**AINAVITO A80**

# AINAVITO A80 DSP Amplifier Car Audio Digital Signal Processor User Manual

Model: A80

## 1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your AINAVITO A80 DSP Amplifier Car Audio Digital Signal Processor. Please read this manual thoroughly before using the product to ensure proper function and optimal performance. The A80 is designed to enhance your car audio system with advanced signal processing, equalization, and amplification capabilities.

## 2. PRODUCT OVERVIEW

The AINAVITO A80 is a versatile car audio DSP amplifier featuring a TDA7850 amplifier chip, 31-band equalizer, and multiple input/output options. It supports various tuning methods for precise audio customization.

### Key Features:

- **4 Tuning Methods:** Manual, Computer software, Phone APP, and LCD Controller modes for flexible audio adjustment.
- **Integrated Amplifier:** Utilizes a TDA7850 amplifier chip with 4x50 Watts peak power, high signal-to-noise ratio (>90dB), and low distortion (≤0.01%).
- **31-Band Equalizer:** Audiophile-grade EQ control from 20Hz to 20000Hz, with 6 preset EQ data modes.
- **Flexible I/O:** Supports high-level 8-channel audio output + 4-channel audio input, and low-level 8-channel output + 2-channel (AUX) input.
- **Connectivity:** Built-in Bluetooth 5.0 for wireless music streaming, plus optical and USB digital signal inputs.

### What's in the Box:

- Equalizer main unit x1
- Power cable x1
- USB tuning cable x1
- LED wired controller x1
- Mounting Velcro x1
- User manual x1

## 3. SETUP AND INSTALLATION

Before beginning installation, ensure your vehicle's battery is disconnected to prevent electrical shorts. Choose a suitable mounting location, such as under a seat, that is dry, well-ventilated, and away from direct heat sources.

## 3.1 Physical Installation

The A80 unit measures approximately 6.5" (L) x 5.1" (W) x 1.7" (H). Use the provided mounting Velcro to secure the unit in your chosen location. Ensure there is adequate space around the unit for proper ventilation and cable routing.

## 3.2 Wiring Connections

Refer to the diagram below for proper wiring connections. All connections should be secure to prevent signal loss or electrical issues.



*Figure 1: AINAVITO A80 DSP Amplifier with labeled ports. The image displays the red-colored A80 unit from an angled perspective, highlighting the various input and output connections on its side panel. Visible connections include power terminals (+12V, GND, REM), high-level speaker inputs (FL+, FL-, FR+, FR-, RL+, RL-, RR+, RR-), RCA inputs and outputs, a PC USB port, and a PWR LED indicator. The top surface features the AINAVITO logo and "Audio MAGIC-BOX® A80 DSP Amplifier Design From Master Level" text.*

**Power Connections:**

- **+12V:** Connect to the vehicle's positive battery terminal (ensure an inline fuse is used).
- **GND:** Connect to a solid chassis ground point on the vehicle.
- **REM (Remote):** Connect to the remote turn-on lead from your head unit.

### Audio Input/Output Connections:

- **High-Level Inputs (ACC/HOST):** Connect speaker wires from your factory or aftermarket head unit to the corresponding FL, FR, RL, RR terminals. The A80 supports 4-channel high-level input.
- **Low-Level AUX Inputs:** Use RCA cables to connect external audio sources to the 2-channel AUX inputs.
- **RCA Outputs:** Connect RCA cables from the A80's 8-channel low-level outputs to external amplifiers or powered subwoofers.

### Data Connections:

- **PC USB:** Connect the provided USB tuning cable to a computer for software-based tuning.
- **LED Wired Controller:** Connect the wired controller for manual adjustments.
- **Optical Input:** For digital audio input from compatible sources.

## 4. OPERATION

The AINAVITO A80 offers multiple methods for configuring and fine-tuning your car audio system.

### 4.1 Tuning Methods

- **Manual Tuning (Wired Controller):** Use the included LED wired controller for basic adjustments and preset selection.
- **PC Software Tuning:** Connect the A80 to a computer via the USB cable. Install the dedicated tuning software (available from the manufacturer's website) to access advanced 31-band EQ, crossover, time alignment, and other DSP functions.
- **Smartphone APP Tuning:** Download the AINAVITO APP from your device's app store. Connect your smartphone to the A80 via Bluetooth 5.0 to perform tuning adjustments wirelessly.

### 4.2 Equalizer Control

The 31-band equalizer allows for precise frequency adjustments from 20Hz to 20000Hz, with a range of -18 dB to +18 dB. This enables detailed control over tweeter, midrange, bass, and sub-bass parameters. The unit also includes 6 preset EQ data modes for quick selection based on music genre or personal preference.

### 4.3 Bluetooth Audio Streaming

Activate Bluetooth on your smartphone and search for the AINAVITO A80. Pair your device to stream audio wirelessly to the DSP amplifier. The Bluetooth 5.0 standard ensures stable and high-quality audio transmission.

## 5. MAINTENANCE

To ensure the longevity and optimal performance of your AINAVITO A80, follow these maintenance guidelines:

- **Cleaning:** Use a soft, dry cloth to wipe the unit. Avoid using harsh chemicals or abrasive cleaners.
- **Ventilation:** Ensure the unit's ventilation fins are not obstructed to prevent overheating.
- **Connections:** Periodically check all wiring connections for tightness and corrosion.

## 6. TROUBLESHOOTING

If you encounter issues with your AINAVITO A80, refer to the following common problems and solutions:

- **No Power:**

- Check the +12V, GND, and REM connections. Ensure the inline fuse on the +12V line is not blown.
  - Verify the remote turn-on signal from your head unit.

- **No Audio Output:**

  - Confirm all input and output RCA/speaker connections are secure and correctly routed.
  - Check the source unit's volume and settings.
  - Ensure the correct input source is selected on the A80 (if applicable via controller/APP).

- **Distorted Sound:**

  - Check for proper gain staging. Reduce input gain if the signal is clipping.
  - Inspect speaker wires for shorts or damage.
  - Review EQ settings for extreme boosts that may cause distortion.

- **Bluetooth Connection Issues:**

  - Ensure the A80 is powered on and within range of your device.
  - Delete the A80 from your device's Bluetooth history and attempt to re-pair.
  - Restart both the A80 (by cycling power) and your Bluetooth device.

## 7. SPECIFICATIONS

| Model Number | A80 |
|---|---|
| Amplifier Chip | TDA7850 |
| Amplifier Peak Power | 4 x 50 Watts |
| Equalizer Bands | 31-Band (-18 dB to +18 dB) |
| Adjustable Frequency Range | 40Hz - 20kHz (for EQ) |
| High-Level RCA Inputs | 4-Channels |
| High-Level RCA Outputs | 8-Channels |
| Low-Level AUX Inputs | 2-Channels |
| Low-Level RCA Outputs | 8-Channels |
| Max RCA Output Voltage | 12-14 V |
| Signal-to-Noise Ratio (SNR) | >90dB |
| Total Harmonic Distortion (THD) | ≤0.01% |
| Sampling Rate | 48KHz/24bit |
| Audio IC | AKM7735 |
| Bluetooth Version | 5.0 |
| Digital Inputs | USB, Optical |
| Product Dimensions (L x W x H) | 6.5" x 5.1" x 1.7" |
| Item Weight | 3.62 Pounds |

| Minimum Supply Voltage | 12 Volts |
|---|---|
| Maximum Supply Voltage | 14 Volts |
| Mounting Type | Under Seat Mount |

## 8. WARRANTY AND SUPPORT

AINAVITO provides a one-year warranty service for this product. If any quality issues arise within 3 months of purchase, the product may be directly replaced with a new one. For technical assistance, troubleshooting, or warranty claims, please contact AINAVITO customer support. We are committed to replying to all customer inquiries within 12-24 hours.
For further information, please visit the official AINAVITO website or refer to the contact details provided with your purchase.