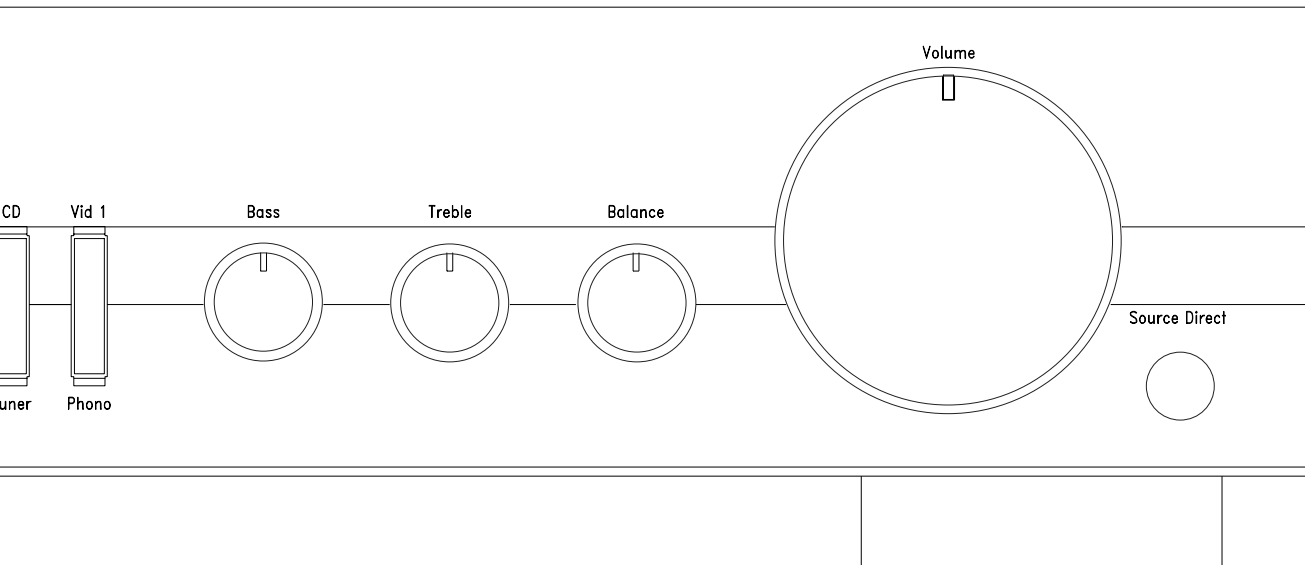




# *HK630*



■ **harman/kardon**

Integrated Amplifier  
**Service MANUAL**

# Troubleshooting

This unit is designed for trouble-free operation. Most problems users encounter are due to operating errors. So, if you have a problem, first check this list for a possible solution. If the problem persists, consult your authorized Harman/Kardon Service Center.

## IF THE PROBLEM IS...

No lights illuminate when POWER cord is plugged into AC outlet

No sound is heard

Sound is not heard from the speaker system on one side

When listening to stereo sound, the left and right sounds are reversed

Intermittent or continuous buzzing or hissing

The remote control and front panel controls don't appear to work

Phone sound is too faint, has hum, ringing, or »howl«

## MAKE SURE THAT...

- The unit is plugged into a live outlet

- Speaker switches corresponding to the desired speakers are pressed
- Correct source button has been pressed
- Volume is turned up
- Speaker wires are connected properly
- Hook-up wires to source component are connected properly

- The speaker wires and connection wires are connected correctly
- The balance control knob is set to the center

- The speaker wires are connected correctly
- The wires between components are connected correctly

- The unit is away from fluorescent lights, TV, motors and other electrical appliances

- Disconnect the AC line cord from the wall socket, wait 5 minutes and then re-connect it

- Ground wire from turntable has been connected to ground terminal on amplifier
- Cable from turntable is away from power cords and speaker cables
- Turntable is away from speakers
- Turntable is on stable surface

# Specifications

## HK630

### NOMINAL

Continuous Average Power Per Channel (FTC) 20Hz – 20 kHz, both channels driven	8 Ohms: 4 Ohms:	40 Watts@<0.09%THD 60 Watts@<0.3%THD
Dynamic Power (IHF, 1kHz Tone Burst)	8 Ohms: 4 Ohms: 2 Ohms:	70 Watts 100 Watts 135 Watts
High instantaneous current capability (HCC)		±40 Amps
Power Bandwidth @ Half-Rated output, 8Ω		<10Hz - 100kHz
Frequency response @ 1W (+0/-3dB)		0.5Hz - 100kHz
Damping factor		120
Signal-to-noise Ratio (Reference rated power output, A-WTD)	Tuner/CD Phono (MM):	90 dB 80 dB
Input sensitivity/Impedance	Tuner/CD Phono (MM):	150mV/43kΩ 2.5mV/47kΩ, 125pF
Phono-Overload:	Phono (MM):	100 mV
Tone control range, Bass @ 50 Hz/Treble @ 10kHz		±10 dB/±10 dB
Power supply:		AC 230V, 50/60 Hz
Power consumption:		230 W
Dimensions (Width × Height × Depth):		443 × 91 × 359 mm
Weight:		6.4 kg

## PARTS

MODEL: HK-630/230V

DATE: MAR. 04, 1999

EXCHANGE RATE: e=32

NO	P/N	DESCRIPTION	SPECIFICATION	QTY	REMARK
1	75L67100202	AL PLATE	L-671	1	
2	78C234200000	FRONT PLATE	C-2342	1	
3	78C234400000	UPPER COVER	C-2344	1	
4	78C234300000	REAR PLATE	C-2343	1	
5	78C234600000	BOTTOM COVER	C-2346	1	
6	78C234500000	BOTTOM PLATE	C-2345	1	
7	78C240300000	BRACKET,HEAT SINK	C-2403	1	
8	78C238100000	BRACKER.HEAT SINK	C-2381	1	
9	81BD200	FOOT CUSHION	D-200	4	CEC
10	80KB405	KNOB	KB-405	3	
11	80KB391	KNOB VOLUME	KB-391	1	
12	80KB393	PUSH KNOB	KB-393	4	
13	80KB390	PUSH KNOB KEY	KB-390	1	
14	80KB389	POWER PUSH KNOB	KB-389	1	
15	85A564	ORNAMENT,LEFT	A-564	1	
16	85A565	ORNAMENT,RIGHT	A-565	1	
17	85A563	ACRY	A-563	1	
18	85A570	ACRYLIC,LIGHT GUIDER	A-570	2	POWER KEY
19	85A571	ACRYLIC,LIGHT GUIDER	A-571	3	KEY
20	85A572	ACRYLIC,LIGHT GUIDER	A-572	3	KEY
21	85A562	WASHER	A-562	1,5	SPEAKER A.B SWx1.SOURCE DIRECT KNOBx0.5
22	20T095AR1U1	TEMPERATURE SW	T95AR1U1	1	
23	78C197900000	BRACKET,TEMPERATURE SW	C-1979	1	
24	78C210500000	BRACKET,PCB	C-2105	2	B2916
25	98B6V2	BUSHING	6W-2	1	REAR PLATE
26	654K2E30B21S	AC CORD	H05VV-F 2Gx1.0mm2	1	
27	83E224	CONNECTOR,U-TYPE	E-224	2	

28	93AP2	ALL PLASTIC WIRE CONNECTOR	P-2	1	
29	2652000222x2	FUSE	2A/250V T 19195	1	
30	265206P322x2	FUSE	6.3A/250V T 19195	2	B2910 F1.F2
31	2652000122x2	FUSE	1A/250V T 19195	2	B2910 F3.F4
32	67MF527	FUSE HOLDER	MF-527	1	
33	E84031A218xU	TRANSFORMER	TCE86-015	1	
34	88E176	TERMINAL,GROUND	E-176	1	PHONO
35	9903PF186	STYROFOAM	PF-186	2	
36	91CHK630	OUTER CARTON	HK-630	1	
37	66HDA78	CONNECTOR	ED-A78 2P	1	TEMPERATURE SW
38	66HDB25	CONNECTOR	ED-B25 6P	1	TRANSFORMER
39	990150ULB	TUBE,SLEEVE	50	1	( 1 )
40	94D205	PANEL PROTELTION SHEET	D-205	1	AL PLATE
41	94D176	SPONGE,EVA	D-176	3	AL PLATE
42	94D231	SPONGE,EVA	D-231	2	UPPER COVER
43	SCCRxT0306Y	SCREW	CRTS 3x6 Y	21	
44	SCCRxT0308Y	SCREW	CRTS 3x8 Y	4	
45	SCCRxM3006Y	SCREW	CRMS 3x6 Y	23	
46	SCCR xM3006B	SCREW	CRMS 3x6 B	2	
47	SCCFxT3006B	SCREW FLAT HEAD	CRTS 3x6 B	11	
48	SCCRxP1809B	SCREW,PLASTIC	1/8x9	9	SPx4.RCA JACKx5
49	SCCRxT3006B	SCREW	CRTS 3x6 B	2	
50		SCREW	CRMS 4x6 B	4	
51	SCCBxT3006B	SCREW BINDING HEAD	CRTS 3x8 B	9	PL PLATEx5.FOOT CUSHIONx4
53	SCCRSM4010Y	SCREW	CRSMS 4x10 Y	4	TRANSFORMER
54	SCCRxT3008Y	SCREW	CRTS 3x8	1	2SD1563
55		WASHER,FLAT Y	50KA	1	RK18112MC ACCESSORIES
56		NUT Y	50KA	1	RK18112MC ACCESSORIES
57	SCNVY7	WASHER,FLAT Y	7	3	VR ACCESSORIES
58	SCNEY7	NUT Y	7	3	VR ACCESSORIES

59	99014 1W	HEAT SHRINK TUBE	4.1 x8mm WHITE	2	B2918 POWER LED
60	SCWEY42101	WASHER,FLAT	4.2x10x1 Y	4	TRANSFORMER
61	08A00	CABLE TIE	60MM	16	
62	HK630B2910	KIT	B2910-B2918	1	
63	HK630B2251	KIT	B2251	1	
		ACCESSORIES			
1	9904HK630	OWNER'S	HK-630	1	
2	62CR32DC0022	REMOTE CONTROL	CR32DC0022	1	
3	64T0008	REMOTE CABLE	1103007	1	
4	250028	BATTERY	#4	2	

PARTS MODEL: HK-630/230V KIT:B2910

DATE: MAR. 04. 1999

NO	P/N	DESCRIPTION	SPECIFICATION	Q'TY	REMARK
1	300068C8TJ2T	RESISTOR CARBON	±5% 1/8W T 47	10	R7.8.9.10.11.12.13.14.15.32
2	300180C8TJ2T	RESISTOR CARBON	±5% 1/8W T 180	2	R1.4
3	300560C8TJ2T	RESISTOR CARBON	±5% 1/8W T 560	2	R60.61
4	3002K2C8TJ2T	RESISTOR CARBON	±5% 1/8W T 2K2	4	R240-R243
5	30022KC8TJ2T	RESISTOR CARBON	±5% 1/8W T 22K	10	R2.5.173-176.180.182.183.254
6	30033KC8TJ2T	RESISTOR CARBON	±5% 1/8W T 33K	1	R17
7	30100KC8TJ2T	RESISTOR CARBON	±5% 1/8W T 100K	6	R3.6.16.177.179.251
8	30220KC8TJ2T	RESISTOR CARBON	±5% 1/8W T 220K	1	R48
9	30390KC8TJ2T	RESISTOR CARBON	±5% 1/8W T 390K	1	R192
10	300047C4TJ2T	RESISTOR CARBON	±5% 1/4W T 47	2	R214.219
11	300100C4TJ2T	RESISTOR CARBON	±5% 1/4W T 100	6	R41.42.43.44.96.97
12	300120C4TJ2T	RESISTOR CARBON	±5% 1/4W T 120	4	R122.125.160.163
13	300180C4TJ2T	RESISTOR CARBON	±5% 1/4W T 180	4	R108 109 146 147
14	300270C4TJ2T	RESISTOR CARBON	±5% 1/4W T 270	3	R117.155.218
15	300330C4TJ2T	RESISTOR CARBON	±5% 1/4W T 330	2	R107.145.

16	300560C4TJ2T	RESISTOR CARBON	±5% 1/4W T 560	10	R113.114.115.116.121.151.152.153.154.159
17	3001K5C4TJ2T	RESISTOR CARBON	±5% 1/4W T 1K5	4	R103.104.141.142
18	3002K2C4TJ2T	RESISTOR CARBON	±5% 1/4W T 2K2	4	R123.161.186.187
19	3003K9C3TJ2T	RESISTOR CARBON	±5% 1/4W T 3K9	1	R215
20	3004K7C4TJ2T	RESISTOR CARBON	±5% 1/4W T 4K7	2	R168.170
21	3006K8C4TJ2T	RESISTOR CARBON	±5% 1/4W T 6K8	2	R45.46
22	30010K4TJ2T	RESISTOR CARBON	±5% 1/4W T 10K	1	R253
23	30012K4TJ2T	RESISTOR CARBON	+5% 1/4W T 12K	2	R105.143
24	30015K4TJ2T	RESISTOR CARBON	±5% 1/4W T 15K	6	R128.129.131.166.167.190
25	30022K4C4TJ2T	RESISTOR CARBON	±5% 1/4W T 22K	3	R171.188.217
26	30047K4C4TJ2T	RESISTOR CARBON	±5% 1/4W T 47K	8	R47.118.130.156.169.189.216.220
27	30082K4C4TJ2T	RESISTOR CARBON	±5% 1/4W T 82K	2	R119.157
28	30150K4C4TJ2T	RESISTOR CARBON	±5% 1/4W T 150K	1	R185
29	30001MC4TJ2T	RESISTOR CARBON	±5% 1/4W T 1M	2	D22.D23
30	320068C8TF2T	RESISTOR METAL	±1% 1/8W T 68	4	R77.81.91.95
31	320330C8TF2T	RESISTOR METAL	±1% 1/8W T 330	2	R79.93
32	320470C8TF2T	RESISTOR METAL	±1% 1/8W T 470	2	R69.83
33	320820C8TF2T	RESISTOR METAL	±1% 1/8W T 820	2	R76.90
34	32001KC8TF2T	RESISTOR METAL	±1% 1/8W T 1K	10	R20.21.56.57.58.59.63.64.70.84
35	3202K7C8TF2T	RESISTOR METAL	+1% 1/8W T 2K7	2	R74.88
36	3203K3C8TF2T	RESISTOR METAL	±1% 1/8W T 3K3	2	R78.92
37	3204K7C8TF2T	RESISTOR METAL	±1% 1/8W T 4K7	6	R54.55.255.256.257.258
38	3206K8C8TF2T	RESISTOR METAL	±1% 1/8W T 6K8	6	R26.27.33.37.68.82
39	32010KC8TF2T	RESISTOR METAL	±1% 1/8W T 10K	10	R34.35.36.38.39.40.244.245.250.252
40	32039KC8TF2T	RESISTOR METAL	±1% 1/8W T 39K	2	R73.87
41	32047KC8TJ2T	RESISTOR METAL	±1% 1/8W T 47K	4	R66.67.178.191
42	32270KC8TF2T	RESISTOR METAL	±1% 1/8W T 270K	2	R72.86
43	32330KC8TF2T	RESISTOR METAL	±1% 1/8W T 330K	6	R19.22.71.75.85.89
44	32100KC8TF2T	RESISTOR METAL	±1% 1/8W T 100K	4	R18.23.80.94
45	32820KC8TF2T	RESISTOR METAL	±1% 1/8W T 820K	4	R01.R02.L01.L02

46	32001MC8TF2T	RESISTOR METAL	±1% 1/8W T 1M	2	R24.25
47	3201K2C4TF2T	RESISTOR METAL	±1% 1/4W T 1K2	2	R110.148
48	32033KC4TF2T	RESISTOR METAL	±1% 1/4W T 33K	4	R99.106.137.144
49	300620C4TF2T	RESISTOR METAL	±1% 1/4W T 620	4	R120.124.158.162
50	3002K1C4TF2T	RESISTOR METAL	±1% 1/4W T 2K1	4	R111.112.149.150
51	390010C4TF2T	RESISTOR METAL	±1% 1/4W T 10	8	R101.102.126.127.139.140.164.165
52	30047KC8TJ2T	RESISTOR CARBON	±1% 1/8W T 330K	1	Q78
53	134P7P05	ZENER DIODE	4.7V/0.5W	1	D9
54	131N4007	DIODE	1N4007	11	D5.7.8.10.11.15.16.24.48.49.50
55	131N914	DIODE	1N914	6	D12.13.14.17.18.19
56	491031HRZFD	CAPACITOR CERAMIC	103/50V F/Z	1	C222
57	491041HRZFD	CAPACITOR CERAMIC	104/50V MIN SIZE	3	C18.106.107
58	493R32HRKS	CAPACITOR CERAMIC	3.3P/500V SL/K	2	C88.103
59	490101HRKS	CAPACITOR CERAMIC	10P/50V SL/K	4	C21.24.129.130
60	491011HRKS	CAPACITOR CERAMIC	100P/50V SL/K	2	C57.58
61	492211HRKS	CAPACITOR CERAMIC	220P/50V SL/K	14	C1.2.7.8.9.10.13.14.15.16.89.104.220.221
62	493311HRKS	CAPACITOR CERAMIC	330P/50V SL/K	4	C3.5.223.224
63	502021HRJ	CAPACITOR MYLAR	202J/50V	4	C62.65.67.70
64	502221HRJ	CAPACITOR MYLAR	222J/50V	4	C28.29.31.32
65	504721HRJ	CAPACITOR MYLAR	472J/50V	2	C75.76
66	505621HRJ	CAPACITOR MYLAR	562J/50V	2	C61.66
67	501041HRJ	CAPACITOR MYLAR	104J/50V	4	C30.33.47.111
68	400101H0511T	CAPACITOR ELEC	1U/50V RUBYCON	2	C17.19
69	402201H0511T	CAPACITOR ELEC	22U/50V RUBYCON	1	C109
70	401001H0511T	CAPACITOR ELEC	10U/50V RUBYCON	1	C93
71	406R81H0511T	CAPACITOR ELEC	6.8U/50VRUBYCON	2	C64.69
72	404701E0511T	CAPACITOR ELEC	47U/25V RUBYCON	4	C44.45.108.127
73	401011E6311T	CAPACITOR ELEC	100U/25VRUBYCON	6	C4.6.71.72.77.110
74	402211H1016T	CAPACITOR ELEC	220U/50VRUBYCON	8	C83.98.131.132.133.134.135.136
75	404711C1012T	CAPACITOR ELEC	470U/25V RUBYCON	2	C56.73



76	4R1001H0511T	CAPACITOR FILM	10U/50V NP RUBYCON	7	C34.85.100.227.228.225.226
77	482201H0511T	CAPACITOR ELEC	22U/50V NP RUBYCON	2	C59.60
78	484701E0811T	CAPACITOR ELEC	47U/25V NP RUBYCON	1	C38
79	481011E1012T	CAPACITOR ELEC	100U/25V NP RUBYCON	2	C22.23
80	484711C1320T	CAPACITOR ELEC	470U/16V NP RUBYCON	3	C36.63.68
81	122SA970BLxT	TRANSISTOR	2SA970BL/GR	10	Q25.26.27.34.44.45.46.52.57.67
82	122SA965YxxT	TRANSISTOR	2SA965Y	1	Q78
83	122SC2235YxT	TRANSISTOR	2SC2235Y	3	Q2.75.76
84	122SC2240BLT	TRANSISTOR	2SC2240BL/GR	21	Q1.3-5.23.24.31-33.42.43.50.51.55.56.59.72-74.77.79
85	122SD786RxxB	TRANSISTOR	2SD786R	8	Q12.13.15.16.17.18.20.21
86	122SB737RxxB	TRANSISTOR	2SB737R	2	Q14.19
87	122SK170BLxB	FET	2SK170BL	2	Q53.54
88	67A05xxxxxxT	FUSE HOLDER	5	8	F1.2.3.4
89	300068C2TJ5T	RESISTOR CARBON	±5% 1/2W T 68	2	R138.100
90	39015001MJxB	RESISTOR M.O.F	±5% 1W 150	1	R62
91	3908K201MJxB	RESISTOR M.O.F	±5% 1W 8K2	2	R30.31
92	350P3302MJ2B	RESISTOR M.O.F	NON-INDUCTIVE 0.33/2W	8	R50.51.52.53.133.134.135.136
93	471001H6311E	CAPACITOR ELEC	10U/50V ELNA	8	C26.27.87.102.137.138
94	474701E0811E	CAPACITOR ELEC	47U/25V ELNA	2	C74.96
95	471011E1016E	CAPACITOR ELEC	100U/25V ELNA	2	C48.49
96	472211E1020E	CAPACITOR ELEC	220U/25V ELNA	2	C50.51
97	474711E1225E	CAPACITOR ELEC	470U/25V ELNA	4	C52.53.82.97
98	47103432550E	CAPACITOR ELEC	10000U/43V ELNA	2	C54.55
99	13BR102	DIODE	BR102	1	D3
100	13RC202	DIODE	RC202	1	D6
101	733C2T06P8R	FERRITE BEAD	RH3.5x6x0.8	4	L1.2.3.4
102	742214P12V	RELAY	G4W-2214P-US-HP	1	RY1
103	546032AWCRKF	CAPACITOR PPS-C	503/100V	2	C00.101
104	522242EWOAKF	CAPACITOR MPP-T	224/250V	2	C79.80
105	522242EWCRKF	CAPACITOR MPP-C	224/250V	2	C78.81

106	521032CWORKF	CAPACITOR MPP-D	103/160V	6	C39.40.41.42.43.94
107	532012CWORKF	CAPACITOR PP-D	200P/160V	2	C11.12
108	531012CWORKF	CAPACITOR PP-D	100P/160V	2	C20.25
109	501511HRKPDT	CAPACITOR PP-D	270P/50V	2	C37.92
120	31001K06H	TVR	6 H 3PIN 1K	2	TVR1.TVR2
111	122SA1145YxB	TRANSISTOR	2SA1145	2	Q28.47
112	122SC2705YxB	TRANSISTOR	2SC2705	2	Q7.36
113	122SA1349BLB	TRANSISTOR	2SA1349BL/GR	2	Q6.35
114	122SB649ACxB	TRANSISTOR	2SB649A	2	Q30.49
115	122SD669ACxB	TRANSISTOR	2SD669A	2	Q48.68
116	11AD712xxxD	IC	AD712	1	U7
117	11NJM5532DxD	IC	JRC5532	1	U4
118	11NE5532xxxD	IC	NE5532	1	U3
119	11JRC4556xxD	IC	JRC4556	1	U5
120	11TC9209NxxD	IC	TC9209N	1	U0
121	20SPUN12A002	PUSH SWITCH	SPUN12A002	1	SW9 B2915
122	20SPUN24A003	PUSH SWITCH	SPUN24A003 2P	1	SW7.8 B2912
123	10EHTJ06408D	PHONE JACK	064-08D	1	RCA7 B2912
124	10EHTJ03512E	PHONE JACK	HTJ-035-12EB	2	RCA1.2 B2916
125	11LTV817CxxD	PHOTO TRANSISTOR	LTV817	1	Q66
126	68HSP242V103	RCA JACK	HSP-242V1-3 2P	1	RCA3
127	68HSP204V03	RCA JACK	HSP-204V#3 4P	2	RCA5.6
128	68HSP206V03	RCA JACK	HSP-206V#3 6P	1	RCA4
129	3616F121A400	VR D-TYPE 100KBx2	RK16F121A400	2	VR1.VR2 OR RK16F121A400 F-TYPE
130	36163121A105	VR 250KMN	RK163121A105	1	VR4 OR RK163121A105
131	36RK18112MC	VR	50KAx2 RK18112MC	1	VR3 B2914
132	76H02500129	HEAT SINIK	H-025	1	BR102
133	18L3WAEGWCAB	LED	R/G L-3WAEGW-CA	2	LED3.4
134	20GSKHHAM252	TACT SWITCH	AM2520-WG	1	SW6
135	66W504502R	WAFER	5045-2P	1	JP15

136	66W504503R	WAFER	5045-3P	1	JP12 B2916	
137	66W504504R	WAFER	5045-4P	1	JP8	
138	66W504505R	WAFER	5045-5P	2	JP1.5	
139	66W504506R	WAFER	5045-6P	1	JP4	
140	66W504509R	WAFER	5045-9P	1	JP10	
141	66W396302R	WAFER	3963-2P	2	JP3.7	
142	66W396303R	WAFER	3963-3P	2	JP13.14	
143	66HDA83	CONNECTOR	ED-A83 6P	1	B2915 .14 TO B2910 .1P4	
144	66HD158	CONNECTOR	ED-158 2P	1	VR TO B2911 JP15	
145	66HDA82	CONNECTOR	ED-A82 5P	1	B2914 J5 TO B2910 JP5	
146	66HD872	CONNECTOR	ED-872 3P	1	B2912 J9 TO B2913 JP9	
147	66HDB30	CONNECTOR	ED-B30 5P	1	B2912 J1 TO B2910 JP1	
148	66HDB37	CONNECTOR	ED-B37 4P	1	B2910 A3.A2 TO B3.B2	
149	66HDB38	CONNECTOR	ED-B38 3P	1	B2910 A1 TO B1	
150	W101518150B	MULTI THREAD	1015#18 150MM B	2	B5 TO A5 . A6 TO B4	
151	W100724350B	MULTI THREAD	1007#24 350MM B	1	A7 TO B7	
152	60B2910	P.C.B	B2910	1	}	
153	602910	P.C.B	B2912	1		
154	60B2910	P.C.B	B2914	1		
155	60B2910	P.C.B	B2915	1		
156	60B2910	P.C.B	B2916	1		
157	60B2910	P.C.B	B2918	1		
158	122SD1148xxD	TRANSISTOR	2SD1148	4	Q8.9.37.38	
159	122SB863xxxD	TRANSISTOR	2SB863	4	Q10.11.39.40	
160	122SC3421YxB	TRANSISTOR	2SC3421Y	2	Q22.41	
161	11AN7815xxxD	IC	JRC7815/AN7815	1	U1	
162	11AN7915xxxD	IC	JRC7915/AN7915	1	U2	
163	76H19800123	HEAT SINK	H-198	2	U1.U2	
164	76H524000147	HEAT SINK	H-524	1		
165	SCCRxM3006Y	SCREW	GRMS 3x6 Y	2	JRC7815/JRC7915	

166	SCCRxT3012Y	SCREW	CRTS 3x12	10	2SD1148.2SB863.2SC3421
167	SCWSY3	WASHER,SPRING	3	10	
168	97AD232	SILICONE INSULATOR	D-232	2	
169	97AD233	SILICONE INSULATOR	D-233	1	
170	30047KC8TJ2T	RESISTOR CARBON	±5% 1/8W T 47K	1	Q78

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NO	P/N	DESCRIPTION	SPECIFICATION	Q'TY	REMARK
1	30001KC8TJ2T	RESISTOR CARBON	±5% 1/8W T 1K	1	R230
2	30010KC8TJ2T	RESISTOR CARBON	±5% 1/8W T 10K	6	R232.234-237.W11
3	30022KC8TJ2T	RESISTOR CARBON	±5% 1/8W T 22K	3	R233.238.240
4	30100KC8TJ2T	RESISTOR CARBON	±5% 1/8W T 100K	1	R231
5	3004P7C4TJ2T	RESISTOR CARBON	±5% 1/4W T 4.7	1	R193
6	300100C4TJ2T	RESISTOR CARBON	±5% 1/4W T 100	2	R203.211
7	300270C4TJ2T	RESISTOR CARBON	±5% 1/4W T 270	1	R210
8	300470C4TJ2T	RESISTOR CARBON	±5% 1/4W T 470	1	R199
9	300680C4TJ2T	RESISTOR CARBON	±5% 1/4W T 680	5	R204.205.206.207.208
10	30001KC4TJ2T	RESISTOR CARBON	±5% 1/4W T 1K	1	R198
11	3003K9C4TJ2T	RESISTOR CARBON	±5% 1/4W T 3K9	1	R194
12	3004K7C4TJ2T	RESISTOR CARBON	±5% 1/4W T 4K7	1	R239
13	30010KC4TJ2T	RESISTOR CARBON	±5% 1/4W T 10K	4	R196.197.200.209
14	30100KC4TJ2T	RESISTOR CARBON	±5% 1/4W T 100K	1	R202
15	30001MC4TJ2T	RESISTOR CARBON	±5% 1/4W T 1M	1	R201
16	13Z3P9P05	ZENER DIODE	3.9V/0.5W	1	D26
17	13Z5P6P05	ZENER DIODE	5.6V/0.5W	1	D25
18	431001C0405T	CAPACITOR ELEC	10U/16V 4x5H	5	C117.131.132.133.135 Rubycon
19	431011A6305T	CAPACITOR ELEC	100U/10V 6.3x5H	4	C114.115.116.128 Rubycon
20	43Z211A0805T	CAPACITOR ELEC	220U/10V 8x5H	2	C112.113 Rubycon
21	131N4148	DIODE	1N4148	6	D27.43-46.48

22	131N4007	DIODE	1N4007	3	D42.47.48	
23	122SA970BLxT	TRANSISTOR	2SA970BL	3	Q61.63.64	
24	122SC2240BLT	TRANSISTOR	2SC2240BL	5	Q62.65.70.71.72	
25	400101H0511T	CAPACITOR ELEC	1U/50V RUBYCON	1	C134	
26	112SD1763xxB	TRANSISTOR	2SD1763	1	Q60	
27	18L3XHTxxxB	LED RED	L-3XHT	1	D30	
28	18L3XGTxxxB	LED GREEN	L-3XGT	4	D28.29.LED1.LED2	
29	18L1334GTxxB	LED	GREEN L-1334GT	1	D31	
30	11DT5C114ExB	IC	DT5C114E	1	U10	
31	11DT5A114ExB	IC	DT5A114E	1	U8	
32	11BA6208xxxB	IC	BA6208	1	U9	
33	11TMP47C200S	IC SMD	TMP47C200BF	1	U7	
34	20GSKHHAM252	TACT SWITCH	2520-WG SKHHAM	5	SW1-SW5	
35	21EFOEC4004A	CRYSTAL	EFOEC4004A3 4MHz	1	Z1	
36	15IR750	INFRARED RECEIVER	IR-750	1	IR1	
37	66HDA86	CONNECTOR	ED-A86 2P	1	B2917 J11 B2911 JP11	
38	66HD948	CONNECTOR	ED-948 3P	1	J12 TO B2916 JP12	
39	66HDA84	CONNECTOR	ED-A84 4P	1	J1 TO B2910 JP8	
40	66HDB28	CONNECTOR	ED-B28 9P	1	J2 TO B2910 JP10	
41	66W504502V	WAFER	5045-2P 90°	2	JP15.JP11	
42	66F05060	PLAT CABLE	5x60MM	1	JP10 TO B2918 J10	
43	60B2911	P.C.B	B2911	1		
44	60B2911	P.C.B	B2917	1		

PARTS MODEL:HK-630/630V

KIT:B2913

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NO	P/N	DESCRIPTION	SPECIFICATION	QTY	REMARK
1	300010C2TJ2T	RESISTOR M.O.F	±5% 2W 10	2	R248.249
2	300150C2TJ5B	RESISTOR M.O.F	±5% 1W 150	2	R212.213
3	34000305TJxB	RESISTOR CEMENT	3 /5W	2	R246.247

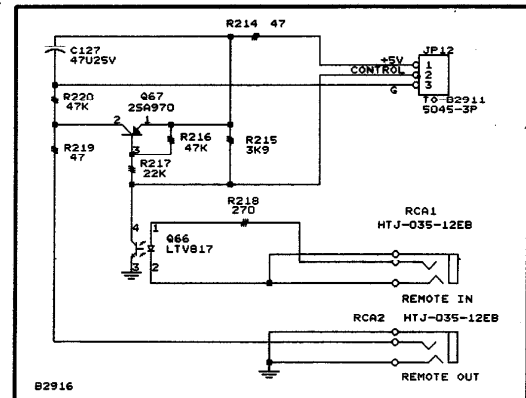
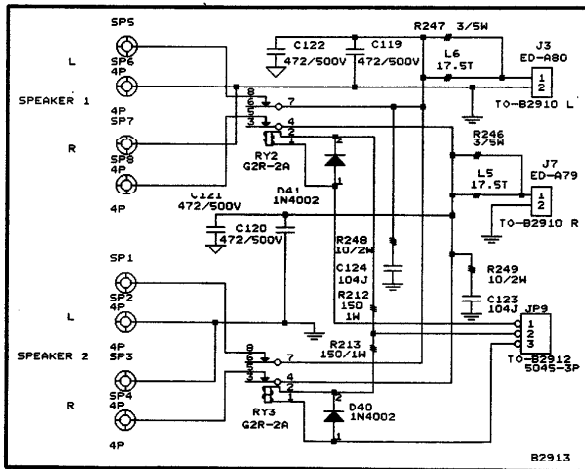
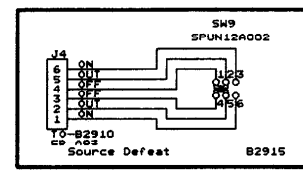
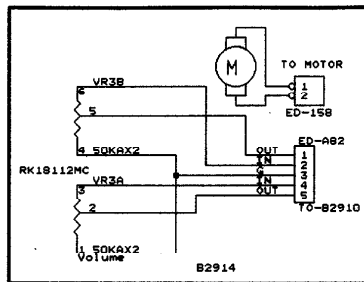
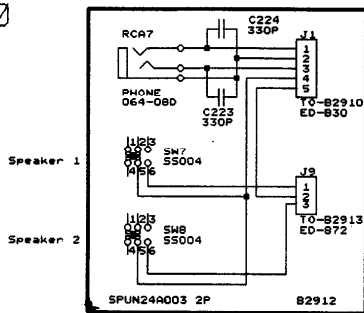
4	131N4007	DIODE	1N4007	2	D40 41
5	494722HRZFDT	CAPACITOR CERAMIC	472/500V	4	C119.120.121.122
6	504731HRJENT	CAPACITOR MYLAR	473J/50V	2	C123.124
7	7317C2T01P6P	COIL	17.5Tx6 x1	2	L5.6
8	74OMISS212L	RELAY	OMI-SS-212L 12V	2	RY2.RY3
9	71A4TR3033A	SPEAKER JACK	4TR-3033SA	1	SP1
10	71A4TR3033B	SPEAKER JACK	4TR-3033SB	1	SP1
11	81B4TR2440	RBUUER BLUG	4TR-2440	8	SPEAKER JACK
12	66HDA79	CONNECTOR	ED-A79 2P	1	J7 TO B2910 JP7
13	66HDA80	CONNECTOR	ED-A80 2P	1	J3 TO B2910 JP3
14	66W504503R	WAFER	5045-3P	1	JP9
15	602913	P.C.B	B2913	1	

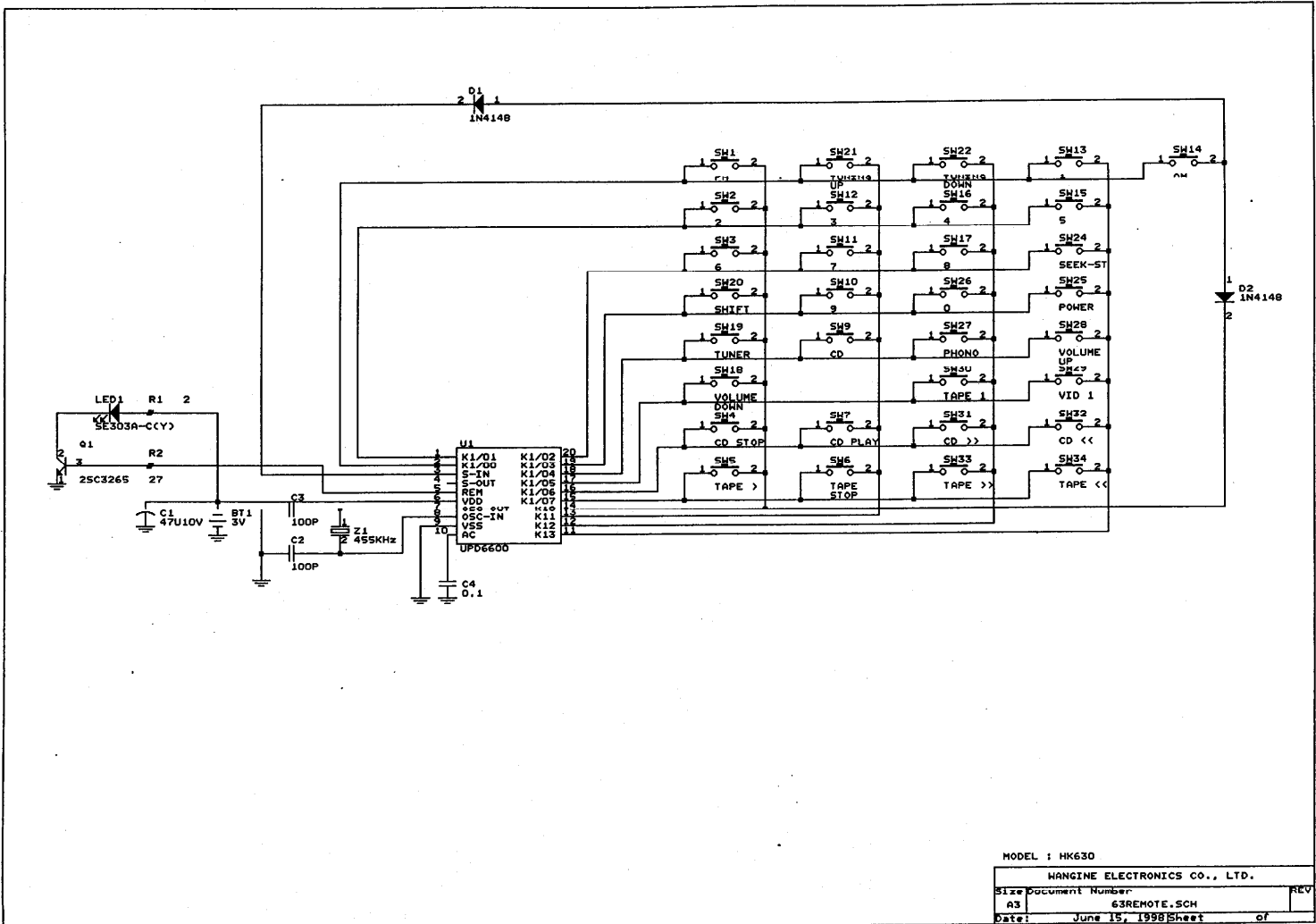
PARTS MODEL:HK-630 KIT:B2251

DATE:MAR.04,1999

NO	P/N	DESCRIPTION	SPECIFICATION	Q'TY	REMARK
			B2251		
1	73CRDS2P6P4M	CHOKE	RDS2.6 0.4mH	1	L001
2	3204M7C4TF2T	RESISTOR MFTAI	±1% 1/2W T 4.7M	1	R001
3	591042EWCRKF	CAPACITOR MEX	FXK 0.1/250V	1	C002
4	594722ERKCBW	CAPACITOR VDE	472/250V	2	C002.U03
5	20PESB90702V	POWER SW	ESB-9072V	1	
6	W161718300R	MULTI THREAD	1617#18 R 300MM	1	FUSE HOLDER TO POWER SWITCH
7	W161718300W	MULTI THREAD	1617#18 W 300MM	1	AC CORD TO POWER SWITCH
8	60B2251	P.C.B	B2251	1	

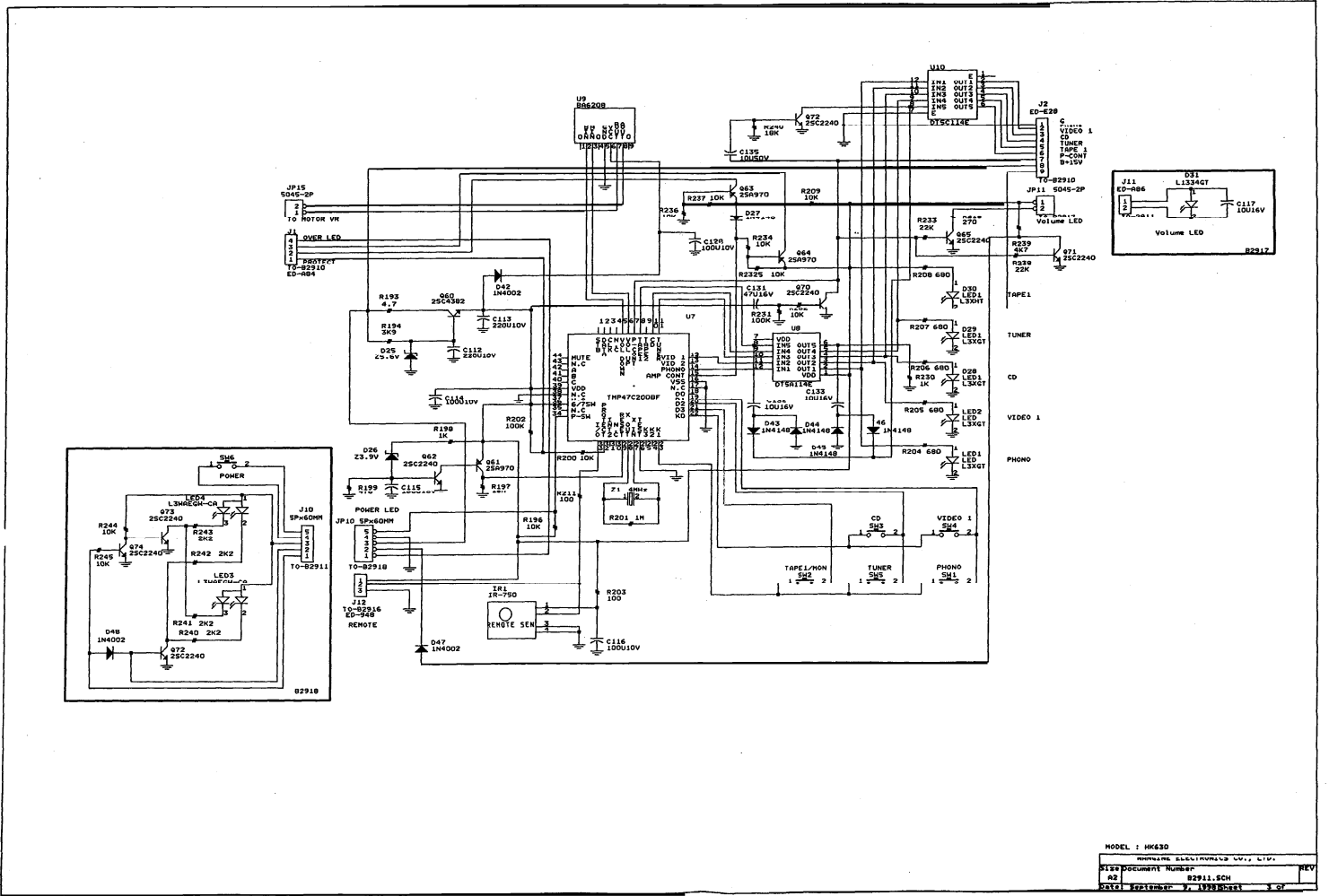
HK630





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DATE :	8/19/90
BY :	WJL
CHK :	WJL
APP :	WJL
REV :	02

