

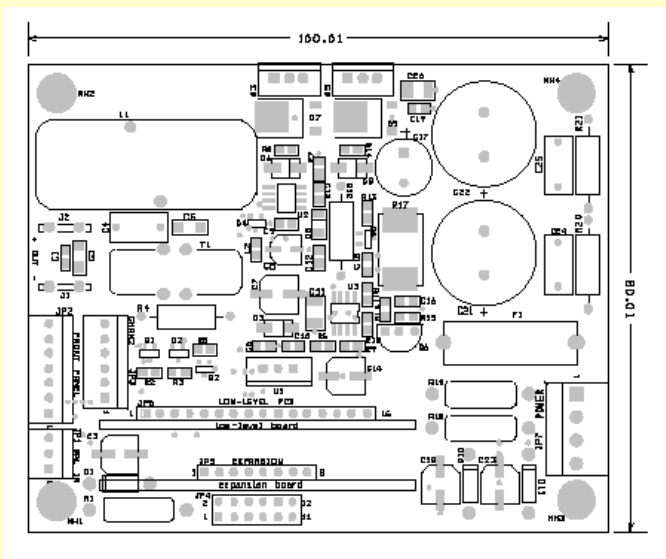


D250A PWM Amplifier



D250A specs

Rated power 4 ohms	250W
Power supply max.	2 x 45V DC
Aux. supply	16V DC
Freq. Range (+0, -1dB)	20 - 20.000 Hz
THD + N	0.02% typ.
Dynamic Range	110 dB typ.
Max. output current	20A
Min. load impedance	4 ohms
Damping Factor	400 typ.
Input voltage	1V - 10 k - balanced
Operation	Half bridge amplifier
Plugin/expansion header	yes
Peak limiter	yes
Dimensions	100 x 80 x 25mm
Heatsink	external (small)
Available as sample	yes
Available as OEM design	yes



D250A is a PWM /Class-D amplifier designed to give very high performance in audio quality and to deal with all aspects of amplifier use and applications including amplifier + power supply combination, multichannel use , active crossover use, etc.

Power output is 250 W into 4 ohms, overcurrent protection is likely to operate with continuous high power levels into 2 ohms.

D250A is a full bandwidth module (20 kHz power bw) and can be used for a broad range of applications from HIFI, Home Cinema to Pro Audio, Active Speakers, Installation... Sound quality is very good indeed and THD + N is 0.02% or better.

The D250A can be powered from a linear supply , a switch-mode supply , a D250ASW or a D1000ASW module.

D250A has these connections:

- * Balanced input header (3-pin molex)
- * Expansion header (8-pin molex) with input/output + power for external signal processing, crossover, equalizing, etc.
- * Front panel header (7-pin molex) with volume control in/out + output to led meter and power for this.
- * Channel-2 link (6-pin molex) with clock and audio connection to additional channel module.
- * Mode selector (2x6 pin molex) selects fullrange, high or low for both main module and ch-2 slave module.
- * Power input (4-pin connector) 2 x 45VDC + 15VDC

Test and connections for CAD 250ASW Digital Amplifier Module.

Connector Layout; (all seen from left-right)

JP7 – DC input

4 15VDC
3 -45V DC
2 GND 1
1 +45V DC

JP2 – Balanced input (can be used unbalanced)

3 –IN
2 + IN
1-GND

JP3 – for controller board, observe right polarity , pin 1 to pin 1

JP5 – Expansion board (for crossover etc)

1 – Hi out
2 – Lo out
3 –
4 – Input
5 –
6 - +15V DC
7 – GND
8 - -15V DC

JP4 – mode selector, for amplifier module and external amplifier module

1-2 link Low to CH2
3-4 link HI to CH2
5-6 link Full Range to CH 2 (no crossover)
7-8 link Low to Amp board
9-10 link Hi to Amp board
11-12 link Full range (no crossover) link here for full range

JP2 – Front panel connection, for connection of frontpanel, ledmeter and volume control

7 - GND
6 – viper of volume pot (goes to JP4) and to amplifier through jumper 11-12 on JP1
5 – top of volume pot
4 – GND
3 - +15V DC for led meter
2 – clip indication
1 – fault indication led

JP3 – CH2 connector, for linking of 2 channels including sync operation

6 – GND
5 – to CH2 from JP1
4 – GND
3 – clock in
2 – GND
1 – clock out

J1 and J2 - + Output and – Output

Do not connect any of them to GND

Test and setup of amplifier board.

Mount amplifier board to heatsink, the 2 FETS on amplifier need isolation washers and isolated bolts.

Turn on DC power supply, don't connect it to module at this point .

Test and verify DC Voltages on JP7 (+15V DC , +/- 45V DC)

Turn off power supply and connect it to amplifier module.

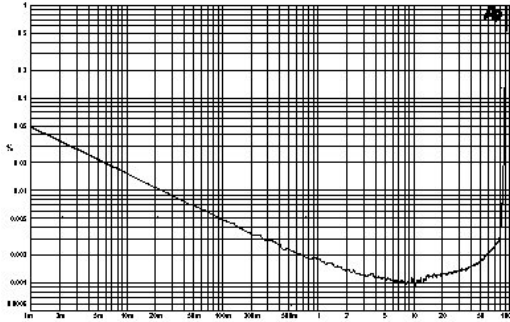
Mount controller board in JP3, verify controller has link for clock CLK CRC INT for local clock.

Mount or verify 11-12 link on JP1 and potentiometer or link on JP5.

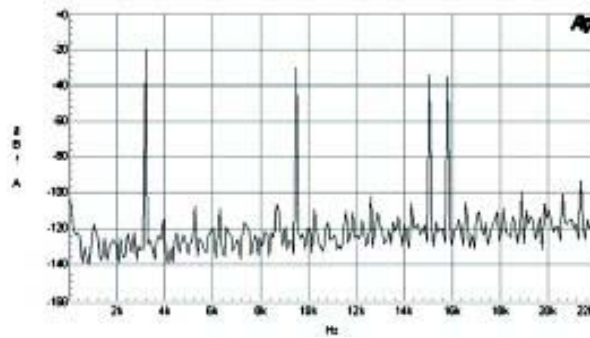
Connect Input, balanced or unbalanced,

When unbalanced Pin 3 can be connected to GND but doesn't need to.
 Connect Output (load min. 4 ohm resistor or loudspeaker.)
 Mount Fuse F1 , 4A
 Turn on power supply again.
 Verify signal on output.
 The module is tested and ready to use.

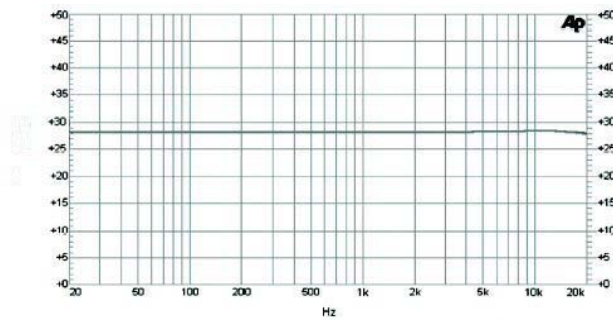
Generic data for CAD PWM amplifiers;



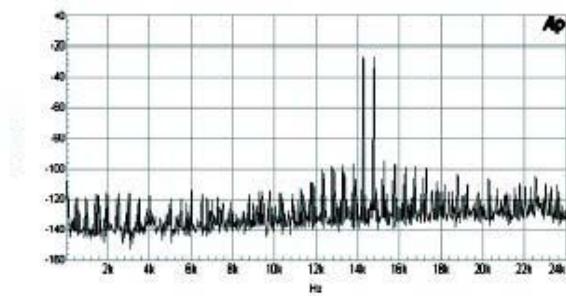
THD vs. output power



DIM dist.



Freq, response 8 ohms



IM dist