Ground Sound

Audio Products • Digital Crossovers • Amplifiers • Power Supplies

PSU4BD

Power Supply Unit for Amplifier

Features

- Supply for Power Amplifier modules
- 4 pcs Power Electrolytic Capacitors
- Dual Bridge Rectifiers
- Bleeder resistors

Applications

- High End Stereo Amplifier

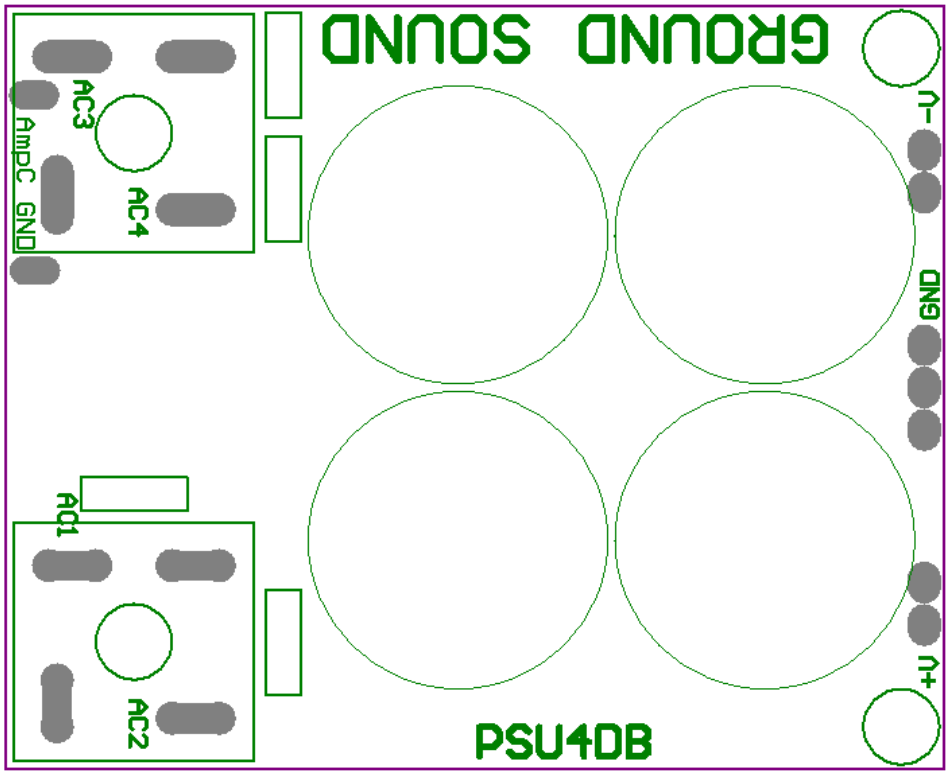
Description

PSU4DB is a power supply unit for a power amplifier construction. It provides power for a number of PA1CC or PA3CC or other high quality amplifier modules. PSU4DB will ensure enough resources for the power amplifier modules to easily drive, even difficult speaker impedances. PSU4DB is build with two high current bridge rectifiers to minimize ground noise. PSU4DB also include bleeder resistors for safety precautions.

PSU8DB Module

Technical Specifications

	Min	Typ	Max	Units
Nominal transformer secondary voltage		2 x 35	2 x 67	Vac
Power capacitor bank, capacity		48.000	48.000	µF
Power capacitor bank, voltage	63	63	100	Vdc



Connection pads on top side

Label	Type	Description
AC1	Input	Power transformer 1 secondary 1 (ex. Blue GS transformer)
AC2	Input	Power transformer 1 secondary 2 (ex. Brown GS transformer)
AC3	Input	Power transformer 2 secondary 1 (ex. Red GS transformer)
AC4	Input	Power transformer 2 secondary 2 (ex. Green GS transformer)
AmpC	Output	Pad for easy connection to AmpC pad marked SEC
GND	Output	Pad for easy connection to AmpC pad marked GND

Connection pads on top/bottom side

Label	Type	Description
+V	Output	Positive voltage supply for power amplifier modules
GND	Output	Star ground, power amplifier modules GND
-V	Output	Negative voltage supply for power amplifier modules

Power amplifier supply

The power amplifier supply is a classical symmetrical unregulated supply and its input pads are AC1, AC2, AC3 and AC4 at the topside at the bridge rectifiers. PSU4SA has 4 snap-in capacitors and will normally be supplied with 4700µF/100V Nichicon Gold Tune capacitors. It is possible to have other values installed example 12.000µF/63V Panasonic capacitors if lower amplifier rail voltage is required. The power transformer normally has two separate secondary windings. If there is doubt about how to connect the transformer the easiest way to find out which wire goes where is: Simply measure with a multi-meter in beep mode which two and two wires is secondary 1 and secondary 2. Ex. Secondary1 wires goes to AC1 / AC2 (bridge1 – blue/brown GS transformer) and secondary2 goes to AC3/AC4 (bridge2 – red/green GS transformer). The output pads of the power amplifier supply are located on both the top and bottom side and the markings are +V, -V and ground GND. The top side connection pads is through hole mounting and take care not to heat the power capacitors! It's a bit easier on the bottom side and it's recommended to solder the wire direct on the pads.

Grounding GND

The ground plane of PSU4DB is a star ground and the centre of this star is the power supply's GND pad.

Wiring

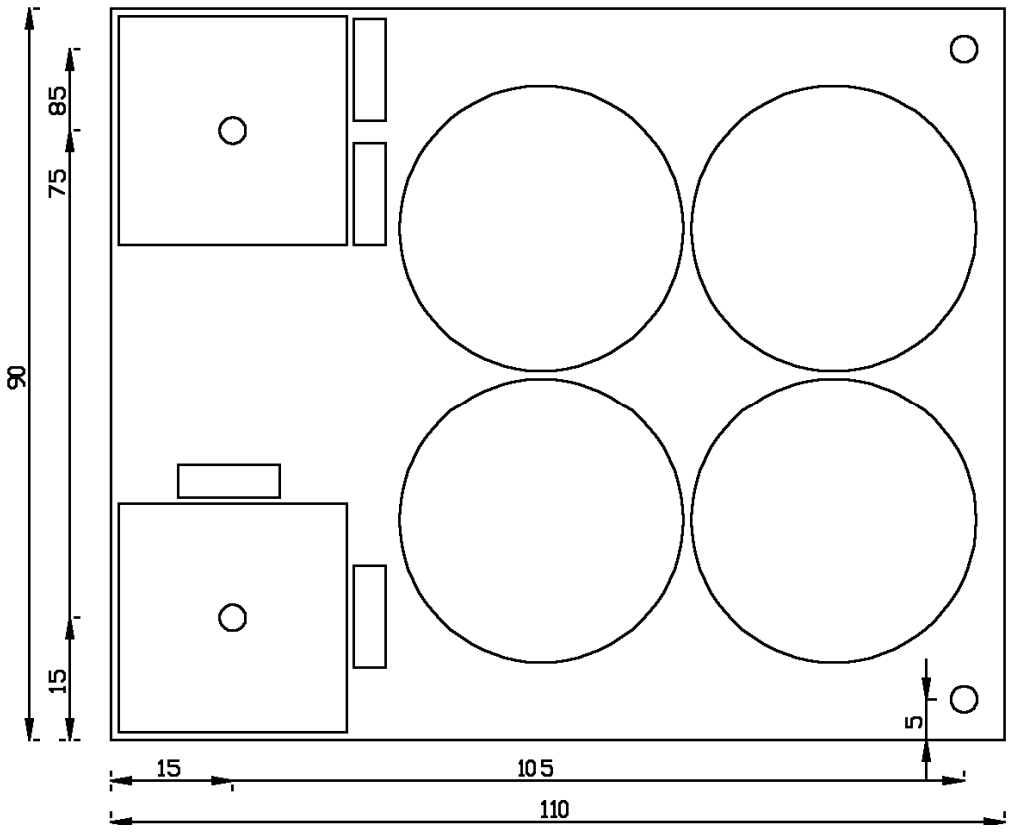
It is recommended to start by soldering the **amplifier** wires. The wires can either be mounted "through hole" from the top or soldered direct to the pad at the bottom side, which we normally prefer. Each amplifier requires 3 wires - normally red (+V), black (GND) and blue (-V) multi-core wire between 0,75mm^2 and 1,5mm^2. It's highly recommended to twist the three wires for each amplifier module rather than using thicker wires to minimize crosstalk between wires for different parts of the system.

The **transformer** should either be soldered or connected with "FastOn" at AC1-4 according to the description above. If the transformers secondary wires are soldered it's recommended to pay attention to heat the joints sufficiently and it's advisable to solder these connections before tightening the screws because of the cooling effect of the chassis. It can be a bit tricky to solder the secondary side wires if the transformer has solid conductor wires. Care should be taken not to melt the plastic isolation. Our transformers are equipped with multi-core wires on the secondary side, with few exceptions, for easy assembly.

The PSU4DB has two pads for easy connection to the **AmpC** module called AmpC (connects to SEC on AmpC) and GND. These wires should be multi-core wire between 0,5mm^2 and 0,75mm^2.

Mechanical dimensions

The mounting of PSU4DB requires:
4 pcs M3 x 16mm screws
4 pcs M3 x 10mm distances
4 pcs 3mm spring washers



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Revision A: 2008-03-24