

whirlwind

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HAUC, HAUCXL and HATT Headphone Amplifiers

The Whirlwind HAUC, HAUCXL and HATT headphone amplifiers are designed to work with any type of headphone or ear buds, at any desired volume.

The circuits in the Whirlwind HAUC, HAUCXL and HATT products were developed specifically to work with *all* impedances of *all* headphones, with low distortion to avoid ear fatigue, and wide frequency response for pristine reproduction of audio.

Furthermore, the circuits in the Whirlwind HAUC, HAUCXL and HATT products are designed to run indefinitely and without failure, even into a shorted load.

Frequency response	$\pm .2$ dBv 100-20k Hz -2.8 dBv at 20 Hz
Total harmonic distortion +noise	$\pm .002$ % into 30 Ohm phones at 1 kHz, 0 dBv in -10 dBv out .04 % into 8 Ohm phones at 1 kHz, 0 dBv in -10 dBv out
Total gain	40 dBv with no load 34 dBv with 30 Ohm load 25 dBv with 8 Ohm load
Range of level pot	77 dBv
Maximum input level	+ 17 dBv
Input impedance	100k Ohms
Maximum output level	19.4 dBv with no load 7.4 dBv with 30 Ohm load 1.5 dBv with 8 Ohm load

Dynamic range	114 dBv with 30 Ohms phones 104 dBv with 8 Ohms phones, 1 dBv below clip
Headphone output impedance	30 Ohms
Minimum impedance of headphones	8 Ohms
Noise	-96 dBv with 0 dBv in, -10 dBv out, 30 Ohm phones -103 dBv with 0 dBv in, 0 dBv out, 8 Ohm phones
Stereo separation	67 dBv at 1 kHz. 30 Ohm load 52 dBv at 1 kHz. 8 Ohm load
Turn on impulse noise	-17 dBv with 30 Ohm phones -27 dBv with 8 Ohm phones 8 dBv with no load
Turn off impulse noise	-16 dBv with 30 Ohm phones -27 dBv with 8 Ohm phones -4.4 dBv with no load
Output drive power Both channels driven. Spec is into <i>single</i> earpiece	310 mW into 30 Ohms 162 mW into 8 Ohms
Power consumption, both channels driven	<u>30 Ohms:</u> Full clip output: 197 mA DC Full clean output: 142 mA DC No signal: 89 mA DC <u>8 Ohms:</u> Full clip output: 207 mA DC Full clean output: 185 mA DC No signal: 89 mA DC
Power requirements	24 VDC unregulated 200 mA DC