

# BESTBASSGEAR LLC

## Information and Hints for Installation of the Aguilar OBP1, OBP2, & OBP3 Preamps



### It is highly recommended that:

- installation be performed by a skilled technician
- the electronics cavity be shielded prior to installation of the preamp. This helps reduce noise.

#### Grounding:

Solder the ground lug on the volume pot to the casing of the pot...strip extra wire off or bend back the lug to connect and continue grounding on to jack

Ground shielding to jack. Solder a wire to the jack that connects to the shielding in the cavity.

Ground wires for pickups can be soldered to back of Volume pot.

Roughen up back casing (with sandpaper etc..) of volume pot if you are wiring pickup grounds to back of pot - this will help the solder to more easily adhere to the casing.

#### Notes for prewired kits:

Lugs on jack are covered with heat-shrink to prevent them from contacting shielding in cavity.

Extra heat-shrink has been included for the connection of pickup leads to the wires coming from the blend (or volume) pot.

Standard jack and basic battery wires are connected as part of testing procedure. If you intend to use a long threaded barrel (panel) jack or battery box, disconnect wires and reattach to your components.

The extra wire that is connected to the jack is for grounding to the shielding. This wire should be soldered directly to the cavity shielding.

#### Troubleshooting:

It is quite helpful to troubleshoot preamp installation issues when the potentiometers and jack are not mounted in the electronics cavity. Often using jumpers from the pickups to the preamp resting on a bench will help to understand output issues.

Most common causes of grounding issues are:

- lug from a pot or jack touching shielding.
- Strand of wire (single tiny, near invisible) touching shielding
- Drop of solder touching shielding in cavity.
- Potentiometer lugs bent into each other or bent into other wire path.

It is often easiest to troubleshoot by removing one potentiometer at a time from its hole while checking for output

Blue and Green wires from preamp should not be braided into other groups of wires or wrapped around each other.

Trouble shoot a simpler system - You can disconnect the OBP from the circuit by removing the blue and green wires. Then, wire the center terminal of the volume pot directly to the jack. This bypasses the OBP, and will allow you to troubleshoot a simpler system (pickups, blend, and volume only).

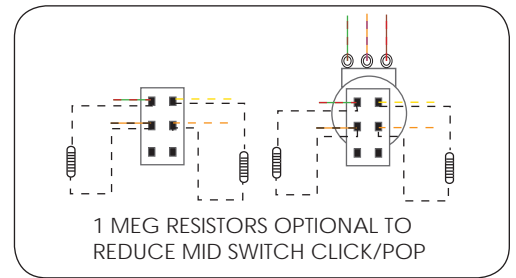
>> Problem: Zero volume when blend is centered.

The problem is either the blend control you have selected, or that one of your pickups is out of phase with the other. To check the phase, reverse the phase of ONE of the pickups and see if the problem goes away. If not, then the problem is your blend pot. Blend pots are special taper pots, and you cannot use just any dual pot. Additionally, some blend controls need to be wired differently than our diagram. This is very easy to do. Simply reverse the wire from the blend control to the volume control and the wire from the blend control to ground.

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## Information and Hints for Installation of

## the Aguilar OBP1, OBP2, & OBP3 Preamps...continued



### Troubleshooting continued:

>> Problem: Bypass Pop

When the preamp is first turned on, there is an output capacitor that can take up to 30 seconds to charge. So for a short period of time, there will be a DC offset at the output. If you operate the switch during the charging time, you will get a pop from the DC offset. You can identify this by turning on the preamp, then operating the switch many times. You will hear the pop at first, but it will get smaller and smaller until it is not there any more. This is normal.

Another possible cause:

1. When the input (blue wire) and the output (green wire) of the OBP are connected, the OBP oscillates.
2. You could be using what we call a "break-before-make" switch. This means that when you are changing the switch from one position to the other there is a short time when the middle terminal is connected to nothing. Just like when you insert or remove the plug (of your cable) from the output jack (of the bass) while the cable is plugged into an amp.
3. One solution is to use a different kind of switch that we call "make-before-break". With this type of switch the connection to the next position is made just before the first connection is broken.
4. Another solution: Double check the wiring. Make sure that the ground terminal is connected. In our bypass wiring, the ground connection prevents the preamp from oscillating on all the switches we have tested.

### Blend & Volume Resistance Values:

The OBP series preamps are independent of the volume and blend controls. Any value blend and volume control is compatible with our designs.

This is not the case with pickups, however. For passive pickups, changing the value of the volume and blend controls will change the output level and the tone of the pickups. For active pickups it will change the level, noise, and possibly the tone as well. For this reason it is important for you to contact the manufacturer of your pickups to find out the values of the potentiometers for which the pickups were designed. The manufacturer of your instrument may also be able to help. In many cases, the existing controls can be used. In others (for example, when removing another preamp to install an OBP preamp) all the controls sometimes need to be replaced.

Most passive pickups use either 250k or 500k audio taper pots for volume, and 250k dual custom taper pots for blend. Many active pickups use 25k audio taper pots for volume, and dual 250k custom taper pots for blend. But there are exceptions, so you should check with the pickup manufacturer.

### OBP Preamps & Piezos

The OBP-1, OBP-2, & OBP-3 have only one input each. This means any blending of multiple pickups must be done prior to the OBP preamp input.

As a general rule, piezo pickups require a high impedance input of 1 mega ohm or more. The OBP series preamps have 1 mega ohm input impedances, so they can be used with most piezo pickups. Some piezos require even higher impedances, so you need to check with the pickup manufacturer to make sure.

Passive magnetic pickups are relatively low impedances compared to piezo pickups, and are designed to work best with 250k to 500k potentiometers. Most active pickups are designed to use pots that are in the 25k to 100k range. So the problem is that magnetic pickup impedances are not compatible with piezo impedances.

The best solution is to have a buffer for the piezo before it combines with any other device. This way it can use the blend pots that are compatible with any magnetic pickup.

If you have other installation tips that you think may be helpful to others, drop us a line - [sales@bestbassgear.com](mailto:sales@bestbassgear.com)