



Home Theatre System Service Manual

MODEL: HTS-393-001

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SAFE OPERATION

1. Protect voltage line

It is important to preset the maximum volume to a safe level .The factory setting is 20dB.

2. Be sure to connect to a correct voltage, which is AC220V~240V 50Hz

If you are not sure of the power supply to your home, please consult your local AKIRA dealer or the local power provider (It is AC 220V~240V 50Hz optional).

3. Please operate this equipment in an airy area

Keep it away from direct sunlight and high temperature area.

Do not operate from the box and ensure of sufficient air circulation during operation.

4. Protect power cord.

Do not place heavy object or stamp on the power cord. Don't pull or push the power cord with excessive force.

5. Do not drop metal objects into the equipment.

Avoid dropping metal objects like pin, needle and coin into the equipment as it will cause a short circuit and damage the equipment.

6. Avoid water, dust and moisture.

Do not put the equipment in a dusty or misty place. Flower vase and other liquid container should not be placed over it.

7. Avoid cleaning with volatile solution

Do not use any volatile solution to clean the equipment, which may cause damage it.

TROUBLE SHOOTING

FAULT	REMEDY
NO POWER	a. Check power cord correct connecting. b. Check the 220V~240V-voltage switch is at the correct position. c. Check the power switch is ok. d. Check the 250V 6A-safety tube is fine. e. Check the transformer is fine.
NO SOUND	a. Check the power+40V(OK). b. Check whether the protecting circuit (relay) is ok. c. Check the Pre-amp circuit. d. Check whether the source input switch is ok. e. Check the source input connection.
MICROPHONE NO SOUND	a. Check the power supply. b. Check the Mic input. c. Check the echo.
NO RADIO	a. Check the power supply. b. Check the radio wire.
LED DISPLAY NO DISPLAY	a. Check the power AC 9V. b. Check the LED display.
DVD NO OUTPUT	a. Check power +5V. b. Check CD4053/4052.
AMPLIFIER WITH ONE CHANNEL OUTPUT	a. Check the signal input. b. Check amplifier circuit. c. Check protecting circuit.
OUTPUT DISTORTION	a. Check signal input. b. Check power+40V. c. Check amplifier circuit. d. Check protecting circuit.

Before repair, please make sure the local power supply is 220V~240V

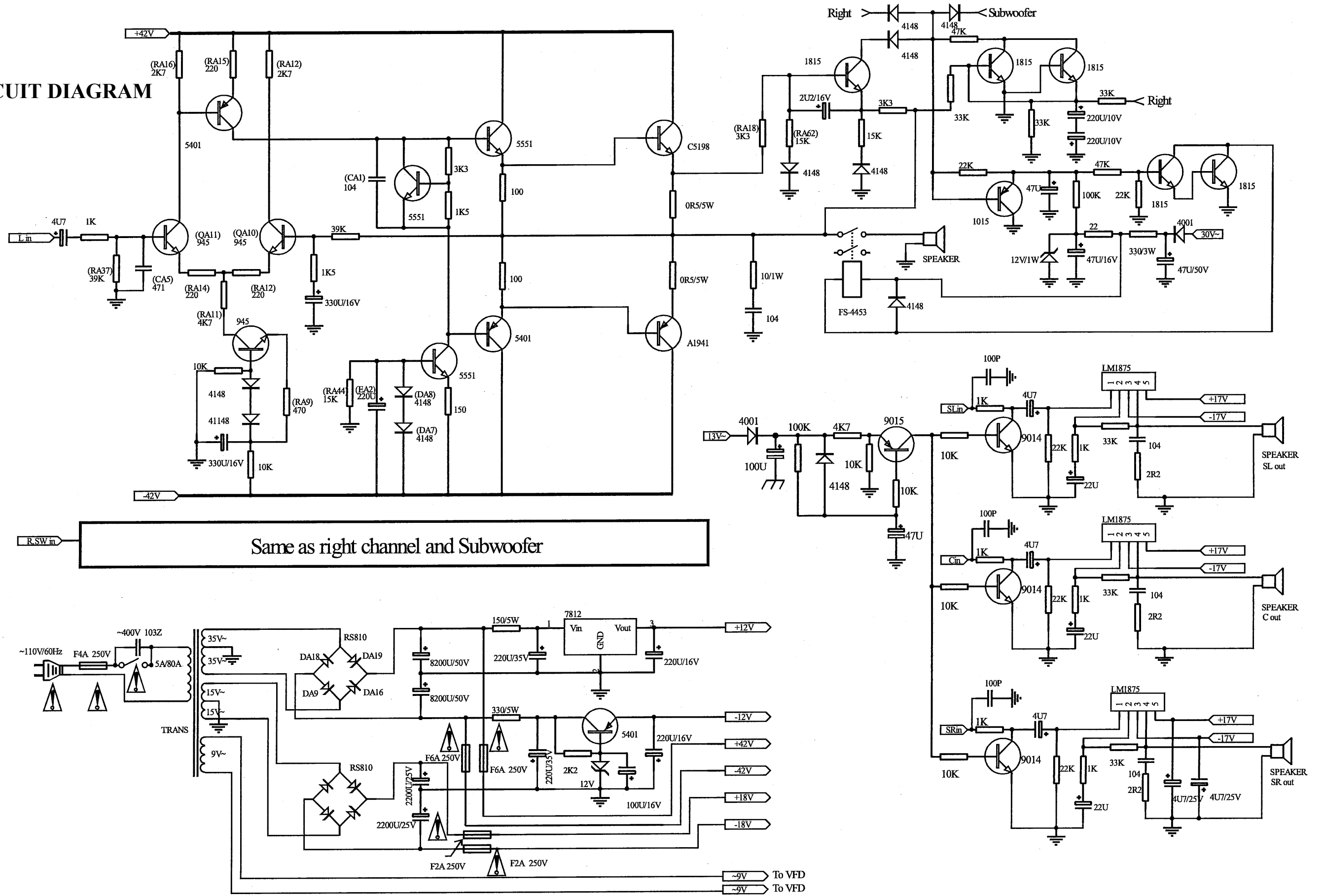
SYMPTON	ANALYSE	SOLUTION
CRACKING, SMALL SOUNDS	1. If the input signal accompany with direct current, it possibility strides the selecting IC CD4052, then cause the sounds cracking, and small. 2. The electric capacitor 47 μ F/50V of center and surround output is invalidation by the effects of temperature and humidity then sounds will be small. 3. The possible damage parts: MC 4052 and PT2315 PT2315 function: Volume control CD4052 function: Dual 4-channel Analog Multiplexer 4. Testing whether the IC CD4052\PT2315 power supply (+5.1V) is natural	Change damage parts.
HUM SOUNDS	Filter electric capacitor 2200 μ F /25V will be invalidation when it is at high voltage or high temperature and humidity.	Change electric capaciton 2200 μ F /25V.
KARAOKE ABNORMALITY	The possible damage parts: IC TL084 and IC PT2399, please refer to the Tone control Diagram. IC TL084 (1) function: MIC volume, MIC bass, MIC treble contron IC PT2399 function: OK ECHO, OK DELAY contron.	Change new parts to instead of the damage parts.
CETER AND SURROUND CHANNEL NO OUTPUT	The possible damage parts: IC 4053 and IC TL084, please refer to the Tone control Diagram. IC 4053 function: 2 channel and 6 channel selection IC TL084(2) function: Ceter and Surround channel plus control	Change new parts to instead of the damage parts.

SYMPTON	ANALYSE	SOLUTION
LED DISPLAY BURN OUT	1. Due to the working voltage of LED and background light is connecting to the transformer, if the voltage is too high, easy be burn out the LED display or background light. 2. The filament of the display is friability, so must avoid to strong shock or more easy mangles the display. 3. The possible damage parts: LED display, electric capacitor 4700 μ F /50V ,IC HT1621B , please refer to the Front panel control Diagram. 4. Testing whether the power from transformer to the front panel controller is natural, AC22V and AC6V. 5. Testing whether the power the background light power supply (+5V) is natural.	Change new parts instead of the damage parts. After repairing momentary power on, observing whether the LED is abnormity.
FRONT PANEL LOSES CONTROL, CAN NOT CHOOSE THE INPUT SIGNAL	1. Be interfered by strong electromagnetism or wavy power supply. 2. The working voltage is too high, or CPU AT89C52 is losing control by the temperature and humidity. 3. The possible damage parts: PT2315, MC4052 and HT1621, please refer to the front panel and amplifier control Diagram. CPU AT89C52 function: Remote receiver and decoder MC4052 function: Dual 4-Channel Analog Multiplexer HT1621 function: Quad Operational Amplifier, VFD display driver.	Testing whether the IC working voltage (+5.1V) is natural. Change new parts to instead of the damage parts. Place the player in the place without electromagnetism interfering. Operate the player al a steady-voltage.

SYMPTON	ANALYSE	SOLUTION
THE PARTS BIG POWER TRANSISTOR C5198 BURN OUT	1. Refer to Amplifier Diagram to change the possible damage parts which caused by C5198 burnout (Test by digital multimeter to make judgement whether the parts are workable or not). 2. Series-wound connect one 40W bulb at the wavy power supply 220V/240V, it will react on protecting when you are repairing. 3. Make sure changed all of the damage parts, then electrify, power on. 4. In the 40W bulb suddenly shinny, then dinginess slowly (It indicates that the player is work normally) If the bulb is shinny all the way, then there is still some short circuit on the PBC. Pls. rechecks there is any other damage parts).	Change new parts to instead of the damage parts.

CIRCUIT DIAGRAM

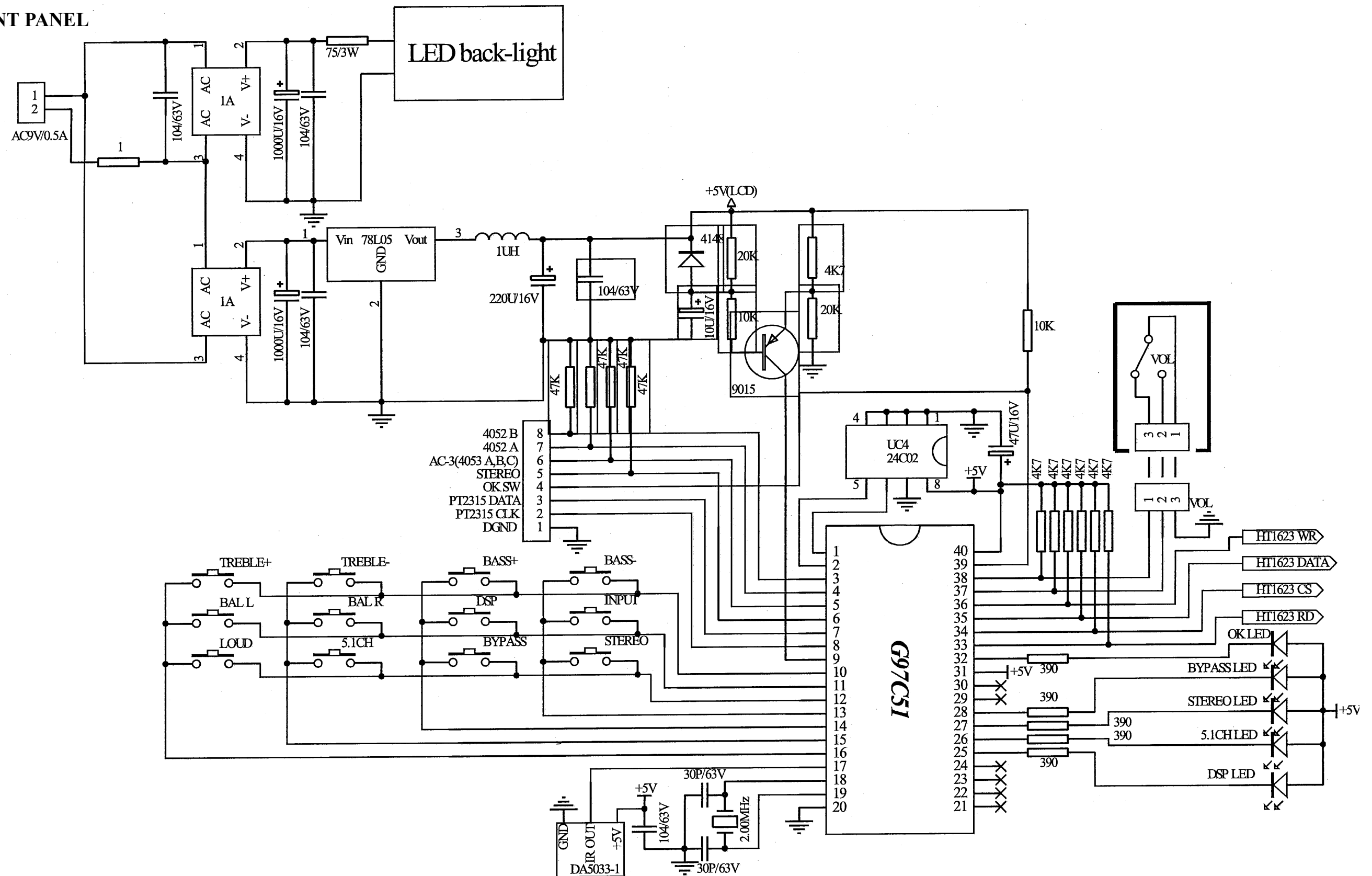
AMP



The diagram illustrates a complex electronic circuit for a portable cassette player. Key components and sections include:

- Power Section:** Features a 5V/0.5W regulator and a 5V/1.0W regulator, both with 100kΩ resistors and 100μF/16V capacitors. A 5K6, 224/63V component is noted on the bottom layer.
- PT2315 Section:** A central component with multiple pins connected to various resistors (e.g., 22kΩ, 47kΩ, 100kΩ) and capacitors (e.g., 100μF/16V, 47μF/16V).
- PT2399 Section:** A variable gain amplifier section with pins for OP1 OUT, OP1 IN, OP2 OUT, OP2 IN, LPF2 IN, LPF2 OUT, LPF1 OUT, LPF1 IN, REF, and VCC. It includes a 100kΩ resistor and a 100μF/16V capacitor.
- TC4053 Section:** A 3-bit D-type flip-flop with pins X0, X1, X2, X3, X4, X5, X6, X7, X8, X9, X10, X11, X12, X13, X14, X15, X16, X17, X18, X19, X20, X21, X22, X23, X24, X25, X26, X27, X28, X29, X30, X31, X32, X33, X34, X35, X36, X37, X38, X39, X40, X41, X42, X43, X44, X45, X46, X47, X48, X49, X50, X51, X52, X53, X54, X55, X56, X57, X58, X59, X60, X61, X62, X63, X64, X65, X66, X67, X68, X69, X70, X71, X72, X73, X74, X75, X76, X77, X78, X79, X80, X81, X82, X83, X84, X85, X86, X87, X88, X89, X90, X91, X92, X93, X94, X95, X96, X97, X98, X99, X100, X101, X102, X103, X104, X105, X106, X107, X108, X109, X110, X111, X112, X113, X114, X115, X116, X117, X118, X119, X120, X121, X122, X123, X124, X125, X126, X127, X128, X129, X130, X131, X132, X133, X134, X135, X136, X137, X138, X139, X140, X141, X142, X143, X144, X145, X146, X147, X148, X149, X150, X151, X152, X153, X154, X155, X156, X157, X158, X159, X160, X161, X162, X163, X164, X165, X166, X167, X168, X169, X170, X171, X172, X173, X174, X175, X176, X177, X178, X179, X180, X181, X182, X183, X184, X185, X186, X187, X188, X189, X190, X191, X192, X193, X194, X195, X196, X197, X198, X199, X200, X201, X202, X203, X204, X205, X206, X207, X208, X209, X210, X211, X212, X213, X214, X215, X216, X217, X218, X219, X220, X221, X222, X223, X224, X225, X226, X227, X228, X229, X230, X231, X232, X233, X234, X235, X236, X237, X238, X239, X240, X241, X242, X243, X244, X245, X246, X247, X248, X249, X250, X251, X252, X253, X254, X255, X256, X257, X258, X259, X260, X261, X262, X263, X264, X265, X266, X267, X268, X269, X270, X271, X272, X273, X274, X275, X276, X277, X278, X279, X280, X281, X282, X283, X284, X285, X286, X287, X288, X289, X290, X291, X292, X293, X294, X295, X296, X297, X298, X299, X300, X301, X302, X303, X304, X305, X306, X307, X308, X309, X310, X311, X312, X313, X314, X315, X316, X317, X318, X319, X320, X321, X322, X323, X324, X325, X326, X327, X328, X329, X330, X331, X332, X333, X334, X335, X336, X337, X338, X339, X340, X341, X342, X343, X344, X345, X346, X347, X348, X349, X350, X351, X352, X353, X354, X355, X356, X357, X358, X359, X360, X361, X362, X363, X364, X365, X366, X367, X368, X369, X370, X371, X372, X373, X374, X375, X376, X377, X378, X379, X380, X381, X382, X383, X384, X385, X386, X387, X388, X389, X390, X391, X392, X393, X394, X395, X396, X397, X398, X399, X400, X401, X402, X403, X404, X405, X406, X407, X408, X409, X410, X411, X412, X413, X414, X415, X416, X417, X418, X419, X420, X421, X422, X423, X424, X425, X426, X427, X428, X429, X430, X431, X432, X433, X434, X435, X436, X437, X438, X439, X440, X441, X442, X443, X444, X445, X446, X447, X448, X449, X450, X451, X452, X453, X454, X455, X456, X457, X458, X459, X460, X461, X462, X463, X464, X465, X466, X467, X468, X469, X470, X471, X472, X473, X474, X475, X476, X477, X478, X479, X480, X481, X482, X483, X484, X485, X486, X487, X488, X489, X490, X491, X492, X493, X494, X495, X496, X497, X498, X499, X500, X501, X502, X503, X504, X505, X506, X507, X508, X509, X510, X511, X512, X513, X514, X515, X516, X517, X518, X519, X520, X521, X522, X523, X524, X525, X526, X527, X528, X529, X530, X531, X532, X533, X534, X535, X536, X537, X538, X539, X540, X541, X542, X543, X544, X545, X546, X547, X548, X549, X550, X551, X552, X553, X554, X555, X556, X557, X558, X559, X560, X561, X562, X563, X564, X565, X566, X567, X568, X569, X570, X571, X572, X573, X574, X575, X576, X577, X578, X579, X580, X581, X582, X583, X584, X585, X586, X587, X588, X589, X590, X591, X592, X593, X594, X595, X596, X597, X598, X599, X600, X601, X602, X603, X604, X605, X606, X607, X608, X609, X610, X611, X612, X613, X614, X615, X616, X617, X618, X619, X620, X621, X622, X623, X624, X625, X626, X627, X628, X629, X630, X631, X632, X633, X634, X635, X636, X637, X638, X639, X640, X641, X642, X643, X644, X645, X646, X647, X648, X649, X650, X651, X652, X653, X654, X655, X656, X657, X658, X659, X660, X661, X662, X663, X664, X665, X666, X667, X668, X669, X670, X671, X672, X673, X674, X675, X676, X677, X678, X679, X680, X681, X682, X683, X684, X685, X686, X687, X688, X689, X690, X691, X692, X693, X694, X695, X696, X697, X698, X699, X700, X701, X702, X703, X704, X705, X706, X707, X708, X709, X710, X711, X712, X713, X714, X715, X716, X717, X718, X719, X720, X721, X722, X723, X724, X725, X726, X727, X728, X729, X730, X731, X732, X733, X734, X735, X736, X737, X738, X739, X740, X741, X742, X743, X744, X745, X746, X747, X748, X749, X750, X751, X752, X753, X754, X755, X756, X757, X758, X759, X760, X761, X762, X763, X764, X765, X766, X767, X768,

FRONT PANEL



PART LIST

NO	PART	Q'TY (PCS)
1	IC 24C02	1
2	IC 89C52	1
3	IC HT1621B	1
4	IC TDA2030A	3
5	IC PT2315	1
6	IC T62	1
7	IC TC4052	1
8	IC TC4053	2
9	IC TL084	3
10	Volume B10K-20MM	1
11	Volume B10K-20MM	1
12	Volume B50K-20MM	2
13	Volume B100K-20MM	1
14	360°pulse switch , L:25MM	1
15	1A round bridge	2
16	8A BRIDGE 808	1
17	8A BRIDGE RS806	1
18	3 terminal manostat 78L05	1
19	3 terminal manostat 7812	1
20	Triod 1015	1
21	Triod 1815	7
22	Triod 5401	11
23	Triod 5551	12
24	Triod 9015	7
25	Triod A1941/C5198	3
26	Triod C9014	3
27	Triod C945	9
28	Diode 5V1/0.5W	1
29	Diode 6V8/0.5W	2
30	Diode 9V1/0.5W	1

NO	PART	Q'TY (PCS)
31	Diode 12V/1W	2
32	Diode IN4001	4
33	Dioe STIN4148	24
34	Cable	1
35	Display 255X140MM	1
36	Tuning board 180X85MM	1
37	Master volume board 31X22MM	1
38	EMC Board 98X40MM	1
39	LED Board 245X11MM	1
40	MIC volume board 15.5X14MM	1
41	Amp. Board 270X255MM	1
42	LCD	1
43	LED backgroud board	1
44	Rmote receiver DA5033-1	1
45	Power key KDC-A04-1	1
46	Fuse F2A/250V	2
47	Delay fuse T4A/250V	2
48	Fuse F6A/250V	2
49	Red ϕ 2 LED 203THD	5
50	3-way relay HH53P	1
51	晶振 6MHz	1
52	spekeaker output socket WP6-10A	2
53	socket AV6-8.4-7	2
54	mic CK3-6.35-2B	2
55	soft-touch key l6X6X21	12
56	Jumping wire 5MM	21
57	Jumping wire 7.5MM	55
58	Jumping wire 10MM	55
59	Jumping wire 12.5MM	24
60	Jumping wire 15MM	27
61	Jumping wire 17.5MM	2
62	Jumping wire 20MM	13
63	Jumping wire 22MM	3
64	Jumping wire 30MM	4

NO	PART	Q'TY (PCS)
65	Carbolic resistor 1/0.25W±5%	2
66	Carbolic resistor 2.2/0.25W±5%	3
67	Carbolic resistor 10/0.25W±5%	12
68	Carbolic resistor 22/0.25W±5%	1
69	Carbolic resistor 100/0.25W±5%	7
70	Carbolic resistor 470/0.25W±5%	1
71	Carbolic resistor 510/0.25W±5%	5
72	Carbolic resistor 1K/0.25W±5%	9
73	Carbolic resistor 1K5/0.25W±5%	1
74	Carbolic resistor 2K/0.25W±5%	5
75	Carbolic resistor 2K2/0.25W±5%	1
76	Carbolic resistor 3K3/0.25W±5%	3
77	Carbolic resistor 3K9/0.25W±5%	2
78	Carbolic resistor 4K7/0.25W±5%	10
79	Carbolic resistor 5K1/0.25W±5%	2
80	Carbolic resistor 5K6/0.25W±5%	3
81	Carbolic resistor 10K/0.25W±5%	32
82	Carbolic resistor 12K/0.25W±5%	3
83	Carbolic resistor 15K/0.25W±5%	3
84	Carbolic resistor 20K/0.25W±5%	2
85	Carbolic resistor 22K/0.25W±5%	7
86	Carbolic resistor 33K/0.25W±5%	4
87	Carbolic resistor 36K/0.25W±5%	1
88	Carbolic resistor 39K/0.25W±5%	2
89	Carbolic resistor 47K/0.25W±5%	6
90	Carbolic resistor 56K/0.25W±5%	2
91	Carbolic resistor 68K/0.25W±5%	1
92	Carbolic resistor 100K/0.25W±5%	3
93	Carbolic resistor 270K/0.25W±5%	1
94	Carbolic resistor 470K/0.25W±5%	2
95	Carbolic resistor 680K/0.25W±5%	1
96	Carbolic resistor 68/0.5W±5%	1
97	Carbolic resistor 100/0.5W±5%	6
98	Carbolic resistor 150/0.5W±5%	3

NO	PART	Q'TY (PCS)
99	Carbolic resistor 180/0.5W±5%	1
100	Carbolic resistor 220/0.5W±5%	21
101	Carbolic resistor 470/0.5W±5%	3
102	Carbolic resistor 1K/0.5W±5%	3
103	Carbolic resistor 1K5/0.5W±5%	6
104	Carbolic resistor 2K7/0.5W±5%	6
105	Carbolic resistor 3K3/0.5W±5%	9
106	Carbolic resistor 4K7/0.5W±5%	3
107	Carbolic resistor 5K1/0.5W±5%	2
108	Carbolic resistor 10K/0.5W±5%	6
109	Carbolic resistor 15K/0.5W±5%	9
110	Carbolic resistor 33K/0.5W±5%	3
111	Carbolic resistor 39K/0.5W±5%	6
112	Carbolic resistor 47K/0.5W±5%	13
113	Carbolic resistor 10/2W±5%	3
114	Concrete Resistor 150/3W	1
115	Concrete Resistor 0.33/5W	6
116	Concrete Resistor 100/5W	1
117	Concrete Resistor 390/5W	1
118	Ceramic capacitor 5P/50V±20%	1
119	Ceramic capacitor 30P/50V±20%	7
120	Ceramic capacitor 471/50V±20%	3
121	Ceramic capacitor 561/50V±20%	3
122	Ceramic capacitor 104/50V±20%	15
123	Terylene capacitor 561/63V±20%	2
124	Terylene capacitor 102/63V±20%	2
125	Terylene capacitor 272/63V±20%	2
126	Terylene capacitor 332/63V±20%	2
127	Terylene capacitor 562/63V±20%	2
128	Terylene capacitor 682/63V±20%	1
129	Terylene capacitor 103/63V±20%	1
130	Terylene capacitor 153/63V±20%	1
131	Terylene capacitor 333/63V±20%	1

NO	PART	Q'TY (PCS)
132	Terylene capacitor 473/63V±20%	1
133	Terylene capacitor 823/63V±20%	2
134	Terylene capacitor 104/63V±20%	21
135	Terylene capacitor 154/63V±20%	1
136	Terylene capacitor 224/63V±20%	1
137	Electric capacitor 0.4U7/15V	2
138	Electric capacitor 2U2/16V	3
139	Electric capacitor 4U7/16V	21
140	Electric capacitor 10U/16V	1
141	Electric capacitor 22U/16V	4
142	Electric capacitor 47U/16V	1
143	Electric capacitor 47U/25V	5
144	Electric capacitor 100U/16V	8
145	Electric capacitor 100U/25V	3
146	Electric capacitor 220U/16V	8
147	Electric capacitor 220U/25V	2
148	Electric capacitor 220U/35V	2
149	Electric capacitor 330U/16V	5
150	Electric capacitor 330U/25V	3
151	Electric capacitor 1000U/16V	2
152	Electric capacitor 2200U/25V	2
153	Electric capacitor 6800U/50V	2
154	Voltage capacitor 103/AC400V	1
155	Voltage capacitor 224/AC275V	2
156	Big radiator :7512A,L :271mm	1
157	Small radiator (7812) 24*25	1
158	mica	6
159	sponge cusion H:5mm	6
160	ST3×12	6
161	ST3×8	5
162	Bt screws M3×12	4
163	nut M3	3
164	ring 3	14
167	radiator	1

NO	PART	Q'TY (PCS)
165	Front panel	1
166	Iron case	1set
168	Big volume knob ϕ 48	2
169	Middle volume knob ϕ 15 $\times$ 17	4
170	square key 5 $\times$ 12	12
171	plastic pole =40 实心	8
172	plastic pole H=20	6
173	power cord (2.2m)	1
174	power wire nip	1
175	Remote controller	1
176	Foot(2pcs gold 2pcs black) ϕ 59	1
177	wire 3*80	6
178	carton	1
179	styrofoam	1
180	instruction manual	1
181	Transformer	1
182	Radio board YST933-C9 with wire	1
183	Screws ST3 $\times$ 8	4
184	Screws ST4 $\times$ 8	12
185	Screws ST3 $\times$ 10	14
186	Screws ST3 $\times$ 6	45
187	Screws ST3 $\times$ 8	36
188	ring M3 $\times$ 4	8
189	ring M3 $\times$ 6	6
190	M5 $\times$ 25	4
191	nut M5	4
192	plastic bag	1