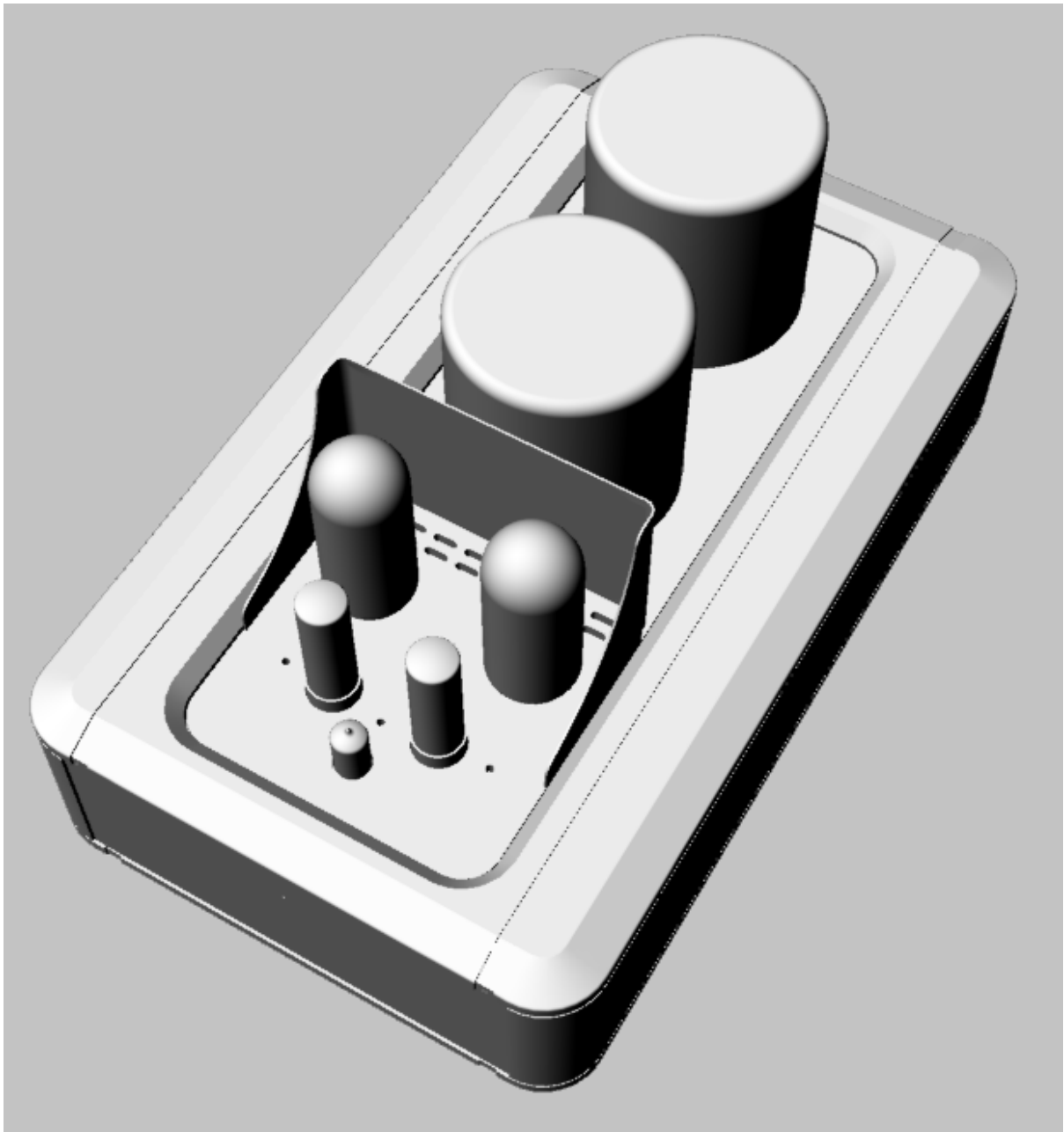


ABSOLARE Push-Pull Mono Amplifier User Manual



ABSOLARE

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1. General Description

The Absolare Push-Pull Mono Amplifier is a transformer coupled, zero feedback, monoblock power amplifier, supplied in matched pairs for stereo amplification. It features an all tube, point-to-point construction signal path. It is available in both transformer balanced (XLR) and unbalanced (RCA) input versions.

2. Safety Issues and Warnings

- **Be sure the voltage setting of the unit matches the applied voltage to power input.** Operating voltage is fixed and must only be changed by an authorized service agent.
- **Do not touch tubes while operating.** Tubes are extremely hot devices and also contain very high voltages.
- **Do not open bottom covers.** There are no user serviceable parts inside the units.
- **Do not operate the amplifier without an output load.** 4 – 8 Ω speaker or equivalent load should be connected to speaker terminals when the Amplifier is operating.

3. Unpacking and Placement

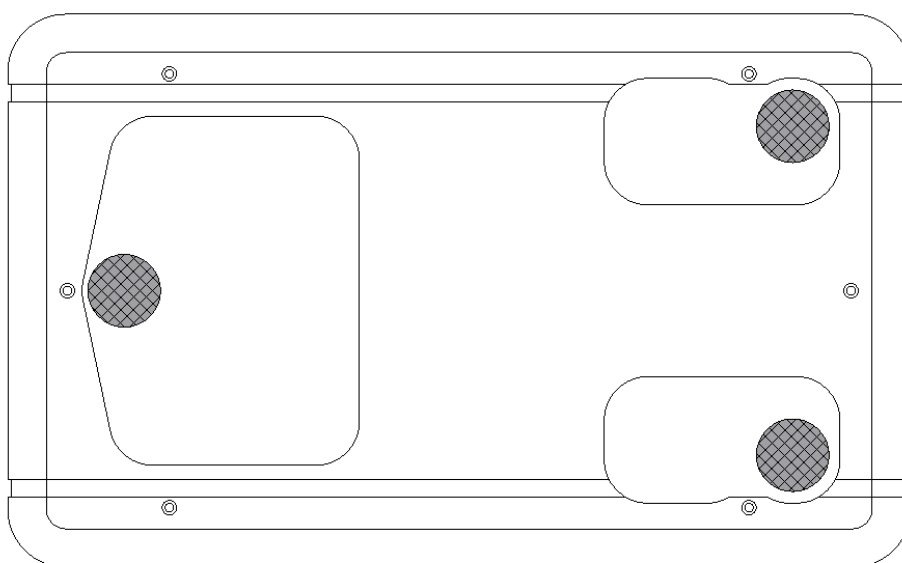
Each monoblock amplifier comes in a separate box.

After opening the top cover of each box, remove the upper layer of hard foam material. You can then lift each Amplifier from its box cradling them with the cloth that is underneath the chassis. Retain the cloth and all packing materials for future use.

Each Push-Pull Mono Amplifier may become very hot during operation. You should always place them on support feet and leave at least 2 inches (5 cm) clearance above each Amplifier to allow sufficient ventilation.

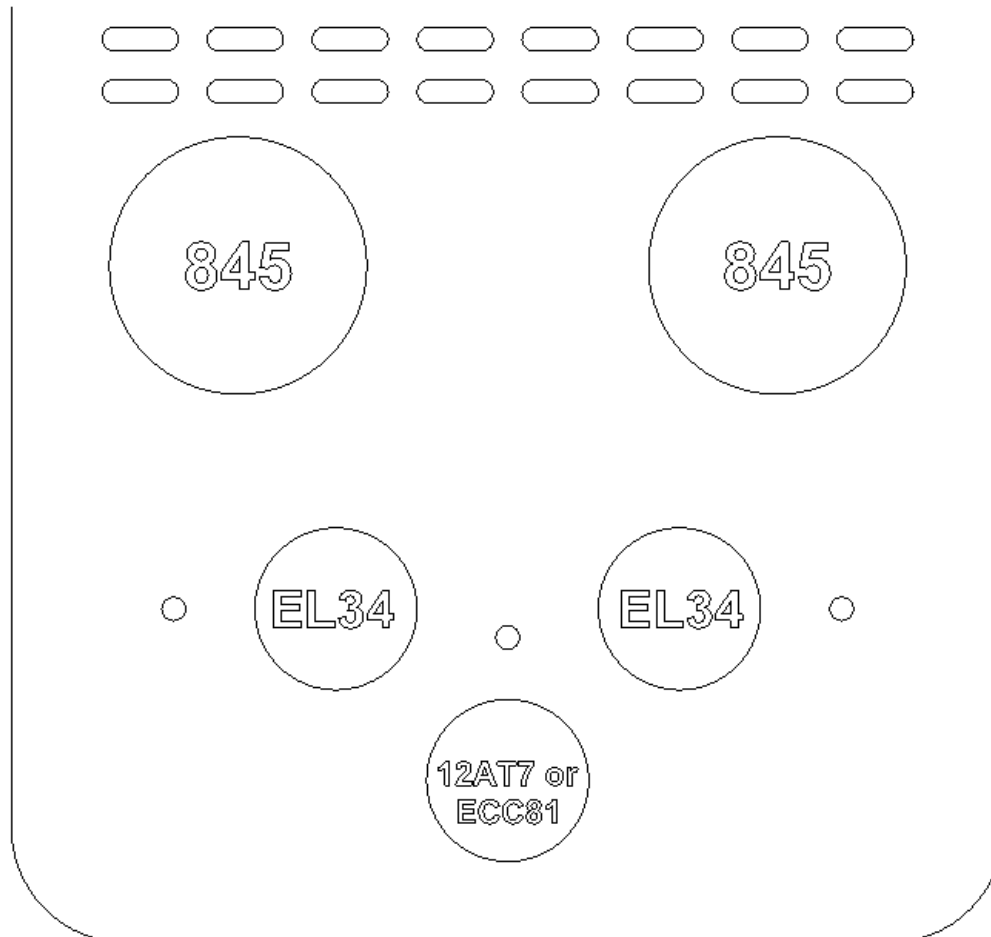
Each Push-Pull Mono Amplifier is designed to be supported by separate support feet. They do not have support feet fixed in place. Feet can affect the sound quality significantly. Feet must be positioned underneath each unit in direct contact with the aluminum base plate – not the leather clad MDF covers. There are three areas where the aluminum base plate is exposed through openings in the leather clad MDF bottom plate. You can use either three or four feet.

After each Amplifier has been placed in its final position, it can be lifted in turn to locate the support feet – firstly lifting the back (for 2 feet) and then the front (for 1 or 2 feet) to be placed underneath the chassis. Adjusting their position will also affect the sound to varying degrees, depending on the type of rack, location or interaction with other equipment. For the most situations, the arrangement as shown in the diagram below is a good starting point.



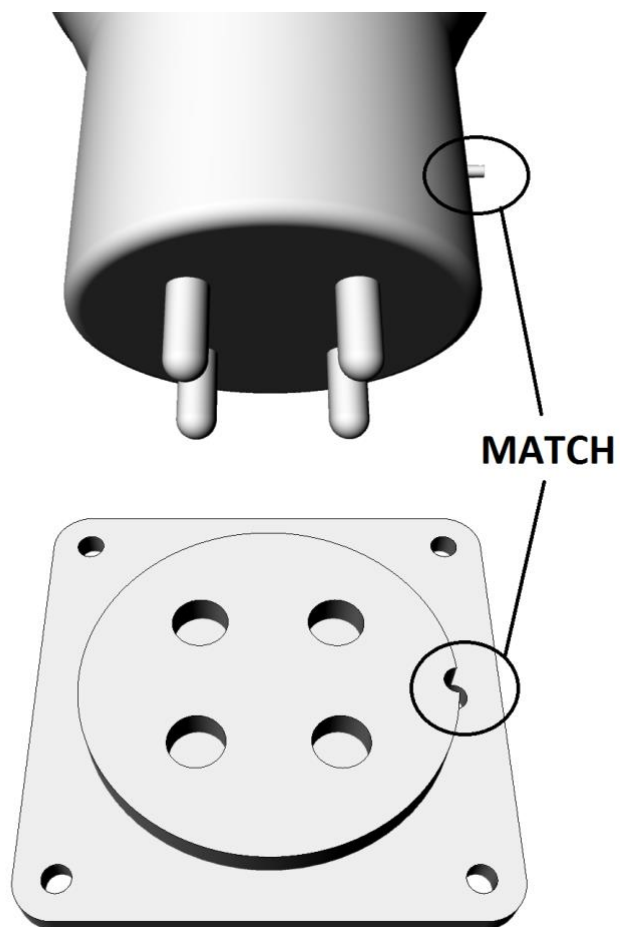
4. Installing the Tubes

There are total of 5 tubes in each monoblock. Placement of tubes is shown below:

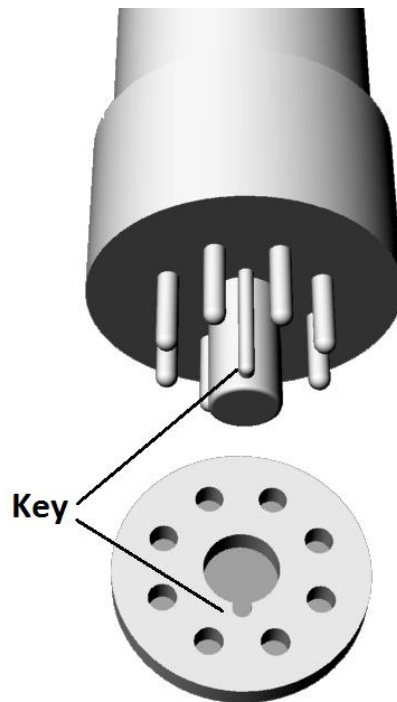


The large 845 output tubes must be installed in correct orientation. The small indicator pin on the lower side of the tube base must be aligned with the small hole on the right-side of the tube socket, as illustrated in the figure below.

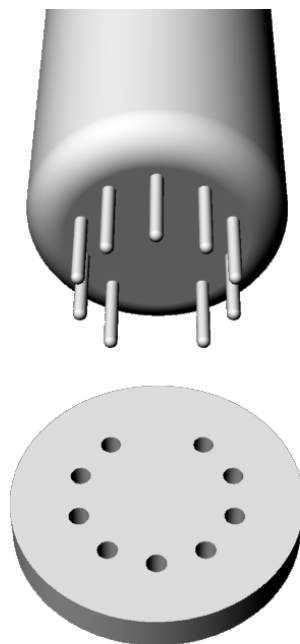
CAUTION: Incorrect positioning of 845 tube may seriously damage the amplifier!



EL34 tubes have a small bump in the center as a key for correct positioning. Align it with the corresponding notch in the tube socket while inserting.



The 12AT7 / ECC81 tube has one missing pin acting as a correct positioning key. Align the missing pin with the missing hole in the tube socket while inserting.



5. Connecting the Cables

5.1. Power cables

AC power input is via a standard IEC inlet socket. Operating voltage must only be changed by an authorized service agent.

The quality of the power cable will affect the sound quality accordingly.

5.2. Signal Cables

RCA only version has only one RCA input connector.

Balanced (XLR) version has both RCA and XLR input connectors. There is a selector switch (marked as **SEL**) that lets you connect desired input.

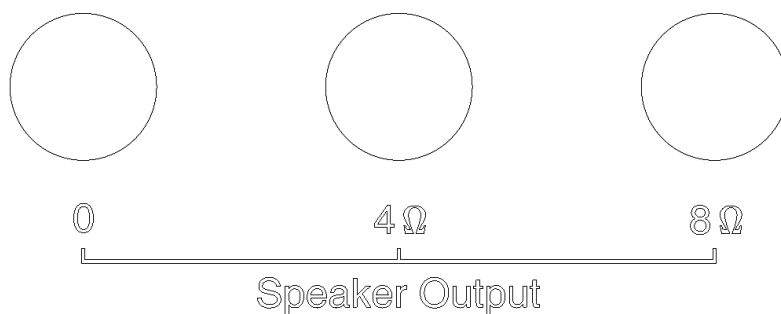
GAIN switch at **HIGH** setting lets you by-pass the 4:1 input transformer. When the input transformer is by-passed, the sound level will increase due to level differences of balanced and unbalanced connection standards, but you lose true balanced input features and the system may become more susceptible to noise. This setting is supplied to connect unbalanced XLR preamplifier outputs. Preamplifiers with true balanced XLR outputs should be matched at the **LOW** gain setting.

5.3. Speaker Cables

Speaker binding posts can handle spade lugs, banana plugs or bare wire. Polyethylene knobs are chosen instead of metal ones to reduce extra conductor mass and eddy currents. Do not overtighten them, the higher friction of the polyethylene should safely secure the cables in place.

There are two impedance options for speaker connection. You should use the closest matching output with your speaker manufacturer's recommended value. Since the output is transformer coupled, there is no output power difference when using 4 or 8Ω speakers.

Always use a combination of either 0 + 4Ω, or 0 + 8Ω binding posts. NEVER connect speaker cables in a combination of 4Ω + 8Ω terminals.



6. Operating the Unit

6.1. General Operation

Before turning on each Absolare Push Pull Mono Amplifier, be sure that all tubes are installed and all cables connected correctly.

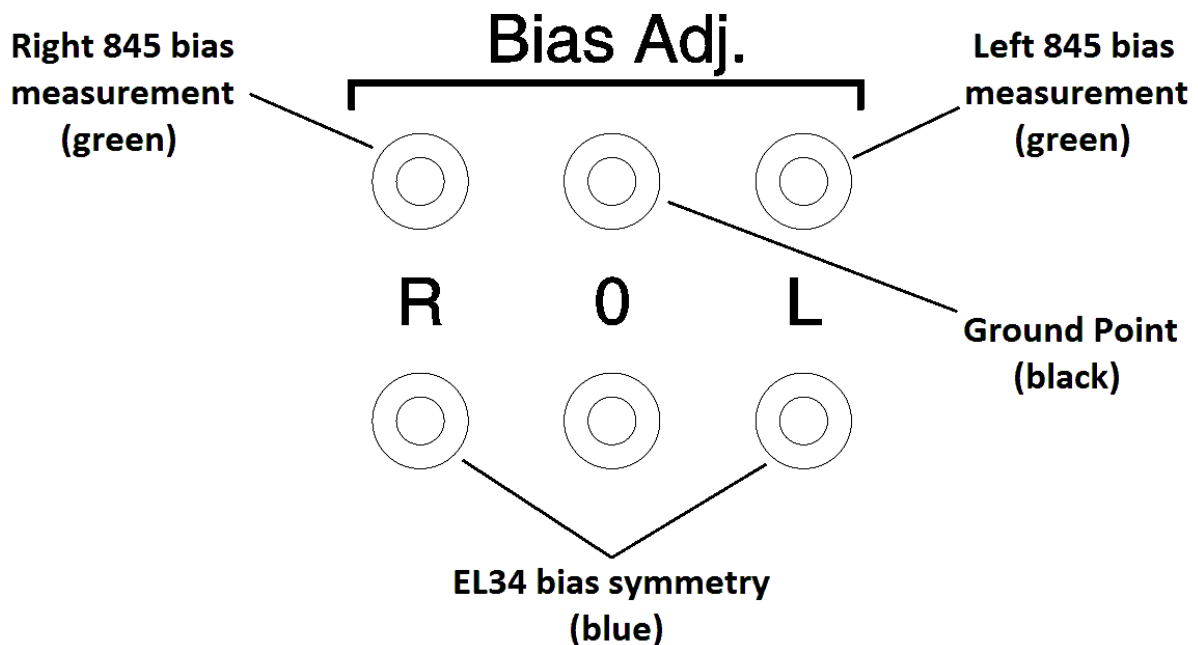
If you have changed 845 output tubes you should first minimize the bias settings (by rotating to counter-clockwise) before turning-on the amplifiers and re-adjust the bias settings. Please refer the bias settings section (6.2.1).

After turning each Amplifier on, the power indicator LED on the front face plate will start to blink. You will not hear any sound until the indicator LED stops blinking to illuminate continuously which indicates all the capacitors are charged and internal voltages are stabilized.

Absolare Push-Pull Mono Amplifiers will be ready to operate approx. 40 seconds after turning on the power and attain full sonic performance in 15 to 30 minutes.

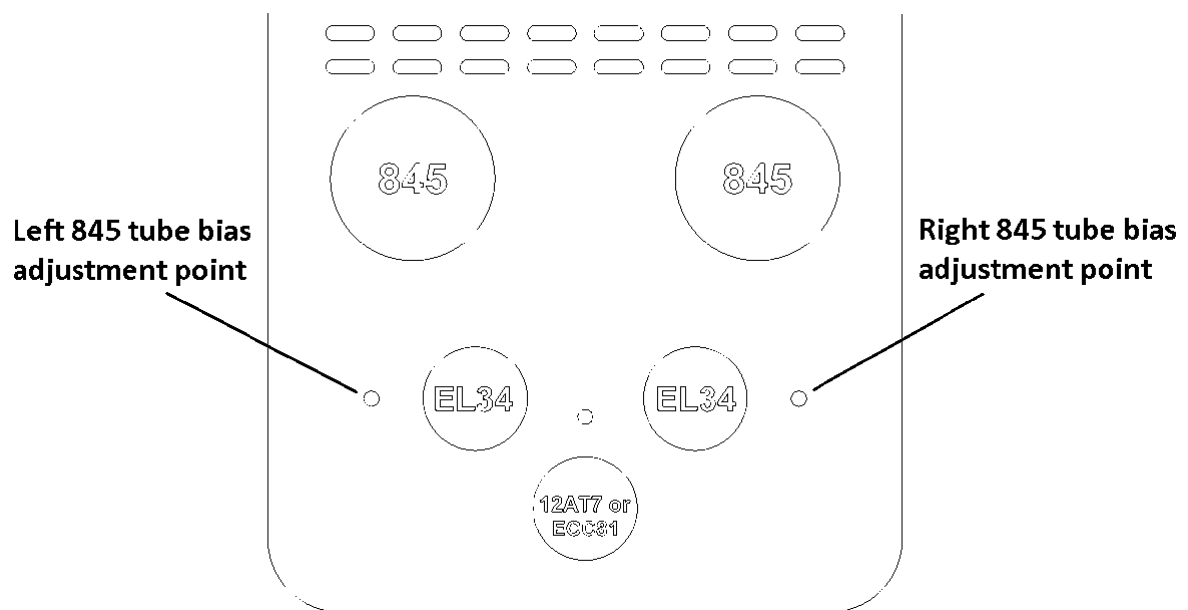
6.2. Setting the Bias Levels

Measurement points for the bias levels are at the back panel:



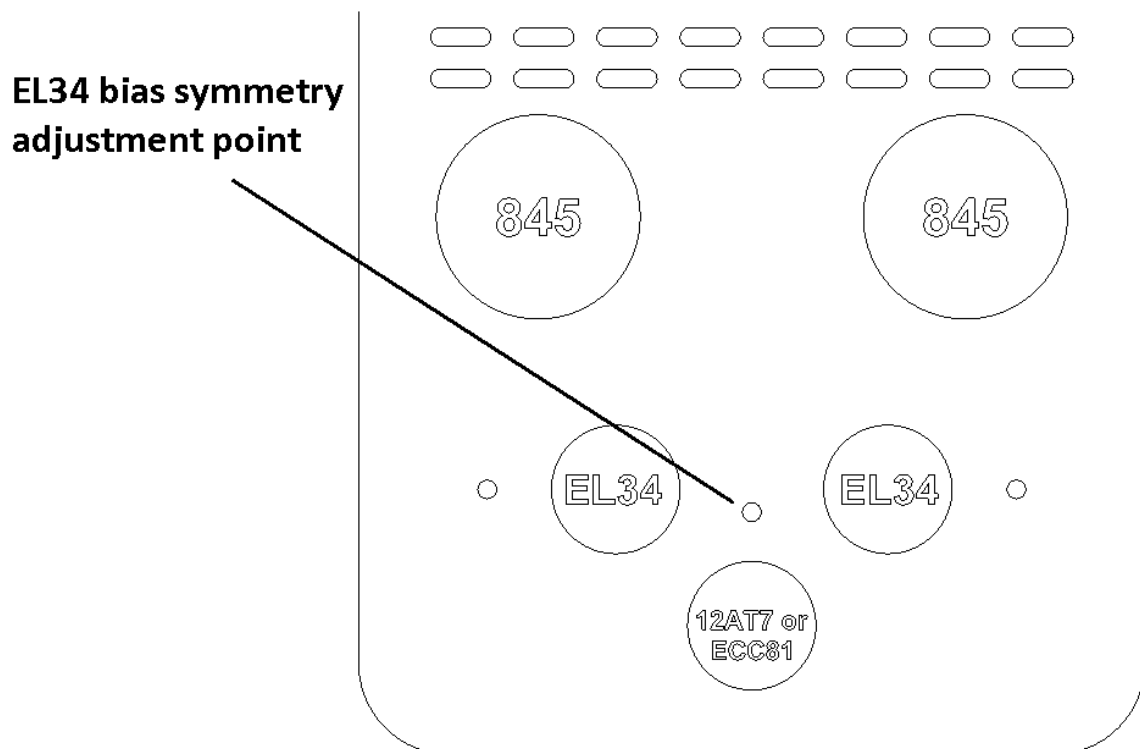
6.2.1. 845 Bias Levels

You have to adjust left and right 845 tube bias levels in each Amplifier separately. Measurement is done via a multimeter at 2V DC (or 2000mV DC) setting. Insert the black (-) probe into black socket and red (+) probe into one of the green sockets on the rear panel. You should read a value about 0.500V (500mV) for each tube. If the readings are different, then adjust the bias level via potentiometers near the EL34 tubes. A small flat screwdriver will be necessary to access internal bias trim pots.



6.2.2. EL34 Bias Levels

There are no separate manual bias adjustments for the two EL34 tubes, but the push-pull symmetry is important. With a multimeter at lowest DC volt measurement setting, insert black and red probes into blue sockets. The adjustment point is in between the EL34 tubes. You should aim for as close to 0.0V as possible by turning the adjustment pot with a small flat screwdriver. If you cannot cross the zero value (i.e. you only get positive or negative values in entire adjustment range) you should turn off the unit, wait until tubes are cooled down, swap EL34's and repeat the adjustment procedure above. This will occur when one of the EL34 tube's gain is very different than the other one. If swapping the tubes does not solve the issue then you should replace at least one of the tubes or use a 'gain-matched' pair.



7. Troubleshooting and Maintenance

Surface of the unit is dirty	Clean with a slightly damp cloth.
No power light	- Check AC line voltage. - Check the main fuse.
Power light is on but 845 tube heaters are not glowing	- Tube orientation is wrong, turn-off unit immediately and correct the installation. - Tube(s) are defective.
Power light is on, tube heaters are glowing, but no sound	- Check the input cables, speaker cables and source. - Internal fuse for 845 tubes may be blown out. Call your dealer.
Noise / hum in the sound	- Check grounding of power, input cables and source.

If the problem is persistent, contact your nearest ABSOLARE dealer.

8. Technical Specifications

- Zero Feedback, Push-Pull Architecture
- Point-to-point construction
- Tubes: 2 x 845, 2 x EL34, 1 x 12AT7 / ECC81 (for each unit)
- Output power: 85 Watts
- Input: 1 x RCA (transformer balanced XLR optional)
- Input Sensitivity: 1.5 Volts (balanced input 1.5 / 6 Volts)
- Input impedance: 100 k Ω
- Speaker impedance: 4 – 8 Ω
- Bandwidth: 15 Hz – 25 KHz +/- 1.0 dB
- Dimensions: 38.2 x 64.8 X 29.7 cm / 15" x 25.5" x 11.7" (W x D x H), excl. feet
- Weight: 42 kg / 92 lbs., net (each monoblock)

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