

CDA 50

Class-D Amplifier with DSP and Data Interface

Key Features

The CDA 50 is part of the Audivo Active Speaker Platform (ASP). ASP consists of a line products for active speaker solutions. The CDA50 can be combined with various wireless audio sources, e.g. Kleernet, BT or StreamVienna multi-room streaming module.

The design is a single board solution including DC/DC power supply and connector for a simple user interface with buttons, switches and LEDs. The complete system is supplied by a 8...26V DC.

The board includes a STA350BW Class-D amplifier with a total continuous sine output power of up to **2x19W (into 4Ω)** (depends on heat sink). The board is available in configuration for single or multi driver applications:

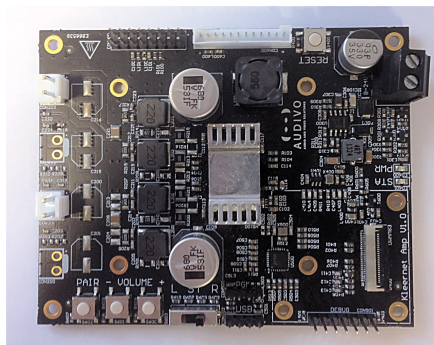
- 1 speaker in parallel bridge mode
- 2 way speaker double bridge mode
- 2.1 speakers: 2 single-ended (mid/high) and 1 bridge mode (woofer)
- Filters are optimized for speaker impedance of 8Ω for single-ended and 4Ω for bridged/parallel-bridged outputs

Connection to different audio sources are available on various pin headers:

- Dedicated connector for DWAM83 Kleernet module
- Pin header for a
 - Microchip BM63 audio Blue Tooth module or
 - StreamVienna Multiroom-Streaming (on Audivo carrier board)

Integrated DSP for cross over and tuning:

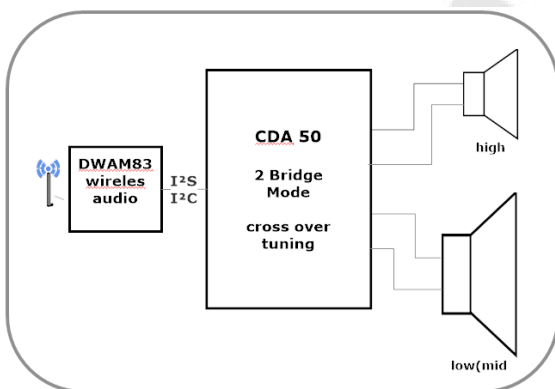
- Independent channel volume and DSP bypass
- Up to 8 user-programmable biquads per channel
- Bass/treble tones and de-emphasis control
- 96 kHz internal processing sample rate with quantization error noise shaping for very low cutoff frequency filters



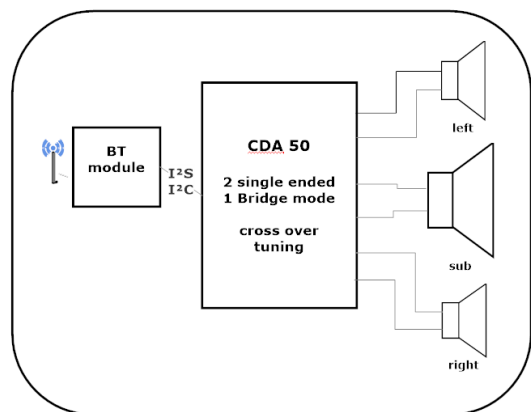
Technical overview

Dimensions (l w h)	100 x 80 x 32 mm ³		
Parallel bridge mode	4		
Speaker Impedance	4 Ohm		
Max. continuous power			
Speaker Impedance bridge mode	4		
Average continuous output power in bridge mode	2*19W		
Speaker Impedance single ended mode	8		
Average continuous output power (heat sink doesn't exceed max. temp of 50°C and Amp IC doesn't enter over-temp condition) Board totally powers 2x SE (8Ω) and 1x bridged (4Ω) (2.1 configuration)	2*3,8W		
Power supply voltage DC	9 – 26		
Max Current Draw in on Mode (depending on supply voltage) depending on Input Voltage	tbd.		
Total harmonic distortion + noise (THD+N)	P _{out} = 1W	0.13	%
	P _{out} = 2x19W (max)	0.55	%
Signal-to-noise ratio (SNR), A-weighted, BW 22Hz - 22kHz	P _{out} = 1W	-78.5	dB
	P _{out} = 2x19W (max)	-91.0	dB
Frequency range, BW 22Hz - 22kHz	P _{out} = 1W	< 0.3	dB
	P _{out} = 2x19W (max)	< 0.3	dB
Total Efficiency (P _{sup} to P _{out}); incl. digital supplies, etc.	P _{out} = 1W	~40	%
	P _{out} = 2x19W (max)	~76	%

Typical applications



2-way-active wireless speaker



2.1 portable BT speaker