ZinAmp
Beautiful sound, for people who love music

Kit List V6 PreAmp

The ZinAmp V6 PreAmp features the same exceptional tube phono and pre-amps from the V6 Integrated. The kit is very straightforward to assemble, although as always with valve amplification, particular care should be taken working with very high DC voltages.

The sound is classic valve with low levels of harmonic distortion, evocative of classic valve pre-amps like the Marantz 7. Harmonic distortion is low and is mostly lower second-order.

The table below shows the parts that are included, depending which kit you have purchased. Information of how to source everything you may need is in this Kit List.

Appendix 1 at the end of this Kit List shows the typical purchase cost of items where they are not included in your particular kit:

	Push-fit wiring w. assembled PCBs	Self-wire w. assembled PCBs	Push-fit wiring w. blank PCBs	Self-wire w. blank PCBs
Enclosure	✓	✓	✓	✓
Transformers	✓	✓	✗	✗
Internal Wiring	✓	✗	✓	✗
Transistors & Valves	✓	✓	✗	✗
Switches, Pots & Dials	✓	✓	✓	✓
Rear Sockets & Connectors	✓	✓	✓	✓
Components	✓	✓	✗	✗

If you have difficulty finding any of these items online, email parts@zinamp.co.uk and we will help you to find what you need.

Enclosure:

Black Anodise Finish

Silver Anodise Finish

The V6 Pre Amplifier enclosure comprises of:

- 1 x aluminium chassis - pre-drilled, tapped and marked
- 1 x front panel (black or silver)
- 1 x lid (black or silver)
- 1 x adhesive rear decal
- 4 x rubber feet
- 1 bag of M3 x 12mm countersunk slot-head machine screws
- 1 bag M3 plain metal washers
- 1 bag M3 nuts
- 1 bag of M4 19mm nylon stand-offs
- 1 bag of M4 x 10mm nylon cheese-head screws
- 6 x valve guards
- 8 x M5 x 20 mm countersunk screws (black or silver)
- 8 x M3 x 5 mm countersunk screws (black or silver)
- 5 x LED Holders
- 5 LEDs

Transformers:

Single Toroidal - 50VA 2x115V to 32VA 12V + 18VA 220V
Recommend Airlink TT:6687. This is a custom order from Airlink. Download the Datasheet on the right and quote it when placing an order with them.

or

Dual Toroidals - 30VA 115+115V to 12V and 20VA 115+115V to 220V

Airlink TT:6687

Internal Wiring:

Push Fit wiring:

Based on Molex KK 254 fittings and comprises of:

1 x PreAmp Power Set - download spec
1 x Valve Control Set - download spec
1 x Inputs & Outputs Set - download spec
1 x Audio Path Set - download spec

Note: Replacement wires damaged during construction require purchase of the corresponding kit. Individual wires are not stocked.

Push-fit wiring requires Molex KK 254 PCB headers to be soldered onto your PCBs -these are supplied with each PushFit wiring set.

NOTE: If you are assembling your own PCBs but are using Push Fit wiring, you don't need to purchase any of the parts listed as 2, 3 or 4 Pole Terminal - these appear in blue in the Parts List further down.

Self-wiring:

We recommend screw-type terminal block (see module datasheets). You will need to purchase these.

Alternatively, you may choose to assemble your own Molex KK 254 socket-blocks and solder Molex PCB headers to your boards. You will require a Molex crimping tool to make the connections that insert into the socket-blocks.

Cables and Wire:

If you are self-wiring, you will find the wiring specs above a useful reference for planning your cable cuts. Cable types and lengths can be found in these specs, but broadly, you will need the following types of cable:

- Single Core Screened - 24AWG (optional)
- 2 Core Screened - 24AWG
- 3 Core Screened - 24AWG
- 2 Core Unscreened (black/red) - 24AWG
- 3 Core Screened (black/green/red) - 22AWG
- Single Core (green) w. silicone flex - 22AWG
- Single Core (red) w.silicon flex - 22AWG

To reduce the amount of cable you need to purchase, you can substitute the Single Core Screened Cable for 2 Core Screened and just use one core. Avoid using both screens for RCA audio inputs as you may introduce cross-talk between left & right channels.

Valves:

4 x 12AX7 (ECC83/s) and 2 x 12AU7 (ECC82)
We normally fit JJ valves from Solvakia - these are reliable, easy to source, consistent and inexpensive.

The 12AU7 (ECC82) must only be used as the follower i.e. in position 'Tube 3' in both the pre-amp and phono-amp. These positions are also etched on the lid of the enclosure

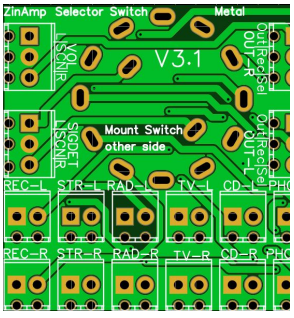
Note: you can expect little variation in sound from different brands of valve in these hi-fidelity, low distortion circuits, as these valves are not being driven to clip. Feel free to experiment.

Ceramic Valve sockets are included with assembled PCB kits, otherwise they can be purchased from eBay - here

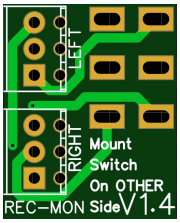
Switches, Pots & Dials:

Switches, Pots and Dials are included in all kits. Also included are the PCBs required to mount each switch and connect it up. None of these switches come pre-mounted on the PCB because the cost of mounting one switch and a row of connectors onto a PCB in a factory is too high to justify passing on to the constructor. The soldering for these items is simple, clearly labelled and is fairly quick for the constructor to do during kit assembly. The PCBs for these switches are shown below:

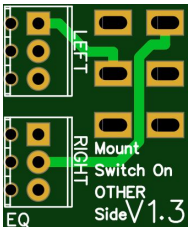
Selector Sw.



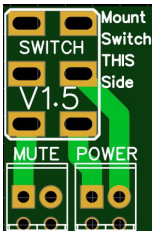
Rec Monitor Sw.



EQ Sw.



Power/Mute Sw.



Rotary

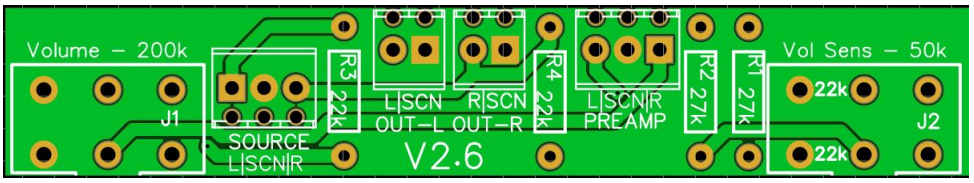
2 Pos

2 Pos

3 Pos

Volume Control - comprises two potentiometers. Both are provided in all kits and are linear so do not need to be expensive log-pots. The left-hand pot is the volume, the right-hand pot is volume sensitivity. Turning the volume sensitivity to the left decreases the response of the volume control, making the left-pot more logarithmic. Turning the volume sensitivity to the right increases the response of the volume control, making the left-pot less logarithmic. Turning the volume sensitivity to the right increases the response of the volume control, making the left-pot less logarithmic. This is useful for different size rooms, where a more or a less responsive volume control may be required.

Volume Pots



200k
or 250k

50k
or 100k

Note: In black kits, the selector switch and pots have splined shafts and in silver kits they have round shafts. This is because of the difference in the way the black and silver dials fit to the shaft.

Rear Sockets & Connectors

The rear panel of the ZinAmp V6 comprises the following connectors which are included in all kits.

If you have selected a Push Fit wiring kit, the RCA connections will be ready-soldered to the input cabling. The assembly guide explains how to fit these through the holes in the enclosure.

Self Wiring kits include RCA connectors that can be soldered by the constructor. The assembly guide explains how to do this.

Also included:

1 Fuse Holder

1 IEC Mains AC Connector

Component List:

In kits where blank PCBs are specified, the following components are required. We have tried to consolidate the number of components used across different modules where possible. The list below is sorted by Supplier Part Number and many of these parts are used across more than one PCB module.

If the part number you are searching for is out of stock or unavailable at RS, you can substitute components of similar spec and size. Lead pitch (distance between pins) is the most important consideration for capacitors.

If you need to substitute a component and you are not sure, email: parts@zinamp.co.uk

In most cases, Supplier Part refers to RS

Value/Spec	*Manufacturer*	*Manufacturer Part*	*Supplier Part*	Part Count
1 Row Jumper	RS-PRO	251-8086	251-8086	3
1.2k	Vishay	MRS25000C1201FCT00	683-3187	3
1.5k	Vishay	MRS25000C1501FCT00	683-3219	3
1.5n	Wima	FKS2 1.5N 100M	122-4235	2
1.5u	Panasonic	ECWFE2W155J	105-1071	4
1000u 16v	Wurth	860010375017	839-6885	2
100k	TE Connectivity	LR1F100K	125-1168	9
100k	Vishay	PR02000201003JA100	683-5809	2
100n	Kemet	R46KF310040P1M	126-2250	3
100n	Kemet	R82DC3100Z350K	126-2266	3
100n 400v	Kemet	R46KF310040P1M	126-2250	2
100p	Wima	FKP2/100/100/5	484-1978	9
100R	TE Connectivity	LR1F100R	125-1155	10
100R 1W	TE Connectivity	ROX1SJ100R	125-1174	4
100R 3W	TE Connectivity	ROX3SJ100R	214-2623	1
100u 16v	Rubycon	16PK100MEFC5X11	763-9396	5
100u 25v	NIC	NRSZ101M25V6.3X11F	737-4159	2
100u 400v	Panasonic	711-2096	711-2096	2
100v 2A	Vishay	SB260-E3/54	812-9326	1
10k	TE Connectivity	LR1F10K	125-1164	1
10n	Kemet	R463F210040N0M	126-2227	2
10n	Kemet	R82EC2100DQ50J	312-1431	13
10R	TE Connectivity	LR1F10R	125-1154	4
10u 400v	RS-PRO	711-2034	711-2034	11
12AU7	See Kit List	See Kit List	See Kit List	4
12AX7	See Kit List	See Kit List	See Kit List	2
1500u	Nichicon	UPW1C152MHD	715-2580	1
15k	Vishay	MRS25000C1502FCT00	683-3055	1
15k 2W	TEConnectivity	ROX2SJ15K	214-2106	1
180k	Vishay	MRS25000C1803FCT00	683-4174	2
1k	Vishay	MRS25000C1001FCT00	683-3165	18
1k 1W	TEConnectivity	ROX2SJ1K0	214-1951	4
1M	Vishay	MRS25000C1004FCT00	683-4159	20

1N4148W	Vishay	1N4001-E3/54	628-8931	2
1u	Panasonic	ECWFE2W105JA	105-1068	2
1u 50v	Wuth	860010672005	839-7046	1
2 Pole Terminal - Mains	RS-PRO	146-8345	146-8345	6
2 Pole Terminal (self-wire only)	RS-PRO	790-1098	790-1098	45
2.2k	Vishay	MRS25000C2201FCT00	683-3449	6
200m 3W	Vishay	RWM0410R200JR15E1	485-1408	1
20v 3W	On Semi	1N5357BG	774-3300	2
220n	Panasonic	ECWFE2W224J	105-1073	1
220u 10v	Panasonic	EEUEB1A221S	747-2036	2
22k	TE Connectivity	LR1F22K	125-1167	2
22R	TE Connectivity	LR1F22R	148-095	2
22u 16v	Nichicon	UPW1C220MDD	715-2524	2
240R	TE Connectivity	LR1F240R	148-354	1
270k 2W	TE Connectivity	ROX2SJ270K	214-2279	6
27k	TE Connectivity	LR1F27K	148-837	5
27k 1W	Vishay	PR01000102702JA100	683-5467	4
3 Pole Terminal (self-wire only)	RS-PRO	790-1092	790-1092	35
3 Row Jumper	Harwin	M20-9980346	745-7046	8
3.9k	Vishay	MRS25000C3901FCT00	683-3641	3
330k	TE Connectivity	LR1F330K	149-105	2
330p	Wima	FKP2/330/100/5	484-2000	2
33k	Vishay	MRS25000C3302FCT00	683-3544	2
33n	Kemet	R46KF233040H1M	165-0214	2
39k	TE Connectivity	LR1F39K	148-871	4
3M	Vishay	MRS25000C3004FCT00	683-3654	2
4 Pole Terminal - Mains	RS-PRO	146-8347	146-8347	1
4 Pole Terminal (self-wire only)	RS-PRO	790-1102	790-1102	4
4.7k	Vishay	MRS25000C4701FCT00	683-3799	8
4.7M	Vishay	MRS25000C4704FCT00	683-4234	1
4700u 16v	Panasonic	ECA1CM472	727-0530	1
470k	TE Connectivity	LR1F470K	149-149	3
470p	Wima	FKP2/470/100/5	484-2016	2
470R	TE Connectivity	LR1F470R	125-1158	3
470u 16v	Vishay	MAL203855471E3	684-1911	4
47k	TE Connectivity	LR1F47K	148-893	4
47n	Kemet	R71VF24704030K	171-9182	2
5.1v	Nexpera	BZX79-B5V1,113	508-359	8
50v 1A	Vishay	1N4001-E3/54	628-8931	11
510R	TE Connectivity	LR1F510R	148-433	2
555-2mA	Renesas	ICM7555IPAZ	921-5374	3
6.2v	Nexperia	BZX79-B6V2,113	509-093	1
6.8n	Kemet	R82EC1680Z350K	126-2276	2
62v 3W	On Semi	1N5372BRLG	800-8784	4
680k	Vishay	MRS25000C6803FCT00	683-4250	5
680R	Vishay	MBB02070C6800FCT00	506-5024	6
68k	Vishay	MRS25000C6802FCT00	683-3957	2

68R	TE Connectivity	LR1F68R	148-219	1
820R	Vishay	MRS25000C8200FCT00	683-4058	1
BC327	On Semi	BC32716BU	761-9819	3
BC337	On Semi	BC33740BU	761-3943	12
BD681	On Semi	BD681G	463-010	1
DIP Socket	Assman	A 08-LC-TT	674-2435	3
DIP Socket	Winslow	W30516TRC	813-137	4
DPDT-2A-5v	TE Connectivity	MT2-C93401	619-2981	3
GBPC3504W T0	HY	GBPC2510W	917-8815	1
KBP310	HY	GBU2510	923-5472	2
LM317	STMicro	LM317P	686-9717	1
Shorting Link	RS-PRO	251-8575	251-8575	4
SPDT-6A-5v	Finder	32.21.7.005.2000	492-6625	1
SWITCH-DPDTES	RS-PRO	401-680	401-680	2
SWITCH-DPDT ES	RS-PRO	734-7050	734-7050	1
TTD1409B	Toshiba	TTD1409B,S4X	144-5246	3
U1	Alpha	See Kit List	See Kit List	1

Appendix 1 - Parts Purchase Cost Estimator

These are the items that need to be purchased with each type of kit. These costs are estimates based on Feb 2020 prices in the UK and should be within +/-5%.

	Push-fit wiring w. assembled PCBs	**Self-wire w. assembled PCBs**	**Push-fit wiring w. blank PCBs**	**Self-wire w. blank PCBs**
Transformers			£50	£50
Wiring		£20		£20
Transistors & Valves			£65	£65
Components			£120	£140
TOTAL	**£0**	**£120**	**£390**	**£460**

Add the respective total to the cost of your selected kit to give a total build cost - within +/-5%

We cannot guarantee any of these prices, but do email parts@zinamp.co.uk of you believe these are outside of 5%. We will always try and help you source parts as cheaply as possible..