



www.audera.co
+1 866 883 9506

HD400 0.1 Amplifier Specifications and Guide

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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 < 10W
- 400W RMS output power amplifier
- Onboard auxiliary power supply for powering DSP, op-amps, etc. on feature board

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 HD400 0.1 amplifier system consists of a tracking power supply and a single 400W amplifier channel for subwoofer applications. This is a great fit for the subwoofer in high quality home theatre systems.

4. Electrical specifications

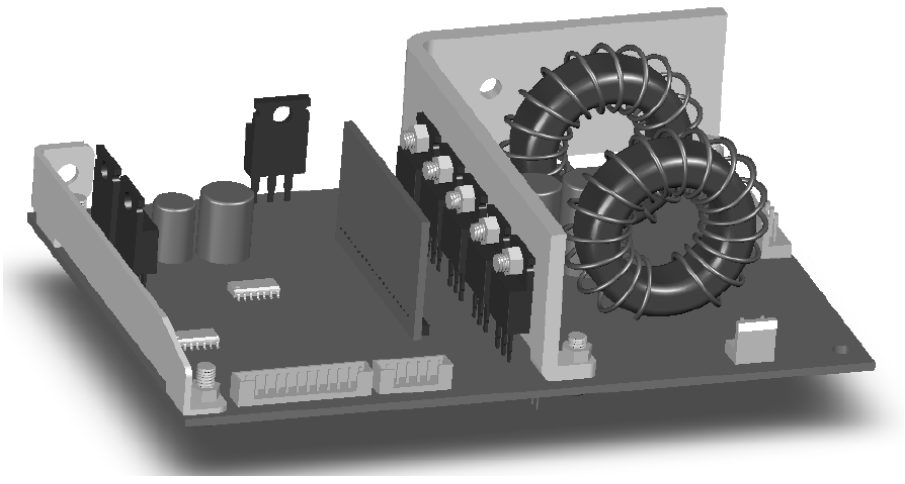
	Value	Comments/Notes
General		
Technology	ClassHD	
Application	Subwoofer	
Configuration	1x400W	10% THD+N
System FTC power rating	NA	
Low Frequency Channel		
Output Stage	Discrete MOS	
FTC Power @ 10% THD	NA	
Burst rms power @ <10% THD+N for 5 seconds into 4 ohms.	400W	
Burst rms power @ <1% THD+N for 5 seconds into 4 ohms.	300W	
Continuous rms power @ 1% THD+N	75W	
Maximum voltage swing (no load)	160V pk-pk	
Recommended Load	4 ohms	
Minimum Load DCR	3.5 ohms	
Usable frequency range	10Hz-1kHz	
THD+N @ 1 W, 100 Hz	0.03%	
SNR dBr max output	95 dBrA	Unweighted
Pre-amp		
Bi-quads	None	
Compressor	None	
Input impedance	5k ohms	
Drive Level for rated power	TBD Vrms	
Maximum input drive level	1.1Vrms	
Output supply rails		
Auxiliary Power supply	5V, 300mA	
Standby power supply	5V, 10mA	
Feature Power supplies	+/- 10V, 50mA	
Protection		
Over Temperature protection	Yes	On power supply. Rolls back peak power output until thermal equilibrium is reached.
Over Current protection	Yes	
Short Circuit protection	Yes	
AC Input		
Input fuse rating	6.3A (120V) /3.15A (240V)	Time lag.
Standby power consumption	<0.5W	.

Idle power consumption	<10W	
AC Input voltage (rated power)	120V or 240V	
AC Input voltage (operating)	Nameplate: 100-120V OR 200-240V. Tolerance: 90-134V OR 220-264V	.
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	

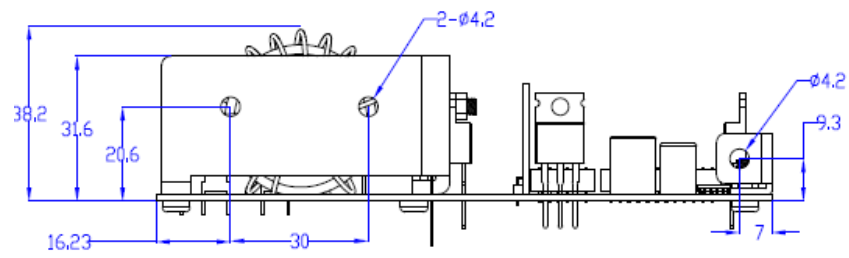
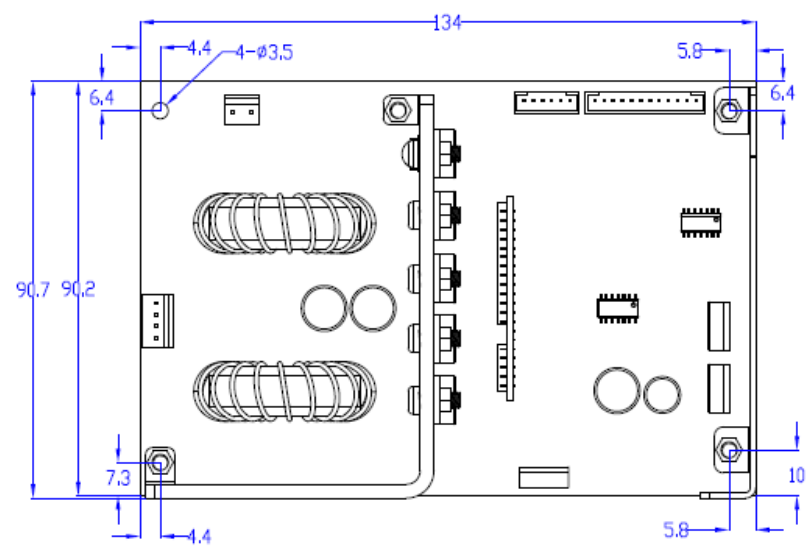
5. Mechanical specifications

Mechanical		
Physical dimensions L x W x H mm	Amplifier board 134 x 90.7 x 38.2 mm PSU board 150 x 101.4 x 44.6 mm	
Weight	TBD	
Vibration	TBD	

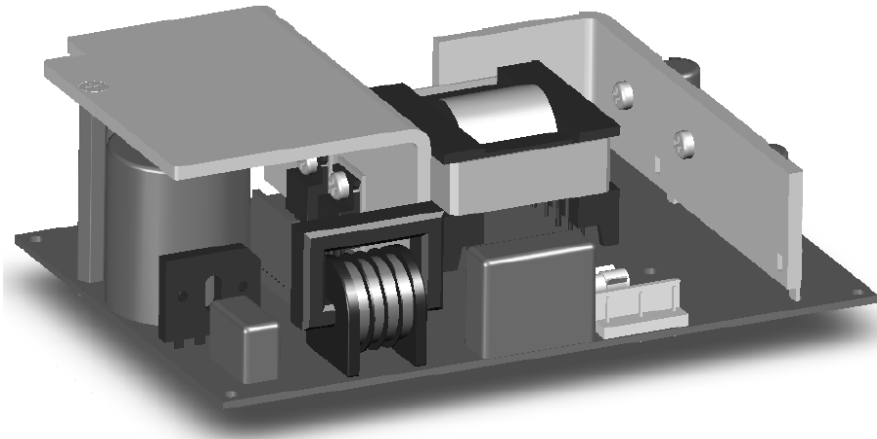
6. Mechanical drawings



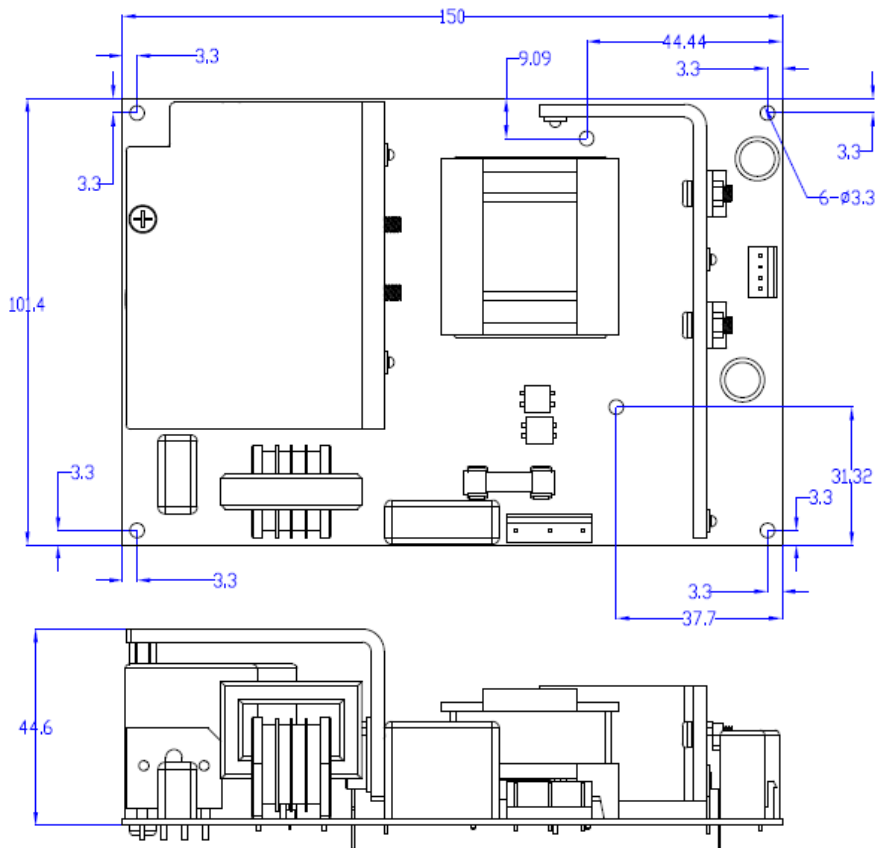
Amplifier board



Amplifier board assembly drawing



Power supply board



Power supply board assembly drawing