



HAVOC ROAR

ROADLOCK AMPLIFIER BRACKET INSTALLATION

For Aquatic AV AD500.4 4-Channel Amplifier (for use with Aquatic AV HS113 ULTRA+ RGB Highway Bar Speakers and HG099/HG100 ULTRA 6x9 RGB Saddlebag Speaker Kits)

Please read the complete instructions before you begin.

Before you begin, we recommend that you have on hand:

- A Step Drill Bit (unibit)
- A small tube of Black RTV Silicone on hand to seal the grommets in your saddlebag, once installed.

Drilling & Grommet Installation

Pro Tip: We are installing the amplifier in the **Left-Hand (Clutch Side)** saddlebag. This is the "low side" when parked on the kickstand, leaving the high-side bag free for your daily gear.

Step 1: Remove the Factory Hardware

1. Open the left saddlebag and remove it from the bike.

Precision Note: Use a **Step Drill Bit** (Unibit) for the cleanest holes. Standard twist bits can "grab" the fiberglass or plastic and cause cracking.

Understanding The Routing Path

Pro tip: We kept the grommets to the smallest size possible for best moisture sealing. The connectors go through the grommets BEFORE the grommets are installed in the bag. Once the grommets are in the panel, there is less "give" to get the connectors through.

- **Grommet No.1 = RCAs:** These go through the first grommet. If you feed one through first, the second one will slide across the wire and through the grommet.

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- **Grommet No.2/3 = Speakers + Power & Ground:** Feed the mini Deutsch Connectors on the Speaker Leads (from the 6.5” Pods) through the grommet first. Then, slide the amplifier power, then amplifier ground through.

Step 1: Mark Your Location

- Identify a spot on the **back wall** of the left saddlebag, near the **front** (closest to the rider).
- Stay high, nearly level with the mounting hardware for the saddlebag. This keeps the wires high and dry.
- Space the two marks at least **2 inches** apart to ensure the grommet flanges don't overlap(either one on top of the other, or side by side)

Step 2: Drilling

Note: The 1998-2013 and 2014-2024 saddlebags have different material thickness. Please select the appropriate size drill for Amp Power and Speaker Wire for the year of your bike.

Bag Year	Hole (Unibit Size)
1998–2013	3/4”
2014–Present	13/16”

Note: While our silicone grommets are engineered to lock perfectly onto the OEM Harley-Davidson saddlebags , aftermarket bags with thicker fiberglass or thinner plastic walls may require you to source alternate grommets.

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Replacing the Bag and Securing the Saddlebag & Amp Bracket

Before reinstalling the bag on the bike, gently pry the factory **Dzus spring clips** off the saddlebag brackets with a flat blade screwdriver. Set them aside, you won't be needing them.

Step 2: Install the RoadLock Bolt Clips

1. Take the two **Stainless Steel Bolt Clips** from your hardware kit.
2. Slide them onto the saddlebag bracket where the old clips were located. Ensure the threaded "nut" side is facing the inside of the bike.

Step 3: Mounting the RoadLock Bracket

1. Set the saddlebag back onto the lower support rail of the bike.
2. Place the **RoadLock Amplifier Bracket** inside the bag, aligning its mounting slots with the holes in the saddlebag and the new clips on the frame.
3. Assemble your **Stainless Hardware** in this specific order for each hole:
 - **The Large Flat Washer** (goes against the rubber cushion/bracket)
 - **The Lockwasher** goes directly under the bolt head
4. Thread the bolt through the bracket and bag into the frame clip.

Step 4: Tighten and Secure

1. Using a wrench or socket, tighten the bolts until the lock washer is flat and the bracket is rock-solid.
2. **The Result:** Your bag is now physically bolted to the frame. Unlike the factory pins, these cannot be removed with needle-nose pliers from the outside, protecting your bag and your high-end amplifier from theft.

Now that the amplifier is securely mounted and the wires are routed into the bag, it's time to complete the audio connections.



Routing the Signal (RCA & Speaker)

Identify the RCA leads from the Head Unit. To prevent "alternator whine" and ensure a clean signal from the head unit to the saddlebag, follow this specific path:

- **The Headstock:** Start at the radio and secure the RCAs inside the nacelle to the factory wire bundles at the neck using zip ties, ensuring enough slack for the handlebars to lock full-left and full-right without tugging the cables.
- **Under the Tank:** Follow the frame rail on the **Left (Clutch) Side**. Use the existing plastic wire troughs if there is room, or zip-tie the RCAs securely to the top of the frame rail so they aren't pinched when the tank is bolted down.
- **Left Frame Rail (Under Seat):** Continue along the left rail, keeping the RCAs physically separated from the amp power harness as much as possible.
- **Into the Bag:** Route the RCAs through the grommet one at a time.

The Power/Signal Split: To prevent electromagnetic interference (EMI) or "alternator whine," we keep the RCA cables and speaker wires in one grommet, physically separated from the high-current 8 AWG power lines in the other grommets

Installation: Only now that the bag and the amp are on the bike, push the RCAs and speaker connectors through the **Silicone Rubber Grommets** before you pop them into the hole. Ensure that the outer flange seals against the bag.

RCA Connections – 4-Channel Stereo Mode

This system uses all four AD500.4 channels independently. The FRONT channels power the HS113 ULTRA+ RGB highway bar speakers, and the REAR channels power the HG099 (1998-2013) or HG100 (2014-2024) ULTRA 6x9 RGB saddlebag speakers. No amplifier channels are bridged.

The GP1 provides Left (White) and Right (Red) RCA output leads. Because the AD500.4 uses four RCA inputs for independent FRONT and REAR channel operation, the supplied RCA Y-splitters duplicate the Left and Right signal to both channel pairs.

- Plug one RCA Y-splitter into the Left (White) RCA lead from the GP1. Connect one branch to the FRONT LEFT input and the other branch to the REAR LEFT input.

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- Plug the second RCA Y-splitter into the Right (Red) RCA lead from the GP1. Connect one branch to the FRONT RIGHT input and the other branch to the REAR RIGHT input.

That's it. The same stereo signal is sent to both channel pairs, while the amplifier's FRONT channels independently power the highway bar speakers and the REAR channels independently power the saddlebag speakers.

Ensure the physical Input Level switch on the side of the amplifier is set to "Low" (RCA mode).

Speaker Wiring Connections (4-Channel Stereo Mode)

Your connectors are pre-wired. Simply connect each speaker harness to its matching labeled amplifier output. No bridging or output pairing is required.

- FRONT Channels: Connect the HS113 ULTRA+ RGB highway bar speakers to the FRONT LEFT and FRONT RIGHT outputs.
- REAR Channels: Connect the HG099 (1998-2013) or HG100 (2014-2024) ULTRA 6x9 RGB saddlebag speakers to the REAR LEFT and REAR RIGHT outputs.

For reference only, this is the amplifier output wiring used for each speaker:

Speaker Location	Amp Wire (Output Side)	Amp Label Reference	Application
FRONT LEFT	White (+) / White-Black (-)	OUTPUT FRONT LEFT	HS113 ULTRA+ RGB Highway Bar
FRONT RIGHT	Grey (+) / Grey-Black (-)	OUTPUT FRONT RIGHT	HS113 ULTRA+ RGB Highway Bar



Speaker Location	Amp Wire (Output Side)	Amp Label Reference	Application
REAR LEFT	Green (+) / Green-Black (-)	OUTPUT REAR LEFT	HG099 / HG100 ULTRA 6x9 Saddlebag
REAR RIGHT	Purple (+) / Purple-Black (-)	OUTPUT REAR RIGHT	HG099 / HG100 ULTRA 6x9 Saddlebag

Step 4: Final Protection

- DO NOT Adjust Gain or Crossover Settings: The complete 4-speaker system is pre-tuned and bench-tested for the HS113 ULTRA+ highway bar speakers and HG099/HG100 ULTRA 6x9 saddlebag speakers.
- Changing these settings can cause distortion or speaker damage and may void the warranty.

Final Power Assembly & Battery Connection

With the wires routed through the grommets, you are ready to assemble the main power disconnect and "fire up" the system.

1. Power Connector Assembly (Harness Side)

Gently pull the wires from the Black Plug on the Amplifier Power Harness, noting the orientation (orientation matters!).

Slide the wires with the terminals through the grommet. Then, push the wires back into the black plug until they slick into place, to re-make the connector.

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- **Ensure that RED on the harness goes to the RED wire on the amp, and BLACK on the harness goes to the BLACK wire on the amp.**

2. Connecting the Amplifier

- **Remote Wire:** Connect the **Blue "Wake Up" wire** from the amp to the blue wire on the GP1 power harness so the amp turns on and off with the ignition.

If there is any open space in the grommet after routing your wires, apply a small bead of **Black RTV Silicone** to the gap once the installation is complete. This prevents water from traveling down the harness and into your electronic connections. Allow it to skin over for at least an hour before riding.

Battery Connection & Power-Up

⚠ SAFETY FIRST: Ensure the main fuse is **REMOVED** from the fuse holder before beginning. Do not insert the fuse until the very last step.

Order	Action	Connection Point
First	Positive Connection	Connect the RED ring terminal to the Positive (+) battery post.
Second	Negative Connection	Connect the BLACK ring terminal to the Negative (-) battery post.
Third	Remote Turn-On	Connect the thin Blue wire to the blue wire in the GP1 Power Harness

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Final Power-Up

1. **Inspect:** Confirm that both terminal bolts are tight and that no 8 AWG wire is pinched under the seat or frame.
2. **Fuse Insertion:** Insert the provided fuse into the waterproof fuse holder.
3. **Test:** Turn the bike's ignition to "ACC" or "ON." The amplifier should power up.

The "Goldilocks" Gain & Crossover Settings

Your amplifier has been pre-calibrated and bench-tested for two different speaker types. The FRONT gain is set for the HS113 ULTRA+ RGB highway bar speakers, and the REAR gain is set for the HG099/HG100 ULTRA 6x9 RGB saddlebag speakers. Please do not change these settings. The gain controls are not volume knobs – they are input sensitivity matches.

Pro-Tip: The system is tuned for real motorcycle use. The highway bar speakers emphasize the mids and highs that cut through wind and engine noise, while the 6x9 saddlebag speakers provide additional lower-frequency output and rear fill.

Why We Use Different Crossovers

- The HS113 6.5-inch speakers have a published frequency response beginning at 60Hz, while the HG099/HG100 6x9 speakers extend lower, beginning at 45Hz. The AD500.4 provides independently adjustable FRONT and REAR crossover points, allowing each speaker type to be protected and tuned appropriately.
- Highway Bar Protection: The FRONT channels use a higher high-pass point to reduce deep bass and excessive cone excursion in the 6.5-inch speakers at highway volume.
- Saddlebag Performance: The REAR channels use a lower high-pass point so the 6x9 speakers can use more of their available low-frequency range without being asked to reproduce unnecessary sub-bass.

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For future reference, your settings are as follows:

1. Gain Control (Input Sensitivity)

- FRONT Gain (HS113 ULTRA+ RGB): Bench-set. Do not adjust.
- Target Voltage: 17.3V AC per FRONT channel (75W RMS into 4 Ohms, measured with a 1kHz test tone at Head Unit Volume 36).

REAR Gain (HG099/HG100 ULTRA 6x9): Bench-set. Do not adjust.

- Target Voltage: 20.0V AC per REAR channel (100W RMS into 4 Ohms, measured with a 1kHz test tone at Head Unit Volume 36).
- 2. Crossover (Frequency)
- FRONT Channels: HPF (High Pass Filter), approximately 80Hz–90Hz for the HS113 ULTRA+ RGB highway bar speakers.
- REAR Channels: HPF (High Pass Filter), approximately 60Hz for the HG099/HG100 ULTRA 6x9 RGB saddlebag speakers.

Purpose: The higher FRONT crossover protects the 6.5-inch highway bar speakers from excessive low-frequency excursion, while the lower REAR crossover allows the 6x9 saddlebag speakers to contribute useful bass and lower mid-bass.

- 3. Audio Source (Head Unit)
- Max Clean Volume: 36 (on a 0-40 scale).
- EQ Settings: Bass OFF (or Flat).

Loudness: OFF.

This ensures maximum clean volume without pushing the amplifier or speakers into a damaging clipping condition.

- ⚠ THE GOLDEN RULE: Do NOT touch the FRONT or REAR Gain controls or the Crossover settings!

Warranty Note: Tampering with the security seals on the gain controls voids your warranty.

1 x Aquatic AV AD500.4 Amplifier, pre-installed & Wired
1 x RoadLock Amplifier Bracket
1 x Hardware Kit (2x bolts, 2x lockwashers, 2x flat washers)
1 x Grommet Pack (1998-13 or 2014-later)
1 x HRB Power Plug

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1 x RCA Lead (connect to Head Unit – run to saddlebag)
2 x RCA Y-Splitters (duplicate Left/Right GP1 signal to FRONT and REAR RCA inputs)
2 x 4" UV Resistant Cable Ties

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