 Ω)
Dynamic range	$\geq 100\text{dB}$	Output impedance	51 Ω
Signal-to-noise ratio	$\geq 90\text{dB}$	Power supply	DC 9V–16V
Distortion	$\leq 0.05\%$	Peak power	12 \times 50W
Frequency response	20Hz–20kHz	Long * wide * high	217*172*47.2mm

Image 3: Detailed table of the Pioneer DEQ-80ACH's technical parameters and specifications.

8. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation provided with your purchase or visit the official Pioneer website. Keep your proof of purchase for warranty claims.