

SUGARMAPLE



MAPLE TREE AUDIO DESIGN

## Sidewinder Headphone Amplifier



### Users' Manual

Rev Oct. 12/14

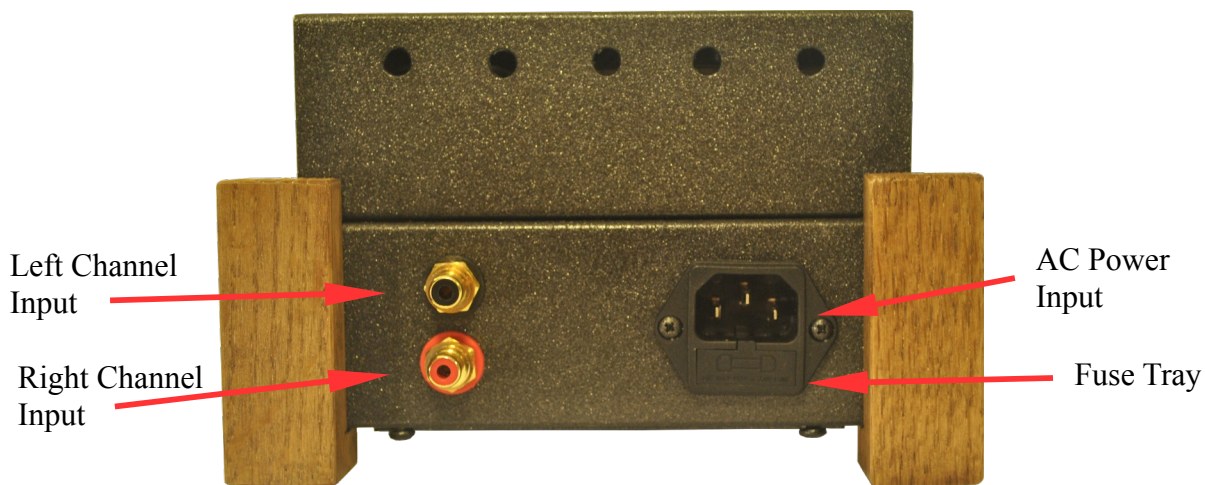
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## Introduction

The Mapletree Audio Design Sidewinder Stereo Headphone Amplifier represents a high performance development of a miniature tube based headphone amplifier. The parallel connected 6DJ8 provides an excellent output stage for the SET amplifier and is widely available. The 12AX7 driver delivers a high performance headphone amplifier with extremely low output impedance results. Premium components include metal film resistors and polypropylene capacitors in the driver stage.

## Input/Output Connections

The standard IEC line cord is attached to the receptacle on the rear panel of the Sidewinder. It is compatible with a 120 VAC line with a frequency of 50–60 Hz. A 1A/250 V fuse provides primary protection. It is located under the chassis and can be accessed by removing the bottom cover of the power supply with the unit unplugged and waiting 3 minutes after powering off. 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.

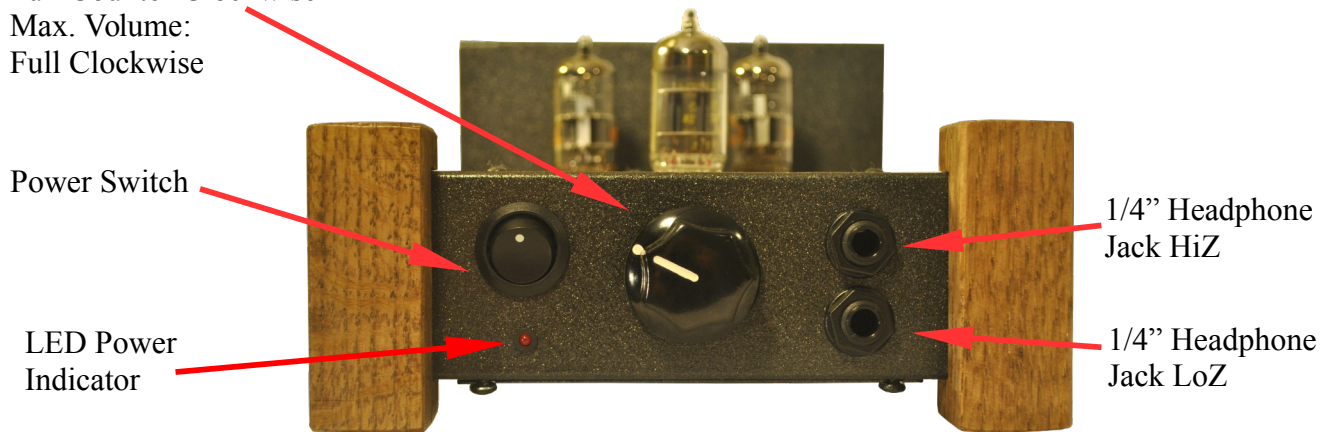


The RCA jacks allow connection to a line-level stereo source (e.g. CD player) while maintaining the connection to the regular amplification system. The input impedance is 50 k $\Omega$  which is compatible with all source output circuits.

The power switches are located on the front panel. The LED pilot light indicates the power on condition. The headphone output jacks are two standard 1/4" stereo phone jacks. The high impedance output (HiZ) gives the most power output before clipping occurs, but has a higher output impedance. The low impedance output (LoZ) gives less power output before clipping occurs, but has a lower output impedance. If your headphones are terminated in a 1/8" plug, an adapter is required (usually supplied with your headphones). Headphone impedance from 30 to 300  $\Omega$  are suitable for use in both the HiZ and LoZ outputs.

### Volume Control

Min. Volume:  
Full Counter-Clockwise  
Max. Volume:  
Full Clockwise



### Controls

The signal level in both channels is controlled simultaneously by the volume control on the front panel of the Sidewinder 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 Sidewinder is supplied with 1 – 12AX7 (driver) and 2 – 6922 (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. Make sure the driver tube has match triode sections to obtain the best balance between left and right channels.

## Warranty

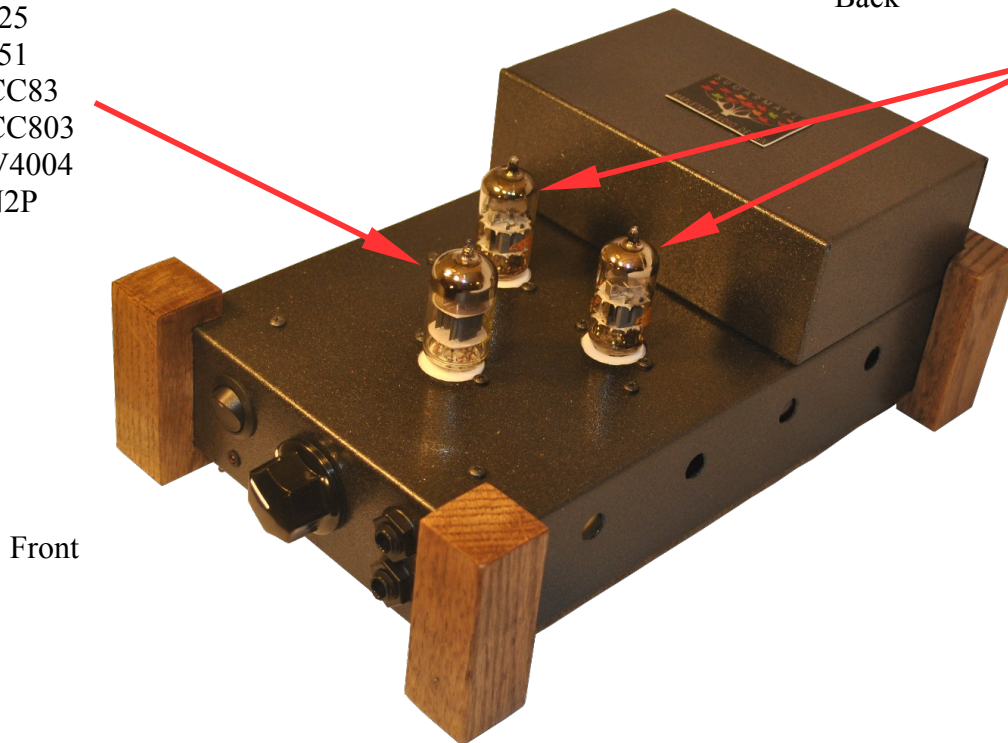
Factory assembled MAD components are warranted for 2 years to the original purchaser for failure of all parts (excluding tubes).

Tubes are warranted for 90 days exclusive of shipping cost. Service, including parts and labor (but excluding shipping), is free within the warranty period.

12AX7  
7025  
5751  
ECC83  
ECC803  
CV4004  
6N2P

Back

6DL8  
6922  
7308  
E88CC  
E188CC  
6H23P  
6N1P



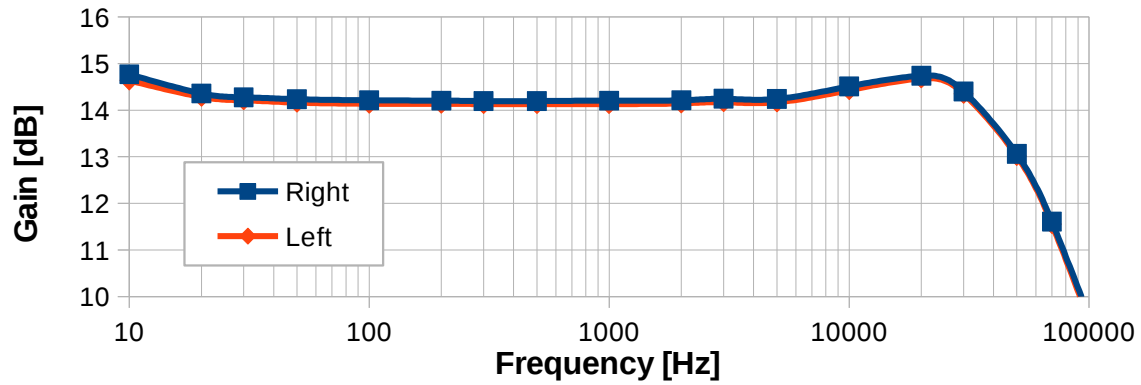
Front

## Additional Notes

This manual is an aid to the user for the operation of the Sidewinder. 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 manufacturers, model and values may vary.

# MAD Sidewinder Measured

Frequency response at 0.2 Vrms HiZ output into 32 Ohms headphone load:



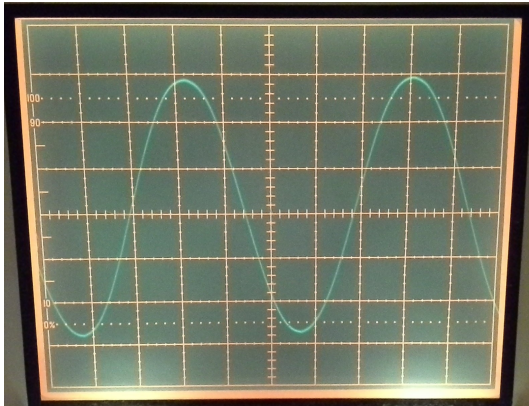
Maximum undistorted HiZ output at 1 kHz:

$P_{o(max)}$  Rload

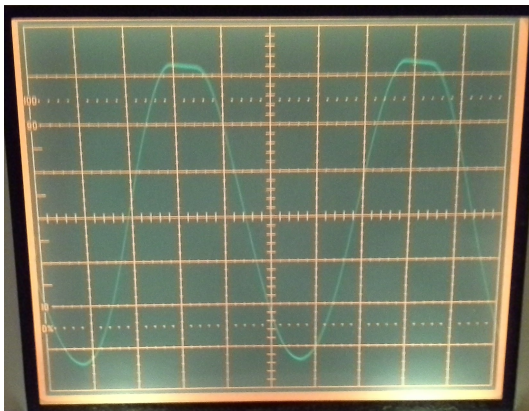
0.1 W 16  $\Omega$

0.2 W 32  $\Omega$

Overload characteristic (1 kHz, 32 Ohm load HiZ)



$V_{out} = 2.0$  Vrms



$V_{out} = 2.5$  Vrms

Measured output impedance at 1 kHz: LoZ  $0.75 \Omega$  and HiZ  $1.5 \Omega$

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

Hum and noise at output: less than  $7 \mu\text{V rms}$  (112 dB below max. output)

Recommended load impedance:  $30\text{--}600 \Omega$

Phase: non-inverting

Power consumption: 25 W, 120 VAC ( 240 VAC Europe) 50-60 Hz

# MAD Sidewinder Headphone Amplifier

Version:5c

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Rev. October 12th 2014

