DVD Home Theater System

HTS3571/94

Service
Service
Service

Service Manual

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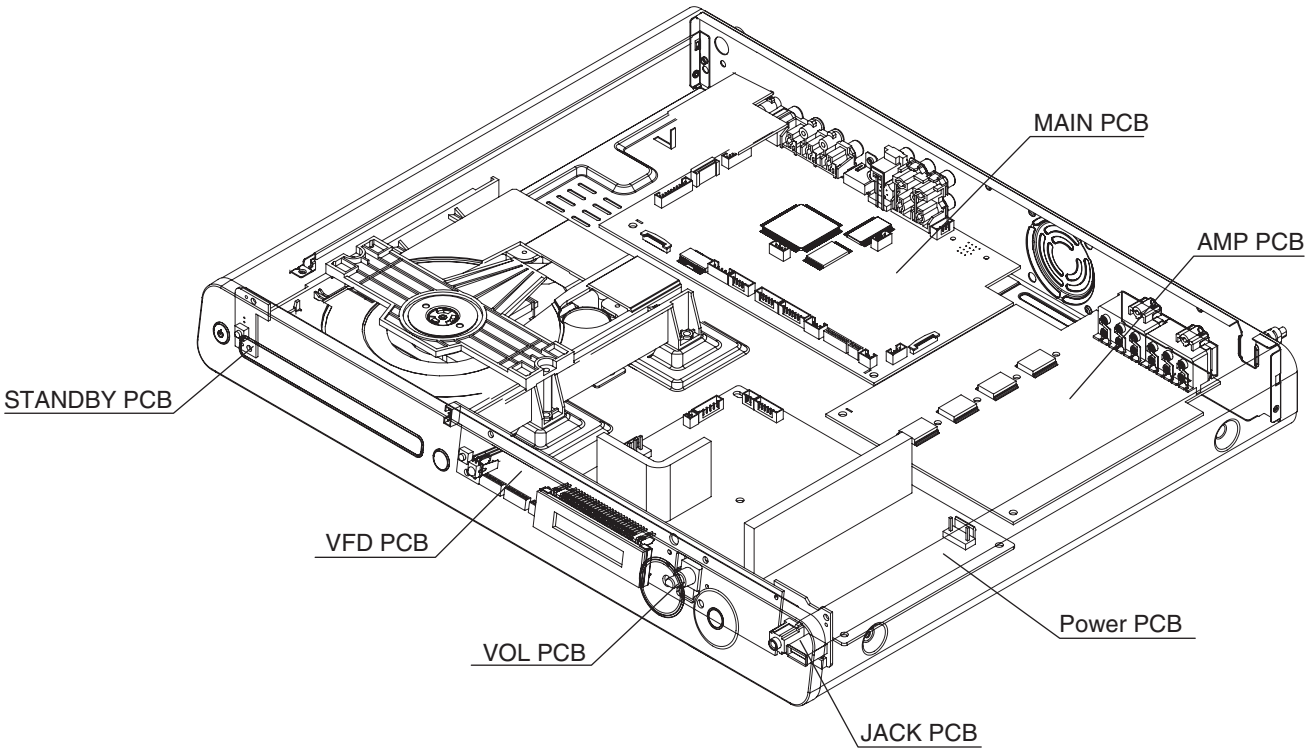
GB 3139 785 35170

Version 1.0

PHILIPS

LOCATION OF PCB BOARDS



VERSION VARIATION:

Type/Versions / Features	HTS3571 /94
Output Power - 1200W	X
Voltage (220~240V)	X

SERVICE SCNARIO MATRIX:

Type/Versions / Board in used	HTS3571 /94
MAIN Board	C
Power Board	C
VFD+JACK+VOL+STANDBY Board	C
AMP 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 fl ash drive.

Amplifier

Total output power.....
Home Theatre mode.....1200 W RMS (2 X 260 + 4 X 170)
Frequency response..... 40 Hz ~ 20 kHz
Signal-to-noise ratio.....> 60 dB (A-weighted)
Input sensitivity.....
AUX1 ..... 400 mV
AUX2 ..... 400 mV
MP3 LINK ..... 250 mV

Disc

Laser Type..... Semiconductor
Disc diameter..... 12 cm / 8 cm
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 (50/100 kHz)
26 dB quieting sensitivity .....FM 22 dBf
IF rejection ratio.....FM 60 dB
Signal-to-noise ratio.....FM 50 dB
Harmonic distortion..... FM 3%
Frequency response..... FM 180 Hz~10 kHz / ±6dB
Stereo separation ..... FM 26 dB (1 kHz)
Stereo Threshold..... FM 29 dB

USB

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

Main Unit

Power supply.....220-240 V; ~50 Hz switchable
Power consumption..... 200 W
Standby power consumption ..... < 1 W
Dimensions (WxHxD) ..... 435 x 57 x 365 (mm)
Weight ..... 3.63 kg

Speakers

System..... full range satellite
Speaker impedance.....
Front/Rear ..... 4 Ohm
Centre..... 3 Ohm
Speaker drivers .....
Centre.....2 X 2.5” woofer + 1 X 2” tweeter
Front/Rear ..... 3” full range
Frequency response..... 150 Hz ~ 20 kHz
Dimensions (WxHxD) .....
- Centre..... 267 x 100 x 78 (mm)
- Front..... 100 x 100 x 75 (mm)
- Rear..... 100 x 100 x 75 (mm)
Weight .....
- Centre..... 1.25 kg
- Front..... 0.48 kg
- Rear..... 0.45 kg

Subwoofer

Impedance..... 3 ohm
Speaker drivers ..... 203 mm (8”) woofer
Frequency response..... 40 Hz ~ 150 Hz
Dimensions (WxHxD) ..... 242 x 352 x 360 (mm)
Weight ..... 5.76 kg

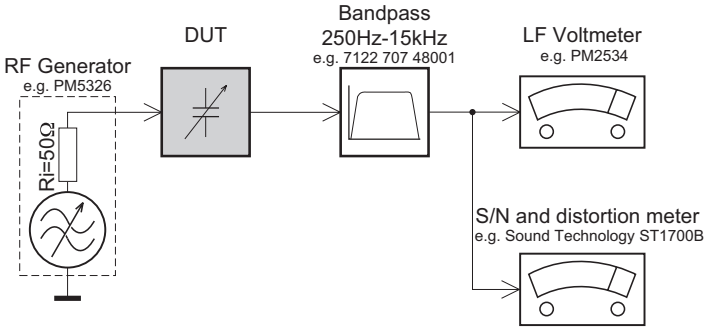
Laser specifi cation

Type..... Semiconductor laser GaAIAs (CD)
Wave length..... 645–665 nm (DVD),770–800 nm (CD)
Output power.....6 mW (DVD),7 mW (VCD/CD)
Beam divergence..... 60 degrees.

Specifications subject to change without prior notice.

MEASUREMENT SETUP

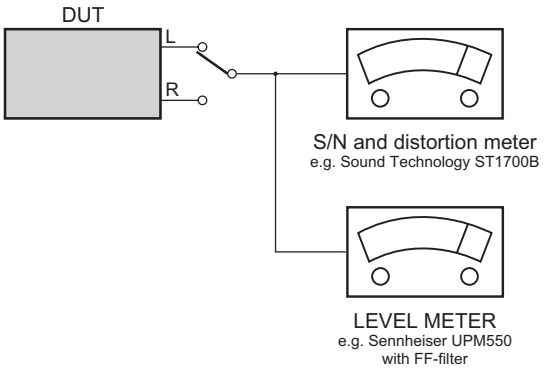
Tuner FM



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

CD

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



SERVICE AIDS

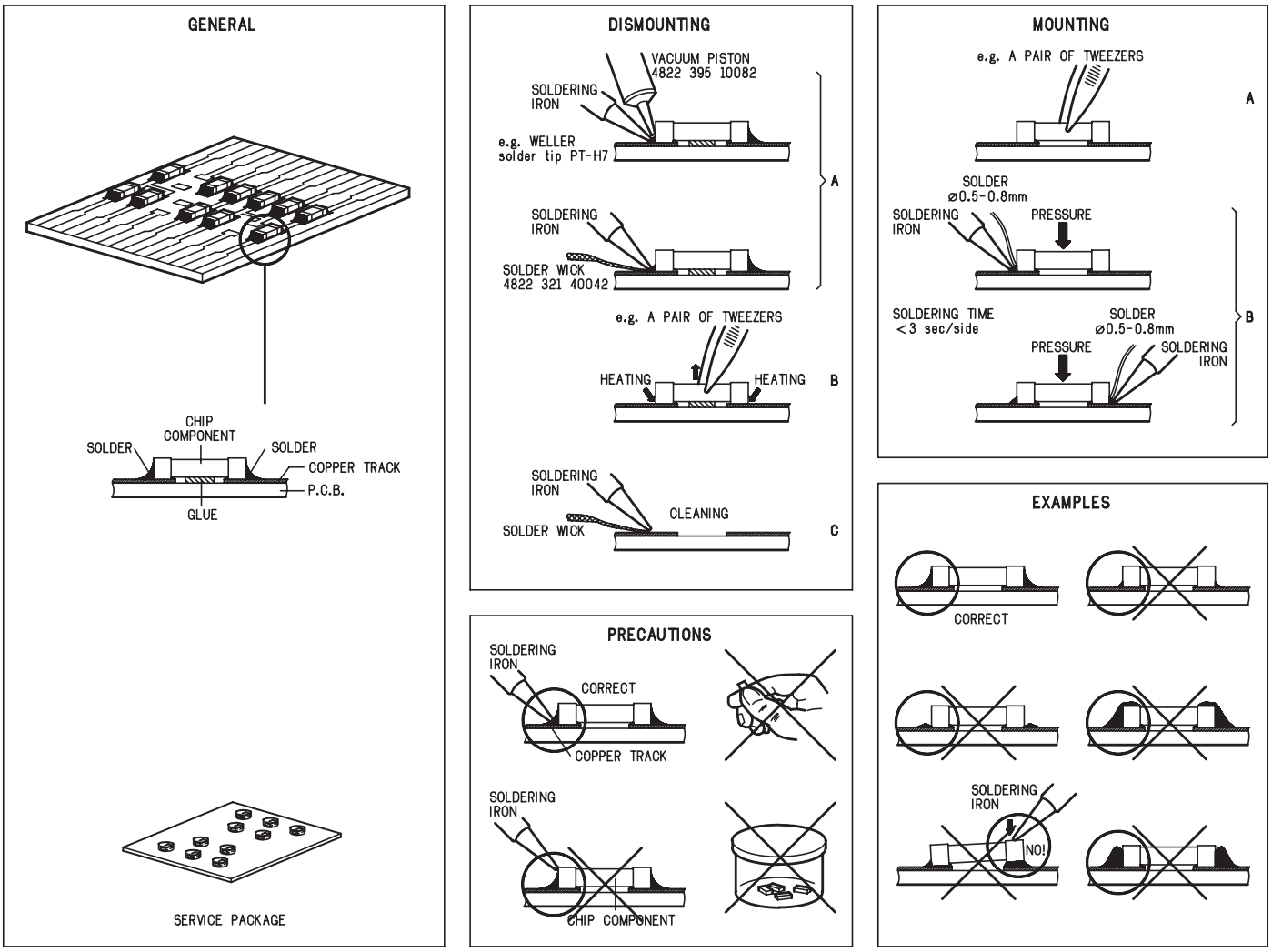
Service Tools:

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

Compact Disc:

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

HANDLING CHIP COMPONENTS



ESD

(GB) WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance.
Keep components and tools also at this potential.

(NL) WAARSCHUWING

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen.
Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

(F) ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).
Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité.
Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

(D) WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).
Unsorgfältige Behandlung im Reparaturfall kan die Lebensdauer drastisch reduzieren.
Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes.
Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

(I) AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione.
Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

(GB) ESD PROTECTION EQUIPMENT

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

(GB)

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

Safety components are marked by the symbol ⚠ .

(NL)

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

De Veiligheidsonderdelen zijn aangeduid met het symbol ⚠ .

(F)

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

Less composants de sécurité sont marqués ⚠ .

(D)

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

Sicherheitsbauteile sind durch das Symbol ⚠ markiert.

(I)

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

Componenty di sicurezza sono marcati con ⚠ .

(GB)

After servicing and before returning set to customer perform a leakage current measurement test from all exposed metal parts to earth ground to assure no shock hazard exist, The leakage current must not exceed 0.5mA.

(GB) Warning !

Invisible laser radiation when open.
Avoid direct exposure to beam.

(S) Varning !

Osynlig laserstrålning när apparaten är öppnad och spärren är urkopplad. Betrakta ej strålen.

(SF) Varoitus !

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

(DK) Advarse !

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

(F)

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

Pb(Lead) Free Solder

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

INDENTIFICATION:
Regardless of special logo (not always indicated) 

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

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

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

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

– Always use the 12nc-recognizable soldering temperature profile of the specific BGA (for de-soldering always use the lead-free temperature profile, in case of doubt)
– Lead free BGA-ICs will be delivered in so-called 'dry-packaging' (sealed pack including a silica gel pack) to protect the IC against moisture. After opening, dependent of MSL-level seen on indicator-label in the bag, the BGA-IC possibly still has to be baked dry. (MSL=Moisture Sensitivity Level). This will be communicated via AYS-website.
  Do not re-use BGAs at all.

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

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

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

  For additional questions please contact your local repair-helpdesk.

2 - 1

System , Region Code , etc. Setting Produre

1)System Reset

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

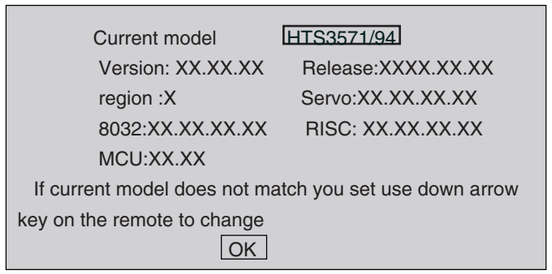
2)Region Code Change

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

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

3)Version Control Change

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



4)Password Change

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

5)Check on the Software Version

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

6)Trade model

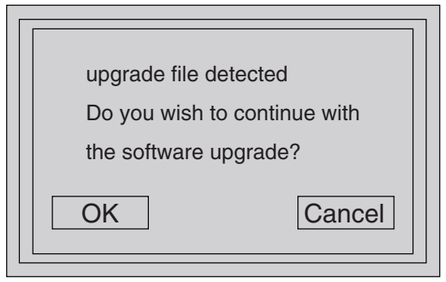
a) Press “Open/Close “ button on R/C.
b) Press “2” “5” “9” on R/C,VFD will display “TRA ON “ or “TRA OFF“.

8) Produce to Change Tuner Grid

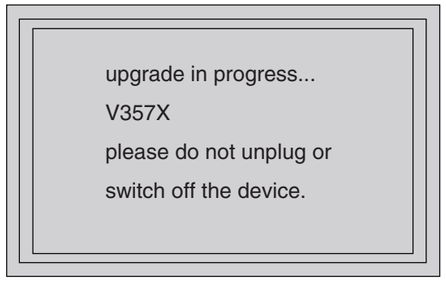
(only applicable for certain regions)
In some countries, the frequency step between adjacent channels in the FM band is 50kHz (100kHz in some areas).
a) Press “source” to select “FM”.
b) In “FM” playback mode, press & hold “play/pause” button until Grid 9” or “Grid 10” appears.
Note: repeating the same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

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:



f) Select “OK”, OSD will show:



CAUTION!

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

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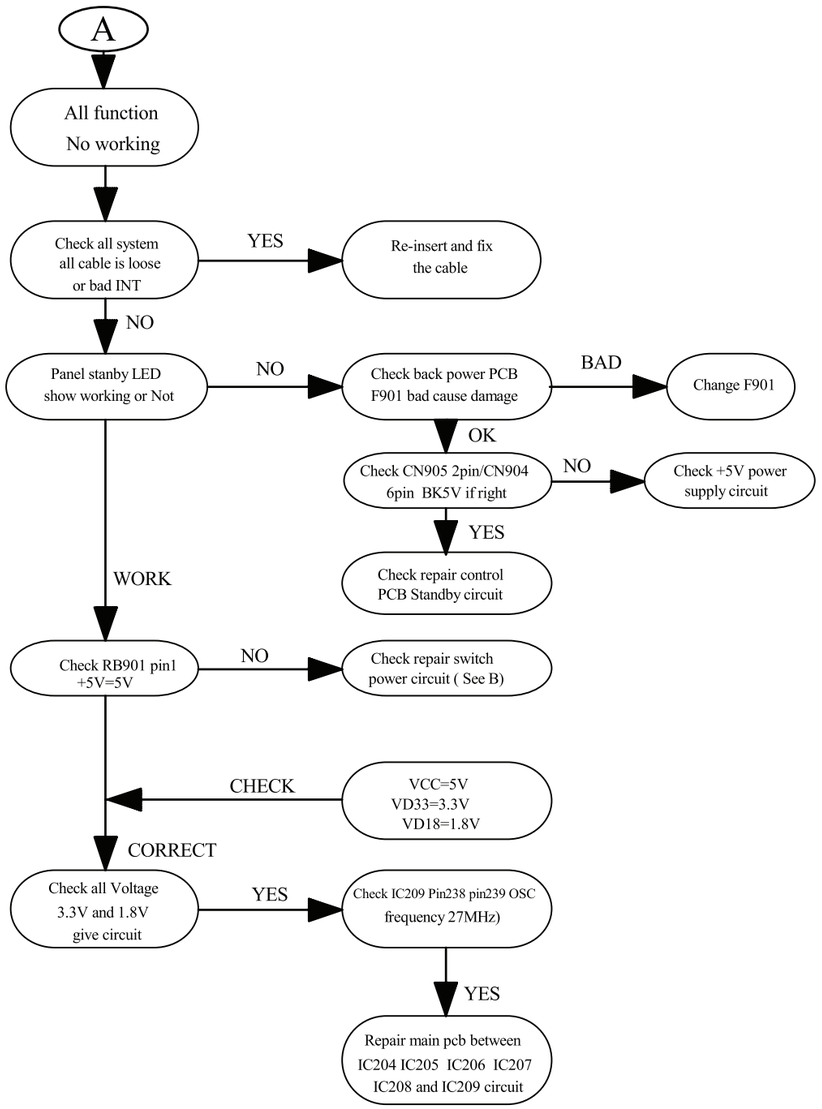
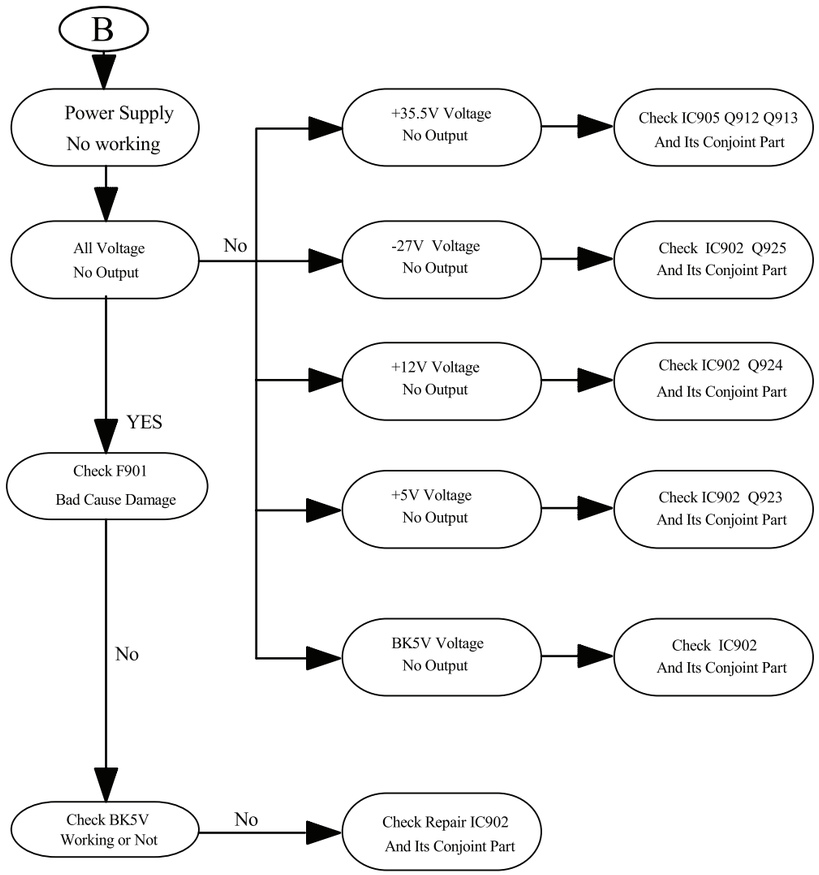
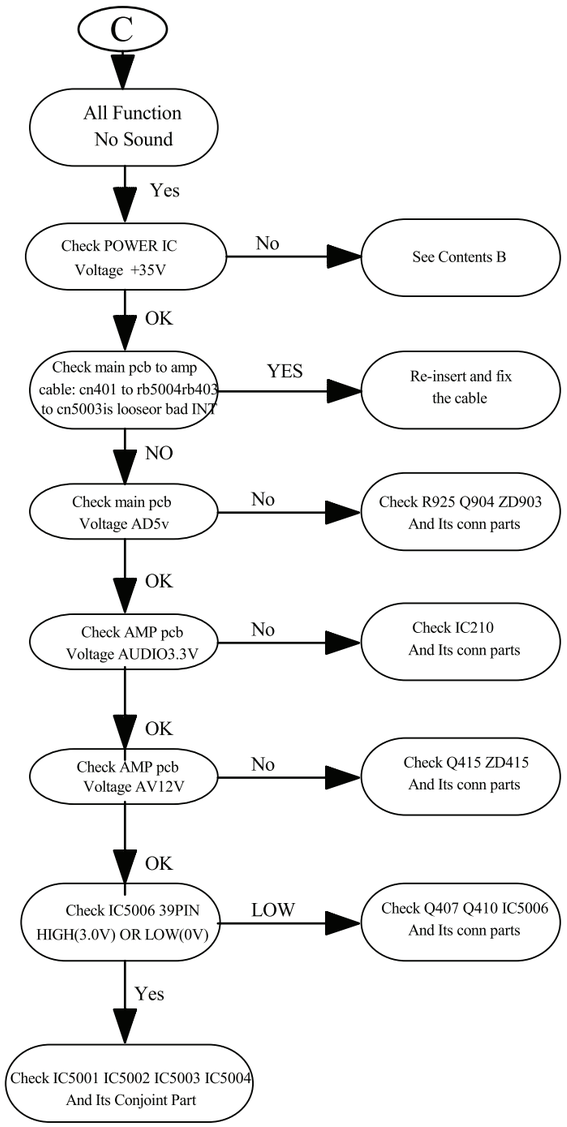
REPAIR INSTRUCTIONS (ONE)

MAIN UNIT REPAIR CHART 1/3

A All Function No Working
B Power Supply No Working
C All Function No Sound
D KARAOKE input 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 No Optical Input
O HDMI No Output
P No CVBS Output
Q No Y Pr Pb output



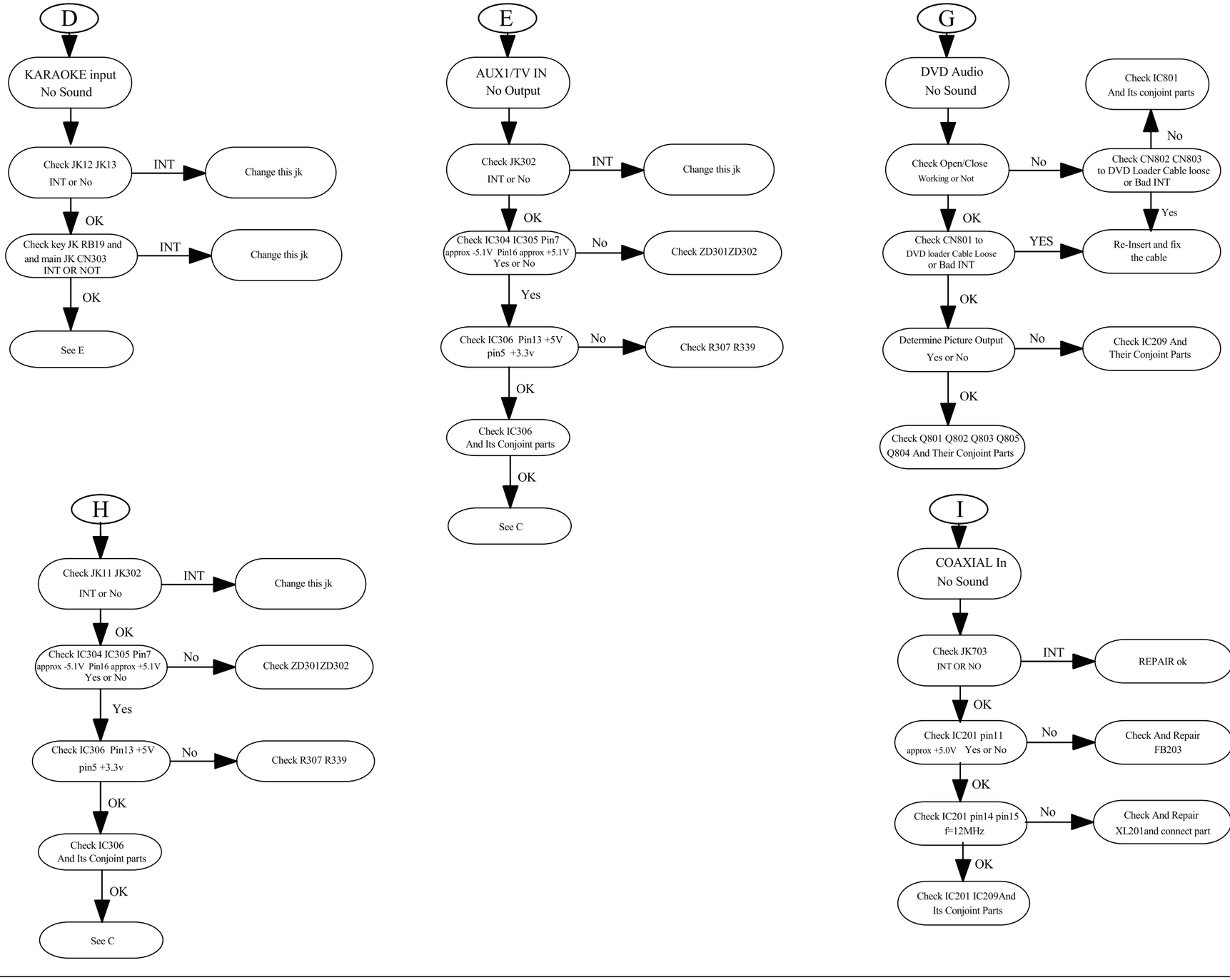




2 - 3

REPAIR INSTRUCTIONS (TWO)

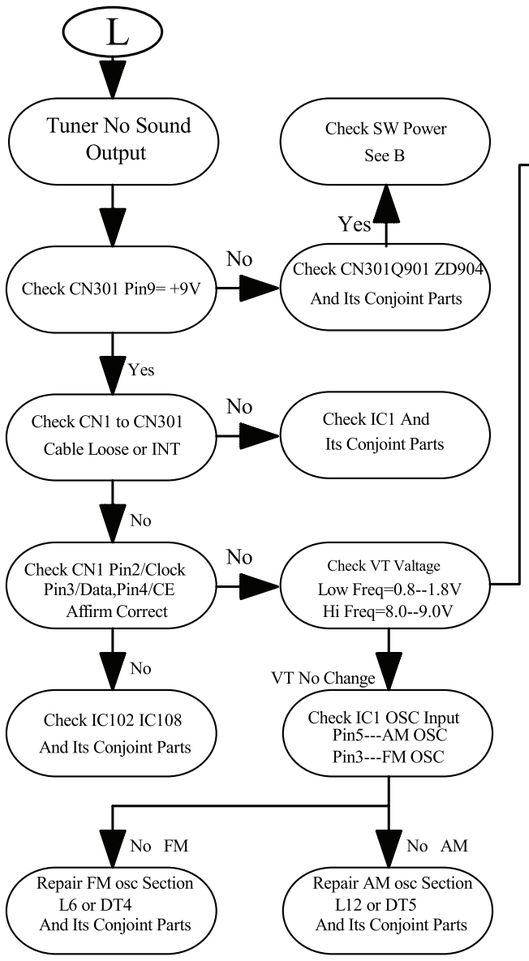
MAIN UNIT REPAIR CHART 2/3

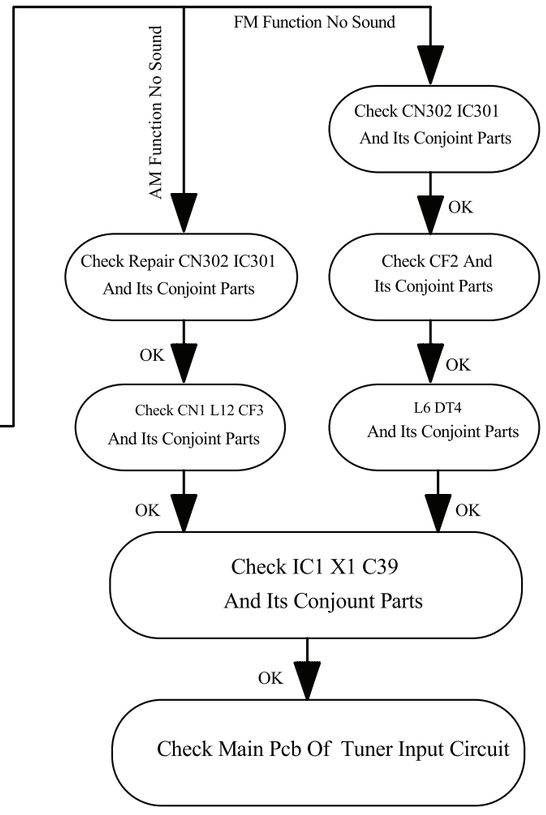


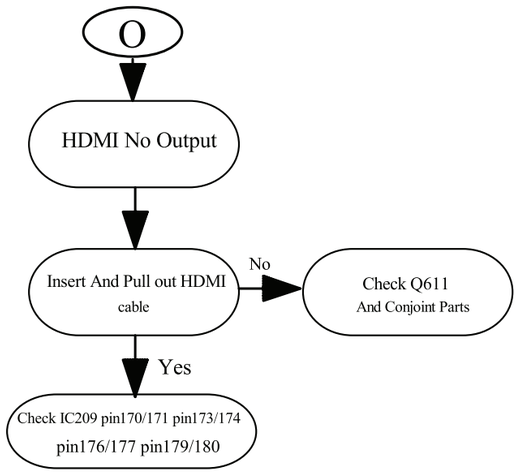
2 - 4

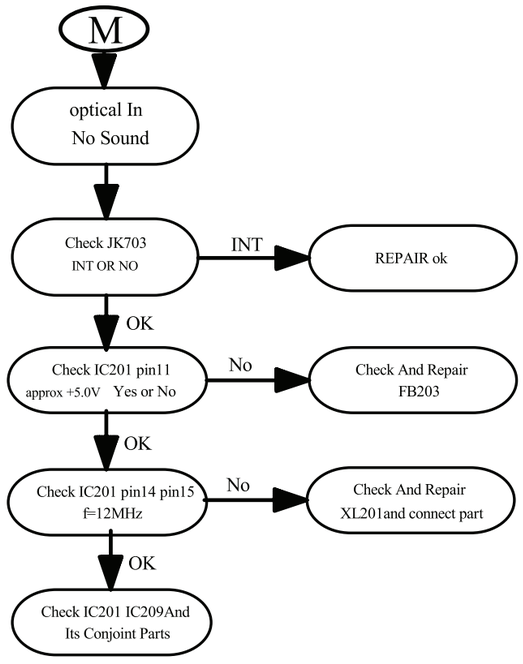
REPAIR INSTRUCTIONS (THREE)

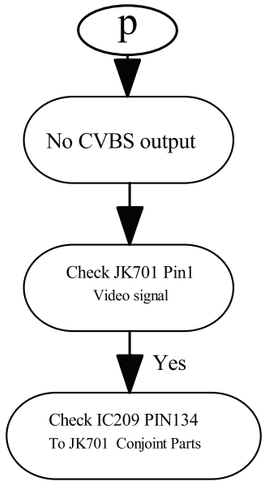
MAIN UNIT REPAIR CHART 3/3

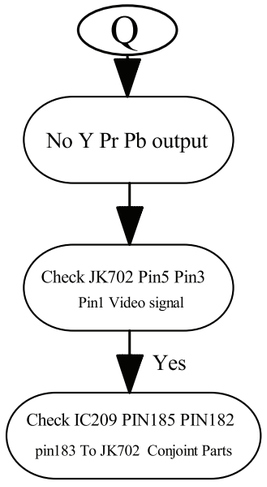












DISASSEMBLY INSTRUCTIONS

Dismantling of the Front Panel Assemble

1) Open the DVD Tray by using the Open/Close Button while the Set is ON and disconnect the mains supply after removing the Tray Cover.
   Note: If this is not possible, the DVD Tray has to be open manually.
   Take a mini screw driver about 2mm diameter and make a marking 24mm from the tip as shown in figure 2 . Place the set on its side, insert the mini screw driver till the marking and slide it towards the left as shown in figure 1 until the Tray moves out of the Front Panel.
2) Return the set to its upright position and remove the Tray Cover as shown in Figure 3 and close the tray manually by pushing it back in.

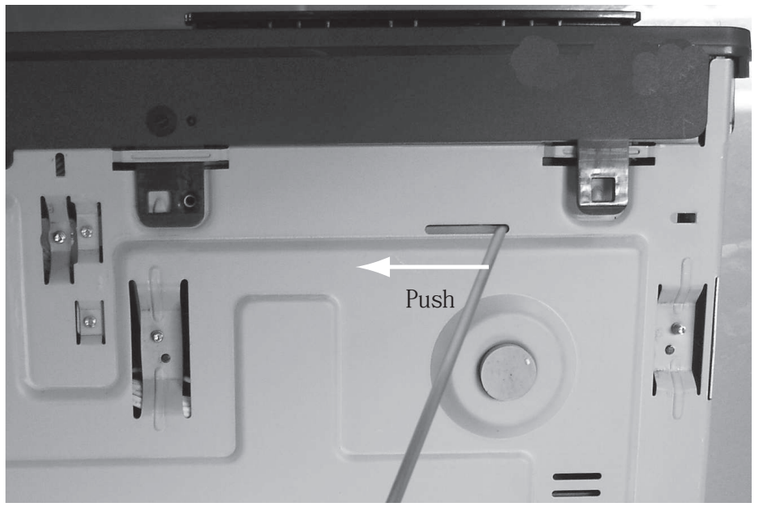


Figure 1

Figure 2

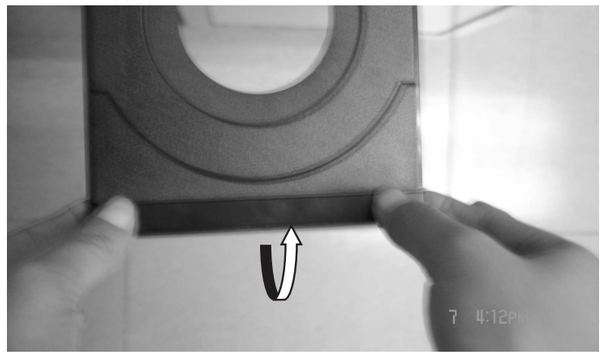


Figure 3

3 - 1

3) Loosen 7 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.
   - 5 screws “B” at the back panel as shown in figure 5.
4) Loosen 5 screws “C“ at the front panel bracket as shown in figure 6,and loosen 1 screw “D“ at the front panel bottom as shown in figure 7 to remove front panel.

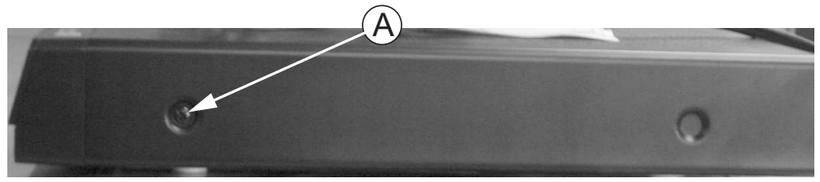


Figure 4

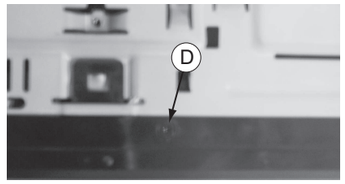


Figure 7

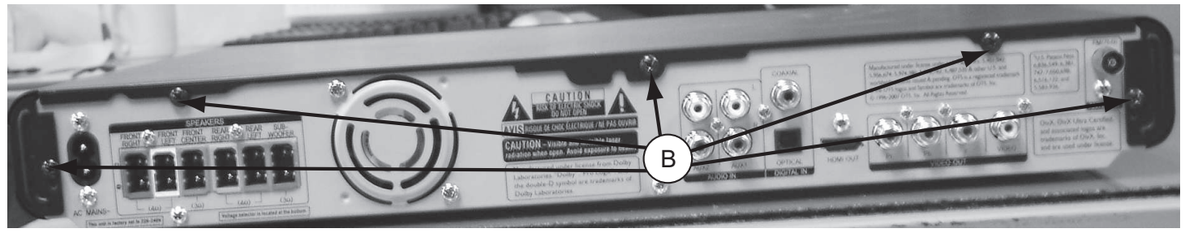


Figure 5

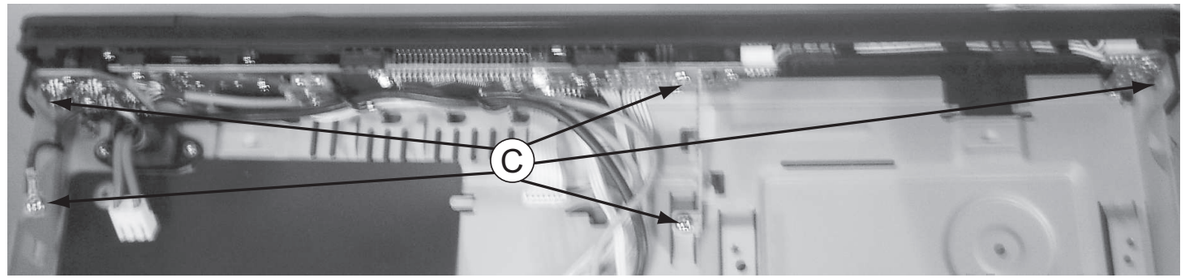


Figure 6

Dismantling of the DVD Module

1) Loosen 4 screws “ E “ at the DVD Module as shown in figure 8.

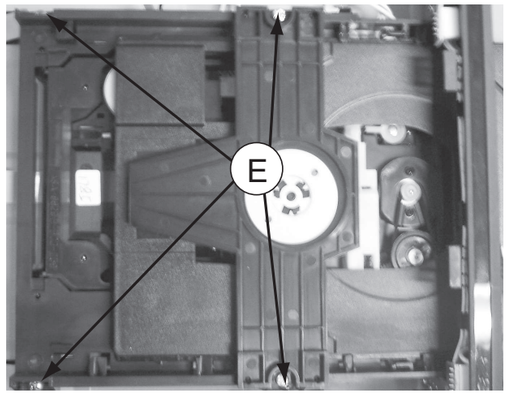


Figure 8

Dismantling of the VFD+JACK+VOL+STANDBY Board

1) Loosen 10 screws “F” on the top of VFD+JACK+VOL+STANDBY Board as shown in figure 9.

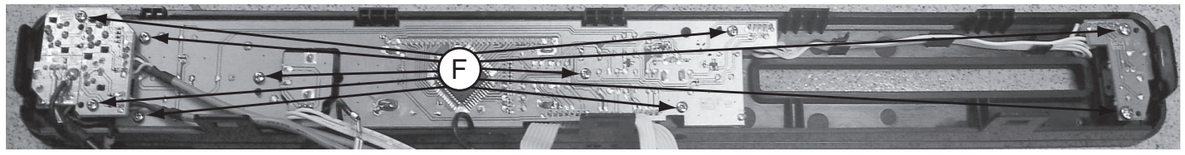


Figure 9

Dismantling of the Main Board

1) Loosen 2 screws “G” on the top of Main Board as shown in figure 10.
2) Loosen 6 screws “H“ at the back panel as shown in figure 11.

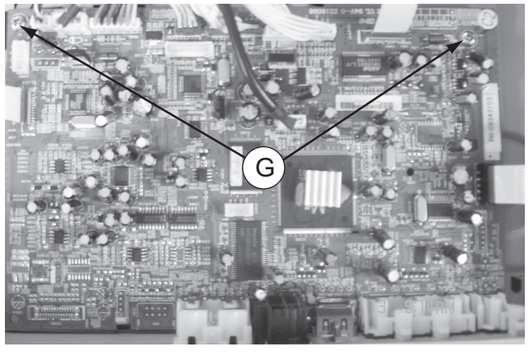


Figure 10

Figure 11

Dismantling of the Power Board

1) Loosen 5 screws “I” on the top of Power Board as shown in figure 12.

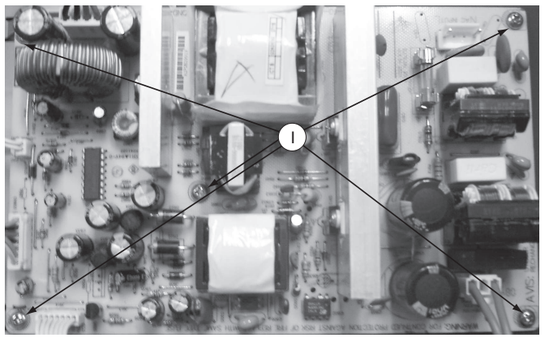


Figure 12

Dismantling of the AMP Board

1) Loosen 2 screws “J” on the top of AMP Board as shown in figure 13.
2) Loosen 2 screws “K“ at the back panel as shown in figure 14.

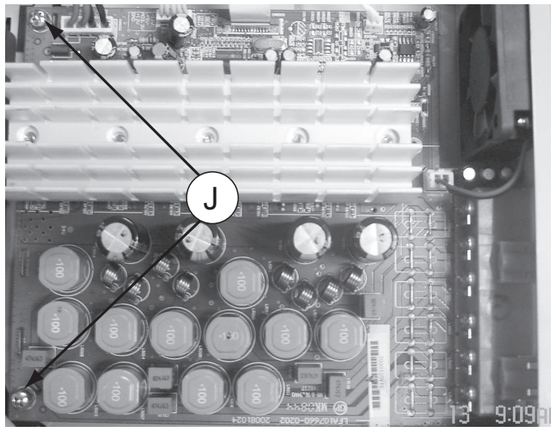


Figure 13

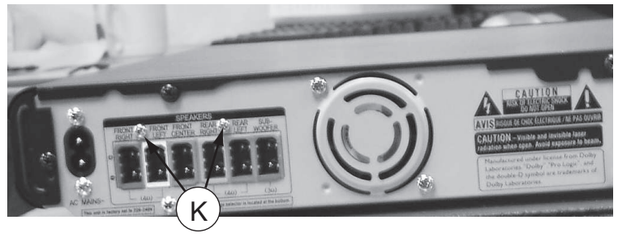
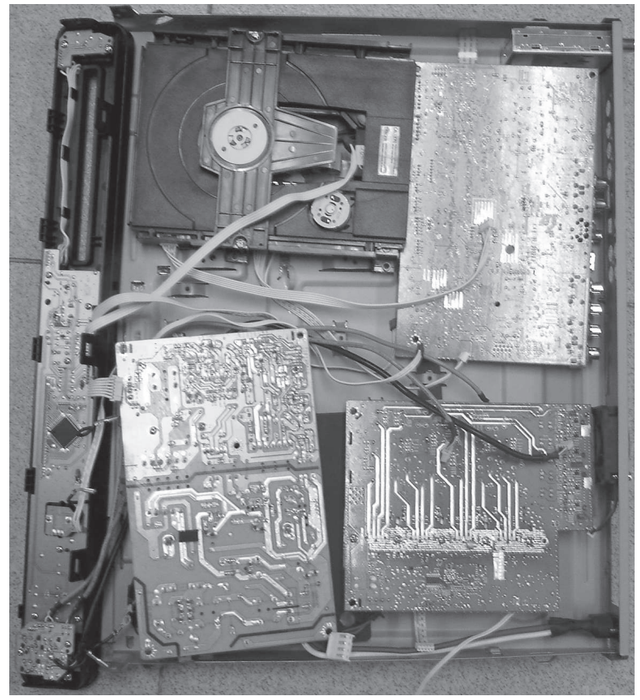


Figure 14

SERVICE POSITIONS

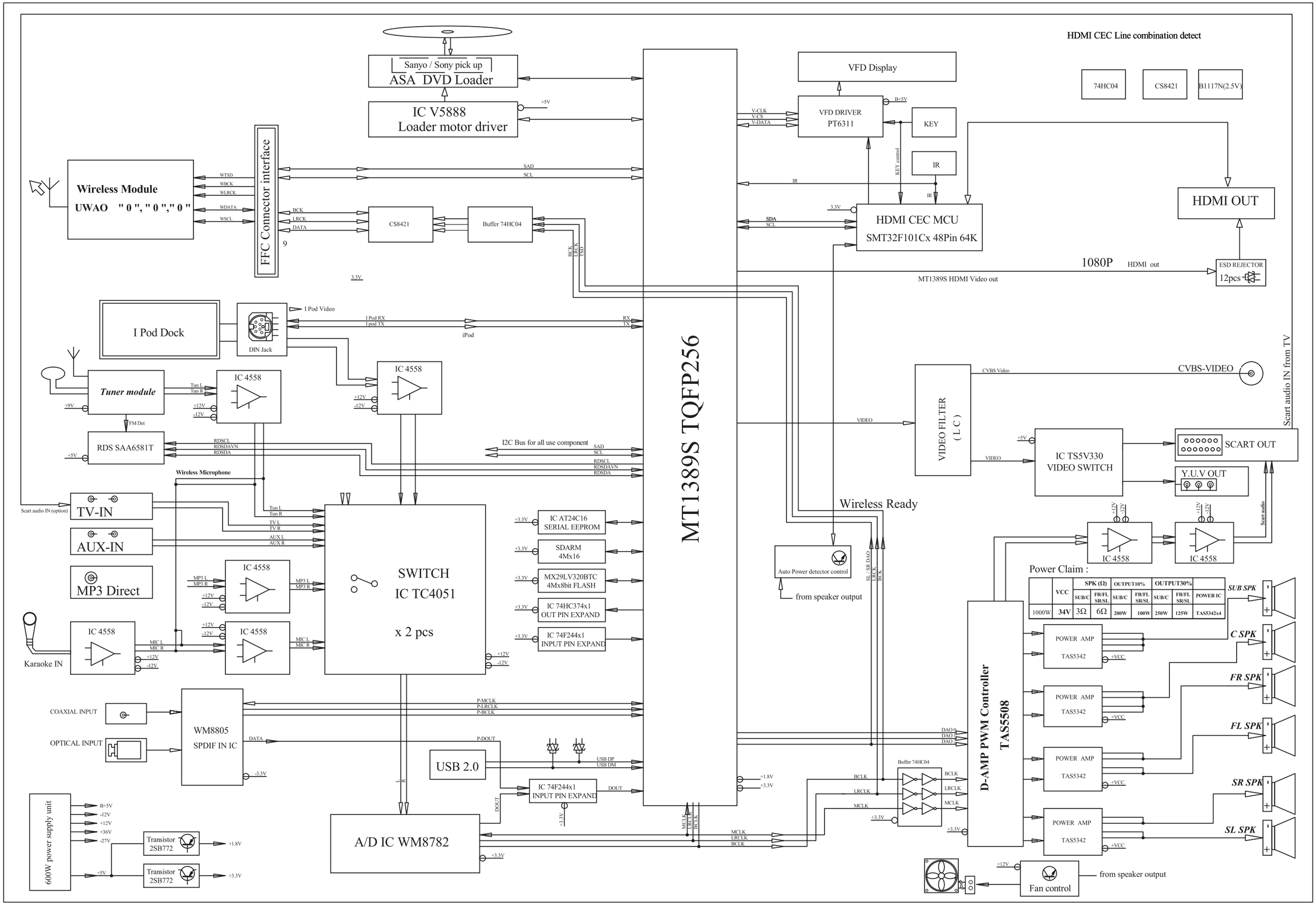
Service position A



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

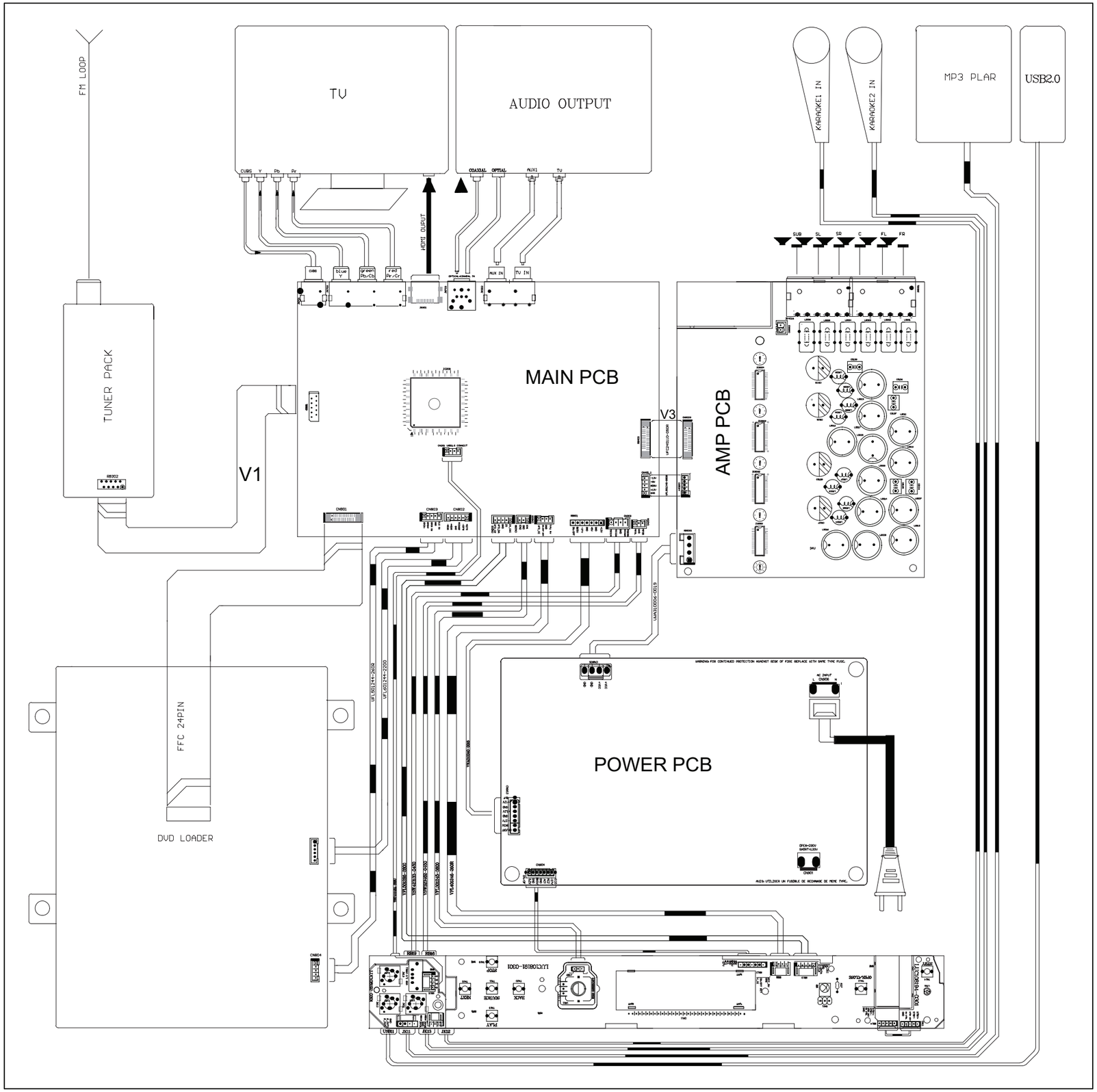
4 - 1

BLOCK DIAGRAM



4 - 2

WIRING DIAGRAM



VFD+JACK+VOL+STANDBY BOARD

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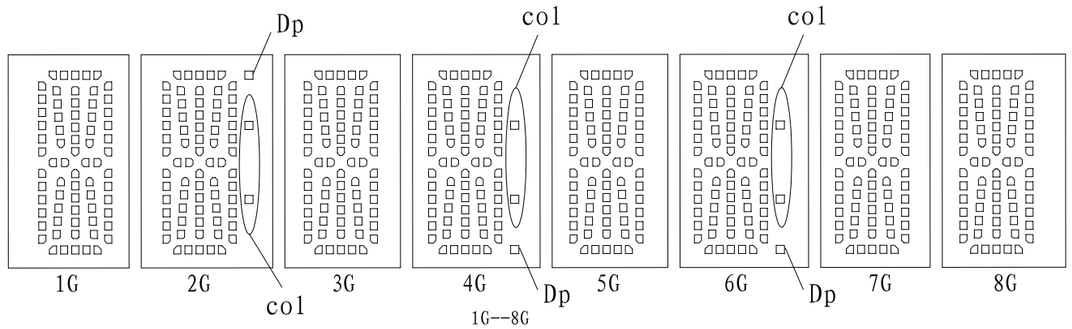
FTD DISPLAY PIN ASSIGNMENT



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

PIN CONNECTION

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

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

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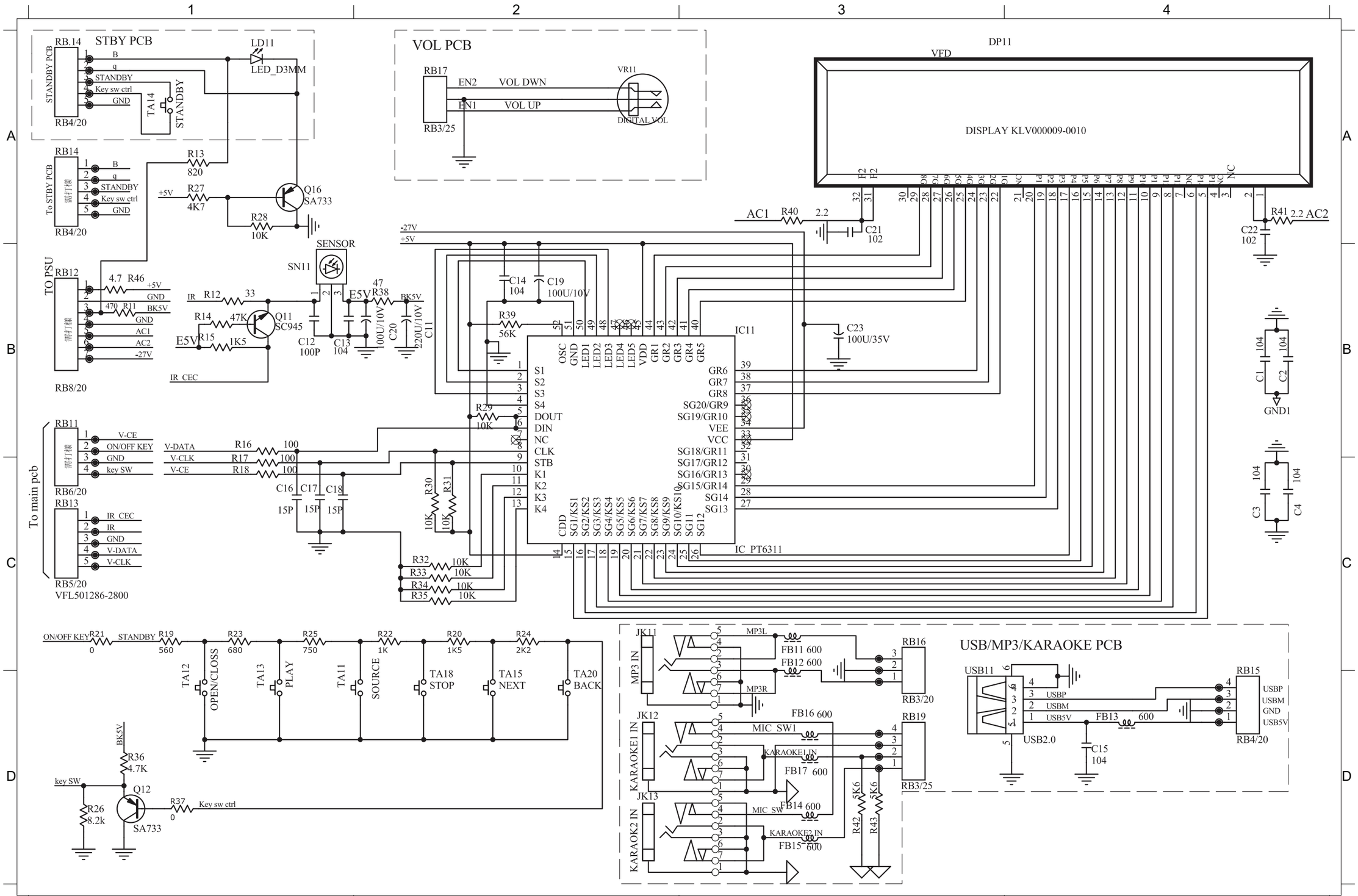
CIRCUIT DIAGRAM

C11	B2	C15	D4	C19	B2	C23	B3	FB13	D4	FB17	D3	JK13	D2	Q16	A1	R14	B1	R18	C1	R22	C2	R27	A1	R31	C2	R35	C2	R40	A3	R46	B1	RB14	A1	RB19	D3	TA13	C1	TA20	D2
C12	B1	C16	C1	C20	B2	DP11	A3	FB14	D3	IC11	B3	LD11	A1	R11	B1	R15	B1	R19	C1	R23	C1	R28	A1	R32	C2	R37	D1	R41	A4	RB11	B1	RB15	C4	SN11	B1	TA14	A1	USB11	C3
C13	B1	C17	C1	C21	A3	FB11	C3	FB15	D3	JK11	C2	Q11	B1	R12	B1	R16	B1	R20	C2	R24	C2	R29	B2	R33	C2	R38	B2	R42	D3	RB12	B1	RB16	C3	TA11	C1	TA15	D2	VR11	A2
C14	B2	C18	C1	C22	A4	FB12	C3	FB16	D3	JK12	D2	Q12	D1	R13	A1	R17	C1	R21	C1	R25	C1	R30	C2	R34	C2	R39	B2	R43	D3	RB13	C1	RB17	A2	TA12	C1	TA18	D2		



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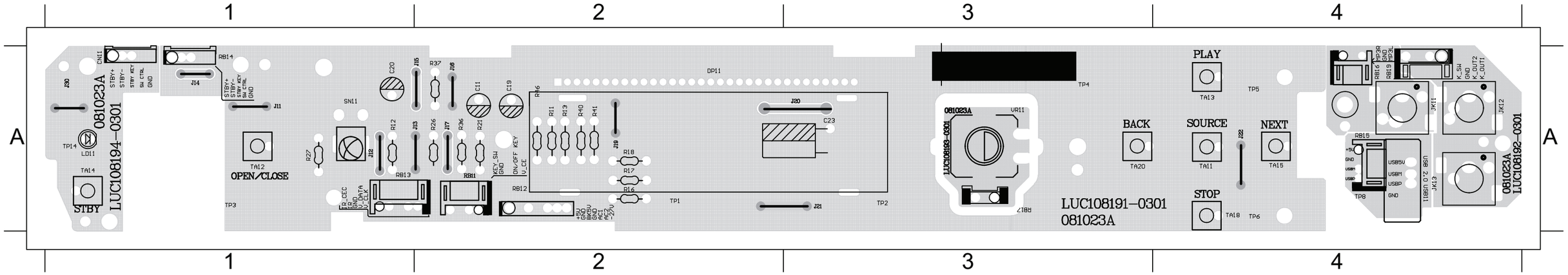
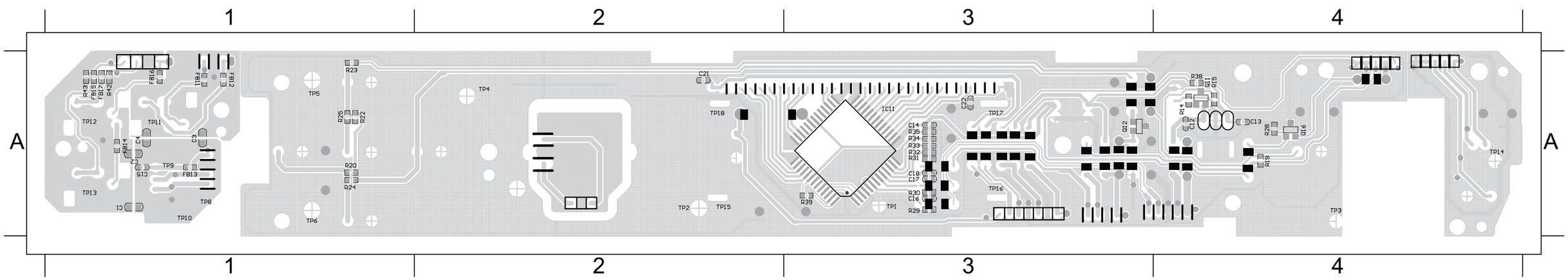
PCB LAYOUT - TOP VIEW

C11 A2 C20 A1 DP11 A2 J12 A1 J14 A1 J16 A2 J19 A2 J21 A3 J30 A1 JK12 A4 LD11 A1 R12 A1 R16 A2 R18 A2 R27 A1 R40 A2 R46 A2 RB12 A2 RB14 A1 RB16 A4 RB19 A4 TA11 A4 TA13 A4 TA15 A4 TA20 A3 VR11 A3
C19 A2 C23 A3 J11 A1 J13 A1 J15 A1 J17 A2 J20 A3 J22 A4 JK11 A4 JK13 A4 R11 A2 R13 A2 R17 A2 R21 A2 R37 A2 R41 A2 RB11 A2 RB13 A1 RB15 A4 RB17 A3 SN11 A1 TA12 A1 TA14 A1 TA18 A4 USB11A4



PCB LAYOUT - BOTTOM VIEW

C12 A4 C14 A3 C16 A3 C18 A3 C22 A3 FB12 A1 FB14 A1 FB16 A1 IC11 A3 Q12 A3 R14 A4 R19 A4 R22 A1 R24 A1 R28 A4 R30 A3 R32 A3 R34 A3 R38 A4 R42 A1 TP1 A3 TP8 A1
C13 A4 C15 A1 C17 A3 C21 A2 FB11 A1 FB13 A1 FB15 A1 FB17 A1 Q11 A4 Q16 A4 R15 A4 R20 A1 R23 A1 R25 A1 R29 A3 R31 A3 R33 A3 R35 A3 R39 A3 R43 A1 TP2 A2 TP9 A1



MAIN BOARD

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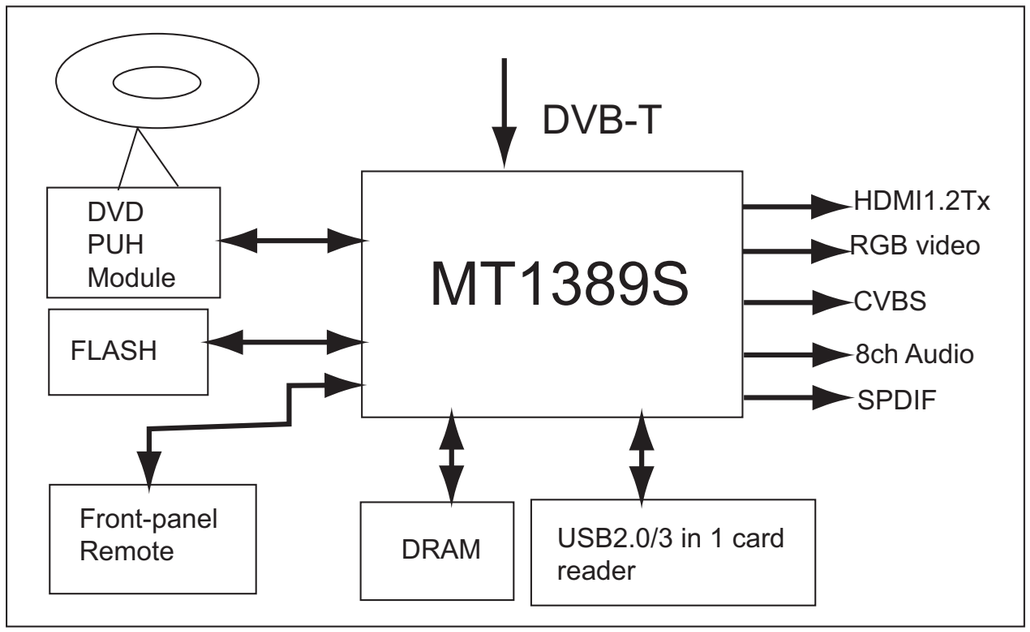
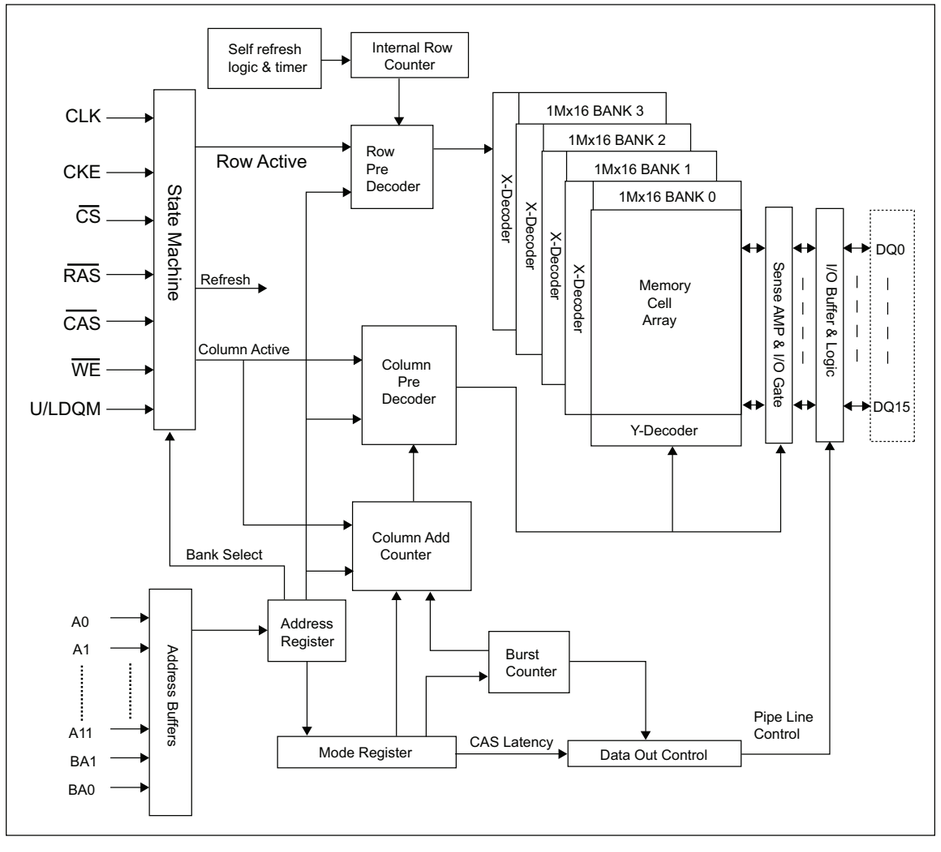
INTERNAL IC DIAGRAM - MT1389S



INTERNAL IC DIAGRAM - HY57V641620F



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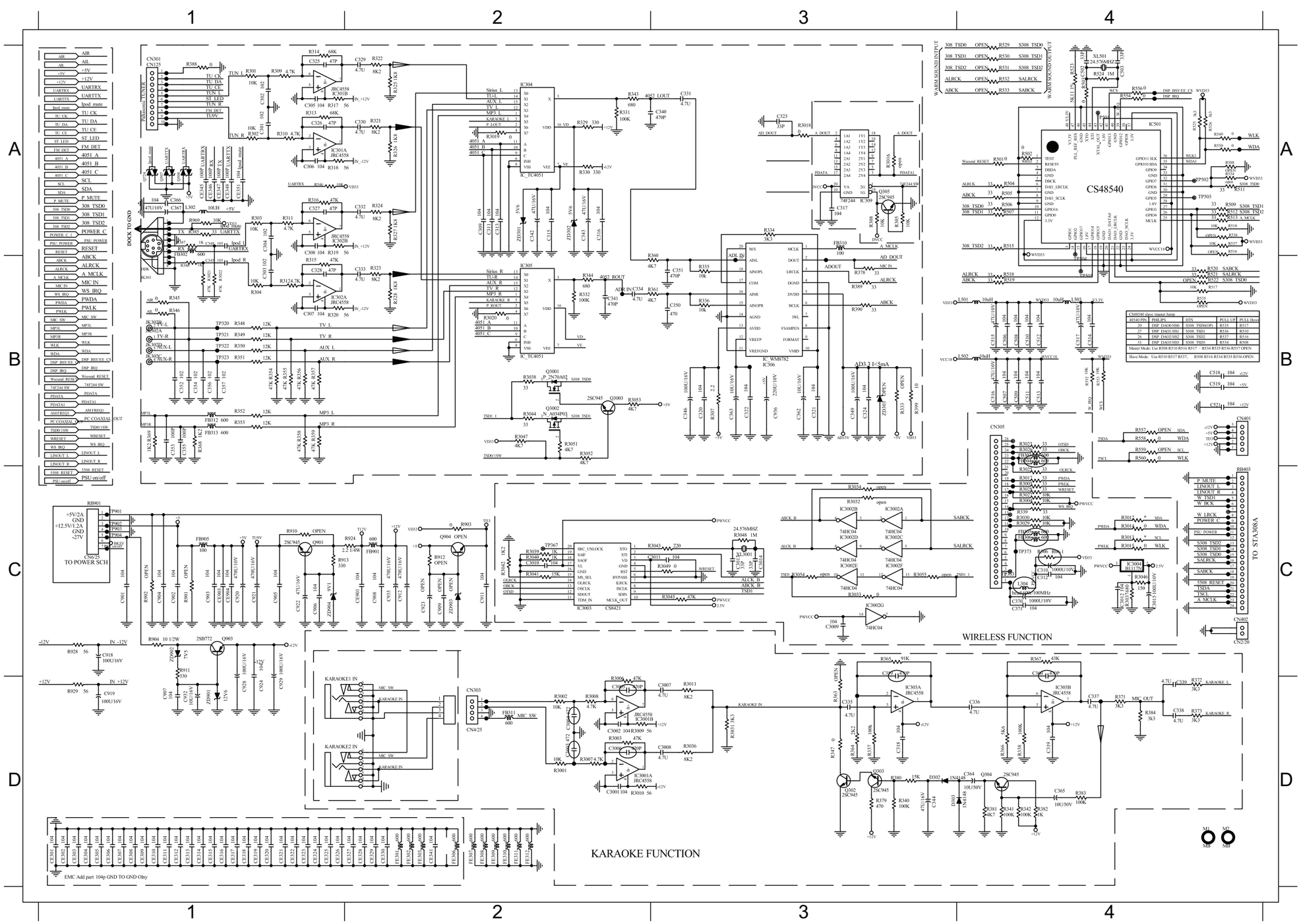
CIRCUIT DIAGRAM - part one

C3001 D2 C306 A1 C322 B3 C337 D4 C351 B3 C364 D4 C513 B4 C904 C1 C922 C1 CE305 D1 CE316 D1 CE327 D2 D302 D3 FE307 D2 IC306 B3 Q903 C1 R3018 A3 R313 A1 R332 B2 R345 B1 R356 B1 R369 B1 R388 A1 R509 A4 R523 A4 R903 C2 ZD302 A2
C3002 D2 C309 A2 C323 A3 C338 D4 C352 B1 C365 D4 C514 B4 C905 C1 C924 D1 CE306 D1 CE317 D1 CE328 D2 D303 D3 FE308 D2 IC309 A3 R3001 D2 R3019 A2 R314 A1 R334 A3 R346 B1 R357 B1 R371 D4 R389 B3 R510 A4 R524 A4 R904 C1 ZD901 D1
C3003 D2 C311 A2 C324 B3 C339 D4 C353 B1 C502 A4 C515 B4 C906 C1 C928 D1 CE307 D1 CE318 D1 CE329 D2 FB310 A3 FE309 D2 IC501 A4 R3002 D2 R302 A1 R317 A1 R335 B3 R347 D3 R358 B1 R372 D4 R390 B3 R512 A4 R537 A4 R911 C1 ZD902 C1
C3004 D2 C313 A2 C325 A1 C340 A2 C354 B1 C503 A4 C516 B4 C907 D1 C929 D1 CE308 D1 CE319 D1 CE330 D2 FB311 D2 FE310 D2 JK302 B1 R3003 D2 R3020 B2 R318 A1 R336 B3 R348 B1 R359 B1 R373 D4 R399 B3 R513 A4 R549 A4 R913 C1 ZD904 C1
C3005 D2 C315 A2 C326 A1 C341 B2 C355 B1 C506 B4 C517 B4 C908 C2 C932 D1 CE309 D1 CE320 D1 CE341 D2 FB312 B1 FE311 D2 L501 B4 R3006 D2 R3031 D3 R321 A2 R337 D3 R349 B1 R360 B3 R378 B3 R501 A4 R515 A4 R550 A4 R924 C2
C3006 D2 C316 A2 C329 A2 C342 A2 C356 B1 C507 B4 C518 B4 C911 C2 C935 C2 CE310 D1 CE321 D1 CE901 C2 FB313 B1 FE312 D2 L502 B4 R3007 D2 R3036 D3 R322 A2 R338 D4 R350 B1 R361 B2 R379 D3 R502 A4 R517 B4 R552 B4 R928 C1
C3007 D3 C317 A3 C330 A2 C343 A2 C357 B1 C508 B4 C519 B4 C912 C2 C936 B3 CE311 D1 CE322 D1 CE903 C1 FB901 C2 IC3001 D2 L503 B4 R3008 D2 R305 A3 R325 A2 R340 D3 R351 B1 R364 D3 R380 D3 R503 A4 R518 B4 R553 B4 R929 D1
C3008 D3 C318 D3 C331 A3 C344 D3 C359 C3 C509 B4 C521 B4 C918 C1 CE301 D1 CE312 D1 CE323 D1 CE904 C1 FB905 C1 IC301 A1 Q302 D3 R3009 D2 R307 B3 R326 A2 R341 D4 R352 B1 R365 C3 R381 D4 R504 A4 R519 B4 R554 A4 RB403 C4
C301 A1 C319 D4 C334 B2 C346 B3 C360 C4 C510 B4 C901 C1 C919 D1 CE302 D1 CE313 D1 CE324 D1 CN301 A1 FE301 D2 IC303 D4 Q303 D3 R301 A1 R308 A3 R329 A2 R342 D4 R353 B1 R366 D4 R382 D4 R505 A4 R520 B4 R556 A4 RB901 C1
C302 A1 C320 B3 C335 D3 C349 B3 C362 B3 C511 B4 C902 C1 C920 C1 CE303 D1 CE314 D1 CE325 D1 CN303 D2 FE302 D2 IC304 A2 Q304 D4 R3010 D2 R309 A1 R330 A2 R343 A2 R354 B1 R367 C4 R383 D4 R506 A4 R521 B4 R558 B4 XL501 A4
C305 A1 C321 B3 C336 D4 C350 B3 C363 B3 C512 B4 C903 C1 C921 C1 CE304 D1 CE315 D1 CE326 D1 CN401 B4 FE306 D2 IC305 B2 Q305 A3 R3011 D3 R310 A1 R331 A2 R344 B2 R355 B1 R368 B1 R384 D4 R507 A4 R522 B4 R560 B4 ZD301 A2



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CIRCUIT DIAGRAM - part two

C0201 C2 C0216 D1 C0239 D4 C0602 C4 C213 C1 C229 C1 C257 D1 C709 A3 C737 A3 C816 B2 C831 B2 CE201 D1 CE802 D1 CN802 B1 FB207 D4 FB601 A3 IC204 D2 L204 D4 Q206 D1 Q803 A2 R211 C4 R227 D2 R247 C1 R267 D2 R288 D2 R605 B4 R802 A1 R823 A2 R845 C2
C0202 A2 C0217 D1 C0240 D4 C0603 C4 C214 C2 C230 D2 C260 D1 C710 A3 C738 C2 C817 B2 C832 B2 CE202 D1 CE803 D1 CN803 B1 FB208 D4 FB602 C4 IC205 A2 L205 B4 Q300 D3 Q804 A2 R212 C4 R228 D1 R248 C1 R268 D2 R289 D1 R701 A3 R803 A1 R824 A2 RA201 C2
C0203 A2 C0218 D1 C0241 D4 C0604 C4 C215 A2 C231 D2 C261 D1 C711 A3 C801 A1 C818 A2 C833 B3 CE203 D1 CE804 D1 CO254 A2 FB209 C1 FB603 C4 IC206 A2 L206 B3 Q602 A3 Q805 A1 R213 D2 R229 D1 R249 C1 R269 D1 R290 C1 R702 A3 R804 B1 R826 B1 RA202 C4
C0204 D1 C0219 D1 C0242 D4 C0606 C4 C216 B2 C232 C1 C600 C4 C713 A3 C802 A2 C819 B1 C834 B1 CE204 D1 CE805 D1 D201 A3 FB210 C1 FB703 A3 IC207 D3 L207 B4 Q609 B4 Q901 C1 R215 D2 R230 C1 R250 D3 R270 D2 R291 C1 R703 A3 R805 B1 R827 B1 RA203 C2
C0205 A2 C0220 D1 C0243 D4 C201 A2 C217 A2 C233 C1 C601 C4 C716 B3 C803 B1 C820 B2 C835 A1 CE205 D1 CE806 D1 D202 D1 FB211 C1 FB704 A3 IC208 D2 L701 B3 Q610 B4 R200 D1 R216 D2 R231 C1 R251 C1 R271 D1 R292 C1 R704 A3 R806 C2 R829 B1 XL201 B3
C0206 A2 C0221 D1 C0244 A2 C202 B4 C218 B4 C237 B3 C602 C4 C717 B3 C804 A2 C821 B2 C836 A2 CE206 D1 CE807 D1 D204 A3 FB212 C1 FB705 A3 IC209 B3 L702 B3 Q705 A3 R201 C4 R217 D1 R232 C1 R252 C1 R272 D2 R293 D2 R706 A4 R807 C2 R831 B2 XL202 D1
C0207 A3 C0222 D1 C0245 A2 C203 A2 C219 A3 C238 B3 C603 B4 C718 B3 C805 B1 C822 B2 C837 A2 CE207 D1 CE808 D1 D205 D3 FB213 C1 FB706 A3 IC210 A3 L703 B3 Q706 A3 R202 B4 R218 D2 R233 D2 R253 C1 R276 D2 R294 B3 R731 B3 R808 A1 R833 B2 XL203 C1
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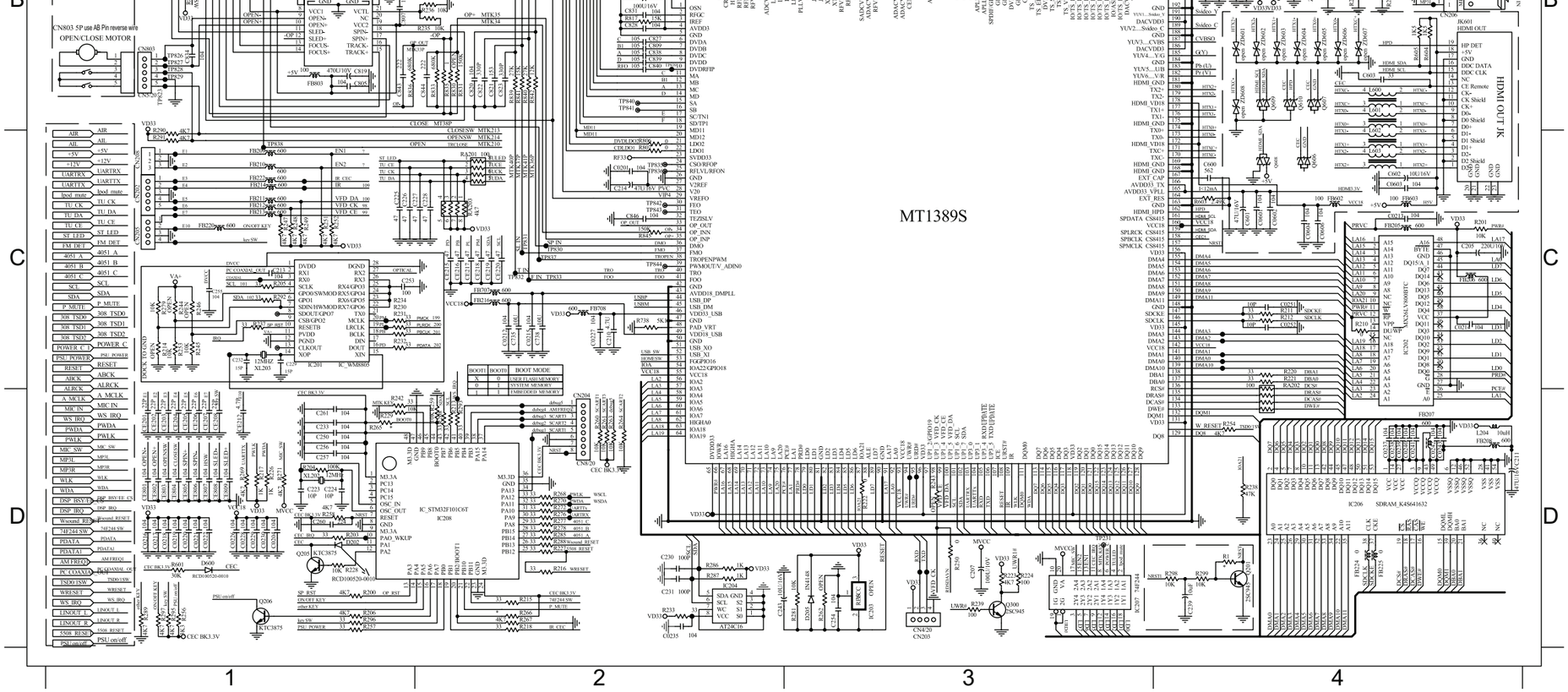
C0209 A2 C0227 C2 C0247 A2 C205 C4 C221 B4 C242 B3 C702 A3 C720 B3 C807 B1 C824 B2 C839 B2 CE215 C2 CN201 B4 F201 B4 FB216 C2 FB708 C2 JK601 B4 L707 A3 Q708 A3 R204 D1 R220 C4 R235 B2 R257 D1 R278 D2 R296 D1 R733 B3 R813 A1 R835 B2
C0210 B4 C0228 D1 C0248 B4 C206 B3 C223 D1 C243 D2 C703 A3 C721 B3 C808 B2 C825 B2 C840 B2 CE216 C2 CN202 C1 FB201 A2 FB217 A2 FB801 A1 JK701 A3 L801 A2 Q713 B3 R205 C1 R221 C4 R236 B2 R258 D1 R279 C1 R297 D1 R734 B3 R814 A2 R836 B1
C0211 A2 C0229 D1 C0249 A2 C207 D3 C224 D1 C250 D1 C704 A3 C722 B3 C809 B2 C826 B2 C841 B2 CE217 C2 CN204 D2 FB202 A2 FB220 C1 FB802 A1 JK702 A3 L802 A2 Q714 B4 R206 D1 R222 D3 R237 C1 R259 D2 R280 B3 R298 D4 R737 A3 R815 A2 R838 B2
C0212 C2 C0230 D1 C0251 C4 C208 A2 C225 C1 C253 C1 C705 A3 C723 B3 C810 A2 C827 B2 C843 B1 CE218 C2 CN205 C1 FB203 A2 FB222 C1 FB803 B1 JK703 A3 L803 B2 Q715 B4 R207 A3 R223 D3 R238 D4 R260 D2 R281 D3 R299 D4 R738 C2 R816 A1 R839 B2
C0213 C4 C0235 D2 C0252 C4 C209 B3 C226 C1 C254 D3 C706 A3 C732 A4 C811 A2 C828 B2 C844 B2 CE219 C2 CN206 B4 FB204 A2 FB224 D4 IC201 C1 L201 A2 Q201 D4 Q716 B3 R208 D2 R224 D3 R239 D3 R261 D2 R285 D2 R601 D1 R748 A3 R817 B2 R840 B2
C0214 C4 C0237 D4 C0253 B4 C210 C2 C227 C1 C255 C1 C707 A3 C735 C2 C812 A2 C829 B2 C846 C2 CE220 C2 CN208 C1 FB205 C4 FB225 D4 IC202 C4 L202 A2 Q204 A3 Q801 A1 R209 B4 R225 B4 R242 D1 R263 D2 R286 D2 R603 C4 R751 A3 R820 A1 R841 B2
C0215 C2 C0238 D4 C0601 C4 C211 D4 C228 C2 C256 D1 C708 A3 C736 A3 C813 B2 C830 B2 C849 B2 CE801 D1 CN801 A1 FB206 C4 FB226 A2 IC203 D3 L203 A2 Q205 D1 Q802 A1 R210 C4 R226 D1 R245 C1 R264 D2 R287 D2 R604 B4 R752 A3 R822 A2 R842 B2



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PCB LAYOUT - TOP VIEW

C0202 A2	C216 C3	C257 C3	C325 B3	C350 C4	C602 A2	C720 B1	C818 D1	C841 C1	CN201 C2	D600 C3	FB224 A2	FB905 D4	IC309 B1	L701 A2	Q610 A2	R208 C3	R227 D3	R252 C3	R280 B1	R3002 C4	R313 B3	R341 B4	R359 B3	R389 B3	R537 D4	R731 A2	R814 D1	R840 C2	XL501 C4
C0207 C2	C217 B1	C260 C3	C326 B3	C351 C4	C603 A2	C721 A2	C819 D1	C843 D2	CN202 D2	F201 C2	FB225 A2	FE312 A2	IC501 C4	L702 A2	Q706 A1	R209 C2	R228 D3	R253 B1	R281 B3	R3003 B4	R314 A3	R342 B4	R360 B3	R390 B3	R549 C4	R732 A2	R815 D1	R841 C2	ZD209 C2
C0208 D2	C218 B2	C261 C3	C329 B3	C352 A3	C701 A3	C722 A1	C820 C2	C844 D2	CN204 D3	FB201 C3	FB226 D1	IC201 B1	IC801 D2	L703 A2	Q707 A1	R210 C3	R229 C3	R257 D3	R285 D3	R3006 C4	R317 B3	R343 B3	R361 C4	R501 D4	R550 C4	R733 B1	R816 C1	R842 C2	ZD301 B4
C0211 D3	C219 C2	C3001 C4	C330 B3	C353 A4	C702 A2	C723 B1	C821 C2	C849 C1	CN205 D3	FB202 B1	FB310 B3	IC202 C3	JK302 A3	L704 B1	Q708 A1	R211 A2	R230 B1	R258 C3	R286 B3	R3007 C4	R318 B3	R344 B4	R364 B4	R502 D4	R552 C4	R734 B1	R817 C2	R845 D2	ZD302 B4
C0235 B3	C220 C2	C3002 B4	C331 B3	C354 A3	C703 A1	C732 B1	C822 C2	C912 C3	CN206 D4	FB203 B1	FB311 D2	IC203 B3	JK601 A2	L707 A1	Q801 C1	R212 A2	R231 B2	R259 C3	R287 B3	R3008 C4	R321 B3	R345 A3	R365 B4	R504 D4	R553 C4	R737 A1	R820 C1	R903 C3	ZD901 D4
C0247 B1	C221 B2	C3003 C4	C334 B4	C355 B3	C704 A2	C736 A1	C823 D2	C918 B4	CN208 D3	FB205 C3	FB312 A4	IC204 B3	JK701 A1	L801 D1	Q802 C1	R213 C3	R232 B1	R260 D3	R288 D3	R3009 B4	R322 B3	R346 A3	R366 B4	R505 D4	R554 C4	R738 C2	R822 D1	R904 D3	ZD904 C1
C201 C1	C229 B1	C3004 C4	C335 B4	C356 A3	C705 A1	C737 A2	C824 C2	C919 B4	CN301 B1	FB206 B3	FB313 B3	IC205 D3	JK702 A1	L802 D1	Q803 D1	R215 D3	R233 B3	R261 C3	R289 D3	R301 B1	R325 B3	R347 B4	R367 B4	R506 D4	R556 C4	R748 A1	R823 D1	R911 D4	
C202 B1	C230 B3	C3005 C4	C336 B4	C357 A3	C706 A1	C801 D1	C825 C2	C920 C2	CN303 D4	FB207 B3	FB601 A2	IC206 B3	JK703 A2	L803 C2	Q804 D1	R216 B4	R234 B1	R263 C3	R290 D2	R3010 C4	R326 B3	R348 A3	R368 B3	R507 D4	R558 C4	R751 A2	R824 D1	R913 C1	
C203 C1	C231 B3	C3006 B4	C337 A4	C359 B4	C707 A1	C803 C1	C827 C2	C921 B1	CN401 D4	FB208 B3	FB603 A2	IC207 C3	L201 B1	Q204 D2	Q805 C1	R217 B4	R235 D2	R267 D3	R291 D2	R3011 B4	R329 B4	R349 A3	R369 A4	R509 D4	R560 C4	R752 A2	R826 C1	R924 C1	
C204 D3	C232 B1	C3007 B4	C338 B4	C360 B4	C708 A1	C805 D2	C829 C1	C922 C1	CN801 D1	FB209 D3	FB703 A1	IC208 C3	L202 D1	Q205 D3	Q901 C1	R218 D3	R236 D2	R268 C3	R292 B1	R3018 B1	R330 B4	R350 A3	R371 B4	R512 D4	R601 C3	R802 C1	R827 C2	R928 B4	
C205 C3	C237 C2	C3008 B4	C339 B4	C362 C3	C709 A1	C806 C2	C830 C1	C928 D3	CN802 D2	FB210 D3	FB704 A2	IC209 B2	L203 C2	Q206 D3	Q903 D4	R219 D2	R237 B1	R269 A3	R293 C3	R302 B3	R331 B3	R351 A3	R372 B4	R513 D4	R603 B2	R803 C1	R829 C2	R929 B4	
C207 C3	C238 B1	C301 A3	C340 B3	C363 C4	C710 A2	C809 C2	C831 C2	C929 B4	CN803 D2	FB211 D3	FB705 A1	IC210 D2	L204 A3	Q300 C3	R200 D2	R220 A2	R242 C3	R270 C3	R294 B2	R3031 B4	R332 B4	R352 A4	R373 B4	R515 D4	R604 A2	R804 C2	R831 D2	RA201 B2	
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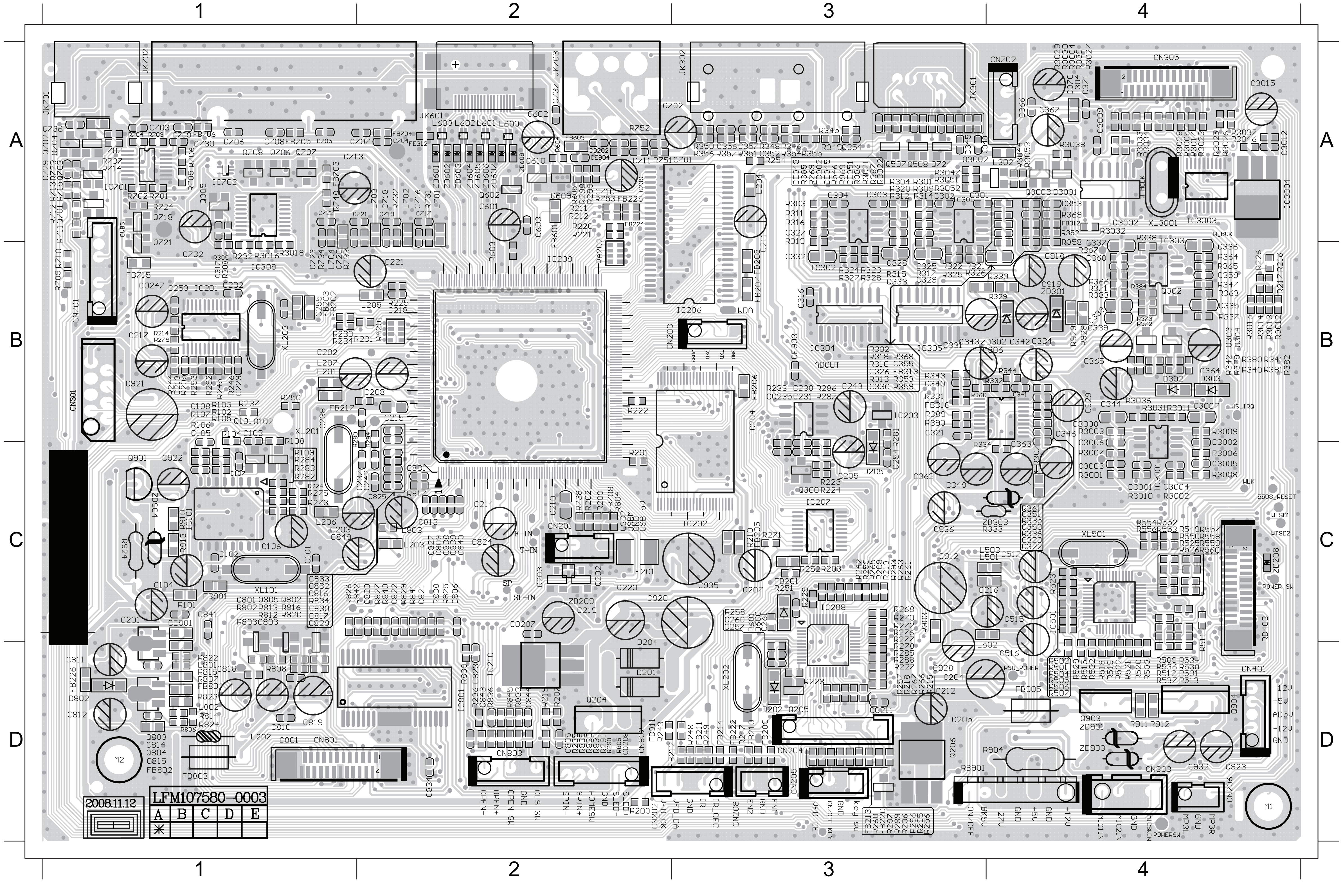
C210 C2	C242 C2	C316 B3	C342 B4	C365 B4	C713 A1	C811 D1	C833 C1	C935 C3	D202 D3	FB213 D3	FB708 C2	IC301 A3	L206 C1	Q303 B4	R202 C2	R222 B3	R247 D3	R272 C3	R296 D3	R305 B1	R335 C4	R354 A3	R380 B4	R519 D4	R701 A1	R806 D1	R834 C1	RB403 C4	
C211 A3	C243 B3	C317 B1	C343 B3	C515 C4	C716 A2	C812 D1	C834 D2	C936 C3	D204 D2	FB214 D3	FB801 D1	IC303 A4	L207 B1	Q304 B4	R203 C3	R223 C3	R248 D3	R276 C3	R297 D3	R307 C4	R336 C4	R355 A3	R381 B4	R520 D4	R702 A1	R807 D1	R835 D2	RB901 D3	
C213 B1	C253 B1	C320 C4	C344 B4	C516 D4	C717 A2	C813 C2	C838 C2	CE901 C1	D205 C3	FB217 B1	FB802 D1	IC304 B3	L501 C3	Q305 A1	R205 B1	R224 C3	R249 D3	R277 C3	R298 A2	R308 B1	R337 B4	R356 A3	R382 B4	R521 D4	R703 A1	R808 D1	R836 D2	XL201 B1	
C214 C2	C254 C3	C321 B3	C346 B4	C517 C4	C718 A2	C816 C1	C839 C2	CE903 B3	D302 B4	FB220 D3	FB803 D1	IC305 B3	L502 D3	Q602 A2	R206 D3	R225 B2	R250 B1	R278 D3	R299 A2	R309 A3	R338 A4	R357 A3	R383 B4	R522 D4	R704 A1	R812 C1	R838 C2	XL202 D3	
C215 B2	C255 B1	C322 C4	C349 C3	C601 A2	C719 A2	C817 C1	C840 C2	CE904 A2	D303 B4	FB222 D3	FB901 C1	IC306 B4	L503 C3	Q609 A2	R207 D2	R226 B4	R251 C3	R279 B1	R3001 C4	R310 B3	R340 B4	R358 A4	R384 B4	R523 C4	R706 A1	R813 C1	R839 D2	XL203 B1	



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PCB LAYOUT - BOTTOM VIEW

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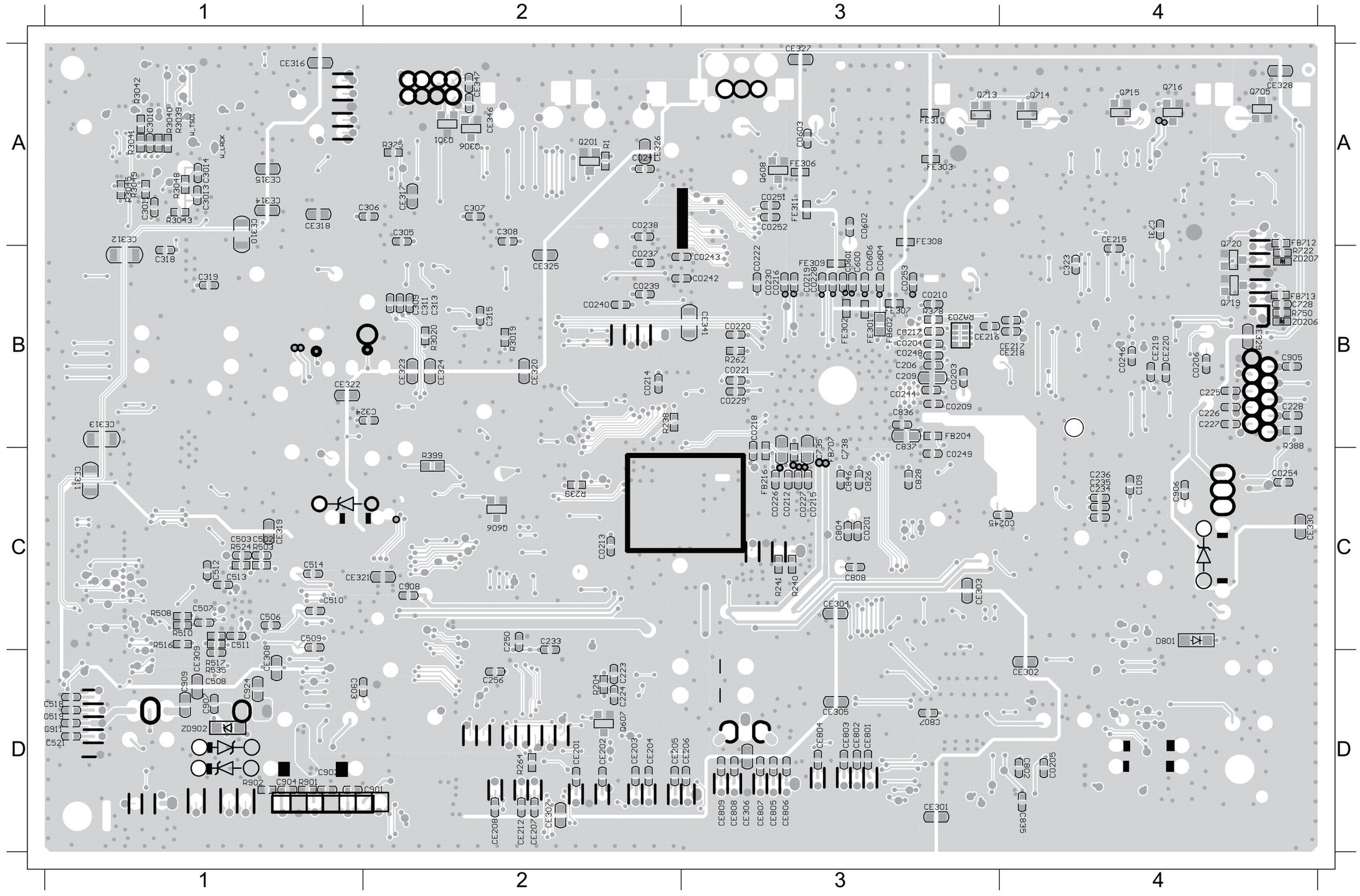

POWER BOARD

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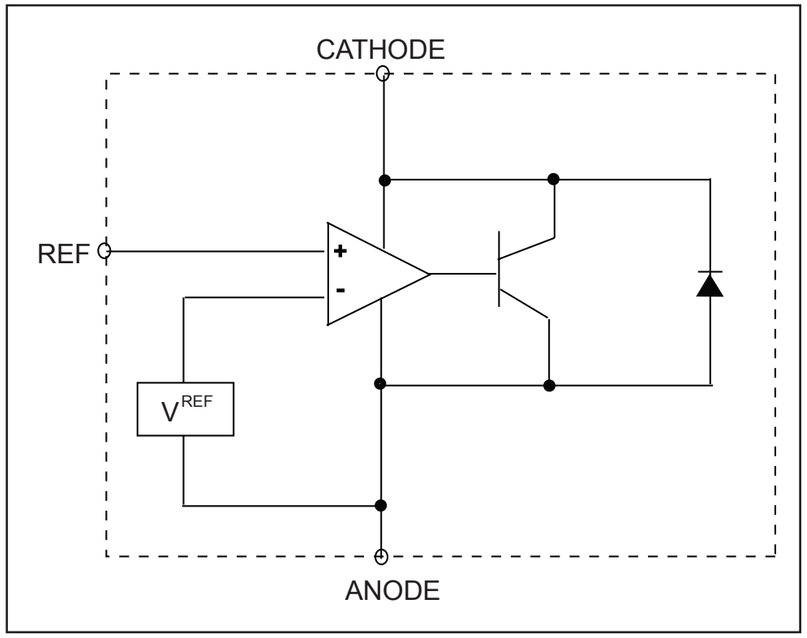

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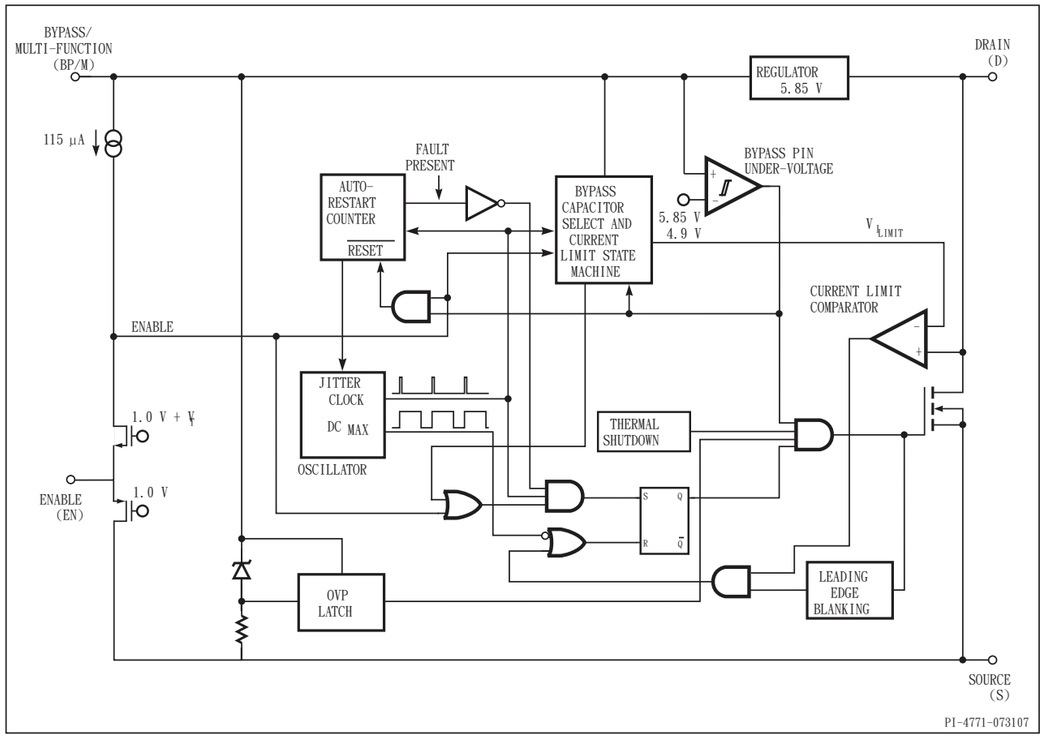

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CIRCUIT DIAGRAM

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C904	A1	TVR903	A1	R944	A2	C969	A3	J912	A3	ZD908	A3	R953	A4	GT902	B1	Q912	B2	C967	B3	R961	B3	C981	B4	J905	C1	C915	C2	J909	C2	C928	C3	D922	C3	R922	C3	C985	C4	R980	C4	C965	D1	C989	D3	R988	D3
C905	A1	C910	A2	R949	A2	C970	A3	L907	A3	ZD909	A3	R954	A4	J902	B1	R941	B2	C975	B3	R963	B3	C988	B4	NTC901	C1	C916	C2	R914	C2	C929	C3	D923	C3	R923	C3	CN903	C4	R982	C4	CN901	D1	IC904	D3	C986	D4
C908	A1	C912	A2	R950	A2	C971	A3	L908	A3	ZD912	A3	R955	A4	L901	B1	R942	B2	D907	B3	R964	B3	CN906	B4	R901	C1	C927	C2	R933	C2	C930	C3	D924	C3	R924	C3	Q906	C4	R984	C4	J904	D1	J908	D3	CN904	D4
C909	A1	C950	A2	T903	A2	C972	A3	R909	A3	C958	A4	R960	A4	L902	B1	R943	B2	D908	B3	R965	B3	D917	B4	R902	C1	C937	C2	R934	C2	C931	C3	D926	C3	R925	C3	Q921	C4	R993	C4	J906	D1	J916	D3	J914	D4
CN902	A1	C951	A2	ZD904	A2	C976	A3	R956	A3	CN905	A4	R969	A4	R912	B1	T901	B2	L905	B3	R966	B3	IC905	B4	R903	C1	C938	C2	R945	C2	C932	C3	L903	C3	R926	C3	Q922	C4	R994	C4	J907	D1	R939	D3	ZD906	D4
R915	A1	D902	A2	C952	A3	D904	A3	R971	A3	D912	A4	R970	A4	C913	B2	T902	B2	Q911	B3	R967	B3	R979	B4	R904	C1	C939	C2	R990	C2	C933	C3	L904	C3	R928	C3	Q924	C4	R995	C4	C942	D2	R940	D3		
R916	A1	D906	A2	C953	A3	D909	A3	R972	A3	D914	A4	ZD910	A4	C941	B2	ZD903	B2	Q925	B3	R968	B3	R981	B4	R905	C1	C947	C2	R991	C2	C934	C3	Q905	C3	R936	C3	R911	C4	R998	C4	IC902	D2	R946	D3		
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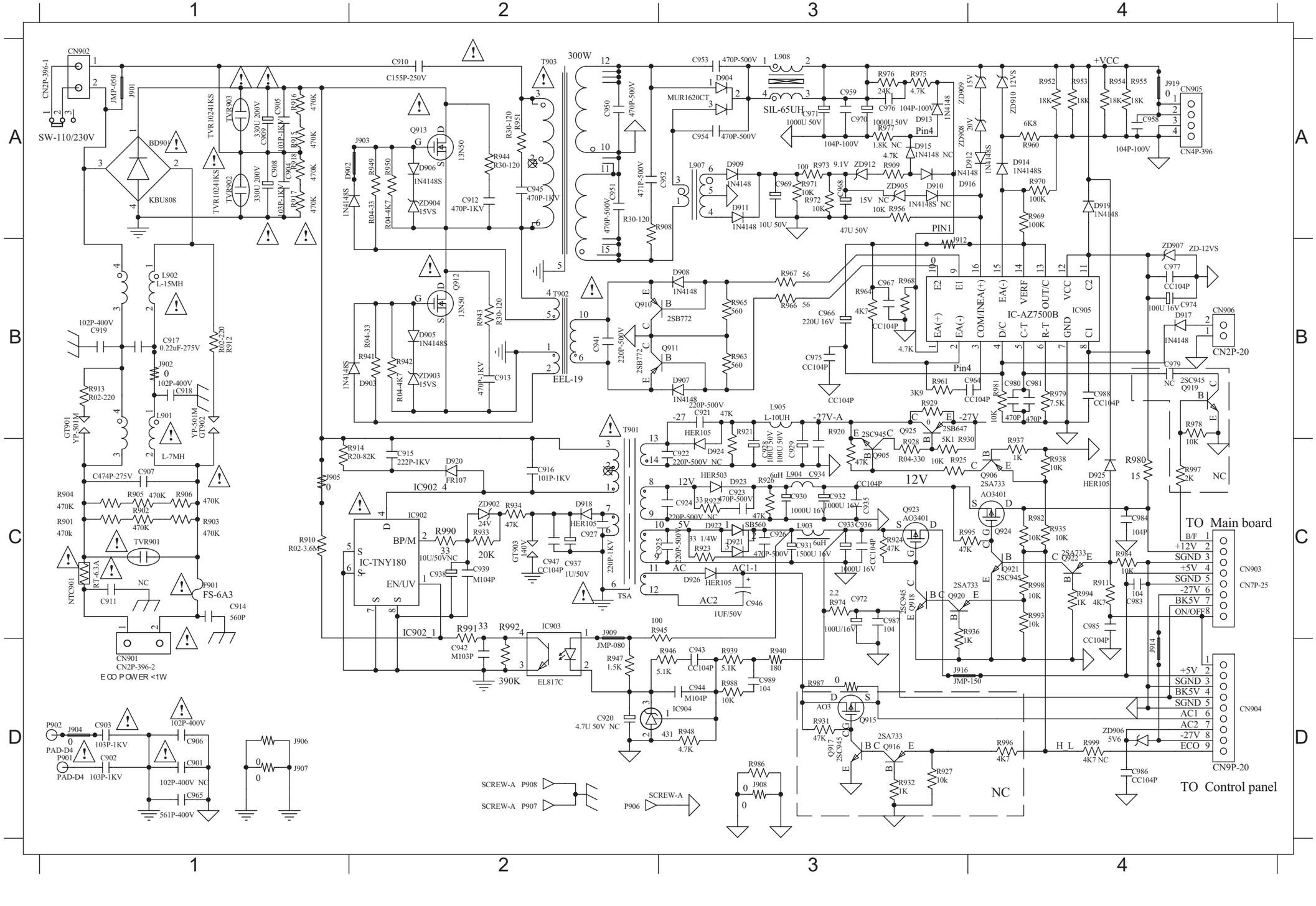
R918	A1	Q913	A2	C959	A3	D913	A3	R975	A3	J919	A4	C918	B1	D905	B2	C964	B3	R921	B3	C977	B4	C907	C1	R910	C1	D920	C2	C923	C3	C936	C3	Q920	C3	C983	C4	R937	C4	C903	D1	C943	D3	R986	D3		



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PCB LAYOUT - TOP VIEW

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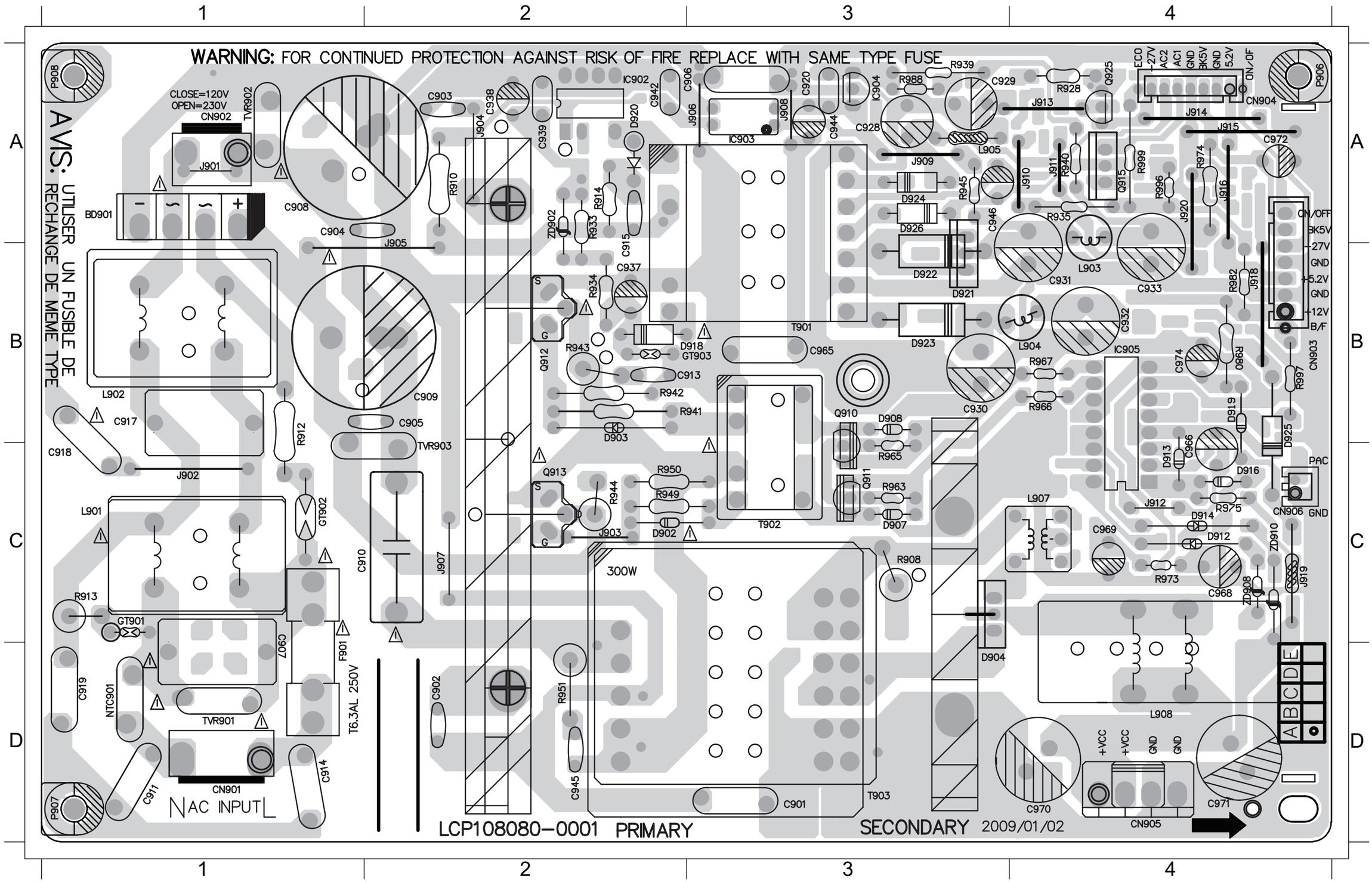
C902	D2	C908	A1	C918	C1	C932	B4	C944	A3	C970	D4	CN903	B4	D904	D3	D916	C4	D924	A3	IC904	A3	J906	A3	J912	C4	J919	C4	L905	A3	Q912	B2	R914	A2	R940	A4	R949	C2	R973	C4	T901	B3	ZD902	A2
C903	A2	C909	B2	C919	D1	C933	B4	C946	A3	C971	D4	CN904	A4	D907	C3	D918	B3	D926	A3	IC905	B2	J907	C2	J913	A4	J920	A4	L907	C4	Q913	C2	R928	A4	R941	B3	R950	C2	R974	A4	T902	C3	ZD908	C4
C904	A4	C910	B1	C928	A3	C937	B2	C965	B3	C972	A4	CN905	D4	D908	B3	D919	B4	F901	D1	J902	C1	J908	A3	J914	A4	L901	C1	L908	D4	Q925	A4	R933	A2	R942	B2	R963	C3	R975	C4	T903	D3	ZD910	C4
C905	B2	C913	B3	C929	A3	C938	A2	C966	B4	C974	B4	CN906	C4	D912	C4	D920	A2	GT902	C1	J903	C2	J909	A3	J915	A4	L902	B1	NTC901	D1	R908	C3	R934	B2	R943	B2	R965	C3	R980	B4	TVR901	D1		
C906	A3	C915	A2	C930	B3	C939	A2	C968	C4	CN901	D1	D902	C2	D913	C4	D922	B3	IC902	A2	J904	A2	J910	A4	J916	A4	L903	B4	Q910	B3	R910	A2	R935	A4	R944	C2	R966	B4	R982	B4	TVR902	A1		



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PCB LAYOUT - BOTTOM VIEW

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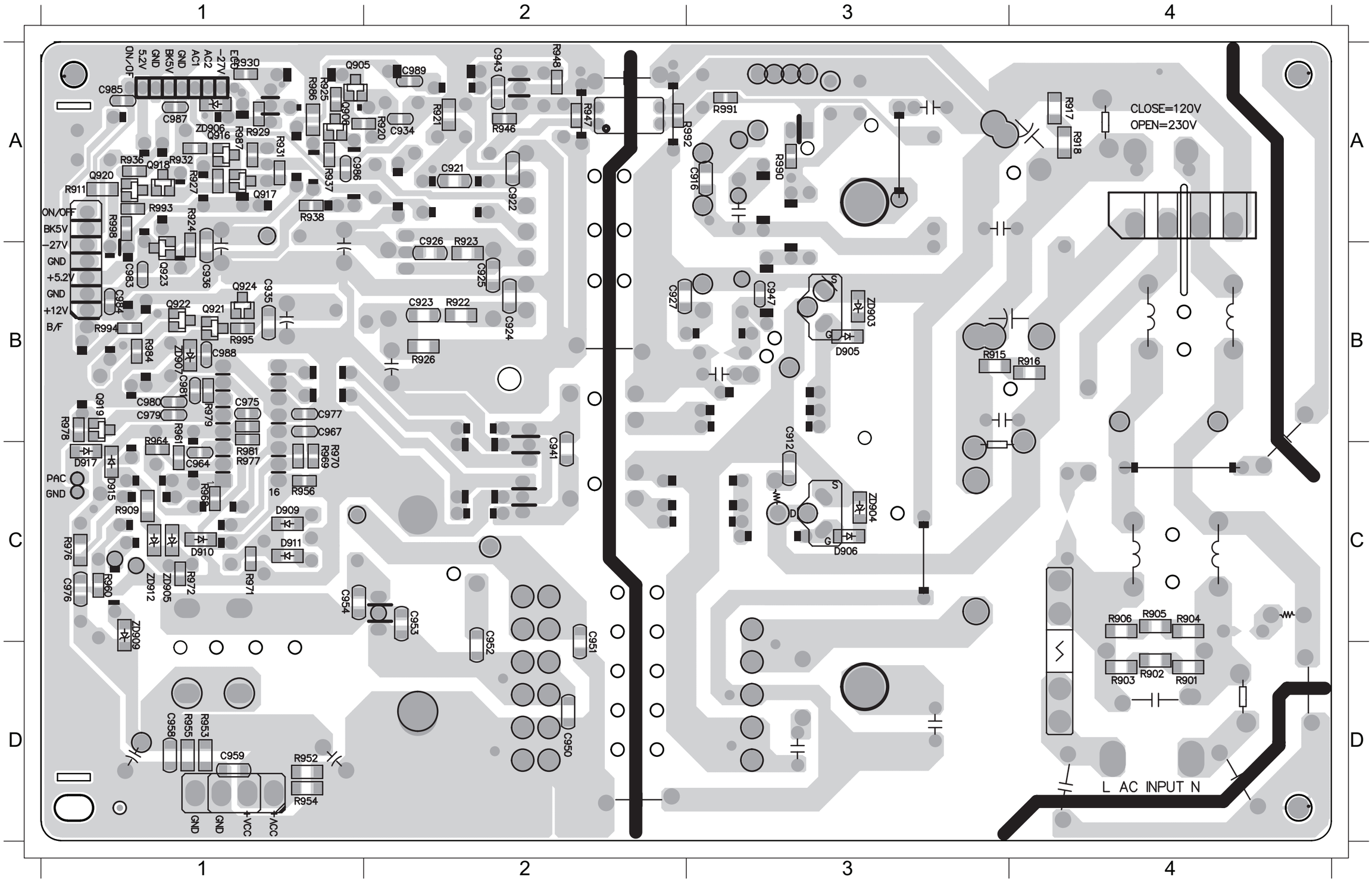
C916	A3	C934	A2	C947	B4	C954	C1	C975	B1	C983	B1	C989	A2	D917	C1	Q921	B1	R902	D4	R909	C1	R918	A4	R924	A1	R937	A1	R952	D1	R960	C1	R970	C1	R981	C1	R991	A3	ZD903	B4	ZD912	C1
C921	A2	C935	B1	C950	D2	C958	D1	C976	C1	C984	B1	D905	B4	Q905	A1	Q922	B1	R903	D4	R911	A1	R920	A2	R925	A1	R938	A1	R953	D1	R961	B1	R971	C1	R984	B1	R993	A1	ZD904	C3		
C923	B2	C936	B1	C951	C2	C959	D1	C977	B1	C985	A1	D906	C3	Q906	A1	Q923	B1	R904	C4	R915	B4	R921	A2	R926	B2	R946	A2	R954	D1	R964	C1	R972	C1	R986	A1	R994	B1	ZD906	A1		
C926	A2	C941	C2	C952	C2	C964	C1	C980	B1	C986	A1	D909	C1	Q918	A1	Q924	B1	R905	C4	R916	B4	R922	B2	R930	A1	R947	A2	R955	D1	R968	C1	R976	C1	R987	A1	R995	B1	ZD907	B1		



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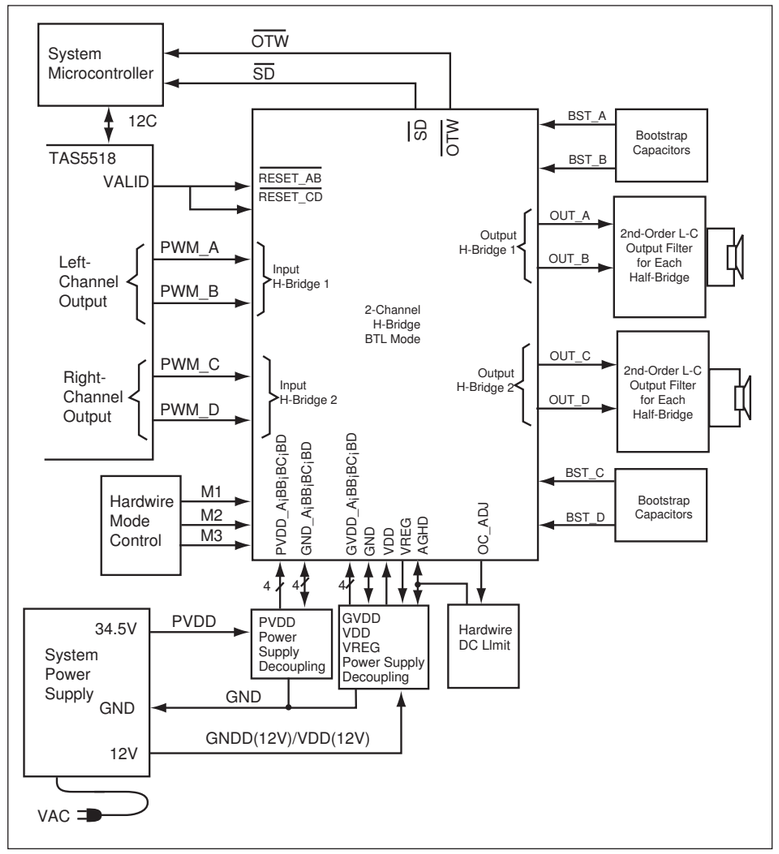

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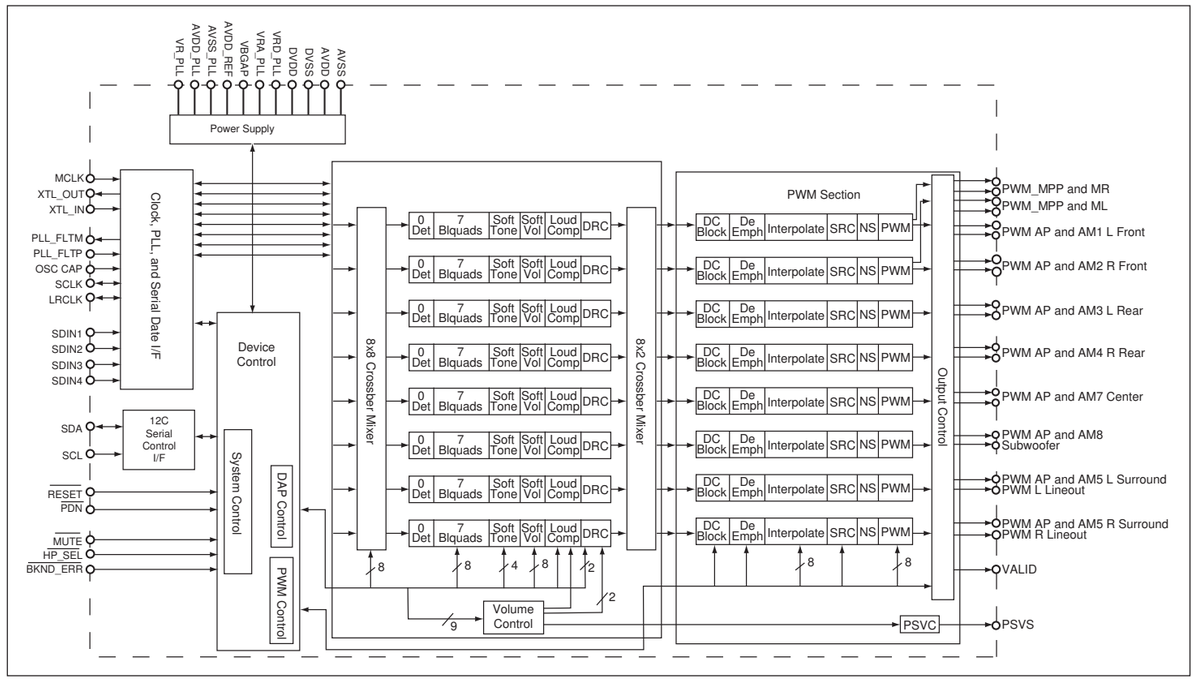

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CIRCUIT DIAGRAM

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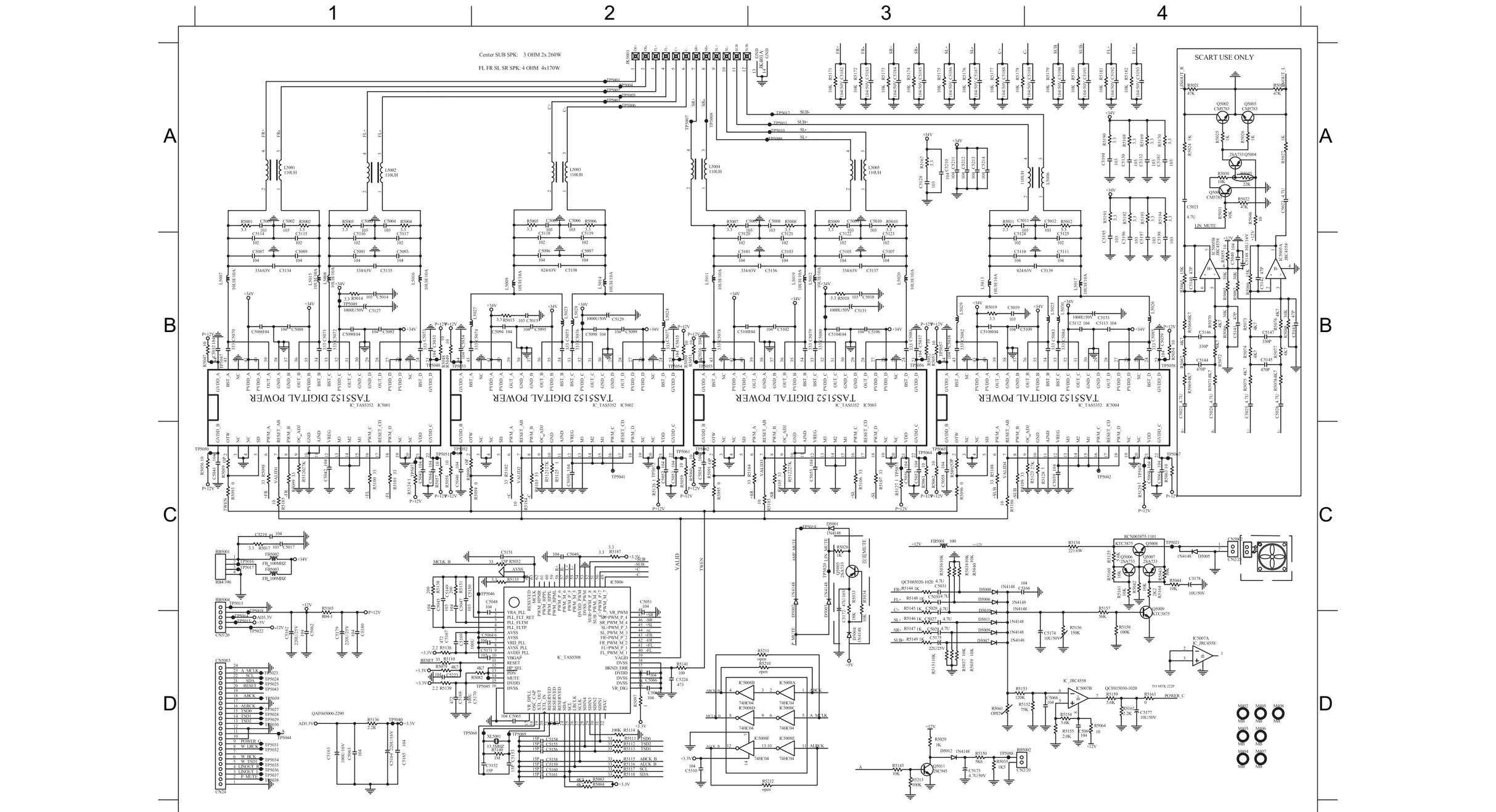
C5012 A4 C5035 B2 C5050 C2 C5064 D2 C5078 B2 C5092 B1 C5106 B3 C5120 B2 C5135 B1 C5159 D2 C5174 D2 C5189 A4 C5214 A3 D5012 D3 L5003 A2 L5019 B3 Q5011 D3 R5015 B2 R5044 C4 R5061 C3 R5099 C1 R5113 D2 R5128 C4 R5145 C3 R5159 D4 R5174 A3 R5190 A4
C5014 D3 C5036 B2 C5051 C2 C5065 D2 C5079 B3 C5093 B1 C5107 B3 C5121 B3 C5136 B3 C5160 D2 C5175 D3 C5190 A4 C5219 C1 FB5001 C3 L5004 A2 L5020 B3 R5001 A1 R5017 C1 R5047 B1 R5062 C3 R5100 C1 R5114 D2 R5129 C4 R5146 D3 R5160 C4 R5175 A3 R5191 A4
C5015 B2 C5037 B3 C5052 C2 C5066 D2 C5080 B3 C5094 B2 C5108 B3 C5122 B3 C5137 B3 C5161 D2 C5177 D4 C5191 A4 C5223 D1 FB5002 C1 L5005 A3 L5023 B2 R5002 A1 R5018 B3 R5048 B1 R5063 C4 R5101 C1 R5115 D2 R5130 C1 R5147 D3 R5161 C4 R5176 A3 R5192 A4



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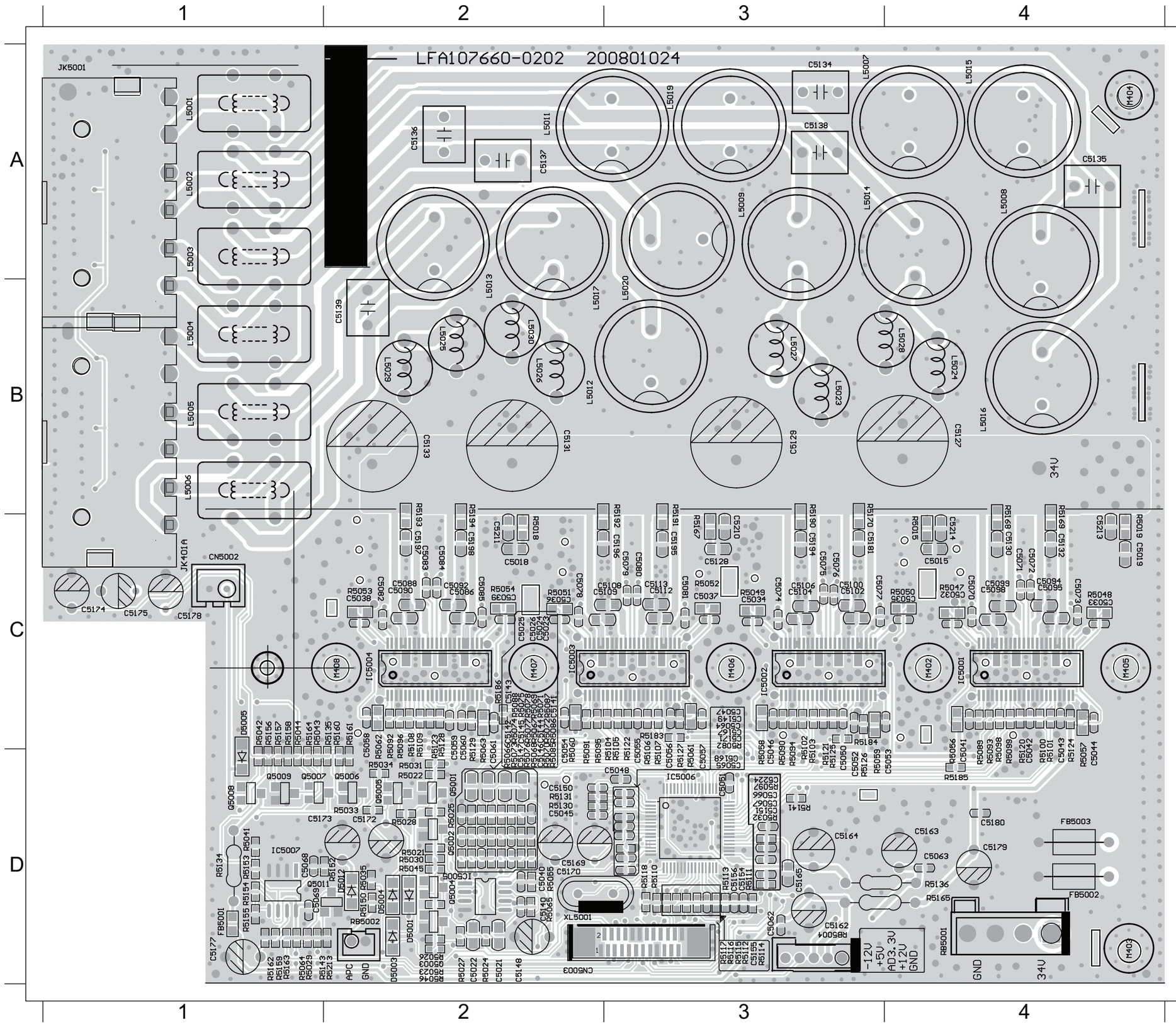
PCB LAYOUT - TOP VIEW



JK5001	A1	C5082	C2	R5059	C3	R5143	D1
L5001	A1	C5083	C2	R5061	C3	R5153	D1
L5002	A1	C5084	C2	R5082	C3	R5154	D1
L5003	A1	C5085	C2	R5094	C3	R5155	D1
C5136	A2	C5086	C2	R5102	C3	R5159	D1
C5137	A2	C5088	C2	R5103	C3	R5162	D1
L5011	A2	C5090	C2	R5104	C3	R5163	D1
L5013	A2	C5092	C2	R5105	C3	C5045	D2
C5134	A3	C5109	C2	R5106	C3	C5150	D2
C5138	A3	C5197	C2	R5107	C3	C5169	D2
L5007	A3	C5198	C2	R5121	C3	C5170	D2
L5009	A3	C5211	C2	R5122	C3	CN5003	D2
L5014	A3	IC5003	C2	R5125	C3	D5012	D2
L5019	A3	IC5004	C2	R5127	C3	Q5006	D2
C5135	A4	R5018	C2	R5167	C3	R5035	D2
L5008	A4	R5051	C2	R5183	C3	R5130	D2
L5015	A4	R5053	C2	R5184	C3	R5131	D2
L5004	B1	R5054	C2	C5015	C4	R5150	D2
L5005	B1	R5060	C2	C5019	C4	R5152	D2
L5006	B1	R5062	C2	C5032	C4	R5213	D2
C5131	B2	R5063	C2	C5033	C4	RB5002	D2
C5133	B2	R5095	C2	C5035	C4	XL5001	D2
C5139	B2	R5096	C2	C5041	C4	C5048	D3
L5012	B2	R5108	C2	C5042	C4	C5051	D3
L5017	B2	R5109	C2	C5043	C4	C5052	D3
L5025	B2	R5123	C2	C5044	C4	C5056	D3
L5026	B2	R5128	C2	C5053	C4	C5062	D3
L5029	B2	R5129	C2	C5070	C4	C5065	D3
L5030	B2	R5135	C2	C5071	C4	C5066	D3
R5193	B2	R5160	C2	C5072	C4	C5067	D3
R5194	B2	R5161	C2	C5073	C4	C5151	D3
C5129	B3	R5186	C2	C5094	C4	C5154	D3
L5020	B3	C5034	C3	C5095	C4	C5155	D3
L5023	B3	C5037	C3	C5098	C4	C5156	D3
L5027	B3	C5046	C3	C5099	C4	C5162	D3
R5170	B3	C5047	C3	C5130	C4	C5164	D3
R5190	B3	C5050	C3	C5132	C4	C5165	D3
R5191	B3	C5055	C3	C5213	C4	C5168	D3
R5192	B3	C5057	C3	C5214	C4	C5224	D3
C5127	B4	C5058	C3	IC5001	C4	IC5006	D3
L5016	B4	C5064	C3	R5015	C4	R5032	D3
L5024	B4	C5074	C3	R5019	C4	R5097	D3
L5028	B4	C5076	C3	R5047	C4	R5110	D3
R5168	B4	C5077	C3	R5048	C4	R5111	D3
R5169	B4	C5079	C3	R5050	C4	R5112	D3
C5174	C1	C5080	C3	R5056	C4	R5113	D3
C5175	C1	C5081	C3	R5057	C4	R5114	D3
C5178	C1	C5100	C3	R5093	C4	R5115	D3
CN5002	C1	C5102	C3	R5098	C4	R5116	D3
D5005	C1	C5104	C3	R5099	C4	R5117	D3
R5042	C1	C5106	C3	R5100	C4	R5118	D3
R5043	C1	C5108	C3	R5101	C4	R5126	D3
R5044	C1	C5112	C3	R5120	C4	R5141	D3
R5156	C1	C5113	C3	R5124	C4	RB5004	D3
R5157	C1	C5128	C3	C5068	D1	C5063	D4
R5158	C1	C5149	C3	C5069	D1	C5163	D4
R5164	C1	C5167	C3	C5173	D1	C5179	D4
C5018	C2	C5171	C3	C5177	D1	C5180	D4
C5036	C2	C5181	C3	FB5001	D1	FB5002	D4
C5038	C2	C5194	C3	IC5007	D1	FB5003	D4
C5039	C2	C5195	C3	Q5007	D1	R5136	D4
C5054	C2	C5196	C3	Q5008	D1	R5165	D4
C5059	C2	C5210	C3	Q5009	D1	R5185	D4
C5060	C2	IC5002	C3	Q5011	D1	RB5001	D4
C5061	C2	R5049	C3	R5029	D1		
C5075	C2	R5052	C3	R5064	D1		
C5078	C2	R5058	C3	R5134	D1		

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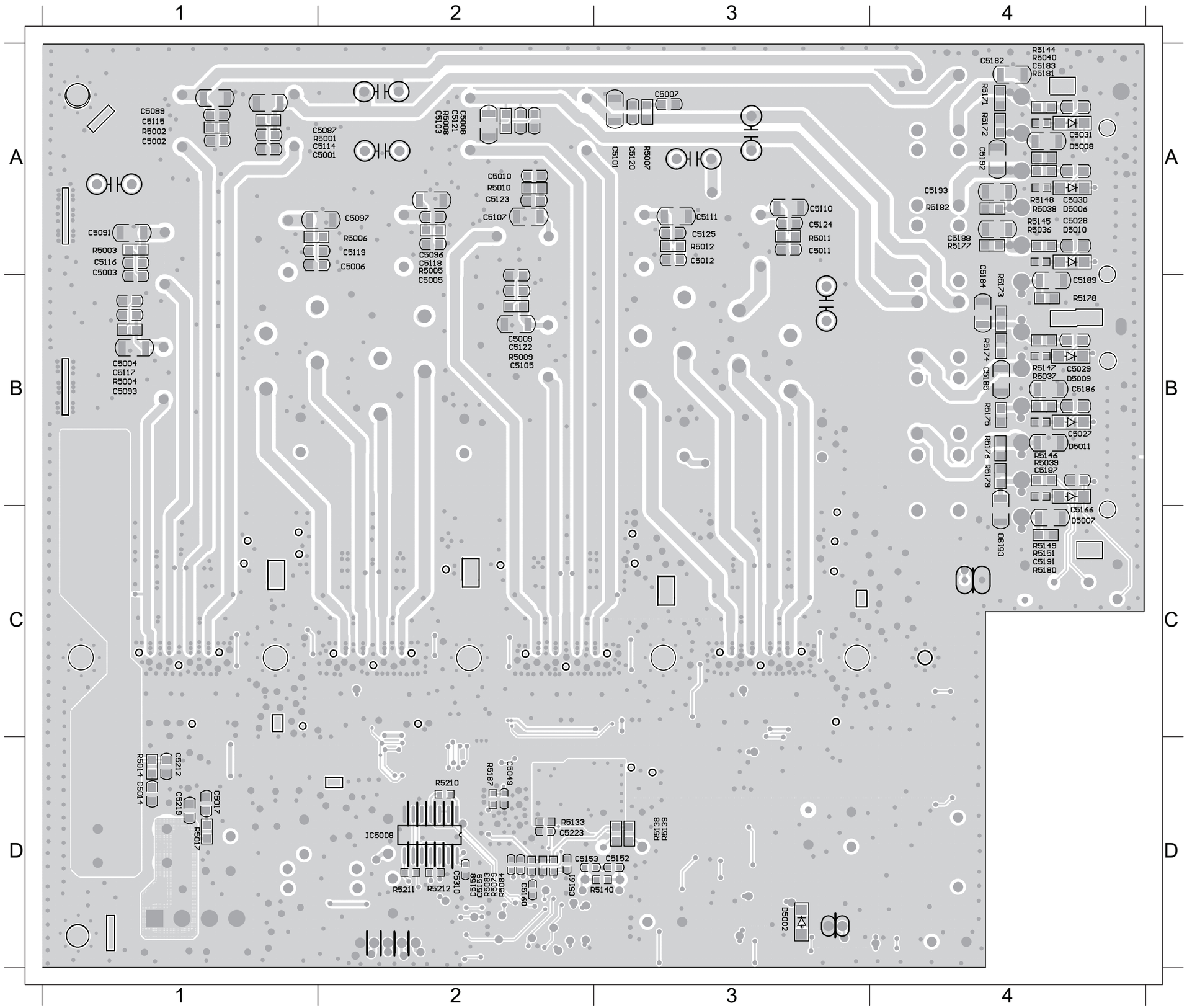
PCB LAYOUT - BOTTOM VIEW



C5001	A1	R5181	A4
C5002	A1	R5182	A4
C5003	A1	C5004	B1
C5087	A1	C5093	B1
C5089	A1	C5117	B1
C5091	A1	R5004	B1
C5114	A1	C5005	B2
C5115	A1	C5009	B2
C5116	A1	C5105	B2
R5001	A1	C5122	B2
R5002	A1	R5009	B2
R5003	A1	C5027	B4
C5006	A2	C5029	B4
C5008	A2	C5185	B4
C5010	A2	C5186	B4
C5096	A2	C5187	B4
C5097	A2	C5189	B4
C5103	A2	D5009	B4
C5107	A2	D5011	B4
C5118	A2	R5037	B4
C5119	A2	R5039	B4
C5121	A2	R5146	B4
C5123	A2	R5147	B4
R5005	A2	R5173	B4
R5006	A2	R5174	B4
R5008	A2	R5175	B4
R5010	A2	R5176	B4
C5007	A3	R5178	B4
C5011	A3	R5179	B4
C5012	A3	C5166	C4
C5101	A3	C5190	C4
C5110	A3	C5191	C4
C5111	A3	D5007	C4
C5120	A3	R5149	C4
C5124	A3	R5151	C4
C5125	A3	R5180	C4
R5007	A3	C5014	D1
R5011	A3	C5017	D1
R5012	A3	C5212	D1
C5028	A4	C5219	D1
C5030	A4	R5014	D1
C5031	A4	R5017	D1
C5182	A4	C5049	D2
C5183	A4	C5153	D2
C5184	A4	C5158	D2
C5188	A4	C5159	D2
C5192	A4	C5160	D2
C5193	A4	C5161	D2
D5006	A4	C5223	D2
D5008	A4	C5310	D2
D5010	A4	IC5008	D2
R5036	A4	R5079	D2
R5038	A4	R5083	D2
R5040	A4	R5084	D2
R5144	A4	R5133	D2
R5145	A4	R5187	D2
R5148	A4	C5152	D3
R5171	A4	R5138	D3
R5172	A4	R5139	D3
R5177	A4	R5140	D3

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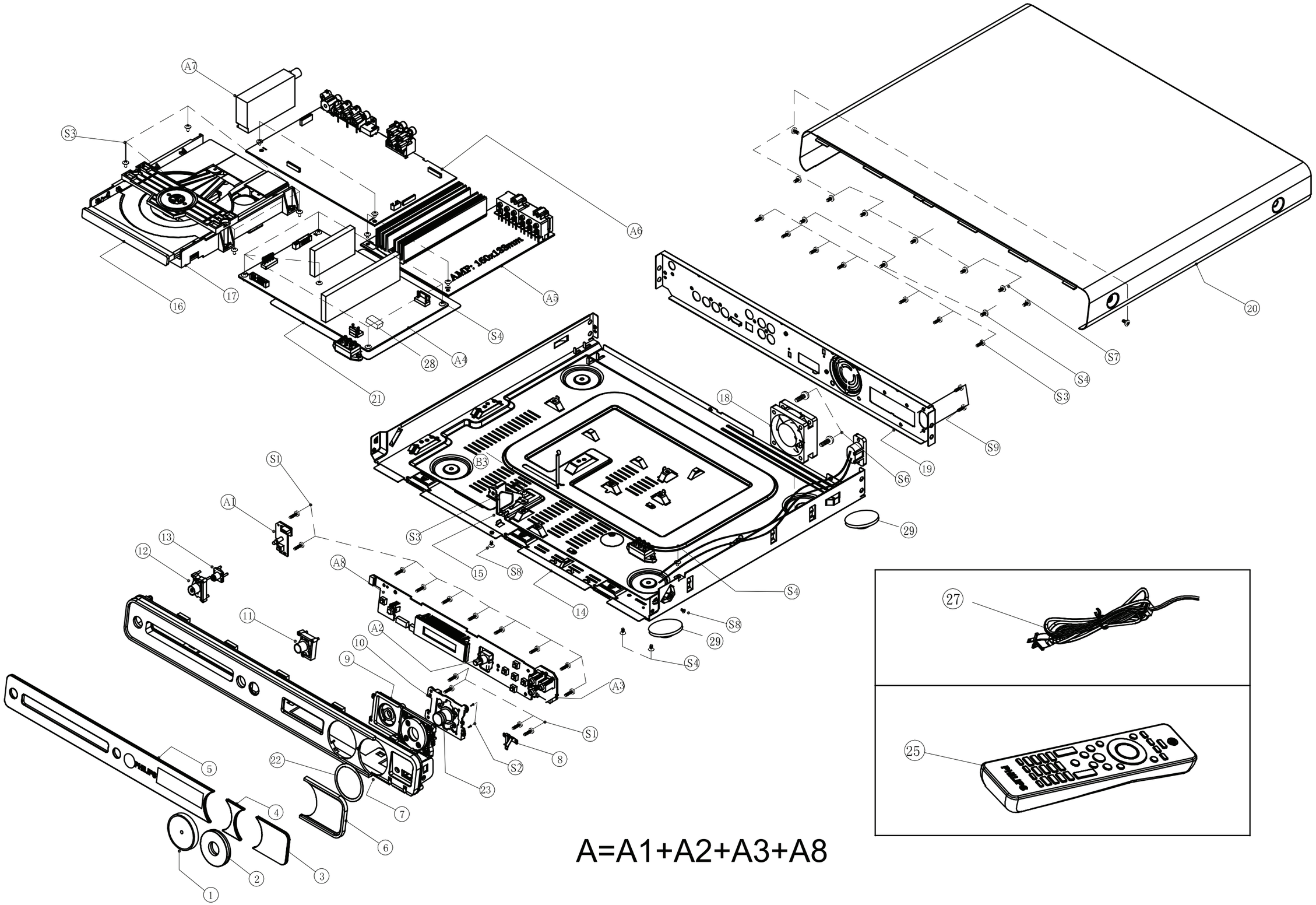
Mechanical Exploded View



A=A1+A2+A3+A8

PART LIST

Loc.	Alt	Part No.	safety	Description
MAIN UNIT				
1		996510021087		VOLUME KNOB
2		996510021567		FUNCTION BUTTON
3		996510021595		DOOR LENS
4		996510021566		MINI LENS
5		996510021592		DISPLAY LENS
6		996510021588		FLAP DOOR
7		996510021597		FRONT PANEL
9		996510021602		FUNCTION_BTN_BKT
10		996510021586		SOURCE BUTTON BKT
11		996510021601		OPEN/CLOSS BUTTON
12		996510021561	⚠	STANDBY BUTTON
13		996510021064		STANDBY LENS
14		996510021569		BTM CABINET
16		996510021607	⚠	DVD DOOR
17		996510021248		DVD LOADER
18		996510021564		FAN 12V 0.55A
19		996510022916		BACK PANEL
20		996510021619	⚠	TOP CABINET
23		996510021568		SOURCE BUTTON
25		996510021186	⚠	REMOTE CONTROL
27		996510028861		PWR CORD 2P 1788mm
28		996510023858		RUBBER CUSHION
29		996510021942	⚠	RUBBER FOOT D14xH4.2
FM		996510004177		T ANTENNA FEMALE PLUG
RCA		996500013058		RCA CABLE 2P 1.2M
V1		996510007429		GP FFCCBLE
V3	#	996510021598		FFC CABLE 24P 60mm
V3	#	996510025411		FFC CABLE 24P 60mm
A		996510021573		VFD+JACK+VOL+STDBY PCB
A4		996510029645		POWER PCB ASS'Y
A5		996510021594		AMP PCB ASSY 1200W (TI)
A6		996510029644		MAIN PCB ASS'Y
A7		996510018486		TUNER PACK KST-MT004FS1
SPEAKER				
FLFR		996510027049		RUBBER FOOT
RFS		996510013306		RUBBER FOOT -SUB
SPKC		996510021603		SPEAKER BOX-CENTER
SPKML		996510021618		SPEAKER BOX-FRONT LEFT
SPKMR		996510021623		SPEAKER BOX-FRONT RIGHT
SPKRL		996510021624		SPEAKER BOX-REAR LEFT
SPKRR		996510021622		SPEAKER BOX-REAR RIGHT
SUB		996510021621		SPEAKER BOX-SUB
SCREW				
S1		--		SCREW T2.6xP0.91xL8mm
S2		--		SCREW T2.0x0.63PxL5mm
S3		--		SCREW T3.0x1.06PxL8mm
S4		--		SCREW M3.0x0.5PxL6mm
S6		--		SCREW L10xP2.12xT5.0mm
S7		--		SCREW M3.0x0.5PxL6mm
S8		--		SCREW M3.0x0.5PxL6mm
S9		--		T3.5x1.06PxL8mm
MAIN PCB				
CN201		996500015859		CONNECTOR 4PIN P2.0MM
CN202		996510012494		CONNECTOR 5 PIN RED
CN204		996500017367		CONNECTOR 8P
CN205		996510012495		CONNECTOR 4P
CN206		996500015900		CONNECTOR 3 PIN P=2.0MM
CN208		996500015897		CONNECTOR 3 PIN RED
CN301		996510012497		FPC/FFC CONN. 10P

Loc.	Alt	Part No.	safety	Description
MAIN PCB				
CN303		996500015861		CONNECTOR B4B-XH-A 4 PIN
CN401		996500015895		CONNECTOR 5 PIN P=2.0MM
CN402		996500015862		CONNECTOR B2B-XH-A 2 PIN
CN802		996500015901		CONNECTOR 6 PIN P=2.0MM
CN803		996500015895		CONNECTOR 5 PIN P=2.0MM
IC201		996510012499		IC 28P
IC202		996510021937		IC 48P KH29LV320DBTC-70G
IC203	#	994000005209		IC 3P AZ809NSTR-E1 SOT23
IC203	#	996500041284		IC 3P STM809SWX6F 3.0V
IC204		996510004289		IC 8P TU24C16CS2 SOIC
IC205	#	996510021062		IC3P LD1117ADJ SOT223
IC205	#	996510027042		IC 3P LD1117AL-33-AA3 3.3V
IC206	#	996510004115		IC 54P AS81F641642C-6P
IC206	#	996510009895		IC 54P A641604L-6T TSOP II
IC207		996510012500		IC 20 PIN SN74HC244PWR
IC208		996510021955		IC 48P STM32F101C6A LQFP ST
IC209		996510021082		IC 256P MT1389FXE/SN LQFP
IC210	#	996500027090		IC 3 PIN AP1117E18LA 1.8V
IC210	#	996510027889		IC 3P LD1117AL-18-AA3
IC3001	#	996500029611		IC 8P CO4558A SO8
IC3001	#	996510020341		IC 8P D4558 SOP SILICORE
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
IC501		996510012505		IC 48P CS48540-CQZ LQFP
IC801		996510012506		IC 28P AM5888S L/F HSOP
JK206A	#	996510021571		FIBER OPTICAL RECEIVER
JK206A	#	996510027975		TOSL. JA DLR1113-1
JK206B		996510021591		RCA JACK 1P ORANGE W/GND
JK302		996510004283		RCA JACK 4P AUDIO
JK601		996510012507		HDMI JACK 19P PDVBT8-19
JK701		996510012481		RCA JACK 1P YELLOW W/GND
JK702		996500012609		RCA JACK R/G/B
L707		994000005468		CHOKE 1UH 5%
Q204		996510012508		XISTR PNP TIP42C
Q903		996500026946		XISTR PNP 2SB772P/Q NEC
POWER PCB				
BD901	#	996500038405	⚠	BRIDGE KBU808 8A 800V
BD901	#	996500041973	⚠	BRIDGE KBU808 8A 800V
BD901	#	996510011372	⚠	BRIDGE KBU808 8A 800V
C902		996500018042		COND DISC 0.01UF 1KV 20%
C903		996500018042		COND DISC 0.01UF 1KV 20%
C904		996500018042		COND DISC 0.01UF 1KV 20%
C905		996500018042		COND DISC 0.01UF 1KV 20%
C906		996500027115	⚠	CAP.SAFTY Y1 102PF 250V
C907		996510012548	⚠	GOND SAFETY 0.47uF 275V
C908		996510022021	⚠	CAP. 330uF 250V 10% 105
C909		996510022021	⚠	CAP. 330uF 250V 10% 105
C910	#	996500027124		COND METAL 1.5UF 250V
C910	#	996510018266		COND METAL 1.5uF 250V
C913		996500020264		COND DISC 470PF 1KV 10%
C915		996510012473		COND DISC 2200 pF 1KV 10%
C917		994000005343	⚠	COND SAFETY 0.22UF 275V
C918		996500027115	⚠	CAP.SAFTY Y1 102PF 250V
C919		996500027115	⚠	CAP.SAFTY Y1 102PF 250V
C942		996500032755		COND MYLAR 0.01 UF 100V 5%
C944		996510004633		COND MYLAR 0.1 uF 100V 5%
C965		994000005344	⚠	CAP.SAFETY Y1 560PF 400V
CN901	#	996500015936		CONNECTOR 4PIN P=3.96MM
CN901	#	996510018268		CONNECTOR 4P P=3.96mm1
CN902		996500017458		CONNECTOR 3P CL3962WVO
CN903		996510021055		CONNECTOR B7B-XH-A 7 PIN
CN904		996500017358		CONNECTOR 7P

Loc.		Alt Part No.	safety	Description
POWER PCB				
CN905	#	996500017360		CONNECTOR 4P CL3962WVO
CN905	#	996510016729		CONNEC 4P P=3.96mm 180'
CN906		996500015898		CONNECTOR 2 PIN
D904		994000005346		RECTIFIER UF1602CT
D923		996500038438		DIODE HER503 5A 200V
F901		994000001053	⚠	FUSE 6.3A 250V
IC902		996510028863		IC 8P TNY280P DIP PI
IC903		994000000946	⚠	OPTICAL SENSOR 4P
IC904	#	994000000952		IC 3PIN TL431
IC904	#	994000001572		IC 3P TL431
IC905		996510008293		IC 16P AZ7500BP-E1
L901	#	996510013776		LINE FILTER ET-24
L901	#	996510021225		LINE FILTER ET-24 7mH 2VEW
L902	#	996510013747		LINE FILTER ET-28
L902	#	996510027395		LINE FILTER ET-28 15mH
L903		996500016694		6UH 13.5TS 2UEW
L904		996500016694		6UH 13.5TS 2UEW
L907		996500027102		TOROID COIL S1=1TS
L908		994000005341		COMMON COIL 65UH +/-10%
NTC901		996510008294	⚠	NTC THERMISTOR
Q910		996500026946		XISTR PNP 2SB772P/Q NEC
Q911		996500026946		XISTR PNP 2SB772P/Q NEC
Q912		996510012517	⚠	MOSFETFQP13N50C
Q913		996510012517	⚠	MOSFETFQP13N50C
T901	#	996510021071	⚠	TRASFO EEL25 7+7P 40W
T901	#	996510021236	⚠	TRASFO. EEL-25 7+7P 40W
T901	#	996510027028	⚠	SW TRANS EEL-25 7+7P
T902	#	994000001057	⚠	SW. MODEL TRANSFORMER
T902	#	996510021088	⚠	TRASFO EEL19 5+5P 100KHz
T902	#	996510022032	⚠	TRASFO EEL-19 5+5P
T903	#	996510021575	⚠	SW. TRASFO FERRITE
T903	#	996510027392	⚠	SW TRANS EC-39 8+8P 300W
T903	#	996510027989	⚠	SW TRANS EC-39 8+8P
TVR901		996510011373		METAL OXIDE VARISTOR
TVR902		996510021072	⚠	SURGEORBER :VCR-
TVR903		996510021072	⚠	SURGEORBER :VCR-

Loc.		Alt Part No.	safety	Description
AMP PCB ASSY				
CN5002		996500015862		CONNECTOR B2B-XH-A 2 PIN
IC5001		996510021081		IC 44P TAS5352ADDV HTSSOP
IC5002		996510021081		IC 44P TAS5352ADDV HTSSOP
IC5003		996510021081		IC 44P TAS5352ADDV HTSSOP
IC5004		996510021081		IC 44P TAS5352ADDV HTSSOP
IC5006		996510021092		IC 64P TAS5508APAG TQFP TI
IC5007	#	996500029611		IC 8P CO4558A SO8
IC5007	#	996510020341		IC 8P D4558 SOP SILICORE
IC5008		996500023948		IC 14PIN 74HCU04D PHILIPS
JK5001		996510013837		GPSPK JAC12P RD-WT-GRN
L5007	#	994000005332		INDUCTOR 10UH/10A 20%
L5007	#	996510021061		INDUCTOR 10uH 20% 10A
L5008	#	994000005332		INDUCTOR 10UH/10A 20%
L5008	#	996510021061		INDUCTOR 10uH 20% 10A
L5009	#	994000005332		INDUCTOR 10UH/10A 20%
L5009	#	996510021061		INDUCTOR 10uH 20% 10A
L5011	#	994000005332		INDUCTOR 10UH/10A 20%
L5011	#	996510021061		INDUCTOR 10uH 20% 10A
L5012	#	994000005332		INDUCTOR 10UH/10A 20%
L5012	#	996510021061		INDUCTOR 10uH 20% 10A
L5013	#	994000005332		INDUCTOR 10UH/10A 20%
L5013	#	996510021061		INDUCTOR 10uH 20% 10A
L5014	#	994000005332		INDUCTOR 10UH/10A 20%
L5014	#	996510021061		INDUCTOR 10uH 20% 10A
L5015	#	994000005332		INDUCTOR 10UH/10A 20%
L5015	#	996510021061		INDUCTOR 10uH 20% 10A
L5016	#	994000005332		INDUCTOR 10UH/10A 20%
L5016	#	996510021061		INDUCTOR 10uH 20% 10A
L5017	#	994000005332		INDUCTOR 10UH/10A 20%
L5017	#	996510021061		INDUCTOR 10uH 20% 10A
L5019	#	994000005332		INDUCTOR 10UH/10A 20%
L5019	#	996510021061		INDUCTOR 10uH 20% 10A
L5020	#	994000005332		INDUCTOR 10UH/10A 20%
L5020	#	996510021061		INDUCTOR 10uH 20% 10A
L5023		996510021604		AIR COIL 30NH I=10A
L5024		996510021604		AIR COIL 30NH I=10A
L5025		996510021604		AIR COIL 30NH I=10A
L5026		996510021604		AIR COIL 30NH I=10A
L5027		996510021604		AIR COIL 30NH I=10A
L5028		996510021604		AIR COIL 30NH I=10A
L5029		996510021604		AIR COIL 30NH I=10A
L5030		996510021604		AIR COIL 30NH I=10A
Q5010		996500028742		XISTR NPN 2SD882P
XL5001		996510021233		X'TAL 13.5MHz 15ppm 20pF
VFD+JACK+VOL+STDBY PCB				
DP11		996510021249		VFD 32P 20075-2A24(D1068WA)
IC11	#	996500029614		IC 52 PIN PT6311(PTC)
IC11	#	996500041280		IC 52P ET16311 VFD DRIVER
JK11		996510004129		KARAOKE JACK D3.6MM 7P
JK12		996510004129		KARAOKE JACK D3.6MM 7P
JK13		996510004129		KARAOKE JACK D3.6MM 7P
LD11	#	996510004102		LED 3 DIA RED ROUND
LD11	#	996510020167		LED 3 DIA ULTRA RED TINT
SN11		996510021562		IRT RECEIVER IRM-3638TF4
USB11		996510013742		USB JACK 4P
VR11		996510028356		ENCODER L15xF7mm FA 5~30gf

REVISION LIST

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