ZinAmp
Beautiful sound, for people who love music

Kit List SSD-P Integrated

The SSD kit is one of the simplest of the ZinAmp integrateds to assemble, having just one transformer. SSD stands for Solid State Discreet. P indicates a Phono Stage for moving-magnet cartridges. All modules are made from discrete components that are easy to source - with no IC chips. The SSD-P is complete and very usable, and with its SCA Power Amp, has sound like no ordinary solid-state amplifier.

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 SSD Integrated 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
- 2 x heatsink - pre-drilled and tapped
- 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
- 8 x M5 x 20 mm countersunk screws (black or silver)
- 8 x M3 x 5 mm countersunk screws (black or silver)
- 1 x LED Holders
- 1 LEDs

Transformers:

All Modules are powered by a Single 225VA Transformer

Toroidal 225VA 2x115v to 2x40v with electrostatic screen and EMI/RFI shield.

Recommend Airlink CM0225240 from Airlink Transformers

Internal Wiring:

Push Fit wiring:

Based on Molex KK 254 fittings and comprises of:
1 x PreAmp Power Set - download spec
1 x Power Amp 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.

HOWEVER: You WILL need 2 Pole Terminal Block (5 pieces) for the Speaker Switch Module. This can be purchased from RS: 790-1098

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
- Loudspeaker Cable (any colour) - 18AWG

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.

Transistors:

Two types of MOSFET power transistor are used in the SCA Power Amp:

1. Class A/B Output Devices - LateralFETs - 1 pair per channel
   - Medium Power (80W) use Exicon ECX10N20 & ECX10P20 from Profusion
   - Full Power (100W) use Exicon ECW20N20 & ECW20P20 from Profusion

2. Class A Output Devices (optional) - HexFETs 1 pair per channel
   - IRFP140NPBF and IRFP9140NPBF HexFets from RS Online or Farnell

Where devices are supplied, we supply the higher rated Exicon ECW20N20 & ECW20P20.

Note, Exicon LateralFETs can be swapped for the classic Hitachi/Renesas 2SK1058 / 2SJ162 pairs, on which the Exicons are based. These are becoming harder to source over time and will only provide a medium power option of 80w. Exicon LateralFETs are generally regarded as superior and are in continuous production.

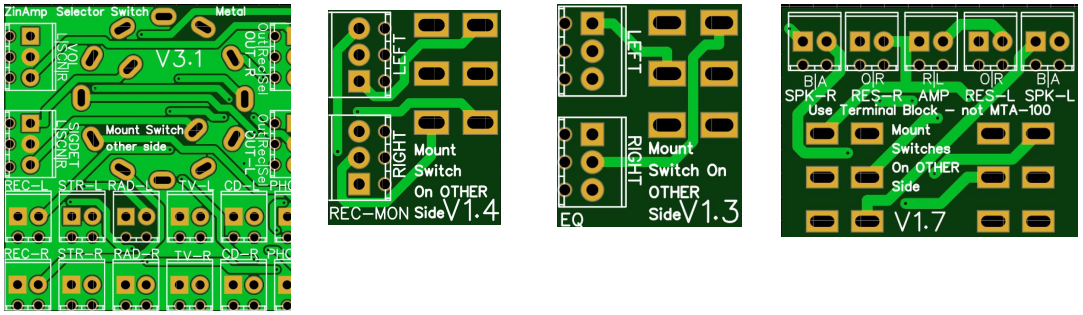
You can achieve 120W by fitting a 300VA 40-0-40v toroidal transformer with an EMI/RFI shield, but you will need Exicon ECW20N20 & ECW20P20 LateralFETs. This transformer can be purchased from Airlink as CM0300240. This is the largest transformer that will fit in the enclosure.

Only use a toroidal transformer with 40-0-40 dual secondary windings. Minimum 200VA, recommend 225VA, max 300VA. EMI/RFI shield required.

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 on the next page:

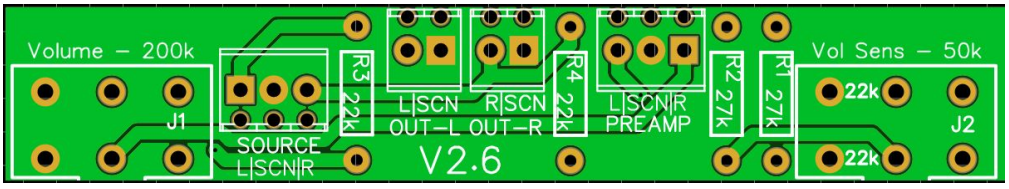
Selector Sw. Rec Monitor Sw. EQ Sw. Speaker Sw.



Rotary 2 Pos 2 Pos 2 Pos 2 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. 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:

3 Fuse Holders

1 IEC Mains AC Connector

4 pairs of Speaker Binding Posts

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	2
1.5k	Vishay	MRS25000C1501FCT00	683-3219	6
1.5n	Wima	FKS2 1.5N 100M	122-4235	2
1.5u	Panasonic	ECWFE2W155J	105-1071	4
1.8k	Vishay	MRS25000C1801FCT00	683-3231	8
1000u 63v	Rubycon	63ZL1000MEFC16X35.5	703-7377	2

100k	Bournes	PV36W104C01B00	769-2160	4
100k	TE Connectivity	LR1F100K	125-1168	19
100n	Kemet	R46KF310040P1M	126-2250	12
100n	Kemet	R82DC3100Z350K	126-2266	12
100p	Wima	FKP2/100/100/5	484-1978	16
100R	TE Connectivity	LR1F100R	125-1155	26
100R 1W	TE Connectivity	ROX1SJ100R	125-1174	2
100R 3W	TE Connectivity	ROX3SJ100R	214-2623	2
100u 16v	Rubycon	16PK100MEFC5X11	763-9396	3
100u 25v	Nichicon	NRSZ101M25V6.3X11F	737-4159	2
100u 35v	Vishay	MAL203850101E3	684-1973	6
10k	TE Connectivity	LR1F10K	125-1164	11
10n	Kemet	R82EC2100DQ50J	312-1431	9
10p	Vishay	561R10TCCQ10BA	831-2871	2
10R	TE Connectivity	LR1F10R	125-1154	4
10R 1W	TE Connectivity	ROX1SJ10R	214-0879	2
10u 50v	Nichicon	UST1H100MDD	501-9267	4
10v	Nexperia	BZX79-C10,113	544-4461	4
120k	Vishay	MRS25000C1203FCT00	683-2976	2
150R	Vishay	MRS25000C1500FCT00	683-3058	2
15k	Vishay	MRS25000C1502FCT00	683-3055	7
180k	Vishay	MRS25000C1503FCT00	683-3049	2
18v	Nexperia	BZX79-C18,113	544-4499	2
1k	Vishay	MRS25000C1001FCT00	683-3165	24
1M	Vishay	MRS25000C1004FCT00	683-4159	9
1N4148W	Vishay	1N4001-E3/54	628-8931	8
1N4448	Vishay	1N4001-E3/54	628-8931	2
1R	TE Connectivity	LR1F1R0	150-565	4
1u	Panasonic	ECWFE2W105JA	105-1068	2
1u 100v	Kemet	R82EC4100Z370K	126-2282	6
2 Pole Terminal - Mains	RS-PRO	146-8345	146-8345	6
2 Pole Terminal (self-wire only)	RS-PRO	790-1098	790-1098	31
2.2k	Vishay	MRS25000C2201FCT00	683-3449	19
2.2n	Wima	FKP2/2200/100/5	115-714	2
2.2R 5W	TE Connectivity	SQMW52R2J	199-7668	2
2.7k	TE Connectivity	LR1F2K7	125-1161	2
2.7R	Vishay	PR01000102708JA100	683-5433	2
200m 3W	Vishay	RWM0410R200JR15E1	485-1408	2
20k	TE Connectivity	LR1F20K	125-1166	2
2200u 100v	Epcos	B41231B9228M000	171-3279	2
220k	TE Connectivity	LR1F220K	149-060	3
220n	Panasonic	ECWFE2W224J	105-1073	1
220u 63v	Rubycon	63PX220MEFC10X16	766-0117	4
22k	TE Connectivity	LR1F22K	125-1167	11
22n	Kemet	R463F222050N0K	165-0046	2
22R	TE Connectivity	LR1F22R	148-095	2
22u 16v	Nichicon	UPW1C220MDD	715-2524	2
240R	TE Connectivity	LR1F240R	148-354	2
27k	TE Connectivity	LR1F27K	148-837	2

27R 20W	Arcol	AP821 27R J 100PPM	810-1417	2
3 Pole Terminal (self-wire only)	RS-PRO	790-1092	790-1092	38
3 Row Jumper	Harwin	M20-9980346	745-7046	4
3.3k 1W	TE Connectivity	ROX1SJ3K3	214-1210	2
3.3v	Nexperia	BZX79-C3V3,113	544-3531	8
3.9k	Vishay	MRS25000C3901FCT00	683-3641	4
330R	Vishay	MRS25000C3300FCT00	683-3540	4
330u 6.3v	Panasonic	ECEA0JKS331	116-773	2
33k	Vishay	MRS25000C3302FCT00	683-3544	2
390R	Vishay	MRS25000C3900FCT00	683-359	4
39k	TE Connectivity	LR1F39K	148-871	2
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	6
4.7k	Vishay	MRS25000C4701FCT00	683-3799	6
4.7M	Vishay	MRS25000C4704FCT00	683-4234	1
470k	TE Connectivity	LR1F470K	149-149	1
470n	Panasonic	ECWFE2W474P1	105-1083	2
470p	Wima	FKP2/470/100/5	484-2016	2
470R	TE Connectivity	LR1F470R	125-1158	2
470u 25v	Nichicon	UVY1E471MPD	739-5285	4
470u 63v	RS-PRO	711-1615	711-1615	2
47k	TE Connectivity	LR1F47K	148-893	1
47n	Epcos	B32529C1473K000	210-9020	2
5.1v	Nexpera	BZX79-B5V1,113	508-359	8
5.6k	Vishay	MRS25000C5601FCT00	683-3871	2
50v 1A	Vishay	1N4001-E3/54	628-8931	16
50v 2A	Vishay	SBYV27-50-E3/54	629-6746	4
560R	TE Connectivity	LR1F560R	148-449	4
56R	Vishay	MRS25000C5609FCT00	683-4203	4
6.35mm_PCB_JACK	RS-PRO	175-0155	175-0155	1
680k	Vishay	MRS25000C6803FCT00	683-4250	3
68R	TE Connectivity	LR1F68R	148-219	1
750R	Vishay	MRS25000C7500FCT00	683-4008	2
8.2k	TE Connectivity	LR1F8K2	148-714	4
82R	Vishay	MBB02070C8209FCT00	506-4784	10
9.1v	Nexperia	BZX79-C9V1,113	544-4455	2
BC327	On Semi	BC32716BU	761-9819	24
BC337	On Semi	BC33740BU	761-3943	20
BD679	ST Micro	BD679A	486-0014	2
DIP Socket	Winslow	W30516TRC	813-137	1
DPDT-2A-48v	Omron	G6A-234P-ST-US 48DC	368-3888	1
ECW20N20	Exicon	ECW20N20	ECW20N20	2
ECW20P20	Exicon	ECW20P20	ECW20P20	2
GBPC3504W T0	HY	GBPC2510W	917-8815	1
IRFP140NPBF	Infineon	IRFP9140NPBF	542-9816	2
IRFP9140NPBF	Infineon	IRFP9140NPBF	541-1269	2
KBP310	HY	GBU2510	923-5472	1

KSP42TA	On Semi	KSP42TA	739-0505	5
KSP92TA	On Semi	KSP92TA	806-4627	9
MJE340	On Semi	MJE340G	464-205	4
MJE350	On Semi	MJE350G	463-218	4
MJH11022G - NPN	On Semi	MJH11022G	790-5397	1
MJH11022G - PNP	On Semi	MJH11021G	790-5393	1
Shorting Link	RS-PRO	251-8575	251-8575	4
SWITCH-DPDTES	RS-PRO	401-680	401-680	4
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			£45	£40
Wiring		£20		£20
Transistors			£45	£45
Components			£140	£180
TOTAL	**£0**	**£20**	**£230**	**£290**

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..