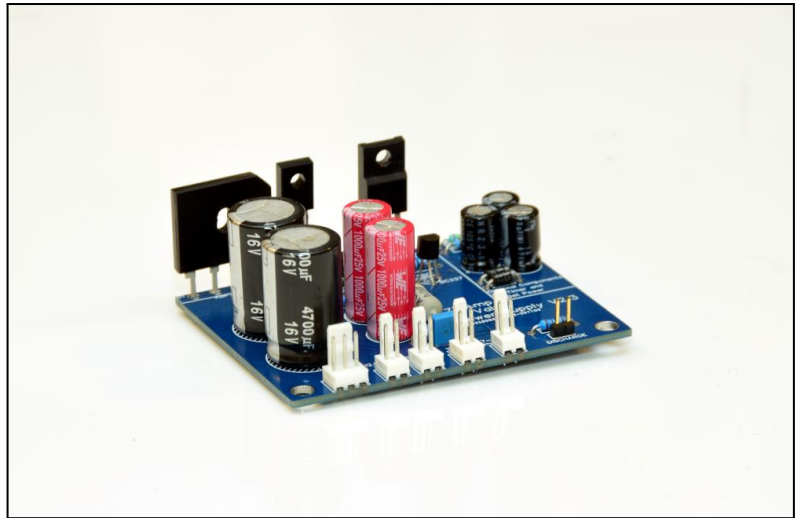


Application & Purpose:

Regulated Supply delivering 12.6v for tube filaments and 7-8v for startup timer and signal detector modules.

Output current up to 1.5A.
Sufficient to power 4 x 12AX7 and 2 x 12AU7 tubes; six filaments in total.



Specification:

PCB Dimensions	77mm x 61mm x 1.6mm
Voltage Input	12v AC.
Transformer Power	30VA
Output Current	1.5A - throttled by current limiter
Output Devices	BD681 - NPN Darlington - tube filaments LM317 - Linear Regulator - Timer & Signal Detector
Ripple	0.5-5mv - depending on load
Output Voltage	12.6v, 7.9v and 7.1v DC - fixed

Details:

Power supply for running ZinAmp Class-A Tube Phono and Pre-Amplifiers. Also providing power to the start-up timer and signal detector modules. 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. Alternatively, the metal wall of your chassis can be used as a heatsink. 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 with silicon or mica isolation pads. Isolation pads are critical where output devices have metal backs. Exposing these metal backs to the metal chassis will result in a short circuit.

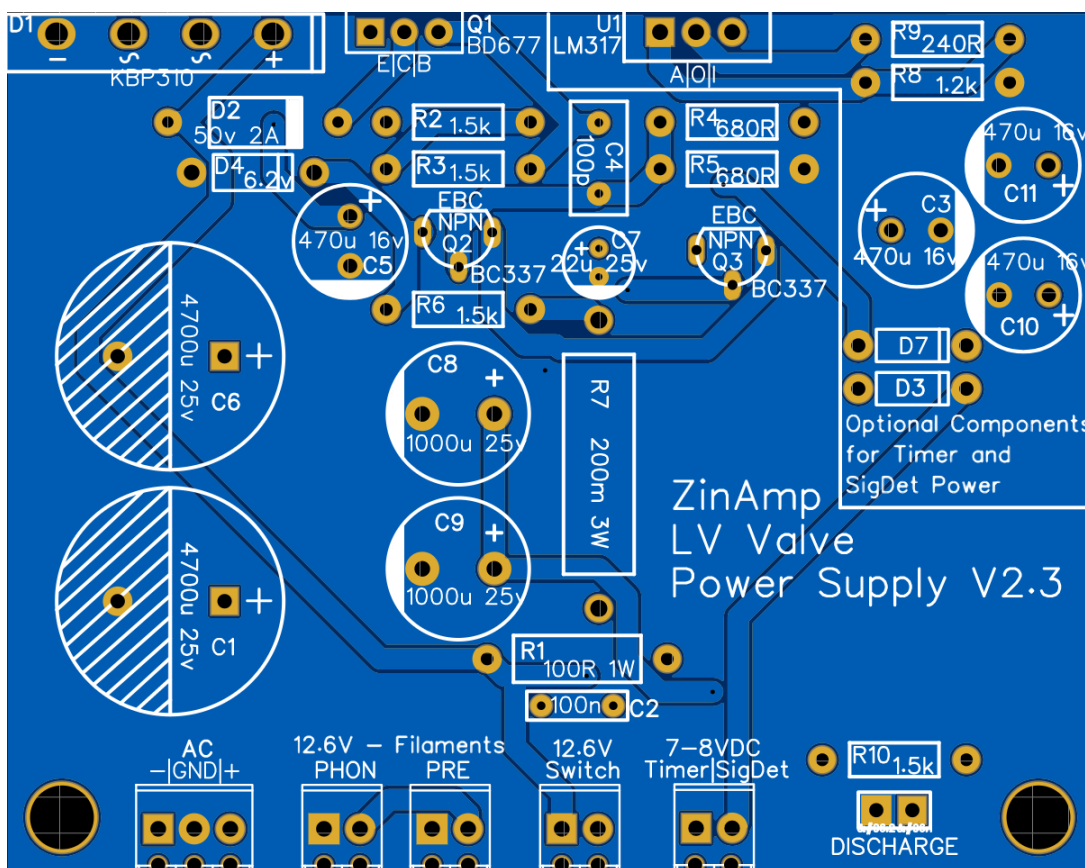
Outputs and Voltages:

- Tube Filaments - Phono Amp (12.6v)
- Tube Filaments - Pre Amp (12.6v)
- Start-up Timer - 7.9v
- Signal Detector - 7.1v

Safety:

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 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 self-wire kits.

Optional Parts are shown in Green - only required if using a Timer Module

Designator	Value/Spec	Qty	Manuf.	Manuf. Part	RS Part
R1	100R 1W	1	TE Connectivity	ROX1SJ100R	125-1174
C2	100n	1	Epcos	B32529C1104K000	896-1332
R9	240R	1	TE Connectivity	LR1F240R	148-354
DISCHARGE	1 Row Jumper	2	RS-PRO	251-8086	251-8086
Q1	BD677	1	STMicro	BD677	102-4106

C4	100p	1	Wima	FKP2/100/100/5	484-1978
R7	200m 3W	1	Vishay	RWM0410R200JR15E1	485-1408
R4,R5	680R	2	Vishay	MBB02070C6800FCT00	506-5024
D4	6.2v	1	Nexperia	BZX79-B6V2,113	509-093
D3,D7	50v 1A	2	Vishay	1N4001-E3/54	628-8931
R8	1.2k	1	Vishay	MRS25000C1201FCT00	683-3187
R3,R2,R10,R6	1.5k	4	Vishay	MRS25000C1501FCT00	683-3219
12.6V-PRE,12.6V-PHON	2 Pole Terminal (self-wire only)	4	RS-PRO	790-1098	790-1098
C10,C11,C3	470u 16v	3	Vishay	MAL203855471E3	684-1911
U1	LM317	1	STMicro	LM317P	686-9717
C5	470u 16v	1	Vishay	MAL203855471E3	684-1911
C7	22u 16v	1	Nichicon	UPW1C220MDD	715-2524
C1, C6	4700u 25v	2	Nichicon	UVR1E472MHD	862-3184
Q2,Q3	BC337	2	On Semi	BC33740BU	761-3943
AC	3 Pole Terminal (self-wire only)	1	RS-PRO	790-1092	790-1092
D2	100v 2A	1	Vishay	SB260-E3/54	812-9326
C9,C8	1000u 16v	2	Wurth	860010375017	839-6885
D1	KBP310	1	HY	GBU2510	923-5472

Optional Parts are shown in Green - only required if using a Timer Module

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.