

Radique Audio RA-Mini Compact Class D Amplifier

Owner's Manual & Product Guide

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1. Introduction & Overview

Welcome to the **Radique Audio RA-Mini Compact Class D Amplifier** — a powerful, versatile, and remarkably compact stereo amplifier designed to bring your passive speakers to life.

Whether you're building a desktop audio setup, upgrading a bedroom system, or adding a secondary listening zone to your home, the RA-Mini delivers clean, efficient amplification in a package small enough to sit in the palm of your hand.

Sold and supported by **Radique Audio**, Ottawa's home for quality audio gear — new, vintage, and everything in between.

2. What's in the Box

Your RA-Mini package includes:

- RA-Mini Compact Class D Amplifier
- External power supply (DC 19V / 3.47A, 65W)
- Power cable (region-appropriate)
- Speaker wire terminals (pre-installed gold-plated binding posts)
- Quick-start card with QR code linking to the full online owner's manual

3. Who Is the RA-Mini For?

The RA-Mini is an ideal solution for a wide range of listeners and use cases:

Perfect for:

- Audiophiles seeking a compact, high-quality amplifier for a secondary system
- Desktop or bookshelf speaker setups (home office, bedroom, studio)
- Anyone upgrading from a receiver to a dedicated stereo amp
- Multi-room audio enthusiasts who want an affordable zone amplifier
- Vintage audio fans pairing modern amplification with classic speakers
- New listeners building their first serious stereo system on a budget

Not ideal for:

- Large room, high-volume applications requiring more than 50W per channel
- Passive subwoofer-only setups (no dedicated subwoofer pre-out)
- Home theatre surround sound systems (stereo only)

4. Speaker Compatibility

The RA-Mini is designed to drive **passive (unpowered) speakers**. It is **not** compatible with active (powered/self-amplified) speakers for its speaker output connections.

Impedance

- **Optimal range:** 4–8Ω
- **Functional range:** 3–10Ω
- Speakers outside this range may result in reduced performance or trigger thermal protection

Sensitivity & Power Matching

The RA-Mini delivers 50 watts per channel into 4Ω. For best results:

- **Bookshelf and desktop speakers** (85–92 dB sensitivity): Excellent match
- **Floor-standing speakers** (88–95 dB sensitivity): Works well in small to medium rooms
- **High-sensitivity speakers** (95+ dB): Outstanding match with headroom to spare
- **Low-sensitivity speakers** (below 84 dB): May be underpowered in larger spaces

Speaker Terminal Compatibility

The RA-Mini features gold-plated 5-way binding posts that accept:

- Banana plugs, including Radique Audio banana plugs
- Spade connectors, including Radique Audio spade connectors
- Pin connectors, including Radique Audio pin connectors
- Bare wire (stripped speaker cable)

5. Getting Connected

△ Always Make Connections with the Power Off

Always connect your speakers and source components with the RA-Mini powered off. For the safest setup, the RA-Mini and all connected equipment should also be unplugged from AC power while you make or change any connections.

The recommended first-time setup sequence is:

1. With the RA-Mini unplugged, connect your speakers to the binding posts
2. Connect your source components (CD player, turntable, etc.) to the appropriate inputs
3. Plug the RA-Mini's power supply into a surge-protecting power bar that is switched off
4. Plug the surge-protecting power bar into a wall outlet
5. Turn on the power bar, then power on the RA-Mini

This sequence protects both the amplifier and your speakers from voltage transients during startup.

Step 1: Position Your Amp

Place the RA-Mini on a stable, level surface with at least 2–3 inches of clearance on all sides for ventilation. Avoid enclosed cabinets without airflow.

Step 2: Connect Your Speakers

1. Loosen the binding post terminals on the rear of the amp
2. Connect your right speaker cable to the R+ (red) and R- (black) terminals
3. Connect your left speaker cable to the L+ (red) and L- (black) terminals
4. Tighten the binding posts firmly
5. Double-check polarity – ensure positive (+) connects to positive and negative (-) to negative on both ends

Step 3: Connect Your Source

Choose your preferred input method (see Section 6) and connect accordingly before powering on.

Step 4: Power On

Press and hold the **volume knob** to power on. The LCD display will illuminate and show the active input mode.

You may hear a small pop from the speakers when the RA-Mini powers on. This is normal behavior for this style of amplifier and is not a sign of a fault. The RA-Mini uses a simple, direct signal path – similar to many classic amplifiers – so a brief startup pop is expected and harmless.

△ We strongly recommend always using a surge-protecting power bar to protect the RA-Mini and your connected audio equipment from power surges and spikes.

6. Input Sources

☒ Bluetooth 5.0 (Wireless Streaming)

Best for: Streaming from your phone, tablet, or computer

Supports: MP3, AAC, SBC codecs

Range: Up to 12 meters line-of-sight

Pairing: Simple one-time setup; auto-reconnects to your devices

Stream music from Spotify, Apple Music, YouTube, podcasts, audiobooks, or any app on your phone. Bluetooth 5.0 provides stable, fast connectivity even in typical home environments. When streaming via Bluetooth, your source device (phone, tablet, etc.) can act as a volume control for your system, giving you convenient remote adjustment without needing a separate remote control.

☒ RCA Stereo Input (Analog)

Best for: CD players, turntables (with phono preamp), AV receivers, DACs

Connection: Standard red/white RCA stereo cables

Note: if connecting a turntable directly, ensure it has a built-in phono preamp — the RA-Mini does not have a built-in phono stage.

☒ 3.5mm AUX Input (Analog)

Best for: Computers, laptops, tablets, and portable players with headphone/line outputs

Connection: Standard 3.5mm stereo audio cable

☒ USB Audio Input (Digital)

Best for: Playing music directly from a USB flash drive

Supported formats: MP3, WAV, FLAC, WMA, APE

☒ TF Card / MicroSD Input (Digital)

Best for: Standalone offline playback without a computer or phone

Supported formats: MP3, WAV, FLAC, WMA, APE

Input Summary Table

Input Method	Type	Formats	Best Use Case
Bluetooth 5.0	Wireless	MP3, AAC, SBC	Streaming from phone/tablet
RCA Stereo	Analog	Any (pre-converted)	CD players, turntables, DACs
3.5mm AUX	Analog	Any (pre-converted)	Computer, tablet, portable player
USB Audio	Digital	MP3, WAV, FLAC, WMA, APE	Flash drive playback
TF Card / MicroSD	Digital	MP3, WAV, FLAC, WMA, APE	Standalone offline playback

7. Technical Specifications

Power & Amplification

Output Power: 50W per channel @ 4Ω impedance (100W total stereo)

Amplifier Class: Class D (high efficiency, minimal heat)

Speaker Impedance: 4–8Ω optimal; 3–10Ω functional range

Thermal Performance: Passive cooling (no fan, completely silent)

Thermal Safety: Automatic overheating protection

Physical Specs

Dimensions: 100mm (W) × 100mm (D) × 50mm (H) | 3.94" (W) × 3.94" (D) × 1.97" (H)

Weight: 160g (5.6 oz)

Chassis: High-quality plastic (durable, lightweight)

Finish Options: High Gloss Black, Faux Wood Grain Walnut

Feet: Metal feet for ventilation and aesthetic placement

Power Supply (Included)

Input: AC 100–240V, 50–60Hz (worldwide voltage auto-switching)

Output: DC 19V / 3.47A (65.93W)

Connector: 5.5mm × 2.5mm barrel jack (center-positive)

Cable Length: ~1.2 meters

Certifications: CE, FCC approved

Digital Audio Processor

Chip: AC6926A (Jieli Technology)

DAC Type: Digital-to-analog conversion

SNR (Signal-to-Noise Ratio): ≥95 dB

Frequency Response: 20Hz – 20kHz (full audible spectrum)

Dynamic Range: 90 dB

Supported Formats: MP3, WAV, FLAC, WMA, APE

Bluetooth Connectivity

Bluetooth Version: 5.0

Range: Minimum 12 meters (line-of-sight, barrier-free)

Pairing: Simple – press Mode button, pair device, auto-reconnects

Device Compatibility: iOS, Android, Windows, Mac, Linux

Audio Output

Speaker Terminals: Gold-plated 5-way binding posts

Compatible Connectors: Banana plugs, spade connectors, pin connectors, bare speaker wire

Speaker Compatibility: Passive speakers (4–8Ω optimal)

Power Delivery: Full 50W per channel @ 4Ω

Front Controls

Control	Function
Previous / Rewind (◀)	Skip to previous track (USB/TF Card modes)
Play / Pause (II)	Pause playback
Mode Button (M)	Cycle through inputs (Bluetooth → USB → TF Card → AUX)

Control	Function
Next / Forward (▶)	Skip to next track (USB/TF Card modes)
Volume Knob (Rotary)	Master volume control: clockwise = increase, counterclockwise = decrease. Press and hold to power on or off.
Digital LCD Display	Shows input mode, volume level, Bluetooth status

Environmental

Operating Temperature: 0°C to 40°C (32°F to 104°F)

Storage Temperature: -20°C to 60°C (-4°F to 140°F)

Humidity: Standard room humidity (no special requirements)

Ventilation: Minimal; 2–3 inches clearance on all sides recommended

8. Power & International Use

The RA-Mini Amp features **universal voltage input (100–240V, 50–60Hz)**, meaning it automatically adapts to power systems worldwide. No converter needed — just replace the power cable to match your local wall outlet, and you're all set.

What This Means:

- Works in any country without voltage conversion
- Automatically detects and adjusts to local AC power
- No extra equipment required
- Safe and reliable operation globally

When traveling internationally or relocating:

1. Simply swap the power cable for one matching your destination's outlet type
2. Confirm the outlet is 100–240V compatible (standard in most countries)
3. Plug in and power on — no setup changes needed

The RA-Mini Amp runs cool and efficiently with minimal heat generation. Ensure adequate ventilation around the unit for optimal performance and longevity.

△ We strongly recommend always using a surge-protecting power bar to protect the RA-Mini from power surges and voltage spikes that could damage the amplifier or connected equipment.

9. Front Panel Controls

Power On / Off

Press and hold the volume knob to power the unit on or off.

Volume Control

Rotate the volume knob clockwise to increase volume, counterclockwise to decrease.

Selecting Your Input

Press the Mode (M) button to cycle through available inputs:

Bluetooth → USB → TF Card → AUX (RCA/3.5mm)

Track Navigation (USB & TF Card Modes)

- Press ◀ to skip to the previous track
- Press ▶ to skip to the next track
- Press II to play or pause

LCD Display

The backlit LCD display shows:

- Currently active input mode
- Volume level
- Track information (USB/TF Card modes)
- Bluetooth pairing/connection status

10. Subwoofer Compatibility

The RA-Mini Amp works with active subwoofers that feature high-level inputs and outputs. This is common on quality modern subs.

How to Connect:

1. Simply connect the speaker outputs from the RA-Mini to the subwoofer's high-level inputs
2. Connect an additional set of speaker cables from the subwoofer's high-level outputs to your speakers
3. The subwoofer's internal crossover handles the bass separation
4. You'll get full bass integration without a dedicated subwoofer output

What It Doesn't Have:

- No dedicated subwoofer pre-out connector (typical for amplifiers in this size/price category)
- But high-level passthrough on modern active subs = full bass management anyway

Result: You get complete bass management and a fully integrated audio system. The RA-Mini Amp's speaker outputs can drive your main speakers while providing audio signal to your active subwoofer simultaneously through high-level connections.

11. Bluetooth Streaming

Pairing Your Device

1. Power on the RA-Mini and press **Mode** until the display shows Bluetooth mode
2. On your phone or device, open Bluetooth settings
3. Select "RA-Mini" (or similar) from the list of available devices
4. Pairing is complete — the amp will auto-reconnect to this device in future sessions

Tips for Best Bluetooth Performance

- Keep your source device within **12 meters** of the amp for optimal signal
- Walls, furniture, and appliances can reduce effective range
- Your phone or tablet's volume slider controls the overall system volume when streaming via Bluetooth

12. Basic Troubleshooting

If you run into an issue, the following quick checks resolve the most common situations. If you still need help, contact us at sales@radique.com — our Ottawa-based team is happy to assist.

The unit does not power on

- Confirm the power supply is firmly seated in the DC barrel jack on the rear of the amp
- Confirm the power supply is plugged into a live outlet or surge bar that is switched on
- Try pressing and holding the volume knob for 2–3 seconds

No sound from one or both speakers

- Confirm the correct input is selected — press **Mode** to cycle through inputs until your source is active
- Check that speaker cables are firmly connected to the correct binding posts and that polarity is correct (red to red, black to black)
- Confirm the source device (phone, CD player, etc.) is playing audio and its volume is turned up
- Verify the RA-Mini's volume is not at zero

Sound is distorted or buzzing

- Reduce the volume level – very high volume levels can cause distortion, especially with lower-sensitivity speakers
- Check that speaker cable insulation is not touching between the positive and negative terminals (potential short circuit)
- Try a different input source to rule out the source device as the cause

Bluetooth will not pair

- Press **Mode** until the display shows Bluetooth mode
- On your phone, go to Bluetooth settings, forget or delete any previous "RA-Mini" pairing, then search again and re-pair
- Ensure your source device is within range (within 12 meters, minimal obstructions)
- If the amp was previously paired to another device, that device may be auto-reconnecting – power off or disable Bluetooth on nearby devices that may have previously paired with the RA-Mini

Bluetooth audio cuts out intermittently

- Move the source device closer to the amp and reduce obstructions (walls, large metal objects)
- Reduce interference from nearby Wi-Fi routers or other Bluetooth devices
- On your phone, toggle Bluetooth off and back on, then reconnect

Unit powers off unexpectedly

- The RA-Mini has automatic thermal protection that will shut it down if it overheats
- Ensure at least 2–3 inches of clearance on all sides and that the unit is not in an enclosed cabinet without airflow
- Allow the amp to cool for a few minutes before powering it back on

USB or TF Card playback is not working

- Confirm files are in a supported format: MP3, WAV, FLAC, WMA, or APE
- Ensure files are stored in the root directory of the USB drive or TF card, not inside subfolders
- Try a different USB drive or TF card to rule out a media issue

13. Warranty & Support

Manufacturer Warranty

The RA-Mini Amp comes with a **1-year manufacturer warranty** that covers defects in materials and workmanship.

Coverage:

- Duration: 1 year from date of purchase
- Covers: Manufacturing defects, component failures, and performance issues
- Does not cover: Accidental damage, misuse, water damage, or normal wear and tear

How to Claim

1. **Keep your receipt and documentation** – Required for warranty claims
2. **Contact our local tech support** – We're here to help with any issues
3. **Return or repair** – Defective units can be repaired or replaced under warranty

Local Ottawa-Based Support – Our Differentiator

We stand behind the RA-Mini Amp with **direct, responsive local tech support**:

Email: sales@radique.com

Our Ottawa-based Radique team provides personalized assistance for setup, troubleshooting, compatibility questions, and warranty service. No outsourced support – just direct access to experts who know the product inside and out.

14. Conclusion & Next Steps

The RA-Mini Amp delivers **impressive amplification in a compact, versatile package**.

Key Takeaways:

- Compact yet powerful (50W per channel) – perfect for bedrooms, offices, or smaller living spaces
- Multiple input options – Bluetooth, RCA, AUX, USB, and TF Card
- Active subwoofer compatible – full bass management through high-level connections
- Built to last – 1-year warranty backed by local Ottawa-based support

Your Next Steps

1. **Always make connections with the power off** – Before connecting or changing any speakers or source components, ensure the RA-Mini is powered off and ideally unplugged for the safest setup
2. **Verify Your Speaker Compatibility** – Confirm your speakers are passive (unpowered) and check impedance ratings

3. **Plan Your Connections** – Decide which input sources you'll use

4. **Consider Your Layout** – Plan speaker placement and subwoofer positioning (if applicable)

5. **Get in Touch** – Have questions? Contact our Ottawa-based Radique team at sales@radique.com

The RA-Mini Amp is waiting to transform your audio experience. Start streaming, start enjoying, and discover what quality amplification can do for your favourite music.

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