

Service
Service
Service



Service Manual



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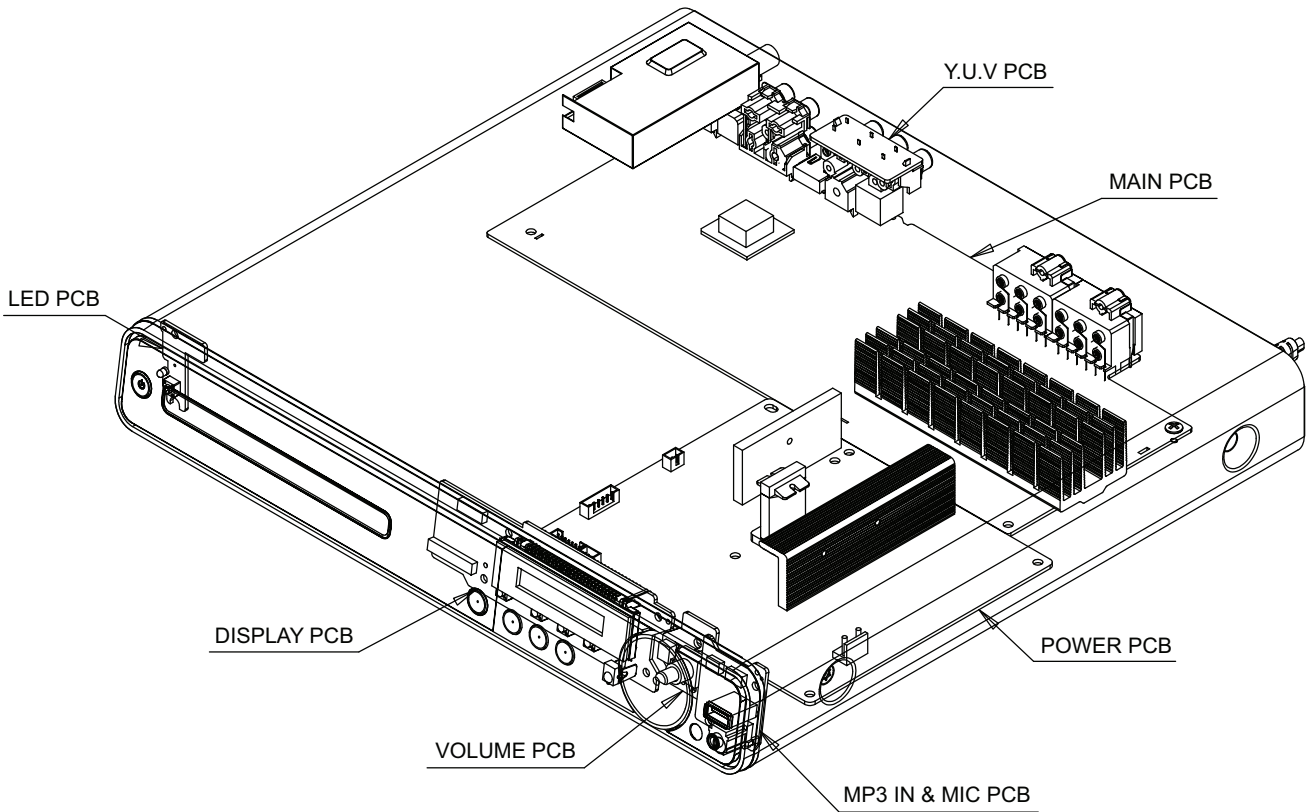
GB 3139 785 34981

Version 1.1



PHILIPS

LOCATION OF PCB BOARDS



VERSION VARIATION:

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

SERVICE SCENARIO MATRIX:

Type/Versions	HTS3274
Board in used	/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 decoding..... 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 dB
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 3" full range
Center/Front/Rear..... 150 Hz ~ 20 kHz
Frequency response.....
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

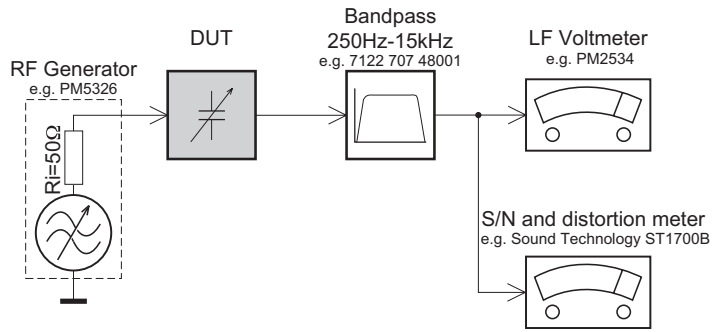
Subwoofer

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 GaAlAs (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

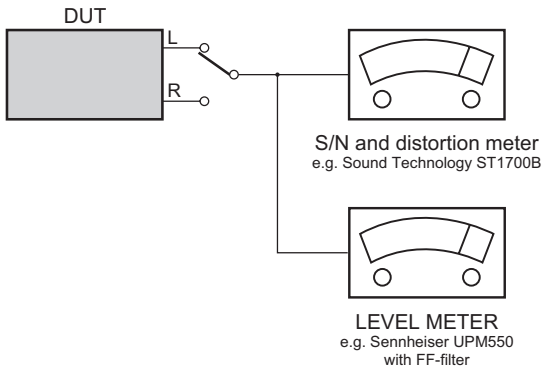
Tuner FM



Use a bandpass filter to eliminate hum (50Hz, 100Hz) and disturbance from the pilotone (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

GENERAL

SOLDER
CHIP COMPONENT
SOLDER
COPPER TRACK
P.C.B.
GLUE

SERVICE PACKAGE

DISMOUNTING

VACUUM PISTON
4822 395 10082

SOLDERING IRON
e.g. WELLER solder tip PT-H7

SOLDERING IRON
SOLDER WICK
4822 321 40042

e.g. A PAIR OF TWEEZERS

HEATING HEATING

SOLDERING IRON
SOLDER WICK
CLEANING

PRECAUTIONS

SOLDERING IRON
CORRECT
COPPER TRACK

SOLDERING IRON
CHIP COMPONENT

MOUNTING

e.g. A PAIR OF TWEEZERS

SOLDER
ø0.5-0.8mm
PRESSURE

SOLDERING IRON

SOLDERING TIME
< 3 sec/side

SOLDER
ø0.5-0.8mm
PRESSURE
SOLDERING IRON

EXAMPLES

CORRECT

SOLDERING IRON
NO!

(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.

(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.

(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.

(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 Δ .

(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 Δ .

(F)

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

Less composants de sécurité sont marqués Δ .

(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.

Sicherheitsbauteile sind durch das Symbol Δ 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 Δ .

(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 suojaelukituksen ohitettaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso säteeseen!

(DK) Advarsel !

Usynlig laserstrålning ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse 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 (lead-ed/ 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 unused equipment, or reduce heat.
- Mix of lead-free solder alloy / parts with lead-ed solder alloy / parts is possible but PHILIPS recommends strongly to avoid mixed solder alloy types (lead-ed 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 lead-ed 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.

System , Region Code , etc. Setting Prochure

1)System Reset

- Press "SETUP" button on R/C,TV will show setup menu
- Select the menu using the ▼ and ► on R/C
- Go preference page to do system reset

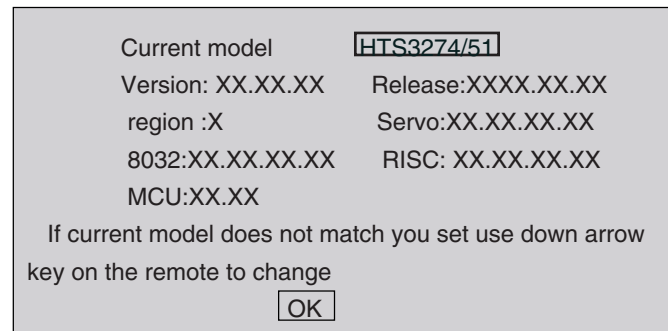
2)Region Code Change

- In open mode, press "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

- In open mode, press "1" "5" "9" on R/C
- Press "ok" button to confirm
- TV will show message as below:



4)Password Change

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

5)Check on the Software Version

- Open the CD Door
- Press "INFO" button on R/C
- TV will show the version on screen

6)Trade model

- Press "Open/Close " button on R/C
- 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).

- Press "source" to select "FM".
- 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.

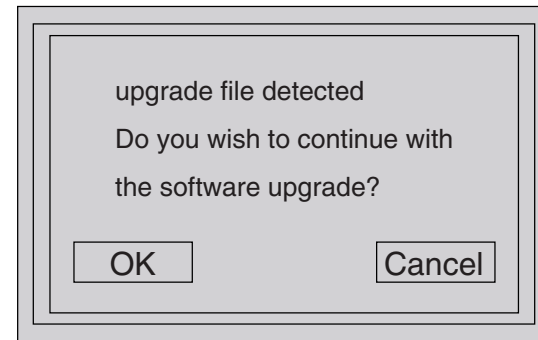
* "Grid 10" is default for/98 version.

8) Upgrading new software

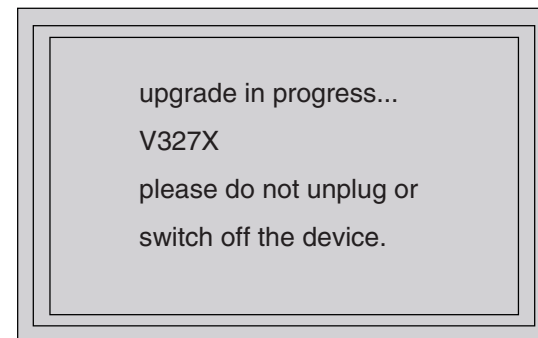
- Copy "software files" into a CD-R
- Open the CD Door,then insert the CD-R program disc
- Close the CD Door
- VFD will show:

"Loading"
 "Erase" -- erase the flash memory
 "Writing" about 1 minute
 "done "

- * the system will switch off and on again automatically.
- OSD will show:



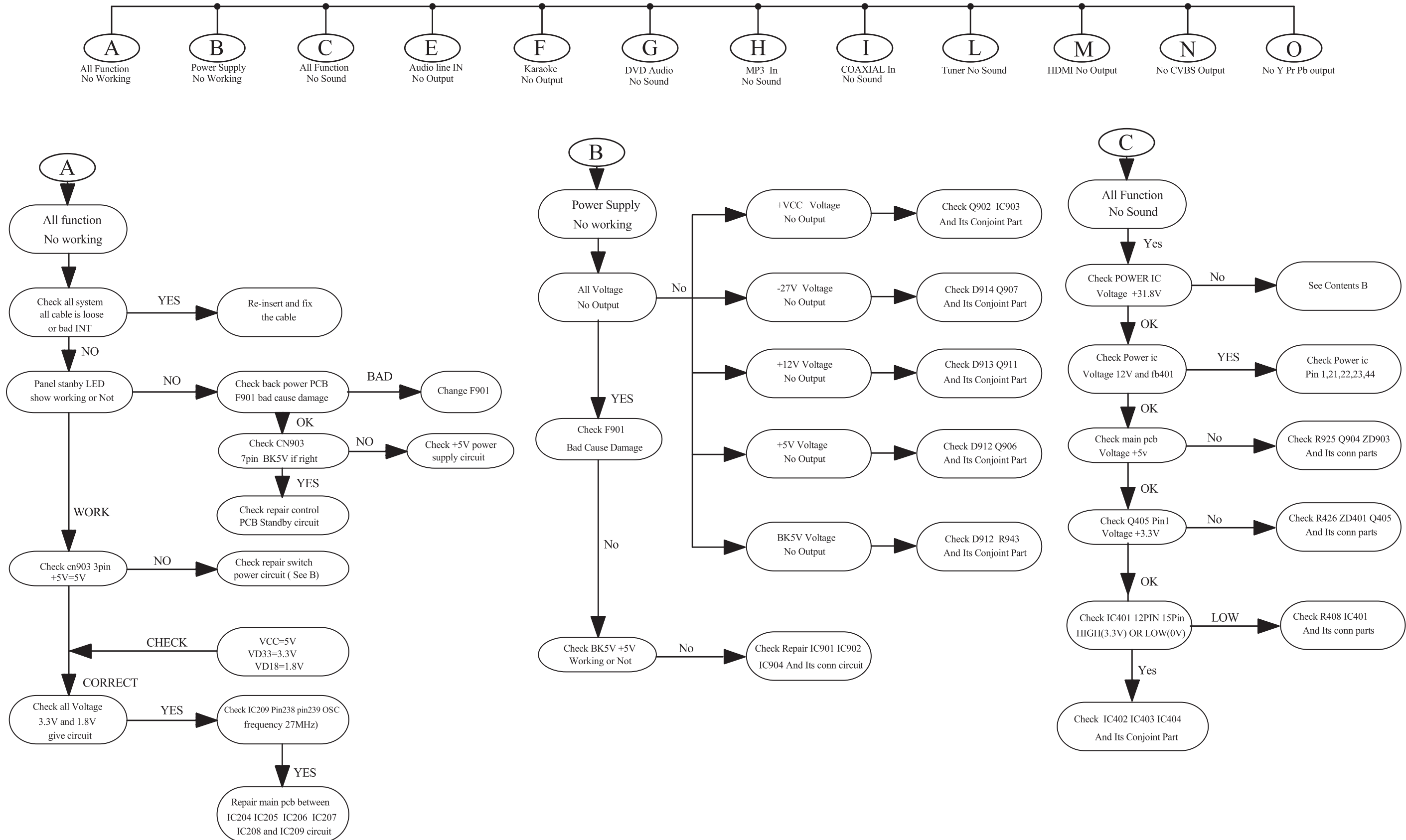
- Select "OK", OSD will show:



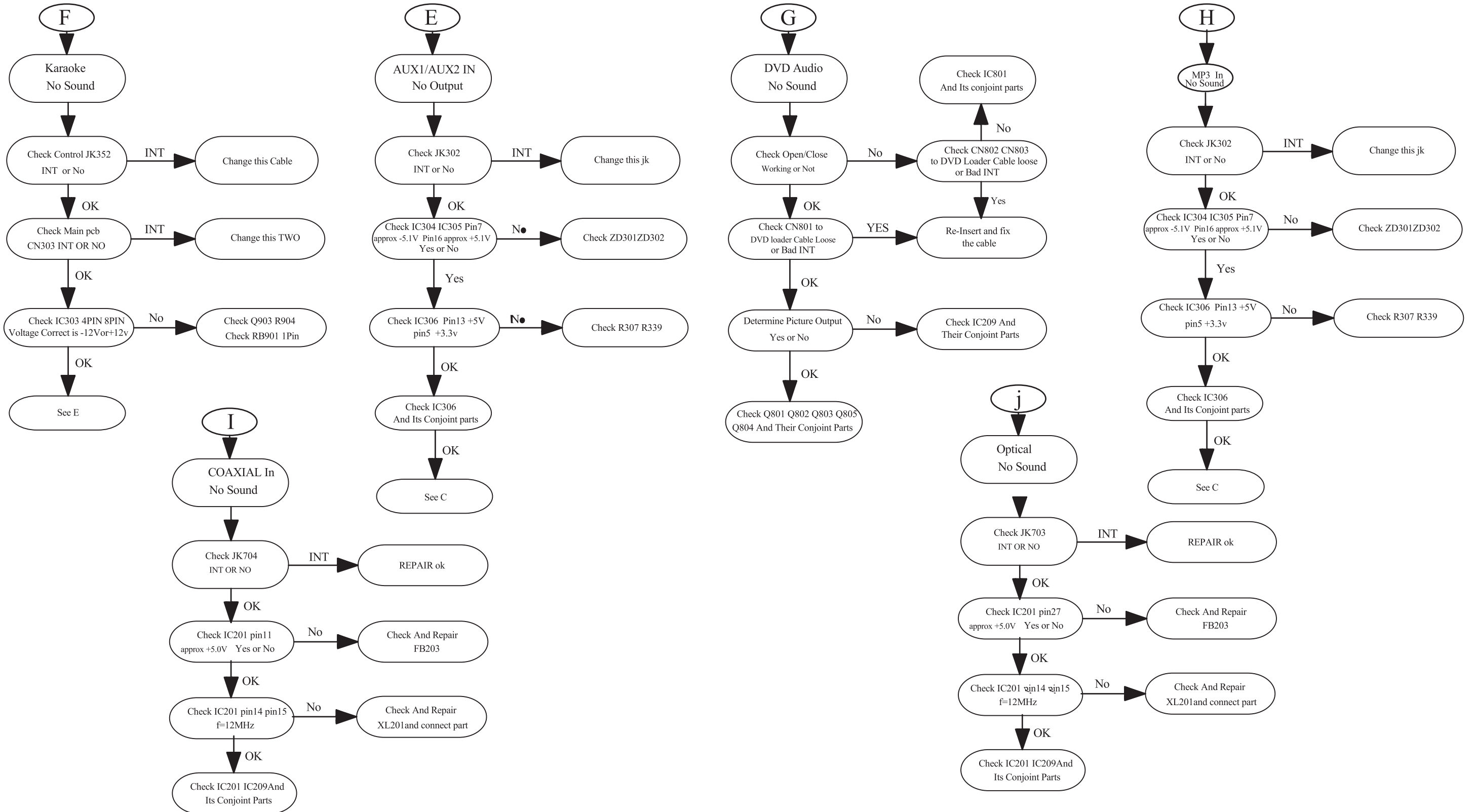
CAUTION!

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

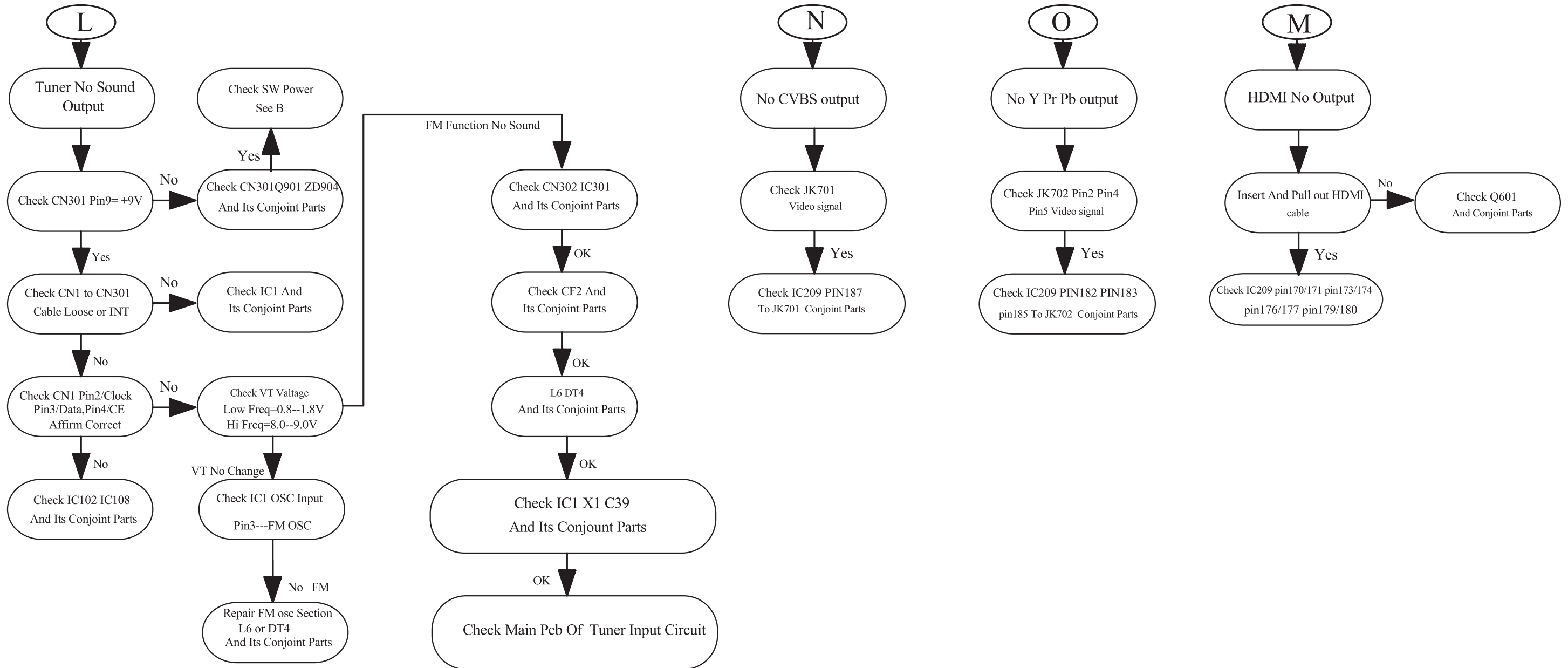
MAIN UNIT REPAIR CHART 1/3



MAIN UNIT REPAIR CHART 2/3



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.

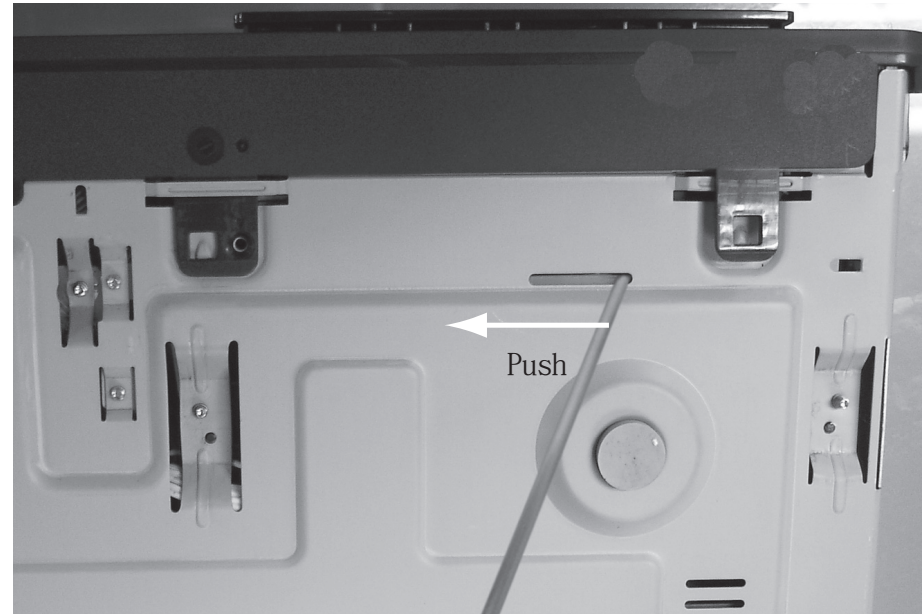


Figure 1

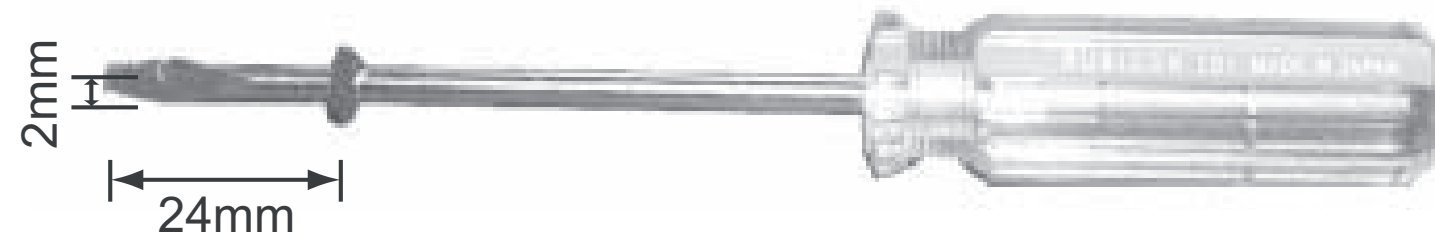


Figure 2

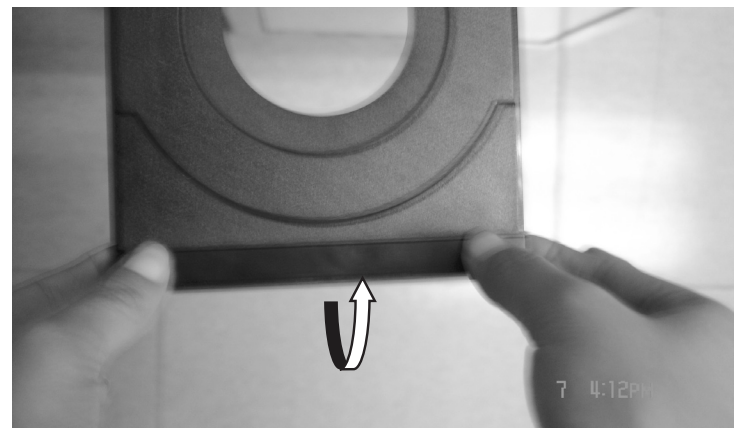


Figure 3

- 3) 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.

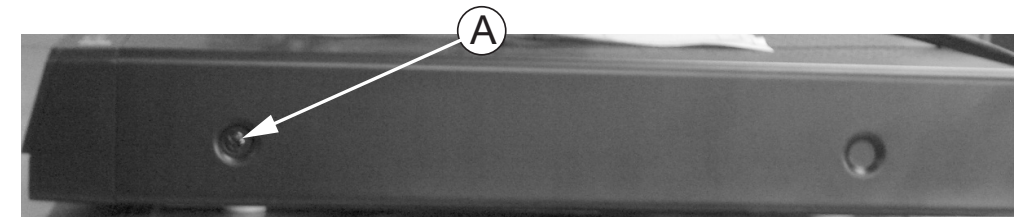


Figure 4

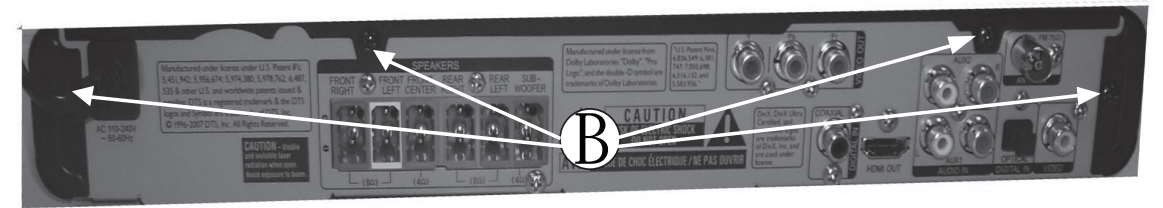


Figure 5

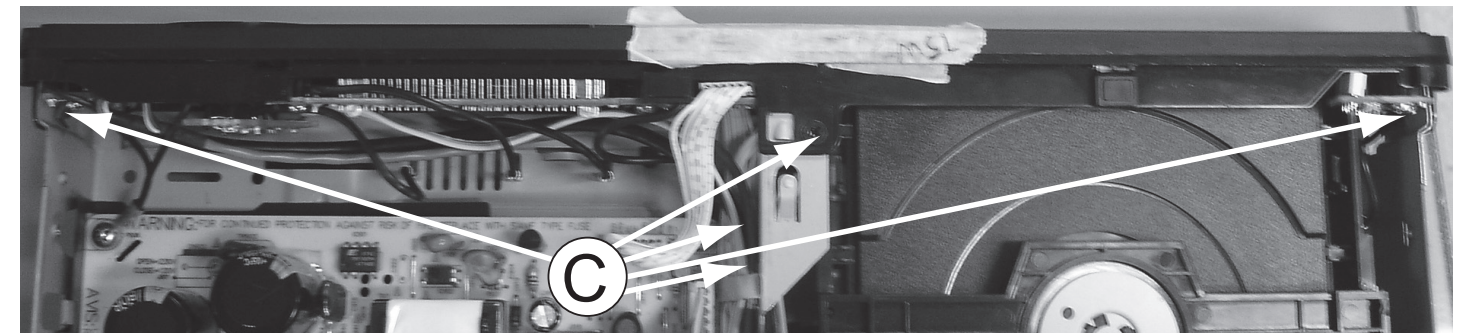


Figure 6

Dismantling of the DVD Module

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

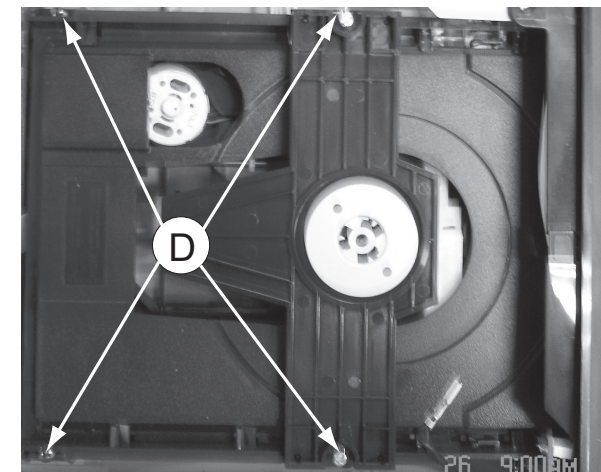


Figure 7

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.

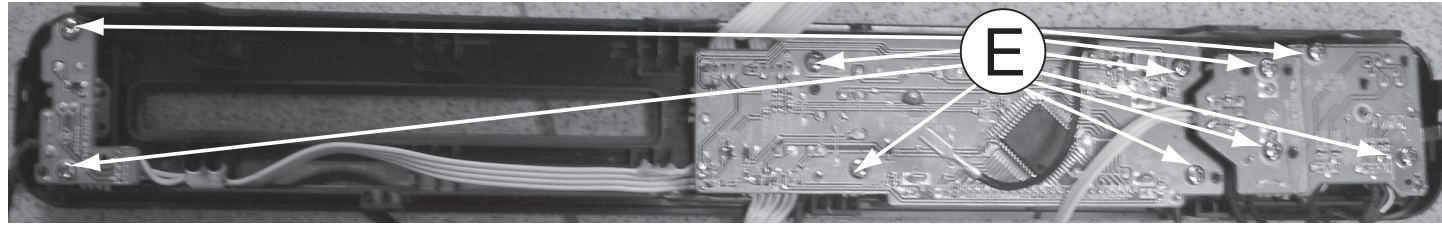


Figure 8

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 figure 10 and to take up the power board.

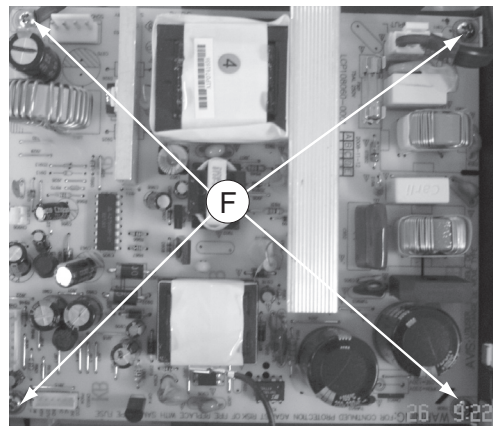


Figure 9

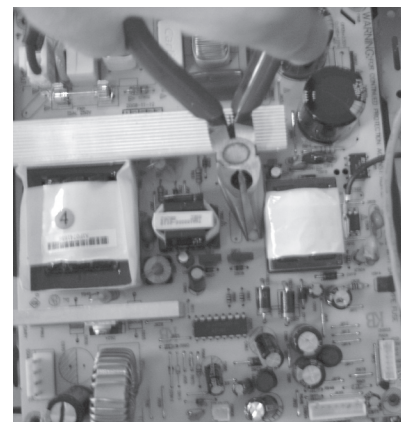


Figure 10

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.

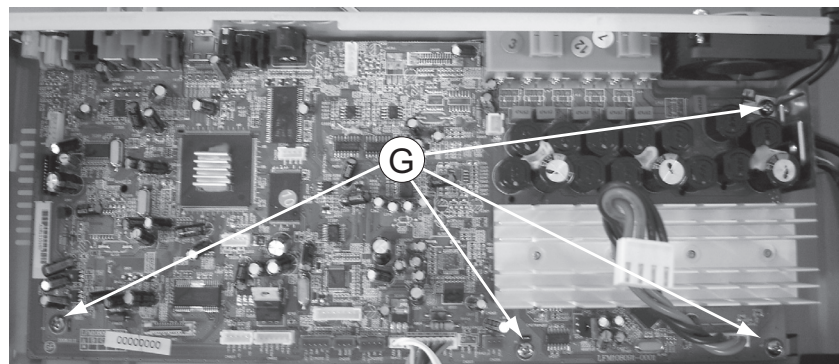


Figure 11

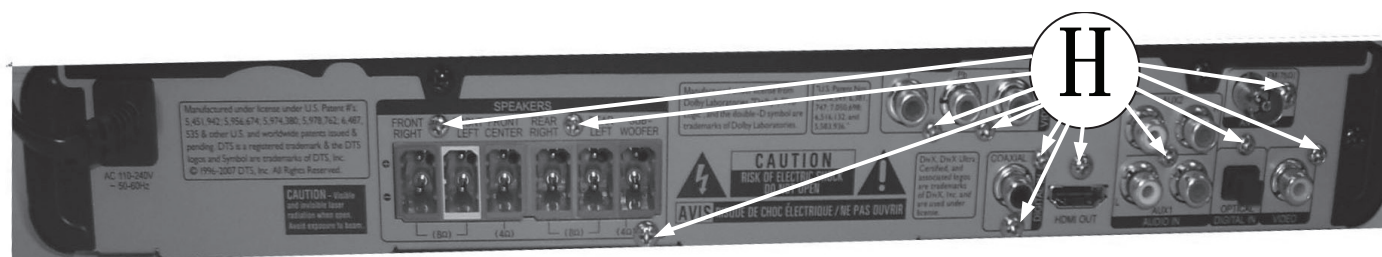
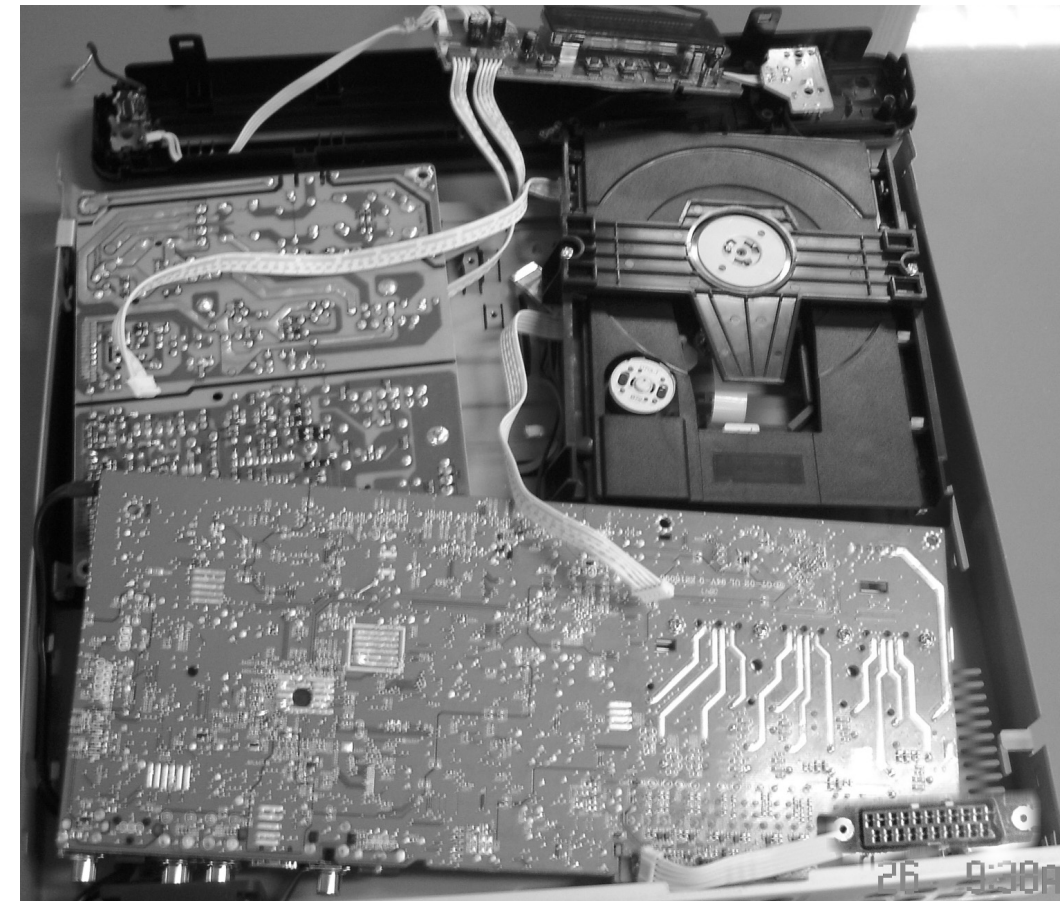


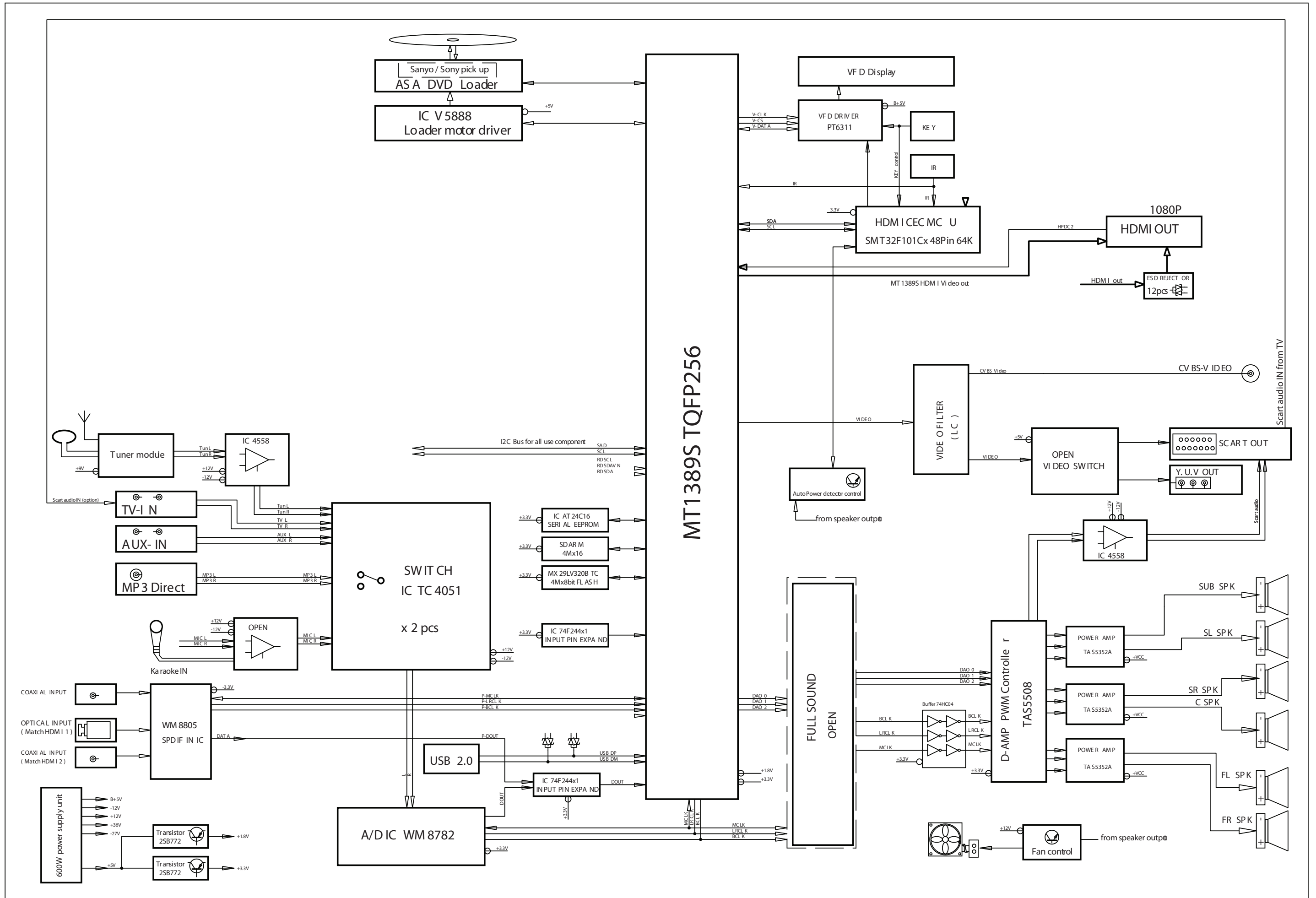
Figure 12

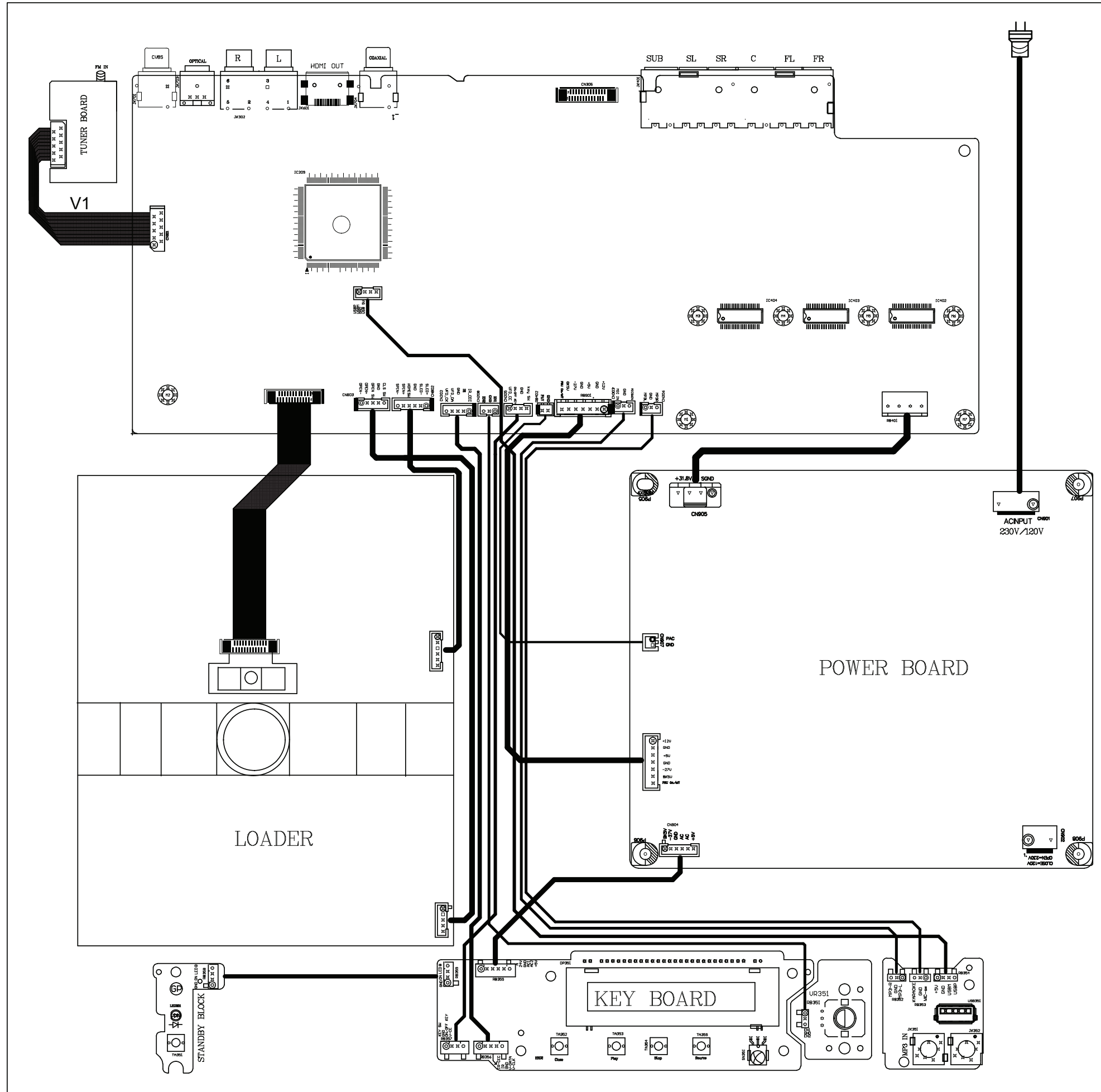
SERVICE POSITIONS

Service position A

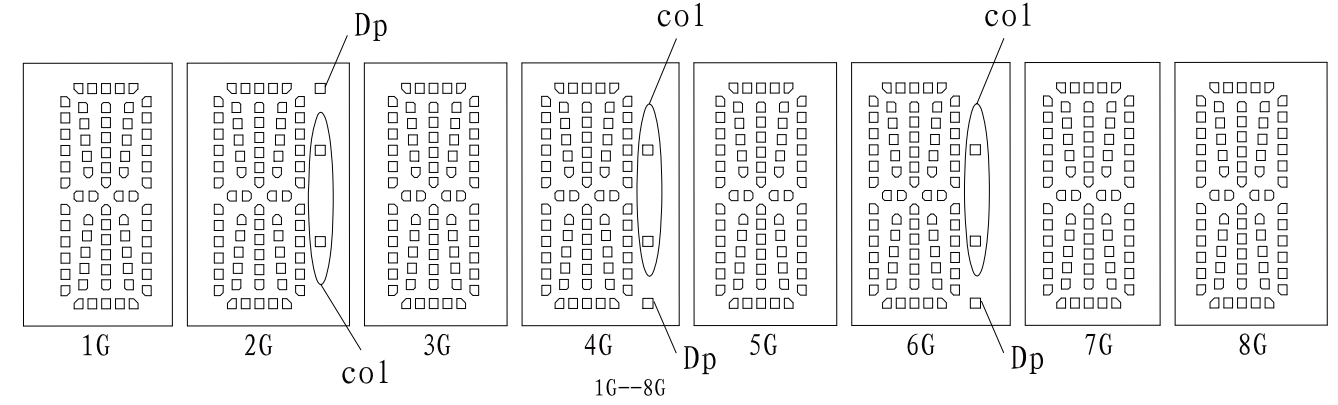


Note: In some service positions the components or copper patterns of one board may risk touching its neighbouring pc boards or metallic parts. To prevent such short-circuit use a piece of hard paper or other insulating material between them.





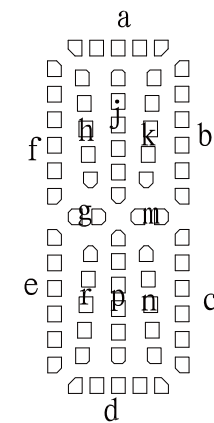
FTD DISPLAY PIN ASSIGNMENT



DISP+LED+VOL BOARD

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FTD Display Pin Assignment..... 5-1
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 PCB Layout Top & Bottom View..... 5-3



	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	/	/

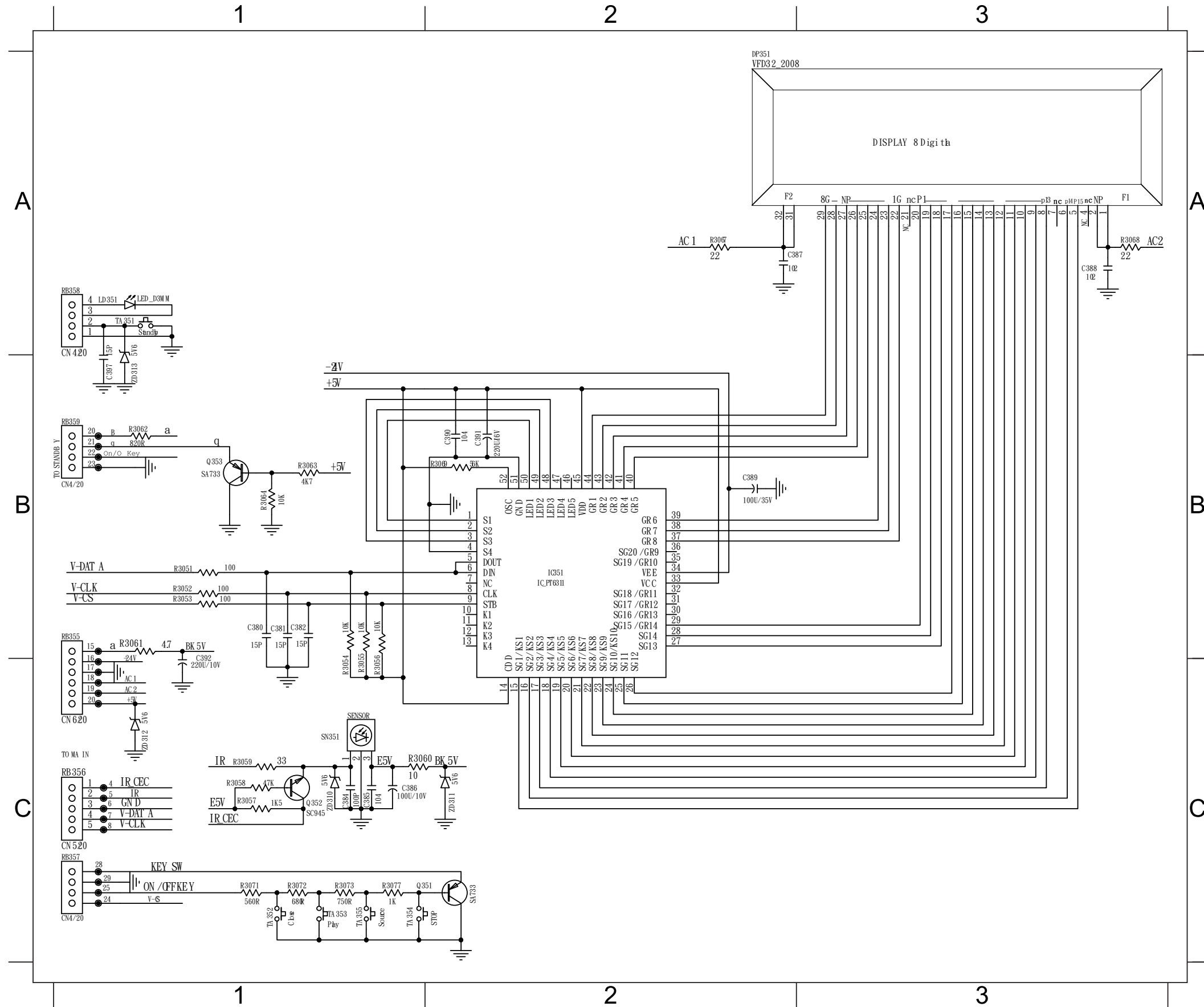
PIN CONNECTION

(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)

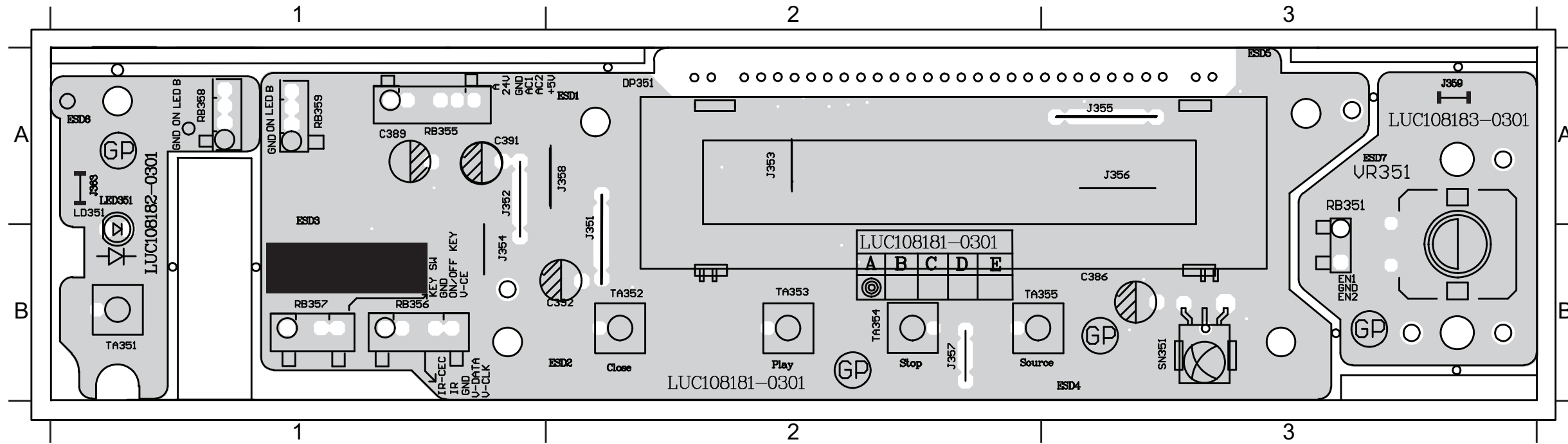
CIRCUIT DIAGRAM

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



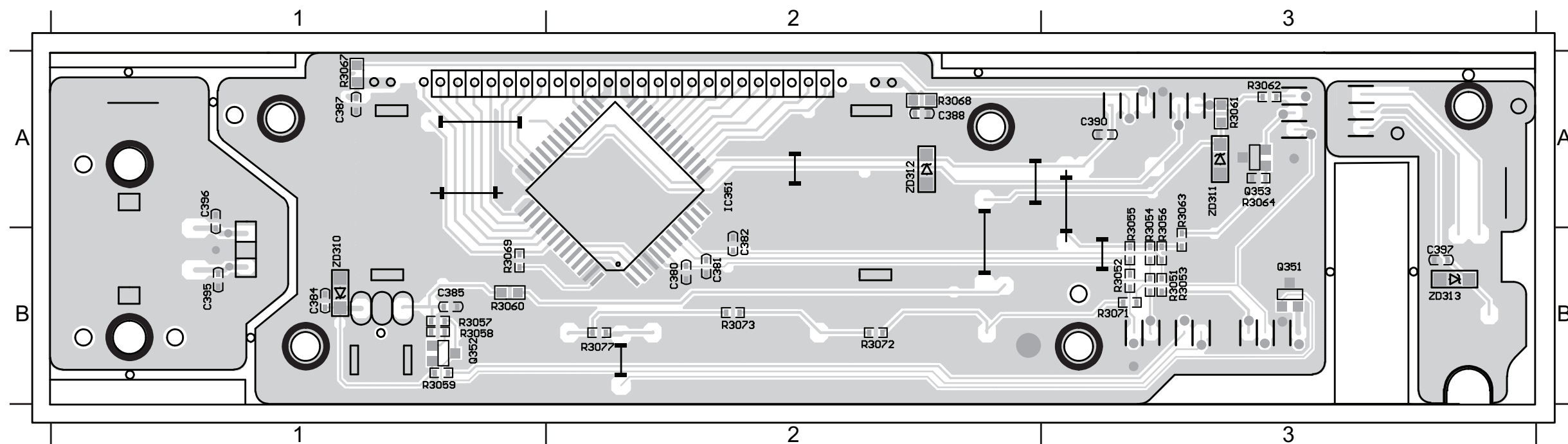
PCB LAYOUT - TOP VIEW

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

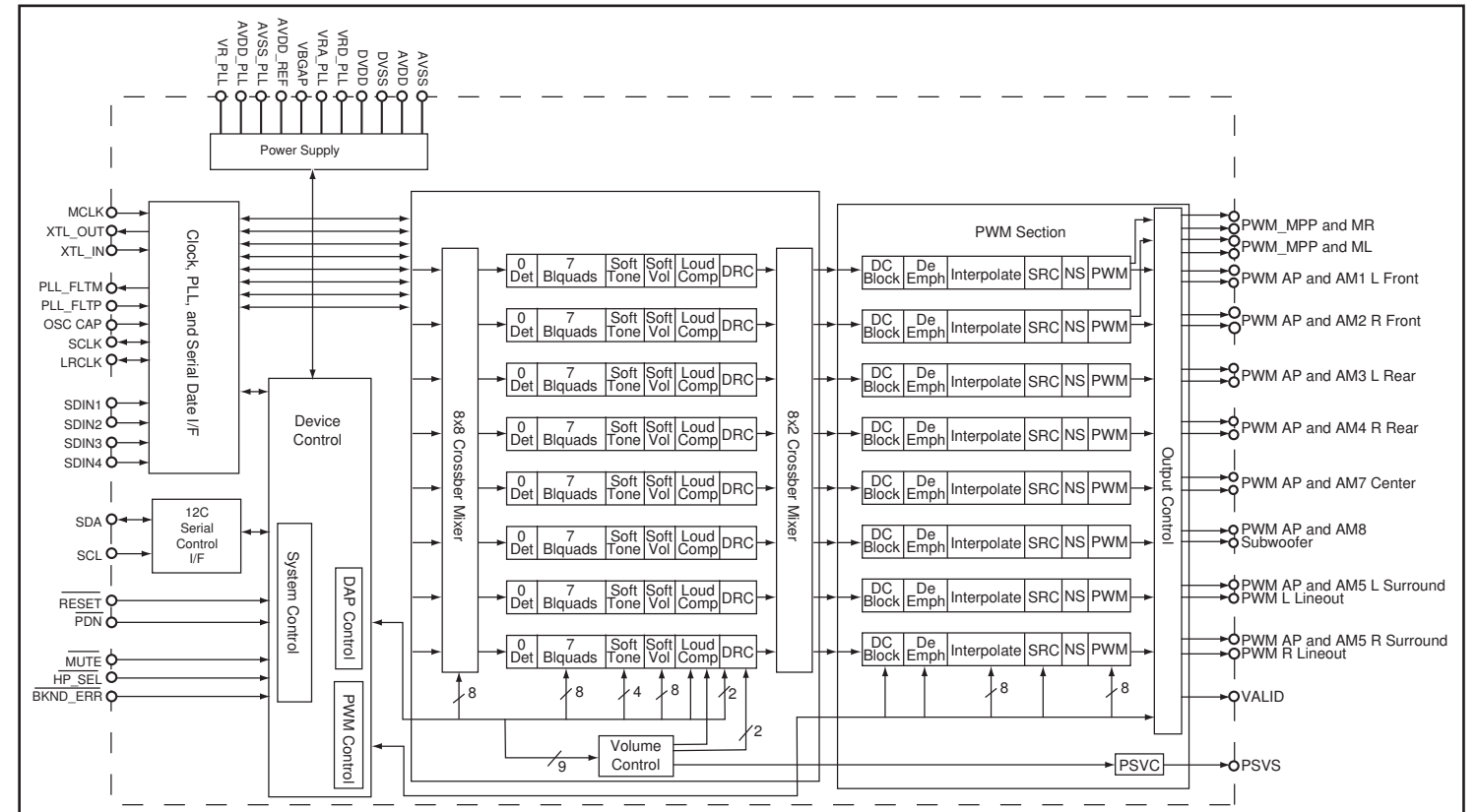


MAIN BOARD

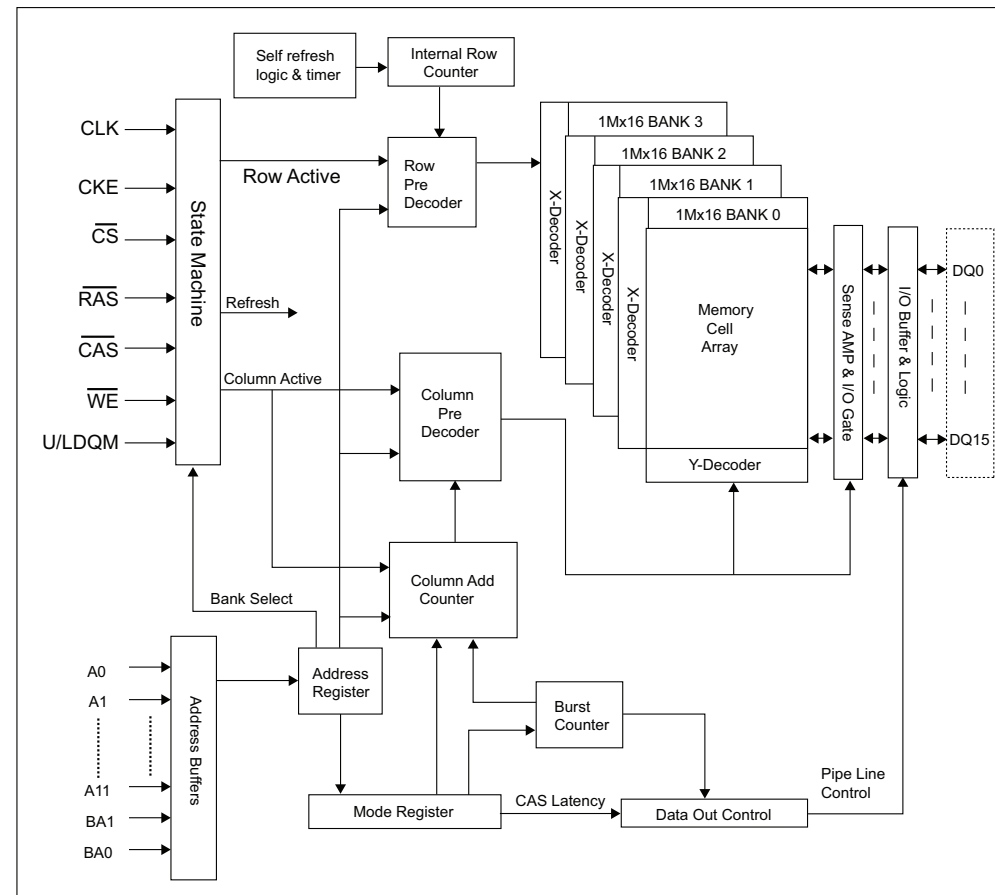
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INTERNAL IC DIAGRAM - TAS5508B

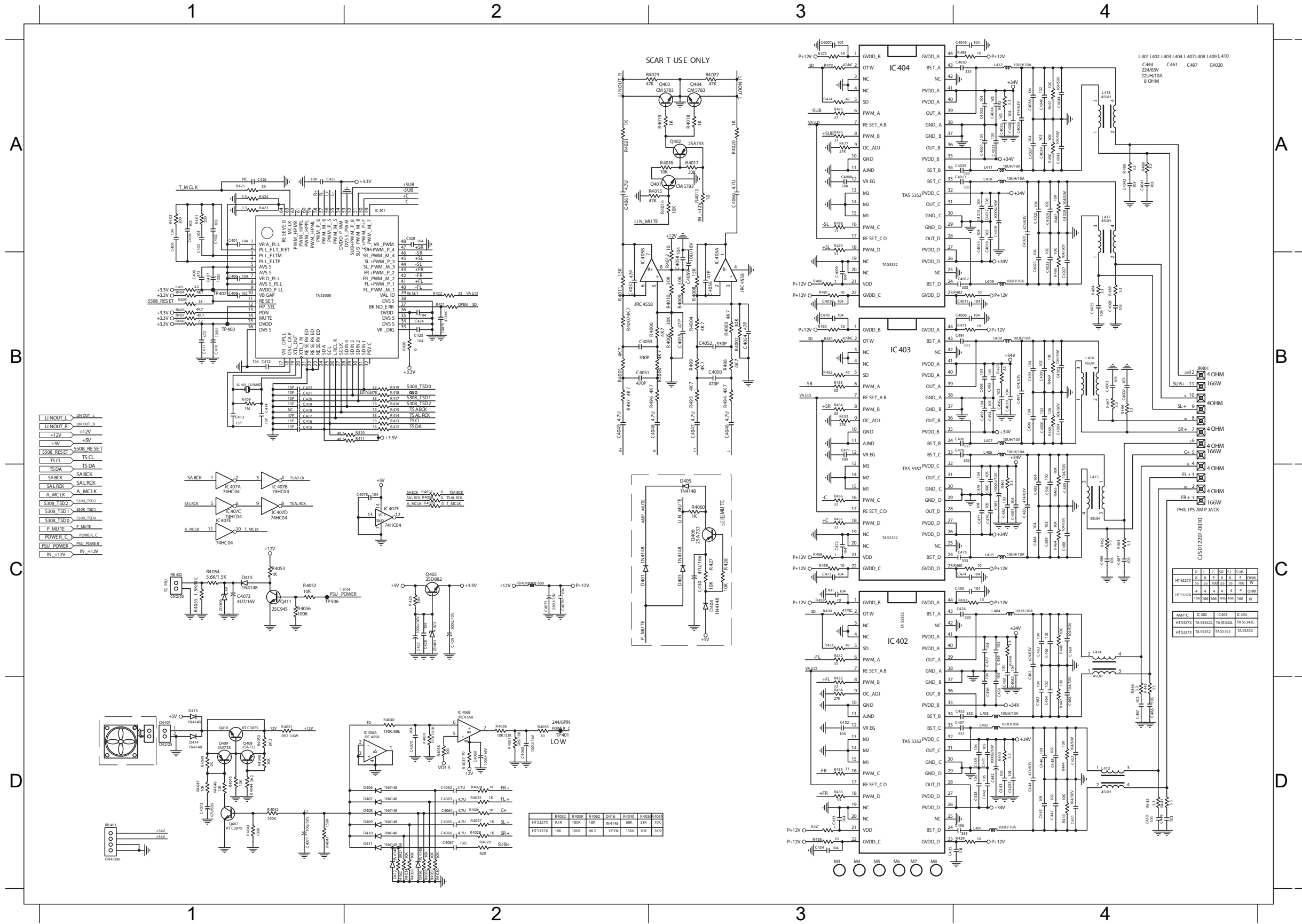


INTERNAL IC DIAGRAM - HY57V641620F



CIRCUIT DIAGRAM - part one

- C370 C1 C4009 B3 C4021 B4 C4031 A4 C4043 A4 C4068 D2 C409 B1 C421 B1 C434 D3 C447 D4 C460 D4 C471 B3 C484 C4 C497 B4 D411 D2 IC407 C1 L410 A4 R4029 D2 R4039 D2 R410 B2 R421 B2 R435 D3 R446 D4 R458 C3 R469 B4 R481 B3 R492 A4
- C371 C1 C401 A1 C4022 A4 C4032 A4 C4044 A4 C4069 D2 C410 B1 C422 B1 C435 D4 C448 D4 C461 C4 C472 C3 C485 C4 C498 B4 D412 D2 JK401 B4 L411 A4 R403 B1 R404 B1 R411 B2 R422 B2 R436 D3 R447 D4 R459 C3 R470 B4 R482 B4 R493 A4
- C4000 B4 C4010 B3 C4023 B4 C4035 A4 C4045 A4 C407 B1 C411 B1 C423 B2 C436 D4 C449 D4 C462 D4 C473 C3 C486 C4 C499 B4 D413 D1 L401 D4 L412 A4 R4030 D2 R4040 D2 R412 B2 R423 A1 R437 D3 R448 C4 R460 C4 R471 B4 R483 C4 RB401D1
- C4001 B4 C4011 B4 C4024 A4 C4036 A4 C405 A1 C4070 D2 C412 B1 C424 B2 C437 D4 C450 D4 C463 C4 C474 C4 C487 C4 C528 A2 D414 D1 L402 D4 Q405 C2 R4031 D2 R405 B1 R413 B2 R424 A1 R438 D3 R449 C4 R461 C4 R472 A3 R484 B4 XL401 B1
- C4002 B4 C4012 B4 C4025 B4 C4037 A4 C406 B1 C4072 D1 C413 B1 C425 A1 C438 D4 C451 D4 C464 C4 C475 C4 C488 C4 C589 C4 D416 D2 L403 D4 R401 A1 R4032 D2 R4051 D1 R414 B2 R425 A1 R439 D4 R450 B3 R462 C4 R474 A3 R485 B4 ZD401 C2
- C4003 B4 C4013 A4 C4026 B4 C4038 A4 C4062 D2 C4075 C2 C414 B1 C427 C2 C439 D4 C452 D4 C465 C4 C476 B4 C489 C4 C590 C4 FB401 C2 L404 C4 R402 A1 R4033 D2 R406 B1 R415 B2 R426 C2 R440 D4 R452 B3 R463 C4 R475 A3 R486 B4
- C4004 B4 C4014 A4 C4027 B4 C4039 A4 C4063 D2 C4076 C2 C415 B1 C428 C2 C442 D4 C453 D4 C466 D4 C477 C4 C490 B4 D406 D2 IC401 A2 L405 C4 R4024 D2 R4034 D2 R4061 D2 R416 B2 R429 C3 R441 D4 R453 B3 R464 C4 R476 A3 R87 A4
- C4005 B4 C4015 A4 C4028 A4 C404 A1 C4064 D2 C4078 C2 C416 B1 C429 C2 C443 D4 C454 C4 C467 D4 C478 C4 C491 B4 D407 D2 IC402 C3 L406 B4 R4025 D2 R4035 D2 R4062 D2 R417 B2 R431 C3 R442 D4 R454 B3 R465 C4 R477 A3 R488 A4
- C4006 B4 C4018 A4 C4029 A4 C4040 A4 C4065 D2 C408 B1 C417 B1 C431 C3 C444 D4 C455 C4 C468 D4 C481 C4 C492 B4 D408 D2 IC403 B3 L407 B4 R4026 D2 R4036 D2 R407 B1 R418 B2 R432 C3 R443 D4 R455 B3 R466 B4 R478 A3 R489 A4
- C4007 A3 C402 A1 C403 A1 C4041 A4 C4066 D2 C4080 A4 C419 B1 C432 D3 C445 D4 C456 D4 C469 C4 C482 C4 C493 B4 D409 D2 IC404 A3 L408 B4 R4027 D2 R4037 D2 R408 B1 R419 B2 R433 D3 R444 D4 R456 C3 R467 B4 R479 A3 R490 A4
- C4008 A3 C4020 A4 C4030 A4 C4042 A4 C4067 D2 C4081 C4 C420 B1 C433 D3 C446 D4 C457 C4 C470 B3 C483 C4 C496 B4 D410 D2 IC406 D2 L409 B4 R4028 D2 R4038 D2 R409 B1 R420 B2 R434 D3 R445 D4 R457 C3 R468 B4 R480 B3 R491 A4



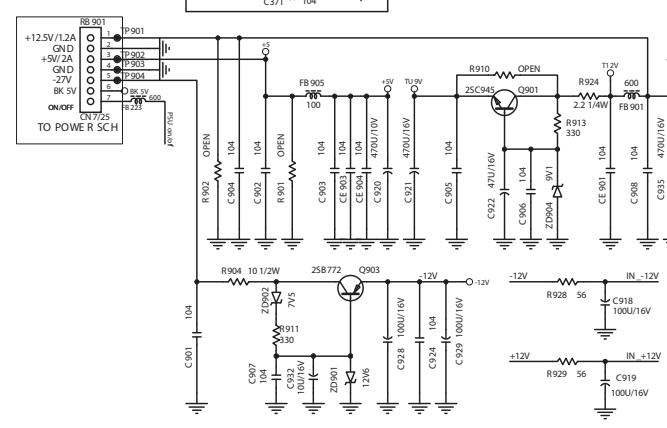
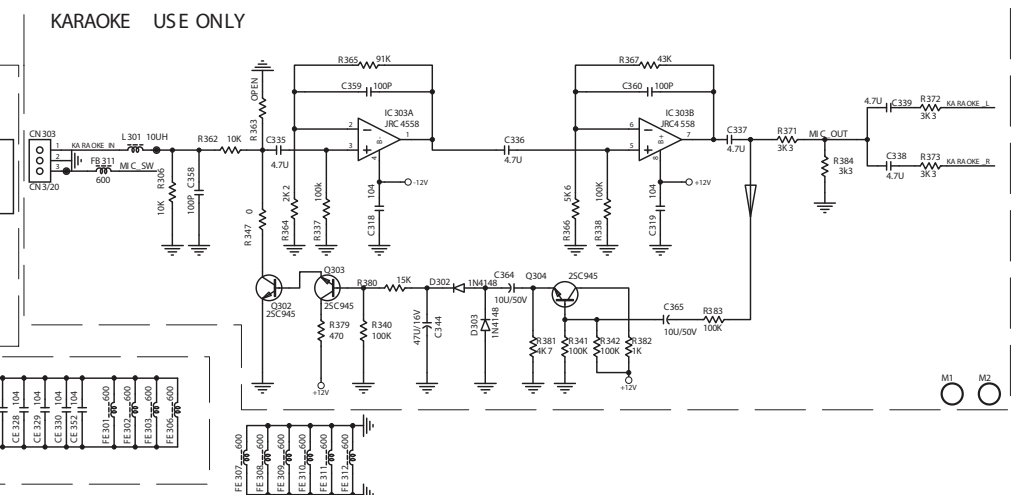
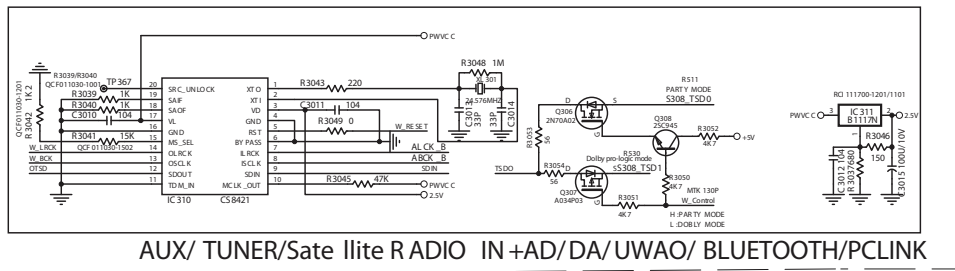
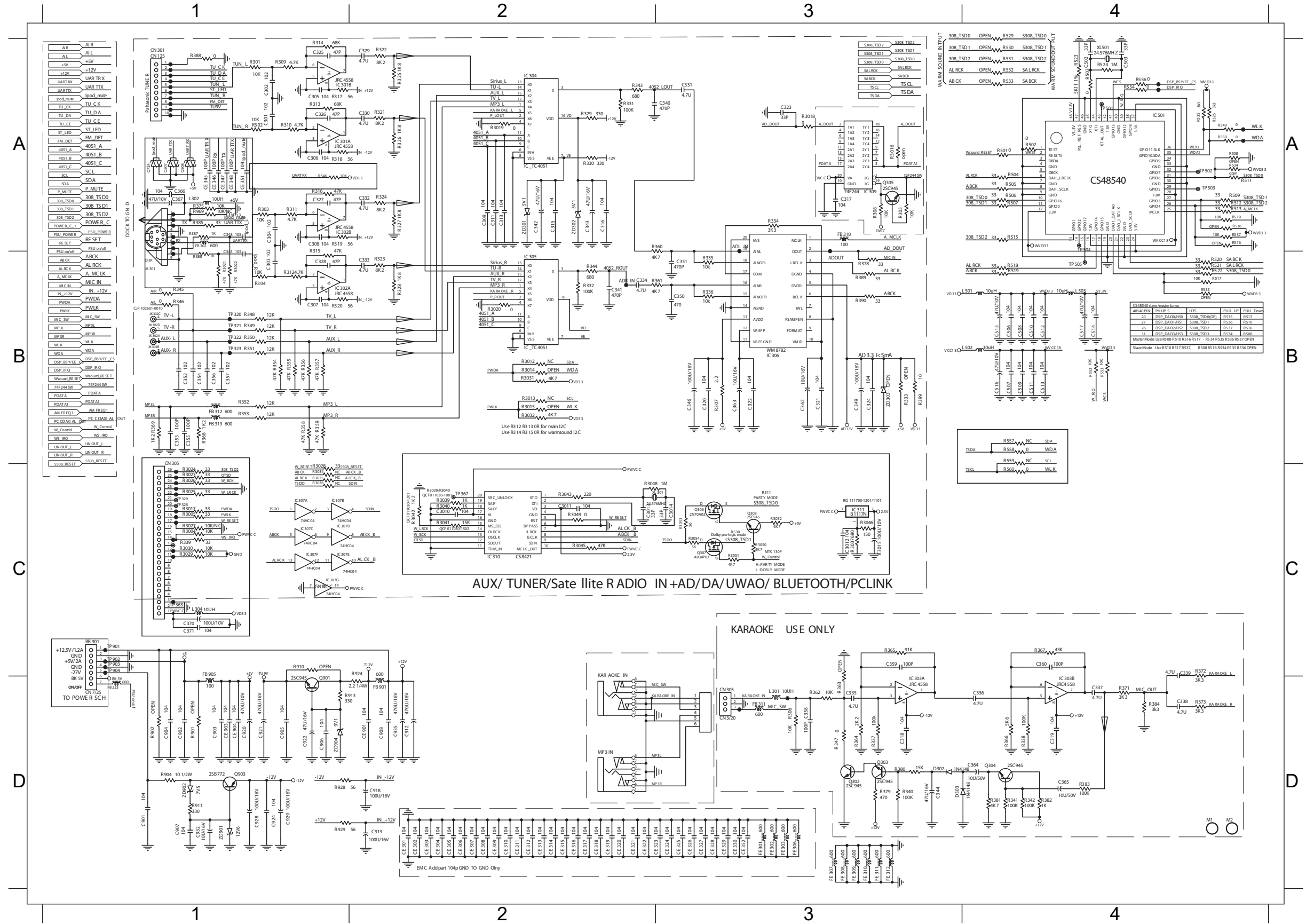
- LI NOUT INOUT_A
- LI NOUT_R INOUT_B
- +12V
- +5V
- +5V
- S508_RESET
- TS DA
- TS DA
- SABCK
- SALBCK
- A_MCLK
- S308_TS02
- S308_TS01
- S308_TS00
- P_MUTE
- POWER_C
- PSU_POWER
- IN +12V
- IN +12V

HT5327A	IC403	IC404	IC404
HT5327A	TA5352	TA5352	TA5352
HT5327A	TA5352	TA5352	TA5352

R4032	R4039	R4053	D413	R4040	R4038	R4031
10K	100K	10K	10K	10K	10K	10K
HT5327A	10K	100K	10K	10K	10K	10K

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 R301A 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 D2 CE352 D3 FB311 D3 FE309 D3 IC302 B1 R301A2 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 R9901 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



IC401 (CPU) Pin	Pin	Value	Pin	Value
48	48	10K	1	10K
49	49	10K	2	10K
50	50	10K	3	10K
51	51	10K	4	10K
52	52	10K	5	10K
53	53	10K	6	10K
54	54	10K	7	10K
55	55	10K	8	10K
56	56	10K	9	10K
57	57	10K	10	10K
58	58	10K	11	10K
59	59	10K	12	10K
60	60	10K	13	10K
61	61	10K	14	10K
62	62	10K	15	10K
63	63	10K	16	10K
64	64	10K	17	10K
65	65	10K	18	10K
66	66	10K	19	10K
67	67	10K	20	10K
68	68	10K	21	10K
69	69	10K	22	10K
70	70	10K	23	10K
71	71	10K	24	10K
72	72	10K	25	10K
73	73	10K	26	10K
74	74	10K	27	10K
75	75	10K	28	10K
76	76	10K	29	10K
77	77	10K	30	10K
78	78	10K	31	10K
79	79	10K	32	10K
80	80	10K	33	10K
81	81	10K	34	10K
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84	84	10K	37	10K
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90	90	10K	43	10K
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92	92	10K	45	10K
93	93	10K	46	10K
94	94	10K	47	10K
95	95	10K	48	10K
96	96	10K	49	10K
97	97	10K	50	10K
98	98	10K	51	10K
99	99	10K	52	10K
100	100	10K	53	10K

EMC Addpart 104pGND TO GND Only

PCB LAYOUT - TOP VIEW

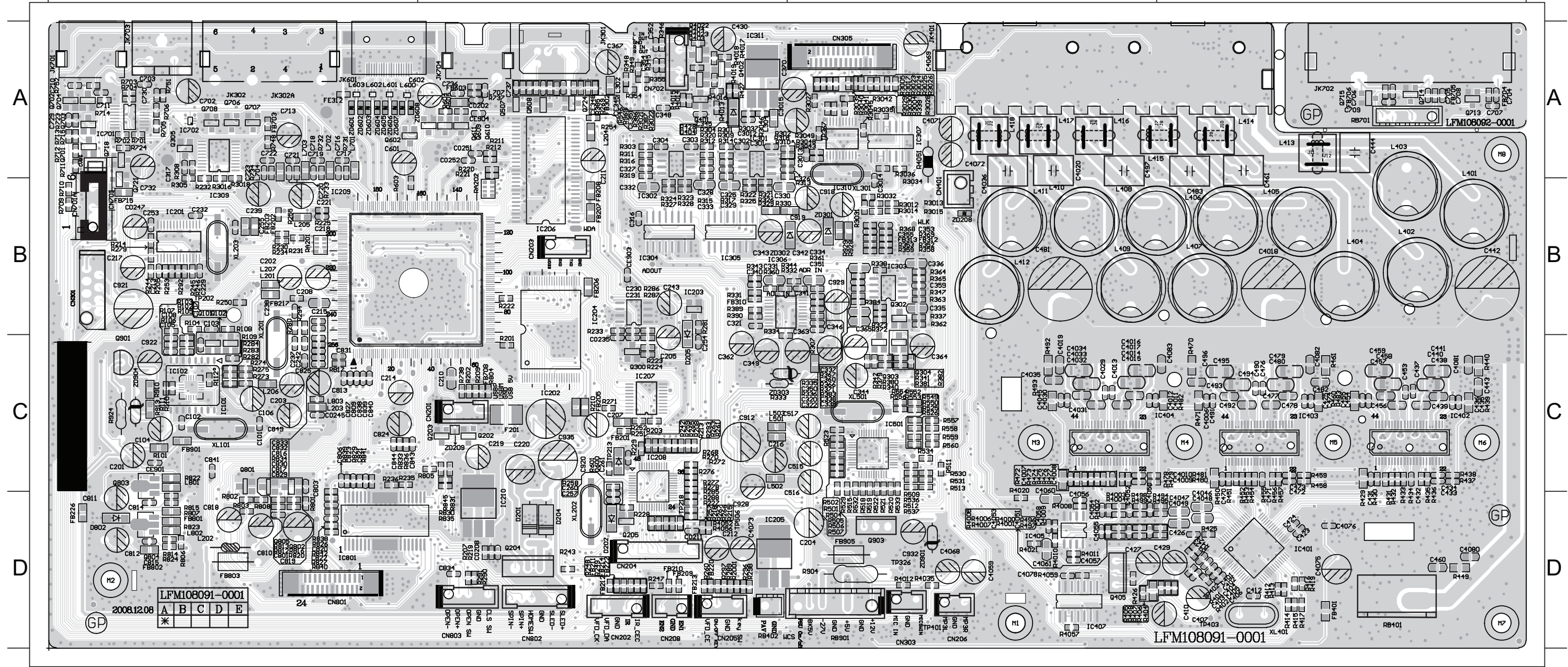
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C0208	D2	C217	B1	C320	C3	C352	A2	C4018	B4	C410	D4	C460	D4	C703	A1	C803	C1	C834	D2	CN202	D2	FB207	B2	FB801	D1	IC401	D4	JK703	A4	L702	A1	Q803	C1	R224	C2	R259	C2	R291	D2	R326	B2	R356	B3	R404	D3	R436	C4	R477	C3	R702	A1	R814	D1	R913	C1
C0211	D2	C218	B1	C321	B2	C353	B3	C402	D4	C412	D4	C461	A3	C704	A4	C806	C1	C838	C1	CN203	B2	FB208	B2	FB802	D1	IC402	C4	JK704	A2	L703	A1	Q804	D1	R225	B1	R260	D2	R292	B1	R326	B2	R359	B3	R405	D3	R437	C4	R478	C4	R704	A1	R815	D1	R924	C1
C0235	C2	C219	C2	C322	C3	C354	A2	C4020	A3	C423	D4	C470	C4	C705	A4	C809	C1	C839	C1	CN204	D2	FB209	D2	FB803	D1	IC403	C4	L201	B1	L704	A1	Q805	D1	R227	D2	R261	C2	R293	C2	R329	B2	R360	B2	R4051	A3	R438	C4	R479	C4	R705	A1	R816	D1	R928	B3
C0245	C1	C220	C2	C325	B2	C355	B3	C4029	C3	C424	D4	C471	C4	C706	A4	C810	D1	C840	C1	CN205	D2	FB210	D2	FB901	C1	IC404	C3	L202	D1	L707	A2	Q901	C1	R228	D2	R262	C2	R294	B1	R330	B2	R361	B3	R406	D3	R439	C4	R480	C4	R724	A1	R817	C1	R929	B3
C0247	B1	C221	B1	C326	A2	C358	B3	C403	D4	C427	D3	C472	C4	C707	A4	C811	D1	C841	C1	CN206	D3	FB211	D2	FB905	D3	IC407	D3	L203	C1	L801	A1	Q903	D3	R229	C2	R267	D2	R296	D2	R331	B2	R362	B3	R407	D3	R440	C4	R481	C4	R731	A1	R820	D1	RA201	B1
C0251	A2	C229	B1	C329	B2	C359	B3	C4030	C3	C429	D3	C473	C4	C708	A4	C812	D1	C843	C1	CN208	D2	FB212	D2	FE312	A1	IC801	D1	L204	A2	L802	D1	R201	C2	R230	B2	R268	C3	R297	D2	R332	B3	R364	B3	R408	D3	R449	D4	R482	C4	R732	A1	R822	C1	RA202	A2
C0252	A2	C230	B2	C330	B2	C360	C3	C4031	C3	C431	C4	C474	C4	C709	A4	C813	D1	C844	C1	CN301	B1	FB213	D2	GT01	B1	J1	A3	L205	B1	L803	C1	R202	C2	R231	B1	R269	A2	R298	D2	R334	B2	R365	B3	R412	D4	R450	C4	R483	C4	R733	B1	R823	D1	RB401	D4
C101	C1	C231	B2	C331	B2	C362	C2	C4032	C3	C432	C4	C475	C4	C710	A1	C816	C1	C849	C1	CN303	D3	FB214	D2	IC201	B1	J10	A4	L206	C1	Q204	D2	R203	C2	R232	B1	R270	C2	R301	A2	R335	C3	R366	C3	R413	D4	R452	C4	R492	C3	R734	A1	R824	D1	RB701	A4
C102	C1	C232	B1	C334	B3	C363	B3	C4035	C3	C433	D4	C476	C4	C711	A1	C817	C1	C912	C2	CN701A	B1	FB217	B1	IC202	C2	J11	A4	L207	B1	Q205	D2	R205	B1	R233	B2	R271	C2	R3018	B1	R336	C3	R367	C3	R414	D4	R453	C4	R493	C3	R737	A2	R826	D1	RB901	D3
C105	B1	C237	C1	C335	B3	C364	C3	C4036	A3	C434	C4	C477	C4	C713	A1	C818	D1	C918	B3	CN801	D1	FB220	D2	IC203	B2	J12	A4	L301	A2	Q300	C2	R207	D2	R234	B2	R272	C2	R302	A2	R337	B3	R371	C3	R415	D4	R454	C4	R529	D3	R738	C2	R827	D1	XL201	B1
C201	C1	C238	B1	C336	B3	C365	B3	C404	D4	C435	C4	C478	C4	C716	A1	C819	D1	C919	B3	CN802	D2	FB222	D2	IC204	B2	J2	A3	L401	A4	Q302	B3	R208	C2	R235	C1	R274	C1	R305	B1	R338	B3	R372	B3	R416	D4	R455	C4	R530	C3	R748	A1	R829	C1	XL202	D2
C202	B1	C239	B1	C337	C3	C370	A3	C4045	C3	C436	C4	C481	B3	C717	A1	C820	D1	C920	C2	CN803	D2	FB226	D1	IC205	D2	J3	A3	L402	B4	Q303	C3	R209	C2	R236	C1	R276	C2	R307	C3	R340	C3	R373	B3	R417	D4	R456	C4	R531	C3	R751	A1	R831	D2	XL203	B1
C203	C1	C242	C1	C338	C3	C4006	C4	C405	D4	C437	C4	C482	C4	C718	A1	C821	C1	C921	B1	D201	D2	FB310	B2	IC206	B2	J4	A3	L403	A4	Q304	C3	R210	C2	R242	C2	R277	C2	R308	A1	R341	C3	R379	C3	R419	D4	R457	C4	R532	D3	R752	A1	R833	C1	XL401	D4
C204	D3	C243	B2	C339	C3	C4007	C3	C406	D4	C438	C4	C483	B4	C719	A1	C822	D1	C922	C1	D202	D2	FB312	B3	IC207	C2	J5	A3	L404	B4	Q305	A1	R211	A2	R245	B1	R278	C2	R309	A2	R342	C3	R380	C3	R423	D4	R458	C4	R533	D3	R801	D1	R834	C1	ZD209	C2
C205	C2	C253	B1	C340	B2	C4008	C3	C4068	D3	C439	C4	C490	C4	C720	B1	C823	C1	C928	D2	D204	D2	FB313	B3	IC208	C2	J6	A3	L405	B4	Q405	D3	R212	A2	R248	D2	R279	B1	R310	A2	R343	B2	R381	C3	R424	D4	R459	C4	R546	A2	R802	D1	R835	D2	ZD301	B3
C207	C2	C254	C2	C341	B3	C4009	C4	C4069	A3	C442	B4	C491	C4	C721	A1	C824	C1	C929	B3	D205	C2	FB401	D4	IC209	B1	J7	A4	L406	B4	Q602	A1	R213	C2	R249	D2	R280	B1	R311	A2	R344	B3	R382	C3	R425	D4	R460	C4	R552	C3	R803	D1	R836	C1	ZD302	B2
C208	B1	C255	B1	C342	B3	C401	D4	C407	D4	C443	C4	C492	C4	C722	A1	C825	C1	C932	D3	D600	C2	FB603	A2	IC210	D2	J8	A4	L407	B4	Q611	A2	R215	D2	R250	B1	R281	B2	R312	A2	R347	B3	R383	C3	R426	D4	R461	C4	R553	C3	R804	C2	R838	D1	ZD901	D3
C210	C2	C257	D2	C343	B2	C4010	C4	C4072	A3	C444	A4	C493	C4	C723	A1	C827	C1	C935	C2	F201	C2	FB703	A1	IC301	A2	J9	A4	L408	B3	Q705	A4	R218	D2	R251	C2	R285	D2	R313	B3	R348	A2	R384	B3	R429	C4	R470	C4	R568	C3	R805	C2	R839	C1	ZD904	C1
C211	A2	C260	C2	C344	C3	C4011	C4	C4075	D4	C453	C4	C496	C4	C730	A1	C829	C1	CE351	A2	FB201	C2	FB704	A4	IC303	B3	JK302	A1	L409	B3	Q706	A1	R219	D2	R252	C2	R286	B2	R314	A3	R349	A2	R389	B2	R431	C4	R471	C4	R560	C3	R806	D1	R840	D1		
C213	B1	C261	C2	C346	B3	C4012	C4	C4076	D4	C454	C4	C497	A3	C732	B1	C830	C1	CE901	C1	FB202	B1	FB705	A4	IC304	B2	JK401	A3	L410	B3	Q707	A1	R220	A2	R253	B1	R287	B2	R317	B2	R352	B3	R390	B2	R432	C4	R472	C3	R601	C2	R807	D1	R841	C1		
C214	C1	C301	A2	C349	C2	C4013	C3	C4078	D3	C455	C4	C601	A1	C736	A2	C831	C1	CE903	B2	FB203	B1	FB706	A4	IC305	B2	JK601	A1	L411	B3	Q708	A1	R221	A2	R254	A2	R288	D2	R318	A2	R353	B3	R401	D4	R433	C4	R474	C3	R603	A1	R808	D1	R842	D1		
C215	B1	C316	B2	C350	C3	C4014	B4	C4080	D4	C456	C4	C602	A1	C737	A2	C832	C1	CE904	A2	FB205	C2	FB708	C2	IC306	B2	JK701	A1	L412	B3	Q801	C1	R222	B2	R257	D2	R289	D2	R321	B2	R354	A2	R402	D4	R434	C4	R475	C3	R604	A2	R812	D1	R845	D2		

1

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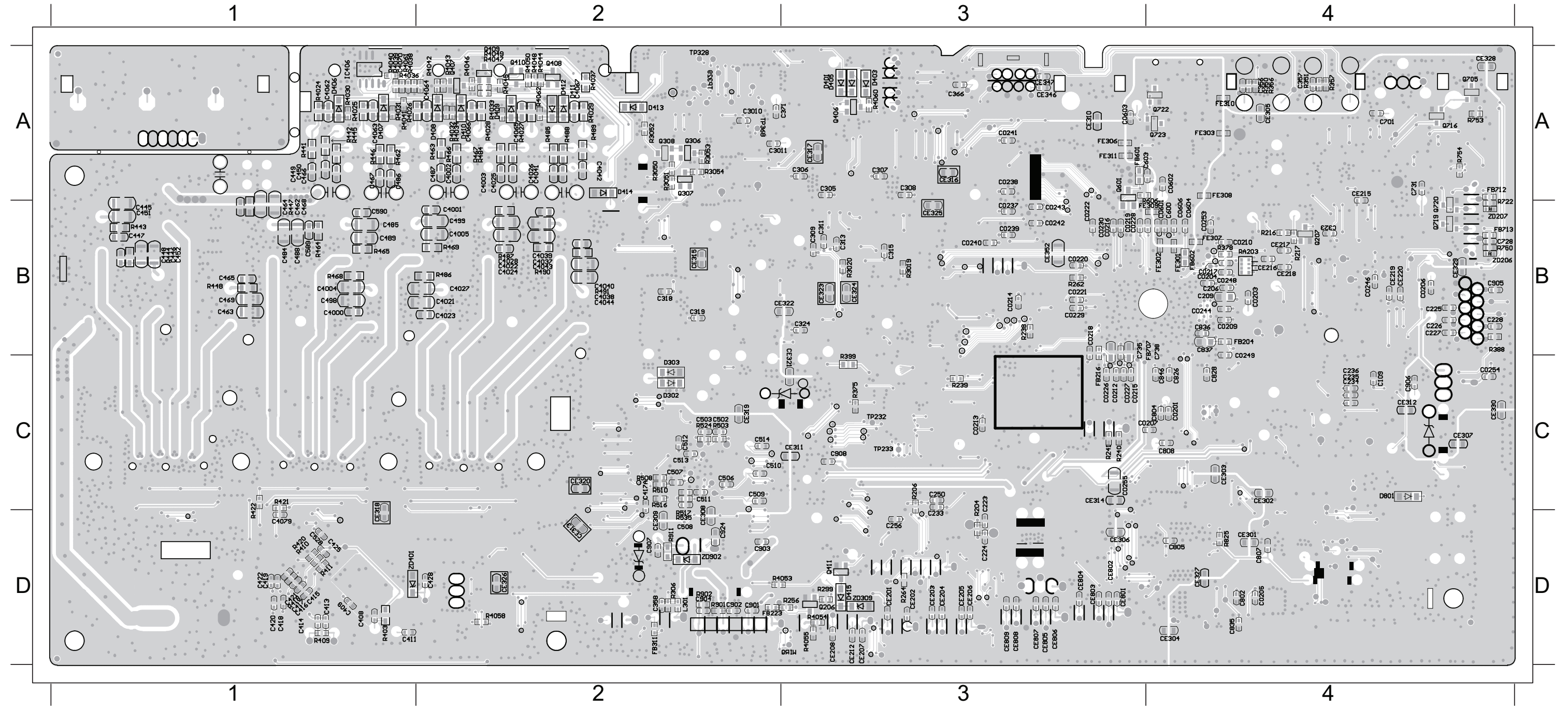
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PCB LAYOUT - BOTTOM VIEW

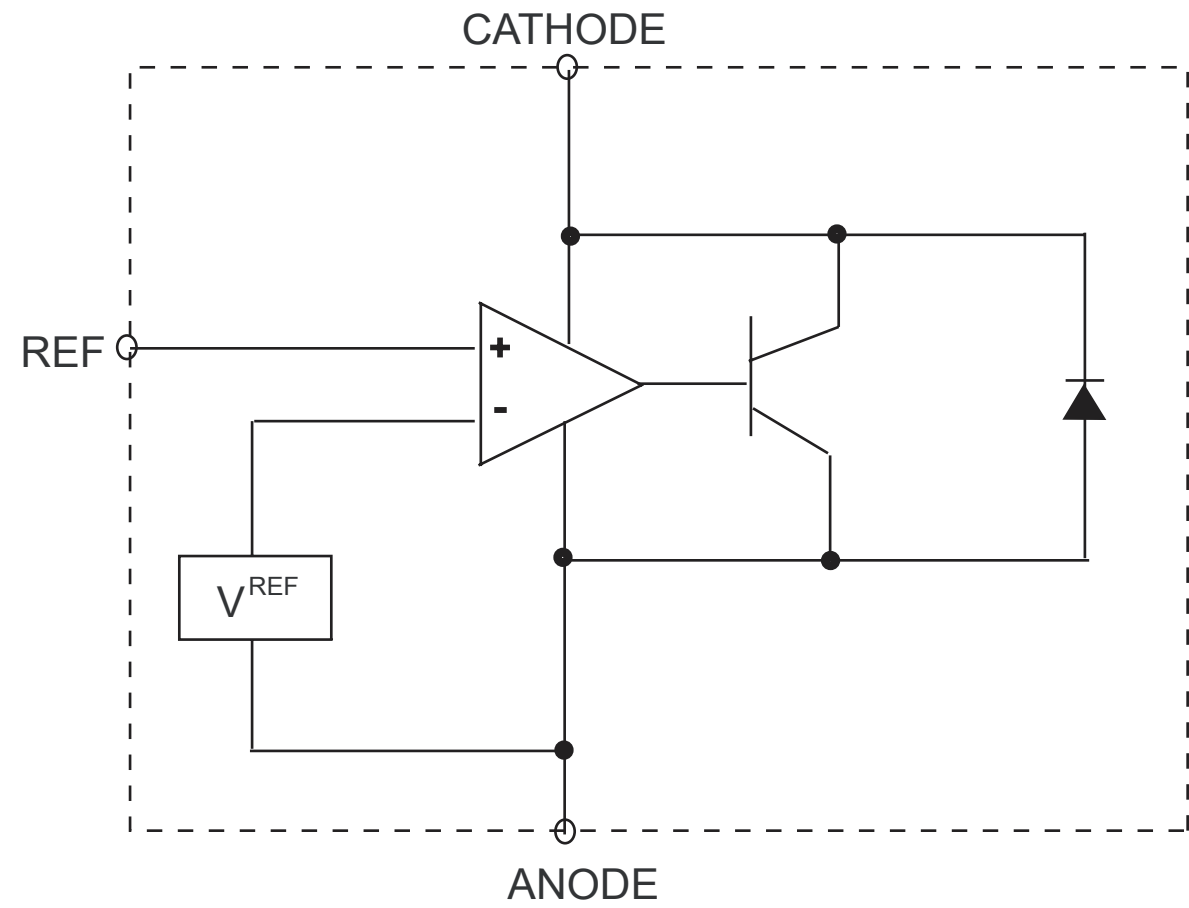
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C0203	B4	C0219	B3	C0242	B3	C209	B4	C313	B3	C4005	B2	C4042	A2	C414	D1	C449	A1	C486	A1	C728	B4	C846	C4	CE205	D3	CE305	A4	CE319	C2	CE352	B3	D407	A1	FB602	B4	Q601	A3	R356	A4	R4032	A2	R420	D1	R465	B1	R606	B4
C0204	B4	C0220	B3	C0243	B3	C223	C3	C315	B3	C4021	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
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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		
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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

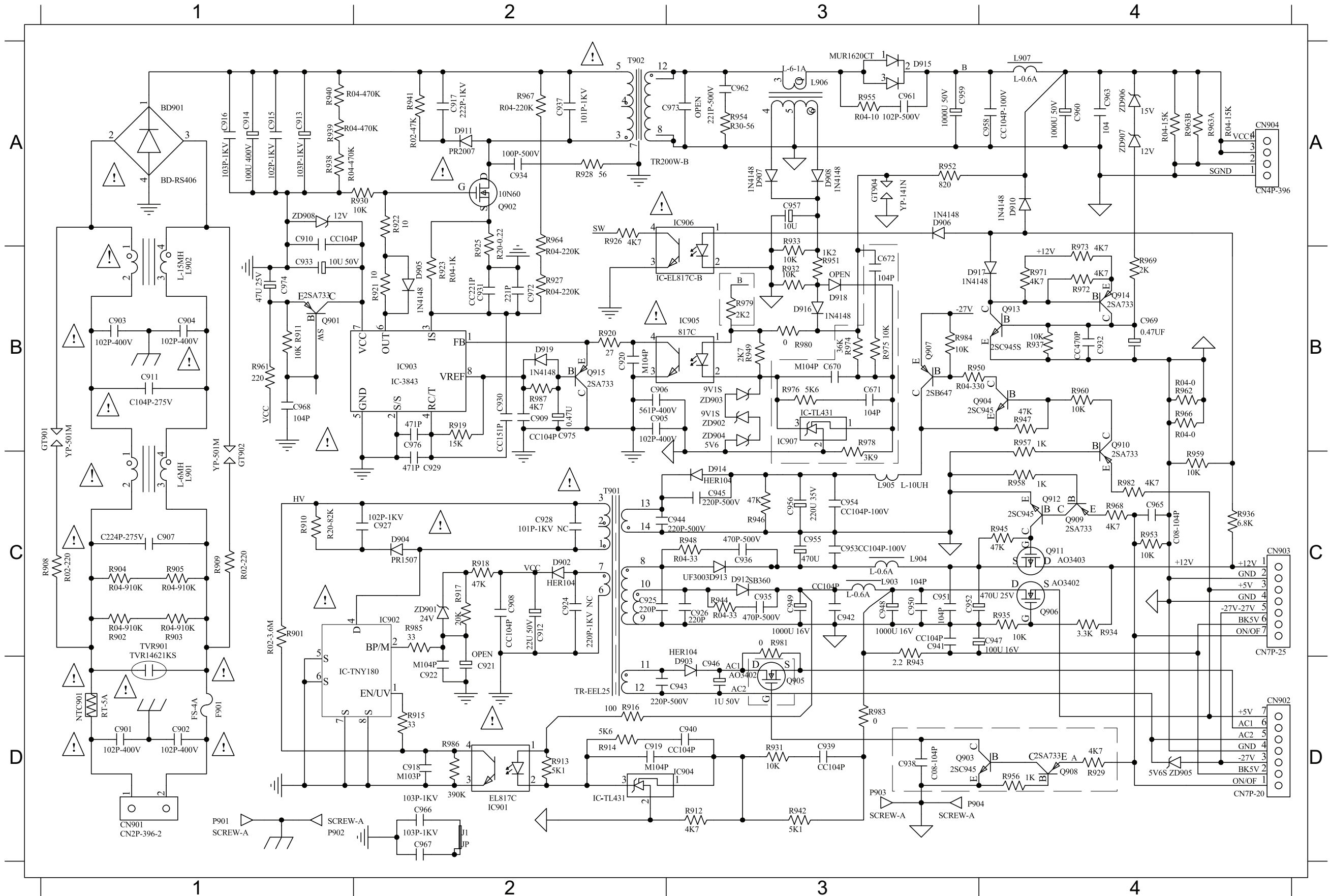
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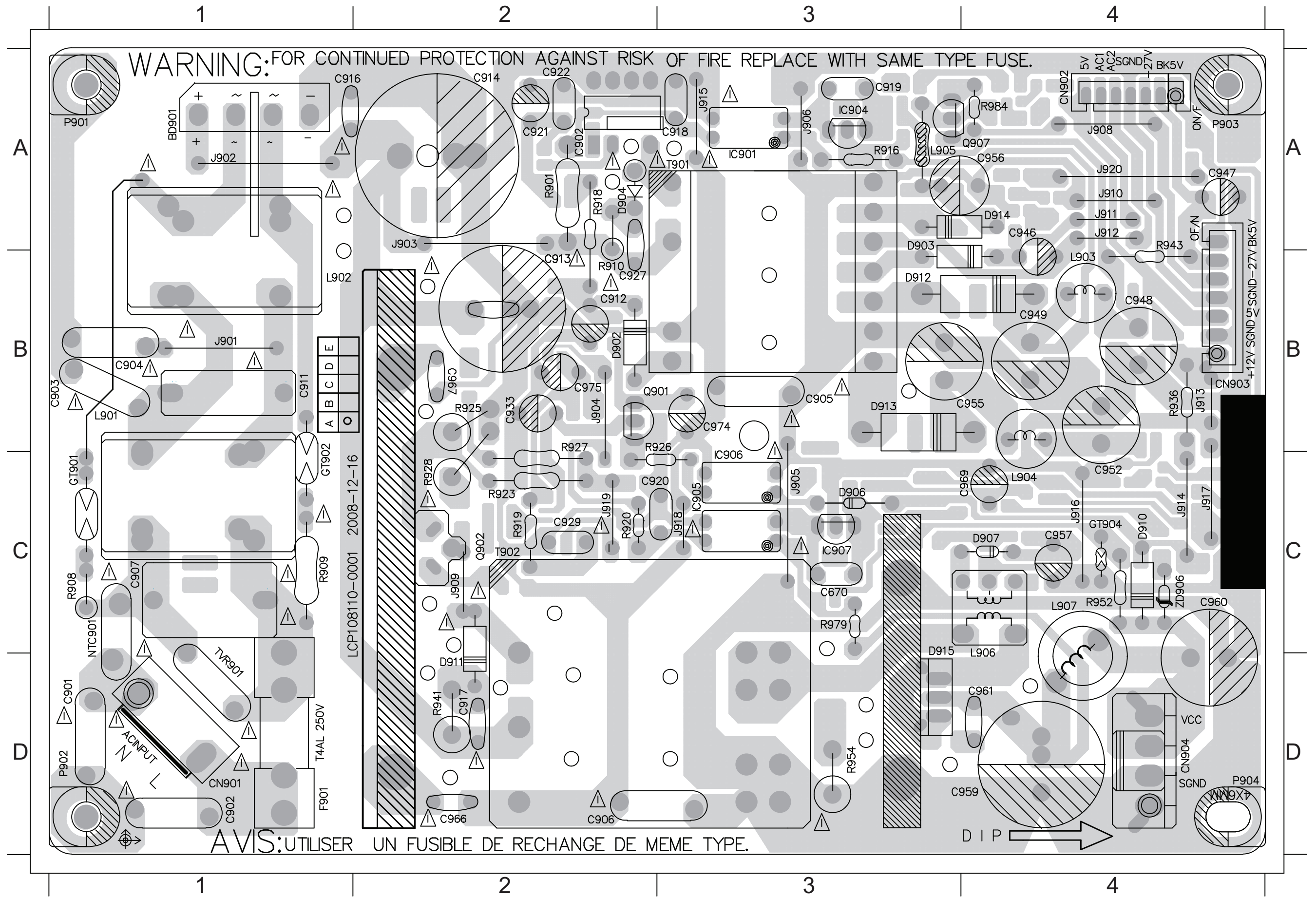
CIRCUIT DIAGRAM

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
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 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



PCB LAYOUT - TOP VIEW

BD901 A1 C907 C1 C916 A1 C921 A2 C946 A4 C955 B4 C961 D4 CN901 D1 D903 A3 D911 D2 F901 D1 IC905 B3 J904 B2 J910 A4 J915 A3 L901 B1 L906 C4 Q907 A4 R918 A2 R926 B2 R943 A4 T902 C2
 C903 B1 C911 B1 C917 D2 C922 A2 C947 A4 C956 A4 C967 B2 CN902 A4 D904 A2 D912 B4 GT902 C1 IC906 C3 J905 C3 J911 A4 J916 C4 L902 B1 L907 C4 R901 A2 R919 C2 R927 B2 R952 C4 TVR901C1
 C904 B1 C912 B2 C918 A3 C927 B2 C948 B4 C957 C4 C969 C4 CN903 B4 D906 C3 D913 B3 IC901 A3 J901 B1 J906 A3 J912 A4 J917 C4 L903 B4 NTC901C1 R909 C1 R920 C2 R928 C2 R954 D3 ZD906 C4
 c905 B4 C913 B2 C919 A3 C929 C2 C949 B4 C959 D4 C974 B3 CN904 D4 D907 C4 D914 A4 IC902 A2 J902 A1 J908 A4 J913 B4 J918 C3 L904 C4 Q901 B2 R910 B2 R923 C2 R936 B4 R984 A4
 C906 D2 C914 A2 C920 C2 C933 B2 C952 C4 c960 C4 C975 B2 D902 B2 D910 C4 D915 C3 IC904 A3 J903 A2 J909 C2 J914 C4 J919 C2 L905 A3 Q902 C2 R916 A3 R925 B2 R941 D2 T901 A3

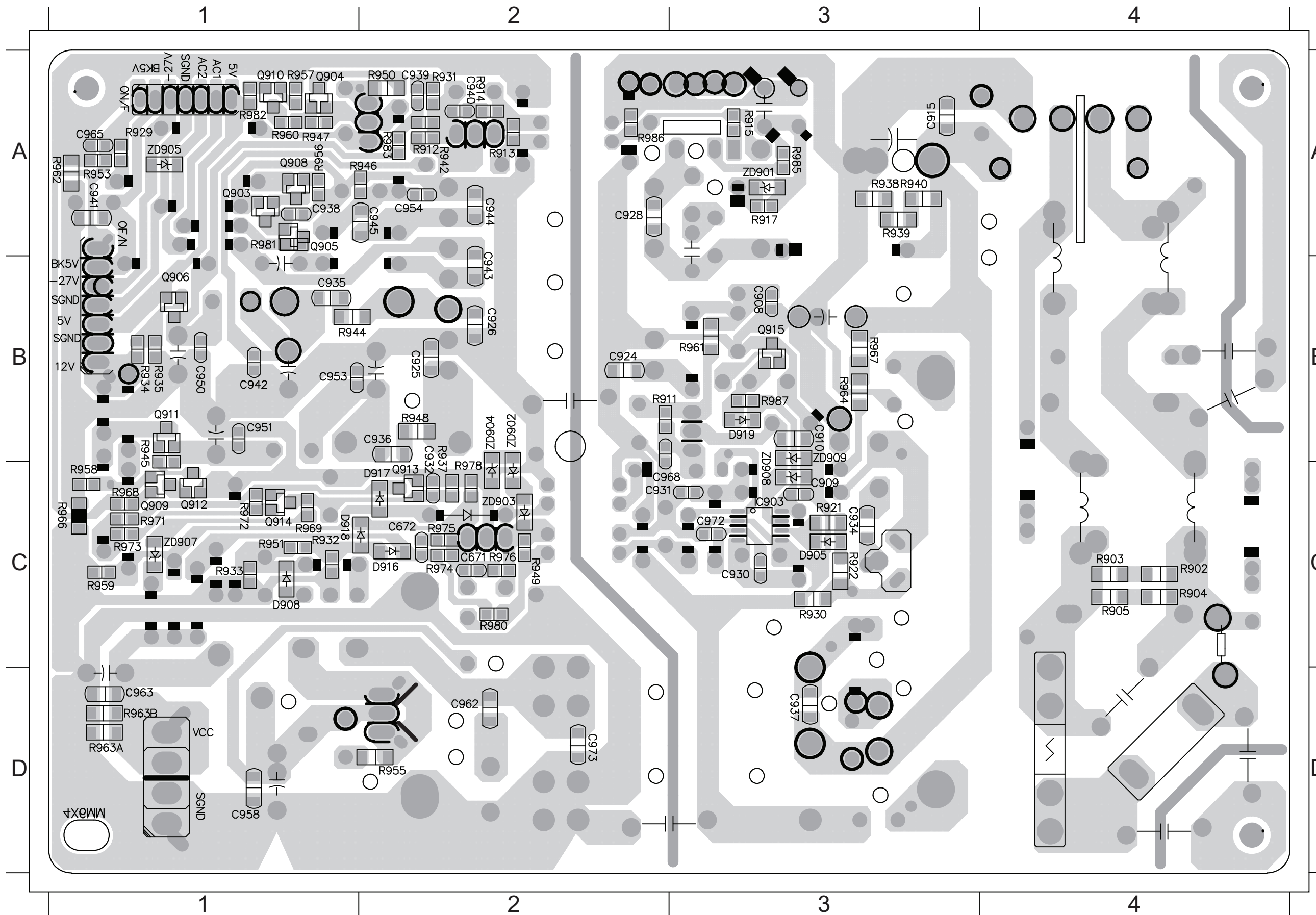


PCB LAYOUT - BOTTOM VIEW

7 - 4

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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



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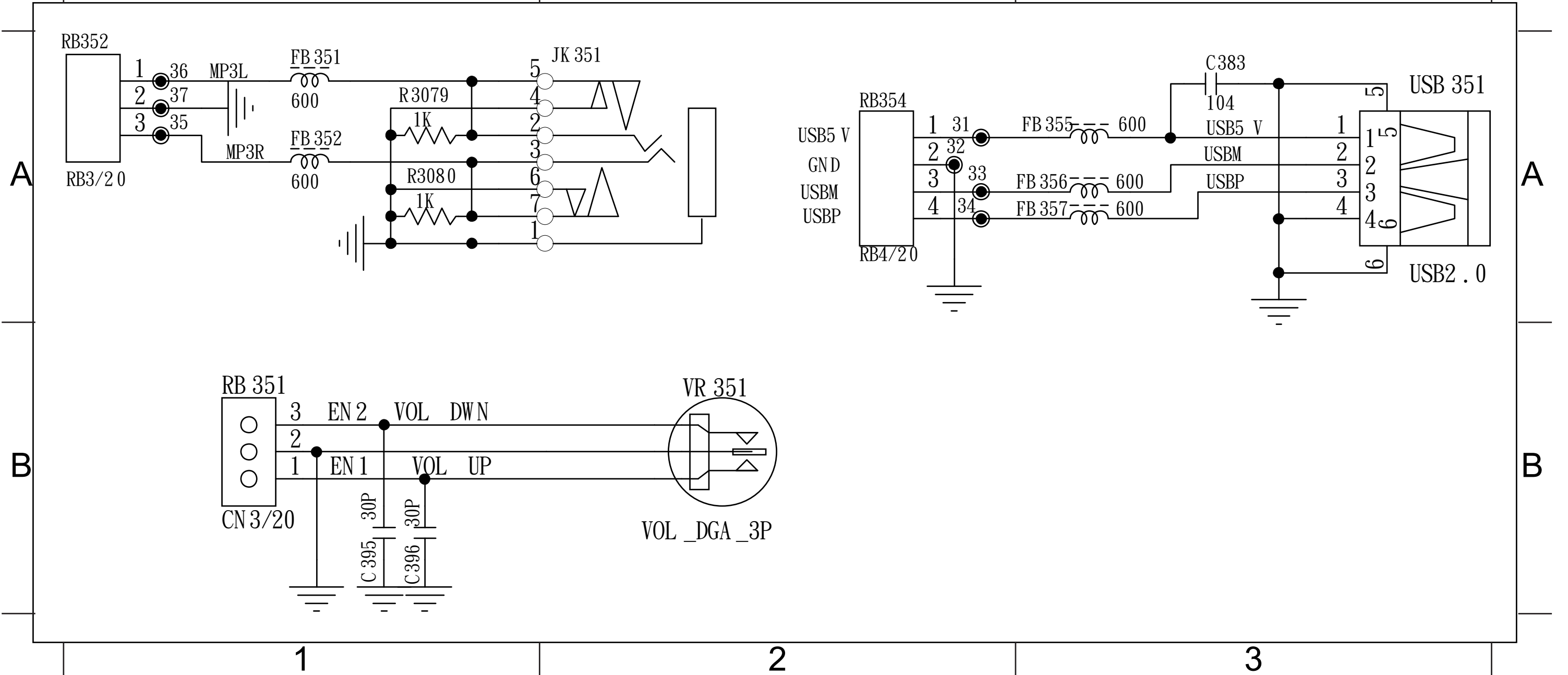
CIRCUIT DIAGRAM

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1

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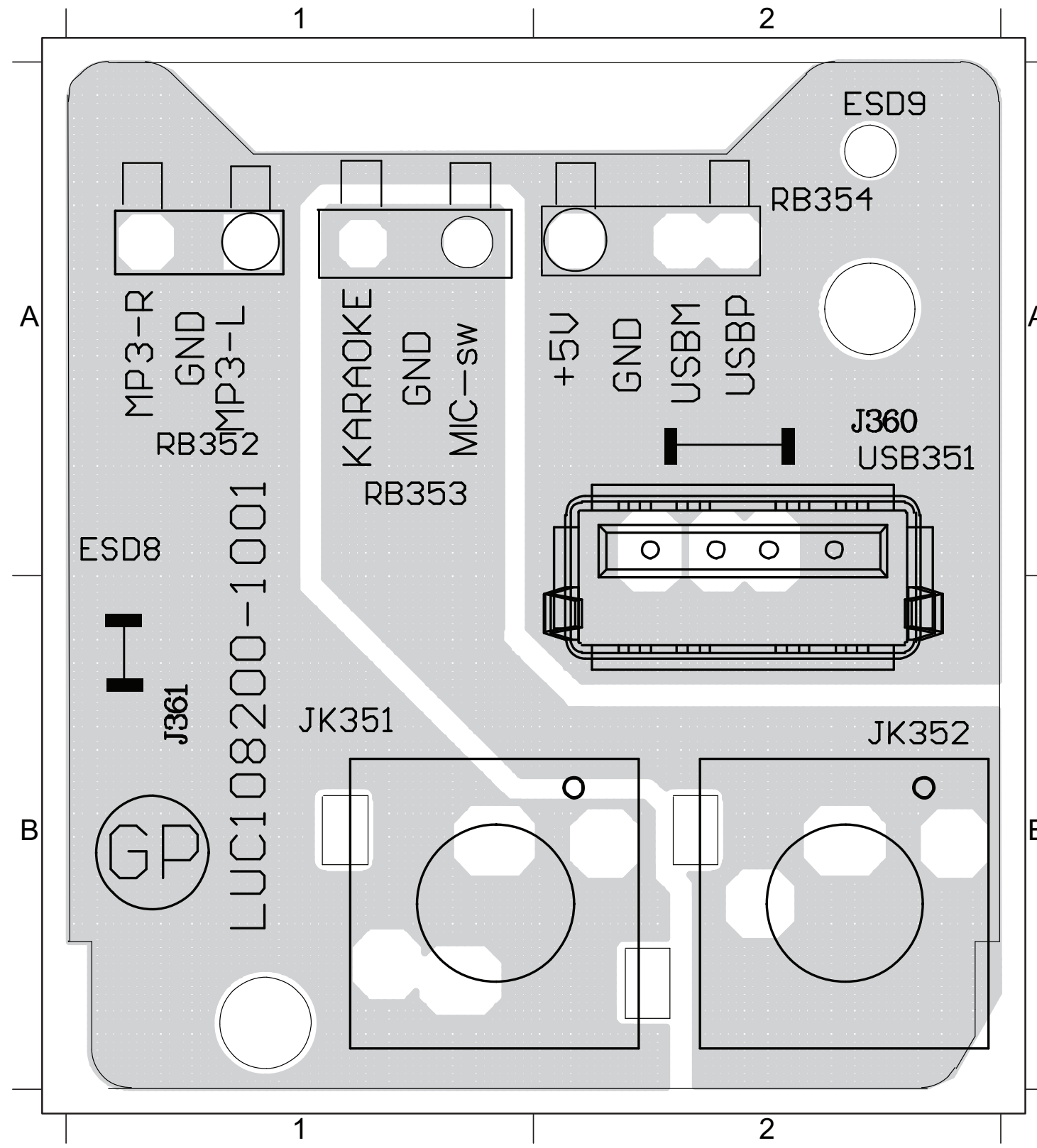
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PCB LAYOUT - TOP VIEW

8-3

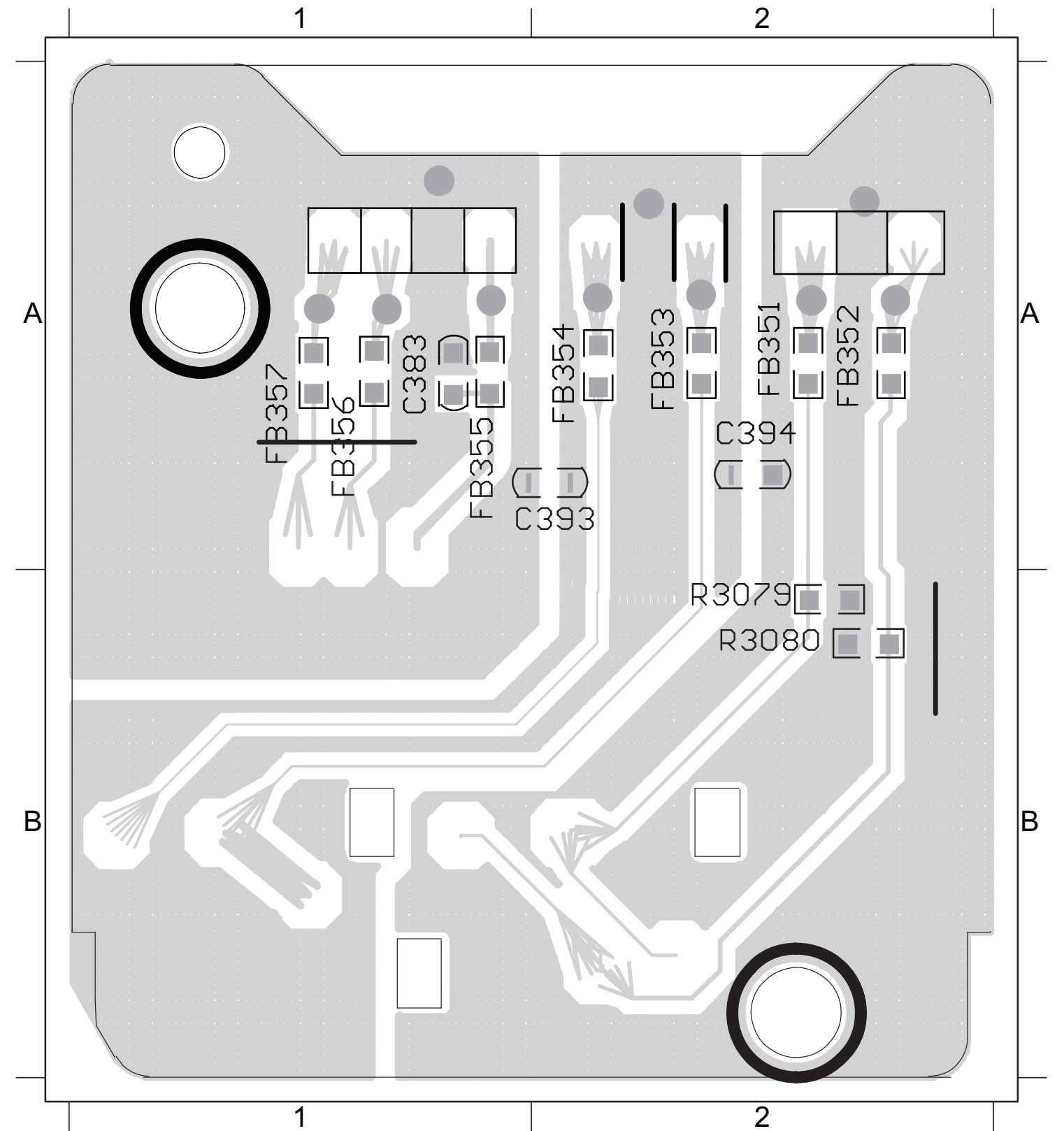
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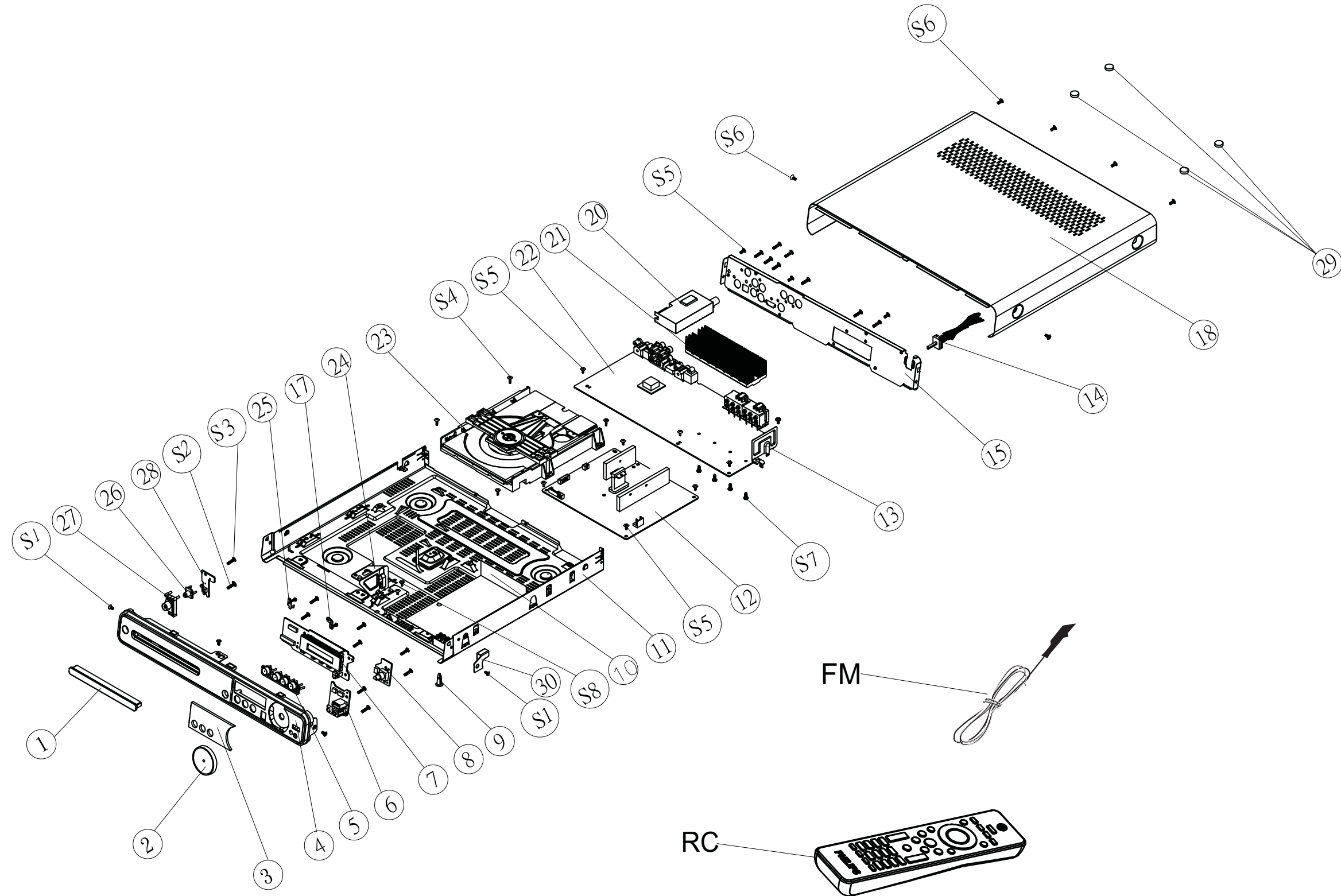


PCB LAYOUT - BOTTOM VIEW

8-3

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





$$A=7+28+8$$

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.SAFETY Y1 102PF 250V
C904	996500027115	⚠	CAP.SAFETY 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