DVD Home Theater System

HTS3277/12

Service
Service
Service

Service Manual

TABLE OF CONTENTS

Version 1.0

PHILIPS

LOCATION OF PCB BOARDS

TUNER PCB AS'Y — SCART PCB — MAIN PCB — STANDBY PCB — DISPLAY PCB — VOLUME PCB — MP3 PCB — POWER PCB
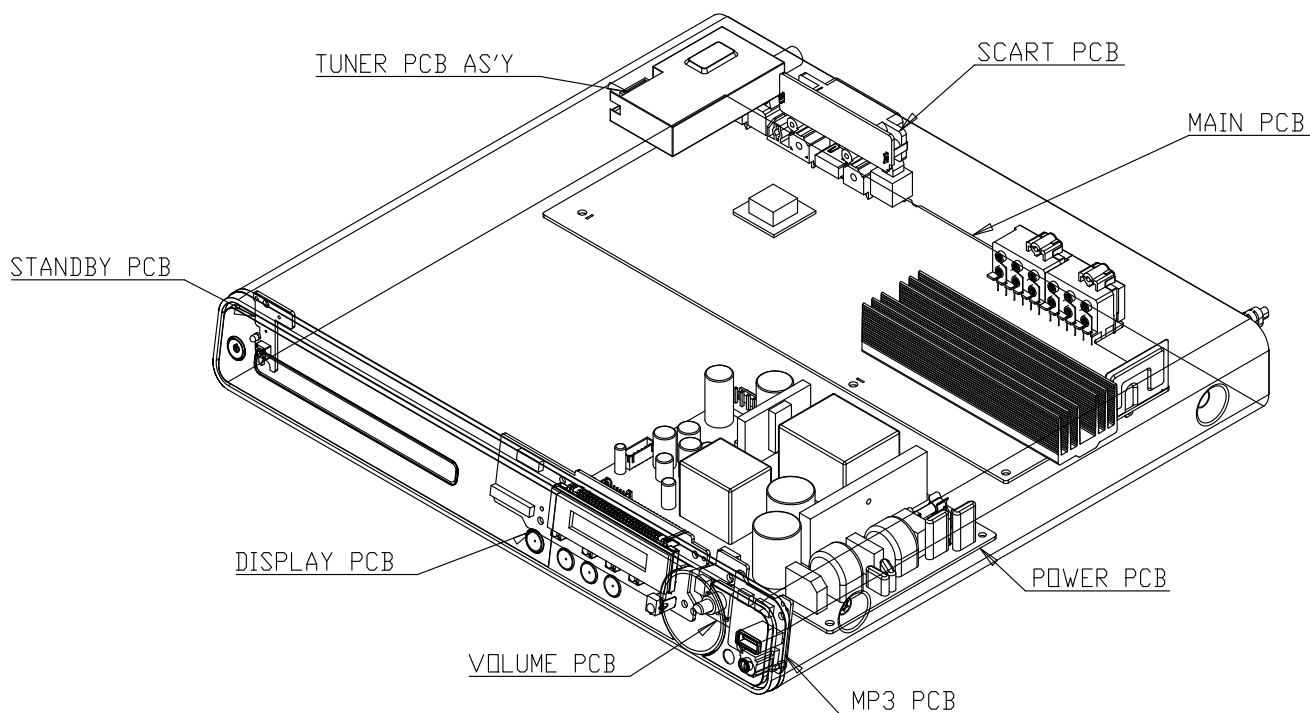
VERSION VARIATION:

Type/Versions Features	HTS3277 /12
Output Power - 420W	X
Voltage (110~240V)	X
MP3 Link	X

SERVICE SCNARIO MATRIX:

Type/Versions Board in used	HTS3277 /12
MAIN Board	C
Power Board	C
DISP+LED+VOL Board	C
Scart Board	C
MP3 IN 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 Theatre mode.........................420 W(2 X 100 + 4 X 55)
Frequency response...40 Hz ~ 20 kHz
Signal-to-noise ratio....................................... > 60 dB
.... (A-weighted)
Input sensitivity ....
AUX .... 400 mV
SCART TO TV...250 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 kHz)
2 6 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

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

Main Unit

Power supply ....110–240 V; ~ 50–60 Hz
Power consumption .... 80 W
Standby power consumption .... < 1 W
Dimensions (WxHxD) .... 360 x 57 x 331 (mm)
Weight ....2.87 kg

Speakers

System... full range satellite
Speaker impedance............ 4 ohm (centre),8 ohm (Front/Rear)
Speaker drivers ....
  Centre/Front/Rear.. 3" full range
Frequency response.....................................150 Hz ~ 20 kHz
Dimensions (WxHxD) ....
  - Centre/Front/Rear .... 100 x 100 x 75 (mm)
Weight ....
  - Centre...0.66 kg
  - Front..0.39 kg
  - Rear...0.38 kg

Subwoofer

Impedance... 4 ohm
Speaker drivers .... 165 mm (6.5") woofer
Frequency response...40 Hz ~ 150 Hz
Dimensions (WxHxD) .... 123 x 310 x 369 (mm)
Weight ....3.88 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.
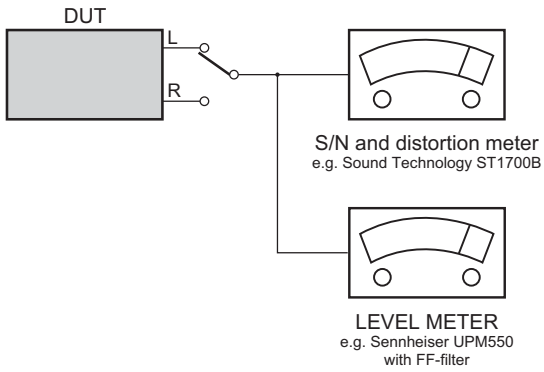
MEASUREMENT SETUP

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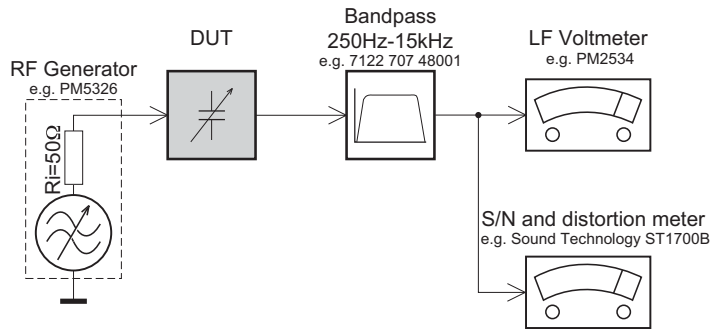
Use a bandpass filter to eliminate hum (50Hz, 100Hz) and disturbance from the pilottone (19kHz, 38kHz).

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
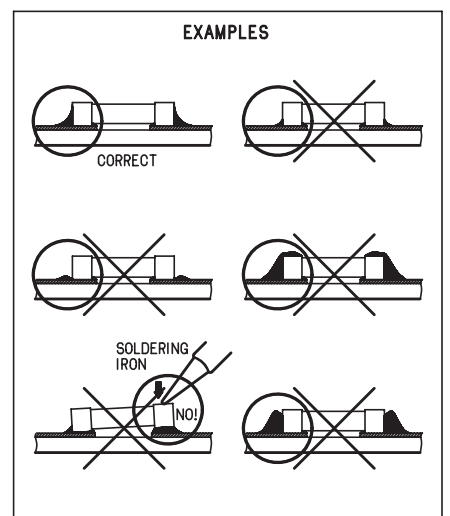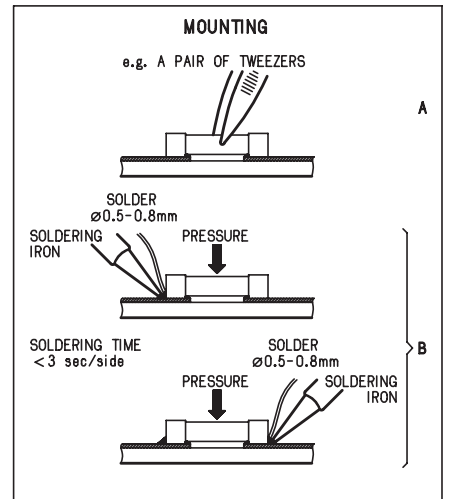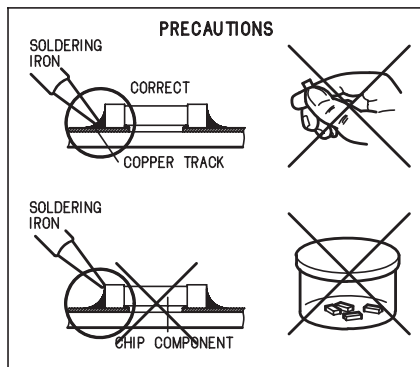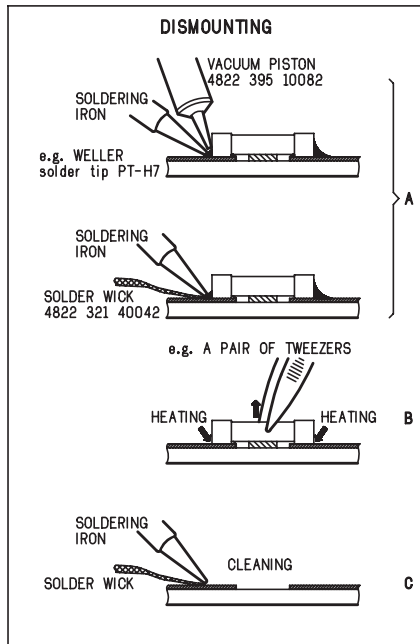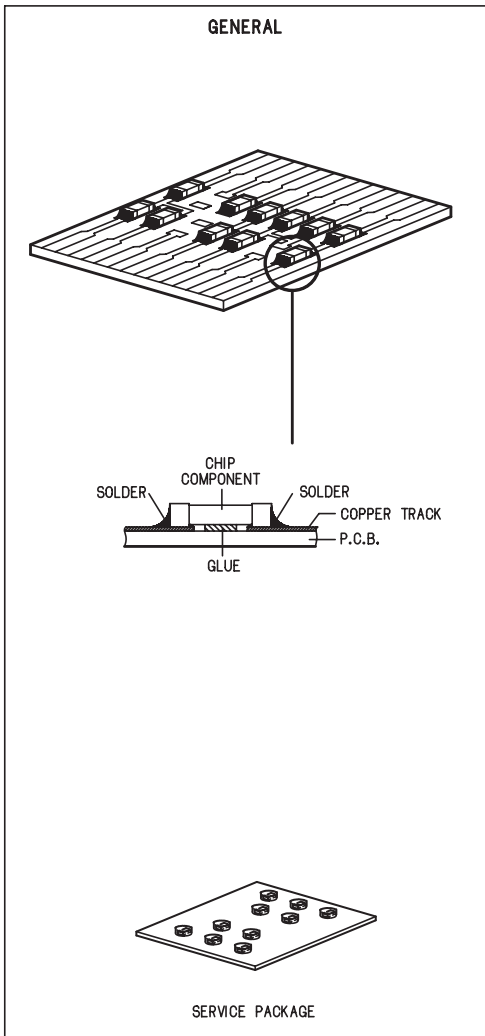
WARNING

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 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.

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.

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.

```
CLASS 1
LASER PRODUCT
3122  110  03420
```

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.

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

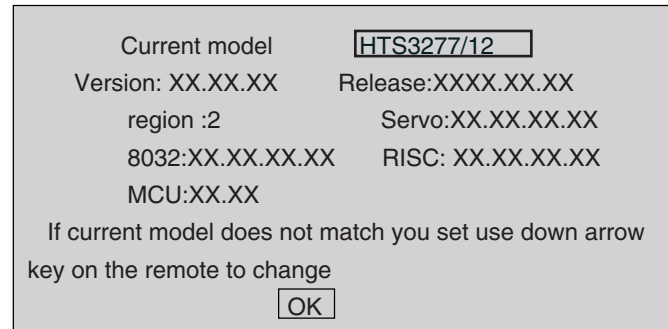c) Go preference page to do system reset

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:

```
      Current model        HTS3277/12
   Version: XX.XX.XX     Release:XXXX.XX.XX
       region :2             Servo:XX.XX.XX.XX
    8032:XX.XX.XX.XX     RISC: XX.XX.XX.XX
    MCU:XX.XX
   If current model does not match you set use down arrow
 key on the remote to change
                       OK
```

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

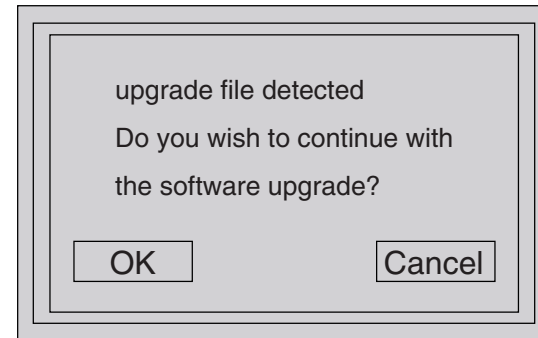b) Press "2" "5" "9" on R/C,VFD will display "TRA ON " or "TRA OFF"

7) 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:

```
          upgrade file detected
          Do you wish to continue with
          the software upgrade?

       OK              Cancel
```

f) Select "OK", OSD will show:

```
          upgrade in progress...
          V327X
          please do not unplug or
          switch off the device.
```
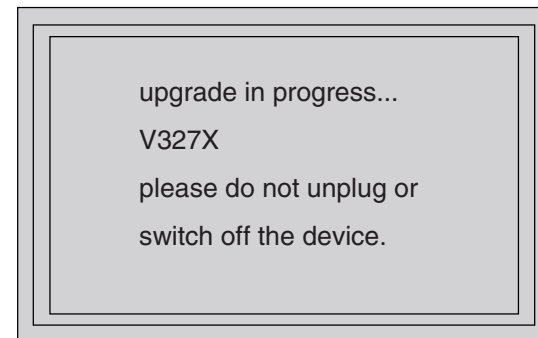
CAUTION!

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

REPAIR INSTRUCTIONS (ONE)

MAIN UNIT REPAIR CHART 1/3

Node	Description
A	All Function No Working
B	Power Supply No Working
C	All Function No Sound
E	Audio line IN 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 SCART output

A

All function No working

Check all system all cable is loose or bad INT — YES → Re-insert and fix the cable

NO

Panel stanby LED show working or Not — NO → Check back power PCB F901 bad cause damage — BAD → Change F901

OK

Check CN903 7pin BK5V if right — NO → Check +5V power supply circuit

YES

Check repair control PCB Standby circuit

WORK

Check cn903 3pin +5V=5V — NO → Check repair switch power circuit (See B)

CHECK ← VCC=5V VD33=3.3V VD18=1.8V

CORRECT

Check all Voltage 3.3V and 1.8V give circuit — YES → Check IC209 Pin238 pin239 OSC frequency 27MHz)

YES

Repair main pcb between IC204 IC205 IC206 IC207 IC208 and IC209 circuit

B

Power Supply No working

All Voltage No Output — No →

- +VCC Voltage No Output → Check Q902 IC903 And Its Conjoint Part
- -27V Voltage No Output → Check D914 Q907 And Its Conjoint Part
- +12V Voltage No Output → Check D913 Q911 And Its Conjoint Part
- +5V Voltage No Output → Check D912 Q906 And Its Conjoint Part
- BK5V Voltage No Output → Check D912 R943 And Its Conjoint Part

YES

Check F901 Bad Cause Damage

No

Check BK5V +5V Working or Not — No → Check Repair IC901 IC902 IC904 And Its conn circuit

C

All Function No Sound

Yes

Check POWER IC Voltage +31.8V — No → See Contents B

OK

Check Power ic Voltage 12V and fb401 — YES → Check Power ic Pin 1,21,22,23,44

OK

Check main pcb Voltage +5v — No → Check R925 Q904 ZD903 And Its conn parts

OK

Check Q405 Pin1 Voltage +3.3V — No → Check R426 ZD401 Q405 And Its conn parts

OK

Check IC401 12PIN 15Pin HIGH(3.3V) OR LOW(0V) — LOW → Check R408 IC401 And Its conn parts

Yes

Check IC402 IC403 IC404 And Its Conjoint Part

REPAIR INSTRUCTIONS (TWO)

MAIN UNIT REPAIR CHART 2/3

E

AUX/Scart IN
No Output

Check JK302 /JK702 PIN2, 6
INT or No → INT → Change this jk

OK

Check IC304 IC305 Pin7
approx -5.1V Pin16 approx +5.1V
Yes or No → No → Check ZD301ZD302

Yes

Check IC306 Pin13 +5V
pin5 +3.3v → No → Check R307 R339

OK

Check IC306
And Its Conjoint parts

OK

See C

G

DVD Audio
No Sound

Check Open/Close
Working or Not → No → Check CN802 CN803
to DVD Loader Cable loose
or Bad INT → No → Check IC801
And Its conjoint parts

OK

Check CN801 to
DVD loader Cable Loose
or Bad INT → YES → Re-Insert and fix
the cable ← Yes

OK

Determine Picture Output
Yes or No → No → Check IC209 And
Their Conjoint Parts

OK

Check Q801 Q802 Q803 Q805
Q804 And Their Conjoint Parts

H

MP3 In
No Sound

Check JK302
INT or No → INT → Change this jk

OK

Check IC304 IC305 Pin7
approx -5.1V Pin16 approx +5.1V
Yes or No → No → Check ZD301ZD302

Yes

Check IC306 Pin13 +5V
pin5 +3.3v → No → Check R307 R339

OK

Check IC306
And Its Conjoint parts

OK

See C

I

COAXIAL In
No Sound

Check JK704
INT OR NO → INT → REPAIR ok

OK

Check IC201 pin11
approx +5.0V   Yes or No → No → Check And Repair
FB203

OK

Check IC201 pin14 pin15
f=12MHz → No → Check And Repair
XL201and connect part

OK

Check IC201 IC209And
Its Conjoint Parts

j

Optical
No Sound

Check JK703
INT OR NO → INT → REPAIR ok

OK

Check IC201 pin27
approx +5.0V   Yes or No → No → Check And Repair
FB203

OK

Check IC201 pin14 pin15
f=12MHz → No → Check And Repair
XL201and connect part

OK

Check IC201 IC209And
Its Conjoint Parts

REPAIR INSTRUCTIONS (THREE)

MAIN UNIT REPAIR CHART   3/3

L

Tuner No Sound Output

Check CN301 Pin9= +9V → **No** → Check CN301Q901 ZD904 And Its Conjoint Parts → **Yes** → Check SW Power See B

Yes

Check CN1 to CN301 Cable Loose or INT → **No** → Check IC1 And Its Conjoint Parts

No

Check CN1 Pin2/Clock Pin3/Data,Pin4/CE Affirm Correct → **No** → Check VT Valtage Low Freq=0.8--1.8V Hi Freq=8.0--9.0V

No

Check IC102 IC108 And Its Conjoint Parts

VT No Change

Check IC1 OSC Input Pin3---FM OSC

No FM

Repair FM osc Section L6 or DT4 And Its Conjoint Parts

FM Function No Sound

Check CN302 IC301 And Its Conjoint Parts

OK

Check CF2 And Its Conjoint Parts

OK

L6 DT4 And Its Conjoint Parts

OK

Check IC1 X1 C39 And Its Conjount Parts

OK

Check Main Pcb Of Tuner Input Circuit

N

No CVBS output

Check JK701 Video signal

Yes

Check IC209 PIN187 To JK701 Conjoint Parts

O

No SCART output

Check JK703 Pin7 ,11, Pin15,19 Video signal

Yes

Check RB701orCN701 Pin1,3,5,7 Video signal

Yes

Check IC209 PIN182 PIN183 pin185 To pin187 Conjoint Parts

M

HDMI No Output

Insert And Pull out HDMI cable → **No** → Check Q601 And Conjoint Parts

Yes

Check IC209 pin170/171 pin173/174 pin176/177 pin179/180

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.

Push

Figure 1

2mm

24mm
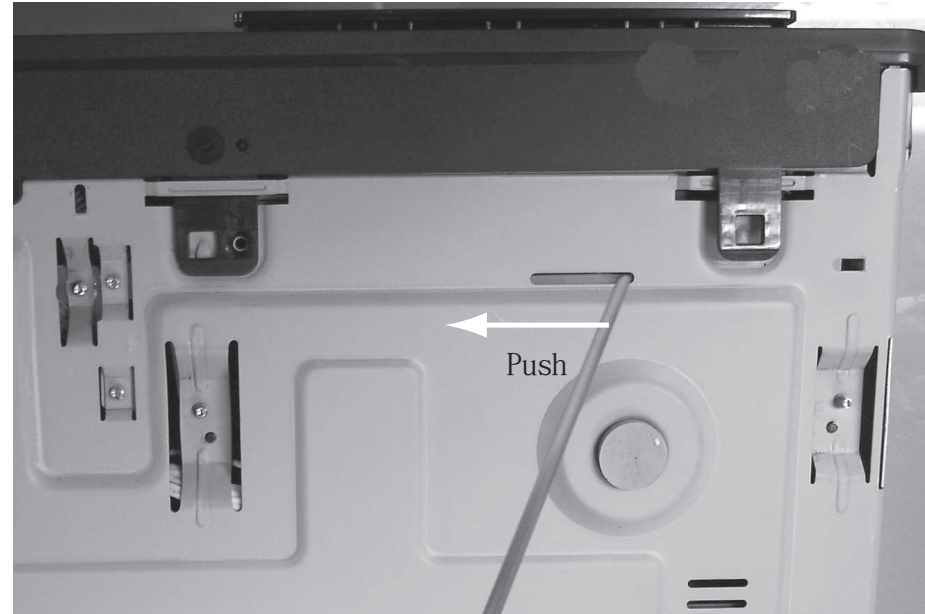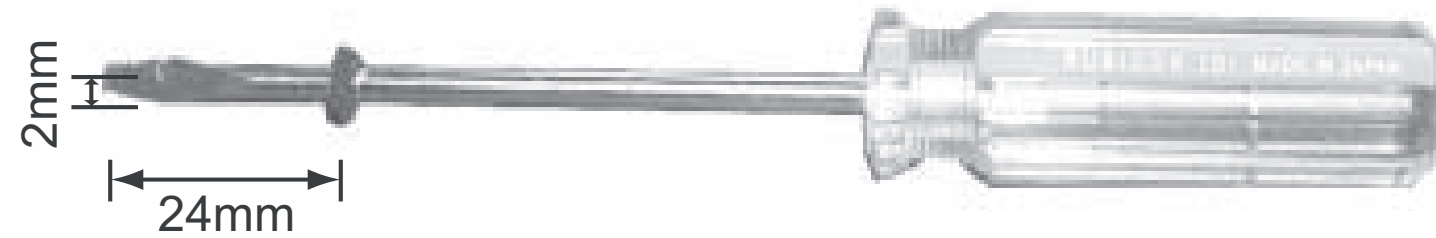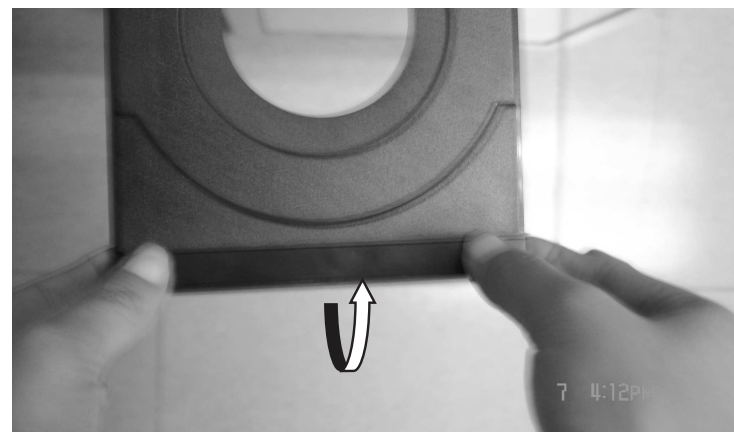
Figure 2

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.

A

Figure 4

B

Figure 5

C
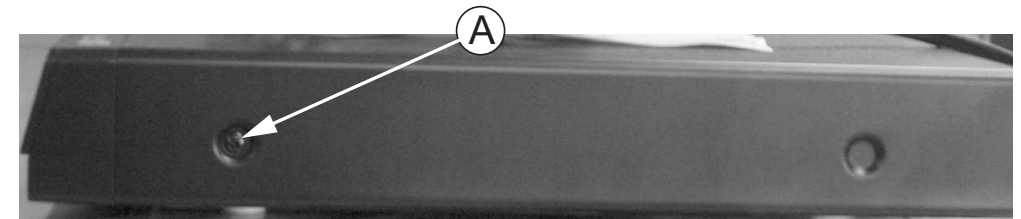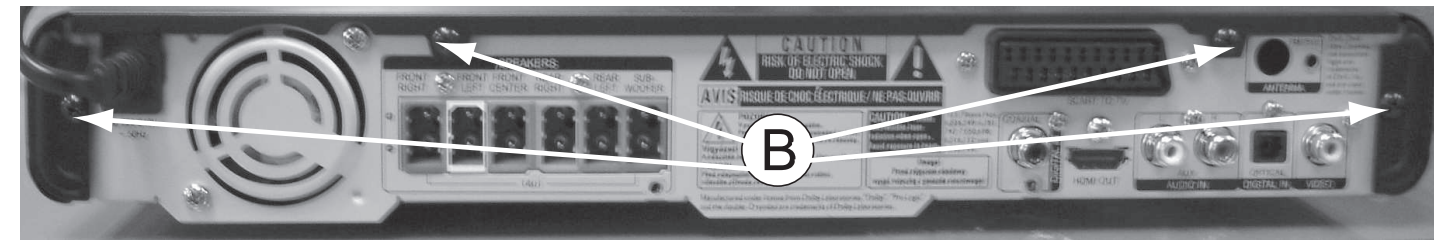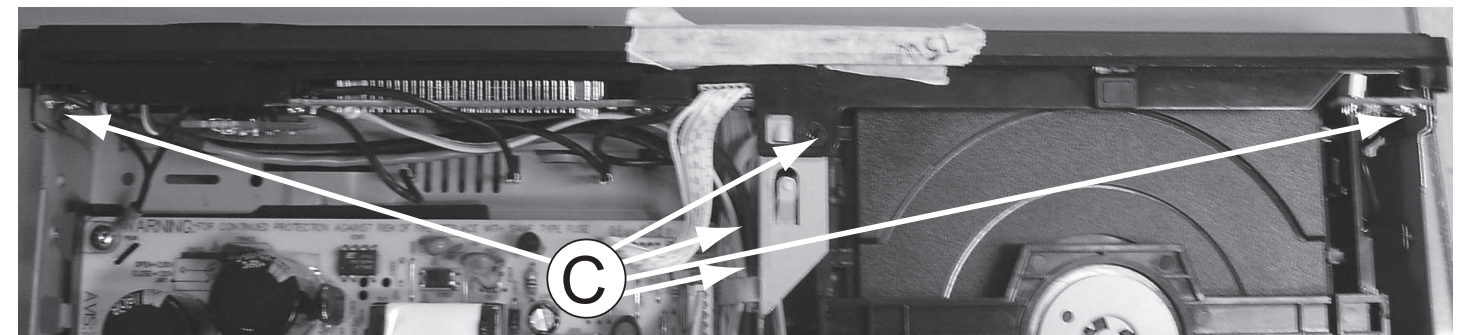
Figure 6

Dismantling of the DVD Module

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

D
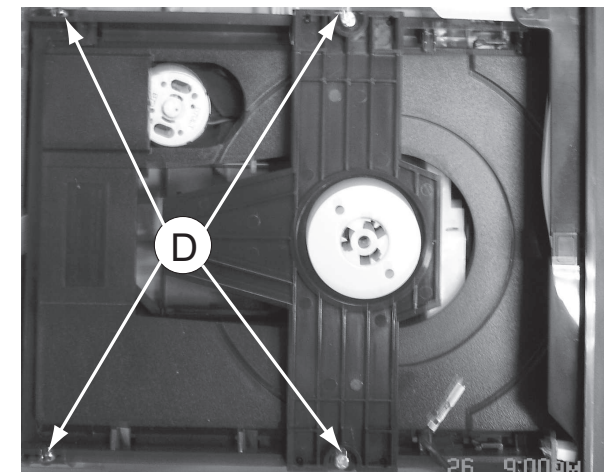
Figure 7

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.
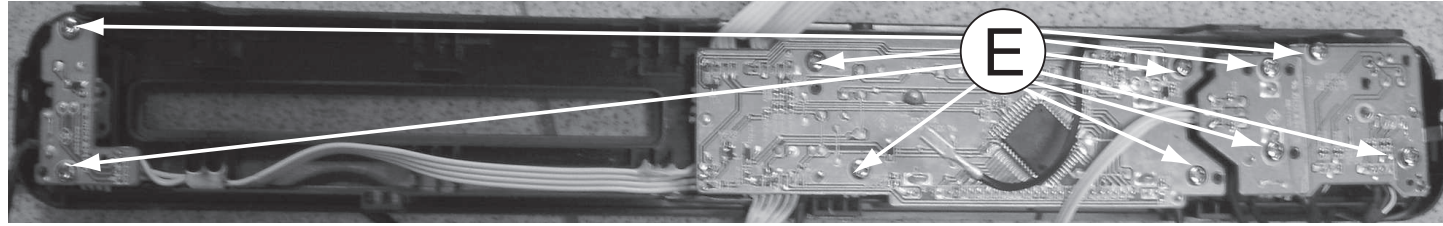
Figure 8

Dismantling of the Power Board

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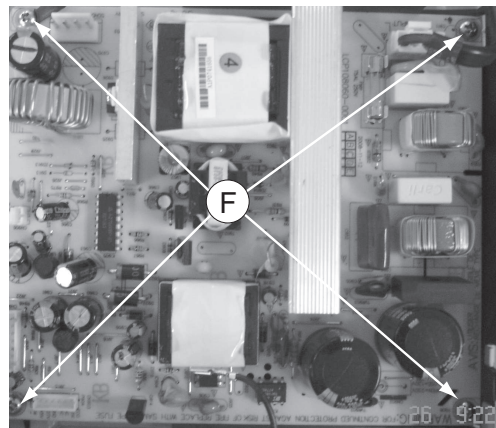2) With a pincers to nip this space as shown in figurer 10 and to take up the power board.
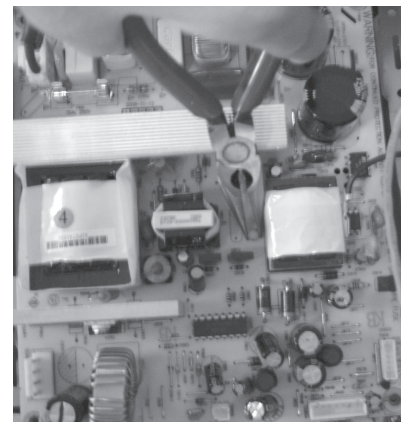

Figure 9

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.
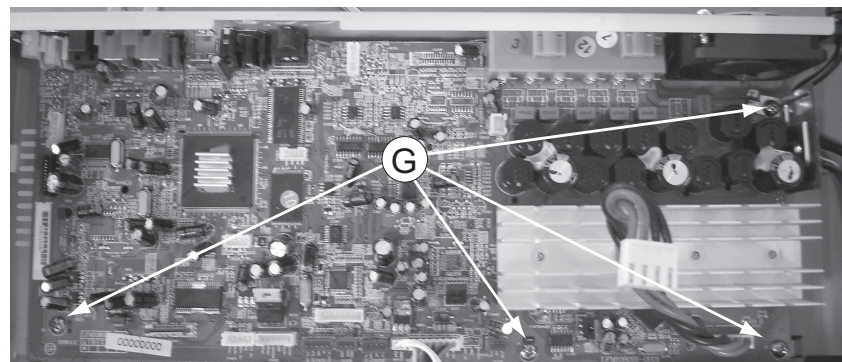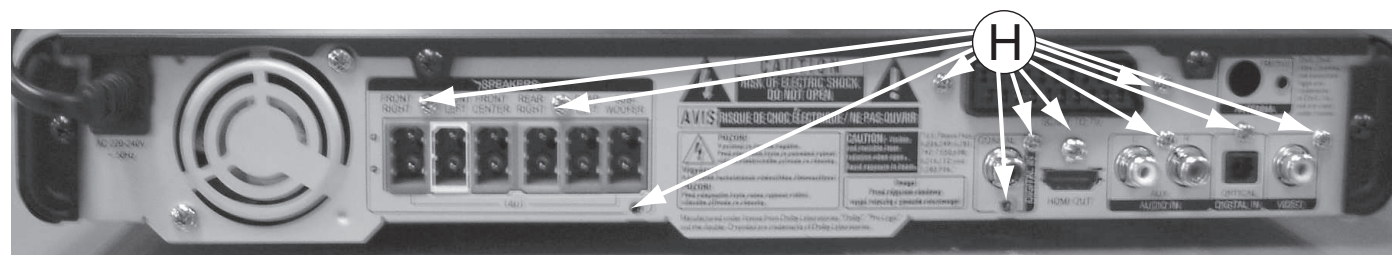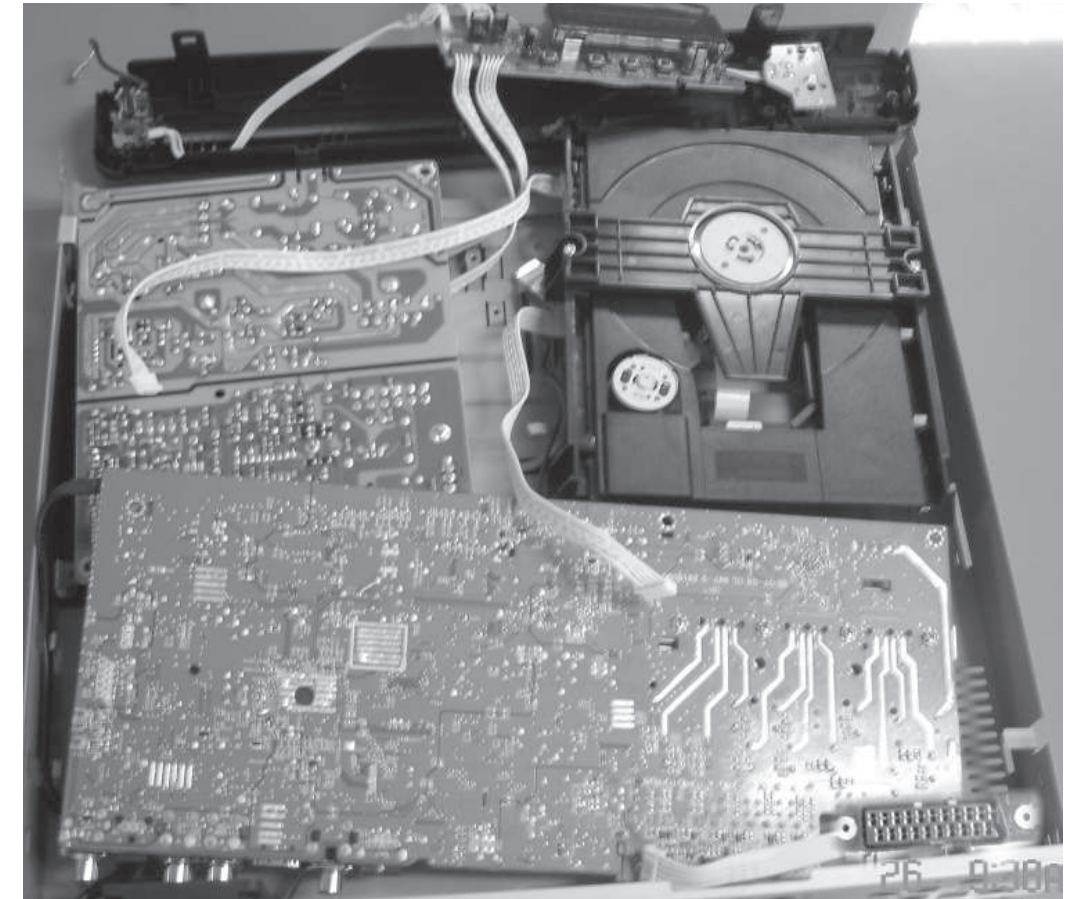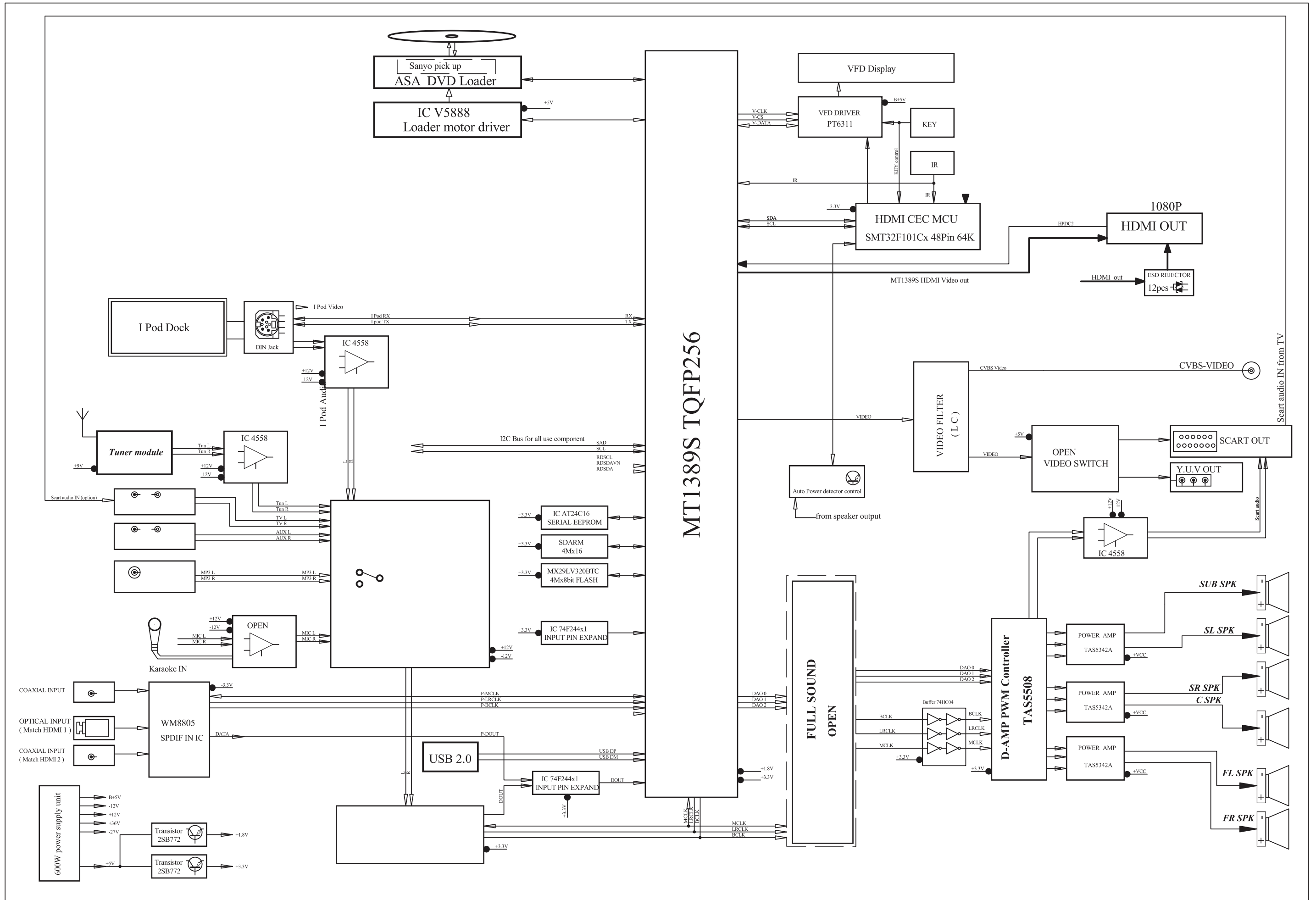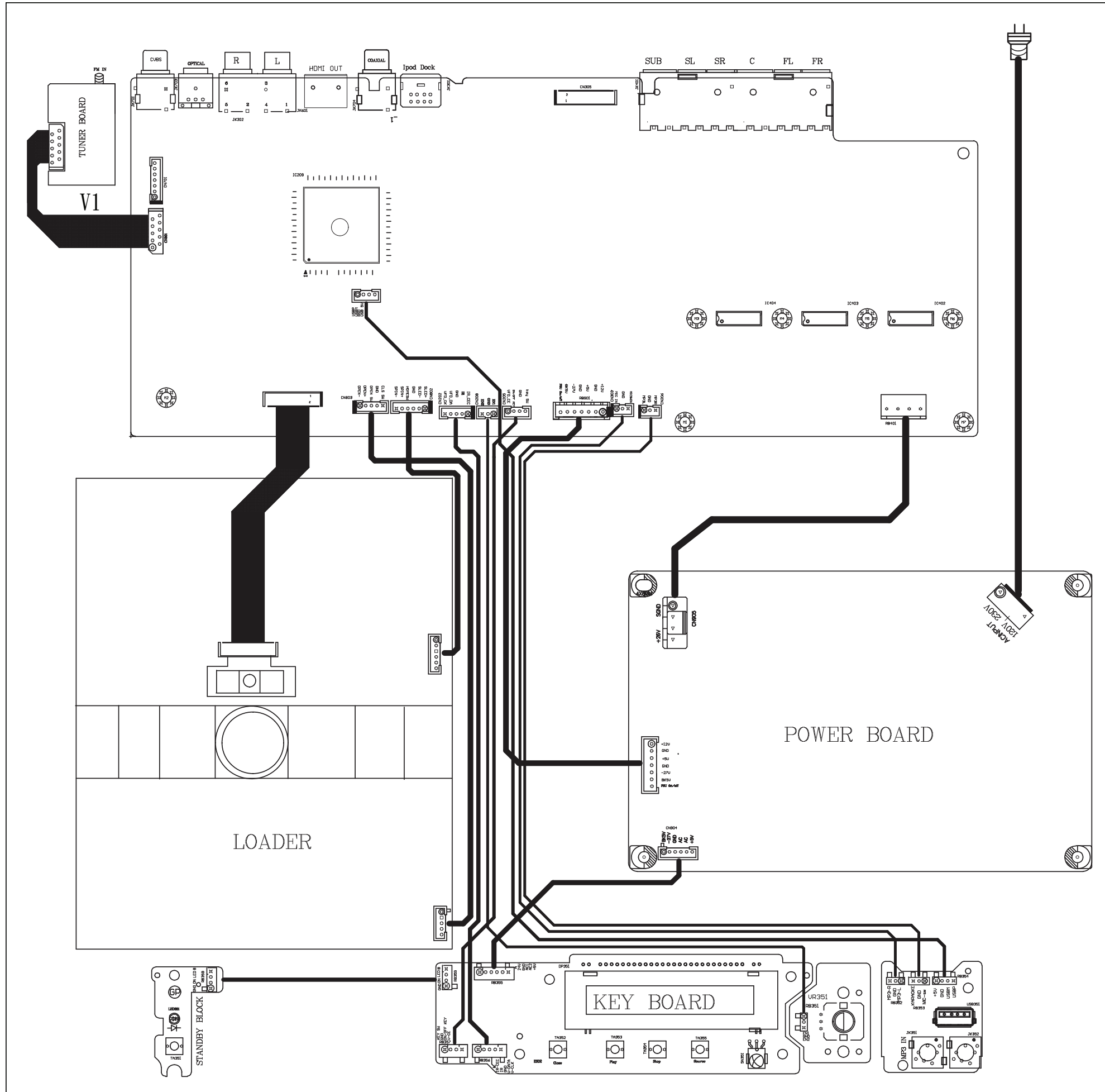

Figure 11
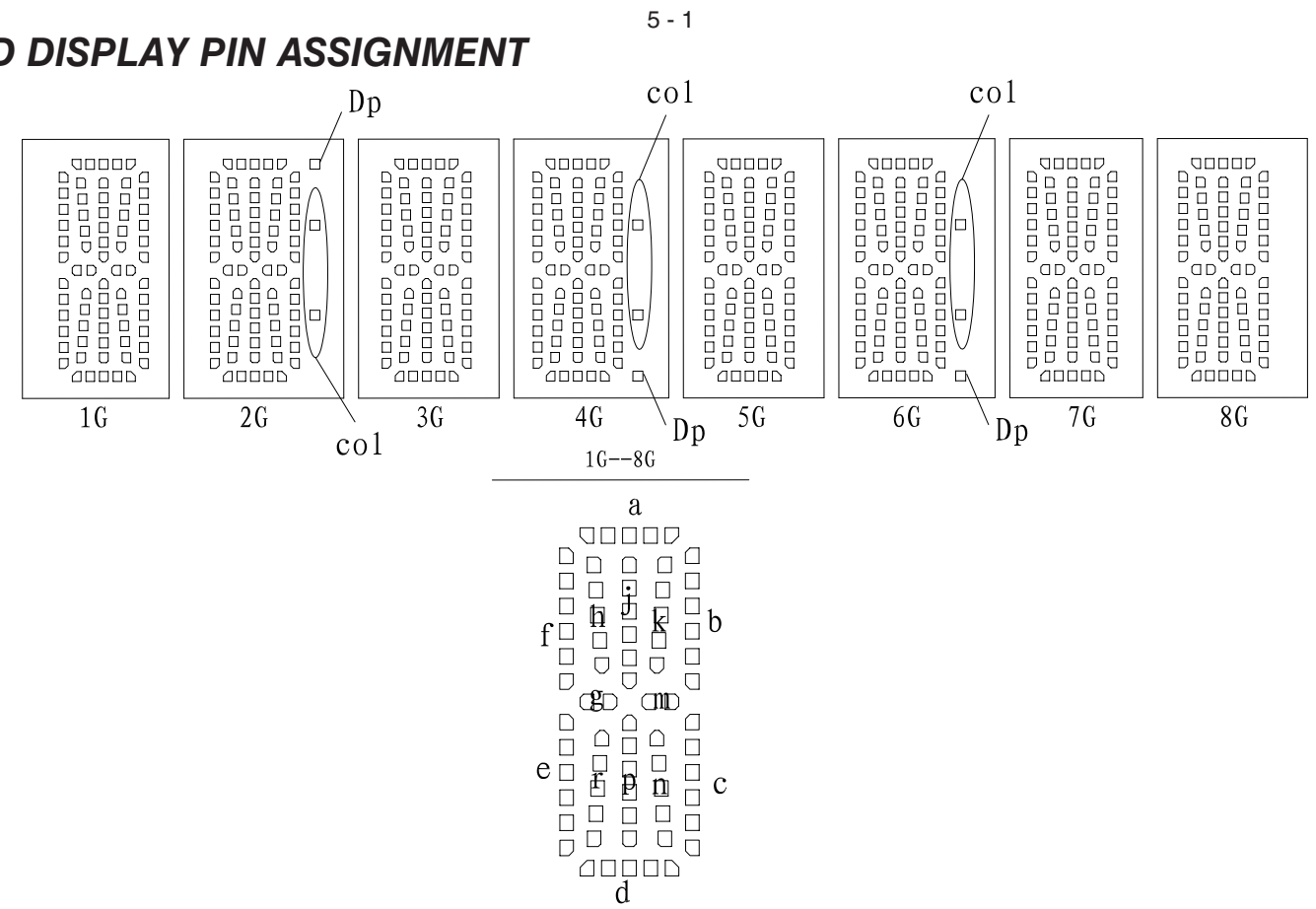

Figure 12

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.

BLOCK DIAGRAM

Sanyo pick up
ASA DVD Loader

IC V5888
Loader motor driver

+5V

VFD Display

VFD DRIVER
PT6311

B+5V

KEY

IR

V-CLK
V-CS
V-DATA

KEY control

IR

IR

HDMI CEC MCU
SMT32F101Cx 48Pin 64K

3.3V

SDA
SCL

HPDC2

1080P
HDMI OUT

MT1389S HDMI Video out

ESD REJECTOR
12pcs

HDMI out

I Pod Video

I Pod Dock

DIN Jack

IC 4558

+12V
-12V

I Pod Audio

I Pod RX
I pod TX

RX
TX

MT1389S TQFP256

CVBS Video

CVBS-VIDEO

Scart audio IN from TV

VIDEO

VIDEO FILTER
(L C)

Tuner module

IC 4558

+12V
-12V

+9V

Tun L
Tun R

I2C Bus for all use component

SAD
SCL
RDSCL
RDSDAVN
RDSDA

VIDEO

+5V

OPEN
VIDEO SWITCH

SCART OUT

Y.U.V OUT

Scart audio IN (option)

Tun L
Tun R
TV L
TV R
AUX L
AUX R

+3.3V

IC AT24C16
SERIAL EEPROM

+3.3V

SDARM
4Mx16

+3.3V

MX29LV320BTC
4Mx8bit FLASH

Auto Power detector control

from speaker output

+12V
-12V

IC 4558

Scart audio

MP3 L
MP3 R

MP3 L
MP3 R

SUB SPK

+12V
-12V

OPEN

MIC L
MIC R

MIC L
MIC R

Karaoke IN

+3.3V

IC 74F244x1
INPUT PIN EXPAND

+12V
-12V

FULL SOUND

OPEN

D-AMP PWM Controller
TAS5508

POWER AMP
TAS5342A

+VCC

SL SPK

POWER AMP
TAS5342A

+VCC

SR SPK
C SPK

POWER AMP
TAS5342A

+VCC

DAO 0
DAO 1
DAO 2

COAXIAL INPUT

-3.3V

WM8805
SPDIF IN IC

P-MCLK
P-LRCLK
P-BCLK

DAO 0
DAO 1
DAO 2

Buffer 74HC04

BCLK

BCLK

OPTICAL INPUT
(Match HDMI 1)

DATA

LRCLK

LRCLK

COAXIAL INPUT
(Match HDMI 2)

MCLK

MCLK

USB 2.0

P-DOUT

USB DP
USB DM

+3.3V

600W power supply unit

B+5V
-12V
+12V
+36V
-27V

Transistor
2SB772

+1.8V

+5V

Transistor
2SB772

+3.3V

IC 74F244x1
INPUT PIN EXPAND

DOUT

DOUT

+1.8V
+3.3V

MCLK
LRCLK
BCLK

MCLK
LRCLK
BCLK

+3.3V

FL SPK

FR SPK

WIRING DIAGRAM

DISP+LED+VOL BOARD

TABLE OF CONTENTS

FTD DISPLAY PIN ASSIGNMENT

1G 2G 3G 4G 5G 6G 7G 8G

1G--8G

	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 Pin)

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

DP351
VFD3 2_2008

DISPLAY 8 Digital

IC351
IC_PT6311
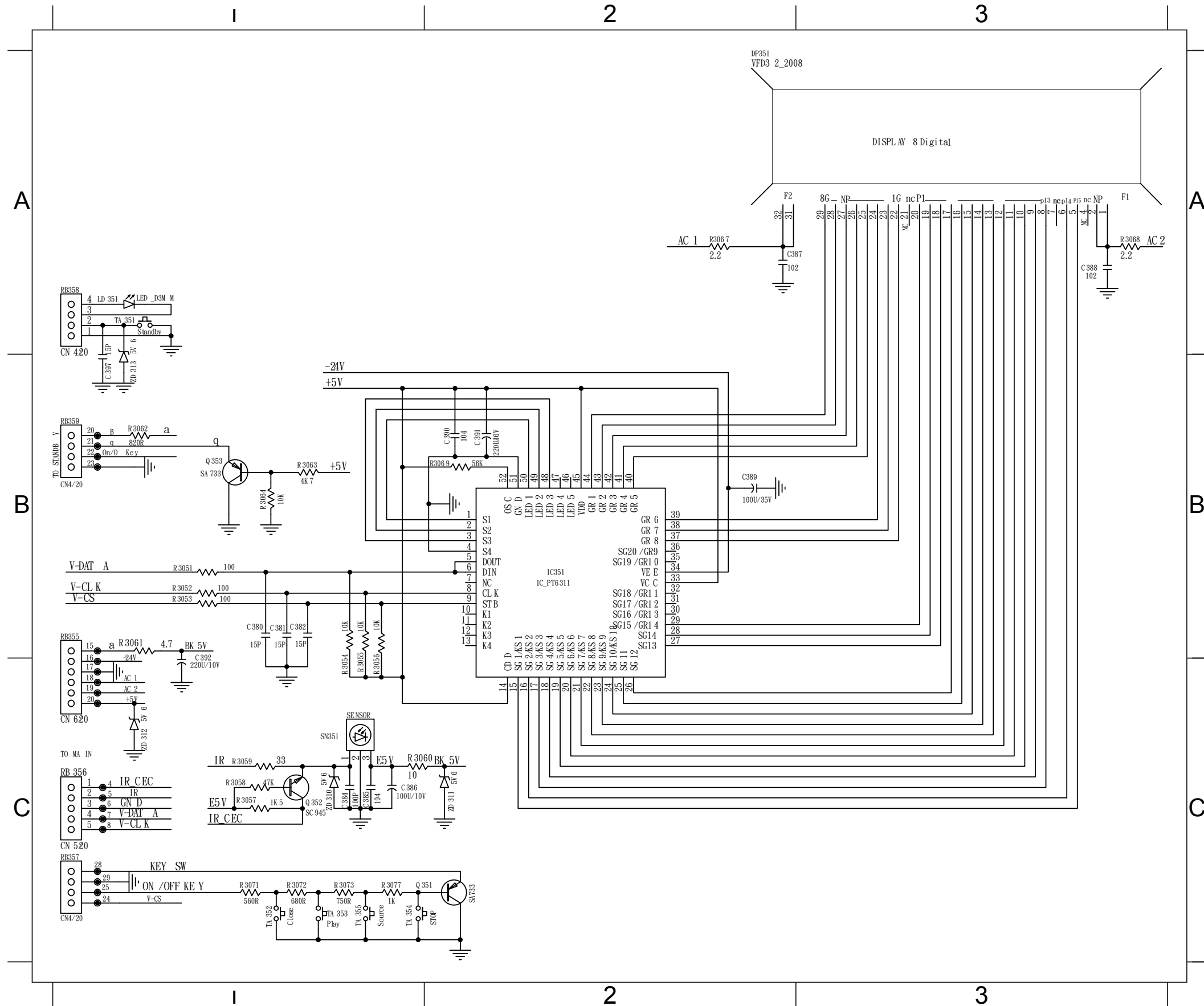
PCB LAYOUT - TOP VIEW

| 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 | | |
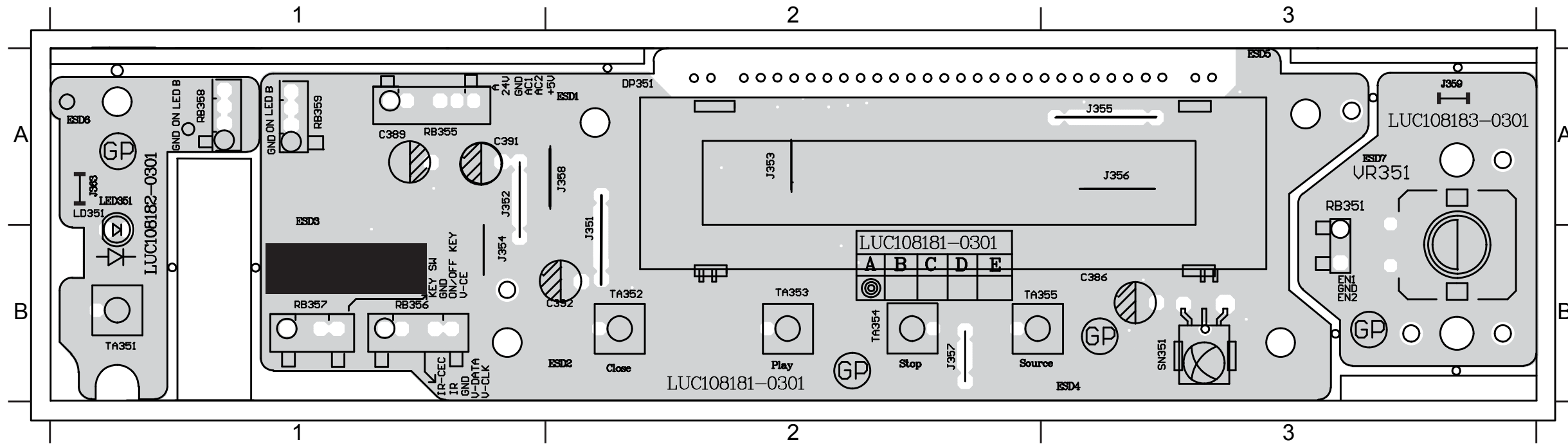
PCB LAYOUT - BOTTOM VIEW

| 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
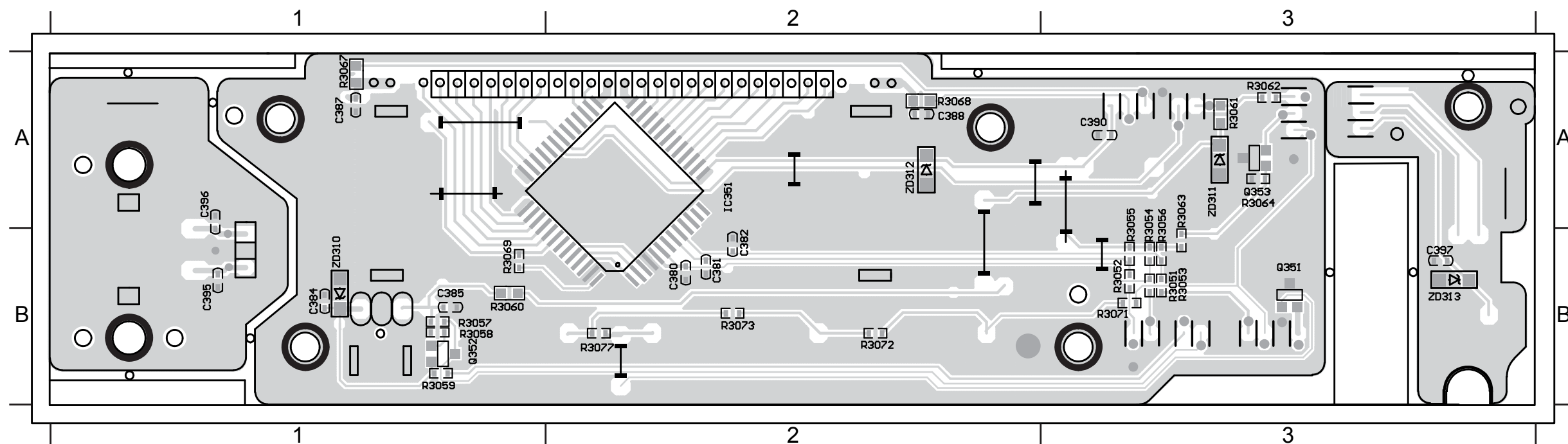
INTERNAL IC DIAGRAM - TAS5508B

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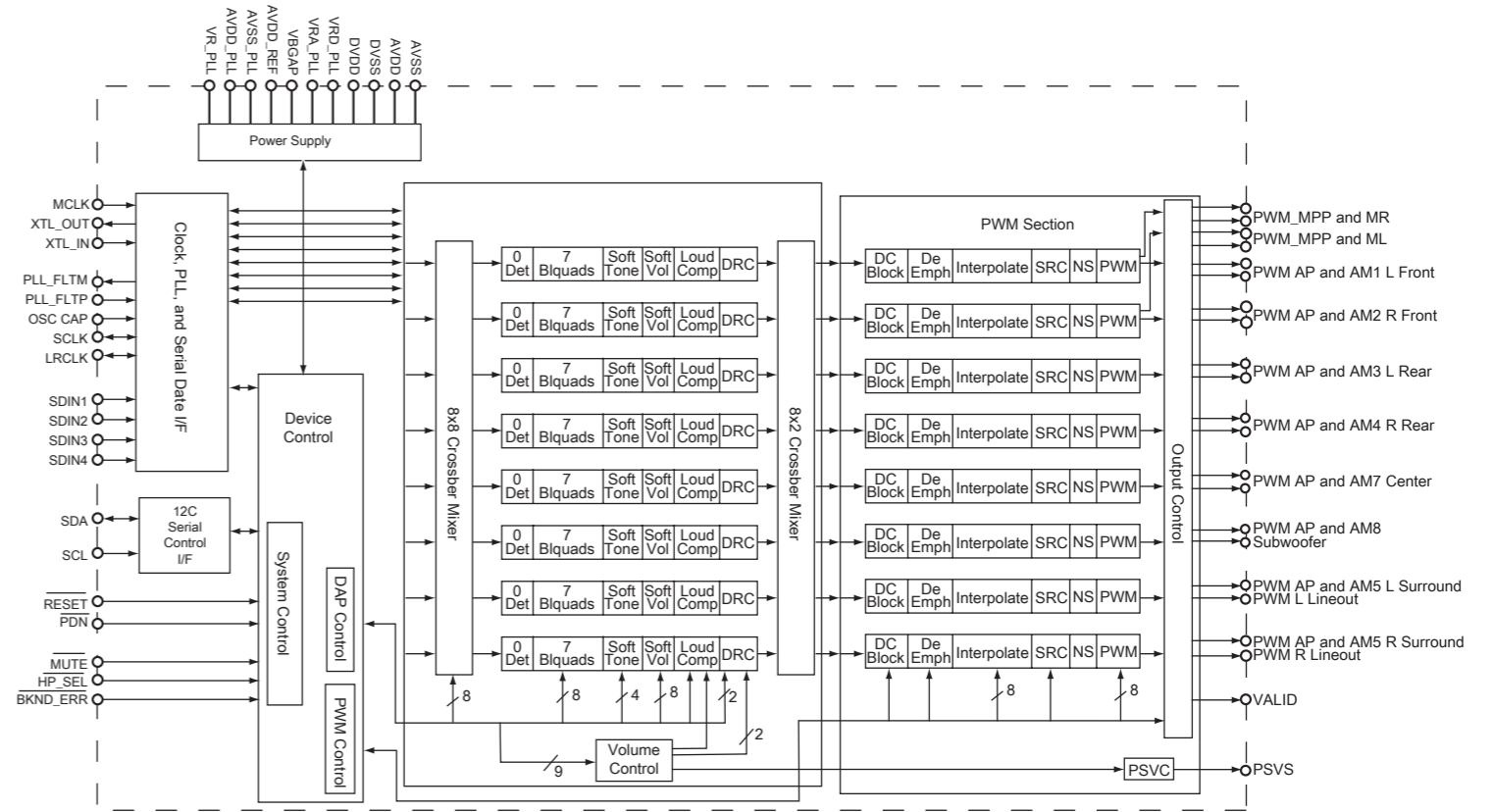
INTERNAL IC DIAGRAM - HY57V641620F
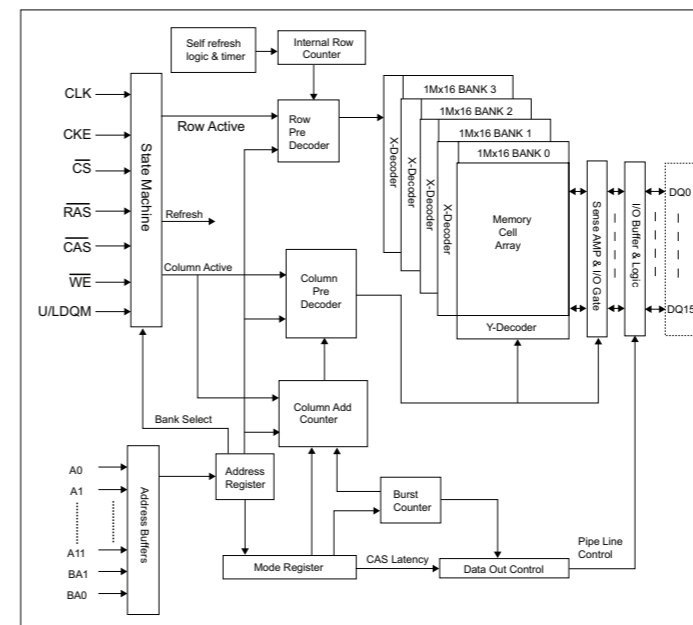
CIRCUIT DIAGRAM - part one

Component location index:

```
C401 A1   C528 A2   R4014 A3  R476 A3   C4029 A4  C4043 A4  R492 A4   C416 B1   R409 B1   R411 B2   R497 B2   C4059 B3  R4009 B3  R496 B3   C4023 B4  C499 B4   R482 B4   C429 C2   D405 C3   C4081 C4  C478 C4   L404 C4   D413 D1   C4070 D2  R4027 D2  R4039 D2  R438 D3   C448 D4   L401 D4
C402 A1   IC401 A2  R4015 A3  R477 A3   C4030 A4  C4044 A4  R493 A4   C417 B1   XL401 B1  R412 B2   C4009 B3  R4010 B3  R498 B3   C4025 B4  JK401 B4  R484 B4   C454 C2   IC402 C3  C454 C4   R481 C4   L405 C4   D414 D1   R4028 D2  R4040 D2  R435 D3   C449 D4   L402 D4
C403 A1   R4021 A2  R4016 A3  R478 A3   C4031 A4  C4045 A4  R406 B1   C419 B1   R413 B2   C4010 B3  R4012 B3  R499 B3   C4026 B4  R485 B4   FB401 C2  Q406 C3   C455 C4   R482 C4   L406 B4   D415 D1   R4029 D2  R4061 D2  C436 D4   C450 D4   L403 D4
C404 A1   C4007 A3  R4017 A3  R479 A3   C4032 A4  C4080 A4  C407 B1   C420 B1   R414 B2   C4051 B2  IC403 B3  R450 B3   C4027 B4  R476 B4   Q405 C2   R427 C3   C457 C4   R483 C4   L408 B4   D416 C1   R4051 D1  D407 D2   R4030 D2  R4062 D2  C437 D4   C451 D4   R439 D4
C405 A1   C4008 A3  R4018 A3  C4013 A4  C4035 A4  L410 A4   C408 B1   C421 B1   R415 B2   C4047 B3  IC405 B3  R452 B3   C4002 B4  R476 B4   Q405 C2   R428 C3   C461 C4   R484 C4   C463 C4   C452 C4   R4052 D2  D409 D2   R4031 D2  C432 D3   C438 D4   C452 D4   R440 D4
C425 A1   C4060 A3  R4019 A3  C4014 A4  C4036 A4  L411 A4   C409 B1   C422 B1   R416 B2   C4057 B3  R4000 B3  R453 B3   C4003 B4  R490 B4   IC407 C1  ZD401 C2  C463 C4   R485 C4   D410 D2   R4032 D2  C433 D3   C439 D4   C453 D4
R401 A1   IC404 A3  R4020 A3  C4015 A4  C4037 A4  L412 A4   C410 B1   R403 B1   R417 B2   C4050 B3  R4002 B3  R454 B3   C4004 B4  R491 B4   R4060 C1  C430 C3   R431 C3   C464 C4   R486 C4   D411 D2   R4033 D2  C434 D3   C442 D4   C456 D4   R442 D4
R402 A1   Q401 A3   R4022 A3  C4018 A4  C4038 A4  R487 A4   C411 B1   R404 B1   R418 B2   C4052 B3  R4003 B3  R455 B3   C4005 B4  R492 B4   C4075 C2  C431 C3   R432 C3   C465 C4   R487 C4   D412 D2   R4034 D2  R433 D3   C443 D4   C460 D4   R443 D4
R423 A1   Q402 A3   R4023 A3  C4020 A4  C4039 A4  R488 A4   C412 B1   R405 B1   R4001 B2  C4054 B3  R4004 B3  R480 B3   C4006 B4  R493 B4   C4076 C2  C472 C3   R456 C3   C469 C4   C488 C4   IC406 D2  R4035 D2  R434 D3   C444 D4   C462 D4   R444 D4
R424 A1   Q403 A3   C4022 A4  C4040 A4  R489 A4   C413 B1   R406 B1   R4007 B2  C4055 B3  R4005 B3  R481 B3   C4011 B4  R496 B4   C4078 C2  C473 C3   R457 C3   C474 C4   C489 C4   R4024 D2  R4036 D2  C445 D4   C466 D4   R445 D4
R425 A1   Q404 A3   R474 A3   C4024 A4  C4041 A4  R490 A4   C414 B1   R407 B1   R4011 B2  C4056 B3  R4006 B3  R494 B3   C4012 B4  R497 B4   C427 C2   D403 C3   R458 C3   C475 C4   C589 C4   C590 C4   C4072 D1  C4069 D2  R4025 D2  R4037 D2  C436? ...
C4061 A2  R4013 A3  R475 A3   C4028 A4  C4042 A4  R491 A4   C415 B1   R408 B1   R410 B2   R422 B2   C4058 B3  R4008 B3  R495 B3   C4021 B4  C498 B4   R471 B4   C428 C2   D404 C3   C477 C4   C590 C4   R4072? R4026 D2  R4038 D2  R437 D3   C447 D4   R447 D4
```


Circuit schematic (part one): audio power amplifier board with IC401 (TAS5508), IC402/IC403/IC404 (TAS5352) amplifier ICs, power supply and output filter networks, "SCART USE ONLY" input section, connectors and speaker output jacks (4 OHM, 166W).

CIRCUIT DIAGRAM - part two

C0201 C2	C0217 D1	C0240 D4	C0603 C4	C204 B2	C220 A3	C236 A4	C601 C4	C722 A3	C805 B1	C822 B2	C837 A2	CE207 D1	CE807 D1	CO254 A2	FB209 C1	FB707 C2	IC206 D4	L206 B3	Q207 D1	Q803 A1	R205 C1	R222 D3	R239 D3	R260 D2	R279 C1	R296 D1	R715 A4	R803 A1	R824 A2	RA201 C2
C0202 A2	C0218 D1	C0241 D4	C0604 C4	C205 C4	C221 B4	C237 B3	C602 C4	C723 A3	C806 B1	C823 B4	C838 B2	CE208 D1	CE808 D1	D201 A3	FB210 C1	FB708 C1	IC207 A3	L207 B4	Q300 D3	Q804 A2	R207 A3	R223 D2	R242 D1	R245 C1	R261 D2	R280 B3	R297 D1	R722 A4	R804 B1	R826 B1	RA202 C4
C0203 A2	C0219 D1	C0242 D4	C0606 C4	C206 A3	C223 B3	C238 B3	C603 C4	C728 A4	C807 A2	C824 B2	C839 B2	CE212 D1	CE809 D1	D202 D1	FB211 C1	FB712 A4	IC208 D2	L701 B3	Q601 B4	Q805 A1	R208 D2	R224 C1	R245 C1	R247 C1	R263 C4	R281 D2	R298 D1	R724 A4	R805 B1	R827 B1	RA203 C2
C0204 D1	C0220 D1	C0243 D4	C101 A4	C207 D3	C224 D1	C239 D1	C701 A3	C729 A4	C808 B2	C825 B2	C840 B2	CE215 C2	CN201 B4	D204 A3	FB212 C1	FB713 A4	IC209 B3	L702 A4	Q602 A3	R101 A4	R209 B4	R225 B4	R247 C1	R249 C1	R267 D2	R282 A4	R299 D1	R731 B3	R806 C2	R829 B1	XL101 A4
C0205 A2	C0221 D1	C0244 A2	C102 A4	C208 A2	C225 C1	C242 B2	C702 A3	C730 A3	C809 B2	C826 B2	C841 B2	CE216 C2	CN202 C1	D205 D3	FB213 C1	FB715 A4	IC210 A3	L703 B3	Q611 B4	R102 A4	R210 C4	R227 C1	R248 D1	R249 C1	R269 D1	R285 D2	R601 C1	R732 B3	R807 C2	R831 B3	XL201 B3
C0206 A2	C0222 D1	C0245 A2	C103 B4	C209 B3	C226 C1	C243 D2	C703 A3	C731 A4	C810 A2	C827 B2	C843 B1	CE217 C2	CN203 D3	D600 D1	FB214 C1	FB801 A1	IC801 B1	L704 B3	Q701 A3	R103 B4	R211 C4	R228 D1	R249 C1	R251 C1	R269 D1	R285 D2	R603 C4	R733 B3	R808 A1	R833 B2	XL202 D1
C0207 A3	C0226 D1	C0246 A2	C104 A4	C210 D1	C250 D1	C711 A3	C732 A3	C811 A2	C828 B2	C844 B2	CE218 C2	CN204 D2	D201 B4	FB216 C1	FB802 A1	JK601 B4	L707 A3	Q702 A4	R104 A4	R212 C4	R229 C1	R250 D3	R270 D2	R286 D2	R604 B4	R734 B2	R812 A1	R834 B2	XL203 C1
C0208 A3	C0227 C2	C0247 A2	C105 A4	C211 D4	C253 C1	C711 A3	C735 C2	C812 A2	C829 A2	C846 C2	CE219 C2	CN205 C1	D205 A3	FB217 A2	FB803 A1	JK701 A4	L801 A2	Q703 A4	R105 A4	R213 D2	R230 C1	R251 C1	R271 D1	R287 D2	R605 B4	R737 A3	R813 A1	R835 B2	ZD209 B4
C0209 A2	C0228 B4	C0248 B4	C106 A4	C213 C1	C229 C1	C254 D3	C713 A3	C736 A3	C813 B2	C830 B2	C849 B2	CE220 C2	CN206 B4	FB202 C1	FB220 C1	IC101 A4	JK703 A3	L802 A2	Q704 A4	R106 B4	R215 D2	R231 C1	R252 C1	R272 D2	R288 C2	R606 C4	R738 C2	R814 A2	R836 B1	
C0210 B4	C0229 D1	C0249 A2	C107 A4	C214 C2	C230 D2	C255 C1	C716 D1	C737 B2	C816 B1	C831 B2	CE201 D1	CE801 D1	CN208 C1	FB203 C4	FB222 C1	IC101 A4	JK704 A3	L803 B2	Q705 A3	R108 B4	R216 D1	R232 C1	R253 C1	R273 A4	R289 D1	R702 A3	R748 A3	R815 A2	R838 B2	
C0211 A2	C0230 D1	C0251 C4	C108 A4	C215 A2	C231 D2	C256 D1	C717 A3	C738 C2	C817 B2	C832 B2	CE202 D1	CE802 D1	CN701 A3	FB204 C4	FB601 A3	IC201 D3	L201 A2	Q101 A3	Q706 A3	R109 B4	R217 D1	R233 D2	R254 D4	R274 A4	R290 B1	R704 A3	R750 A4	R816 A1	R839 B2	
C0213 C4	C0235 D2	C0252 A2	C109 A4	C216 C2	C232 C3	C257 C1	C718 A3	C801 A1	C818 A2	C833 A2	CE203 D1	CE803 D1	CN702 A2	FB205 C4	FB601 A3	IC202 A2	L202 A2	Q102 A2	Q707 A3	R201 C4	R218 D1	R234 C1	R256 D1	R275 A4	R291 C1	R705 A3	R751 A3	R817 C2	R840 B2	
C0214 D1	C0237 D4	C0253 B4	C201 C2	C217 C2	C233 D1	C260 D1	C719 A3	C802 A2	C819 B1	C834 B1	CE204 D1	CE804 D1	CN801 A1	FB206 C4	FB602 C4	IC203 D3	L203 A2	Q204 A4	Q803 A1	R202 D1	R219 A3	R235 B1	R257 D1	R276 D2	R292 C1	R712 A4	R752 A4	R820 A1	R841 B2	
C0215 C2	C0238 C4	C0601 C4	C202 A2	C218 B4	C234 A4	C261 D1	C720 B3	C803 B1	C820 B2	C835 A1	CE205 D1	CE805 D1	CN802 A3	FB207 C4	FB603 C4	IC204 D3	L204 D4	Q205 D1	Q801 A1	R203 D1	R220 C4	R236 B1	R258 D1	R277 D2	R293 C1	R714 A4	R801 C2	R822 A2	R842 B2	
C0216 D1	C0239 D4	C0602 C4	C203 A2	C219 A3	C235 A4	C600 C4	C721 A3	C804 A2	C821 B2	C836 A2	CE206 D1	CE806 D1	CN803 B1	FB208 D4	FB703 A3	IC205 A2	L205 B4	Q206 D1	Q802 A1	R204 D1	R221 C4	R238 D4	R259 D2	R278 D2	R294 B2	R714 A4	R802 A1	R823 A2	R845 C2	

CIRCUIT DIAGRAM - part three

C301	A1	R301	A1	R318	A1	C330	A2	R329	A2	C340	A3	R711	A3	C353	B1	R346	B1	R356	B1	R332	B2	C351	B3	R389	B3	R3032	C1
C302	A1	R302	A1	R388	A1	C342	A2	R330	A2	FB310	A3	R529	A4	C354	B1	R348	B1	R357	B1	R344	B2	C362	B3	R390	B3	RB901	C1
C305	A1	R309	A1	R546	A1	C343	A2	R343	A2	IC309	A3	R530	A4	C355	B1	R349	B1	R358	B1	C320	B3	C363	B3	R399	B3	R924	C2
C306	A1	R310	A1	C309	A2	IC304	A2	Q305	A2	R360	A2	R531	A4	C356	B1	R350	B1	R359	B1	C321	B3	IC306	B3	R552	B4	R560	C4
C325	A1	R313	A1	C311	A2	R3019	A2	ZD301	A2	R3018	A3	R532	A4	C357	B1	R351	B1	C334	B2	C322	B3	R307	B3	R553	B4	C901	D1
C326	A1	R314	A1	C313	A2	R321	A2	ZD302	A2	R305	A3	R533	A4	FB312	B1	R352	B1	C341	B2	C324	B3	R335	B3	R558	B4	C902	D1
C4000	A1	R315	A1	C315	A2	R322	A2	C317	A3	R308	A3	R709	A4	FB313	B1	R353	B1	IC305	B2	C346	B3	R336	B3	FB905	C1	C903	D1
CN301	A1	R316	A1	C316	A2	R325	A2	C323	A3	R331	A3	R710	A4	JK302AB1		R354	B1	R3020	B2	C349	B3	R361	B3	R3028	C1	C904	D1
IC301	A1	R317	A1	C329	A2	R326	A2	C331	A3	R334	A3	C352	B1	R345	B1	R355	B1	C350	B3	R378	B3	R3031	C1	C905	D1

C906	D1	CE903	D1	R928	D1	C935	D2	CE309	D2
C907	D1	CE904	D1	R929	D1	CE301	D2	CE310	D2
C920	D1	FB223	D1	ZD901	D1	CE302	D2	CE311	D2
C921	D1	FB901	D1	ZD902	D1	CE303	D2	CE312	D2
C922	D1	Q901	D1	ZD904	D1	CE304	D2	CE313	D2
C924	D1	Q903	D1	R904	D1	CE305	D2	CE314	D2
C928	D1	R911	D1	C912	D2	CE306	D2	CE315	D2
C929	D1	R913	D1	C918	D2	CE307	D2	CE316	D2
C932	D1	C905	D1	C919	D2	CE308	D2	CE317	D2

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CE319	D2	CE326	D3	FE307	D3
CE320	D2	CE327	D3	FE308	D3
CE321	D2	CE328	D3	FE309	D3
CE322	D2	CE329	D3	FE310	D3
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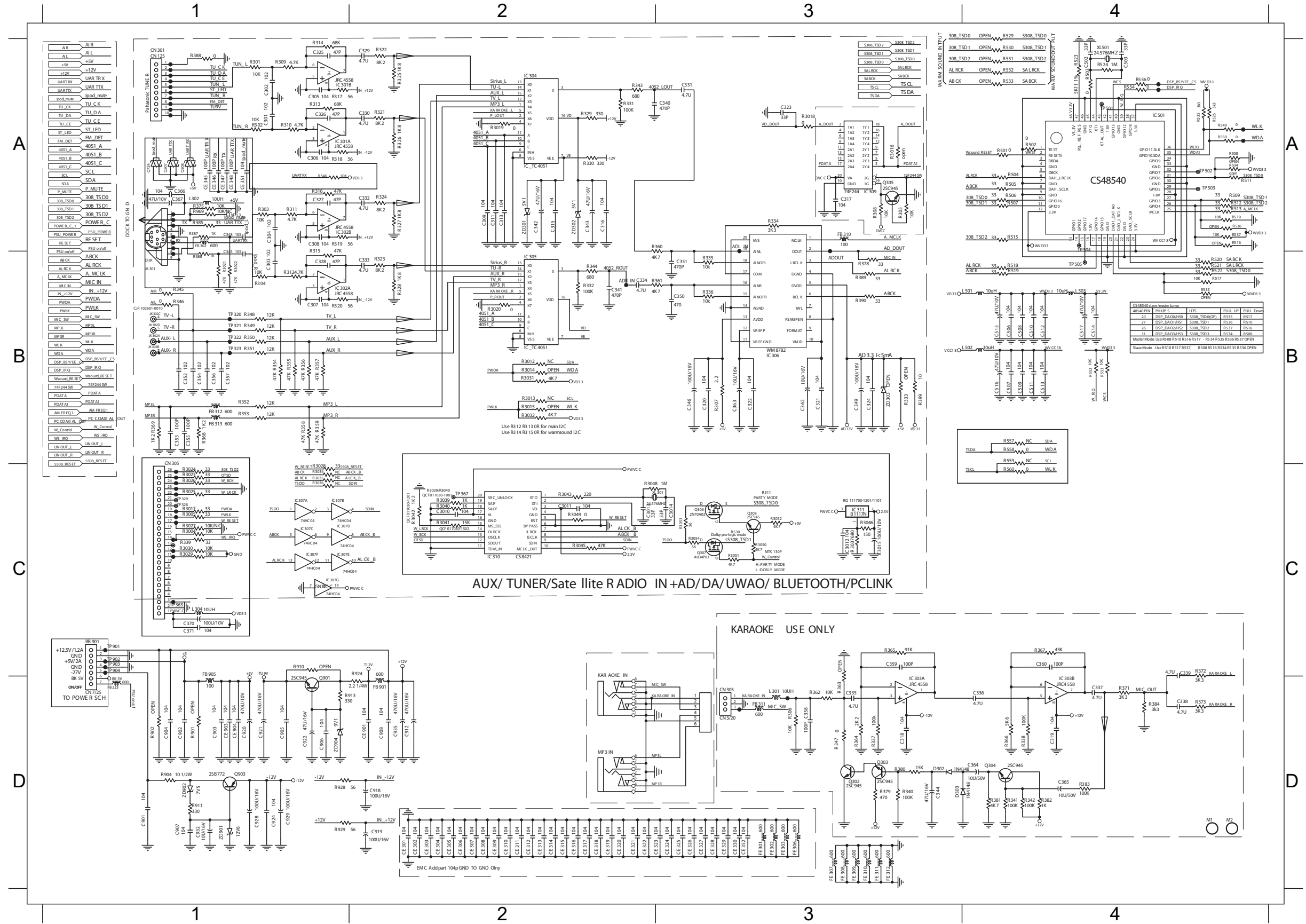
AUX/ TUNER/Sate llite RADIO IN +AD/DA/UWAO/ BLUETOOTH/PCLINK

KARAOKE USE ONLY

PCB LAYOUT - TOP VIEW

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C0211 D2	C213 B1	C261 C2	C353 B3	C4032 C3	C4068 D3	C438 C4	C483 B4	C730 A1	C829 C1	CE901 C1	FB201 C2	FB708 D1	IC305 D2	JK401 A3	L412 B2	Q702 A1	R202 C2	R231 B1	R268 C2	R292 B1	R321 B2	R359 B3	R4017 A2	R424 A2	R457 C4	R497 D3	R712 A1	R812 D1	R845 D2
C0235 C2	C214 C1	C301 A2	C354 A2	C4035 C3	C4069 A3	C439 C4	C490 C4	C732 B1	C830 C1	CE903 B2	FB202 B1	FB713 B1	IC306 C1	JK601 A1	L701 A1	Q703 A1	R203 C2	R232 C2	R269 C2	R293 C2	R322 B2	R360 C2	R4018 A2	R425 D4	R458 C4	R498 D3	R713 B1	R813 D1	R904 D3
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C0247 B1	C216 B2	C316 B2	C362 C2	C404 D4	C4072 A1	C443 C4	C492 C4	C737 B1	C832 C1	CN201 C2	FB205 D2	FB801 D1	IC401 D4	JK703 A4	L703 A1	Q705 A4	R207 A2	R234 B2	R271 C2	R296 D2	R326 B2	R389 B1	R402 D4	R427 A2	R460 C4	R529 C1	R715 B1	R815 D1	R924 C1
C0251 D2	C217 B1	C317 A1	C363 B3	C4045 C3	C4075 D4	C444 A4	C493 C4	C801 D1	C833 C1	CN202 D2	FB206 B2	FB802 D1	IC402 C2	JK704 A2	L704 A2	Q706 A1	R208 C2	R235 C1	R272 C2	R297 D2	R328 B2	R390 B2	R4020 D3	R428 A2	R461 C4	R530 C3	R722 B1	R816 D1	R928 B3
C0252 A2	C218 B1	C320 C3	C4006 C4	C4046 D3	C4076 D3	C453 C4	C496 C4	C803 D1	C834 D2	CN203 D2	FB207 B2	FB803 D1	IC403 C4	L201 B1	L707 A2	Q707 A1	R209 C2	R236 C2	R273 C1	R298 D2	R329 B2	R4000 D3	R4021 D3	R429 D4	R470 C4	R531 C3	R724 A1	R817 C1	R929 B3
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C103 B1	C221 B1	C325 B2	C4009 C4	C4049 D4	C4081 D4	C456 C4	C602 A1	C810 D1	C840 D1	CN206 D3	FB210 D2	FE312 A1	IC407 D3	L204 D1	L803 C1	Q802 A1	R212 A2	R247 C2	R276 C2	R302 A2	R332 B3	R4003 D3	R4035 D3	R433 C4	R474 C3	R546 A2	R733 B1	R823 D1	RB901 D4
C104 C1	C229 B1	C326 A2	C401 D4	C4050 D3	C410 D4	C457 C4	C702 A1	C811 D1	C841 C1	CN208 D2	FB211 D2	GT01 B1	IC801 D1	L205 B1	Q101 D2	Q803 A1	R213 C2	R248 C2	R277 C2	R3028 A3	R334 B2	R4004 D3	R404 D3	R434 C4	R476 C3	R552 C3	R734 A1	R826 D1	RB401 D4
C105 B1	C230 B2	C329 B2	C4010 C4	C412 D4	C460 C4	C470 C4	C703 A1	C812 D1	C843 D1	CN301 B1	FB212 D2	IC101 C1	J1	L206 B1	Q102 D1	Q804 C1	R215 C2	R249 C2	R278 C2	R3031 C3	R335 C3	R4005 D3	R405 D3	R435 C4	R477 C4	R553 C3	R737 A2	R829 C1	XL101 C1
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C107 B1	C232 B1	C331 C1	C4012 C4	C4052 D3	C424 C4	C470 C4	C711 A1	C816 D1	C849 C1	CN702 A2	FB214 D2	IC202 C2	J11	L401 A4	Q205 A2	Q901 C1	R219 C2	R251 C2	R280 B2	R305 C3	R343 B2	R4007 D3	R406 D3	R437 C4	R479 C4	R560 C2	R751 A1	R834 D2	XL202 D1
C108 B1	C237 C1	C334 B3	C4013 C3	C4053 D3	C427 D3	C472 C4	C713 A1	C817 C1	C912 C2	CN801 D1	FB217 B1	IC203 B2	J12	L402 B4	Q300 C2	Q903 D3	R220 A2	R252 C2	R281 B2	R307 C3	R344 B2	R4008 D3	R407 D3	R438 C4	R479 C4	R601 C2	R751 A1	R831 D1	XL203 D1
C201 C1	C238 D1	C340 B2	C4014 B4	C4054 D3	C429 D3	C472 C4	C716 A1	C818 D1	C918 B3	CN803 D2	FB220 D2	IC204 C2	J2	L403 A3	Q305 A1	R101 D1	R221 A2	R253 B1	R282 C1	R308 A1	R345 A2	R4009 D3	R408 D3	R439 C4	R480 C4	R603 A1	R801 D1	R834 D1	XL401 D4
C202 B1	C239 B1	C341 C1	C4015 D3	C4055 D3	C430 A2	C473 C4	C717 A1	C819 D1	C919 D1	CN803 D2	FB222 D2	IC205 C2	J3	L404 B4	Q401 A1	R102 D1	R222 B2	R254 C2	R283 C2	R309 A2	R346 A2	R401 D4	R412 D4	R440 C4	R481 C4	R604 C4	R801 D1	R834 D1	ZD209 C2
C203 C1	C242 C1	C342 B3	C4018 B4	C4056 D3	C431 C4	C474 C4	C718 A1	C820 C1	C920 C2	D201 D2	FB226 D1	IC206 B2	J4	L405 A4	Q402 A2	R103 D1	R223 C2	R257 D2	R285 D2	R310 A2	R348 A2	R4010 D3	R413 D4	R449 C4	R482 C4	R605 A2	R802 D1	R835 D2	ZD301 B2
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C205 C2	C253 B1	C346 B3	C4020 A3	C4058 D3	C433 D4	C476 C4	C720 B1	C822 D1	C922 C1	D204 B1	FB312 B3	IC208 C2	J6	L407 B4	Q404 A2	R105 B1	R225 B1	R259 C2	R287 B2	R314 A2	R352 B3	R4012 D3	R415 D4	R452 C4	R492 C3	R704 A1	R804 D1	R838 D1	ZD901 D3
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PCB LAYOUT - BOTTOM VIEW

C0241 A1	R4030 A1	C4026 A2	R4027 A2	C0602 A3	Q601 A3	R357 A4	C485 B1	C4001 B2	CE315 B2	C0230 B3	CE323 B3	C0246 B4	C728 B4	FE302 B4	CE311 C2	C0201 C4	CE330 C4	C528 D1	CE309 D2	CE207 D3	R256 D3
C4062 A1	R4031 A1	C4041 A2	R4028 A2	C0603 A3	R4060 A3	C4004 B1	C488 B1	C4005 B2	R469 B2	C0237 B3	CE324 B3	C0248 B4	C738 B4	FE307 B4	CE319 C2	C109 C4	CO254 C4	R403 D1	CE313 D2	CE208 D3	R299 D3
C4063 A1	R4036 A1	C4042 A2	R4029 A2	C305 A3	C356 A4	C445 B1	C489 B1	C4021 B2	R486 B2	C0238 B3	CE325 B3	C0249 B4	C836 B4	FE309 B4	CE320 C2	C234 C4	C408 C4	R409 D1	CE326 D2	CE212 D3	C0205 D4
C4070 A1	R4038 A1	C4064 A2	R4032 A2	C306 A3	C357 A4	C446 B1	C498 B1	C4022 B2	R487 B2	C0239 B3	CE352 B3	C0253 B4	C837 B4	Q207 B4	C0207 C3	C235 C4	C409 C4	R410 D1	FB223 D2	CE306 D3	C802 D4
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R4024 A1	C4002 A2	D412 A2	R485 A2	FB601 A3	R350 A4	C468 B1	R468 B1	C4043 B2	C0222 B3	C735 B3	C0210 B4	C228 B4	FB602 B4	R421 C1	FB216 C3	C303 C4	C421 C4	C904 D1	CE204 D3	CE809 D3	
R4025 A1	C4003 A2	D413 A2	R488 A2	FE306 A3	R351 A4	C469 B1	C318 B1	C4044 B2	C0228 B3	CE321 B3	C0217 B4	C323 B4	FB707 B4	R422 C1	R204 C3	CE307 C4	C422 C4	C907 D1	CE205 D3	D416 D3	
R4026 A1	C4025 A2	D414 A2	R489 A2	Q406 A3	R356 A4	C484 B1	C319 B1	C499 B2	C0229 B3	CE322 B3	C0244 B4	C600 B4	FE301 B4	CE308 C2	R239 C3	CE312 C4	C425 C4	C924 D1	CE206 D3	Q206 D3	
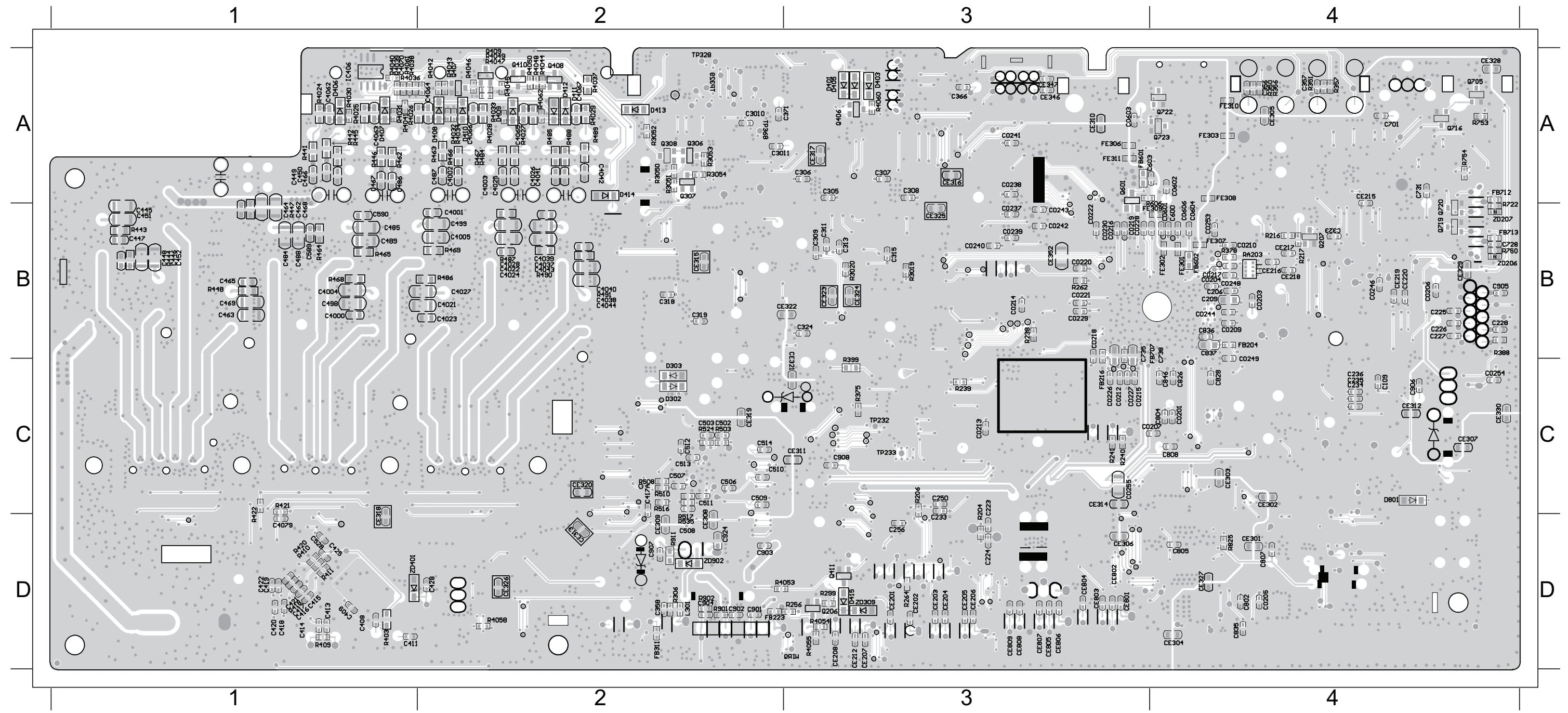
INTERNAL IC DIAGRAM - AZ431

POWER BOARD

CATHODE

REF

V^{REF}

ANODE

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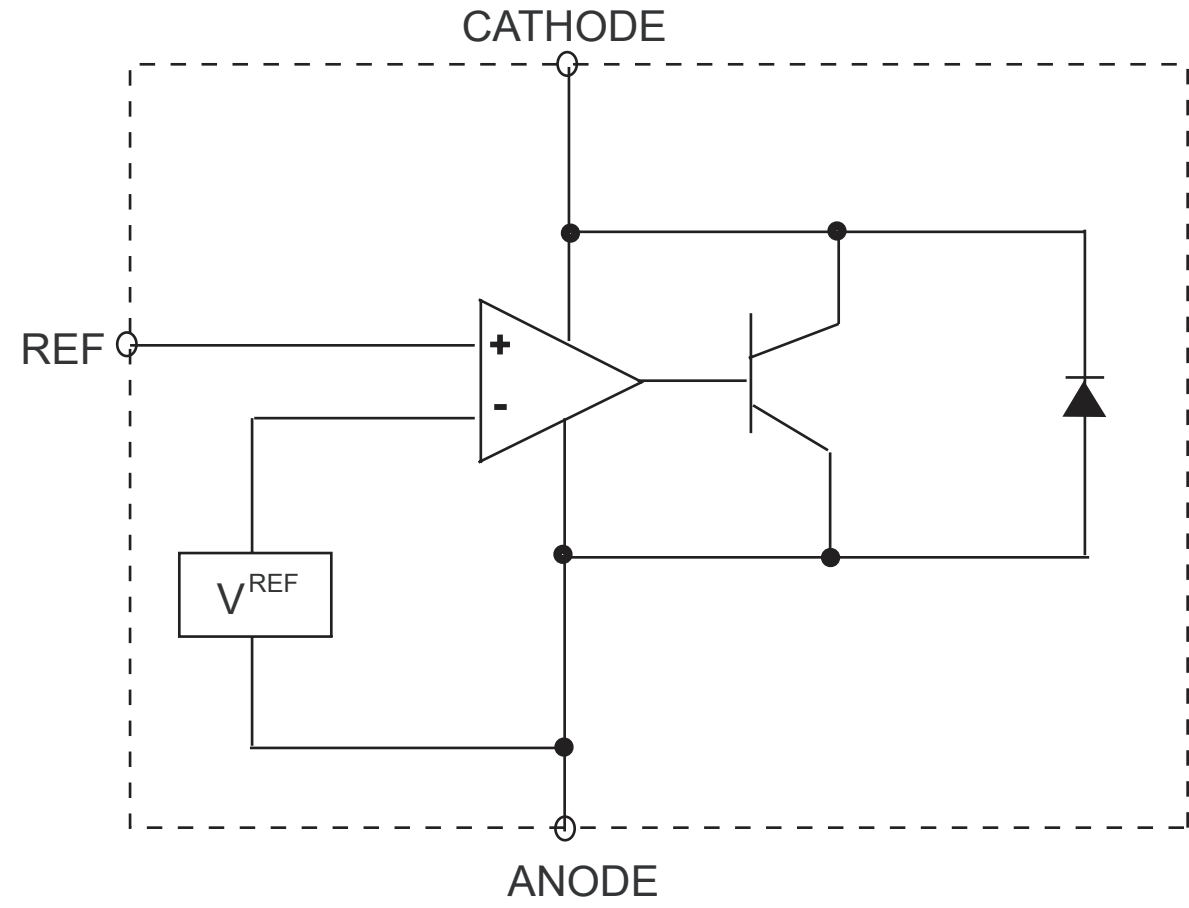
CIRCUIT DIAGRAM

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C903 B1	C911 B1	C919 D2	C931 B2	C940 D3	C950 C3	C958 A3	C968 B1	CN904 A4	D910 A4	D919 B2	IC906 A3	NTC901 D1	Q911 C4	R904 C1	R915 D2	R923 B2	R933 A3	R941 A2	R949 B3	R958 C4	R966 B4	R981 C3	T902 A2	ZD907 A4
C904 B1	C912 C2	C920 B2	c932 B4	C941 C3	C951 C3	C959 A3	C969 B4	F901 D1	D902 C2	D911 A2	GT902 B1	L902 B1	Q902 A2	R905 C1	R916 D2	R925 A2	R934 C4	R942 D3	R950 B3	R959 B4	R967 A2	R982 C4	TVR901 C1	ZD908 A1
c905 B2	C913 A1	C921 D2	C933 A1	C942 C3	C952 C3	c960 A4	C972 B2	D903 D3	D912 C3	GT901 C2	L903 C3	Q901 B1	Q913 D3	R909 C1	R917 C2	R926 A2	R935 C4	R943 D3	R951 A3	R960 C4	R968 C4	R983 D3		ZD901 C2
C906 B2	C914 A1	C922 A2	C934 A2	C945 C4	C953 C4	C961 B2	C974 B1	D904 C2	D913 C3	IC901 D2	L904 C3	Q904 B3	Q914 B3	R910 C1	R918 C2	R927 B2	R936 C4	R944 D3	R952 A2	R961 B1	R969 B4	R984 B3		ZD902 B3
C907 C1	C915 A1	C927 C2	C935 C3	C946 D3	C954 C3	C962 A3	C975 B2	D905 B2	D914 C3	IC902 C2	L905 C3	Q906 C4	Q915 B2	R911 B1	R919 B2	R928 A2	R937 B4	R945 C4	R953 C4	R962 B4	R971 B4	R985 C2		ZD903 B3
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C909 B2	C917 A2	C929 C2	C937 A2	C948 C3	C956 C3	C965 C4	CN902 D4	D907 A3	D916 B3	IC904 D3	L906 A3	Q909 C4	R902 C1	R913 D2	R921 B2	R931 D3	R939 D2	R947 B4	R955 A3	R963BA A4	R973 B4	R987 B2		ZD905 D4
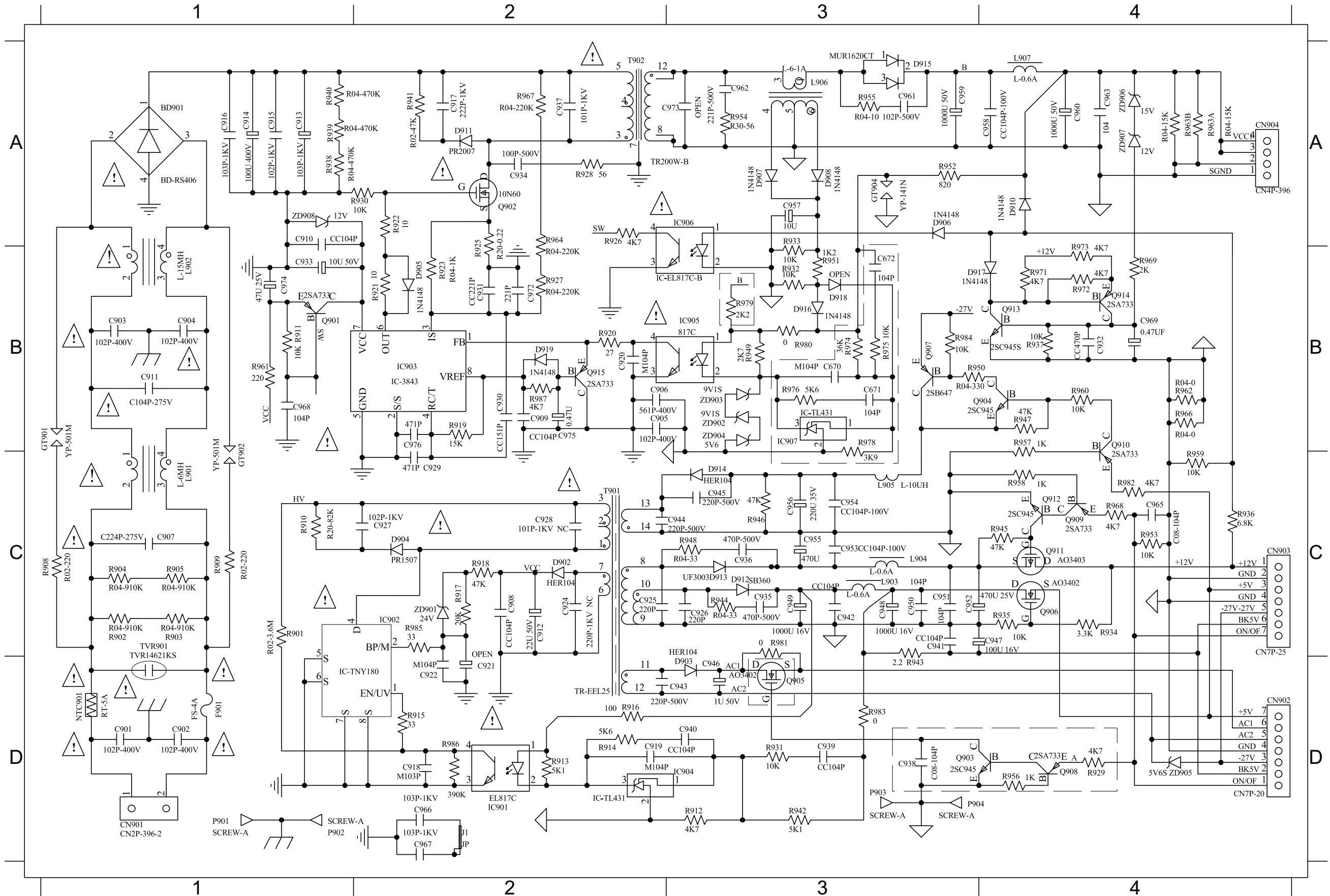
PCB LAYOUT - TOP VIEW

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	Q901	A2	R919	C2	R927	B2	R952	C4	TVR901	C1
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	NTC901	C1	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		

WARNING: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE REPLACE WITH SAME TYPE FUSE.

AVIS: UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE.
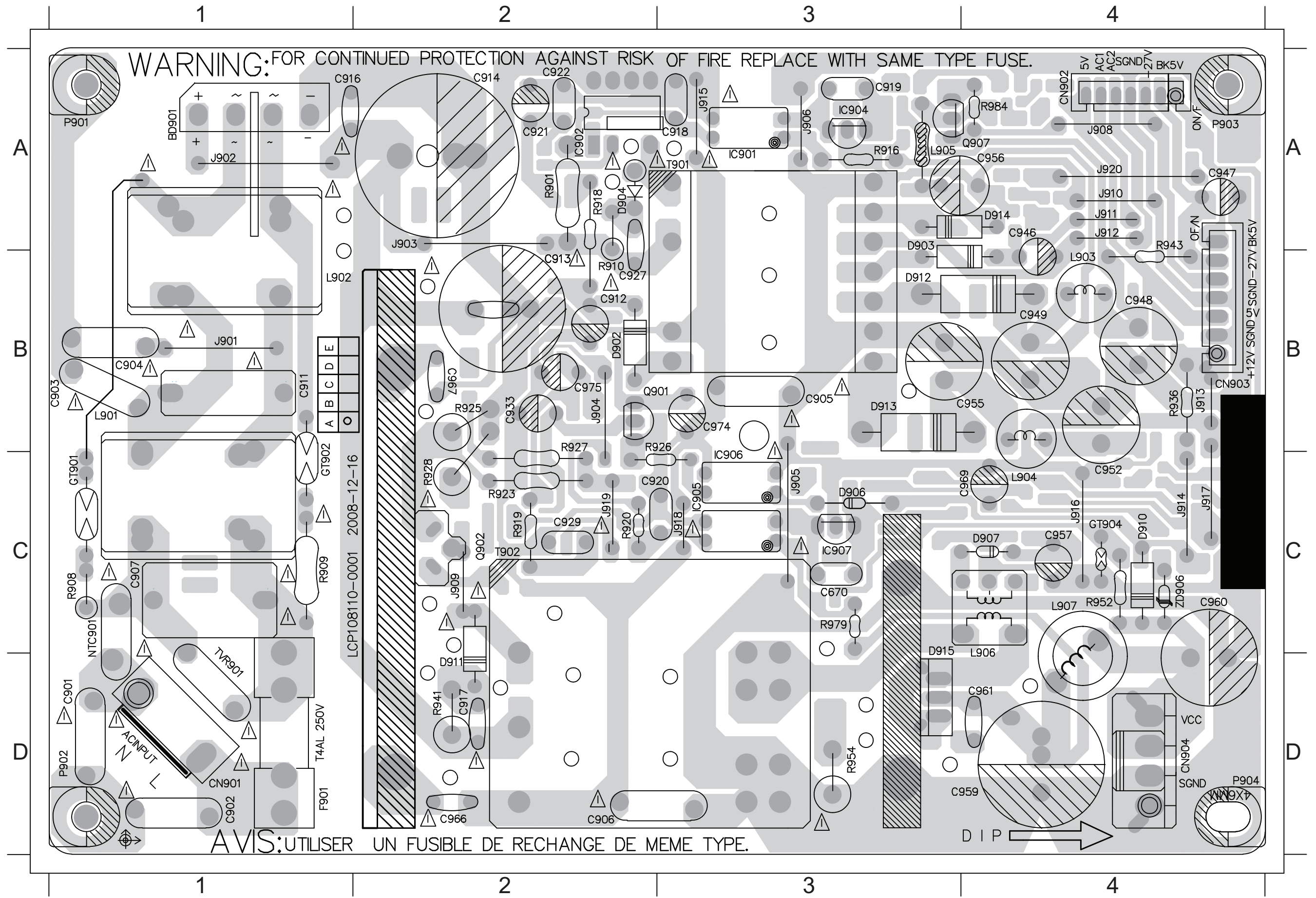
PCB LAYOUT - BOTTOM VIEW

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	C915	A3	R985	A3	C953	B1	c932	B2	ZD902 B2	R961	B3	Q909 C1	R958 C1	R972 C1	C972 C3	R902 C4	C931 D2	
Q910	A1	R962	A1	C940	A2	R931	A2	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	R915	A3	R917	A3	C935	B1	Q911	B1	R911 B2	C908 B3	R967	B3	Q914 C1	R966 C1	ZD907 C1	R980 C2	C968 C2	ZD903 C2	R921 C3	R904 C4	C955 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	
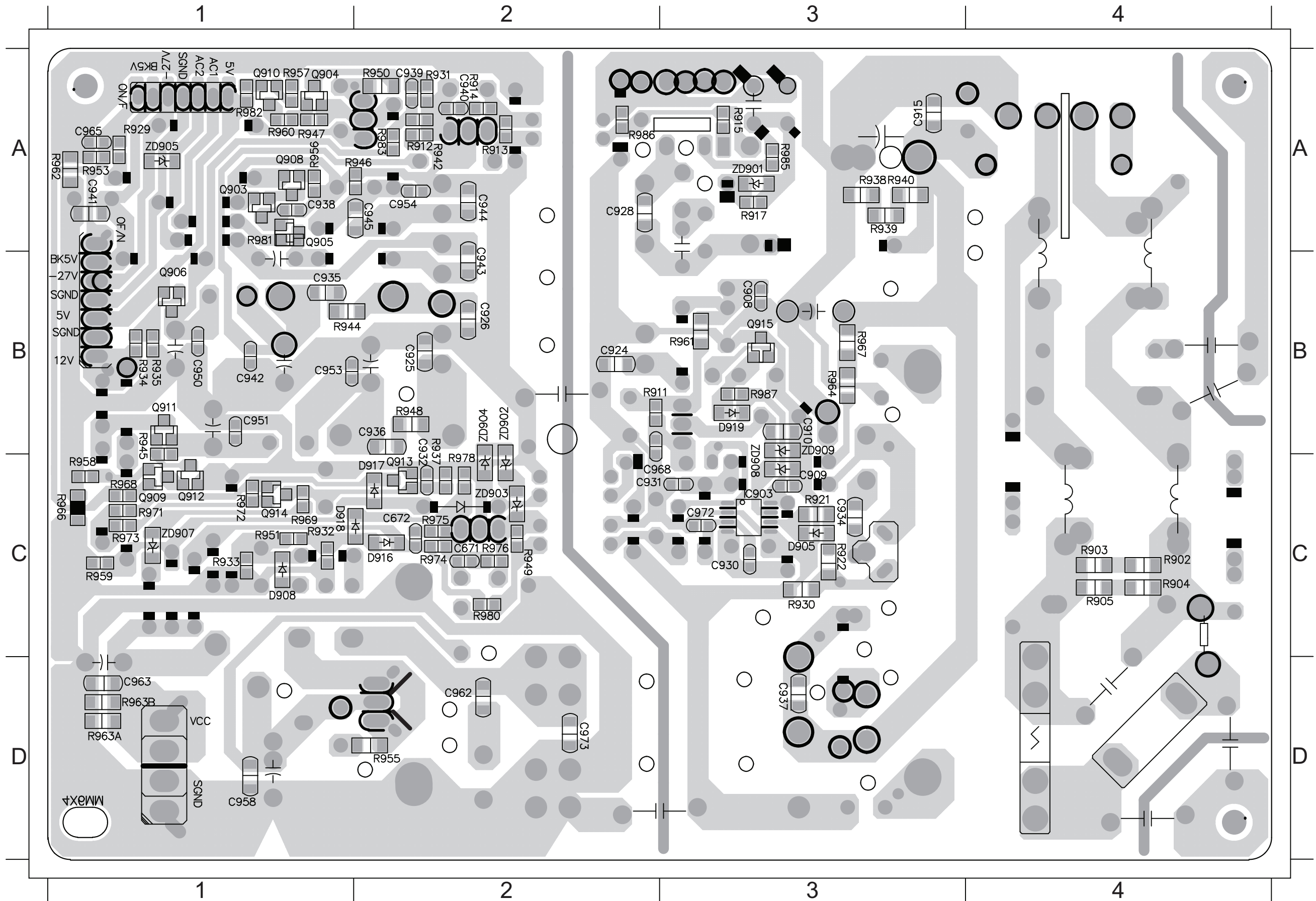
MP3 IN BOARD

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

1   2   3

RB352
1 36   MP3L   FB 351   JK 351
2 37   600   5
3 35   4
MP3R   FB 352   R 3079   2
RB3/2 0   600   1K   3
                 R3080   6
                          1K   7
                               1

A

RB354
USB 5 V   1 31   FB 355   600
GN D   2 32   USB 5 V
USB M   3 33   FB 356   600
USB P   4 34   FB 357   600
RB4/20

C 383
104
USB M
USB P

USB 351
5
1
2
3
4
6
USB2 . 0

B

RB 351
3   EN 2   VOL DW N
2
1   EN 1   VOL   UP
CN 3/20

C 395 30P
C 396 30P

VR 351

VOL _DGA _3P

1   2   3
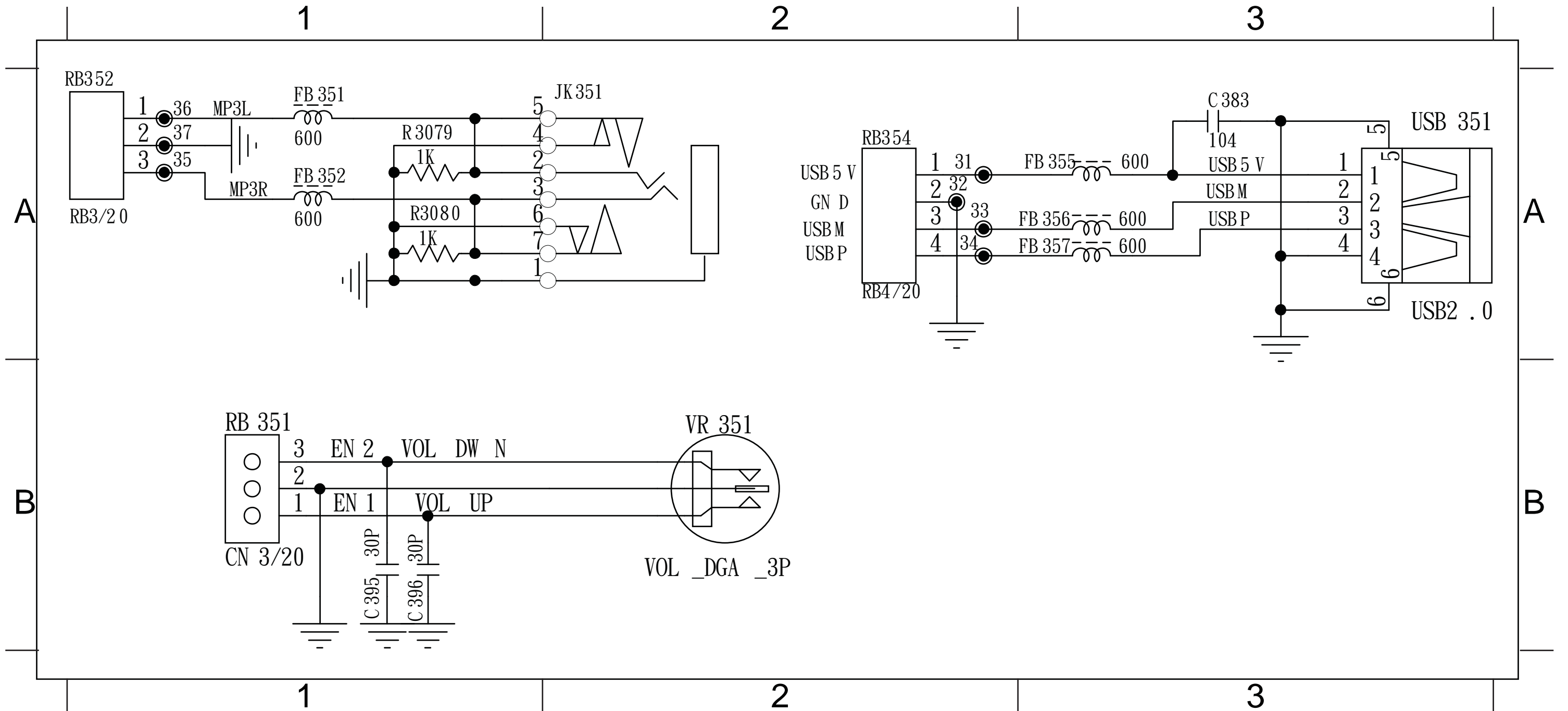
PCB LAYOUT - TOP VIEW

J360   A2   J361   A1   JK351 B1   RB352 A1   RB354 A1   USB351 A2

1   2

A   A

ESD9

RB352

RB354

+5V   GND   USBM   USBP

MP3-R   GND   MP3-L

J360

ESD8

USB351

J361

LUC108250-1001

JK351

GP

B   B

1   2
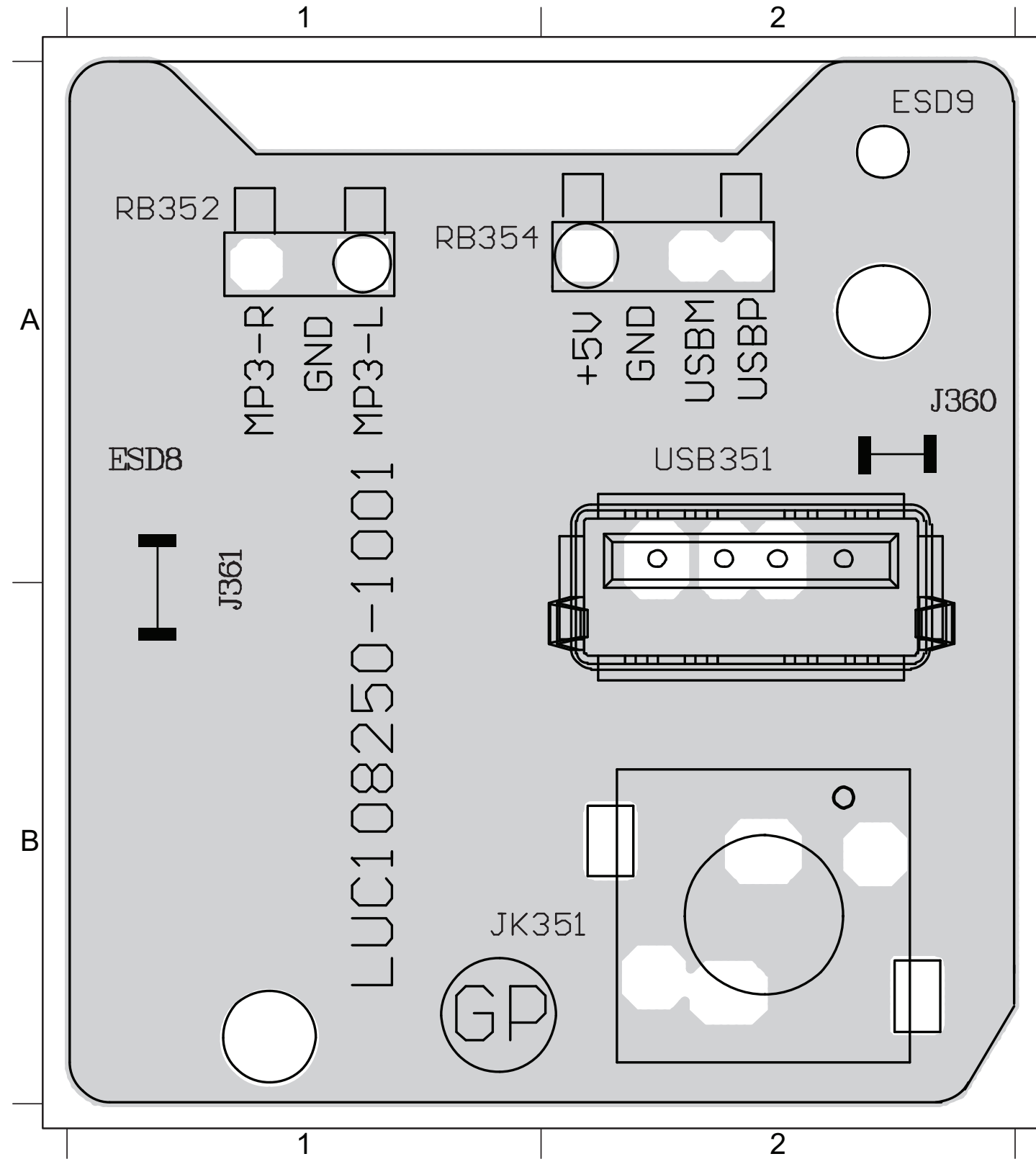
PCB LAYOUT - BOTTOM VIEW

C383   A2   FB351 A2   FB352 A2   FB355 A2   FB356 A1   FB357 A1   R3079 A2   R3080 A2

1   2

A   A

FB357
FB356
C383
FB355

R3079
FB351

R3080
FB352

B   B

1   2

SCART BOARD

TABLE OF CONTENTS

CIRCUIT DIAGRAM

C710 A1	C712 B2	C714 B2	FB707 B1	FB709 B1	FB711 A2	JK703 A2	R708 A2	RB702 A1
C711 A1	C713 B2	C715 A2	FB708 B1	FB710 A2	FB714 C2	R707 A2	RB701 B1	
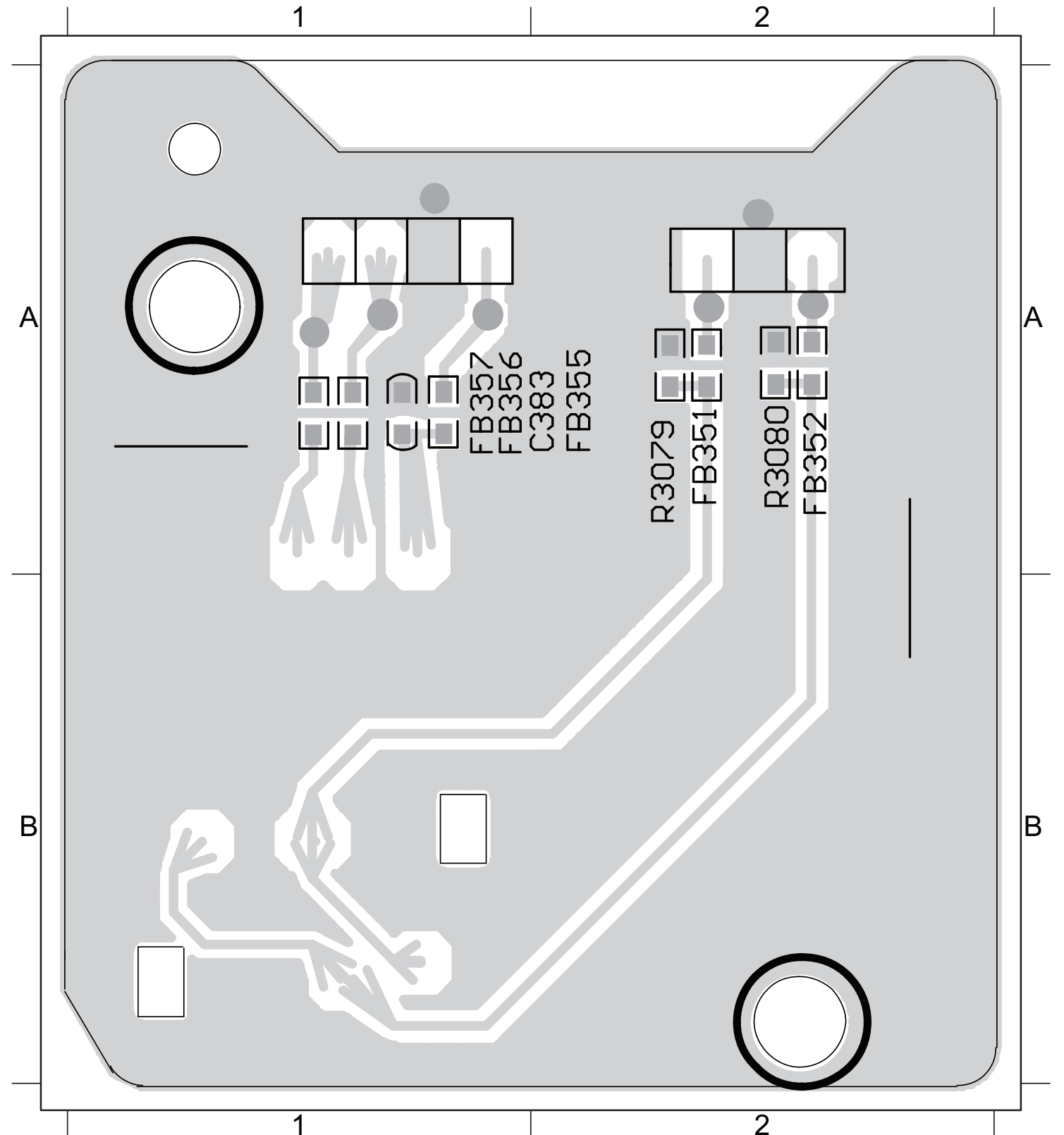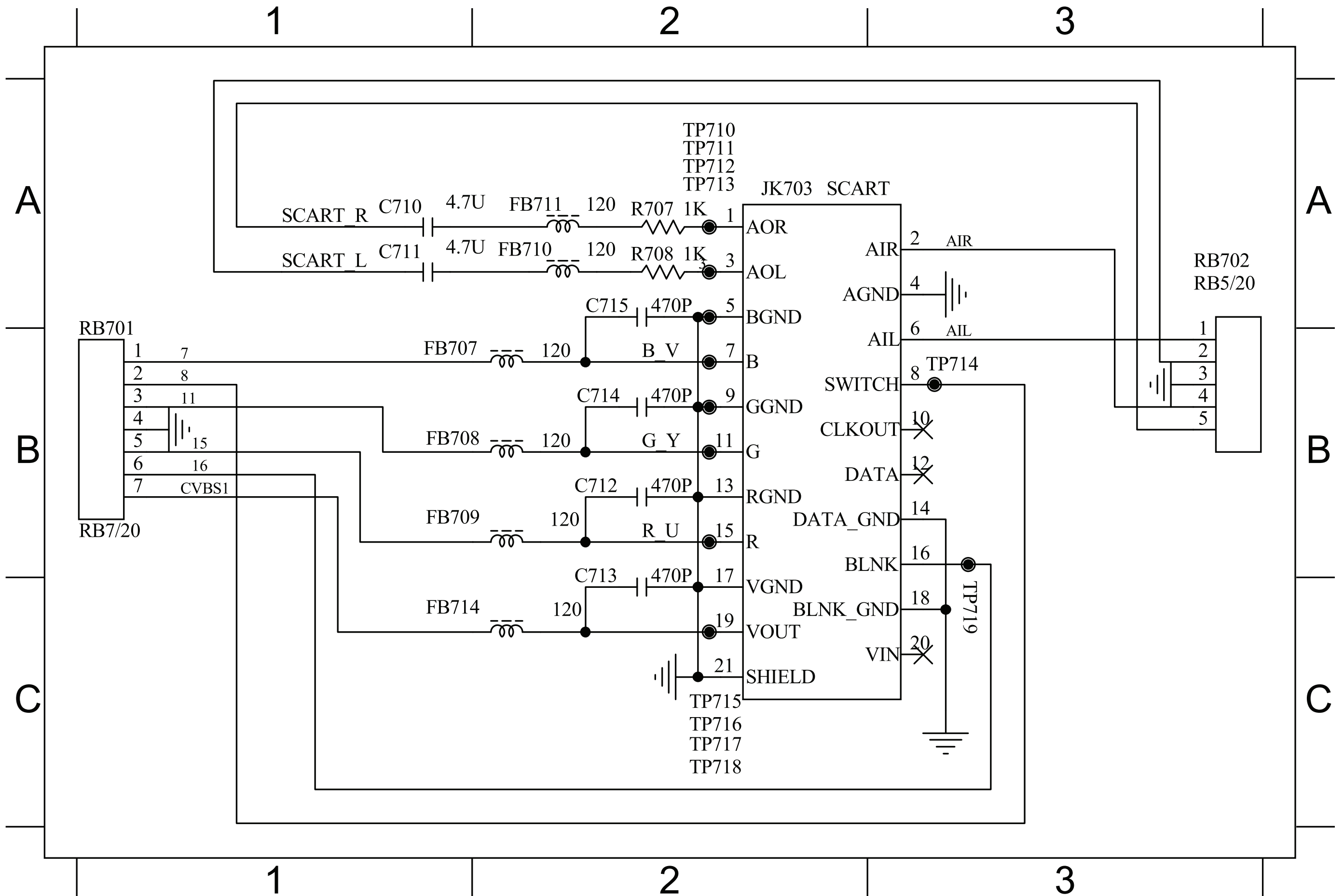
PCB LAYOUT - SCART PCB VIEW

| C710 | A1 | C712 | B3 | C714 | A2 | FB707 | A2 | FB709 | B3 | FB711 | A1 | JK703 | A2 | R708 | A1 | RB702 | B1 |
| C711 | A1 | C713 | B3 | C715 | A2 | FB708 | A1 | FB710 | A1 | FB714 | A1 | R707 | A1 | RB701 | B3 | | |

Mechanical Exploded View
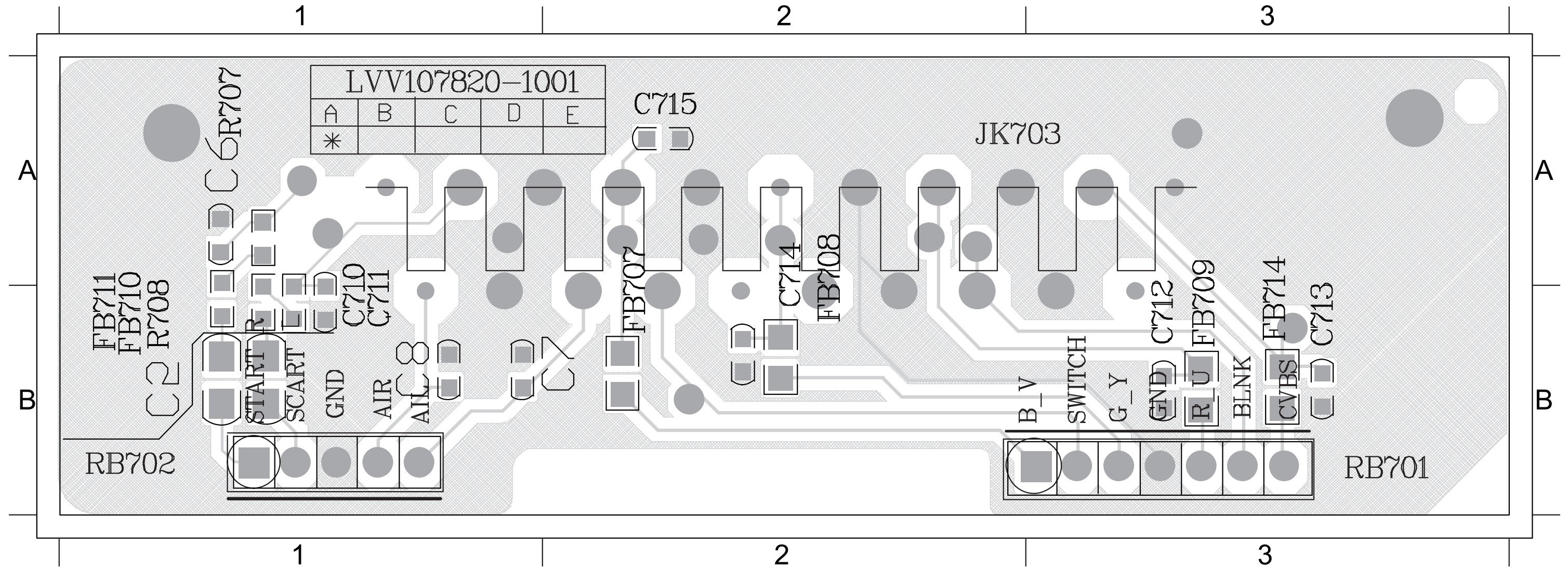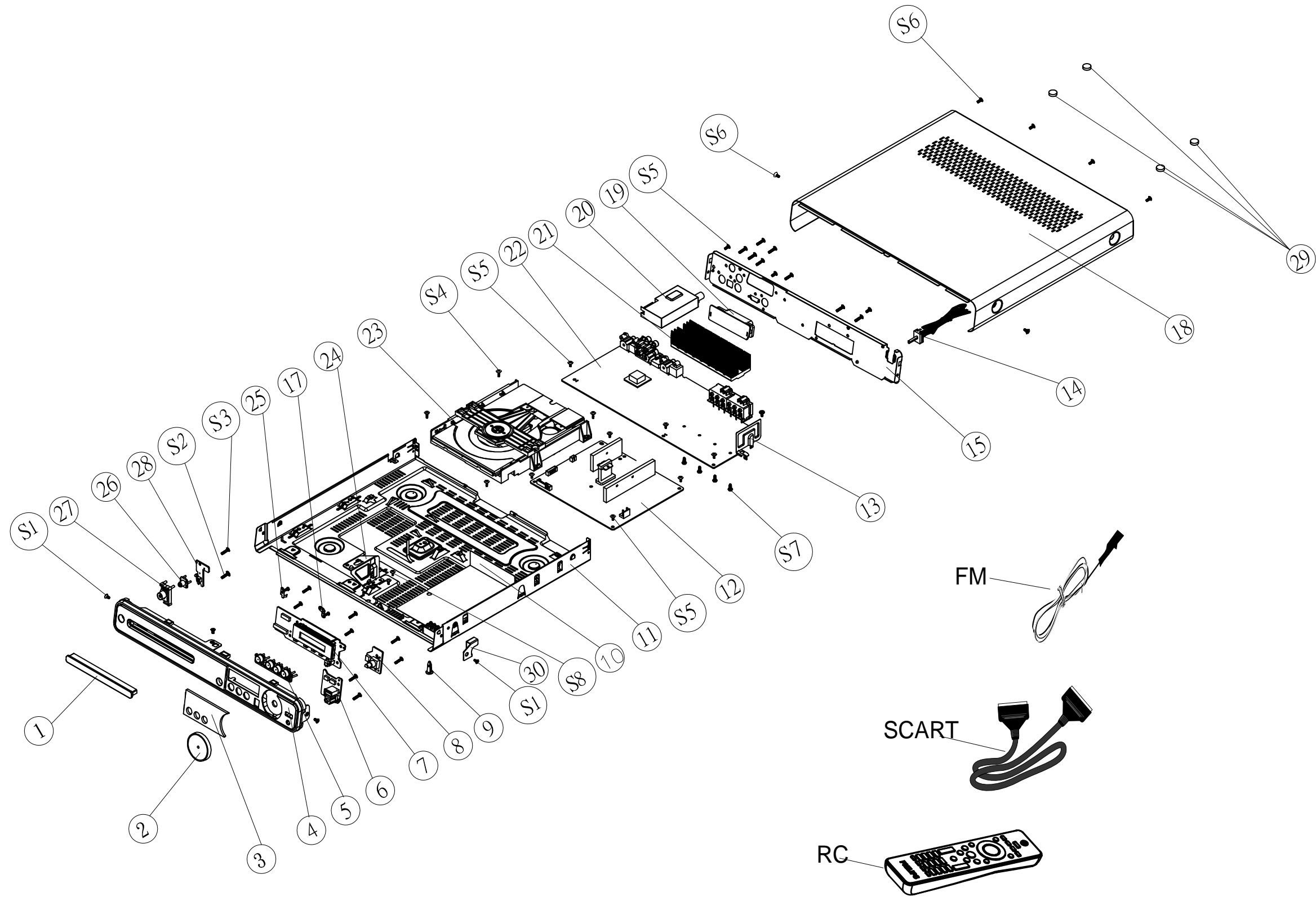
A=7+28+8

PART LIST

Loc.	Alt Part No.	safety	Description
MAIN UNIT			
1	996510027647		DVD DOOR ABS BLK
2	996510021087		VOLUME KNOB
3	996510021093		DISPLAY LENS
4	996510021057		FRONT PANEL
5	996510021068		FUNCTION KNOB
6	996510021066		MP3 IN PCB ASSY
11	996510022387		BTM CAB
12	996510021228	⚠	POWER PCB ASSY 420W
14	996510001638		POWER CORD
15	996510027068		REAR PANEL SECC
17	996510027029		VOLUME BKT SECC T=1.0mm
18	996510027032		TOP COVER SECC
19	996510021058		SCART PCB ASSY
20	# 996510011275		TUNER PACK
20	# 996510018486		TUNER PACK KST-MT004FS1
22	996510021237		MAIN 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	996510021067		REMOTE CONTROL 39 KEYS
SCART	996510001650		SCART CABL
V1	996510007429		GP FFCCBLE 10P100mm
SPEAKER			
C	996510027653		SPEAKER BOX
ML	996510027648		SPEAKER BOX
MR	996510027649		SPEAKER BOX
SL	996510027651		SPEAKER BOX
SR	996510027652		SPEAKER BOX
W	996510027654		SPEAKER BOX
SUBW	996510013306		RUBBER FOOT -SUB
FRMS	996510027049		RUBBER FOOT
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
CN203	996500015859		CONNECTOR 4PIN P2.0MM
CN204	996500017367		CONNECTOR 8P
CN205	996510012495		CONNECTOR 4P
CN206	996500015897		CONNECTOR 3 PIN RED P=2.0
CN208	996500015897		CONNECTOR 3 PIN RED P=2.0
CN301	996510012497		FPC/FFC CONN. 10P
CN701	996500017358		CONNECTOR 7P
CN702	996500015895		CONNECTOR 5 PIN P=2.0MM
CN802	996500015901		CONNECTOR 6 PIN P=2.0MM

Loc.	Alt Part No.	safety	Description
MAIN PCB			
CN803	996500015895		CONNECTOR 5 PIN P=2.0MM
D201	996510010358		DIODE 1N4007
D204	996510010358		DIODE 1N4007
GT01	996510027047		EMC BKT TIN T=0.3mm
IC101	996510021063		IC 16P SAA6581T SO16 PHILIPS
IC201	996510012499		IC 28P
IC202	996510027891		IC 48P EN29LV320AB-70TCP
IC203	# 994000005209		IC 3P AZ809NSTR-E1 SOT23
IC203	# 996500041284		IC 3P STM809SWX6F 3.0V
IC204	996510004289		IC 8P TU24C16CS2 SOIC TURB
IC205	# 996500027091		IC 3PIN AP1117E33LA SOT223
IC205	# 996510021062		IC3P LD1117ADJ SOT223 3.3
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 TSS
IC208	996510021936		IC 48P STM32F101C6A
IC209	996510021082		IC 256P MT1389FXE/SN LQFP
IC210	996500027090		IC 3 PIN AP1117E18LA 1.8V
IC210	# 996510027889		IC 3P LD1117AL-18-AA3
IC301	996510020341		IC 8P D4558 SOP SILICORE
IC304	996510012503		IC 16P CD4051BM SOIC TI ANA
IC305	996510012503		IC 16P CD4051BM SOIC TI ANAL
IC306	996510021056		IC 20P WM8781GEDS SSOP WO
IC309	996510012500		IC 20 PIN SN74HC244PWR TS
IC401	996510021092		IC 64P TAS5508APAG TQFP TI
IC402	996510021229		IC 44P TAS5342ADDV
IC403	996510021229		IC 44P TAS5342ADDV
IC404	996510021229		IC 44P TAS5342ADDV
IC405	996510020341		IC 8P D4558 SOP SILICORE
IC406	996510020341		IC 8P D4558 SOP SILICORE
IC407	996500023948		IC 14PIN 74HCU04D PHILIPS TS
IC801	996510010380		Motor Drive IC
JK302A	996510016616		RCA JACK2PWHT-RED RCA-21
JK401	996510013837		GPSPK JAC12P RD-WT-GRN-G
JK601	# 996510012507		HDMI JACK 19P PDVBT8-19
JK601	# 996510027045		HDMI JACK 19P 01-010039
JK701	996510012481		RCA JACK 1P YELLOW W/GND
JK703	996510015645		TOSL JA PLR131/T2 RECEIVER
JK704	996500017363		RCA JACK 1P W/GND P
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
Q101	994000000921		XISTR PNP 2SA812 HFE:200
Q102	# 994000000915		XISTR NPN 2SC1623
Q102	# 996510027037		XISTR NPN 2SC5343SG
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
Q305	# 994000000915		XISTR NPN 2SC1623
Q305	# 996510027037		XISTR NPN 2SC5343SG
Q401	996510000578		XISTR NPN KTC3875-Y
Q402	994000000921		XISTR PNP 2SA812 HFE:200
Q403	996510000578		XISTR NPN KTC3875-Y
Q404	996510000578		XISTR NPN KTC3875-Y
Q405	996500028742		XISTR NPN 2SD882P PB<100
Q406	994000000921		XISTR PNP 2SA812 HFE:200

Loc.		Alt Part No.	safety	Description

MAIN PCB

Loc.		Alt Part No.	safety	Description
Q601		996510008289		FET AO3402 SOT23 30V/4A
Q602		996500041281		FET 2N7002 60V/115MA
Q701	#	994000000915		XISTR NPN 2SC1623
Q701	#	996510027037		XISTR NPN 2SC5343SG
Q702	#	994000000915		XISTR NPN 2SC1623
Q702	#	996510027037		XISTR NPN 2SC5343SG
Q703	#	994000000915		XISTR NPN 2SC1623
Q703	#	996510027037		XISTR NPN 2SC5343SG
Q704	#	994000000915		XISTR NPN 2SC1623
Q704	#	996510027037		XISTR NPN 2SC5343SG
Q801		996510004117		FET 2SK3018 30V/0.1A SC-70
Q802	#	994000000915		XISTR NPN 2SC1623
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
JK351		996510004129		KARAOKE JACK D3.6MM 7P

POWER PCB

Loc.		Alt Part No.	safety	Description
C903		996500027115		CAP.SAFTY Y1 102PF 250V 20%
C904		996500027115		CAP.SAFTY Y1 102PF 250V 20%
YC905		996500027115		CAP.SAFTY Y1 102PF 250V 20%
C906		994000005344	⚠	CAP.SAFETY Y1 560PF 400V
C907		994000005343	⚠	COND SAFETY 0.22UF 275V
C911		994000005343	⚠	COND SAFETY 0.22UF 275V
C93		996500018042		COND DISC 0.01UF 1KV 20%
C914		996510018518		COND ELECT 100uF 400V 20%
C916		996500018042		COND DISC 0.01UF 1KV 20%
C917		996510012473	⚠	COND DISC 2200 pF 1KV 10%
C918		996500032755	⚠	COND MYLAR 0.01 UF 100V 5%
C919		996510004633	⚠	COND MYLAR 0.1 uF 100V 5%
C920		996510004633		COND MYLAR 0.1 uF 100V 5%
C922		996510004633		COND MYLAR 0.1 uF 100V 5%
C929		996510010365		COND MYLAR 0.0018uF 100V
CN901		996500015936	⚠	CONNECTOR 4PIN P=3.96MM
CN902		996500015901		CONNECTOR 6 PIN P=2.0MM
CN903		996510021055		CONNECTOR B7B-XH-A 7 PIN
CN904		996500017360		CONNECTOR 4P CL3962WVO
D902		996510012516		DIODEHER105 DO-411A400V
D903		996510012516		DIODEHER105 DO-411A400V
D904		994000001571		DIODE FR107 1A 1000V
D910		996510012516		DIODEHER105 DO-411A400
D911		996510021223		DIODE PR2007 2A 1000V DO
D912		994000005249		DIODE SB360 3A 60V DO-201AD
D913		994000000943		DIODE UF3003 3A 200V
D914		996510012516		DIODEHER105 DO-411A40
D915		994000005459		DIODE STPR1020CT
F901		994000001567	⚠	FUSE 4A 250V
GT902		996510021084		SURGE PROTECTOR DSP-501
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
IC905		994000000946		OPTICAL SENSOR 4P
IC906		994000000946		OPTICAL SENSOR 4P
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 D0.65MM
L907		996500027104		INDUCTOR 6UH /-15%
NTC901		994000005232	⚠	THERMIST. NTC 5R 5A
Q901		996510010367		XISTR PNP 2SA733Q

Loc.		Alt Part No.	safety	Description

POWER PCB

Loc.		Alt Part No.	safety	Description
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
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
L906		996500027102		TOROID COIL S1=1TS D0.65MM
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
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

DISP+LED+VOL PCB

Loc.		Alt Part No.	safety	Description
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

SCART PCB

Loc.		Alt Part No.	safety	Description
JK703		996510021054		SCART SOCKET 21P P3.81mm

MP3 IN PCB

| Loc.		Alt Part No.	safety	Description
JK351		996510004129		KARAOKE JACK D3.6MM 7P
USB351		CJU040010-0004		USB JACK 4P LIGHT BLK

REVISION LIST

Version 1.0
*Initial release
#=Alternative Codes
⚠=Safety Symbol