



AXIS-8

Digital Signal Processor
with Sub Effects
Product Manual





FCC Warning Statement

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement

The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located for operating in conjunction with any other antenna or transmitter.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Welcome

Thank you for choosing the Dayton Audio AXIS-8 Digital Signal Processor. Designed for precise control, the AXIS-8 delivers powerful DSP capabilities through an intuitive control platform, making it easy to optimize audio performance across home, mobile, and custom systems.

Using AXIS Control software, you can quickly configure inputs, routing, and advanced processing features like parametric EQ, crossovers, delay, and bass enhancement tools. With support for line-level, optical, Bluetooth, and USB inputs, the AXIS-8 integrates seamlessly into both modern and legacy setups.

Built for real-world flexibility, the AXIS-8 includes a mobile-ready wiring harness for clean vehicle installation. Whether you're tuning a simple system or building a fully active setup, the AXIS-8 gives you the control to dial it in.

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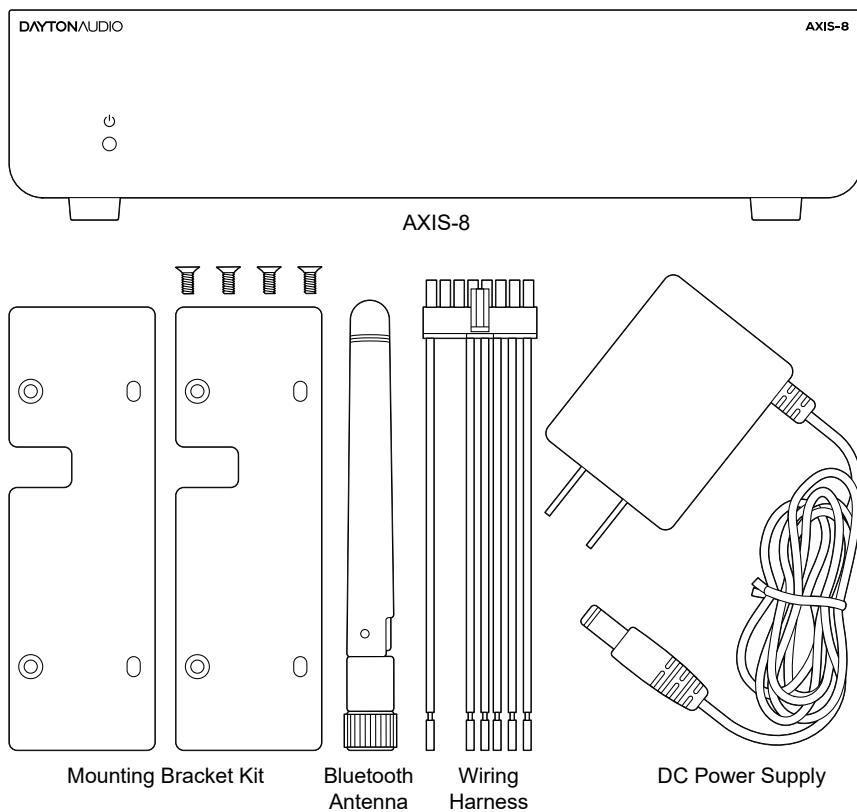
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What's In the Box



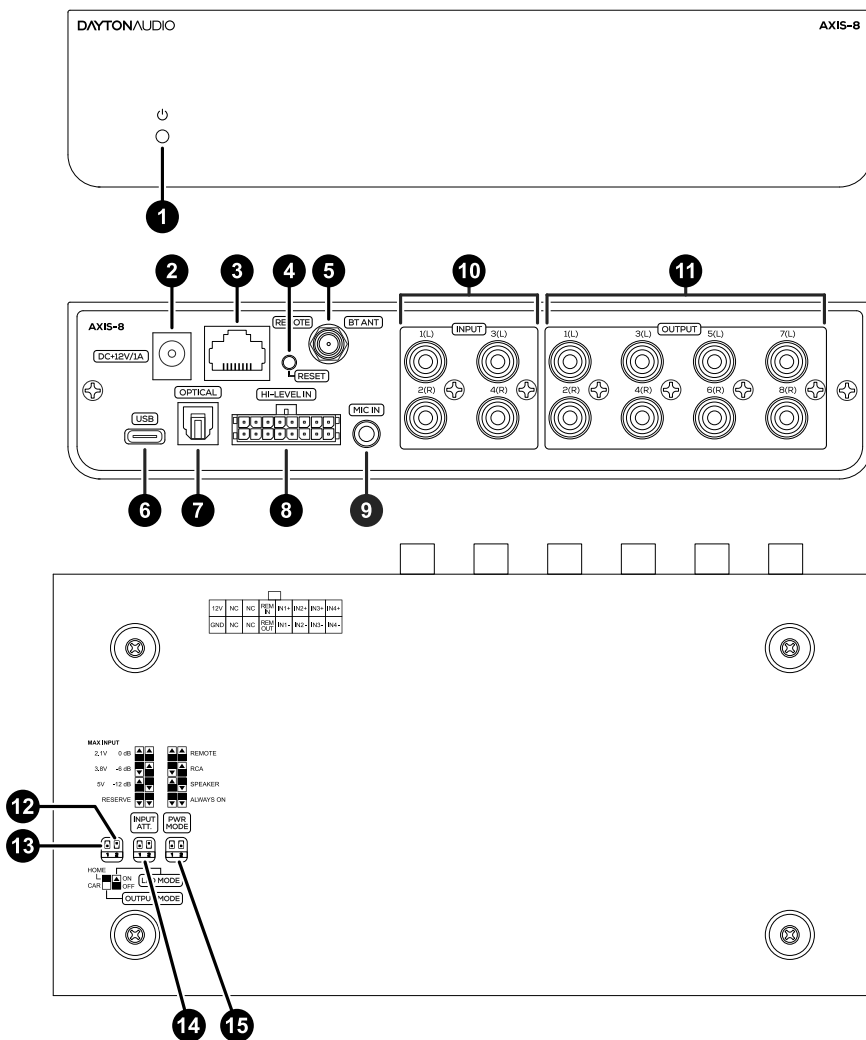
Unpacking

Carefully remove the AXIS-8 and all included accessories from the packaging. Inspect each item for any visible damage that may have occurred during shipping. If any damage is found, notify the shipping carrier promptly.

If the product shows signs of shipping damage, retain all packaging materials for inspection and do not install the unit until the issue has been resolved.

It is recommended to keep the original packaging and packing materials for future transport or storage. Using the original packaging helps ensure the unit remains protected during handling.

Panels And Controls



1. Status LED
2. 12V DC Input
3. Wired Remote Connection
4. Factory Reset Button
5. Bluetooth Antenna
6. USB-C Input
7. Optical Toslink Input
8. Wiring Harness

9. CALMIC Input
10. Line Inputs (RCA)
11. Line Outputs (RCA)
12. LED Mode Switch
13. Output Mode Control
14. Input Attenuation Control
15. Power Mode Control

Connecting To Power

DC Barrel Jack

Use the included 12V 1A power adapter with the AXIS-8 DC barrel jack. This port uses a standard 2.1 mm center-positive DC barrel connector. Compatible 12V power supplies may also be used.

Wiring Harness

The wiring harness supports individual 12V and ground wires for powering the AXIS-8 with a car battery. This voltage will accept the voltage fluctuations typical for a car battery and will even reject noise present in the voltage input.

Power Mode Switch

The AXIS-8 includes four power mode settings to control how the unit turns on and enters standby.

Remote

For car audio installations. The AXIS-8 turns on when 12V is applied to the remote input wire. If no 12V signal is present, the unit remains off.

RCA

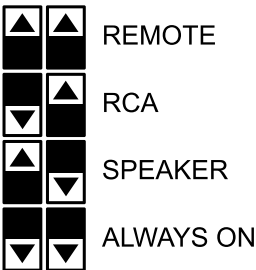
The AXIS-8 turns on when signal is detected at the RCA inputs. If no signal is detected for the selected delay time, the unit enters standby.

Speaker

The AXIS-8 turns on when signal is detected at the speaker-level inputs. If no signal is detected for the selected delay time, the unit enters standby.

Always On

The AXIS-8 remains on and will not enter standby.



Hooking Up

The AXIS-8 is set to receive audio from the analog inputs by default. Input routing and channel assignment are configured in the AXIS Control software.

Line Level Input

Use RCA cables to connect the source to the AXIS-8 line-level inputs. Up to four input channels (IN1–IN4) are supported. For stereo sources, connect the left and right outputs to IN1 and IN2.

Speaker Level Input (Wiring Harness)

The included wiring harness accepts up to four speaker-level input channels (IN1–IN4). Inputs support up to 40 Vrms (single-ended) and 80 Vrms (differential).

This connection is used when a line-level signal is not available, such as with a factory-installed car radio.

Connect the speaker output wires from the source unit to the corresponding input wires on the AXIS-8.

Optical TOSLINK

The AXIS-8 supports 2-channel PCM input via the optical TOSLINK connection. Select the optical input in the AXIS Control software. The signal is routed to IN1 and IN2.

Hooking Up (cont.)

Bluetooth Audio

Bluetooth audio is built into the AXIS-8 for convenient wireless streaming.

For Bluetooth control, please reference AXIS Control Connectivity on pg. 10.

1. Connect the included Bluetooth antenna to the rear of the AXIS-8.
2. Enable Bluetooth as an input source in the AXIS Control App.
3. Using a smartphone, tablet, computer, or other device capable of transmitting Bluetooth audio, go to the device's settings and scan for available Bluetooth devices.
4. Look for and select "AXIS-8-AUDIO" in the device list and begin pairing.

USB

The USB-C port provides 2-channel digital audio input and communication with the AXIS Control software.

Connect the source device to the USB-C port on the AXIS-8. Select USB as the input source in the AXIS Control software. The audio signal is routed to IN1 and IN2.

Input Level Switch

To maximize compatibility, the AXIS-8 has a switch that controls the maximum line level voltage that can be present on the RCA inputs while ensuring clean audio output. Home audio equipment and car audio equipment have different voltage ranges, with car audio equipment exceeding the typical 2V maximum found in home audio equipment. Measure a 1KHz sine wave with a multimeter connected to your audio source's RCA plug, if possible.

2.1V (0dB)

This mode should be used in most home audio use cases. Typical home audio and pro audio input sources will output a line level voltage between 0V and 2V.

3.8V (-6dB)

This mode is ideal for most car audio installations, allowing typical car audio voltages.

5V (-12dB)

This mode should be used in car audio installations where the audio source is very high, exceeding 3.8V. If unsure or if you are unable to measure your signal, use the 3.8V mode. If any unexpected distortion is heard, try this 5V mode.

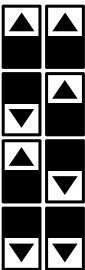
MAX INPUT

2.1V 0 dB

3.8V -6 dB

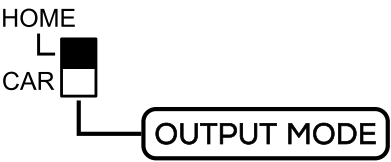
5V -12 dB

RESERVE



Output Level Switch

To ensure compatibility with both home audio amplifiers and car audio amplifiers, the AXIS-8 has an output mode level switch. This controls the maximum output voltage that the AXIS-8 will output to the RCA jacks. The AXIS-8 features a line level driver, that can boost the voltage to a higher level than the input voltage. This effect is much larger in the CAR output mode.



Home (2V)

The AXIS-8 will not output a line level voltage exceeding 2V, ensuring compatibility with home audio amplifiers.

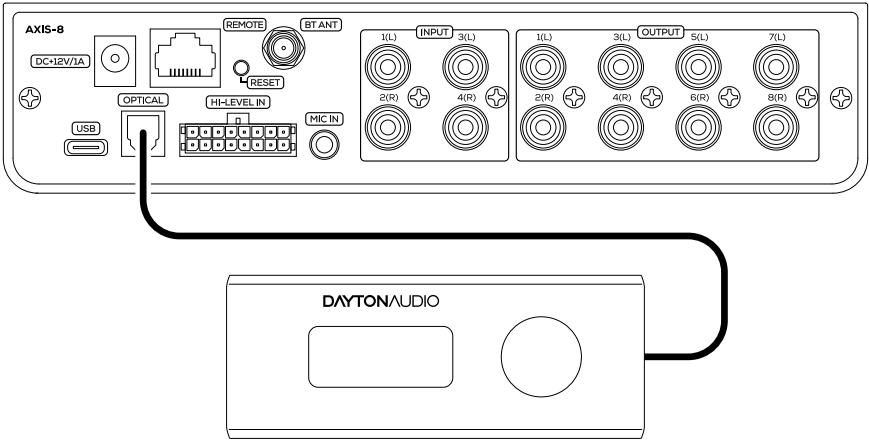
Car (5V)

The AXIS-8 will output a higher output voltage than in home audio mode, but will not exceed 5V. These voltage levels are more suitable for car audio style amplifiers.

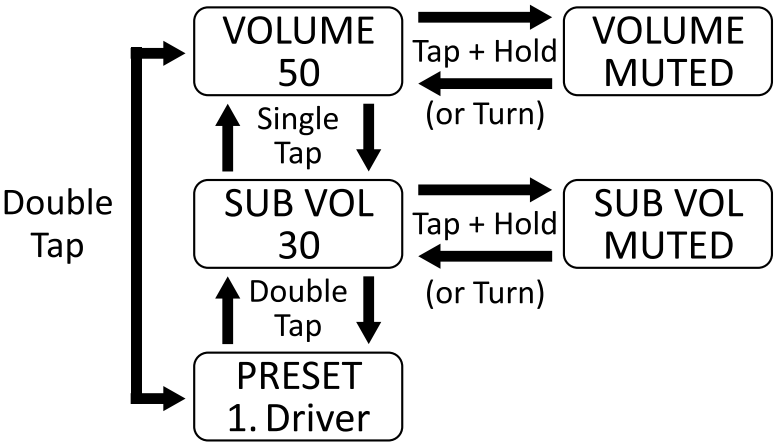
Wired Remote (Optional)

Connection

The optional AXIS-R wired remote can be connected to the AXIS-8 with the included 10-foot ethernet cable. for custom lengths, standard ethernet cabling can be used to connect the AXIS-R Remote.



Control



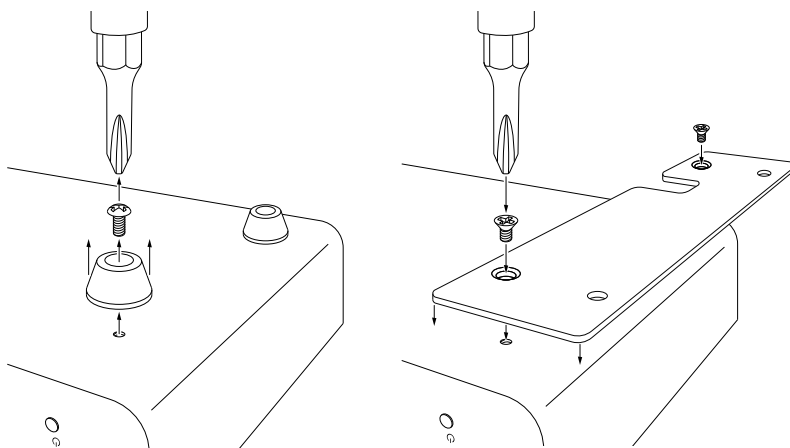
Using Mounting Brackets (Optional)

The optional mounting bracket kit allows the AXIS-8 to be securely installed in a variety of locations, such as under seats or behind panels. The kit includes two mounting plates and four mounting screws designed specifically for the AXIS-8 chassis.

To install the mounting brackets:

1. Remove the rubber feet from the bottom of the AXIS-8.
2. Align the mounting plates with the threaded inserts on the underside of the unit.
3. Secure each plate using the provided screws.
4. Mount the unit to the desired surface.

Ensure the mounting surface is stable and allows adequate ventilation for the unit during operation.



AXIS Control Software

Connectivity and System Requirements

AXIS Control is available for Windows PC, iOS, and Android platforms.

PC Connection

The Windows PC application is available for download from daytonaudio.com. The application communicates with the AXIS device through a direct USB connection.

Minimum Requirements

- Windows 10 or later
- Available USB port

Mobile Device Connection

Mobile applications are available through the Apple App Store and Google Play Store. iOS and Android applications communicate with the AXIS device using Bluetooth Low Energy (BLE) wireless connectivity.

iOS Requirements

- iOS 14 or later
- Bluetooth enabled device

Android Requirements

- Android 10 or later
- Bluetooth enabled device

The AXIS Control application communicates with the AXIS-8 using a dedicated Bluetooth Low Energy (BLE) control connection. This connection is separate from Bluetooth audio streaming and must be connected through the AXIS Control application.

To connect using Bluetooth BLE:

1. Enable Bluetooth on the mobile device.
2. Connect the included Bluetooth antenna to the AXIS-8.
3. Open the AXIS Control application.
4. At the top of the Home screen, select Connect to begin scanning for available devices.
5. Select the desired AXIS-8 device from the available device list.
6. Wait for the application to establish the BLE control connection.

Once connected, AXIS Control will allow wireless configuration and control of the AXIS-8.

IMPORTANT: Do not connect to the AXIS-8 simultaneously using both the mobile application and the Windows PC application. Only one control connection should be active at a time.

NOTE: Bluetooth audio pairing and Bluetooth control connection are independent functions and may appear as separate connections on the mobile device.

NOTE: If the AXIS-8 does not appear during device scanning, verify the device is powered on and within Bluetooth operating range. Make sure the antenna is securely connected to the AXIS-8.

Setup Wizard

Jumpstart your workflow with the AXIS setup wizard by eliminating tedious project configuration. Simply specify the drivers connected to each AXIS-8 output and answer a few simple questions. The wizard automatically routes inputs, sets groups, calculates crossovers, and generates custom channel names based. This delivers a working prototype in seconds—serving as an intuitive, hands-on learning tool for DSP beginners and a time-saving baseline for advanced users.

To use the setup wizard, first carefully follow the previous sections of this guide to connect external amplifiers and speakers and prepare your device for usage. Once the hardware is ready, connect to either the mobile app or PC software and enter the “Setup Wizard” page. The wizard will first outline some basic instructions and then ask a series of questions. After these prompts, the wizard will summarize all the configuration it intends on doing in a written form. Confirm this configuration, and the AXIS-8 will automatically set itself up.

Output 1 - Driver Type: Tweeter

Input: Left (In1)

Output 2 - Driver Type: Tweeter

Input: Right(In2)

Output 3 - Driver Type: Midrange

Input: Left (In1)

Output 4 - Driver Type: Midrange

Input: Right(In2)

Output 5 - Driver Type: Woofer

Input: Left (In1)

Output 6 - Driver Type: Woofer

Input: Right(In2)

Output 7 - Driver Type: Subwoofer

Input: Mono

Output 8 - Driver Type: Subwoofer

Input: Mono

Summary & Save Configuration

==== Audio Setup Configuration Summary =====

Channel Configuration:
Channel 1: Tweeter - Left (In1)
Channel 2: Tweeter - Right (In2)
Channel 3: Midrange - Left (In1)
Channel 4: Midrange - Right(In2)
Channel 5: Woofer - Left (In1)
Channel 6: Woofer - Right(In2)
Channel 7: Subwoofer - Mono
Channel 8: Subwoofer - Mono

Applied Filters:
• A High Pass Filter was applied to the L Tweeter (CH1) at 5000 Hz with a BW -12dB/Oct slope.
• A High Pass Filter was applied to the R Tweeter (CH2) at 5000 Hz with a BW -12dB/Oct slope.
• A High Pass Filter was applied to the L Midrange (CH3) at 500 Hz with a BW -12dB/Oct slope.
• A Low Pass Filter was applied to the L Midrange (CH3) at 5000 Hz with a BW -12dB/Oct slope.
• A Low Pass Filter was applied to the R Midrange (CH4) at 5000 Hz with a BW -12dB/Oct slope.
• A Low Pass Filter was applied to the L Woofer (CH5) at 500 Hz with a BW -12dB/Oct slope.
• A High Pass Filter was applied to the L Woofer (CH5) at 100 Hz with a BW -12dB/Oct slope.
• A Low Pass Filter was applied to the R Woofer (CH6) at 500 Hz with a BW -12dB/Oct slope.
• A High Pass Filter was applied to the R Woofer (CH6) at 100 Hz with a BW -12dB/Oct slope.
• A Low Pass Filter was applied to the Subwoofer (CH7) at 100 Hz with a BW -12dB/Oct slope.
• A Low Pass Filter was applied to the Subwoofer (CH8) at 100 Hz with a BW -12dB/Oct slope.

Configuration is ready to be saved or applied.

Previous

Save Preset File

Apply All Settings

☒ Would you like to apply crossovers automatically?

Saving Presets

The AXIS-8 is able to store up to 6 custom preset configurations to the device itself that can be recalled using the wired remote, the PC software, or the mobile apps. These presets can have custom names and be used for a variety of purposes, such as easy A/B testing, optimizing different listening positions in a car or theater, or even switching to a night mode that reduces bass levels.

The current configuration of the AXIS-8 can be saved as a preset at any time by entering the preset manager menu, selecting the desired preset slot, and pressing save preset. This will overwrite any previous settings saved into that slot. Any configuration changes made after pressing save will not be automatically saved to this preset. To update the preset after making changes, enter the preset manager and press save preset again.

Preset Manager

Select a preset to manage your DSP settings.
Click on a preset from the left panel, then choose an action from the right panel.

1.Maximum Bass Mode
2.Night Mode (Reduced Bass)
3.Test Preset
4.Flat Bass Mode
5.Unused
6.Unused

Selected: 1.Maximum Bass Mode

Save Current Preset to Device

Load Preset from Device

Rename Preset

AXIS DSP

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DAYTONAUDIO

Factory Reset

When performing a factory reset, the AXIS-8 will return all settings to default values, erasing all customization and configuration, including stored presets and Bluetooth connections.

Via Button

Hold the 'reset' button on the back of the device for 10 seconds, and the device will automatically factory reset. Wait a few moments before resuming usage of the device.

Via Software

A factory reset can be performed through the AXIS Control application by navigating to Settings > Factory Reset. Performing a factory reset will restore the AXIS device to its default settings and erase all user configuration data.

Firmware Update

Firmware updates for AXIS devices are performed using the AXIS Control Windows PC application and a direct USB connection between the PC and the AXIS device.

Firmware updates are not supported through Bluetooth wireless connectivity. Mobile iOS and Android applications cannot perform firmware updates.

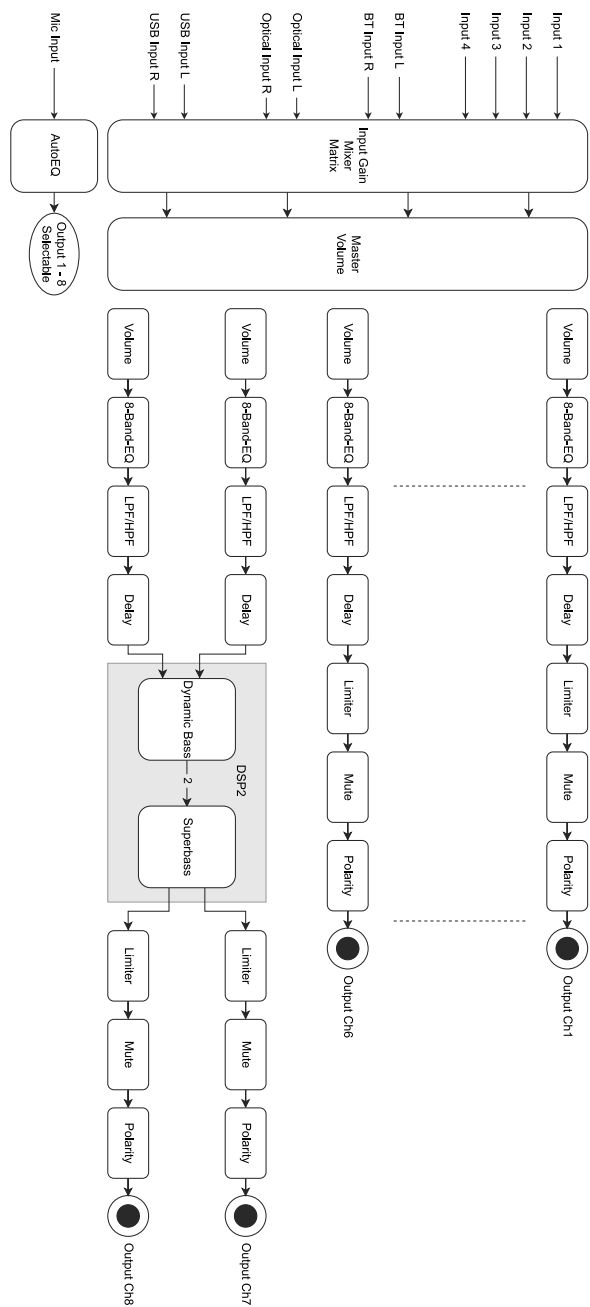
To update firmware:

1. Download and install the latest version of AXIS Control from daytonaudio.com
2. Connect the AXIS device to the PC using a USB cable.
3. Launch the AXIS Control application.
4. Follow the on-screen prompts to complete the firmware update process.

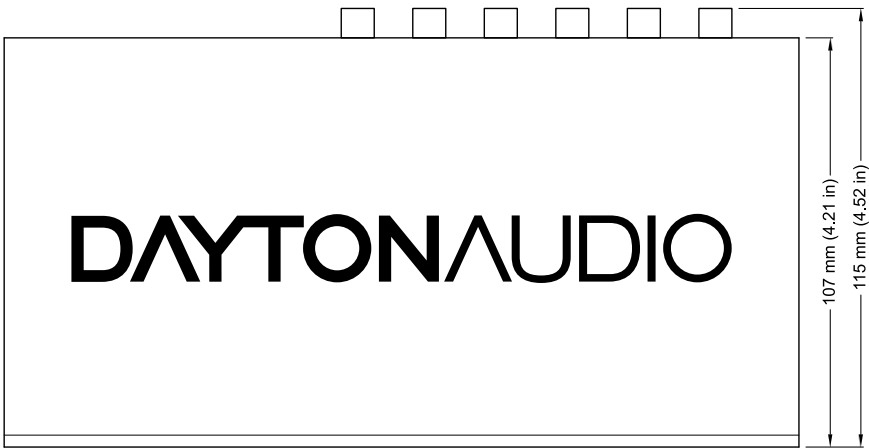
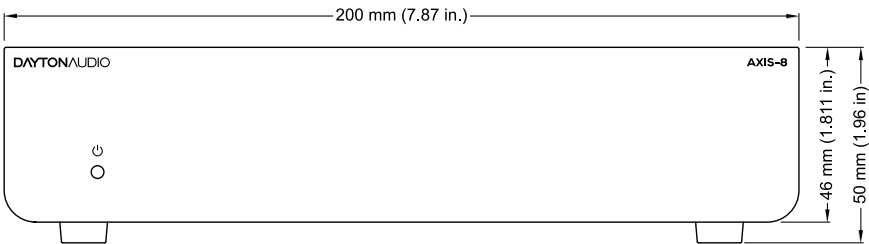
IMPORTANT: Do not disconnect USB power or close the AXIS Control application during the firmware update process. Interrupting the update may cause improper device operation.

NOTE: It is recommended to use the latest available version of AXIS Control before performing a firmware update.

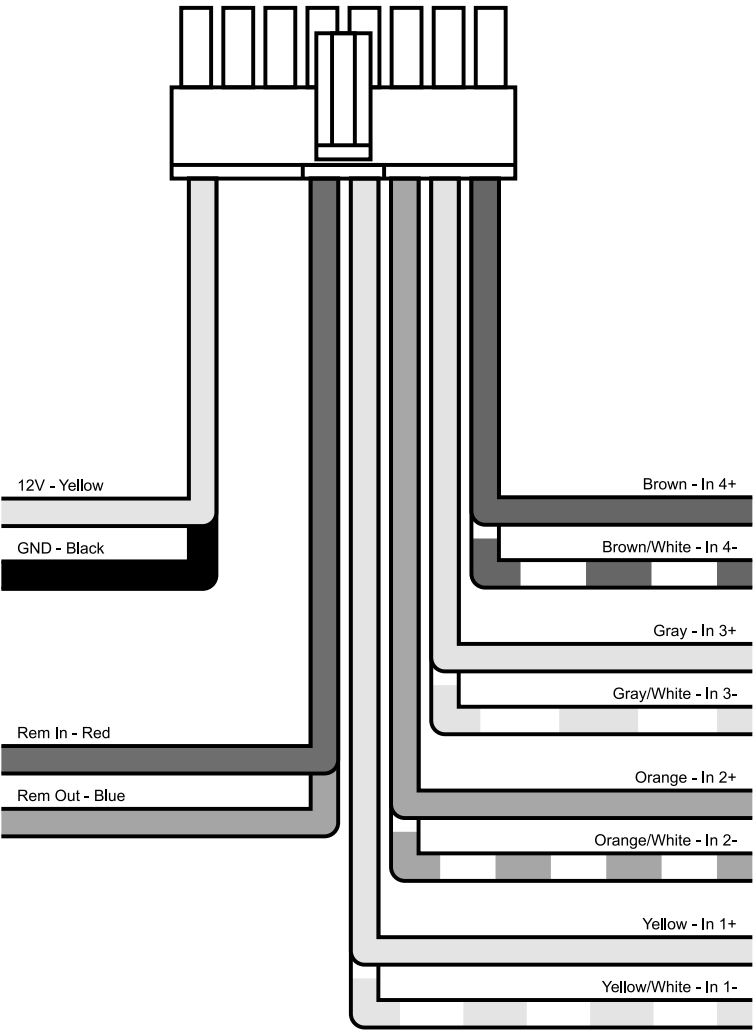
Block Diagram



Dimensional Drawings



Wiring Harness



Troubleshooting

Problem	Cause	Solution
AXIS-8 does not power on	No power connection or blown fuse	Verify power and ground connections are secure. Check inline fuse and vehicle fuse panel.
	Remote turn-on signal not present	Verify +12V remote turn-on signal from the source unit or amplifier.
	Wake from standby criteria not met	Check the power mode setting. If using RCA or Speaker mode, try increasing the signal volume going into the AXIS-8.
	LED is not lighting up, but the device is powered on	The AXIS-8's LED can be turned on and off with a switch on the bottom of the unit.
No audio output from one or more channels	Output muted or incorrect routing configuration	Verify output channels are enabled and confirm source routing and crossover settings.
	Incorrect input source selected	Verify the correct input source is selected within AXIS Control.
AXIS Control app cannot find AXIS-8	Antenna not connected	The AXIS-8 requires attaching the included antenna for Bluetooth control and streaming. Make sure this antenna is securely screwed into the rear of the AXIS-8.
	BLE connection not active or device out of range	Verify the AXIS-8 is powered on and within Bluetooth range, then rescan for devices.
	Bluetooth disabled on mobile device	Enable Bluetooth on the mobile device and restart the AXIS Control application.
Unable to connect to the AXIS PC application	USB cable issue	Some USB cables cannot transfer data and are only wired to transfer power. Use a known data capable USB.
	AXIS-8 is not powered	AXIS Control requires the AXIS-8 to be on.
Changes made in AXIS Control are not audible	Device not connected	Check that the AXIS-8 shows as connected in the top of the application.
	Incorrect Connections	Check that the RCA output of the AXIS-8 is connected to the correct amplifier and that it is on. Check the speaker's connection to the amplifier.
Bluetooth audio plays but app will not connect	BLE control connection not established	Open AXIS Control and connect through the Connect menu within the application.
Distorted audio	Input signal clipping or incorrect gain settings	Reduce source volume and verify proper input and output gain settings.
	Unbalanced Voltage Levels	If a stronger input voltage is provided to an amplifier than it can handle, the audio output will distort. Switch the AXIS output mode to HOME instead of CAR or reduce the AXIS master volume. Optionally, increase the amplifier's gain knob.
Excessive noise or engine whine	Poor grounding or signal interference	Verify proper chassis grounding and route signal cables away from power wiring. Follow proper installation standards.
	Faulty Audio Amplifier	Bypass the AXIS-8 to determine if the noise source is the amplifier or audio source.
Mobile app disconnects unexpectedly	Weak Bluetooth signal or wireless interference	Move the mobile device closer to the AXIS-8 and minimize interference sources.

Specifications

Frequency Response	5 Hz - 22 KHz
Signal-to-noise Ratio	103dB
THD+N	0.008%
Sampling Rate	48 KHz
DSP Processing	ADSP-21479 SHARC + ADAU1701 SigmaDSP
DSP Processing Resolution	24-bit
Input-to-Output Latency	
Memory Presets	6
Line Level	4x RCA
Line Input Impedance	
Hi Level	4x via wiring harness
Maximum Line Level Input Voltage	2.1V, 3.8V, 5V Modes
Maximum Speaker Level Input Voltage	40V RMS (Single Ended) 80V RMS (Differential)
Digital Inputs	SPDIF LPCM (up to 48 kHz 16 Bit)
PC-USB	16 Bit, 48KHz
Bluetooth	5.0
Line Level	8x RCA
Maximum Output Voltage	2V (Home), 5V (Car)
Output Impedance	
Auto On	On/ Auto
Maximum Time Delay	10 ms per channel
Bass Enhancement	Superbass, Dynamic Bass
Power Requirements	12 VDC 1A
Standby Power Consumption	0.5 Watts
Auto-On voltage	4 mV
Dimensions (each) W x H x D	7-7/8 x 4-1/4 x 2 in. (200 x 107 x 50 mm)
Weight	1.61 lbs. (0.731 kg.)

5-Year Limited Warranty
See daytonaudio.com for details



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