

Wharfedale Pro

Service Manual: **EVP-X12PM** Professional Speaker Enclosures

EVP-X12PM

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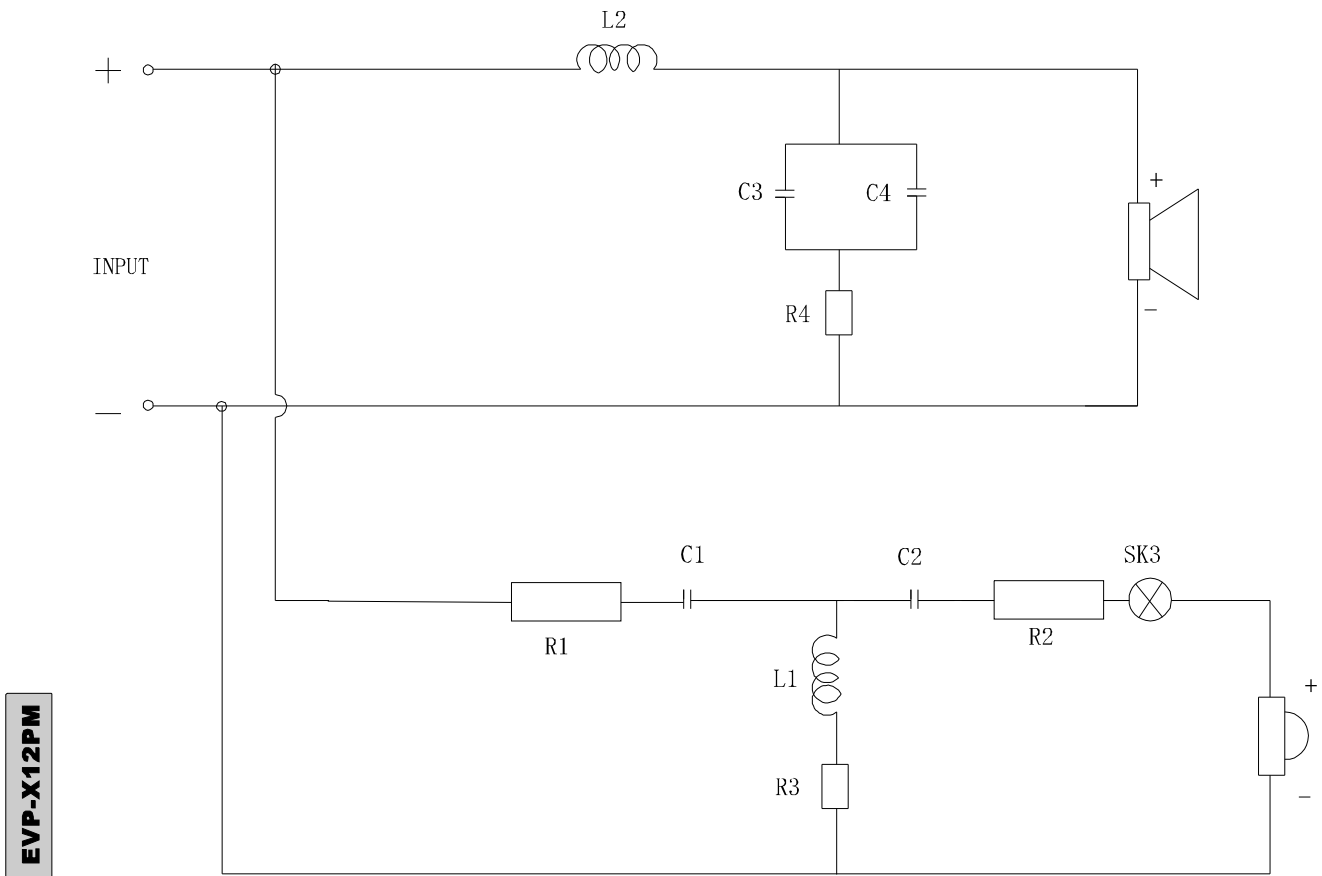
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1.SPECIFICATIONS

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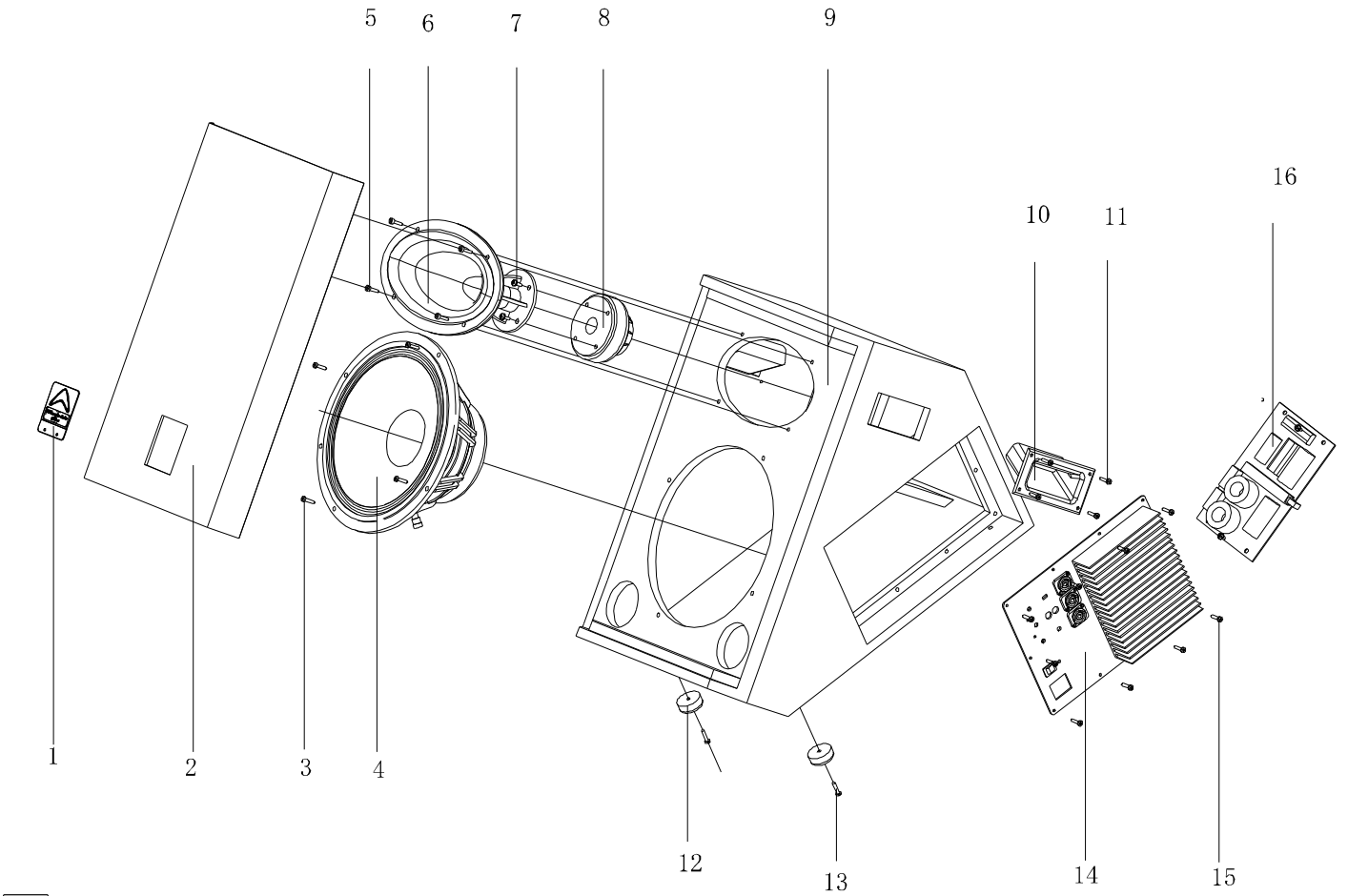
System specification	
System Type	15" 2-way monitor
Frequency Response +/- 3dB	50Hz-20kHz
Finish Material	Black carpet
Tripol stand	
Stand Bottom	--
Stand Top	--
Input:	
Input A	Switchable balanced mic or line level input
Input B	Line level input
Speaker Level Input	NA
Input Connectors	
Input A	Combined jack and XLR
Input B	Combined jack, XLR and RCA Socket
Input Sensitivity	
Mic	5mV
RCA	0.5V
LINE	0.775V
Input Impedance	
Mic	470 ohms
Line Input A	47k
Line Input B	10k ohms
Line Output	
Type	Balanced Male XLR connector
Line Output High Pass Filter	
Main EQ	5 band Graphic EQ
Active Crossover	NA
Infrasonic Filter	NA
Phase switch	NA
POWER SECTION	
Amplifier Power	Continuous:300W Peak:500w
Extention Speaker Output	1
Protection Type	Dynamic /AGC
Power on indicator	Red LED
System Dynamic AGC activate Indicator	Yellow LED
ENCLOSURE	
Dimention(mm) H x W x D	560X424X441
weight Net (kg)	22.5kg
weight Gross (kg)	25.1kg

2.SCHEMATIC DIAGRAM



C1=C3=3.0uF/250V	R3=4 OHM/10W
C2=C4=6.0uF/250V	R4=2 OHM/30W
R1=1 OHM/25W	L1=0.3mH
R2=5 OHM/25W	L2=0.7mH

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	310-2112400001R	STEEL GRILLE		1
3	533-5001350801AR	SCREWS	MT (+) 5*35 BZn	4
4	ZD-64300-01R	WOOFER		1
5	539-4001300803AR	SCREWS	MC (*) 5*35 BZn	4
6	253-2929000001R	PLASTIC HORN		1
7	540-6001120306AR	SCREWS	MH6*12NID	4
8	ZD-53301-01R	TWEETER		1
9	344-2112500001R	CABINET		1
10	243-2009000001R	HANDLE		2
11	553-4001209061AR	SCREWS	4*20TA H BZn	12
12	226-3800601111R	RUBBER FOOT		4
13	553-4001209061AR	SCREWS	4*20 TA H BZn	4
14	ZC-38501-07R	AMPLIFIER		1
15	537-4002300801AR	SCREWS	MP (+) 4*30 BZn	10
16	600-2112500010R	CROSSOVER ASSEMBLED UNIT		1

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5.ELECTRONIC PARTS LIST

R/N	P/N	PART NAME	DESCRIPTION	QUA
1	053-2937003109R	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	014-3050411002R	CAPACITOR (C1, C3)	3. 0uF/250V	2
7	014-6050411002R	CAPACITOR (C2, C4)	6. 0uF/250V	2
8	001-1009519100R	RESISTOR (R1)	1 OHM/25W	1
9	001-2000513050R	RESISTOR (R4)	2 OHM/30W	1
10	001-4009511100R	RESISTOR (R3)	4 OHM/10W	1
11	001-5009519100R	RESISTOR (R2)	5 OHM/25W	1
12	080-0600701000R	INDUCTANCE (L2)	0. 7mH	1
13	080-0300300100R	INDUCTANCE (L1)	0. 3mH	1

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X15P, X15PM	110-120V	T8AL125V
X25P, X15PB	220-240V	T4AL250V
X18PB	110-120V	T6.3AL125V
X12P, X12PM	220-240V	T3.15AL250V

EVP-X SERIES:

⚠️ 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 repair of this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

7.ASSEMBLY PARTS LIST (AMP)

R/N	P/N	PART NAME	DESCRIPTION	QUA
1	300-1385010000R	AL PANEL		1
2	306-1385020000R	HEAT SINK		1
3	307-2000500121R	COPPER POST	M3*12	4
4	307-1300540151R	COPPER POST		5
5	307-2300500241R	COPPER POST		2
6	310-1385130000R	GRILLE		1
7	527-3012100811AR	SCREWS	SP(+) 3*10 DC H BZn	6
8	535-3031080801AR	SCREWS	MPW(+) 3*8 BZn	8
9	537-3001080801AR	SCREWS	MP(+) 3*8 BZn	10
10	537-3001140801AR	SCREWS	MP(+) 3*14 BZn	8
11	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
	088-1385001300R	SIGNAL POP PCB		1	
1	053-1385001113R	SIGNAL PCB		1	
2	001-1804203010R	RESISTOR	180K 1/8W F	5	R158. 162. 166. 170. 174
3	001-9103203010R	RESISTOR	91K 1/8W F	5	R156. 160. 164. 168. 172.
4	001-1003203010R	RESISTOR	10K 1/8W F	16	R150. 151. 152. 153. 154. 155. 157 . 161. 165. 169. 173. 177. 178. 180 . 181. 182
5	001-2003203010R	RESISTOR	20K 1/8W F	2	R92. 183
6	001-3302203010R	RESISTOR	3. 3K 1/8W 5%	5	R159. 163. 167. 171. 175
7	001-5101203010R	RESISTOR	MF 510R 1/8W 1%	2	R176. 179
8	006-1001051163R	CAPACITOR	SM10uF 50V 10%	8	C150. 151. 154. 156. 173. 178. 179 . 180
9	014-2220200028R	CAPACITOR	MKS2 2. 2nF 63V 5%	2	C166. 167
10	013-3930210501R	CAPACITOR	39N 63V J	2	C157. 158
11	014-1530211028R	CAPACITOR	MKS2 15NF 63V 10%	2	C160. 161
12	008-6801005016R	CAPACITOR	681-Y5P-50V-K	2	C169. 170
13	014-4720211028R	CAPACITOR	MKS2 4. 7nF 63V 10%	2	C163. 164
14	008-4700005004R	CAPACITOR	47P-50V-J	6	C152. 153. 155. 172. 174. 176
15	017-1530000000R	IC	TL074CN	3	IC7. 8. 9
16	020-5052119425R	POTENTIOMETERS	RD 16K124A068-50KCBX2SII	1	VR6
17	048-3000000000R	JACK	NYS143 J3Y1 3pin PCB	1	XLR5
18	056-4106221100R	JACK	JS-1001-6 (2802-06GS)	1	CON7
19	056-4116000144R	JACK	PH=2. 54MM H=8. 5MM	1	CON8
20	049-2510222016R	JACK	CXLF-07	1	XLR4
21	057-2541222161R	JACK	PH=2. 5MM	1	CON9
22	053-1385003156R	SPEAKER PCB		1	
23	049-1304113120R	JACK	LS-2031-4	1	JACK1
	088-1385011000R	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	R46. 49
4	001-4702205010R	RESISTOR	4. 7K 1/4W F	4	R4. 11. 47. 48
5	001-2204205010R	RESISTOR	220K 1/4W F	2	R51. 27
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

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8.ELECTRONIC PARTS LIST (AMP)

12	001-1002205010R	RESISTOR	1K 1/4W F	3	R9. 43. 45
13	001-2002205010R	RESISTOR	2K 1/4W F	1	R31
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	018-2905401115R	AUDION	2N5401 T0-92	5	Q6. 7. 8. 12. 15
37	018-2905551115R	AUDION	2N5551 T0-92	4	Q4. 5. 9. 14.
38	018-1900350113R	AUDION	MJE350 T0-126	1	Q10
39	018-1900340113R	AUDION	MJE340 T0-126	1	Q13
40	018-0101492116R	POWER TRANSISTOR	2SA1492 T0-3P	2	Q18. 20
41	018-0101859113R	AUDION	2SA1859A	1	Q17
42	018-0303856116R	POWER TRANSISTOR	2SC3856 T0-3P	2	Q21. 23
43	018-0304883113R	AUDION	2SC4883A	2	Q16. 11
44	018-2800112115R	FIELD EFFECT TRANSISTOR	J112 T0-92	2	Q1. 2
45	026-2794103170R	INDUCTOR	2.7UH	1	L1
46	004-6609000000R	RESISTOR	3-11K	1	OC1
47	019-0315132000R	LED		1	
48	079-0401000000R	PROTECTOR	PTC RXE040	2	REX2. 3
49	066-0095010000R	SWITCH	T0-2P	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
	088-1385001500R	POTENTIOMETERS PCB		1	
1	053-1385001118R	PCB PLATE		1	
2	020-1043119012R	POTENTIOMETERS	RA4543-20-15EB1-B100K-C	5	VR7. 8. 9. 10. 11
3	057-2541202161R	JACK	PH=2.54mm 16pinT	1	
	088-1384015000R	POWER PCB		1	
1	001-0220106050R	RSISTOR	2.2 OHM 1/2W J	1	R33
2	001-0393108050R	RSISTOR	39K 2W 5%	3	R24, 25, 30
3	001-0398810050R	RSISTOR	0.39R/5W 5%	2	R22, 23
4	001-1000203010R	RSISTOR	10 OHM 1/8W F	1	R29
5	001-1001203010R	RSISTOR	100 OHM 1/8W F	1	R3
6	001-1002203010R	RSISTOR	1K 1/8W F	1	R28
7	001-1003203010R	RSISTOR	10K 1/8W F	5	R14, 12, 1, 2, 9
8	001-1004208050R	RSISTOR	100K2W 5%	1	R7
9	001-1732203010R	RSISTOR	13.7K 1/8W 1%	1	R15
10	001-1803203010R	RSISTOR	18K 1/8W F	4	R11, 13, 16, 34
11	001-2203203010R	RSISTOR	22K 1/8W F	1	R21
12	001-2203208010R	RSISTOR	22K 2W 1%	1	R32
13	001-3002203010R	RSISTOR	3K 1/8W F	1	R20. 22
14	001-3300103050R	RSISTOR	33 OHM 1/8W J	2	R17, 18
15	001-3904203010R	RSISTOR	390KOHM 1/8W F	1	R35
16	001-4702203010R	RSISTOR	4.7K 1/8W F	2	R6, 31
17	001-4703107050R	RSISTOR	470K 1W 5%	1	R10
18	001-6801203010R	RSISTOR	680 OHM 1/8W F	1	R26
19	001-6802203010R	RSISTOR	6.8K 1/8W F	1	R27
20	001-9102203010R	RSISTOR	9.1K 1/8W F	1	R19
21	004-3307000000R	RSISTOR	10D-20	2	R4. 5
22	004-3312000000R	RSISTOR	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

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8.ELECTRONIC PARTS LIST (AMP)

26	006-2214081443R	CAPACITOR	220 F 25V	1	C1
27	006-4711102053R	CAPACITOR	470uF 35V 10%	2	C26, 27
28	006-4714162593R	CAPACITOR	470UF/100V 16*25	2	C25, 28
29	006-4714253103R	CAPACITOR	LP470/200V 25*31	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 TO-220F(JRC)	1	U1
38	017-0200000000R	IC	NJM7915FA TO-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	1	Q6
42	018-7000460125R	FIELD EFFECT TRANSISTOR	IRFP460A	2	Q2, 3
43	022-1014101246R	TRANSFORMER	EC35	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	1N4148	7	D1, 11, 12, 13, 14
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 1N5246	2	ZD1, 2
55	080-0210012016R	INDUCTOR	13.6MH 0.8MM 230V AC	2	T1, 3
57	085-0070290200R	PLASTIC MAP		2	Q2, 3
59	306-1385080000R	HEAT SINK	36*45.5*65.5mm	1	
60	306-1386200000R	HEAT SINK	182*120*33mm	1	

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