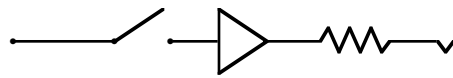


CUSTOM AUDIO ELECTRONICS INC.



OD-100 Tube Guitar Amplifiers



OPERATING GUIDE

We at Custom Audio Electronics would like to take this opportunity to thank you for purchasing the OD-100 100W Guitar Amplifier. We think you will agree that it's simple control layout offers a wide variety of extremely useful sounds. Since this amplifier is so new, a comprehensive owners guide is not available at this time. Therefore, we have put together this quick guide as an overview of the amp's basic functions, and could quite possibly be all you need to get the most out of your amp. We will spare you the overblown adjectives often used to describe an amplifier's tonality, and encourage you to just plug in and play with a little help from this guide.



Start by plugging AC power into the amp after first making sure the amp is set to the proper line voltage. Also, make sure the amp is on "Standby" before applying AC power. Allow about 30 seconds after the amp is turned on for the tube heaters to warm up before taking the amp off "Standby" (Standback!) Proper use of the standby switch will insure longer tube life. And always switch to "Standby" before turning the amp off. We will assume you are using some type of 4x12 speaker cabinet, hopefully loaded with Vintage 30 Celestion speakers, although virtually any decent cabinet will provide an acceptable sound. Be sure to use the proper speaker jack for your cabinet's impedance. For example, a 16ohm cabinet will use the 16ohm speaker output on your amp. Let's start with Channel 1. Make sure you are in Channel 1 by checking to see if the Channel Select switch on the far right is in the "out" position. LED's under the Gain 1 and Level 1 controls will be lit.



Channel 1 (The “Clean” Channel)

For starters, set Channel 1’s switches and controls as follows:

Bright switch “in”, Boost switch “out”, Gain=5, Bass=5, Middle=5, Treble=5, Level 1=5

As you can see, we have set all the controls straight up. Not loud enough? Turn up Level 1 (it’s the Master volume for Channel 1). Not clean enough? Turn down Gain 1, but then turn up Level 1 to maintain the same loudness from the speaker. Now adjust the Bass, Middle and Treble to your personal taste. You will find the Tone controls are quite responsive. A little goes a long way. You will also find the Bright switch to have a big influence on the treble response of Channel 1, especially when the Gain 1 control is set between 3 and 9. Use this switch along with the Treble control to set the high end “voice” of Channel 1. If you are the type of person who likes a little (or a lot) of “hair” on your clean sound, then the Boost switch is for you! By pressing this switch, you will notice a substantial increase in gain and level in Channel 1. Adjust the Gain 1 and Level 1 controls accordingly. Increasing Gain 1 will add a smooth crunchiness to your “clean” sound. This of course depends on how hot your guitar pickups are. This is also a great setup if you use overdrive or distortion pedals to crunch up your sound.

Select Channel 2 by pressing the Channel Select switch “in”. The respective Gain 2 and Level 2 LED’s will be lit.

Channel 2 (The “Dirty” Channel)

Set the controls the same as Channel 1, as follows:

Bright switch “in”, Boost switch “out”, Gain=5, Bass=5, Middle=5, Treble=5, Level 2=5

Again, if Channel 2 is not loud enough, or too loud (relative to Channel 1), adjust the Level 2 control, which is the Master volume for Channel 2. Also, if the sound is too distorted (or not distorted enough), adjust Gain 2 for the amount of “crunch” you need. Now adjust the tone controls to your personal taste. Note the Bright switch reacts similar to Channel 1. It is most active when the Gain 2 control is in the 3 to 9 range. Notice this channel includes a Presence control. This is Presence for Channel 2 only. It’s range of control is somewhat higher in the frequency spectrum than the Treble control, offering more precise tailoring of Channel 2’s high end “voice”. The footswitchable Boost mode on Channel 2 offers increased overdrive, sustain and level to Channel 2. In keeping with our simple design approach, this Boost is pre-set but can be easily adjusted by an internal trim pot. It is set about halfway up at the factory. This boost, when activated, adds additional tube gain stages and it’s effectiveness is determined by the Gain 2 control setting. With a Gain 2 setting of between 1 and 6, the Boost is very apparent and quite effective. With higher settings of the Gain 2 control (above 6), the amp is already quite saturated, and using the boost thickens the sound and adds sustain with a little less apparent level increase. In any case, it’s a welcome addition to Channel 2, making the OD-100 a true 2 Channel, 3 “mode” amp. At this point, it’s a good idea to mention Channel 2’s (and Channel 1’s for that matter!) excellent touch responsiveness. Careful use of your guitar’s volume control will open up a whole new world of tonal options! Try keeping Gain 2 rather high (between 5 and 8) and using your guitar volume or a volume pedal to roll off the crunch. This is a great way to add versatility without cluttering up the front panel with unnecessary and confusing “options”! Experiment and you will be deeply rewarded!



Effects Loop

The OD-100 effects loop is a tube buffered series loop. The effect send jack is always active and acts as a low impedance tube buffered preamp out capable of driving a wide variety of devices from low level pedals to line level “rack” gear. The level appearing at this jack is dependent on the setting of the Channel’s Level 1 or Level 2 controls, whichever is selected. The loop return, it’s gain stage and level control are only in the signal path when a plug is inserted in the loop return jack. An additional tube gain stage is provided here to compensate for lower settings of the Channel Level controls when low level effects are used. The return jack and level control also act as a “Power Amp Input” when using just the power stage of the amp. At this point it is worth mentioning an internal power stage “presence” control which effects the high end “voicing” of the power amp of the OD-100. This is not to be confused with the Channel 2 Presence control which only effects Channel 2. This internal trim effects the overall Presence of the amp (both channels) and is set at the factory at about 1 o’clock. When using the effects loop, the rear panel return level control acts as the amp’s overall master volume. Unity gain for this control is about 1 o’clock. You can check this by plugging a short patch cable between the Loop Send and Return jack. Plug and unplug the end going to the Return jack while noting the level difference and adjust the Level control until you hear no difference in level. You can take advantage of this additional tube gain stage even if you use no effects in the loop by keeping the short cable plugged into the loop. The Return Level control on the rear panel will now be the overall Master volume of the amp and the additional gain provided by the loop return circuit will make the amp louder.

Connecting Speakers

The OD-100 does not use an impedance selector switch, therefore you must pick the appropriate speaker output jack(s) depending on the impedance (ohms) of your cabinet(s).

IMPORTANT! KNOW THE IMPEDANCE OF YOUR SPEAKER CABINETS!!!

If you don’t know, ask someone who does. The life of your amplifier may be at stake!!!

**WARNING!!! ALWAYS HAVE A SPEAKER OR LOAD DEVICE CONNECTED TO THIS AMPLIFIER!!!
FAILURE TO DO SO MAY CAUSE SERIOUS DAMAGE TO YOUR AMP AND MAY VOID YOUR WARRANTY!**

Follow these simple rules and your OD-100 will be happy:

ONE 16ohm cabinet, use the 16ohm output jack.

TWO 16ohm cabinets, use both 8ohm output jacks.

ONE 8ohm cabinet, use ONE 8ohm output jack.

TWO 8ohm cabinets, use both 4ohm output jacks.

ONE 4ohm cabinets, use ONE 4ohm output jack.

TWO 4ohm cabinets...FORGET IT! The OD-100 will not work with a 2ohm load.

The Footswitch

The OD-100 comes equipped with a dual footswitch for remote control of channel selection and Channel 2 Boost. A stereo (TRS) cable of any length is required to connect the footswitch to the rear panel footswitch input. Virtually any switching system control functions will work as well. Shorting Tip to Sleeve selects Channel 2, while shorting Ring to Sleeve activates the Channel 2 Boost. You can also use a single footswitch with a mono cable to channel switch if you want the Boost always on in Channel 2. **Important note: When using the footswitch, make sure the front panel Channel Select and Channel 2 Boost switches are in the “out” position. Otherwise, the footswitch will not work!**

Tubes, Fuses, Power Requirements, etc.

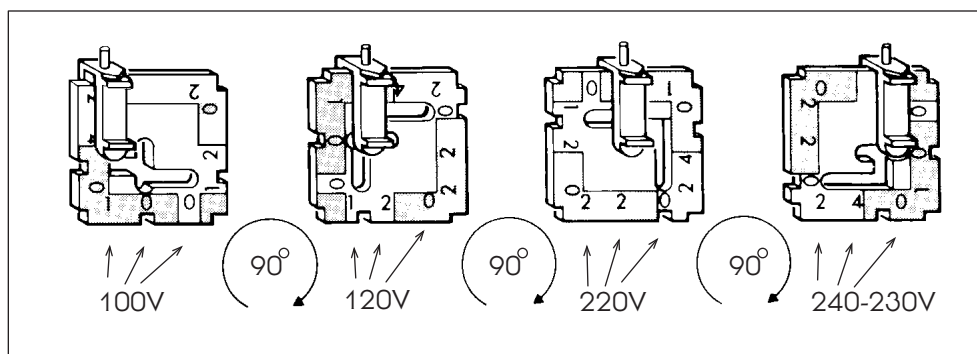
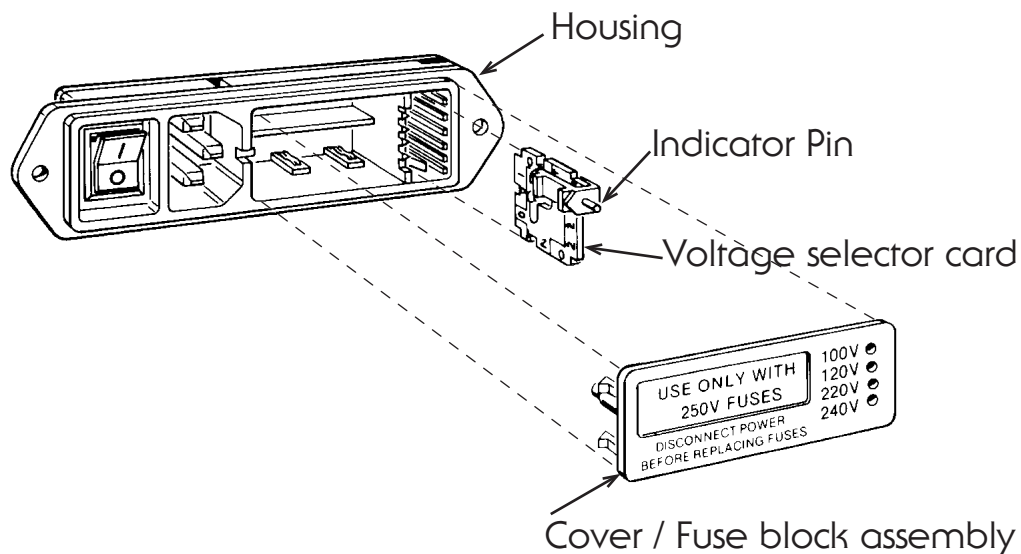
The OD-100 is a 100watt+amplifier utilizing 4 5881 output tubes and 6 12AX7 preamp tubes to achieve it's glorious, robust and delightful tube tone. If you want to be a wise guy and run at a lower power output, remove the 2 outside power tubes and use a speaker output jack that is one tap lower than the cabinet impedance you are using. Example: If you are using a 16ohm cabinet, use an 8ohm output jack; if your cabinet is 8ohms, use a 4ohm jack. Another tip: Try a 12AU7 in the phase inverter socket which will help lower the power as well. The phase inverter is the tube nearest the output transformer, toward the center of the chassis.

PLEASE CONSULT THE FACTORY IF YOU HAVE ANY QUESTIONS REGARDING THIS PROCEDURE!

The Power Fuse is located in the Power Entry Module and is a 4amp Slo Blo.

The H.T. Fuse is a 1amp Fast Blo.

The OD-100 is World Wide Voltage capable. Voltage selection is made externally at the Power Entry Module. See diagram for details.



To change selected voltage:

Open cover using small blade screwdriver or similar tool. Set aside cover/fuse block assembly. Pull voltage selector card straight out of housing, using indicator pin orient selector card so that the desired voltage is readable at the bottom (see above). Fix indicator pin into notch at opposite side. Insert voltage selector card into housing, printed side of card facing towards on/off switch and edge containing the desired voltage first. Replace cover and verify that the indicator pin shows the desired voltage on the cover assembly. USE PROPER FUSE for voltage selected.

100V = use 4amp slow blow, 120V = use 4amp slow blow, 220V = use 2amp slow blow, 230V-240V = use 2amp slow blow

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