

## Fusion 010-01500-00

# Fusion AM Series Marine Amplifier User Manual

Model: MS-AM504 (010-01500-00)

## INTRODUCTION

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The Fusion AM Series marine amplifiers are specifically engineered for the demanding marine environment. This 4-channel amplifier delivers 500 watts of peak power, capable of driving up to four pairs of speakers or two pairs of speakers and one subwoofer. Its robust design incorporates Class-AB amplification, conformal coated PCBs, and an efficient heat sink for reliable performance on the water.



Figure 1: Fusion AM Series Marine Amplifier (Model MS-AM504). This image shows the top and side view of the amplifier, highlighting its compact design and the input/output panel on the left side.

## KEY FEATURES

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- **Class-AB Amplifier Design:** Provides efficient power delivery with minimal audio distortion.
- **Conformal Coated PCBs:** Offers enhanced protection against marine elements, extending the amplifier's lifespan.
- **Integrated Heat Sink:** Ensures optimal heat dissipation for improved component reliability and sustained performance.
- **Advanced Audio Controls:** Features built-in variable bass boost, a subsonic filter, and variable crossover filters for precise audio tuning and system protection.
- **2 Ohm Stereo Stable:** Capable of powering up to four pairs of speakers or a combination of two pairs of speakers and one subwoofer.

## WHAT'S IN THE BOX

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Upon opening the package, verify that the following items are included:

- Fusion MS-AM504 Marine Amplifier
- Product Documentation (User Manual, Warranty Information)

## SETUP AND INSTALLATION

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Proper installation is crucial for optimal performance and longevity of your marine amplifier. It is recommended that installation be performed by a qualified marine electronics technician.

### Mounting Considerations

- The amplifier is designed for surface mounting.
- Choose a location that is dry, well-ventilated, and protected from direct sunlight and excessive heat.
- Ensure adequate space around the amplifier for air circulation, especially around the heat sink.
- Avoid mounting near heat sources or in areas where it may be exposed to direct water spray.

### Wiring Diagram (Conceptual)

Below is a conceptual overview of the wiring connections. Refer to the detailed wiring diagram in the full PDF user manual for precise instructions.

1. **Power Connection:** Connect the amplifier to a stable 12V DC power source (12.25V nominal, up to 16V max) with appropriate gauge wiring and an inline fuse.
2. **Ground Connection:** Ensure a solid ground connection to the boat's common ground point.
3. **Remote Turn-On:** Connect to the remote output of your marine stereo head unit.
4. **RCA Inputs:** Connect audio signal cables from your head unit's pre-outs to the amplifier's RCA inputs (CH1/2, CH3/4).
5. **Speaker Outputs:** Connect your marine speakers to the amplifier's speaker terminals. Observe correct polarity and impedance (2 ohm stable).



Figure 2: Close-up of the amplifier's input/output panel. This view details the RCA inputs, speaker terminals, power connections, and control knobs for crossover and bass boost settings.

## OPERATING THE AMPLIFIER

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Once installed, the amplifier operates in conjunction with your marine stereo head unit. Adjustments can be made using the controls on the amplifier itself.

### Audio Adjustments

- **Level Control:** Adjusts the input sensitivity to match the output of your head unit. Start with the level control at minimum and slowly increase until desired volume is achieved without distortion.
- **Crossover Filters (X-OVER SELECTOR):**
  - **LP (Low Pass):** Allows only low frequencies to pass through, typically used for subwoofers. Adjustable from 40Hz to 160Hz.
  - **HP (High Pass):** Allows only high frequencies to pass through, typically used for full-range speakers. Adjustable

from 40Hz to 600Hz.

- **FLAT:** Disables the crossover filter, allowing all frequencies to pass through.
- **Bass Boost:** Provides an adjustable bass enhancement from 0dB to +18dB, centered around 45Hz. Use sparingly to avoid distortion.
- **Subsonic Filter:** Filters out extremely low frequencies (20Hz to 55Hz) that are below the audible range or harmful to subwoofers, improving sound quality and protecting speakers.

*Note:* Always make small adjustments and listen carefully to the audio output to prevent damage to speakers or the amplifier.

## MAINTENANCE

The Fusion AM Series amplifier is designed for durability in the marine environment. Regular, simple maintenance can help ensure its long-term performance.

- **Cleaning:** Periodically wipe the exterior of the amplifier with a soft, damp cloth. Avoid using harsh chemicals or abrasive cleaners.
- **Connections:** Annually inspect all wiring connections (power, ground, remote, RCA, speaker) to ensure they are secure and free from corrosion. Tighten any loose connections.
- **Ventilation:** Ensure that the area around the amplifier's heat sink remains clear of obstructions to allow for proper airflow and cooling.
- **Environmental Protection:** While designed for marine use, minimizing exposure to direct saltwater spray and extreme temperatures will prolong the life of the unit.

## TROUBLESHOOTING

If you experience issues with your Fusion AM Series amplifier, consult the following common troubleshooting steps before seeking professional assistance.

Problem	Possible Cause	Solution
No Power/Amplifier Not Turning On	Blown fuse; Loose power/ground connection; Faulty remote turn-on wire.	Check and replace fuse; Verify all power and ground connections are secure; Test remote wire for 12V signal.
No Audio Output	Loose RCA cables; Incorrect input level setting; Speaker wires disconnected or shorted; Head unit issue.	Ensure RCA cables are firmly connected; Adjust input level; Check speaker wiring for shorts or disconnections; Test head unit functionality.
Distorted Sound	Input level too high; Speaker impedance mismatch; Damaged speakers; Incorrect crossover settings.	Reduce input level; Verify speaker impedance (2 ohm stable); Inspect speakers for damage; Adjust crossover settings.
Amplifier Overheating	Insufficient ventilation; Overloaded speakers; Low impedance load.	Ensure clear airflow around heat sink; Check speaker impedance; Reduce volume or number of speakers if overloaded.

If the problem persists after attempting these solutions, contact Fusion customer support or a certified technician.

## SPECIFICATIONS

Attribute	Value
Model Number	010-01500-00 (MS-AM504)
Product Dimensions (L x W x H)	14.41 x 9.02 x 2.09 inches
Weight	7.17 Pounds
Voltage (Nominal)	12.25 Volts (DC)
Maximum Supply Voltage	16 Volts (DC)
Mounting Type	Surface Mount
Amplifier Class	Class-AB
Channels	4 Channel
Peak Power	500 Watts
Impedance Stability	2 Ohm Stereo Stable


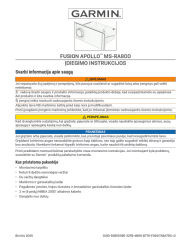

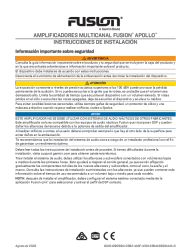

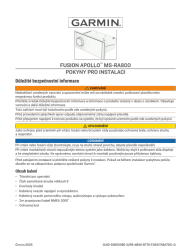
## WARRANTY INFORMATION

The Fusion AM Series Marine Amplifier comes with a **1-year limited consumer warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use. For full warranty terms and conditions, please refer to the documentation included with your product or visit the official Fusion website.

## SUPPORT AND ADDITIONAL RESOURCES

For further assistance, detailed wiring diagrams, or advanced troubleshooting, please utilize the following resources:

- **Official User Manual (PDF):** [Download PDF Manual](#)
- **Fusion Support Website:** Visit the official Fusion website for product registration, FAQs, and contact information for technical support.

	<p><a href="#">Fusion Apollo MS-RA800 Installation Instructions</a></p> <p>This document provides installation instructions for the Fusion Apollo MS-RA800 marine stereo, covering safety information, required tools, installation steps, connection details, and network setup.</p>
	<p><a href="#">Fusion Apollo MS-RA800 Installation Instructions</a></p> <p>This document provides installation instructions for the Fusion Apollo MS-RA800 marine stereo system. It covers safety information, mounting considerations, wiring diagrams, and network setup.</p>
	<p><a href="#">ISPI Marine Fusion FCC-SAR 3-Year Taiwan: Safety, Compliance, and Warranty Information</a></p> <p>This document provides essential safety warnings, regulatory compliance information (FCC, EU, Canada), software license agreement, and a 3-year limited warranty for the ISPI Marine Fusion FCC-SAR 3-year Taiwan model.</p>
	<p><a href="#">Fusion Apollo Multichannel Amplifiers Installation Guide</a></p> <p>Comprehensive installation instructions for Fusion Apollo multichannel marine amplifiers, covering safety precautions, required tools, mounting procedures, wiring and connection details, amplifier configuration using Fusion-Link, technical specifications, and troubleshooting tips.</p>
	<p><a href="#">Fusion Apollo MS-ERX400 Owner's Manual</a></p> <p>This manual provides operational instructions and information about settings for the Fusion Apollo MS-ERX400 wired remote control. It covers getting started, controls, stereo screen information, network setup with Fusion PartyBus, general settings, and troubleshooting.</p>
	<p><a href="#">Fusion Apollo MS-RA800 Installation Guide</a></p> <p>This guide provides detailed instructions for the installation of the Fusion Apollo MS-RA800 marine stereo system, covering safety precautions, required tools, mounting procedures, and wiring diagrams. It also includes information on network connectivity and troubleshooting.</p>