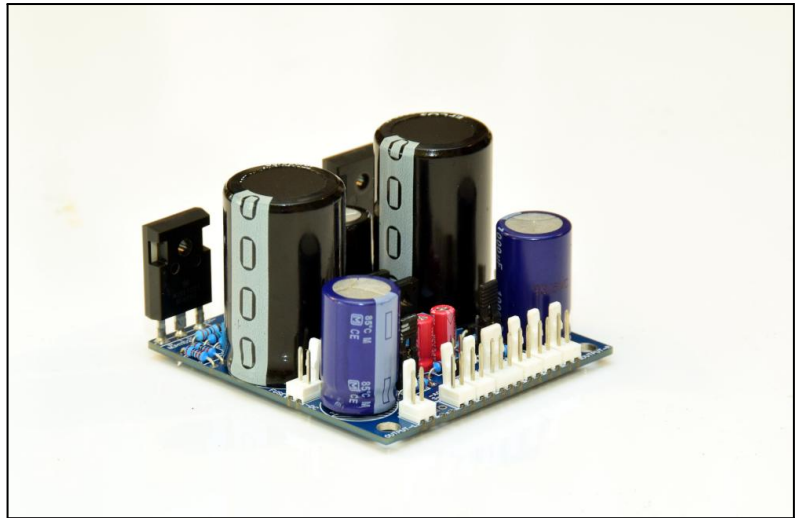


Application & Purpose:

Regulated Supply delivering +/- 35, 42 or 48v DC for up to two ZinAmp power amp modules. Each rail (-/+) can deliver 3A of current. 2x2.5A quick blow fuses recommended.

This power supply is recommended with the ZinAmp SCA Power Amplifier as the regulation ensures consistent bias at high power under large loads.



Specification:

PCB Dimensions	72.5mm x 68mm x 1.6mm
Voltage Input	30-0-30v, 35-0-35v or 40-0-40v - depending on DC voltage required.
Transformer Power	220-300VA
Output Current	-3A and +3A. 2 x 2.5A fast fuses recommended
Output Devices	MJH11022 - NPN - 15A Darlington MJH11021 - PNP - 15A Darlington
Ripple	1-10mv - depending on load
Recommended Max Power Output	300W - can drive two 150W power amps Use two of these modules where power requirement is greater
Output Voltage	-/+35v, 42v or 48v DC - selectable with jumper switches. Different transformers recommended for each of these voltages.

Details:

Power supply for running ZinAmp's Simultaneous Class-A power amplifier modules - up to 2 modules can be driven from this supply. This power supply's regulation ensures consistent bias at high power under large loads.

A heatsink is required as a small amount of heat is dissipated from the output transistors. The heatsinks supplied with your ZinAmp are ample for this. Running this supply with no heatsink will result in device breakdown within one minute and complete failure within a few minutes. Secure the output devices to the heatsink and isolate the backs of the transistors from the metal-wall of the chassis with silicon or mica isolation pads. Isolation pads are critical - do not expose the metal backs of the output devices to the metal chassis as a short circuit will result.

Additional Outputs:

- Headphone Adaptor and Speaker Protector (-/+42 or 48v)
- PreAmp DC Regulator (-/+42 or 48v)
- LED (-1.5/+1.5v approx)

PLEASE NOTE: If you are not using a controller or relays to switch this supply on and off, you will need to jumper the two AC Switch terminals with soldered links. These are marked on the PCB below as -AC Switch and +AC Switch. Leaving these open will leave the AC Supply isolated with no DC output.

Voltage and Transformer selection

The supply will provide four different voltages.

- -/+35v DC - both jumpers removed. Requires 30v-0-30v AC transformer
- -/+42v DC - both jumpers set to 42v. Requires 35v-0-35v AC transformer
- -/+48v DC - both jumpers set to 48v. Requires 40v-0-40v AC transformer
- -/+56v DC - both jumpers set to 48v. Requires 45v-0-45v AC transformer and substitute components - see below

Your power amplifier module will state which voltage is required, which will determine whether you will need a 35v or 40v AC transformer. Running a 40v AC transformer for a 42v DC output is not recommended as the output devices in the power supply will dissipate extra heat. However, it is possible to run at either 42v or 48v DC with a 38-0-38v AC transformer. These are available from Airlink Transformers in the UK - [here](#).

Note: with minor modification, this supply can provide up to 56v DC. Change the two 18v zener diodes D2- and D2+ for 24v equivalents. A 45-0-45 AC transformer is also required. Do not exceed 45v AC / 56v DC - higher voltages are untested and are unlikely to be achievable reliably!!

Fuses and Safety:

The supply must be used with two fast-blow fuses of 2.5A (3A if running at 56v DC). These are normally fitted to the back of the ZinAmp chassis and connected to the supply. Do not jumper (short) the fuse connections EVER.



Panel mounted fuse holder
(two required for this module)

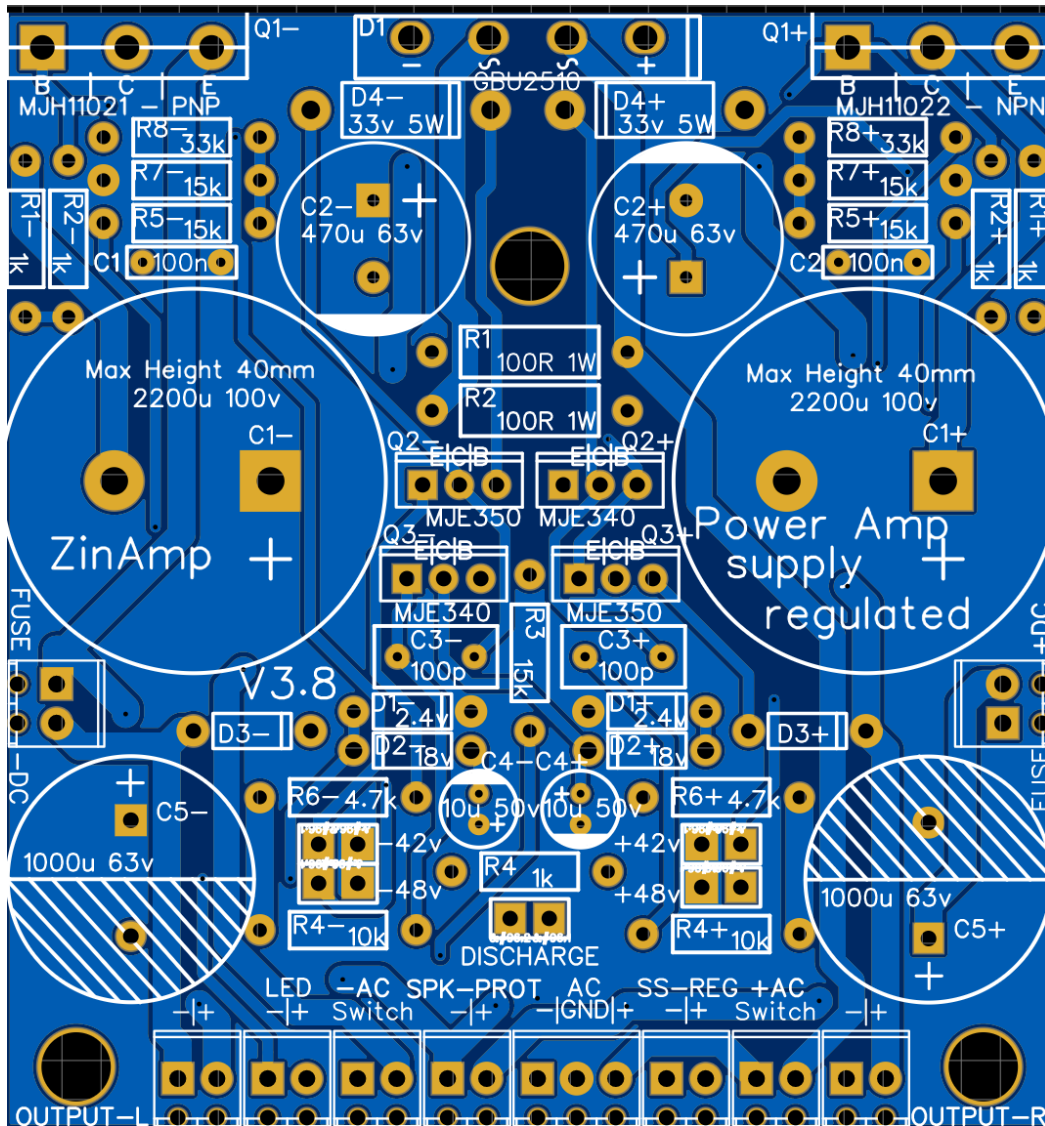


2.5 A Fast blow Fuse
5mm x 20mm

Discharge before Handling!

Always discharge the supply before removing and/or handling. A discharge terminal is provided that discharges the capacitors through a resistor without sparking. Switch off the amplifier, remove the AC power cord and place a screwdriver across the discharge terminals for 10 seconds. Test the output voltage with a meter - if less than 2v + or -, it is safe to handle. *NEVER attempt to discharge the supply with AC power switched on , EVER!! The discharge terminals are not fused and extensive damage will result!*

Bare PCB - note discharge terminal near to bottom in center:



Parts List:

CONNECTORS: Both blank and ready-built PCB requires connectors be purchased and soldered on by the constructor. This is to give the constructor a choice of how they wire their own particular installation. Terminal block connectors are indicated in the list below in **blue** and can be swapped for equivalent 2.54mm pitch connectors e.g. Molex KK254 headers, which are provided to the constructor in kits with ready-made wiring.

If you have trouble obtaining any of these parts, email: parts@zinamp.co.uk for help

Designator	Value/Spec	Qty	Manufacturer	Manufacturer Part	RS Part
DISCHARGE	1 Row Jumper	1	RS-PRO	251-8086	251-8086
C5+,C5-	1000u 63v	2	Rubycon	63ZL1000MEFC16X35.5	703-7377
C1,C2	100n	2	Epcos	B32529C1104K002	896-1334
C3+,C3-	100p	2	Wima	FKP2/100/100/5	484-1978
R1,R2	100R 3W	2	TE Connectivity	ROX3SJ100R	214-2623
R4+,R6+,R6-,R4-	10k	4	TE Connectivity	LR1F10K	125-1164
C4+,C4-	10u 50v	2	Nichicon	UPW1H100MDD	715-2818
R8-,R8+	33k	5	Vishay	MRS25000C1502FCT00	683-3055
D2+,D2-	18v	2	Nexperia	BZX79-C18,113	544-4499
R1+,R2+,R2-,R1-,R4	1k	5	Vishay	MRS25000C1001FCT00	683-3165
D3-,D3+	1N4148W	2	Vishay	1N4001-E3/54	628-893
OUTPUT-L,OUTPUT-R,L ED,+AC,-AC,SPK-PROT, SS-REG,+DC,-DC	2 Pole Terminal (self-wire only)	9	RS-PRO	790-1098	790-1098
JPH+,JPL-,JPH-,JPL-	2 Row Jumper	2	Molex	90131-0122	670-3449
D1-,D1+	2.4v	2	Nexperia	BZX79-C2V4,113	544-3503
C1+,C1-	2200u 100v	2	Epcos	B41231B9228M000	171-3279
AC	3 Pole Terminal (self-wire only)	1	RS-PRO	790-1092	790-1092
R6+,R6-	3.3k 1W	2	TE Connectivity	ROX1SJ3K3	214-1210
R7-,R7+,R8+,R8-,R3	15k	3	Vishay	MRS25000C3302FCT00	683-3544
D4+,D4-	33v	2	On Semi	1N5364BG	463-369
C2+,C2-	470u 63v	2	RS-PRO	711-1615	711-1615
D1	KBP310	1	HY	GBU2510	923-5472
Q2+,Q3-	MJE340	2	On Semi	MJE340G	464-205
Q3-,Q2+	MJE350	2	On Semi	MJE350G	463-218
Q1-	MJH11021G - PNP	1	On Semi	MJH11021G	790-5393
Q1+	MJH11022G - NPN	1	On Semi	MJH11022G	790-5397

Parts available from [RS Online](#). Also try [Farnell](#), [Mouser](#) and other online suppliers.

Parts from different manufacturers can be substituted where spec is sufficient.
Supplier trading names may differ by country.