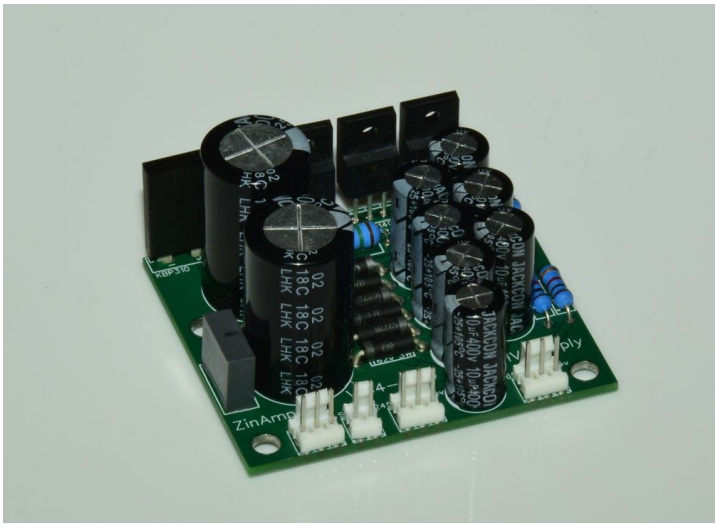
ZinAmp
Beautiful sound, for people who love music

Datasheet High Voltage Power Supply

Application & Purpose:
Passively-regulated Supply delivering 245-285v DC to ZinAmp tube Phono and Pre Amp modules.

Output current up to 75mA. Sufficient to power one phono amp and one pre amp.

WARNING: Very high DC voltage device. Care must be taken to avoid fatal electric shock.



Specification:

PCB Dimensions	77mm x 61mm x 1.6mm
Voltage Input	220v AC.
Transformer Power	15 VA
Output Current	75mA
Output Devices	3 x Toshiba TTD1409B Power Darlingtons
Ripple	10-20mv - depending on load
Output Voltage	245v, 265v and two outputs both at 285v

Details:

Power supply for running ZinAmp Class-A Tube Phono and Pre-Amplifers. Output devices are over-specced power darlingtons to ensure amplifier linearity with all transient signal demands. Regulation is achieved with a set of zener diodes delivering a high-voltage low current supply to the base of the output devices.

An Auto-power-off (APO) terminal is provided for connection to the start-up timer module. After 50mins of no music, the timer module will open this switch and the DC supply to the pre-amps will be cut.

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 failure within a few seconds. Secure to the heatsink and isolate the backs of the output devices from the metal-wall of the chassis if the output devices have metal backs. The output devices specced here do not have metal backs, so isolation pads are not necessary. If you substitute these devices for ones of a similar spec and they have metal backs, you must use silicon or mica isolation pads. Exposing metal

backs of the output devices to the metal chassis will result in a short circuit.

Outputs and Voltages:

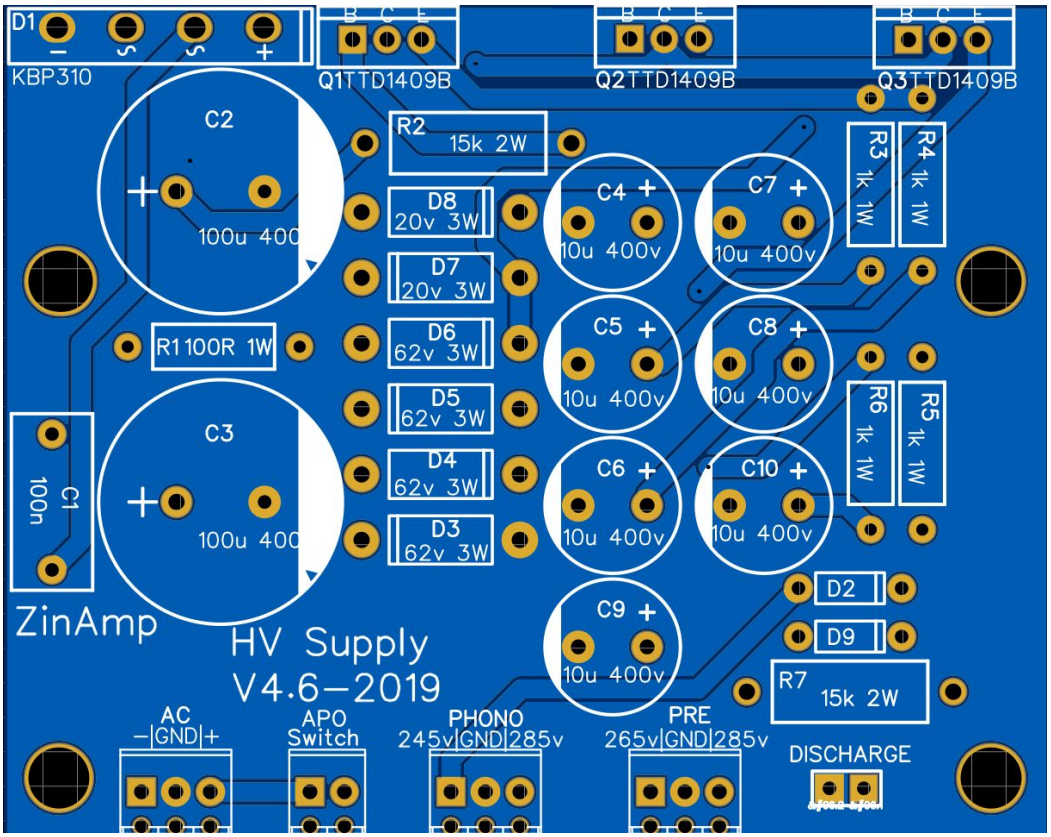
- Phono Amp - (245v and 285v DC)
- Pre-amp (265v and 285vDC)

Safety:

WARNING: Very high DC voltage device. Care must be taken to avoid fatal electric shock.

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 voltage with a meter - if less than 2v, it is safe to handle. *NEVER attempt to discharge the supply with AC power connected, EVER!! You will blow the discharge resistor and probably damage the filter capacitors.*

Bare PCB - see discharge terminal, bottom-right:



Parts List:

ID	Value/Spec	Quantity	Manufacturer	Manufacturer Part	RS Part
AC	-|GND|+	3	RS-PRO	790-1092	790-1092
C1	100n	1	Kemet	R46KF310040P1M	126-2250
R1	100R 1W	1	TE Connectivity	ROX1SJ100R	125-1174
C3,C2	100u	2	Panasonic	711-2096	711-2096

C5,C8,C7,C4, C9,C10,C6	10u	7	RS-PRO	711-2034	711-2034
R2	15k 2W	1	TEConnectivity	ROX2SJ15K	214-2106
R3,R5,R6,R4	1k 1W	4	TEConnectivity	ROX2SJ1K0	214-1951
D7,D8	20v 3W	2	OnSemiconductor	1N5357BG	774-3300
D4,D5,D6,D3	62v 3W	4	OnSemiconductor	1N5372BRLG	800-8784
DISCHARGE	DISCHARGE	1	RS-PRO	251-8086	251-8086
D1	KBP310	1	HY	GBU2510	923-5472
APO	Switch	1	RS-PRO	790-1098	790-1098
Q1,Q2,Q3	TTD1409B	3	Toshiba	TTD1409B,S4X	144-5246

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.