Service
Service
Service

Service Manual

TABLE OF CONTENTS

CLASS 1
LASER PRODUCT

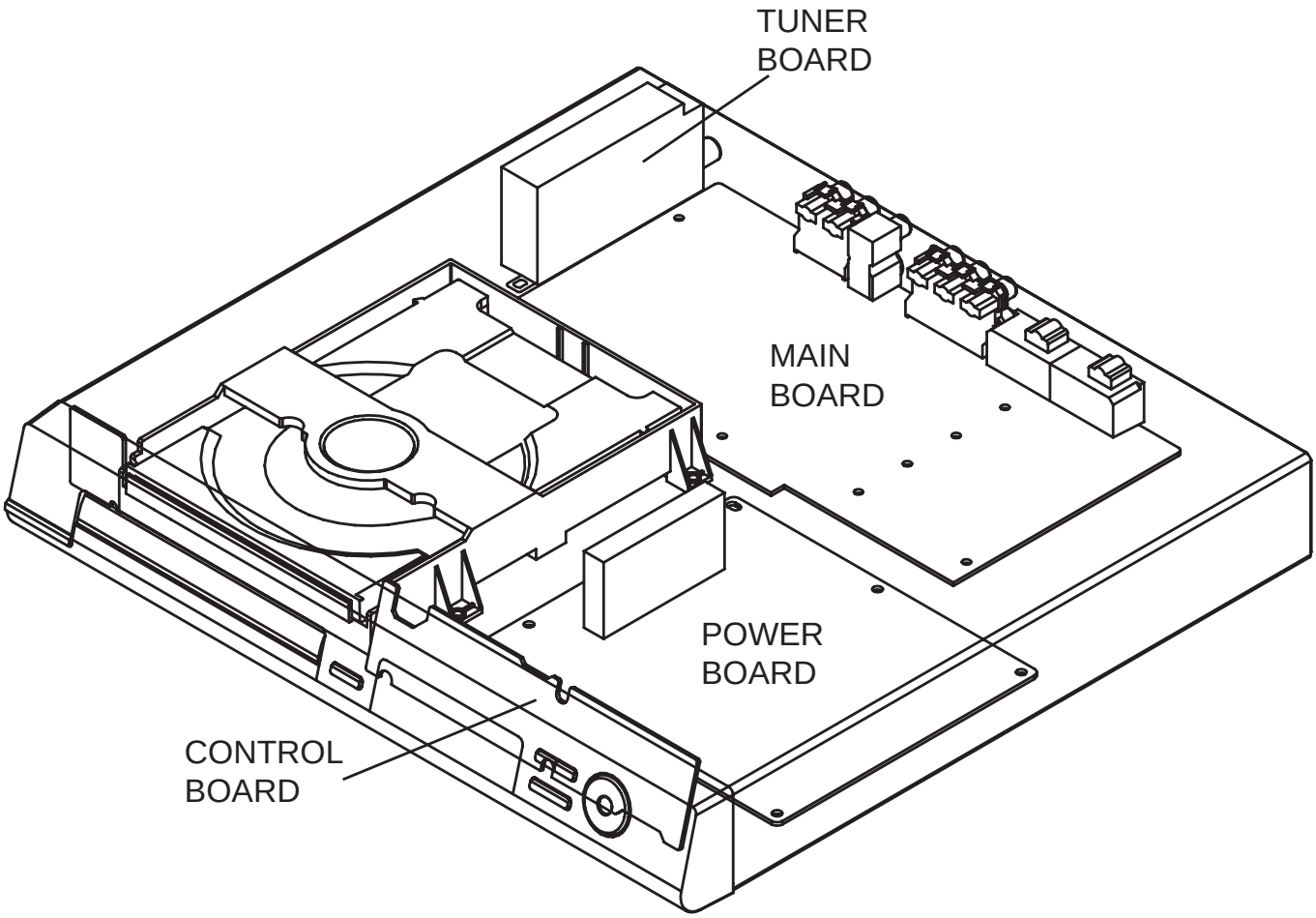
Published by HY-ET0619 Service Audio Printed in The Netherlands Subject to modification

GB 3139 785 32160

Version 1.0

PHILIPS

LOCATION OF PC BOARDS



VERSION VARIATION:

Type /Versions / Features & Board in used	HT3090 /77/78/55
Main PCB (Power Output 200W)	X
Main PCB (DTS-Decoder & Digital OUT)	X
Power Voltage (120-127V / 220-240V)	X
WMA	X
Composite Video Out & RGB	X

SPECIFICATIONS

AMPLIFIER

Output power:	200 W
- Front:	30 W / channel
- Rear:	30 W / channel
- Center:	30 W RMS
- Subwoofer:	50 W RMS
Frequency Response:	20 Hz – 20 kHz / –3 dB
Signal-to-Noise Ratio:	> 60 dB (CCIR)
Input Sensitivity	
- AUX In:	500 mV

TUNER

Tuning Range:	FM 87.5–108 MHz (50/100 kHz) AM 531–1602 kHz (9 kHz) AM 530–1710 kHz (10kHz)
26 dB Quieting Sensitivity:	FM22dBf AM5000µV/m
IF Rejection Ratio:	FM 60 dB AM 24 dB
Signal-to-Noise Ratio:	FM 50 dB, AM 30 dB
AM Suppression Ratio:	FM 30 dB
Harmonic Distortion:	FM Mono 3% FM Stereo 3% AM 5%
Frequency Response:	FM 180 Hz–10 kHz
Stereo Separation:	FM 26 dB (1 kHz)
Stereo Threshold:	FM 23.5 dB

DISC SECTION

Laser Type:	Semiconductor
Disc Diameter:	12cm / 8cm
Video DAC:	10 Bits
Signal System:	PAL / NTSC
Video Format:	4:3 / 16:9
Video S/N:	56 dB (minimum)
Composite Video Output:	24 Bits / 96 kHz 1.0 Vp-p, 75
Audio DAC:	
Frequency Response:	4 Hz–20 kHz (44.1 kHz) 4 Hz–22 kHz (48 kHz)

MAIN UNIT

Power Supply Rating:	110–127 V / 220–240 V; 50-60 Hz
Power Consumption:	50 W
Dimensions: (w x h x d)	360 x 48 x 339 (mm)
Weight:	2.96 kg

SPEAKERS

FRONT speakers

System:	1-way, closed box system
Impedance:	4
Speaker drivers:	3é full range
Frequency response:	150 Hz – 20 kHz
Dimensions (w x h x d)	100 x 95 x 83 (mm)
Weight:	0.88 kg/each

REAR speakers

System:	1-way, closed box system
Impedance:	4
Speaker drivers:	3é full range
Frequency response:	150 Hz – 20 kHz
Dimensions: (w x h x d)	100 x 95 x 83 (mm)
Weight:	0.92 kg/each

Center speaker

System:	1-way, closed box system
Impedance:	4
Speaker drivers:	3é full range
Frequency response:	150 Hz – 20 kHz
Dimensions: (w x h x d)	239 x 99.6 x 69.4 (mm)
Weight:	0.52 kg

PASSIVE SUBWOOFER

Impedance:	8
Speaker drivers:	6.5é high efficiency woofer
Frequency response:	40 Hz – 150 Hz
Dimensions: (w x h x d)	130 x 328 x 350 (mm)
Weight:	3.48 kg

System, Region code, Tuner, etc. setting procedure

1) System Reset

a) Press "SYSTEM" button on R/C. TV show "SETUP"
b) Select the menu using the "▼" and "►" button on R/C
c) Go feature setup page to do system reset

2) Region Code Change

After replacement / repair of the MPEG board, the customer setting and the region code may lost. Changing the Region code will put the player back in the state which it has left the factory.

Region Code

1	USA
2	EU
3	AP
4	Australia, NZ, Latam
5	RUSSIA, INDIA
6	CHINA

TV System

1	NTSC
2	PAL
3	AUTO

Menu/ Audio Subtitle (AS) Language

1	English
2	English
3	English
4	English

AFS

001	LX3000D/HTS3400/MRD130
	MX2600/HTS3090
002	MX3600D/MX3800
003	LX3700D/LX3750W
005	MRD210
006	MX3660D
008	FWD573/FWD792/FWD798
010	MRD120/MX6050

oem derivative

08

- region code = 1 digit
- tv system = 1 digit
- "as/menu lang" = 1 digit
- "AFS" = "architechture Feature Set" = 3 digits

This field is used to define the architecture / features sets for each product.

- "oem derivative" = 2 digit

This field is use to define the OEM set. This will affect the background display.

Hence in total, reprograming will be done by way of the remote control. It should run as below :-

a) Put the player in stop mode. No disc loaded.
b) Press the following key on remote control:

For HTS3090/55/77/78 (LATAM) :
<PLAY> <159> <411> <001> <08> <PLAY>

✱ After the Region Code is changed it is necessary to reset the system so that the new Region Code will be fully effective. All customer setting will be lost.

✱ On top of the maximum number of times allowed for changing the region code is changed to 25.

✱ When the counter reach 25, you will not be able to further change the code until you reset the timer by the Region Code timer reset procedure

CAUTION !

This information is confidencial and may not be distributed. Only a qualified service person should reprogram the Region Code.

2-1

3) Region code change timer reset

Press below key to reset the timer :
a) In DISC source, stop mode and no disc in tray.
b) Press R/C "Play -159-PLAY" to reset timer to 25

4) Tuner area change

a) Press the "OPEN/CLOSE" button to open the set's door
b) Press "1" "5" "9" button by using R/C.
c) TV Show "TUNER AREA"
d) Select the tuner area you want by using the "▼" and "►" button on R/C, then press "OK" to confirm. TV show " TUNER AREA CHANGED"
If you didn't press it in five seconds, the system will remain original status.

AREA	BAND	FREQUENCY (Hz)		STEP(Hz)
LATAM (55/77/78)	FM	87.5M	108M	50K/100K
	MW	531K	1602K	9K
		530K	1710K	10K

Note :-
Please refer to the above different tuner area.

5. Video Out Change

a) Press "SYSTEM" on R/C button
b) Select the menu using the "▼" and "►" button on R/C
c) Go picture setup page select Video out item.

6. Password Change

a) Press "SYSTEM" on R/C button
b) Select the menu using the "▼" and "►" button on R/C
c) Go feature setup page select "PASSWORD". TV show "ENTER CODE".Press 4 times of "STOP" button on R/C.
d) Select "PARENTAL" "8 ADULT" on TV.
e) Enter PASSWORD to "1234".
✱ "1234" is a default password supplied.

7. Checking on the Software version

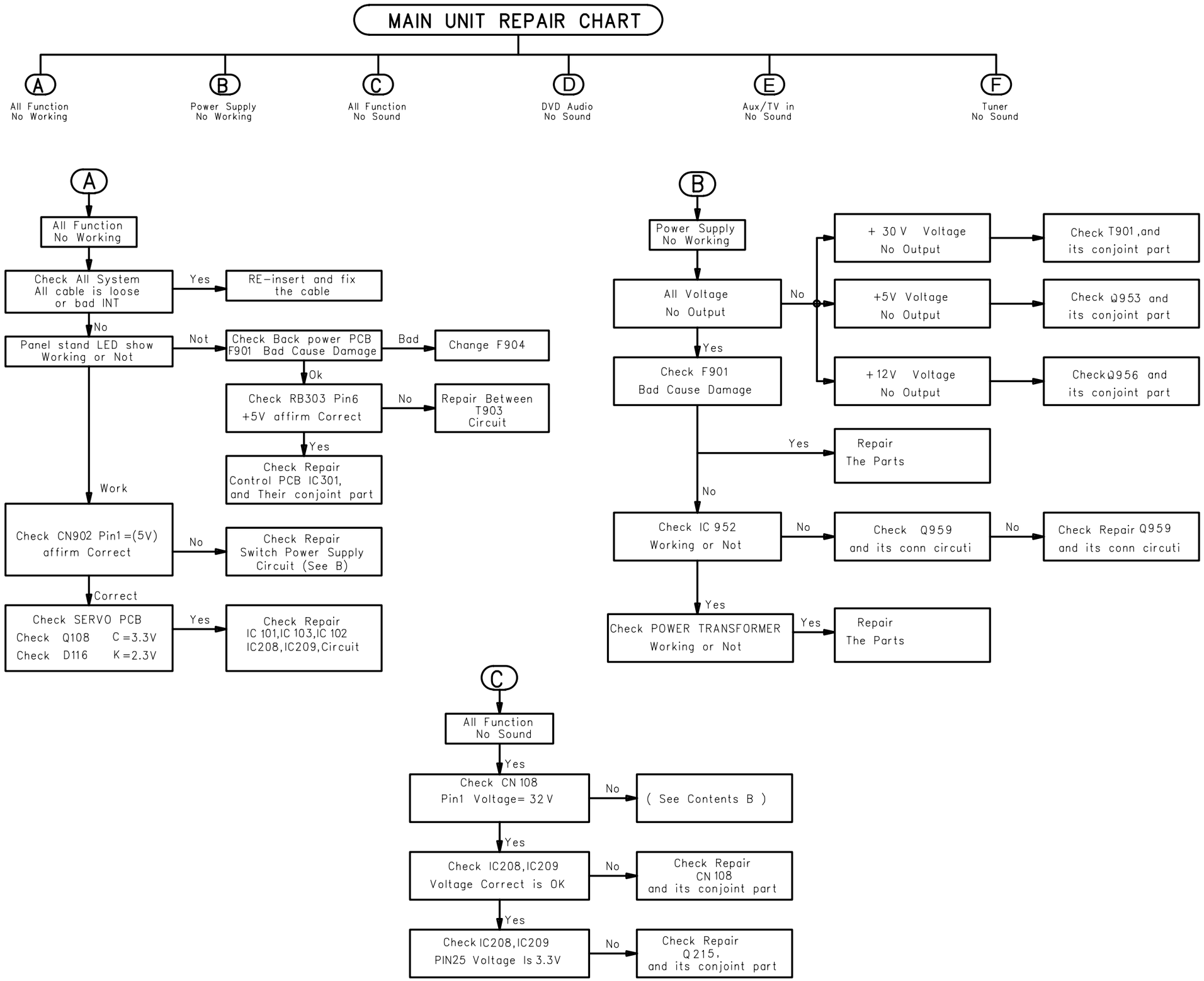
a) Open the CD door.
b) Press "123" and "OK" on the remote control.
c) TV will show the version on screen.

8. Upgrading new software

a) Open the door, then insert the CD-R program disc.
b) Close the door.
c) TV will show:-
- "disc loading"
- "bank30.rom"
- "writing" about 6 seconds.
- "Done"

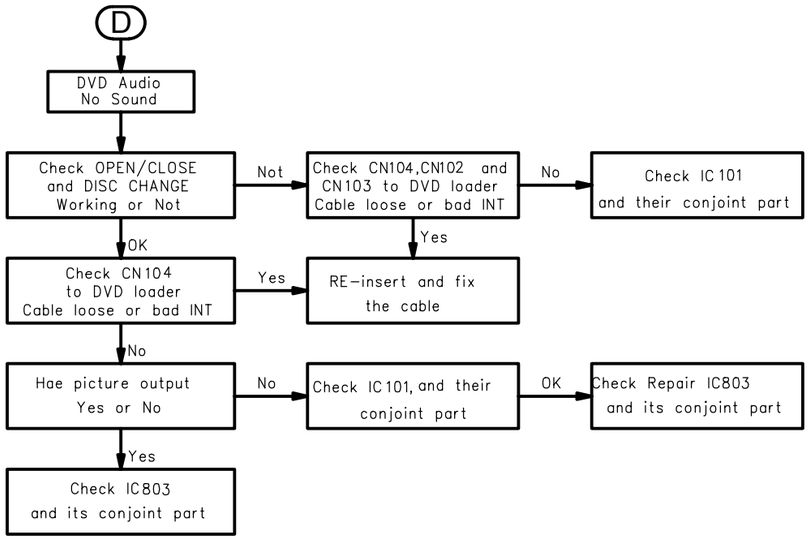
2-2

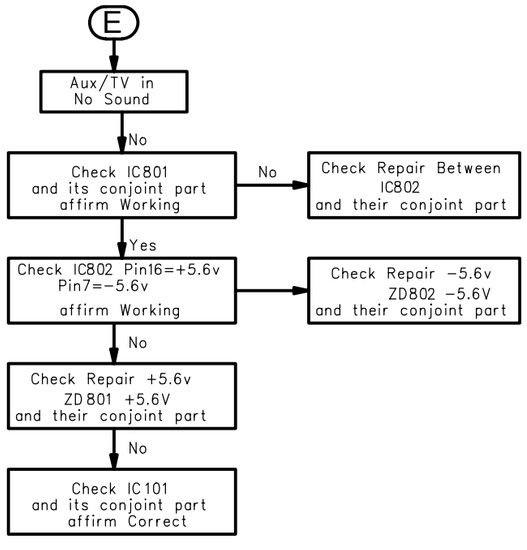
REPAIR INSTRUCTIONS

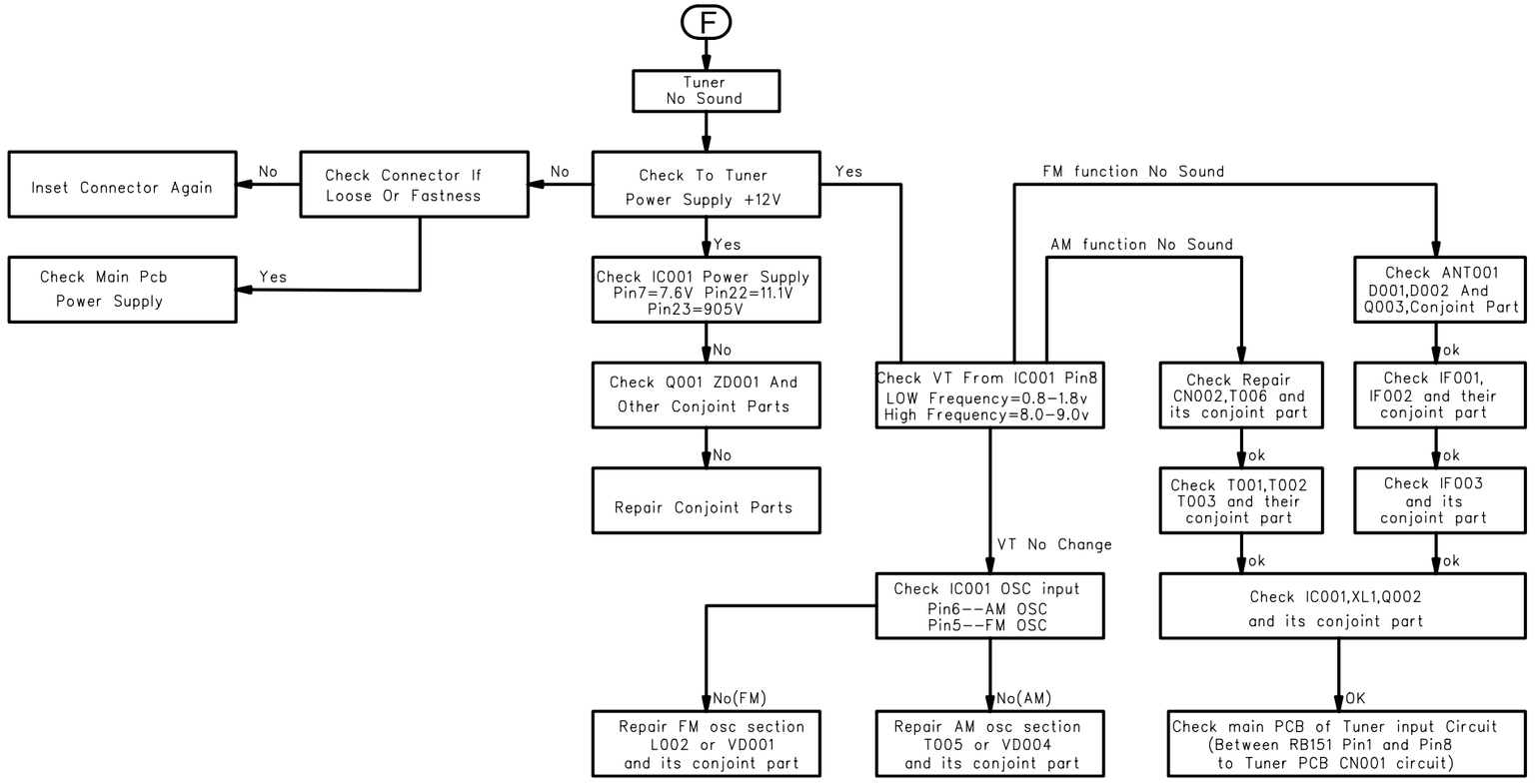


2-3

REPAIR INSTRUCTIONS







DISASSEMBLY INSTRUCTIONS

Dismantling of the Front Panel Assembly

1) Open the DVD Tray by using the Open/Close Button while the Set is ON and disconnect the mains supply after removing the Tray Cover.

   Note: If this is not possible, the DVD Tray has to be open manually.

   Take a mini screw driver about 2mm diameter and make a marking 24mm from the tip as shown in figure 2 . Place the set on its side, insert the mini screw driver till the marking and slide it towards the right as shown in figure 1 until the Tray moves out of the Front Panel.

2) Return the set to its upright position and remove the Tray Cover as shown in Figure 3 and close the tray manually by pushing it back in.

3) Loosen 8 screws and remove the Top Cover by lifting the rear portion upwards before sliding it out towards the rear.
   - 4 screws on the back
   - 2 screws each on the left & right side

4) Loosen 5 screws & lift up the top edge of Front Panel assembly to free some catches before sliding it out towards the front.
   - 3 screws on the bottom
   - 1 screw each on the left & right side

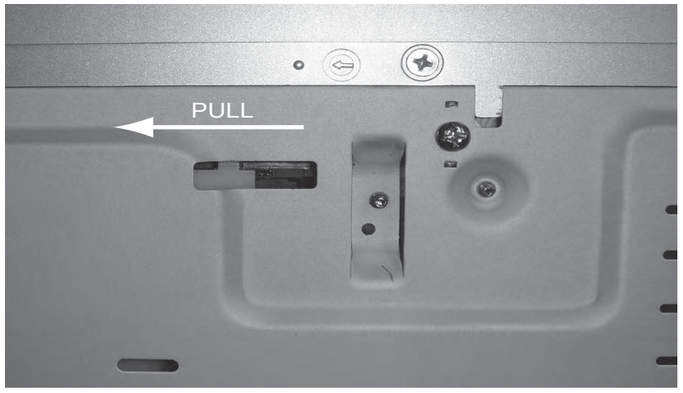


Figure 1

Figure 2

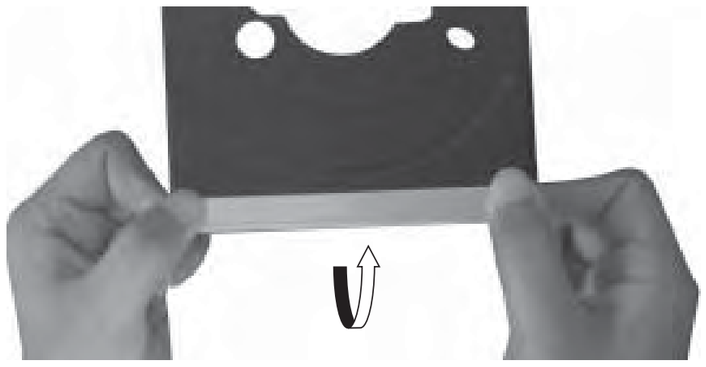


Figure 3

Dismantling of the Main PCB

1) Loosen 5 screw "A" at the back panel as shown in figure 4.
2) Loosen 4 screw " C " on the top of main board as shown in figure 5.

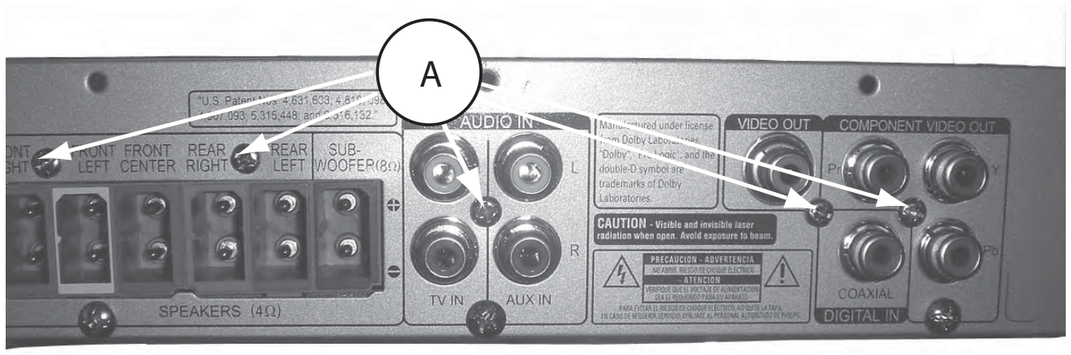


Figure 4

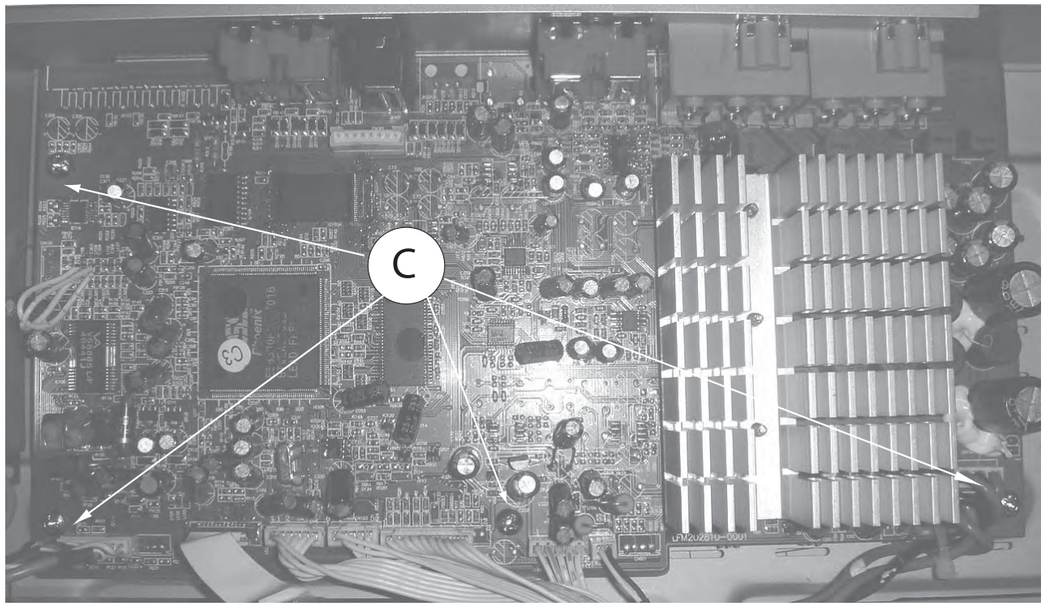


Figure 5

Dismantling of the DVD Module

1) Loosen 4 screws "B" to remove the DVD Module as shown in figure 6.

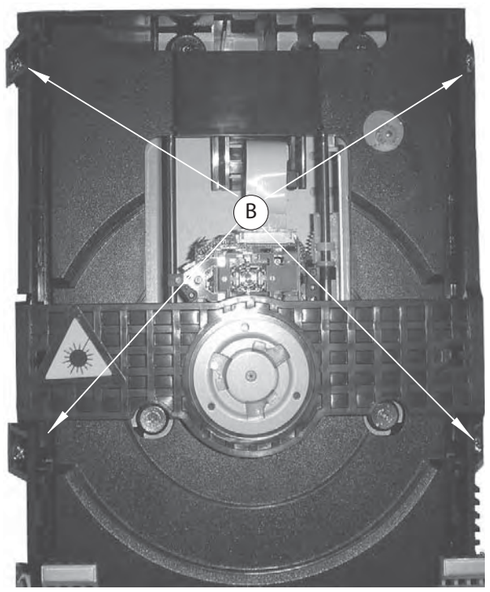


Figure 6

Dismantling of the Power Board

1) Loosen 4 screws "D" at the top of the Power Board as shown in figure 7

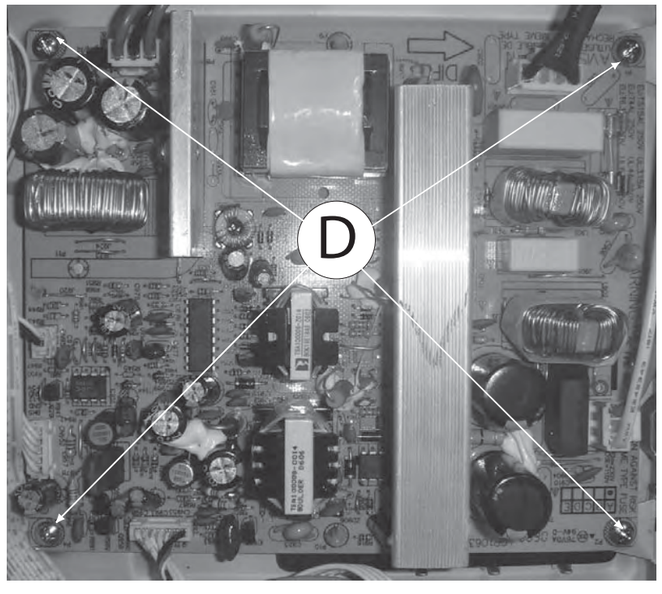
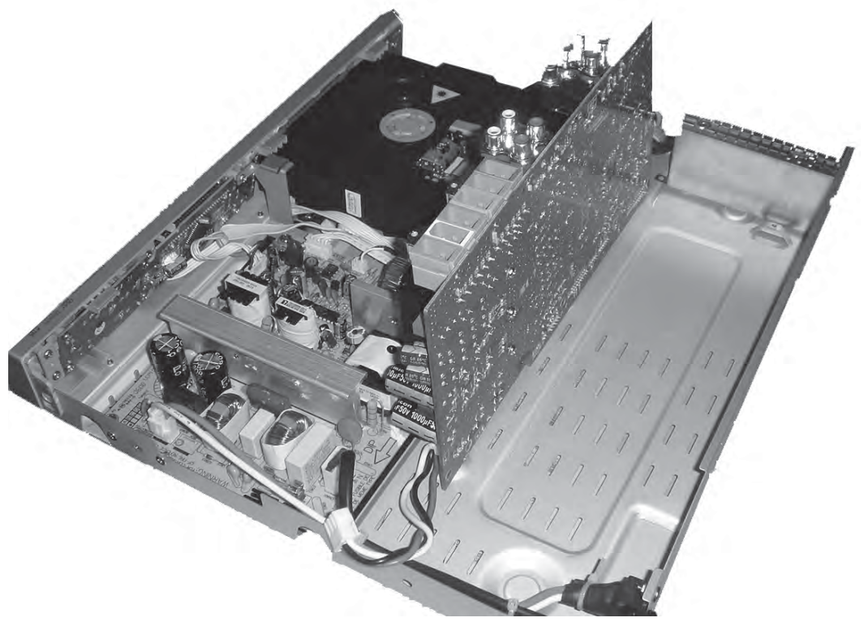


Figure 7

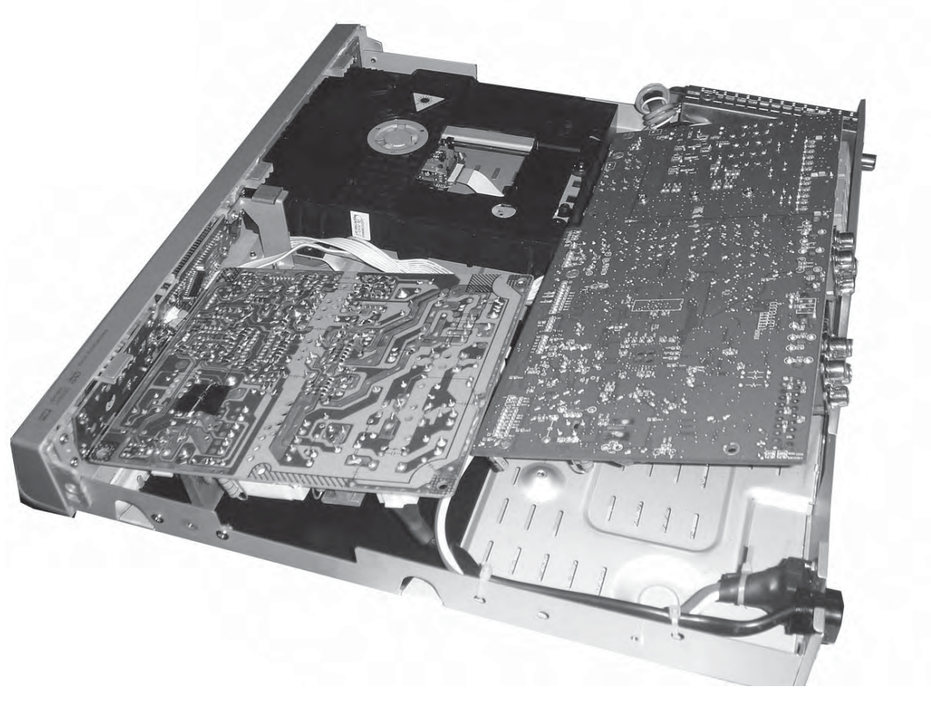
SERVICE POSITIONS

Service position A



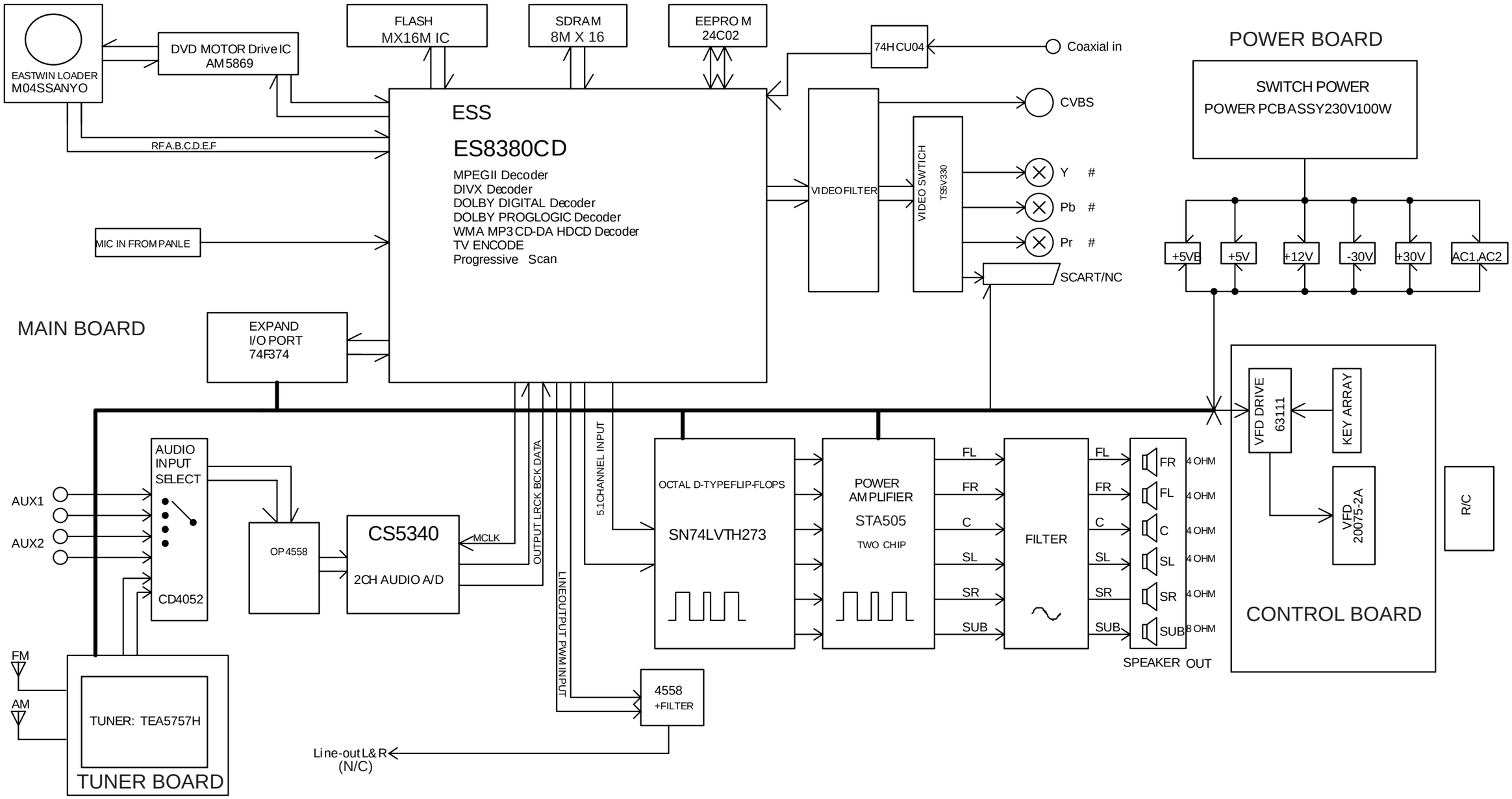
Note: In some service positions the components or copper patterns of one board may risk touching its neighbouring pc boards or metallic parts. To prevent such short-circuit use a piece of hard paper or other insulating material between them.

Service position B



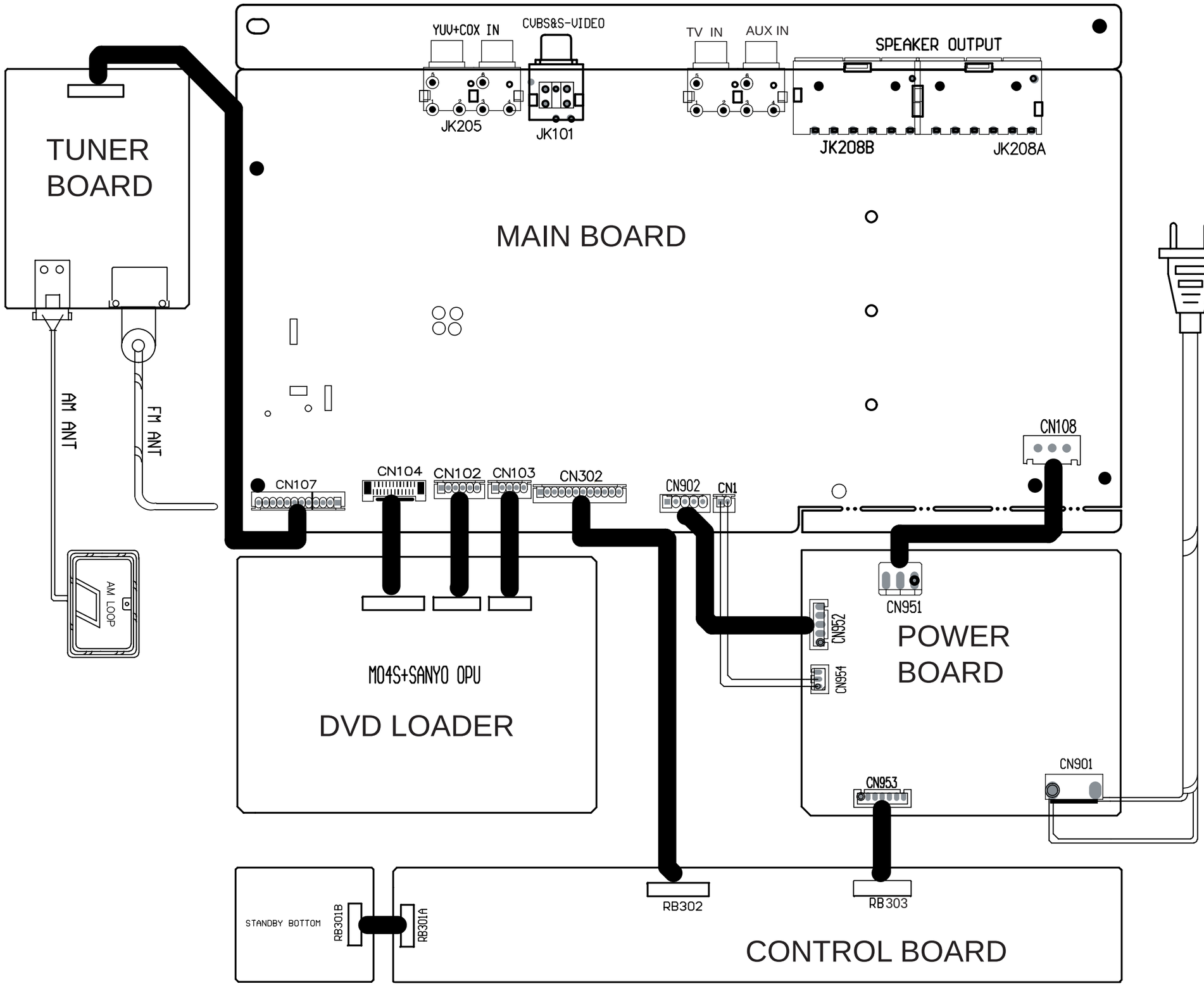
4-1

BLOCK DIAGRAM



4-2

WIRING DIAGRAM

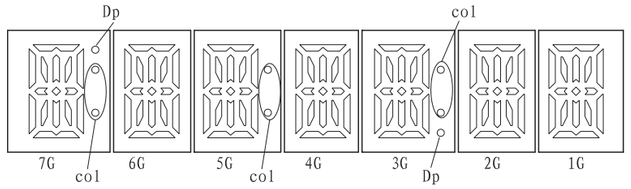


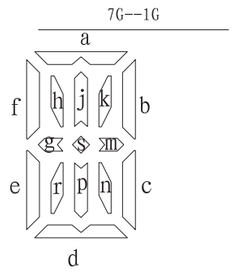
CONTROL+ STANDBY BOARD

TABLE OF CONTENTS

5-1

FTD DISPLAY PIN ASSIGNMENT





	7G	6G	5G	4G	3G	2G	1G
P1	a	a	a	a	a	a	a
P2	j, p	j, p	j, p	j, p	j, p	j, p	j, p
P3	h	h	h	h	h	h	h
P4	k	k	k	k	k	k	k
P5	b	b	b	b	b	b	b
P6	f	f	f	f	f	f	f
P7	m	m	m	m	m	m	m
P8	g	g	g	g	g	g	g
P9	c	c	c	c	c	c	c
P10	e	e	e	e	e	e	e
P11	r	r	r	r	r	r	r
P12	n	n	n	n	n	n	n
P13	d	d	d	d	d	d	d
P14	Dp		col		col		
P15	s	s	s	s	s	s	s
P16	col				Dp		

PIN CONNECTION

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Connection	F1	F1	1G	2G	3G	4G	5G	6G	7G	P16	P15	P14	P13	P12
Pin No.	15	16	17	18	19	20	21	22	23	24	25	26	27	
Connection	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2	P1	F2	F2	

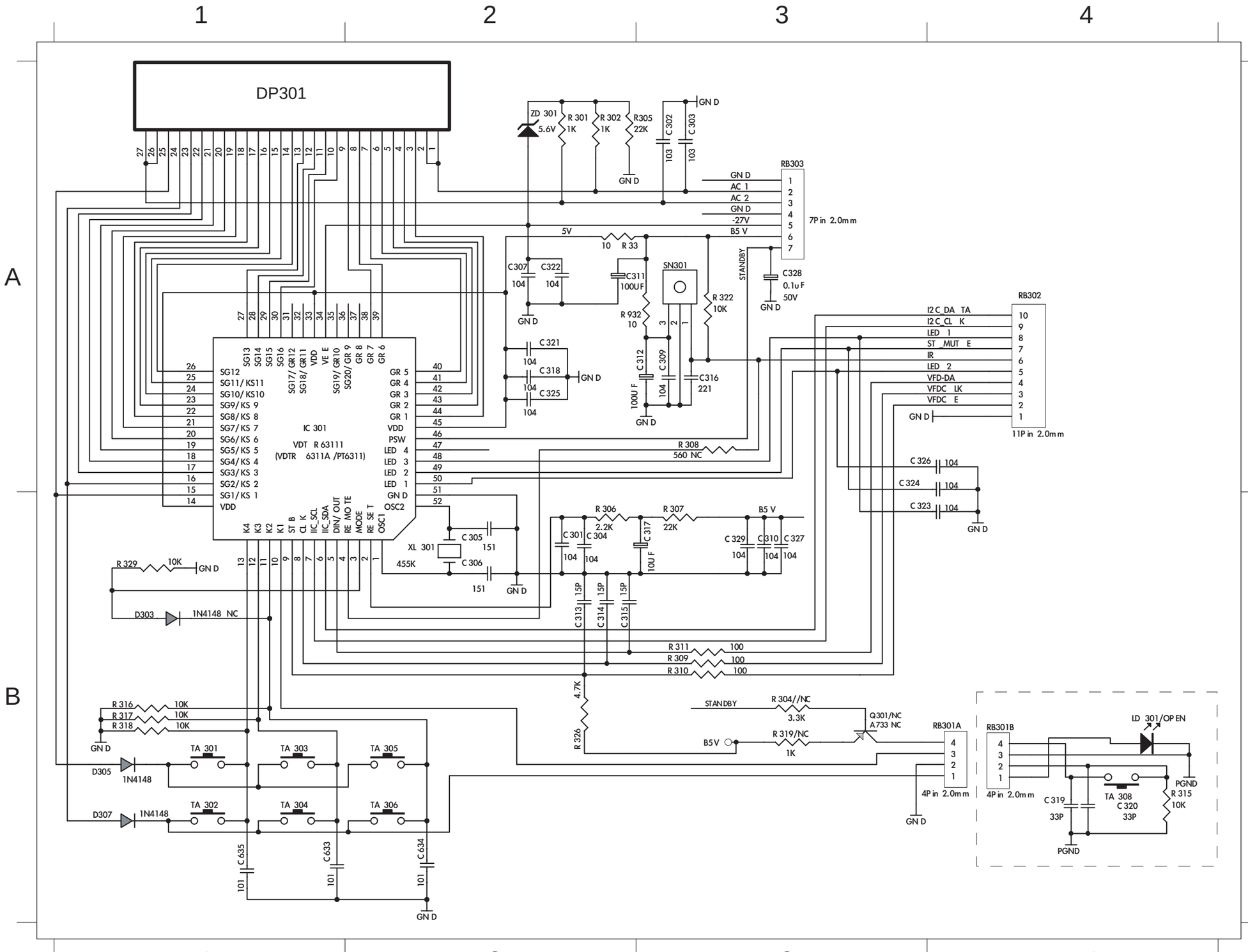
Note
1. Fn: Filament pin 2. NP : No Pin 3. NX : No Extended Pin 4. nG : Grid Pin 5. PN : Anode Pin

IC Pin Voltage

IC301																	
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Voltage	2.40	4.57	0.00	4.00	4.00	4.00	4.00	3.40	4.96	0.00	0.00	0.00	0.00	5.00	-12	-17.1	-15.5
Pin NO	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Voltage	-16.9	-17.2	-13.9	-13.9	-18.9	-13.9	-14.6	-15.6	-15.6	18.90	17.40	-17.4	5.00	-19.1	-17.4	-17.4	-17.4
Pin NO	41	42	43	44	45	46	47	48	49	50	51	52					
Voltage	-17.4	-17.4	-17.4	-17.4	5.00	5.00	5.00	0.00	0.00	5.00	0.00	2.50					

5-2

CIRCUIT DIAGRAM - CONTROL BOARD

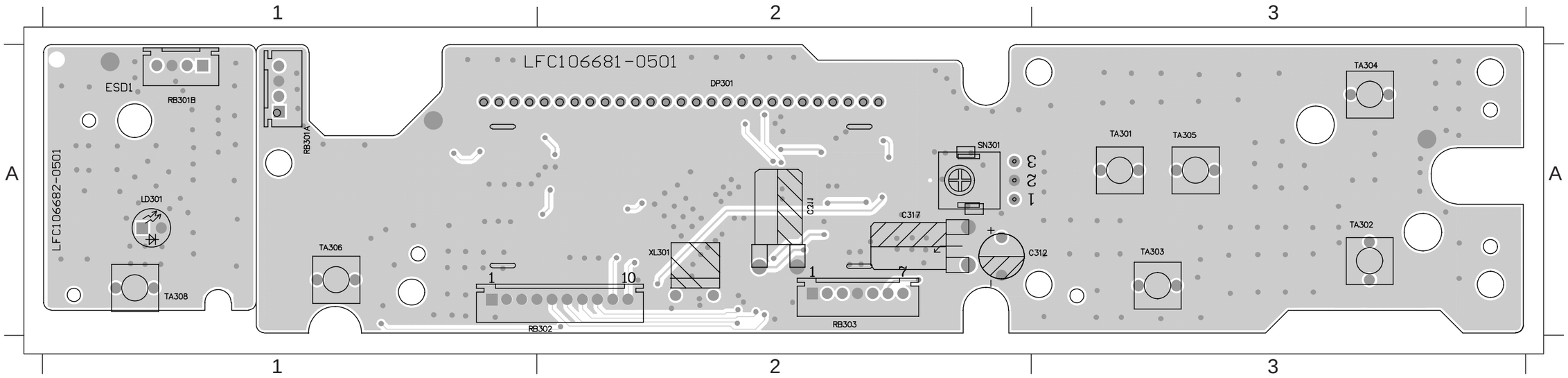


C301	A2
C302	A3
C303	A3
C304	B2
C305	B2
C306	B2
C307	A2
C309	A3
C310	B3
C311	A2
C312	A3
C313	B2
C314	B2
C315	B2
C316	A3
C317	B3
C318	A2
C319	B4
C320	B4
C321	A2
C322	A2
C323	A4
C324	A4
C325	A2
C326	A4
C327	B3
C328	A3
C329	B3
C633	B1
C634	B2
C635	B1
D303	B1
D305	B1
D307	B1
DP301	A1
IC301	A1
R301	A2
R302	A2
R305	A2
R306	B2
R307	B3
R308	A3
R309	B3
R310	B3
R311	B3
R315	B4
R316	B1
R317	B1
R318	B1
R319	B3
R322	A3
R326	B2
R329	B1
R33	A2
R932	A3
RB301A	B4
RB302	A4
RB303	A3
SN301	A3
TA301	B1
TA302	B1
TA303	B1
TA304	B1
TA305	B2
TA306	B2
TA308	B4
XL301	B2
ZD301	A2

5-3

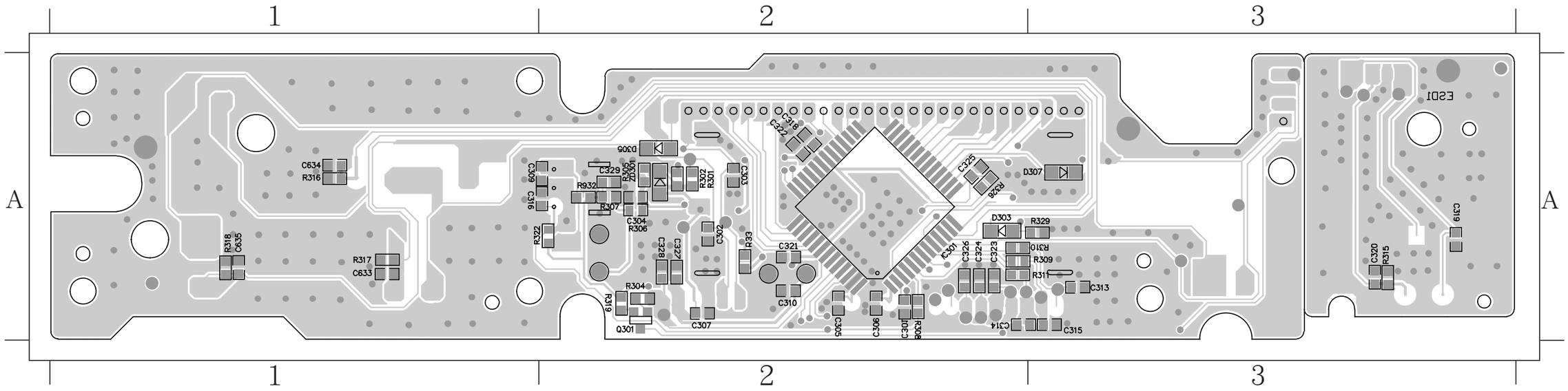
PCB LAYOUT - TOP VIEW

C311	A2	C317	A2	RB301A	A1	RB303	A2	TA301	A3	TA303	A3	TA305	A3	TA308	A1				
C312	A2	DP301	A2	RB302	A2	SN301	A2	TA302	A3	TA304	A3	TA306	A1	XL301	A2				



PCB LAYOUT - BOTTOM VIEW

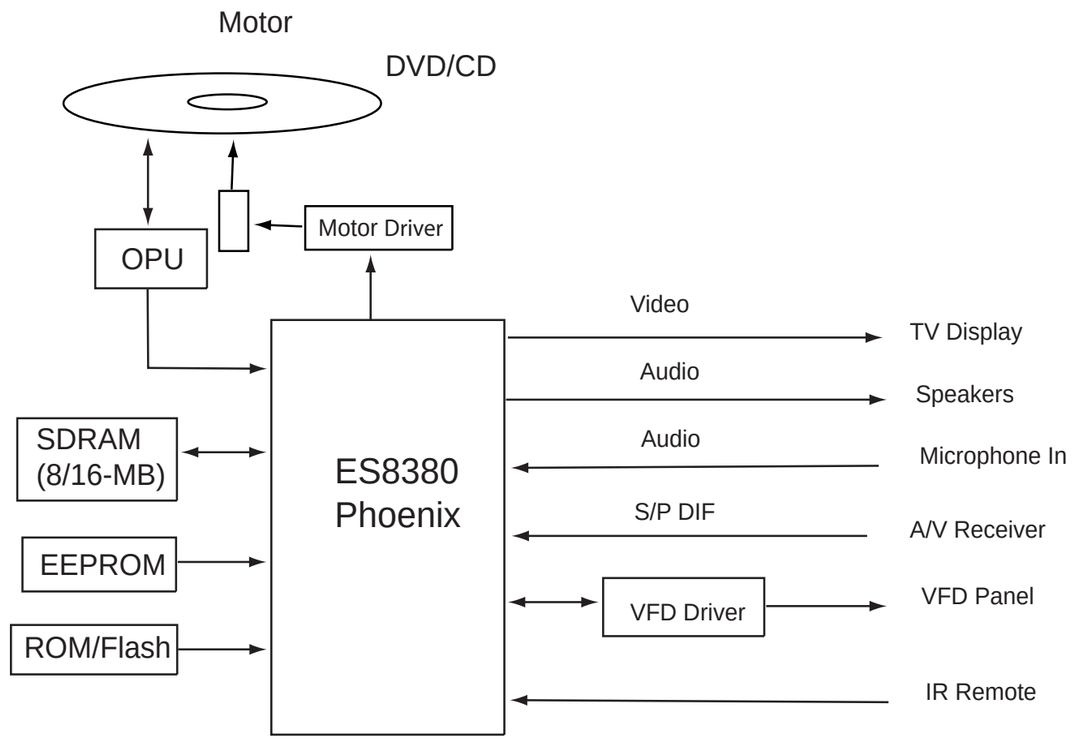
C301	A2	C305	A2	C310	A2	C316	A2	C321	A2	C325	A2	C329	A2	D303	A2	R301	A2	R307	A2	R311	A3	R318	A1	R329	A3
C302	A2	C306	A2	C313	A3	C318	A2	C322	A2	C326	A2	C633	A1	D305	A2	R302	A2	R308	A2	R315	A3	R319	A2	R33	A2
C303	A2	C307	A2	C314	A2	C319	A3	C323	A2	C327	A2	C634	A1	D307	A3	R305	A2	R309	A3	R316	A1	R322	A2	R932	A2
C304	A2	C309	A2	C315	A3	C320	A3	C324	A2	C328	A2	C635	A1	IC301	A2	R306	A2	R310	A3	R317	A1	R326	A2	ZD301	A2



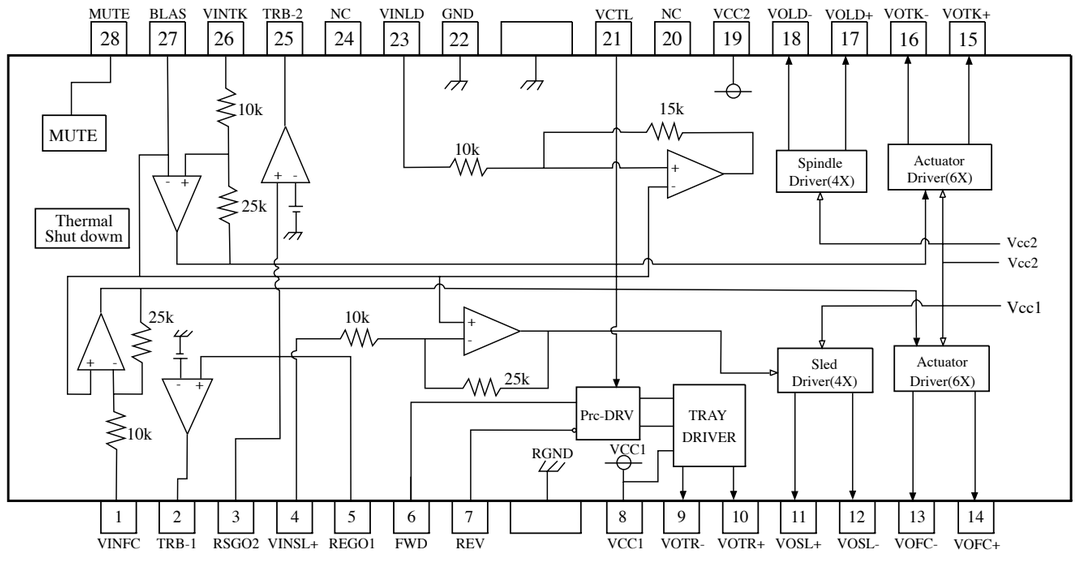
MAIN BOARD

TABLE OF CONTENTS

Internal IC diagram - ES8380FCD



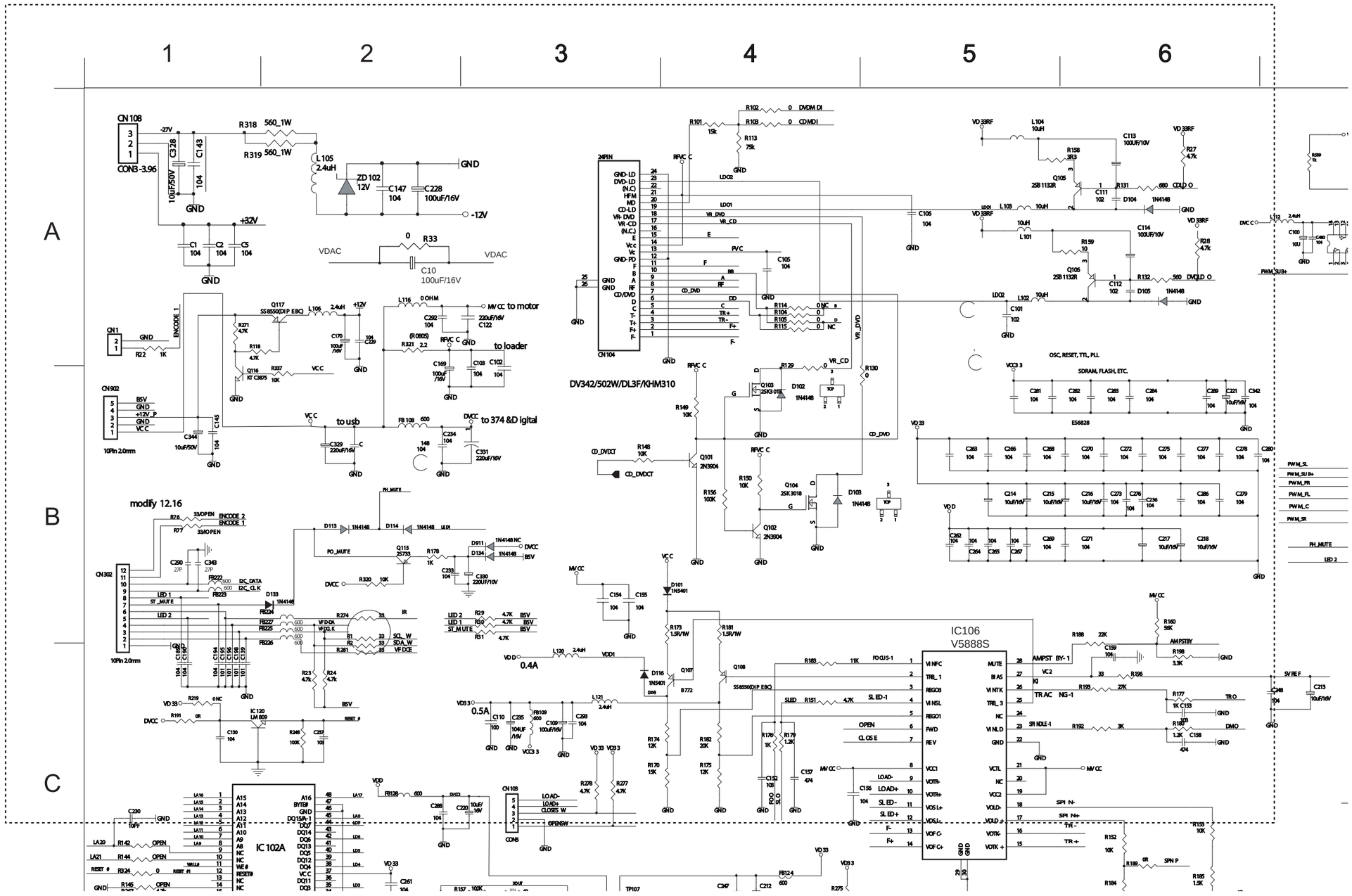
Internal IC diagram -V5888S HSOP



6-2

CIRCUIT DIAGRAM - TOP LEFT

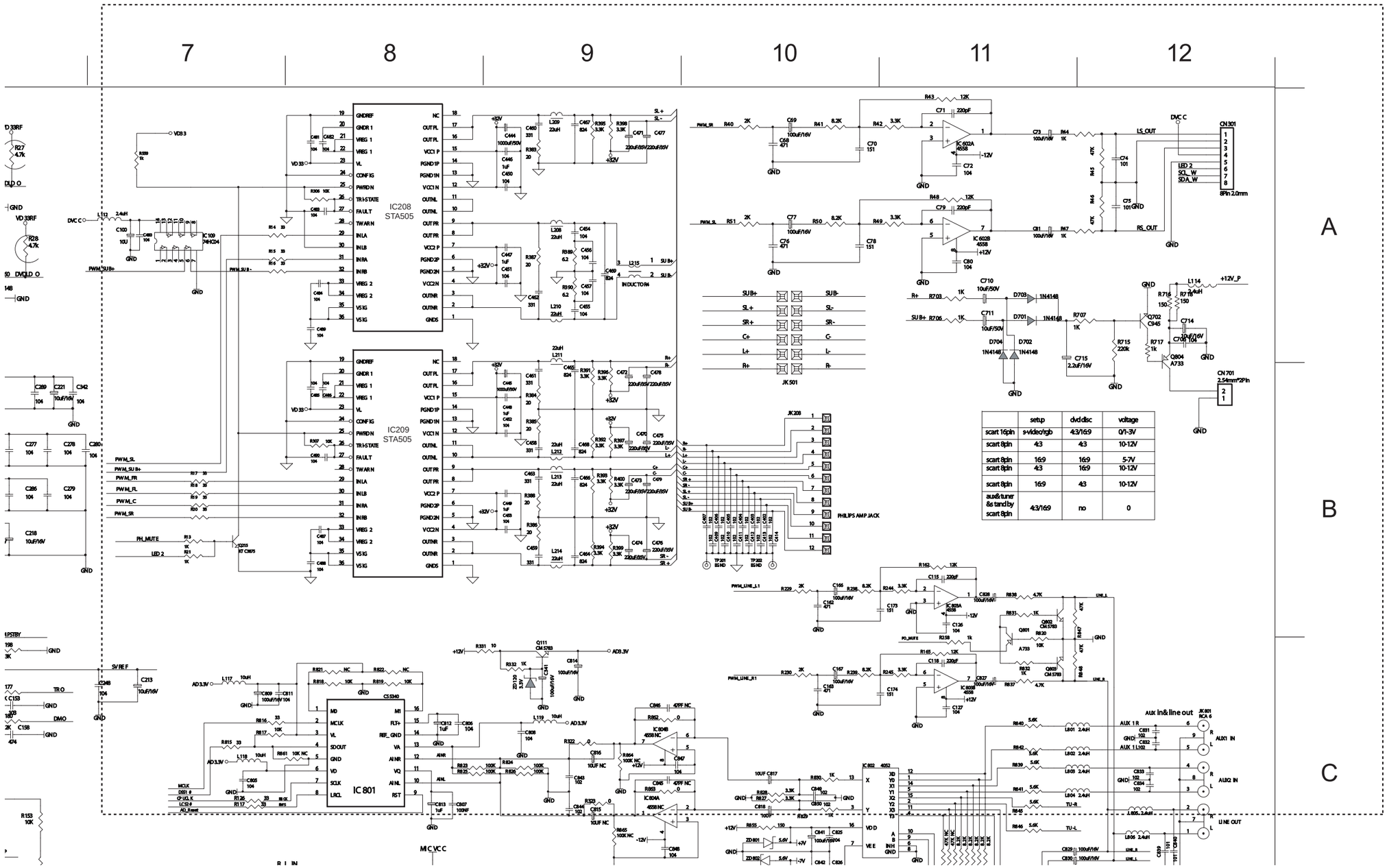
C1	A1	C124	E8	C154	B3	C180	E11	C203	F10	C221	B6	C244	D4	C264	B5	C283	B6	C304	F7	C336	D1	C349	D1	C448	B9	C467	A9	C485	B8	C807	C8	C834	C12	CN1	A1	FB102	D6
C100	A7	C126	B11	C155	B3	C180	E11	C204	E10	C222	F6	C245	D4	C265	B5	C284	B6	C305	F7	C337	D6	C356	D1	C449	B9	C468	B9	C486	B8	C808	C9	C839	C12	CN102	E1	FB108	B2
C101	A5	C127	C11	C156	C4	C182	E12	C205	F10	C223	E5	C246	D5	C266	B5	C285	F5	C306	F7	C338	D6	C402	B10	C450	A9	C469	A9	C487	B8	C809	C7	C839	C12	CN103	C3	FB109	C3
C102	B3	C130	C1	C157	C4	C183	E12	C206	F8	C226	D11	C247	C4	C267	B5	C286	B6	C307	E11	C339	E5	C403	B10	C451	A9	C470	B9	C488	B8	C811	C7	C840	C12	CN104	A3	FB111	F11
C103	B3	C132	E12	C158	C6	C185	E12	C207	F8	C227	E11	C248	C6	C268	B5	C286	B6	C311	F12	C340	E6	C404	B10	C452	B9	C471	A9	C489	A8	C812	C8	C840	C9	CN107	D12	FB112	D4
C105	A4	C134	E11	C159	C6	C186	E12	C208	F10	C228	A2	C249	E4	C269	B5	C287	F6	C313	F12	C341	C9	C405	B10	C453	B9	C472	B9	C490	B8	C813	C8	C841	C10	CN108	A1	FB113	F10
C106	A5	C135	E11	C160	E7	C188	E12	C209	F10	C229	A2	C250	E5	C270	B6	C288	C2	C314	E12	C342	B6	C406	B10	C454	A9	C473	B9	C5	A1	C814	C9	C841	C10	CN302	B1	FB114	E11
C109	C3	C138	E11	C161	E7	C189	C1	C210	D4	C230	C1	C251	D4	C271	B6	C289	B6	C316	F12	C343	B1	C407	B10	C455	A9	C474	B9	C60	E5	C817	C10	C842	C10	CN902	B1	FB117	F3
C110	C3	C139	C1	C162	B10	C190	C1	C211	D5	C232	F3	C252	D4	C272	B6	C290	B1	C317	E12	C344	B1	C409	B10	C456	A9	C475	B9	C61	E5	C818	C10	C842	C10	D101	B4	FB118	F1
C111	A6	C143	A1	C163	C10	C194	C1	C212	C4	C233	B2	C253	D4	C273	B6	C291	E5	C318	E12	C345	D1	C410	B10	C457	A9	C476	B9	C62	E6	C825	C10	C843	C9	D102	B4	FB123	C3
C112	A6	C145	B1	C166	B10	C195	C1	C213	C7	C234	B2	C254	D4	C275	B6	C292	A2	C327	D1	C345	D1	C411	B10	C458	B9	C477	A9	C63	D9	C826	C10	C844	C9	D103	A6	FB124	C4
C113	A6	C147	A2	C167	C10	C196	C1	C214	B5	C235	C3	C257	D4	C276	B6	C293	C3	C328	A1	C346	D1	C412	B10	C459	B9	C478	B9	C63	E6	C827	C11	C847	C9	D104	A6		
C114	A6	C148	B2	C168	D4	C197	F10	C215	B5	C236	B6	C258	D5	C277	B6	C294	F4	C329	B2	C346	D1	C413	B10	C460	A9	C479	B9	C64	E6	C828	B11	C848	C9	D105	A6		
C115	B11	C148	B2	C169	B2	C198	C1	C216	B6	C237	C2	C259	D5	C278	B6	C299	B1	C330	B3	C347	D1	C414	B10	C461	B9	C480	A7	C65	E6	C829	C11	C848	C9	D113	B2		
C118	C11	C149	D6	C170	A2	C199	D4	C217	B6	C238	C2	C260	D5	C279	B6	C300	F7	C331	B3	C347	D1	C444	A9	C463	B9	C481	A8	C66	E6	C830	C11	C849	C10	D116	C3		
C121	D6	C150	D6	C173	B11	C2	A1	C218	B6	C239	C3	C261	C2	C280	B6	C301	F7	C333	D1	C348	D1	C445	B9	C464	B9	C482	A8	C67	E6	C831	C12	C850	C10	D133	B2		
C122	A3	C152	C4	C174	C10	C201	F8	C219	F5	C240	D3	C262	B5	C281	B5	C302	F7	C334	D1	C348	D1	C446	A9	C465	B9	C483	A8	C805	C7	C832	C12	C927	F8	D134	B3		
C123	D6	C153	C6	C179	E11	C202	F10	C220	C3	C242	D4	C263	B5	C282	B5	C303	E7	C335	D1	C349	D1	C447	A9	C466	B9	C484	A8	C806	C8	C833	C12	C968	F8	FB101	D5		



6-3

CIRCUIT DIAGRAM - TOP RIGHT

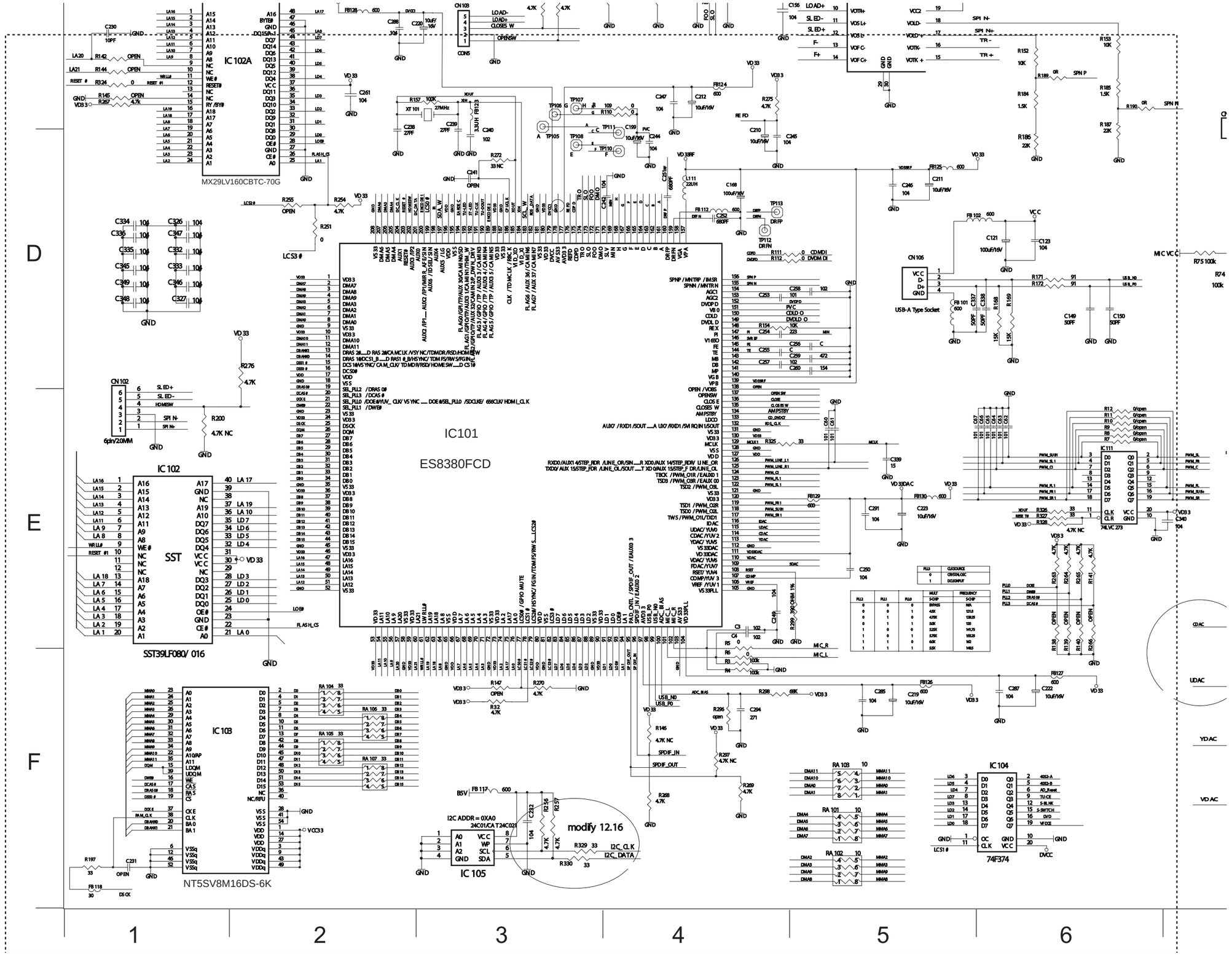
FB125	D5	FB225	B2	IC209	B9	L110	F7	L802	C11	Q801	C11	R126	D11	R156	F9	R177	C4	R196	C6	R223	E11	R251	D11	R278	C3	R32	F3	R385	B9	R815	E6	R839	B11	R856	C10	ZD108	F12
FB126	F5	FB226	B2	IC209	B9	L111	D4	L803	C11	Q802	A12	R129	C7	R157	C3	R178	C6	R197	C6	R225	E12	R254	F11	R28	C3	R320	A2	R386	B9	R816	C7	R840	C11	R856	C10	ZD110	F10
FB127	F6	FB227	B2	IC801	C8	L112	A7	L804	C11	Q803	B11	R13	B4	R158	B4	R179	B2	R198	F1	R229	E7	R256	D2	R281	A6	R321	B2	R387	B9	R817	C7	R841	C11	R862	C8	ZD111	F12
FB128	C2	IC1	D8	IC802	C10	L116	A2	L805	C12	R1	A12	R130	B7	R159	A5	R18	C4	R2	C6	R23	B10	R257	F3	R286	C2	R322	A2	R388	A9	R818	C7	R842	C11	R863	C9	ZD112	E11
FB129	E5	IC101	E3	IC803	B11	L117	C7	L806	C12	R101	E6	R131	B5	R16	A6	R180	B7	R20	B2	R230	C2	R258	C11	R29	D11	R323	C9	R389	B9	R819	C8	R845	D11	R922	E6	ZD114	F12
FB130	E5	IC102	C1	JK101	E12	L118	C7	Q101	D10	R102	A4	R132	A6	R160	A7	R181	C6	R201	F8	R231	C10	R263	E10	R298	F4	R324	C9	R390	A9	R820	C8	R846	C11	RA101	F8	ZD115	E11
FB131	D11	IC103	A1	JK205	E12	L119	C9	Q102	B4	R103	A4	R14	E6	R162	B6	R182	B4	R202	E1	R232	D11	R264	E6	R299	F4	R325	C1	R391	A9	R823	C8	R847	C11	RA102	F5	ZD116	F12
FB133	D12	IC103	A1	JK208	B10	L120	C3	Q103	B4	R107	A4	R141	E6	R165	E8	R183	C4	R204	F9	R238	E7	R265	E6	R302	B3	R326	E4	R392	B9	R824	C8	R848	B11	RA103	F5	ZD117	E12
FB138	E11	IC104	F6	JK801	C12	L121	C3	Q104	B4	R109	D11	R142	C1	R168	C11	R184	C4	R205	F10	R239	B10	R267	E6	R303	E7	R327	E6	R393	B9	R825	C9	R851	C10	RA104	F5	ZD118	F12
FB139	E11	IC105	F3	L101	A5	L208	A9	Q105	B4	R110	E6	R142	C1	R169	D6	R185	C6	R206	F9	R24	C10	R268	C1	R304	F7	R329	E6	R394	B9	R826	C8	R851	C10	RA105	F2	ZD120	C9
FB140	F11	IC106	C5	L102	A5	L209	A9	Q106	A6	R111	C4	R148	F3	R17	D6	R186	C6	R207	F10	R240	C2	R269	F4	R305	F7	R33	A2	R395	B9	R827	C9	R852	C10	RA106	F2	ZD801	C10
FB141	E11	IC109	A7	L103	A5	L210	A9	Q107	A6	R112	D5	R149	B3	R170	B7	R187	D6	R209	F9	R241	F3	R27	F4	R306	F7	R330	F3	R396	A9	R828	C10	R852	C10	RA107	F2	ZD802	C10
FB142	E11	IC111	E6	L104	A5	L211	B9	Q108	C4	R114	A4	R15	B4	R171	C4	R188	C6	R210	B7	R244	E8	R270	F3	R307	A8	R331	F3	R397	B9	R829	C10	R853	C10	XT101	D4		
FB143	E11	IC201	F9	L105	A2	L212	B9	Q111	F9	R115	A4	R150	A7	R172	D6	R189	B6	R212	E9	R245	B11	R271	A6	R309	B8	R332	C9	R398	B9	R830	C10	R853	C10	ZD102	F9		
FB148	F10	IC208	A8	L106	A2	L213	B9	Q115	F9	R117	A4	R151	B4	R173	D6	R19	C6	R214	F9	R248	C11	R274	F2	R31	F9	R333	C9	R399	A9	R831	C10	R854	C10	ZD104	F10		
FB222	B1	IC208	A9	L107	F7	L214	B9	Q116	B2	R118	C7	R152	C4	R174	B4	R190	B7	R219	F9	R249	C2	R275	D3	R315	F9	R337	E11	R400	A10	R832	B11	R854	C10	ZD105	F11		
FB223	B1	IC208	A9	L108	E7	L215	A9	Q117	B1	R121	E6	R153	C6	R175	C4	R192	C1	R22	C1	R25	D10	R276	C4	R318	F9	R383	B2	R51	A10	R837	C11	R855	C10	ZD107	F10		
FB224	B2	IC209	B8	L109	F7	L801	C11	Q215	D10	R122	D11	R154	C6	R176	C4	R193	C6	R221	E11	R250	D11	R277	D2	R319	F11	R384	A9	R559	A7	R838	C11	R855	C10	ZD108	F11		



	setup	dvd disc	voltage
scart 16pin	s-video/rgb	4:3/16:9	0/1-3V
scart 8pin	4:3	4:3	10-12V
scart 8pin	16:9	16:9	5-7V
scart 8pin	4:3	16:9	10-12V
scart 8pin	16:9	4:3	10-12V
aux&tuner & tand by scart 8pin	4:3/16:9	no	0

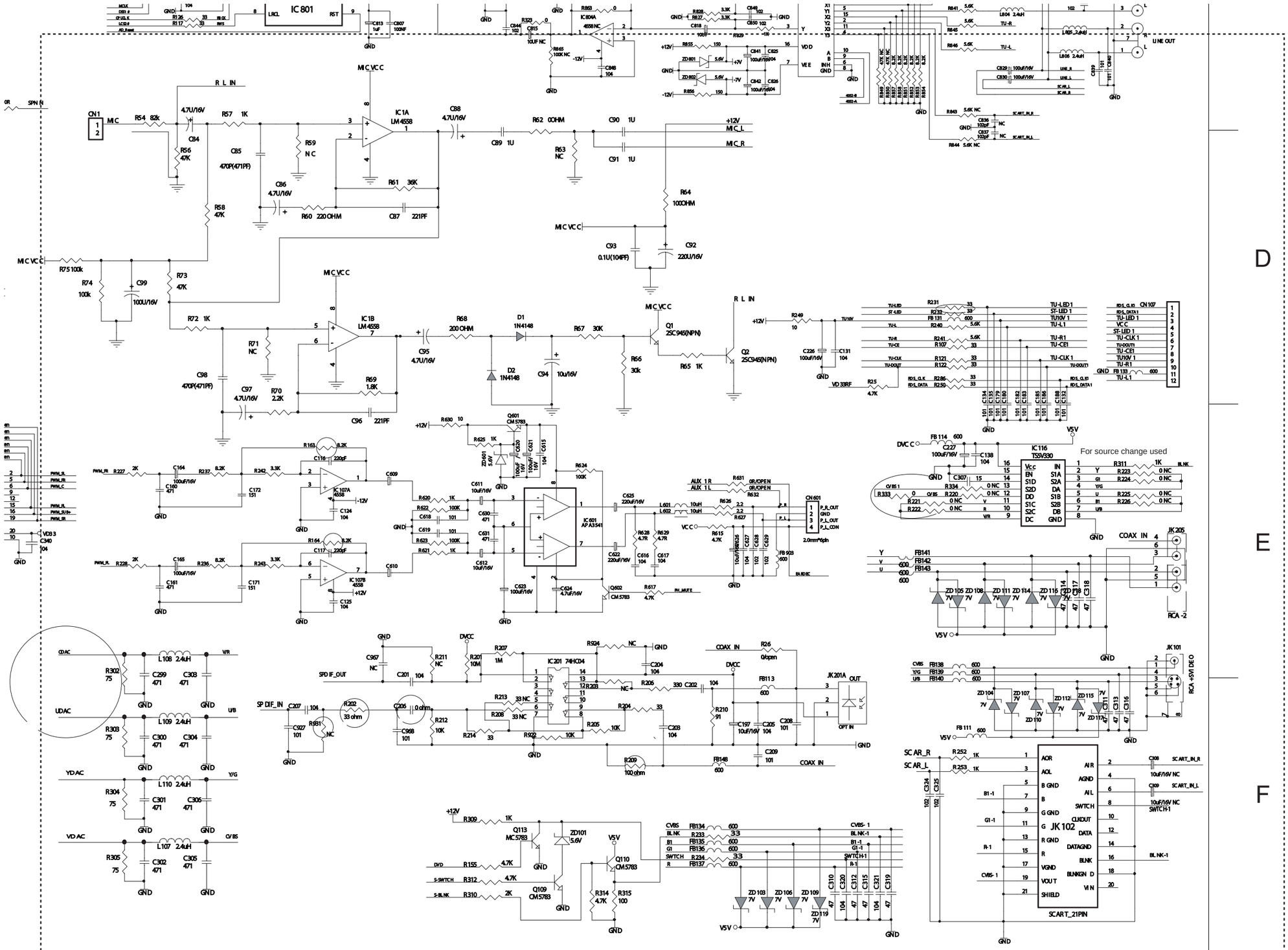
6-4

CIRCUIT DIAGRAM - BOTTOM LEFT



6-5

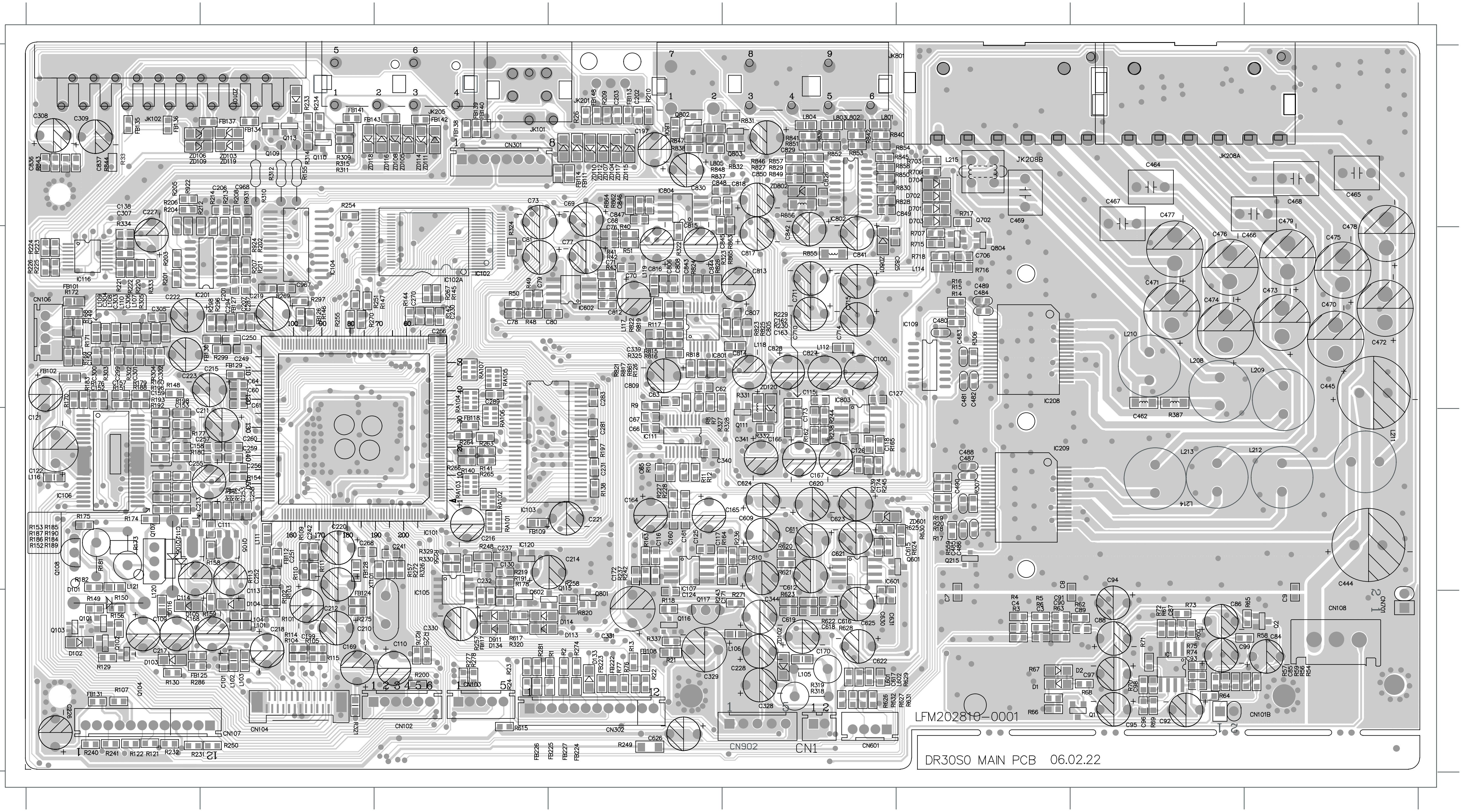
CIRCUIT DIAGRAM - BOTTOM RIGHT



6-6

PCB LAYOUT - TOP VIEW

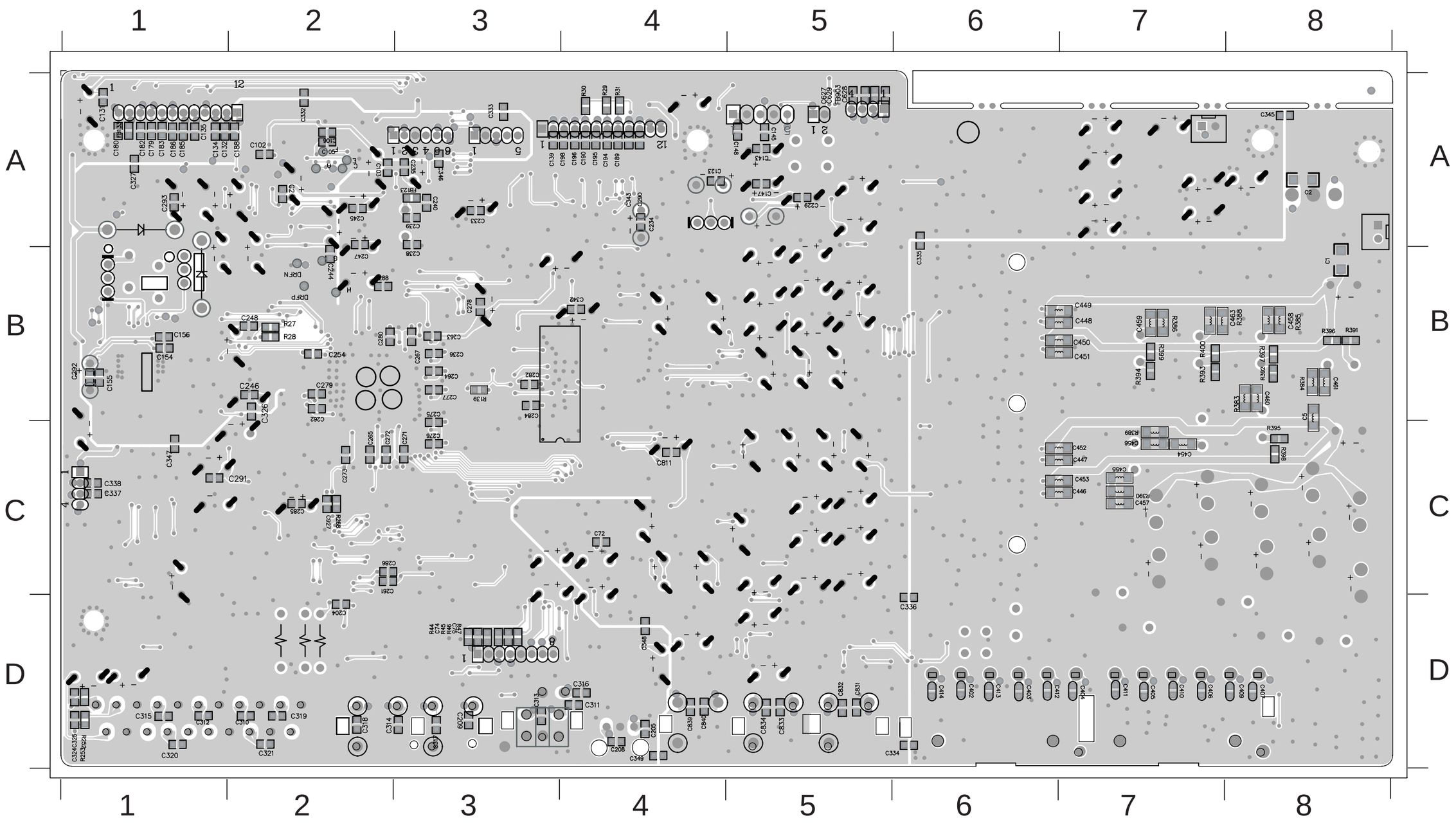
C100	B5	C157	B1	C210	D2	C249	B2	C300	B1	C466	B8	C487	C6	C813	B5	C91	D6	FB101	B1	FB141	A2	IC209	C6	L111	C2	L806	A4	R107	D1	R149	D1	R173	C1	R193	C1	R225	B1	R257	D3	R305	B1	R333	B1	R832	A5	R922	A1	ZD116	A3
C101	D2	C158	C1	C211	C2	C250	B2	C301	B1	C467	A7	C488	C6	C814	B5	C92	D7	FB102	B1	FB142	A3	IC601	C5	L112	B5	Q101	D1	R109	C2	R15	B6	R174	C1	R196	C1	R229	B5	R258	D4	R306	B6	R337	D4	R837	A4	RA101	C3	ZD117	A4
C109	D1	C159	C1	C212	C2	C251	C2	C302	B1	C468	A8	C489	B6	C817	B5	C96	D7	FB108	D4	FB143	A3	IC602	B4	L116	C1	Q102	D1	R110	C2	R150	D1	R175	C1	R197	C4	R23	D3	R263	C3	R307	C6	R387	B7	R838	A4	RA102	C3	ZD118	A2
C110	D3	C160	C4	C213	C1	C252	C2	C303	B1	C469	A6	C490	C6	C818	A5	C968	A2	FB109	C3	FB148	A4	IC801	B4	L117	B4	Q103	D1	R111	C2	R151	B1	R176	B1	R198	C1	R230	C5	R264	C3	R309	A2	R51	B4	R839	A5	RA103	C3	ZD120	B5
C111	C2	C161	C4	C214	C4	C253	C2	C304	B1	C470	B8	C60	B2	C825	B6	CN1	D5	FB111	A4	FB222	D4	IC802	A5	L118	B5	Q104	D1	R112	C2	R152	C1	R177	C1	R2	D4	R231	D1	R265	C3	R311	A2	R559	C6	R840	A5	RA104	B3	ZD801	B5
C112	C1	C162	C5	C215	B2	C257	C2	C305	B1	C471	B7	C609	C5	C826	A5	CN102	D3	FB112	C2	FB223	D4	IC803	C5	L119	B4	Q105	C2	R114	D2	R153	C1	R178	D3	R20	C6	R232	D1	R267	B3	R315	A2	R62	D7	R841	A5	RA105	B3	ZD802	A5
C113	C2	C163	C5	C216	C3	C258	C2	C306	B1	C472	B8	C61	B2	C827	B5	CN103	D3	FB113	A4	FB224	D4	JK101	A3	L120	D1	Q106	C1	R115	D2	R154	C2	R179	B1	R201	B1	R238	C5	R269	B2	R318	D5	R815	B4	R842	A5	RA106	C3		
C114	C1	C166	C5	C217	D1	C259	C2	C307	B1	C473	B8	C62	B4	C828	B5	CN104	D2	FB114	A4	FB225	D4	JK205	A3	L121	C1	Q107	C1	R117	B4	R156	D1	R18	C6	R202	B2	R239	C5	R270	B2	R319	D5	R816	B4	R845	A5	RA107	B3		
C115	B5	C167	C5	C218	D2	C260	C2	C328	D5	C474	B7	C63	B4	C829	A5	CN107	D1	FB117	D3	FB226	D3	JK208A	A7	L208	B7	Q108	C1	R118	D4	R157	C3	R180	C1	R204	A1	R24	D3	R271	D5	R320	D3	R817	B4	R846	A5	XT101	D3		
C118	C5	C168	D2	C219	B2	C266	B3	C329	D4	C475	B8	C64	B2	C830	A4	CN108	D8	FB118	C3	FB227	D4	JK208B	A6	L209	B8	Q111	C5	R121	D1	R158	C2	R181	C1	R205	A1	R240	D1	R274	D4	R321	D2	R818	B4	R847	A4	ZD102	D5		
C121	B1	C169	D2	C220	C2	C268	C2	C330	D3	C476	B7	C65	C4	C841	B5	CN302	D4	FB124	D2	IC101	C3	JK801	A5	L210	B7	Q115	D4	R122	D1	R159	D2	R182	C1	R206	A1	R241	D1	R275	D2	R322	A4	R819	B4	R848	A4	ZD103	A2		
C122	C1	C170	D5	C221	C4	C269	A3	C331	D4	C477	B7	C66	C4	C842	B5	CN902	D5	FB125	D1	IC102	B3	L101	D2	L211	C8	Q116	D4	R126	B4	R16	B6	R183	B1	R207	B2	R244	C5	R276	D3	R323	A4	R820	D4	R851	A5	ZD104	A4		
C124	D4	C173	C5	C222	B1	C270	B3	C339	B4	C478	A8	C67	C4	C843	B4	D101	C1	FB126	B2	IC103	C3	L102	D2	L212	C8	Q117	D4	R129	D1	R160	C1	R184	C1	R209	A4	R245	C5	R277	D3	R324	B3	R823	B5	R852	A5	ZD105	A3		
C126	C5	C174	C5	C223	B1	C281	C4	C340	C4	C479	A8	C7	D6	C844	B4	D102	D1	FB127	B2	IC104	B2	L103	D2	L213	C7	Q215	C6	R13	D4	R162	C5	R185	C1	R210	A4	R248	C3	R278	D3	R325	B4	R824	B4	R853	A5	ZD106	A1		
C127	B5	C197	A4	C226	D1	C283	B4	C341	C5	C480	B6	C8	D7	C847	A4	D103	D1	FB128	C2	IC105	D3	L104	D2	L214	C7	Q801	D4	R130	D1	R165	C5	R186	C1	R211	B2	R249	D4	R281	D3	R326	C3	R825	B5	R854	A5	ZD107	A4		
C130	C3	C199	D2	C227	B2	C287	B2	C344	D5	C481	B6	C805	B5	C848	A4	D104	D2	FB129	B2	IC106	C1	L105	D5	L215	A6	Q802	A4	R131	C2	R168	B1	R187	C1	R212	B2	R25	D3	R286	D1	R327	B4	R826	B4	R855	B5	ZD108	A3		
C138	B1	C201	B2	C228	D5	C289	B3	C444	C8	C482	B6	C806	B4	C849	A5	D105	D1	FB130	B2	IC109	B6	L106	D5	L801	A5	Q803	A5	R132	C2	R169	B1	R188	B1	R214	A2	R250	D2	R298	B2	R329	C3	R827	A5	R856	A5	ZD110	A4		
C149	B1	C202	A4	C230	B3	C290	A3	C445	B8	C483	B6	C807	B5	C850	A5	D113	D3	FB131	D1	IC111	C4	L107	B1	L802	A5	R1	D4	R14	B6	R17	C6	R189	C1	R219	C3	R251	B2	R299	B2	R33	A1	R828	A5	R857	A5	ZD111	A3		
C150	B1	C203	A4	C232	C3	C293	A1	C462	B7	C484	B6	C808	B4	C87	D7	D116	C1	FB138	A3	IC120	C3	L108	B1	L803	A5	R101	D2	R141	C3	R170	B1	R19	C6	R22	D4	R254	A2	R302	B1	R330	C3	R829	A5	R858	A5	ZD112	A4		
C152	B1	C206	A2	C237	C3	C294	B2	C464	A7	C485	C6	C809	B4	C9	D8	D133	D4	FB139	A3	IC201	B2	L109	B1	L804	A5	R102	D2	R142	B3	R171	B1	R190	C1	R221	B1	R255	B2	R303	B1	R331	B5	R830	A5	R862	A4	ZD114	A3		
C153	C1	C207	B2	C242	C2	C299	B1	C465	A8	C486	C6	C812	B4	C90	D6	D134	D3	FB140	A3	IC208	B6	L110	B1	L805	A4	R103	D2	R148	B1	R172	B1	R192	C1	R223	B1	R256	C3	R304	B1	R332	C5	R831	A5	R863	A5	ZD115	A4		



6-7

PCB LAYOUT - BOTTOM VIEW

C1	B8	C139	A3	C182	A1	C198	A4	C236	B3	C261	C2	C276	C3	C286	C2	C318	D2	C343	A4	C406	D7	C448	B7	C458	B8	C831	D5	R27	B2	R389	C7	R399	B7
C102	A2	C143	A5	C183	A1	C2	A8	C238	A3	C262	B2	C277	B3	C288	B2	C327	A1	C345	A8	C407	D8	C449	B7	C459	B7	C832	D5	R28	B2	R390	C7	R400	B7
C103	A2	C145	A5	C185	A1	C204	D2	C239	A3	C263	B3	C278	B3	C291	C1	C332	A2	C346	A3	C409	D8	C450	B7	C460	B8	C833	D5	R29	A4	R391	B8		
C105	A2	C147	A5	C186	A1	C205	D4	C240	A3	C264	B3	C279	B2	C292	B1	C333	A3	C347	C1	C410	D7	C451	B7	C461	B8	C834	D5	R30	A4	R392	B8		
C106	A2	C148	A5	C188	A2	C208	D4	C244	B2	C265	C2	C28	B2	C293	A1	C334	D6	C348	D4	C411	D7	C452	C7	C463	B7	C839	D4	R31	A4	R393	B7		
C123	A4	C154	B1	C189	A4	C209	D3	C245	A2	C267	B3	C280	A4	C311	D4	C335	A6	C349	D4	C412	D6	C453	C7	C5	B8	C840	D4	R383	B8	R394	B7		
C13	A1	C155	B1	C190	A4	C229	A5	C246	B2	C271	C3	C280	B2	C313	D3	C336	D6	C402	D6	C413	D6	C454	C7	C627	A5	C927	C2	R384	B8	R395	C8		
C132	A1	C156	B1	C194	A4	C233	A3	C247	A2	C272	C2	C282	B3	C314	D3	C337	C1	C403	D6	C414	D6	C455	C7	C628	A5	FB123	A3	R385	B8	R396	B8		
C134	A1	C179	A1	C195	A4	C234	A4	C248	B2	C273	C2	C284	B3	C316	D4	C338	D4	C404	D7	C446	C7	C456	C7	C629	A5	FB133	A1	R386	B7	R397	B8		
C135	A1	C180	A1	C196	A4	C235	A3	C254	B2	C275	C3	C285	C2	C317	D3	C342	B4	C405	D7	C447	C7	C457	C7	C811	C4	R268	C2	R388	B7	R398	C8		



6-8

VOLTGE

IC102A (MX29LV800CBTC)																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	0.00	2.86	1.46	2.42	2.11	1.33	1.20	1.64	0.00	0.00	3.40	5.00	0.00	0.00	0.00	3.40	0.00	1.20	1.95	1.27
Pin NO	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Voltage	1.52	1.82	17.20	1.70	1.66	0.00	0.00	0.00	1.05	0.00	1.50	0.00	1.35	0.30	0.30	0.40	0.42	0.50	0.45	1.87
Pin NO	41	42	43	44	45	46	47	48												
Voltage	0.42	0.46	0.12	0.45	0.45	0.50	0.50	0.53												

IC101 (ES8380FCD)																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	3.40	1.52	0.80	0.04	1.66	0.41	0.46	0.03	0.00	3.40	0.15	0.14	0.02	0.16	1.15	3.06	1.42	0.00	3.20	3.27
Pin NO	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Voltage	3.40	3.26	0.00	3.40	2.00	0.14	1.20	0.40	0.80	1.20	0.00	1.10	0.78	0.82	0.00	3.40	1.00	1.02	0.89	1.03
Pin NO	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Voltage	1.02	1.92	1.76			0.00	0.00	2.87	1.46	2.42	2.12	0.00	3.40	1.34	1.20	1.64	3.38	0.00	3.40	3.40
Pin NO	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Voltage	3.40	1.37	0.00	0.50	0.00	1.42	1.95	3.30	1.60	1.83	1.72	0.00	3.48	0.00	0.71	0.34	3.39	3.41	1.51	1.43
Pin NO	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
Voltage	0.00	0.81	0.81	0.65	2.60	1.42	1.57	1.74	3.48	0.00	0.73	1.95	2.29	2.28	2.29	0.00	0.00	3.41	1.06	0.60
Pin NO	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
Voltage	0.66	1.08	1.07	3.40	0.00	0.00	0.00	0.87	0.70	3.40	0.04	0.00	0.00	0.87	1.86	1.80	1.70	1.32	1.69	0.01
Pin NO	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
Voltage	1.70	1.32	1.61	3.29	1.66	1.44	0.00	3.50	3.50	0.02	0.35	0.57	3.40	1.67	3.43	0.00	3.37	3.37	3.45	0.00
Pin NO	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
Voltage	1.23	1.28	1.61	1.66	1.62	1.59	0.05	0.12	2.00	0.12	0.00	0.05	3.30	3.30	0.87	0.90	3.38	0.00	1.61	1.61
Pin NO	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
Voltage	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	1.56	3.36	1.62	1.62	1.61	1.62	2.07	2.44	0.00	0.00	1.42	3.42
Pin NO	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
Voltage	0.00	1.10	3.34	1.90	1.86	1.45	0.00	3.42	1.20	3.43	1.42	1.30	1.15	1.18	0.00	1.42	4.09	4.09	3.30	0.87
Pin NO	201	202	203	204	205	206	207	208												
Voltage	4.09	3.43	5.00	4.00	1.09	1.24	1.13	0.00												

IC 103 (K4S6411632H)																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	3.40	1.03	3.39	1.22	1.50	0.00	1.18	1.07	3.34	1.26	1.32	0.00	0.60	3.30	0.00	3.26	3.40	3.40	3.00	0.16
Pin NO	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Voltage	0.02	0.18	0.15	0.03	1.00	0.72	3.40	0.00	1.46	1.62	1.37	1.56	0.60	0.04	0.14	0.00	3.40	1.90	0.04	0.00
Pin NO	41	42	43	44	45	46	47	48	49	50	51	52	53	54						
Voltage	0.00	1.23	3.40	1.04	1.40	0.00	1.50	0.92	3.40	1.21	1.75	0.00	1.72	0.00						

IC106 (V5888S)																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	1.59	3.00	1.26	1.62	1.25	0.00	0.00	4.86	0.00	0.00	2.39	2.26	2.53	2.00	2.30	2.36	0.76	3.94	4.95	0.80
Pin NO	21	22	23	24	25	26	27	28												
Voltage	4.86	0.00	1.09	4.83	2.23	1.61	1.61	2.68												

IC104 (74HC374)																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	0.00	4.96	1.40	1.87	4.96	3.91	1.38	1.66	4.96	0.00	3.40	0.00	1.16	1.34	0.00	0.00	1.50	1.09	4.95	4.98

IC201 (SN74HC04DR)																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
Voltage	2.34	2.07	1.16	1.34	0.33	4.96	0.00	2.32	2.32	1.00	0.17	2.83	2.07	4.96						

IC109 (SN74HC04DR)																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
Voltage	1.33	4.97	0.67	4.96	1.73	2.46	0.00	4.97	0.00	0.70	1.65	4.97	0.57	4.96						

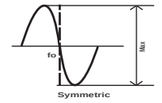
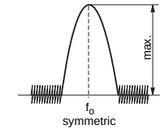
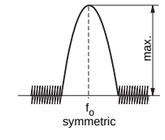
IC802 (CD4052BM)																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
Voltage	0.00	0.00	0.00	0.00	0.00	5.51	0.00	4.97	4.97	0.00	0.00	0.00	0.00	5.58						

IC803 (AZ4558AM)																				
Pin NO	1	2	3	4	5	6	7	8												
Voltage	0.00	0.00	0.00	10.00	0.00	0.00	0.00	13.30												

TUNER BOARD

TABLE OF CONTENTS

TUNER ADJUSTMENT TABLE

Waverange	Input frequency	Input	Tuned to	Adjust	Output	Scope/Voltmeter
VARICAP ALIGNMENT						
FM 87.5 - 108MHz (50kHz grid)			108MHz	check		6.5V ±0.2V
			87.5MHz	check		1.0V ±0.5V
AM 530-1710kHz (10kHz grid) (21L / 21L / 37S)			1602KHz	check		7.8V ±0.2V
			531KHz	T005		1.1V ±0.5V
			1700KHz	check		8.0V ±1HV
			530KHz	T005		1.1V ±0.2V
FM - IF						
FM	10.7MHz, 50mV continuous wave		IC001 pin 23 — short circuit to block AFC — 200P	No need to adjust		
FM - RF						
FM	108MHz	mod=1kHz ? f=±22.5kHz	106MHz	VC001	MAX	MAX
	87.5MHz		90.1MHz	L001		
AM IF						
AM	450kHz Connect pin 29 of IC001 (AM Osc.) with short wire to ground (pin 6)	? f = ±15kHz V_{RF} = 3mV	IC001 pin 24 — 100nF — R220	T001 T002	MAX	
AM AFC **MW**		?V=mV		T003		
AM RF 3)						
MW	1404kHz	? f = ±30kHz V_{RF} as low as possible	1404kHz	VC001	MAX	
	576kHz		612kHz	T006		
	1400kHz		1400kHz	VC002		
	610kHz		610kHz	T006		

Use Service Testprogram. By selecting the TUNER TEST test frequencies will be stored as preset frequencies automatically.

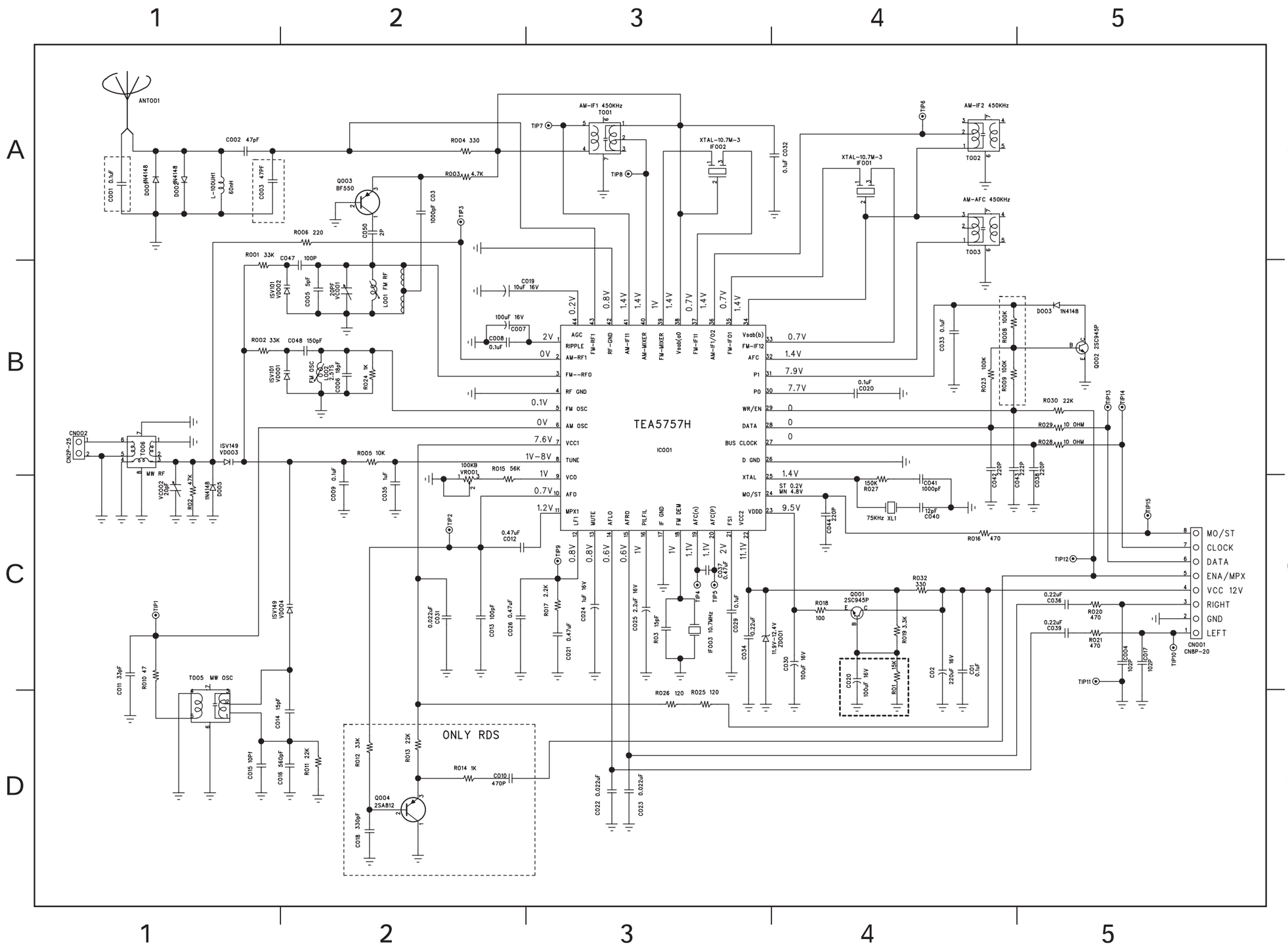
1) If sensitivity of frequency counter is too low adjust to max. channel separation (input signal: stereo left 90% + 9%, adjust output on right channel to minimum)

2) RC network serves for damping the IF-filter while adjusting the other one.

3) For AM RF adjustments the original frame antenna has to be used!

7-2

CIRCUIT DIAGRAM - TUNER BOARD

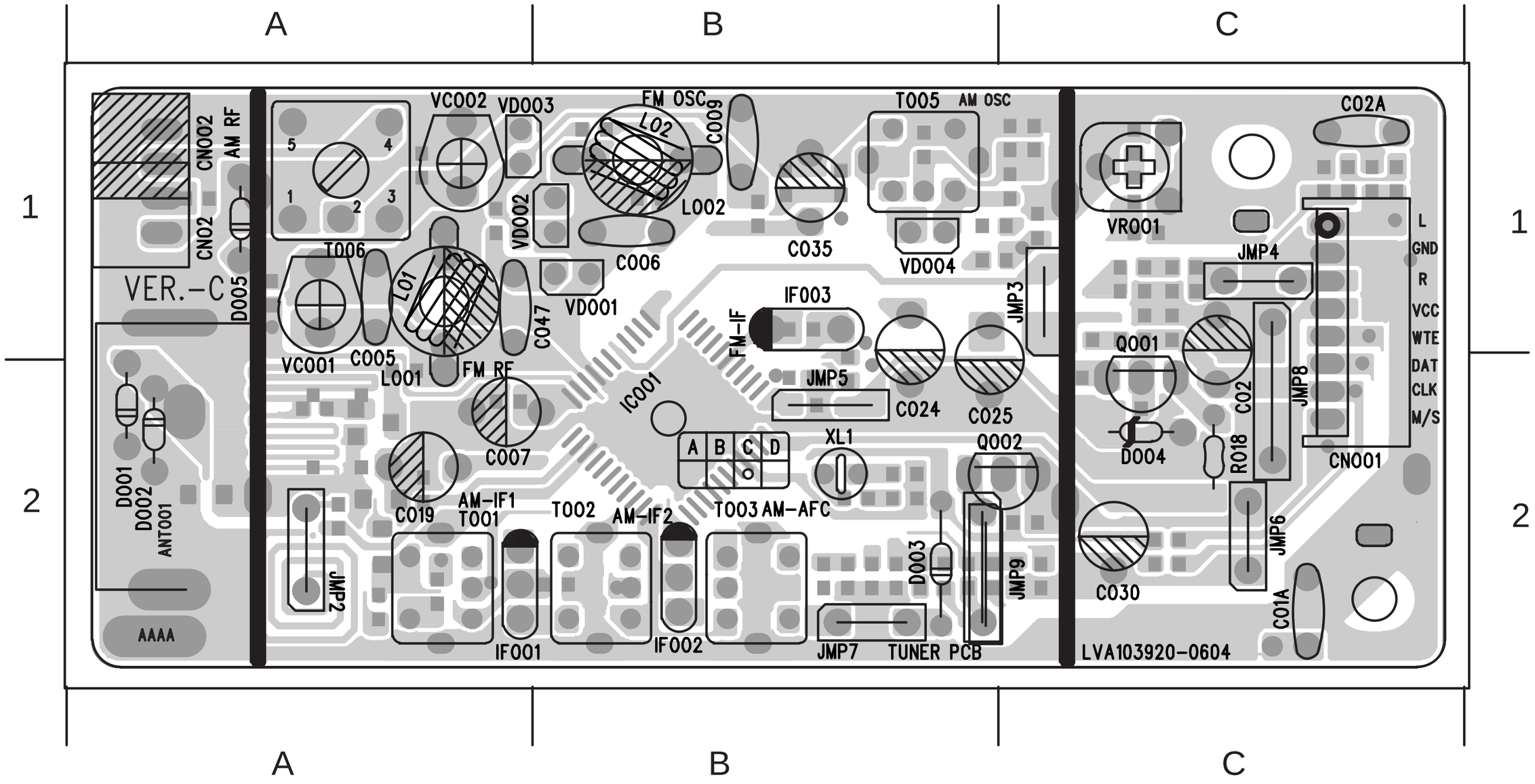


ANT001	A1	R005	B2
C002	A1	R006	A2
C004	C5	R007	A2
C005	B2	R010	C1
C006	B2	R011	D2
C007	B2	R015	C2
C008	B2	R016	C4
C009	C2	R017	C3
C01	C4	R018	C4
C010	D2	R019	C4
C011	C1	R020	C5
C012	C2	R021	C5
C013	C2	R023	B4
C014	D2	R024	B2
C015	D1	R025	D3
C016	D2	R026	D3
C017	C5	R027	C4
C018	D2	R028	B5
C019	B2	R029	B5
C02	C4	R030	B5
C020	B4	R032	C4
C020	C4	T001	A3
C021	C3	T002	A4
C022	D3	T003	A4
C023	D3	T005	D1
C024	C3	T006	B1
C025	C3	VC001	B2
C026	C2	VC002	C1
C029	C3	VD001	B2
C03	A2	VD002	B2
C030	C4	VD003	B1
C031	C2	VD004	C2
C032	A4	VR001	C2
C033	B4	XL1	C4
C034	C3		
C035	C2		
C036	C5		
C037	C3		
C038	B5		
C039	C5		
C040	C4		
C041	C4		
C042	B4		
C043	B4		
C044	C4		
C047	B2		
C048	B2		
C050	A2		
CN001	C5		
CN002	B1		
D001	A1		
D002	A1		
D003	B5		
D004	C3		
D005	C1		
IC001	B3		
IF001	A4		
IF002	A3		
IF003	C3		
JD001	C3		
L001	B2		
L002	B2		
Q001	C4		
Q002	B5		
Q003	A2		
R001	B1		
R002	B1		
R003	A2		
R004	A2		

7-3

PCB LAYOUT - TUNER BOARD (TOP)

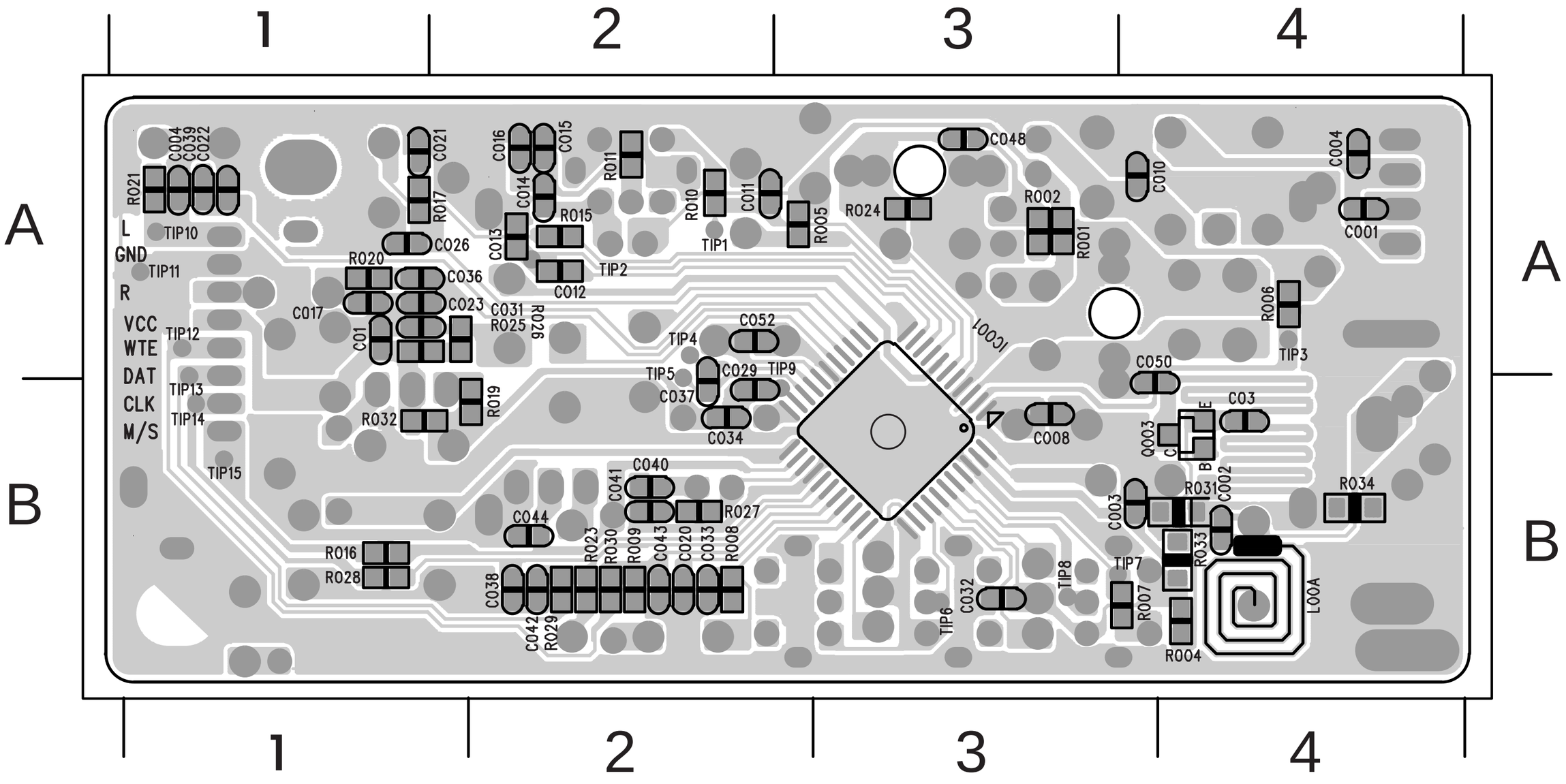
ANT001	A2	C009	B1	C025	B1	C047	A1	D002	A1	IF001	A1	JMP4	C1	JMP8	C2	Q001	C2	T002	B2	VC001	A1	VD003	A1
C005	A1	C019	A1	C02A	C1	CN001	C1	D003	B2	IF002	B2	JMP5	B2	JMP9	B2	Q002	B2	T003	B2	VC001	B1	VD004	B1
C006	B1	C02	C1	C030	C2	CN002	A1	D004	C2	IF003	B1	JMP6	C2	L001	A1	R018	C2	T005	B1	VD001	B1	VR001	C1
C007	A1	C024	B1	C035	B1	D001	A1	D005	A1	JMP2	A1	JMP7	B2	L002	B1	T001	A1	T006	A1	VD002	B1	XL1	B2



7-4

PCB LAYOUT - TUNER BOARD (BOTTOM)

C001	A4	C01	A1	C014	A2	C021	A1	C03	B4	C036	A1	C041	B2	C050	B4	R002	A3	R010	A2	R019	B2	R025	A1	R030	B2	TIP1	A2	TIP14	B1	TIP4	A2	TIP9	B2
C002	B4	C010	A4	C015	A2	C022	A1	C031	A1	C037	B2	C042	B2	C052	A2	R004	B4	R011	A2	R020	A1	R026	A2	R031	B4	TIP10	A1	TIP15	B1	TIP5	A2		
C004	A1	C011	A2	C016	A2	C023	A1	C032	B3	C038	B2	C043	B2	IC001	B3	R005	A3	R015	A2	R021	A1	R027	B2	R032	B1	TIP11	A1	TIP2	A2	TIP6	B3		
C004	A4	C012	A2	C017	A1	C026	A1	C033	B2	C039	A1	C044	B2	Q003	B4	R006	A4	R016	B1	R023	B2	R028	B1	R033	B4	TIP12	A1	TIP3	A2	TIP7	B3		
C008	B3	C013	A2	C020	B2	C029	B2	C034	B2	C040	B2	C048	A3	R001	A3	R007	B3	R017	A1	R024	A3	R029	B2	R034	B4	TIP13	B1	TIP3	A4	TIP8	B3		



POWER BOARD

TABLE OF CONTENTS

8-1

Voltage

IC 952																
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Voltage	5.00	5.00	3.48	1.40	1.58	3.49	0.00	13.20	0.45	0.43	13.20	13.20	5.00	5.00	5.00	0.00

IC951								
Pin NO	1	2	3	4	5	6	7	8
Voltage	1.36	5.00	1.50	0.00	13.20	5.00	13.00	12.00

IC902								
Pin NO	1	2	3	4	5	6	7	8
Voltage	-14	-5	-13	-13.4	128.00	130.00	131.00	132.00

IC901				
Pin NO	1	2	3	4
Voltage	5.00	4.00	-13.4	-13.4

IC953			
Pin NO	1	2	3
Voltage	3.80	0.00	2.50

Q961			
Pin NO	B	C	E
Voltage	0.00	12.00	0.00

Q956			
Pin NO	B	C	E
Voltage	12.30	12.30	11.50

Q952			
Pin NO	B	C	E
Voltage	0.00	0.00	0.00

Q953			
Pin NO	G	D	S
Voltage	5.00	5.00	11.30

Q958			
Pin NO	B	C	E
Voltage	0.00	3.40	0.00

Q902			
Pin NO	G	D	S
Voltage	0.40	0.57	0.40

Q959			
Pin NO	B	C	E
Voltage	0.80	0.00	0.00

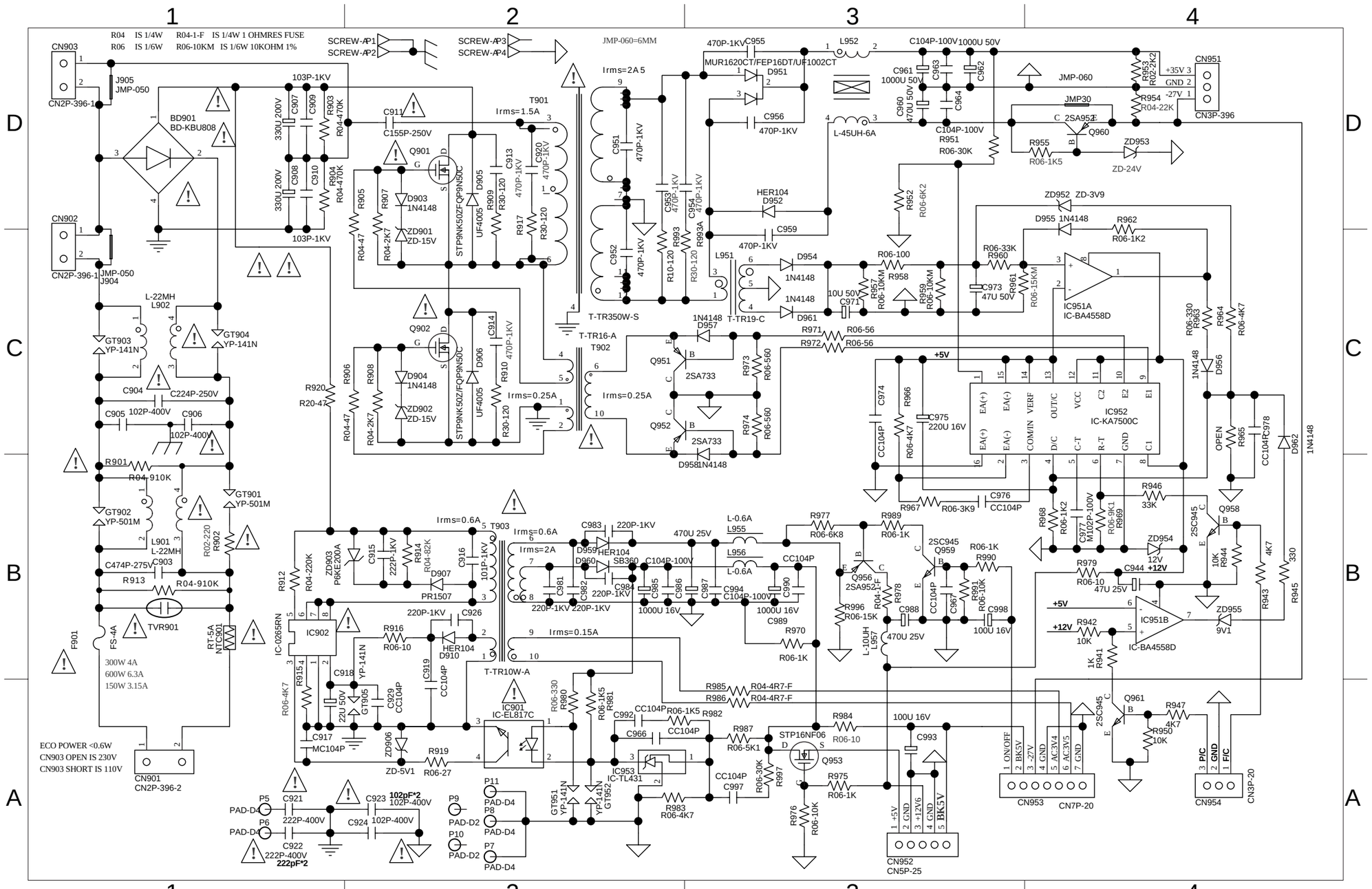
Q951			
Pin NO	B	C	E
Voltage	0.00	0.00	0.00

Q903			
Pin NO	G	D	S
Voltage	0.80	0.60	0.70

8-2

CIRCUIT DIAGRAM - POWER BOARD

BD901	D1	C913	D2	C923	A2	C959	C3	C975	C3	C987	B3	CN951	D4	D954	C3	GT902	B1	L901	B1	Q951	C2	R904	D1	R915	A1	R953	D4	R964	C4	R975	A3	R985	A3	T902	C2
C903	B1	C914	C2	C924	A2	C960	D3	C976	B3	C989	B3	CN952	A3	D955	D4	GT903	C1	L902	C1	Q952	C2	R905	D2	R916	B2	R954	D4	R965	C4	R976	A3	R986	A3	T903	B2
C904	C1	C915	B2	C926	B2	C961	D3	C977	B4	C990	B3	CN953	A4	D956	C4	GT904	C1	L951	C3	Q953	A3	R906	C2	R917	D2	R955	D4	R966	C3	R977	B3	R987	A3	ZD901	C2
C905	C1	C916	B2	C929	A2	C963	D3	C978	C4	C992	A2	CN954	A4	D957	C3	GT905	A2	L952	D3	Q956	B3	R907	D2	R919	A2	R957	C3	R967	B3	R978	B3	R989	B3	ZD902	C2
C906	C1	C917	A1	C944	B4	C964	D3	C981	B2	C993	A3	D903	D2	D958	C3	IC901	A2	L955	B3	Q958	B4	R908	C2	R920	C1	R958	C3	R969	B4	R979	B4	R990	B3	ZD906	A2
C907	D1	C918	A1	C951	D2	C966	A2	C982	B2	C994	B3	D904	C2	D959	B2	IC902	B2	L956	B3	Q959	B3	R909	D2	R944	B4	R959	C3	R970	B3	R980	A2	R991	B3	ZD952	D4
C908	D1	C919	A2	C952	C2	C967	B3	C983	B2	C997	A3	D907	B2	D960	B2	IC951A	C4	L957	B3	Q960	D4	R910	C2	R945	B4	R960	C3	R971	C3	R981	A2	R993	C2	ZD953	D4
C909	D1	C920	D2	C953	D2	C971	C3	C984	B2	C998	B3	D910	B2	D961	C3	IC951B	B4	NTC901	C1	R901	B1	R912	B2	R946	B4	R961	C4	R972	C3	R982	A2	R996	B3	ZD954	B4
C910	D1	C921	A1	C955	D3	C973	C3	C985	B2	CN901	A1	D951	D3	F901	B1	IC952	C4	Q901	D2	R902	B1	R913	B1	R951	D3	R962	C4	R973	C3	R983	A2	R997	A3		
C911	D2	C922	A1	C956	D3	C974	C3	C986	B2	CN903	D1	D952	D3	GT901	B1	IC953	A2	Q902	C2	R903	D1	R914	B2	R952	D3	R963	C4	R974	C3	R984	A3	T901	D2		

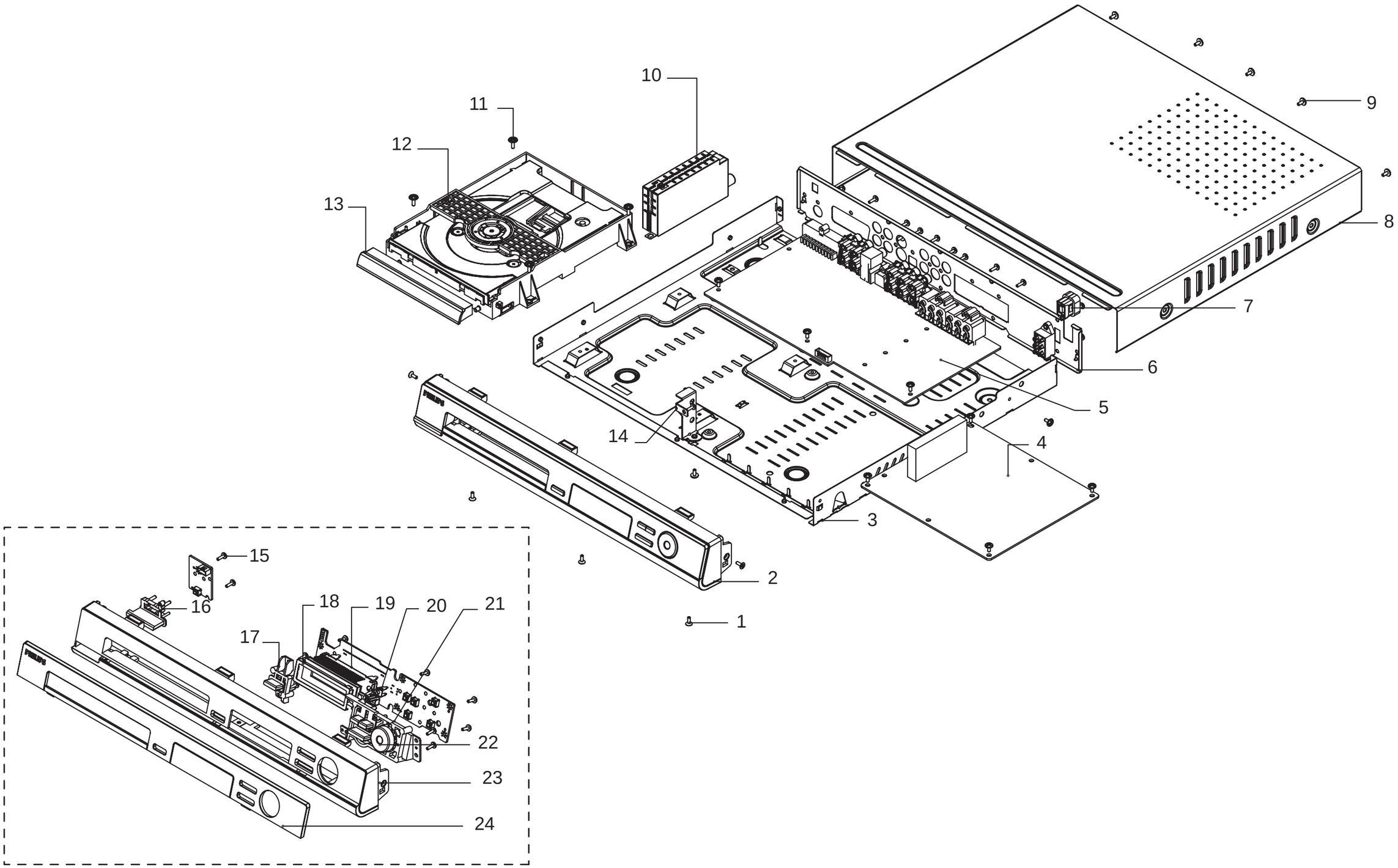


DVD LOADER

It is not recommended for component repair on this Module but to replace the major assembly when it becomes defective. Therefore limited service parts list are published in this chapter.

10-1

MECHANICAL EXPLODED VIEW



HTS3090/78/77/55

9965 000 38287		DVD LOADER M04S-3	ASL261603-1110
9965 000 40955		MAIN PCB ASS'Y	ABE202810-0003
9965 000 38286		MAIN PCB ASS'Y (/55 Only)	APE202810-0003
9965 000 40956	$	SMPS PCB ASS'Y	ABE106320-0001
9965 000 38288	$	SMPS PCB ASS'Y (/55 Only)	APE106320-0001
9965 000 40957		TUNER PCB ASS'Y	ABE103920-0012
9965 000 38258		TUNER PCB ASS'Y (/55 Only)	APE103920-0012
9965 000 40958		CONTROL PCB ASS'Y	ABE106370-0001
9965 000 38282		CONTROL PCB ASS'Y (/55 Only)	APE106370-0001
9965 000 38278		VOLUME KNOB PHILIPS	BPK105093-0002
9965 000 38277		DVD DOOR	BPD101125-1001
9965 000 38279		POWER KNOB ABS DR30U0	BPK112109-1001
9965 000 38280		EJECT KNOB DR30U0	BPK122109-1001
9965 000 36124		RUBBER FOOT DIA14XT3.0MM	BRF100056-0001
9965 000 32751		AC CONVERSION PLUG (/77/78 Only)	CPP010004-0030
9965 000 38289		AM LOOP ANT 1300MM (/77/78 Only)	VTA100005-0010
9940 000 02731		FM ANTENNA 1500MM (/55 Only)	VTA400003-0030
9965 000 38285		REMOTE CONTROL	WIR142003-9501
9965 000 25158		CONVERSION PLUG (/77/78 Only)	CPP010007-1020
9965 000 12817		BUSHING /21/21R/30S/37S	DBU001005-0020
9965 000 38283		FFC CABLE 24P 180MM UL20624 P=0.	VFC240210-1800
9965 000 38338		LINE CORD 2P 1980MM BLK VDE	VPE113252-1010
9965 000 40959		RCA CABLE 1500MM BLK OD2.6X7.8	VRC303001-Z010

SPK ASS'Y SATELLITE 30WX5 SUB

9965 000 38296	SPEAKER BOX F-L	ASLMS3090-CK01
9965 000 38297	SPEAKER BOX F-R	ASLMS3090-CK02
9965 000 38298	SPEAKER BOX R-L	ASLUS3090-CK01
9965 000 38299	SPEAKER BOX R-R	ASLUS3090-CK02
9965 000 38301	SPEAKER BOX CENTER	ASLCS3090-CK01
9965 000 36131	RUBBER FOOT M/S/C/W	DUF503011-0018
9965 000 38290	CABLE A'SSY WHITE	ASW502002-0595
9965 000 38291	CABLE A'SSY RED	ASW502002-0594
9965 000 38292	CABLE A'SSY GREEN	ASW502002-0596
9965 000 38293	CABLE A'SSY BLUE	ASW502002-0598
9965 000 38294	CABLE A'SSY GREY	ASW502002-0599
9965 000 38300	SPEAKER BOX SUBWOOFER	ASLWS3090-CK01
9965 000 28375	RUBBER FOOT	DUF503002-0200
9965 000 38295	CABLE A'SSY PURPLE	ASW502002-0597

Note:Only the parts mentioned in this list are normal service spare parts.