DVD Home Theatre System

HTS3151D/37

Service
Service
Service

Service Manual

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CLASS 1
LASER PRODUCT

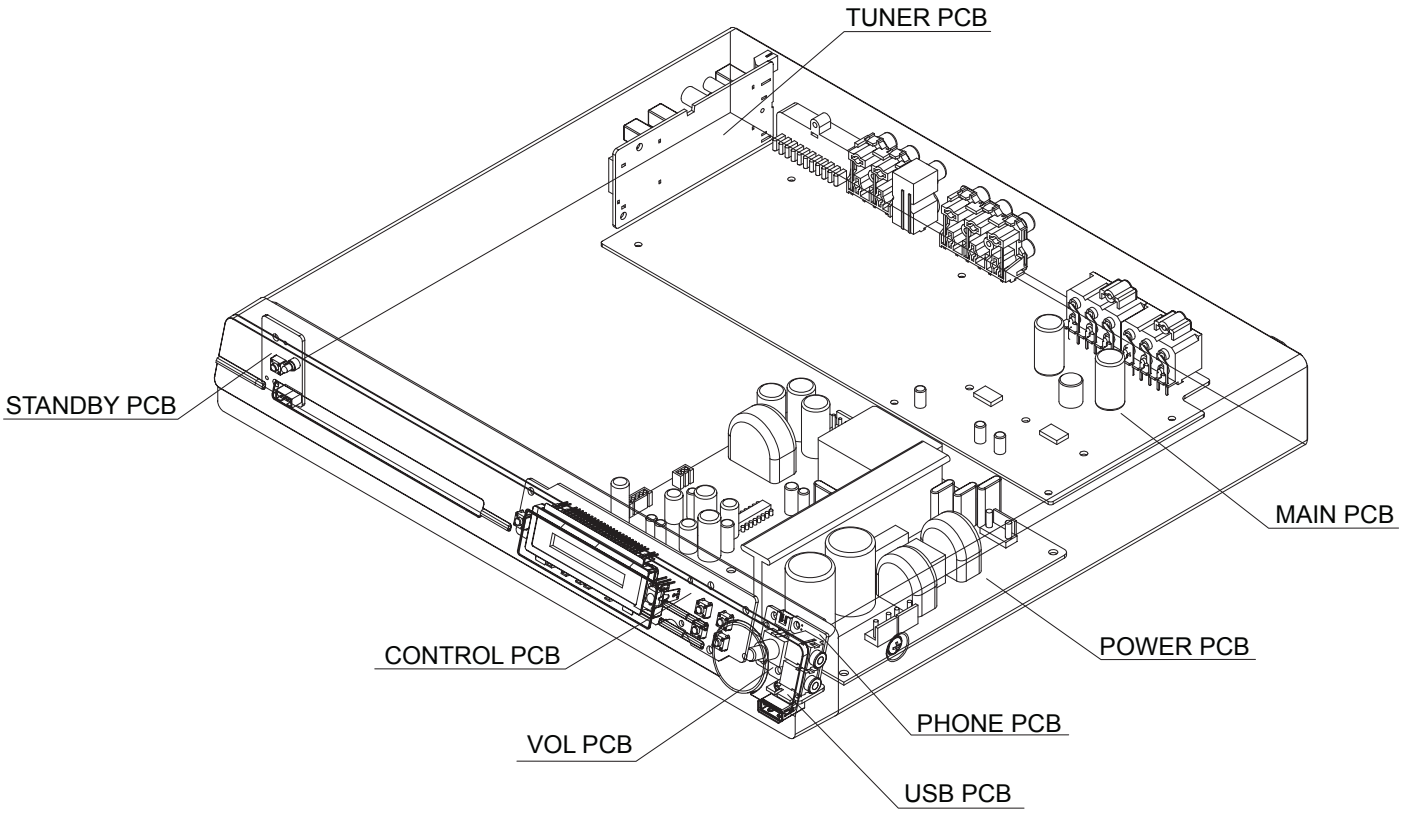
Published by KC-ET0739 Service Audio Printed in The Netherlands Subject to modification

GB 3139 7853 3080

Version 1.0

PHILIPS

LOCATION OF PCB BOARDS



VERSION VARIATION:

Type/Version / Feature & Board in used	HTS3151D
	/37
Main PCB (Power Output 300W)	X
Power Voltage (120V/230V)	X
WMA	X
CVBS Out	X

Specifications

AMPLIFIER

Total output power:	300 W
Frequency Response:	180 Hz – 18 kHz / ±3 dB
Signal-to-Noise Ratio:	> 60 dB (A-weighted)
Input Sensitivity	
- AUX In:	500 mV
- TV In:	250 mV
- MP3 Line-In:	500 mV

RADIO

Tuning Range:	FM 87.5–108 MHz (50/100kHz) AM 531–1602 kHz (9kHz) AM 530–1700 kHz (10kHz)
26 dB Quieting Sensitivity:	FM 22 dBf, AM 5000µV/m
IF Rejection Ratio:	FM 60 dB, AM 24 dB
Signal-to-Noise Ratio:	FM 50 dB, AM 30 dB
AM Suppression Ratio:	FM 30 dB
Harmonic Distortion:	FM Mono 3% FM Stereo 3% AM 5%
Frequency Response:	FM 180 Hz–9 kHz / ±6 dB
Stereo Separation	FM 26 dB (1 kHz)
Stereo Threshold	FM 23.5 dB

DISC

Laser Type	Semiconductor
Disc Diametre	12cm / 8cm
Video Decoding	MPEG-1 / MPEG-2 / / DivX 3/4/5/6, Ultra
Video DAC	12 Bits
Signal System	PAL / NTSC
Video Format	4:3 / 16:9
Video S/N	56 dB (minimum)
Composite Video Output	1.0 Vp-p, 75Ω
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

MAIN UNIT

Power Supply Rating:	110-127 V / 220-240 V~ 50-60 Hz switchable
Power Consumption:	60W
Dimensions:	360 x 48 x 332 (mm) (w x h x d)
Weight:	2.82 kg

FRONT AND REAR SPEAKERS

System:	Full range satellite
Impedance:	4 Ω
Speaker drivers:	3” full range speaker
Frequency response:	150 Hz – 20 kHz
Dimensions:	95.5 x 198 x 75 (mm) (w x h x d)
Weight:	0.53 kg/each

CENTRE SPEAKER

System:	Full range satellite
Impedance:	8 Ω
Speaker drivers:	3” full range speaker
Frequency response:	150 Hz – 20 kHz
Dimensions:	240 x 99.5 x 64 (mm) (w x h x d)
Weight:	0.85 kg

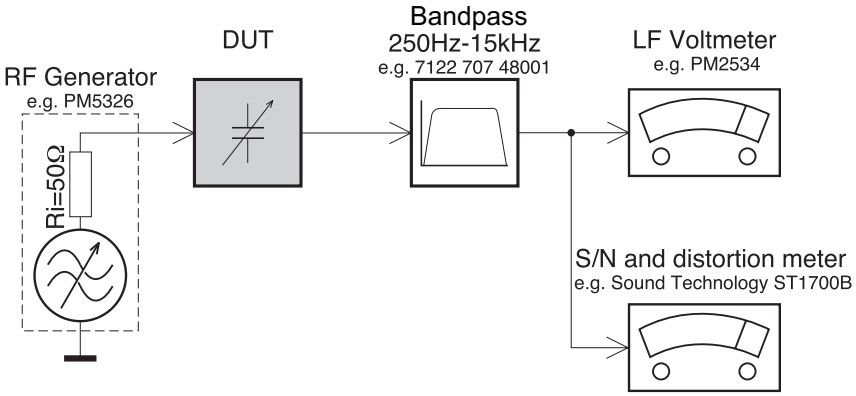
SUBWOOFER

Impedance:	8 Ω
Speaker drivers:	165 mm (6.5”) woofer
Frequency response:	40 Hz – 150 Hz
Dimensions:	131 x 315 x 386 (mm) (w x h x d)
Weight:	3.93 kg

Specifications subject to change without prior notice.

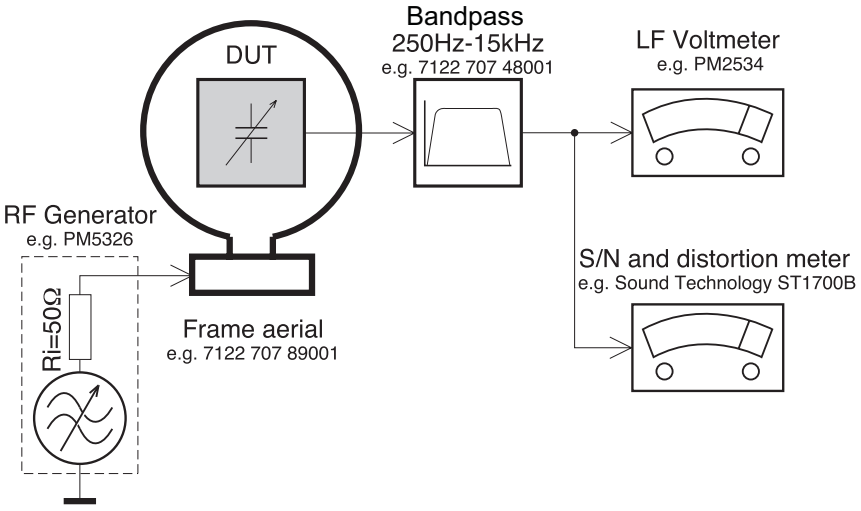
Measurement Setup

Tuner FM



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

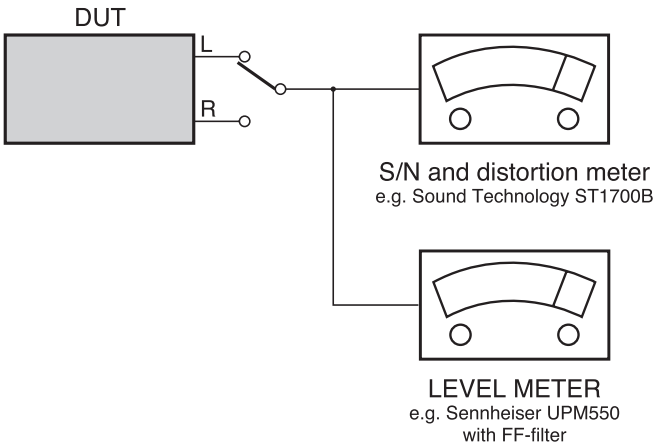
Tuner AM (MW,LW)



To avoid atmospheric interference all AM-measurements have to be carried out in a Faraday´s cage.
Use a bandpass filter (or at least a high pass filter with 250Hz) to eliminate hum (50Hz, 100Hz).

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

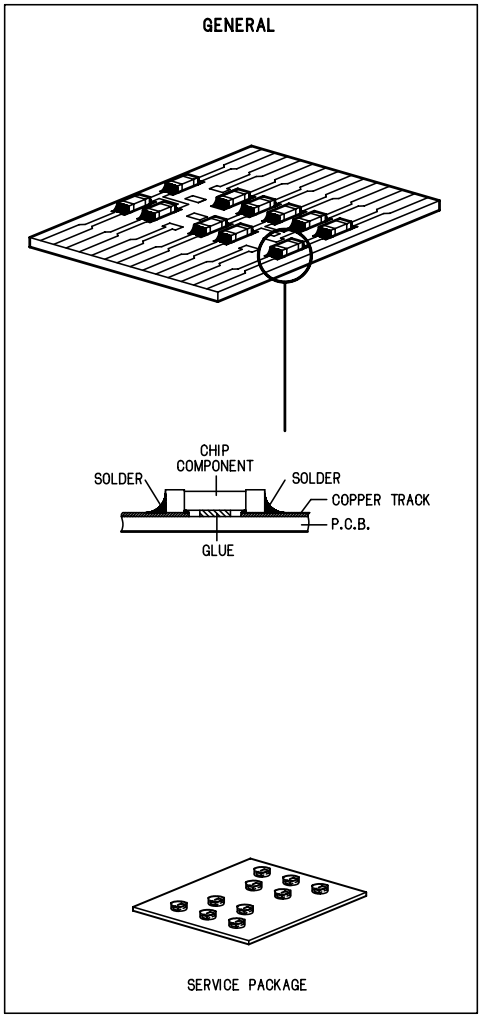
Compact Disc:

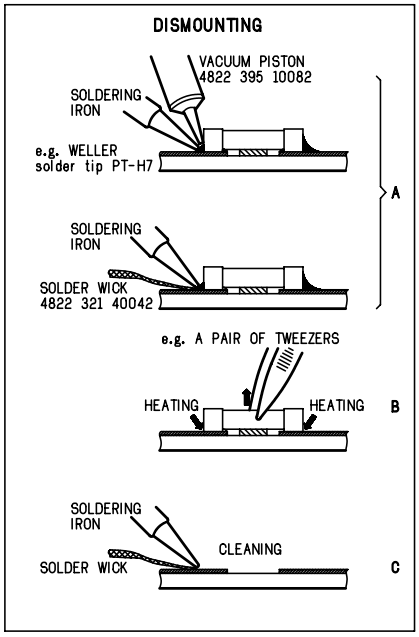
SBC426/426A Test disc 5 + 5A 4822 397 30096
SBC442 Audio Burn-in test disc 1kHz 4822 397 30155
SBC429 Audio Signals disc 4822 397 30184
Dolby Pro-logic Test Disc 4822 395 10216

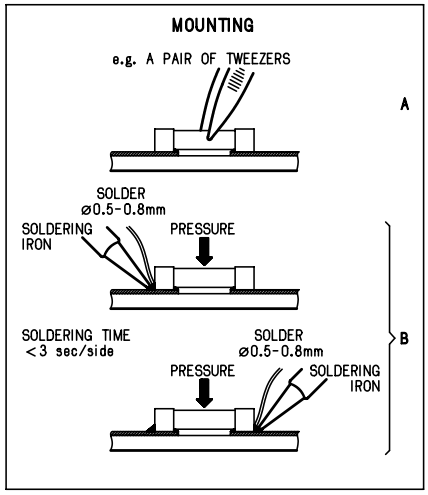
ESD Equipment:

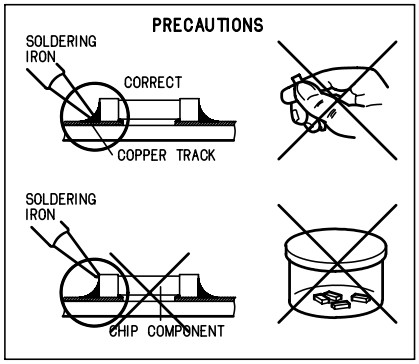
Anti-static table mat - large 1200x650x1.25mm ...4822 466 10953
anti-static table mat - small 600x650x1.25mm 4822 466 10958
Anti-static wristband 4822 395 10223
Connectorbox (1MΩ) 4822 395 11307
Extension cable
(to connect wristband to conn.box) 4822 320 11305
Connecting cable
(to connect table mat to conn.box) 4822 320 11306
Earth cable (to Connect product to mat or box) --4822 320 11308
Complete kit ESD3
(combining all above products) 4822 320 10671
Wristband tester 4822 344 13999

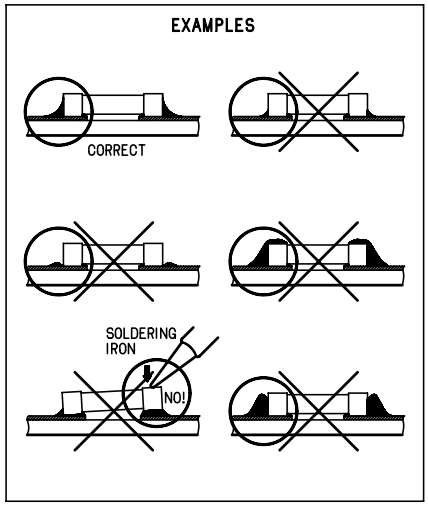
HANDLING CHIP COMPONENTS











ESD

GB **WARNING**

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

NL **WAARSCHUWING**

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

F **ATTENTION**

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

D **WARNUNG**

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

I **AVVERTIMENTO**

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

GB **ESD PROTECTION EQUIPMENT**

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

GB

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

Safety components are marked by the symbol ⚠ .

NL

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

De Veiligheidsonderdelen zijn aangeduid met het symbol ⚠ .

F

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

Less composants de sécurité sont marqués ⚠ .

D

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

Sicherheitsbauteile sind durch das Symbol ⚠ markiert.

I

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

Componenty di sicurezza sono marcati con ⚠ .

GB

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

GB **Warning !**

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

S **Varning !**

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

SF **Varoitus !**

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

DK **Advarse !**

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

F

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

Pb(Lead) Free Solder

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

INDENTIFICATION:
Regardless of special logo (not always indicated) 

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

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

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

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

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

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

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

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

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

  For additional questions please contact your local repair-helpdesk.

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System , Region Code , etc. Setting Produre

1)System Reset

a) press “system “ buttom on R/C,TV show “setup“
b) select the menu using the ▼and ► on R/C
c) go preference page to do sysytem reset

2)Region Code Change

a) press the “stop” buttom on R/C in open model
c) press”7” “3“ “4“ “4“ “6“ “6“ 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 model, press “1“ “5“ “9“ on R/C
b) press “ok” buttom to comfirm
c) TV will show message as below:

Current model HTS3151D/37
Ver 00.00.09-70810-00 region : 1
Servo: OF.60.00.00
8032: 05.00.04.06 RISC:00.00.03.07
IF current model does not match you set use down arrow key on the remote to change

4)Password Change

a) press “system “ buttom on R/C,TV show “setup“
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 Sofeware Version

a)open the CD Door
b) press “display“ buttom on R/C
c) TV will show the version on screen

6)Upgrading new sofeware

a)open the CD Door,then insert the CD-R program disc
b)close the DOOR
c) TV will show:
“loading“
pop message“upgrading“
“writhing” about 2 minutes
“done “
* the latest upgraded is in version VER 00.00.09-70810-00

CAUTION !

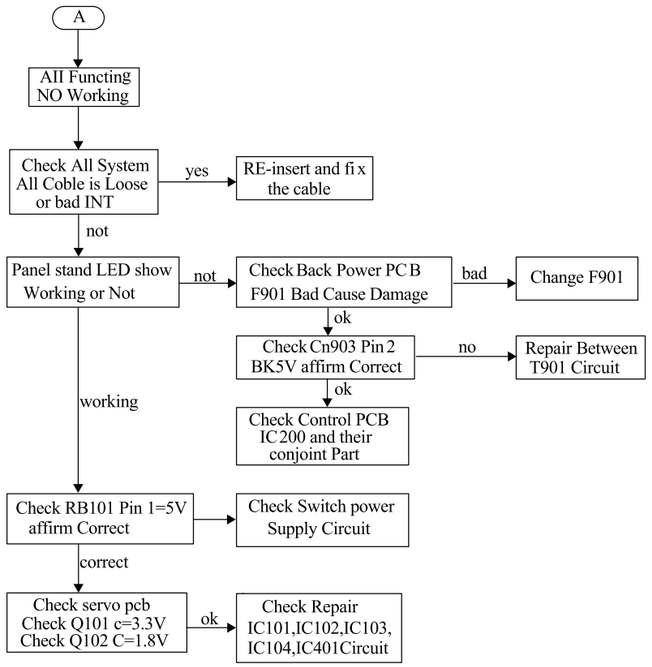
This information is confidencial and may not be distributed. Only a qualified service person should reprogram the Region Code.

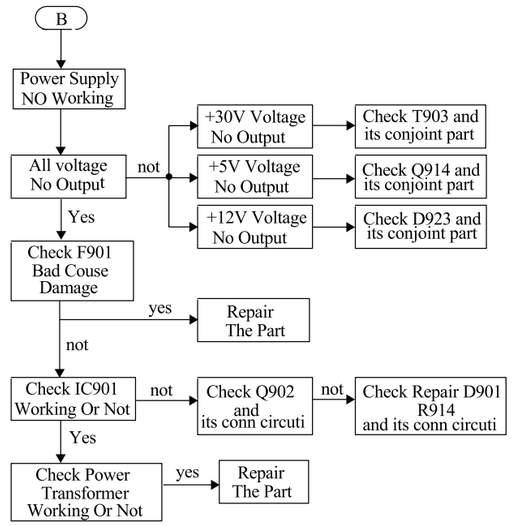
2 - 2

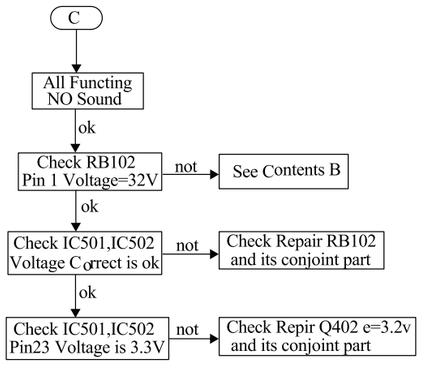
REPAIR INSTRUSTRATOR

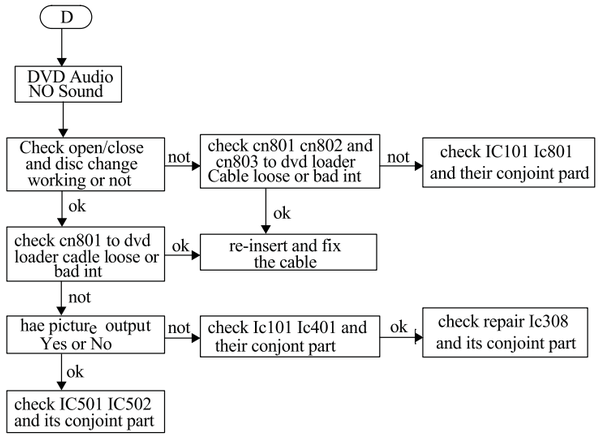
MAIN UNIT REPAIR CHART

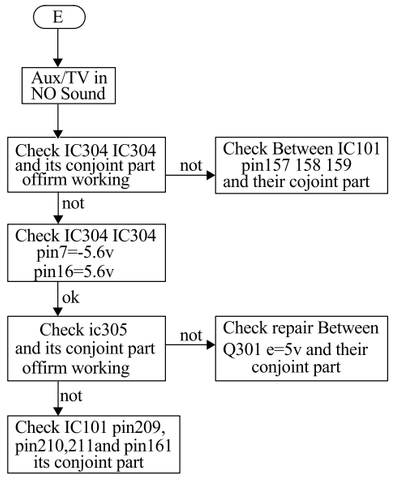
- A — AII Functing NO Working
- B — Power Supply NO Working
- C — All Functing NO Sound
- D — DVD Audio NO Sound
- E — Aux/TV in NO Sound
- F — Tuner NO Sound

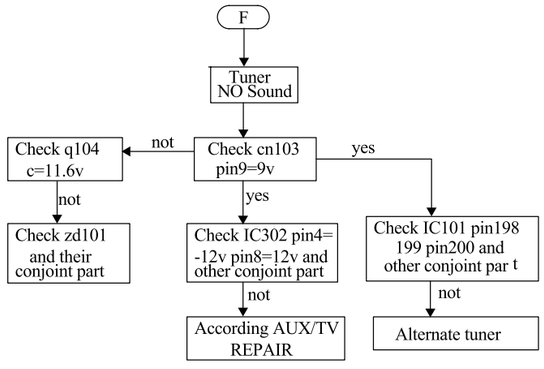












DISASSEMBLY INSTRUCTIONS

Dismantling of the Front Panel Assembly

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

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

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

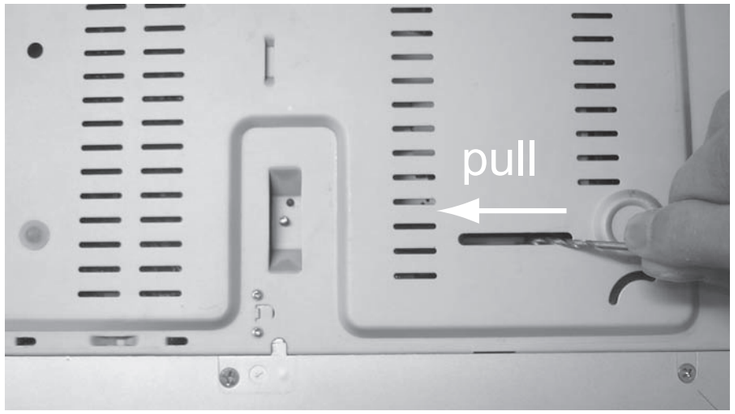


Figure 1

Figure 2

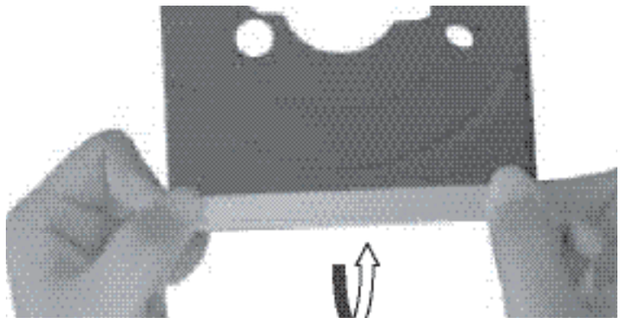


Figure 3

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

3) Loosen 5 screws and remove the Top Cover by lifting the rear portion upwards before sliding it out towards the rear.
   - 3 screws on the back
   - 1 screws each on the left & right side

4) Loosen 6 screws & lift up the top edge of Front Panel assembly to free some catches before sliding it out towards the front.
   - 3 screws on the bottom
   - 1 screw on the inside
   - 1 screw each on the left & right side

Dismantling of the Main PCB

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

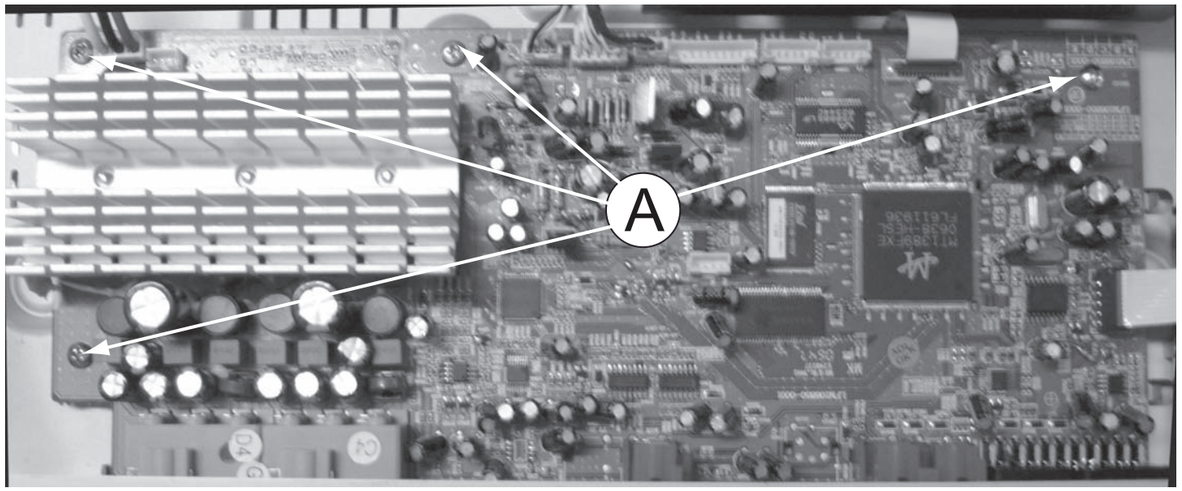


Figure 4

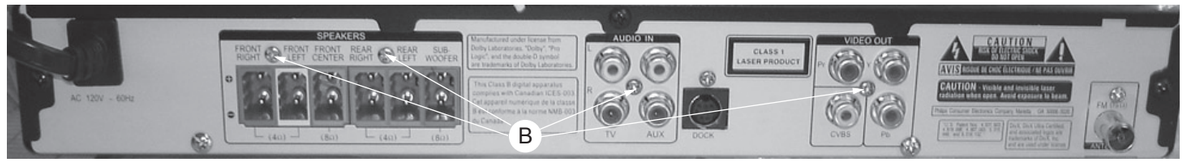


Figure 5

Dismantling of the Control Board

1) Loosen 12 screws " C" at the top of Control Board as shown in figure 6

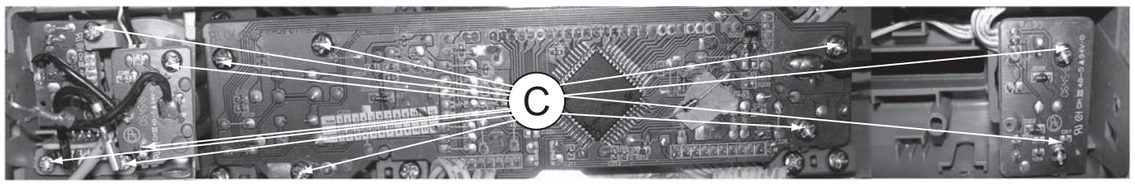


Figure 6

Dismantling of the Power Board

1) Loosen 4 screws "D" at the top of the Power Board as shown in figure 7
2) Using a noise plier to press the rubber space tightly,then,you can take the power board out from the main unit as shown in figure 8

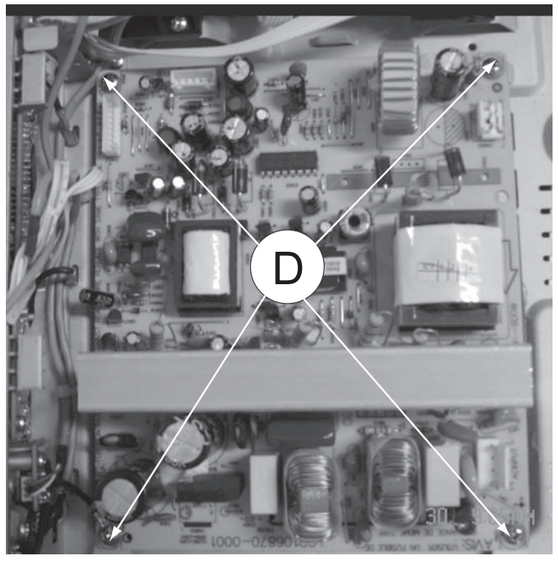


Figure 7

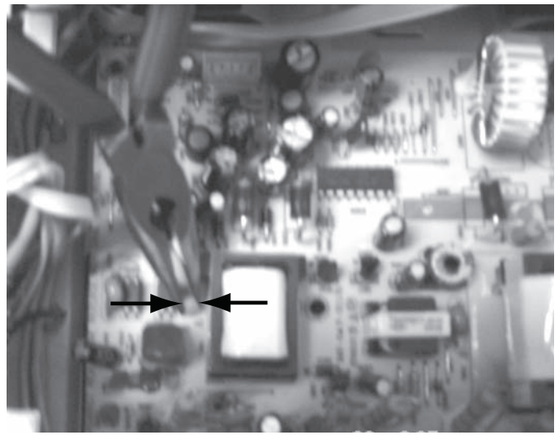


Figure 8

Dismantling of the DVD Module

1) Loosen 4 screws "E" to remove the DVD Module as shown in figure 9

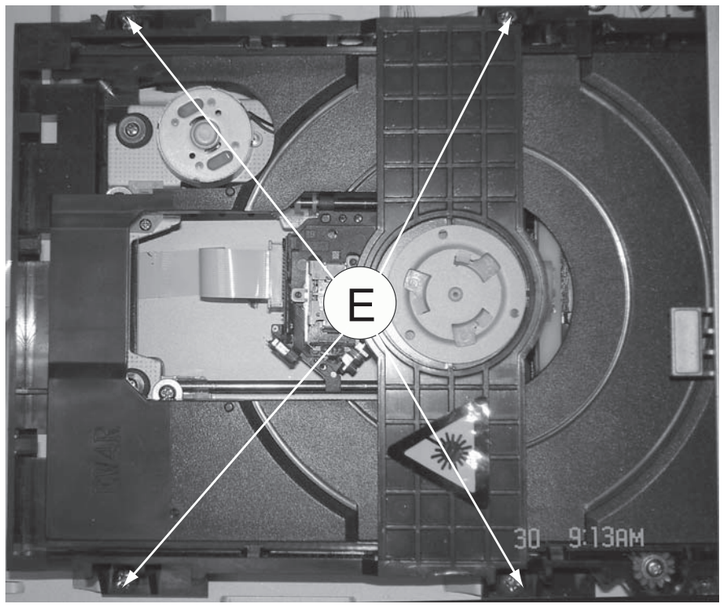
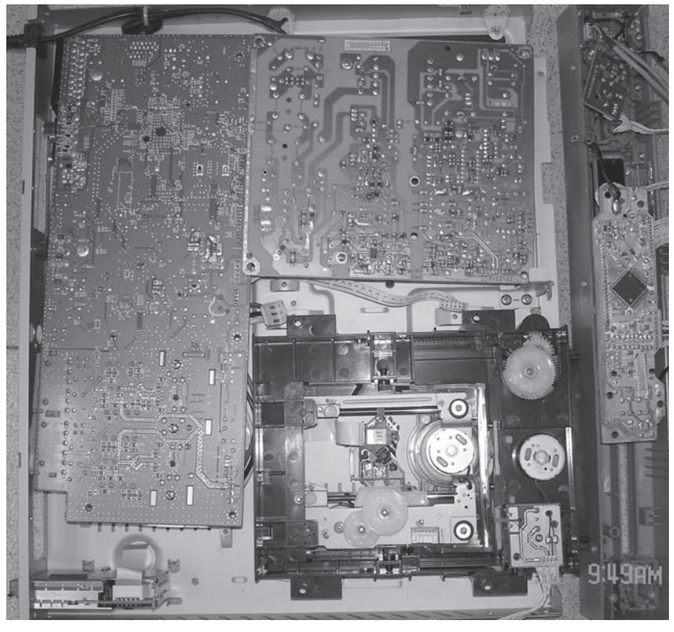


Figure 9

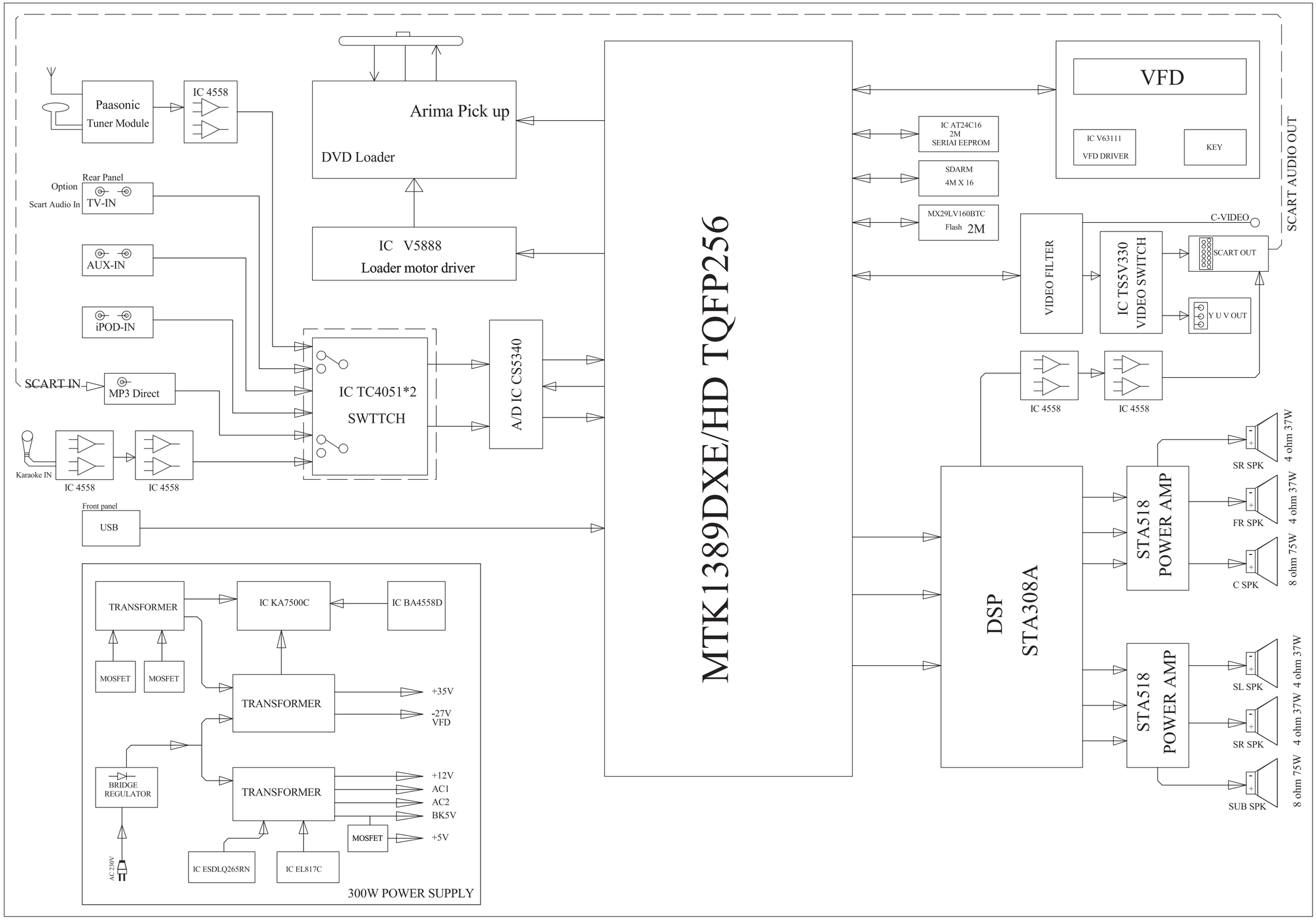
Service Position



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.

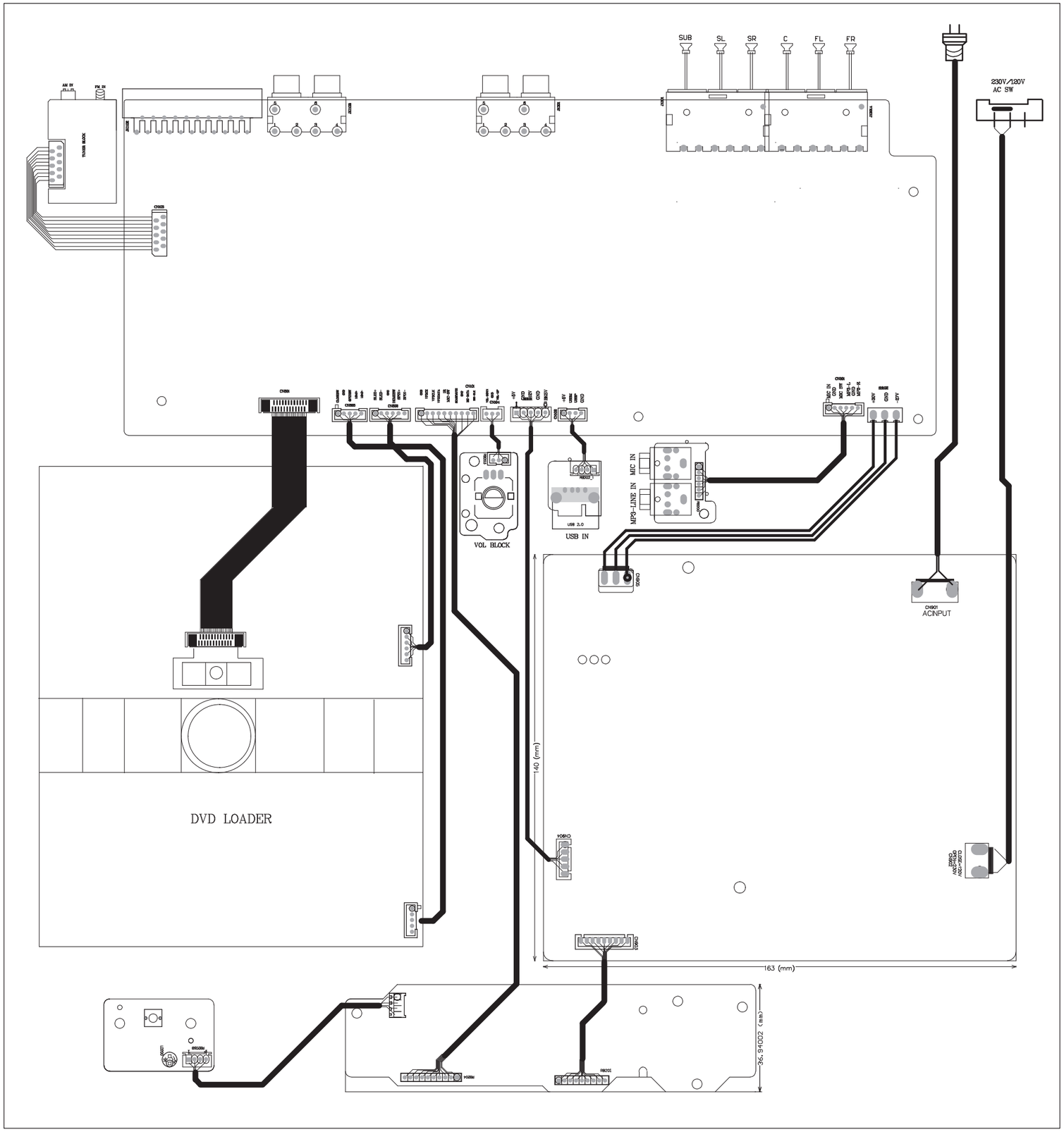
4 - 1

BLOCK DIAGRAM



4 - 2

WIRING DIAGRAM



CONTROL BOARD

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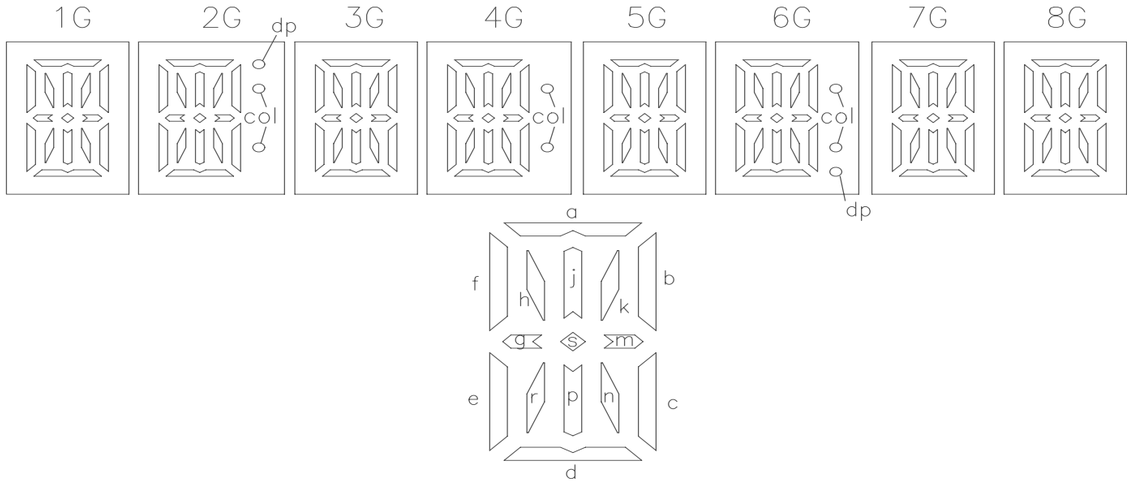
FTD DISPLAY PIN ASSIGNMENT



	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	—	dp	—	col	—	col	—	—
P15	s	s	s	s	s	s	s	s
P16	—	col	—	—	—	dp	—	—

PIN CONNECTION

端子序号 (PIN NO.)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
连接 (CONNECTION)	F	F	NP	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12
端子序号 (PIN NO.)	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
连接 (CONNECTION)	P13	P14	P15	P16	1G	2G	3G	4G	5G	6G	7G	8G	NP	F	F

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VOLTAGE

Q200			
Pin NO	b	c	e
Voltage	4.7	-0.9	0

IC200 (V63111)																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	2.1	2.4	0	4.6	3.2	4.3	4	3.2	3.2	0	0	0	4.8	-18.9	-25.3	-25.3	-25.3	-25.3	-16.4	23.2
Pin NO	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Voltage	-16	-18.6	-1836	-20.8	-25.3	-25.3	-16.5	-18.7	-16.5	-25.4	-25.4	23.2	4.7	-25.7	-23.2	-23.2	-23.2	-23.2	-23.2	-23.2
Pin NO	41	42	43	44	45	46	47	48	49	50	51	52								
Voltage	-23.2	-23.2	-23.2	-23.2	4.7	4.7	0	0	0	1.5	0	2.3								

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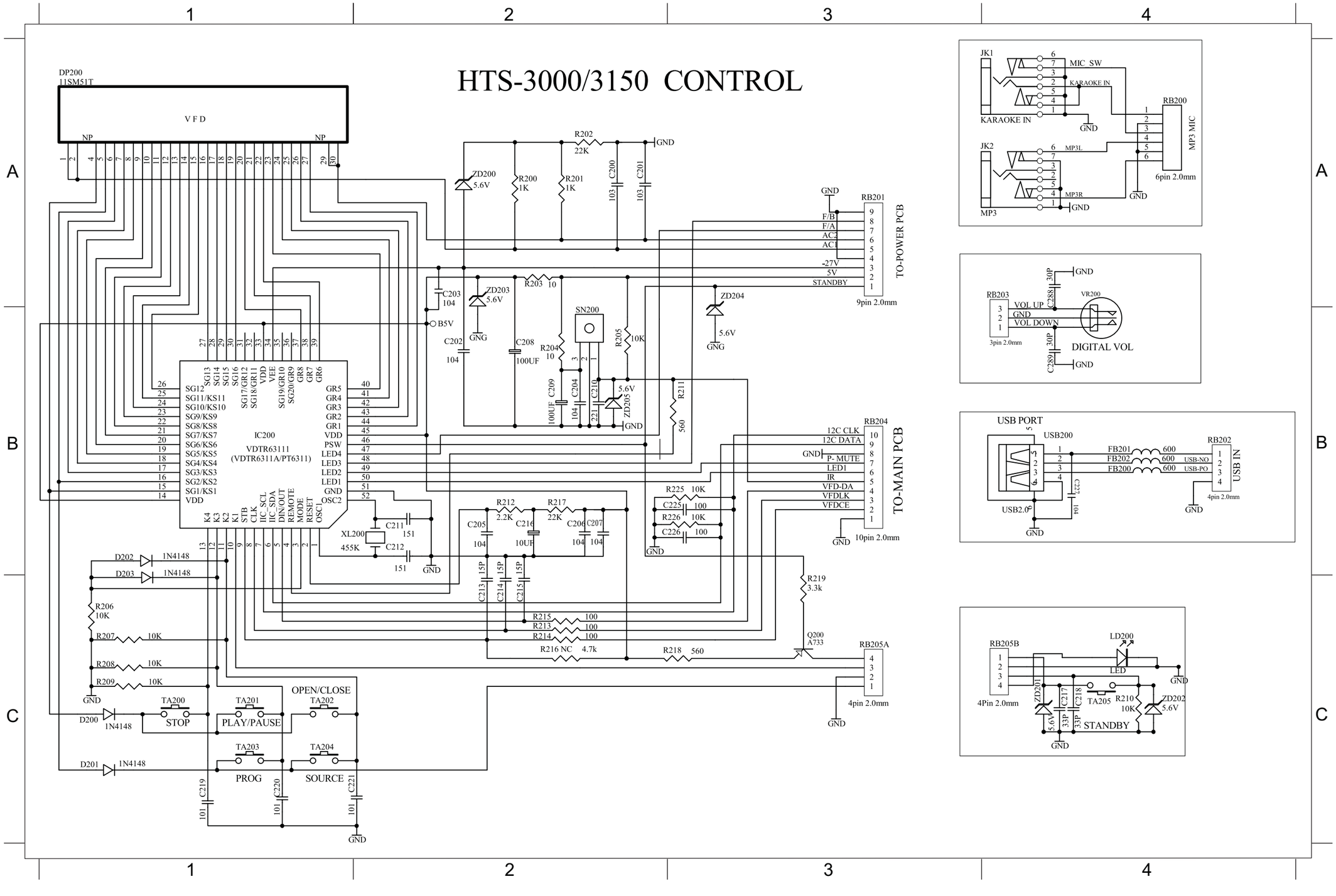
CIRCUIT DIAGRAM

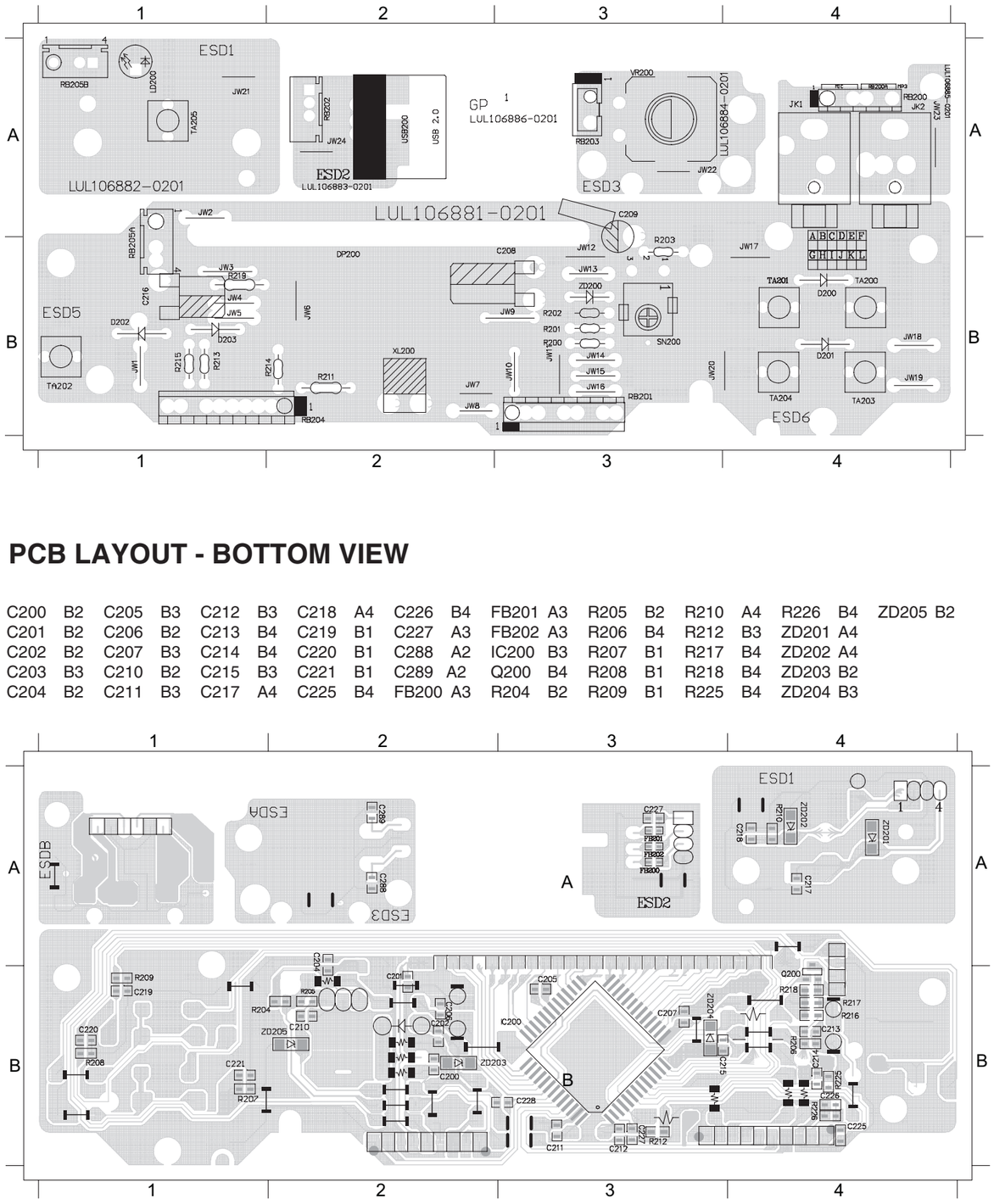
C200	A2	C206	B2	C212	B2	C218	C4	C227	B4	D202	B1	IC200	B1	R202	A2	R208	C1	R214	C2
C201	A2	C207	B2	C213	C2	C219	C1	C288	A4	D203	C1	JK2	A4	R203	A2	R209	C1	R215	C2
C202	B2	C208	B2	C214	C2	C220	C1	C289	B4	DP200	A1	LD200	C4	R204	B2	R210	C4	R217	B2
C203	A2	C209	B2	C215	C2	C221	C2	CN203	B4	FB200	B4	Q200	C3	R205	B2	R211	B3	R218	C3
C204	B2	C210	B2	C216	B2	C225	B3	D200	C1	FB201	B4	R200	A2	R206	C1	R212	B2	R219	C3
C205	B2	C211	B2	C217	C4	C226	B3	D201	C1	FB202	B4	R201	A2	R207	C1	R213	C2	R225	C3

R226	C3	SN200	B2	TA205	C4	ZD202	C4												
RB200	A4	TA200	C1	USB200	B4	ZD203	A2												
RB201	A3	TA201	C1	VR200	A4	ZD204	A3												
RB202	B4	TA202	C1	XL200	B2	ZD205	B2												
RB204	B3	TA203	C1	ZD200	A2														
RB205	C3	TA204	C1	ZD201	C4														



PCB LAYOUT - TOP VIEW

C208	B3	D203	B2	JW13	B3	JW2	A1	JW4	B1	R200	B3	R215	B1	SN200	B3	USB200	A2
C209	A3	DP200	B2	JW14	B3	JW20	B4	JW5	B1	R201	B3	R219	B1	TA200	B4	VR200	A3
C216	B1	JK2	A4	JW15	B3	JW21	A1	JW6	B2	R202	B3	RB200A	A4	TA201	B4	XL200	B2
CN203	A3	JW1	B1	JW16	B3	JW22	A3	JW7	B2	R203	B3	RB201	B3	TA202	B1	ZD200	B3
D200	B4	JW10	B3	JW17	B4	JW23	A4	JW8	B2	R211	B2	RB202	A2	TA203	B4		
D201	B4	JW11	B3	JW18	B4	JW24	A2	JW9	B3	R213	B1	RB204	B1	TA204	B4		
D202	B1	JW12	B3	JW19	B4	JW3	B1	LD200	A1	R214	B2	RB205A	B1	TA205	A1		



PCB LAYOUT - BOTTOM VIEW

C200	B2	C205	B3	C212	B3	C218	A4	C226	B4	FB201	A3	R205	B2	R210	A4	R226	B4	ZD205	B2
C201	B2	C206	B2	C213	B4	C219	B1	C227	A3	FB202	A3	R206	B4	R212	B3	ZD201	A4		
C202	B2	C207	B3	C214	B4	C220	B1	C288	A2	IC200	B3	R207	B1	R217	B4	ZD202	A4		
C203	B3	C210	B2	C215	B3	C221	B1	C289	A2	Q200	B4	R208	B1	R218	B4	ZD203	B2		
C204	B2	C211	B3	C217	A4	C225	B4	FB200	A3	R204	B2	R209	B1	R225	B4	ZD204	B3		

MAIN BOARD

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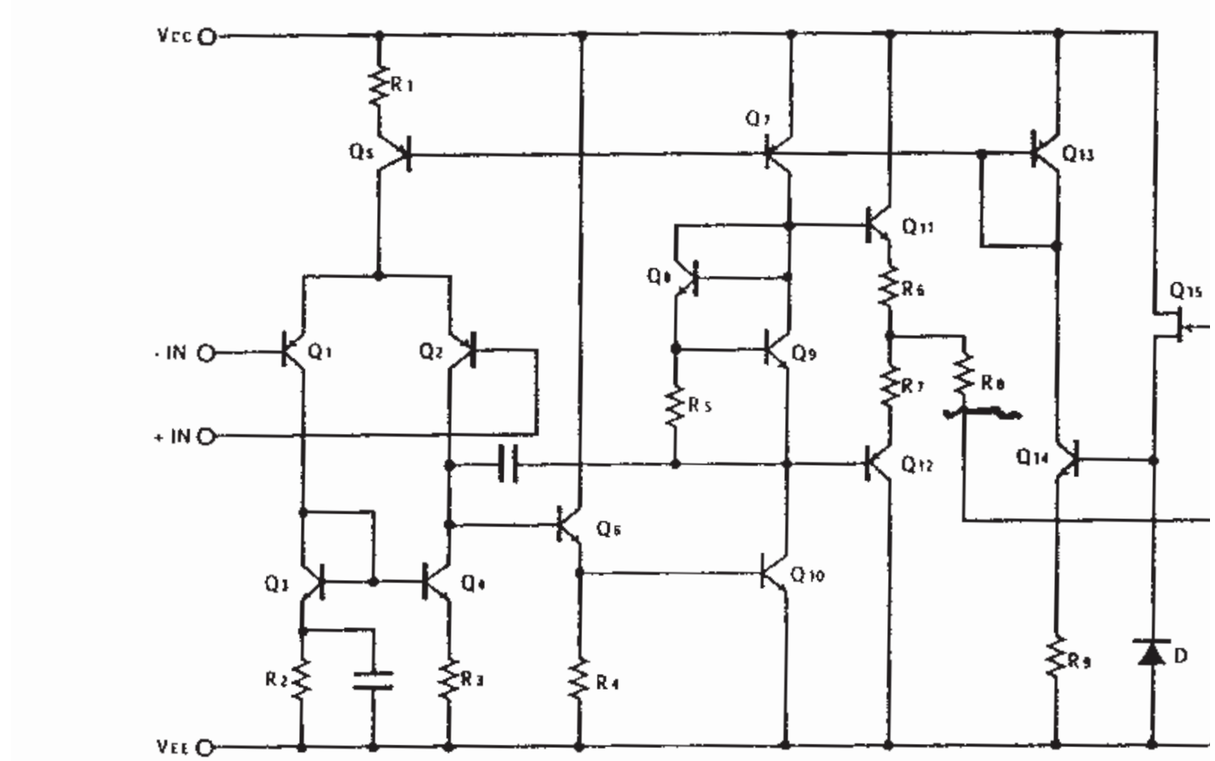
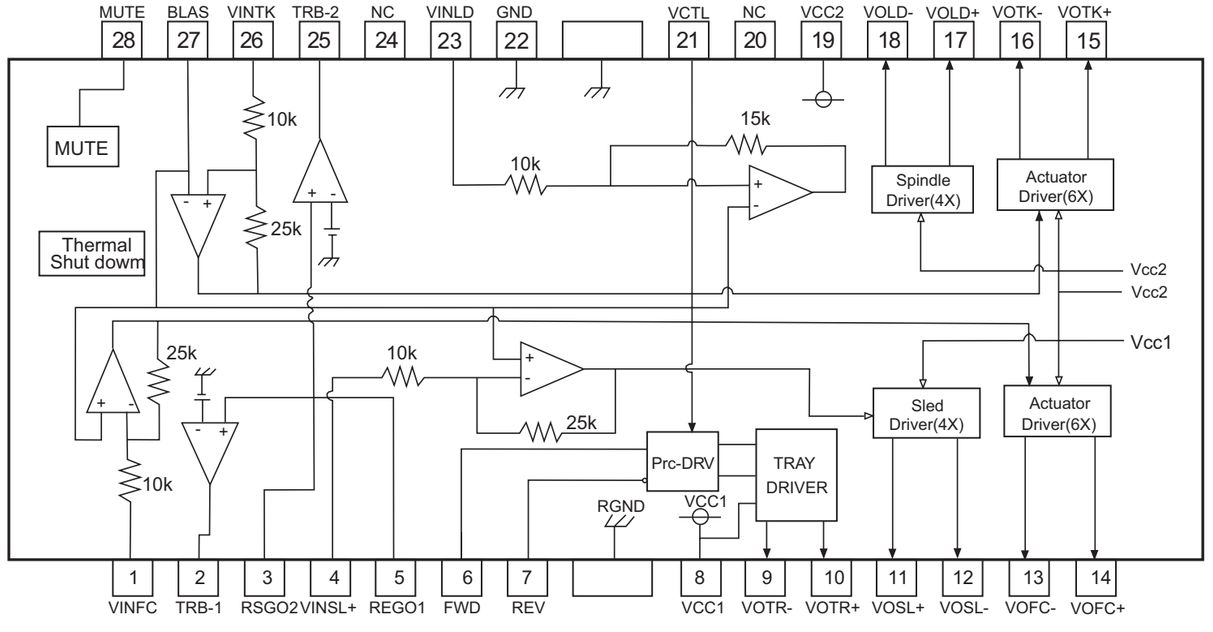
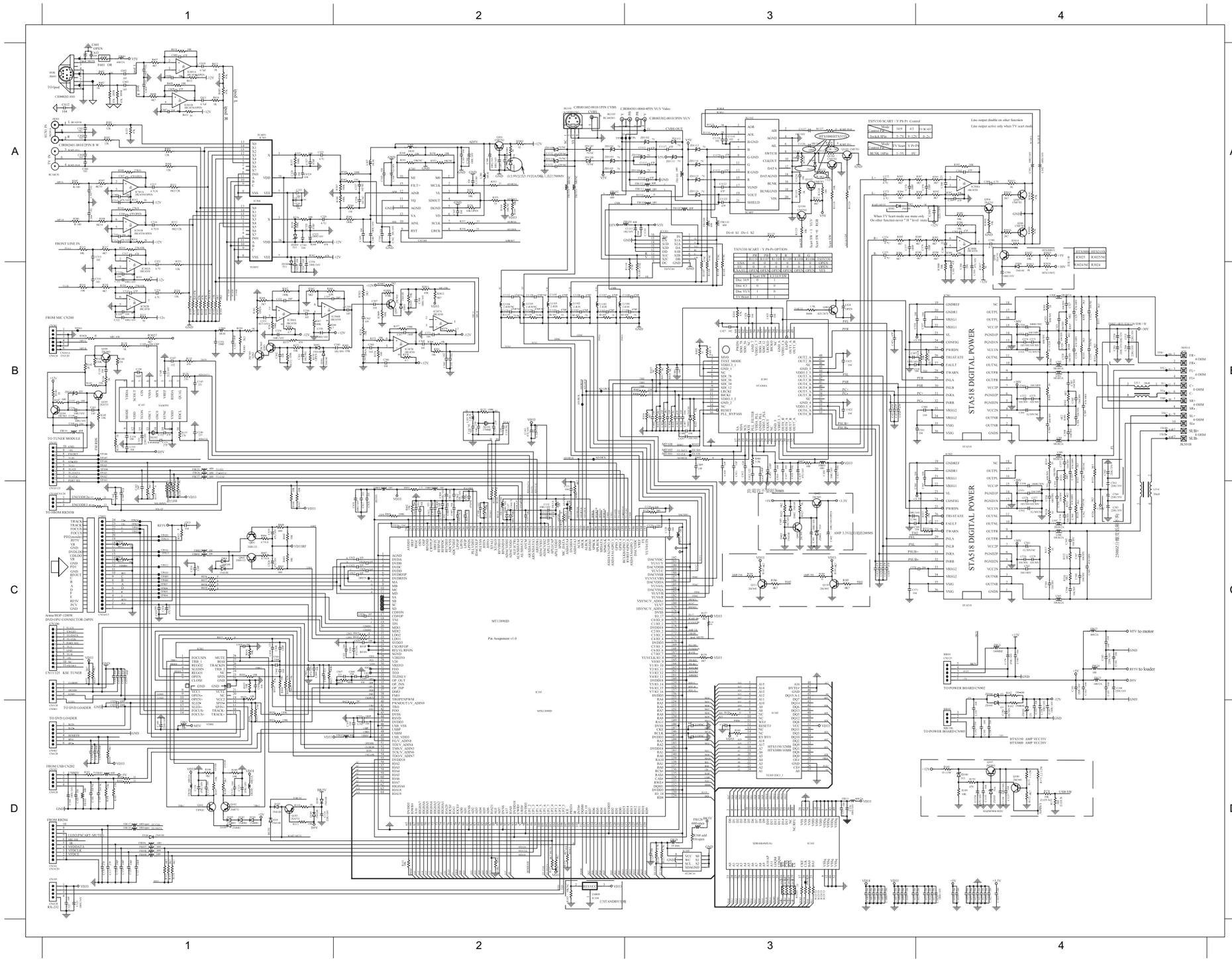
INTERNAL IC DIAGRAM - CO4558A HOSP



INTERNAL IC DIAGRAM - V5888S HOSP



Circuit Diagram



C0329	A1	C181	C4	C439	B3	C826	C2	IC303	A1	R163	D4	R510	B4
C0330	A1	C182	C4	C440	C3	C827	C2	IC304	A1	R165	A2	R511	B4
C0334	B1	C183	C4	C441	C3	C828	C2	IC305	A2	R166	C1	R512	B4
C0335	A1	C184	C4	C502	B4	C829	C2	IC401	B3	R167	C1	R514	B4
C1001	D3	C185	C4	C504	B4	C830	C2	IC501	B4	R169	D4	R515	C4
C1002	D3	C186	C4	C505	B4	C831	C2	IC502	B4	R170	D4	R516	C4
C1003	D3	C188	C4	C506	B4	C833	C1	IC801	C1	R171	D4	R517	C4
C1004	D3	C189	D1	C507	B4	C834	C1	JK1103	A2	R172	D4	R519	B4
C1005	D3	C190	D4	C508	B4	C835	C1	JK301	A1	R173	D4	R520	C4
C1006	D3	C191	D4	C509	B4	C836	C1	JK501	B4	R174	D4	R521	B4
C1007	D3	C193	D4	C520	B4	C838	C1	JK501A	B4	R175	D4	R522	C4
C1008	D3	C194	D4	C521	B4	C839	C1	JK601	A1	R180	C3	R523	B4
C1009	D3	C195	D4	C523	B4	C840	C1	L1101	B2	R181	C3	R524	C4
C101	D2	C196	D4	C524	B4	C841	C1	L1102	B2	R182	D2	R525	B4
C1010	D3	C197	D4	C525	B4	C842	C1	L1103	B2	R183	D2	R526	C4
C1011	D4	C301	A1	C526	B4	C843	C1	L1104	B3	R186	C3	R527	C4
C1012	D3	C302	A1	C527	A4	C844	C1	L302	A2	R187	C3	R532	B4
C1013	D4	C303	A1	C528	B4	C845	C1	L307	A2	R188	C3	R533	C4
C1015	D4	C304	A1	C529	B4	C846	C1	L308	A2	R189	D4	R601	A1
C1016	D4	C305	A1	C530	B4	C847	C2	L501	B4	R3001	A2	R602	A1
C1017	D4	C306	A1	C533	B4	C848	C2	L502	B4	R3002	A2	R603	A1
C1018	D4	C309	A1	C534	B4	C849	C2	L503	B4	R301	A1	R604	A1
C1019	D4	C310	A1	C537	B4	C850	C1	L504	B4	R302	A1	R605	A1
C102	D2	C311	A1	C538	B4	C851	C1	L505	C4	R303	A1	R606	A1
C1020	D4	C312	A1	C539	B4	C852	C1	L506	C4	R304	A1	R607	A1
C1021	D4	C313	A1	C540	B4	C853	C1	L507	C4	R305	A1	R608	A1
C1022	D4	C314	A1	C541	B4	C854	D1	L508	B4	R306	A1	R609	A1
C1023	D4	C315	A1	C542	C4	C855	D1	L511	B4	R307	A1	R610	A1
C1024	D4	C316	B1	C544	C4	C856	D1	L514	B4	R308	A1	R611	A1
C1025	D4	C317	A1	C545	C4	C857	D1	Q101	D1	R309	A1	R612	A1
C1026	D4	C318	B1	C546	C4	C858	D1	Q102	D1	R310	A1	R613	A1
C1027	D4	C319	B1	C547	C4	CN101	D1	Q103	D1	R311	A1	R614	A1
C103	D2	C320	B1	C548	C4	CN102	D1	Q104	B1	R312	A1	R801	C2
C104	D1	C321	B1	C549	C4	CN103	B1	Q107	D4	R313	A1	R802	C2
C105	D1	C322	B1	C550	C4	CN104	C1	Q108	D4	R314	A1	R803	C2
C110	D1	C323	B1	C551	C4	CN301AB	1	Q110	C3	R315	A1	R806	C1
C1101	B2	C324	B1	C553	C4	CN801	C1	Q111	C3	R316	B1	R807	C1
C1102	B2	C325	A1	C554	C4	CN802	D1	Q301	A2	R317	A1	R808	C2
C1103	B2	C326	A1	C555	C4	CN803	D1	Q401	B3	R318	B1	R812	C1
C1104	B3	C327	A1	C556	C4	D101	D1	Q402	C3	R319	A1	R813	C1
C1105	A2	C328	A1	C557	B4	D102	D1	Q403	C3	R320	B1	R814	C1
C1106	A2	C329	A1	C558	C4	D103	D1	Q801	C1	R321	B1	R815	C2
C1107	A2	C330	A1	C559	B4	D104	D1	Q802	C1	R322	B1	R816	C2
C1108	B3	C332	A1	C560	C4	D105	D1	R102	D1	R323	A1	R817	C1
C111	D1	C334	B1	C563	C4	D106	D1	R103	D1	R324	B1	R818	C1
C1110	A3	C335	A1	C564	C4	D107	D1	R104	D1	R325	B1	R819	C1
C1111	A3	C336	A1	C567	C4	D108	D1	R105	D1	R326	B1	R820	C1
C1112	A3	C339	A2	C568	C4	D109	D1	R106	D1	R327	B1	R821	C1
C1113	A3	C340	A2	C569	C4	D401	B3	R107	D1	R328	B1	R822	C1
C1114	A3	C341	A2	C570	C4	D402	C3	R108	D1	R329	B1	R823	C1
C1117	A3	C342	A2	C571	C3	D403	C3	R109	D1	R330	B1	R824	C2
C112	D1	C343	A2	C572	B4	D801	C1	R110	D1	R331	B1	R825	C1
C113	D1	C344	A2	C573	B4	D802	C1	R1101	B2	R332	B1	R826	C1
C1134	D4	C345	A2	C574	B4	F601	A1	R1102	B2	R335	A1	R828	D1
C1135	D4	C346	A2	C575	B4	FB101	D2	R1103	B2	R336	A1	R830	D1
C1136	D4	C347	A2	C576	C4	FB103	D1	R1104	C3	R337	A1	R831	D1
C1137	D4	C348	A2	C577	C4	FB104	D1	R1105	B3	R338	A1	R832	C1
C114	D1	C349	A2	C578	C4	FB105	D1	R1107	B3	R340	A1	R833	C1
C116	D1	C350	A2	C579	C4	FB106	D1	R111	D1	R342	A1	R834	D1
C117	D1	C378	A4	C580	B4	FB107	D1	R1110	A3	R343	A2	R836	C1
C118	D1	C379	A4	C581	B4	FB108	D1	R1114	A3	R344	A2	R837	C1
C119	D1	C401	B3	C582	B4	FB109	D1	R112	D1	R345	A2	R838	C1
C120	D1	C402	B3	C583	C4	FB110	D3	R113	D1	R346	A2	R839	C1
C121	D1	C403	B3	C601	A1	FB1101	A3	R114	D1	R347	A2	R840	C1
C122	D1	C404	B3	C602	A1	FB1102	A2	R115	D2	R348	A2	R841	C1
C123	D1	C405	B3	C603	A1	FB1103	A3	R117	D2	R349	A2	R842	C1
C124	D3	C406	B3	C604	A1	FB111	D3	R118	D2	R350	A2	R843	C1
C125	D3	C407	B3	C605	A1	FB1111	A3	R119	D2	R353	A2	R844	C1
C126	D3	C408	B3	C606	A1	FB1112	A3	R120	D3	R354	A2	RA101	D3
C127	D3	C409	B3	C607	A1	FB112	C3	R121	D3	R355	A2	RB101	C4
C128	C3	C410	B3	C610	A1	FB113	C2	R122	D3	R357	A2	RB102	D4
C129	C3	C411	B3	C611	A1	FB114	C2	R123	D3	R358	A2	XL101	B2
C130	C3	C412	B3	C613	A1	FB115	C2	R124	D3	R401	B3	ZD101	B1
C131	C2	C413	B3	C802	C2	FB116	B1	R125	D3	R402	B3	ZD102	D2
C132	C2	C414	B3	C803	C2	FB121	C4	R126	C3	R403	B3	ZD103	D4
C133	C2	C415	B3	C804	C2	FB122	C4	R127	C3	R404	B3	ZD104	C4
C134	C2	C416	B3	C805	C2	FB123	C4	R128	C3	R405	B3	ZD105	D4
C135	C2	C417	B3	C806	C2	FB124	C4	R129	C2	R406	B3	ZD106	D4
C136	C2	C418	B3	C807	C2	FB125	B1	R130	C2	R407	B3	ZD1101	A2
C137	C2	C419	B3	C808	C2	FB126	B1	R131	C2	R408	B3	ZD1102	A3
C139	B2	C420	B3	C809	C2	FB127	B1	R133	B2	R410	B3	ZD1103	A2
C140	B2	C421	B3	C810	C2	FB128	D3	R134	C2	R416	B3	ZD1104	A3
C142	B2	C422	B3	C811	C2	FB401	B3	R146	B1	R418	B3	ZD1105	A2
C143	B2	C423	B3	C812	C2	FB601	A1	R147	B1	R419	B3	ZD1106	A3
C144	C2	C425	B3	C813	C2	FB801	C2	R148	C3	R421	B3	ZD1111	A3
C157	B1	C426	B3	C814	C2	FB802	C2	R151	C1	R422	B3	ZD1112	A3
C158	B1	C427	B3	C815	C2	FB803	C1	R152	C1	R423	B3	ZD303	B2
C159	B1	C431	B3	C816	C2	FB804	C1	R153	C1	R501	B4	ZD304	A1
C160	B1	C432	B3	C817	C2	FB805	D1	R155	C1	R502	B4	ZD305	A2
C161	B1	C433	B3	C818	C2	IC101	C2	R156	C1	R503	B4	ZD401	C3
C162	C1	C434	B3	C819	C1	IC102	D3	R157	C1	R505	A4		
C165	C1	C435	C3	C820	C1	IC103	D3	R158	C1	R506	B4		
C166	C1	C436	C3	C823	C2	IC104	D2	R159	C3	R507	B4		
C179	C4	C437	C3	C824	C2	IC105	D3	R160	D3	R508	B4		
C180	C4	C438	C3	C825	C2	IC302	B1	R162	C4	R509	B4		

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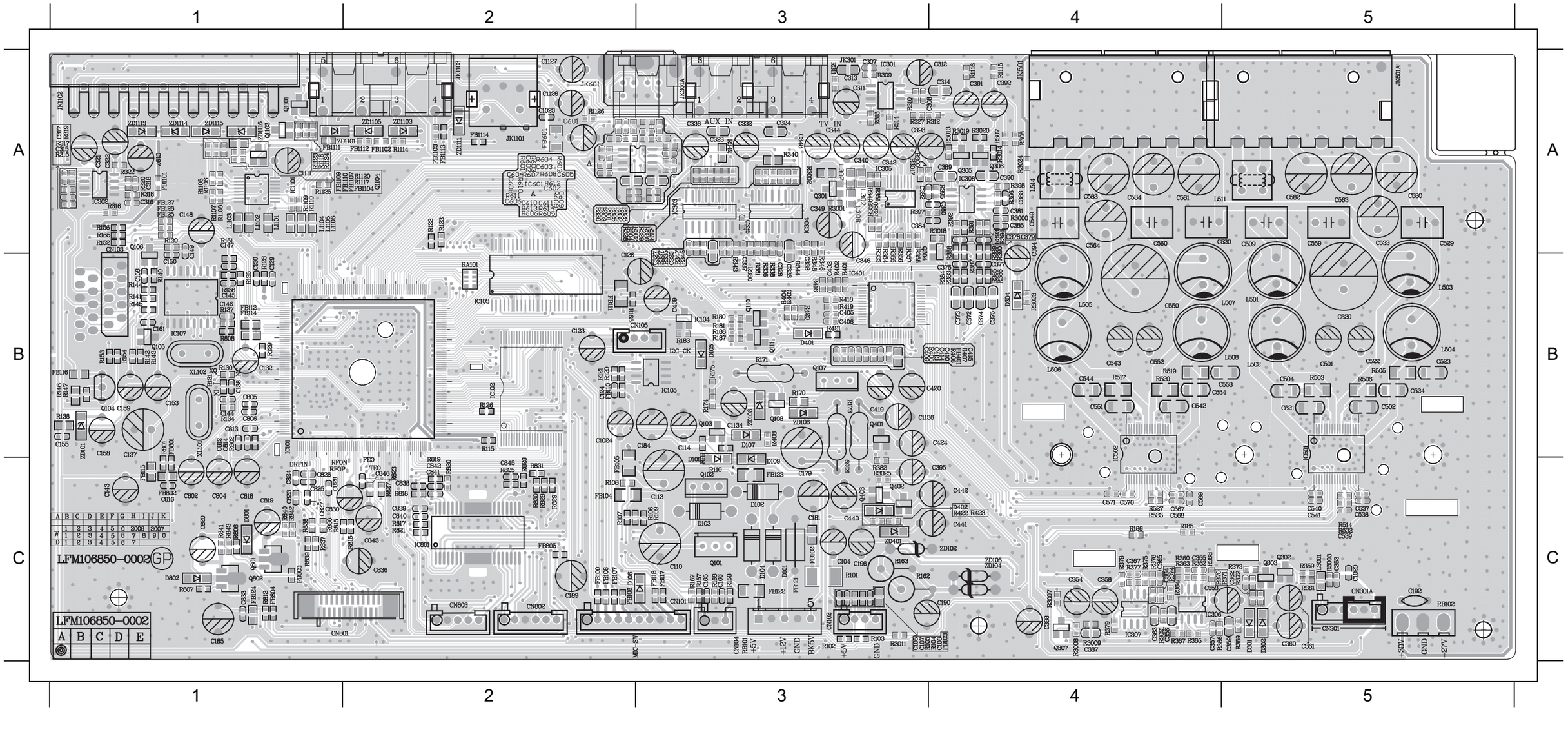
PCB Layout Top View

C1020	C5	C158	B1	C318	A1	C379	A4	C524	B5	C564	A4	C804	C1	C839	C2	D106	C2	FB111	B2	FB805	C2	L1102	A1	Q107	B3	R1107	A1	R155	A1	R188	B3	R320	A1	R346	B3	R419	B3	R607	A2	R821	C2	ZD102	C4
C1023	A2	C159	B1	C321	A1	C402	B3	C529	A5	C567	C4	C805	B1	C840	C2	D107	B3	FB1111	A1	IC101	B1	L1103	A1	Q108	B3	R111	C3	R156	A1	R3001	A3	R322	A1	R347	B3	R421	B3	R608	A2	R823	C2	ZD103	B3
C1024	B2	C161	B1	C322	A1	C405	B3	C530	A4	C568	C4	C806	B1	C841	C2	D108	C3	FB1112	A2	IC102	B2	L1104	A1	Q110	B3	R1110	A1	R157	C3	R3002	A3	R323	A2	R348	B3	R422	C4	R609	A2	R825	C2	ZD104	C4
C104	A3	C165	C3	C323	A3	C406	B3	C533	A5	C569	C4	C812	B1	C842	C2	D109	C3	FB112	B1	IC103	B2	L302	A3	Q111	B3	R1114	A2	R158	C3	R301	A2	R324	A3	R349	A3	R423	C4	R610	A2	R826	C2	ZD105	C4
C105	C3	C166	C3	C324	A3	C409	B3	C534	A4	C570	C4	C813	B1	C843	C2	D401	B3	FB114	B1	IC104	B3	L307	A3	Q301	A3	R115	B2	R162	C3	R302	A3	R325	A2	R350	A3	R503	B5	R611	A2	R828	C2	ZD106	B3
C110	C3	C179	C3	C325	B3	C410	B4	C537	C5	C571	C4	C814	B1	C845	C2	D402	C4	FB115	C1	IC105	B3	L308	A3	Q401	B3	R120	B2	R163	C3	R303	A2	R326	A3	R353	B3	R505	B5	R612	A2	R830	C2	ZD1101	A2
C1111	A1	C181	C3	C326	B3	C413	B4	C538	C5	C580	A5	C816	C1	C846	C2	D801	C1	FB116	B1	IC302	A1	L501	A5	Q402	C3	R121	B2	R165	B2	R304	A2	R327	A3	R354	B3	R506	B5	R613	A2	R831	C2	ZD1103	A2
C113	C3	C184	B3	C327	B3	C414	B4	C539	C5	C581	A4	C818	C1	CN101	C3	D802	C1	FB121	C3	IC303	A3	L502	B5	Q403	C3	R122	A2	R166	C3	R307	A4	R328	A2	R355	B3	R514	C5	R614	A2	R836	C1	ZD1105	A2
C1134	B3	C185	C1	C328	B3	C415	B4	C540	C5	C582	A5	C819	C1	CN102	C3	FB101	A1	FB122	C3	IC304	A3	L503	B5	Q801	C1	R123	A2	R167	C3	R308	A4	R329	A3	R357	B3	R517	B4	R801	B1	R837	C1	ZD1106	A2
C1136	B3	C189	C2	C332	A3	C419	B3	C541	C5	C583	A4	C820	C1	CN103	A1	FB103	C4	FB123	C3	IC305	A3	L504	B5	Q802	C1	R126	B2	R169	C3	R309	A3	R330	A2	R358	B3	R519	B4	R802	B1	R838	C1	ZD1111	A2
C114	B3	C190	C4	C335	A3	C420	B4	C542	B4	C601	A2	C823	C1	CN104	C3	FB104	C2	FB124	C1	IC401	B3	L505	B4	R102	C3	R128	B1	R170	B3	R310	A3	R332	A2	R401	B3	R520	B4	R806	C1	R839	C1	ZD401	C3
C123	B2	C196	C3	C336	A3	C439	B3	C544	B4	C602	A2	C824	C1	CN301A	C5	FB105	C2	FB125	A1	IC501	B5	L506	B4	R103	C3	R129	B1	R171	B3	R311	A3	R335	B3	R402	B3	R527	C5	R807	C1	R840	C1		
C124	B3	C197	A1	C340	A3	C440	C3	C549	A4	C603	A2	C825	C1	CN801	C1	FB106	C2	FB126	A1	IC502	B4	L507	B4	R104	C4	R130	B1	R173	B3	R312	A4	R336	B3	R403	B3	R532	C5	R808	B1	R841	C1		
C126	B2	C311	A3	C342	A3	C441	C4	C550	B4	C604	A2	C826	C1	CN802	C2	FB107	C2	FB127	A1	IC801	C2	L508	B4	R105	C3	R131	B1	R174	B3	R313	A3	R337	B3	R404	B3	R533	C4	R812	C1	R842	C1		
C129	B1	C312	A4	C344	A3	C502	B2	C551	B4	C605	A2	C827	C1	CN803	C2	FB108	C2	FB401	B4	JK1103	A2	L511	A4	R106	C3	R134	B1	R175	B3	R314	A3	R338	B3	R405	B4	R601	A2	R815	C1	R843	C1		
C130	B1	C313	A3	C346	B3	C504	B5	C553	B4	C606	A2	C828	C1	D101	C3	FB109	C2	FB601	A2	JK301	A3	L514	A4	R107	C2	R146	B1	R180	B3	R315	A1	R340	A3	R406	B4	R602	A2	R816	C2	RA101	B2		
C132	B1	C314	A4	C347	A3	C509	A5	C554	B4	C607	A2	C830	C1	D102	C3	FB110	B2	FB801	B1	JK501	A4	Q101	C3	R108	C2	R147	B1	R181	B3	R316	A1	R342	A3	R407	B4	R603	A2	R817	C2	RB101	C3		
C137	B1	C315	A1	C348	A3	C520	B5	C559	A5	C610	A2	C833	C1	D103	C3	FB1101	A1	FB802	C1	JK501A	A5	Q102	C3	R109	C3	R151	A1	R183	B3	R317	A1	R343	B3	R408	B3	R604	A2	R818	C2	RB102	C5		
C143	C1	C316	A1	C349	A3	C521	B5	C560	A4	C611	A2	C836	C2	D104	C3	FB1102	A2	FB803	C1	JK601	A2	Q103	B3	R110	C3	R152	A1	R186	C4	R318	A1	R344	B3	R416	B3	R605	A2	R819	C2	XL101	B1		
C144	B1	C317	A1	C378	A4	C523	B5	C563	A5	C802	C1	C838	C2	D105	B3	FB1103	A2	FB804	C1	L1101	A1	Q104	B1	R1105	A1	R153	B1	R187	B3	R319	A1	R345	B3	R418	B3	R606	A2	R820	C2	ZD101	B1		



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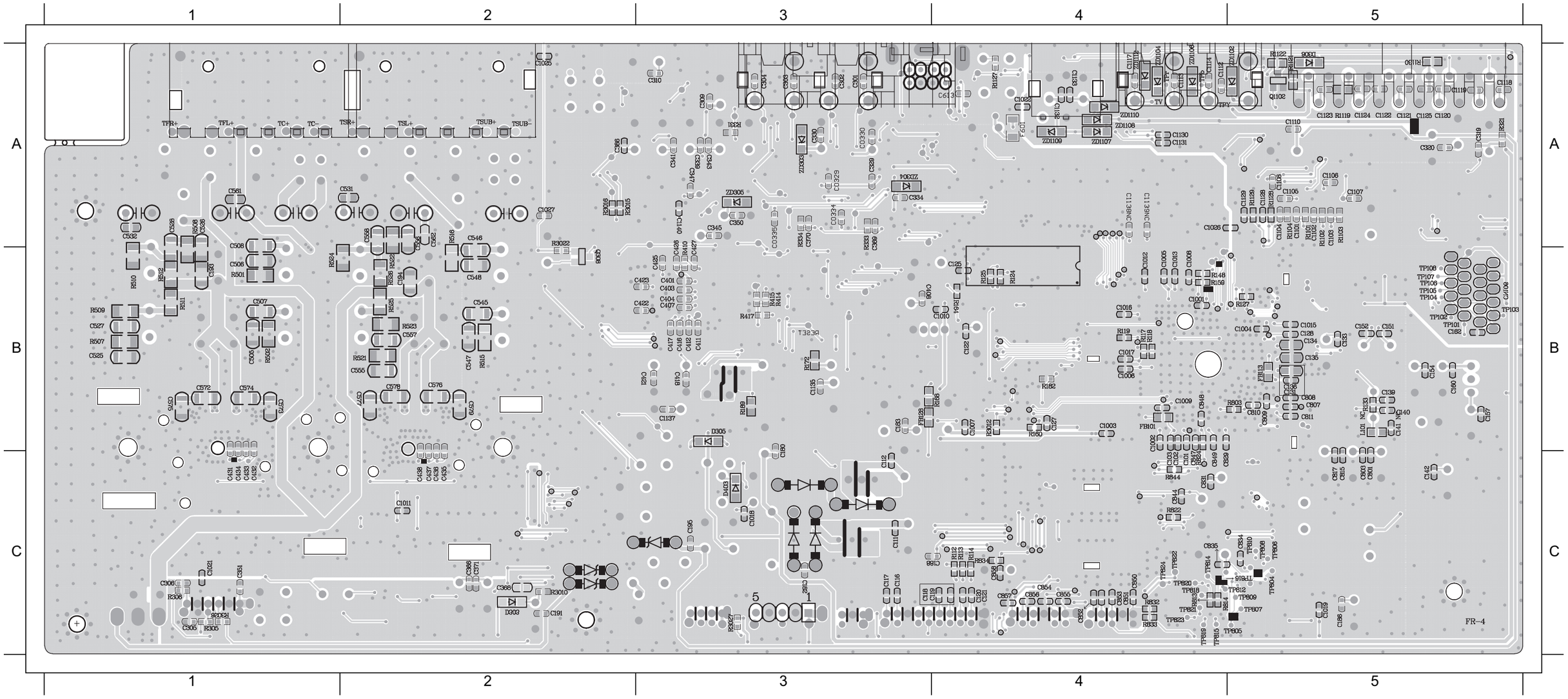
PCB Layout Bottom View

C0329	A3	C1007	B4	C1017	B4	C1101	A5	C1112	A4	C119	C4	C135	B5	C183	B3	C304	A3	C339	A3	C411	B3	C427	B3	C506	B1	C548	B2	C577	B2	C815	C5	C850	C4	F601	A4	R117	B4	R172	B3	R507	B1	R523	B2	R833	C4
C0330	A3	C1008	B4	C1018	C3	C1102	A5	C1113	A4	C120	C4	C136	B5	C186	C5	C305	C1	C341	A3	C412	B3	C431	C1	C507	B1	C555	B2	C578	B2	C817	C5	C851	C4	FB113	B5	R118	B4	R182	B4	R508	A1	R524	B1	R834	C4
C0334	A3	C1009	B4	C1019	C5	C1103	A5	C1114	A4	C121	C4	C139	B5	C188	C4	C306	C1	C343	A3	C416	B3	C432	C1	C508	B1	C556	A2	C579	B2	C829	C5	C852	C4	FB128	B3	R119	B4	R189	B3	R509	B1	R525	B2	R844	C5
C0335	A3	C101	C4	C102	C4	C1104	A5	C1117	A4	C122	B4	C140	B5	C191	C2	C309	A3	C345	A3	C417	B3	C433	C1	C525	B1	C557	B2	C613	A4	C831	C4	C853	C4	R1101	A5	R124	B4	R305	C1	R510	B1	R526	B2	ZD1102	A5
C1001	B4	C1010	B4	C1021	C1	C1105	A5	C112	C3	C125	B4	C142	C5	C193	B1	C310	A3	C350	A3	C418	B3	C434	C1	C526	A1	C558	A2	C803	C5	C834	C5	C854	C4	R1102	A5	R125	B4	R306	C1	R511	B1	R803	B5	ZD1104	A4
C1002	B4	C1011	C2	C1022	A4	C1106	A5	C1135	B3	C127	B4	C157	B5	C194	B2	C319	A5	C401	B3	C421	B3	C435	C2	C527	B1	C572	B1	C807	B5	C835	C4	C855	C4	R1103	A5	R127	B5	R321	A5	R512	B1	R813	C4	ZD1112	A4
C1003	B4	C1012	B4	C1025	A2	C1107	A5	C1137	B3	C128	B5	C160	B5	C195	C3	C320	A5	C403	B3	C422	B3	C436	C2	C528	A1	C573	B1	C808	B5	C844	C4	C856	C4	R1104	A5	R133	B5	R331	A3	R515	B2	R814	C4	ZD303	A3
C1004	B5	C1013	B4	C1026	A4	C1108	A5	C116	C3	C131	B5	C162	B5	C301	A3	C329	A3	C404	B3	C423	B3	C437	C2	C545	B2	C574	B1	C809	B5	C847	C4	C857	C4	R112	C4	R148	B4	R410	A3	R516	A2	R822	C5	ZD304	A3
C1005	B4	C1015	B5	C1027	A2	C111	C3	C117	C3	C133	B5	C180	C3	C302	A3	C330	A3	C407	B3	C425	B3	C438	C2	C546	A2	C575	B1	C810	B5	C848	B4	C858	C4	R113	C4	R159	B4	R501	B1	R521	B2	R824	C4	ZD305	A3
C1006	B4	C1016	B4	C103	C4	C1110	A5	C118	C3	C134	B5	C182	C3	C303	A3	C334	A3	C408	B3	C426	B3	C505	B1	C547	B2	C576	B2	C811	B5	C849	C4	D403	C3	R114	C4	R160	B4	R502	B1	R522	B2	R832	C4		



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Voltage

IC101(MT1389FXE)																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	0	0.1	0.1	0.1	0.1	1.6	1.6	2.1	1.9	1.9	1.8	0	0	0.9	0.9	1	1	1.9	1.5	0
Pin NO	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Voltage	0.8	3.2	3.2	3.2	2.7	3.1	0	2.7	2	1.3	1.3	1.5	1.5	2.4	2.4	2.2	1.3	1.3	0	1.3
Pin NO	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Voltage	1.3	1.3	0	1.8	3.3	0	0	0	3.3	2.2	3.2	0	0	3.2	1.9	1.9	1.8	1.9	2.1	1.8
Pin NO	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Voltage	1.5	1.4	1.6	0	3.3	3.3	0.3	1.5	2	1.9	2.5	1.7	0.7	1.6	0	0	2	0	1.5	1.5
Pin NO	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
Voltage	0	1.3	1.2	1.6	1.8	1.7	0	1.1	1.8	0	1.3	1.9	1.8	0.6	3.2	3.3	0	3.1	3.1	3.1
Pin NO	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
Voltage	3.2	3.2	5	3.1	2.2	3.3	0	3.3	3.8	2.2	2.7	0	2.1	0.7	0.5	1.1	1.5	3.3	1.5	1.5
Pin NO	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
Voltage	1.6	1	1.9	1.7	1.6	0.8	0.8	1.8	0.7	1.6	3.3	2.7	3.2	3	3.1	2.9	1.5	1.3	0.1	0.2
Pin NO	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
Voltage	1.4	1.8	1.4	1.4	3.3	1.5	3.3	0	0	0	0	1.6	2	1.9	1.4	3.3	0.5	0.1	0.2	1.8
Pin NO	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
Voltage	1.6	0.2	0.2	0.2	1.3	0.5	3.3	2.9	2.9	3.3	2.6	2.9	2.6	1.8	3.3	0	1.7	0	3.1	3.4
Pin NO	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
Voltage	3.1	0	0	0	0	3.3	0	0	3.3	3.3	0	0	2	1.2	1.2	3.3	0	3.2	3.2	3.1
Pin NO	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220
Voltage	3.1	0	0	2.5	0	5	5	3.3	1.5	1.6	1.5	0	1.8	1.9	2	0	3.3	3.3	0	0.1
Pin NO	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240
Voltage	0	0	0	0	1.6	0	3.2	3.8	3.3	3.3	0	1.8	0	0.4	0.9	0.9	0	0	3.2	3
Pin NO	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256				
Voltage	0.5	1.6	1.3	3.2	0	3.2	0.5	1.3	3.2	1.4	0	1.6	1.6	1.1	0.8	3.2				

IC102(EN29LV320B-70TCP)																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	2.6	0	3	0	0	0.6	0.7	1.3	1.8	0	0	3.2	0.1	0	0	2.7	0.2	0	0.3	1.8
Pin NO	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Voltage	1.7	2	0	0	2	0	0	0	1.5	0.2	1.6	0.2	1.1	0.1	1.2	0.2	3.2	1.5	0.2	1.8
Pin NO	41	42	43	44	45	46	47	48												
Voltage	0	1.6	0	0	1.9	0	0	2.8												

IC103(K4S641632K-UC60)																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	3.2	1.5	3.1	0.5	0.4	0	1.1	1.3	3.2	0	0.7	0	0.7	3.2	0	2.6	3.2	3.2	3.2	3.2
Pin NO	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Voltage	1.2	0	0	1.4	1.3	0.2	3.2	0	1.6	2.1	2.2	0.6	0	0	0	0	3.2	2.5	2.5	0
Pin NO	41	42	43	44	45	46	47	48	49	50	51	52	53	54						
Voltage	0	0.5	3.2	1.6	0.4	0	0	0.3	3.2	0.4	0	0	0.2	0						

IC104(AZ809NSTR-E1)																				
Pin NO	1	2	3																	
Voltage	0	3.2	3.2																	

IC105(TU24C16CS2)																				
Pin NO	1	2	3	4	5	6	7	8												
Voltage	0	0	0	0	4.4	4.4	0	3.3												

IC302(4558 SOP8)																				
Pin NO	1	2	3	4	5	6	7	8												
Voltage	0	0	0	-11.9	0	0	0	10.9												

IC303(CD4051BM)																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Voltage	0	0	0	0	0	0	-5.6	0	3.3	0	0	0	0	0	0	5.6				

IC304(CD4051BM)																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Voltage	0	0	0	0	0	0	-5.6	0	3.3	0	0	0	0	0	0	5.6				

IC305(CS5340-CZ)																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Voltage	5	1.6	5	1.8	0	4.9	1.6	1.6	3.3	2.5	2.5	2.4	4.9	0	1.5	5				

IC401(STA308A)																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	0	0	3.2	0	0	0	1.2	1.2	1.2	1.6	1.6	3.2	0	0	3.2	0	0	4.4	4.3	1.6
Pin NO	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Voltage	0.9	3.2	0	3.2	0	0	0	3.2	0	0.2	0	0.4	0.2	0.2	3.2	0	0	0.2	0.2	1.6
Pin NO	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Voltage	1.5	1.6	3.1	0	0	0	0	1.6	1.6	1.6	3.2	2.9	0	0	1.7	1.5	1.2	2.9	0	0
Pin NO	61	62	63	64																
Voltage	1.2	1.2	1.2	3.2																

IC501(STA518)																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	0	1.8	1.8	30.9	0	0	30.9	1.8	1.8	15.2	15.2	30.9	0	0	30.9	15.2	15.2	0	0	0
Pin NO	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36				
Voltage	0	0	3.3	0	3.2	0.5	0.5	3.2	1.6	1.6	1.6	1.6	0	0	0	0				

IC502(STA518)																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	0	1.8	1.8	30.9	0	0	30.9	1.8	1.8	15.2	15.2	30.9	0	0	30.9	15.2	15.2	0	0	0
Pin NO	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36				
Voltage	0	0	3.3	0	3.2	0.5	0.5	3.2	1.6	1.6	1.6	1.6	0	0	0	0				

IC801(V5888S)																				
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Voltage	1.4	3.7	1.2	1.4	1.2	0	0	5.1	0	0	3.5	1.5	2.3	2.7	2.1	2.8	2.8	2.3	5.2	0.5

Q101			
Pin NO	b	c	e
Voltage	3.7	3.4	4.4

Q102			
Pin NO	b	c	e
Voltage	2.2	1.8	2.8

Q103			
Pin NO	b	c	e
Voltage	5.2	0.1	4.8

Q104(2SC945P)			
Pin NO	b	c	e
Voltage	9.9	1.3	9.1

Q107			
Pin NO	b	c	e
Voltage	5.6	11.1	5

Q108			
Pin NO	b	c	e
Voltage	5	5	5.6

Q110			
Pin NO	b	c	e
Voltage	0	3.3	0

Q111			
Pin NO	b	c	e
Voltage	3.2	3.2	0

Q301			
Pin NO	b	c	e
Voltage	5.6	10.7	5

Q401			
Pin NO	b	c	e
Voltage	0	0	0

Q402			
Pin NO	b	c	e
Voltage	1	0	0

Q403			
Pin NO	b	c	e
Voltage	0	0	0

Q801			
Pin NO	b	c	e
Voltage	3.2	0	3.1

Q802			
Pin NO	b	c	e
Voltage	2.2	1.9	2.9

POWER BOARD

TABLE OF CONTENTS

VOLTAGE

IC901(AP3843GMTR E1)																			
Pin NO	1	2	3	4	5	6	7	8											
Voltage	0 1	0 1	0 1	0 2	0 1	8	0 1	0 1											

IC902																			
Pin NO	1	2	3	4															
Voltage	5	4 4	0 2	0 1															

IC903																			
Pin NO	1	2	3	4															
Voltage	4 6	3 6	0 2	0 1															

IC904(AZ431AZ A)																			
Pin NO	1	2	3																
Voltage	3 6	3 6	2 5																

IC904(TL431 TO 92)																			
Pin NO	1	2	3																
Voltage	3 6	3 6	2 5																

IC905(AZ7500BP E1)																			
Pin NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
Voltage	4 8	4 9	3 2	0	1 6	3 4	0	10 9	0 7	0 7	10 9	10 9	4 9	4 9	2 4	0			

Q901			
Pin NO	b	c	e
Voltage	-0.8	-0.8	-0.8

Q902			
Pin NO	b	c	e
Voltage	2.8	2.8	2.8

Q903			
Pin NO	b	c	e
Voltage	2.9	-1.9	-6.3

Q904			
Pin NO	b	c	e
Voltage	-0.01	-0.02	-0.01

Q905			
Pin NO	b	c	e
Voltage	0	3.4	0

Q906			
Pin NO	b	c	e
Voltage	0	3.4	0

Q907			
Pin NO	b	c	e
Voltage	-0.5	-1.6	-0.3

Q908			
Pin NO	b	c	e
Voltage	-1.6	-1.8	-1.8

Q909			
Pin NO	b	c	e
Voltage	-1.6	-3.9	-0.2

Q910			
Pin NO	b	c	e
Voltage	0.8	0	0.7

Q911			
Pin NO	b	c	e
Voltage	0.8	0	0.7

Q912			
Pin NO	b	c	e
Voltage	-0.2	-0.08	-0.25

Q913			
Pin NO	b	c	e
Voltage	0.2	0.8	-0.02

Q914			
Pin NO	b	c	e
Voltage	34.8	34.8	5

Q915			
Pin NO	b	c	e
Voltage	4.7	0	0

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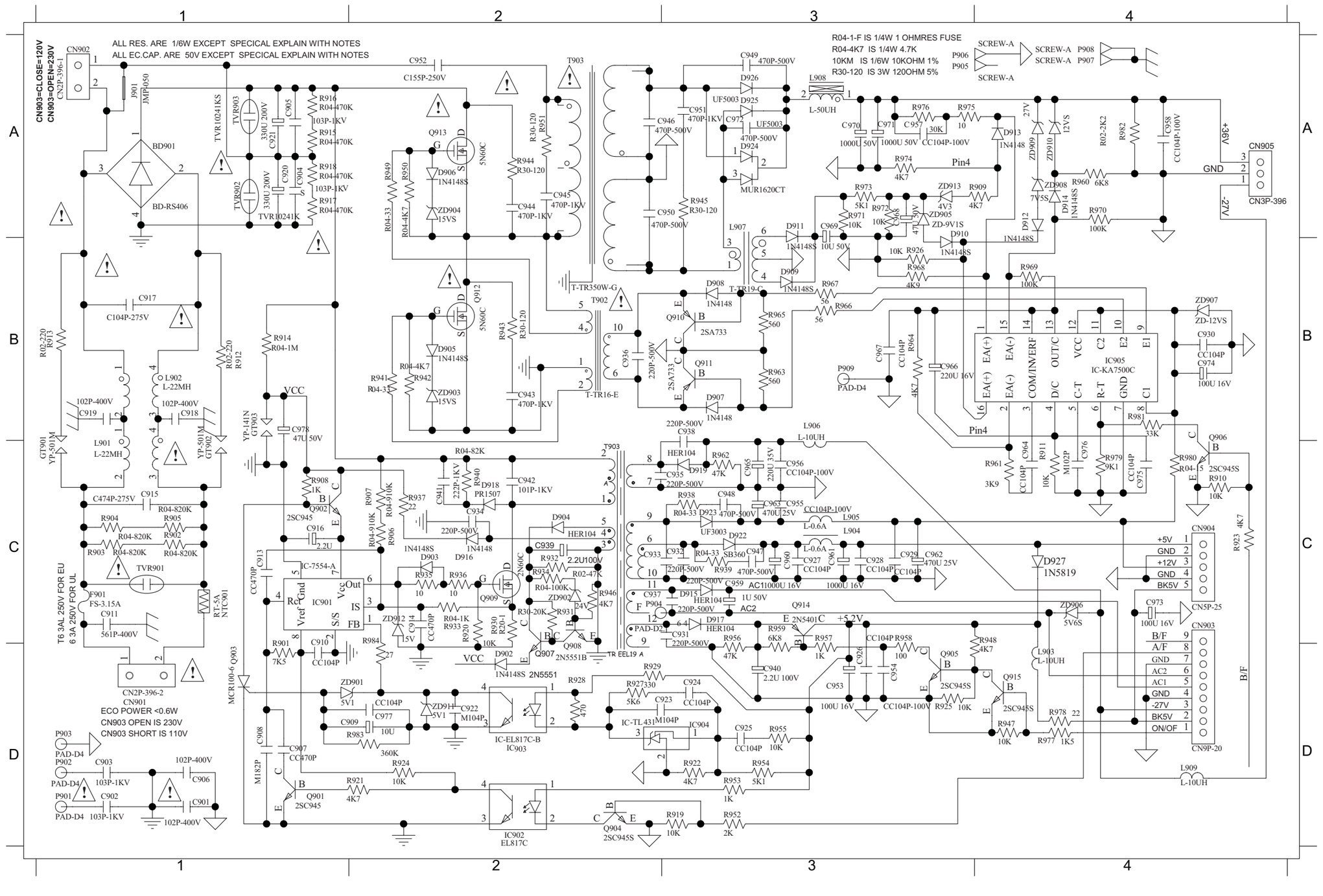
CIRCUIT DIAGRAM

BD901	A1	C913	C1	C925	D3	C937	C2	C949	A3	C962	C3	C975	C4	D905	B2	D918	C2	IC904	D3	Q901	D1	Q913	A2	R910	C4	R923	C4	R935	C2	R947	D4	R959	D3	R971	A3	R983	D2	ZD906	C4
C901	D1	C914	C2	C926	D3	C938	C3	C950	A2	C963	C3	C976	C4	D906	A2	D919	C3	IC905	B4	Q902	C1	Q914	C3	R911	C4	R924	D2	R936	C2	R948	D4	R960	A4	R972	A3	R984	D2	ZD907	B4
C902	D1	C915	C1	C927	C3	C939	C2	C951	A3	C964	C4	C977	D2	D907	B3	D922	C3	L901	C1	Q903	D1	Q915	D4	R912	B1	R925	D3	R937	C2	R949	A2	R961	C4	R973	A3	R985	C3	ZD908	A4
C903	D1	C916	C1	C928	C3	C940	D3	C952	A2	C965	C3	C978	B1	D908	B3	D923	C3	L902	B1	Q904	D2	R901	D1	R914	B1	R926	B3	R938	C3	R950	A2	R962	C3	R974	A3	T901	A2	ZD909	A4
C904	A1	C917	B1	C929	C3	C941	C2	C954	D3	C966	B3	CN901	D1	D909	B3	D925	A3	L903	D4	Q905	D3	R902	C1	R915	A1	R927	D2	R939	C3	R951	A2	R963	C3	R975	A3	T902	B2	ZD910	A4
C905	A1	C918	B1	C930	B4	C942	C2	C955	C3	C967	B3	CN902	A1	D910	B3	D926	A3	L904	C3	Q906	C4	R903	C1	R916	A1	R928	D2	R940	C2	R952	D3	R964	B3	R976	A3	T903	C2	ZD911	D2
C906	D1	C919	B1	C931	C3	C943	B2	C956	C3	C968	A3	CN903	D4	D911	A3	D927	C4	L905	C3	Q907	D2	R904	C1	R917	A1	R929	D2	R941	B2	R953	D3	R965	B3	R977	D4	TVR901	C1	ZD913	A3
C907	D1	C920	A1	C932	C3	C944	A2	C957	A3	C969	A3	CN904	C4	D912	A4	F901	C1	L906	B3	Q908	C2	R905	C1	R918	A1	R930	C2	R942	B2	R954	D3	R966	B3	R978	D4	ZD901	D1		
C908	D1	C921	A1	C933	C2	C945	A2	C958	A4	C971	A3	CN905	A4	D914	A4	GT902	C1	L907	B3	Q909	C2	R906	C2	R919	D3	R931	C2	R943	B2	R955	D3	R967	B3	R979	C4	ZD902	C2		
C909	D1	C922	D2	C934	C2	C946	A2	C959	C3	C972	A3	D902	D2	D915	C3	IC901	C1	L908	A3	Q910	B3	R907	C2	R920	C2	R932	C2	R944	A2	R956	D3	R968	B3	R980	C4	ZD903	B2		
C910	D1	C923	D3	C935	C3	C947	C3	C960	C3	C973	C4	D903	C2	D916	C2	IC902	D2	L909	D4	Q911	B3	R908	C1	R921	D2	R933	C2	R945	A3	R957	D3	R969	B4	R981	B4	ZD904	A2		
C911	C1	C924	D3	C936	B2	C948	C3	C961	C3	C974	B4	D904	C2	D917	C3	IC903	D2	NTC901	C1	Q912	B2	R909	A4	R922	D3	R934	C2	R946	C2	R958	D3	R970	A4	R982	A4	ZD905	A3		



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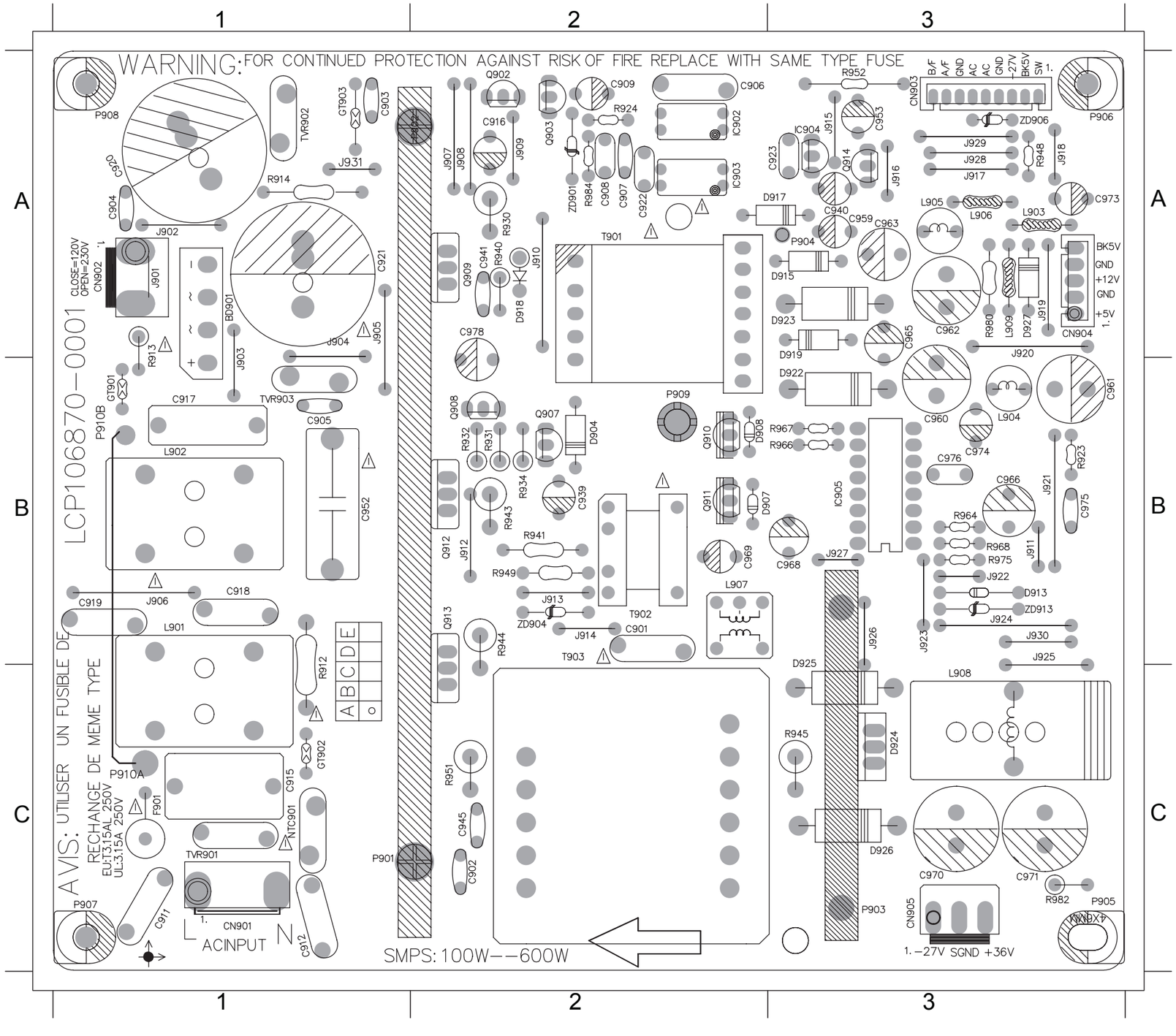
PCB LAYOUT - TOP VIEW

BD901	A1	C909	A2	C922	A2	C961	B3	C974	B3	D904	B2	D925	C3	J901	A1	J910	A2	J919	A3
C901	B2	C911	C1	C923	A3	C962	A3	C975	B3	D907	B2	D926	C3	J902	A1	J911	B3	J920	A3
C902	C2	C915	C1	C939	B2	C963	A3	C976	B3	D908	B2	D927	A3	J903	A1	J912	B2	J921	B3
C903	A1	C916	A2	C940	A3	C965	A3	C978	A2	D915	A3	F901	C1	J904	A1	J913	B2	J922	B3
C904	A1	C917	B1	C941	A2	C966	B3	CN901	C1	D917	A3	GT902	C1	J905	A1	J914	B2	J923	B3
C905	B1	C918	B1	C945	C2	C968	B3	CN902	A1	D918	A2	IC902	A2	J906	B1	J915	A3	J924	B3
C906	A2	C919	B1	C952	B1	C969	B2	CN903	A3	D919	A3	IC903	A2	J907	A2	J916	A3	J925	B3
C907	A2	C920	A1	C959	A3	C971	C3	CN904	A3	D922	B3	IC904	A3	J908	A2	J917	A3	J926	B3
C908	A2	C921	A1	C960	B3	C973	A3	CN905	C3	D923	A3	IC905	B3	J909	A2	J918	A3	J927	B3

J928	A3	L906	A3	Q909	A2	R923	B3	R944	B2	R968	B3	ZD901	A2						
J929	A3	L907	B2	Q910	B2	R924	A2	R945	C2	R975	B3	ZD904	B2						
J930	B3	L908	C3	Q911	B2	R930	A2	R948	A3	R980	A3	ZD906	A3						
J931	A1	L909	A3	Q912	B2	R931	B2	R949	B2	R982	C3	ZD913	B3						
L901	B1	NTC901	C1	Q913	B2	R932	B2	R951	C2	R984	A2								
L902	B1	Q902	A2	Q914	A3	R934	B2	R952	A3	T901	A2								
L903	A3	Q903	A2	Q915	A1	R940	A2	R964	B3	T902	B2								
L904	B3	Q907	B2	R912	C1	R941	B2	R966	B3	T903	C2								
L905	A3	Q908	B2	R914	A1	R943	B2	R967	B3	TVR901	C1								



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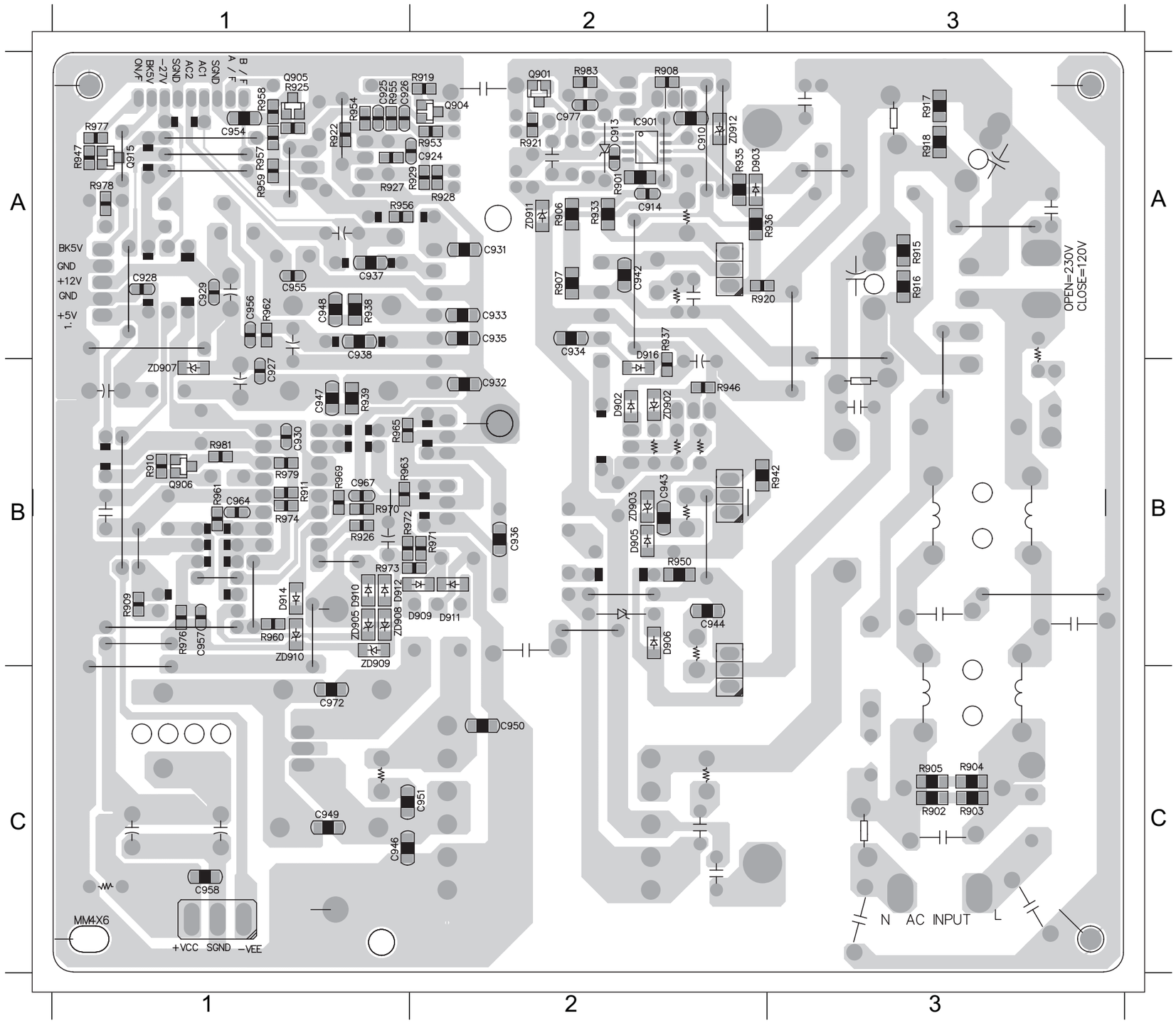
PCB LAYOUT - BOTTOM VIEW

C910	A2	C927	B1	C934	A2	C944	B2	C954	A1	C972	C1	D910	B1	Q904	A2	R905	C3	R915	A3	R922	A1	R935	A2
C913	A2	C928	A1	C935	A2	C946	C1	C955	A1	C977	A2	D911	B2	Q905	A1	R906	A2	R916	A3	R925	A1	R936	A2
C914	A2	C929	A1	C936	B2	C947	B1	C956	A1	D902	B2	D912	B1	Q906	B1	R907	A2	R917	A3	R926	B1	R937	A2
C915	A1	C930	B1	C937	A1	C948	A1	C957	B1	D903	A2	D914	B1	R901	A2	R908	A2	R918	A3	R927	A1	R938	A1
C924	A2	C931	A2	C938	A1	C949	C1	C958	C1	D905	B2	D916	A2	R902	C3	R909	B1	R919	A2	R928	A2	R939	B1
C925	A1	C932	B2	C942	A2	C950	C1	C964	B1	D906	B2	IC901	A2	R903	C3	R910	B1	R920	A2	R929	A2	R942	B2
C926	A1	C933	A2	C943	B2	C951	C1	C967	B1	D909	B2	Q901	A2	R904	C3	R911	B1	R921	A2	R933	A2	R946	B2



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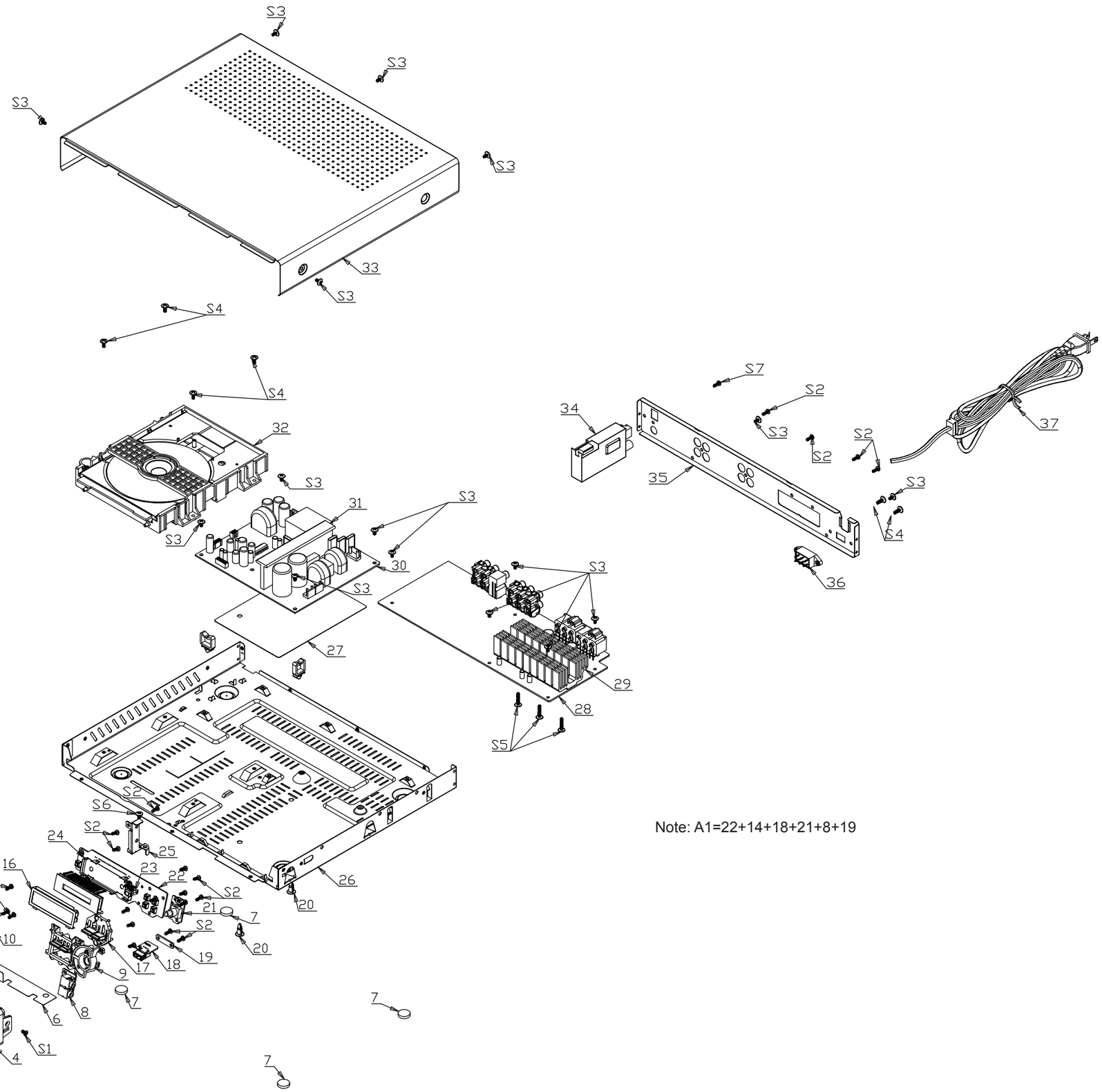
Mechanical Exploded View



Note: A1=22+14+18+21+8+19

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MECHANICAL PART LIST

Loc.	Part No.	Description
32	996510007174	DVD LOADER
28	996510008723	MAIN PCB
30	996510008724	SMPS PCB
A1	996510002660	VFD+STANDBY+USB+VOL+MIC/MP3+BRACKET
34	996510008725	TUNER
27	996510001648	POWER PCB PVC
1	996510008726	DVD DOOR
4	996510008734	FRONT CABINET
3	996510001641	VOL KNOB
17	996510001647	FUNCTION BUTTON
9	996510001643	FUNCTION BUTTON BASE
12	996510001646	STANDBY BUTTON
11	996510001645	EJECT BUTTON ABS
10	996510001644	EJECT BUTTON BASE
2	996510001640	DISPLAY LENS
13	996510001258	STANDBY LED LENS
7	994000005305	RUBBER FOOT
26	996510008735	BTM CAB
35	996510008741	REAR PANEL
33	996510008742	TOP COVER
CN103	996510001623	FFC CABLE
CN801	996510005910	FFC CABLE
Stereo	996510001598	STEREO CABLE
37	996510001252	PWR CORD
Video	996500013058	RCA CABLE
FM	996500023583	FM ANTENNA
RC	996510001263	REMOTE CONTROL

SPEAKER

SPKC	996510008743	SPEAKER BOX -CENTER
RFC/RFF/RFR	996500036131	RUBBER FOOT-FRONT/REAR/CENTER
SPKFL	996510008744	SPEAKER BOX -FRONT LEFT
SPKFR	996510008745	SPEAKER BOX - FRONT RIGHT
SPKRL	996510008746	SPEAKER BOX- REAR LEFT
SPKRR	996510008747	SPEAKER BOX- REAR RIGHT
SUBW	996510008748	SUBWOOFER
RFS	996500028375	RUBBER FOOT -SUB