

Service  
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**Service**



# Service Manual



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Layout diagram

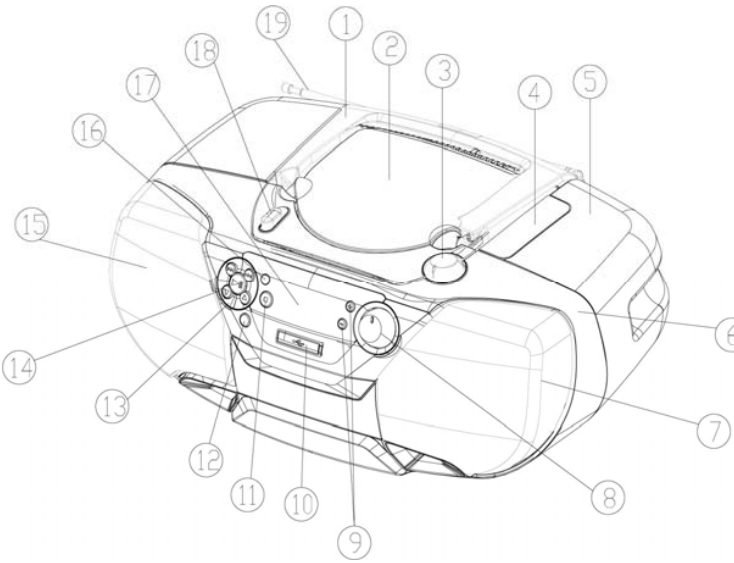
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## TECHNICAL SPECIFICATION

<u>Description</u>		<u>Pos.</u>	<u>Description</u>	<u>Pos.</u>
		1	HANDLE	
		2	CD DOOR	
		3	TUNING KNOB	
		4	TUNER LENS	
		5	TOP CABINET	
		6	FRONT CABINET	
		7	SPEAKER GRILL(RIGHT)	
		8	VOL KNOB	
		9	ZOOM KNOB	
		10	USB COVER	
		11	STOP KNOB	
		12	MODE KNOB	
		13	KNOB RING	
		14	FUNCTION CONTROL	
		15	SPEAKER GRILL(LEFT)	
		16	IR SENSOR	
		17	DISPLAY LENS	
		18	FUNCTION MODE KNOB	
		19	ANTENNA	
<u>Battery location</u>				
NA				
<u>CABINET</u>				
Dimensions with Boxes <b>390 x 240 x 160mm (LxWxH)</b>		Material: <b>ABS/HIPS</b>		42
Dimensions without Boxes: <b>454 x 275 x 200 mm (LxWxH)</b>		Finishing:		43
Weight (including packing): <b>3.98 kg</b>		Unit in Mastercarton: N/A		44
Weight (excluding packing and batteries): <b>3.05 kg</b>		Units in Dealercarton: 1 set		45
<u>INTERCONNECTION POSSIBILITIES</u>				
<u>Pos.</u>	<u>Connection/Function</u>	<u>Connector type</u>	<u>Electrical data (input or R.O.F)</u>	
27	AV Out Jack			
28	Headphone Jack			
29	AC JACK			
<u>ACCESSORIES :</u>				
(1) Remote Control				
(2) AC Cord				
(3) AV Cable				

## TECHNICAL SPECIFICATION

GENERAL DESCRIPTION					
DVD PLAYER/ Digital Tuner /CASSETTE RECC (Per Channel 2W )					
LIFE TIME(according to XUT-0026)					
5 Years					
PERFORMANCE CLASSES					
Class	Tuner	Supply+Amplifier	Loudspeaker Boxes	Cassette Recorder	DVD/CD
I	X	X	X		
II					X
III					
SAFETY requirements					
See Sh-190-05					
RADIATION/IMMUNITY requirements(EMC)					
See Sh-190-05					
CLIMATIC requirements(according to UAN-D1590)					
ALL climates	:	+5°C	till	+35	°C
MODERATE climates	:	NA	till		°C
POWER SUPPLY MAINS (AC)					
Version	/98	/93	/55		
AC Voltage	115V /230V ± 10%	220V± 15%	115V /230V ± 10%		
Voltage Selection	Yes	NA	Yes		
Frequency	60 /50 Hz	50 Hz	60 /50 Hz		
POWER CONSUMPTION					
		AZ5741/98/93/55			
Operation (1/8 Prated,Nom AC input)		12W			
MAX POWER CONSUMPTION		18W			
Standby		≤2W			
Q and R according to Product Division Rules					
Quality	:	0.4% (major)	1.5%(minor)		
Reliability	:	2.0% (C42)			
Tested according to General Test Instruction UAN-D1591					
Measured According to UAN-L1059 unless otherwise stated					
All not mentioned date, please refer to PQR XUW-0010-JUNE 2001					

## TECHNICAL SPECIFICATION

TECHNICAL DESCRIPTION	
Per Channel 2W	
ELECTRICAL DATA	
IS: NA	Playable Disc: DVD Single/Double Layer CD/MP3/WMA VCD1.1/2.1
MAX: NA	SVCD Kodak Photo CD
VEC: NA	Video Output: Composite Output 1VPP 75ohm
<b>Level Difference:</b> ±3 dB	
Tuner: FM 67.5 kHz,	
Tape: NA	Line Output: 1-2v RMS 10K ohm
	Source Difference: '+/-3 dB
<b>Channel Difference:</b> ±3 dB	
Hum (Volume Maximum Vol-20dB): 200 nW	
Residual Noise (Volume Minimum): Lim: 0.06 µW	
Channel Separation:	Shock sens.: >3g
40dB at 1KHz /35dB at 16KHz /30 dB at 20KHz	
signal to noise ratio : 65 dBA	
<p>OUTPUT POWER(8ohm Loading)</p> <p>Mains Operation : 2W (NORMAL Per Channel) At cold condition with 10%THD 1KHz AC 230V/50Hz (or 127V/60Hz) 2.3W(LIMIT)</p> <p>Frequency Response 100Hz ~ 16KHz within +0.5/-1.0dB (@ REF output )</p> <p>LOUDSPEAKER(BOXES)</p> <p>Rated Impedance</p> <p>Left/Right: 8Ω @ 100 Hz ~ 20kHz</p> <p>Matrix: NA</p>	
<p>REMARKS</p> <p>(*1) Deviations from PQR (FWD831).</p>	

# TECHNICAL SPECIFICATION

TECHNICAL DESCRIPTION									
GENERAL PART									
WAVE Range					TOLERANCES				
FM	87.00~108.50		MHz		-/+0.5 ~ -/+0.5MHZ				
ELECTRICAL DATA									
TAPE				FM					
Nom	limit	unit		Nom	limit	unit			
			W	-3dB Limiting Point	15	21	dB		
			%	AM SUPRESION (60 INPUT)	25	20	dB		
			dB	Distortion(RF 1 mV, Freq.Dev.75kHz)	2	3	%		
			Nw	Channel separation (1kHz)	21	20	dB		
			dB	IF	10.7	±0.1	MHz		
			dB	S/N 26dB Quieting sens.AC	12	16	dBuv		
			%	If Rejection	50	≧45	dB		
			dB	ImageRejection	21	≧18	dB		
			dB	Audio Fidelity, Cent.-6dB (-50us100TO 10kHz)	±0	±3	dB		
			dB	Large signal handling	116	108	dB		
			dB						
			Hz						
			%	Hum (at Min VOL)	1	≦2	mv		
				10% Distortion Power 98MHZ	1.3	≧0.9	W		
				FM S/N Ratio(A weighted) Mono input 68dBf	55	45	dB		
				Channel unbalance 250Hz to 6300Hz	0	±3	dB		
				AFC hold range (60dB INPUT -3dB)	350	250-600	KHZ		
CD				Nom	limit	unit			
				2	≧1.8	w			
				0	±3dB	dB			
		100HZ		0	±3dB	dB			
		1KHZ		0	0	dB			
		16KHZ		0	±3dB	dB			
				0.5	1	%			
				1	≧5	mV			
				1	≧2	mV			
				60	≧50	dB			
		100HZ		35	≧30	dB			
		1K		50	≧40	dB			
		10KHZ		35	≧30	dB			
				1.2	≧0.9	w			
				1	≧0.9	%			

## TECHNICAL SPECIFICATION

DVD MECH:	Description	External DAC
SANYO	AAI-313(SF-HD870)	
<b>output register</b>		
Channel Unbalance		<±2dB ( Vol 0 ~ -50dB )
Frequency Response(+0.5/-1.0dB)		20Hz~20kHz
Signal to Noise Ratio(A-weighted)		70dBA Lim 65 dBA(at -20dBFS)
THD Noise(20 ~20,000Hz)		0.5%(Lim 2%)
(1kHz)		0.1% at -20dBFS
Outband Attenuation		35dB
Channel Separation	1K	40dB (Lim.30dB)
	16K	35dB(Lim.25dB)
	20K	30dB(Lim.25dB)
Emphasls(switched automatically by CD 10)		15 / 50µs

### Remarks:

(\*1) Deviation from PQR (XUW-0010 June 2001)

### Video Performance

Description	NTSC	PAL
Amplitude output	1.0Vpp(+10/-10%)	1.0Vpp(+10/-10%)
White bar	714mVpp(+10/-10%)	700mVpp(±10%)
Sync amplitude	286mVpp(±40mV)	300mVpp(+30/-50mV)
Burst amplitude	286mVpp(±40mV)	300mVpp(+30/-50mV)
Burst/Chroma ratio	±5%	±5%
S/N luminance	≥ 48dB	≥ 48dB
S/N chroma	AM: ≥ 58dB/PM: ≥ 51dB	AM: ≥ 51dB/PM: ≥ 46dB
Video bandwidth	6MHz(-5dB)	6MHz(-7dB)
Chroma subcanics frequency	fsc=3.579545Mhz(±50ppm)	fsc=4.433618Mhz(±50ppm)
Chroma/Luminance delay	≤ 80ns	≤ 80ns
Subcanics locked/unlocked	Locked	locked

### Mp3 performance

description	
Bit rates	32K-320Kps
Sampling rates(MPEG-1 Layer 3)	32kHz/44.1KHZ/48kHz
Joliet (8 character OSD display)	
Windows XP	
UDF basic (close format)	
Mp3 multisession	Directory resting Max 8 level, Max directory 32
Display filename/ID3	
255 folders/999songs	

## 2.0 SAFETY INSTRUCTIONS

**(GB)** WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

**ESD****(NL)** WAARSCHUWING

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD). Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat. Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

**(F)** ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation. Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfilez le bracelet serti d'une résistance de sécurité. Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

**(D)** WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD). Unsorgfältige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren. Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes. Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

**(I)** AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD). La loro longevità potrebbe essere fortemente ridotta in caso di non osservazione della più grande cauzione alla loro manipolazione. Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza. Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

**(GB)**

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

**(NL)**

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

**(F)**

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisés les pièces de rechange identiques à celles spécifiées.

**(D)**

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

**(I)**

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

"After servicing and before returning set to customer perform a leakage current measurement test from all exposed metal parts to earth ground to assure no shock hazard exist. The leakage current must not exceed 0.5mA."

Caution: These servicing instructions are for use by qualified service personnel only.

To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

**(GB)** Warning !

Invisible laser radiation when open.  
Avoid direct exposure to beam.

**(S)** Varning !

Osynlig laserstrålning när apparaten är öppnad och spårren är urkopplad. Betrakta ej strålen.

**(SF)** Varoitus !

Avatussa laitteessa ja suojauslaitteiden ohitettaessa olet alittiina näkymättömälle laserisäteilylle. Älä katso säteeseen!

**DK** Advarsel !

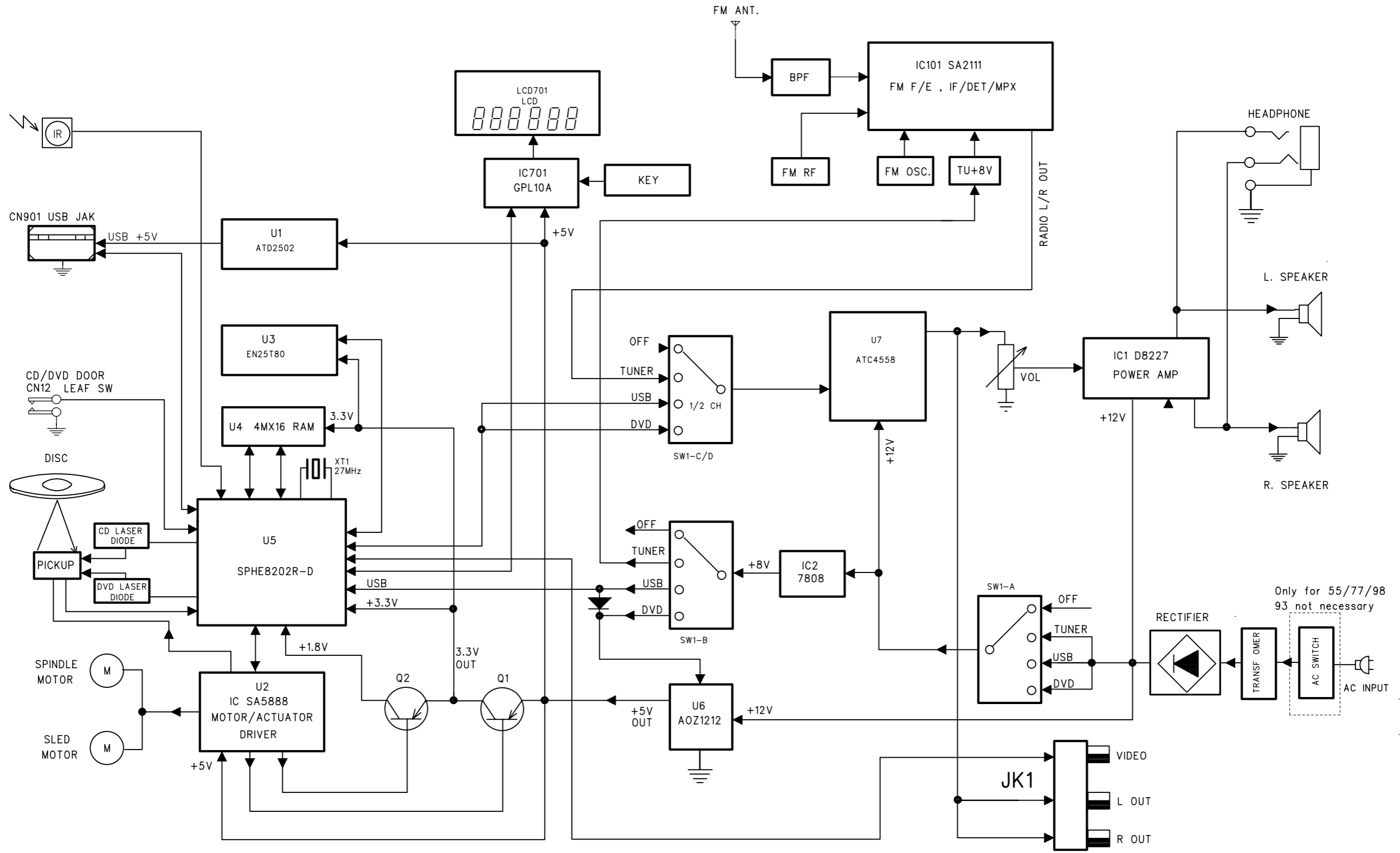
Usynlig laserstråling ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

**VERSION VARIATION**

Type /Versions:		AZ5741							
Board in used:	Service policy	/55	/93	/98	/79				
DVD BOARD		M+C	M+C	M+C	M+C				
Control BOARD		M+C	M+C	M+C	M+C				
Tuner BOARD		M+C	M+C	M+C	M+C				
USB BOARD		M+C	M+C	M+C	M+C				
Type /Versions:		AZ5741							
Features	Feature difference	/55	/93	/98	/79				
RDS									
VOLTAGE SELECTOR									
ECO STANDBY - DARK		√	√	√	√				
<p>* TIPS : C -- Component Lever Repair.  M -- Module Lever Repair  √ -- Used</p>									



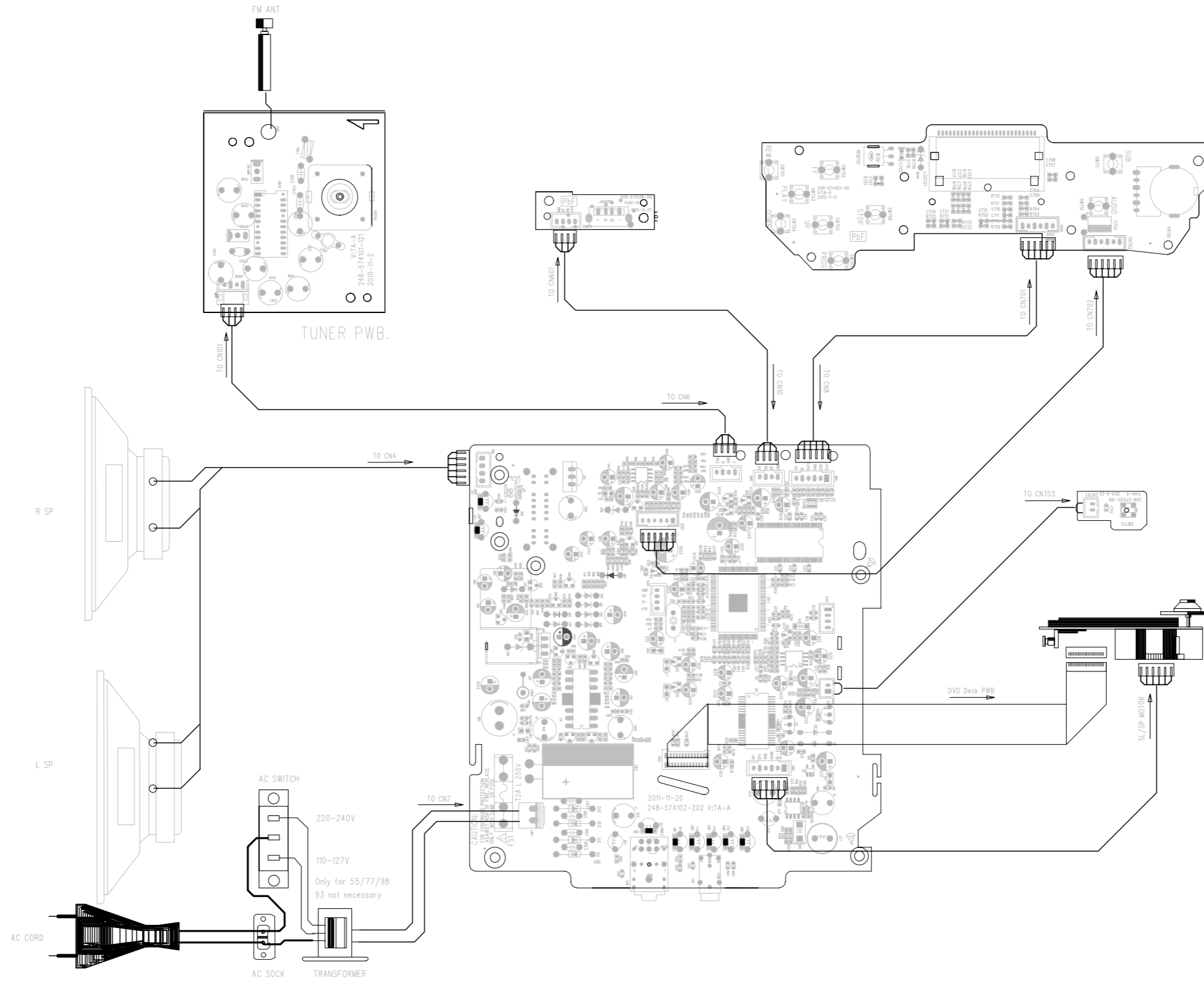
# SET BLOCK DIAGRAM



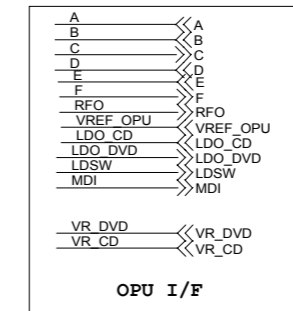
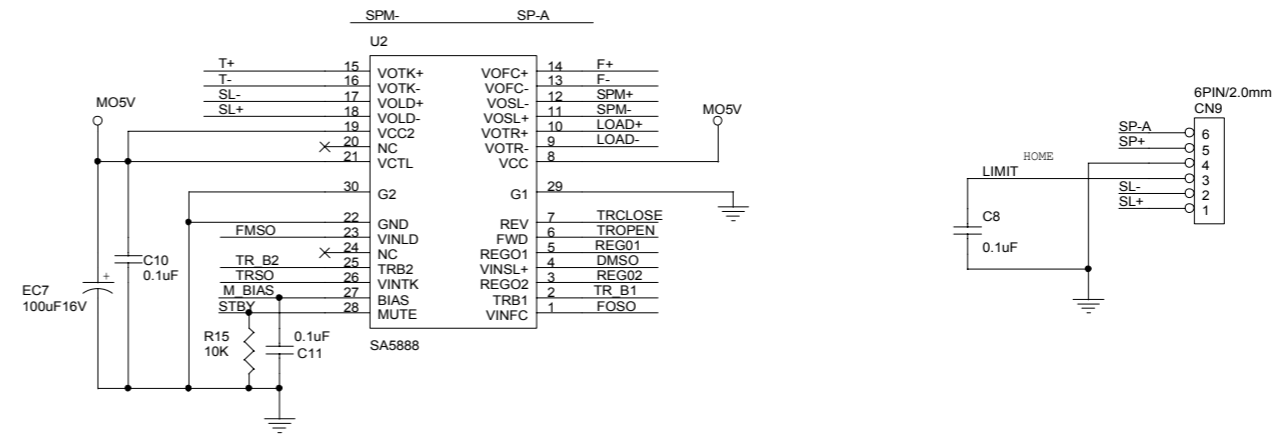
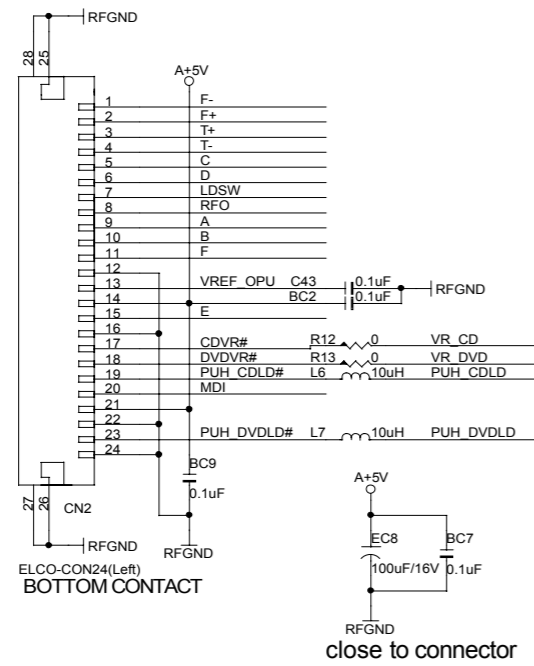
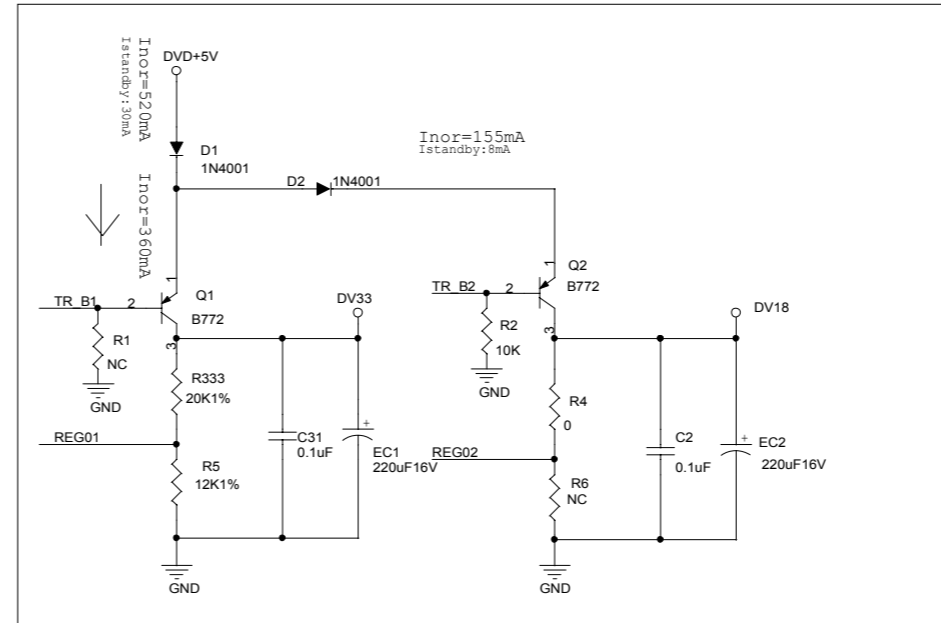
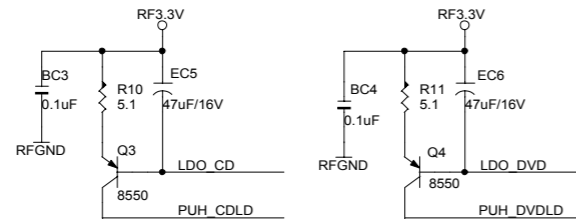
# WIRE CONNECT DIAGRAM

3-2

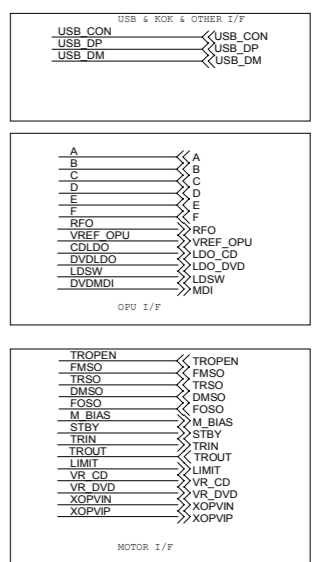
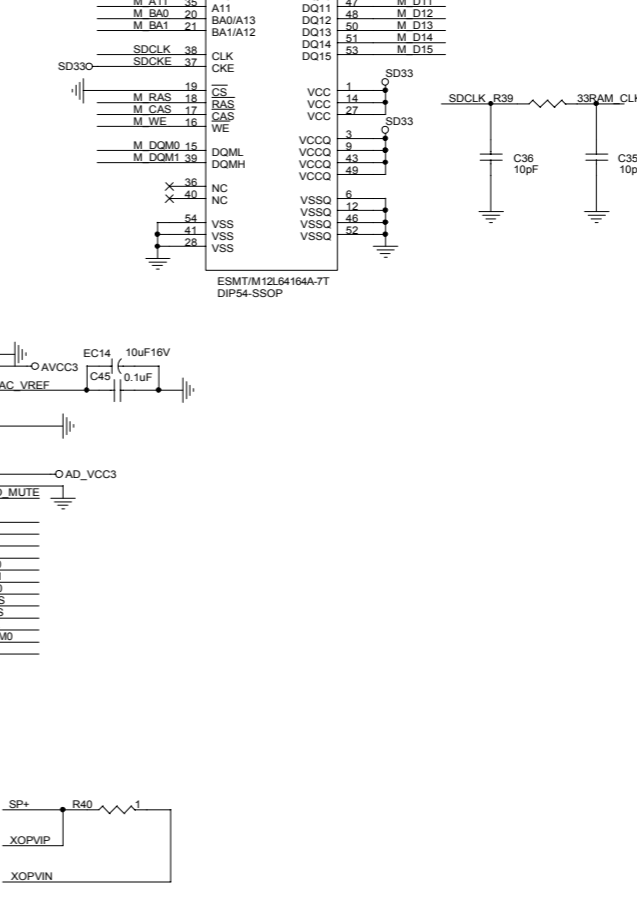
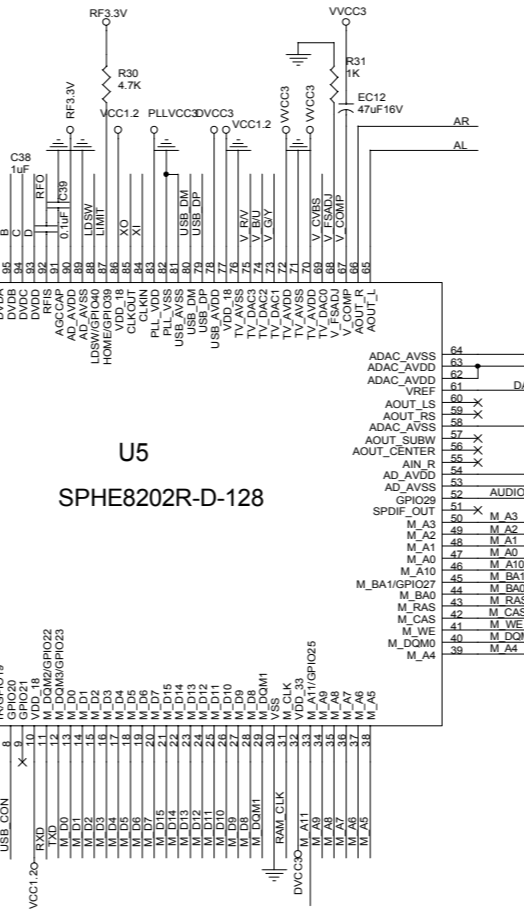
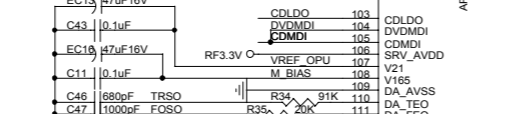
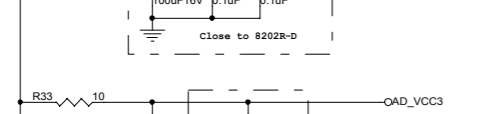
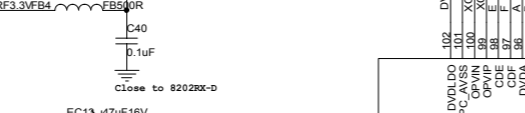
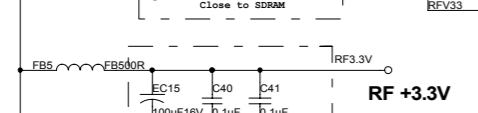
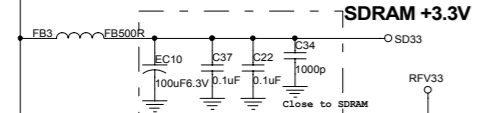
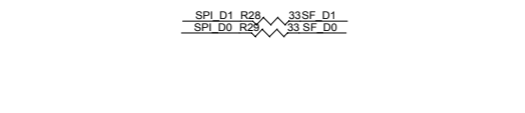
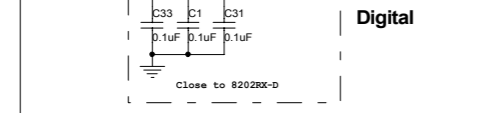
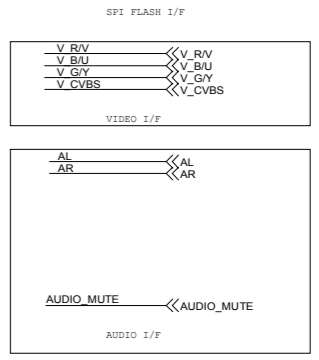
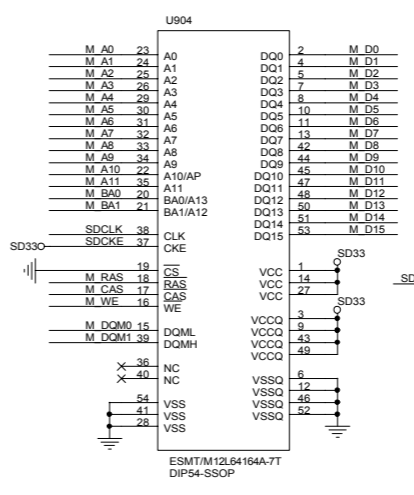
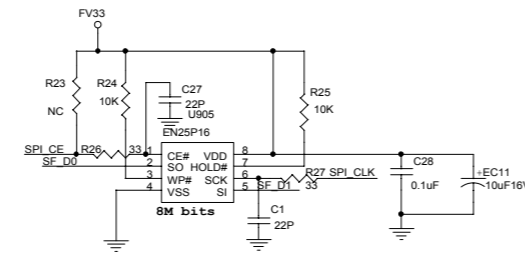
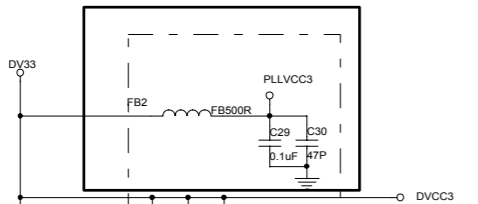
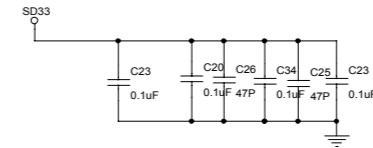
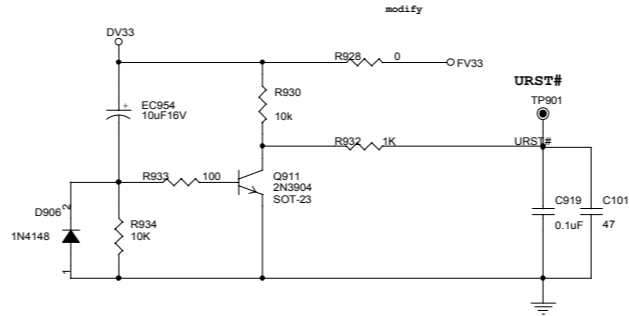
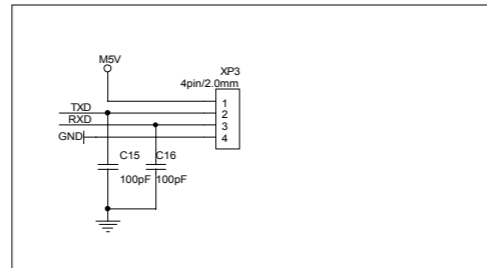
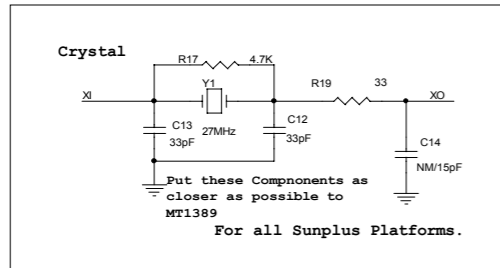
3-2



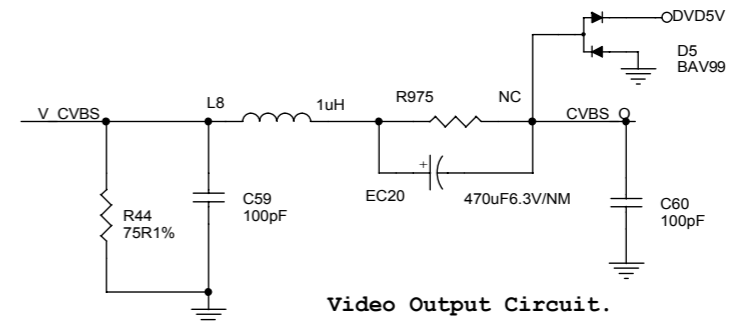
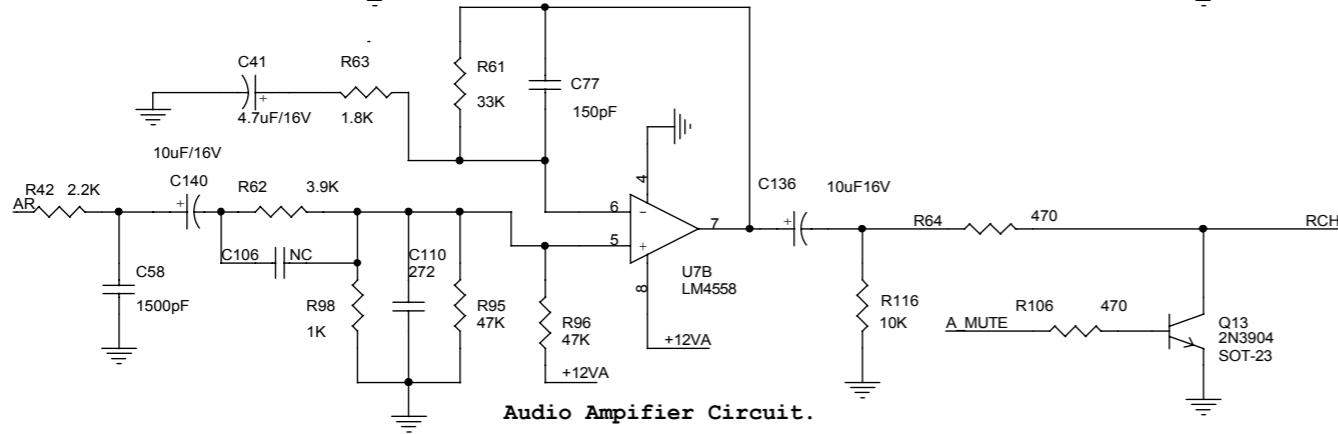
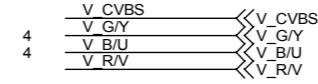
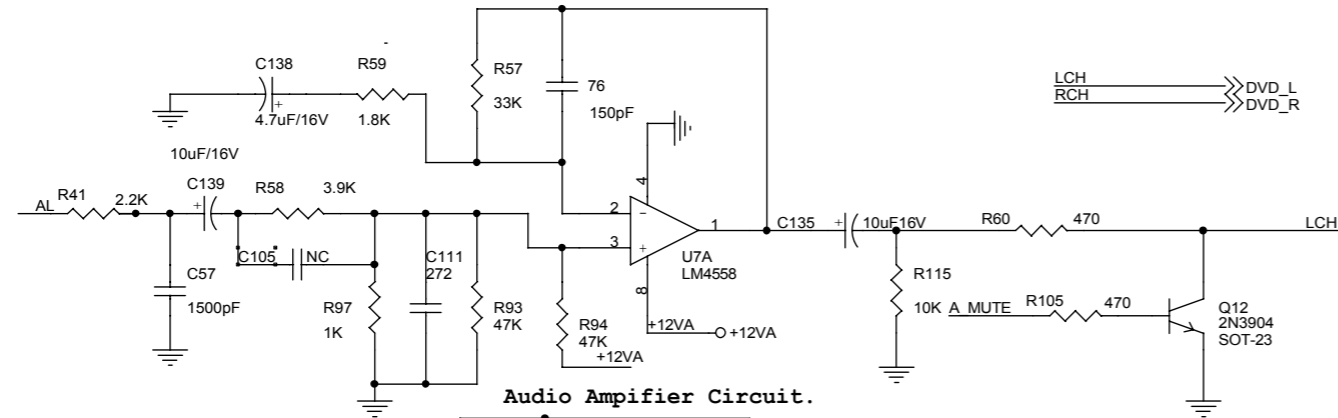
CIRCUIT DIAGRAM -PART1



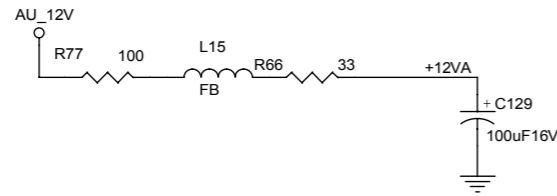
# CIRCUIT DIAGRAM - PART 2



**CIRCUIT DIAGRAM - PART 3**

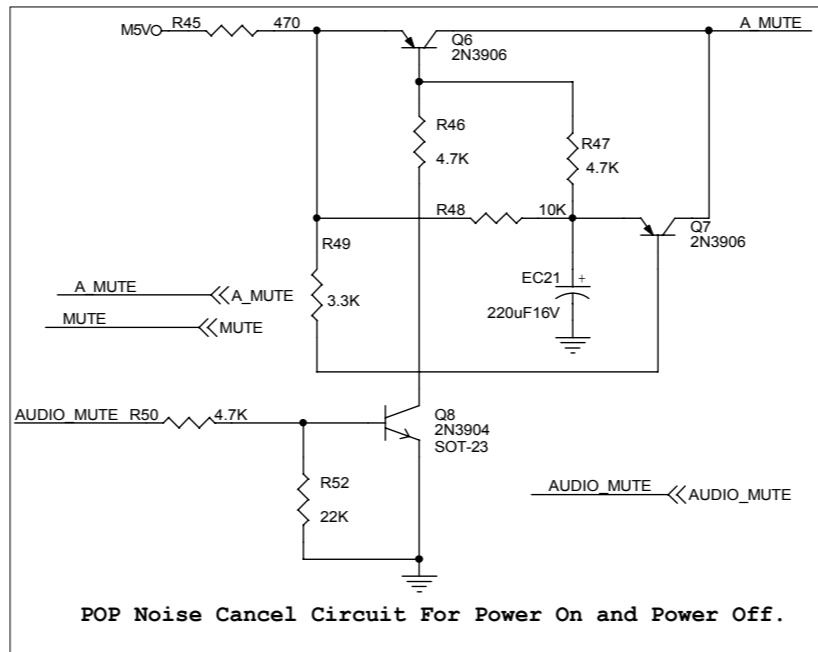
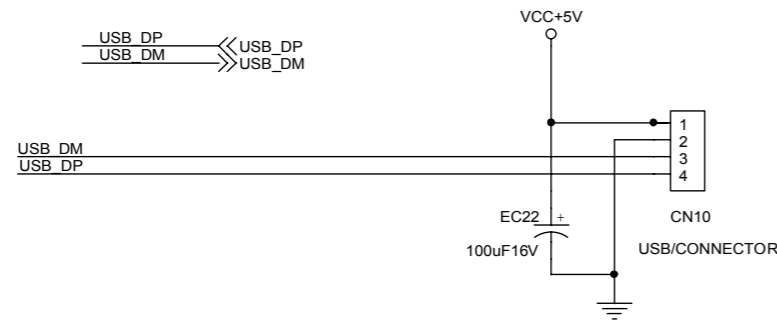


Note: Only 470uF/6.3V use for India stroke, unless other use 0 OHM



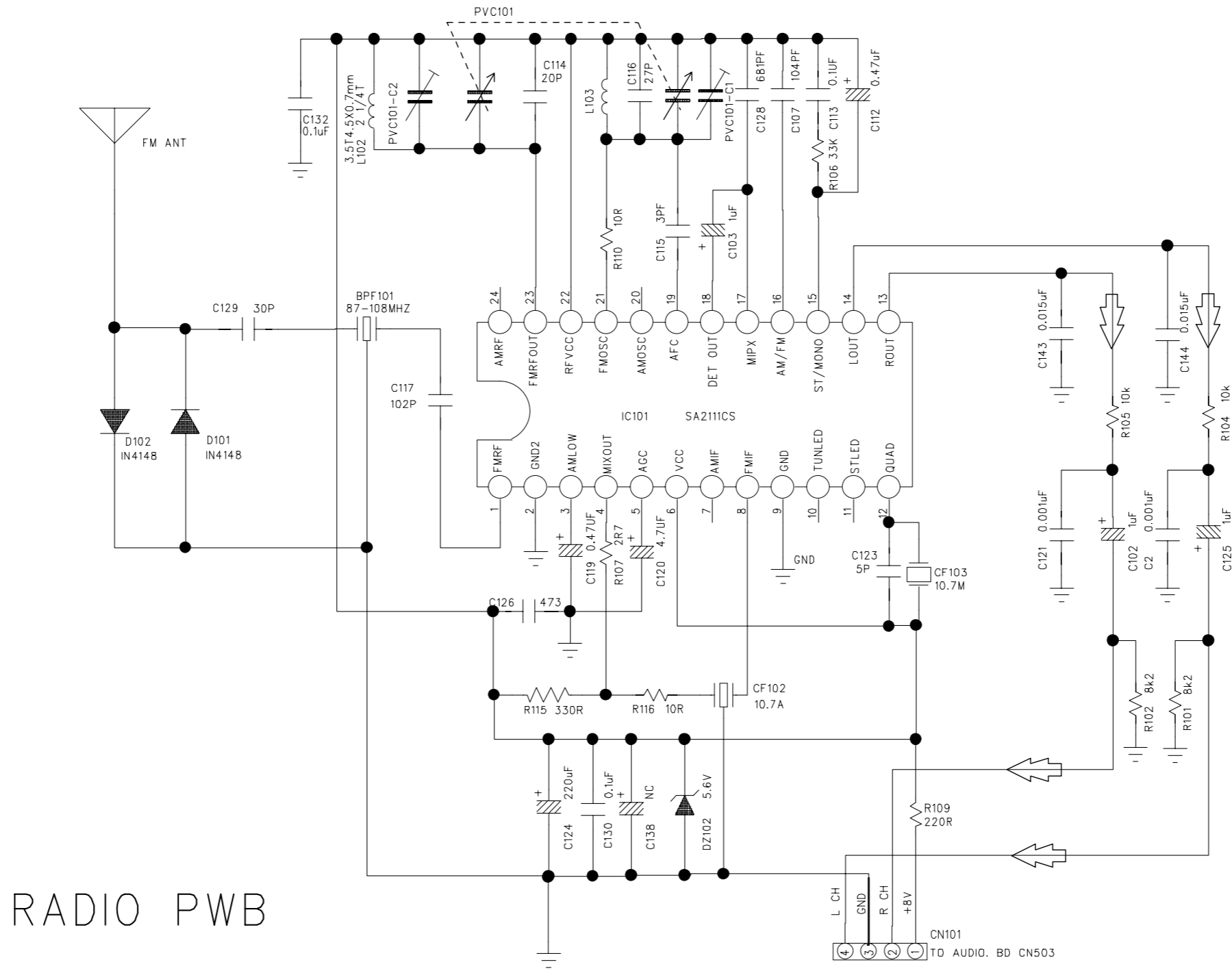
POWER Ciucuit of OP AMP

AL \_\_\_\_\_  
AR \_\_\_\_\_



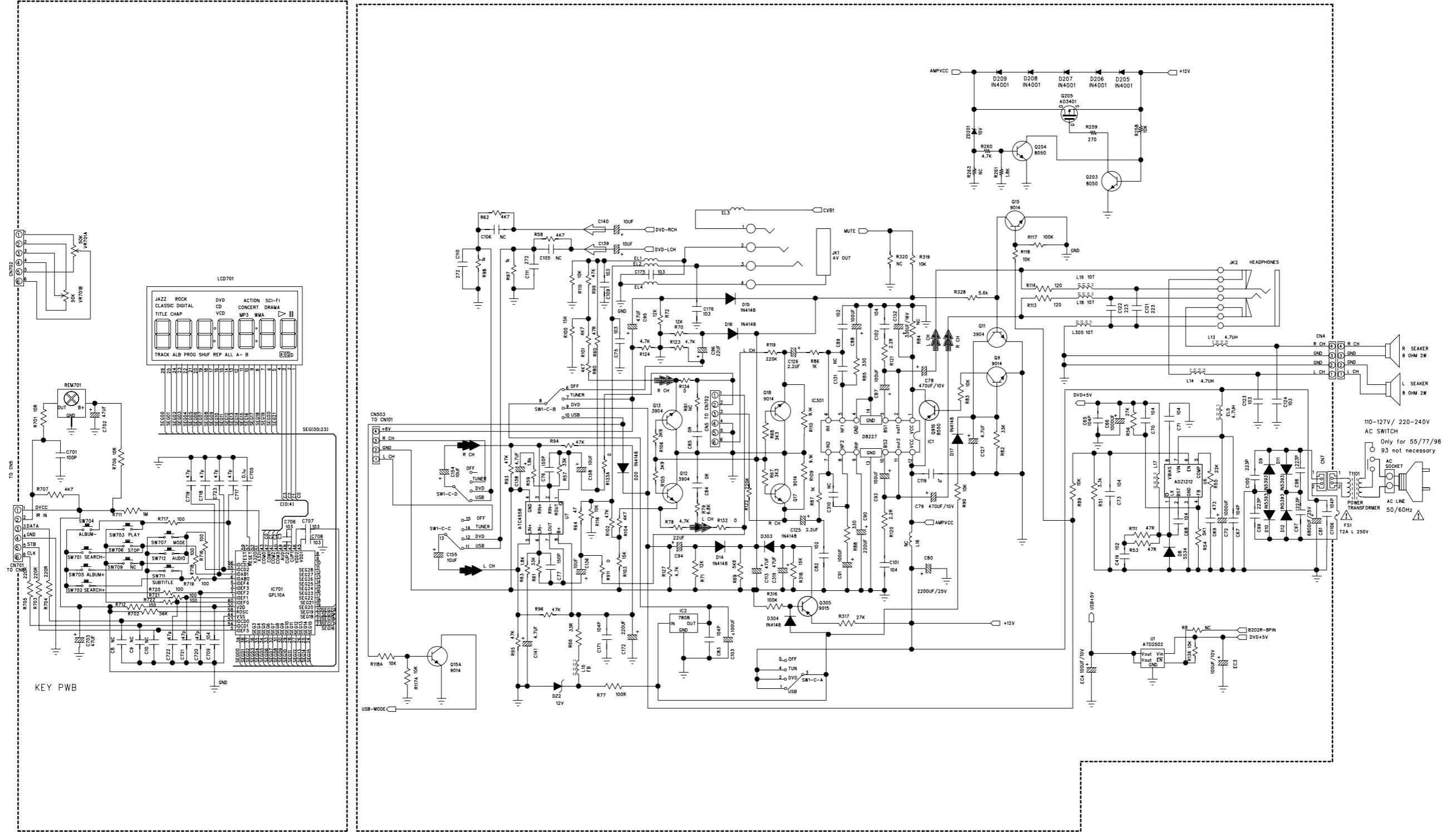
POP Noise Cancel Circuit For Power On and Power Off.

CIRCUIT DIAGRAM - PART 4

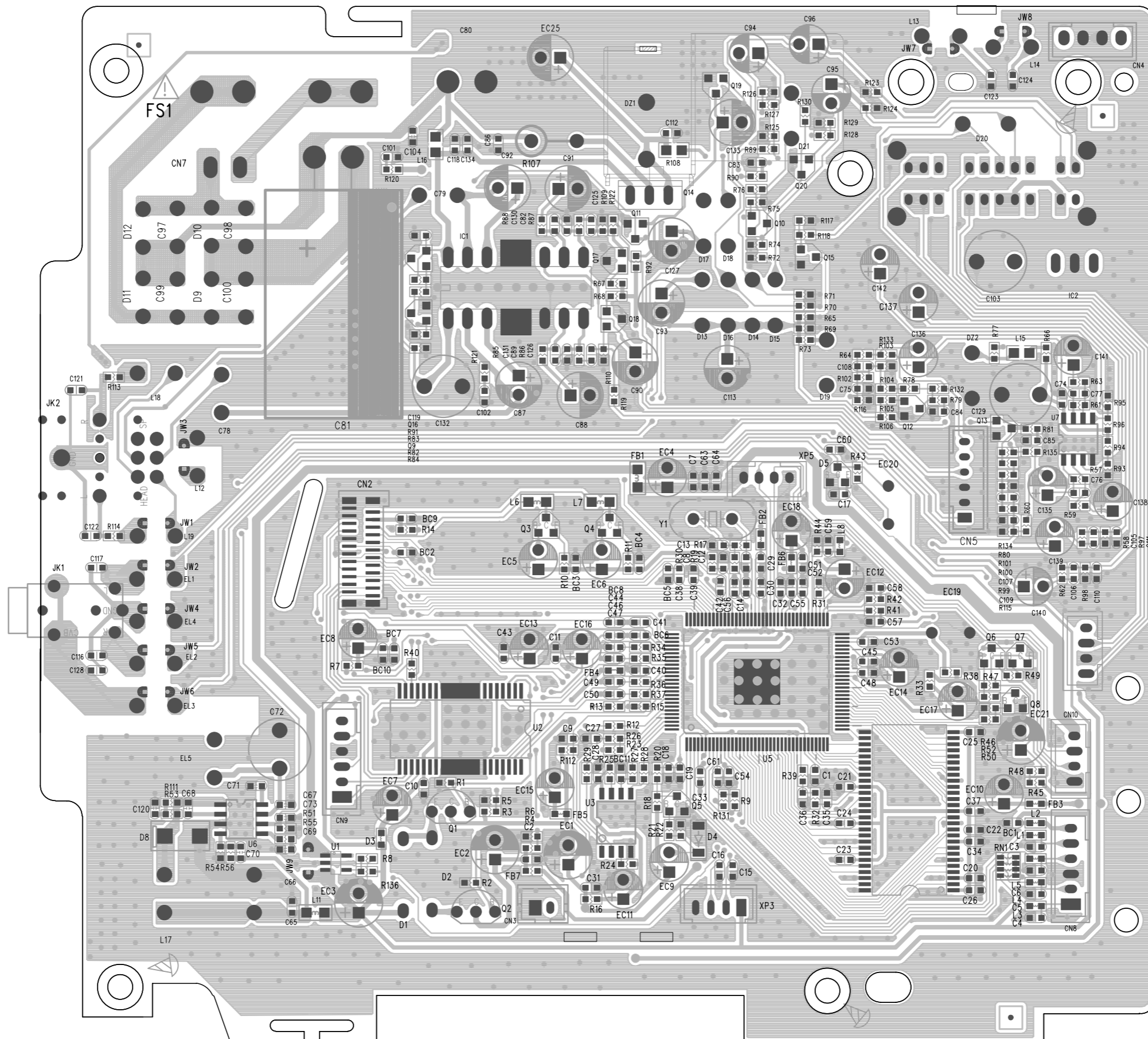


RADIO PWB

CIRCUIT DIAGRAM - PART 5



# LAYOUT DIAGRAM -Audio DVD BOARD TOP SIDE VIEW

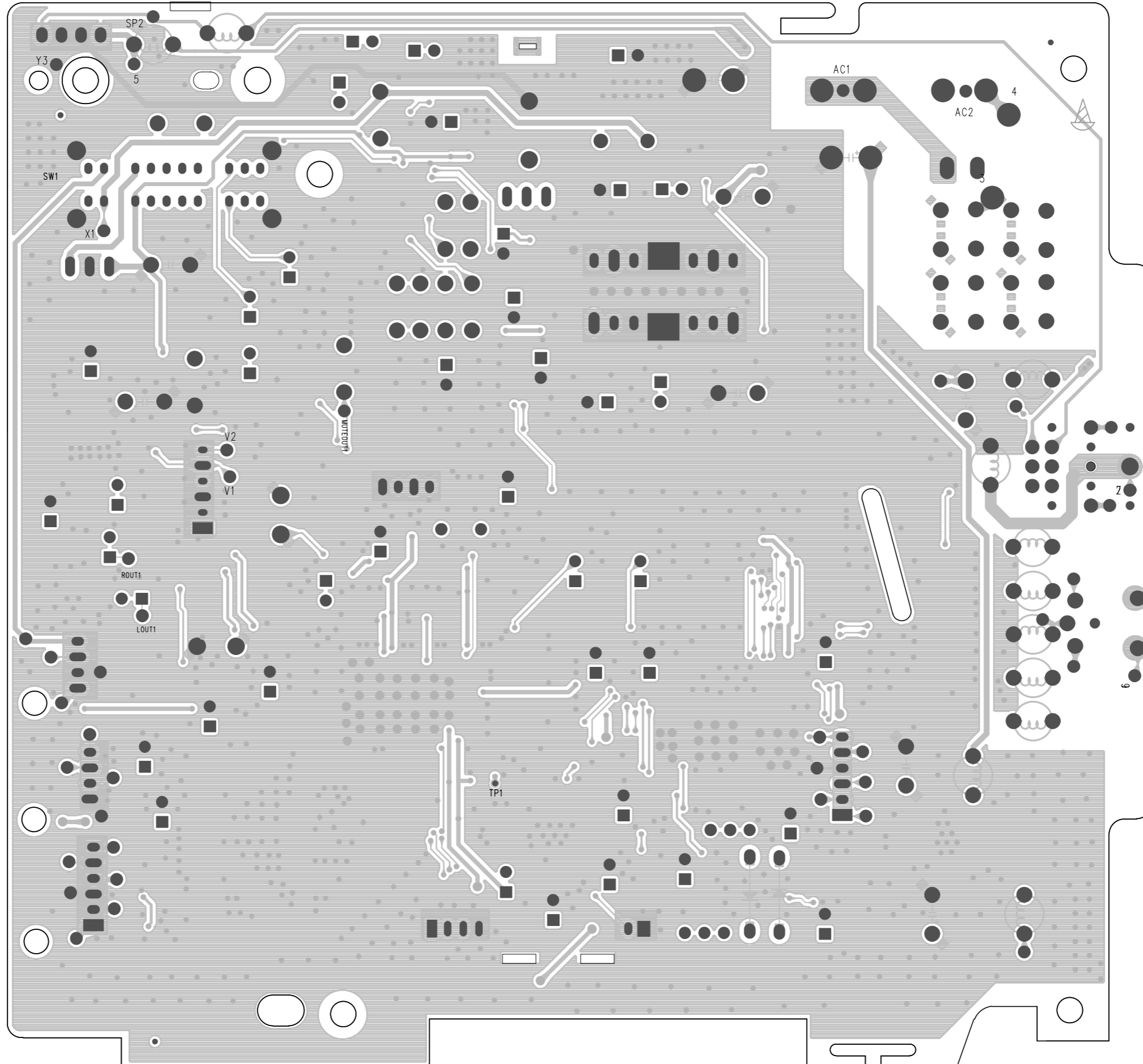




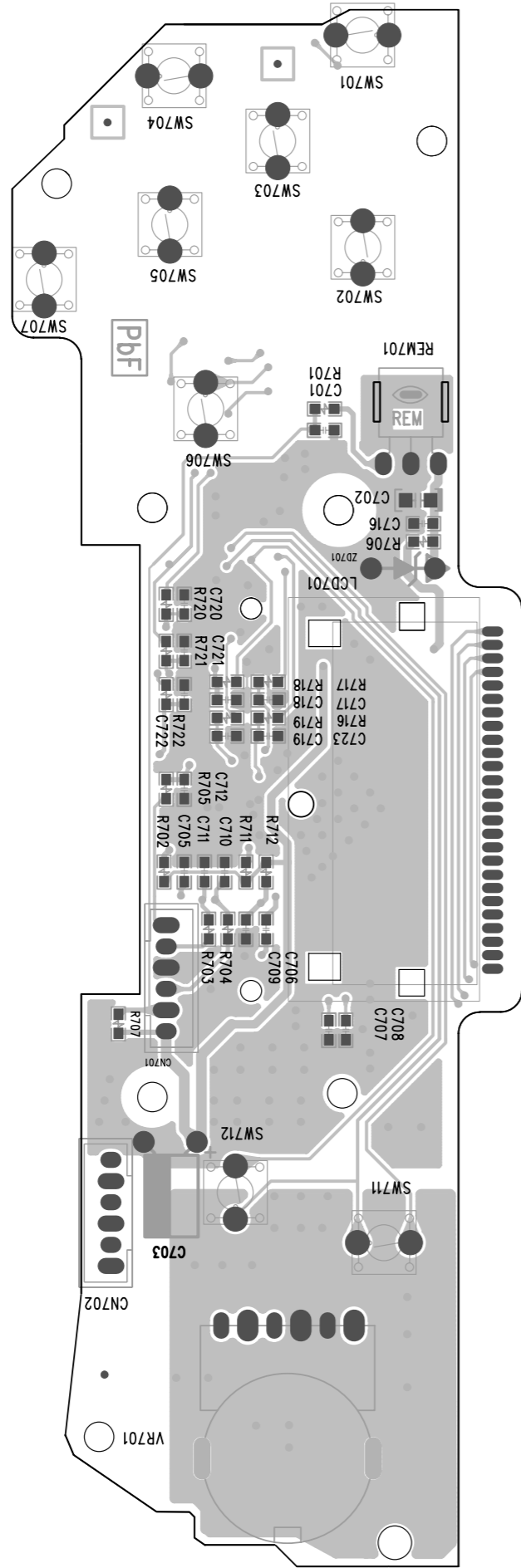
LAYOUT DIAGARM - Audio DVD BOARD  
BOTTOM VIEW

5-2

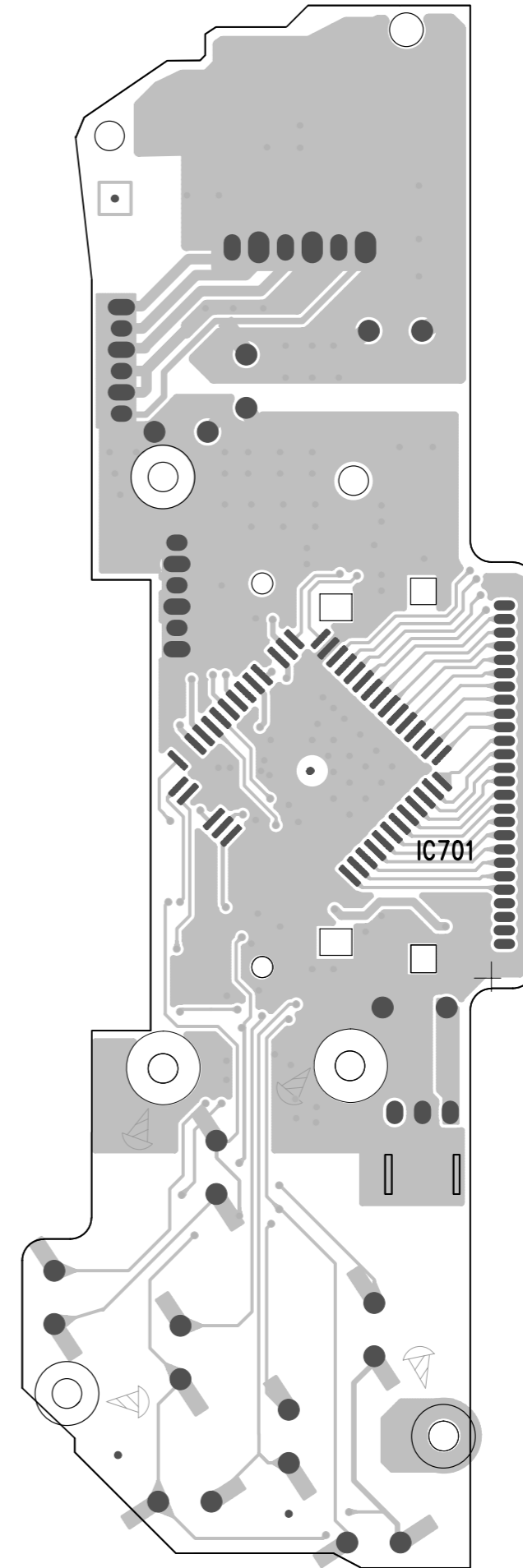
5-2



LAYOUT DIAGARM -Control BOARD  
TOP VIEW

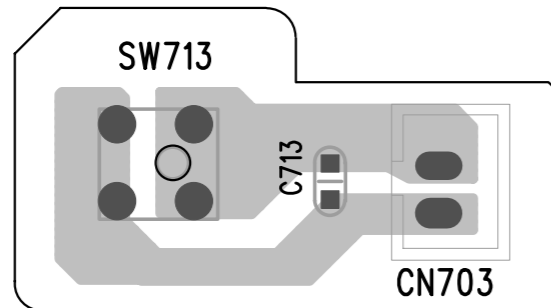


LAYOUT DIAGARM -Control BOARD  
BOTTOM VIEW

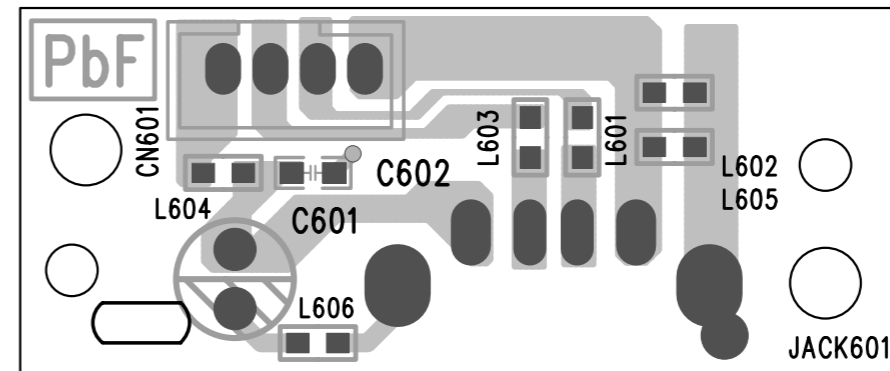


LAYOUT DIAGARM - RADIO\_VOL\_ON/OFF BOARD  
TOP SIDE VIEW

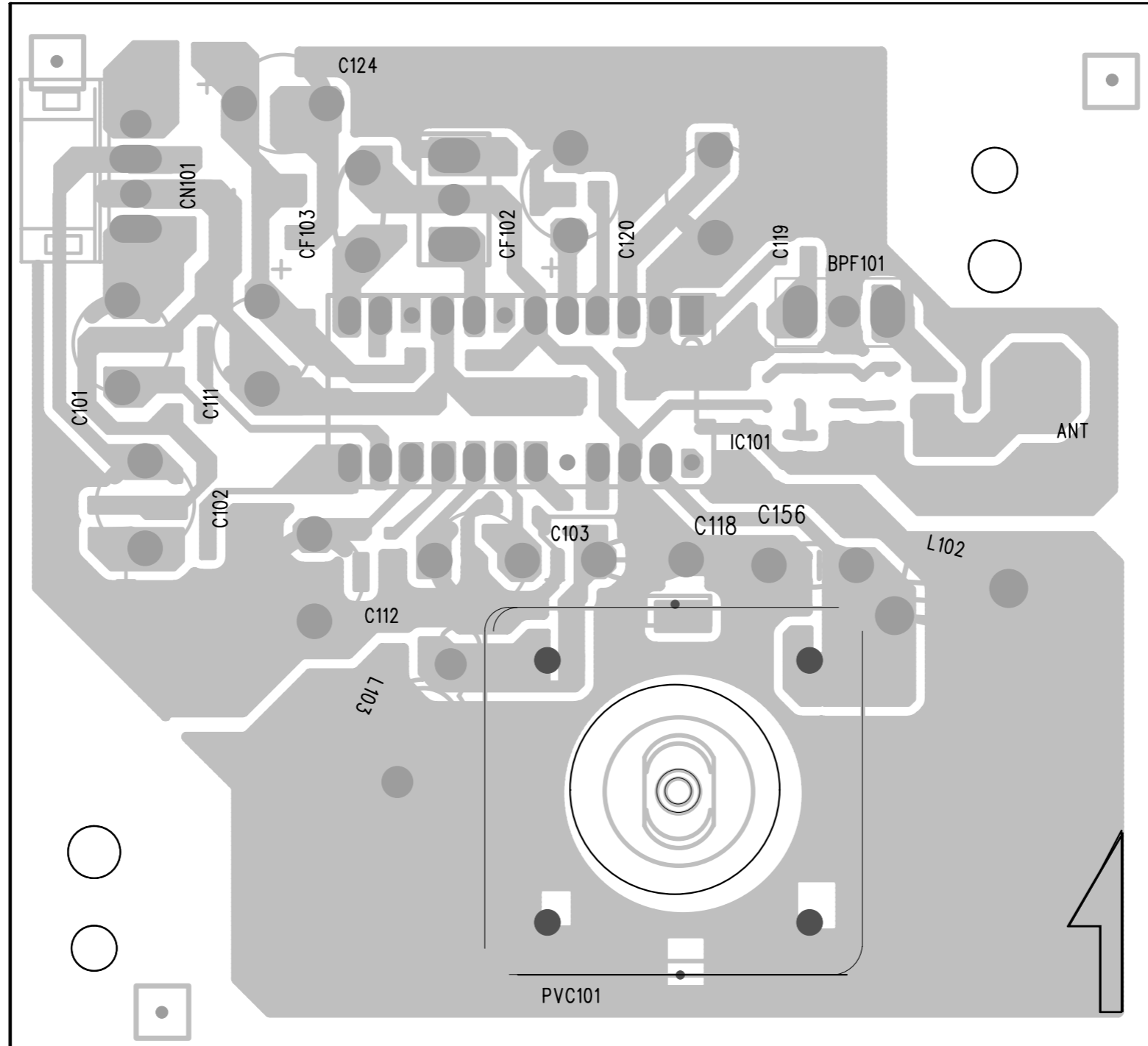
CD DOOR PWB



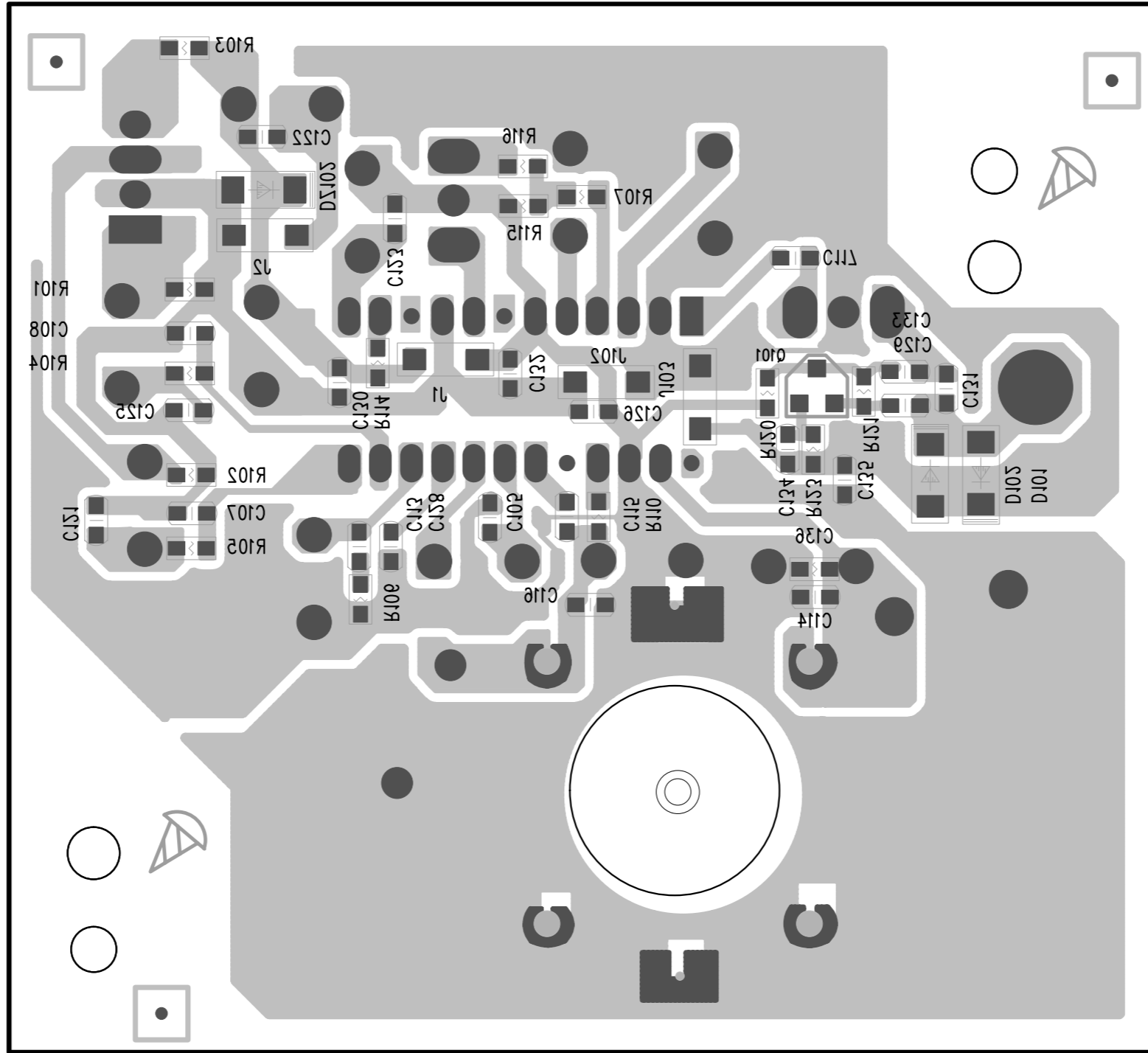
USB PWB



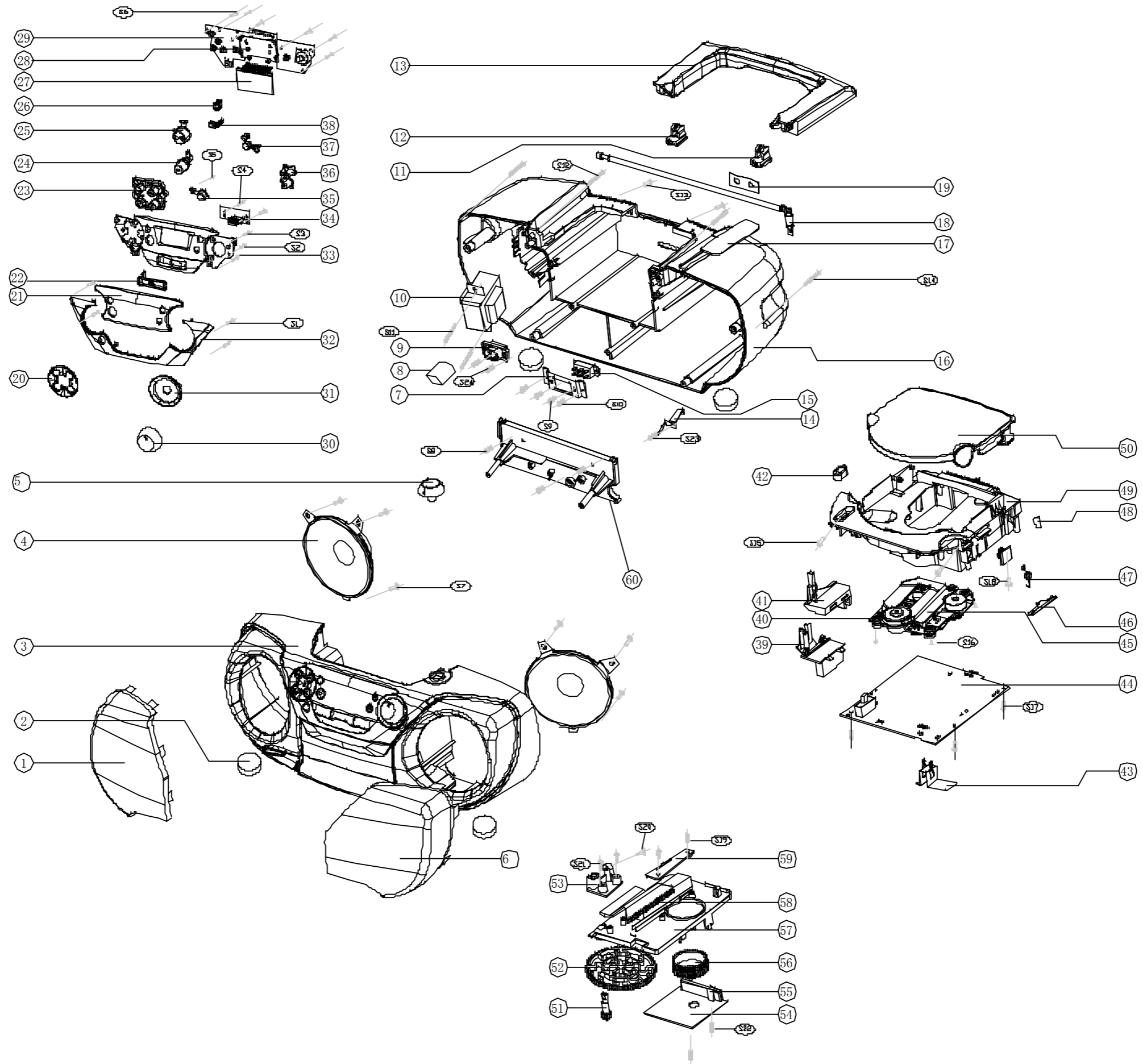
LAYOUT DIAGARM - Tuner BOARD  
TOP SIDE VIEW



LAYOUT DIAGARM - Tuner BOARD  
Bottom SIDE VIEW



EXPLODED VIEW DIAGRAM



## **Version History**

V1.0: initial release

V1.1: Add /79 version