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Clarion APX490M

Clarion APX490M 4/3/2 Channel 720 Watt Max Amplifier

User Instruction Manual

1. Introduction

Thank you for choosing the Clarion APX490M 4/3/2 Channel 720 Watt Max Amplifier. This high-performance amplifier is designed to deliver powerful and clear audio for your vehicle's sound system. This manual will guide you through the proper installation, operation, and maintenance of your new amplifier to ensure years of reliable service.



Image 1.1: The retail packaging for the Clarion APX490M amplifier, showcasing the product name and key specifications.

2. Safety Information

- Always disconnect the vehicle's negative battery terminal before beginning any installation.
- Ensure proper ventilation around the amplifier to prevent overheating. Do not mount in enclosed spaces without airflow.
- Use appropriate gauge wiring for power, ground, and speaker connections as specified in this manual.
- Protect all wiring from sharp edges and moving parts. Use grommets where wires pass through metal.
- If you are unsure about any part of the installation process, consult a qualified professional installer.

3. Package Contents

Please check the contents of the box to ensure all items are present:

- Clarion APX490M Amplifier Unit
- Owner's Manual (this document)
- Mounting Hardware (screws)
- Accessory Bag (fuses, connectors, etc.)



Image 3.1: The Clarion APX490M amplifier unit, its original packaging, and the included instruction manual.



Image 3.2: The Clarion APX490M amplifier securely packaged within its retail box, showing the protective inserts.

4. Product Features

The Clarion APX490M amplifier boasts a range of features designed for superior audio performance:

- **720 Watts of Maximum Music Power:** Delivers robust power for dynamic sound reproduction.
- **90 W x 4 into 4 Ohms, 20 Hz - 50 kHz @ <0.1% THD:**Provides clean and powerful output for four channels at standard impedance.
- **180 W x 4 into 2 Ohms, 20 Hz - 50 kHz @ <0.1% THD:**Increased power output for lower impedance speaker configurations.
- **Variable Bass Extender, 0 - 15 dB @ 45 Hz:**Allows for adjustable bass enhancement to suit your listening preferences.
- **Adjustable -12 dB/oct. High/Low Pass Crossover:**Offers precise frequency filtering for optimal speaker performance (55 Hz - 550 Hz for front/rear, 550 Hz - 5.5 kHz for rear).
- **Mixed Mode Operation:** Provides flexibility in configuring speaker setups.
- **Conformal Coated Double-Sided PCB:** Enhances durability and protection against environmental factors.
- **Non-Corrosive Aluminum Heat Sink:** Efficiently dissipates heat for stable operation and extended lifespan.



Image 4.1: A detailed view of the key features and specifications printed on the Clarion APX490M amplifier's packaging.

5. Setup and Installation

5.1 Mounting the Amplifier

Choose a mounting location that provides adequate ventilation and is protected from moisture and direct sunlight. Ensure the amplifier is securely fastened to a solid surface using the provided mounting screws.

5.2 Wiring Connections

Proper wiring is crucial for optimal performance and safety. Refer to the diagrams below for correct connections.

Power and Ground Connections

- **+12V (Power):** Connect to the positive terminal of the vehicle's battery using a fuse (not included) within 18 inches of the battery.
- **GND (Ground):** Connect to a clean, unpainted metal surface of the vehicle's chassis. Ensure a solid, low-resistance connection.
- **REM (Remote):** Connect to the remote turn-on lead from your head unit.

Speaker Connections

Connect your speakers to the appropriate speaker terminals. Pay attention to polarity (+/-) for each speaker.



Image 5.1: A close-up view of the power input, ground, remote turn-on, and speaker output terminals on the Clarion APX490M amplifier.

Input Connections (RCA / High-Level)

Connect your head unit's RCA outputs to the amplifier's RCA inputs (CH1/2, CH3/4). If your head unit does not have RCA outputs, use the high-level input option if available.



Image 5.2: The control panel of the Clarion APX490M amplifier, showing RCA inputs, gain controls, bass boost, source select, and crossover settings.

6. Operating Instructions

6.1 Gain Control

The GAIN controls (CH1/2, CH3/4) adjust the input sensitivity of the amplifier. Set these controls to match the output voltage of your head unit. Start with the gain at minimum and slowly increase it until you hear distortion, then back off slightly.

6.2 Bass Boost

The BASS BOOST control allows you to enhance the low-frequency output. Adjust this to your preference, but be mindful of potential distortion at higher settings.

6.3 Crossover Settings

The APX490M features adjustable high-pass and low-pass crossovers. These filters allow you to direct specific frequency ranges to your speakers, optimizing sound quality and protecting speakers from unwanted frequencies.

- **HPF (High Pass Filter):** Allows frequencies *above* the set point to pass through. Useful for full-range speakers to prevent bass distortion.
- **LPF (Low Pass Filter):** Allows frequencies *below* the set point to pass through. Essential for subwoofers.

Adjust the crossover frequency (55 Hz - 550 Hz for front/rear, 550 Hz - 5.5 kHz for rear) according to your speaker types and desired sound.

6.4 Mode Operation

The amplifier supports various modes (e.g., 4-channel, 3-channel, 2-channel bridged). Refer to the specific mode switches on the amplifier and configure them based on your speaker setup (e.g., 2 pairs of full-range speakers, or 1 pair of full-range speakers + 1 subwoofer).

7. Maintenance

To ensure the longevity and performance of your amplifier:

- Keep the amplifier clean and free of dust. Use a soft, dry cloth for cleaning.
- Periodically check all wiring connections to ensure they are secure and free from corrosion.
- Ensure the amplifier's heat sink fins are not obstructed to allow for proper heat dissipation.

8. Troubleshooting

Problem	Possible Cause	Solution
No Power	Blown fuse; Loose power/ground connection; No remote turn-on signal.	Check/replace fuses; Verify all power, ground, and remote connections are secure.
No Sound	Loose RCA/speaker connections; Incorrect gain setting; Amplifier in protect mode.	Check all audio connections; Adjust gain; Check for shorted speaker wires.
Distorted Sound	Gain set too high; Incorrect crossover settings; Speaker impedance mismatch.	Lower gain; Adjust crossover; Verify speaker impedance matches amplifier's capabilities.
Amplifier Overheats	Insufficient ventilation; Speaker impedance too low; Prolonged high-volume use.	Ensure proper airflow; Check speaker impedance; Reduce volume or allow cool-down.

9. Specifications

Specification	Value
Product Model Number	APX490M
Brand	Clarion
Number of Channels	4/3/2 (Configurable)
Maximum Music Power	720 Watts
RMS Power (4 Ohms)	90 W x 4 (20 Hz - 50 kHz @ <0.1% THD)
RMS Power (2 Ohms)	180 W x 4 (20 Hz - 50 kHz @ <0.1% THD)
Variable Bass Extender	0 - 15 dB @ 45 Hz
Adjustable Crossover	-12 dB/oct. High/Low Pass

Specification	Value
Crossover Frequency Range	55 Hz - 550 Hz (Front/Rear), 550 Hz - 5.5 kHz (Rear)
Heat Sink Material	Non-Corrosive Aluminum
Product Dimensions (L x W x H)	38.74 x 23.16 x 38.74 cm (15-1/4" x 9-1/8" x 2-1/4")
Weight	4.06 kg
Manufacturer	Clarion Mobile Electronics
Global Trade Item Number (GTIN)	00729218016824

10. Warranty and Support

Clarion products are manufactured to the highest quality standards. This product is covered by a limited warranty provided by Clarion. Please refer to the warranty card included with your product for specific terms and conditions, or visit the official Clarion website for detailed warranty information and customer support contacts.

For technical assistance, troubleshooting, or warranty claims, please contact Clarion customer support through their official channels. Keep your purchase receipt as proof of purchase for warranty service.

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