



www.audera.co
+1 866 883 9506

LHX20 2.0 Amplifier Specifications and Guide

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1. Introduction

Audera Acoustics Inc. has developed a novel, high-efficiency, linear amplifier and a tracking power supply combination that offers:

- Improved signal-to-noise ratio (SNR) with respect to Class D and Class AB
- Reduced electromagnetic interference (EMI) as compared to Class D
- Minimized distortion levels and idle power consumption
- Optimized power supply requirements
- Decreased circuit complexity as compared to other hybrid topologies

All this in turn provide a robust, high-power, cost-competitive audio amplifier perfect for the home audio environment.

2. Features and Benefits

ClassLH™ is a linear-hybrid Class H amplifier, combining a switching power supply with a linear amplifier. Once an audio input signal is applied, the first stage of the system detects the envelope of the audio signal. It then passes a signal to the power supply which generates the power rail based on the tracked audio signal. High-performance linear amplifier stage is placed between the speaker load and the tracking power supply unit (PSU).

ClassLH™ enables high- power, low-cost amplifier design with:

- Excellent musical efficiency
- Low idle power consumption
- Wide dynamic range
- Low distortion and EMI
- Simple, versatile and compact size
- Considerably less heat dissipation resulting in small heat sinks
- High overall system efficiency
- Low system cost in comparison to Class AB or Class D

3. Applications

Audera's ClassLH™ amplifier – a hybrid-linear push-pull drive amplifier, powered by high efficient tracking power supply rails is a perfect fit for applications where cost is the main consideration, but the system performance cannot be compromised

The LHX20 2.0 amplifier system consists of two 10W full range power channels. It can be used in 2.0 computer multimedia systems, stereo receivers, combined hi-fi systems and small music centers.

4. Electrical specifications

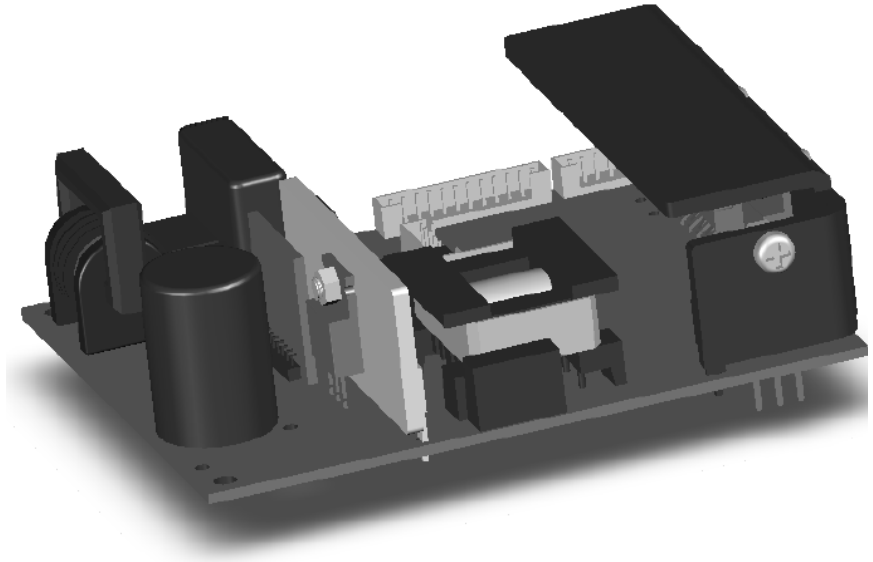
	Value	Comments/Notes
General		
Technology	ClassLH	
Application	2.0 Audio systems	
Configuration	2 x 10W	
System FTC power rating	TBD W	
Full Range Channels		
Output Stage	TDA7266	
FTC Power @ 10% THD	2 x TBD W	
Power into 8 ohms 10% THD	2 x 10W	
Maximum voltage swing	+/- 13V pk	
Recommended Load	8 ohm	
Minimum Load DCR	7 ohm	
Usable frequency range	30Hz-20kHz	
THD+N @ 1 W, 1kHz	< 0.2%	
SNR dBr max output	< 95 dBr unweighted	
Pre-amp		
Bi-quads	None	
Compressor	None	
Input impedance, each channel	10.0 kOhm	
Drive Level for rated power	0.5Vrms	
Maximum input drive level	2V pk	
Control signals		
Inputs	ON/STANDBY; MUTE, EXT TRACK (opt.)	
Outputs	None	
Output supply rails		
Auxiliary Power supply	5V, 1.0A	
Standby power supply	+5Vstandby/5mA	
Feature Power supplies	+5V/1A	
Protection		
Over Temperature protection	Yes	On the PSU
Over Current protection	Yes	
Short Circuit protection	Yes	
AC Input		
Input fuse rating	1A	
Standby power consumption	<0.5 W	

Idle power consumption	TBD	
AC Input voltage (rated power)	120 VAC to 230 VAC	
Agency performance		
Meets EMC requirement	EN-61000-4-2 EN-61000-4-3 EN-61000-4-4 EN61000-4-5 EN-61000-4-6 EN-61000-4-11 EN-55013 FCC part 15-B	
Class II insulation (no ground)	Yes	
Meets Safety requirements	IEC-60065	
Meets Energy Star	Yes	

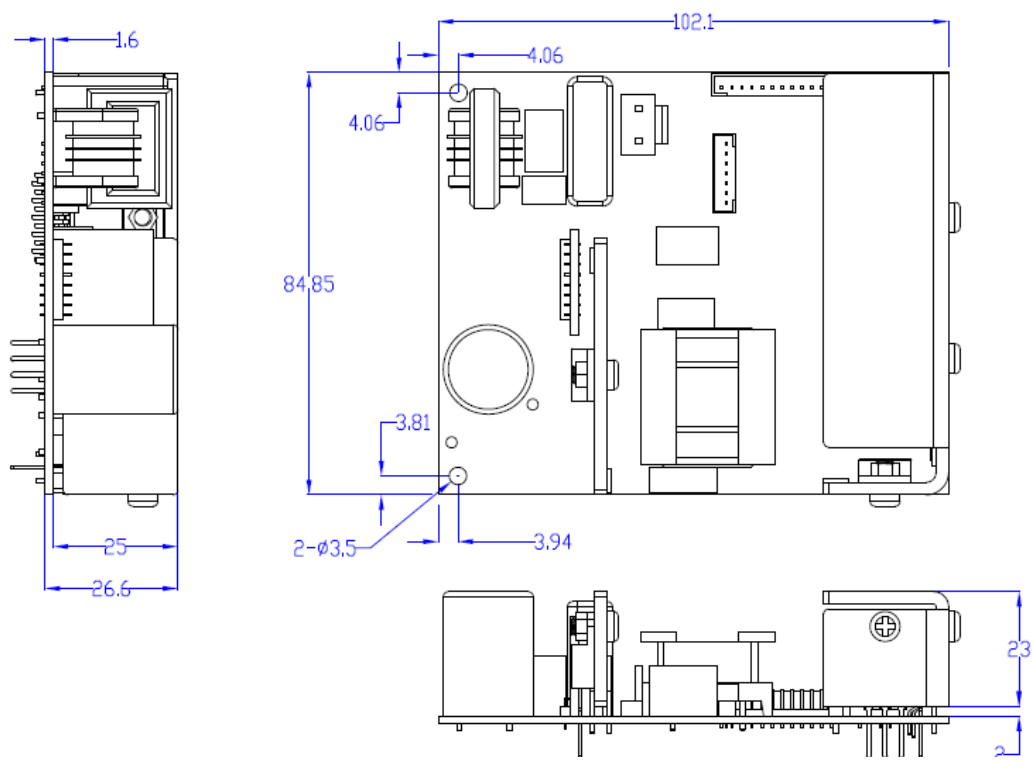
5. Mechanical specifications

Mechanical		
Physical dimensions* L x W x H mm	Amplifier board 102.1 x 85 x 26.6 mm	
Weight	TBD	
Vibration	TBD	

6. Mechanical drawings



Board isometric view



Board assembly drawing