

# Wharfedale Pro

## Service Manual : EVP-X15P Professional Speaker Enclosures

EVP-X15P

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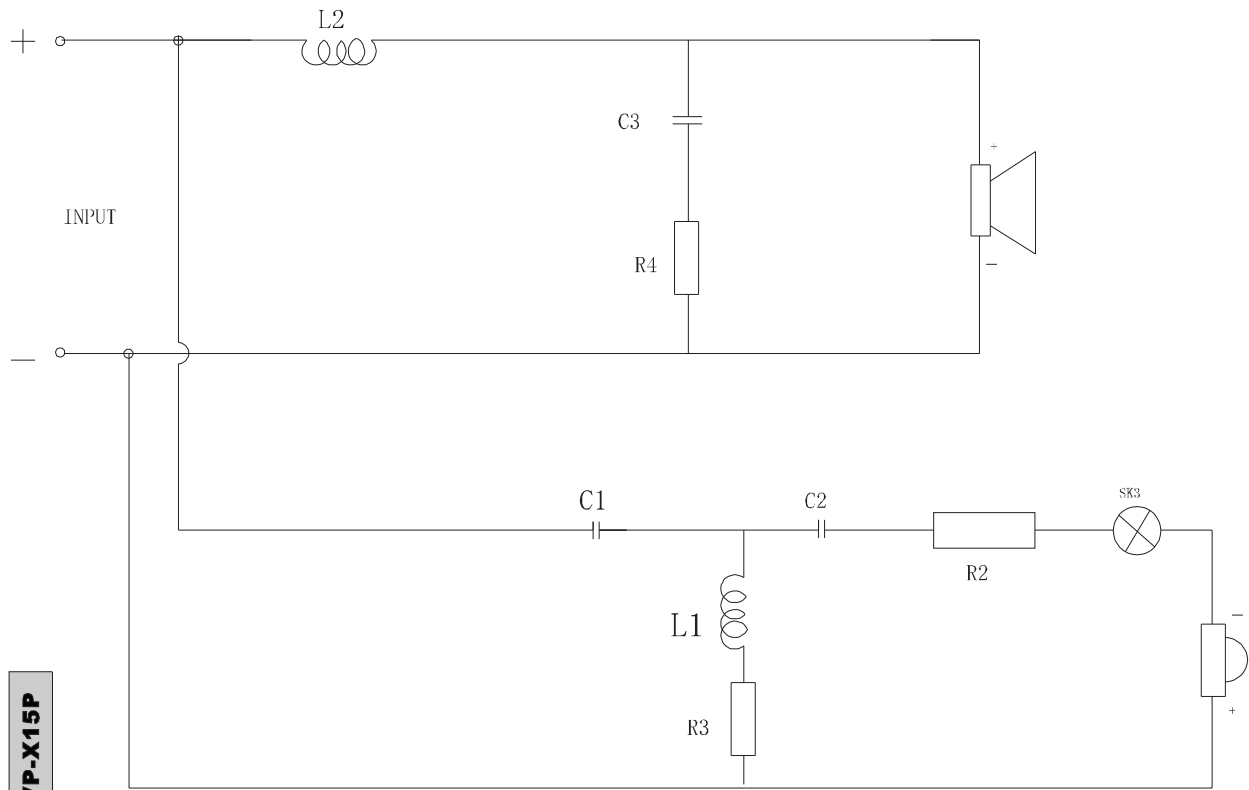
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# 1.SPECIFICATIONS

EVP-X15P

<b>System specification</b>	
System Type	<b>15" 2-way</b>
Frequency Response +/- 3dB	45Hz-20kHz
Finish Material	Black carpet
<b>Tripod stand</b>	
Stand Bottom	Yes
Stand Top	--
<b>Input:</b>	
Input A	Switchable balanced mic or line level input
Input B	Line level input
Speaker Level Input	NA
<b>Input Connectors</b>	
Input A	Combined jack and XLR
Input B	Combined jack, XLR and RCA Socket
<b>Input Sensitivity</b>	
Mic	5mV
RCA	0.5V
LINE	0.775V
<b>Input Impedance</b>	
Mic	470 ohms
Line Input A	47k
Line Input B	10k ohms
<b>Line Output</b>	
Type	Balanced Male XLR connector
Line Output High Pass Filter	
<b>Main EQ</b>	HF shelving +/- 12dB @10kHz LF shelving +/- 12dB @ 80Hz
<b>Active Crossover</b>	NA
<b>Infrasonic Filter</b>	NA
<b>Phase switch</b>	NA
<b>POWER SECTION</b>	
Amplifier Power	Continuous:400W Peak:600w
Extention Speaker Output	NA
Protection Type	Dynamic /AGC
Power on indicator	Red LED
System Dynamic AGC activite Indicator	Yellow LED
<b>ENCLOSURE</b>	
<b>Dimention(mm) H x W x D</b>	675x460x450
weight Net (kg)	29.5kg
weight Gross (kg)	33.6kg

## 2.SCHEMATIC DIAGRAM

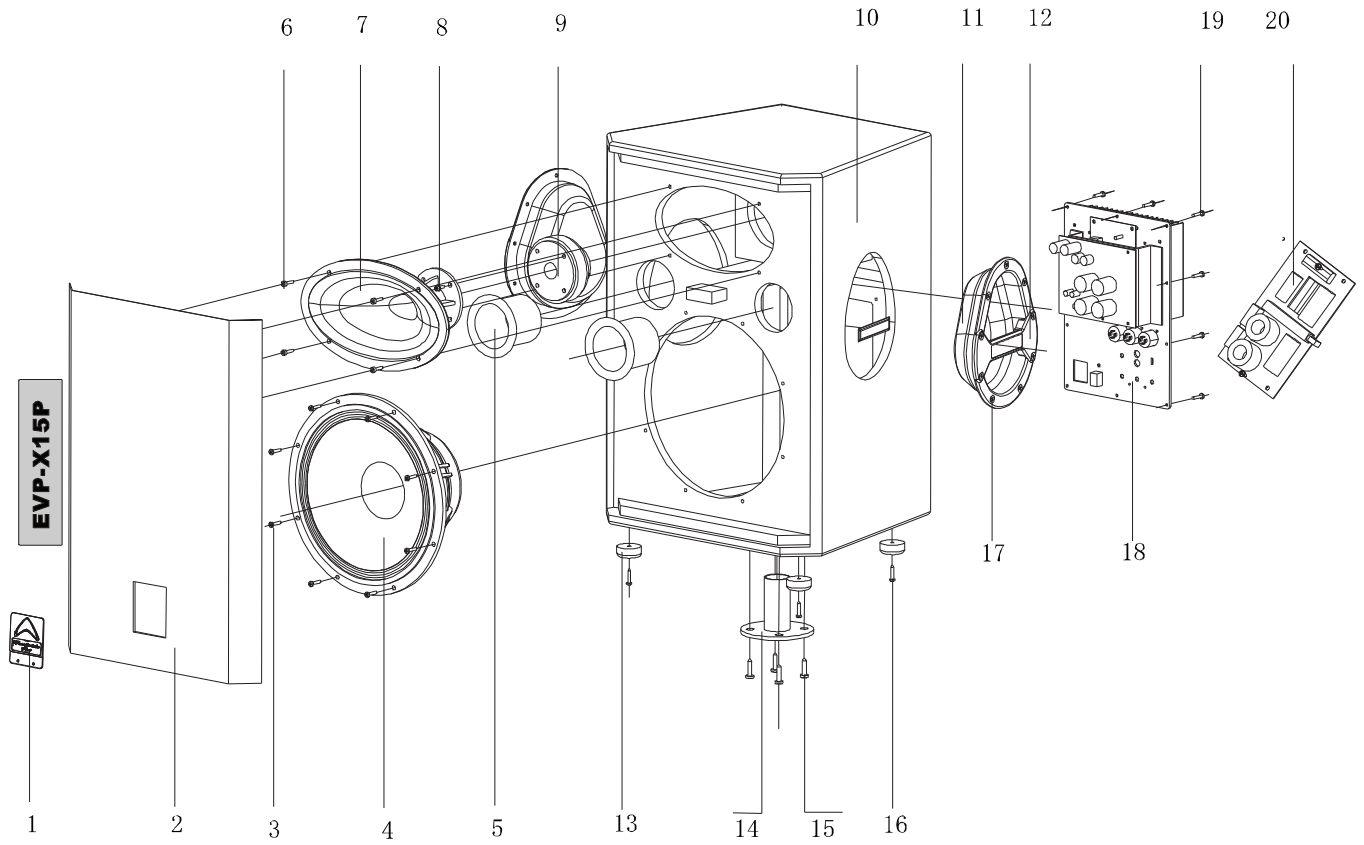


**EVP-X15P**

C1=4.0uF/250V	R3=3 OHM/10W
C2=8.2uF/250V	R4=4 OHM/30W
C3=18uF/250V	L1=0.2mH
R2=5.0 OHM/25W	L2=0.35mH

### 3.ASSEMBLY SKETCH

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## 4.ASSEMBLY PARTS LIST

R/N	P/N	PART NAME	DESCRIPTION	QUA
1	217-2935000002R	LOGO PLATE		1
2	310-2930000001R	STEEL GRILLE		1
3	533-5001350801AR	SCREWS	MT (+) 5*35 BZn	8
4	ZD-64600-01R	WOOFER		1
5	233-1200750711R	PLASTIC TUBE		2
6	539-4001300803AR	SCREWS	MC (*) 5*35 BZn	4
7	253-2929000001R	PLASTIC HORN		1
8	540-6001120306AR	SCREWS	MH6*12NID	4
9	ZD-53301-01R	TWEETER		1
10	344-2936000001R	CABINET		1
11	328-2643000001R	HANDLE1		2
12	328-2921000001R	HANDLE2		2
13	226-3800601111R	RUBBER FOOT		4
14	259-2080000001R	SUPPORT HOLDER		1
15	534-6001400801AR	SCREWS	MK (+) 6*40 B Zn	4
16	553-4001209061AR	SCREWS	4*20 TA H BZn	10
17	554-4001208061AR	SCREWS	4*20KA H BZn	10
18	ZC-38400-01R	AMPLIFIER		1
19	537-4002300801AR	SCREWS	MP (+) 4*30 BZn	10
20	600-2936000010R	CROSSOVER ASSEMBLED UNIT		1

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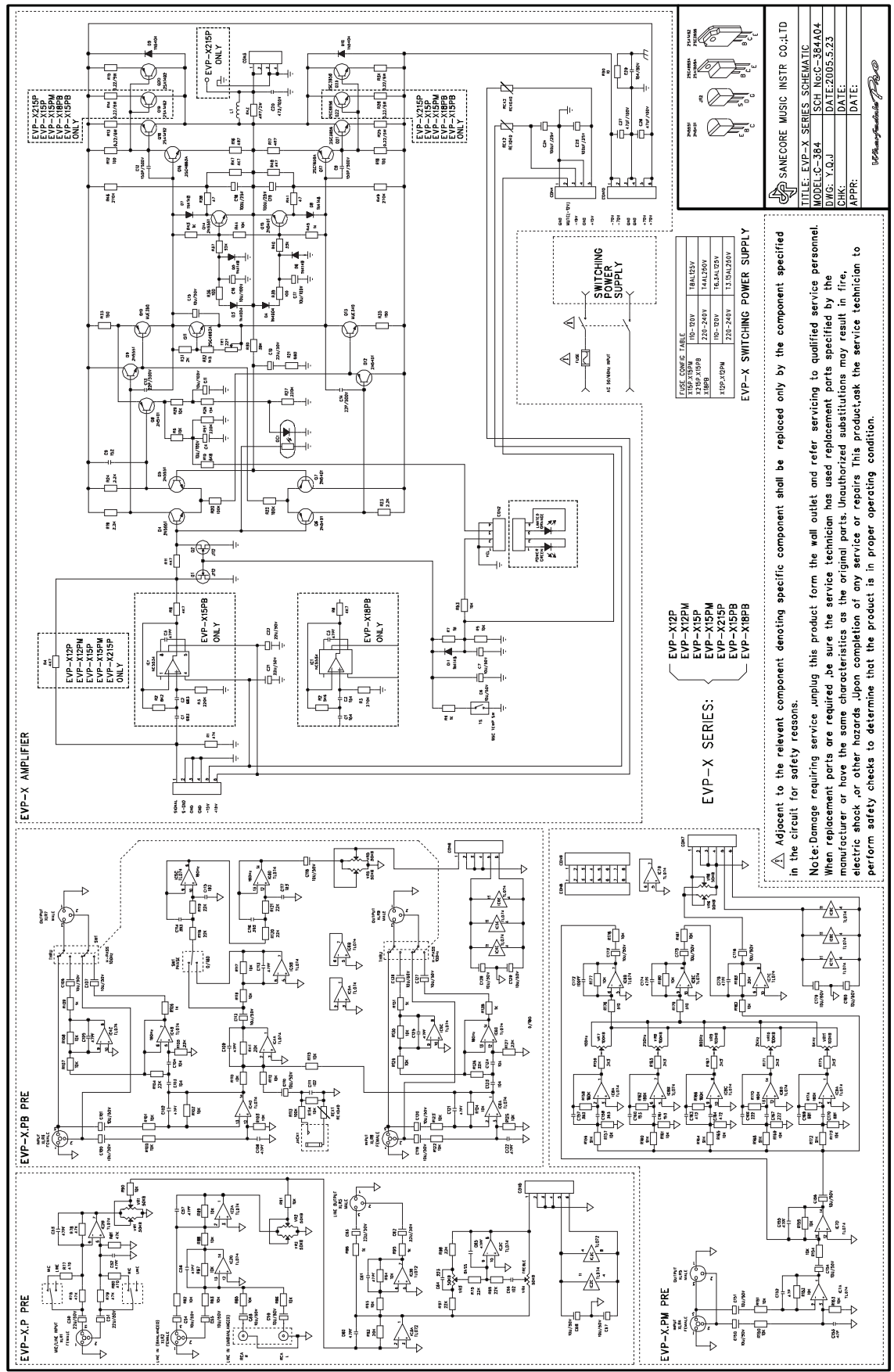
## 5.ELECTRONIC PARTS LIST

R/N	P/N	PART NAME	DESCRIPTION	QUA
1	053-2935003109R	PCB PLATE		1
2	053-2930003109R	LED PCB PLATE		1
3	019-0344122000R	YELLOW LED		1
4	019-0322122001R	GREEN LED		1
5	079-0002000000R	LAMP (SK3)		1
6	014-8250411002R	CAPACITOR (C2)	8. 2uF/250V	1
7	014-4050411002R	CAPACITOR (C1)	4. 0uF/250V	1
8	014-1860411002R	CAPACITOR (C3)	18uF/250V	2
9	001-5009519100R	RESISTOR (R2)	5 OHM/25W	1
10	001-4000513050R	RESISTOR (R4)	4 OHM/30W	1
11	001-3009511100R	RESISTOR (R3)	3 OHM/10W	1
12	080-0300200600R	INDUCTOR (L1)	0. 2mH	1
13	080-0600351000R	INDUCTOR (L2)	0. 35mH	1

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# 6. SCHEMATIC DIAGRAM (AMP)

## EVP-X15P



TYPE	COMP. LABEL	MANUFACT.
1	14-50V/500mA 100V	14-50V/500mA
2	14-50V/500mA 100V	14-50V/500mA
3	14-50V/500mA 100V	14-50V/500mA
4	14-50V/500mA 100V	14-50V/500mA

EVP-X SWITCHING POWER SUPPLY

**EVP-X SERIES:**  
 EVP-X12P  
 EVP-X15P  
 EVP-X15PM  
 EVP-X15PB  
 EVP-X215P  
 EVP-X215PB  
 EVP-X12PB  
 EVP-X15PB  
 EVP-X15PBM  
 EVP-X15PBB  
 EVP-X215PB  
 EVP-X215PBB

Adjacent to the relevant component denoting specific component shall be replaced only by the component specified in the circuit for safety reasons.

**Note:** Damage requiring service, unplugging this product from the wall outlet and refer servicing to qualified service personnel. When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original parts. Unauthorized substitutions may result in fire, electric shock, or other hazards upon completion of any service or repairs. This product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

**SANECORE MUSIC INSTR CO., LTD**

TITLE: EVP-X SERIES SCHEMATIC  
 MODEL: C-364  
 DATE: 2/2005-3/23  
 DWG. FIG. J  
 DATE:  
 APPR:

## 7.ASSEMBLY PARTS LIST (AMP)

R/N	P/N	PART NAME	DESCRIPTION	QUA
1	300-1384020000R	AL PANEL		1
2	306-1384020001R	HEAT SINK		1
3	307-1300500241R	COPPER POST		5
4	307-2300500241R	COPPER POST		2
5	310-1385130000R	GRILLE		1
6	527-3012100811AR	SCREWS	SP (+) 3*10 DC H BZn	6
7	535-3031080801AR	SCREWS	MPW (+) 3*8 BZn	2
8	537-3001080801AR	SCREWS	MP (+) 3*8 BZn	7
9	537-3001140801AR	SCREWS	MP (+) 3*14 BZn	10
10	537-4001120801AR	SCREWS	MP (+) 4*12 BZN	8

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## 8.ELECTRONIC PARTS LIST (AMP)

R/N	P/N	PART NAME	DESCRIPTION	QUA	LOCATION
	088-1384001300R	SIGNAL POP PCB		1	
1	053-1384001113R	SIGNAL PCB		1	
2	001-4703203010R	RESISTOR	47K 1/8W F	4	R76. 78. 79. 81
3	001-4701203010R	RESISTOR	470 ohm 1/8W F	2	R77. 80
4	001-1003203010R	RESISTOR	10K 1/8W F	11	RS2. 83. 85. 86. 88. 89. 91. 90. 87. 93. 94
5	001-2003203010R	RESISTOR	20K 1/8W F	1	R92
6	001-1002203010R	RESISTOR	1K 1/8W F	2	R95. 96
7	001-2203203010R	RESISTOR	22K 1/8W F	4	R75. 97. 98. 99
8	006-2201051163R	CAPACITOR	SM 22uF 50V 10%	4	C50. 51. 62. 63
9	006-1001051163R	CAPACITOR	SM10uF 50V 10%	6	C54. 55. 58. 59. 67. 68
10	008-4700005004R	CAPACITOR	47P-50V-J	7	C52. 53. 56. 57. 60. 61. 65
11	014-1020211028R	CAPACITOR	MKS2 1NF 63V 10%	1	C66
12	014-2230211028R	CAPACITOR	22nF 63V 10% PH=7.5mm	1	C64
13	017-0650000000R	IC	TL072 (CN)	1	IC3
14	017-1530000000R	IC	TL074CN	1	IC2
15	020-5052119425R	POTENTIOMETERS	RD 16K124A068-50KCBX2SII	4	VR1. 2. 3. 4
16	051-0500000000R	JACK	RCA JK0200560N	1	RCA1
17	048-3000000000R	JACK	NYS143 J3Y1 3pin PCB	1	XLR3
18	049-2510222016R	JACK	CXLF-07	2	XLR1. 2
19	056-4106221100R	JACK	JS-1001-6 (2802-06GS)	1	CON5
20	089-0500000012R	REMOVE SWITCH	SS-22F20-G12	2	K1. K2
	088-1384001000R	AMP POP PCB		1	
1	053-1384001110R	AMP PCB		1	
2	001-1003205010R	RESISTOR	10K 1/4W F	5	R5. 6. 29. 44. 53
3	001-2704205010R	RESISTOR	270K 1/4WF	2	R16. 49
4	001-4702205010R	RESISTOR	4. 7K 1/4W F	4	R4. 11. 47. 48
5	001-2204205010R	RESISTOR	220K 1/4W F	2	R27. 51
6	001-2202205010R	RESISTOR	2. 2K 1/4W F	3	R19. 23. 24.
7	001-3903205010R	RESISTOR	39K 1/4W F	1	R30
8	001-1005205010R	RESISTOR	1M 1/4W F	1	R7
9	001-1004205010R	RESISTOR	100K 1/4W F	2	R20. 22
10	001-1501205010R	RESISTOR	150 ohm 1/4W F	2	R33. 35.
11	001-6801205010R	RESISTOR	680 ohm 1/4W F	1	R21
12	001-1002205010R	RESISTOR	1K 1/4W F	3	R9. 43. 45
13	001-2002205010R	RESISTOR	2K 1/4W F	1	R31

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## 8.ELECTRONIC PARTS LIST (AMP)

14	001-1802205010R	RESISTOR	1.8K 1/4W F	1	R32
15	001-1001205010R	RESISTOR	100 ohm 1/4W F	4	R12. 18. 36. 39
16	001-3303205010R	RESISTOR	33K 1/4W F	2	R37. 40
17	001-4700205010R	RESISTOR	47 ohm 1/4W F	2	R38. 41
18	001-4709205010R	RESISTOR	4.7 ohm 1/4W F	2	R16. 17
19	001-1000205100R	RESISTOR	10 OHM/1/4W	1	R50
20	001-0229510050R	RESISTOR	0.22 ohm 5W J	6	R13. 14. 15. 25. 28. 34
21	001-0470308050R	RESISTOR	4.7 ohm 2W J	1	R42
22	005-2001306101R	RESISTOR	PA0631-HA1-B201	1	TR1
23	006-1004061194R	CAPACITOR	10uF 100V	6	C4. 6. 7. 16. 17. 11
24	006-1001051163R	CAPACITOR	SM10uF 50V 10%	3	C15. 21. 22
25	006-2201051163R	CAPACITOR	SM 22uF 50V 10%	1	C10
26	006-1011061143R	CAPACITOR	SM 100uF 25V 10%	4	C18. 19. 23. 24
27	006-4704101392R	CAPACITOR	47 UF/100V 10*12.5	2	C27. 28
28	013-1040210801R	CAPACITOR	104/63V	1	C29
29	013-1520210501R	CAPACITOR	152 63V 5%	1	C9
30	008-2201050004R	CAPACITOR	22P/500V 10%	2	C13. 14
31	008-1512050004R	CAPACITOR	151/500V 10%	2	C12. 8.
32	014-4730300001R	CAPACITOR	47N-100V-J CL11	1	C20
33	067-1104148000R	DIODE	IN4148	5	D11. 5. 6. 7. 8
34	067-2204004000R	DIODE	IN4004	2	D3. 4
35	067-2205404000R	DIODE	IN5404	2	D9. 10
36	019-0315132000R	LED		1	OC1
37	018-2905401115R	AUDION	2N5401 TO-92	5	Q6. 7. 8. 12. 15
38	018-2905551115R	AUDION	2N5551 TO-92	4	Q4. 5. 9. 14.
39	018-1900350113R	AUDION	MJE350 TO-126	1	Q10
40	018-1900340113R	AUDION	MJE340 TO-126	1	Q13
41	018-0101492116R	POWER TUBE	2SA1492 TO-3P	3	Q18. 19. 20
42	018-0101859113R	AUDION	2SA1859A	1	Q17
43	018-0303856116R	POWER TUBE	2SC3856 TO-3P	3	Q21. 22. 23
44	018-0304883113R	AUDION	2SC4883A	2	Q16. 11
45	018-2800112115R	FIELD EFFECT TRANSISTOR	J112 TO-92	2	Q1. 2
46	026-2794103170R	INDUCTOR	2.7UH	1	L1
47	004-6609000000R	RESISTOR	3-11K	1	OC1
48	079-0401000000R	PROTECTOR	PTC RXE040	2	REX2. 3
49	066-0095010000R	SWITCH	TO-2P	1	TS

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## 8.ELECTRONIC PARTS LIST (AMP)

50	056-4104221100R	JACK	DJ2802-4P	1	CON2
51	056-6104224400R	JACK	VH3.96 4PIN	1	CON3
52	056-4105220000R	JACK	JS-1135-05	1	CON4
53	056-0106003300R	JACK	6PIN 3.96PH	1	CON10
54	277-0100000000R	CRYSTAL WASHER		3	Q16 Q17 Q11
55	001-4703205010R	RESISTOR	47K 1/4W F	1	R1
56	001-6802205010R	RESISTOR	6.8K 1/4W F	1	R10
57	001-1503205010R	RESISTOR	15K 1/4W F	1	R26
	088-1384005000R	POWER POP PCB		1	
1	001-0220106050R	RESISTOR	2.2 OHM 1/2W J	1	R33
2	001-0393108050R	RESISTOR	39K 2W 5%	3	R24, 25, 30
3	001-0398810050R	RESISTOR	0.39R 5W 5%	2	R22, 23
4	001-1000203010R	RESISTOR	10 OHM 1/8W F	1	R29
5	001-1001203010R	RESISTOR	100 OHM 1/8W F	1	R3
6	001-1002203010R	RESISTOR	1K 1/8W F	1	R28
7	001-1003203010R	RESISTOR	10K 1/8W F	5	R14, 12, 1, 2, 9
8	001-1004208050R	RESISTOR	100K2W 5%	1	R7
9	001-1732203010R	RESISTOR	13.7K 1/8W 1%	1	R15
10	001-1803203010R	RESISTOR	18K 1/8W F	4	R11, 13, 16, 34
11	001-2203203010R	RESISTOR	22K 1/8W F	1	R21
12	001-2203208010R	RESISTOR	22K 2W 1%	1	R32
13	001-2702203010R	RESISTOR	2.7K 1/8W F	1	R20
14	001-3300103050R	RESISTOR	33 OHM 1/8W J	2	R17, 18
15	001-3904203010R	RESISTOR	390KOHM 1/8W F	1	R35
16	001-4702203010R	RESISTOR	4.7K 1/8W F	2	R6, 31
17	001-4703107050R	RESISTOR	470K 1W 5%	1	R10
18	001-6801203010R	RESISTOR	680 OHM 1/8W F	1	R26
19	001-6802203010R	RESISTOR	6.8K 1/8W F	1	R27
20	001-9102203010R	RESISTOR	9.1K 1/8W F	1	R19
21	004-3307000000R	RESISTOR	10D-20	3	R4, 5, 8
22	004-3312000000R	RESISTOR	NTC 10K	1	NT1
23	006-1001051163R	CAPACITOR	SM10uF 50V 10%	2	C3, 20
24	006-1011061143R	CAPACITOR	SM 100uF 25V 10%	2	C29, 30
25	006-1014081463R	CAPACITOR	GS101M050F115Z	1	C17
26	006-2214081443R	CAPACITOR	220uF 25V	1	C1
27	006-4711102053R	CAPACITOR	470uF 35V 10%	2	C26, 27

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## 8.ELECTRONIC PARTS LIST (AMP)

28	006-4714162593R	CAPACITOR	470UF/100V	2	C25, 28
29	006-6814253603R	CAPACITOR	680UF 200V	4	C12, 13, 14, 15
30	008-1004005017R	CAPACITOR	104-Y5P-50V-Z	4	C2, 4, 5, 6
31	008-1005027505R	CAPACITOR	1UF/275VAC	1	C8
32	008-1021040005R	CAPACITOR	102PF 400V M	4	C10, 11, 23, 24
33	013-3340722502R	CAPACITOR	0.33uF 275V 10%	1	C7
34	014-1020100002R	CAPACITOR	AMZ 0.001UF 50V 5%	2	C18, 19
35	014-1050411006R	CAPACITOR	1UF/250V 10%	1	C16
36	014-4740211028R	CAPACITOR	MKS2 470nF 63V 10%	1	C21
37	017-0190000000R	IC	NJM7815FA T0-220F (JRC)	1	U1
38	017-0200000000R	IC	NJM7915FA T0-220F (JRC)	1	U5
39	017-4660000000R	IC	DT5268S Dip 8P	1	U4
40	018-3408050115R	TRANSISTOR	SS8050	3	Q4, 7, 8
41	018-3408550115R	TRANSISTOR	SS8550C T0-92	1	Q6
42	018-7000460125R	FIELD EFFECT TRANSISTOR	IRFP460A	2	Q2, 3
43	022-1014101245R	TRANSFORMER	EC40	1	T2
44	034-1119992508R	BRIDGE RECTIFIERS	RBV2510	1	BR1
45	053-9384001604R	PCB	152*120*1.6MM	1	
46	056-0106003300R	JACK	6PIN 3.96PH	1	CN1
47	056-4103221100R	JACK	DJ2802-3P	1	CN3
48	056-4105221100R	JACK	DJ2802-05	1	CN2
49	067-1104148000R	DIODE	IN4148	7	D1, 11, 12, 13, 14, 15
50	067-2200107000R	DIODE	HER107 JAL	3	D2, 3, 4
51	067-2200207000R	DIODE	HER204	4	D7, 8, 9, 10
52	067-2201620000R	DIODE	F16C20C	1	D6
53	067-2201620001R	DIODE	F16C20A	1	D5
54	067-3305246000R	ZENER	16V 1/2W IN5246	2	ZD1, 2
55	080-0210012016R	INDUCTOR	13.6MH 0.8MM 230V AC	2	T1, 3
56	085-0070290200R	PLASTIC MAP		2	
57	306-1385080000R	HEAT SINK	36*45.5*65.5mm	1	
58	306-1386200000R	HEAT SINK	182*120*33mm	1	

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