DVD Home Theater System

HTS3274/51

Service
Service
Service

Service Manual

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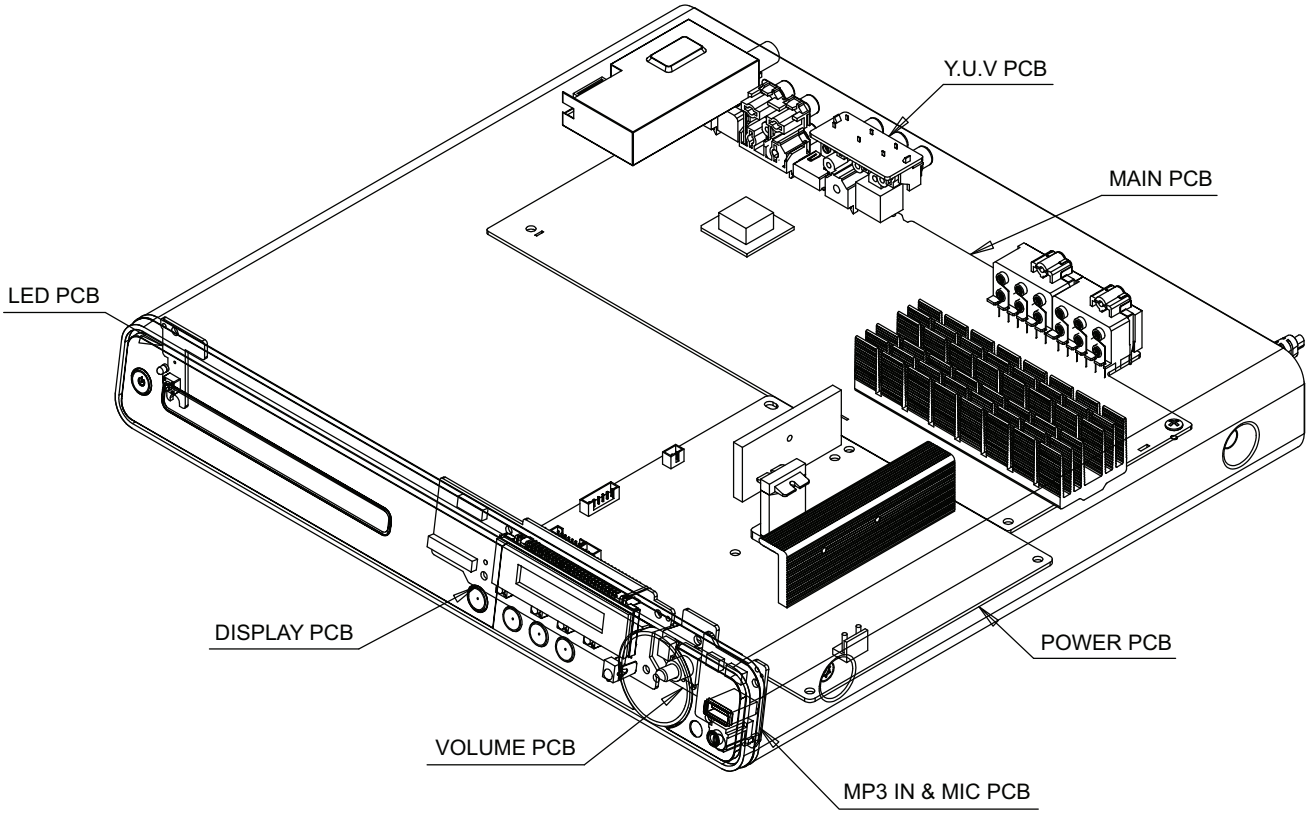
Published by RY0926 Service Audio Printed in The Netherlands Subject to modification

GB 3139 785 34981

Version 1.1

PHILIPS

LOCATION OF PCB BOARDS



VERSION VARIATION:

Type/Versions / Features	HTS3274 /51
Output Power - 420W	X
Voltage (110~240V)	X
MP3 LINK	X

SERVICE SCNARIO MATRIX:

Type/Versions / Board in used	HTS3274 /51
MAIN+Y.U.V Board	C
Power Board	C
DISP+LED+VOL Board	C
MP3 IN&MIC Board	C

*C = Component Level Repair

SPECIFICATIONS

Playback media

DVD-Video, DVD+R/+RW, DVD-R/-RW, DVD+R DL, CD-R/ CD-RW, Audio CD, Video CD/SVCD, Picture CD, MP3-CD, WMA-CD, DivX-CD, USB flash drive

Amplifier

Total output power.....
Home Theater mode.....
- For HTS3276.....420 W
- For HTS3371, HTS3378.....1000 W

Frequency response.....40 Hz ~ 20 kHz
Signal-to-noise ratio.....> 60 dB (Aweighted)
Input sensitivity.....
AUX1 ..... 400 mV
AUX2 ..... 400 mV
MP3 LINK .....250 mV

Disc

Laser Type..... Semiconductor
Disc diameter.....12cm / 8cm
Video decording..... MPEG1/ MPEG2 / DivX/ DivX Ultra
Video DAC..... 12 bits, 108 MHz
Signal system .....PAL / NTSC
Video S/N .....56 dB
Audio DAC.....24 bits / 96 kHz
Frequency response.....
.....4 Hz - 20 kHz (44.1 kHz)
.....4 Hz - 22 kHz (48 kHz)
.....4 Hz - 44 kHz (96 kHz)
PCM..... IEC 60958
Dolby Digital ..... IEC 60958, IEC 61937
DTS ..... IEC 60958, IEC 61937

Radio

Tuning range .....FM 87.5-108 MHz (50/100kHz)
26 dB quieting sensitivity.....FM 22 dBf
IF rejection ratio.....FM 60 dB
Signal-to-noise ratio.....FM 50 dB
Harmonic distortion.....FM 3%
Frequency response.....FM 180 Hz~10 kHz/ ±6dB
Stereo separation ..... FM 26 dB (1 kHz)
Stereo Threshold.....FM 29 dB

USB

Compatibility.....Hi-Speed USB (2.0)
Class support..... UMS (USB Mass Storage Class)
File system FAT12, FAT16, FAT32

Main Unit

Power supply.....
For HTS3276.....110-240V;~50-60Hz
For HTS3371/3378..... 110-127V/220-240V;
.....~50-60Hz switchable
Power consumption.....
For HTS3276..... 80 W
For HTS3371, HTS3378.....180 W
Standby power consumption .....< 1 W
Dimensions (WxHxD) ..... 360 x 57 x 331(mm)
Weight .....
For HTS3276.....2.87 Kg
For HTS3371, HTS3378.....3.01 Kg

Speakers

System..... full range satellite
Speaker impedance.....
.....For HTS3276: 4 ohm (center), 8 ohm(Front/Rear)
....For HTS3371, HTS3378: 4 ohm(center), 4 ohm (Front/Rear)
Speaker drivers .....
Center/Front/Rear..... 3” full range
Frequency response.....150 Hz ~ 20 kHz
Dimensions (WxHxD) .....
For HTS3276 .....
- Center..... 244 x 103 x 74 (mm)
- Front..... 262 x 1199 x 264 (mm)
- Rear..... 103 x 203 x 71 (mm)

For HTS3371 .....
- Center/Front/Rear ..... 100 x 100 x 75(mm)

For HTS3378 .....
- Center..... 244 x 103 x 74 (mm)
- Front..... 262 x 1199 x 264 (mm)
- Rear..... 262 x 1199 x 264 (mm)

Weight .....
For HTS3276 .....
- Center.....0.85 kg
- Front.....3.53 kg
- Rear.....0.54 kg

For HTS3371 .....
- Center.....0.67 kg
- Front.....0.48 kg
- Rear.....0.45 kg

For HTS3378 .....
- Center.....0.85 kg
- Front.....3.53 kg
- Rear.....3.53 kg

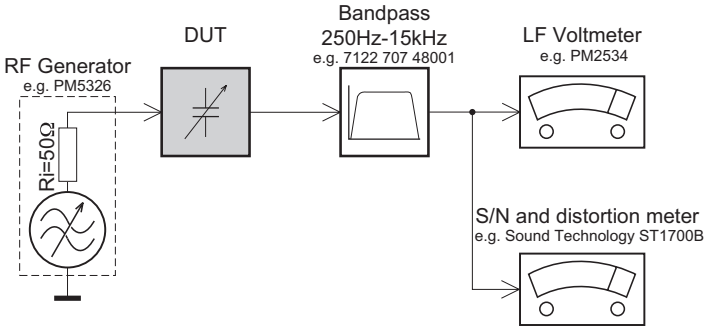
Subwoofer

Impedance..... 4 ohm
Speaker drivers ..... 165 mm (6.5”) woofer
Frequency response.....40 Hz ~ 150 Hz
Dimensions (WxHxD) .....
For HTS3276, HTS3371..... 163 x 36 3x369 (mm)
For HTS3378..... 242 x352 x 360 (mm)
Weight .....
For HTS3276, HTS3371.....4.7 Kg
For HTS3378..... 5.6 Kg
Laser specification.....
Type.....Semiconductor laser GaAIAs (CD)
Wave length..... 645 - 665 nm (DVD), 770- 800 nm (CD)
Output power.....6 mW (DVD), 7 mW(VCD/CD)
Beam divergence..... 60 degrees.

Specifications subject to change without prior notice.

MEASUREMENT SETUP

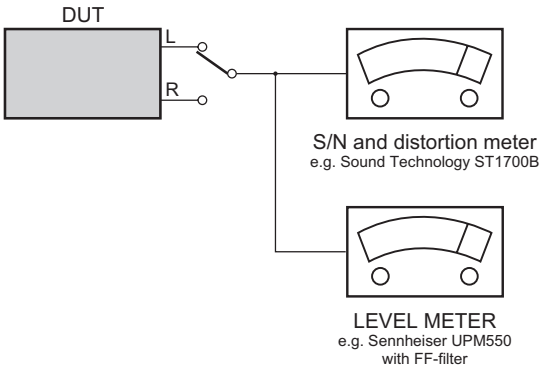
Tuner FM



Use a bandpass filter to eliminate hum (50Hz, 100Hz) and disturbance from the pilottone (19kHz, 38kHz).

CD

Use Audio Signal Disc SBC429 4822 397 30184
(replaces test disc 3)



SERVICE AIDS

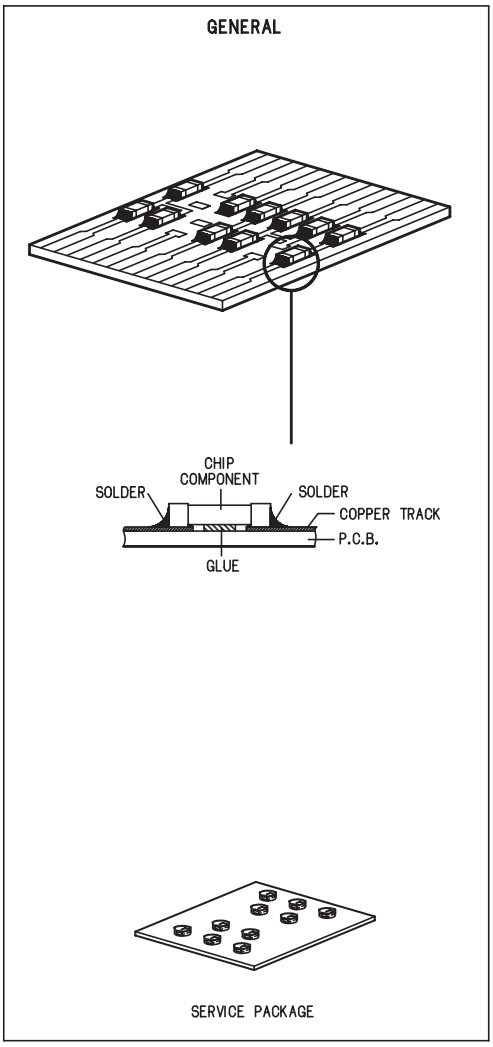
Service Tools:

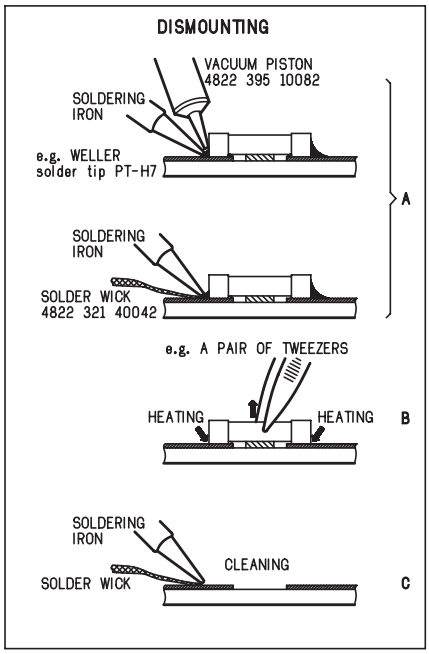
Universal Torx driver holder 4822 395 91019
Torx bit T10 150mm 4822 395 50456
Torx driver set T6-T20 .....4822 395 50145
Torx driver T10 extended 4822 395 50423

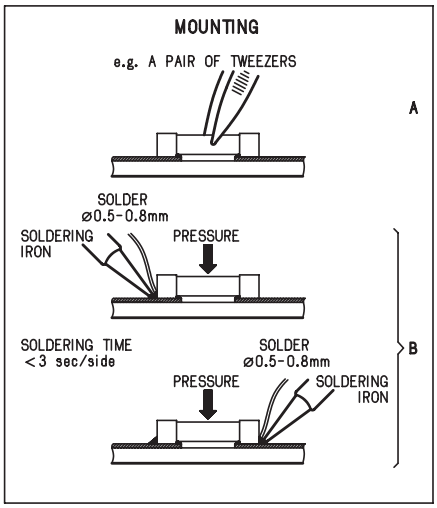
Compact Disc:

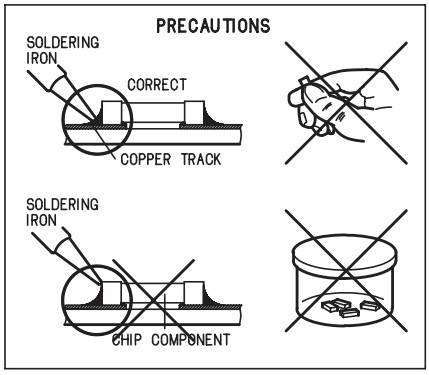
SBC426/426A Test disc 5 + 5A 4822 397 30096
SBC442 Audio Burn-in test disc 1kHz 4822 397 30155
SBC429 Audio Signals disc 4822 397 30184
Dolby Pro-logic Test Disc 4822 395 10216

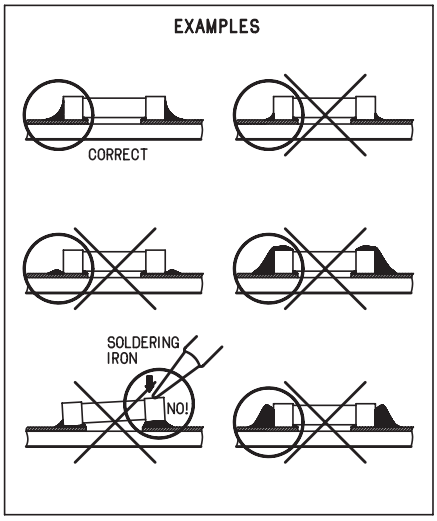
HANDLING CHIP COMPONENTS











ESD

(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.

(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 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 kan 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) ESD PROTECTION EQUIPMENT

Complete Kit ESD3 (small tablemat, wristband, connection box, estention cable and earth cable 4822 310 10671
Wristband tester 4822 344 13999

(GB)

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

Safety components are marked by the symbol ⚠ .

(NL)

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

De Veiligheidsonderdelen zijn aangeduid met het symbol ⚠ .

(F)

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

Less composants de sécurité sont marqués ⚠ .

(D)

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

Sicherheitsbauteile sind durch das Symbol ⚠ markiert.

(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.

Componenty di sicurezza sono marcati con ⚠ .

(GB)

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 spärren är urkopplad. Betrakta ej strålen.

(SF) Varoitus !

Avatussa laitteessa ja suojalukituksen ohitettaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso säteeseen!

(DK) Advarse !

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

(F)

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

Pb(Lead) Free Solder

When soldering , be sure to use the pb free solder.

INDENTIFICATION:
Regardless of special logo (not always indicated) 

one must treat all sets from **1 Jan 2005** onwards, according next rules:

Important note: In fact also products of year 2004 must be treated in this way as long as you avoid mixing solder-alloys (leaded/ lead-free). So best to always use SAC305 and the higher temperatures belong to this.

Due to lead-free technology some rules have to be respected by the workshop during a repair:

- Use only lead-free solder alloy Philips SAC305 with order code 0622 149 00106. If lead-free solder-paste is required, please contact the manufacturer of your solder-equipment. In general use of solder-paste within workshops should be avoided because paste is not easy to store and to handle.
- Use only adequate solder tools applicable for lead-free solder alloy. The solder tool must be able
  - To reach at least a solder-temperature of 400?C,
  - To stabilize the adjusted temperature at the solder-tip
  - To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature around 360?C – 380?C is reached and stabilized at the solder joint. Heating-time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400?C otherwise wear-out of tips will rise drastically and flux-fluid will be destroyed. To avoid wear-out of tips switch off un-used equipment, or reduce heat.
- Mix of lead-free solder alloy / parts with leaded solder alloy / parts is possible but PHILIPS recommends strongly to avoid mixed solder alloy types (leaded and lead-free).
  If one cannot avoid or does not know whether product is lead-free, clean carefully the solder-joint from old solder alloy and re-solder with new solder alloy (SAC305).
- Use only original spare-parts listed in the Service-Manuals. Not listed standard-material (commodities) has to be purchased at external companies.
- Special information for BGA-ICs:

– Always use the 12nc-recognizable soldering temperature profile of the specific BGA (for de-soldering always use the lead-free temperature profile, in case of doubt)

– Lead free BGA-ICs will be delivered in so-called 'dry-packaging' (sealed pack including a silica gel pack) to protect the IC against moisture. After opening, dependent of MSL-level seen on indicator-label in the bag, the BGA-IC possibly still has to be baked dry. (MSL=Moisture Sensitivity Level). This will be communicated via AYS-website.
Do not re-use BGAs at all.

- For sets produced before 1.1.2005 (except products of 2004), containing leaded solder-alloy and components, all needed spare-parts will be available till the end of the service-period. For repair of such sets nothing changes.
- On our website **www.atyourservice.ce.Philips.com** you find more information to:

  - BGA-de-/soldering (+ baking instructions)
  - Heating-profiles of BGAs and other ICs used in Philips-sets

  You will find this and more technical information within the "magazine", chapter "workshop news".

  For additional questions please contact your local repair-helpdesk.

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System , Region Code , etc. Setting Produre

1)System Reset

a) Press “SETUP“ button on R/C,TV will show setup menu
b) Select the menu using the▼ and ► on R/C
c) Go preference page to do system reset

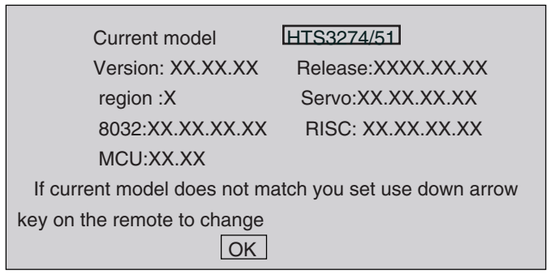
2)Region Code Change

a) In open mode, press”9” “9“ “9“ “9“ on R/C,then input desired number to change region code :

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

3)Version Control Change

a) In open mode, press “1“ “5“ “9“ on R/C
b) Press “ok” button to confirm
c) TV will show message as below:



4)Password Change

a) Press “SETUP“ button on R/C,TV will show setup menu
b) Select the menu using the▼ and ► on R/C
c) Go preference page select “password“ to change
* 000000 is default password supplied.

5)Check on the Software Version

a) Open the CD Door
b) Press “INFO“ button on R/C
c) TV will show the version on screen

6)Trade model

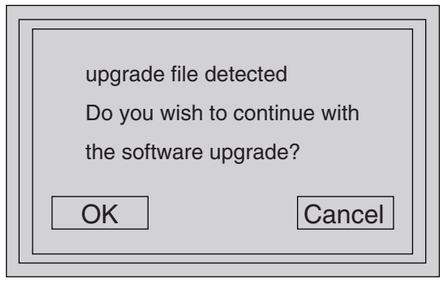
a) Press “Open/Close “ button on R/C
b) Press “2” “5” “9” on R/C,VFD will display “TRA ON “ or “TRA OFF“

7) Produce to Change Tuner Grid

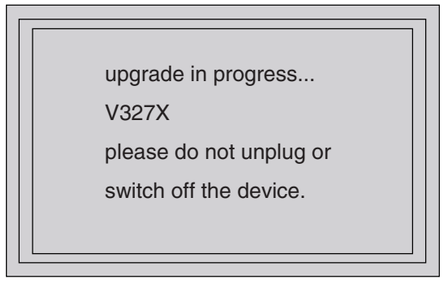
(only applicable for certain regions)
In some countries, the frequency step between adjacent channels in the FM band is 50kHz (100kHz in some areas).
a) Press “source” to select “FM”.
b) In “FM” playback mode, press & hold “play/pause” button until Grid 9” or “Grid 10” appears.
Note: repeating the same action will toggle back to it previous tuning grid setting.
* “Grid 10” is default for/98 version.

8) Upgrading new software

a) Copy “software files” into a CD-R
b) Open the CD Door,then insert the CD-R program disc
c) Close the CD Door
d) VFD will show:
“Loading“
“Erase” -- erase the flash memory
“Writing” about 1 minute
“done “
* the system will switch off and on again automatically.
e) OSD will show:



f) Select “OK”, OSD will show:



CAUTION!

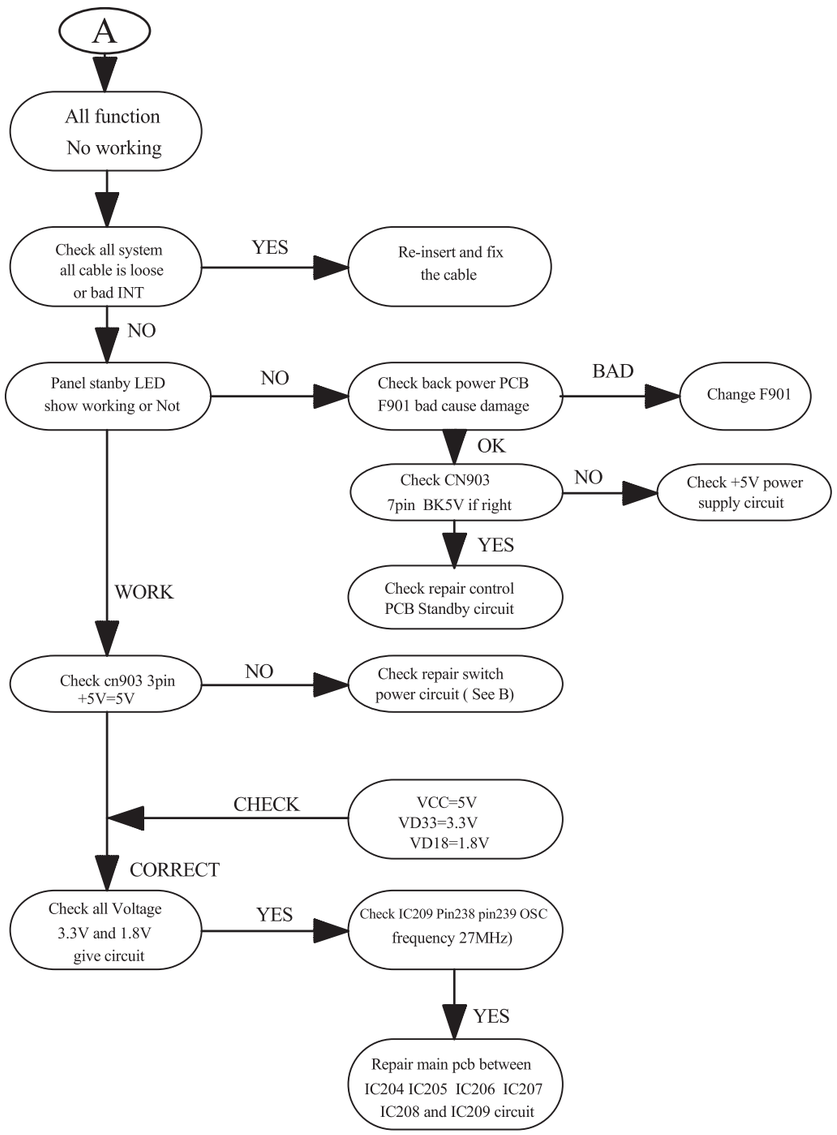
This information is confidential and may not be distributed.Only a qualified service person should reprogram the Region Code.

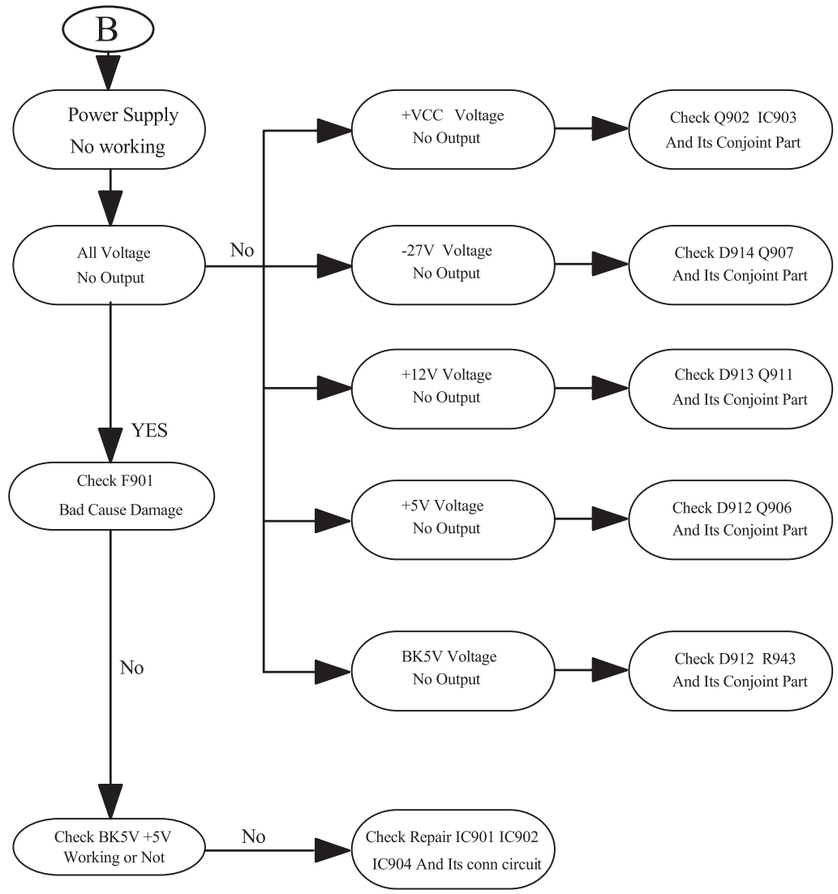
2 - 2

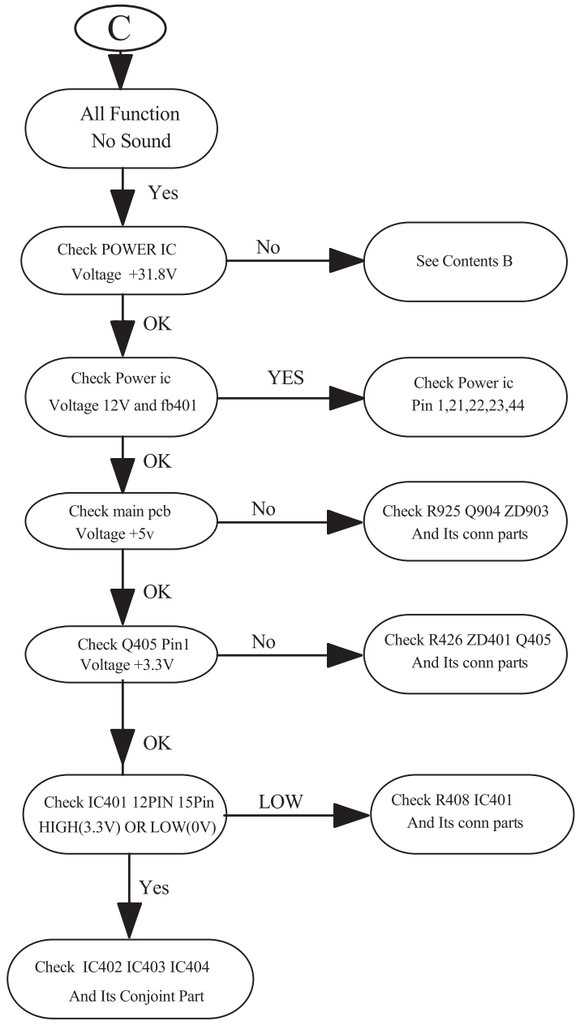
REPAIR INSTRUCTIONS (ONE)

MAIN UNIT REPAIR CHART 1/3

A All Function No Working
B Power Supply No Working
C All Function No Sound
E Audio line IN No Output
F Karaoke No Output
G DVD Audio No Sound
H MP3 In No Sound
I COAXIAL In No Sound
L Tuner No Sound
M HDMI No Output
N No CVBS Output
O No Y Pr Pb output



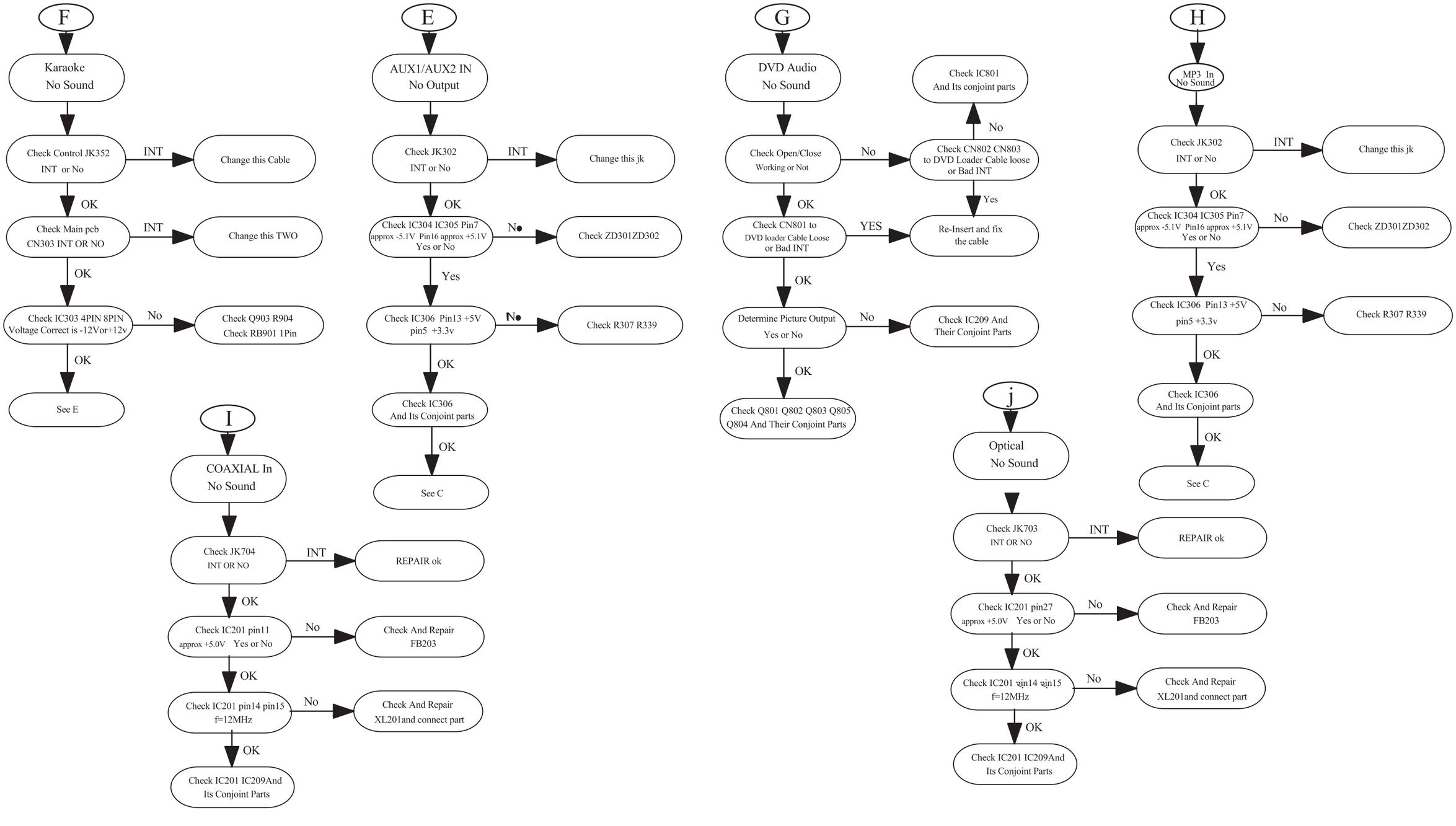




2 - 3

REPAIR INSTRUCTIONS (TWO)

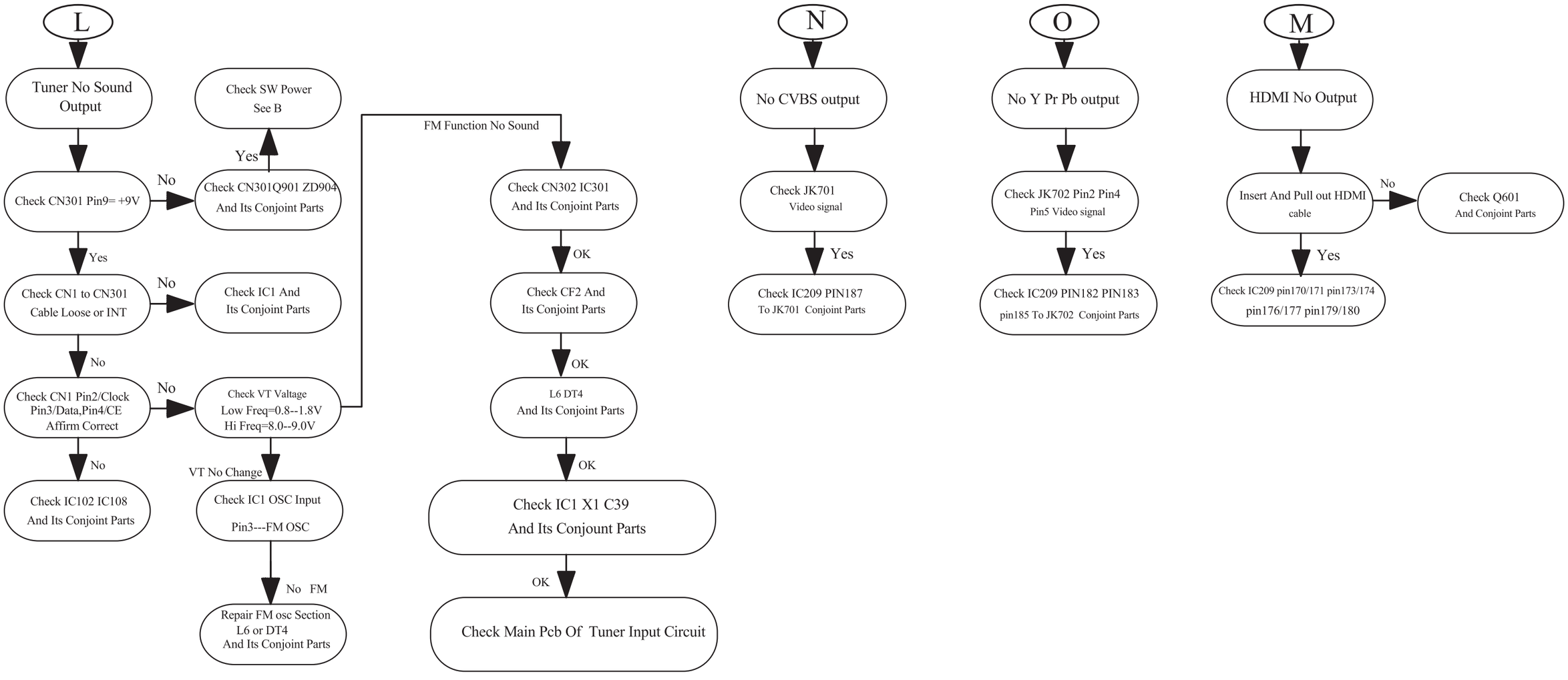
MAIN UNIT REPAIR CHART 2/3



2 - 4

REPAIR INSTRUCTIONS (THREE)

MAIN UNIT REPAIR CHART 3/3



DISASSEMBLY INSTRUCTIONS

Dismantling of the Front Panel Assemble

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 left 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.

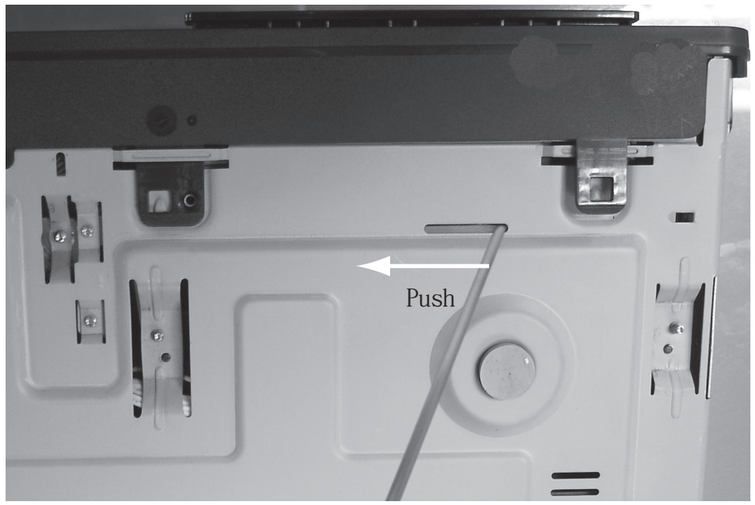


Figure 1

Figure 2

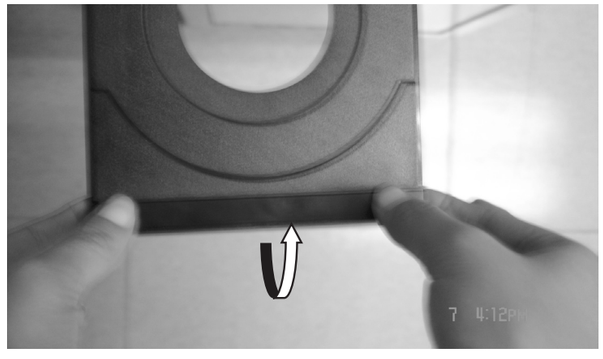


Figure 3

3 - 1

3) Loosen 6 screws and remove the Top Cover by lifting the rear portion upwards before sliding it out towards the rear.
   - 1 screw “A” each on the left & right side as shown in figure 4.
   - 4 screws “B” at the back panel as shown in figure 5.
4) Loosen 5 screws “C“ at the front panel bracket as in figure 6 to remove the front panel.

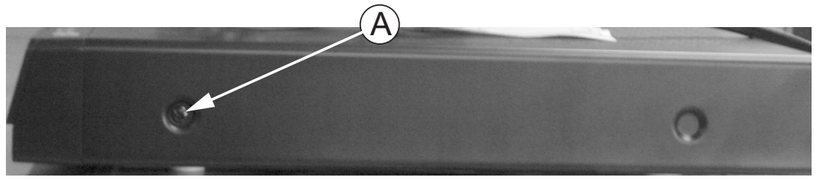


Figure 4

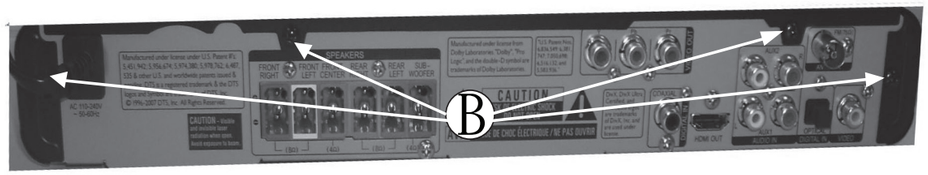


Figure 5

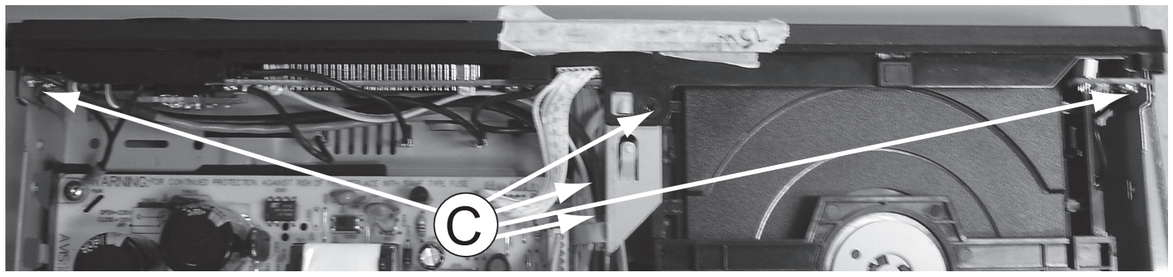


Figure 6

Dismantling of the DVD Module

1) Loosen 4 screws “ D “ at the DVD Module as shown in figure 7.

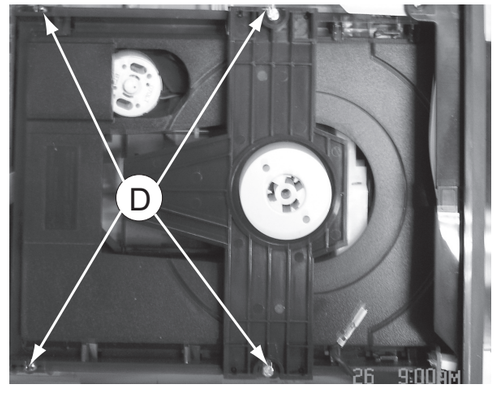


Figure 7

Dismantling of the DISP+LED+VOL&MP3 IN Board

1) Loosen 10 screws “E” on the top of DISP+LED+VOL&MP3 IN Board as shown in figure 8.

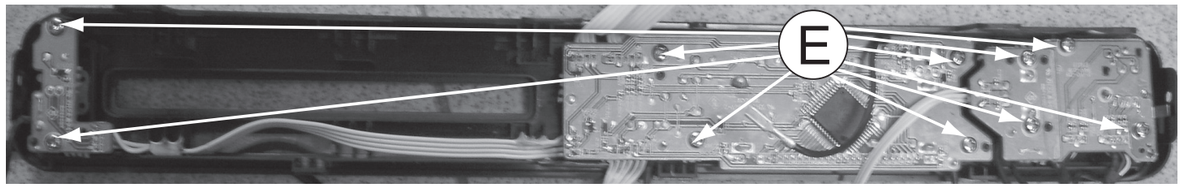


Figure 8

Dismantling of the Power Board

1) Loosen 4 screws “F” on the top of Power Board as shown in figure 9.
2) With a pincers to nip this space as shown in figurer 10 and to take up the power board.

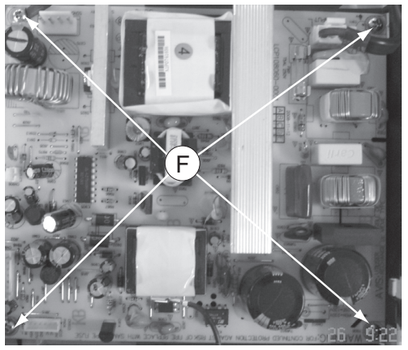


Figure 9

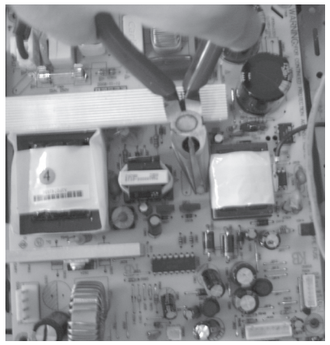


Figure 10

Dismantling of the MAIN+SCART Board

1) Loosen 4 screws “G” on the top of Main Board as shown in figure 11.
2) At the back panel, loosen 9 screws to remove MAIN Board and loosen 2 screw to remove Scart Board as shown in figure 12.

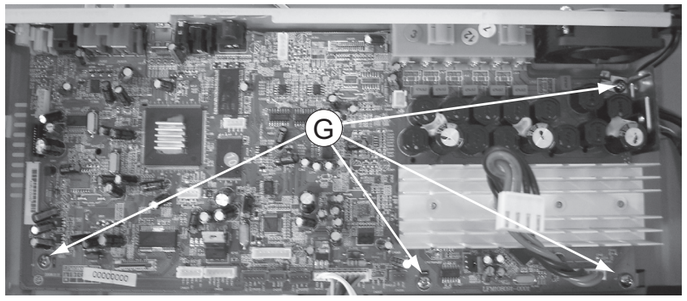


Figure 11

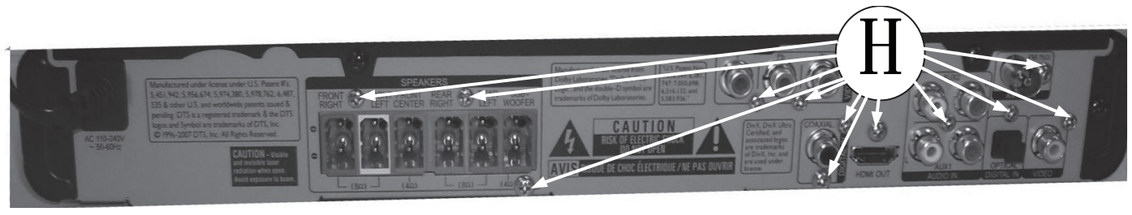
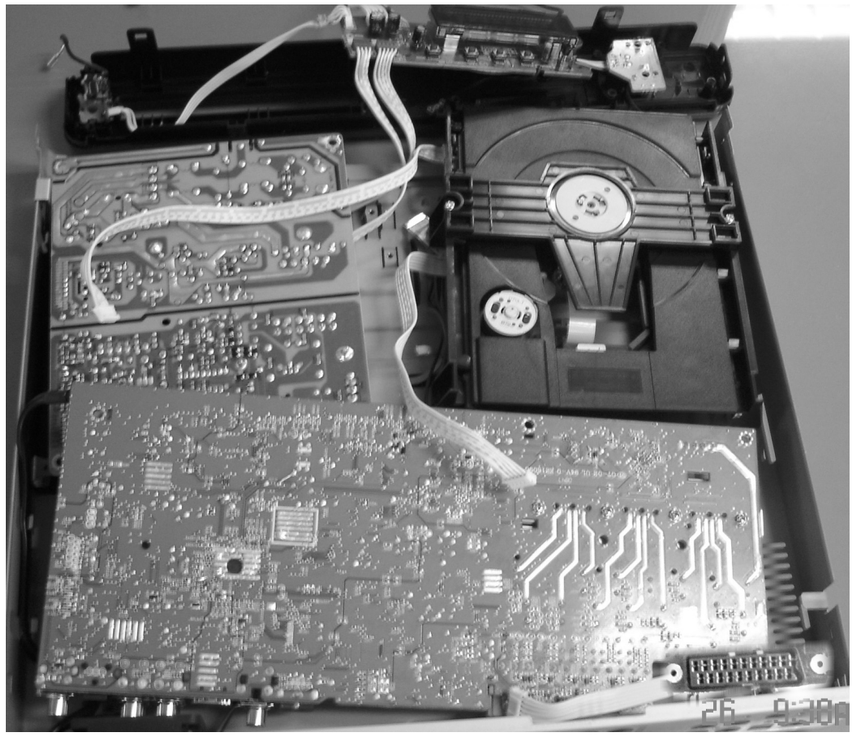


Figure 12

SERVICE POSITIONS

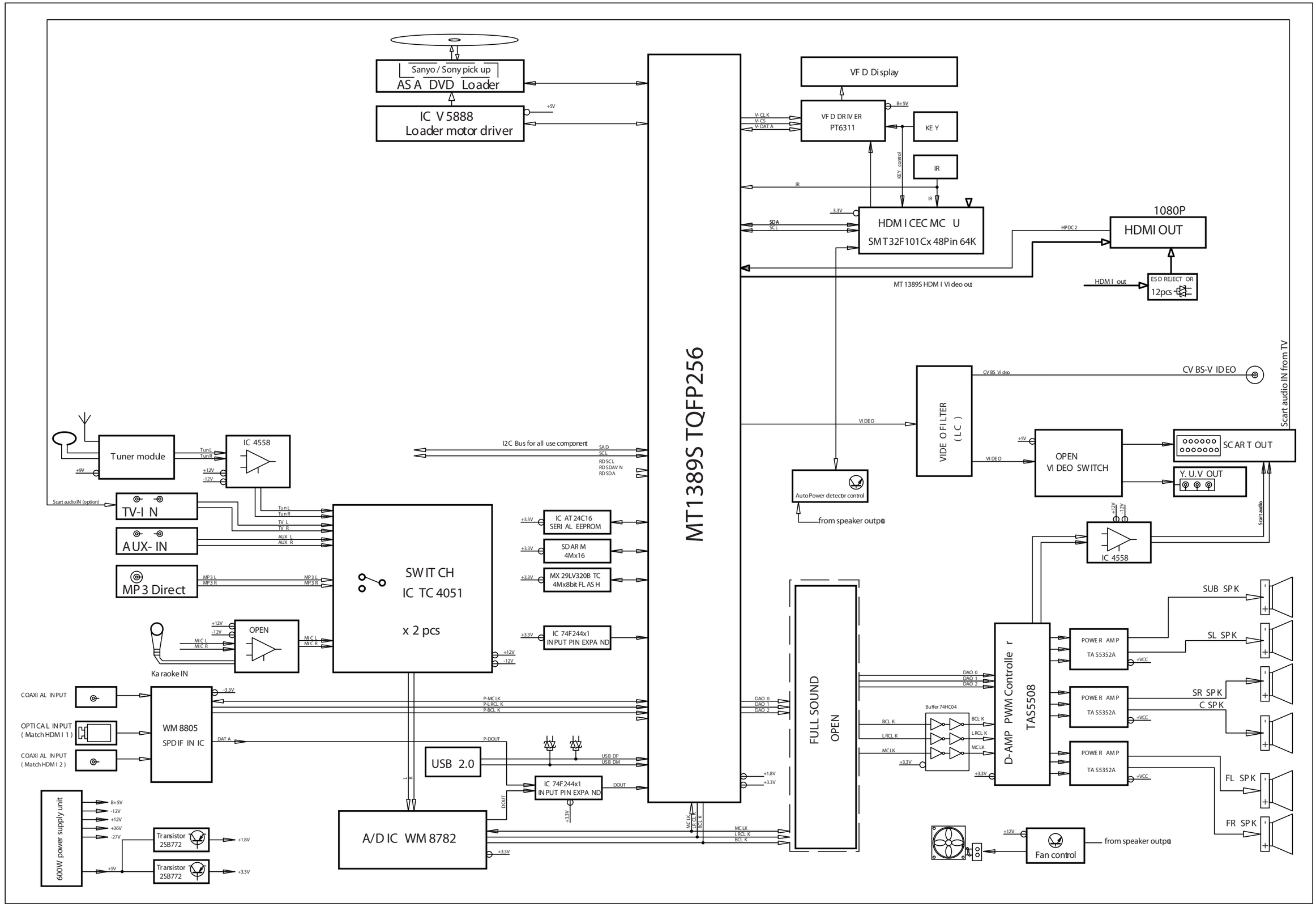
Service position A



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.

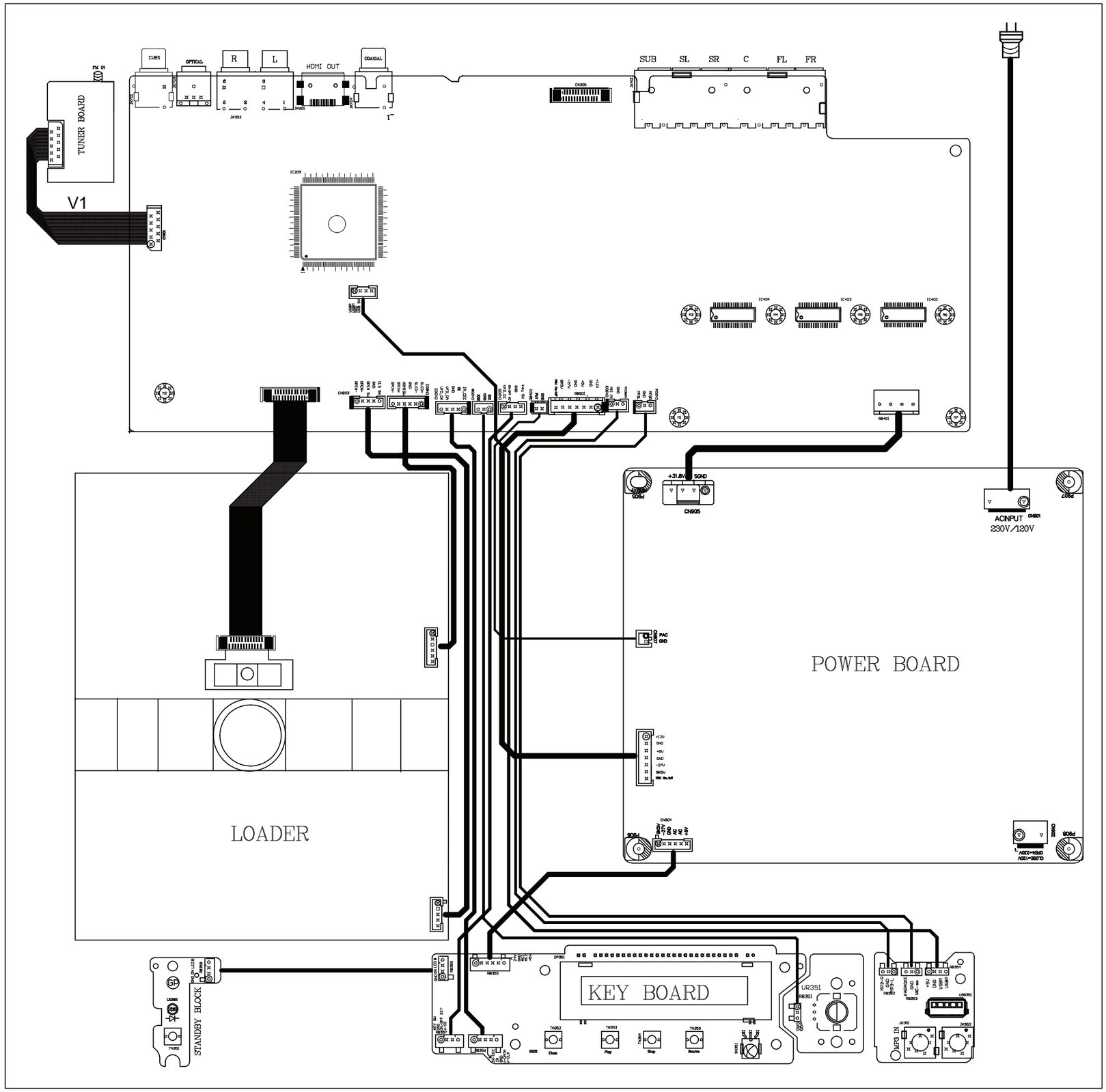
4 - 1

BLOCK DIAGRAM



4 - 2

WIRING DIAGRAM



DISP+LED+VOL BOARD

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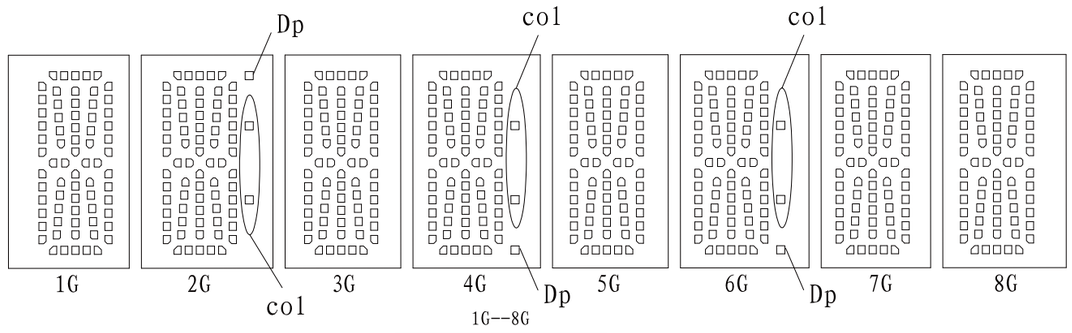
5 - 1

FTD DISPLAY PIN ASSIGNMENT



	1G	2G	3G	4G	5G	6G	7G	8G
P1	a	a	a	a	a	a	a	a
P2	j, p	j, p	j, p	j, p	j, p	j, p	j, p	j, p
P3	h	h	h	h	h	h	h	h
P4	k	k	k	k	k	k	k	k
P5	b	b	b	b	b	b	b	b
P6	f	f	f	f	f	f	f	f
P7	m	m	m	m	m	m	m	m
P8	g	g	g	g	g	g	g	g
P9	c	c	c	c	c	c	c	c
P10	e	e	e	e	e	e	e	e
P11	r	r	r	r	r	r	r	r
P12	n	n	n	n	n	n	n	n
P13	d	d	d	d	d	d	d	d
P14		col		col		col		
P15		Dp		Dp		Dp		

PIN CONNECTION

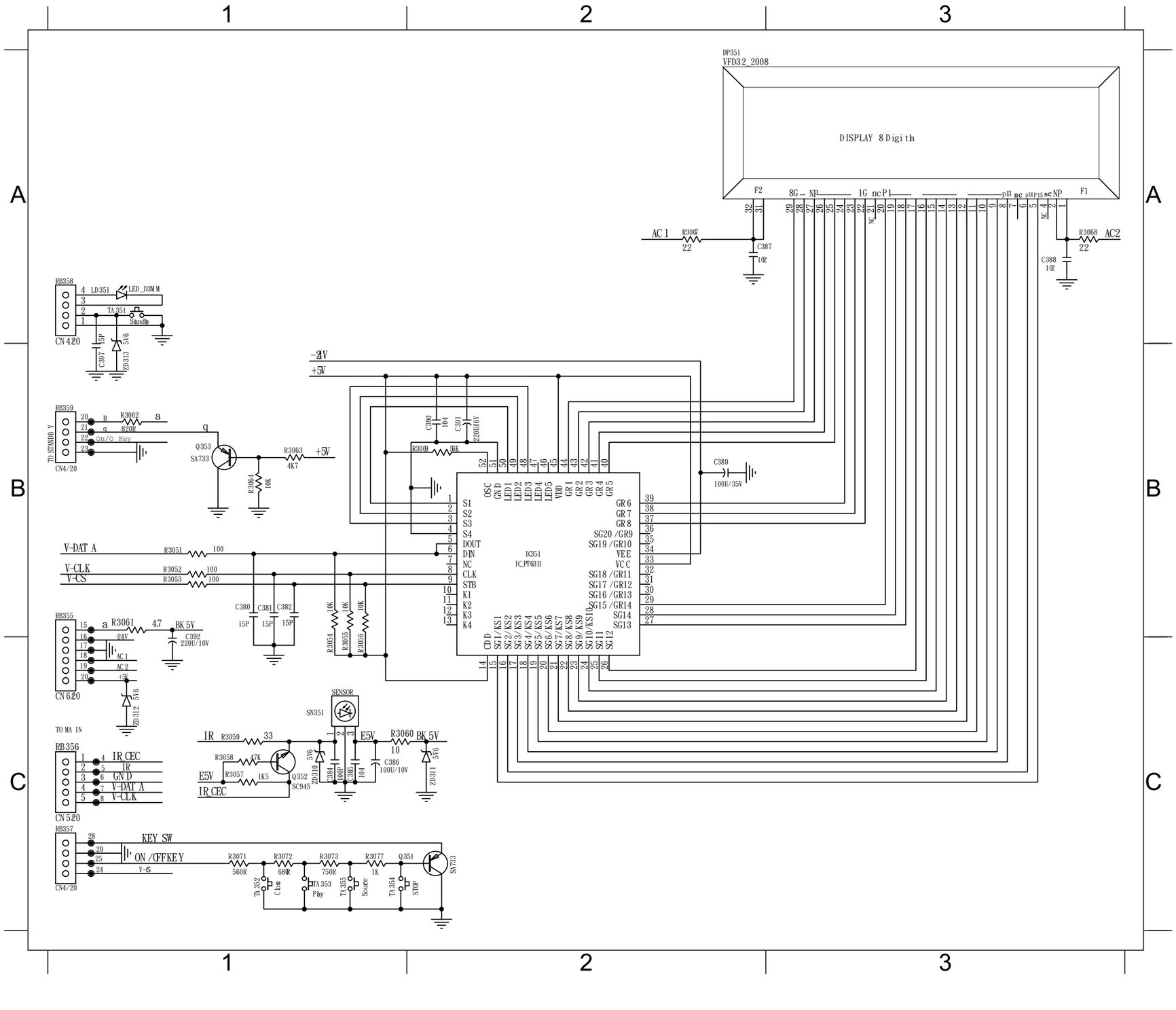
(Pin NO.)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
(Connection)	F1	F1	NP	NC	P15	P14	NC	P13	P12	P11	P10	P9	P8	P7	P6	P5
(Pin NO.)	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
(Connection)	P4	P3	P2	P1	NC	1G	2G	3G	4G	5G	6G	7G	8G	NP	F2	F2

(Notes) : Fn : (Filament Pin) nG : (Grid Pin)
Pn : (Anode Pin) NP : (No Pin)
NC : (No connection

5 - 2

CIRCUIT DIAGRAM

C380 B1 C384 C1 C387 A2 C390 B2 C395 C4 DP351 A2 Q351 C1 R3051 B1 R3054 B1 R3057 C1 R3060 C1 R3063 B1 R3068 A3 R3072 C1 RB351 C4 RB357 C1 TA351 A1 TA354 C1 ZD310 C1 ZD313 B1
C381 B1 C385 C1 C388 A3 C391 B2 C396 C4 IC351 B2 Q352 C1 R3052 B1 R3055 B1 R3058 C1 R3061 B1 R3064 B1 R3069 B2 R3073 C1 RB355 B1 RB359 B1 TA352 C1 TA355 C1 ZD311 C2
C382 B1 C386 C1 C389 B2 C392 B1 C397 B1 LD351 A1 Q353 B1 R3053 B1 R3056 B1 R3059 C1 R3062 B1 R3067 A2 R3071 C1 R3077 C1 RB356 C1 SN351 C1 TA353 C1 VR351 C4 ZD312 C1



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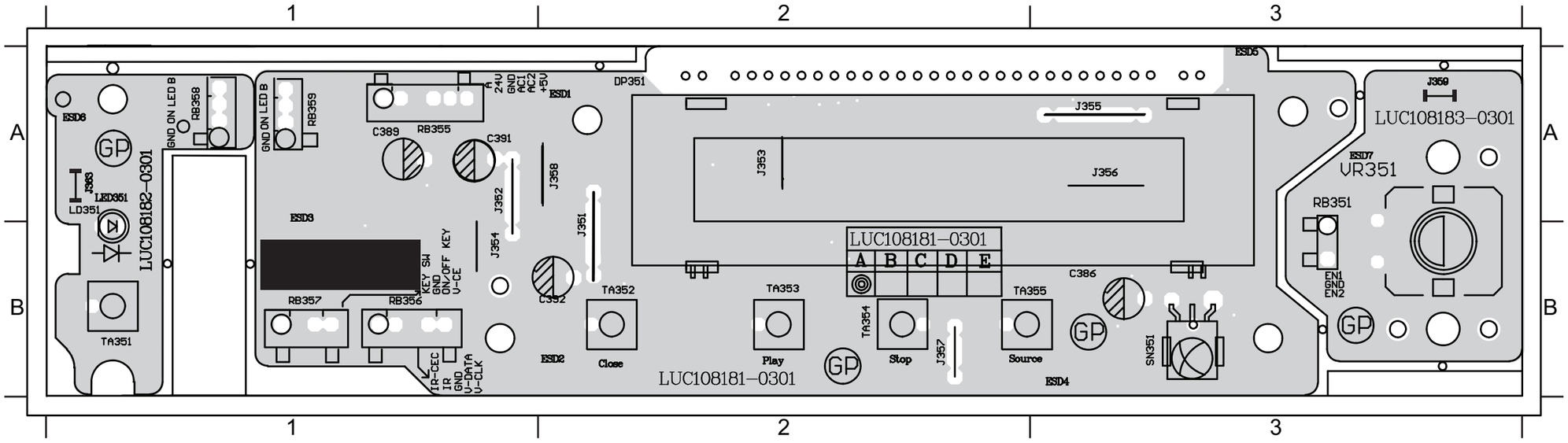
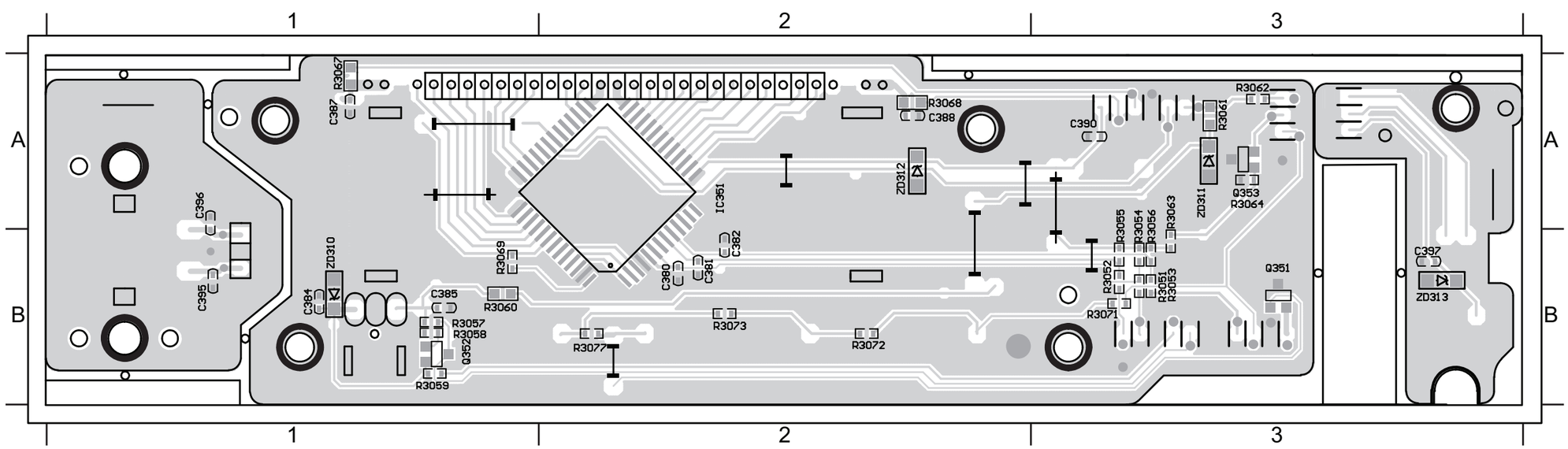
PCB LAYOUT - TOP VIEW

C386 A3 C391 A1 DP351 A2 ESD4 A3 ESD6 A1 J351 A2 J353 A2 J355 A3 J357 B2 J359 A3 LD351 A1 RB355 A1 RB357 B1 SN351 B3 TA352 B2 TA354 B2 VR351 A3
C389 A1 C392 B2 ESD1 A2 ESD5 B3 ESD7 A3 J352 B1 J354 B1 J356 A3 J358 A2 J363 A1 RB351 A3 RB356 B1 RB359 A1 TA351 B1 TA353 B2 TA355 B2



PCB LAYOUT - BOTTOM VIEW

C380 B2 C382 B2 C387 A1 C390 A3 C396 A1 IC351 A2 Q352 B1 R3051 B3 R3053 B3 R3055 A3 R3057 B1 R3059 B1 R3061 A3 R3063 A3 R3067 A1 R3069 B1 R3072 B2 R3077 B2 ZD311 A3 ZD313 B3
C381 B2 C385 B1 C388 A2 C395 B1 C397 B3 Q351 B3 Q353 A3 R3052 B3 R3054 A3 R3056 A3 R3058 B1 R3060 B1 R3062 A3 R3064 A3 R3068 A2 R3071 B3 R3073 B2 ZD310 B1 ZD312 A2



MAIN BOARD

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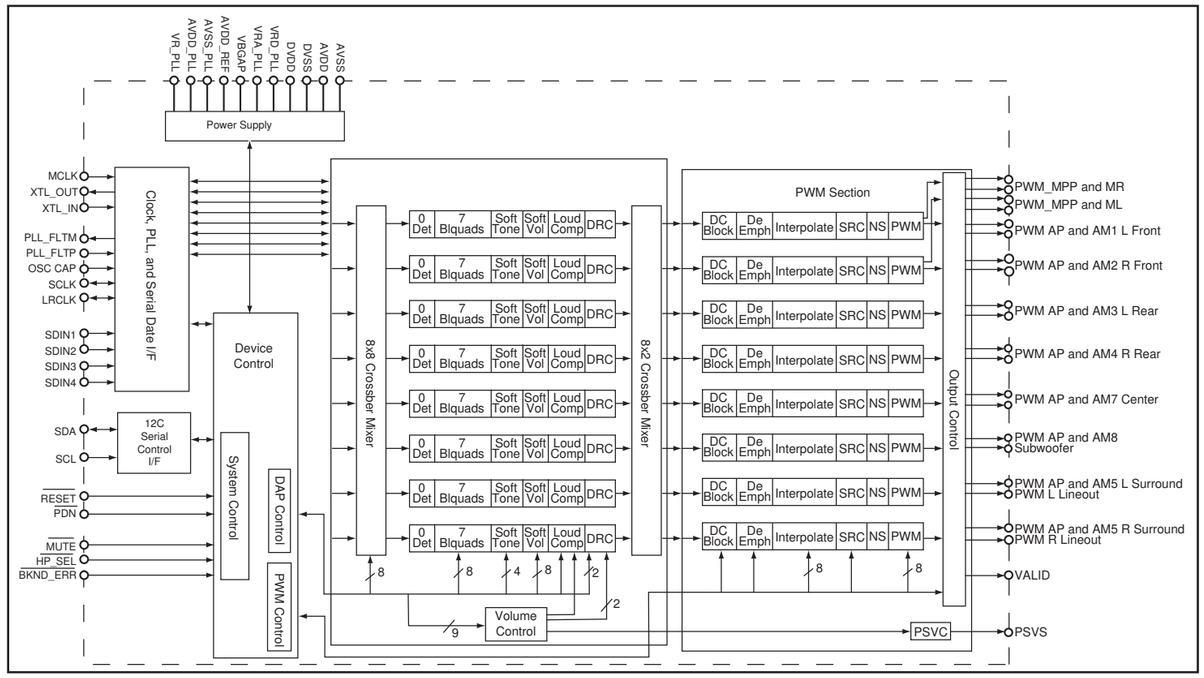
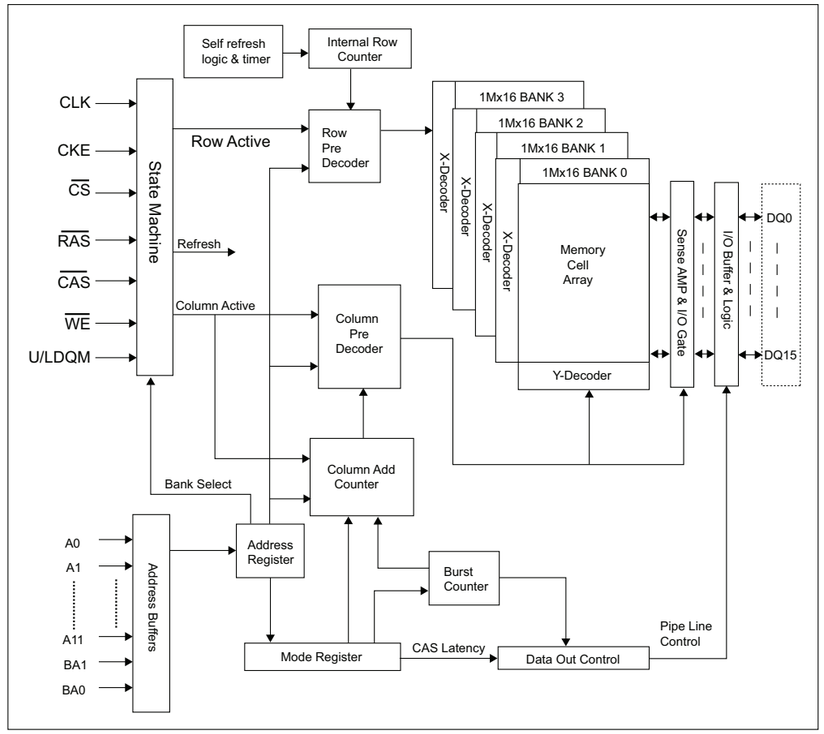
INTERNAL IC DIAGRAM - TAS5508B



INTERNAL IC DIAGRAM - HY57V641620F



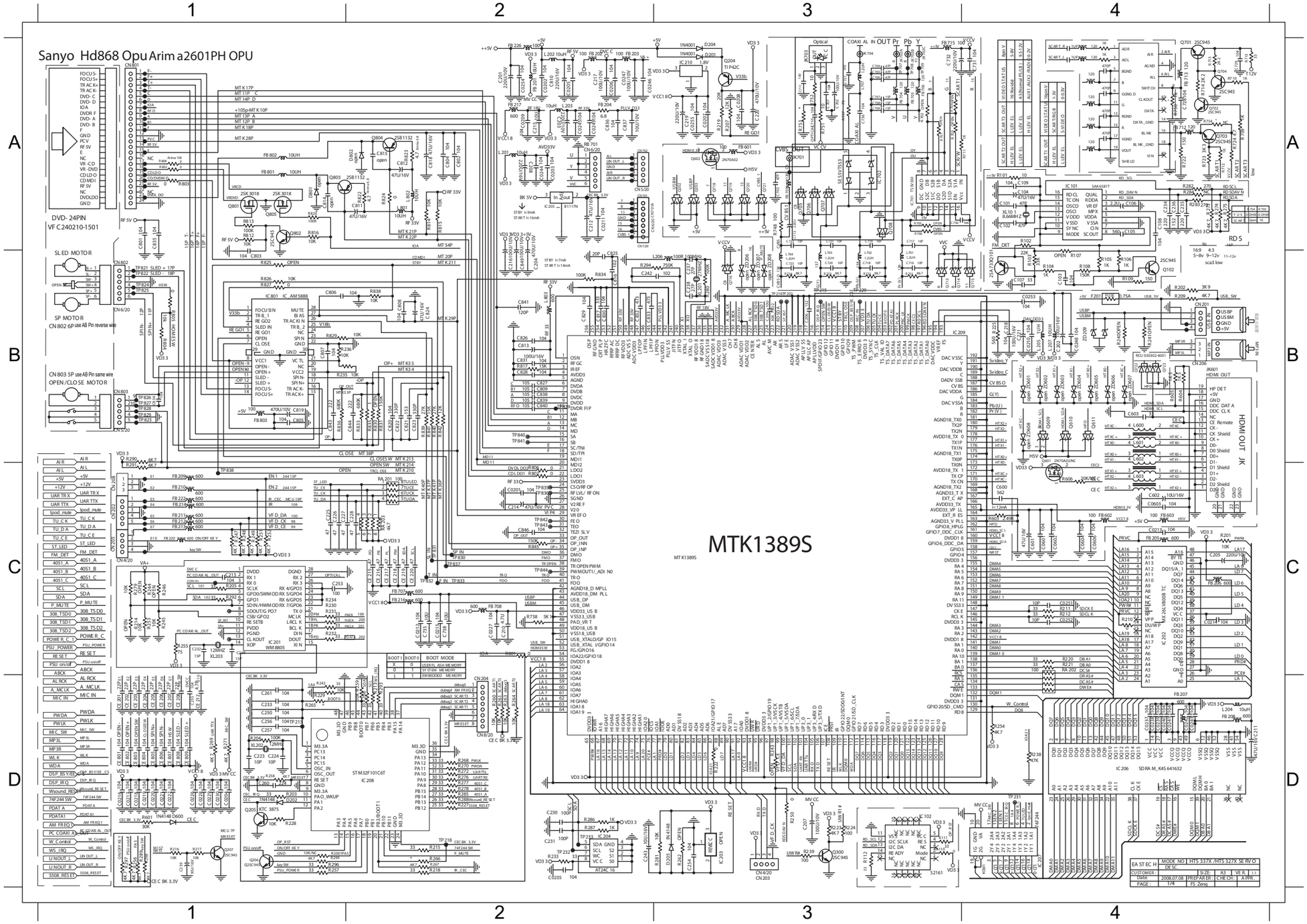
6 - 2

CIRCUIT DIAGRAM - part one

| | | |

6 - 3

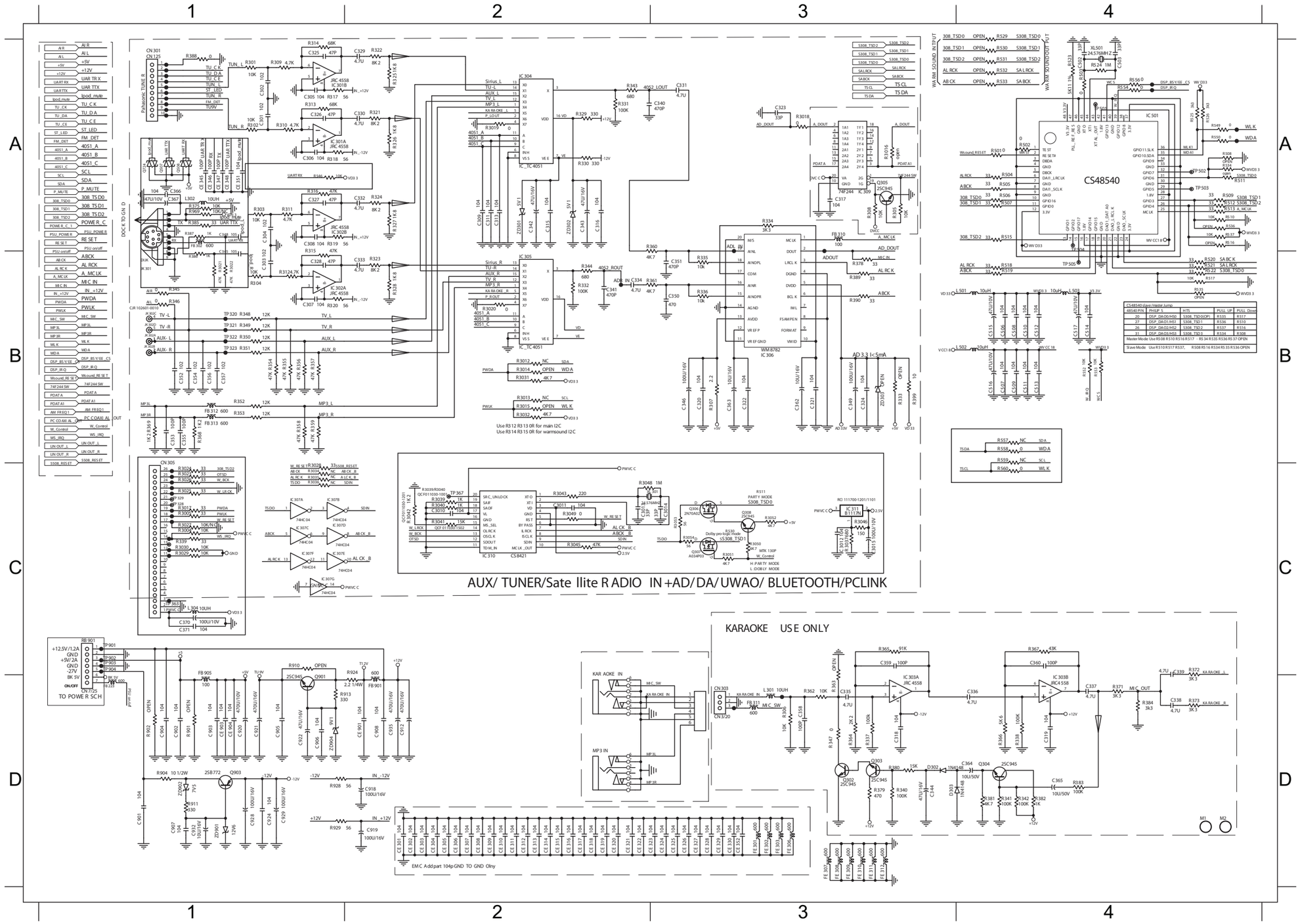
CIRCUIT DIAGRAM - part two



6 - 4

CIRCUIT DIAGRAM - part three

C301	A1	C319	D4	C331	A3	C343	A2	C356	B1	C503	A4	C918	D2	CE301	D2	CE311	D2	CE321	D2	CE346	A1	D303	D4	FE306	D3	IC305	B2	Q903	D1	R309	A1	R325	A2	R338	D4	R351	B1	R361	B3	R379	D3	R503	A4	R560	C4	ZD901	D1
C305	A1	C320	B3	C334	B2	C344	D3	C357	B1	C901	D1	C919	D2	CE302	D2	CE312	D2	CE322	D2	CE347	A1	FB223	D1	FE307	D3	IC306	B3	R301	A1	R310	A1	R326	A2	R340	D3	R352	B1	R362	D3	R380	D3	R529	A4	R904	D1	ZD902	D1
C306	A1	C321	B3	C335	D3	C346	B3	C358	D3	C902	D1	C920	D1	CE303	D2	CE313	D2	CE323	D2	CE351	A1	FB310	A3	FE308	D3	IC309	A3	R3018	A3	R311	A1	R329	A2	R341	D4	R353	B1	R364	D3	R381	D4	R530	A4	R911	D1	ZD904	D1
C309	A2	C322	B3	C336	D4	C349	B3	C359	C3	C903	D1	C921	D1	CE304	D2	CE314	D2	CE324	D3	CE352	D3	FB311	D3	FE309	D3	JK302	B1	R3019	A2	R312	B1	R330	A2	R342	D4	R354	B1	R365	C3	R382	D4	R531	A4	R913	D1		
C311	A2	C323	A3	C337	D4	C350	B3	C360	C4	C904	D1	C922	D1	CE305	D2	CE315	D2	CE325	D3	CE901	D2	FB312	B1	FE310	D3	L301	D3	R302	A1	R313	A1	R331	A3	R343	A2	R355	B1	R366	D4	R383	D4	R532	A4	R924	C2		
C313	A2	C324	B3	C338	D4	C351	B3	C362	B3	C905	D1	C924	D1	CE306	D2	CE316	D2	CE326	D3	CE903	D1	FB313	B1	FE311	D3	Q302	D3	R3020	B2	R314	A1	R332	B2	R344	B2	R356	B1	R367	C4	R384	D4	R533	A4	R928	D1		
C315	A2	C325	A1	C339	D4	C352	B1	C363	B3	C906	D1	C928	D1	CE307	D2	CE317	D2	CE327	D3	CE904	D1	FB901	D1	FE312	D3	Q303	D3	R305	A3	R317	A1	R334	A3	R347	D3	R357	B1	R371	D4	R388	A1	R546	A1	R929	D1		
C316	A2	C326	A1	C340	A3	C353	B1	C364	D4	C907	D1	C929	D1	CE308	D2	CE318	D2	CE328	D3	CN301	A1	FB905	C1	IC301	A1	Q304	D4	R306	D3	R318	A1	R335	B3	R348	B1	R358	B1	R372	C4	R389	B3	R552	B4	RB901	C1		
C317	A3	C329	A2	C341	B2	C354	B1	C365	D4	C908	D2	C932	D1	CE309	D2	CE319	D2	CE329	D3	CN303	D3	FE301	D3	IC303	C3	Q305	A3	R307	B3	R321	A2	R336	B3	R349	B1	R359	B1	R373	D4	R390	B3	R553	B4	ZD301	A2		
C318	D3	C330	A2	C342	A2	C355	B1	C502	A4	C912	D2	C935	D2	CE310	D2	CE320	D2	CE330	D3	D302	D3	FE302	D3	IC304	A2	Q901	D1	R308	A3	R322	A2	R337	D3	R350	B1	R360	A2	R378	B3	R399	B3	R558	B4	ZD302	A2		



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PCB LAYOUT - TOP VIEW

| | | |

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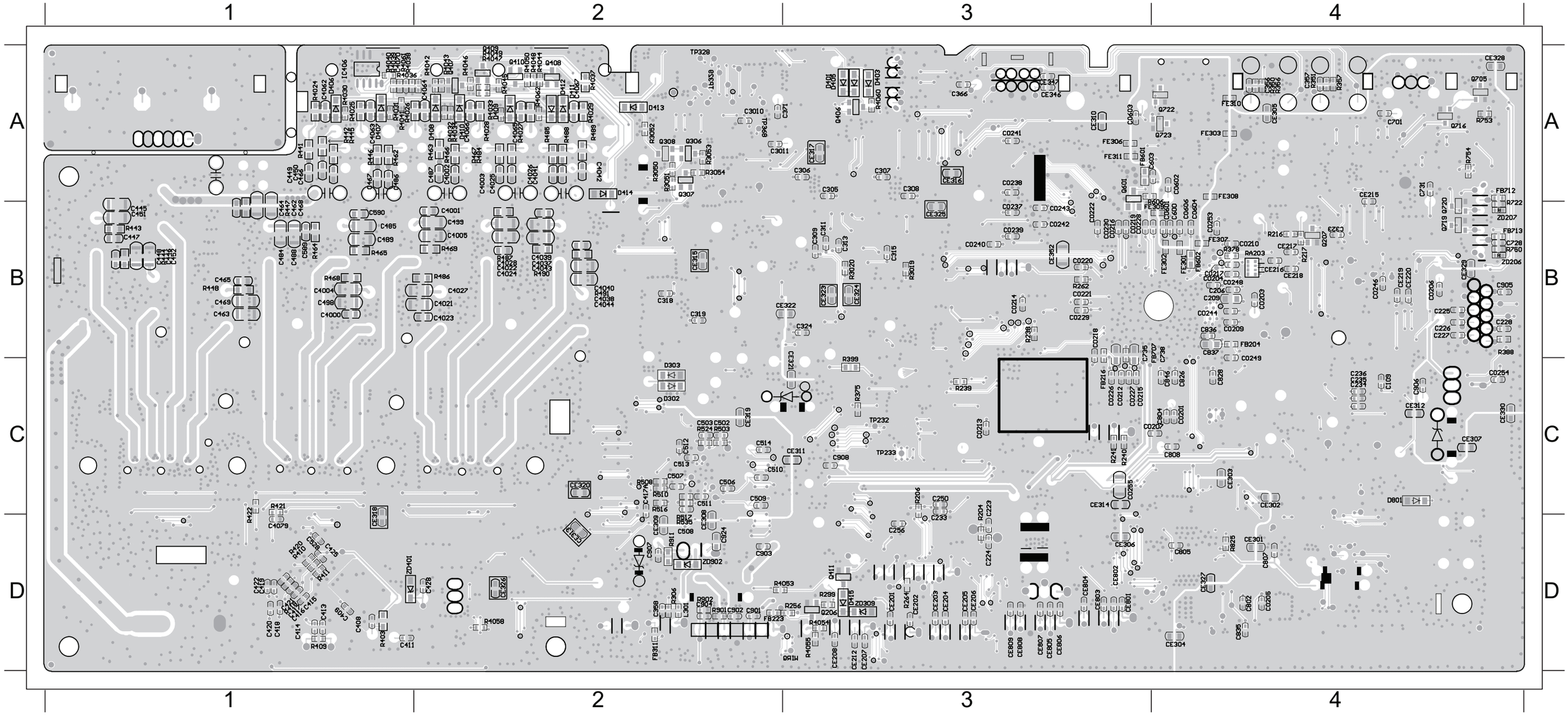
PCB LAYOUT - BOTTOM VIEW

C0201	C4	C0218	B3	C0241	A1	C206	B4	C311	B3	C4004	B1	C4041	A2	C413	D1	C448	B1	C485	B1	C701	A4	C837	B4	CE204	D3	CE304	D4	CE318	C1	CE347	A3	D406	A1	FB601	A3	Q207	B4	R351	A4	R4031	A1	R418	D1	R464	B1	R503	C2
C0203	B4	C0219	B3	C0242	B3	C209	B4	C313	B3	C4005	B2	C4042	A2	C414	D1	C449	A1	C486	A1	C728	B4	C846	C4	CE205	D3	CE305	A4	CE319	C2	CE352	B3	D407	A1	FB602	B4	Q601	A3	R356	A4	R4032	A2	R420	D1	R465	B1	R606	B4
C0204	B4	C0220	B3	C0243	B3	C223	C3	C315	B3	C4021	B2	C4043	B2	C415	D1	C450	A1	C487	A2	C731	A4	C901	D2	CE206	D3	CE306	D3	CE320	C2	CE801	D3	D408	A2	FB707	B4	R204	C3	R357	A4	R4033	A2	R421	C1	R466	A2	R750	B4
C0205	D4	C0221	B3	C0244	B4	C224	D3	C318	B2	C4022	B2	C4044	B2	C416	D1	C451	B1	C488	B1	C735	B3	C902	D2	CE207	D3	CE307	C4	CE321	B3	CE802	D3	D409	A2	FB712	A4	R216	B4	R378	B4	R4034	A2	R422	C1	R467	A2	R754	A4
C0206	B4	C0222	B3	C0246	B4	C225	B4	C319	B2	C4023	B2	C4062	A1	C417	D1	C452	B1	C489	B1	C738	B4	C903	D2	CE212	D3	CE308	C2	CE322	B3	CE803	D3	D410	A2	FE301	B4	R217	B4	R388	B4	R4036	A1	R441	A1	R468	B1	R911	D2
C0207	C3	C0226	C3	C0248	B4	C226	B4	C323	B4	C4024	B2	C4063	A1	C419	D1	C462	B1	C498	B1	C802	D4	C904	D2	CE215	A4	CE309	D2	CE323	B3	CE804	D3	D411	A2	FE302	B4	R238	B3	R399	B3	R4037	A2	R442	A1	R469	B2	RA203	B4
C0209	B4	C0227	C3	C0249	B4	C227	B4	C324	B3	C4025	A2	C4064	A2	C420	D1	C463	B1	C499	B2	C804	C4	C905	B4	CE216	B4	CE310	A3	CE324	B3	CE805	D3	D412	A2	FE306	A3	R239	C3	R4024	A1	R4038	A1	R443	B1	R484	A2	ZD401	D1
C0210	B4	C0228	B3	C0253	B4	C228	B4	C356	A4	C4026	A2	C4065	A2	C421	D1	C464	B1	C502	C2	C805	D4	C906	C4	CE217	B4	CE311	C2	CE325	B3	CE806	D3	D413	A2	FE307	B4	R256	D3	R4025	A1	R4039	A1	R444	B1	R485	A2	ZD902	D2
C0212	C3	C0229	B3	C0601	B4	C233	D3	C357	A4	C4027	B2	C4066	A2	C422	D1	C465	B1	C503	C2	C807	D4	C907	D2	CE218	B4	CE312	C4	CE326	D2	CE807	D3	D414	A2	FE308	A4	R264	D3	R4026	A1	R4040	A1	R445	A1	R486	B2		
C0213	C3	C0230	B3	C0602	A3	C250	C3	C371	A3	C4028	B2	C4067	A2	C425	D1	C466	A1	C528	D1	C808	C4	C908	C3	CE219	B4	CE313	D2	CE327	D4	CE808	D3	D416	A1	FE309	B4	R299	D3	R4027	A2	R4061	A1	R446	A1	R487	B2		
C0214	B3	C0237	B3	C0603	A3	C256	D3	C4000	B1	C4037	B2	C4070	A1	C428	D2	C467	A1	C589	B1	C826	C4	C924	D2	CE220	B4	CE314	C3	CE328	A4	CE809	D3	FB204	B4	FE310	A4	R3019	B3	R4028	A2	R4062	A2	R447	B1	R488	A2		
C0215	C3	C0238	B3	C0604	B4	C305	A3	C4001	B2	C4038	B2	C408	D1	C445	B1	C468	B1	C590	B1	C828	C4	CE201	D3	CE301	D4	CE315	B2	CE329	B4	CO254	C4	FB216	C3	FE311	A3	R3020	B3	R4029	A2	R409	D1	R448	B1	R489	A2		
C0216	B3	C0239	B3	C0606	B4	C306	A3	C4002	A2	C4039	B2	C409	D1	C446	B1	C469	B1	C600	B4	C835	D4	CE202	D3	CE302	C4	CE316	A3	CE330	C4	D302	C2	FB223	D2	IC406	A1	R306	D2	R403	D1	R410	D1	R462	A1	R490	B2		
C0217	B4	C0240	B3	C109	C4	C309	B3	C4003	A2	C4040	B2	C411	D1	C447	B1	C484	B1	C603	A3	C836	B4	CE203	D3	CE303	C4	CE317	A3	CE346	A3	D303	C2	FB311	D2	Q206	D3	R350	A4	R4030	A1	R411	D1	R463	A2	R491	B2		



POWER BOARD

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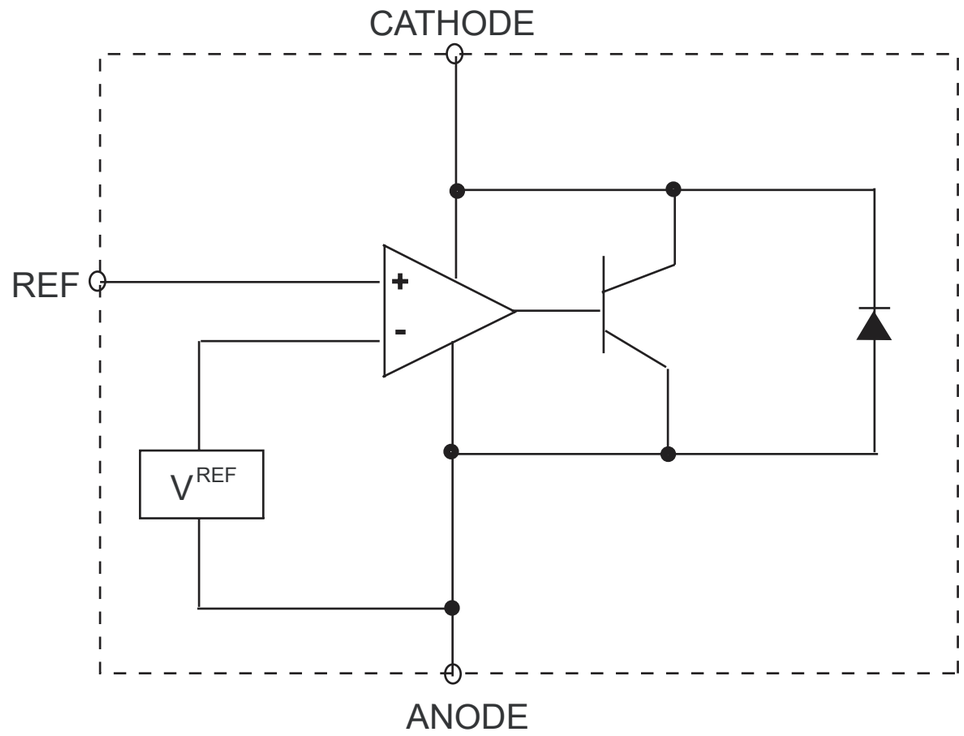
INTERNAL IC DIAGRAM - AZ431



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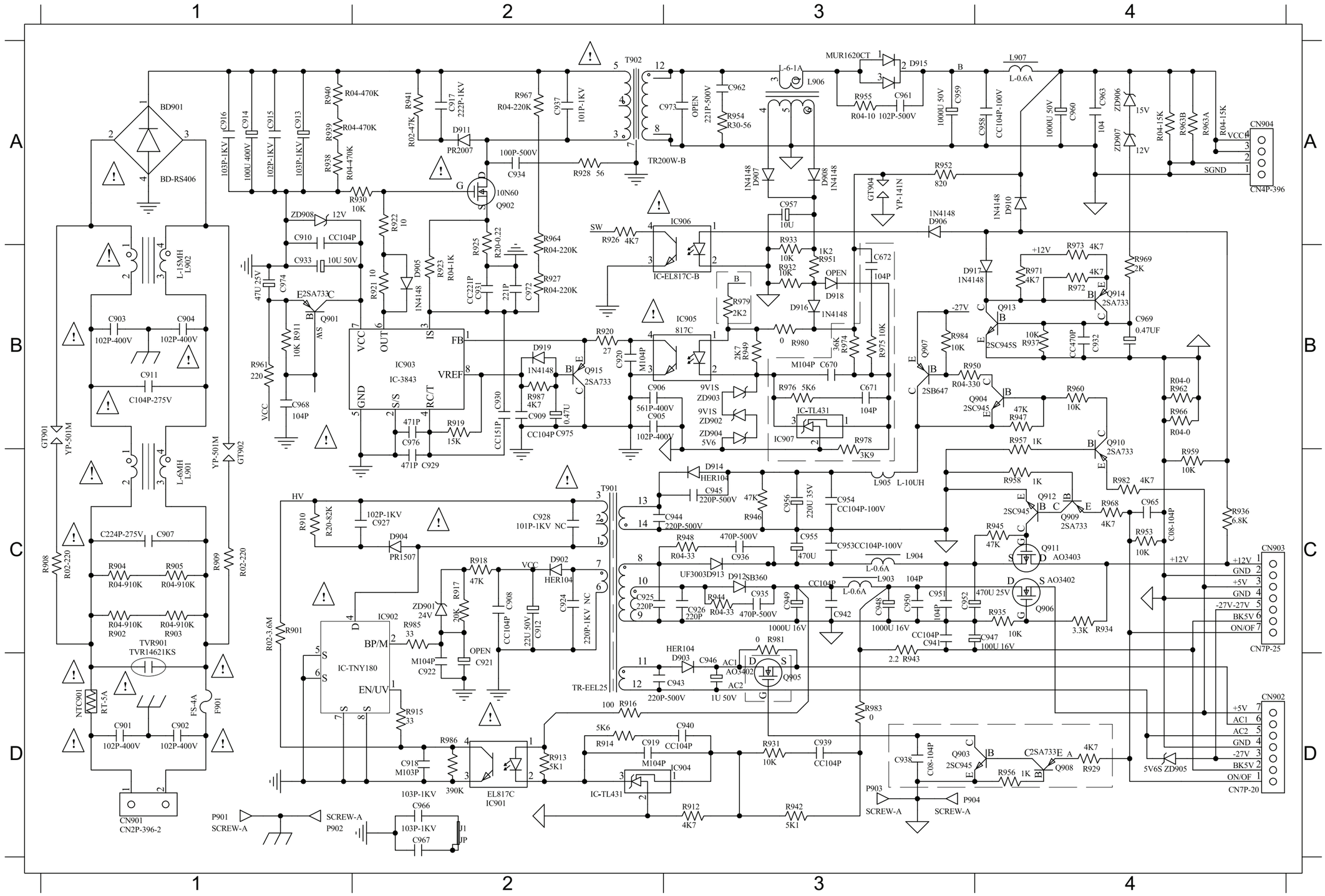
CIRCUIT DIAGRAM

BD901A1 C910 A1 C918 D2 C930 B2 C939 C3 C949 C3 C957 A3 C967 D2 CN903C4 D908 A3 D917 B3 IC905 B3 L907 A4 Q910 B4 R903 C1 R914 D2 R922 A2 R932 B3 R940 A1 R948 C3 R957 B4 R964 A2 R980 B3 T901 C2 ZD906A4
C903 B1 C911 B1 C919 D2 C931 B2 C940 D3 C950 C3 C958 A3 C968 B1 CN904A4 D910 A4 D919 B2 IC906 A3 NTC901D1 Q911 C4 R904 C1 R915 D2 R923 B2 R933 A3 R941 A2 R949 B3 R958 C4 R966 B4 R981 C3 T902 A2 ZD907A4
C904 B1 C912 C2 C920 B2 c932 B4 C941 C3 C951 C3 C959 A3 C969 B4 D902 C2 D911 A2 F901 D1 L901 C1 Q901 B1 Q912 C4 R905 C1 R916 D2 R925 A2 R934 C4 R942 D3 R950 B3 R959 B4 R967 A2 R982 C4 TVR901C1 ZD908A1
c905 B2 C913 A1 C921 D2 C933 B1 C942 C3 C952 C3 c960 A4 C972 B2 D903 D3 D912 C3 GT902B1 L902 B1 Q902 A2 Q913 B4 R909 C1 R917 C2 R926 A2 R935 C4 R943 D3 R951 B3 R960 B4 R968 C4 R983 D3 ZD901C2
C906 B2 C914 A1 C922 D2 C934 A2 C945 C4 C953 C3 C961 A3 C974 B1 D904 C2 D913 C3 IC901 D2 L903 C3 Q904 B3 Q914 B4 R910 C1 R918 C2 R927 B2 R936 C4 R944 C3 R952 A2 R961 B1 R969 B4 R984 B3 ZD902B3
C907 C1 C915 A1 C927 C2 C935 C3 C946 D3 C954 C3 C962 A3 C975 B2 D905 B2 D914 C3 IC902 C2 L904 C3 Q906 C4 Q915 B2 R911 B1 R919 B2 R928 A2 R937 B4 R945 C4 R953 C4 R962 B4 R971 B4 R985 C2 ZD903B3
C908 C2 C916 A1 C928 C2 C936 C3 C947 C4 C955 C3 C963 D4 CN901D1 D906 A3 D915 A3 IC903 B2 L905 C3 Q907 B3 R901 C1 R912 D3 R920 B2 R930 A1 R938 A1 R946 C3 R954 A3 R963AA4 R972 B4 R986 D2 ZD904B3
C909 B2 C917 A2 C929 C2 C937 A2 C948 C3 C956 C3 C965 C4 CN902D4 D907 A3 D916 B3 IC904 D3 L906 A3 Q909 C4 R902 C1 R913 D2 R921 B2 R931 D3 R939 D2 R947 B4 R955 A3 R963BA4 R973 B4 R987 B2 ZD905D4



7 - 3

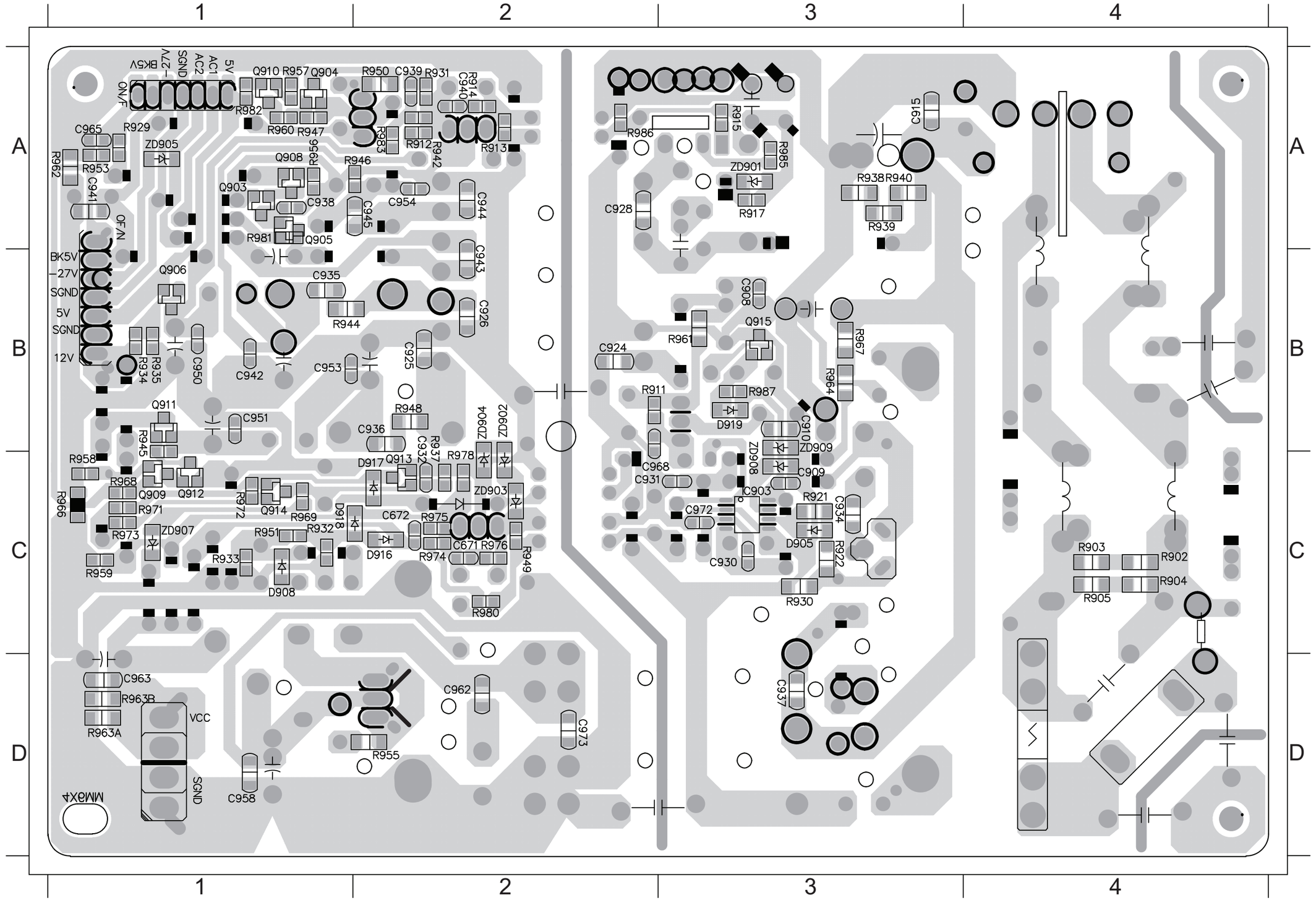
PCB LAYOUT - TOP VIEW

| | | |

7 - 4

PCB LAYOUT - BOTTOM VIEW

C941	A1	R953	A1	ZD905	A1	R912	A2	R983	A2	R939	A3	C950	B1	R944	B1	R937	B2	D919	B3	ZD908	B3	R933	C1	R969	C1	D916	C2	C909	C3	R922	C3	C958	D1	C937	D3
C965	A1	R957	A1	C928	A2	R913	A2	R986	A2	R940	A3	C951	B1	R945	B1	R948	B2	Q915	B3	D908	C1	R951	C1	R971	C1	D917	C2	C934	C3	R930	C3	C963	D1		
Q904	A1	R960	A1	C939	A2	R914	A2	C915	A3	R985	A3	C953	B1	c932	B2	ZD902	B2	R961	B3	Q909	C1	R958	C1	R972	C1	Q913	C2	C972	C3	R902	C4	C931	D2		
Q910	A1	R962	A1	C940	A2	R931	A2	R915	A3	ZD901	A3	Q906	B1	C936	B2	ZD904	B2	R964	B3	Q912	C1	R959	C1	R973	C1	R949	C2	D905	C3	R903	C4	C962	D2		
R946	A1	R981	A1	C945	A2	R942	A2	R917	A3	C935	B1	Q911	B1	R911	B2	C908	B3	R967	B3	Q914	C1	R966	C1	ZD907	C1	R980	C2	IC903	C3	R904	C4	R955	D2		
R947	A1	R982	A1	C954	A2	R950	A2	R938	A3	C942	B1	R934	B1	R935	B2	C910	B3	R987	B3	R932	C1	R968	C1	C968	C2	ZD903	C2	R921	C3	R905	C4	C930	D3		



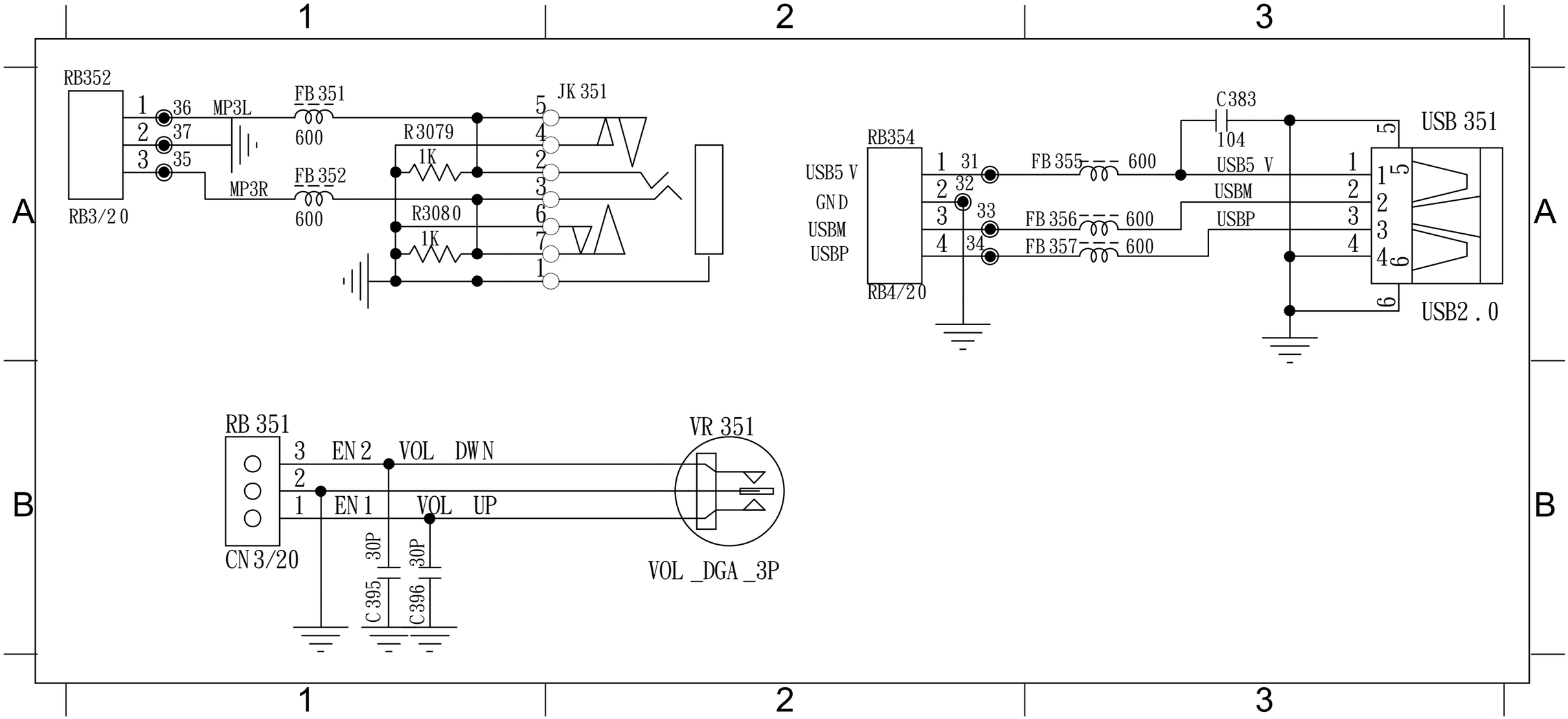
8 - 1

MP3 IN BOARD

8 - 2

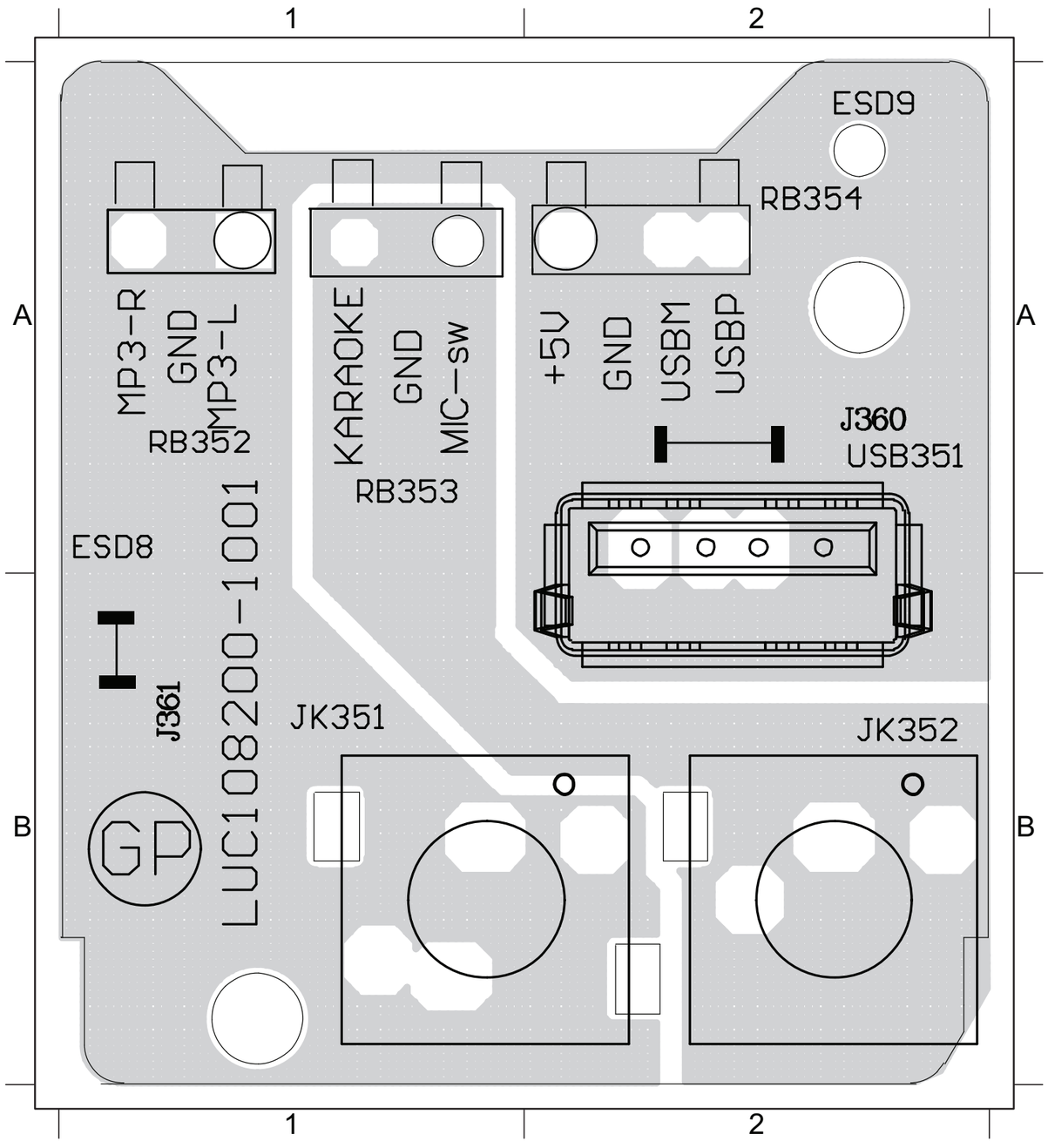
CIRCUIT DIAGRAM

C383 A3 FB351 A1 FB352 A1 FB355 A3 FB356 A3 FB357 A3 JK351 A2 R3079 A1 R3080 A1 RB352 A1 RB354 A2 USB351 A3



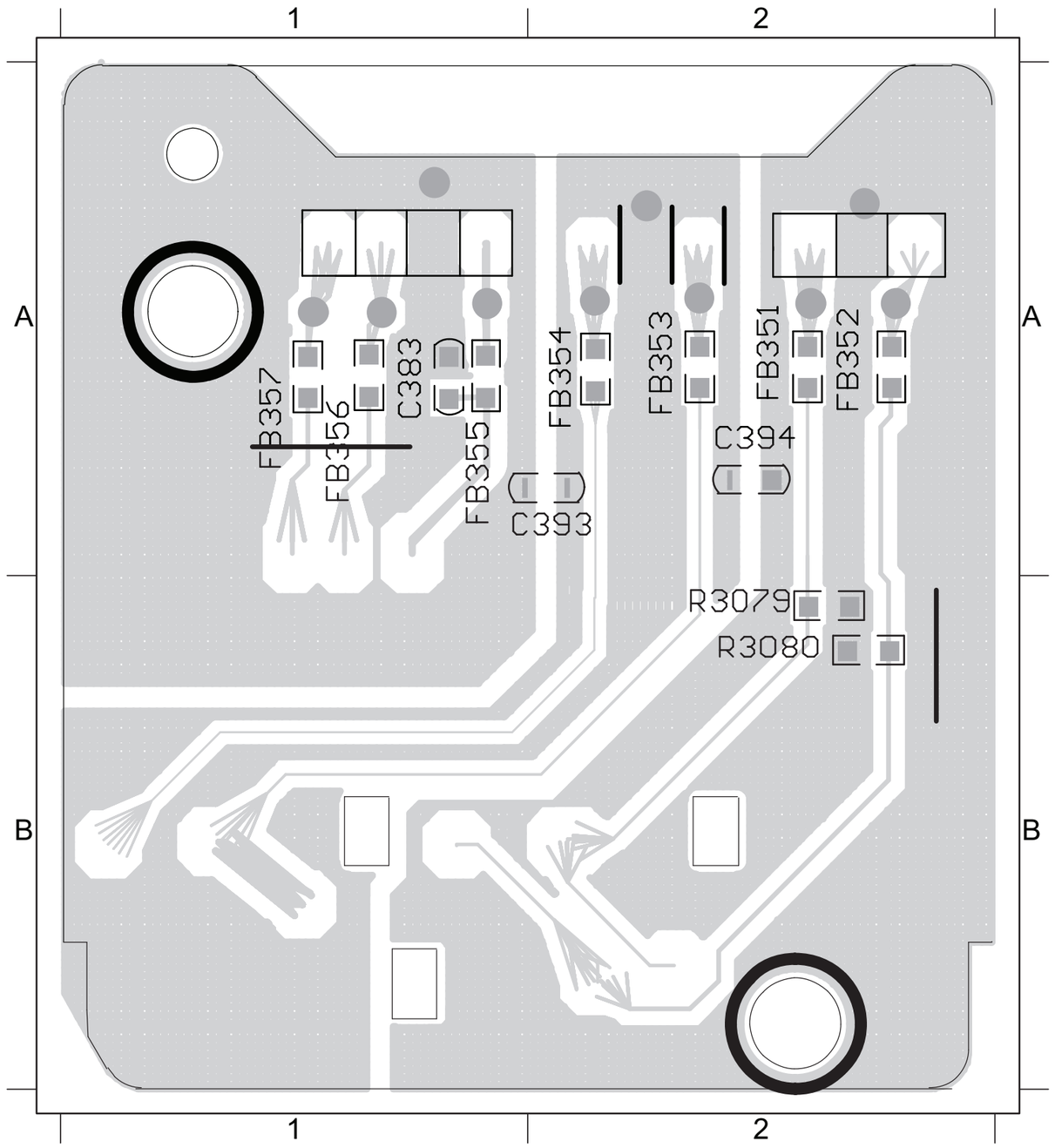
PCB LAYOUT - TOP VIEW

J360 A2 J361 B1 JK351 B1 JK352 B2 RB352 A1 RB353 A1 RB354 A2 USB351 A2



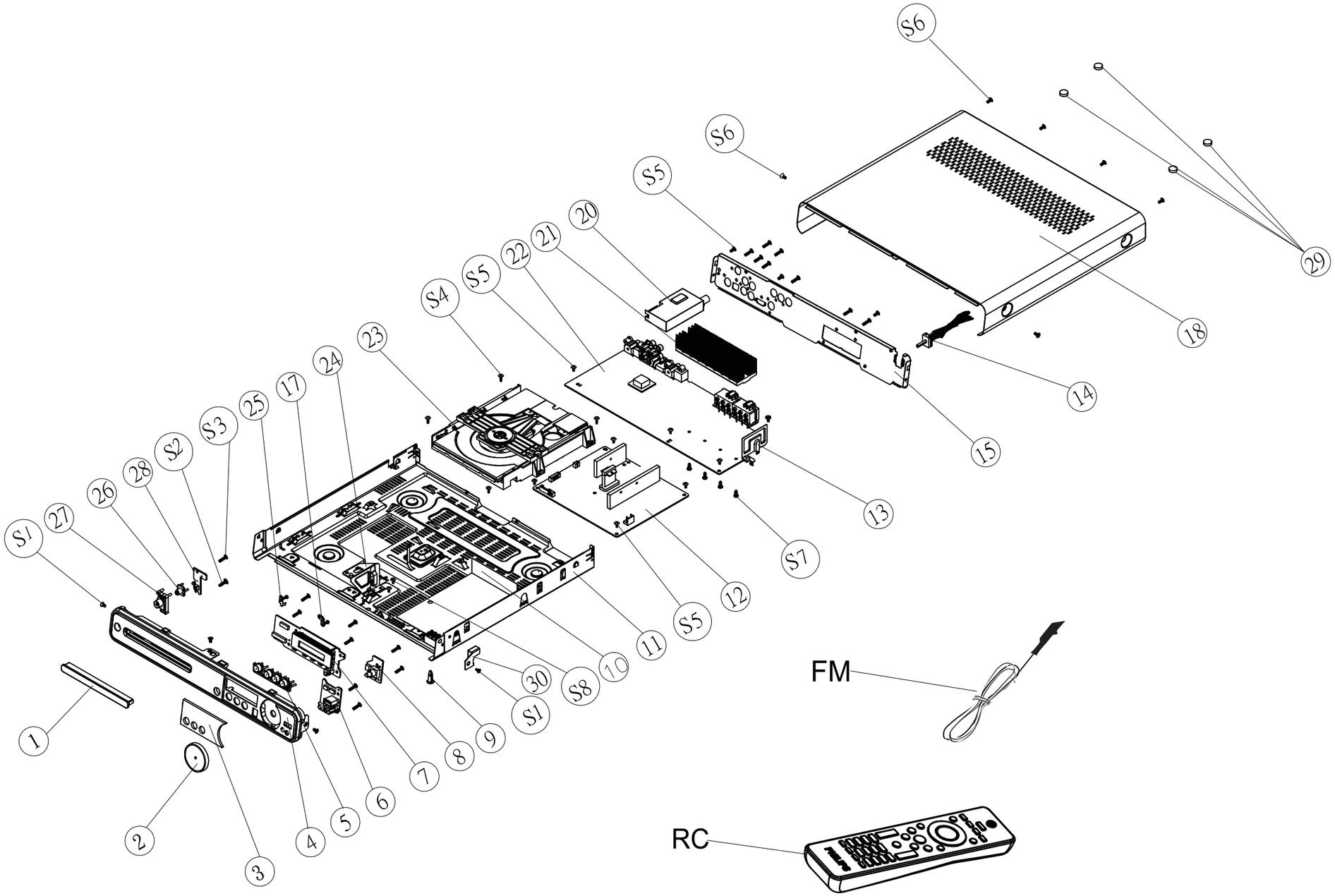
PCB LAYOUT - BOTTOM VIEW

C383 A1 C393 A2 C394 A2 FB351 A2 FB352 A2 FB353 A2 FB354 A2 FB355 A1 FB356 A1 FB357 A1 R3079 B2 R3080 B2



Mechanical Exploded View

9 - 1



A=7+28+8

PART LIST

Loc.	Alt	Part No.	safety	Description
MAIN UNIT				
1		996510027059		DVD DOOR ABS
2		996510021087		VOLUME KNOB
3		996510021093		DISPLAY LENS
4		996510021245		FRONT PANEL
5		996510021068		FUNCTION KNOB
6		996510021203		MP3 IN +MIC PCB ASSY
11		996510022387		BTM CAB
12		996510027065	⚠	POWER PCB ASSY 420W
14		996510002650		POWER CORD
15		996510027069		REAR PANEL SECC T=0.6mm
17		996510027029		VOLUME BKT SECC T=1.0mm
18		996510022388		TOP COVER
20	#	996510018486		TUNER PACK KST-MT004FS
20	#	996510011275		TUNER PACK
22		996510027055		MAIN+Y.U.V PCB ASSY
23		996510021248		DVD LOADER
24		996510027035		TOP SUPPORT SECC
26		996510021064		STANDBY LENS
27		996510021069		STANDBY KNOB
29		996510021942		RUBBER FOOT D14xH4.2
30		996510027031		SAFETY BKT SECC T=0.8mm
A		996510021089		DISP+LED+VOL PCB ASSY
FM		996510008251		FM ANT
RC		996510021186		REMOTE CONTROL
V1		996510007429		GP FFCCBLE 10P100mm
SPEAKER				
ML		996510027062		SPEAKER BOX
MR		996510027057		SPEAKER BOX
SL		996510027056		SPEAKER BOX
SPKC		996510027066		SPEAKER BOX
SR		996510027058		SPEAKER BOX
SUBW		996510027054		SPEAKER BOX
FRMS		996510001601		RUBBER FOOT - REAR SPK
FRSUB		996510010854		RUBBER FOOT -SUB
RFC		996510001599		RUBBER FOOT -CENTER SPK
SCREW				
S1		--		SCREW M3xP0.5xL6mm
S2		--		SCREW T3.0x1.06PxL8mm
S3		--		SCREW T3.0x1.06PxL8mm
S4		--		SCREW M3.0x0.5PxL8mm
S5		--		SCREW M3.0x0.5PxL6mm
S6		--		SCREW M3x6x0.5P
S7		--		SCREW T3.0x1.06PxL10mm
S8		--		SCREW M3.0x0.5PxL4mm
S9		--		L10xP2.12xT5.0mm
MAIN PCB				
CN201		996500015859		CONNECTOR 4PIN P2.0MM
CN202		996510012494		CONNECTOR 5 PIN RED
CN205		996510012495		CONNECTOR 4P
CN206		996500015897		CONNECTOR 3 PIN RED
CN208		996500015897		CONNECTOR 3 PIN RED
CN301		996510012497		FPC/FFC CONN. 10P
CN303		996500015900		CONNECTOR 3 PIN P=2.0MM
CN701A		996500015901		CONNECTOR 6 PIN P=2.0MM
CN801		996510012498		CHIP HOUSING 24P
CN802		996500015901		CONNECTOR 6 PIN P=2.0MM
CN803		996500015895		CONNECTOR 5 PIN P=2.0MM
D201		996510010358		DIODE 1N4007
D204		996510010358		DIODE 1N4007
GT01		996510027047		EMC BKT TIN T=0.3mm
IC201		996510012499		IC 28P
IC202		996510027064		IC 48P KH29LV320DBTC-70G

Loc.	Alt	Part No.	safety	Description
MAIN PCB				
IC203	#	994000005209		IC 3P AZ809NSTR-E1 SOT23
IC203	#	996500041284		IC 3P STM809SWX6F 3.0V
IC204		996510004289		IC 8P TU24C16CS2 SOIC
IC205	#	996500027091		IC 3PIN AP1117E33LA SOT223
IC205	#	996510021062		IC3P LD1117ADJ SOT223
IC205	#	996510027042		IC 3P LD1117AL-33-AA3 3.3V
IC206	#	996510009895		IC 54P A641604L-6T TSOP II
IC206	#	996510016601		IC 54P HY57V641620F(L/S)TP-6
IC207		996510012500		IC 20 PIN SN74HC244PWR
IC208		996510021936		IC 48P STM32F101C6A
IC209		996510021082		IC 256P MT1389FXE/SN LQFP
IC210		996500027090		IC 3 PIN AP1117E18LA 1.8V
IC301	#	996500029611		IC 8P CO4558A SO8
IC301	#	996510020341		IC 8P D4558 SOP SILICORE
IC303	#	996500029611		IC 8P CO4558A SO8
IC303	#	996510020341		IC 8P D4558 SOP SILICORE
IC304		996510012503		IC 16P CD4051BM SOIC TI
IC305		996510012503		IC 16P CD4051BM SOIC TI
IC306		996510021056		IC 20P WM8781GEDS SSOP
IC309		996510012500		IC 20 PIN SN74HC244PWR
IC401		996510021092		IC 64P TAS5508APAG TQFP TI
IC402		996510021229		IC 44P TAS5342ADDV
IC403		996510021229		IC 44P TAS5342ADDV
IC404		996510021229		IC 44P TAS5342ADDV
IC406	#	996500029611		IC 8P CO4558A SO8
IC406	#	996510020341		IC 8P D4558 SOP SILICORE
IC407		996500023948		IC 14PIN 74HCU04D PHILIPS
IC801		996510010380		Motor Drive IC
JK302		996510027067		RCA JACK 4P
JK401		996510013837		GPSPK JAC12P RD-WT-GRN-
JK601		996510027045		HDMI JACK 19P 01-010039
JK701		996510012481		RCA JACK 1P YELLOW W/GND
JK702		996500012609		RCA JACK R/G/B
JK703		996510015645		TOSL JA PLR131/T2 RECEIVER
JK704		996500017363		RCA JACK 1P W/GND P
L202		996500015871		INDUCTOR 10 UH 10%
L401		996510021242		INDUCTOR 22uH 20% 10A
L402		996510021242		INDUCTOR 22uH 20% 10A
L403		996510021242		INDUCTOR 22uH 20% 10A
L404		996510021242		INDUCTOR 22uH 20% 10A
L405		996510021061		INDUCTOR 10uH 20% 10A
L406		996510021061		INDUCTOR 10uH 20% 10A
L407		996510021242		INDUCTOR 22uH 20% 10A
L408		996510021242		INDUCTOR 22uH 20% 10A
L409		996510021242		INDUCTOR 22uH 20% 10A
L410		996510021242		INDUCTOR 22uH 20% 10A
L411		996510021061		INDUCTOR 10uH 20% 10A
L412		996510021061		INDUCTOR 10uH 20% 10A
Q204		996510012508		XISTR PNP TIP42C
Q205		996510000578		XISTR NPN KTC3875-Y
Q206	#	994000000915		XISTR NPN 2SC1623
Q206	#	996510027037		XISTR NPN 2SC5343SG
Q207	#	994000000915		XISTR NPN 2SC1623
Q207	#	996510027037		XISTR NPN 2SC5343SG
Q300	#	994000000915		XISTR NPN 2SC1623
Q300	#	996510027037		XISTR NPN 2SC5343SG
Q302	#	994000000915		XISTR NPN 2SC1623
Q302	#	996510027037		XISTR NPN 2SC5343SG
Q303	#	994000000915		XISTR NPN 2SC1623
Q303	#	996510027037		XISTR NPN 2SC5343SG
Q304	#	994000000915		XISTR NPN 2SC1623
Q304	#	996510027037		XISTR NPN 2SC5343SG
Q305	#	994000000915		XISTR NPN 2SC1623
Q305	#	996510027037		XISTR NPN 2SC5343SG
Q405		996500028742		XISTR NPN 2SD882P
Q412		996510000578		XISTR NPN KTC3875-Y
Q601	#	996510008289		FET AO3402 SOT23 30V/4A
Q601	#	996510027039		MOSFET STK003SF SOT23
Q602		996500041281		FET 2N7002 60V/115MA
Q801		996510004117		FET 2SK3018 30V/0.1A SC-70
Q802	#	994000000915		XISTR NPN 2SC1623

Loc.	Alt	Part No.	safety	Description
MAIN PCB				
Q802	#	996510027037		XISTR NPN 2SC5343SG
Q803		996500026927		XISTR PNP 2SB1132RT100
Q804		996500026927		XISTR PNP 2SB1132RT100
Q805		996510004117		FET 2SK3018 30V/0.1A SC-70
Q901		996510000615		XISTR NPN 2SC945P
Q903		996500026946		XISTR PNP 2SB772P/Q NEC
XL401		996510021233		X'TAL 13.5MHz 15ppm 20pF
ZD901		994000005204		DIODE ZENR 12.6-13.1V 0.5W
ZD904		996500028741		DIODE ZENR 9.1-9.5V 0.5W
POWER PCB				
BD901	#	996500041295		BRIDGE RS406 4A 600V UL
BD901	#	996510016395		BRIDGE KBL406KBU-B4A600V
C903		996500027115	⚠	CAP.SAFTY Y1 102PF 250V
C904		996500027115	⚠	CAP.SAFTY Y1 102PF 250V
C906		994000005344	⚠	CAP.SAFETY Y1 560PF 400V
C907		994000005343	⚠	COND SAFETY 0.22UF 275V
C913	#	996510027061		C. ELEC 47uF 400V 20%
C913	#	996510027063		C. ELEC 47uF 400V 20%
C914		996510018518		COND ELECT 100uF 400V 20%
C916		996500018042		COND DISC 0.01UF 1KV 20%
C917		996510012473		COND DISC 2200 pF 1KV 10%
C927		996500020261		COND DISC 0.001UF 1KV 20%
C961		996500020261		COND DISC 0.001UF 1KV 20%
C967		996500018042		COND DISC 0.01UF 1KV 20%
CN901	#	996500015936		CONNECTOR 4PIN P=3.96MM
CN901	#	996510018268		CONNECTOR 4P P=3.96mm180'
CN902		996500015901		CONNECTOR 6 PIN P=2.0MM
CN903		996510021055		CONNECTOR B7B-XH-A 7 PIN
CN904	#	996500017360		CONNECTOR 4P CL3962WVO
CN904	#	996510016729		CONNEC 4P P=3.96mm 180'
D902		996510025474		DIODE HER105 1A 400V
D903		996510025474		DIODE HER105 1A 400V
D904		994000000938		DIODE PR1507 1.5A 1000V
D906		996500026949		DIODE SW 1N4148
D907		996500026949		DIODE SW 1N4148
D910		996510025474		DIODE HER105 1A 400V
D911		996510021223		DIODE PR2007 2A 1000V DO-
D912		994000005249		DIODE SB360 3A 60V DO-201AD
D913		994000000943		DIODE UF3003 3A 200V
D914		996510025474		DIODE HER105 1A 400V
D915		996510008292		RECTIFIER UF1004CT
F901		994000001567	⚠	FUSE 4A 250V
GT902		996510021084		SURGE PROTECTOR DSP-
IC901		994000000946		OPTICAL SENSOR 4P
IC902		996510021079		IC 8P(P3=N.C) TNY180PN DIP-
IC903		996510004113		IC 8P AP3843GMTR-E1
IC904	#	994000000952		IC 3PIN TL431
IC904	#	994000001572		IC 3P TL431
IC905		994000000946		OPTICAL SENSOR 4P
IC906		994000000946		OPTICAL SENSOR 4P
L901	#	996510013776		LINE FILTER ET-24
L901	#	996510021225		LINE FILTER ET-24 7mH 2VEW
L902		996510013922	⚠	LINE FILTER ET24
L903		996500016694		6UH 13.5TS 2UEW
L904		996500016694		6UH 13.5TS 2UEW
L906		996500027102		TOROID COIL S1=1TS
L907		996500027104		INDUCTOR 6UH /-15%
NTC901		994000005232	⚠	THERMIST. NTC 5R 5A
Q901		996510010367		XISTR PNP 2SA733Q
Q902		996510021085		MOSFET STK1060F TO220F
Q904		994000000915		XISTR NPN 2SC1623
Q906		996510008289		FET AO3402 SOT23 30V/4A
Q907		996510010356		XISTR PNP 2SB647 TO-92MOD
Q909		994000000921		XISTR PNP 2SA812 HFE:200
Q910		994000000921		XISTR PNP 2SA812 HFE:200
Q911		996510018395		FET AO3401 SOT23 -30V/-4.2A
Q912		994000000915		XISTR NPN 2SC1623
Q913		994000000915		XISTR NPN 2SC1623
Q914		994000000921		XISTR PNP 2SA812 HFE:200-

Loc.	Alt	Part No.	safety	Description
POWER PCB				
Q915		994000000921		XISTR PNP 2SA812 HFE:200-
R925		996510021241		RESISTOR 0.22R 3W 5% MO
R928		996510021232		RES. 56R 3W +/-5% MOF
R954		996510021232		RES. 56R 3W +/-5% MOF
T901		996510021236	⚠	TRASFO. EEL-25 7+7P 40W
T902		996510021238	⚠	TRASFO. ERL-35 7+7P 150W
L902		996510013922		LINE FILTER ET24
L903		996500016694		6UH 13.5TS 2UEW
L904		996500016694		6UH 13.5TS 2UEW
L905		996500015871		INDUCTOR 10 UH 10%
L906		996500027102		TOROID COIL S1=1TS
L907		996500027104		INDUCTOR 6UH /-15%
NTC901		994000005232		THERMIST. NTC 5R 5A
Q901		996510010367		XISTR PNP 2SA733Q
Q902		996510021085		MOSFET STK1060F TO220F
Q904		994000000915		XISTR NPN 2SC1623
Q906	#	996510008289		FET AO3402 SOT23 30V/4A
Q906	#	996510027039		MOSFET STK003SF SOT23
Q907		996510010356		XISTR PNP 2SB647 TO-92MOD
Q909		994000000921		XISTR PNP 2SA812 HFE:200
Q910		994000000921		XISTR PNP 2SA812 HFE:200
Q911		996510018395		FET AO3401 SOT23 -30V/-4.2A
Q912		994000000915		XISTR NPN 2SC1623
Q913		994000000915		XISTR NPN 2SC1623
Q914		994000000921		XISTR PNP 2SA812 HFE:200
Q915		994000000921		XISTR PNP 2SA812 HFE:200
R925		996510021241		RESISTOR 0.22R 3W 5% MO
R928		996510021232		RES. 56R 3W +/-5% MOF
R954		996510021232		RES. 56R 3W +/-5% MOF
T901	#	996510021071	⚠	TRASFO EEL25 7+7P 40W
T901	#	996510021236	⚠	TRASFO. EEL-25 7+7P 40W
T901	#	996510027028	⚠	SW TRANS EEL-25 7+7P
T902	#	996510021238	⚠	TRASFO. ERL-35 7+7P 150W
T902	#	996510027034	⚠	SW TRANS ERL35/42 7+7P
T902	#	996510027044	⚠	SW TRANS ERL-35 7+7P
TVR901		996510011373		METAL OXIDE VARISTOR
ZD906		994000002067		DIODE ZENR 14.5-15.1V 0.5W
DISP+LED+VOL PCB				
DP351		996510021249		VFD 32P 20075-2A24(D1068WA)
IC351	#	996500029614		IC 52 PIN PT6311(PTC)
IC351	#	996500041280		IC 52P ET16311 VFD DRIVER
LD351	#	996510004102		LED 3 DIA RED ROUND
LD351	#	996510020167		LED 3 DIA ULTRA RED TINT
Q351		994000000921		XISTR PNP 2SA812 HFE:200
Q352		994000000915		XISTR NPN 2SC1623
Q353		994000000921		XISTR PNP 2SA812 HFE:200
SN351		994000005472		IRT RECEIVER IRM-2638AF4
VR351		996510027019		ENCODER L15xF7mm
MP3 IN PCB				
JK351		996510004129		KARAOKE JACK D3.6MM 7P
JK352		996510004129		KARAOKE JACK D3.6MM 7P
USB351		996510013742		USB JACK 4P

REVISION LIST

Version 1.1
*Initial release
#=Alternative Codes
⚠=Safety Symbol