

Service
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Service Manual



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Published by LZ 1213 Subject to modification

3141 785 37750

Version 1.0



PHILIPS

TECHNICAL SPECIFICATION

<p>3Description</p>	Pos.	Description	Pos.
	1	SPEAKER GRILLE (LIFT)	
	2	TOP CABINET	
	3	FRONT CABINET	
	4	BACK CABINET	
	5	POWER KNOB	
	6	DISPLAY LENS	
	7	TUNING KNOB	
	8	OPEN KNOB	
	9	IPOD RUBBER BRACKET	
	10	IPOD JACK	
	11	CD FUNCTION KNOB	
	12	DBB KNOB	
	13	VOL KNOB	
	14	FUNCTION PUSH KNOB	
	15	PROG KNOB	
	16	SPEAKER GRILLE (RIGHT)	
17	CD DOOR		
Battery location			
CABINET			
Dimensions with Boxes (W x D x H): 416 x 131 x 236 mm		Material: ABS/HIPS	33
Dimensions without Boxes: 416 x 131 x 236 mm (W x D x H)		Finishing:	34
Weight (including packing):. 1.8 kg		Unit in Mastercarton: N/A	35
Weight (excluding packing and batteries): 1.5kg		Units in Dealercarton: 1 set	36
INTERCONNECTION POSSIBILITIES			
Pos.	Connection/Function	Connector type	Electrical data (input or R.O.P)
37	DC Jack		
38	Aux in jack		
ACCESSORIES : (1)AC CORD			47

TECHNICAL SPECIFICATION

General description: AZD1755- PORTABLE CD SOUNDMACHINE TUNER										1	
LIFETIME : 5 YEARS (ACC. TO UAN-D1611)										2	
PERFORMANCE CLASSES :											
	TUNER	SUPPLY, AMPLIFIER	SPEAKER BOXES	RECORDER	CLOCK	CD	DCC	TELEPHONE	REC. PLAYER		
I	X	X		X						3	
II						X				4	
III										5	
SAFETY REQUIREMENTS:										6	
IEC 60065:2001(SEVENTH EDITION)+AI:2005-----SAFETY											
RADIATION, IMMUNITY REQUIREMENTS: (EMC)										7	
EN55013:2001+A1:2003+A2:2006;EN55020:2007 EN61000-3-2:2006+A2:2009;EN61000-3-3:2008 EN61000-4-5:2006; EN61000-4-11:2004											
CLIMATIC REQUIREMENTS: (acc. to UAN-D1590)											
All climates: -10 °C till +50 °C (Functional); Set has to be pre-conditioned for 2 hour, except CD function										8	
For all measurements: 25 °C										9	
POWER SUPPLY:											
MAINS (AC) operation					DC (int. or ext.) operation / Backup Buffer						
Voltage selection:					Battery type:						10
Selection:		See table below									11
Frequency:					External DC: YES						12
POWER CONSUMPTION:										13	
Standby: Less than <0.5W					Standby:						
Maximum: 7 w					Maximum:					14	
General:											
Q and R according to production division rules :					Q ≤ 1% (Major), Q ≤ 4% (Minor)						
Measured according to:					R ≤ 3% (CE52)						
DERIVED VERSIONS:									APPROBATION	15	
Version	Voltage on typeplate	Tolerance	Frequency	Tuner							
12	230V ± 10%, 50Hz	± 10%	50Hz	FM,							

TECHNICAL SPECIFICATION

TUNER PART												
TECHNICAL description:												
(circuitry)				FM		(active components)				FM		
RF						SI4831		SI4831		1		
IF						SI4831		SI4831		2		
Detector				QD						3		
Decoder								SI4831		4		
GENERAL part:												
WAVE RANGE				TOLERANCES				TUNING				
										5		
FM		87.5MHz - 0.3 MHz						1MHz		6		
		108MHz + 0.5 MHz						1MHz		7		
										8		
										9		
										10		
AERIAL:												
				FM telescope				- 540 mm				12
FM wire : N/A				Execution				- Rotational 180°				13
INDICATORS:												
Pointer stroke:				Execution pointer:								14
Knob indication over:				Field Strength:								15
ELECTRICAL DATA:												
AM:		nom.	limit	FM:				nom.	limit			
				-3dB limiting point				20	26 dBf			
				Amplification reserve				0	-4 dB			
				AFC holding range				-				
				Distortion (RF 1mV, Δf 67.5kHz)				1	7 %			
				Stereo -46dB quieting				48	52			
				Cross-talk (RF 1mV, Δf 40kHz, 1kHz)				25	20 dB			
				IF								
wave range		Sensitivity for 50mW		noise limited sensitivity (26dB)		Image rejection	IF rejection	large signal				
FM	nom.					18	24	55	122dBf			
	lim.					22	20	50	111dBf			
											27	
											28	
											29	
											30	
											31	
unit		μV/m	μV	dBf	dBμV/m	dBf	dB	dB	dB	mV/m		

TECHNICAL SPECIFICATION

SUPPLY, AF-AMPLIFIER & LOUDSPEAKER (Boxes) PART:

TECHNICAL description:					
	Power supply	Tone Control	AF-Amplifier	Loudspeaker	
Active components			MIX3004		1
Passive components				2 X 8Ω, 1W	3
					4
GENERAL part:					
Aux in jack type		Ø 3.5mm			5
Loudspeaker filter, high pass		None			6
Loudspeaker filter, low pass		None			7
Power stage protection		Temperature – YES; Short circuit – YES			8
Public address		No			9
INDICATORS:					
Output power or VU-meter		No			11
Frequency response		No			12
Low power (battery)		No			13
					14
ELECTRICAL DATA:					
TONE/EQUALIZER/DBB					
DSC		Balance control	No		15
		Mechanical noise (ISO 1996)			16
		Noise overall (ISO)			17
		Channel difference at -46dB	Type: < 3 dB		18
		Hum (vol.max.-20dB to vol.min.)	Limit: 2mV		19
		Residual noise(volume min)	Limit: 2mV		20
DBB on (Vol.max.-20dB): 100Hz, +6dB (±2dB) w.r.t. 1kHz at DBB on				DBB has no dynamic, fixed to 6dB	21
DBB off (Vol.max.-20dB): 100Hz, -2dB (±2dB) w.r.t. 1kHz at DBB on					22
Input sens.:Nom.	500	mV			23
for 50mW Limit:	600	mV			24
Line outp.: Nom.		mV			25
voltage Limit:		mV			26
OUTPUT POWER:					
Mains operation:	D=10%	2 X 1W 8Ω		Limit: -1dB	27
					28
Music power (MPO) / (PMPO):		(acc. to DIN45324)			29
Short term maximum output power:		-		(acc. to IEC 60268-15)	30
Long term maximum output power:		-		(acc. to IEC 60268-15)	31
Headphone output voltage/power:		n.a.			32
Bandwidth FTC – 1dB at:		n.a.		(acc. to FTC/16/1/D/432)	33
Bandwidth DIN – 3dB at:		-		(acc. to IEC 60268-15)	34
Frequency response at Vol. max – 20dB:		typ. 60Hz to 20kHz (±3dB)			35
LOUDSPEAKER (output):					
Low pass crossover frequency:	--	kHz	tolerance:	Hz	36
High pass crossover frequency:	--	kHz	tolerance:	Hz	37
Short term maximum output power:	--	W (acc. to IEC 60268-15)			38
Long term maximum output power:	--	W (acc. to IEC 60268-15)			39
Frequency response at:	--	Hz		kHz	41
REMARKS:					
27 : Measured in Tuner mode; 28: CD or Tape mode.					42

TECHNICAL SPECIFICATION

TUNER PART											
TECHNICAL description:											
		(circuitry)			FM		(active components)			FM	
RF						SI4831		SI4831		1	
IF						SI4831		SI4831		2	
Detector			QD							3	
Decoder								SI4831		4	
GENERAL part:											
WAVE RANGE				TOLERANCES				TUNING			
										5	
FM		87.5MHz - 0.3 MHz						1MHz		6	
		108MHz + 0.5 MHz						1MHz		7	
										8	
										9	
										10	
AERIAL:											
						FM telescope	-	540 mm		12	
FM	wire	:	N/A			Execution	-	Rotational 180°		13	
INDICATORS:											
Pointer stroke:					Execution pointer:					14	
Knob indication over:					Field Strength:					15	
ELECTRICAL DATA:											
AM:		nom.	limit	FM:				nom.	limit		
										16	
						-3dB limiting point		20	26 dBf	17	
						Amplification reserve		0	-4 dB	18	
						AFC holding range		-		19	
						Distortion (RF 1mV, Δf 67.5kHz)		1	7 %	20	
						Stereo -46dB quieting		48	52	21	
										22	
						Cross-talk (RF 1mV, Δf 40kHz, 1kHz)		25	20 dB	23	
						IF				24	
wave range		Sensitivity for 50mW		noise limited sensitivity (26dB)		Image rejection	IF rejection	large signal			
FM	nom.				18	24	55	122dBf		25	
	lim.				22	20	50	111dBf		26	
										27	
										28	
										29	
										30	
										31	
	unit	μ V/m	μ V	dBf	dB μ V/m	dBf	dB	dB	dB	mV/m	

TECHNICAL SPECIFICATION

CD-PART: (CD MECHAISM-DA11B3VF)(SANYO)

Technical description:					
	Input	Output	Motor/control	Logic control	
Active components			MMSA1465(Mitsumi)	SC9639	1 2
Passive components					3
	Signal processing		HF-preamplifier	Servoprocessor	4
Active components				SC9639	5
Passive components					6
Indicators/Display/Keys:					
Display: Digits LCD for Track No. display					7
Keys: one 4-position slider switch, 6 tact switches on unit, 6 for CD→: Play, Stop, Previous/Search down, Next/Search up, Program/Program review, CD-modes (Repeat/Shuffle)					8
Playability: (acc. To AR 30-05-239)					
	Limit	Typical	Testdisc		
Wedge	500 μm	700 μm	TNO 7,9 of SBC 444A (7104 099 24990)	9 10	
Eccentric	150 μm	200 μm	TNO 1,24 of 200μm disc (7104 099 24960)	11	
Fingerprint	No audible defect		TNO 11 of Subchassis 8A	12	
Black dot	500 μm	600 μm	TNO 13 of SBC 444A (7104 099 24990)	13	
Skew 0.6mm	No audible defect		TNO 1,6 of 0.6mm skew (7104 099 28260)	14	
Bad HF track	No audible defect		TNO 8 of Subchassis 8A	15	
Heavy fingerprint	No track jumps/plops		TNO 10 of Subchassis 8A	16	
Playback position	Horizontal, Normal position (Set is located on a flat surface, floor)			17	
- Playback of above mentioned tracks possible without track loss or audible defects. - Double black dot, max. diameter, thin/thick disk is according to PQR or AR 30-05-239) - This unit can playback (only) CD-R or CD-RW discs. For performance specification, please refer to module specification of CD99 (3103 308 52190)				18	
Shock resistance: (acc. to AR 13-A6-CD-068)					
± Z axis	4.5 G				19
± X or Y axis	4.5 G m				20
Acoustical noise:					
Mode: Play/Pause	35 dBA max. (45 dbA in Search mode)				21
Mode: Jump (Next)	45 dBA max.				22
AUDIO part: (Measured with Audio Signals Disc-1, 7104 078 04911 on Speakers or Headphone socket with nom. load)					
	Typ.	Limit			
Output level (TNO1)			23 24		
SNR unwtd.	60 dB	48 dB	25		
SNR wtd. dBA	65 dBA	57 dBA	26		
Crosstalk (1kHz)	40 dB	26 dB	27		
Crosstalk (10kHz)	30 dB	16 dB	28		
Frequency response Vol.max.-20dB (DBB on)	+9dB +5dB	±2dB ±3dB	at 100Hz at 10kHz	29	
THD (1kHz, -6 dB)	0.2 %	2 %	30		
THD (10 kHz, -20 dB)	< 1 %	< 3 %	31		
Channel difference	2 dB	3 dB	32		
Frequency accuracy	-	+/-0.5 %	33		
De-emphasis	15μs / 50μs Switchable via Subcode information				34
REMARKS:					
- Amplification reserve for CD = +2dB (±2dB); Ref. Level for CD is a 0dB track instead of a -6dB track.					35

VERSION VARIATION

Type /Versions:		AZD1755									
Board in used:	Service policy	/12	/61								
		Main BOARD	M+C	M+C							
Control BOARD	M+C	M+C									
IPOD BOARD	M+C	M+C									
Tuner BOARD	M+C	M+C									
Type /Versions:		AZD1755									
Features	Feature difference	/12	/61								
		RDS									
	VOLTAGE SELECTOR										
	ECO STANDBY - DARK	√	√								
<p>* TIPS : C -- Component Lever Repair. M -- Module Lever Repair √ -- Used</p>											

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.

**(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 suojalukituksen ohitettaessa olet alltiina näkymättömälle laserisäteilylle. Älä katso säteeseen!

DK Advarsel !

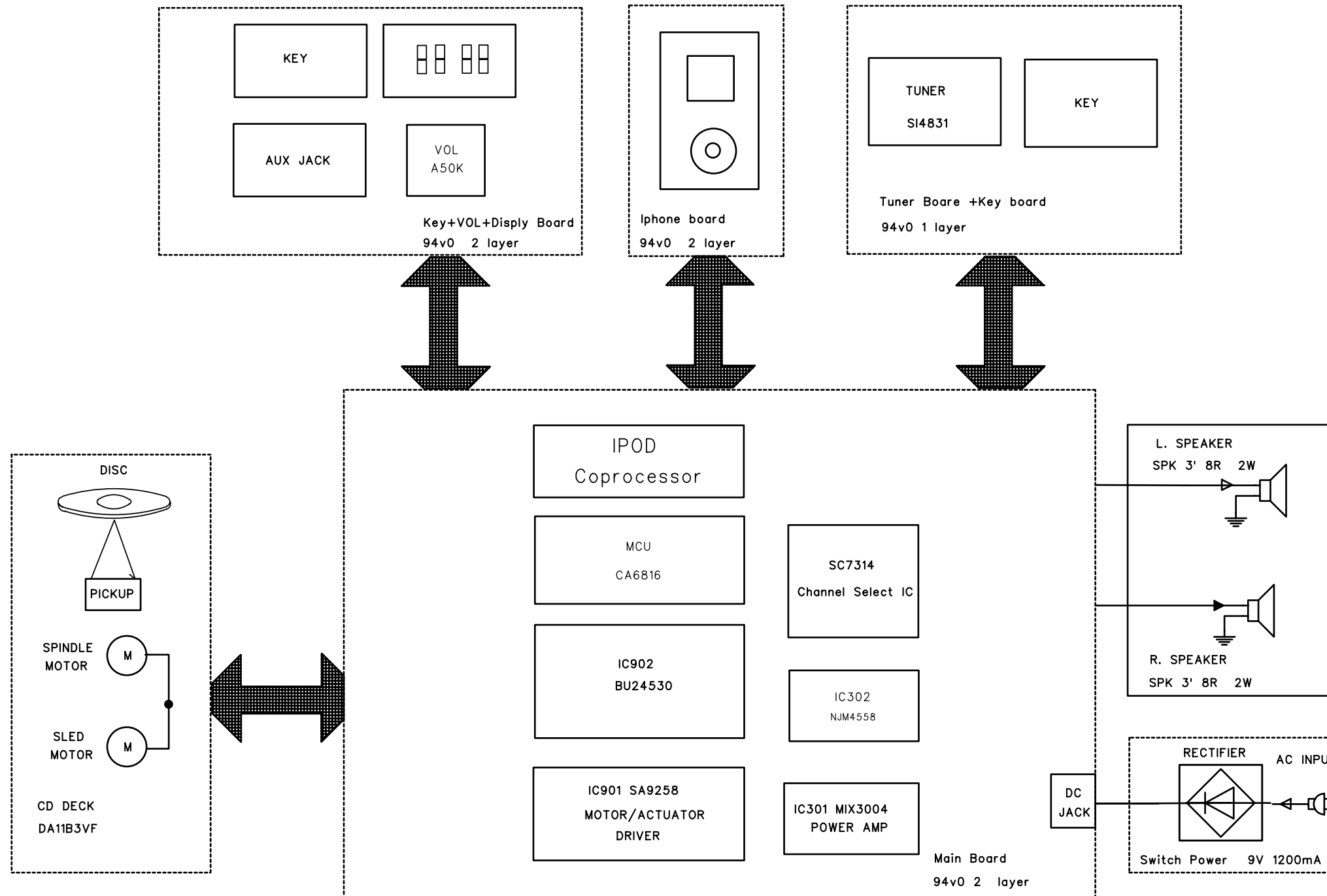
Usynlig laserstråling ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

"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."

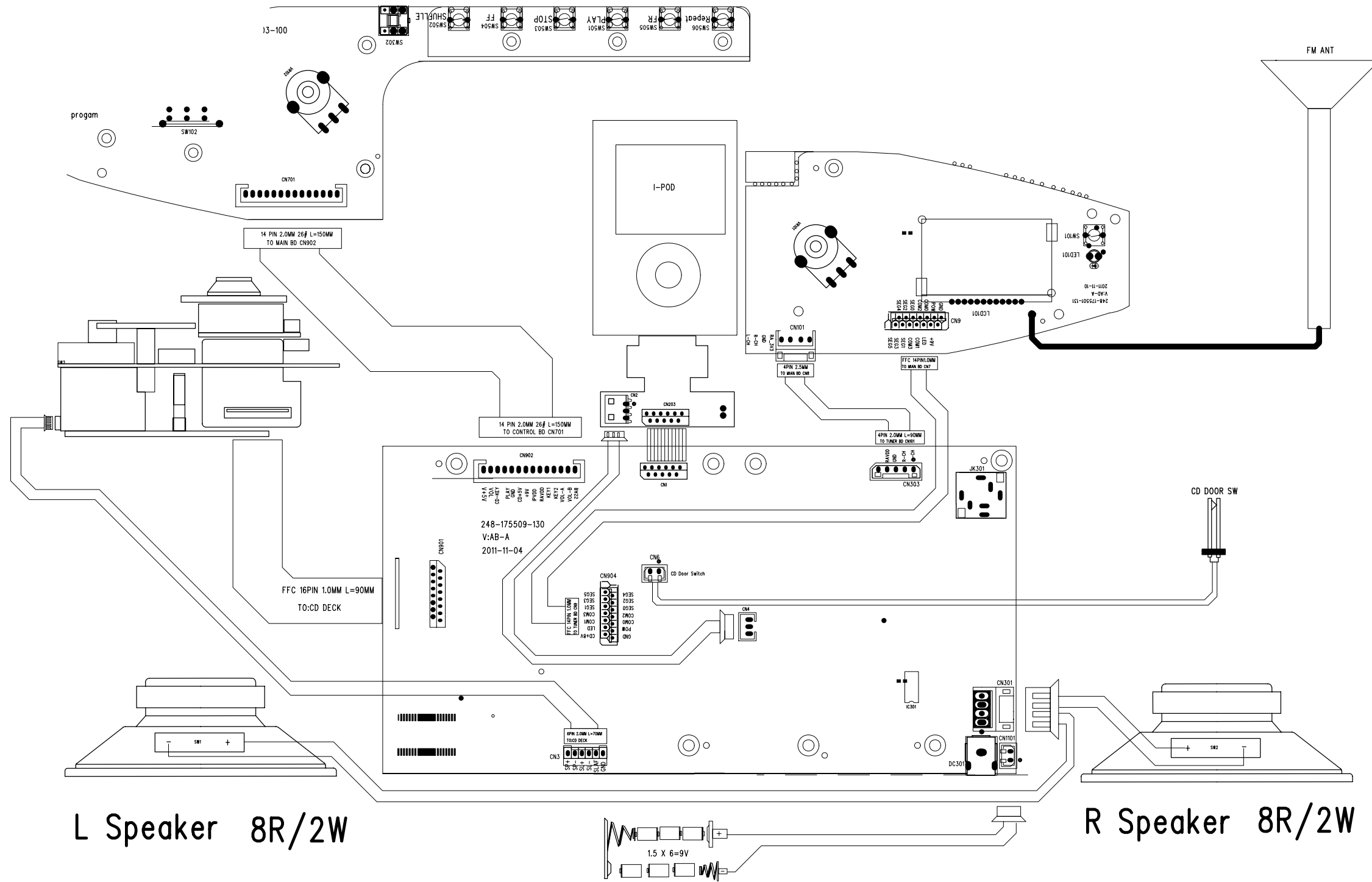
Caution: These servicing instructions are for use by qualified service personnel only.

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.

SET BLOCK DIAGRAM



WIRE CONNECT DIAGRAM

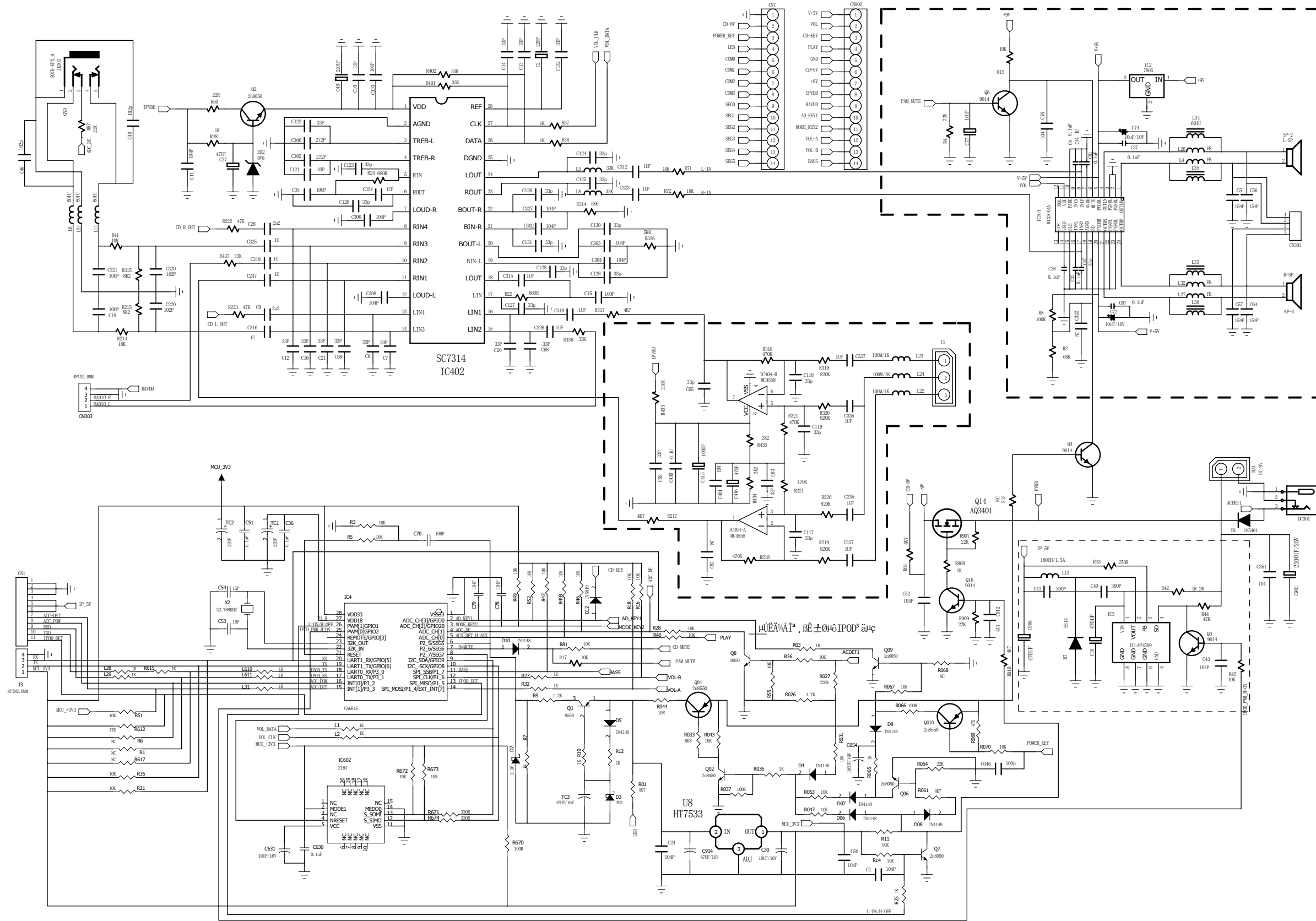


L Speaker 8R/2W

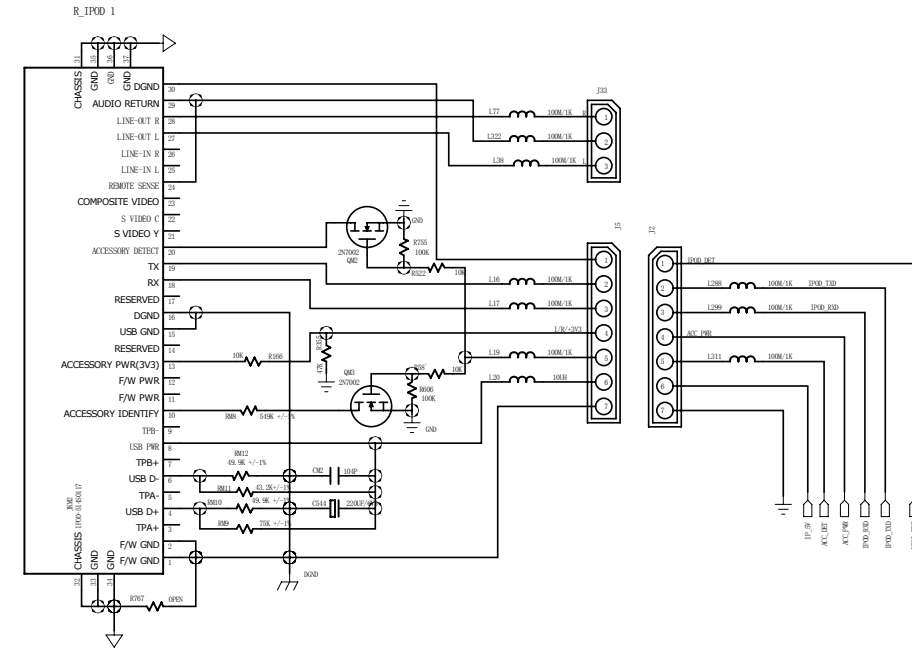
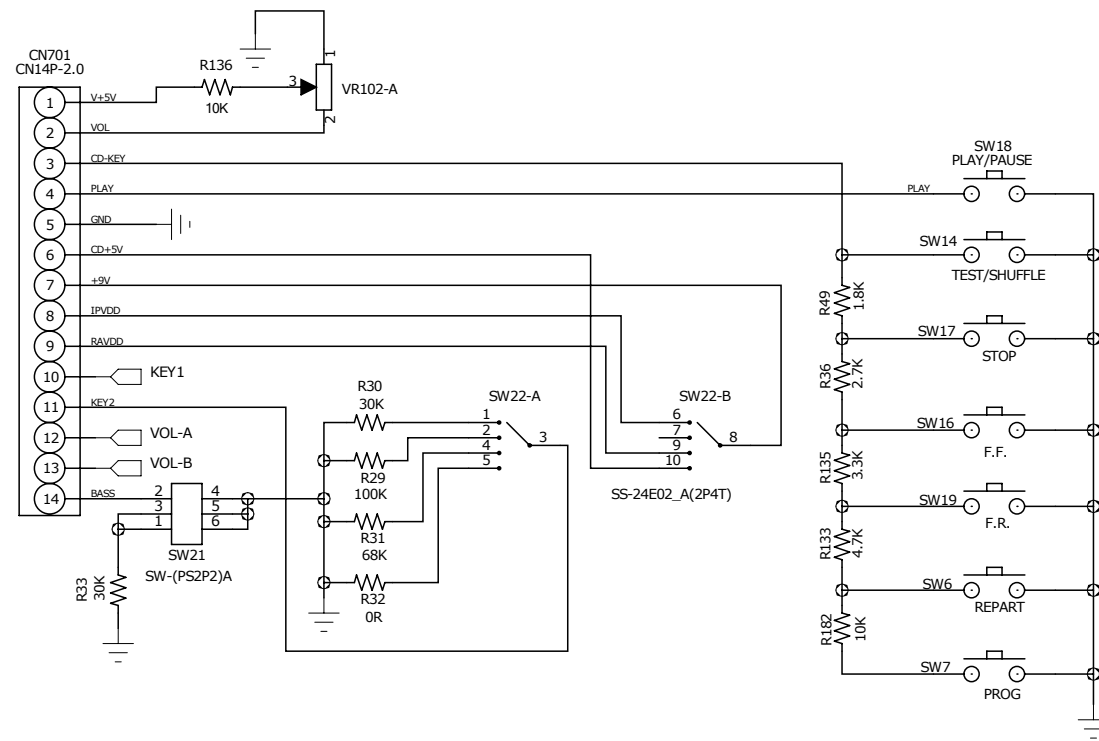
R Speaker 8R/2W

1.5 X 6=9V

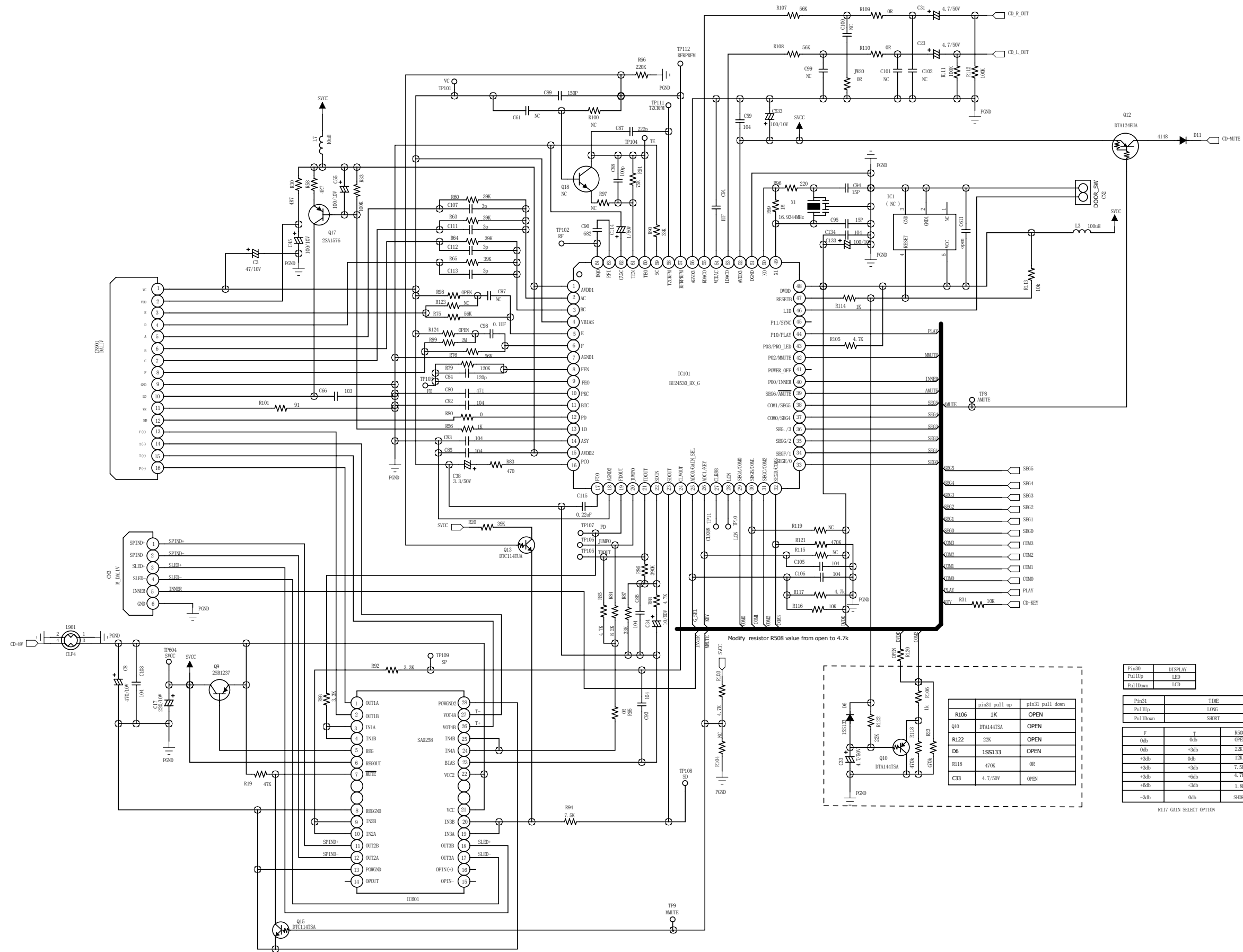
CIRCUIT DIAGRAM -MAIN + TUNER BOARD



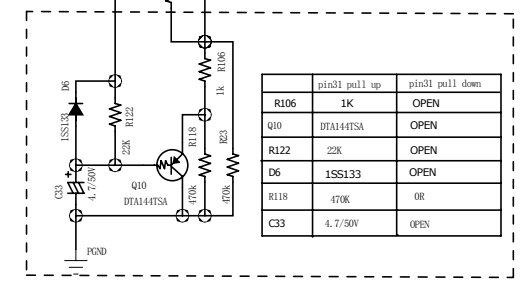
CIRCUIT DIAGARM - CONTROL + IPOD BOARD



CIRCUIT DIAGRAM -MAIN BOARD



Modify resistor R508 value from open to 4.7k



R106	pin31 pu11 up	pin31 pu11 down
R122	1K	OPEN
Q10	DTA144TSA	OPEN
D6	1SS133	OPEN
R118	470K	OR
R117	470K	OR
R116	10K	OR
C33	4.7/50V	OPEN

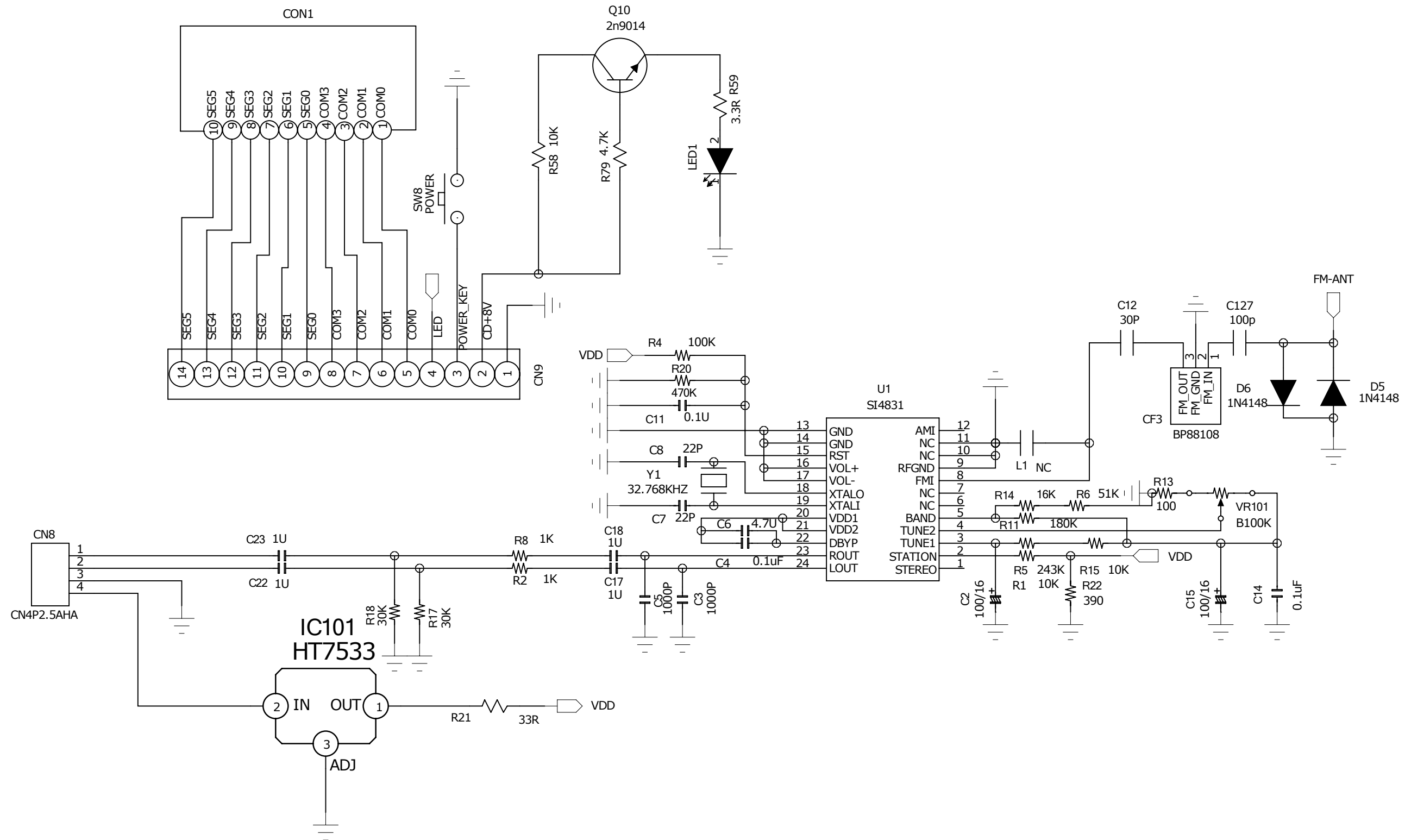
Pin30	DISPLAY
Pin11up	LED
Pin1Down	LED

Pin31	TIME
Pin11up	LONG
Pin1Down	SHORT

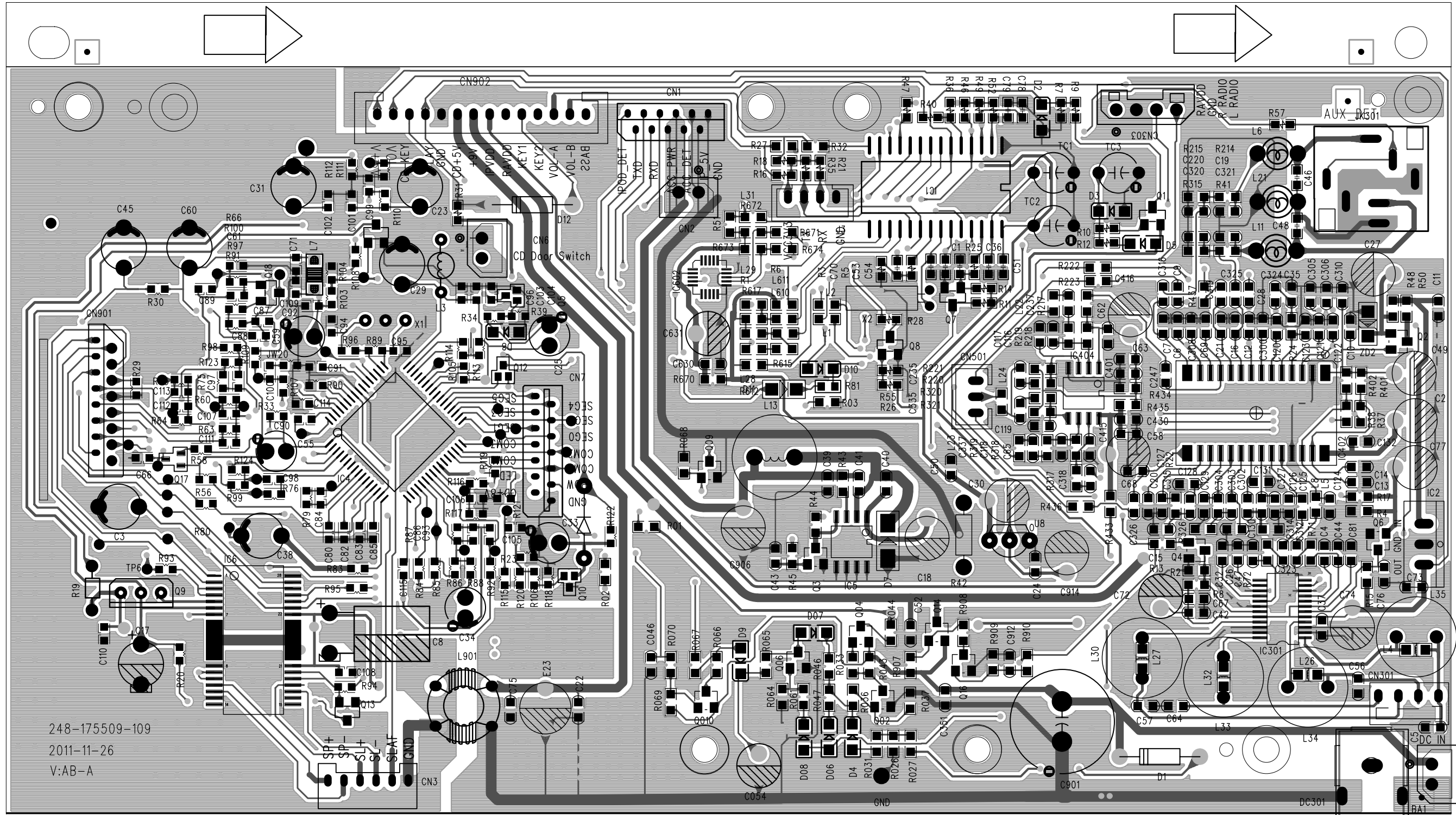
F	T	R508
0db	0db	OPEN
+3db	+3db	22K
+3db	0db	12K
+3db	+3db	7.5K
+3db	+6db	4.7K
+6db	+3db	1.8K
-3db	0db	SHORT

R117 GAIN SELECT OPTION

CIRCUIT DIAGRAM -MAIN BOARD

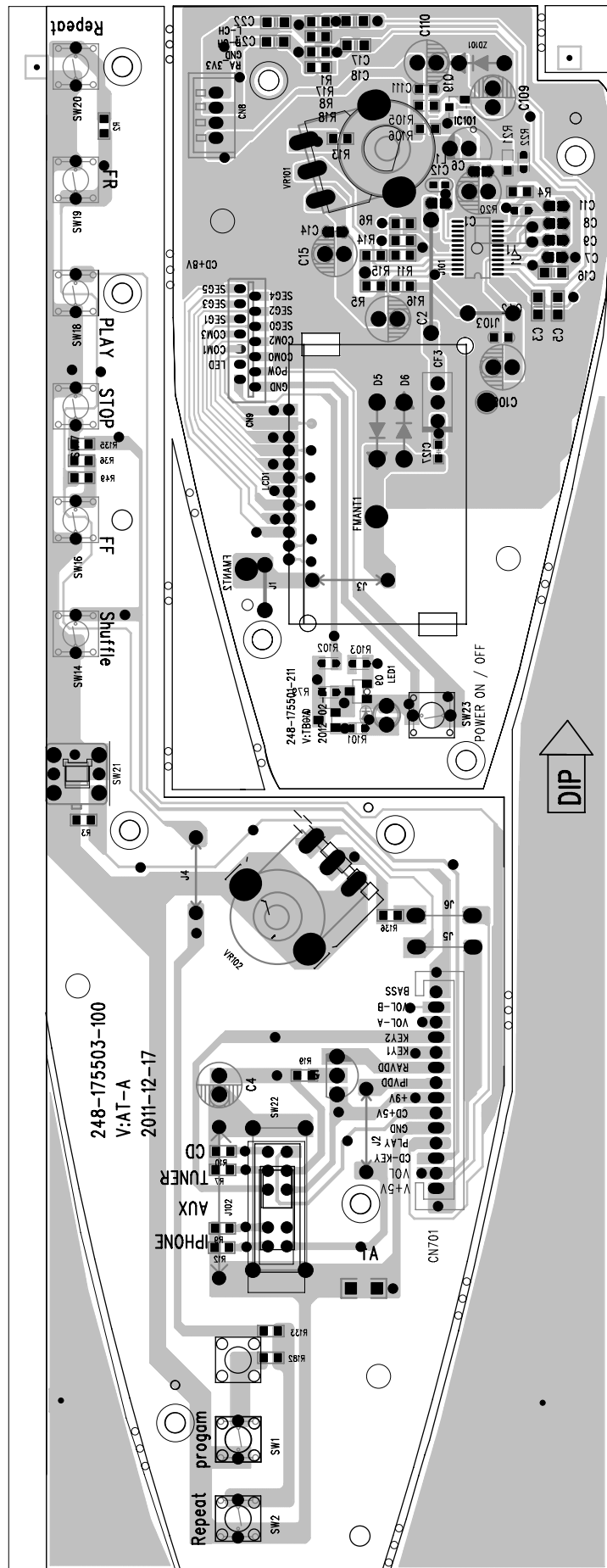


LAYOUT DIAGRAM -MAIN BOARD
TOP SIDE VIEW



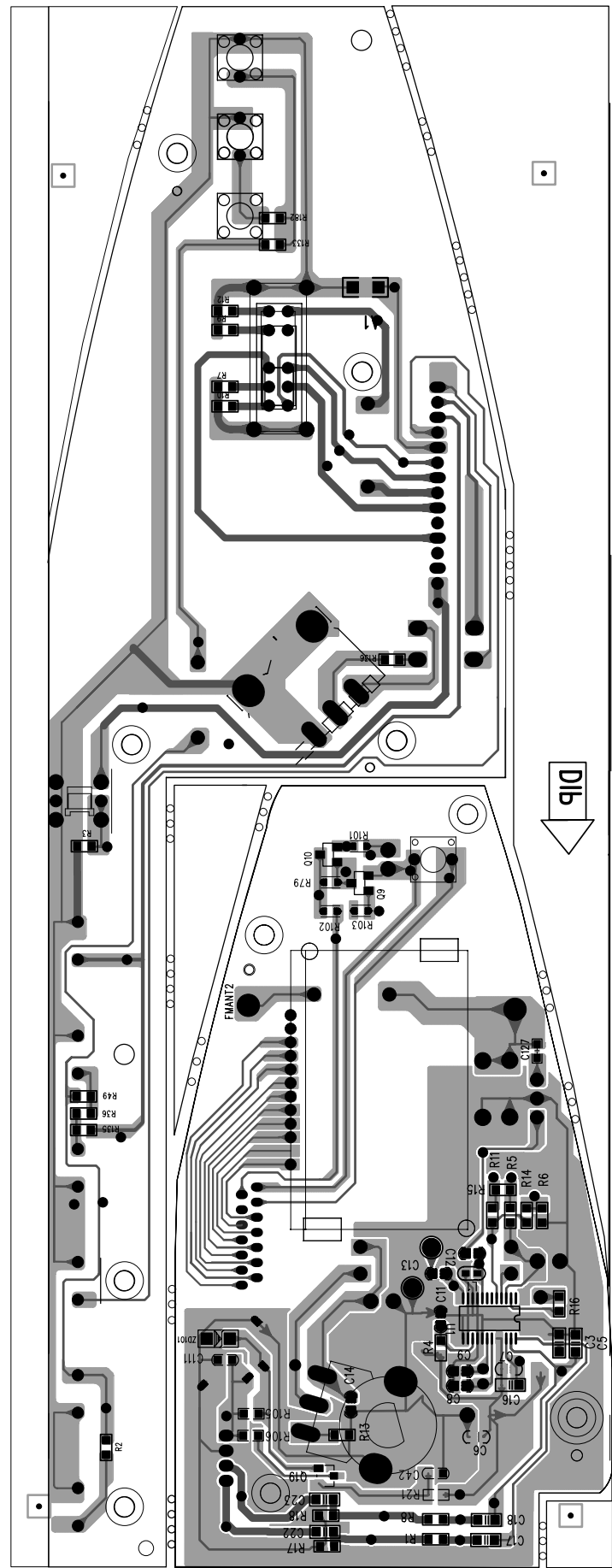
LAYOUT DIAGRAM - CONTROL BOARD
TOP SIDE VIEW

5-2

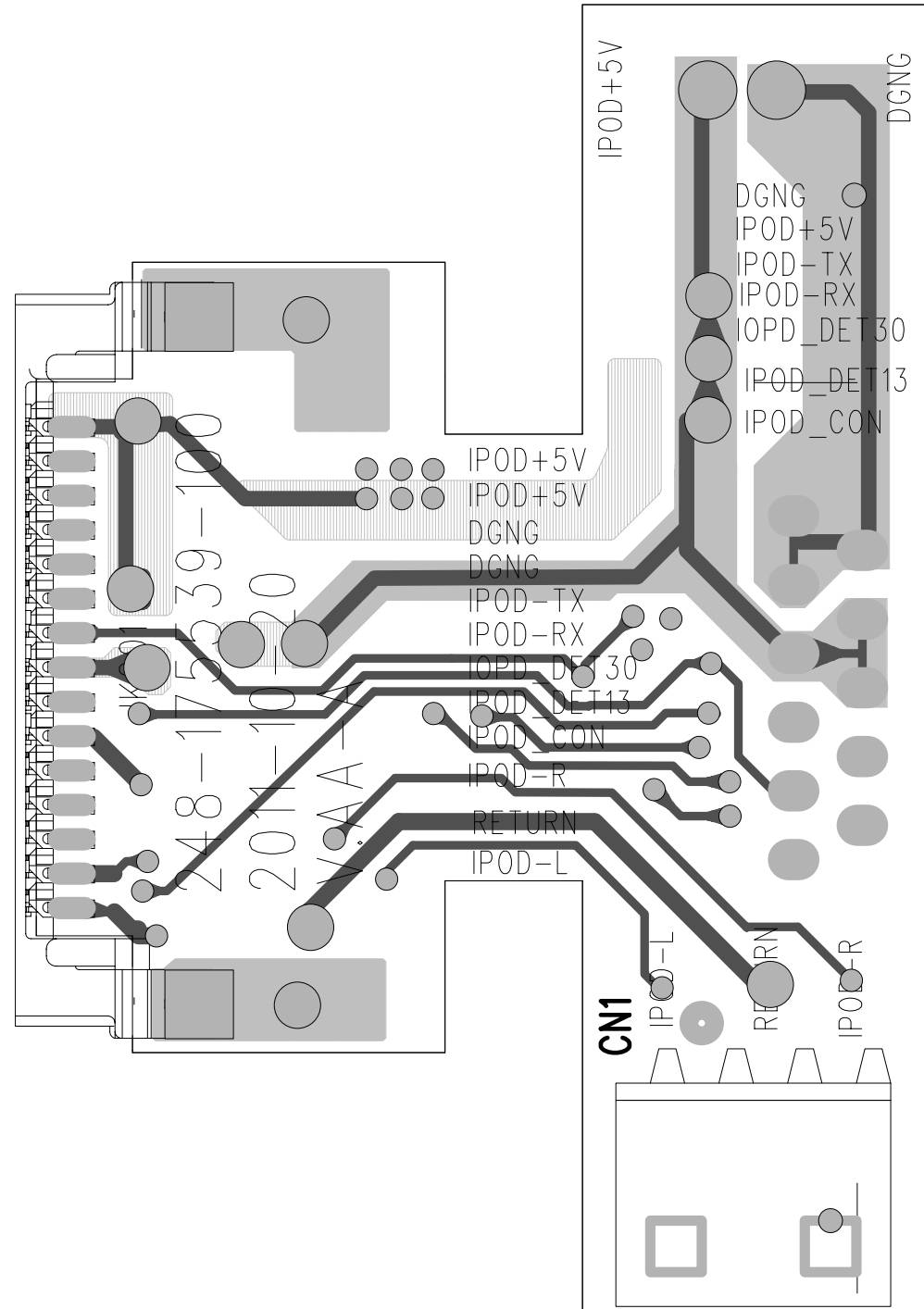


LAYOUT DIAGRAM - CONTROL BOARD
BOTTOM SIDE VIEW

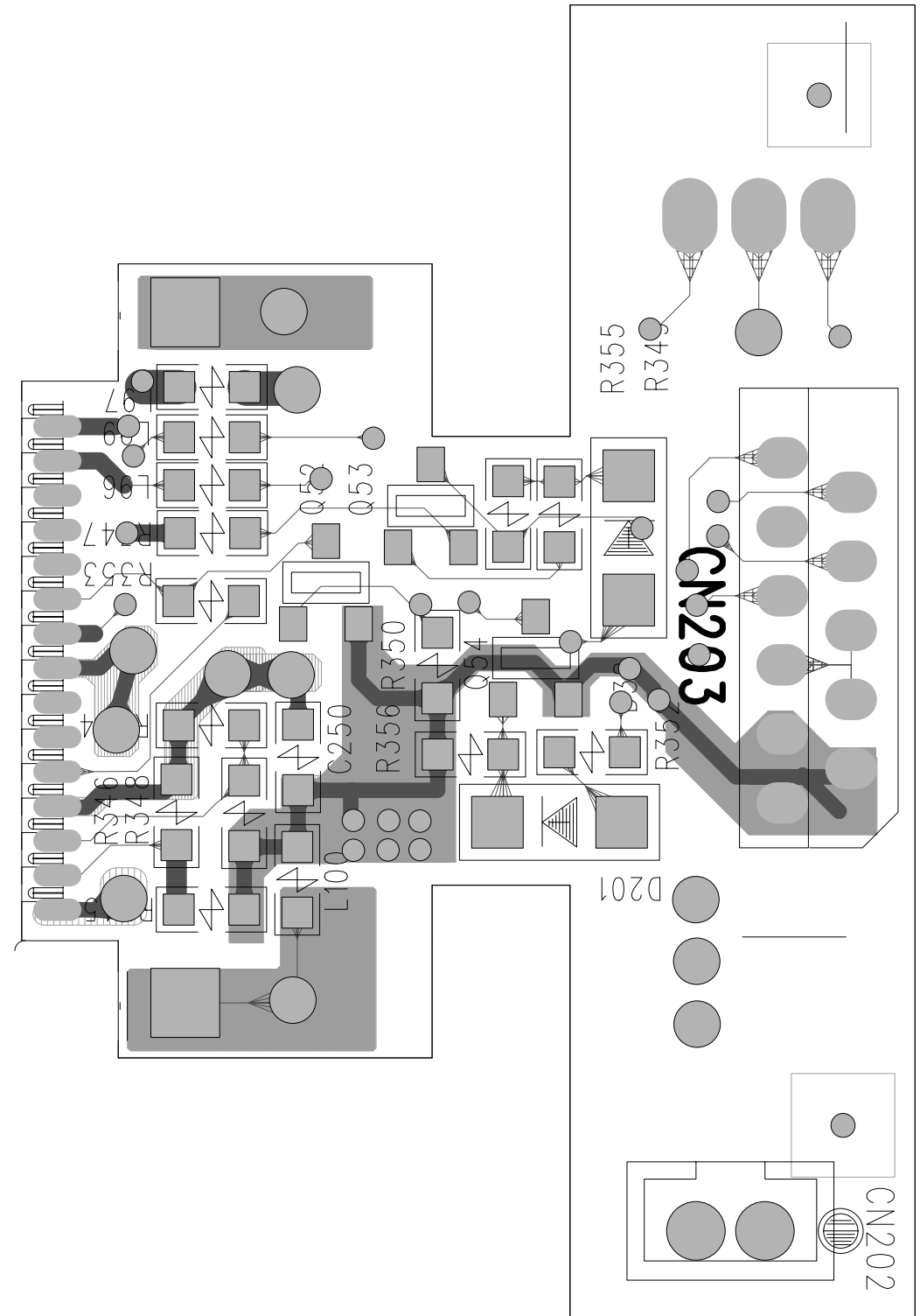
5-2



LAYOUT DIAGARM -IPOD BOARD
TOP VIEW



LAYOUT DIAGARM -IPOD BOARD
BOTTOM VIEW



EXPLODED VIEW DIAGRAM

