Service Manual

ecologic 2

FM RDS /
DAB DIGITAL PORTABLE RADIO

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Specification

FM. ELECTRICAL PERFORMANCE

Model: ecologic 2(UK)	Brand: ROBERTS	Temp: 25℃	R.H.: 75 %	Date: 2008/07/15	Ver.：A	Page：1/2

Test Item	Condition			Value		Test no.			Unit
	Input	Output	freq	Nom.	Lim	1.	2.	3.	
Tuning Range		S/N=6dB	Min	87.5					MHz
			Max	108					
Max. Sensitivity		S/N=6dB	90MHz	3	9				EMF dBu
			98MHz	3	9				
			106MHz	3	9				
Usable Sensitivity		S/N=30dB	90MHz	12	18				EMF dBu
			98MHz	12	18				
			106MHz	12	18				
Min. output	60 dBu		98MHz	1.0	3.0				mV rms
Auto. Scan. Stop. Sens. (STEREO 45KHz/Dev Pilot 10%)		R.O.		28	34				EMF dBu
Spurious Rejection									EMF dBu
S/N Ratio	60 dBu			52	46				dB
Stereo separation 1KHz 75KHz/Dev.		Ear OUT 3mW/16Ω		38	32				dB
Current Consumption Back Light OFF		R.O.		90	130				mA
Am. Suppression (1mV)				52	46				dB
Audio fidelity 1KHz=0dB, VR=R.O (W/pre emphasis 50uS)		150Hz		+7	±2				dB
		10KHz		+4	±2				dB
Output Power (75KHz dev.) 400Hz,10% THD		SP OUT 8Ω		1	0.8				W
Output Power (75KHz dev.) 1KHz, Volume=MAX		Ear OUT 16Ω		5+5	3+3				mW
T. H. D. (75KHz dev.)		R.O.		1	3				%
Over load capacity		10%T.H.D		120	106				EMF dBu
Lowest Battery Voltage	60 dBu			5.4	6.3				V
Charge current DC ADAPTOR 12V IN	Power off, charging			380	±80				mA

Supply Voltage: DC 9V	R.O.: 50mW	Load: 8 Ohm	Modulation: 400 Hz Mod. / 22.5KHz Deviation W/ 20KHz LPF ON

Remark：	Approved by	Released/Tested by
	蔡宇曙 2008/7/15	陳奇強 2008/7/15 葉克隆 2008/7/15

Specification

DAB(BAND Ⅲ) ELECTRICAL PERFORMANCE

Model: ecologic 2(UK)	Brand: ROBERTS	Temp: 25℃	R.H.: 75 %	Date: 2008/07/15	Ver. : A	Page：2/2

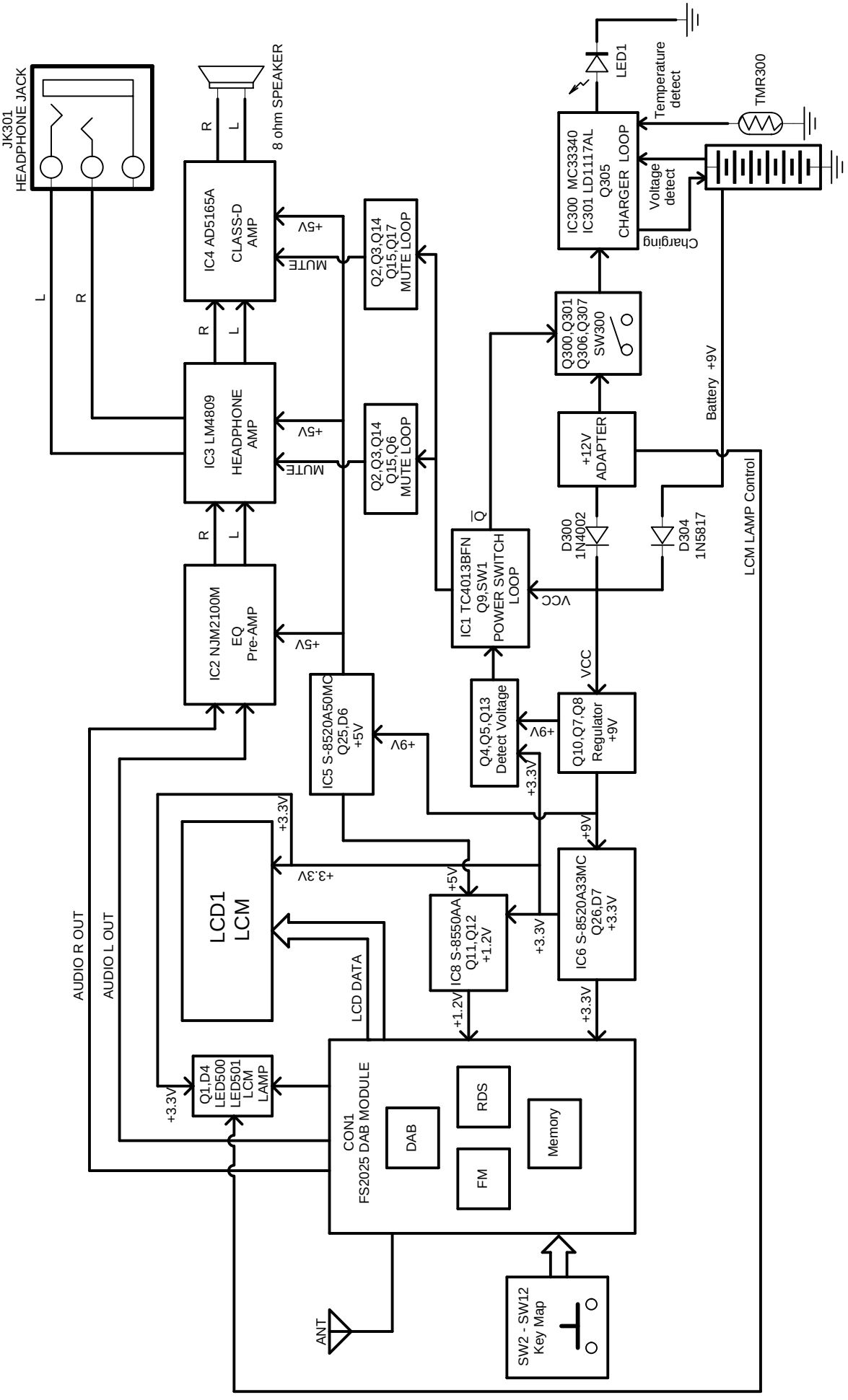
Test Item	Condition		CH	Normal	Limit	Test no.			Unit
						1.	2.	3.	
RF Freq. Range		Min	5A						CH
		Max	13F						CH
Far-off Selectivity	Fc : -70 dBm (Wanted channel) Fi : ≧ -25 dBm FM 75KHz/dev. Fc ± 5MHz (Unwanted channel) (Measurement to EN50248)		10A	55	45				dB
Sensitivity	Without pop noise		5A	-95	-92				dBm
			10A	-95	-92				dBm
			12B	-96	-93				dBm
			13F	-96	-93				dBm
Acquisition Selectivity	(Measurement to EN50248)		5A	-101	-98				dBm
			10A	-101	-98				dBm
			12B	-101	-98				dBm
			13F	-101	-98				dBm
S/N Ratio W/ 20KHz LPF ON	Without pop noise		10A	56	50				dB
Audio fidelity 1KHz=0dB, VR=R.O W/ 20KHz LPF ON	Change service AF=125Hz		10A	+10	±2				dB
	Change service AF=8KHz		10A	+1.5	±2				dB
Max. input Signal	Without pop noise		10A	0	-10				dBm
Current Consumption Back Light OFF	Without pop noise		12B	80	120				mA

Supply Voltage: DC 9V	R.O. : 50mW	Load: 8 Ohm	Modulation :1kHz

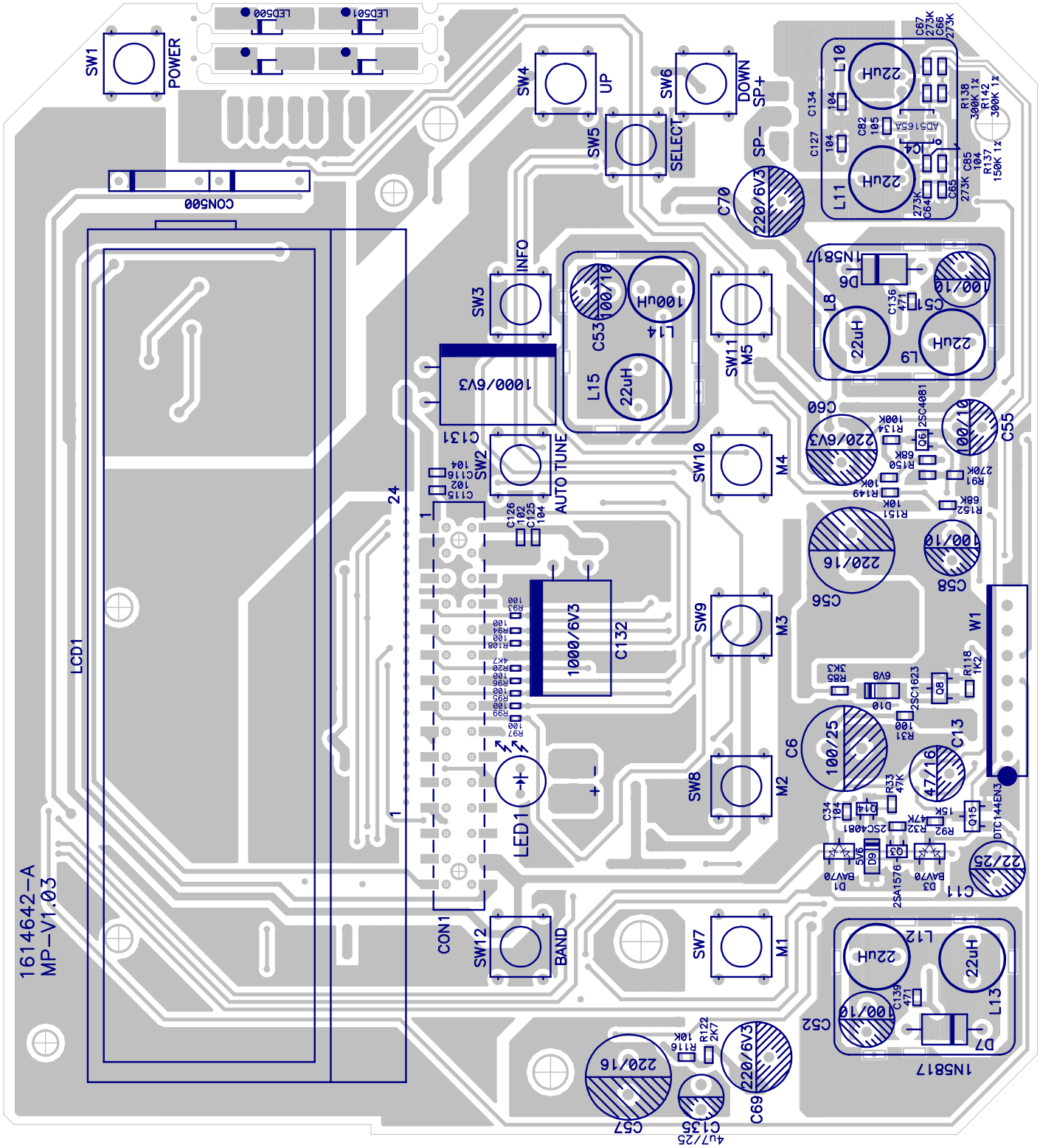
Channel	Freq.(MHz)	Channel	Freq.(MHz)	Channel	Freq.(MHz)
5A	174.928	10A	209.936	12B	225.648
13F	239.200	5B	176.640	13E	237.488

Remark：	Approved by	Released/Tested by
	蔡宇曙 2008/7/15	陳奇強 2008/7/15 葉克隆 2008/7/15

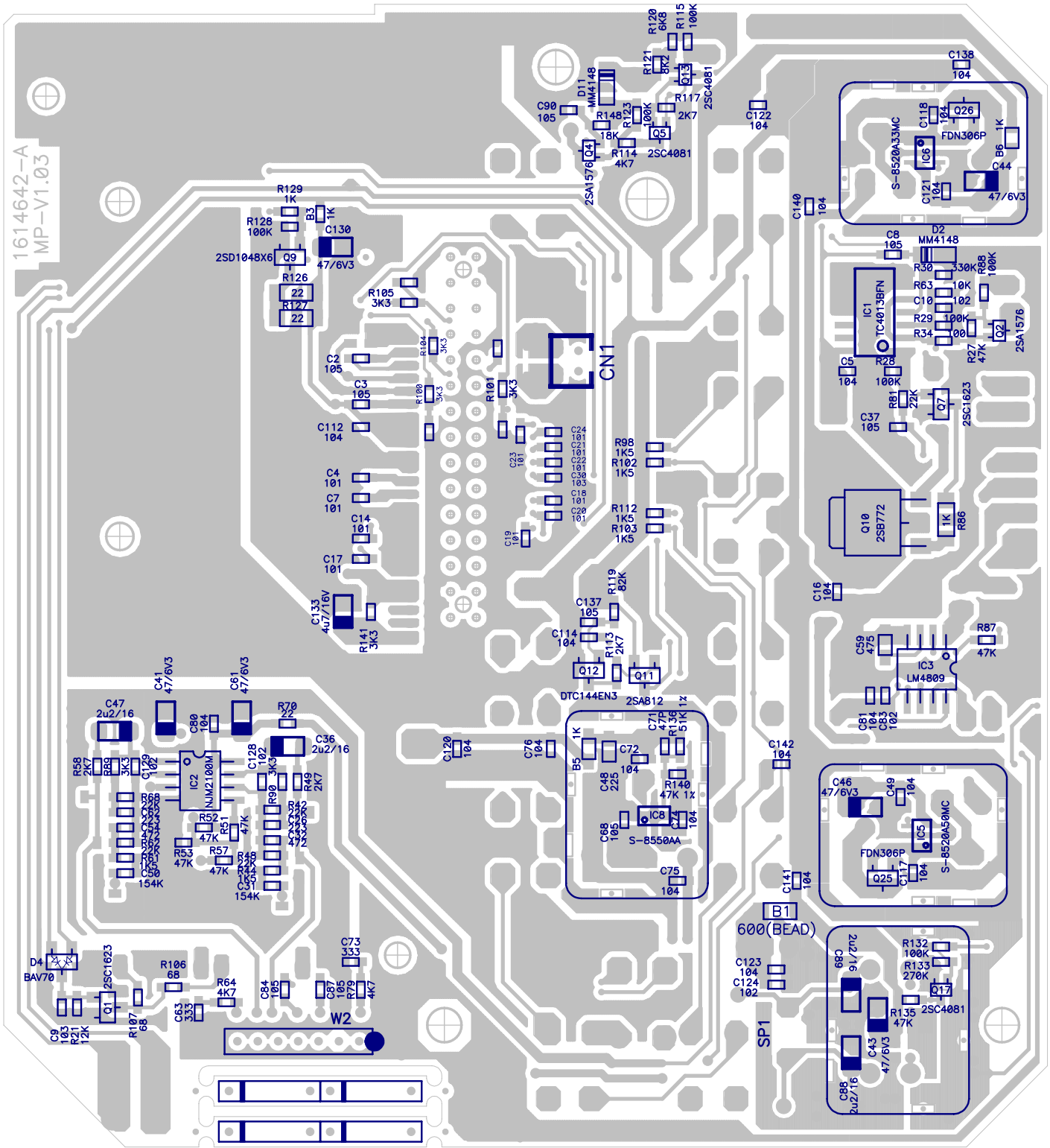
BLOCK DIAGRAM



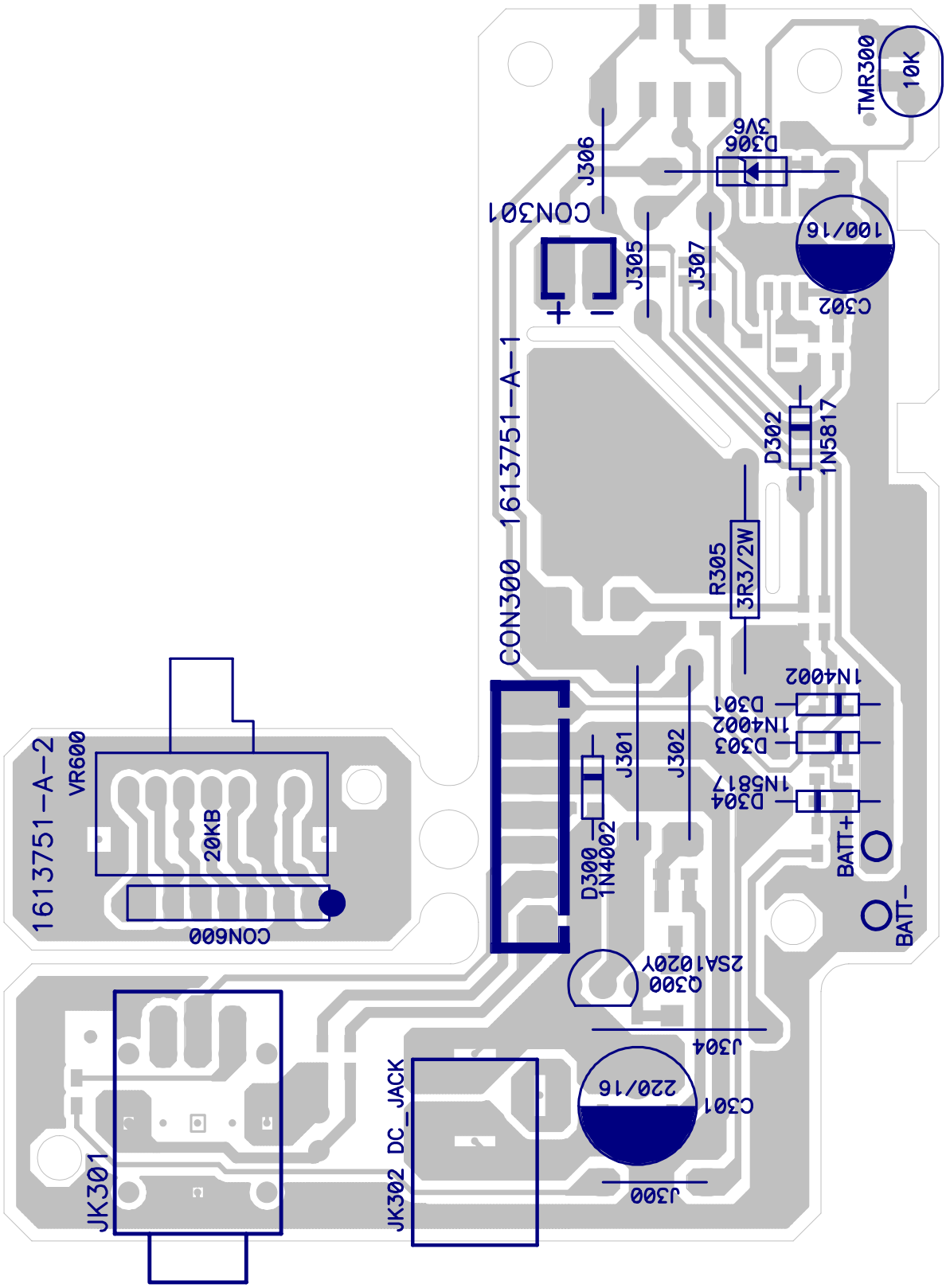
MAIN PCB TOP VIEW



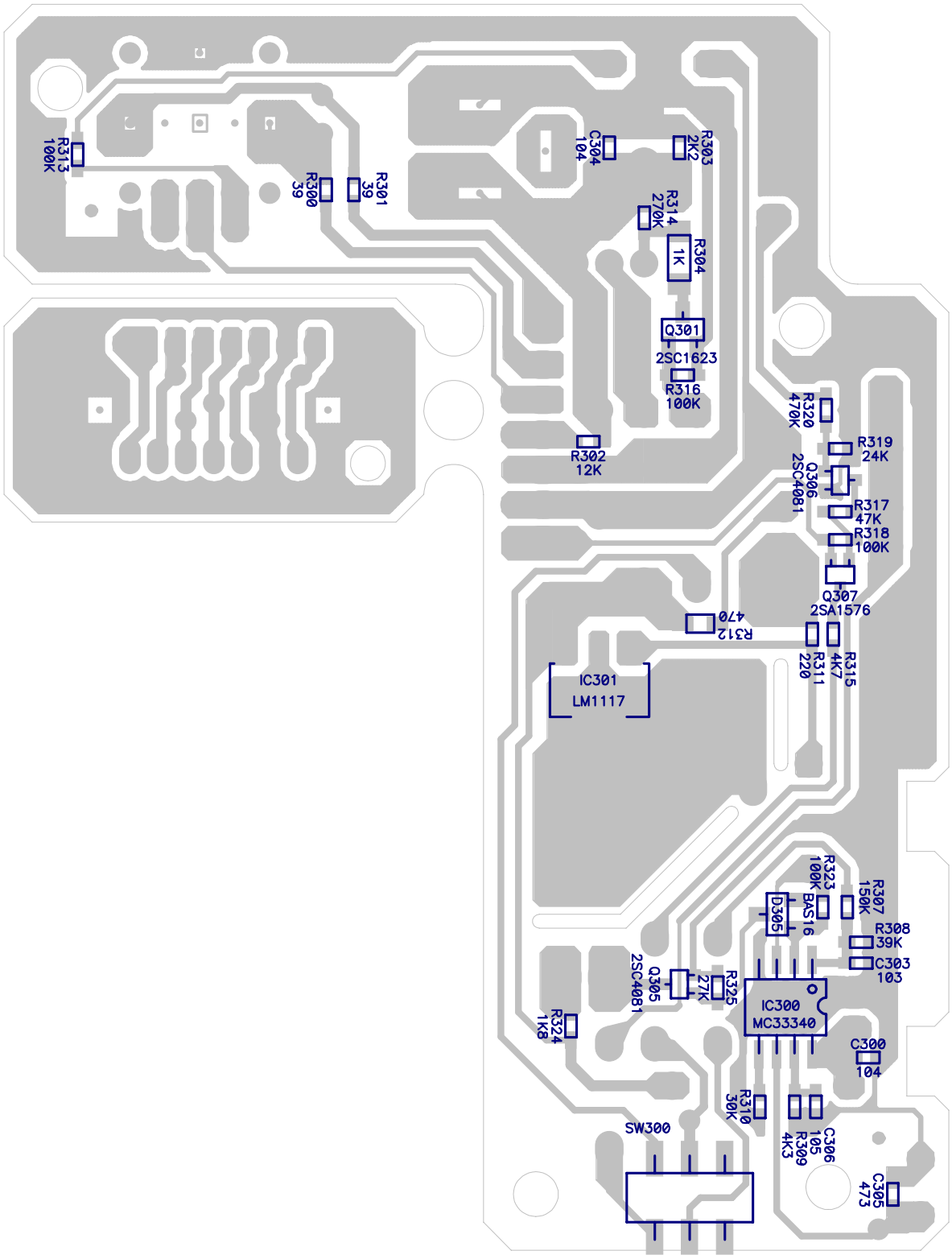
MAIN PCB BOTTOM VIEW



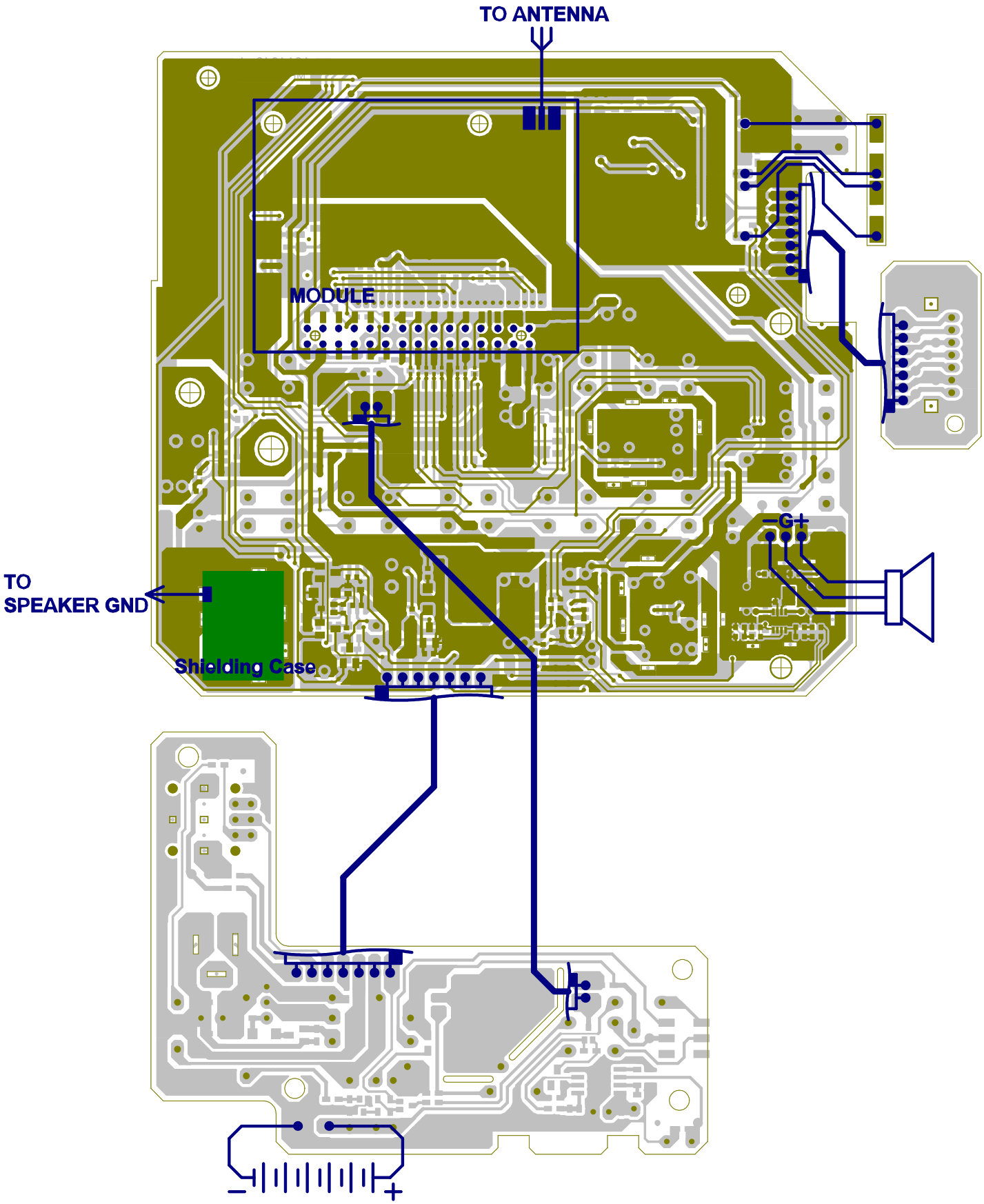
POWER PCB TOP VIEW



POWER PCB BOTTOM VIEW

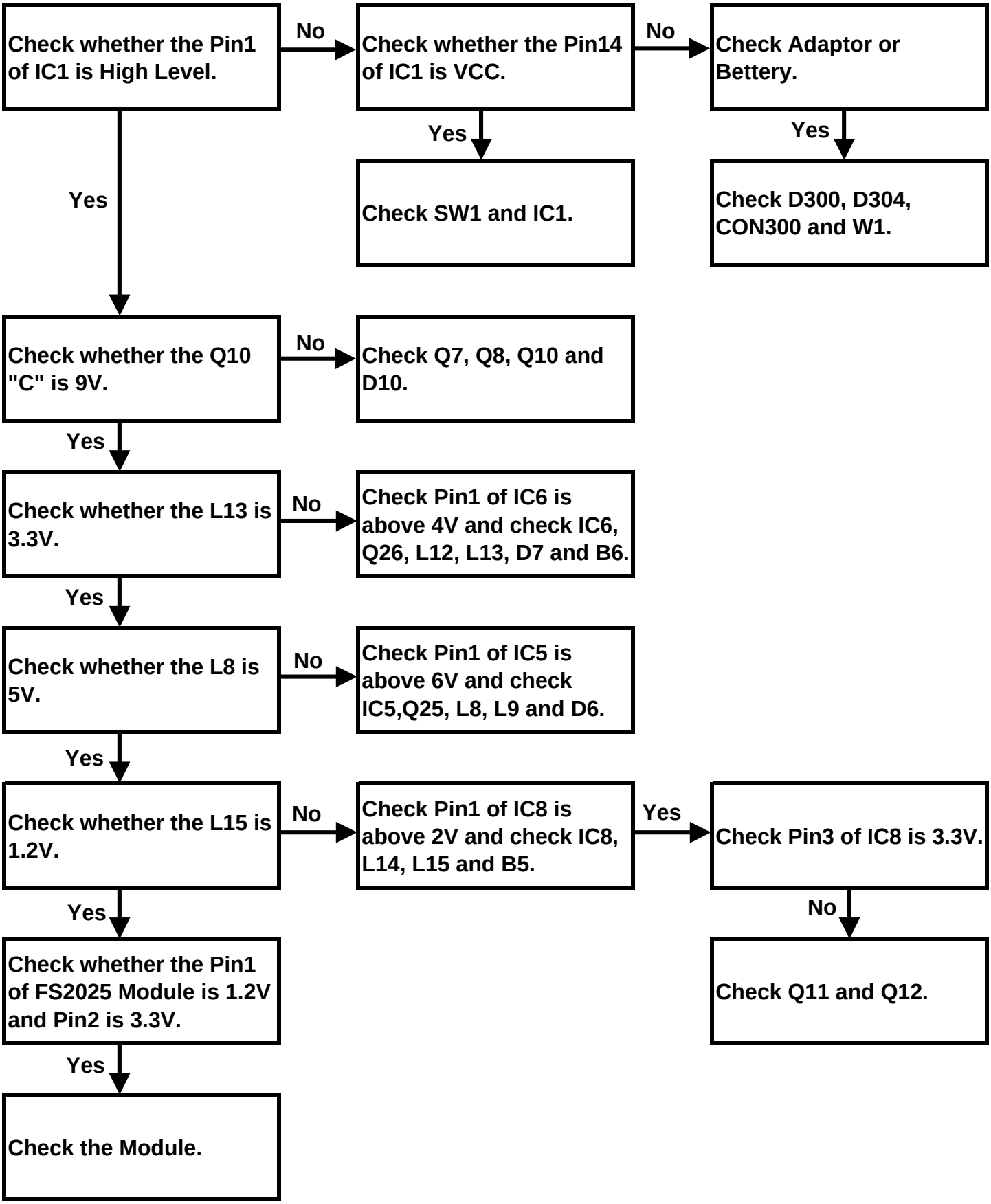


WIRING DIAGRAM

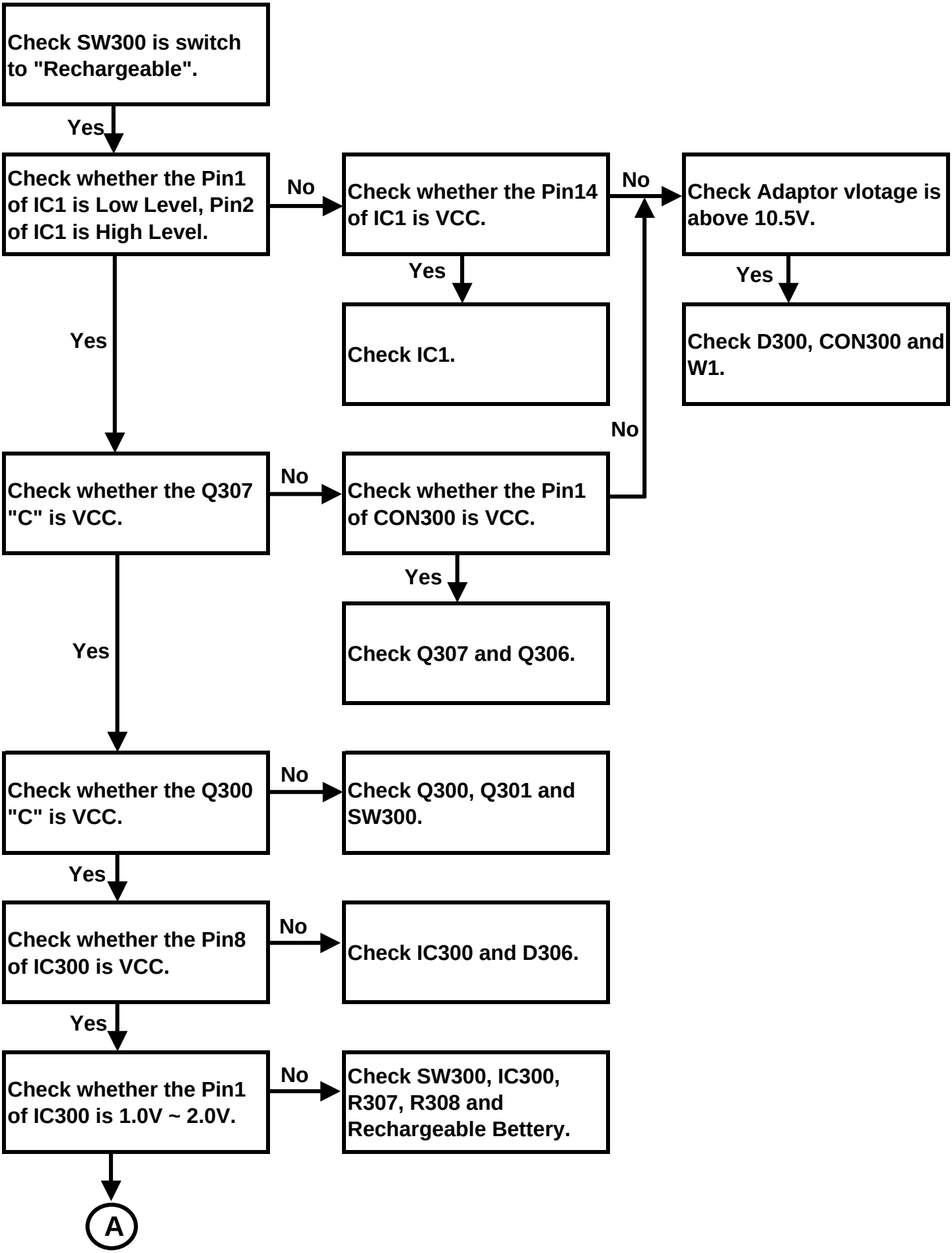


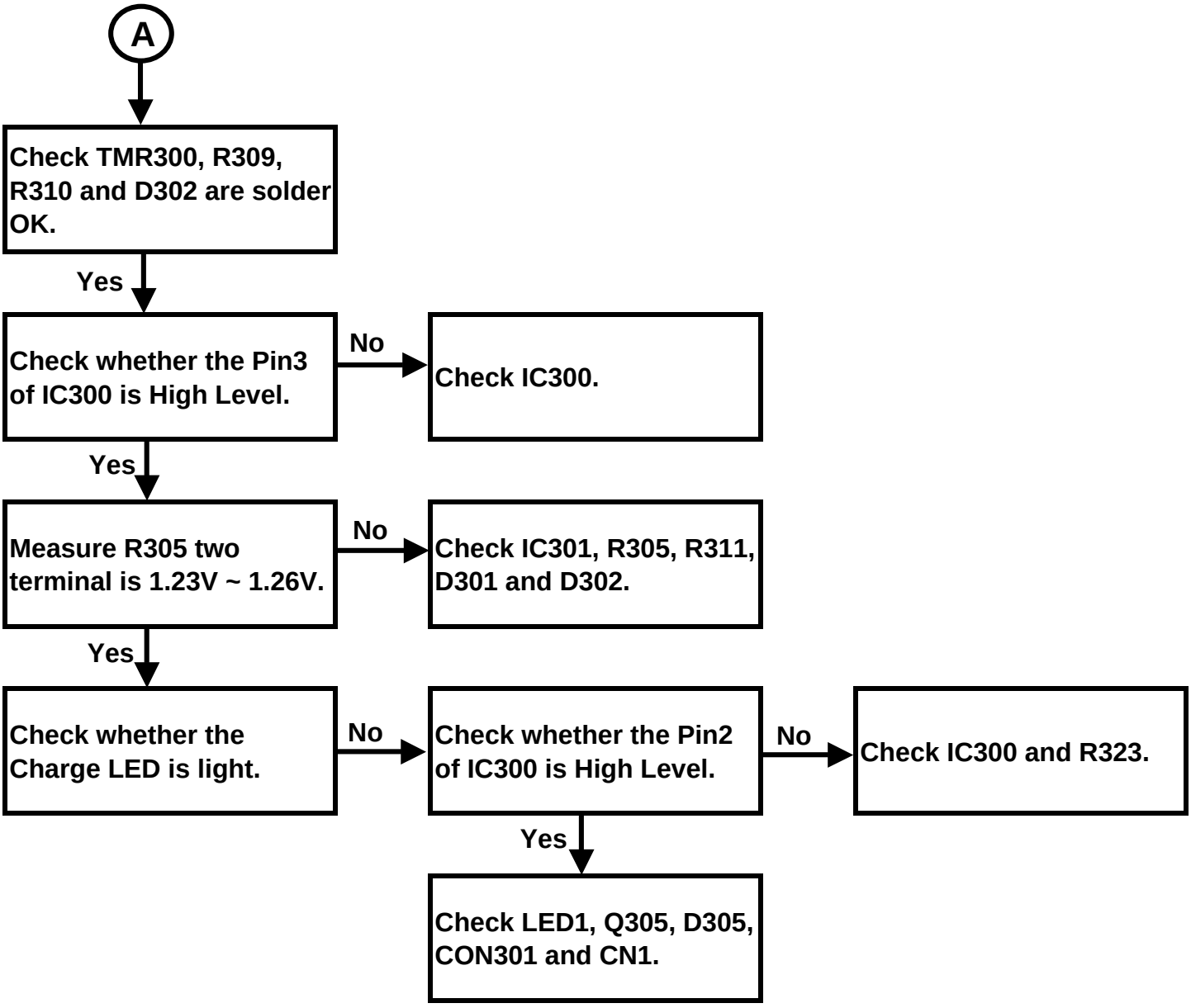
TROUBLESHOOTING FLOW CHART

Power can not be turned on

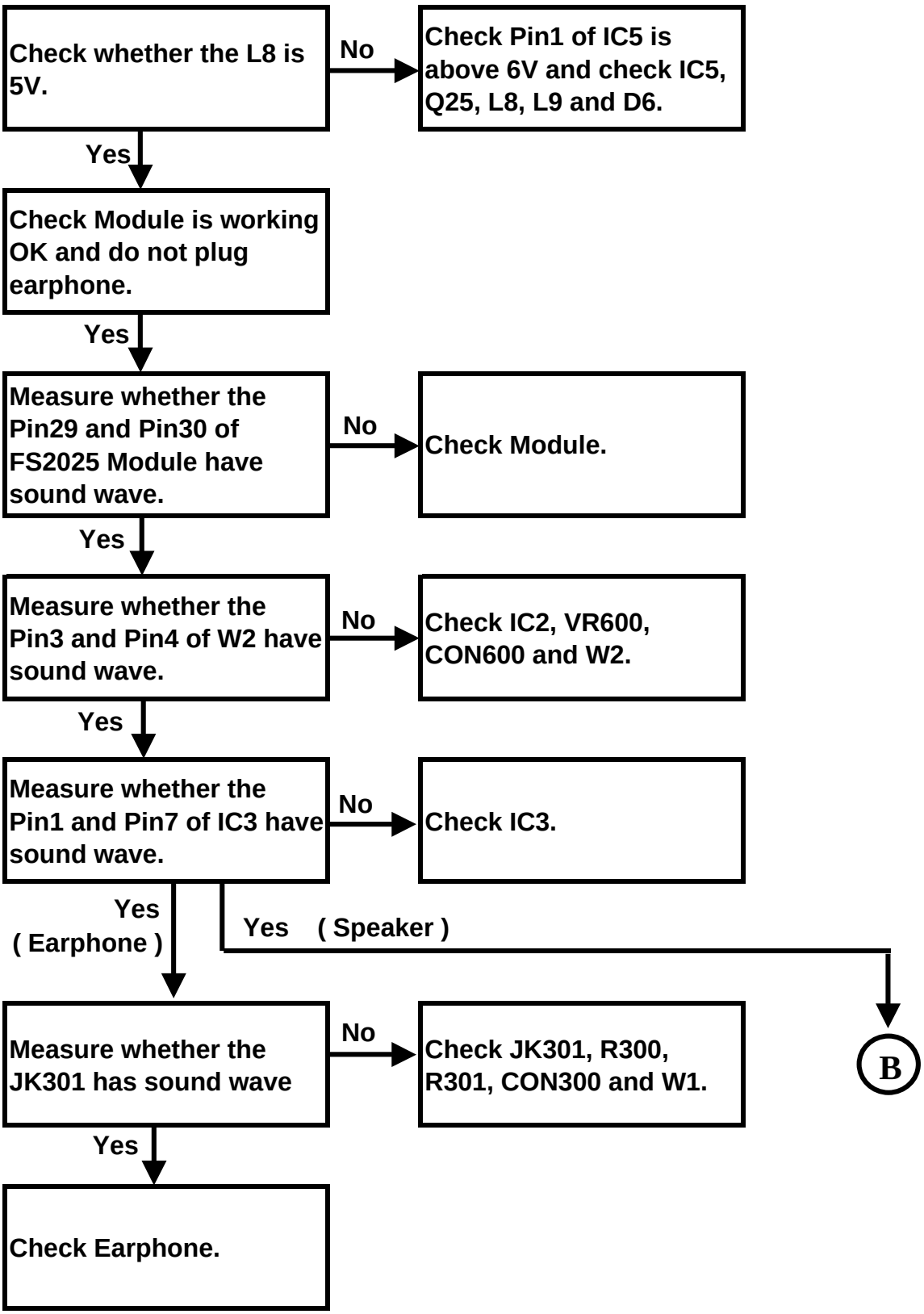


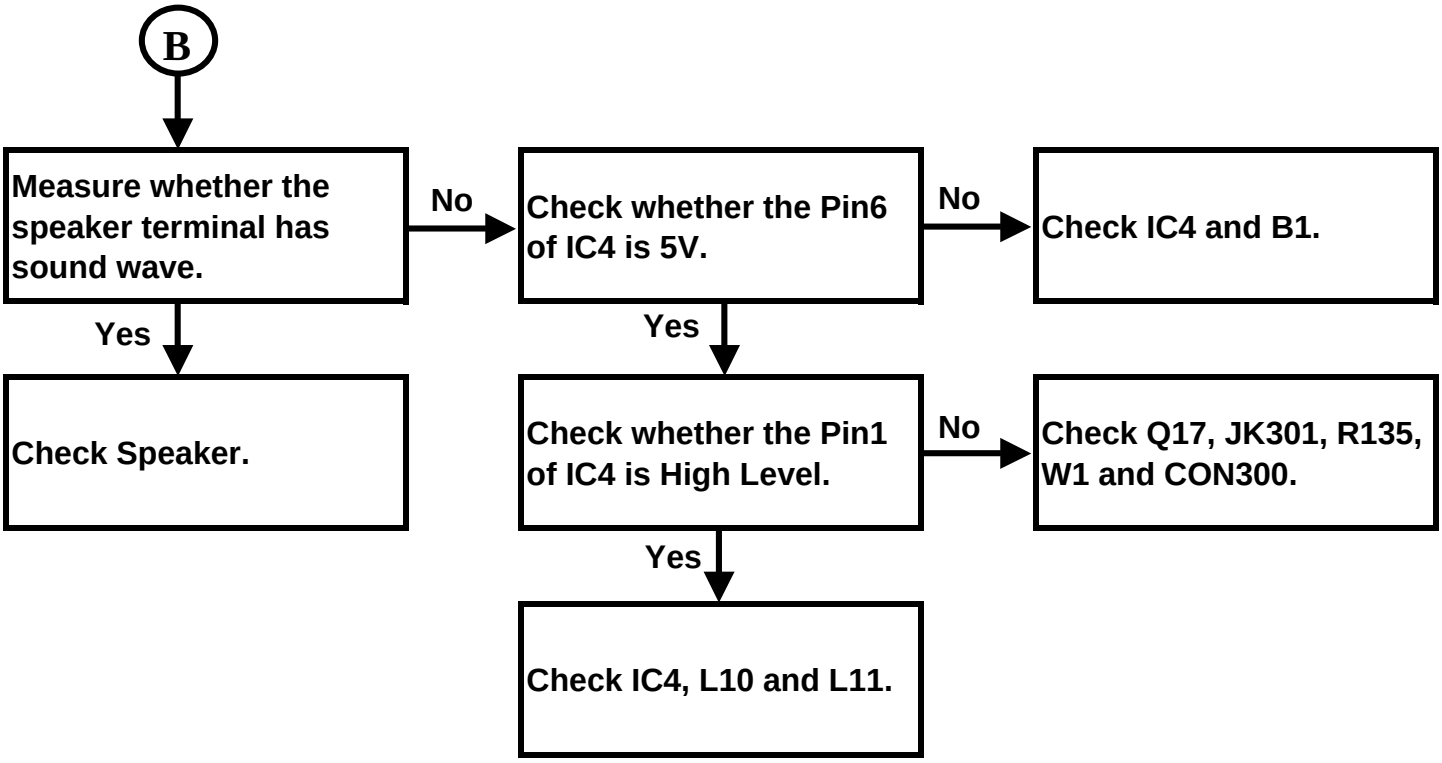
Rechargeable Bettery can not be charging




A
Check TMR300, R309, R310 and D302 are solder OK.
Yes
Check whether the Pin3 of IC300 is High Level.
No
Check IC300.
Yes
Measure R305 two terminal is 1.23V ~ 1.26V.
No
Check IC301, R305, R311, D301 and D302.
Yes
Check whether the Charge LED is light.
No
Check whether the Pin2 of IC300 is High Level.
No
Check IC300 and R323.
Yes
Check LED1, Q305, D305, CON301 and CN1.

Speaker or Earphone no sound




B
Measure whether the speaker terminal has sound wave.
No
Check whether the Pin6 of IC4 is 5V.
No
Check IC4 and B1.
Yes
Yes
Check Speaker.
Check whether the Pin1 of IC4 is High Level.
No
Check Q17, JK301, R135, W1 and CON300.
Yes
Check IC4, L10 and L11.

ELECTRICAL PARTS LIST

ecologic 2

PART NO.	DESCRIPTION	Q'TY	REMARK
1012072-A	CH IC NJM2100M DMP8	1	IC 2,
1013620-A	CH IC TC 4013BFN SOL14	1	IC 1,
1014530-A	CH IC LM4809	1	IC 3,
1014580-A	CH IC MC33340	1	IC 300,
1014780-A	CH IC LD1117AL-ADJ	1	IC 301,
1014981-A	CH IC AD5165A-H DFN8L	1	IC 4,
1015760-A	CH IC S-8550AA-M5T1G	1	IC 8,
1015830-A	CH IC S-8520A33MC-AVST2G	1	IC 6,
1016010-A	CH IC S-8520A50MC-AWJT2G	1	IC 5,
1020230-A	CH TR 2SA812-T1B-A M6	1	Q 11,
1020241-A	CH TR 2SC1623-T1B-A L7	4	Q 1,7,8,301,
1020250TA	TR 2SA1020Y-T hFE=120	1	Q 300,
1020420-A	CH TR 2SA1576AT106-R	4	Q 2-4,307,
1021130-A	CH TR 2SB772-Q TO-252	1	Q 10,
1022220-A	CH TR 2SC4081T106-R	7	Q 5,6,13,14,17,305,306
1023010-A	CH TR 2SD1048 X6	1	Q 9,
1026140-A	CH TR DTC144EN3 SOT23	2	Q 12,15,
1030380-A	CH FET 2SJ621 SC-96	2	Q 25,26,
1041030TA	DIODE 1N4002-T	3	D 300,301,303,
1041190T-A	DIODE 1N5817-T	4	D 6,7,302,304,
1045081TA	DIODE ZENER HZ4-A3-TA	1	D 306,
1045349-A	CH ZENER 5.6V 5mA	1	D 9,
104534B-A	CH ZENER 6V8	1	D 10,
1046010-A	CH DIODE RLS4148	2	D 2,11,
1046171-A	CH DIODE BAV70N3	3	D 1,3,4,
1046230-A	CH DIODE BAS16	1	D 305,
1050150-A	LED RED 3.0x5.1	1	LED1,
1062211-A	CH LED YEL SS0335YCN-001	2	LED500,501,
1150210-A	CH FERRITE BEAD-MLB102-A	2	B 5,6,
1150250-A	CH FERRITE BEAD 600R-B	1	B 1,
1150310-A	CH FERRITE BEAD 1K-1608	1	B 3,
11629K1-3A	FIXED COIL 22uHK 6φx6.5	7	L 8-13,15,
11637K1-3A	FIXED COIL 100uHK6φx6.2	1	L 14,
1317724-A	R-VR 20KBx2 RV142 L=12.5	1	VR 600,
1613751-A	PCB P RD-49	1	
1614642-A	PCB A DPR-99 1.6T/2	1	
1621081-A	SPK 3" 8Ω 3W	1	
1631510-A	TACT SW 160±50gf9.5mm	12	SW 1-12,
1631830-A	CH SLIDE SW 2P2C	1	SW 300,
1640060-A	JACK EP3.5φ W/SW BLK	1	JK 301,
1647110-A	JACK DC HTJ-020-04AZ	1	JK 302,
1701002-A	CNT BASE 2x2P	1	CON301,
1701087-A	CNT BASE 2.5x7P	1	CON300,
170234V-A	CH HOUSING 2.54x15Px2	1	CON1,
1702474-A	TIP 8x4P-S	1	CON500,
1705260-A	CNT/WIRE 80(2+2P)W/B	1	CN 1,
1705440-A	CNT/WIRE 180(2.5x7P)	1	W 1,
1901750-A	LCD/M 1602EW-SYT-5 RD-60	1	LCD1,
1901960-A	DAB/M FS2025 V5 DPR-99	1	
2200150-A	6φ GRN LABEL FTZ	1	
444754NT2-A	EL 475M 25V 4x7	1	C 135,
4422642T2HA	EL 226M 25V 5x7-T 105	1	C 11,
4447632T2HA	EL 476M 16V 5x7-T 105	1	C 13,
4410722T2HA	EL 107M 10V 5x7-T 105	5	C 51-53,55,58,
4410732T0HA	EL 107M 16V 6.3x7-T 105	1	C 302,

ELECTRICAL PARTS LIST

ecologic 2

PART NO.	DESCRIPTION	Q'TY	REMARK
4410752T0HA	EL 107M 35V 8x7-T 105	1	C 6,
4422712T0HA	EL 227M 6.3V 6.3x7-T 105	3	C 60,69,70,
4422733T0HA	EL 227M 16V 8x9-T 105	3	C 56,57,301,
4410814T0HA	EL 108M 6.3V 8x11-T 105	2	C 131,132,
4B22532-A	CH TA 225M16V 3.2x1.6	4	C 36,47,88,89,
4B47513-A	CH TA 475M 16V 3.2x1.6	1	C 133,
4B47615-A	CH TA 476M 6.3V 3216	6	C 41,43,44,46,61,130,
5410101-A	CH CC 101J 50V NPO-C	11	C 4,7,14,17-24,
5410261-A	CH CC 102K 50V X7R-C	7	C 10,83,115,124,126, 128,129,
5410361-A	CH CC 103K 50V X7R-C	3	C 9,30,303,
5410471-A	CH CC 104Z 25V Y5V-C	29	C 5,16,34,49,80,81,85, 112,114,116-118,120-123,125,127,134,300, 304,72,74-76,138,140-142,
5410556-A	CH CC 105Z 16V F-C	11	C 2,3,8,37,68,82,84,87 ,90,137,306,
5415485-A	CH CC 154K 16V X7R-C	2	C 31,50,
5422361-A	CH CC 223K 50V X7R-C	2	C 26,62,
5427351-A	CH CC 273K 16V R-C	4	C 64-67,
5433351-A	CH CC 333K 16V X7R-C	2	C 63,73,
5447001-A	CH CC 470J 50V NPO-C	1	C 71,
5447101-A	CH CC 471J 50V NPO-C	2	C 136,139,
5447261-A	CH CC 472K 50V X7R-C	2	C 32,54,
5447331-A	CH CC 473K 25V B-C	1	C 305,
5522572-A	CH CC 225Z 16V Y5V-A	1	C 48,
5547573-A	CH CC 475Z 10V Y5V-A	1	C 59,
61301101-A	CH RD 100J-0603	2	R 31,34,
61301102-A	CH RD 1KJ-0603	1	R 129,
61301103-A	CH RD 10KJ-0603	4	R 63,116,149,151,
61301104-A	CH RD 100KJ-0603	12	R 28,29,88,115,123,128 ,132,134,313,316,318,323
61301122-A	CH RD 1K2J-0603	1	R 118,
61301123-A	CH RD 12KJ-0603	2	R 21,302,
61301152-A	CH RD 1K5J-0603	6	R 44,61,98,102,103,112
61301153-A	CH RD 15KJ-0603	1	R 92,
61301154-A	CH RD 150KJ-0603	1	R 307,
61301182-A	CH RD 1K8J-0603	1	R 324,
61301183-A	CH RD 18KJ-0603	1	R 148,
61301220-A	CH RD 22J-0603	1	R 70,
61301221-A	CH RD 220J-0603	1	R 311,
61301222-A	CH RD 2K2J-0603	1	R 303,
61301223-A	CH RD 22KJ-0603	5	R 42,48,62,68,81,
61301272-A	CH RD 2K7J-0603	5	R 49,58,113,117,122,
61301273-A	CH RD 27KJ-0603	1	R 325,
61301274-A	CH RD 270KJ-0603	3	R 91,133,314,
61301303-A	CH RD 30KJ-0603	1	R 310,
61301332-A	CH RD 3K3J-0603	8	R 85,89,90,100,101,104 ,105,141,
61301334-A	CH RD 330KJ-0603	1	R 30,
61301390-A	CH RD 39J-0603	2	R 300,301,
61301393-A	CH RD 39KJ-0603	1	R 308,
61301432-A	CH RD 4K3J-0603	1	R 309,
61301472-A	CH RD 4K7J-0603	4	R 64,79,114,315,
61301473-A	CH RD 47KJ-0603	10	R 27,32,33,51-53,57,87

ELECTRICAL PARTS LIST

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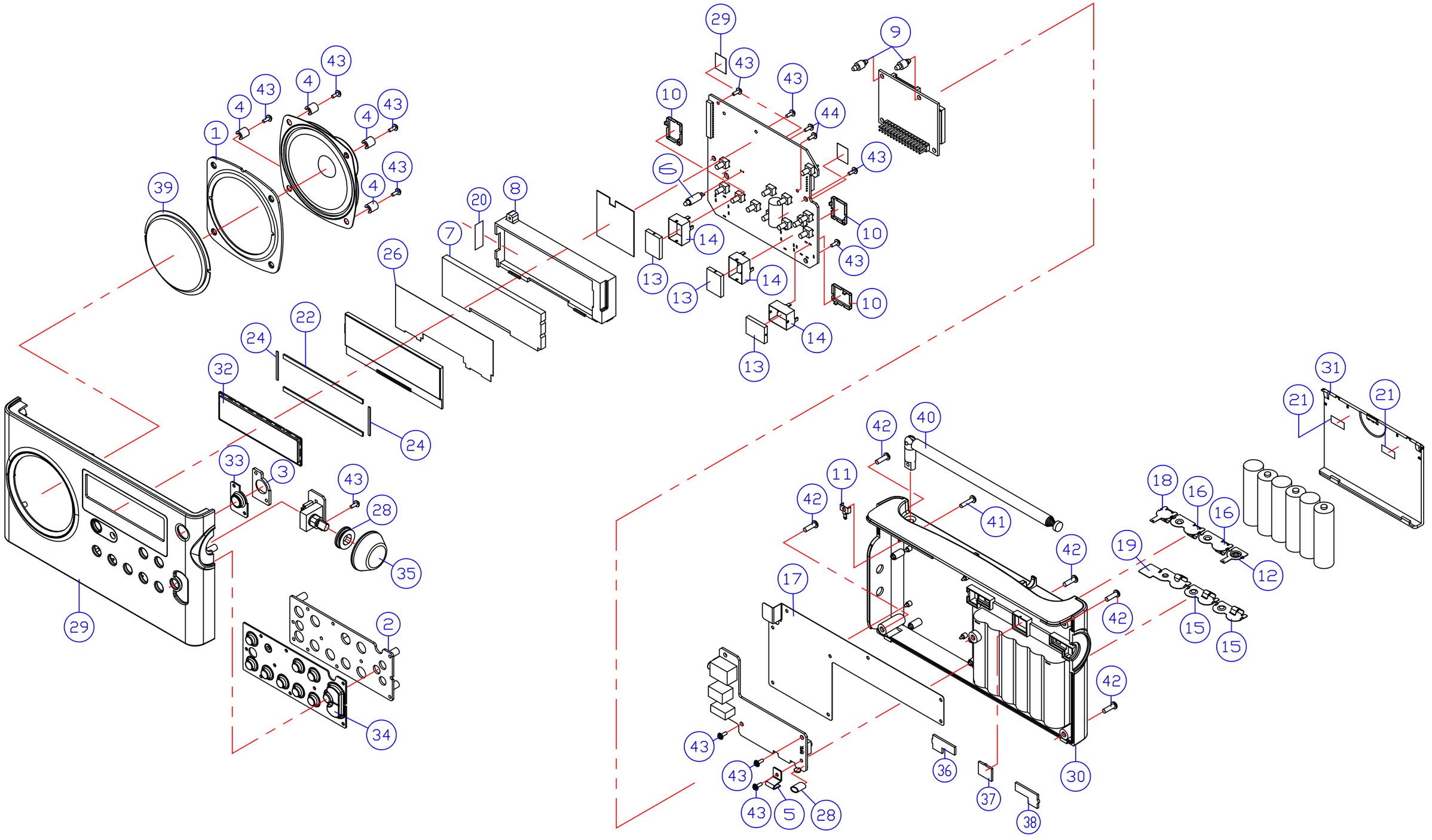
PART NO.	DESCRIPTION	Q'TY	REMARK
			,135,317,
61301680-A	CH RD 68J-0603	2	R 106,107,
61301682-A	CH RD 6K8J-0603	1	R 120,
61301683-A	CH RD 68KJ-0603	2	R 150,152,
61301822-A	CH RD 8K2J-0603	1	R 121,
61301823-A	CH RD 82KJ-0603	1	R 119,
61321154-A	CH RD 150KF-0603	1	R 137,
61321243-A	CH RD 24KF-0603	1	R 319,
61321304-A	CH RD 300KF-0603	2	R 138,142,
61321473-A	CH RD 47KF-0603	1	R 140,
61321474-A	CH RD 470KF-0603	1	R 320,
61321513-A	CH RD 51KF-0603	1	R 136,
61401101-A	CH RD 100J-0402	7	R 93-97,99,108,
61401472-A	CH RD 4K7J-0402	1	R 20,
61501102-A	CH RD 1KJ-1206	2	R 86,304,
61501220-A	CH RD 22J-1206	2	R 126,127,
61801471-A	CH RD 470J-0805	1	R 312,
648083R30-A	RDF 2W 3R3J(MG)	1	R 305,
6999926-A	THERMISTOR 10K(9-11mm)	1	TMR300,
8000030-A	W/JUMP 7.5(10)0.6mm	4	J 300,305-307,
8000050-A	W/JUMP 12.5(10).6mm	3	J 301,302,304,
8270210-A	W/PVC 30(3+3) BLK	1	
8270410-A	W-A/1 40(3+3)BLK	1	
8593010-A	W/2 230(6+6)R/B	1	BATT,
8593320-A	W-S/3 200(3+6)	1	SPK
8601880-A	W-C/1 150(3+3)	1	ANT,
8677428-A	W/7 23(6+3) P=2 GRY	1	CON600,

MECHANICAL PARTS LIST

ecologic 2

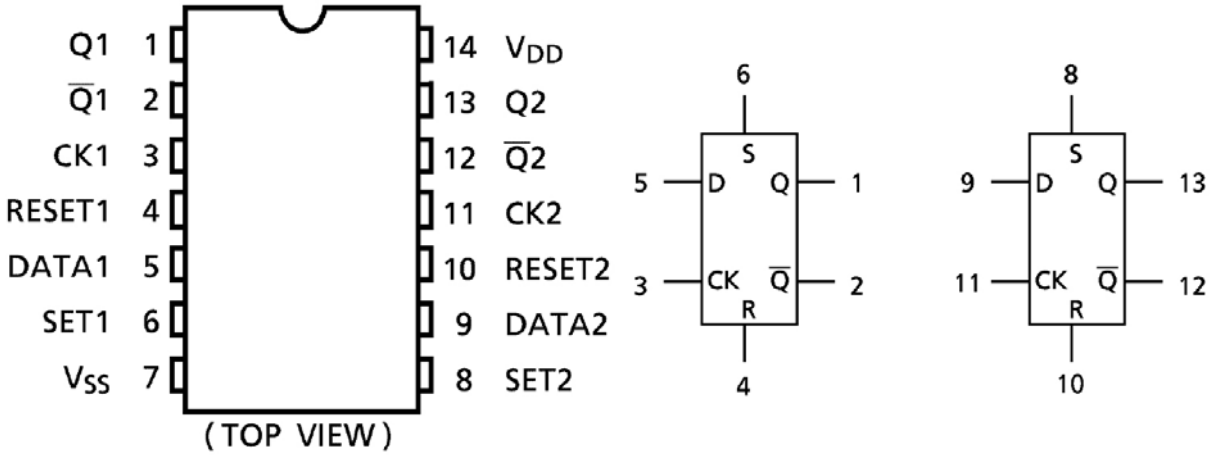
Ref no	PART NO.	DESCRIPTION	Q'TY	APP./DWG NO.	REMARK
1	20Q4000-A	SPEAKER HOLDER	1	A4-RD49-02	
2	20Q4012-A	RUBBER KEY HOLDER	1	A4-RD49-03	
3	20Q4020-A	POWER KNOB HOLDER	1	A4-RD49-04	
4	20Q4060-A	SPEAKER SPACER SUPPORT	4	A4-RD49-11	
5	20Q4080-A	TDCD SUPPORT	1	A4-RD49-13	
6	20Q4090-A	LED HOLDER	1	品固EDG-10A	
7	20RA000-A	LCD LIGHT LENS	1	A4-RA-01	
8	20SF000-A	LCD LENS HOLDER	1	A3-SF-01	
9	20SF010-A	MODULE SPACER	2	品固MCF-03	
10	2159020-A	DC/DC SHIELD (DOWN)	4	A4-800-1218A	
11	21M3010A-A	ROD ANT LUG	1	A4-RD15-22	
12	21M4062-A	BATTERY CONTACT ASS'Y+	1	A4-SB-39A	
13	21P4070-A	SHIELD COVER	4	A4-DPR25-37	
14	21P4080B-A	SHIELD DOWN	4	A4-DPR25-38	
15	21PJ080-A	BATTERY CONTACT ASS'Y+-	2	A4-ISB-24	
16	21PJ090-A	BATTERY CONACT ASS'Y+-	2	A4-ISB-25	
17	21Q4000-A	GROUND PLANE	1	A4-RD49-15	
18	21Q4020-A	BATTERY CONACT ASS'Y-	1	A4-RD49-21	
19	21Q4031-A	TDCD CONTACT ASS'Y	1	A4-RD49-18	
20	2279000-A	HEMLON CUSHION	1		
21	22Q4050-A	HEMELON-W(10x3x0.4)	2	A4-RD49-30	
22	23P1010-A	EVA-B 85x3x1	2	A4-RD22-14	
23	23P4050-A	PVC FILM	1	A4-DPR25-34	
24	23P4071-A	EVA 24x1.5	2	A4-DPR25-36A	
25	23Q4000-A	MYLAR 10x10	2	A4-RD49-17	
26	23RA021-A	LCD LIGHT MYLAR	1	A4-RA-26	
27	24M3010-A	VR-KNOB SPACER	1	A4-RD15-27	
28	24M4030-A	SILICONE RUBBER TUBES	1		
29	301SF01-A	FRONT CABINET(W)	1	A4-RD49-01	
30	303SF01-A	BACK COVER(W)	1	A4-RD49-05	
31	304Q410-A	BATTERY COVER	1	A4-RD49-06	
32	305Q401-A	DIAL WINDOW	1	A4-RD49-10	
33	310Q401-A	POWER RUBBER KEY	1	A4-RD49-16	
34	313Q401-A	RUBBER KEY ASS'Y	1	A4-RD49-14	
35	320M301-A	VR-KNOB	1	A4-RD15-18	
36	326RH12-A	BACK COVER SHIELD (L)	1		
37	327RH12-A	BACK COVER SHIELD (M)	1		
38	328RH12-A	BACK COVER SHIELD (R)	1		
39	343Q401-A	SPEAKER GRILL	1	A4-RD49-19	
40	360M301A-A	ROD ANT	1	A1-RD15-12	
41	9092102-A	SCREW JM 2.6x10(NI)	1		ROD ANT
42	9103102-A	SCREW PTP 3x10(NI)	5		FRONT/BACKx5
43	9151062-A	SCREW PTPW 2x6(NI)	14		SPKx4/LCD PCBx2/A PCBx3 JACK PCBx4/VR PCBx1
44	9161082-A	SCREW PTB M2x8(NI)	1		FRONT/BACK CABINETx1

EXPLODED VIEWS

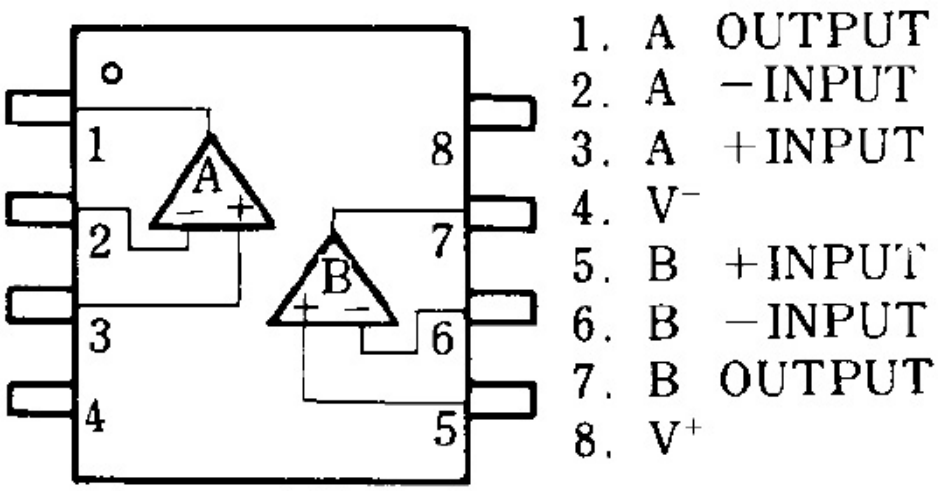


IC CIRCUIT BLOCK DIAGRAM

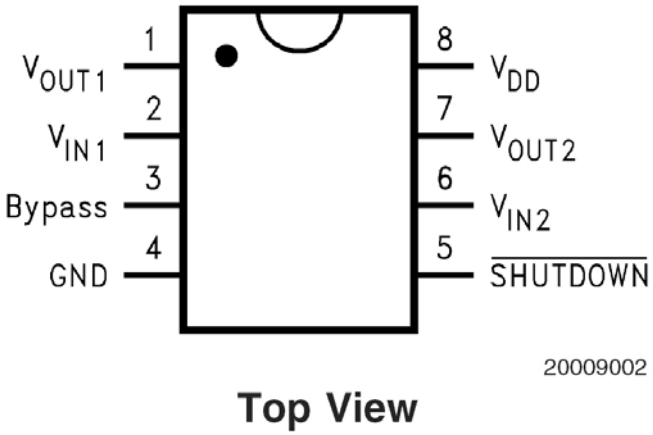
1. IC1 — TC4013BFN

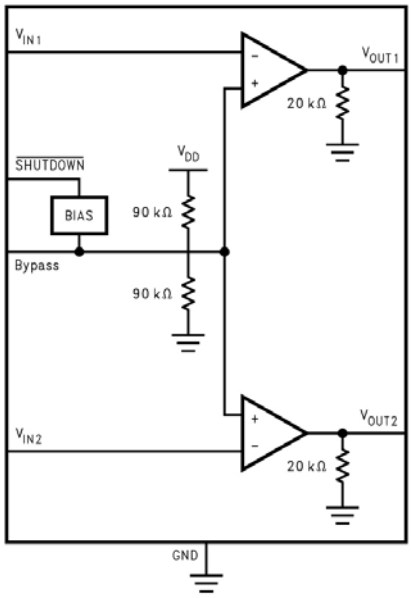


2. IC2 — NJM2100M

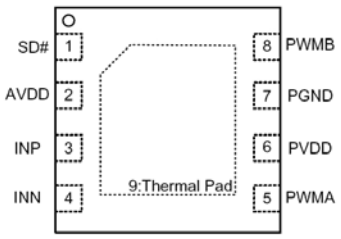


3. IC3 — LM4809

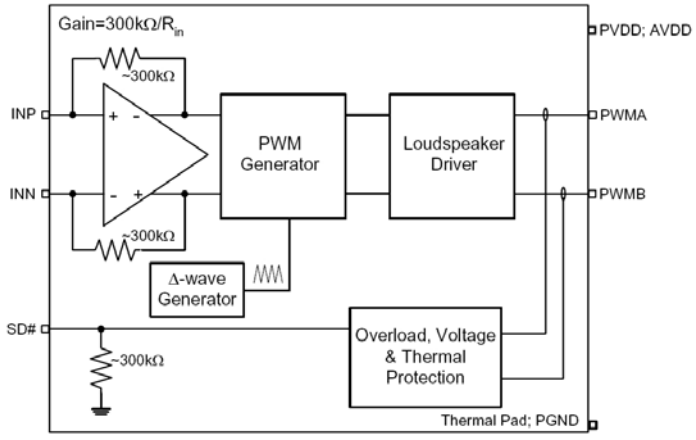




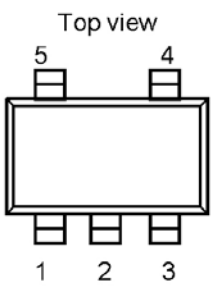
4. IC4 — AD5165A-H



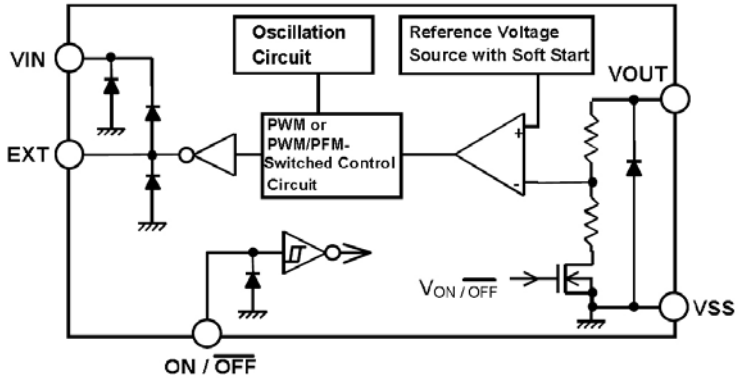
Pin	NAME	TYP	DESCRIPTION
1	SD#	I	Shutdown AD5165A (Low active logic)
2	AVDD	P	Power Supply
3	INP	I	Positive differential input
4	INN	I	Negative differential input
5	PWMA	O	Positive output
6	PVDD	P	High current power supply
7	PGND	G	High current ground
8	PWMB	O	Negative output
9	Thermal Pad	G	Must be soldered to PCB's ground plane



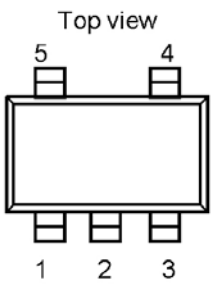
5. IC5 － S-8520A50MC-AWJT2G



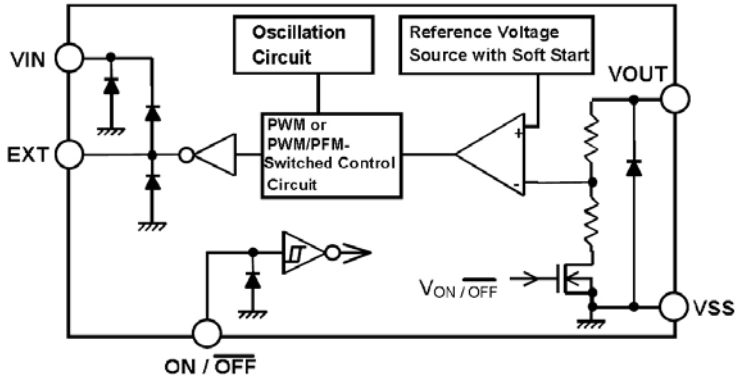
Pin No.	Pin Name	Function
1	$\overline{\text{ON/OFF}}$	Power-off pin H: Normal operation (Step-down operation) L: Step-down operation stopped (All circuits deactivated)
2	VSS	GND pin
3	VOUT	Output voltage monitoring pin
4	EXT	Connection pin for external transistor
5	VIN	IC power supply pin



6. IC6 － S-8520A33MC

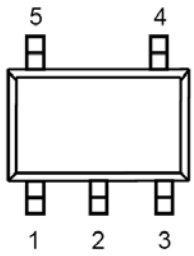


Pin No.	Pin Name	Function
1	$\overline{\text{ON/OFF}}$	Power-off pin H: Normal operation (Step-down operation) L: Step-down operation stopped (All circuits deactivated)
2	VSS	GND pin
3	VOUT	Output voltage monitoring pin
4	EXT	Connection pin for external transistor
5	VIN	IC power supply pin

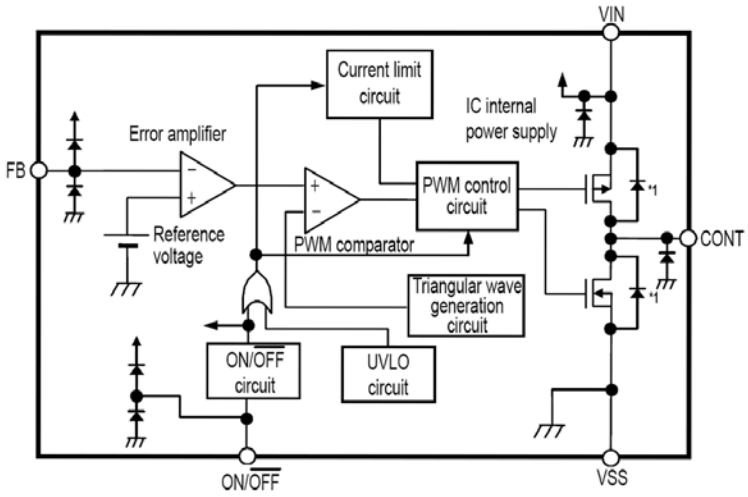


7. IC8 － S-8550AA

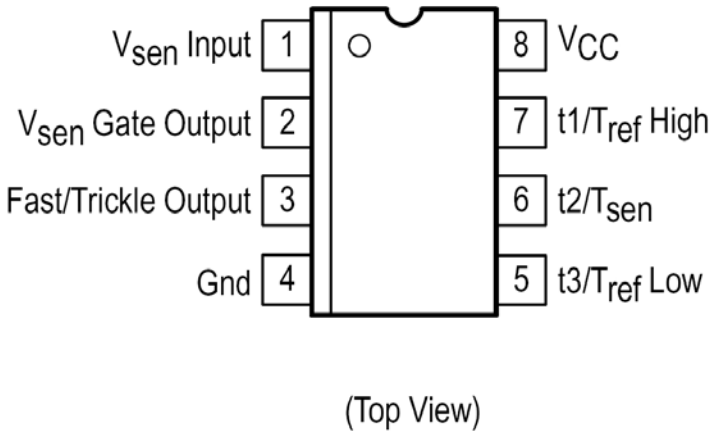
Top view



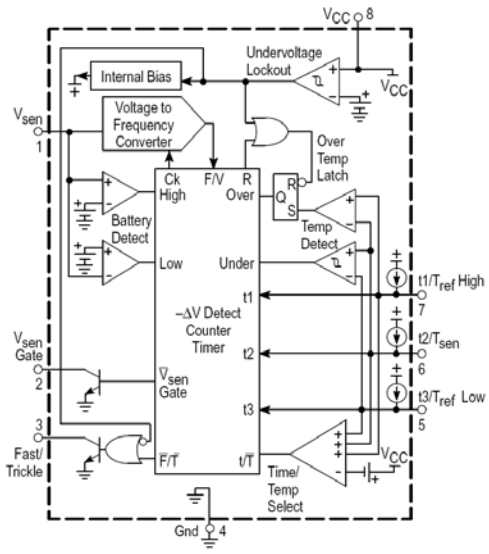
Pin No.	Symbol	Descriptiontion
1	VIN	IC power supply pin
2	VSS	GND pin
3	ON/$\overline{OFF}$	Shutdown pin "H" : Power on (normal operation) "L" : Power off (standby)
4	FB	Output voltage feedback pin
5	CONT	External inductor connection pin



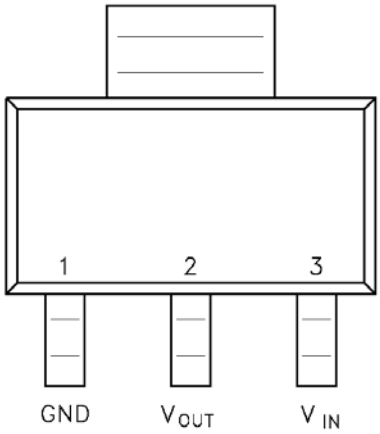
8. IC300 － MC33340

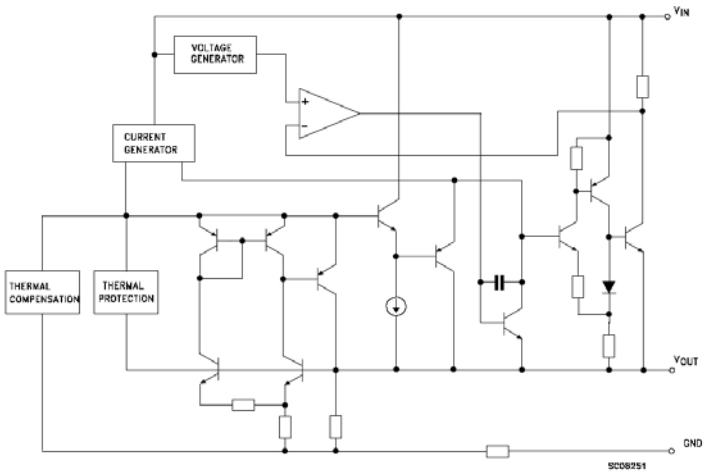


(Top View)



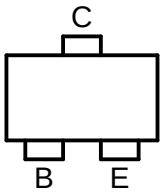
9. IC301 － LD1117AL



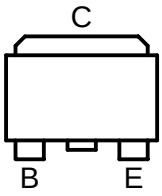


SEMICONDUCTOR LEAD IDENTIFICATIONS

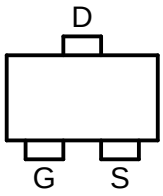
Transistors



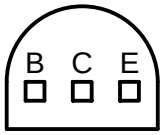
2SA812
2SA1576
2SC1623
2SC4081
2SD1048
DTC144EN3



2SB772



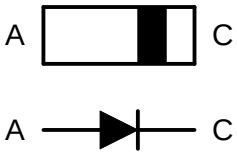
2SJ621



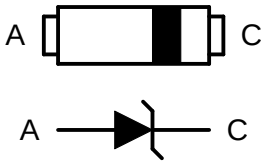
2SA1020Y

(E:Emitter C:Collector B:Base)

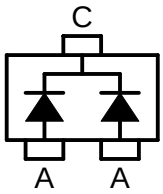
Diodes



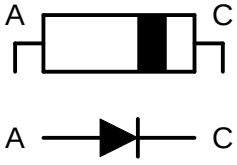
RLS4148



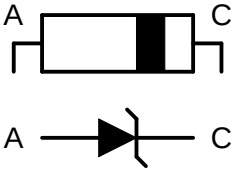
ZENER 5V6
ZENER 6V8



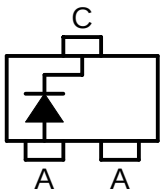
BAV70N3



1N4002
IN5817



ZENER 3V6



BAS16

(A:Anode C:Cathode)

IC AND TRANSISTOR VOLTAGE CHART

MODULE

PIN	FM	DAB	PIN	FM	DAB
1	1.26	1.26	**16**	2.71	2.65
2	3.31	3.31	**17**	3.29	3.29
3	0	0	**18**	3.28	3.28
4	0	0	**19**	2.60	2.60
5	0	3.07	**20**	0	0
6	3.46	2.72	**21**	2.88	2.88
7	3.31	3.31	**22**	0	0
8	0	0	**23**	0	0
9	2.98	3.19	**24**	1.60	1.60
10	3.32	3.32	**25**	1.65	1.65
11	0	0	**26**	1.64	1.64
12	0.92	0.36	**27**	1.64	1.64
13	3.32	3.32	**28**	0	0
14	3.32	3.32	**29**	0	0
15	2.78	2.65	**30**	0	0

LCM

PIN	FM	DAB	PIN	FM	DAB
1	3.27	3.27	**13**	0	0
2	1.65	1.65	**14**	/	/
3	4.49	4.49	**15**	/	/
4	3.32	3.32	**16**	/	/
5	0	0	**17**	/	/
6	5.69	5.69	**18**	/	/
7	3.32	3.32	**19**	/	/
8	3.32	3.32	**20**	3.32	3.32
9	0	0	**21**	3.32	3.32
10	0	0	**22**	3.29	3.29
11	0	0	**23**	3.28	3.28
12	0	0	**24**	3.31	3.31

IC1 — TC4013BFN

PIN	FM	DAB
1	11.04	11.04
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	11.19	11.19
13	0	0
14	11.19	11.19

IC2 — NJM2100M

PIN	FM	DAB
1	2.45	2.45
2	2.45	2.45
3	2.45	2.45
4	0	0
5	2.45	2.45
6	2.45	2.45
7	2.45	2.45
8	4.88	4.88

IC3 — LM4809

PIN	FM	DAB
1	2.44	2.44
2	2.44	2.44
3	2.40	2.40
4	0	0
5	4.95	4.95
6	2.44	2.44
7	2.44	2.44
8	4.95	4.95

IC4 — AD5165A-H

PIN	FM	DAB
1	4.16	4.16
2	0	0
3	2.55	2.55
4	2.55	2.55
5	0.39	0.39
6	4.95	4.95
7	0	0
8	0.35	0.35

IC5 — S-8520A50MC

PIN	FM	DAB
1	9.12	9.12
2	0	0
3	4.96	4.96
4	7.04	7.04
5	9.12	9.12

IC6 — S-8520A33MC

PIN	FM	DAB
1	9.05	9.05
2	0	0
3	3.34	3.34
4	6.49	6.49
5	9.05	9.05

IC8 — S-8550AA

PIN	FM	DAB
1	4.94	4.94
2	0	0
3	3.31	3.31
4	0.59	0.59
5	1.18	1.18

IC300 — MC33340

PIN	FM	DAB	Charge
1	0	0	2.01
2	0	0	4.67
3	0	0	0.67 / 6.18
4	0	0	0
5	0	0	0.86
6	0	0	0.21
7	0	0	0.12
8	0	0	5.67

IC301 — LD1117AL

PIN	Charge
1	8.93
2	9.22
3	10.33

Transistor

	PIN	FM	DAB
Q1	B	0.75	0.75
	E	0	0
	C	0.12	0.12
Q2	B	0.1	0.1
	E	0	0
	C	0.1	0.1
Q3	B	5.17	5.17
	E	5.17	5.17
	C	0.71	0.71
Q4	B	9.0	9.0
	E	9.20	9.20
	C	0	0
Q5	B	1.88	1.88
	E	2.06	2.06
	C	9.14	9.14
Q6	B	0	0
	E	0	0
	C	4.93	4.93
Q7	B	0.56	0.56
	E	0	0
	C	10.17	10.17

	PIN	FM	DAB
Q8	B	0.57	0.57
	E	0	0
	C	0.56	0.56
Q9	B	0.1	0.1
	E	0	0
	C	0	0
Q10	B	10.60	10.60
	E	11.26	11.26
	C	9.19	9.19
Q11	B	2.70	2.70
	E	3.30	3.30
	C	3.2	3.2
Q12	B	1.56	1.56
	E	0	0
	C	0.11	0.11
Q13	B	2.27	2.27
	E	2.06	2.06
	C	0	0
Q14	B	0.53	0.53
	E	5.18	5.18
	C	11.04	11.04

	PIN	FM	DAB
Q15	B	0	0
	E	0	0
	C	5.19	5.19
Q17	B	0.	0.
	E	0	0
	C	4.16	4.16
Q25	B	7.12	7.12
	E	9.12	9.12
	C	5.06	5.06
Q26	B	6.47	6.47
	E	9.05	9.05
	C	3.44	3.44
Q305	B	0	0
	E	0	0
	C	0.	0.
Q306	B	0.6	0.6
	E	0	0
	C	0.12	0.12
Q307	B	0.6	0.6
	E	0	0
	C	0	0

SCHEMATIC DIAGRAM

