

BigShot ABY[™] User Guide



CAUTION: PLEASE READ THE IMPORTANT NOTICE ON THE BACK COVER BEFORE USING THE BIGSHOT ABY

Radial Engineering Ltd.
1845 Kingsway Ave., Port Coquitlam BC, V3C 1S9, Canada
Tel: 604-942-1001 • Fax: 604-942-1010
Email: info@radialeng.com

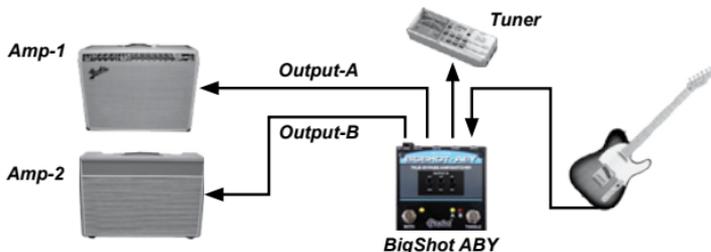
CONGRATULATIONS on your purchase of the Radial BigShot ABY. The Radial BigShot ABY is a foot-controllable device that allows you to toggle your guitar signal between two amplifiers or have them both play at the same time. The ABY's circuit is completely passive to ensure 100% true bypass performance. When powered with an external 9VDC power supply, bright and easy to see LEDs deliver on stage switching cues so you know exactly what your amp status is at all times.

To add greater versatility, the BigShot ABY incorporates an audio transformer that may be inserted into the signal path between the guitar and OUTPUT-B. This is used along with the ground lift switch to help eliminate buzz and hum caused by ground loops, a common occurrence when connecting two amps together. A 180° polarity reverse switch can also be engaged that lets you play both amps in phase. Finally, a third output that is always on is provided for an electronic tuner. Although primarily intended for guitars, the Radial BigShot ABY may be used for all types of instruments in applications where you want to feed two amplifiers from a single source.

CONNECTING AND TESTING

To power the LEDs, the BigShot ABY requires an external Boss style power adapter that outputs 9VDC center pin negative. It is recommended to begin testing the system without a tuner connected. Add the tuner to the setup when you are sure the BigShot ABY and both amplifiers are working properly. **Before connecting the BigShot ABY, make sure your amplifiers are unplugged from AC power, turned off and the volume controls turned all the way down.**

1. Begin by connecting the 1/4" guitar cables. Connect your guitar to the BigShot's INPUT. Connect the BigShot's OUTPUT-A to your main amplifier and OUTPUT-B to your second amp.



2. At this point it is important to read the caution statement on the back cover and ensure all your equipment is properly grounded. If your equipment meets all electrical safety requirements, you may connect the amplifiers to an AC power outlet.

3. Turn the amps on and begin testing at a low volume level. Confirm that both amps are working with the A - B toggle footswitch. Try depressing the BigShot's BOTH switch to test for ground loop hum. If you encounter a loud hum or buzz, first try lifting the ground by sliding the LIFT switch to the upper position (☐). If the noise persists, try engaging the isolation transformer by sliding the ISO switch to the upper position (☐). If possible, test the system with more than one guitar. With some pickups, engaging the ISO switch can cause a change in the sound. See the section "USING THE BIGSHOT ABY" further on in this manual for more information. If all sounds OK, you are now set to check the phase between amps.

4. Once both amps are working it's very important to ensure your amps are phase aligned and the loudspeakers are moving in the same direction. Amplifier OUTPUT-B is equipped with a 180° polarity reverse switch to help you with this task. This function only works when the ISO switch is set to the upward position (☐). Set the amplifiers to an equal volume and depress the BOTH switch so both amps are on. It also helps to have the amps side by side. Play through the amps with the 180° switch in the lower position (☐). Then play with the switch in the upper position (☐). One position of the 180° switch will sound fuller, with better bass response indicating proper phase between amps. The other position will sound hollow and weak, indicating the amps are out of phase. Use the setting that sounds best.

FEATURE AND FUNCTIONS

- ① **INPUT** jack connects the cable from your instrument.
- ② **TUNER** jack common output that can be used for an electronic tuner. It is always on.
- ③ **OUTPUT-A** jack connects to your main amp.
- ④ **OUTPUT-B** jack connects to your second amp.
- ⑤ **9VDC** power jack connection for power supply (for LED's only).
- ⑥ **TOGGLE** footswitch selects between output A or B.
- ⑦ **A/B LED** two LED status indicators to display the active amp.
- ⑧ **BOTH** footswitch with LED indicator turns outputs A and B on at the same time.
- ⑨ **ISO** switch engages the internal isolation transformer on output B to eliminate ground loop hum.
- ⑩ **180°** switch reverses the phase on output B. This switch only works when the ISO transformer is engaged.
- ⑪ **LIFT** switch disconnects or 'lifts' the ground from the cable shield on output B.



USING THE BIGSHOT ABY

Using the BigShot ABY is simple. It is designed to allow you to toggle between two amps or play both amps at the same time. Because the audio circuit is 100% passive, the guitar signal is switched directly for true bypass performance. This also means that when you are driving more than one amp, you will notice a slight drop in volume because the signal is split to drive more than one input. The drop in level can be more noticeable with lower output pickups. This is normal as there is no preamplifier or buffer in the BigShot ABY circuit. Placing a preamp or buffered pedal before the BigShot ABY will minimize this effect when driving two amps at the same time.

The BigShot ABY is equipped with an isolation transformer that is designed to eliminate hum and buzz caused by ground loops by isolating OUTPUT-A from OUTPUT-B. When using the ISO switch to eliminate ground loop hum, you may notice a slight tonal shift on OUTPUT-B as the signal passes through the transformer. This is easily compensated for by adjusting the tone controls on the amp connected to OUTPUT-B. Placing a preamp or buffered pedal before the BigShot will minimize tonal shift from the transformer.

The BigShot ABY is also equipped with a 180 degree phase reverse switch. This switch only works when the ISO switch is set to the upward position (☒). It reverses the polarity on OUTPUT-B to allow you to phase match your amps. As there is no standard for amp polarity, you have to test and listen. You will know when your amps are in phase when the sound becomes centered and full. Out of phase amps will sound hollow and unfocused, especially in the low registers. To test for phase, make sure you have the BOTH footswitches depressed and both amps on at equal volume.

SWITCHING A OR B and A PLUS B

The BigShot ABY is called an ABY switcher as it allows you to select or toggle between two amps or have both play at the same time. The BigShot ABY is very easy to use. Depressing the AB TOGGLE switch will select between amp A and amp B, while depressing the BOTH switch will activate both outputs at the same time. Depressing the BOTH switch again will revert back to A • B mode.

Although the BigShot is very quiet, it is not uncommon to hear a slight click when switching amps. To totally eliminate switch noise you must use an active switcher that employs buffers and opto-couplers. This type of switching is available on the more expensive Radial Switchbone™.

USING THE ABY ON YOUR PEDALBOARD

The BigShot ABY is normally going to be the last pedal in your signal chain before connecting to your amps. This does not, however, mean that you cannot put pedals after the ABY. You may, for instance, have an EQ or effect that you use in front of your B amp for soloing. Experiment and have fun! There are no rules.

USING THE TUNER OUTPUT

Connect your electronic tuner to the TUNER output. Some tuners can introduce ticking (clock noise) back into the signal chain when they are on. The BigShot ABY does not have any buffer transistors to block this type of noise. This is why we recommend testing your system without a tuner connected. Add your tuner to a properly working system to judge its effect.

USING THE ABY AS A TUNING MUTE

The BigShot ABY can also be used as a mute switch to allow silent tuning. This would be in lieu of having two amps on stage. Simply connect your electronic tuner to output-B and you are set! Now, when you hit the toggle switch, the sound going to your amp will shut off while diverting your guitar signal to your tuner. By depressing the BOTH switch, you can tune on-the-fly as both the amp and tuner will be on.

FAQ

Can I use the BigShot ABY as a channel switcher on two channel amps?

Yes. Simply connect OUTPUT-A to the first channel and OUTPUT-B to the second channel and you are set to go! The ABY will now toggle between either channel seamlessly.

Can I use vintage amps that have a 2-pronged AC plug with the BigShot ABY?

Yes, but we cannot recommend this due to legal liability issues. Back when the first tube amplifiers came round, there was no safety ground or third prong on the AC plug. Using old amps with ABY switchers can be dangerous due to the likelihood of electrical shock. If you plan to use the ABY in your system, have a technician check your system for ground potential and safety. By connecting all of your equipment on a single power bar, you can often reduce shock hazards.

What is the difference between the BigShot ABY and the Radial Switchbone V2?

The BigShot ABY is passive while the Switchbone employs active buffering. The ABY is designed for those that prefer a direct guitar-to-amp connection. The BigShot ABY is also considerably more affordable than the Switchbone! The Switchbone is designed for those that need to run longer cables, insist on eliminating all switching noises and do not want to deal with loading issues.

Will the transformer change the tone of the second output?

Yes. You will hear a slight tonal difference as the signal passes through the transformer. Because the BigShot ABY is a passive device, it does not employ buffering to counteract the phenomenon. However, you can easily make up the tonal difference using the tone controls on the amplifier. The tonal shift of the transformer can be minimized by placing a buffer in front of the BigShot ABY such as another effect pedal equipped with a buffered output.

Will the BigShot ABY function without power?

Yes. The BigShot ABY features a completely passive audio circuit that will work even when no power is present. Power is only required for the LED status indications.

I hear a slight clicking when I switch amps. Is this normal?

Yes. The BigShot ABY is passive and the click occurs as the switch selects between the two amps. This type of clicking is usually only noticeable with high gain amps. This occurs with direct switching ABY units like the BigShot ABY and relay-based switchers too. The only switchers that do not click are the types that employ opto-couplers, like the Radial Switchbone V2.

**IMPORTANT NOTICE!**

The Radial BigShot ABY is a passive switcher that is specifically designed for use with amplifiers with proper electrical safety grounds that have been approved by nationally recognized electrical authorities such as UL in the United States, CSA in Canada and other similar bodies in countries around the world.

It is further understood that due to the unpredictable nature of connecting any number of different amplifiers and pedals together, using the ABY can pose a potential for electric shock, and as such, the user is completely responsible for any and all consequences as these are beyond our control.

This means that you are completely responsible to ensure the safe and proper use of the BigShot ABY and to clearly understand that using the BigShot ABY confirms you have taken full responsibility. If you are not 100% sure of your actions, please consult a qualified technician for advice before using this device or connecting any of your equipment to it.

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Radial Engineering Ltd. warrants this product to be free from defects in material and workmanship to the original owner and will remedy any such defects free of charge according to the terms of this warranty. Radial Engineering will repair or replace at its option any defective component(s) of this product, excluding the finish, the footswitch (footswitch is warranted for 90 days) and wear and tear from normal use, for a period of three (3) years from the original date of purchase. In the event that a particular product is no longer available, Radial Engineering reserves the right to replace the product with a similar product of equal or greater value. To make a request or claim under this limited warranty, the product must be returned prepaid in the original shipping container (or equivalent) to Radial Engineering or to an authorized repair centre and you must assume the risk of loss or damage. A copy of the original invoice showing date of purchase and the dealer name must accompany any request for work to be performed under this limited warranty. This limited warranty shall not apply if the product has been damaged due to abuse, misuse, misapplication, accident or as a result of service or modification by any other than an authorized repair centre.

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