

POWERSPORTS 2-CHANNEL AMPLIFIER



RECOIL[®]

AMP320.2

Powersports 2-Channel Class-D Full-Range Amplifier
User Manual

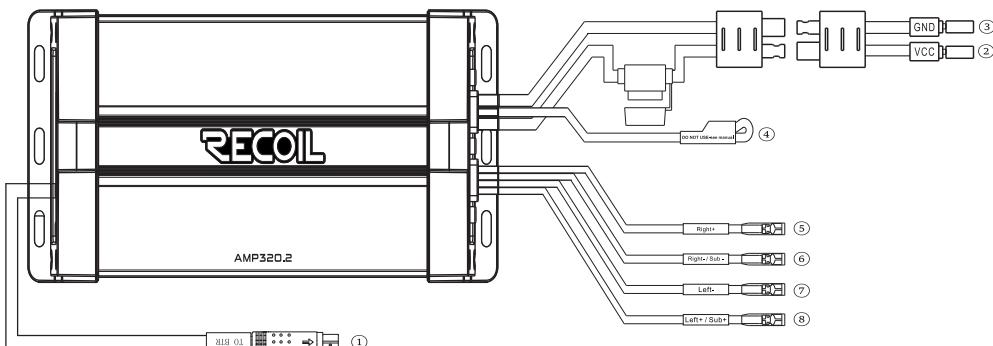
Owner's manual AMP320.2

The AMP320.2 amplifier is a state of the art Class-D amplifier designed to provide great amplification in a small space for your marine or off-road audio system. The AMP320.2 is a 2-channel full range amplifier with fully variable high pass and low pass crossovers enabling it to drive a wide variety of either full range speakers or subwoofers. The AMP320.2 amplifier is meant to work with the Recoil Bluetooth® controller. However a RCA adapter is included in case you wish to use a different head unit. For more details contact us at support@recoilau-dio.com.

What's Included

- 2-channels marine amplifier
- 8' power wire
- 40A fuse and fuse holder
- 4 pcs of mounting screws
- 1pc micro DIN to RCA adapte

| WIRE# | COLOR CODE | FUNCTION |
|-------|-------------|-------------|
| 2 | Red | +12V |
| 3 | Black | Ground |
| 4 | Blue | Remote |
| 5 | Grey | Right+ |
| 6 | Grey/Black | Right-/Sub- |
| 7 | White/Black | Left+ |
| 8 | White | Left-/Sub+ |



1. Input - waterproof DIN plug allows you to connect your AMP320.2 amplifier to the Recoil Bluetooth® controller/receiver or to our RCA adapter - MD-FR.
2. Red / positive power wire - includes a 40A fuse and fuse holder.
3. Black / ground wire.
4. Blue / remote Turn On - if you use the Recoil controller as the head unit, DO NOT use this Blue wire. In case you use a different source/ head unit, you'll need to use our RCA adapter, model MD-FR.
5. Output channels.

IMPORTANT! (Dear customer, read this before you install)

1. WATER DAMAGES TO YOUR AMP320.2 AMPLIFIER, ARE NOT COVERED BY THE PRODUCTS WARRANTY:

Our engineering team designed the AMP320.2's chassis to be Marine rated, but you must install it where it's protected from water/mud at all time. The sealed structure is designed and constructed to protect the amplifier in case it accidentally gets wet, but it is your responsibility to limit the amp's exposure to water:

- Install the amplifier in a dry area where water and mud can't reach it.
- Do not clean the amplifier with high pressure or regular water hose. If needed, cover it while washing your vehicle.

2. DO NOT use the Blue remote-in wires on your amplifier if you use the Recoil controller as your head unit:

Your AMP320.2 amplifier connects to the controller with our unique micro DIN plug. This Plug already includes a remote trigger feature in it. Thus, you should not use the Blue remote-in wire.

In case you use a different head unit / audio source, you should use our RCA adapter, model MD-FR.

3. Take the amplifier's power wires directly to your battery

Just go directly to the battery. Not through a 'busbar' or 'power bar'. Your AMP320.2 amplifier requires a lot of power. Go directly to the source. To the battery's terminals.

Email our support team at: support@recoilaudio.com if you have any doubts or questions.

Setup

A. Installation Applications:

The AMP320.2 is designed for operation with 12 volts, negative-ground electrical systems. Using this product in systems with positive ground and/or voltages other than 12V may result in damage to the product and will void the warranty.

B. Safety Considerations:

- Though this is a Marine IPX7 rated amplifier, mount the amplifier where it will be protected from water/mud at **all time**. Water damages are not covered by the warranty.
- While installing the amplifier, strive to find a dry and well-ventilated spot for it.



Leaving an amplifier sealed to the elements at IPX7 level means that heat generated from the amp has nowhere to escape. Playing hard with your AMP320.2 might get it Hot. **That's fine and normal.** But, avoid touching the amplifier's surface during or right after use.

 Do not mount the amplifier in the engine compartment or in any areas of extreme heat.
CAUTION Mounting the unit in the engine compartment will void your warranty.

- Securely mount the amplifier so that it does not come loose in the event of a collision/sudden jolt or as a result of repeated vibrations during normal operation.
- Check before drilling to make sure that you will not be drilling into an exterior panel/hull, fuel tank, gas/brake line, wiring harness, or other vital system.

 Do not run system wiring outside or underneath the vehicle/vessel. This is an extremely dangerous practice, which can result in severe damage/injury.

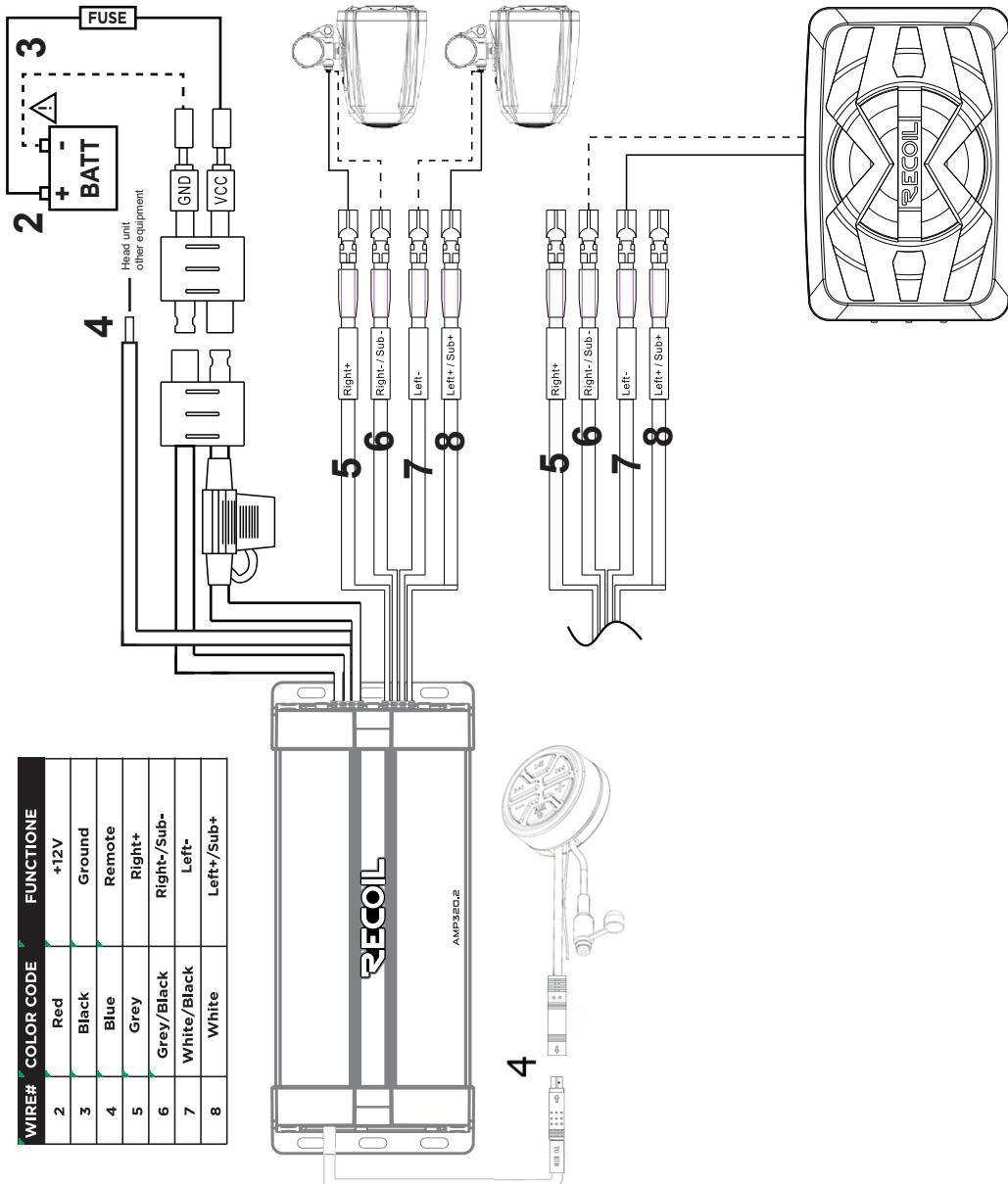
- Protect all system wires from sharp edges (metal, fiberglass, etc.) by carefully routing them, tying them down and using grommets and loom where appropriate.
- Secure all wiring as needed, using cable ties or wire clamps to protect them from moving parts and sharp edges.

C. Battery and charging:

Though your AMP320.2 control panel is already adjusted and pre-tuned, in time or for different reasons you might want to re-tune and readjust it. Take your time and make only one adjustment at a time. It may take some time to get the system fully adjusted. During this time, the amp is drawing current from the battery. You should check the battery voltage from time to time and recharge it if it gets low.

 Amplifiers will put an increased load on the vehicle's battery and charging system. We recommend checking your alternator and battery condition to ensure that the electrical system has enough capacity to handle the increased load of your stereo system. Stock electrical systems which are in good condition should be able to handle the extra load of the AMP320.2 amplifier without problems, although battery and alternator life can be reduced slightly. To maximize the performance of your amplifier, we suggest the use of a heavy-duty battery and an energy storage capacitor.

Refer to section D



D. Installation Procedure Connections:

 **CAUTION** If you feel unsure about installing this system yourself, have it installed by a qualified technician.

 **CAUTION** Before installation Disconnect the NEGATIVE battery post connection and secure the disconnected cable to prevent accidental reconnection during installation. This is an essential safety precaution during installation!

 **CAUTION** Avoid running power wires near the low-level input cables, antenna, power leads, sensitive equipment or harnesses. The power wires carry substantial current and could induce noise into the audio system.

1. Connect the RED power lead to the positive (+12V) battery post.
2. We strongly recommend to run the Black/Ground power cable to the negative(-12V) battery post.

 **Blue/Remote Turn-On should not be used. The Recoil controller is able to power trigger your amplifier**

3. Your AMP320.2 already includes a 40A fuse. The AMP320.2 power wires are 8' long, while the fuse housing located on the Red/Positive power wire at 5' of wire from the amplifier.

 You have plenty of power wire length before the fuse holder (5'). Strive to leave no more than 18" (45.7 cm) of wire between the fuse holder and the battery positive (+12V) terminal. You can cut the remaining wire.

4. Connect the Recoil Bluetooth® male controller DIN plug or the RCA adapter to the AMP320.2's female DIN plug.

*** Follow the arrows on the micro DIN plug of both amplifier and controller. Push the two plugs to connect only after the arrows are aligned. Plugging these plugs in the wrong direction while the arrows are not aligned can lead to bent or broken pins inside the Bluetooth's plug.**

**Powering the AMP320.2 amplifier.Long pressing your Bluetooth controller's power button for few seconds will trigger both the Bluetooth controller and the AMP320.2 amplifier ON/OFF.

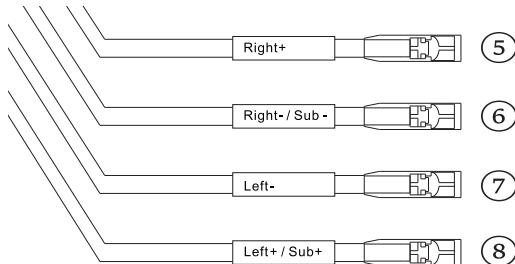
5. Run the speakers wires to the amplifier's output.

Make sure about correct polarity when connecting your speakers to the amplifier.

speaker's Red wire (+) should connect to color (+) output channels.

speakers's Black wire (-) should be connected to color / Black (-) output channels.

Speaker connection color codes:



| WIRE# | COLOR CODE | FUNCTION |
|-------|-------------|-------------|
| 2 | Red | +12V |
| 3 | Black | Ground |
| 4 | Blue | Remote |
| 5 | Grey | Right+ |
| 6 | Grey/Black | Right-/Sub- |
| 7 | White/Black | Left- |
| 8 | White | Left+/Sub+ |

6. If you haven't already done so, mount the amp now.
7. Now you should be good to go and play tunes for the first time.

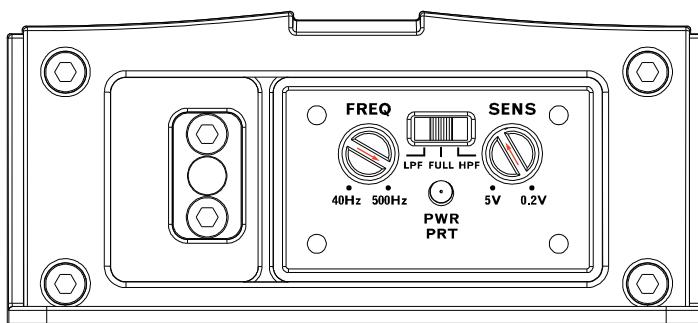
E. Control Panel Settings and Adjustments:

The amplifier's settings and controls are located on the side panel beneath a gasketed, protective cover. Remove the five Allen head screws from the center panel to access the controls and make adjustments. Replace cover when finished and mount the amplifier.

IMPORTANT! Your AMP320.2 amplifier control panel was preset to work as part of the Recoil complete audio kit.

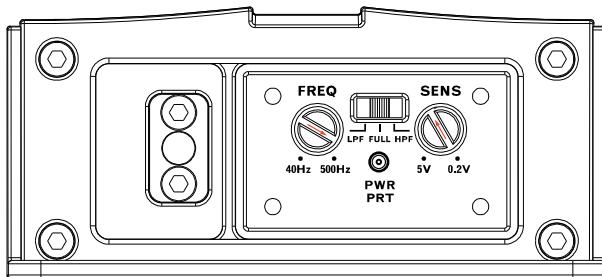
This is your AMP320.2 default settings:

Front channels - White and White/black outputs, Set at full range. Rear Channels - Grey and Grey/black outputs, Set at full range. If you do use a subwoofer you will want to bridge the by using the Grey/black and White outputs.



Power/Protect Indicator:

This indicator will light up RED upon initial amp start up. If all connections are OK, with in 3-5 seconds the light will turn BLUE. If a condition of protect (short circuit, over/under voltage) occurs the light will turn to RED until the condition of protect is resolved.

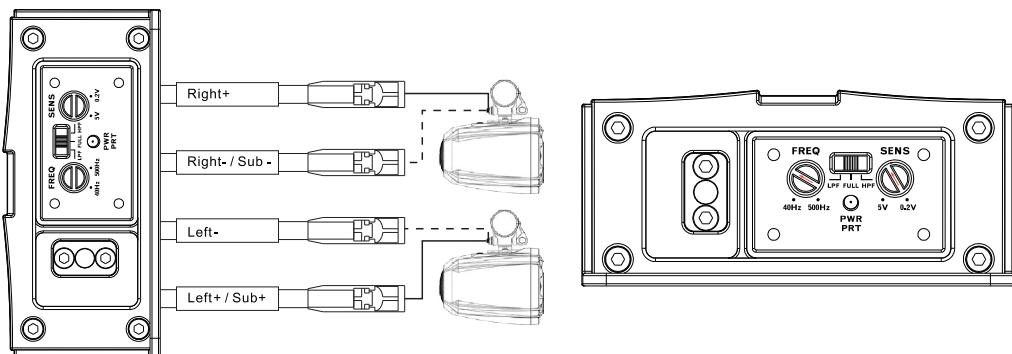


AMP320.2 modes:

2 channel stereo mode: 1 Stereo Front + 1 Stereo Rear Output Using the amplifier with 2 full range speakers will require you to change the settings.

* Input gain(SENS) should be tested and tuned in accordance with the used speakers and audio Source.

** Crossover control should be tuned to 'FULL'



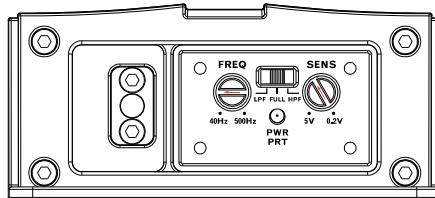
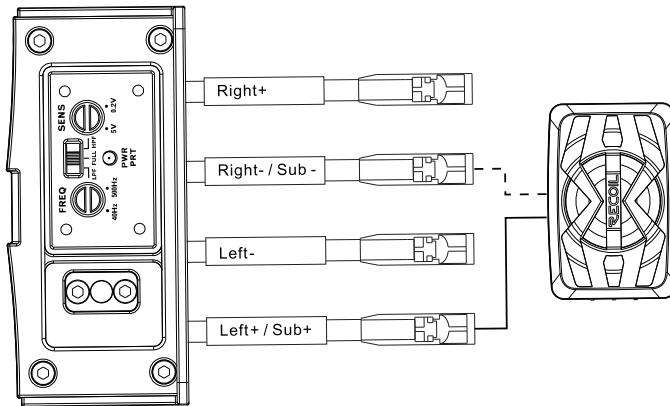
Bridge mode: 1 Bridged Outputs

The AMP320.2 can be bridged on Left and Right outputs to deliver 400watt RMS power.

* Input gain (SENS) should be tested and tuned in accordance with the used speakers and audio Source.

*DO NOT bridge the AMP320.2 to power the R65 speakers or other speakers with relative low power handling. It might lead to a burnt voice coils and damaged speakers.

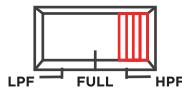
***The drawing below shows the AMP320.2's crossover settings as both Full rang and LPF (Low-pass).This is to emphasis that it can be used either way.Set it in accordance to the speakers being used (e.g. subwoofer VS full range speaker)



Filter mode and Sensitivity ('GAIN') settings:

Filter mode:

HPF - (High-Pass) Configures Filter to Attenuate Frequencies BELOW the Selected Filter Frequency.



SENS - Gain settings:

This control is used to match the input of the amplifier to the source unit. The higher the sensitivity the sooner the amp will reach maximum output.

NOTE: This is NOT a volume control.

As already noted, the AMP320.2 control panel was preset to be used with the Recoil R65 and Recoil WS8 speakers. In case you need to make adjustment to the gain settings, please follow these steps:

1. Turn the gain control (SENS) all the way down counterclockwise.
2. Turn your source/head unit, ON.
3. Set your audio source (both audio player and head unit) at full volume.
4. Slowly increase the gain control. Stop when you hear slight audio distortion.



Do not increase any Input Sens. setting for any amplifier channel or channel pair in the system beyond the maximum level established during this procedure. Doing so will result in audible distortion and possible speaker damage.

Setup

| Problem | Cause | Solution |
|---|--|---|
| It just doesn't sound right | Speaker are connected to the wrong output | Refer to section E of this owner manual |
| | Control panel settings are wrong | Refer to section E of this owner manual |
| Amplifier doesn't turn on | Controller/head unit wasn't turned ON | Did you remember to press and hold the controller's power button for 3-5 seconds? |
| | Faulty fuse | Remove fuse and check with continuity meter. Replace if necessary. |
| | Poor connection integrity | Check +12V" and Ground leads for pinched wires; ensure tight connections. |
| Balance Reversed | Speaker Wire L & R Reversed | Correct Speaker Wire Orientation |
| Output Distorted | RB1/Audio player Volume Set Too High | Lower RB1/Audio player Volume |
| | Amplifier Gain Set Too High | Lower Amplifier Gain (SENS) |
| Whining or ticking noise while the engine is ON | The amplifier is picking up alternator or radiated noise | Move the audio cables away from the power wires |
| | | Turn Down input gain (SENS) |
| | | Check the alternator and/ or voltage regulator. Test for weak battery or . add water to the battery |

User Manual



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