www.audera.co
+1 866 883 9506

HD250 2.2.1 Amplifier Specifications and Guide

Rev. 1.00
Dec 14, 2010

1. Introduction

Audera Acoustics Inc. has developed a patented novel ClassHD® switching amplifier and power supply combination that offers improved Signal to Noise Ratio (SNR), distortion, idle consumption, electromagnetic interference (EMI), switching losses, filter losses, filter cost, circuit complexity, power supply requirements, and ultimately cost.

2. Features and Benefits

Traditional switching amplifier designs treat amplifier and power supply building blocks as separate entities and fail to consider how these blocks could interact with each other, ultimately to the detriment of the overall system. By integrating the power supply and amplifier to work together, instead of operating as stand-alone systems, ClassHD® offers significant improvements in switching amplifier performance.

- Audera patented ClassHD switching amplifier with tracking switch-mode power supply technology offers the following benefits:
    - Reduced idle power
    - Reduced EMI
    - High System Efficiency at light or heavy loads, resulting in smaller overall system size as compared to Class D
- Standby power < 0.5W (energy star and EU compliant)
- Idle power < TBD W
- Total 240W RMS output power amplifier
- Onboard auxiliary power supply for powering DSP, op-amps, etc. on feature board

Embedded in this model is a powerful 50 MIP Sigma DSP from Analog Devices with support for both analog and digital input signals. This provides nearly unlimited signal processing capabilities including proprietary protection and power supply control. Analog devices has provided a rich tool box of pre-defined signal processing blocks but the development tools provide a user friendly environment to create your own highly customized algorithms.

3. Applications

Audera's ClassHD® switching amplifier and power supply combination is a perfect fit for applications where cost, efficiency and size are the main considerations, but the system performance cannot be compromised.

The HD250 2.2.1 amplifier system consists of a tracking power supply board and a 4 x 30W + 1 x120W amplifier channels. This is a great fit for the high quality home theatre systems.

4. Electrical specifications

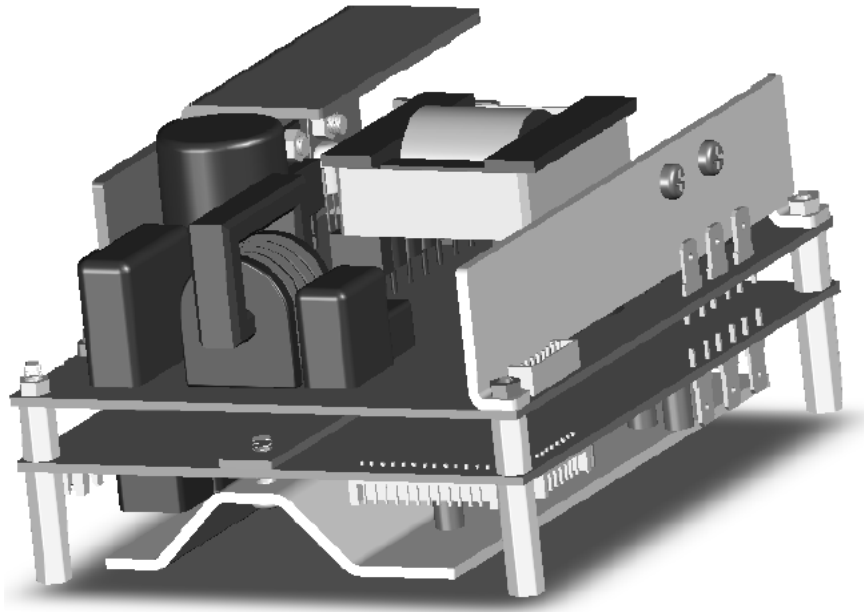
	Value	Comments/Notes
General		
Technology	ClassHD	
Application	2.2.1 Audio systems	
Configuration	4 x 30W + 1 x 120W	
System FTC power rating	240@W	
Low Frequency Channel		
Output Stage	TBD	
FTC Power @ 10% THD	120W	
Maximum voltage swing (no load)	64V pk-pk	
Recommended Load	8 ohms	
Minimum Load DCR	6.4 ohms	
Usable frequency range	10Hz-TBD kHz	
THD+N @ 1 W, 100 Hz	TBD %	
SNR dBr max output	TBD dBrA	Unweighted
High Frequency Channel		
Output Stage	2 x TDA8932B	
FTC Power @ 10% THD	30W x 2 + 30W x 2	
Maximum voltage swing	32V pk-pk	
Recommended Load	4ohm	
Minimum Load DCR	3.4 ohm	
Usable frequency range	20Hz-20kHz	
THD+N @ 1 W, 1kHz	TBD %	
SNR dBr max output	< TBD dBrA	
Pre-amp		
Bi-quads	Yes	Inside DSP
DSP	Yes	ADAU1701 (50MIPS)

Compressor	Yes	Implemented in DSP
Analog input	Yes	2 Channel
Input impedance	22k	AC coupled
Digital input	Yes	I2S
Drive Level for rated power		Can be tuned
Output supply rails		
Auxiliary Power supply	5V, 1.5A	
Standby power supply	5V, 10mA	
Feature Power supplies	+/- 5V, 50mA	
Protection		
Over Temperature protection	Yes	
Over Current protection	Yes	
Short Circuit protection	Yes	
AC Input		
Input fuse rating	TBD	Time lag.
Standby power consumption	<0.5W	.
Idle power consumption	<TBDW	
AC Input voltage (rated power)	120V or 240V	
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	As designed. EMC testing and tuning not yet done.
Class II insulation (no ground)	Yes	
Meets Safety requirements	IEC-60065	
Meets Energy Star	Yes	

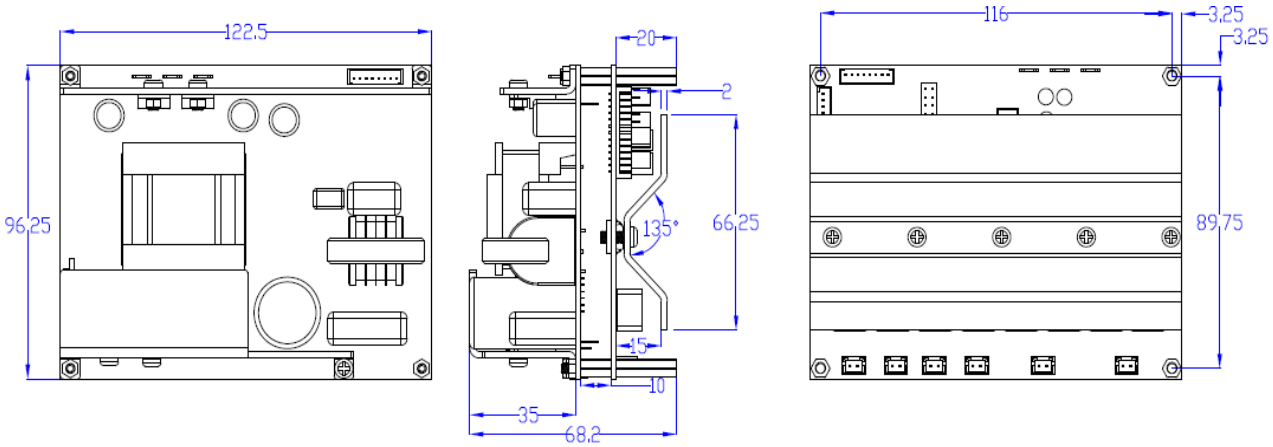
5. Mechanical specifications

Mechanical		
Physical dimensions L x W x H mm	Amplifier board 134 x 90.7 x 38.2 mm	
Weight	TBD	
Vibration	TBD	

6. Mechanical drawings



Board isometric view



Assembly drawing