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Notice

Power supply unit should be plugged into the amplifier unit with the tubes in the correct sockets BEFORE POWERING UP. 6SL7/5691 goes in front socket and the 6336/6AS7G/6080 goes in back socket of the headphone amplifier unit.

Please allow at least 12 hours for the tubes to burn in since they are new. It is not uncommon to hear crackling and metal expanding for new tubes. They require settling in, especially the 6336 which can be particularly noisy in the beginning since it is trying to remove impurities due to the manufacturing process from the plate and cathode. It is recommended not to have the headphones plugged in for about 3 hours when installing a new 6336.

Do Not plug in headphones immediately after the high voltage LED, second LED, goes ON. One has to allow the output capacitors to be charged up first. It is OK if the headphones are constantly plugged in to the headphone amplifier since the high voltage power supply ramps up slowly.

Stacking amplifier as shown on manual cover will increased hum. The 6336/6AS7G/6080 are more microphonic than usual. With some headphones this may not be an issue. Low sensitivity headphones will produce less audible hum. A magnetic shielding plate, 1/8" - 1/4 " steel plate, with acoustic dampening, felt/rubber, can be used between the amplifier and power supply to reduce the hum. If this is still an issue separate the power supply unit from the amplifier unit.

For super sensitive headphones the 6SL7/5691 might require shielding. Just place a metallic cylinder/ shield over the tube and allow the cylinder to touch the mounting screws of the socket for the 6SL7/5691.

Do not clean with alcohol or paint thinner. Water damp cloth is sufficient or dust off.



MAPLETREE AUDIO DESIGN

Mellow Boy 6SL7/6336 Octal Duo OTL Stereo Headphone Amplifier



Users' Manual

Rev Dec. 12/19

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Introduction

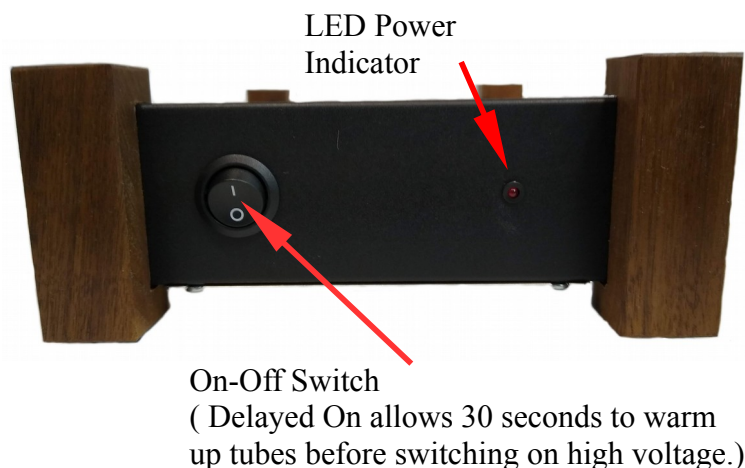
The Mapletree Audio Design Octal Duo (OD) Output Transformerless (OTL) Stereo Headphone Amplifier represents a high performance development of an octal-based headphone amplifier. The use of a high capacity power supply provides increased power output and a lower driving impedance employing a widely available 6336 output tube and 6SL7/5691 driver. The separate power supply chassis allows flexibility in positioning each unit and reduces the heat seen by components in the main amplifier chassis. Premium components include metal film resistors and polypropylene film/electrolytic capacitors in the driver stage.

Input/Output Connections

The standard IEC line cord is attached to the receptacle on the rear panel of the OD OTL power supply. It is compatible with a 120 VAC line with a frequency of 50–60 Hz. A 1A fuse provides primary protection for the power supply. Under normal conditions, it should not be necessary to replace the fuse. If power fails to come on, you can check the fuse and replace with a spare if necessary. If the fuse blows a second time, you should not try to operate the unit. Contact Mapletree Audio Design for information regarding service.

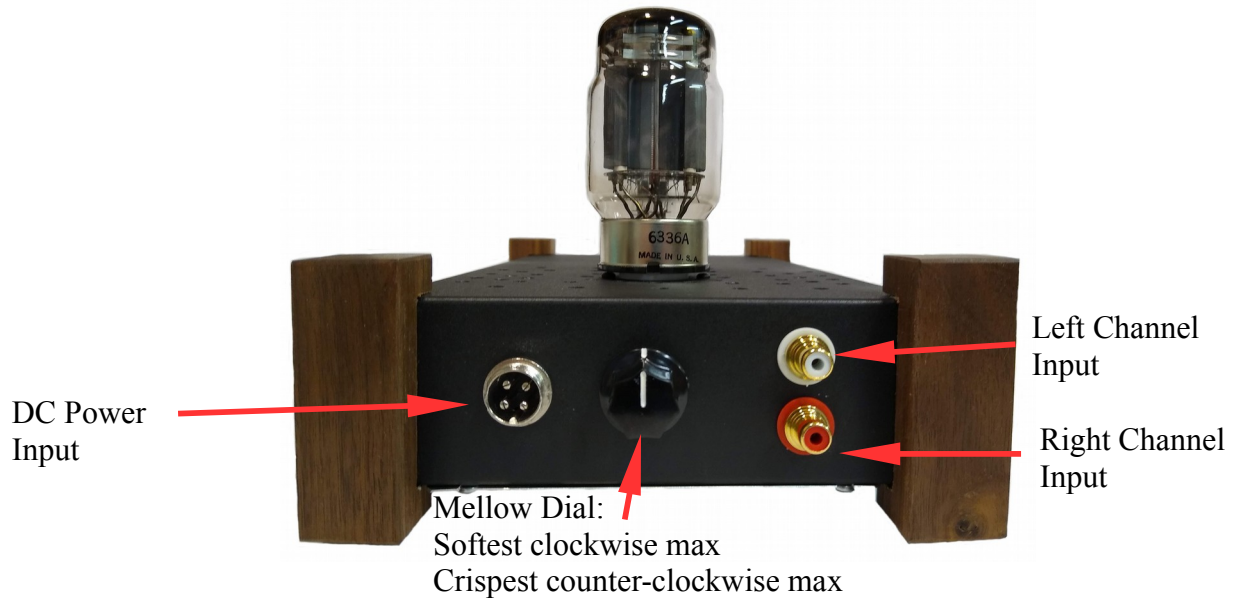


The power switches are located on the front panel of the power supply. The LED pilot light indicates the power on condition. Delayed on allows 30 seconds to warm up tubes before switching on high voltage, this will increase the life of your vacuum tubes.



The power supply is connected to the amplifier chassis with the supplied power interconnect cord. Never power on the power supply without making this connection. The two chassis may be stacked or separated as permitted by the power interconnect cord.

The RCA jacks allow connection to a line-level stereo source (e.g. DAC or CD player). The input impedance is 50 kΩ which is compatible with all source output circuits.



The Mellow Dial at the rear of the amplifier unit is to control the softness of the of the music being played. Softest is when the dial is rotated completely clockwise and crispest when completely counter clockwise.

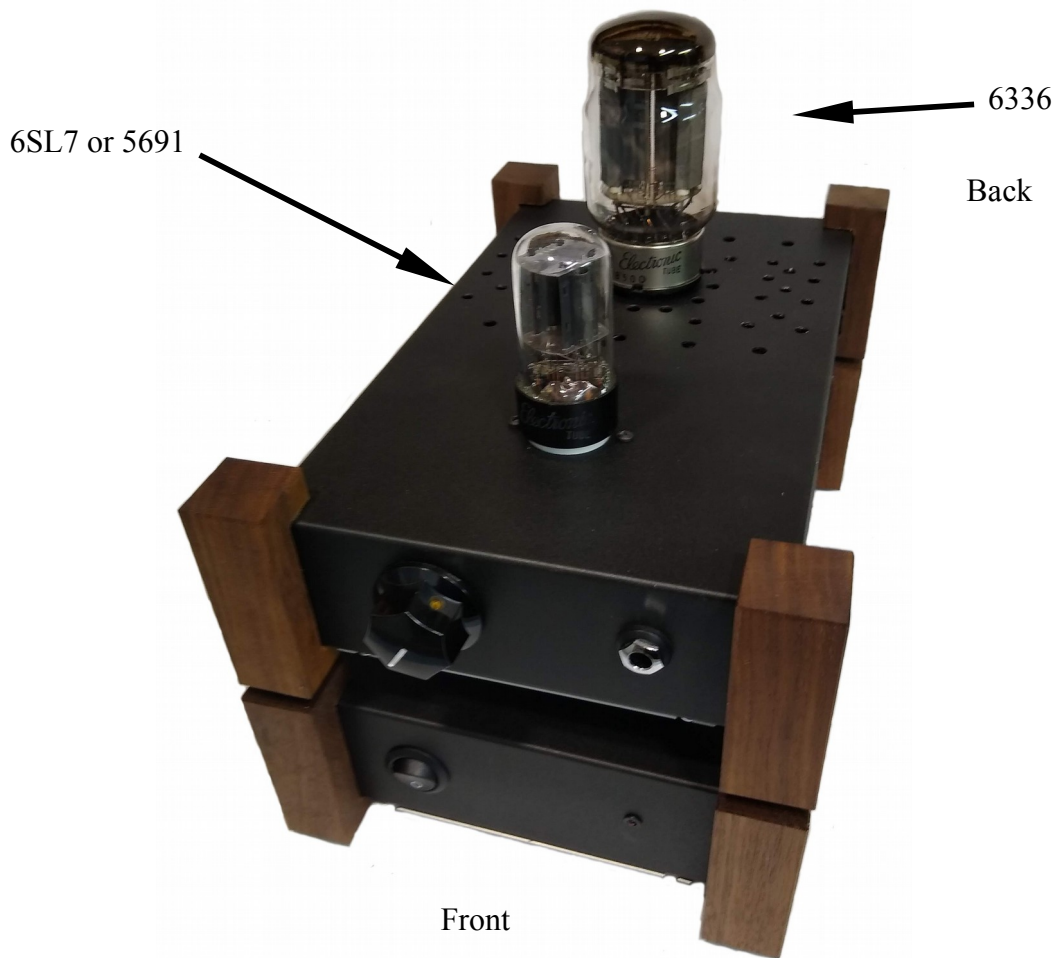
The headphone output jacks are two standard 1/4" stereo phone jacks. If your headphones are terminated in a 1/8" plug, an adapter is required (usually supplied with your headphones). Headphone impedance from 32 to 600 Ω are suitable (Although lower output impedance headphones can be used with limited volume before distortion).



The signal level in both channels is controlled simultaneously by the volume control on the front panel of the OD OTL amplifier.

Tubes: A tube burn-in period of several hours may be needed to achieve the best sonic performance. Tube life should be thousands of hours. Aging tubes may result in a reduced gain in one or both channels or an increase in noise levels. Infrequently, a heater may burn out which is indicated by total loss of sound. The OD OTL is supplied with 1 – 6SL7 (driver) and 1 – 6336 (output) tube. Replacement tubes can be obtained from several suppliers in the U. S. and Canada. Both types are currently manufactured and are also available as new old stock (NOS). Some listeners enjoy trying different brands and variants of tubes. The greatest sonic variation will occur with different driver tubes. The 6SL7 should have matched sections so as to have a balanced right and left channels.

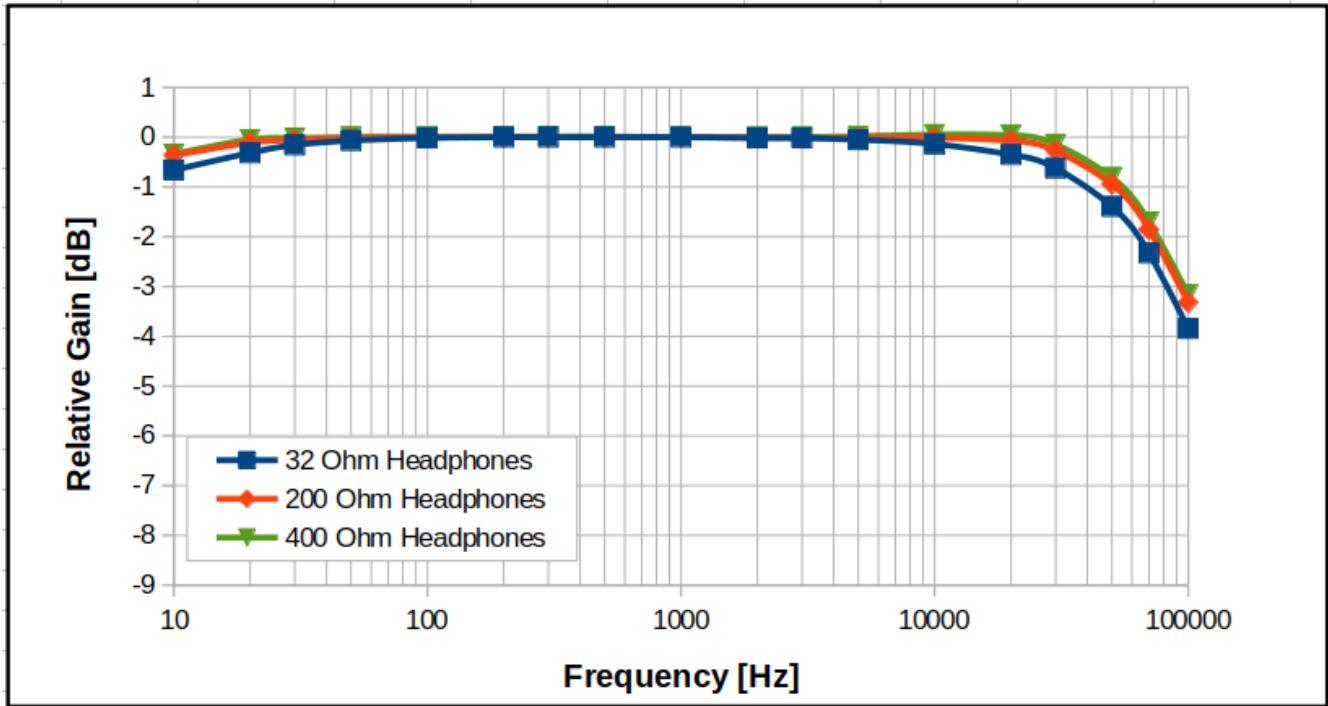
Warranty: Factory assembled MAD components are warranted for 2 years to the original purchaser for failure of all parts (excluding tubes). Tubes are warranted for 90 days exclusive of shipping cost. Service, including parts and labor (but excluding shipping), is free within the warranty period.



Additional Notes: This manual is an aid to the user for the operation of the OD OTL. Details of the amplifier and power supply circuits are subject to change without notice so as to achieve the best possible performance. The schematic is only representative of the actual amplifier and component manufactures, model and values may vary.

MAD Mellow Boy 6SL7/6336 OD OTL Measured Data

Frequency response at 0.1 Vrms output:



Maximum output at 1 kHz:

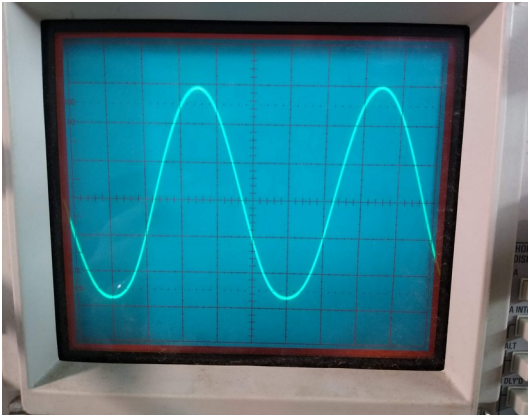
Po(max) Rload

1.0 W 400 Ω

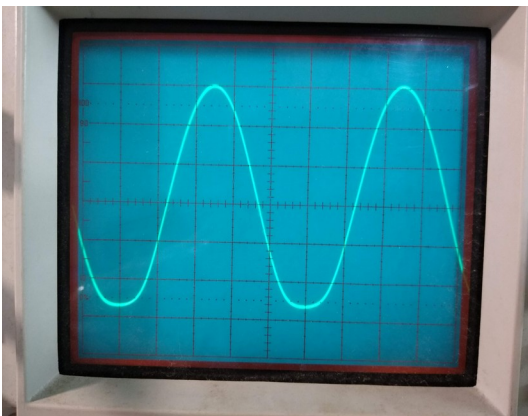
0.6 W 200 Ω

0.05 W 32 Ω

Overload characteristic (1 kHz, 400 Ohm load)



$$V_{\text{out}} = 18.6 \text{ Vrms}$$



$$V_{\text{out}} = 21 \text{ Vrms}$$

Measured output impedance at 1 kHz: 75.5Ω

Input impedance: $50 \text{ k}\Omega$

Hum and noise at output: less than $3 \mu\text{V rms}$ (120 dB below max. output)

Recommended load impedance: $32\text{--}600 \Omega$

Phase: non-inverting

Power consumption: 155 W, 120 VAC (240 VAC Europe) 50-60 Hz

MAD 6SL7/6336 OD OTL Headphone Amplifier

Version:1

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