SERVICE GUIDE

KEY SYSTEM CORP

Revision History

Version	Date	Change
1.0	26/07/2007	

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Getting Started

Conventions Used in the Guide

Pay Special Attention: Instructions that are important to remember and may prevent mistakes.

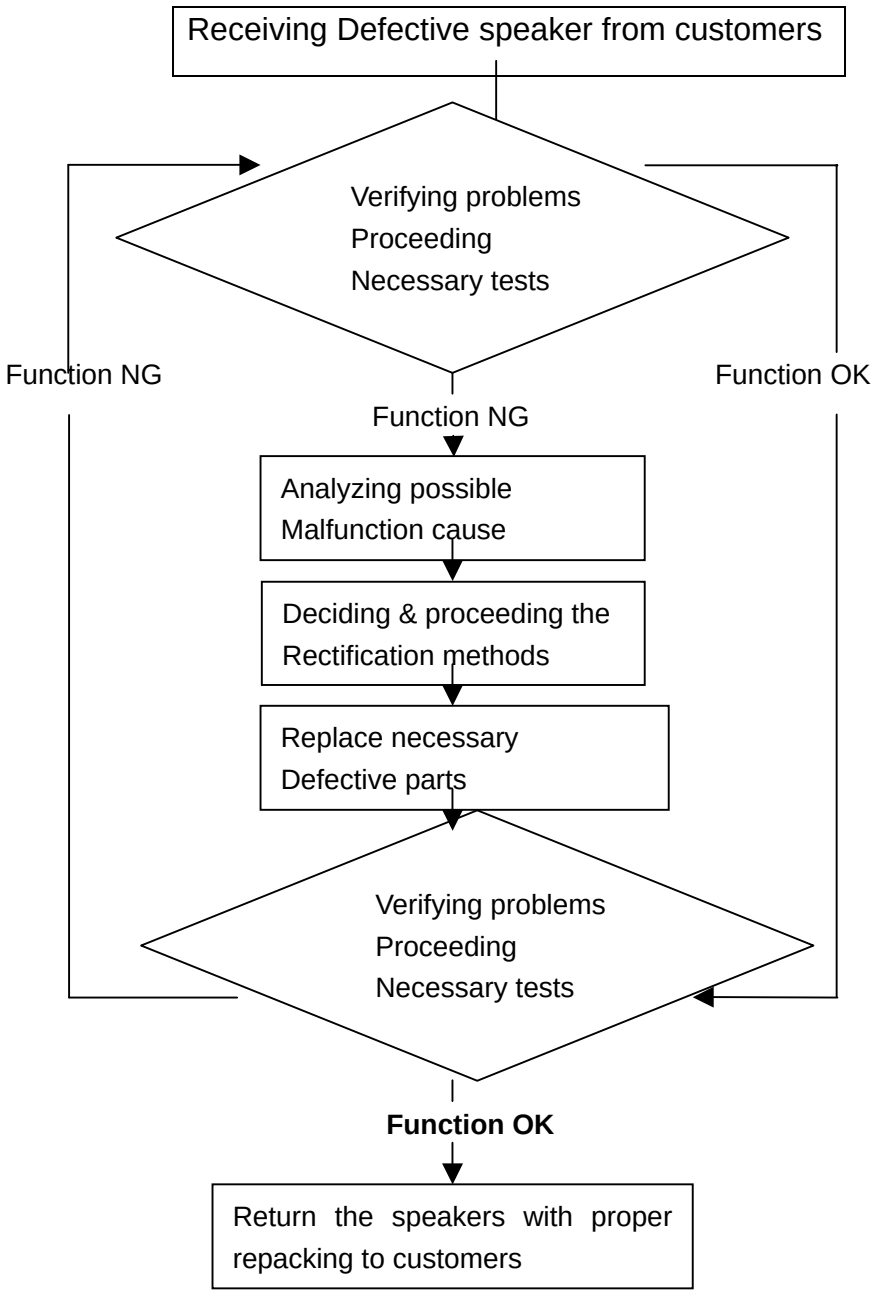
Caution: Information that, if not followed, may result in damage to the product.

Safety Precautions

The following precautions should be observed in handing the speaker described in this guide:
Place the speakers on a flat, level and stable surface.
Do not place the speakers in environments subject to mist, smoke, vibration, excessive dust, salty or greasy air, or other corrosive gases and fumes.
Do not drop or jolt the speakers.
Do not allow anything to drop into the subwoofer case through its ventilator, as it could result in fatal electric shock or fire.
Place the unit far enough from other equipments for good heat dissipation.
Do not perform any maintenance with wet hand.
Prevent foreign substance, such as water, other liquids or chemical, from entering the speakers while performing maintenance procedures on the speakers.

Chapter 1. How to Handle Defective Returns

1.1 Overview



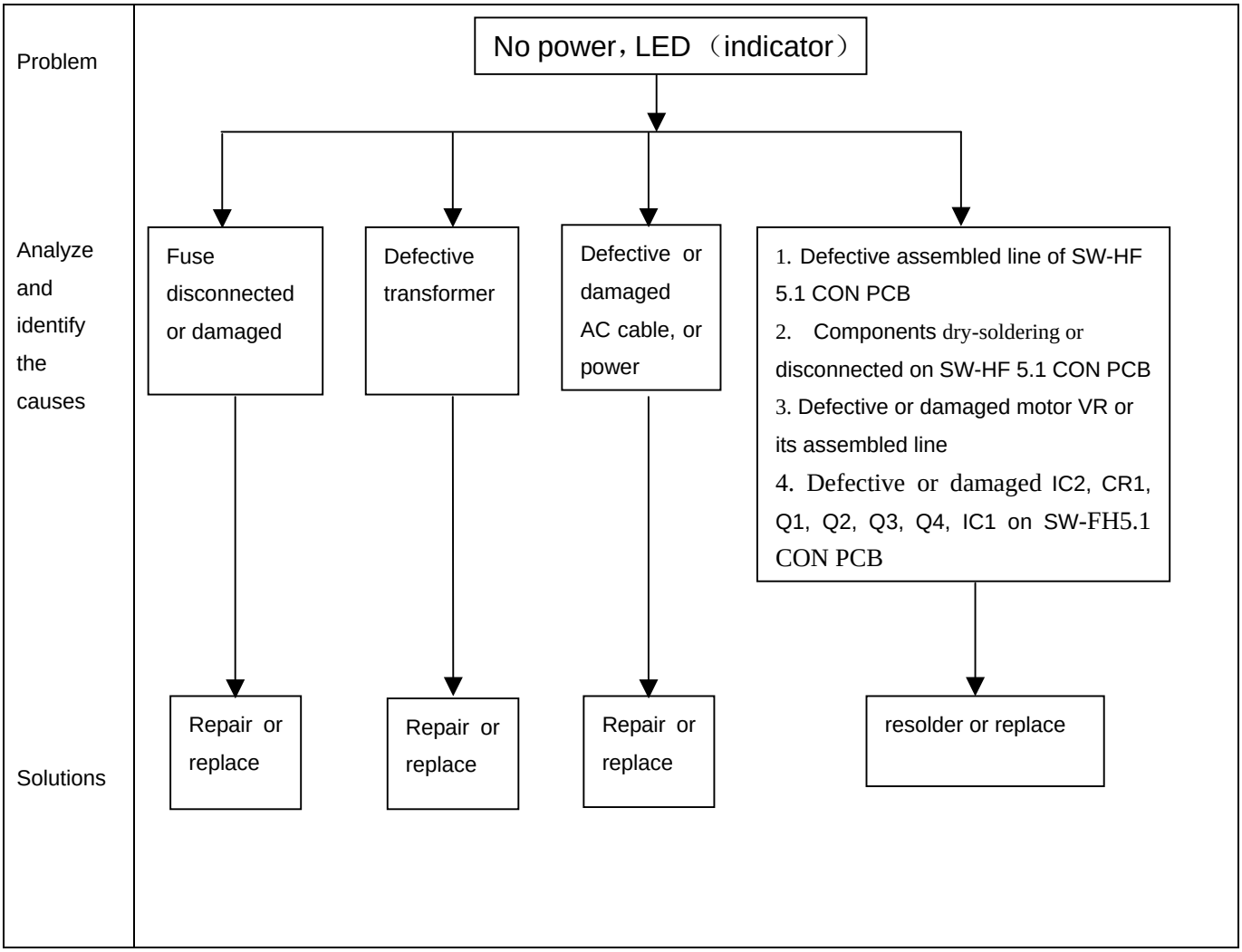
1.2 Problems

Item	Problem Description
1.2.1	No power，LED （indicator）
1.2.2	No sound
1.2.3	Front channel no sound (including either FR or FL no sound)
1.2.4	Rear channel no sound (including either RR or RL no sound)
1.2.5	Center no sound
1.2.6	Woofer no sound
1.2.7	input no sound
1.2.8	Remote control no use
1.2.9	Noise
1.2.10	LED indicators no light

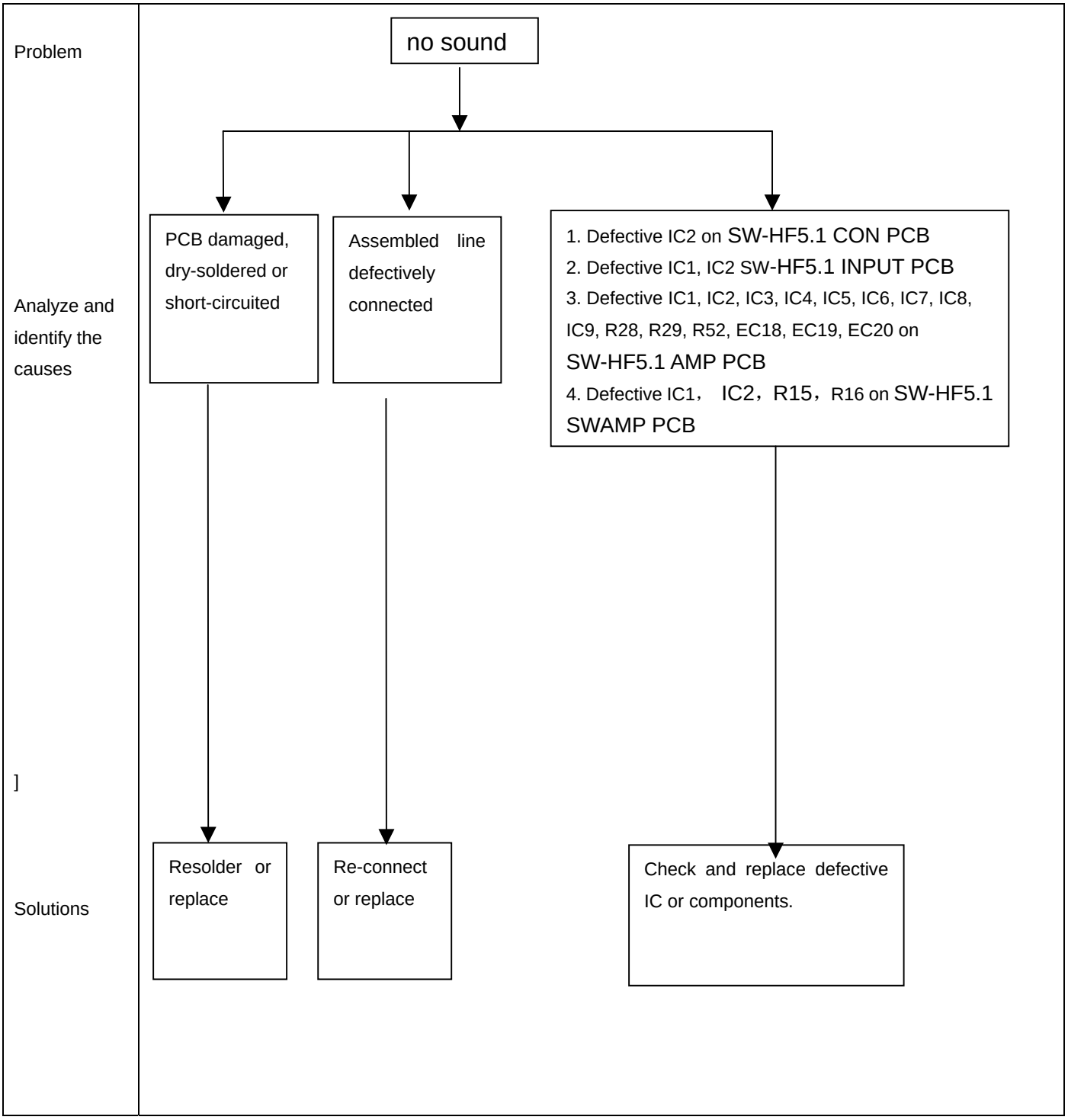
*Attention

Please follow the numbered sequence marked within parenthesis given in individual
Flow chat in that this is the best-recommended sequence to rectify the problems.

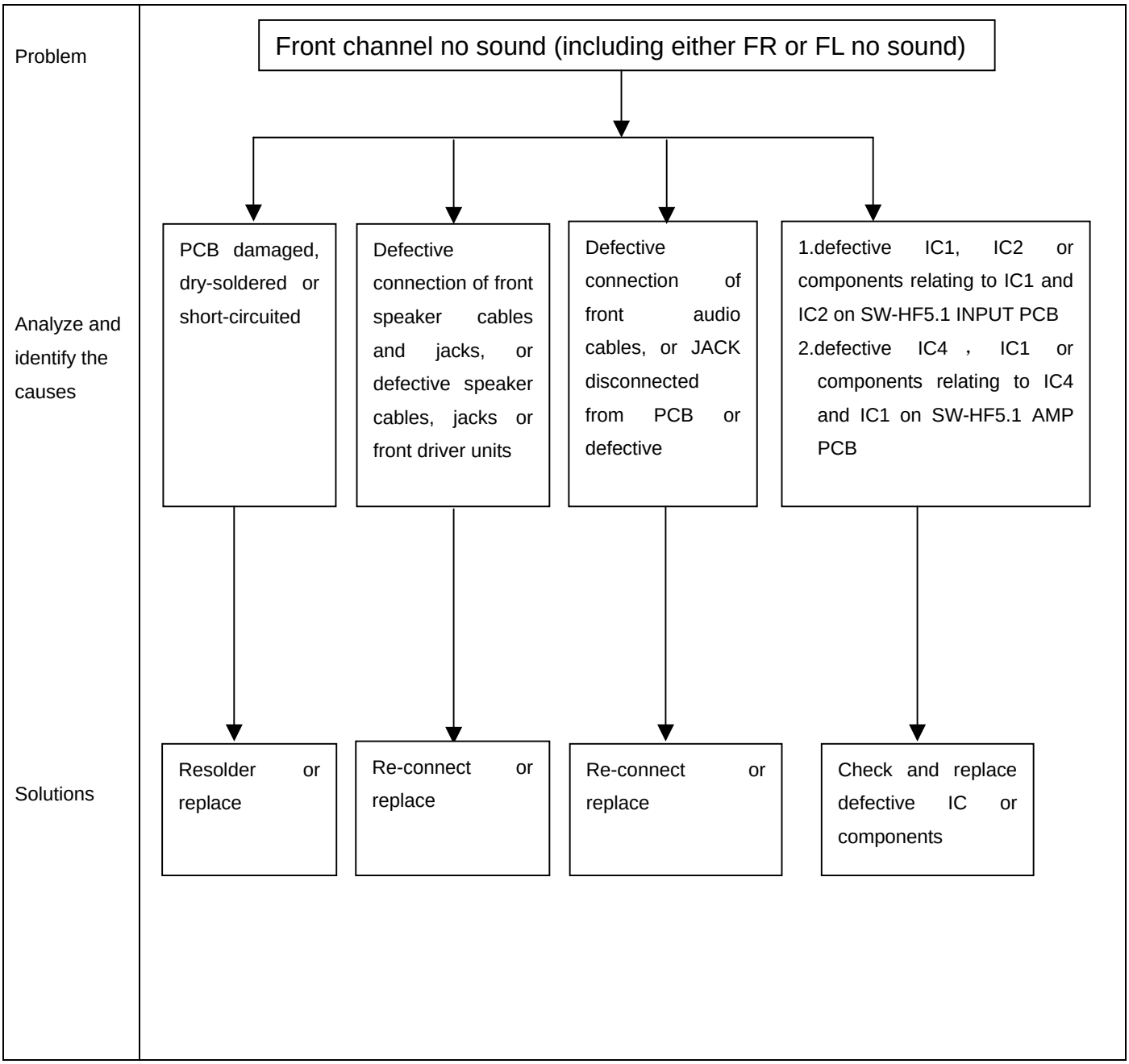
1.2.1 No power，LED （indicator）unlighted



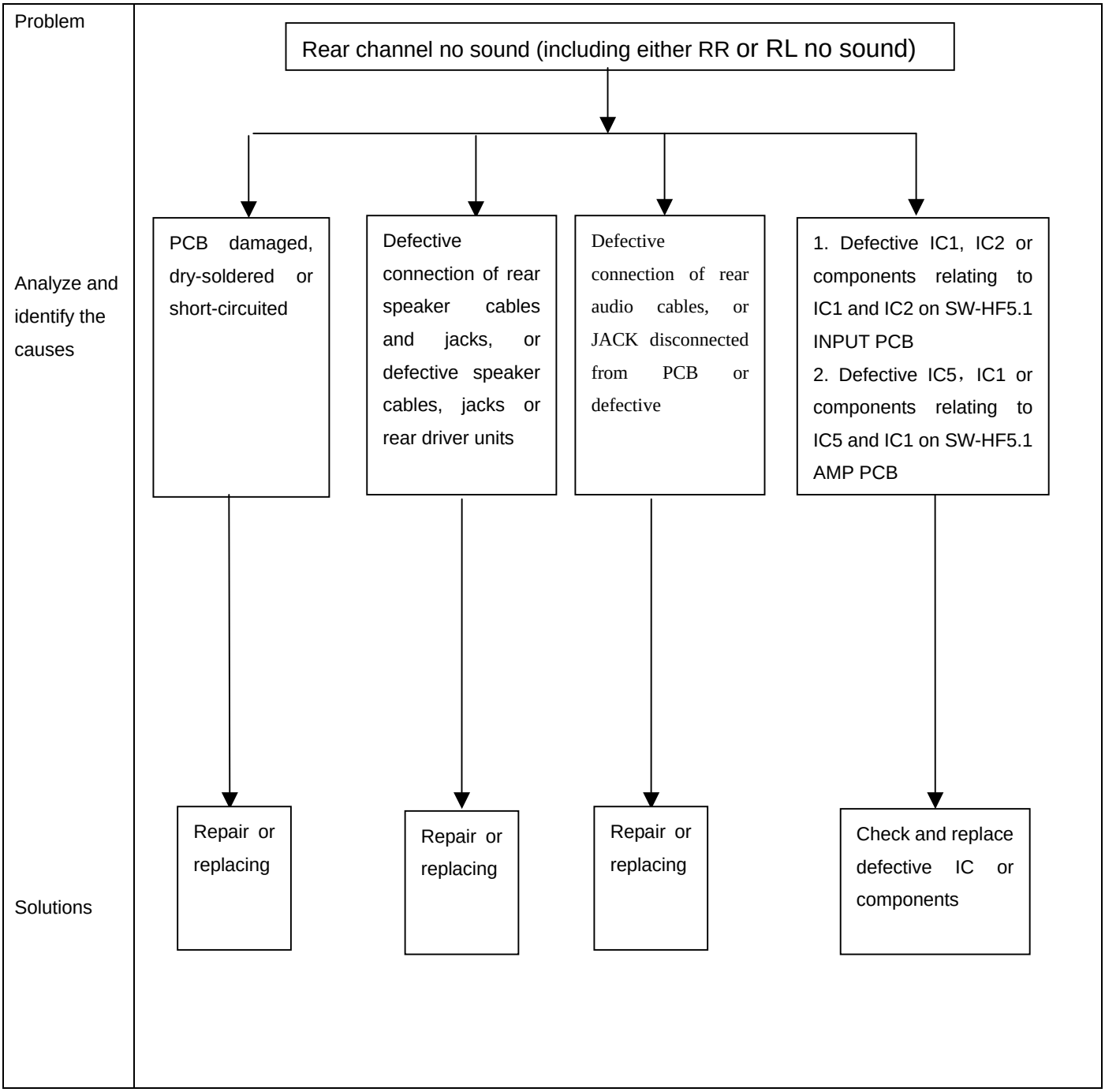
1.2.2 no sound


Problem
no sound
Analyze and identify the causes
PCB damaged, dry-soldered or short-circuited
Assembled line defectively connected
1. Defective IC2 on SW-HF5.1 CON PCB
2. Defective IC1, IC2 SW-HF5.1 INPUT PCB
3. Defective IC1, IC2, IC3, IC4, IC5, IC6, IC7, IC8, IC9, R28, R29, R52, EC18, EC19, EC20 on SW-HF5.1 AMP PCB
4. Defective IC1， IC2，R15，R16 on SW-HF5.1 SWAMP PCB
]
Solutions
Resolder or replace
Re-connect or replace
Check and replace defective IC or components.

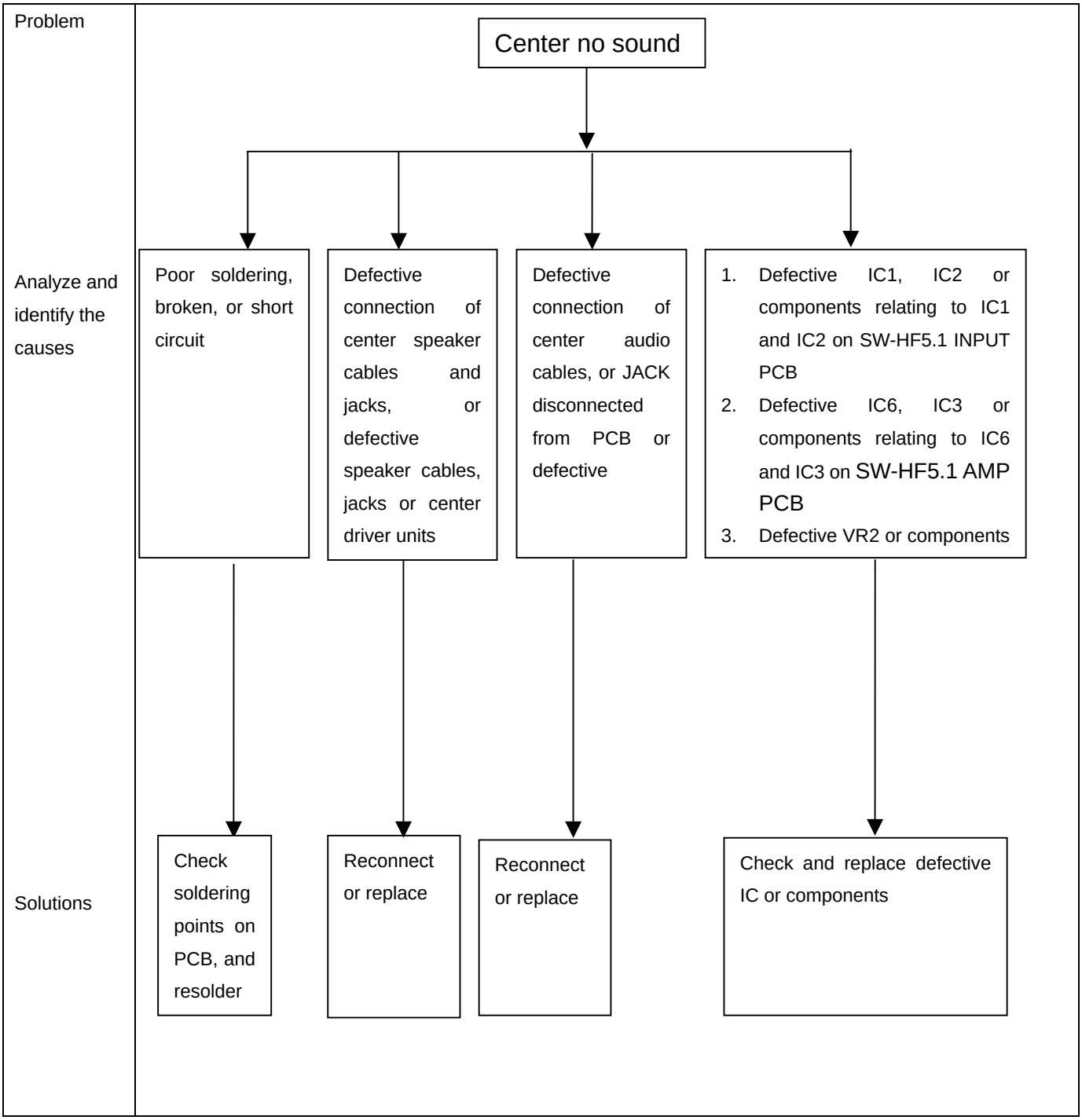
1.2.3 Front channel no sound (including either FR or FL no sound)



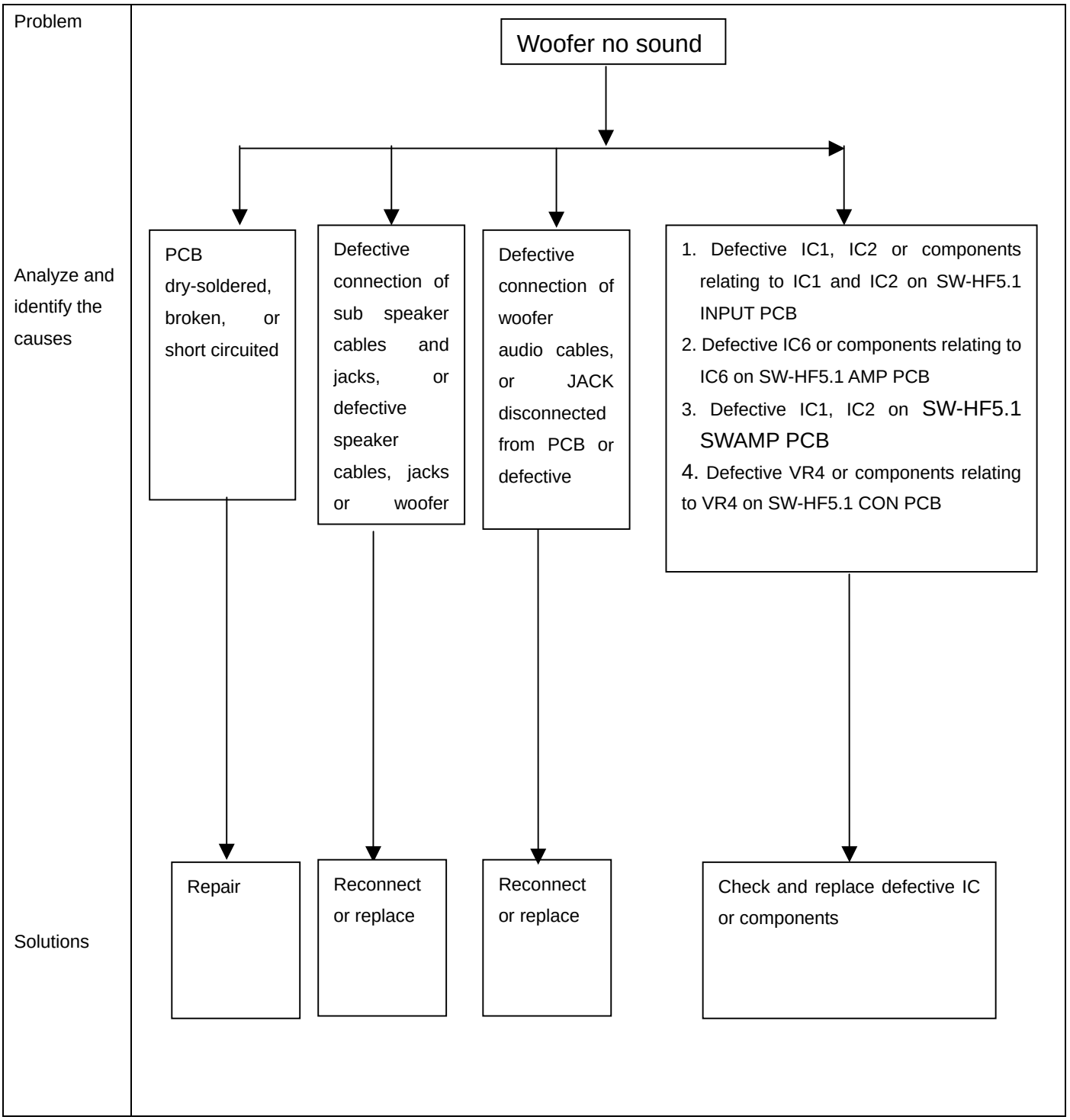
1.2.4 Rear channel no sound (including either RR or RL no sound)



1.2.5 Center no sound



1.2.6 Woofer no sound



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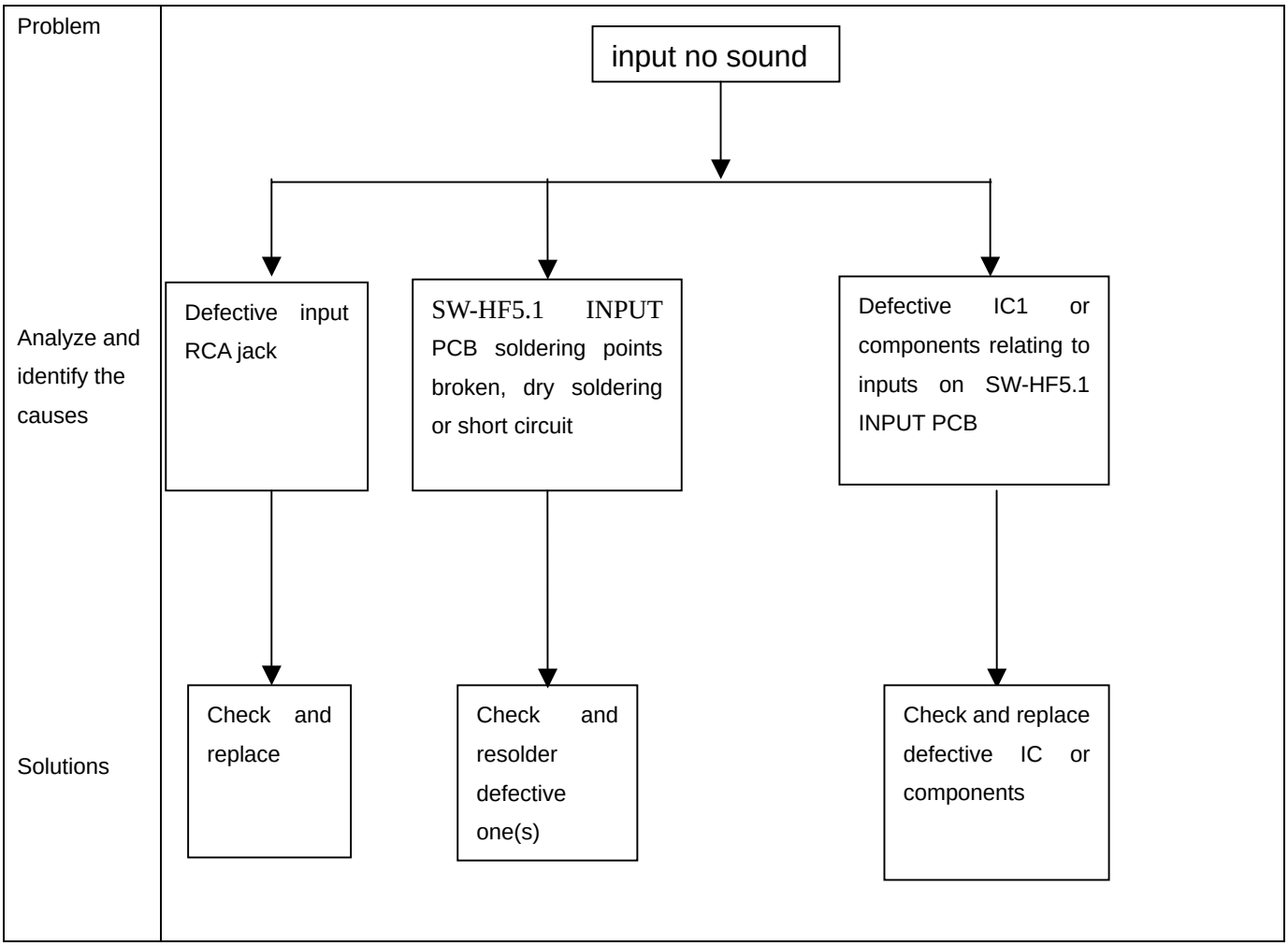
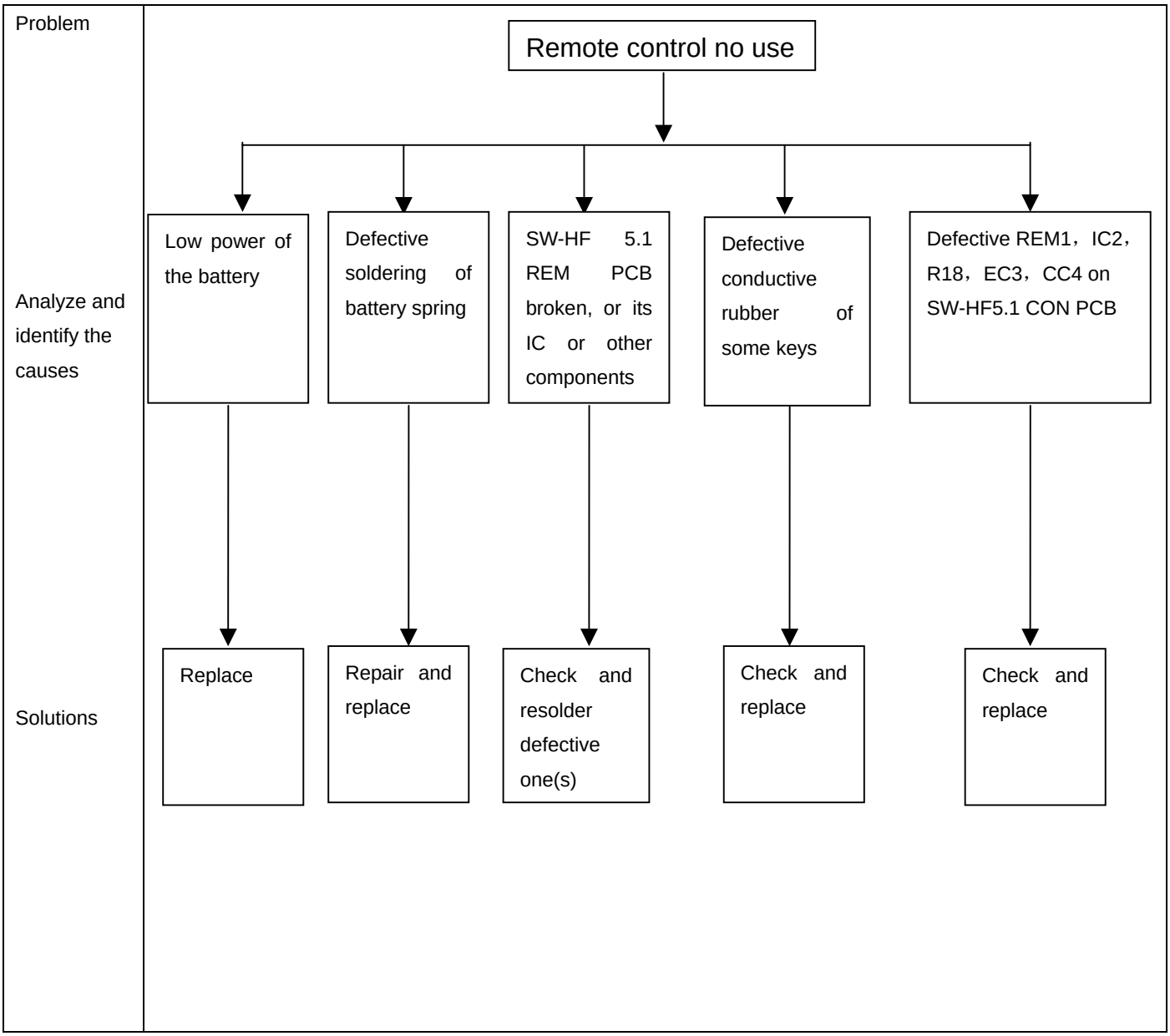
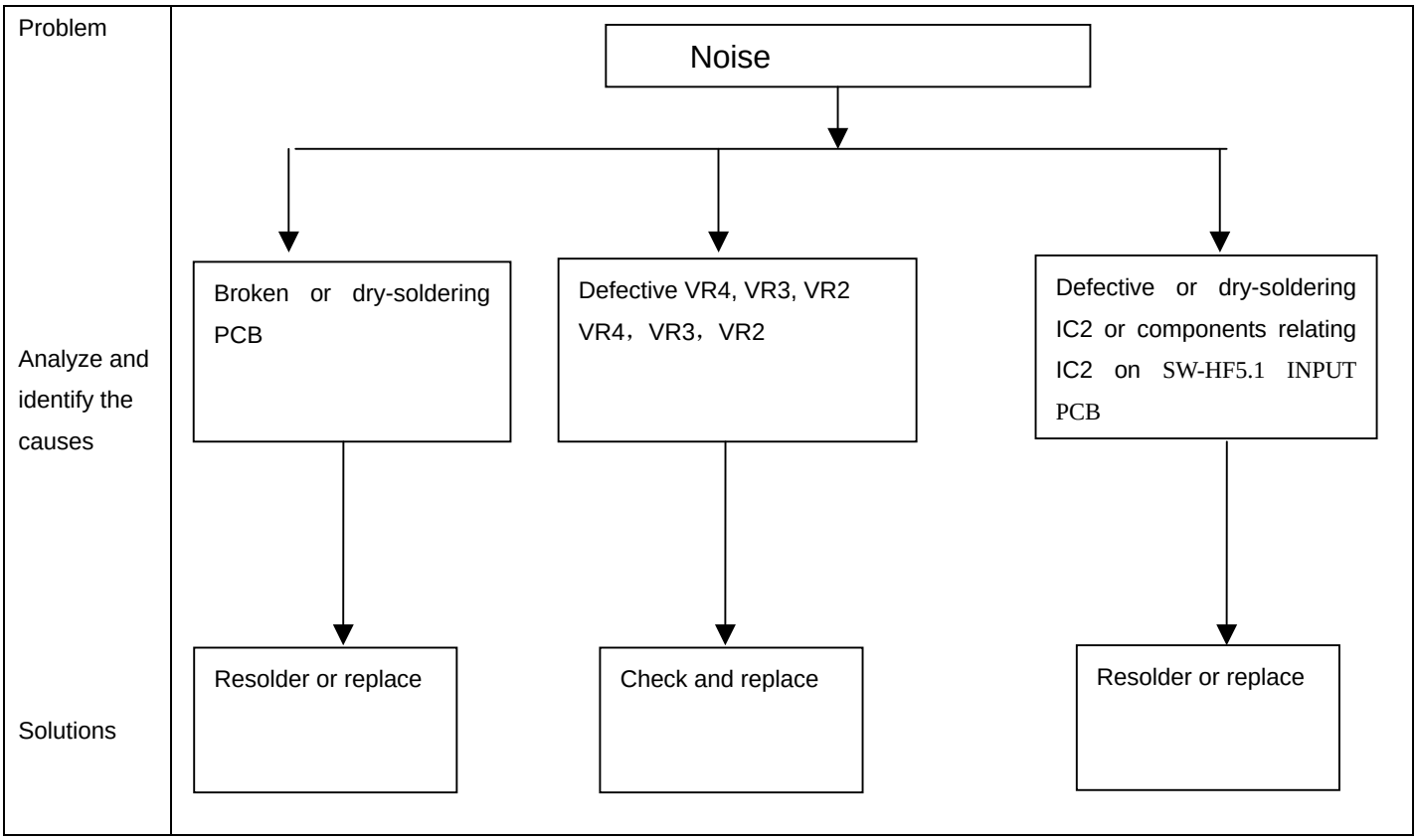
1.2.7 input no sound



1.2.8 Remote control no use



1.2.9. Noise


Problem
Noise
Analyze and identify the causes
Broken or dry-soldering PCB
Defective VR4, VR3, VR2
VR4，VR3，VR2
Defective or dry-soldering IC2 or components relating IC2 on SW-HF5.1 INPUT PCB
Solutions
Resolder or replace
Check and replace
Resolder or replace

1.2.10. LED indicators no light

Problem	LED indicators no light
Analyze and identify the causes	Defective，dry-soldering, or broken LED1，LED2，LED3，LED4，LED5，LED6 or the components relating to them
Solutions	Check and replace

Chapter 2. Specifications

Satellite

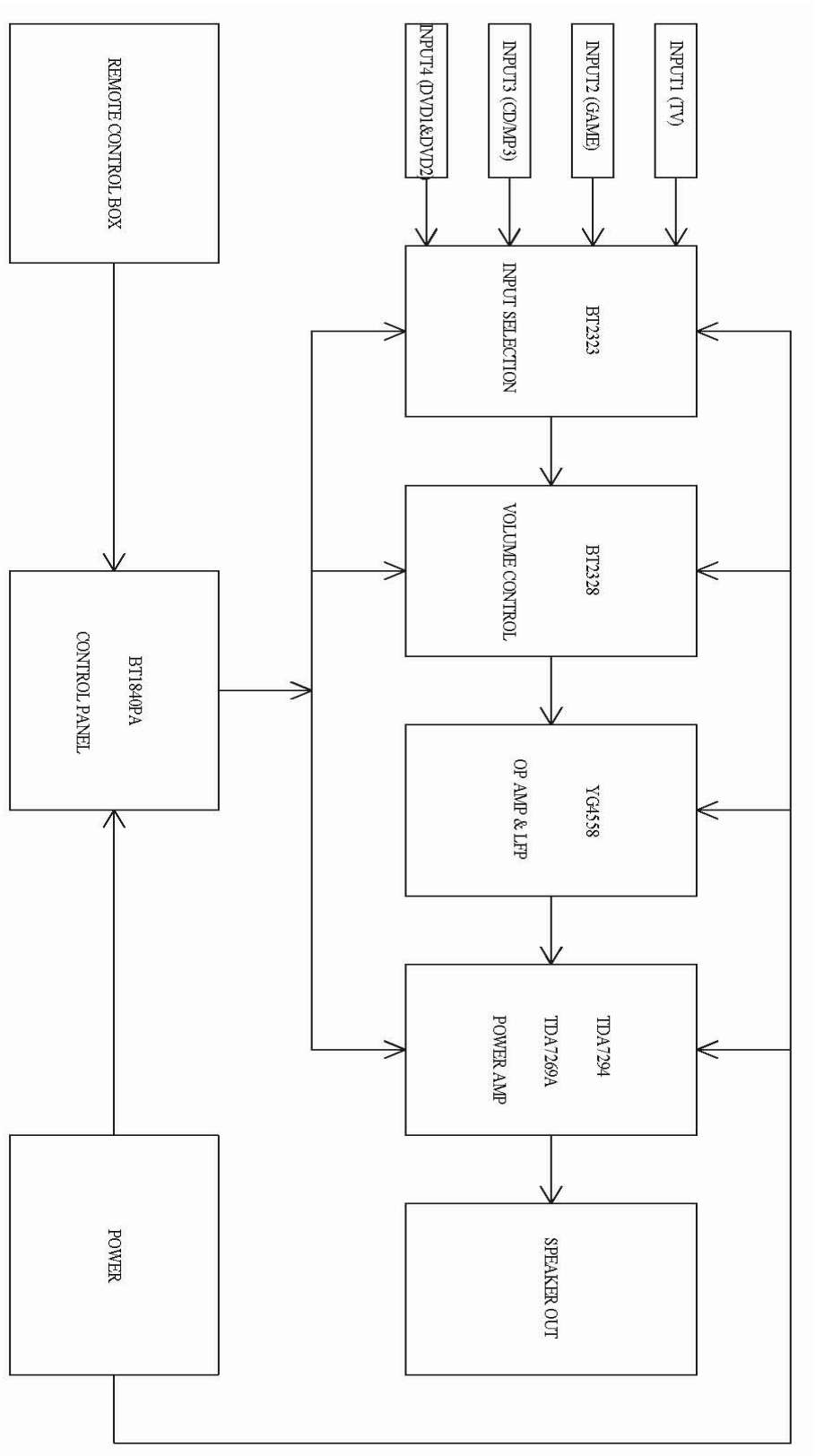
NO	DESCRIPTION		UNIT	NOMINAL					LIMIT
				CEN	FR	FL	SR	SL	
1	RATED OUTPUT POWER @THD 10%		W	18	18	18	18	18	±5%
2	SENSITIVITY（1KHz）@RATED O/P POEWR		m V	380	640	640	380	380	±10%
3	SENSITIVITY（1KHz）@1W O/P POWER		m V	80	140	140	80	80	±10%
4	MAX INPUT LEVEL@1% THD		m V	280	500	500	280	280	±10%
5	FREQUENCY RESPONSE（1KHz -3DB)	LOW	Hz	40	70	70	100	100	±20
		HI	KHz	120	140	140	110	110	±20
6	S/N@RATED O/P POWER		d B	85	85	85	85	85	⩾75
7	CHANNEL UNBALANCE @REF O/P POWER		d B	0.3	0.3	0.3	0.3	0.3	⩽0.5
8	CHANNEL SEPARATION(ONE CHANNEL IN;OTHER CHANNEL INPUT SHORTING)		d B	60	60	60	60	60	⩾55
9	HUM NOISE (VR MAX) (VOLUME MAX;INPUT SHORTING)		m V	1	1.5	1.5	1	1	⩽2
10	1HUM NOISE(VR MIN) (VOLUME MIN.INPUT SHORTING)		m V	0.1	0.1	0.1	0.1	0.1	⩽0.5

Chapter 2 Specifications

Woofer

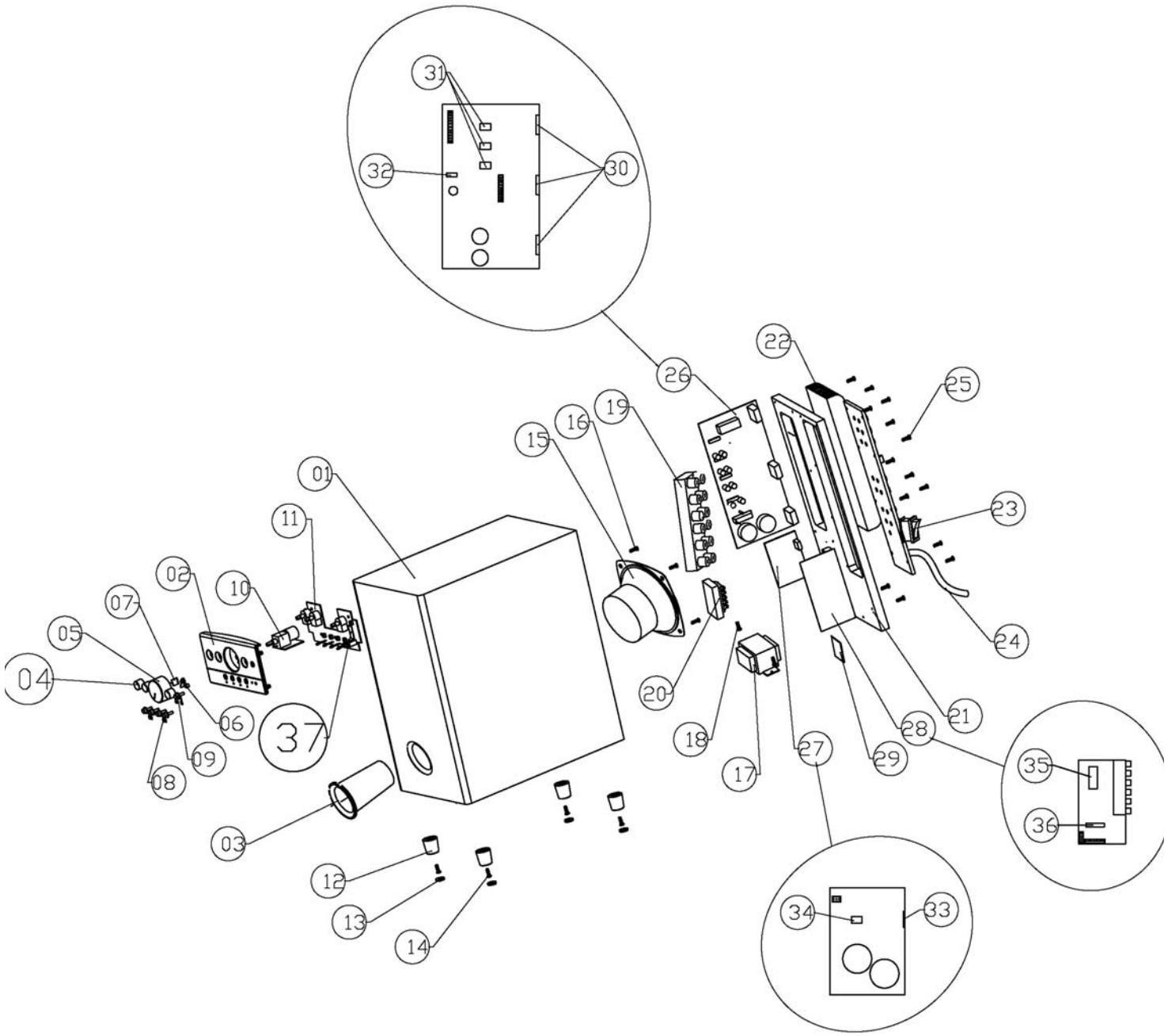
NO	DESCRIPTION		UNIT	NOMINAL	LIMIT
1	RATED OUTPUT POWER@100Hz(10%THD)		W	75	±5
2	SENSITIVITY(100Hz)@RATED O/P POWER		m V	100	±10
3	SENSITIVITY (100Hz)@1W O/P POWER		m V	10	±5
4	MAX INPUT LEVEL@1% THD		m V	90	±9
5	DISTORTION@100Hz REF.O/P POWER		%	0.15	≤0.5
6	FREQUENCY RESPONSE（100Hz -3DB)	LOW	Hz	15	±10
		HI	Hz	140	±20
7	S/N RATIO@100Hz RATED O/P POWER		d B	82	≥75
8	VR MIN NOISE		m V	0.1	≤0.5
9	VR MAX NOISE ＆HUM		m V	3	≤10

Chapter 3 Block diagram



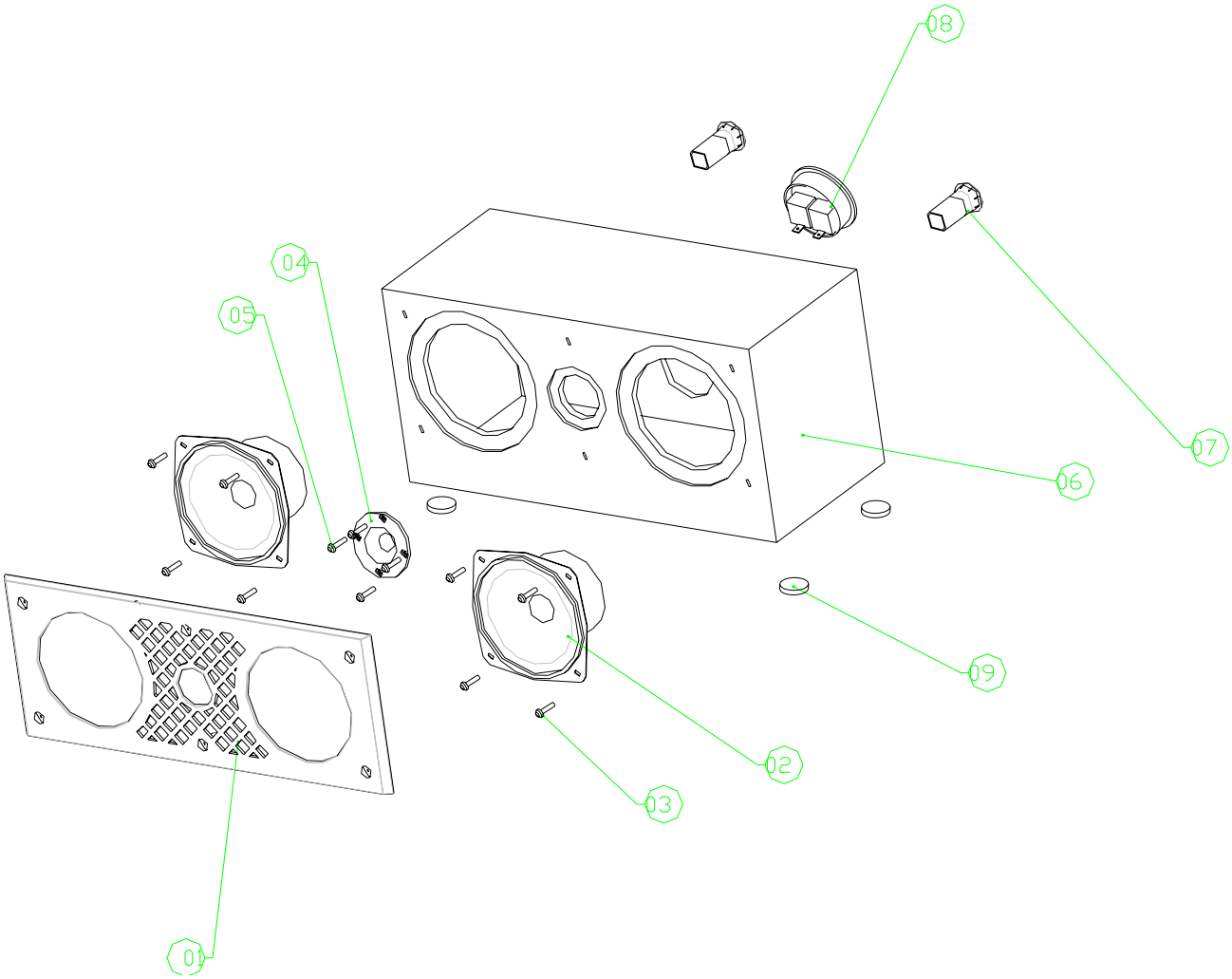
Chapter 4 Exploded view

Subwoofer



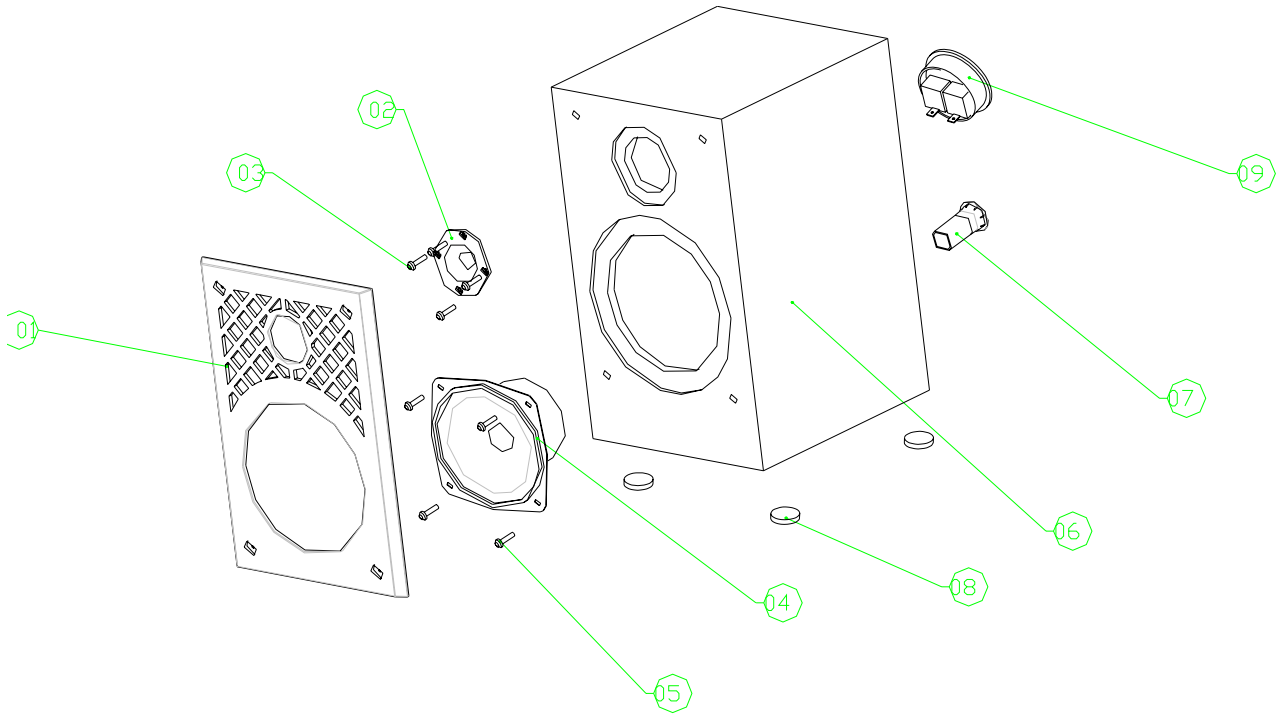
Chapter 4 Exploded view

Satellite (Center)

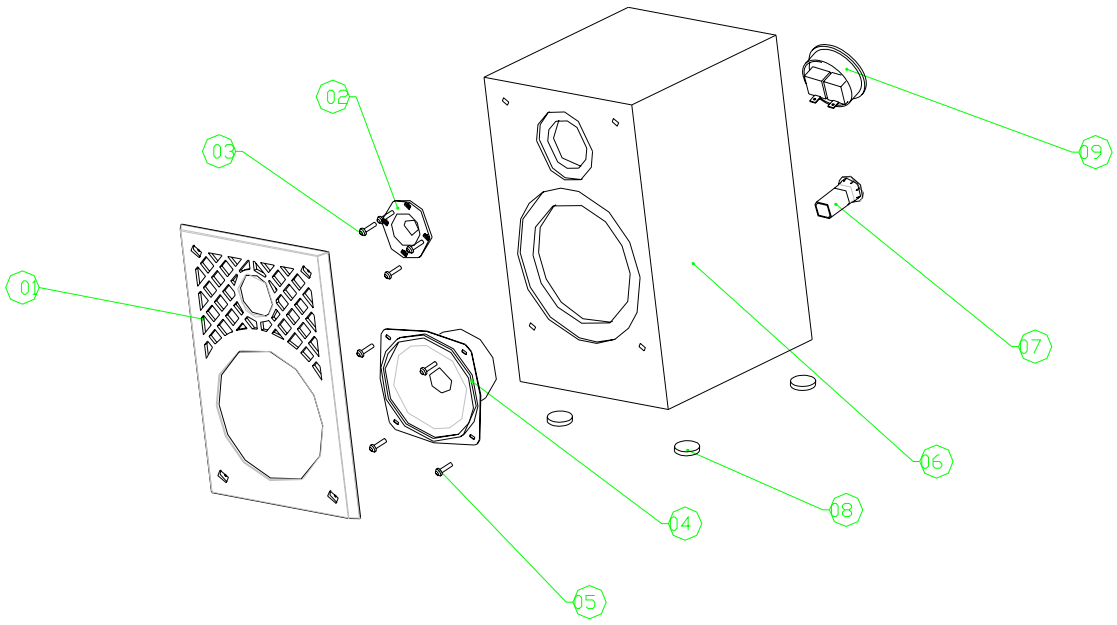


Chapter 4 Exploded view

Satellite (Front)



Satellite (Rear)



Chapter 5 Part list

Woofer

Ref. NO	Description	Part NO.
1	wood box (SUB), SW-HF5.1 5005, 12T+9T MDF	EP53500501
2	Front panel , SW-HF5.1 5005, black color	EP403F0037
3	Port tube, SW-HF5.1 5005 black color	EP41510049
4	smaller knobs, SW-HF5.1 5005, silver, HIPS	EP40754136
5	big Knob, SW-HF5.1 5005, silver , HIPS	EP40754135
6	LED PCB	EP17020003
7	LED cover , transparent, ABS	EP41410031
8	keystoke, SW-HF5.1 5005, silver, HIPS	EP40754133
9	standby keystroke, SW-HF5.1 5005, silver, HIPS	EP40754134
10	VR , M1610GOAH1FX-B10K-L20F	EP1B020058
11	SW-HF5.1 CON PCB, 162*169*1.6MM/2	EP15500501
12	foot, black, (Φ19*16mm), HIPS	EP41110034
13	Rubber foot mat, Φ11*3MM	EP73060031
14	screw, 3.5*16PA	EP24100052
15	woofer driver unit, 6.5"8 ohm 75W	EP16070032
16	screw, 3.5*18BA	EP24010023
17	transformer, 27V*2-2.8A 13.5V*2-1.9A	EP13F00286
18	screw, 4*22PWM	EP24140016
19	RCA jack, AV6-8.47-7-FBEP	EP1A030067
20	red/black terminal	EP1A090063
21	back board of woofer box	EP53500501
22	AL heat sink, 284*19.5*30MM	EP21100067
23	power switch	EP19030008
24	AC cable, 1.6m	EP32F00039
25	screw, 3.5*25P	EP24100084
26	SW-HF5.1 AMP PCB, 94V0	EP15500505
27	SW-HF5.1 INPPUT PCB, 94V0	EP15500502
28	SW-HF5.1 SWAMP PCB, 94V0	EP15500504
29	EVA, 86*53*2.5MM	EP73010027
30	TDA7269A IC	EP1C010176
31	BT4558 IC	EP1C020006
32	L7808 IC	EP1C010150
33	TDA7294 IC	EP1C010175
34	BT4558 IC	EP1C020006
35	T2323 IC	EP1C010004
36	BT2328 IC	EP1C010116
37	BT1840PA IC	EP1C020018

Chapter 5 Part list

Center

Ref. NO	Description	Part NO.
1	Cloth, block	EP64000149
2	center driver unit A-115-3, 4"4 Ω15W	EP16050041
3	Screw, 3.5*18TA	EP24150024
4	tweeter A-52-2A , 2"8Ω 10W	EP16020043
5	Screw, 3.5*14PA	EP24100082
6	Center wood box, K86	EP53K86001
7	paper tube, ϕ22*ϕ25*30mm	EP41590040
8	Red/black terminal, H-WP2-8	EP1A090065
9	rubber foot mat, 14mm*2mm	EP73060003

Rear

Ref. NO	Description	Part NO.
1	Cloth, black	EP64000148
2	tweeter, A-52-2, 2"8Ω 10W	EP16020041
3	Screw, 3.5*14PA,	EP24100082
4	rear driver unit, A-78-11, 3"8Ω15W	EP16030045
5	Screw, 3.5*18TA	EP24150024
6	Rear wood box, K85-1, W120*H210*D130MM	EP53K85002
7	paper tube, K85-1, ϕ22*ϕ25*60mm	EP41590039
8	rubber foot mat, 14mm*2mm	EP73060003
9	Red/black terminal, H-WP2-8	EP1A090065

Front

Ref. NO	Description	Part NO.
1	Cloth, K85, black	EP16020041
2	tweeter, A-52-2, 2"8Ω 10W	EP16020041
3	Screw, 3.5*14PA,	EP24100082
4	front driver unit, A-115-2, 4"8Ω15W	EP16050040
5	Screw, 3.5*18TA	EP24150024
6	Front wood box, K85, W140*H230*D155MM	EP53K85001
7	Paper tube, K85, W140*H230*D155MM	EP41590038
8	rubber foot mat, 14mm*2mm	EP73060003
9	Red/black terminal, H-WP2-8	EP1A090065

Chapter 6. Important Notes

6.1 Packing requirement for sending the PCB assembly by post

PCB assembly is a kind of sophisticated electronic circuit board. Well packing will be required when sending them by post.

*Some sophisticated IC components are mounted on the PCB assembly; hence it is necessary to pack each PCB assembly with a separate static protecting bag, in order to avoid static electricity.

*Reliable external packing is also very important when sending the PCB assembly by post, in that it would avoid unnecessarily lost or damage.

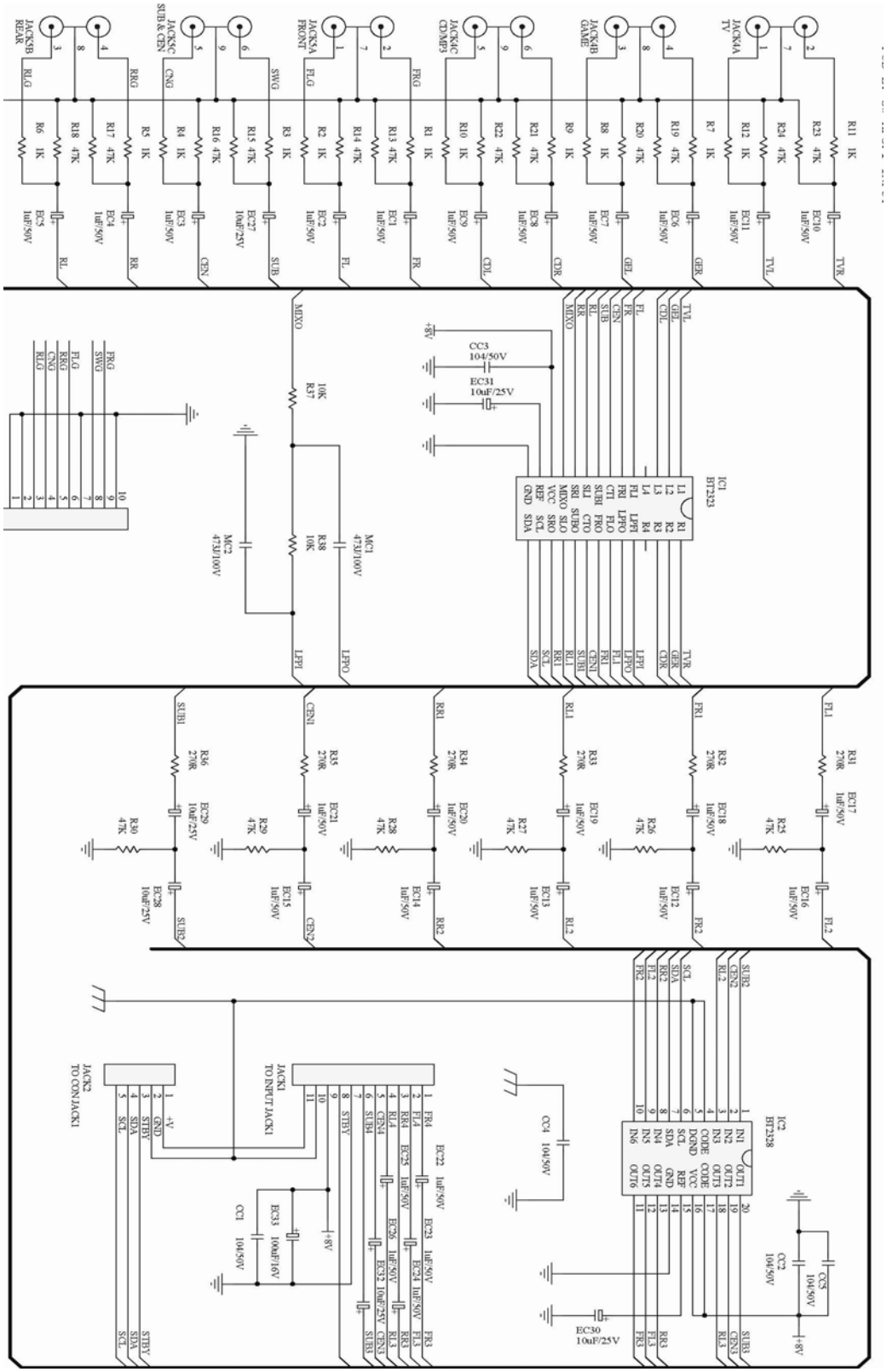
6.2 Short of spare parts while repairing a speaker system

If you are short of spare parts when you have some speaker systems waiting to be repaired, it would be recommended to take the necessary parts from one

Speaker system, so that you may have the as many speaker systems

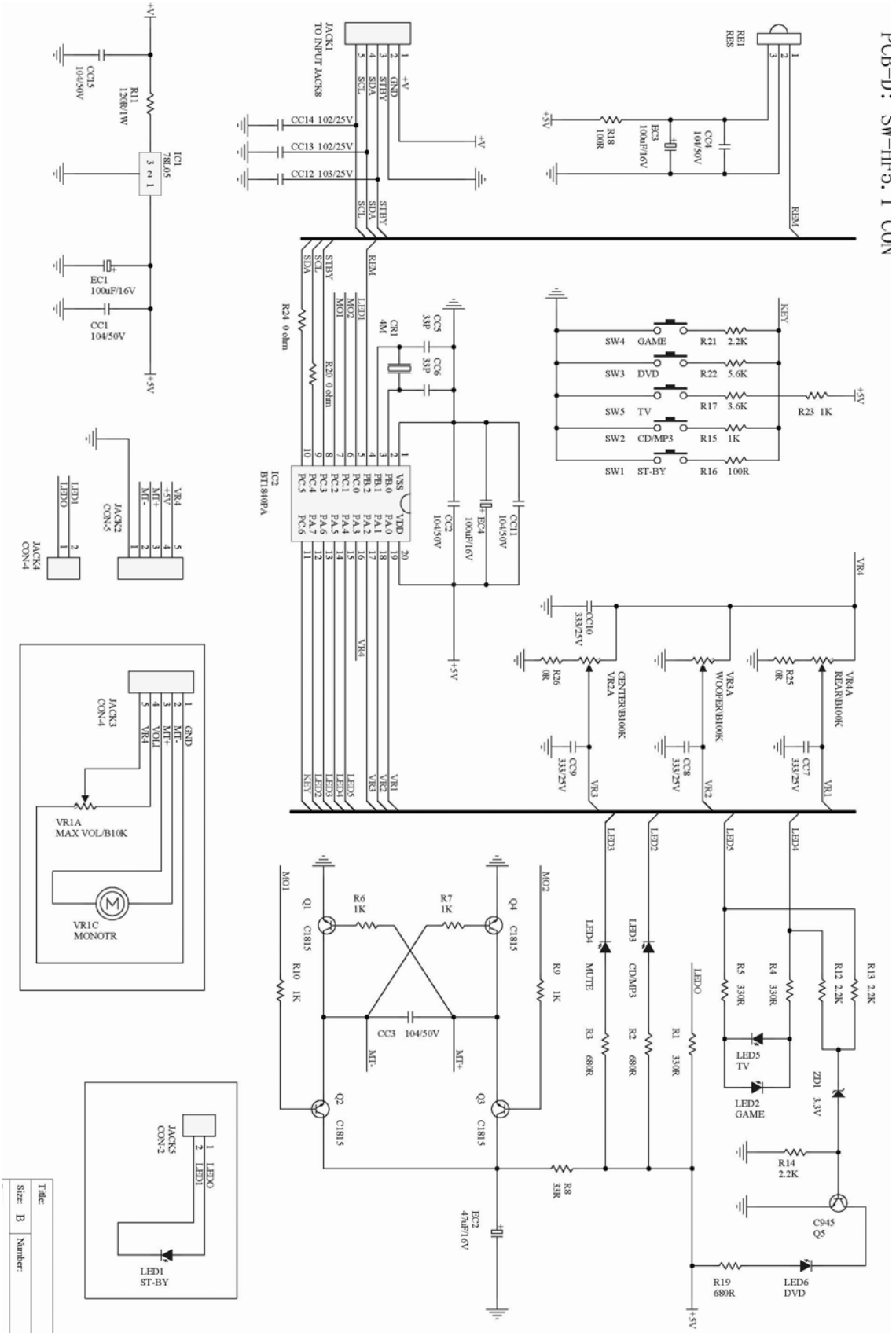
Chapter 7. Schematic diagram

SW-HF 5.1 INPUT PCB



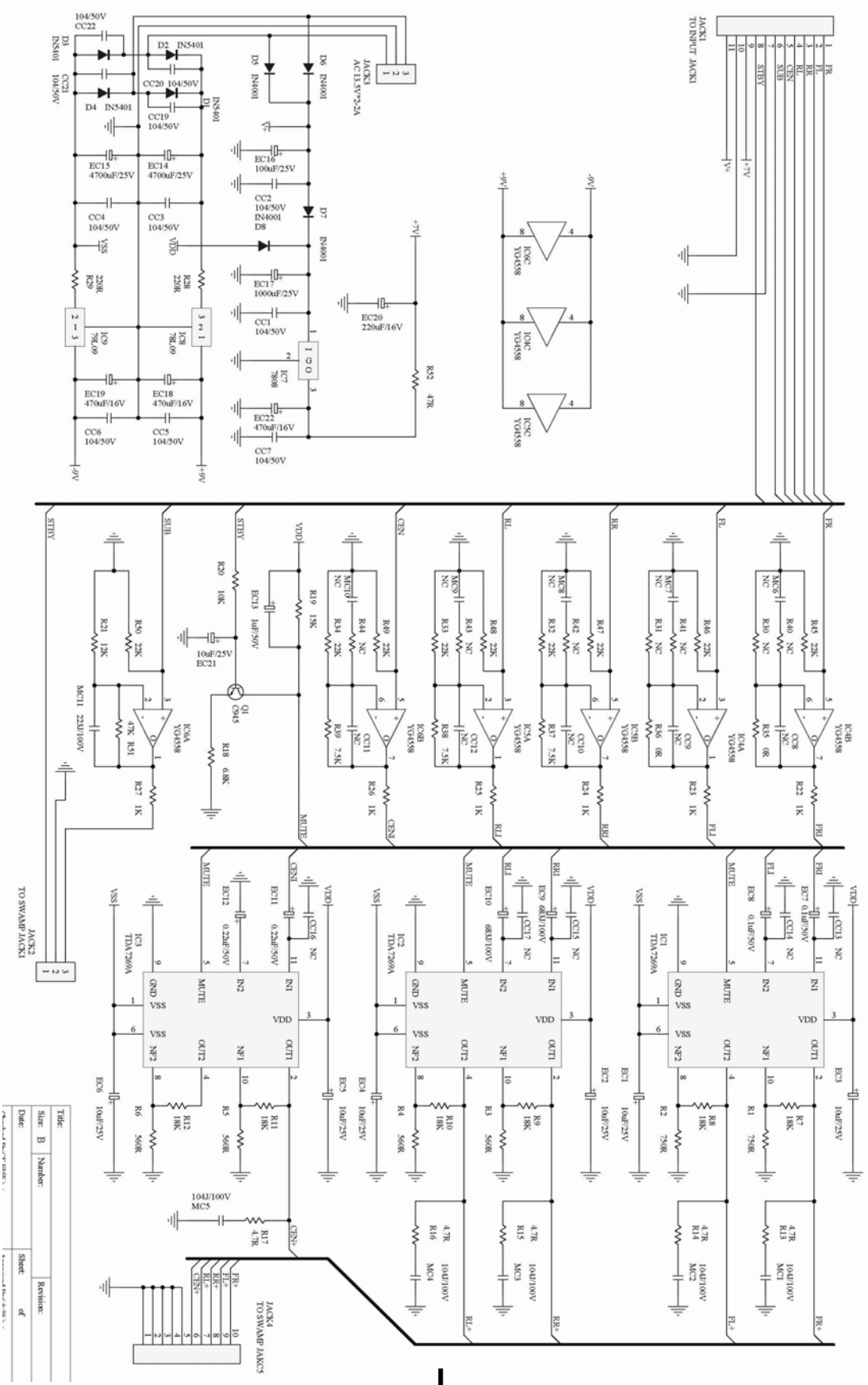
Chapter 7. Schematic diagram

SW-HF 5.1 CON PCB



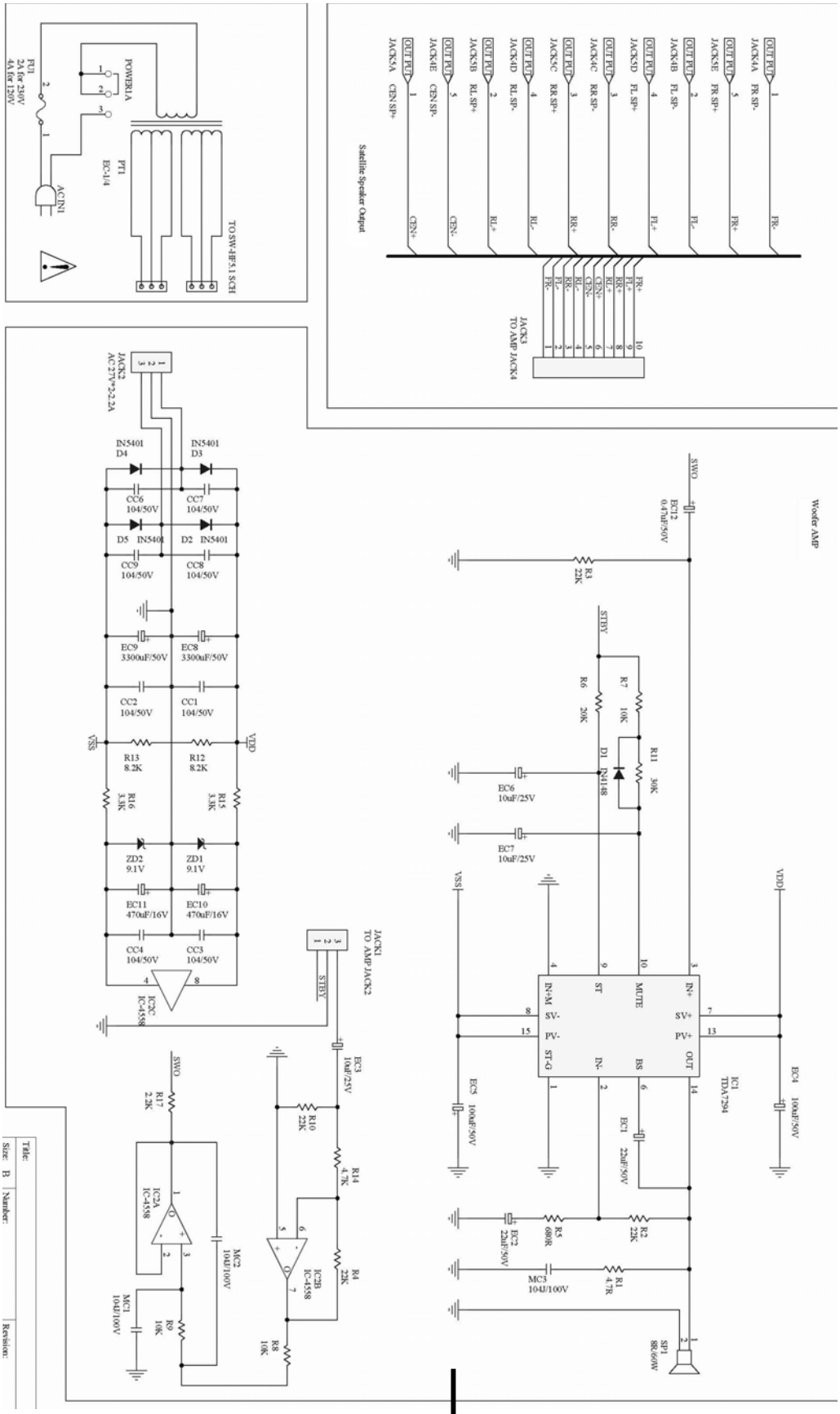
Chapter 7. Schematic diagram

SW-HF 5.1 AMP PCB



Chapter 7. Schematic diagram

SW-HF 5.1 SWAMP PCB & SW-HF 5.1 SATSP PCB



Chapter 7. Schematic diagram

SW-HF 5.1 REM PCB (remote control)