

Service Service Service



Service Manual



Bluetooth®



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**CLASS 1
LASER PRODUCT**

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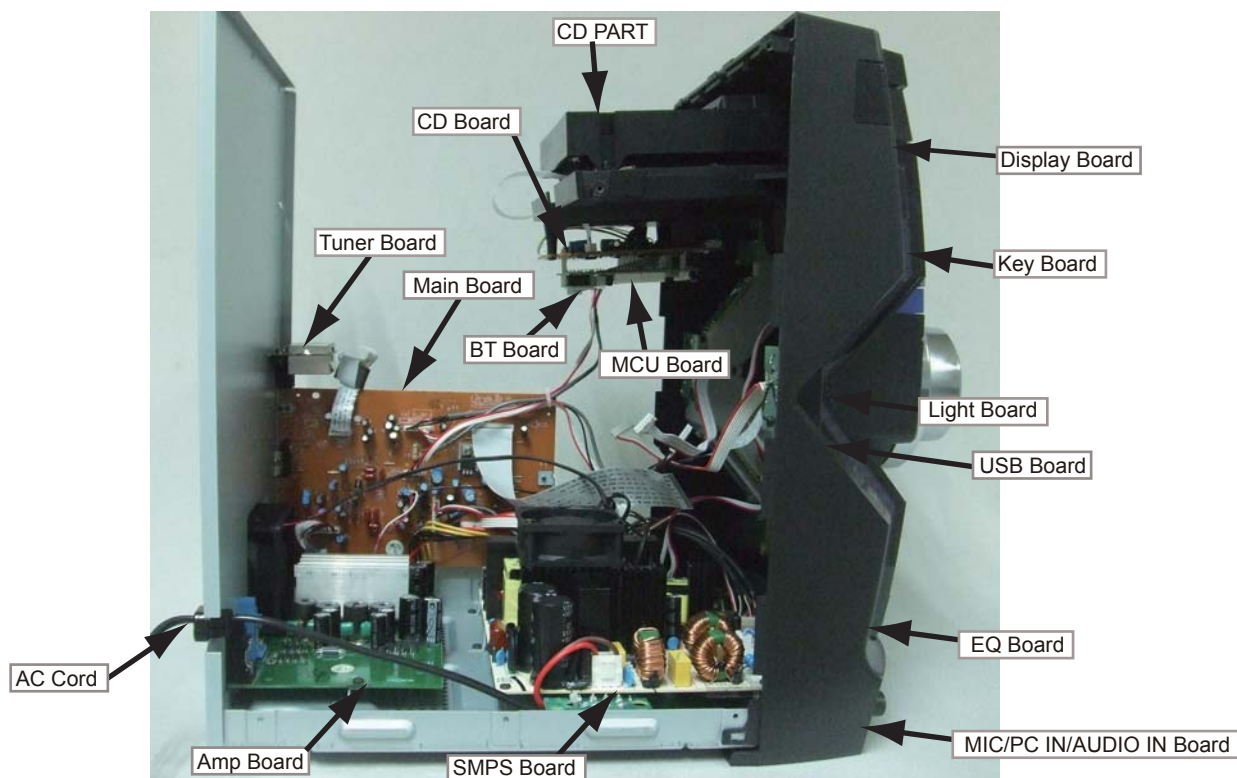
Version 1.0



PHILIPS

Technical Specification and Connection Facilities

Location of PC Boards



VERSION VARIATION

Type /Versions:		FWM6600									
Board in used:	Service policy	/55 (LATAM)	x/77 (ARGENTINA)	x/78 (BRAZIL)							
Main BOARD		C/M	C/M	C/M							
Display BOARD		C/M	C/M	C/M							
Amp BOARD		C/M	C/M	C/M							
Key BOARD		C/M	C/M	C/M							
Mic BOARD		C/M	C/M	C/M							
Tuner BOARD		C/M	C/M	C/M							
SMPS BOARD		M	M	M							
CD BOARD		C/M	C/M	C/M							
MCU BOARD		C/M	C/M	C/M							
Type /Versions:		FWM6600									
Features	Feature diffrence	/55	x/77	x/78							
RDS											
VOLTAGE SELECTOR											
ECO STANDBY - DARK											
* TIPS : C -- Component Lever Repair. C/M M -- Module Lever Repair C/M √ -- Used											

FWT6600 SH 190 Contact List		
No.	Descrptopn	Page
1	<u>GENERAL PART 1 – FRONT PANNEL SPECICFICATION</u>	1
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DEPICTION		Pos	Description	Page
		1	DISC CHANGE	
		2	DISC1	
		3	DISC2	
		4	DISC3	
		5	OPEN/CLOSE	
		6	<TITLE PRESET	
		7	TITLE>PRESET	
		8	> (PLAY/PAUSE)	
		9	PROGRAM/TIMER	
		10	VAC	
		11	DBB	
		12	TUNER	
		13	IR LENS	
		14	AUX/LINE	
		15	DISPLAY	
		16	MIC VOL	
		17	MIC 1 JACK	
		18	MIC2 JACK	
		19	ECHO VOL	
		20	ROCK	
		21	OTPIAL	
		22	MAX SOUND	
		23	TECHNO	
		24	JAZZ	
		25	USB RECORD	
		26	LINE IN	
		27	USB JACK	
		28	USB DEL	
		29	LIGHT	
		30	USB	
		31	DISC	
		32	IS	
		33	POWER ON/OF	
		34	MODE	
		35	STOP	
		36	<<ALBUM--SEARCH.TUNING	
		37	ALBUM>>SERCH.TUNING	
		38	VOL	
		39	VFD DISPLAY	
CABINET				
Diemensions with Boxes (wxhxd) 265mm X 382mm X 345mm		Material : HIPS / ABS / POM / V2 / SAN		
Diemensions without Boxes (wxhxd) 1250mm X 340mm X 495		Finshing : Chrome Plate		
Weight (inclusive packing)8.505KG		Units in Masstercarton		
Weight (exclusive packing & batery)26KG		Units in Dealercarton		
Remarks :				
1	used into			
Remark :				
GENERAL PART 1 - FRONT PANNEL SPECIFICATION				
Class No	FWT6600/ All Version		Ver	Issued Date
			1	23-Sep-11
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			3	
NAME :	11	1	SH 190 - 1	A4
KT	CHECK:	DATE :		

DEPICTION	Pos	Description	Page		
	1	F.M. Anntena			
	2	A.M. Antenna			
	3	Aux Input			
	4	A.C. Voltage Selector			
	5	AC INTPUT			
	6	SubWoofer Socket			
	7	FAN			
	8	LOW /HIGH Left / Right Speaker Socket			
	9				
	10				
	11				
	12				
	13				
	14				
	15				
	16				
	17				
	18				
	19				
	20				
	21				
	22				
	23				
	24				
	25				
	26				
	27				
	28				
CABINET					
Diemensions with Boxes (wxhxd)265mm X 382 mm X 345 mm		Material :HIPS			
Diemensions without Boxes (wxhxd) 1250mm X 340mm X 495mm		Finshing : Chrome Plate			
Weight (inclusive packing)8.5Kg		Units in Masstercarton			
Weight (exclusive packing & batery)26Kg		Units in Dealercarton			
GENERAL PART 1 - BACK PANNEL SPECIFICATION					
Class No		FWT6600/ All Version	Ver	Issued Date	
			1	23-Sep-11	
			2		
			3		
NAME :		11	2	SH 190 - 2	A4
KT		CHECK:	DATE :		

GENERAL DESCRIPTION

MP3-USB Mini Hi FiSystem with Digital Tuner, 3CD/MP3
 (2x235W+1x300W) For FWT6600 Power Amplifier,VFD Display,Aux in ,Remote control
 Subwoofer Boxes of 8 Ohm x 1
 LIFETIME : 7 Years

Class	Tuner	Supply + Amplifier	USB	ipod	Recorder	Clock	CD-mp3
I			X	X	N/A		
II	X	X				X	X
III							
Page	10	3-6	9	5		8	11

SAFETY requirements

Version	Safety	EMC
/98	EN 60065	CISPR 13
/55	EN 60065	CISPR 13
/12	EN 60065	EN 55013 / EN 55020
/05	EN 60065	EN 55013 / EN 55020
/79	EN 60065	CISPR 13
/37	UL 60065	FCC99

RADIATION / IMMUNITY requirments (EMC) for 12 version only

CLIMATIC requirements

ALL climates : + 5 Dregree till + 35 Degree
 MODERATE climates : + N.A till N.A Degree

PERFORMANCE CLASSES

POWER SUPPLY

MAINS (A.C.)	120 Vac (110V-10%, 120V ±10%)	230 Vac ± 10 %	127 / 240 Vac ± 15 %	240 Vac ± 10 %	220 Vac ± 10 %
Version	/ 37	/ 12 /05	/ 55 /98	/ 79	/ 61, /93
Voltage Selection	No	No	Yes	No	No
Frequency	60Hz ±5%	50Hz	60/50Hz	50Hz	60Hz, 50Hz

POWER Consumption of FWT6600

	/ 12/ 05	/ 55/77/78/98	/61 /93	/ 37
Standby mode with clock display(after 15 minute)	< 1W	Ref. to CRS	Ref. to CRS	< 1W
(DEMO mode " OFF ") , NOM. A, INPUT		15w	15w	
Maximum :	120W/150W @ 0.1A	120W/150W @ 0.1A	120W/150W @ 0.1A	120W/150W @ 0.2A
@ 1/8 Prated , NOM. A, INPUT	120W	120W	120W	120W
ECO Power mode :(without display,mafter 15 minute of auto)	<= 0.5W	Ref. to CRS	Ref. to CRS	<= 0.5W

Quality : 0.8 % (Major) 2.0 % (Mirror)
 Reliability : 3.0 % (C 42)

Tested according to General Test Instruction refer to PHILIPS standary (UAN -D1591)

Measured according to PHILIPS standary (UAN - L1059) unless other wise stated

All not mentioned date, please refer to PHILIPS standary (XUW - 0010 - JUNE 2001)

DERIVED	REMARKS	APPROBATION

Remarks

GENERAL PART 1 - GENERAL SPECIFICATION

Class No	<u>FWT6600 All Version</u>				Ver	Issued Date
					1	23-Sep-11
					2	
					3	
NAME : ZC.ZENG			11	3	SH 190 - 3	A4
KT	CHECK	DATE :				

TECHNIAL DESCRIPTION										
Total power 800W, matching LOUDSPEAKER of 2 x 3R+1 x 8R only 800W. INPUT SOURCE, CD/MP、TUNER、USB、AUX、PC(LINE) INPUT、3DSC (Digital Sound Control). IS (Incredible Sound)										
GENERAL PART										
OUTPUT stage Protection		: Yes		Temperature		: Yes		Shorcircuit		: Yes
LoudSpeaker D.C. Protection		: Yes.								
INDICATORS										
Standby Mode Indicator		: VFD display Clock active								
ECO Mode Indicator		: VTD turns off, ECO - Standby LED turn on								
ELECTRICAL DATA (Main computer)										
DSC :	Techno, Pop, Jazz, Optimal (n/a Rock)			Channel Differencer at -40dB			3		dB	
MAX	YES			Hum (Volume control from min. till max. - 20 dB)			< 200		nW	
IS :	YES			Residual Noise (Volume Minium)			< 60		nW	
VAC :	N/A			Channel Separation (at 1 kHz)			≥35		dB	
WOOX :	N/A			Signal / Noise (unweighted)			≥ 55		dB	
				Subwoofer Out Hum(Volume minmun)			<4		μW	
INTERCONNECTS										
Input Sensity(±2 dB)rated ouput power at 1 kHz and 10kHz. Line Output Voltage (*1)										
Tuner	:	FM 67.5KHZ AM80% Modulation -6dB			Line Out (Left / Right)			N.A		
CD	:	0 dB track (Audio Disc 1, Trk 35)			Subwoofer Out			yes		
USB	:	0 dB track (Audio Disc 1, Trk 35)			Headphone			N/A		
SD	:	0 dB track								
AUX/ PC	:	Nor: 600mV Lim: 350mV ~ 900mV for /37			Digital Coaxial Out			N.A		
	:	Nor: 2V Lim: 1.5V ~ 2.5V for /55			Booster Out			N.A		
support DCK3060 Dock		0 dB track								
OUTPUT POWER (* 1) At THD = 10% (Measured with 20Hz-20KHz filter), both channels driven (Low channel at 1KHz, High channel at 10k Subwoofer channel at 63HZ)										
Power output (RMS)		NA								
Power output (RMS)		NA								
10% Power output (RMS)				AMP power test for One channel load						
loading 3 ohm of FL/FR channel (1khz)				FL/FR channel		250W per channel (Lim '-1dB)				
loading 8 ohm of SUB channel (63Hz)				Subwoofer channel		300W per channel(Lim '-1dB)				
LOUDSPEAKER (BOXES) Please to package document of Speaker Box Assy										
Rated Impedance										
FL/FR channel		: 3 Ohms at 30Hz to 10 KHz								
Subwoofer		: 8 Ohm at 40HZ to 125HZ								
Remarks										
(*1) Electrical parameters are to be measurement at speaker terminals across 3 Ohm load (pure resistor) with rated input signal in AUX mode; DSC setting in Jazz mode with DBB OFF IS off and OSM unless specified otherwise One channel signal input (L or R), two channel load (< Low ch. L + High ch. L > or < Low ch. R + High ch. R >) Measurement output power only for AUX model and CD model of used audio analyzer equipment. (*2)										
GENERAL PART 1 - TECHNICAL SPECIFICATION										
Class No		<u>FWT6600/ All Version</u>				Ver		Issued Date		
						1		23-Sep-11		
						2				
						3				
NAME : ZC.ZENG		11		4		SH 190 - 4		A4		
KT		CHECK	DATE :							

TECHNIAL DESCRIPTION

Bluetooth Function

GENERAL PART

Bluetooth Version :	Ver2.1 + EDR	
Receive A2DP:	N/A	
Transmit A2DP:	N/A	Remote Controlled : YES
Receive HSP	N/A	Noise Reduction System : No

INDICATORS

Bluetooth Flashing	:	Yes
Display	:	N/A

ELECTRICAL DATA

Bluetooth at Module level:		Mobile Phone	lim	Unit
Frequency Response		125-16khz	± 7	dB
S/N (Unweighted)		≥ 55	50	dB
S/N (A-weighted)		≥ 60	55	dBA
Level Diff		\	± 3	dB
Channel Separation		≥ 35	30	dB
Distortion		< 1		%
Bluetooth at Set Level		Mobile Phone		
10%THD OUTPUT POWER(EQ:FLAT)		\	125 $\pm$ 3dB	W
Connected distance		8~10		meter

REMARKS

Bluetooth SPECIFICATION

Class No	FWT6600 All Version		Ver	Issued Date
			1	10-Jul-10
			2	
			3	
NAME : TAN	DATE :	SH 190 - 9		
CHECK:	DATE :			

AUDIO SIGNAL PROCESSING

MP3-USB Mini Hi Fi System with Digital Tuner ,3 CDC-MP3, (2×235W+300W)only FWM663 Universal Class D Power Amplifier

1) DSC (Digital Sound Control)

Select AUX as input source with the following set conditions:

Inject sine wave 500mV-2.5V at 1 KHz to L/R channels of AUX-IN socket(input level 600mV for /37/05/12,2V-2.5V for /55/77/78).

Set DSC to JAZZ(Flat) mode and switch off DBB.

Refence level for DSC's without DBB OFF=500mW.

Refence level for DSC'S with DBB on=500mW at the speaker terminal .

Inject sine wave 500mV-2.4V to AUX-IN socket with frequencies indicated in Table 1.

For Subwoofer 60HZ @ 8R

Tabel 1a (Tolerance ± 3dB)

2) DBB (Dynamic Bass Boot)

Tabel 1a (Tolerance ± 3dB)

Frequency	DSC Modes with DBB Off ,MAX OFF				
	JAZZ	ROCK	TECHNO/Jungle	SAMBA/Optimal	Pop
60 Hz	+7	+14	+10	+12	+12
1 kHz	0	+0.5	-0.5	+1	+1
12 kHz	-2	-6	0	-4	+1.6

Tabel 1b (Tolerance ± 3dB)

Frequency	DSC Modes with DBB 1 ON ,MAX OFF				
	JAZZ	ROCK	TECHNO/Jungle	SAMBA/Optimal	Pop
60 Hz	+12	+17	+15	+17	+17
1 kHz	0	+0.5	-0.5	1	1.5
12 kHz	-2.5	-6	0	-4.5	0

Tabel 1b (Tolerance ± 3dB)

Frequency	DSC Modes with DBB 2 ON ,MAX OFF				
	JAZZ	ROCK	TECHNO/Jungle	SAMBA/Optimal	Pop
60 Hz	+16	+22	+21	+22	+22
1 kHz	0	+1	-0.5	+0.5	+0.6
12 kHz	-1	-3	-1	-3	+1.6

Tabel 1b (Tolerance ± 3dB)

Frequency	DSC Modes with DBB 3 ON ,MAX OFF				
	JAZZ	ROCK	TECHNO/Jungle	SAMBA/Optimal	Pop
60 Hz	+22	+25	+25	+25	+25
1 kHz	0	+1	-0.5	+0.5	+0.6
12 kHz	+1	+4	+1.5	2	4

Select AUX as input source with the following set conditions :

Inject sine wave 500mV-2.5V at 1kHz to L/R channels of AUX - IN socket(input level 600mV for /37/05/12,2V-2.5V for /55/77/78).

Set VAC to JAZZ(Flat) mode and switch off DBB of Reference level,

Reference level for the test is 500mW on the speaker terminals.

For Subwoofer 60HZ @ 8R ;FR/FL 1Khz @3R

Tabel 2 (Tolerance ± 3dB) NO TEST

Frequency	VAC Mode	DBB OFF		DBB 1		DBB 2		DBB 3	
		FL/FR ch	Subwoofer	FL/FR ch	Subwoofer	FL/FR ch	Subwoofer	FL/FR ch	Subwoofer
60 Hz	Concert	-3	8	2	12	7	17	16	24
	Hall	4	14	9	19	14	24	17	27
	Cinema	3	10	7	15	13	20	19	25
1 KHz	Concert	-7		-6		-6		-6	
	Hall	1		1.5		2		2	
	Cinema	-5.5		-5		-4.5		-4	
12K Hz	Concert	-9		-7		-5		-1	
	Hall	-2		0		2		3.5	
	Cinema	-2		0		1		3	

GENERAL PART 1 - GENERAL SPECIFICATION

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					3	
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KT	CHECK	DATE :				

AUDIO SIGNAL PROCESSING

MP3-USB Mini Hi Fi System with Digital Tuner , 3 CDC-MP3,(2×235W+300W)only FWT6600, Universal Class D Power Amplifier

3) IS (Incredible Sound)

Select AUX as input source.

Inject sine wave 600mV-2.5V at 1kHz to AUX-IN socket, one channel at a time (input level 600mV for /37/05/12;2V-2.5V for /55/77/78)

Set DSC to JAZZ (Flat) mode and switch of DBB, OSM & INCREDIBLE SURROUND.

Adjust volume level to obtain 500mW across 3 OHM load at L/R speaker output.

Inject sine wave 2V to AUX-IN socket with frequency indicated in Table 3 .

Table 3 (Tolerance ± 4 dB)

FREQ	INPUT LEVEL		OUTPUT LEVEL			
			IS OFF		IS ON	
	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT
60 Hz	2V	-	- 1.0 dB	-	+2.0 dB	-15.0 dB
1 kHz	2V	-	0	-	+ 3.5 dB	-1 dB
12 kHz	2V	-	- 0.5 dB	-	+ 3.0 dB	-7.0 dB

Note : The above specs also apply to right channel.

4) DSC Mode (Jazz , POP , Rock, Techno and Optimal)

The VAC modes are software controlled by switching the combination between DBB and DSC modes as show in Table 4.

DSC MODE	DBB Level preset
Jazz	DBB OFF
Rock	DBB 3
PoP	DBB 2
Techno	DBB 1
Samba/Optimal	DBB 1

VAC MODE	DBB Level preset
Concert	DBB OFF
Hall	DBB 1
Cinema	DBB 1

Note : When these modes are activ DBB and DSC will not be displayed

5) MAX (Maximum Sound) (Tolerance ± 3 dB)

Select AUX as input source.

Inject sine wave 600mV-2.5V at 1kHz to AUX-IN socket, one channel at a time (input level 600mV for /37/05/12;2V-2.5V for /55/77/78)

Set DSC to JAZZ (Flat) mode and switch of DBB, OSM & INCREDIBLE SURROUND.

Adjust volume level to obtain 500mW across 3 OHM load at L/R speaker output.

The 1W level will be used as 0 dB reference

Inject sine wave 2V-2.5V to AUX-IN socket with frequency indicated in Table 5 .

FREQ	FR/FL (at stereo mode)		SUB (at stereo mode)	
	Max OFF	Max ON	Max OFF	Max ON
60 Hz	-1	+18	+8	+27
1 kHz	0	+5		
12 kHz	-1	+7		

GENERAL PART 1 - AUDIO SIGNAL SPECIFICATION (2)

Class No	FWM/6500/ All Version				Ver	Issued Date
					1	23-Sep-11
					2	
					3	
NAME : ZC.ZENG		11	7	SH 190 - 7		A4
KT		CHECK	DATE :			

TECHNIAL DESCRIPTION

SOFTWARE IMPLEMENTED CLOCK / TIMER FUNCTION WITH 12MHZ QUARTZ OSCILLATOR.

GENERAL PART

Timer Setting	:	Clock and Timer
Timer Wakeup Mode	:	CD or Tuner or USB
Remarks Time Setting	:	12hr for /37 version, 24hrs for other version.
Volume at Wakeup	:	Last Setting
No of Timer Settings	:	1
Clock Accuracy	:	Nom : 1 sec/day Limit : 2 sec/day

INDICATORS

LCD Display Type	:	na
VFD Display Type	:	VFD

Remark

CLOCK / TIMMER SPECIFICATION

Class No	FWT6600/ All Version				Ver	Issued Date
					1	23-Sep-11
					2	
					3	
NAME : ZC.ZENG		11	8	SH 190 - 8		A4
KT		CHECK	DATE :			

TECHNIAL DESCRIPTION

USB

See also SH 190 USB/SD Audio Module (300605)

Measurment are directly done at the coonector on the board

GENERAL PART

Measurement are directly done at the connector on CDC board

Description	Specification
Output Resistance	N/A
Output Voltage RL = 33 k ohm ()dB, 1 KHz)	N/A
Channel Unbalance	<= +/- 3 dB
THD + Noise (0dB, 1Khz)	<=2%
Channel Crosstalk ((0 dB, 1 KHz))	>= 35dB
(0 dB, 1 KHz)	>= 35dB
Signal to Noise Ratio (0dB,1kHz) (A - weighted)	>= 57dB(A - weighted)
Frequency response @±3	Sub ch 30HZ-125HZ(reference 63HZ)
	FL/FR ch 30HZ-10KHZ(Reference 1KHZ)

USB Measurement at Set Level

Electrical Parameters are to be measured at speaker teminals across 6 ohm load with 500mW output and DSC setting in Jazz Mode

Description	Specification
Channel Crosstalk (0 dB, 1 KHz)	>= 35dB (with 1 KHz filter)
Signal to Noise Ratio (0 dB, 1 KHz)	>= 55dBA (A - weighted)
Channel Unbalance (0 dB, 1 KHz)	+/- 2dB

Remarks :

testing with 20 to 20k Hz filter

USB SPECIFICATION

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					3	
NAME : ZC.ZENG				11	9	SH 190 -9
		CHECK	DATE :			

A4

TECHNIAL DESCRIPTION									
TUNER used SI4730 soultion									
GENERAL PART									
WAVE RANGE			TOLERANCE			TUNING GRID			
FM(55/37) 87.5 - 108.00 MHz			QUARTZ PRECISION			100 kHz			
FM(12) 87.5 - 108.00 MHz						50KHZ			
AM (55/37) 530 - 1700 kHz			QUARTZ PRECISION			10 kHz			
AM (12) 531 - 1602 kHz			QUARTZ PRECISION			9 kHz			
AERIAL									
FM : PIGTAIL ANT WIRE 300 Ohm(for/37) 75ohm for 55/12									
AM : FRAME ANT. 18.1 uH with shielding									
INDICATORS									
VFD									
A.M		Nom	Limit	Unit	F.M.		Nom	Limit	Unit
					- 3 dB Limiting Point		: 17	23.5	dBf
Amplification Reverse		: - 2	-4	dB	Amplification Reverse		: 0	-4	dB
AGC Figure of Merit		: 30	25	dB	Distortion (RF 1mV, Frq Dev.75 kHz)		: 2	3	%
Distortion (RF 50mV, M 80%)		: 3	5	%	Stereo - 46 dB Quieting		: 46	49	dBf
IF		: 450	± 3	kHz	Crosstalk (RF1mV, Freq Dev.40kHz)		: 25	18	dB
					IF		: 10.7	± 0.03	MHz
Search Tuning Sensitivity		: α26	+/-10	dB			24-30	19-35	dBf
S/N Ratio (at 1000khz)		45	40	dB			50	45	dB
Wave Range		Noise Limited Sensitivity α26 dB			Image Rejection	IF Rejection	Large Signal	Selectivity	
MW 630 kHz		Nom.	3500	uV/m	32db	28db	1000mv/m	22db	
		Lim.	4000	Uv/m	28db	24db	500mv/m	18db	
MW 1440 kHz		Nom.	1500	uV/m	32db	28db	1000mv/m	22db	
		Lim.	4000	uV/m	28db	24db	500mv/m	18db	
FM 98 MHz		Nom.	18	dBf	40db	65db	116 dBu	30db	
		Lim.	22	dBf	30db	60db	108 dBu	25db	
FM 108 MHz		Nom.	18	dBf	40db	65db	116 dBu	45db	
		Lim.	22	dBf	30db	60db	108 dBu	25db	
Remarks: MAX.Sens -6dB									
TUNER SPECIFICATION									
Class No		FWT6600/ All Version						Ver	Issued Date
								1	23-Sep-11
								2	29-Jul-10
								3	
NAME : ZC.ZENG			11	10	SH 190 - 10			A4	
KT		CHECK	DATE :						

TECHNIAL DESCRIPTION

CD + MP3 - Part Specifications (CD MECHAISM DA11VZSS OF SANYO)

	Input	AMP IC Output	Motor	Logic control
Active components		TDA8954TH	3CD-TDA7073A	MLC3895
			--	
			--	
	Signal processsing	D/A converter	HF-preamplifier	Servo processor
Active components	TDA7468D	WM8782SEDS/R	NJM4556AM	BU9543KV+BA5826FP

AUDIO part: Measurement with Audio Signals Disc-783 7104 078 04911 on speakers or Headphone socket with nom.load

Description	Extern Filter	Nom	Lim	Unit
De-emphasis	15us / 50us Switchable via Subcode information			
Frequency accuracy		N/A	± 0.5	%
Channel Unbalance		1	2	dB
Frequency Response 63Hz	reference 1kHz	Sub ch	± 3	dB
Frequency Response (30Hz - 10 kHz)reference 1kHz		FL/FR ch		
Frequency Response (40Hz - 125Hz) reference 63Hz	na TEST	Sub ch	± 3	dB
Frequency Response (63Hz -10kHz)reference 1kHz		Low ch	± 3	
		high ch	± 3	
Signal to Noise Ration (Unweighted)		60	50	dBA
Signal to Noise Ration (A - weighted)		65	55	dBA
Crosstalk (1kHz) (A - weighted)		≥ 35dB		dB
				dB
Hum & Noise (*1)		1	1.5	mV
THD (1KHz -6dB)		0.2	<1	%
THD (10KHz -20dB)		<1	<3	%

REMARKS:

1. Amplification reserve for CD = +2dB (±2dB),Ref.Level for CD is a 0dB track instead of a -6dB track.

Playability :(acc.To AR 30-05-239)

	Limit	Typical	Test disc
Wedge	600um	900um	TNO 7, 9 of SBC 444A(7104 099 24990)
Eccentric	150um	200um	TNO 1, 24 of 200um disc (7104 099 24960)
Fingerprint	No audible defect		TNO 11 of Sub chassis 8A
Black dot	500um	800um	TNO 13 of SBC 444A (7104 099 24990)
Skew 0.6mm	No audible defect		TNO 1,6 of 0.6mm skew (7104 099 28260)
Bad HF track	No audible defect		TNO 8 of Sub chassis 8A
Hwavy fingerprint	No track jumper/plops		TNO 10 of Sub chassis 8A
Playback position	Solid, Normal position (Set is located on a flat surface, floor)		

1. Playback of above mentioned tracks possible without track loss or audible defects.
2. Double black dot, max. diameter, thin/disk is according to PQR or AR 30-05-239
3. This unit can playback (only) CD-R or CD-RW discs. For performance specification, Please refer to module specification of CD99 (3103 308 52190)

CD / MP3 SPECIFICATION

Class No	FWT6600/ All Version			Ver	Issued Date
				1	23-Sep-11
				2	
				3	
NAME : ZC.ZENG	11	11	SH 190 -11		A4
KT	CHECK	DATE :			

TECHNIAL DESCRIPTION

Microphone

See also SH 190 testing with 20 to 20k Hz filter, input level 1mv rms (lim: 1.5mv rms) $R_s=600\Omega$ output 500mW

Measurement are directly done at the coonector on the board

GENERAL PART

Measurement are directly done at the connector Microphone(mic1,mic2)

Description				Specification				
Output Resistance				Nom	Lim	Unit		
				N/A				
				N/A				
Output Voltage RL = 33 k ohm ()dB, 1 Khz)				N/A		dBA		
Channel Unbalanceo about(mic1 and mic2)				1	+/- 3			
THD + Noise (0dB, 1Khz)vol max				6	8			
Channel Crosstalk ((0 dB, 63Hz))				N/A				
(0 dB, 1 KHz)				N/A		%		
Signal to Noise Ratio (0dB,1kHz) (A - weighted)				40	35			
Microphone Power output(RMS)				550	+/- 20%			
Microphone input leven (Rms)				1	1.5			
Max Hum Noise(mic vol max,main vol max)				6	8	mV		
Vol.min=vol1.(mic vol min,main vol 1)				2	4	mV		
Microphone Frequency response at volume 23,input leven 1mv rms, connect main load				SUB ch	63HZ	-2	±3	dB
				FL/FR ch	63HZ	-12	±4	dB
					1KHZ	0	ref	dB
					10KHZ	-5	±3	dB
Remarks :								
testing with 20 to 20k Hz filter								
USB SPECIFICATION								
Class No		FWT6600/ All Version					Ver	Issued Date
							1	23-Sep-11
							2	
							3	
NAME : ZC.ZENG				11	9	SH 190 -9		A4
			CHECK	DATE :				

VERSION OVERVIEW FWT6600

[illegible]

VERSION OVERVIEW

Class No		FWT6600 All Version				Ver		Issued Date	
						1		23-Sep-11	
						2			
						3			
NAME : ZC.ZENG				10	10	SH 190 - 12			A4
KT		CHECK	DATE :						

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 hetzelfde 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 enfiler 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 ridatta 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 utilisées 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."

**(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.

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.

2.1 ESD PROTECTION

- レンズには絶対に触れないでください。
- DO NOT TOUCH THE LENS.
- LINSE NICHT BRÜHREN.
- NE PAS TOUCHER LA LENTILLE.

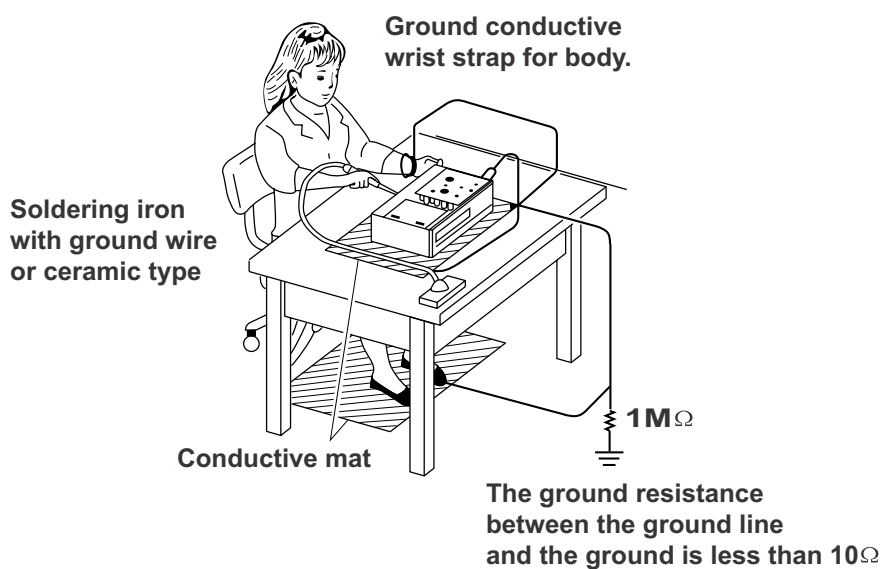
When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of laser may be received.

PREPARATION OF SERVICING

Pickup Head consists of a laser diode that is very susceptible to external static electrocity.

Although it operates properly after replacement, if it was subject to electrostatic discharge during replacement, its life might be shortened. When replacing, use a conductive mat, soldering iron with ground wire, etc. to protect the laser diode form damage by static electricity.

And also, the LSI and IC are same as above.



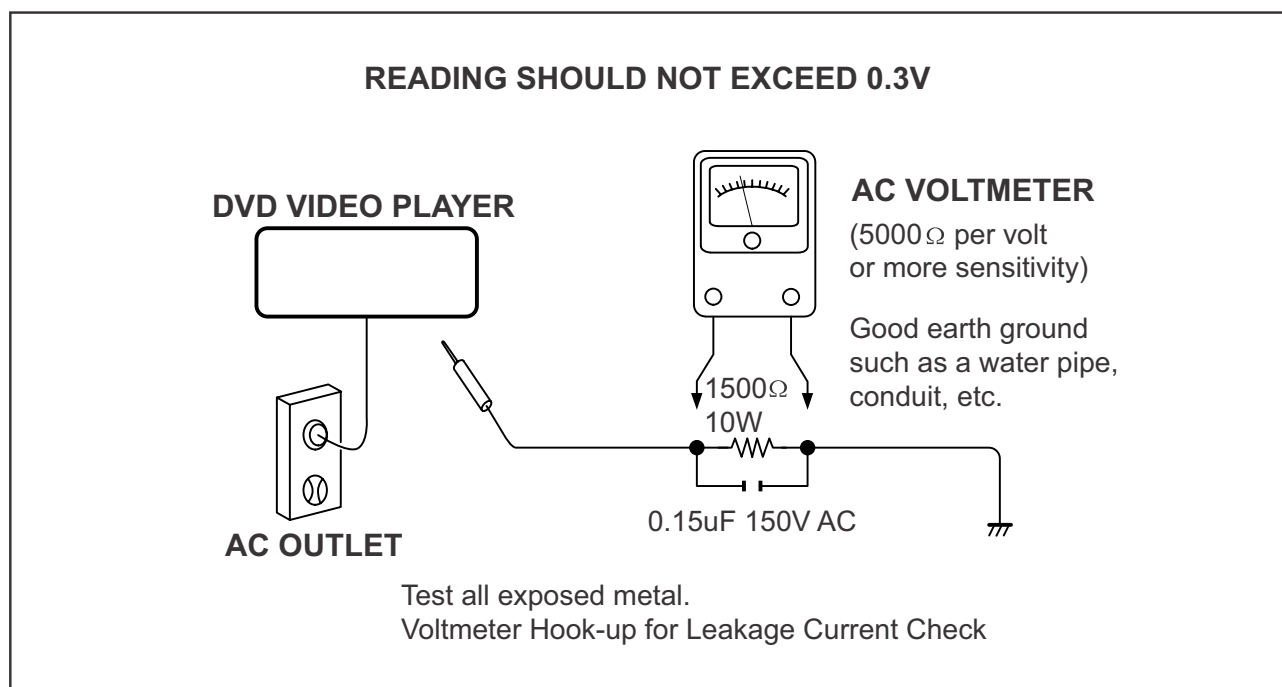
SAFTY NOTICE

SAFTY PRECAUTIONS

LEAKAGE CURRENT CHECK

Plug the AC line cord directly into a 120V AC outlet (do not use an isolation transformer for this check). Use an AC voltmeter, having 5000Ω per volt or more sensitivity. Connect a 1500Ω 10W resistor, paralleled by a $0.15\mu\text{F}$ 150V AC capacitor between a known good earth ground (water pipe, conduit, etc.) and all exposed metal parts of cabinet (antennas, handle bracket, metal cabinet screwheads, metal overlays, control shafts, etc.).

Measure the AC voltage across the 1500Ω resistor. The test must be conducted with the AC switch on and then repeated with the AC switch off. The AC voltage indicated by the meter may not exceed 0.3V. A reading exceeding 0.3V indicates that a dangerous potential exists, the fault must be located and corrected. Repeat the above test with the DVD VIDEO PLAYER power plug reversed. NEVER RETURN A DVD VIDEO PLAYER TO THE CUSTOMER WITHOUT TAKING NECESSARY CORRECTIVE ACTION.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

2.2 SAFETY INSTRUCTIONS

Battery Handling Guideline

Since the battery is packed in soft package, to ensure its good performance, it's very important to carefully handle the battery

2.2.1 Soft Aluminium foil

The soft aluminum packing foil is very easily damaged by sharp edge parts such as Ni-tabs, pins and needles.

- Don't strike battery with any sharp edge parts
- Trim your nail or wear glove before taking battery
- Clean worktable to make sure no any sharp particle



2.2.2 Sealed edge

Sealing edge is very flimsy

- Don't bend or fold sealing edge



2.2.3 Folding edge

The folding edge is formed in battery process and has passed all hermetic tests.

- Don't open or deform folding edge



2.2.4 Tabs

The battery tabs are not so rigid especially for aluminum tab.

- Don't bend tab



2.2.5 Mechanical shock

- Don't fall, hit, bend battery body



2.2.6 Short

Short terminals of battery is strictly prohibited, it may damage battery.

Caution: Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type.

The battery shall not be exposed to such as sunshine, fire or similar overheated environment.

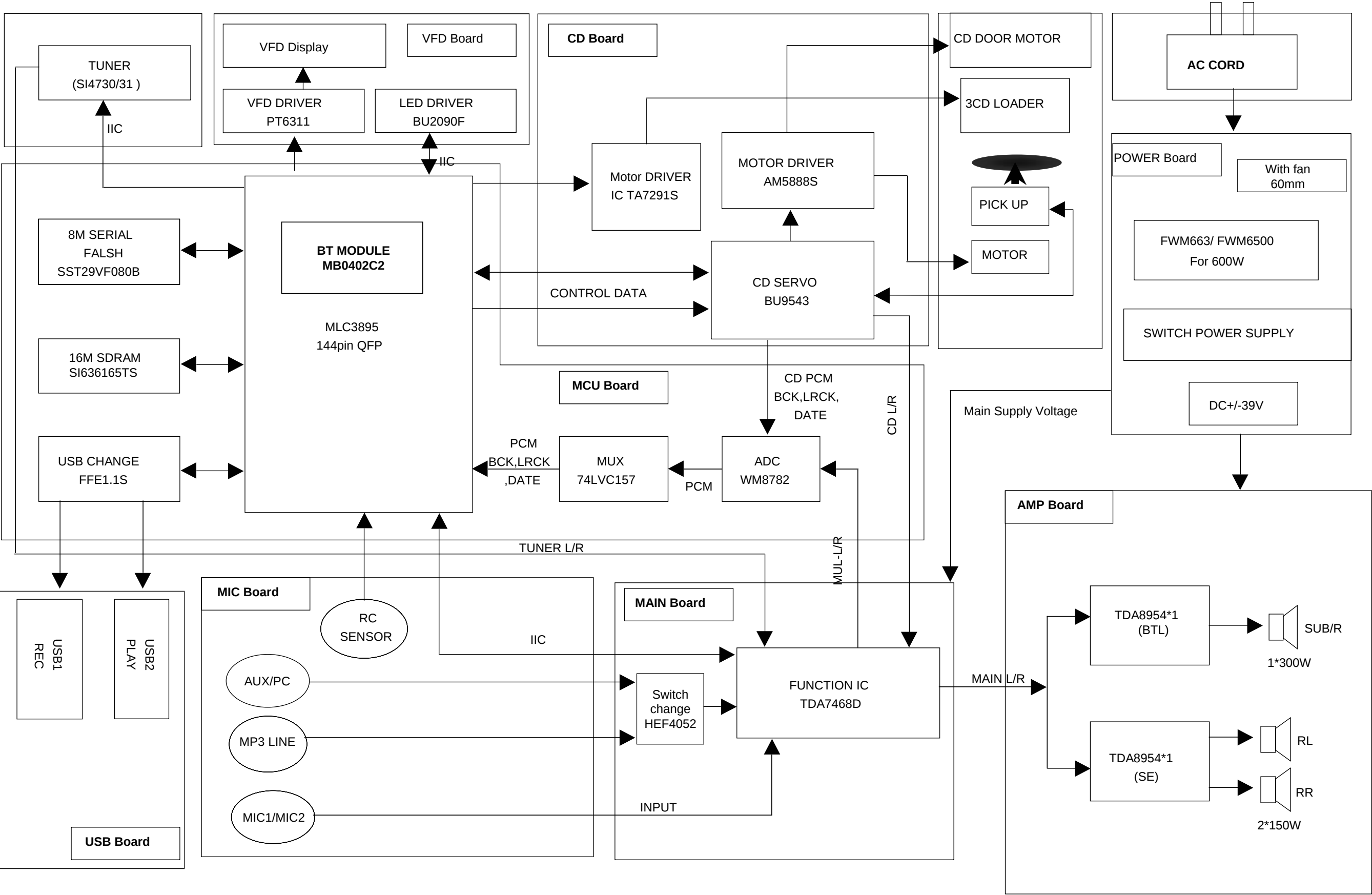
如果电池更换不当会有爆炸危险, 只能用同样类型或等效类型的电池来更换.

电池不得暴露在诸如日照、火烤或类似过热环境

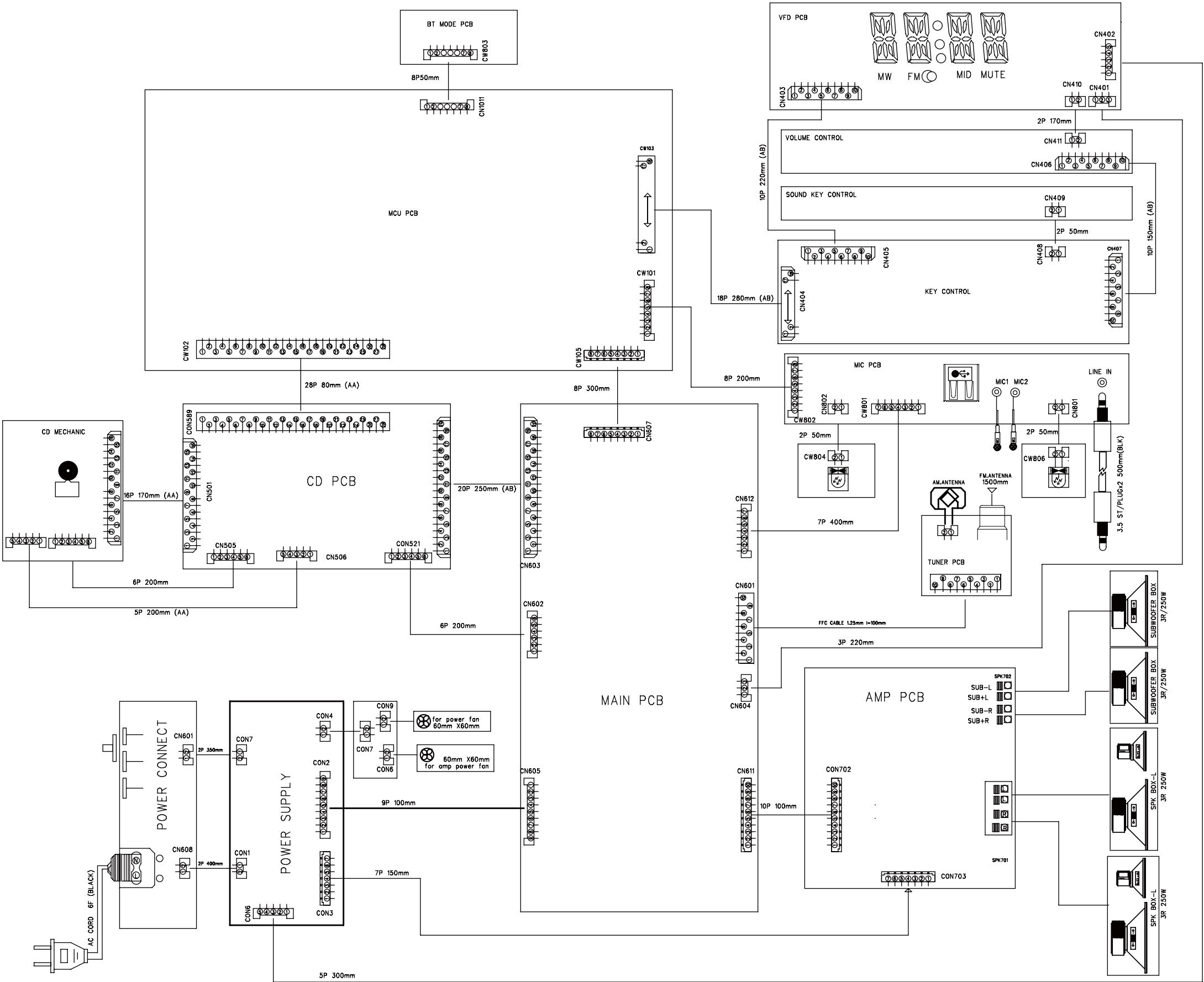
BLOCK DIAGRAM

3-1

3-1



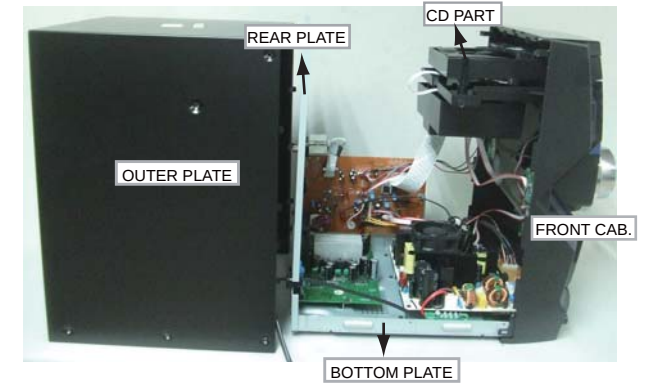
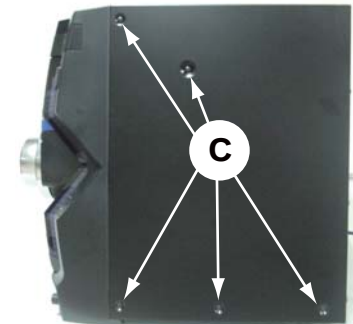
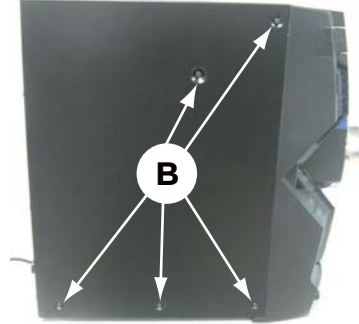
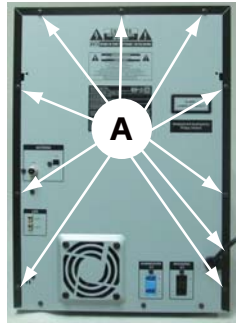
WIRING DIAGRAM



DISASSEMBLY INSTRUCTIONS

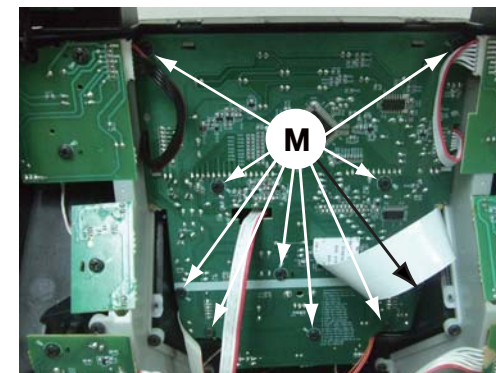
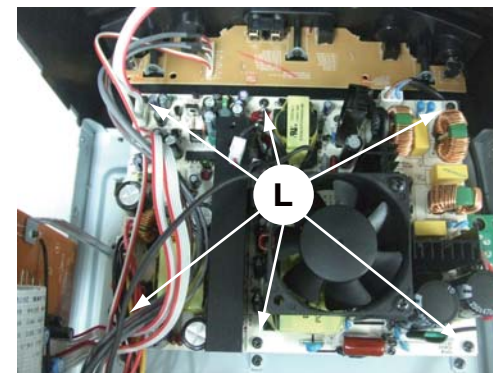
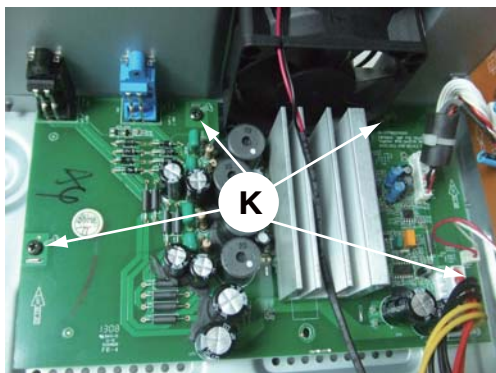
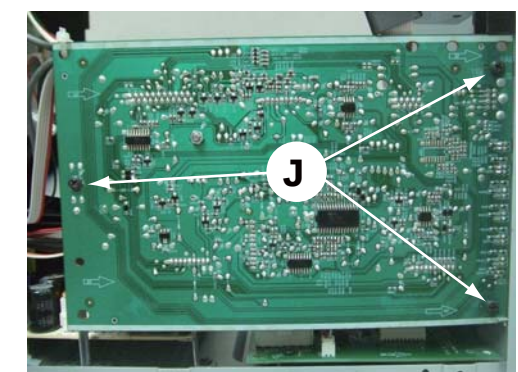
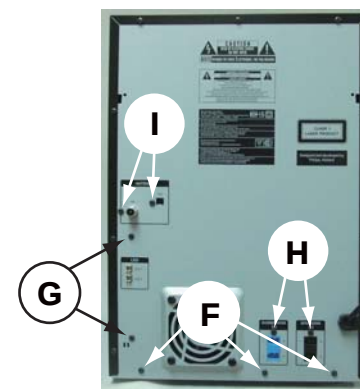
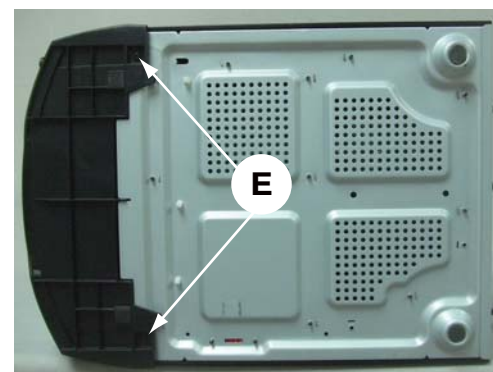
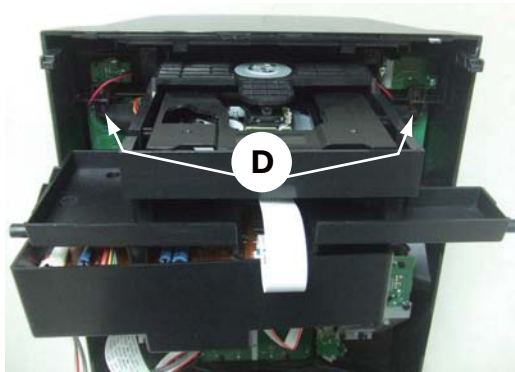
Dismantling of OUTER Portion

1) Remove 10 screws A and 10 screws B/C as indicated to loosen the outer plate.

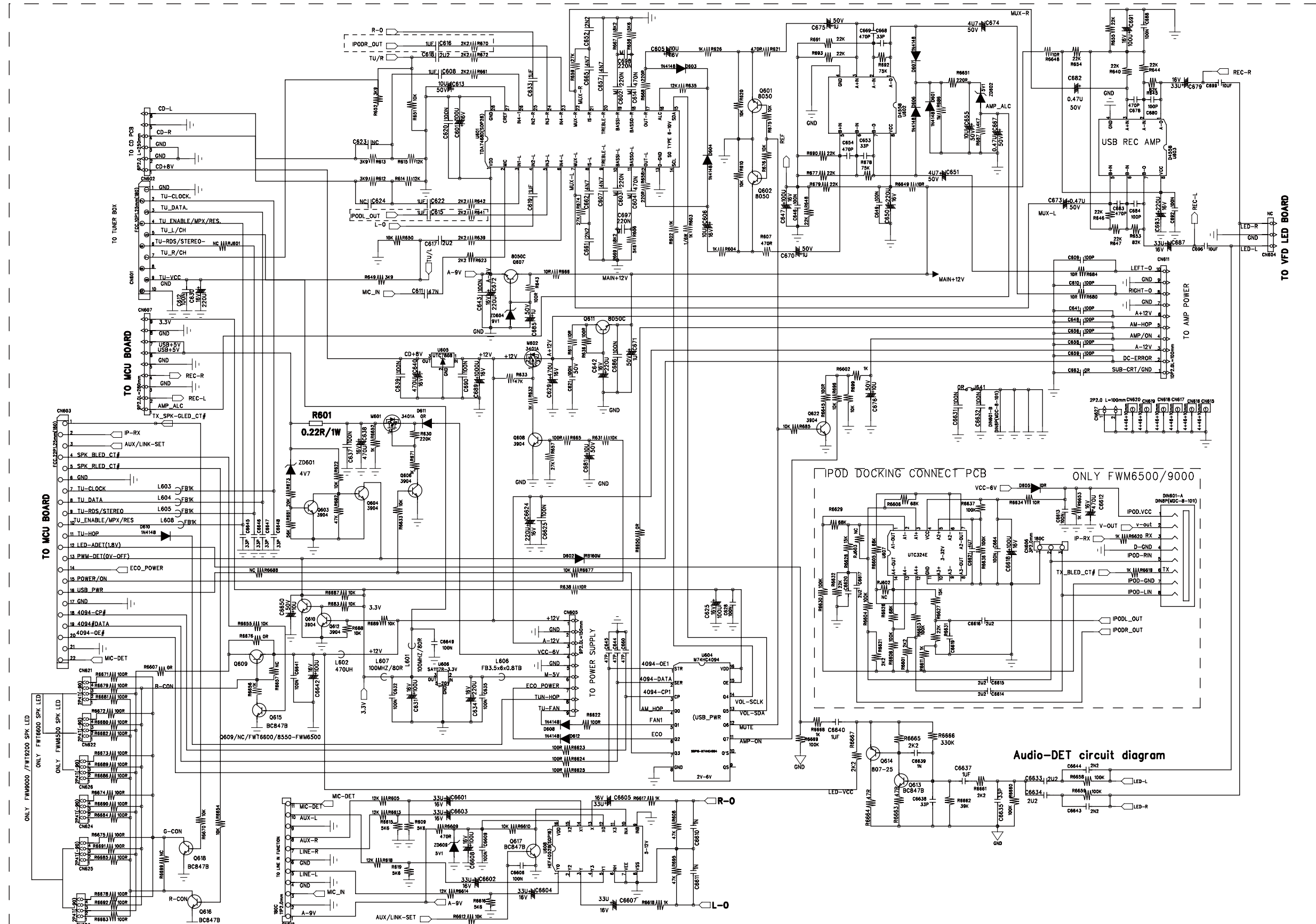


Dismantling of the CD part and Bottom plate and PCB Board

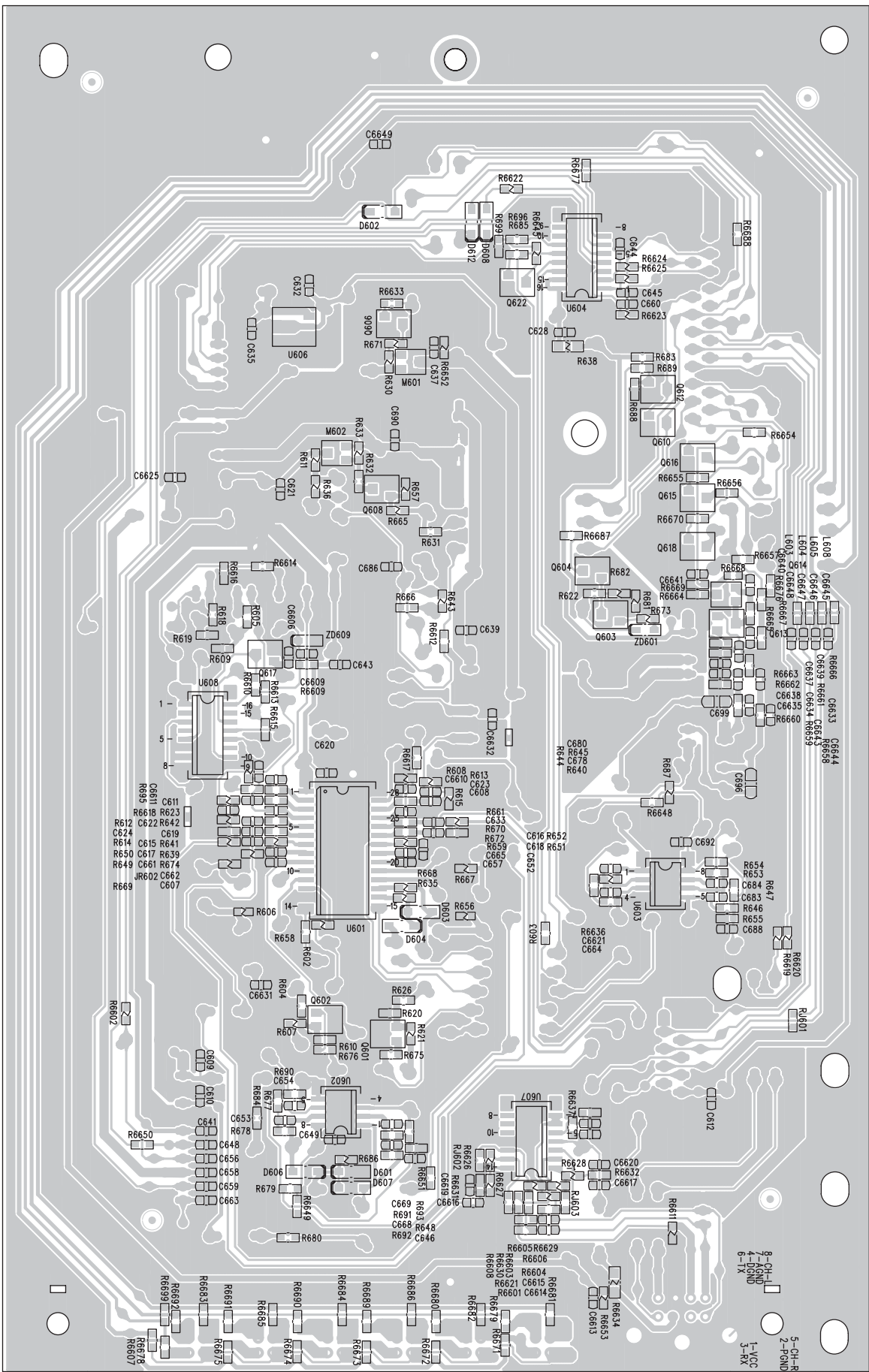
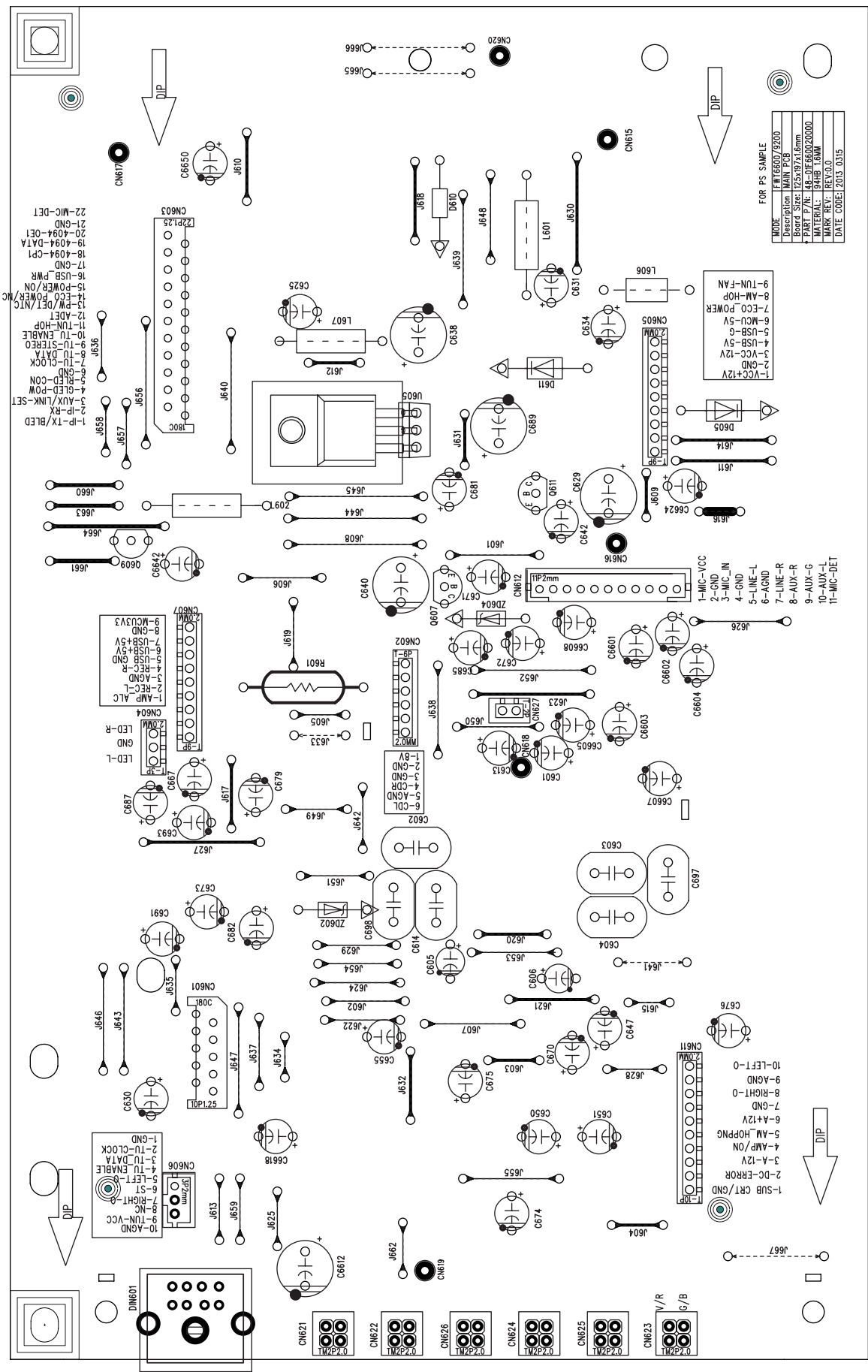
- 1) Remove 2 screws D as indicated to loosen the CD part.
- 2) Remove 2 screws E and 3 screws F as indicated to loosen the Bottom Plate.
- 4) Remove 2 screws G and 3 screws J as indicated to loosen the Main Board.
- 5) Remove 2 screws H and 4 screws K as indicated to loosen the Amp Board.
- 6) Remove 6 screws L as indicated to loosen the Smmps power Board.
- 7) Remove 10 screws M as indicated to loosen the Display Board.



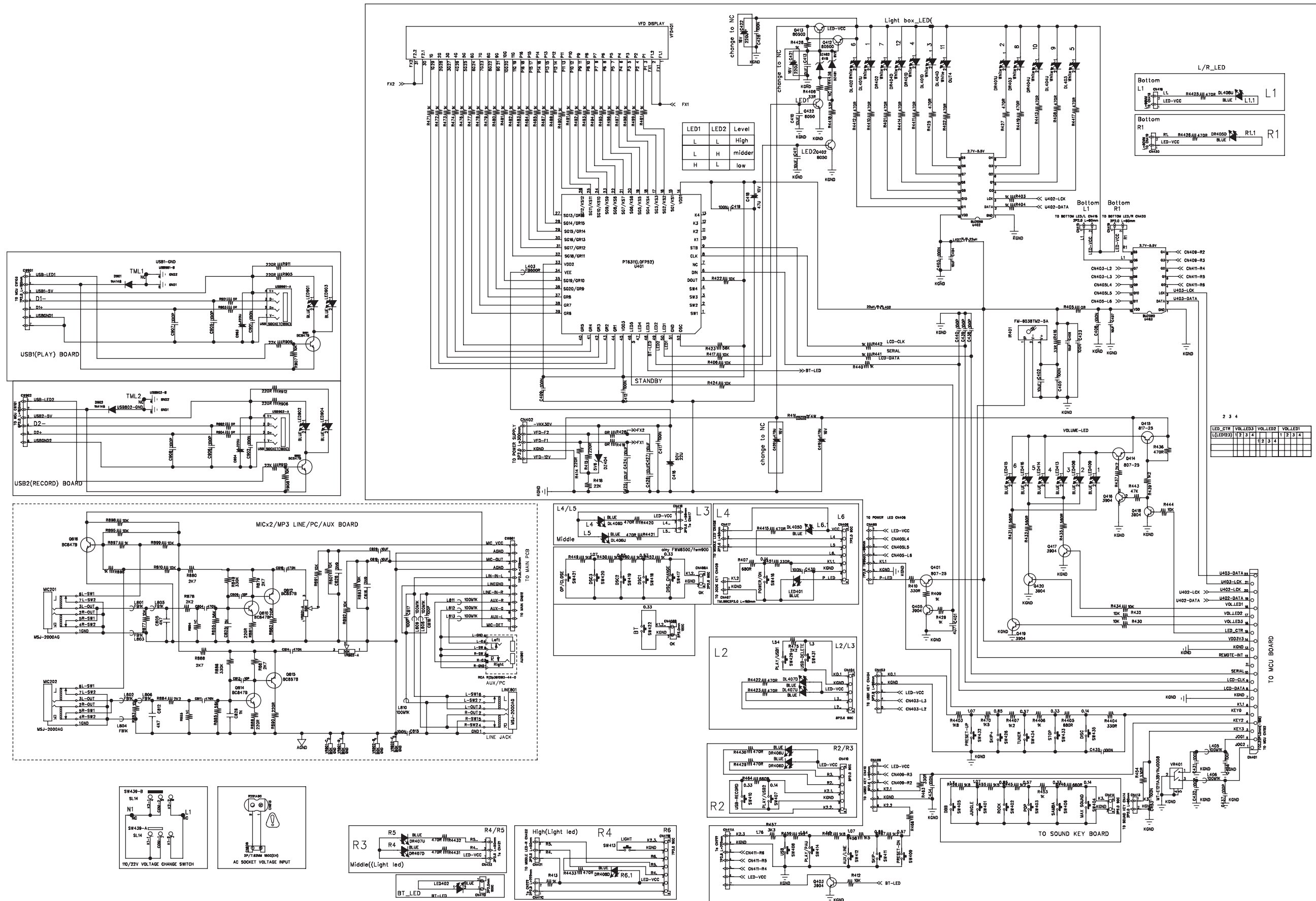
CIRCUIT DIAGRAM - MAIN BOARD

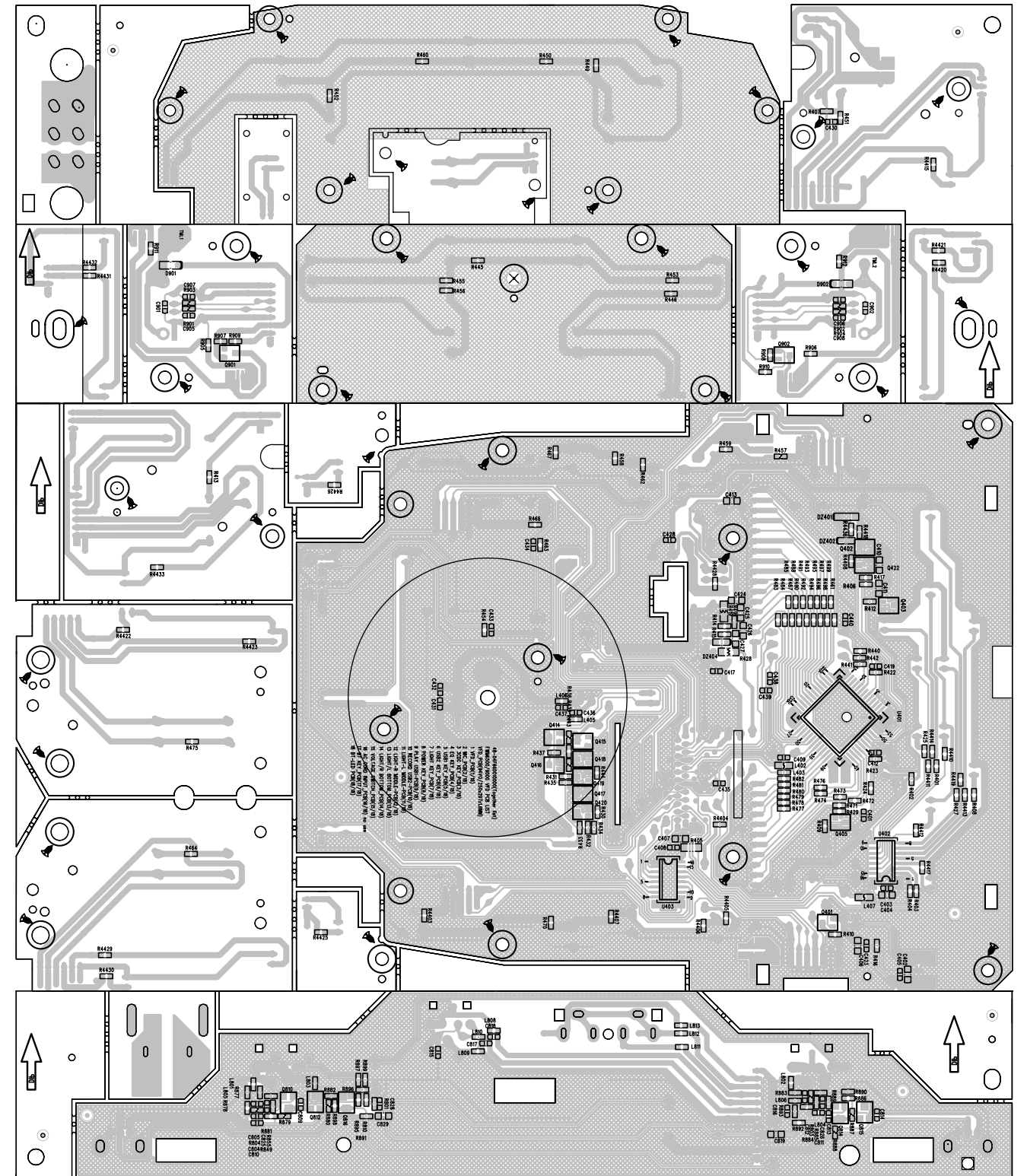
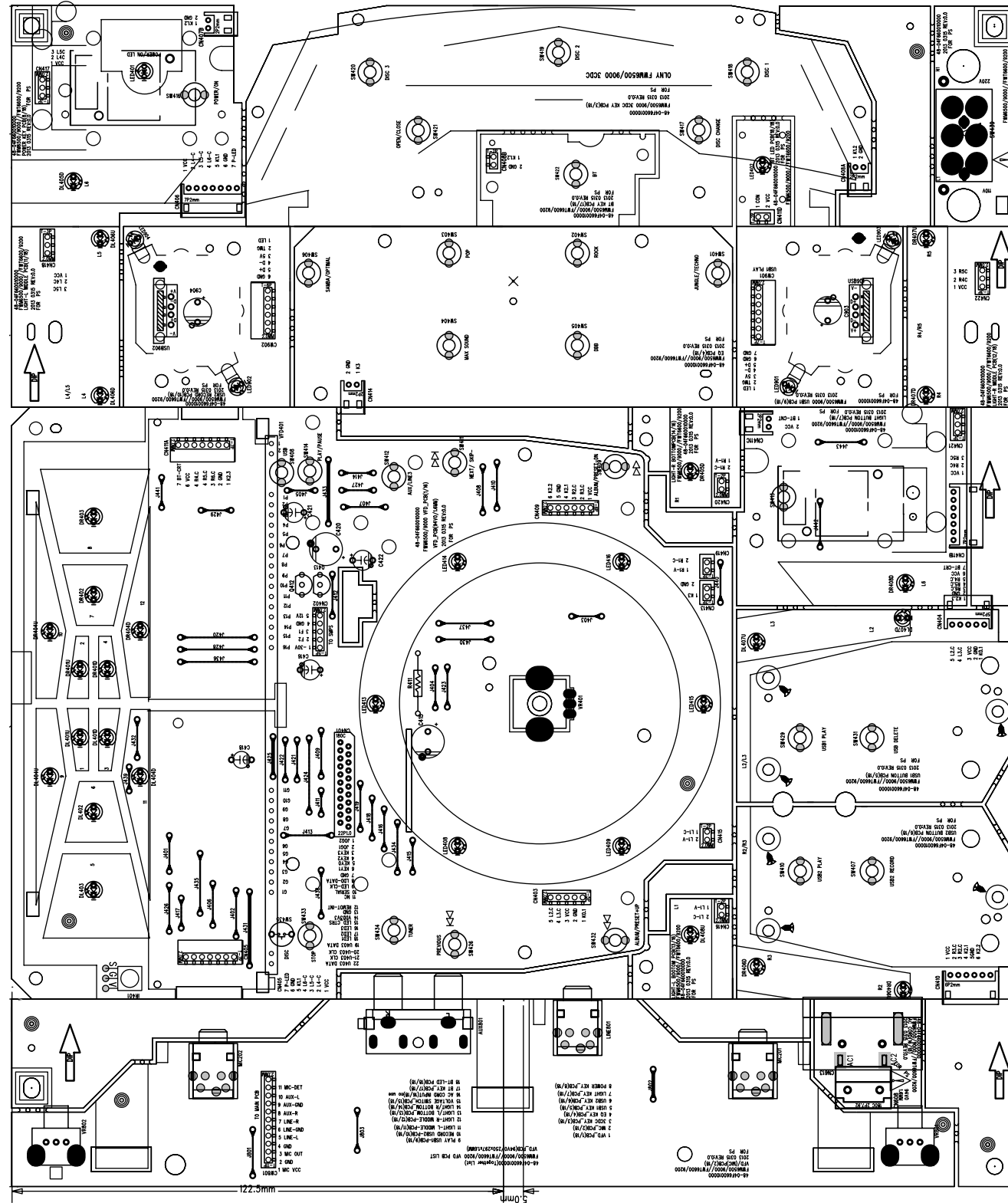


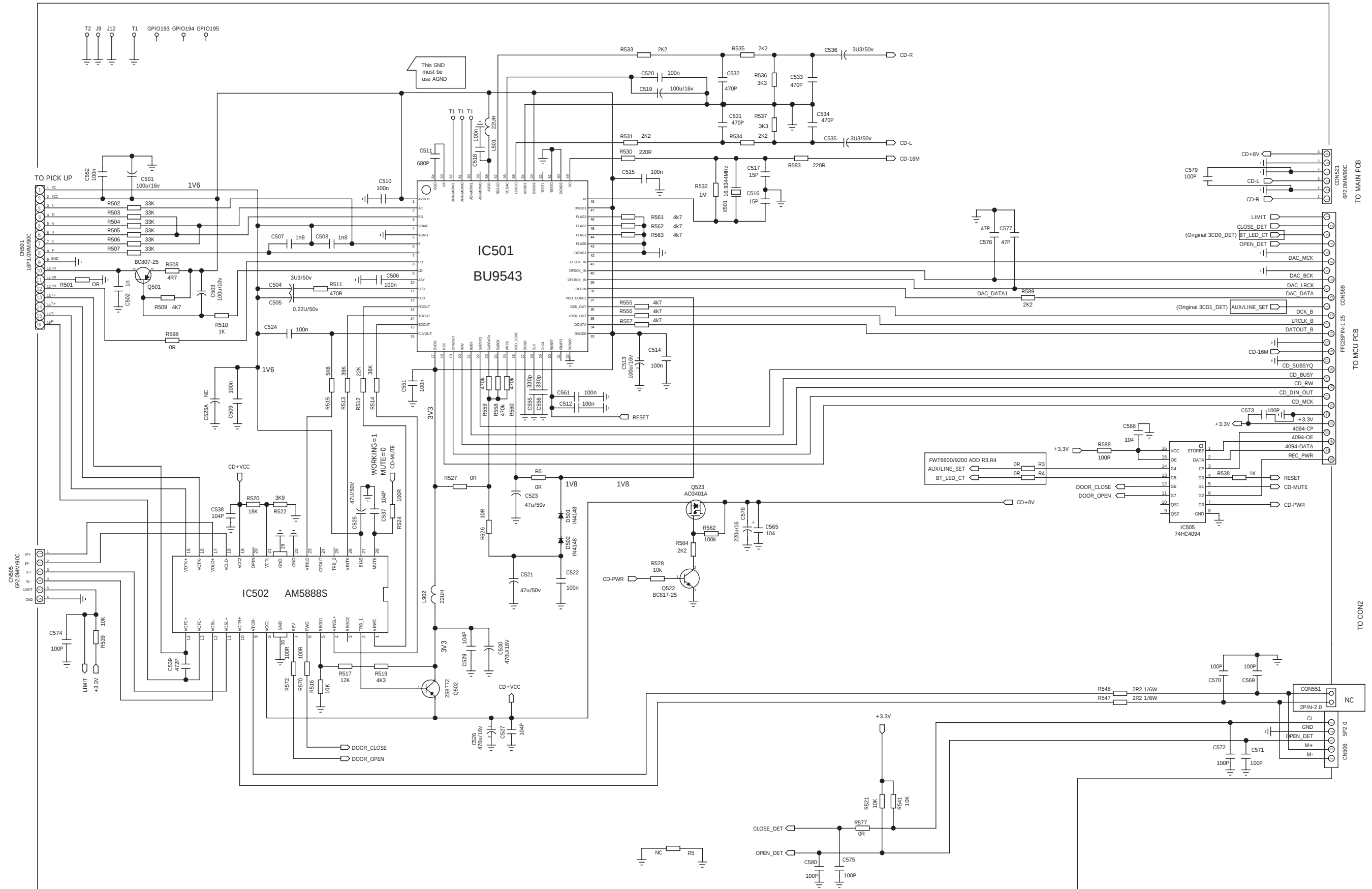
PCB LAYOUT - MAIN BOARD



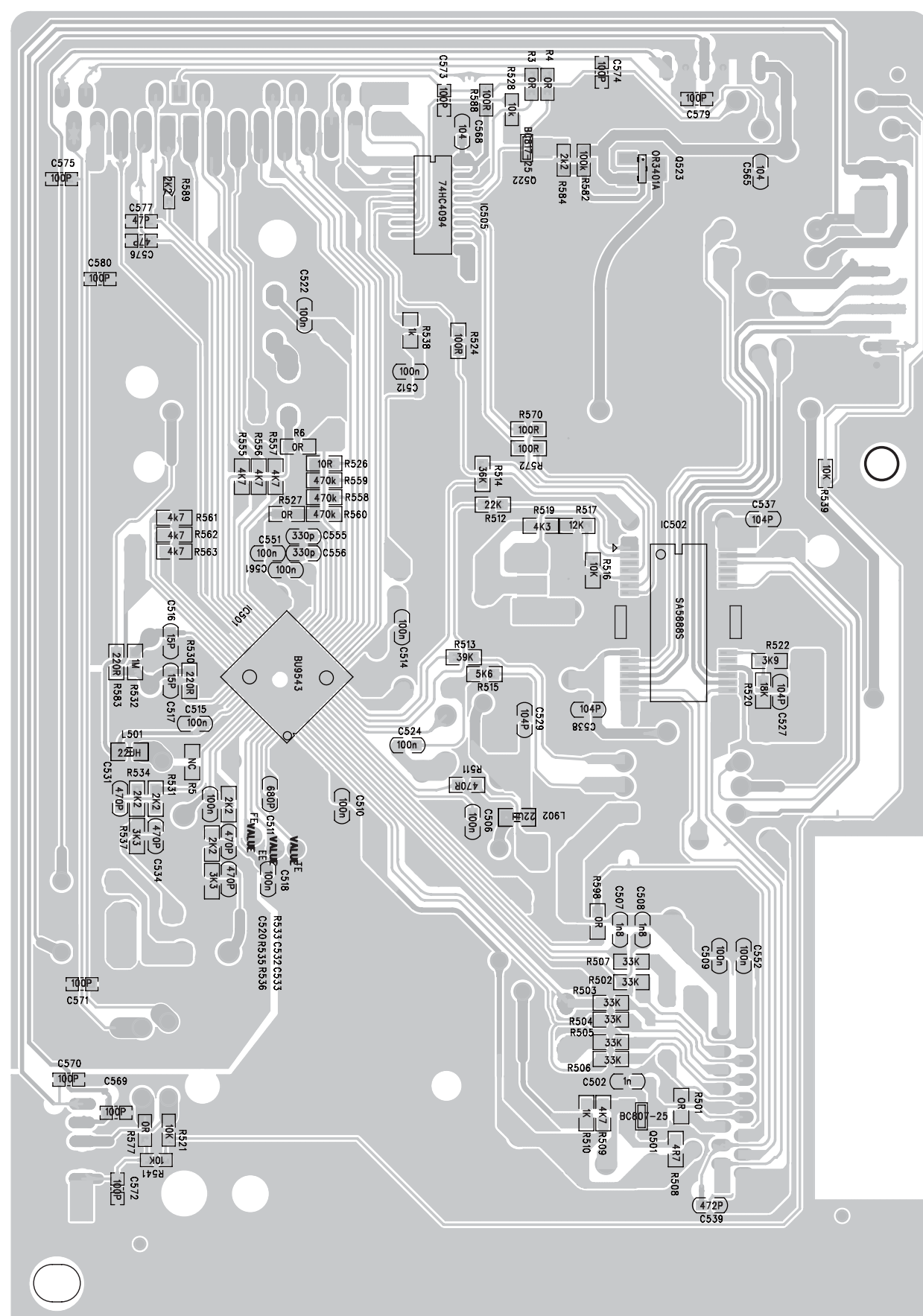
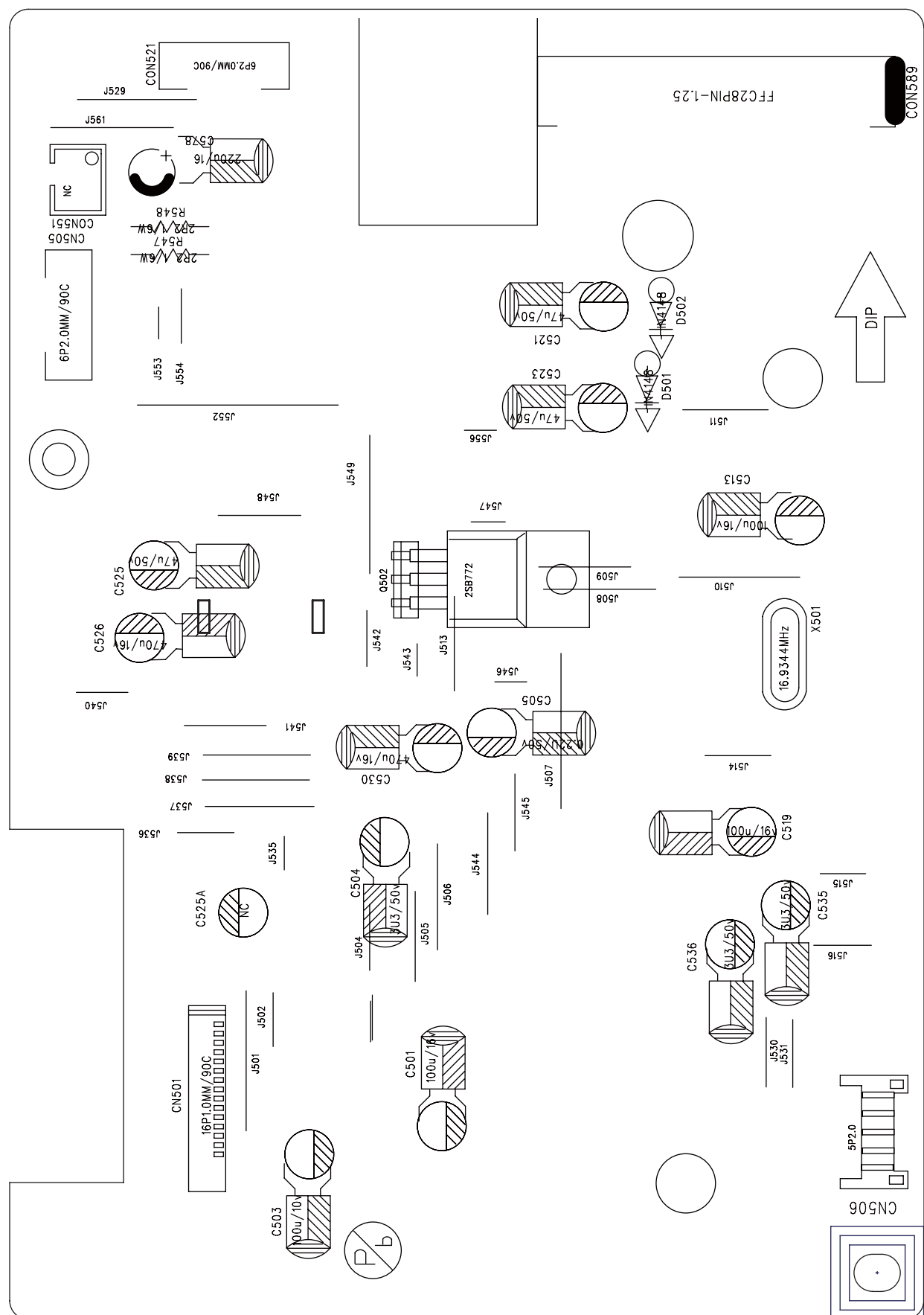
CIRCUIT DIAGRAM - DISPLAY BOARD



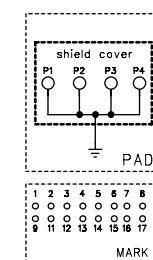
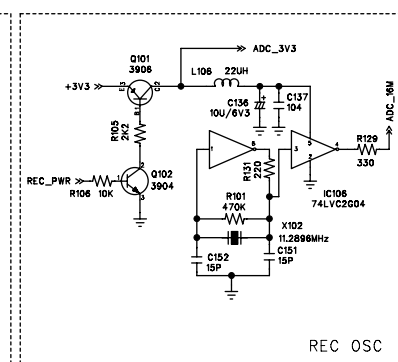
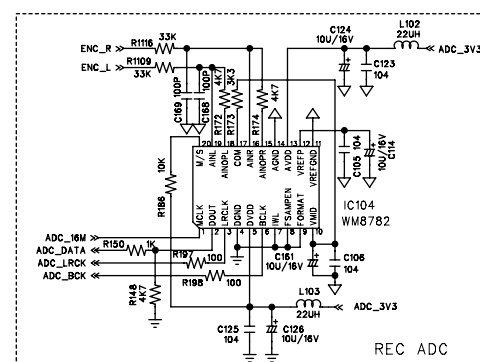
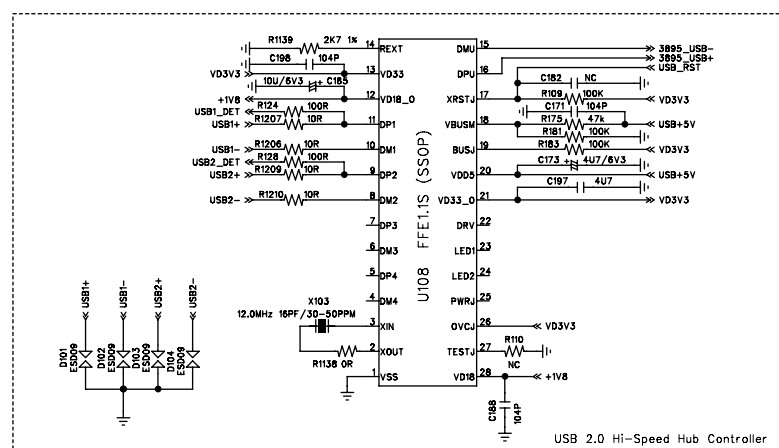
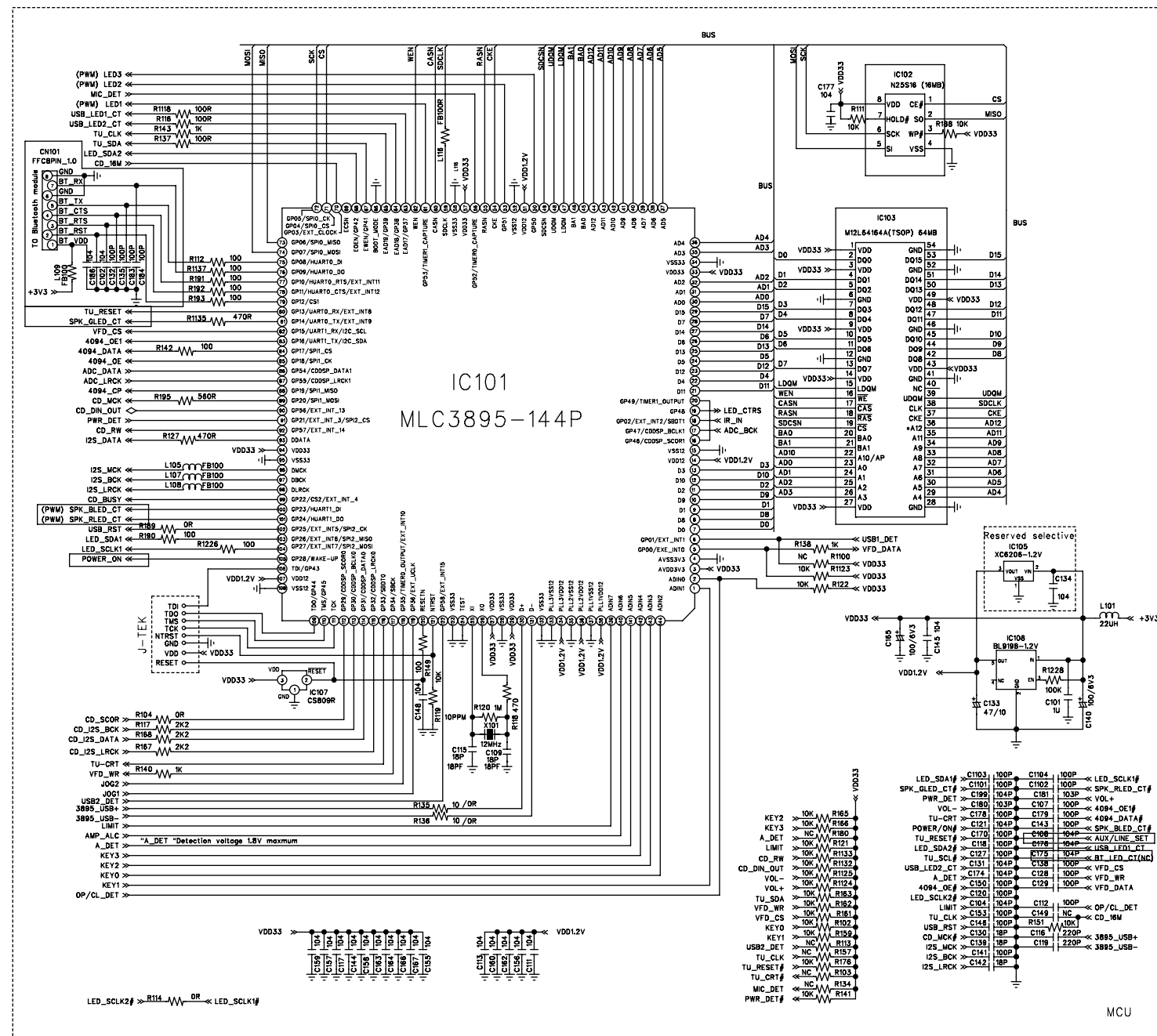
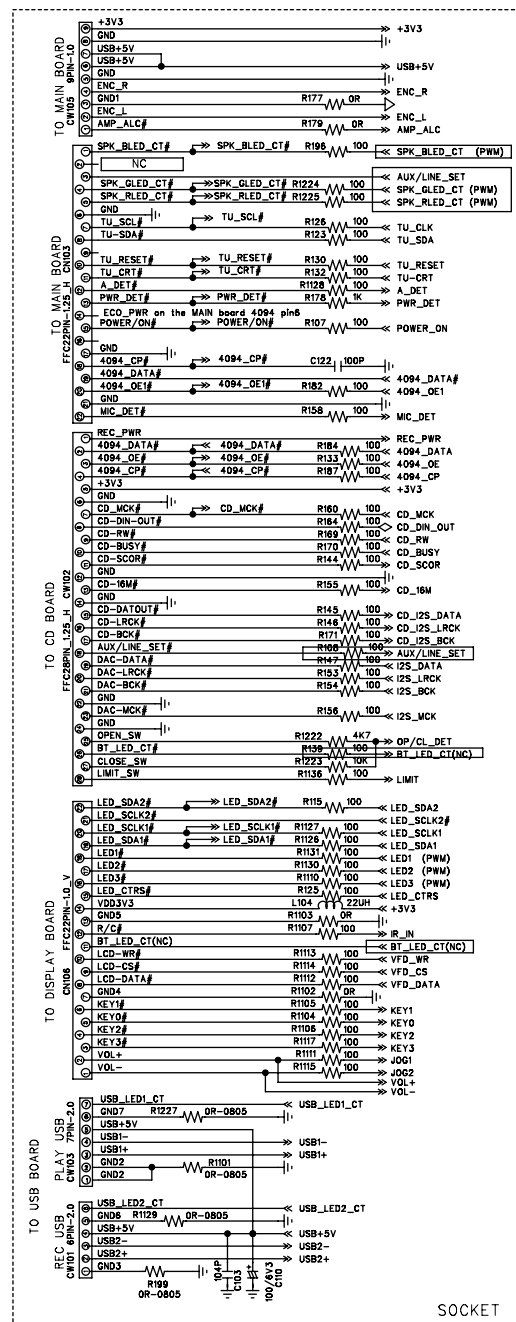




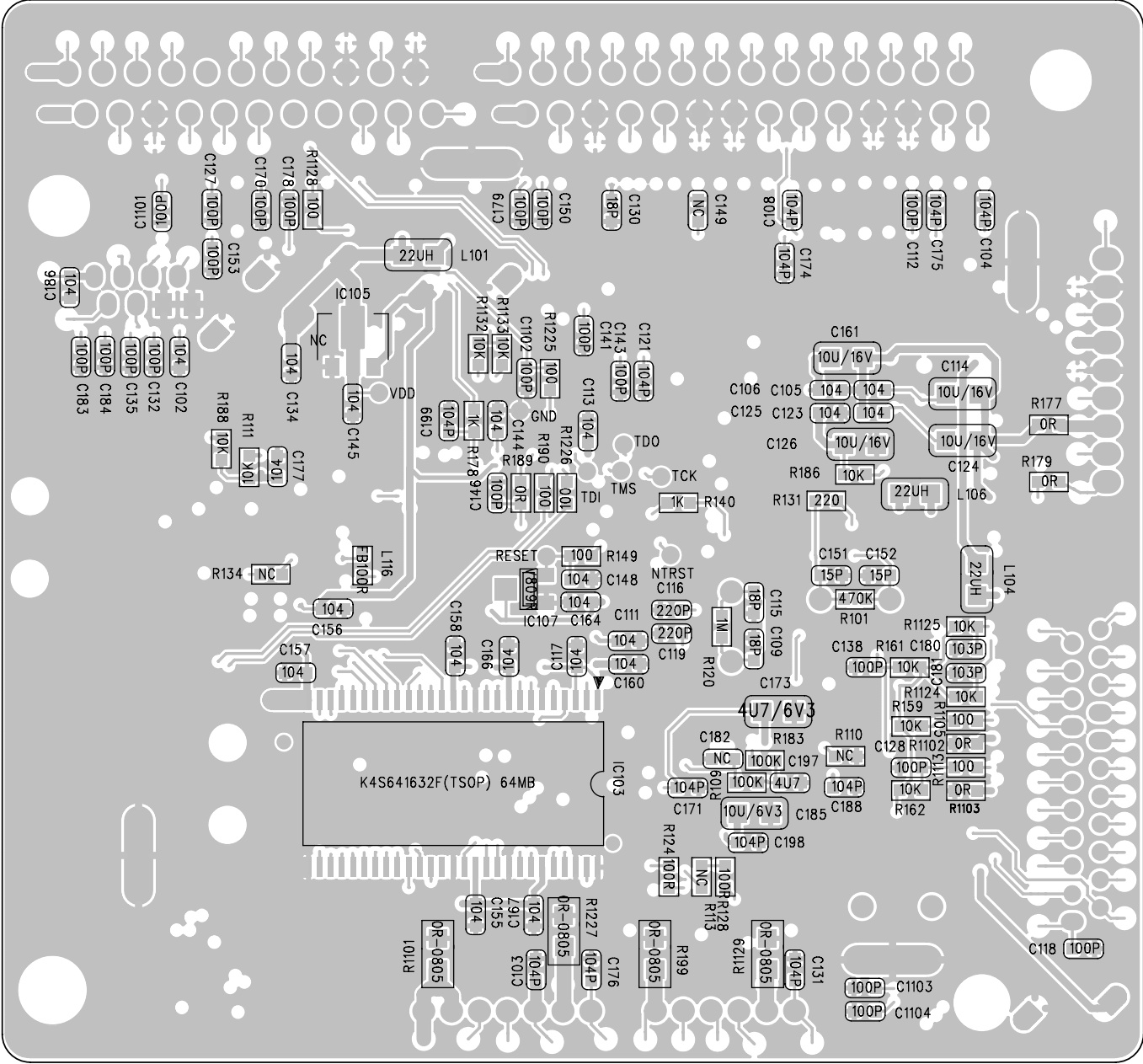
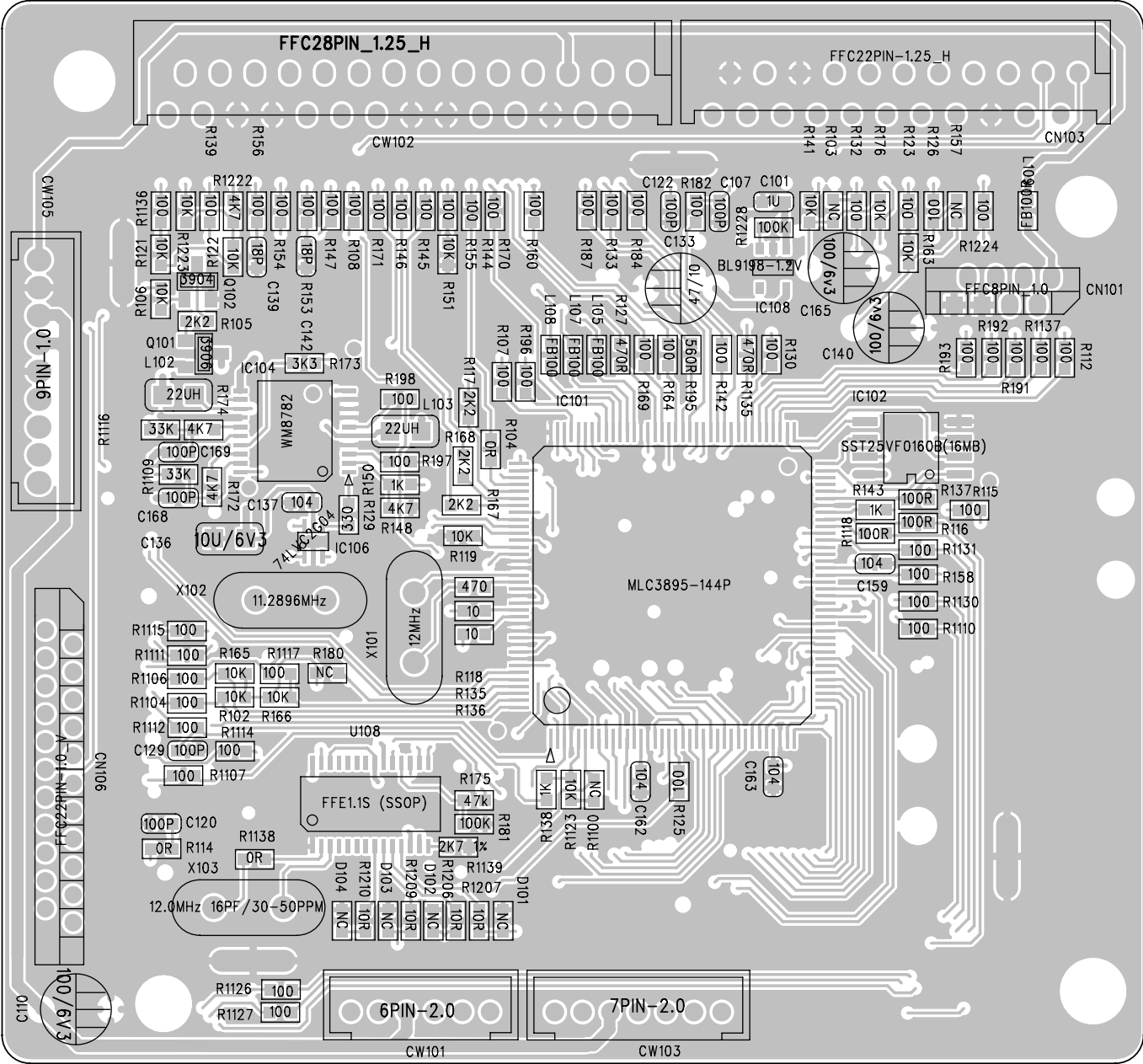
PCB LAYOUT - CD BOARD



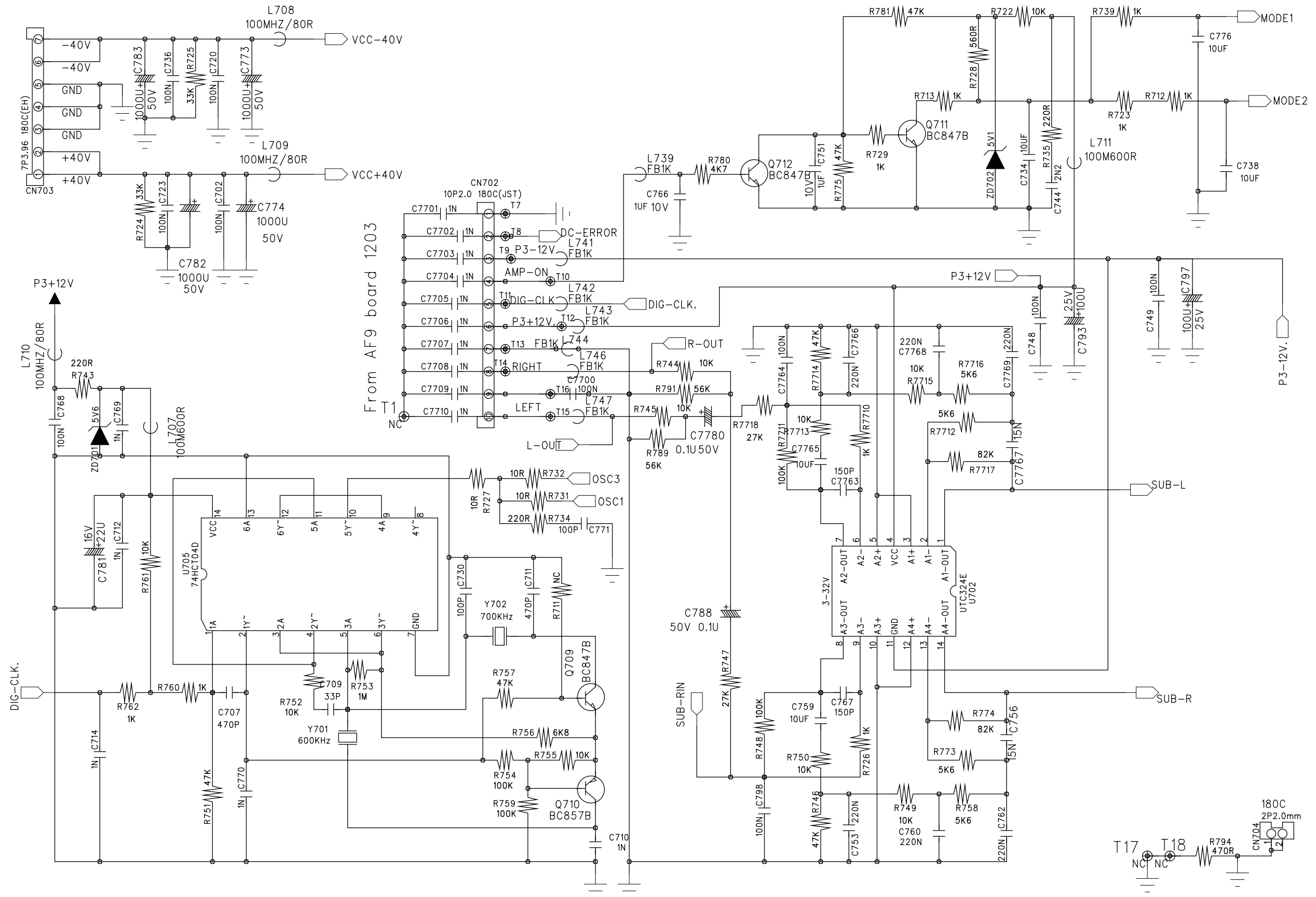
CIRCUIT DIAGRAM - MCU BOARD



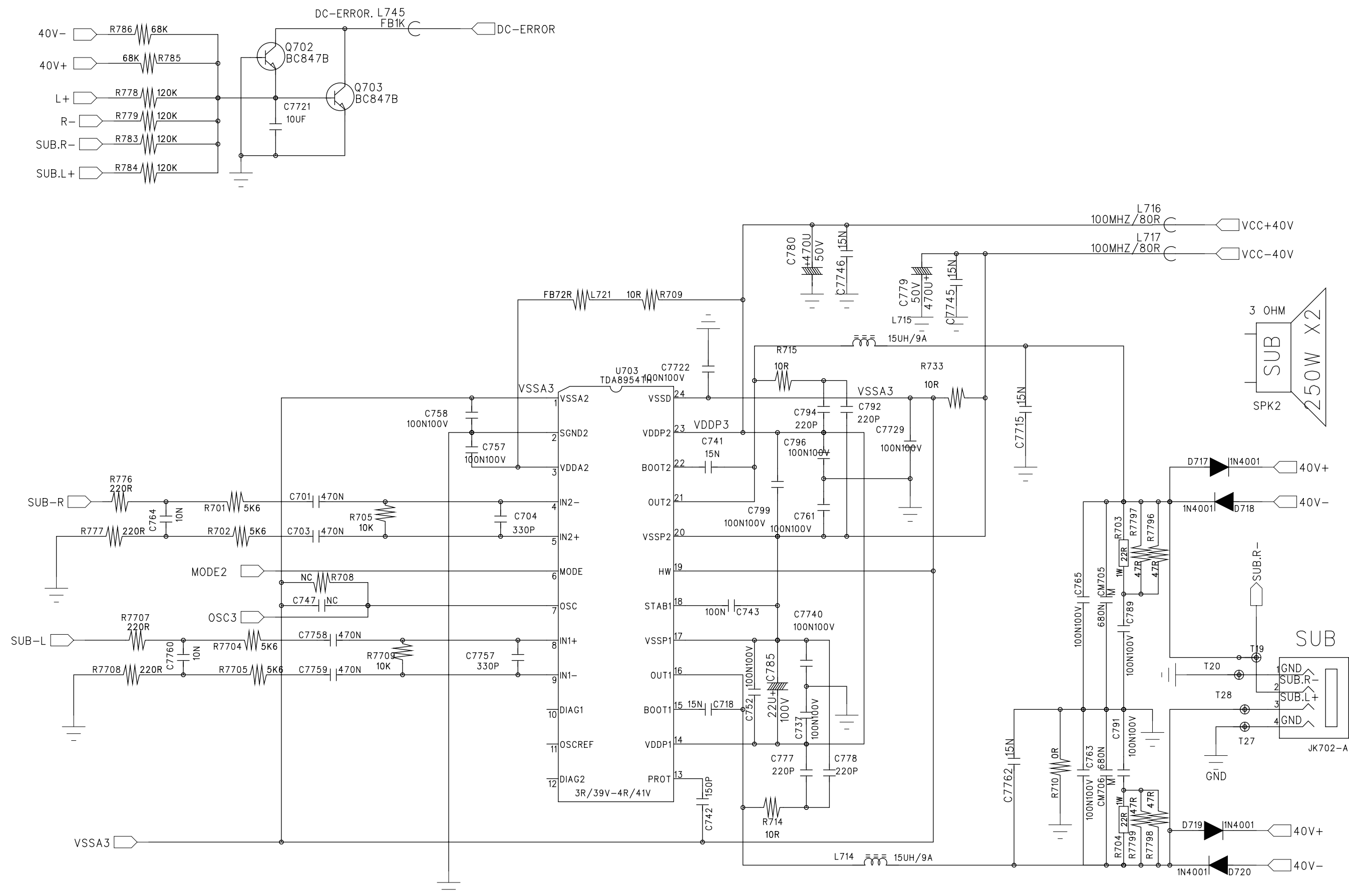
PCB LAYOUT - MCU BOARD

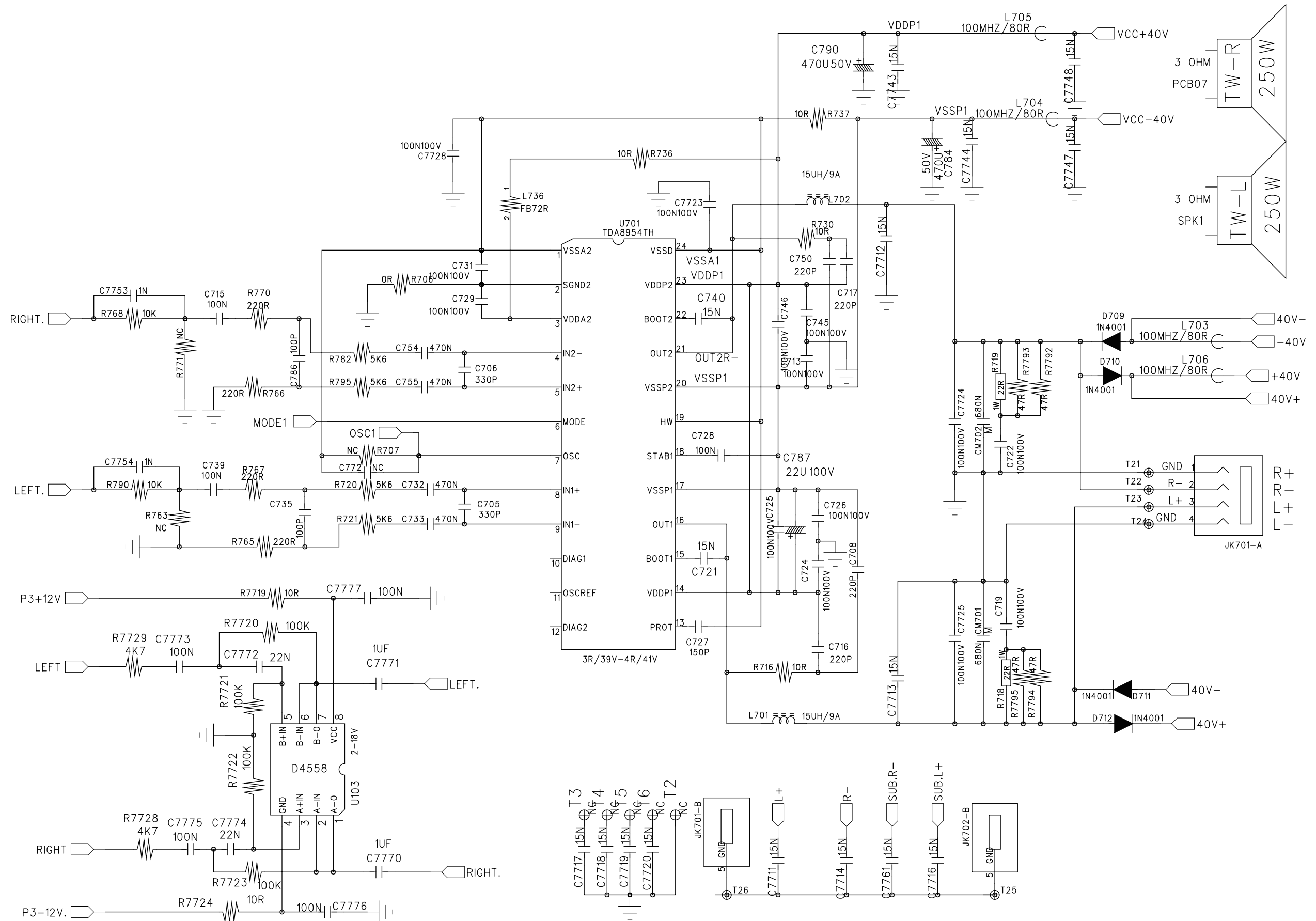


CIRCUIT DIAGRAM - AMP BOARD

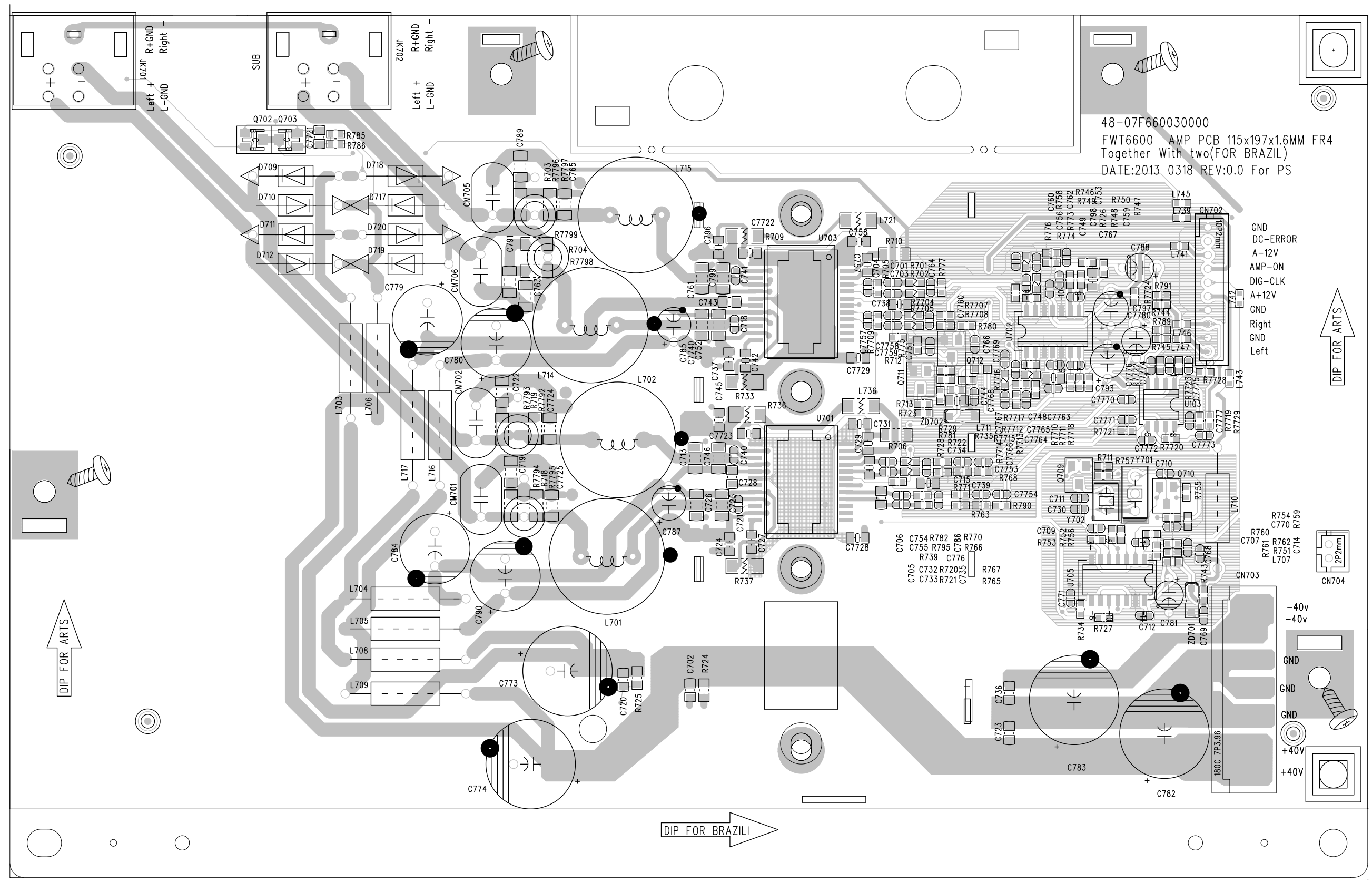


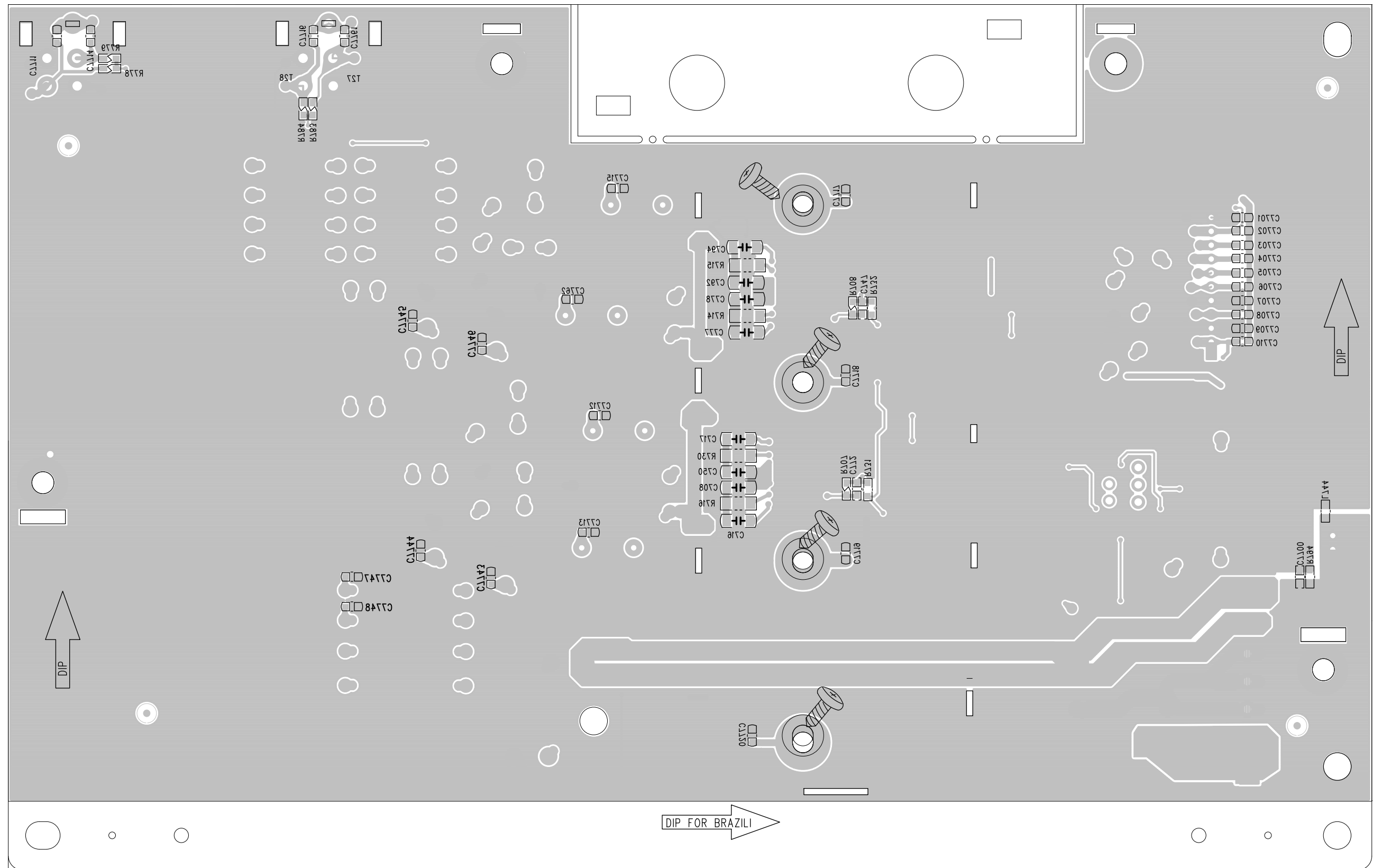
CIRCUIT DIAGRAM - AMP BOARD

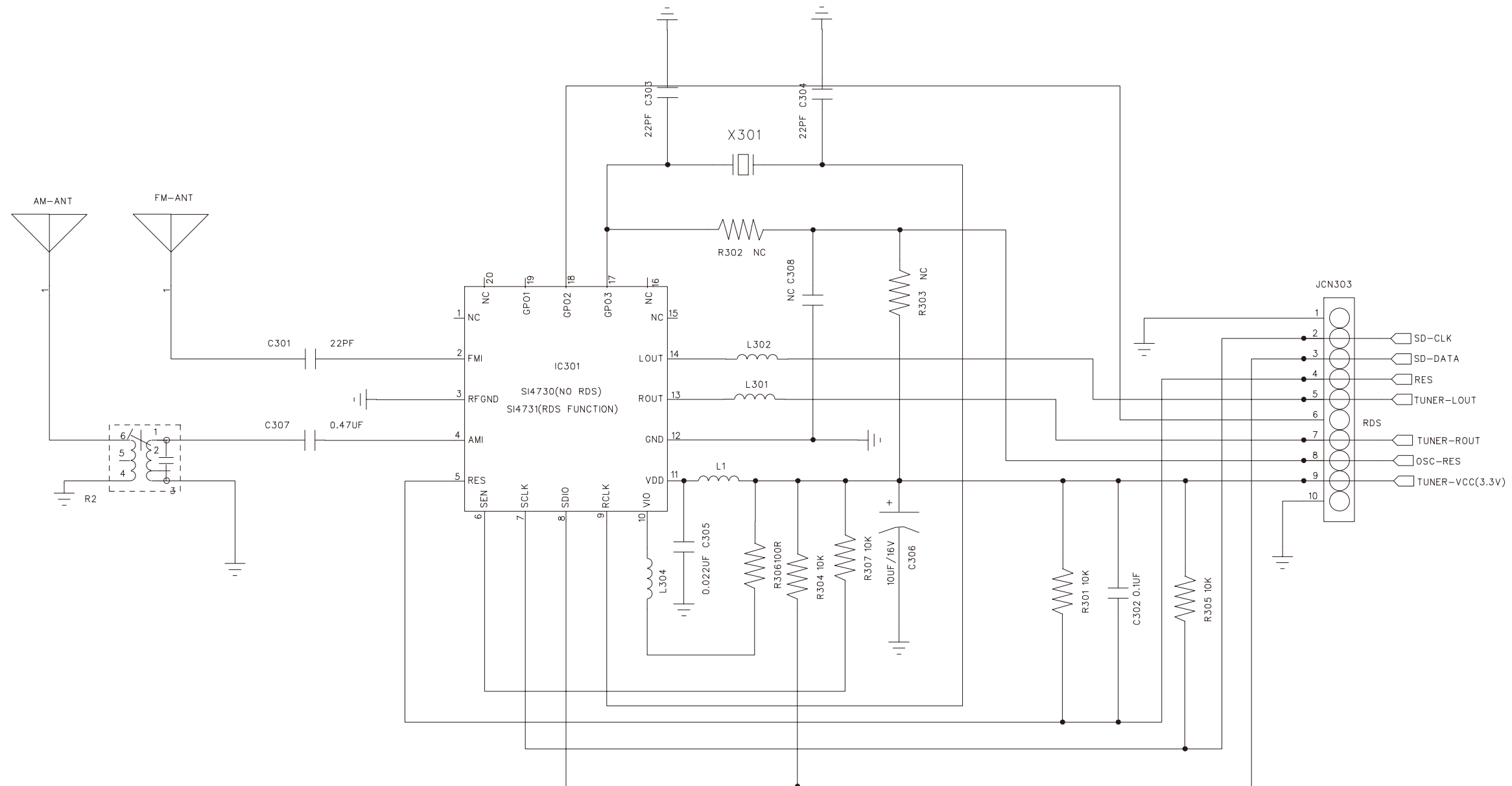




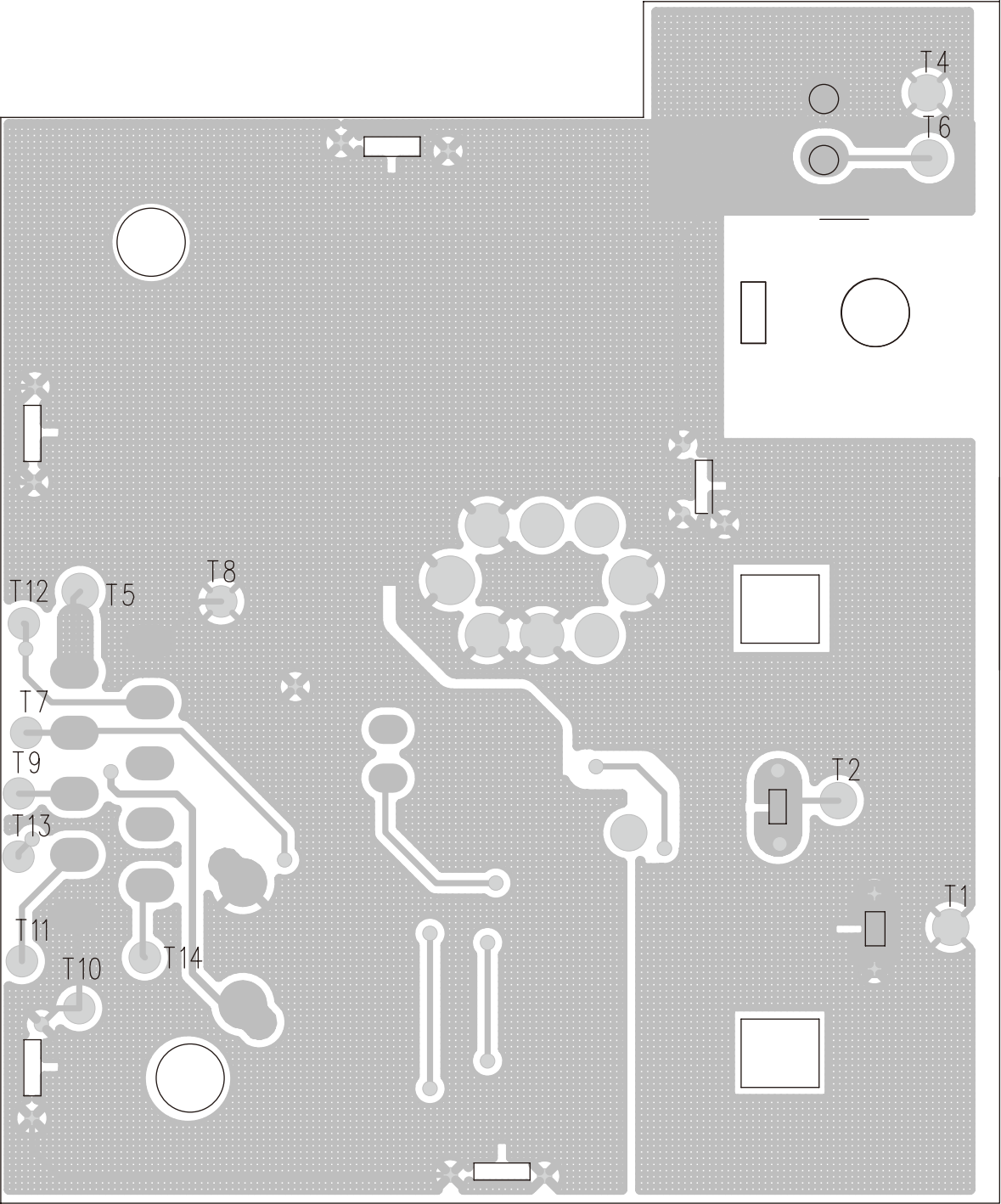
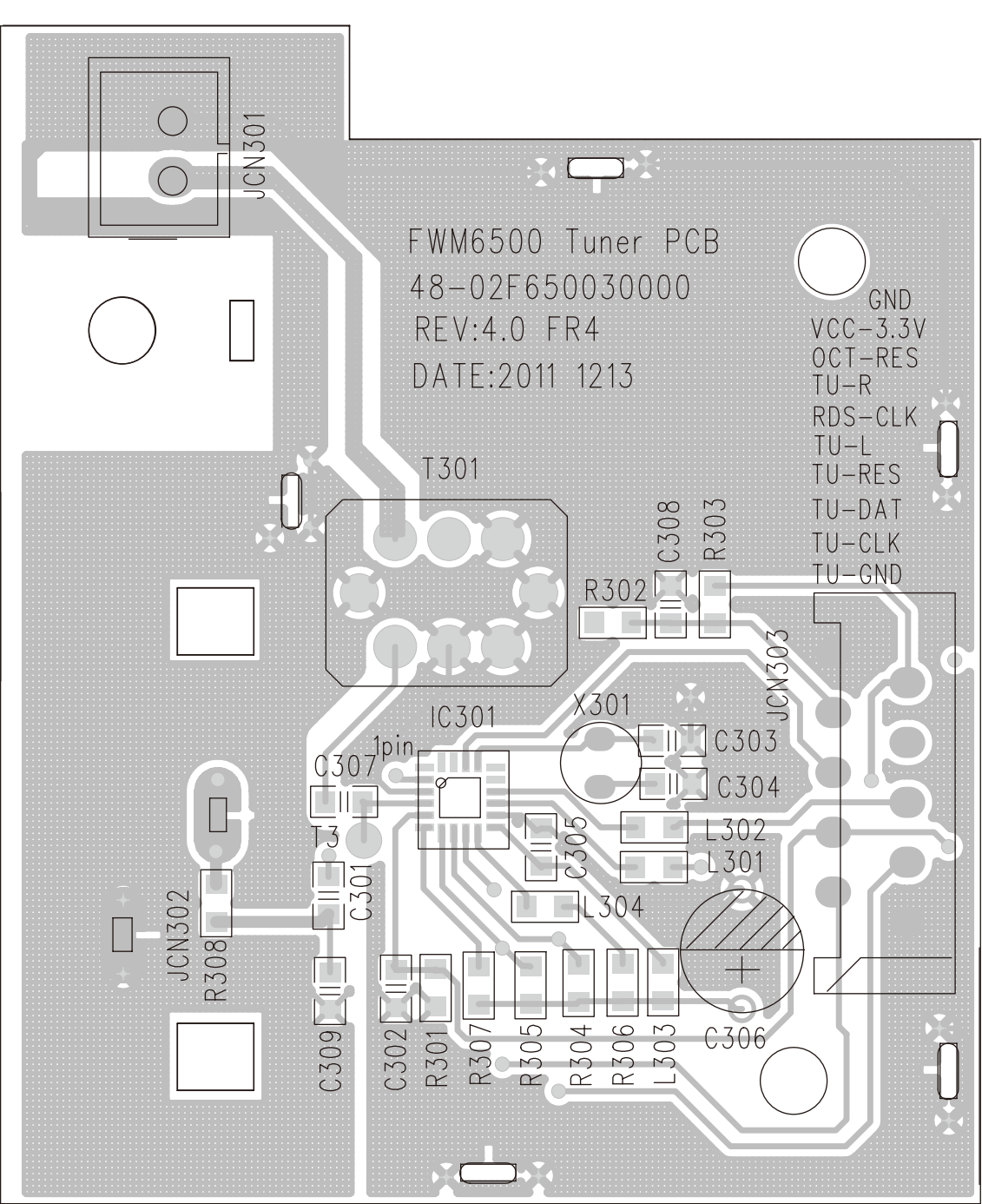
PCB LAYOUT - AMP BOARD







PCB LAYOUT - TUNER BOARD



EXPLODED VIEW

12-1

12-1

