

Service  
Service  
**Service**



# Service Manual




## TABLE OF CONTENTS

	Chapter
Location of PC Boards .....	1-2
Versions Variation & Package .....	1-2
Specifications .....	1-3
Measurement Setup .....	1-4
Service Aids .....	1-5
ESD & Safety Instruction .....	1-6
Pb(Lead) Free Solder .....	1-7
Setting Procedure & Repair Instructions .....	2
Disassembly Instructions & Service positions .....	3
Block & Wiring Diagram .....	4
Control Board .....	5
Main Board .....	6
Power Board .....	7
Exploded View .....	8



© Copyright 2007 Philips Consumer Electronics B.V. Eindhoven, The Netherlands  
All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, or otherwise without the prior permission of Philips.

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

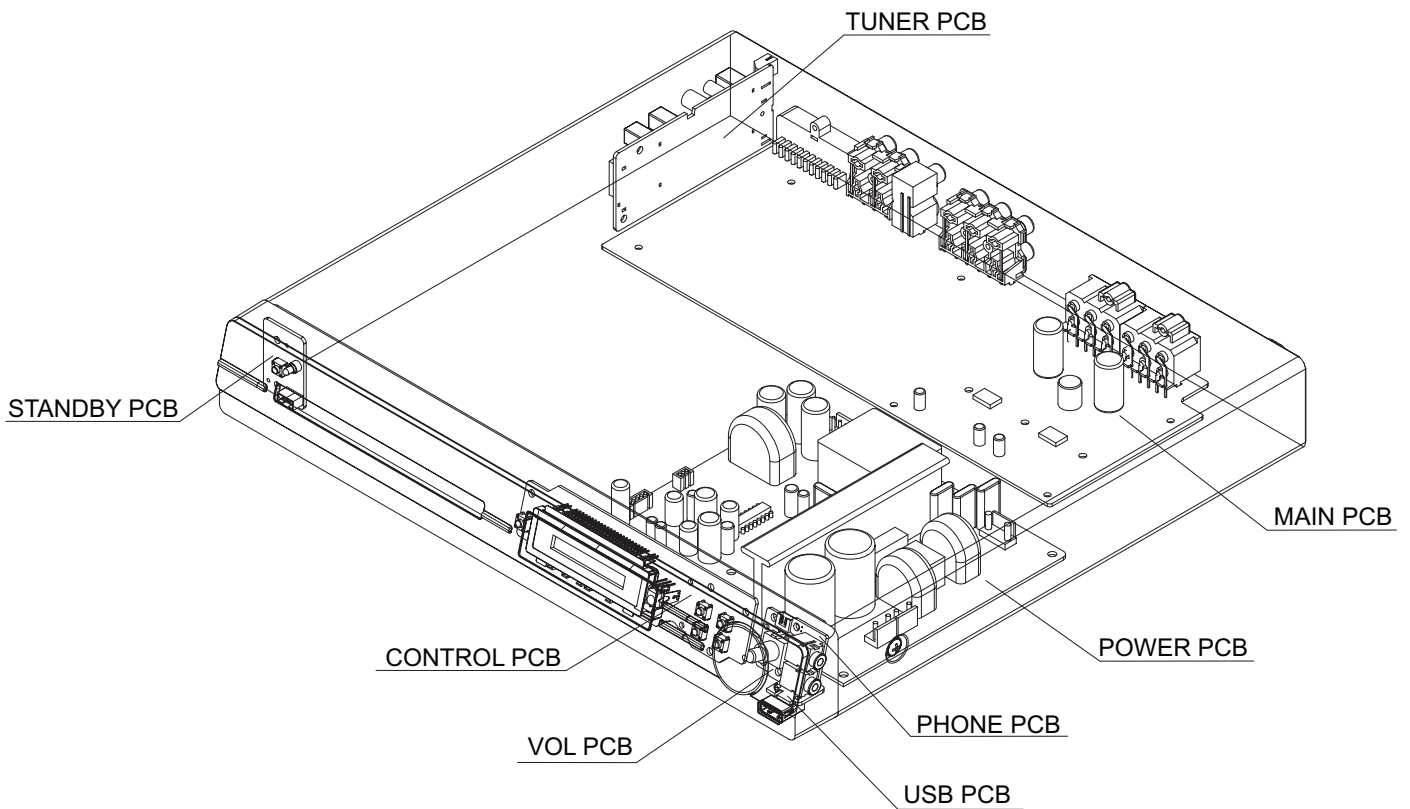
 3139 7853 3100

Version 1.0



# PHILIPS

## LOCATION OF PCB BOARDS



## VERSION VARIATION:

Type/Version	HTS3155
Feature & Board in used	/78
Main PCB ( Power Output 300W)	X
Power Voltage (120V/230V )	X
WMA	X
CVBS Out	X

# Specifications

---

## AMPLIFIER

Total output power: 300 W RMS  
 Frequency Response: 180 Hz – 18 kHz /  $\pm 3$  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 5000 $\mu$ V/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 /  $\pm 6$  dB  
 Stereo Separation FM 26 dB (1 kHz)  
 Stereo Threshold FM 23.5 dB

## DISC

Laser Type Semiconductor  
 Disc Diameter 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, 75 $\Omega$   
 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: 60 W  
 Low Power standby: < 1W  
 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  $\Omega$   
 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  $\Omega$   
 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

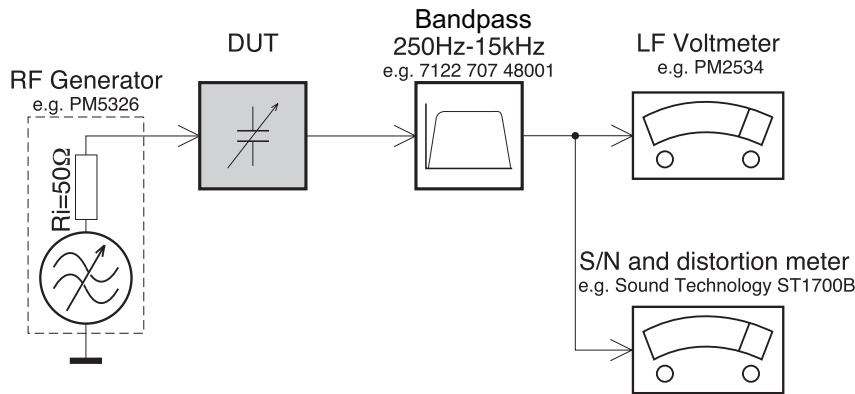
## SUBWOOFER

Impedance: 8  $\Omega$   
 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.

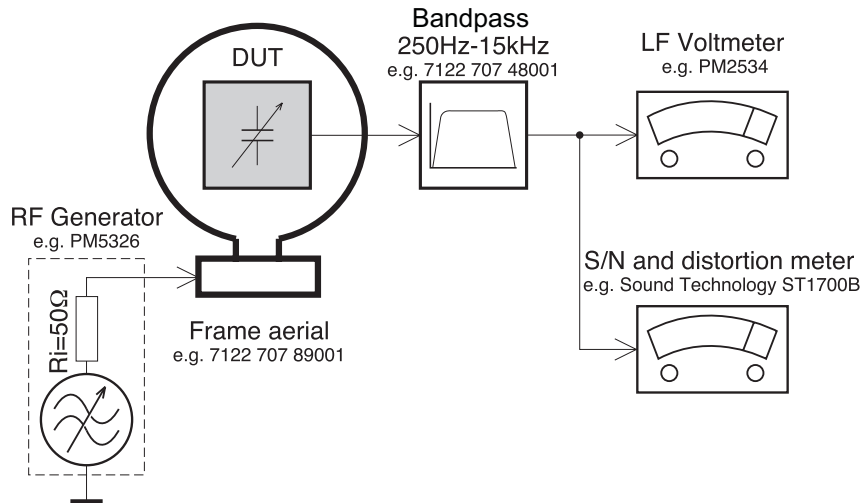
# Measurement Setup

## Tuner FM



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

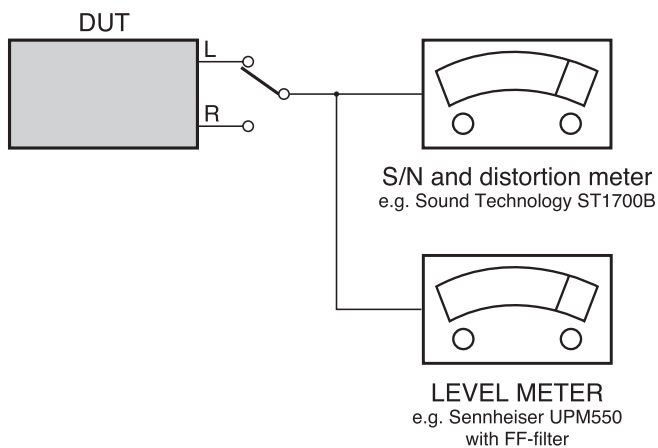
## Tuner AM (MW,LW)



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

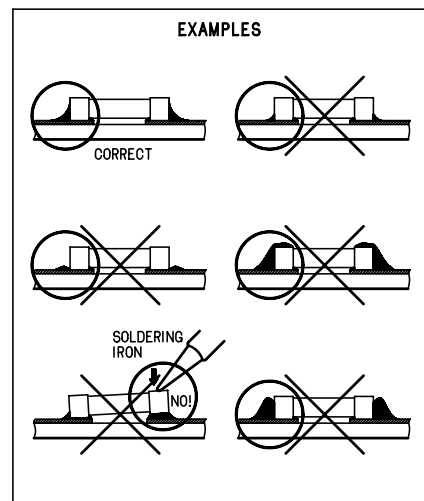
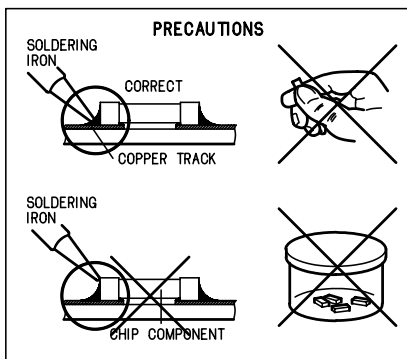
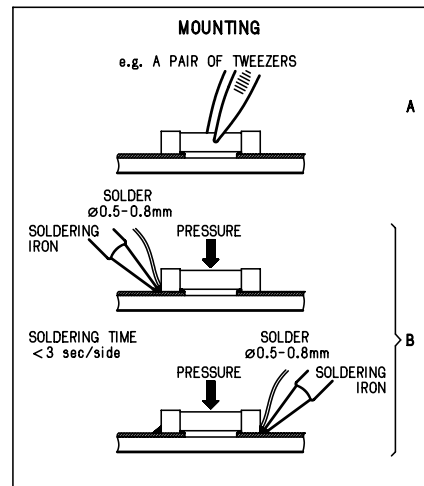
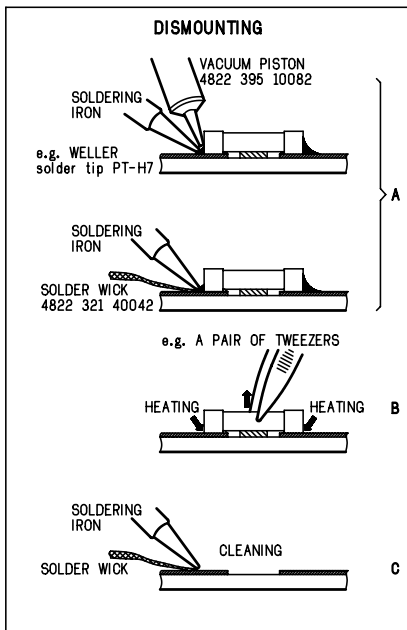
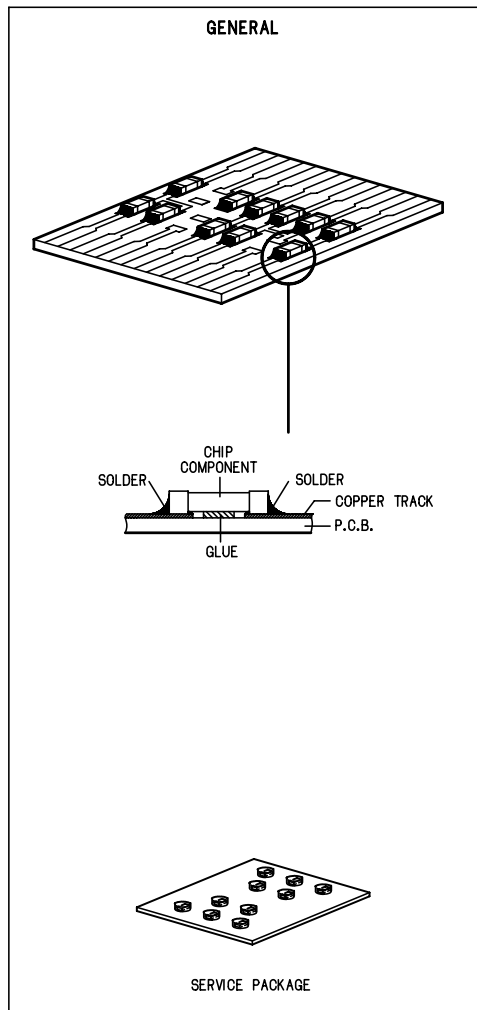
## Compact Disc:

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 (1M $\Omega$ ) .....	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



**(GB) WARNING**

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

**(F) ATTENTION**

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.  
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfilez 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.

**(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  $\Delta$ .

**(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 symbool  $\Delta$ .

**(F)**

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

Less composants de sécurité sont marqués  $\Delta$ .

**(D)**

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

Sicherheitsbauteile sind durch das Symbol  $\Delta$  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.

Componenti di sicurezza sono marcati con  $\Delta$ .

**(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.

**ESD****(D) WARNUNG**

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

**(GB) ESD PROTECTION EQUIPMENT**

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

**(NL) WAARSCHUWING**

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).

Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.

Houd componenten en hulpmiddelen ook op hetzelfde potentiaal.

**(I) AVVERTIMENTO**

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

Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

**(GB) Warning !**

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

**(S) Varning !**

Osynlig laserstrålning när apparaten är öppnad och spårren 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 udsættelse for stråling.

**(F)**

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

## Pb(Lead) Free Solder

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

### IDENTIFICATION:

Regardless of special logo (not always indicated)



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

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

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

- Use only lead-free solder alloy Philips SAC305 with order code 0622 149 00106. If lead-free solder-paste is required, please contact the manufacturer of your solder-equipment. In general use of solder-paste within workshops should be avoided because paste is not easy to store and to handle.
- Use only adequate solder tools applicable for lead-free solder alloy. The solder tool must be able
  - To reach at least a solder-temperature of 400°C,
  - To stabilize the adjusted temperature at the solder-tip
  - To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature around 360°C – 380°C is reached and stabilized at the solder joint. Heating-time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C otherwise wear-out of tips will rise drastically and flux-fluid will be destroyed. To avoid wear-out of tips switch off unused equipment, or reduce heat.
- Mix of lead-free solder alloy / parts with lead-ed solder alloy / parts is possible but PHILIPS recommends strongly to avoid mixed solder alloy types (lead-ed and lead-free).  
If one cannot avoid or does not know whether product is lead-free, clean carefully the solder-joint from old solder alloy and re-solder with new solder alloy (SAC305).
- Use only original spare-parts listed in the Service-Manuals. Not listed standard-material (commodities) has to be purchased at external companies.
- Special information for BGA-ICs:
  - Always use the 12nc-recognizable soldering temperature profile of the specific BGA (for de-soldering always use the lead-free temperature profile, in case of doubt)
  - Lead free BGA-ICs will be delivered in so-called 'dry-packaging' (sealed pack including a silica gel pack) to protect the IC against moisture. After opening,

dependent of MSL-level seen on indicator-label in the bag, the BGA-IC possibly still has to be baked dry. (MSL=Moisture Sensitivity Level). This will be communicated via AYS-website.

Do not re-use BGAs at all.

- For sets produced before 1.1.2005 (except products of 2004), containing lead-ed solder-alloy and components, all needed spare-parts will be available till the end of the service-period. For repair of such sets nothing changes.
- On our website [www.atyourservice.ce.Philips.com](http://www.atyourservice.ce.Philips.com) you find more information to:
  - BGA-de-/soldering (+ baking instructions)
  - Heating-profiles of BGAs and other ICs used in Philips-sets

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

For additional questions please contact your local repair-helpdesk.

## System , Region Code , etc. Setting Prochure

### 1)System Reset

- press "system " buttom on R/C,TV show "setup"
- select the menu using the ▼ and ► on R/C
- go preference page to do ssystem reset

### 2)Region Code Change

- press the "stop" buttom on R/C in open model
- 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

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

Current model   
 Ver 00.15.04-70123-01      region : 4  
 Servo: OF.60.00.00  
 8032: 05.00.04.06      RISC:00.00.02.02  
 IF current model does not match you set use down arrow  
 key on the remote to change

### 4)Password Change

- press "system " buttom on R/C,TV show "setup"
  - select the menu using the ▼ and ► on R/C
  - go preference page select "password" to change
- \* 000000 is default password supplied.

### 5)Check on the Sofeware Version

- open the CD Door
- press "display" buttom on R/C
- TV will show the version on screen

### 6)Upgrading new sofeware

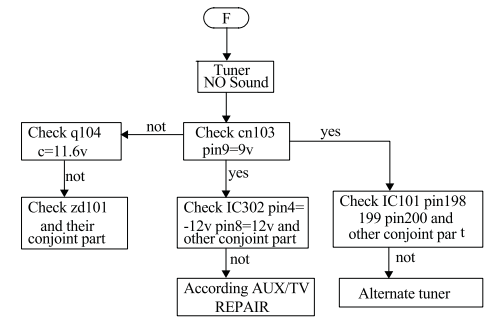
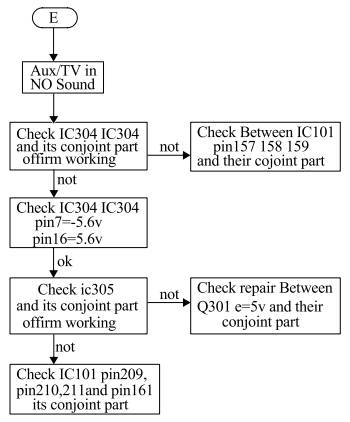
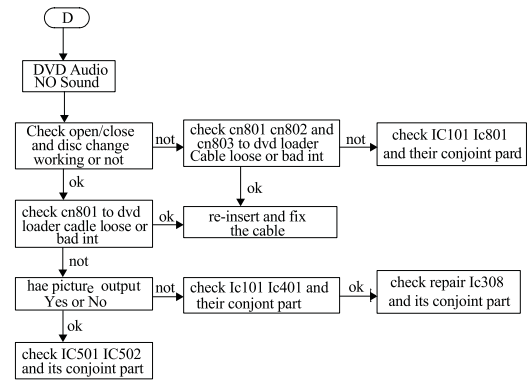
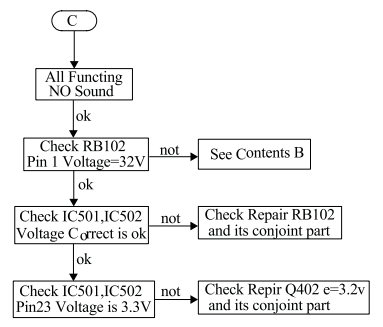
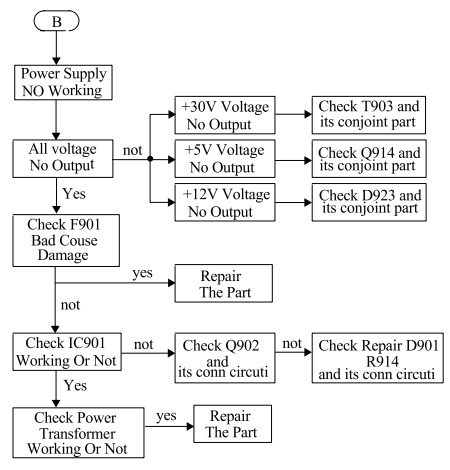
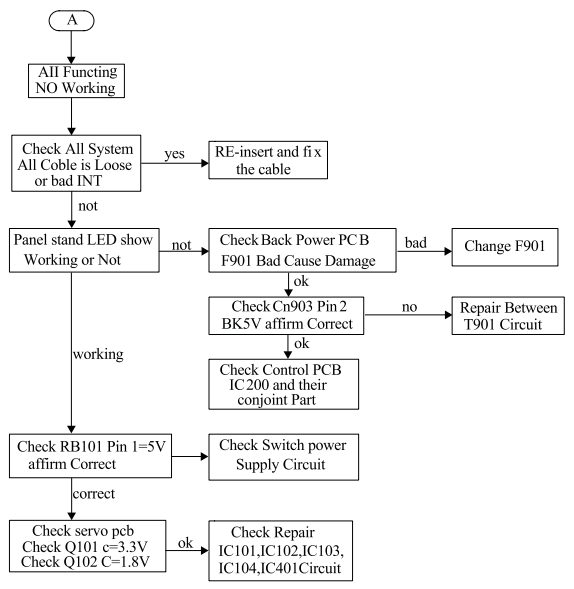
- open the CD Door,then insert the CD-R program disc
  - close the DOOR
  - TV will show:
    - "loading"
    - pop message"upgrading"
    - "writhing" about 2 minutes
    - "done "
- \* the latest upgraded is in version VER 15.04-70123-01

## CAUTION !

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



MAIN UNIT REPAIR CHART



# 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.

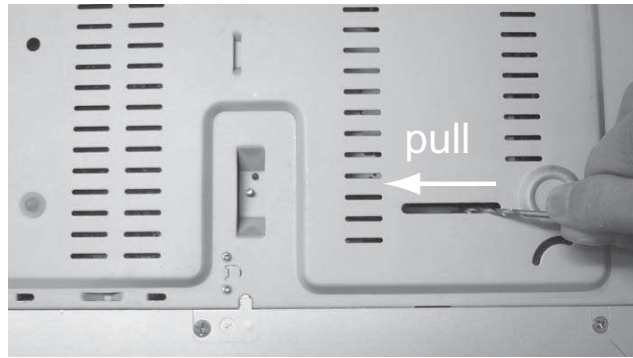


Figure 1



Figure 2

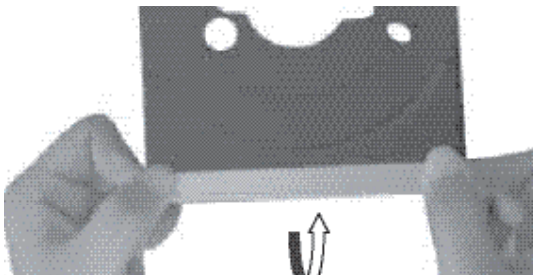


Figure 3

3 - 1

- 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

3 - 1

- 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.

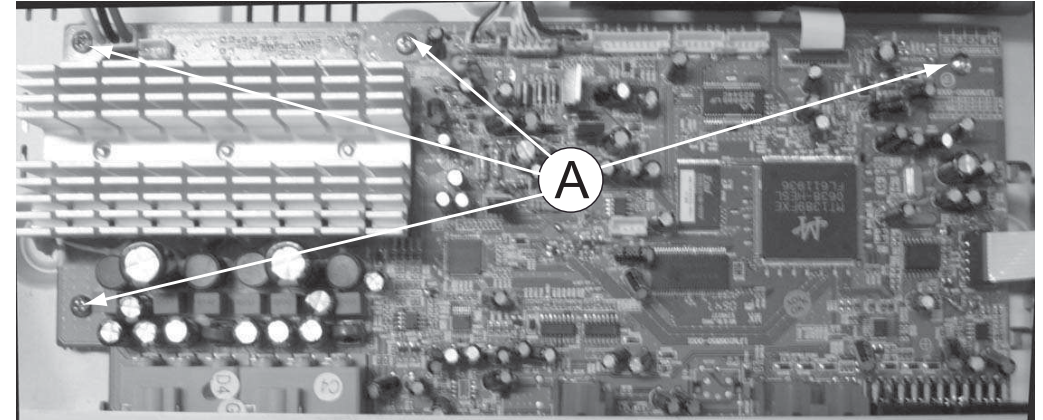


Figure 4



Figure 5

**Dismantling of the Control Board**

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

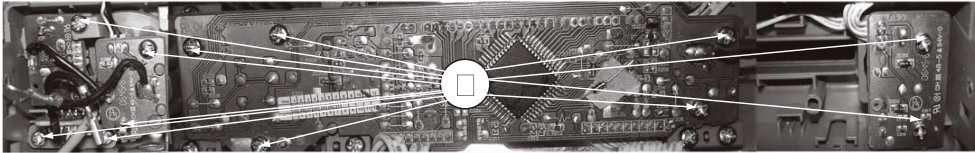


Figure 6

**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

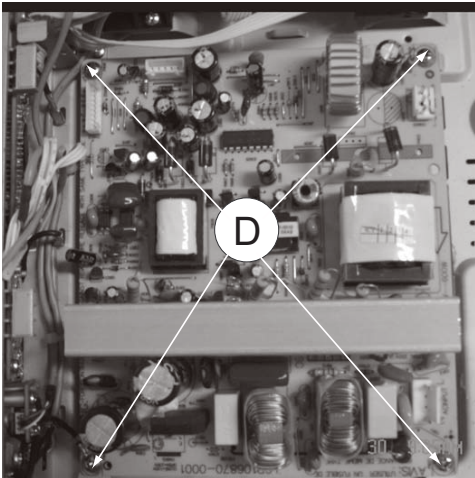


Figure 7

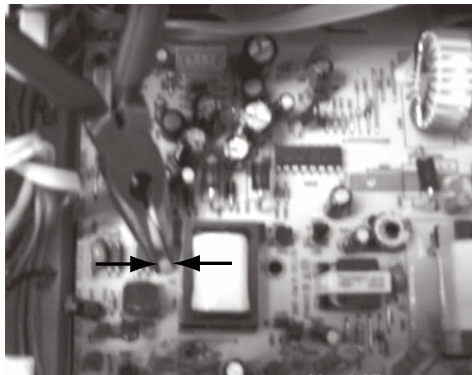


Figure 8

**Dismantling of the DVD Module**

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

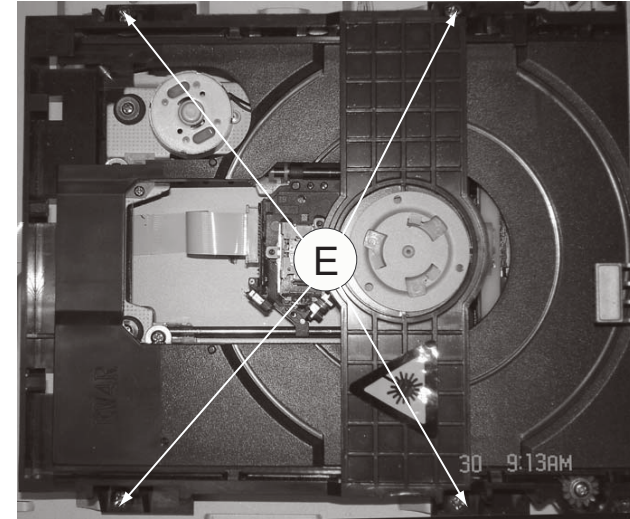
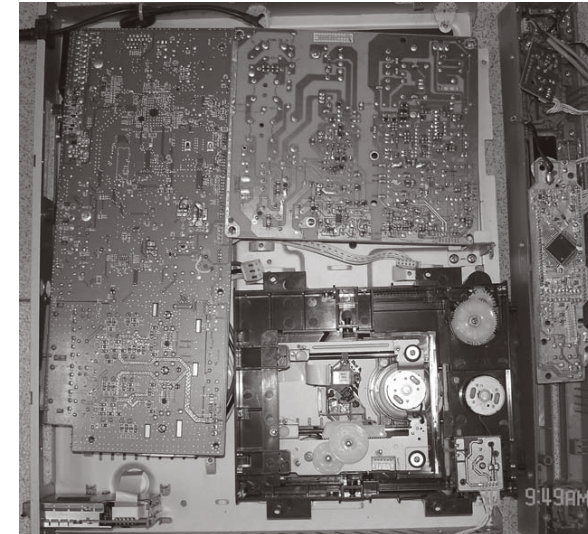
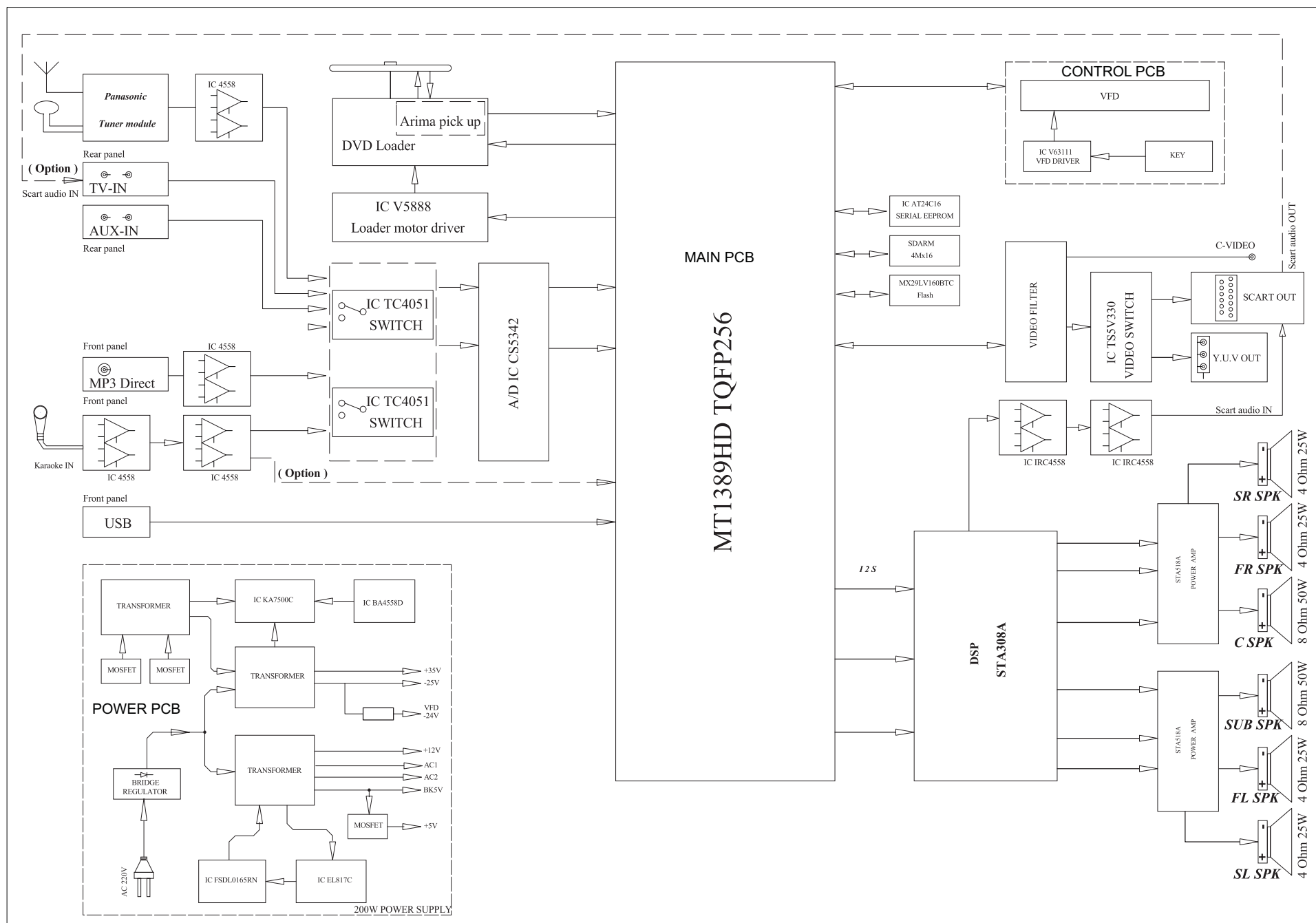


Figure 9

**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.

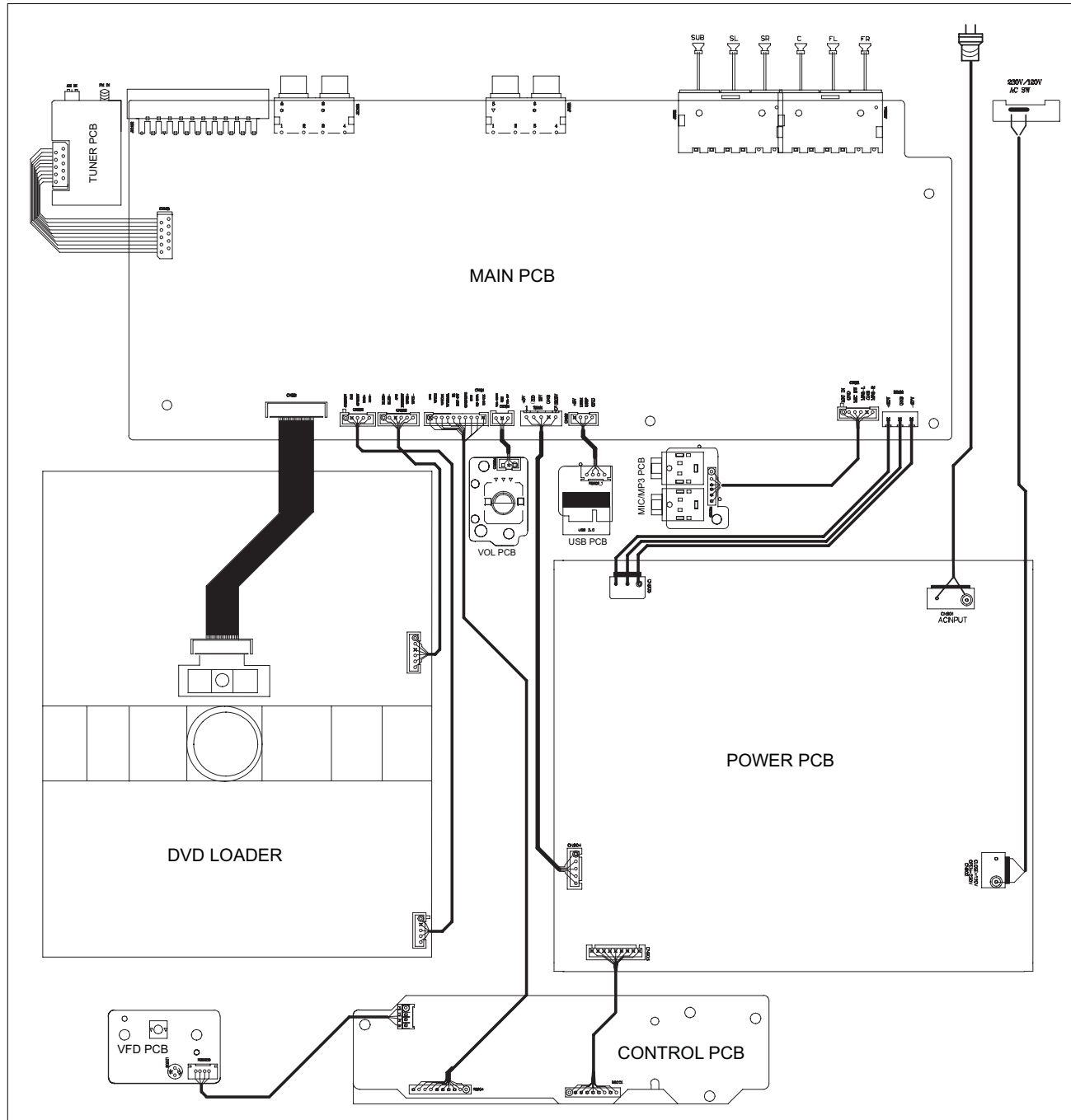
**BLOCK DIAGRAM**



# WIRING DIAGRAM

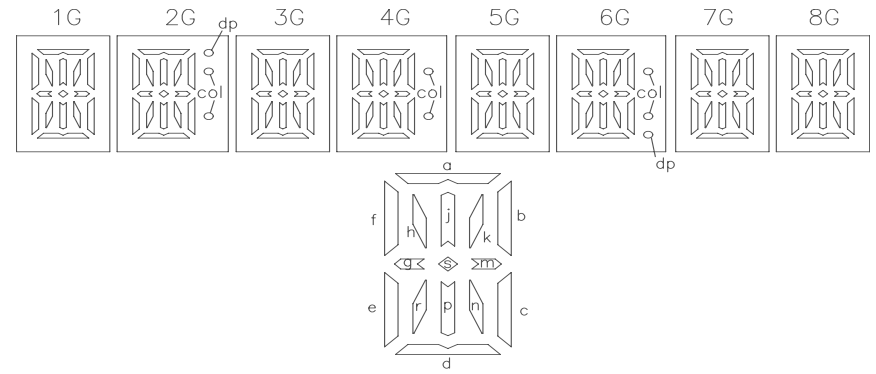
4 - 2

4 - 2



**FTD DISPLAY PIN ASSIGNMENT**

# CONTROL BOARD



**TABLE OF CONTENTS**

FTD Display Pin Assignment.....5-1  
 Voltage .....5-2  
 Circuit Diagram.....5-3  
 PCB Layout Top & Bottom View.....5-4

	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	—	—

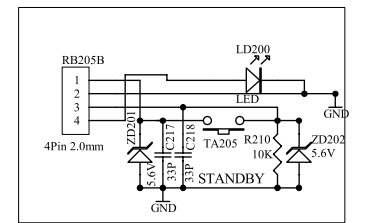
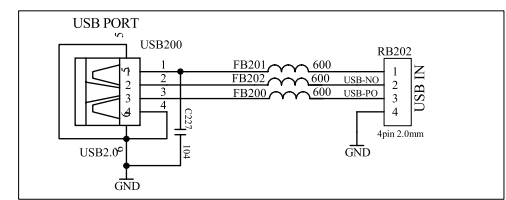
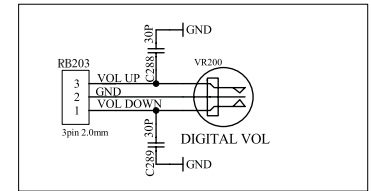
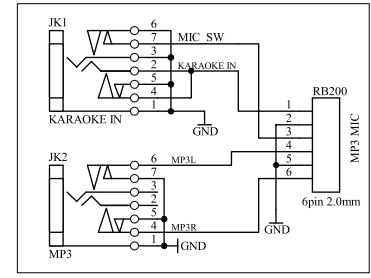
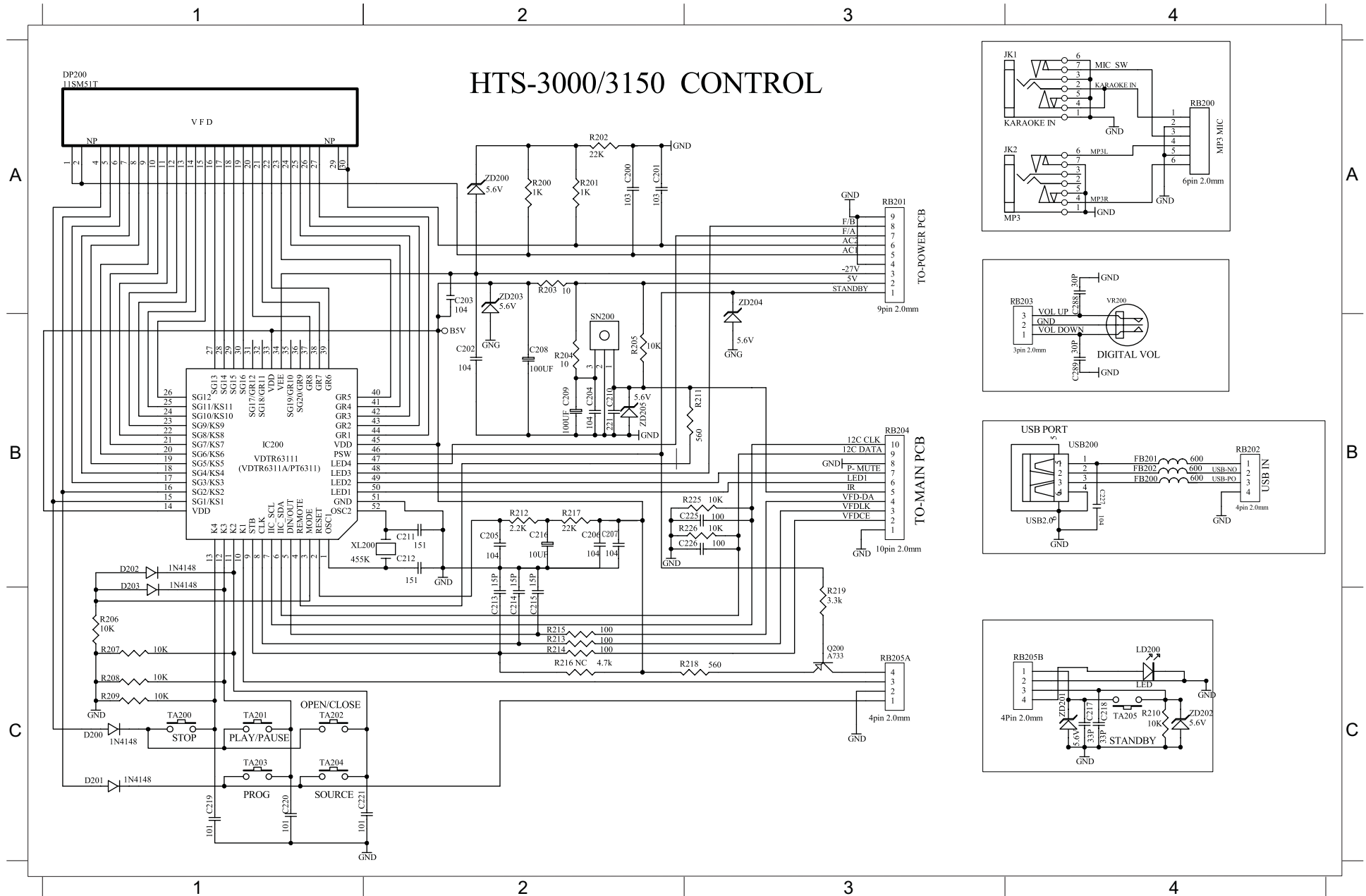
**PIN CONNECTION**

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



CIRCUIT DIAGRAM

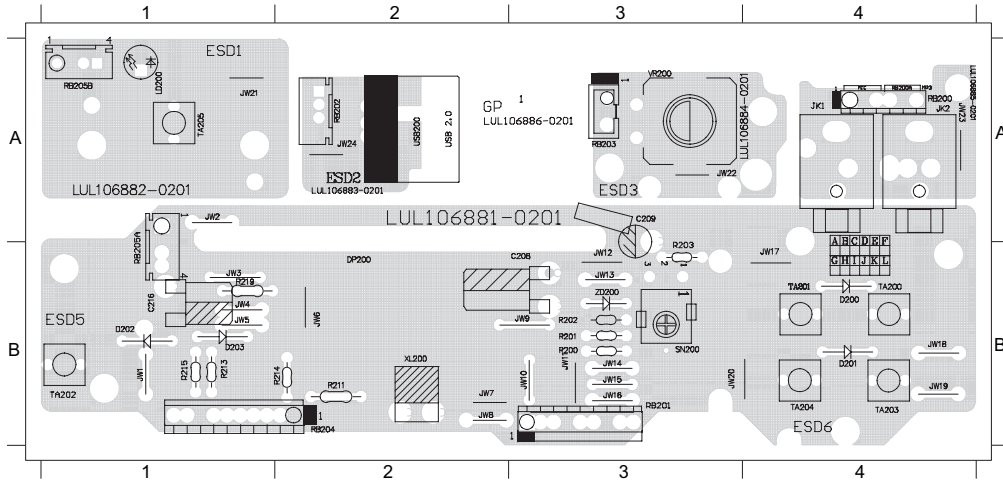
C200	A2	C204	B2	C208	B2	C212	B2	C216	B2	C220	C1	C227	B4	D201	C1	FB200	B4	JK1	A4	R200	A2	R204	B2	R208	C1	R212	B2	R217	B2	R226	C3	RB203	B4	TA200	C1	TA204	C1	XL200	B2	ZD203	A2
C201	A2	C205	B2	C209	B2	C213	C2	C217	C4	C221	C2	C288	A4	D202	B1	FB201	B4	JK2	A4	R201	A2	R205	B2	R209	C1	R213	C2	R218	C3	RB200AA4	RB204	B3	TA201	C1	TA205	C4	ZD200	A2	ZD204	A3	
C202	B2	C206	B2	C210	B2	C214	C2	C218	C4	C225	B3	C289	B4	D203	C1	FB202	B4	LD200	C4	R202	A2	R206	C1	R210	C4	R214	C2	R219	C3	RB201	A3	RB205A	C3	TA202	C1	USB200B4	ZD201	C4	ZD205	B2	
C203	A2	C207	B2	C211	B2	C215	C2	C219	C1	C226	B3	D200	C1	DP200	A1	IC200	B1	Q200	C3	R203	A2	R207	C1	R211	B3	R215	C2	R225	C3	RB202	B4	SN200	B2	TA203	C1	VR200	A4	ZD202	C4		





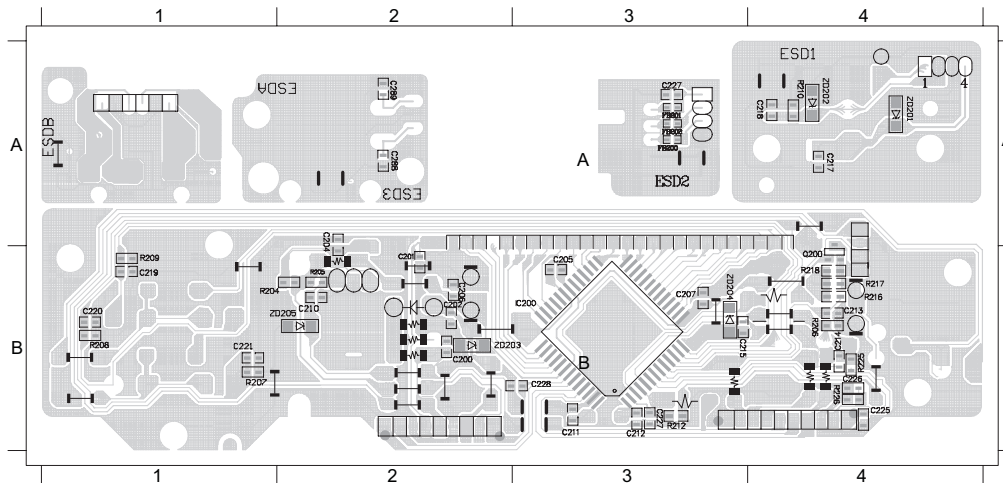
### PCB LAYOUT - TOP VIEW

C208 B3	D203 B2	JW11 B3	JW17 B4	JW22 A3	JW6 B2	R201 B3	R215 B1	RB204B1	TA203 B4	ZD200 B3
C209 A3	DP200B2	JW12 B3	JW18 B4	JW23 A4	JW7 B2	R202 B3	R219 B1	RB205A B1	TA204 B4	
C216 B1	JK1 A4	JW13 B3	JW19 B4	JW24 A2	JW8 B2	R203 B3	RB200AA4	SN200B3	TA205 A1	
D200 B4	JK2 A4	JW14 B3	JW2 A1	JW3 B1	JW9 B3	R211 B2	RB201B3	TA200 B4	USB200A2	
D201 B4	JW1 B1	JW15 B3	JW20 B4	JW4 B1	LD200 A1	R213 B1	RB202A2	TA201 B4	VR200A3	
D202 B1	JW10 B3	JW16 B3	JW21 A1	JW5 B1	R200 B3	R214 B2	RB203A3	TA202 B1	XL200 B2	



### 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	

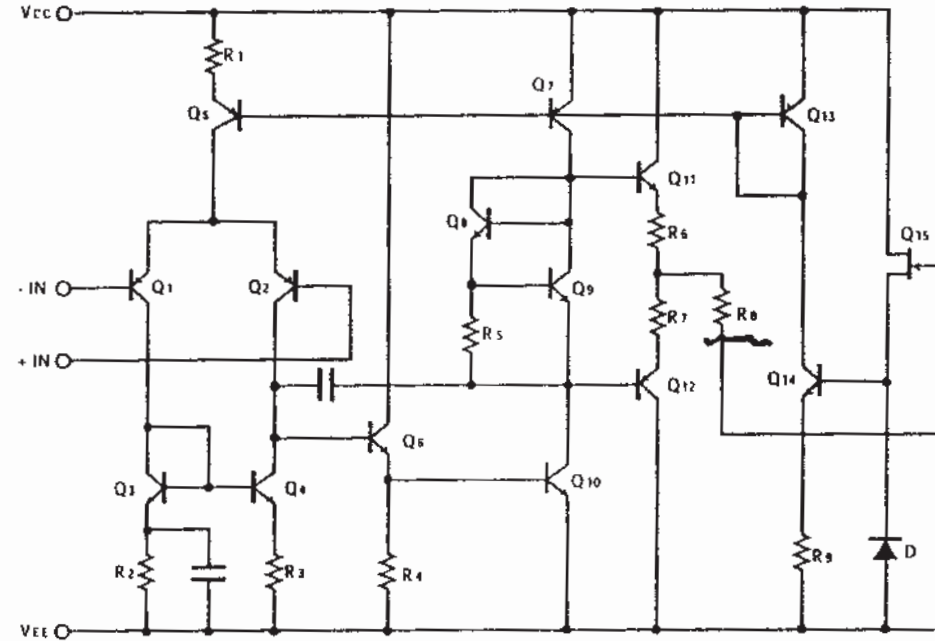


# MAIN BOARD

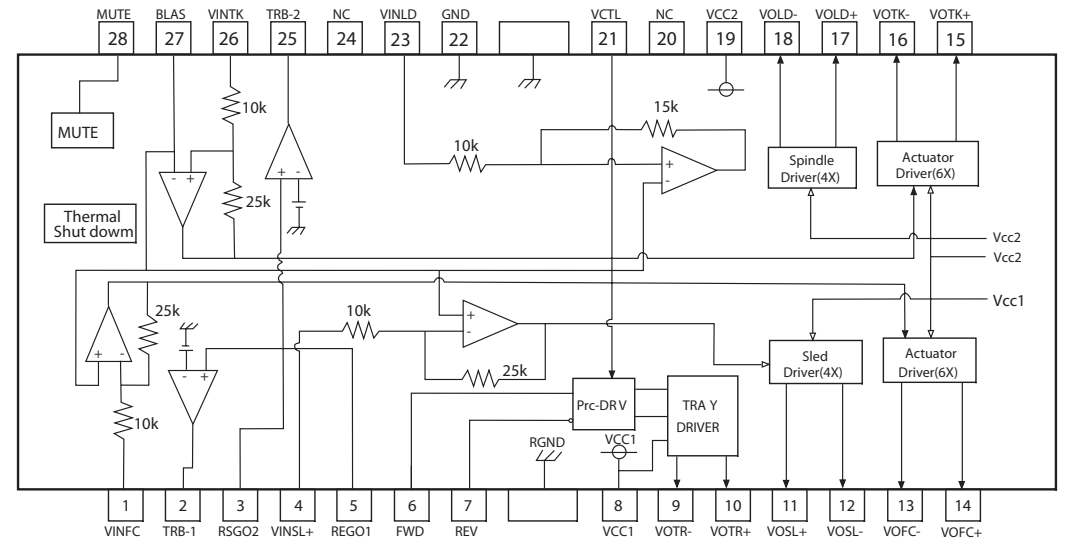
TABLE OF CONTENTS

Internal IC Diagram .....6-1  
 Circuit Diagram.....6-2  
 PCB Layout Top View .....6-3  
 PCB Layout Bottom View .....6-4  
 Voltage .....6-5

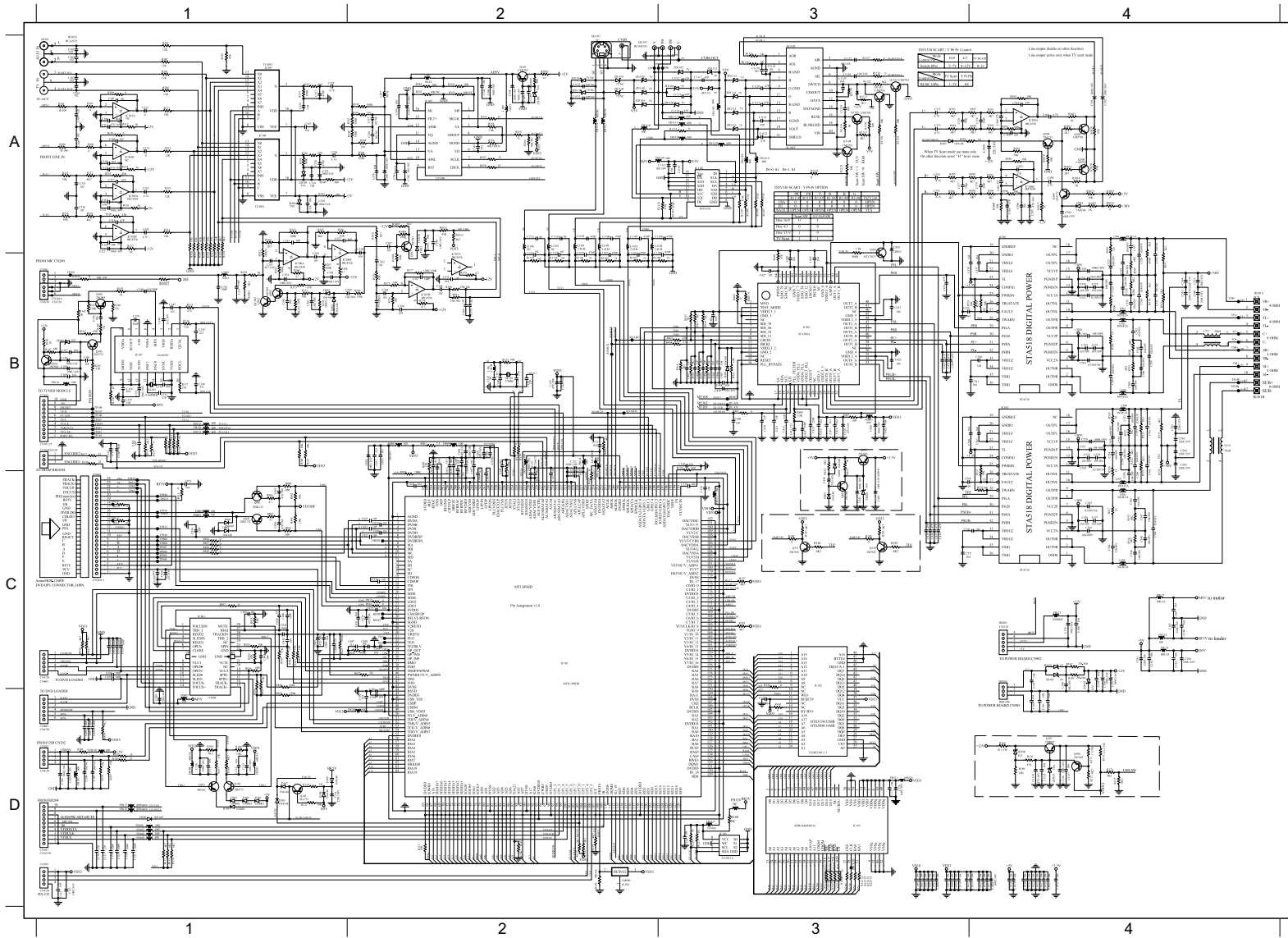
6-1  
**INTERNAL IC DIAGRAM - CO4558A HOSP**



**INTERNAL IC DIAGRAM - V5888S HOSP**



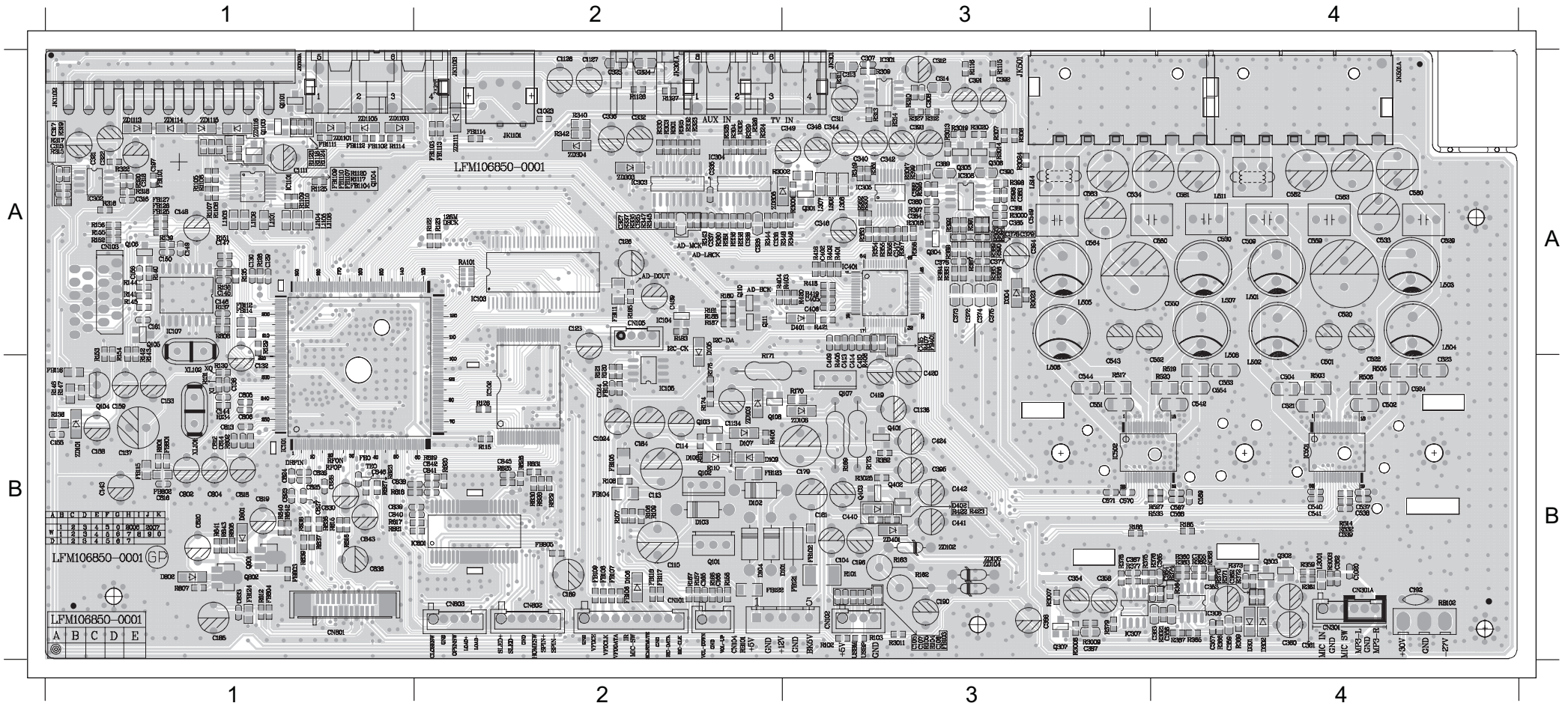
# Circuit Diagram



C1001	D3	C165	B1	C403	B3	C576	C4	FB101	D2	Q802	C1	R306	A1	R505	A4	
C1002	D3	C166	B1	C404	B3	C577	C4	FB103	D1	R102	D1	R307	A1	R506	B4	
C1003	D3	C179	C4	C405	B3	C578	B4	FB104	D1	R103	D1	R308	A1	R507	B4	
C1004	D3	C180	C4	C406	B3	C579	B4	FB105	D1	R104	D1	R309	A1	R508	B4	
C1005	D3	C181	C4	C407	B3	C580	B4	FB106	D1	R105	D1	R310	A1	R509	B4	
C1006	D3	C182	C4	C408	B3	C581	B4	FB107	D1	R106	D1	R311	A1	R510	B4	
C1007	D3	C183	C4	C409	B3	C582	B4	FB108	D1	R107	D1	R312	A1	R511	B4	
C1008	D3	C184	C4	C410	B3	C583	B4	FB109	D1	R108	D1	R313	A1	R512	B4	
C1009	D3	C185	C4	C411	B3	C582	B2	FB110	D3	R109	D1	R314	A1	R514	B4	
C101	D2	C186	C4	C412	B3	C803	B2	FB110A3	R110	D1	R315	A1	R515	C4		
C1010	D3	C188	C4	C413	B3	C804	B2	FB110A2	R110	D2	R316	A1	R516	C4		
C1011	D4	C189	D1	C414	B3	C805	C2	FB110A3	R1102	B2	R317	A1	R517	C4		
C1012	D3	C190	C4	C415	B3	C806	C2	FB111	D3	R1103	B2	R318	A1	R519	B4	
C1013	D3	C191	C4	C416	B3	C807	B2	FB111A3	R1104	B3	R319	A1	R520	B4		
C1015	D4	C193	D4	C417	B3	C808	B2	FB112A3	R1105	A3	R320	A1	R521	B4		
C1016	D4	C194	D4	C418	B3	C809	B2	FB112	C3	R1107	A3	R321	A1	R522	B4	
C1017	D4	C195	C4	C419	B3	C810	C2	FB113	B2	R111	D1	R322	A1	R523	B4	
C1018	D4	C196	C4	C420	B3	C811	B2	FB114	B2	R1110	A3	R323	A1	R524	B4	
C1019	D4	C197	C4	C421	B3	C812	B2	FB115	B2	R1114	A3	R324	A1	R525	B4	
C102	D2	C301	A1	C422	B3	C813	B2	FB116	B1	R112	D1	R325	A1	R526	B4	
C1020	D4	C302	A1	C423	B3	C814	B2	FB121	C4	R113	D1	R326	A1	R527	C4	
C1021	D4	C303	A1	C425	B3	C815	C2	FB122	C4	R114	D1	R327	A1	R532	B4	
C1022	D4	C304	A1	C426	B3	C816	B2	FB123	C4	R115	D2	R328	A1	R533	C4	
C1023	D4	C305	A1	C427	B3	C817	B2	FB124	C4	R117	D2	R329	A1	R801	B2	
C1024	D4	C306	A1	C431	B3	C818	B2	FB125	B1	R118	D2	R330	A1	R802	B2	
C1025	D4	C309	A1	C432	B3	C819	C1	FB126	B1	R119	D2	R331	A1	R803	C2	
C1026	D4	C310	A1	C433	B3	C820	C1	FB127	B1	R120	D3	R332	A1	R806	C1	
C1027	D4	C311	A1	C434	B3	C823	C2	FB128	D3	R121	D3	R333	A1	R807	C1	
C103	D2	C312	A1	C435	C3	C824	C2	FB401	B3	R122	D3	R334	A1	R808	B2	
C104	D1	C313	A1	C436	C3	C825	C2	FB801	B2	R123	D3	R335	A1	R812	C1	
C105	D1	C314	A1	C437	C3	C826	C2	FB802	B2	R124	D3	R336	A1	R813	C1	
C110	D1	C315	A1	C438	C3	C827	C2	FB803	C1	R125	D3	R337	A1	R814	C1	
C1101	B2	C316	A1	C439	B3	C828	C2	FB804	C1	R126	C3	R338	A1	R815	C2	
C1102	B2	C317	A1	C440	C3	C829	C2	FB805	D1	R127	C3	R340	A1	R816	C2	
C1103	B2	C318	A1	C441	C3	C830	C2	IC101	C2	R128	B3	R342	A1	R817	C1	
C1104	B3	C319	A1	C502	B4	C831	C2	IC102	C3	R129	C2	R343	A2	R818	C1	
C1105	A2	C320	A1	C504	B4	C833	C1	IC103	D3	R130	B2	R344	A2	R819	C1	
C1106	A2	C321	A1	C505	B4	C834	C1	IC104	D2	R131	B2	R345	A2	R820	C1	
C1107	A2	C322	A1	C506	B4	C835	C1	IC105	D3	R133	B2	R346	A2	R821	C1	
C1108	A3	C323	A1	C507	B4	C836	C1	IC302	A1	R134	B2	R347	A2	R822	C1	
C111	D1	C324	A1	C508	B4	C838	C1	IC303	A1	R146	B1	R348	A2	R823	C1	
C1110	A3	C325	A1	C509	B4	C839	C1	IC304	A1	R147	B1	R349	A2	R824	C2	
C1111	A3	C326	A1	C520	B4	C840	C1	IC305	A2	R151	B1	R350	A2	R825	C1	
C1112	A3	C327	A1	C521	B4	C841	C1	IC306	B1	R152	B1	R353	A2	R826	C1	
C1113	A3	C328	A1	C523	B4	C842	C1	IC307	B2	R153	B1	R354	A2	R828	C1	
C1114	A3	C329	A1	C524	B4	C843	C1	IC401	B3	R155	B1	R355	A2	R830	C1	
C1117	A3	C330	A1	C525	B4	C844	C1	IC501	B4	R156	B1	R357	A2	R831	D1	
C112	D1	C332	A1	C526	B4	C845	C1	IC502	B4	R157	B1	R358	A2	R832	C1	
C113	D1	C334	A1	C527	A4	C846	C1	IC801	C1	R158	B1	R359	B1	R833	C1	
C1134	D4	C335	A1	C528	B4	C847	C2	JK1103A2	R159	C3	R360	A1	R834	D1		
C1135	D4	C336	A1	C529	B4	C848	C2	JK301AA1	R160	D3	R362	A1	R836	C1		
C1136	D4	C339	A2	C530	B4	C849	C2	JK501	B4	R162	C4	R363	B1	R837	C1	
C1137	D4	C340	A2	C533	B4	C850	C1	JK501A84	R163	C4	R364	B1	R838	C1		
C114	D1	C341	A2	C534	B4	C851	C1	L1101	A2	R165	A2	R365	A1	R839	C1	
C116	D1	C342	A2	C537	B4	C852	C1	L1102	A2	R166	B1	R366	A1	R840	C1	
C117	D1	C343	A2	C538	B4	C853	C1	L1103	A2	R167	B1	R367	B1	R841	C1	
C118	D1	C344	A2	C539	B4	C854	C1	L1104	A2	R169	D4	R368	B1	R842	C1	
C119	D1	C345	A2	C540	B4	C855	C1	L3001	B1	R170	D4	R369	B2	R843	C1	
C120	D1	C346	A2	C541	B4	C856	D1	L302	A2	R171	D4	R371	B1	R844	C1	
C121	D1	C347	A2	C542	C4	C857	D1	L307	A2	R172	D4	R372	B1	RA101	D3	
C122	D1	C348	A2	C544	C4	C858	D1	L308	A2	R173	D4	R373	B1	RB101	C4	
C123	D1	C349	A2	C545	C4	C859	D1	L501	B4	R174	D4	R374	B2	RB102	C4	
C124	D3	C350	A2	C546	C4	C860	D1	CN102	L502	C4	R175	D4	R375	B2	XL101	B2
C125	D3	C351	B1	C547	C4	CN103	B1	L503	B4	R180	C3	R376	B2	ZD101	B1	
C126	D3	C352	B1	C548	C4	CN104	B1	L504	A4	R181	C3	R377	B2	ZD102	C4	
C127	D3	C353	B1	C549	C4	CN301A81	L505	C4	R182	D2	R378	B2	ZD103	D4		
C128	C3	C354	B1	C550	B4	CN801	C1	L506	C4	R186	C3	R379	B2	ZD104	C4	
C129	C3	C355	A1	C551	B4	CN802	D1	L507	C4	R187	C3	R380	B2	ZD105	C4	
C3	C356	B1	C553	B4	CN803	C1	L508	B4	R188	C3	R381	B2	ZD106	D4		
C130	B3	C357	A1	C554	B4	D101	D1	L511	B4	R189	D4	R401	B3	ZD1101A2		
C131	B2	C358	B1	C555	B4	D102	D1	L514	B4	R3001	A2	R402	B3	ZD1102A3		
C132	B2	C359	A2	C556	B4	D103	D1	Q101	D1	R3002	A2	R403	B3	ZD1103A2		
C133	C2	C360	B2	C557	B4	D104	D1	Q102	D1	R3003	B1	R404	B3	ZD1104A3		
C134	C2	C361	B1	C558	C4	D105	D1	Q103	D1	R3007	A2	R405	B3	ZD1105A2		
C135	C2	C362	B1	C559	B4	D105	D1	Q104	B1	R3008	A2	R406	B3	ZD1106A3		
C136	B2	C363	B2	C560	B4	D106	D1	Q107	D4	R3009	B2	R407	B3	ZD1111A3		
C137	B2	C364	B2	C563	B4	D107	D1	Q108	D4	R301	A1	R408	A3	ZD1112A3		
C139	B2	C366	B2	C564	B4	D108	D1	Q110	C3	R3010	A2	R410	B3	ZD303	A1	
C140	B2	C367	B2	C567	B4	D109	D1	Q111	C3	R3011	A2	R416	B3	ZD304	A1	
C142	B2	C368	B2	C568	B4	D301	B1	Q301	A2	R3012	A2	R418	B3	ZD305	A2	
C143	B2	C369	B2	C569	C3	D302	B1	Q302	B1	R302	A1	R419	B3	ZD401	C3	
C144	B2	C370	B3	C570	C3	D303	A2	Q303	A2	R303	A2	R421	B3	ZD402	C3	
C157	B1	C371	B2	C571	C3	D401	B3	Q307	A2	R3026	B1	R422	B3			
C158	B1	C387	A2	C572	B4	D402	B3	Q401	A3	R3027	B1	R423	B3			
C159	B1	C388	A2	C573	B4	D403	C3	Q402	B3	R303	A1	R501	B4			
C160	B1	C401	B3	C574	B4	D801	C1	Q403	C3	R304	A1	R502	B4			
C162	B1	C402	B3	C575	B4	D802	C1	Q801	C1	R305	A1	R503	B4			

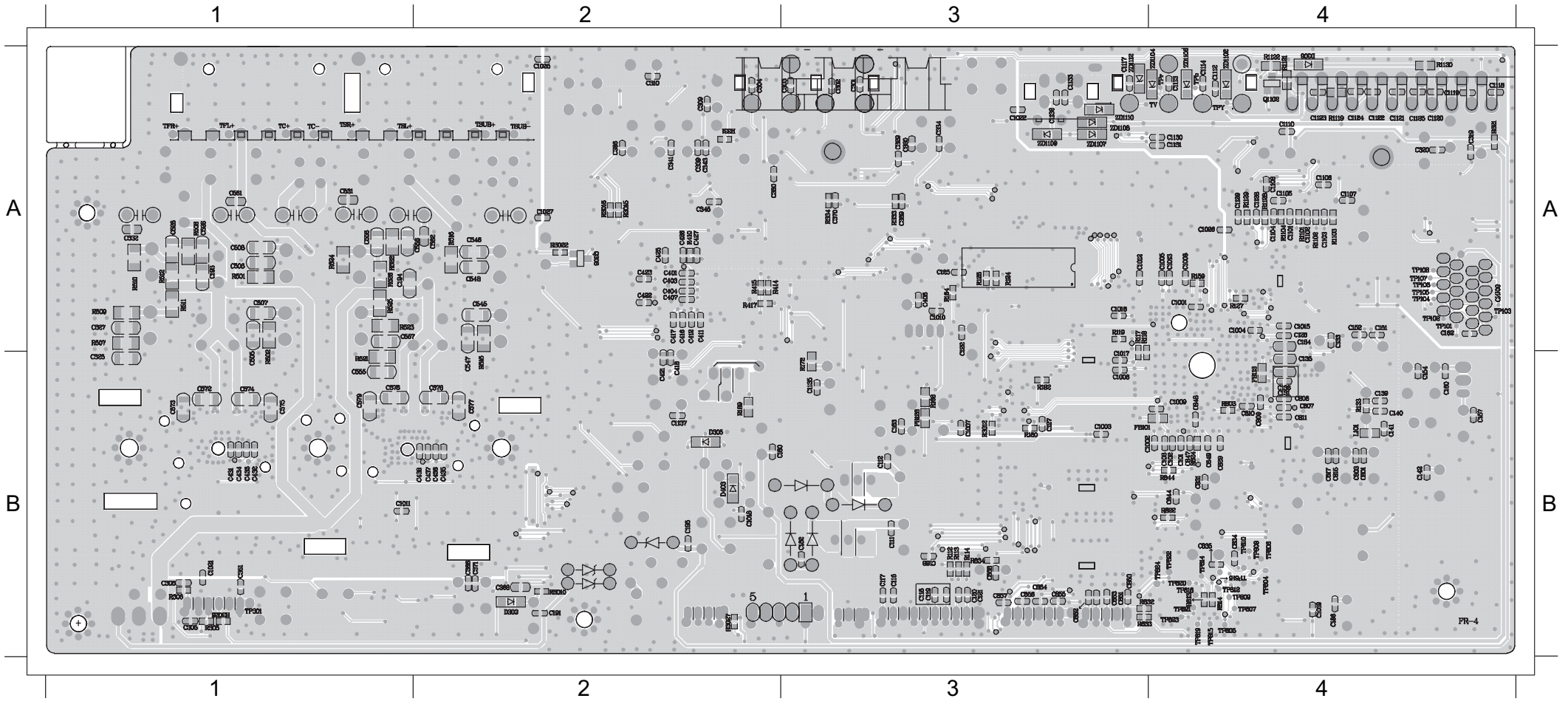
# PCB Layout Top View

C1020	B4	C158	B1	C321	A1	C354	B3	C414	A3	C539	B4	C581	A4	C830	B1	D102	B2	FB108	B2	FB401	A3	IC801	B2	L508	A4	R102	B3	R128	A1	R170	B3	R303	A2	R326	A2	R353	A3	R376	B3	R503	B4	R819	B2	XL101	B1
C1023	A2	C159	B1	C322	A1	C355	B4	C415	A3	C540	B4	C582	A4	C833	B1	D103	B2	FB109	B2	FB801	B1	JK1103	A2	L511	A4	R103	B3	R129	A1	R171	B2	R304	A2	R327	A3	R354	A3	R377	B3	R505	B4	R820	B2	ZD101	B1
C1024	B2	C165	B2	C323	A2	C356	B4	C419	B3	C541	B4	C583	A3	C836	B1	D104	B2	FB110	B2	FB802	B1	JK301A	A1	L514	A3	R104	B3	R130	B1	R173	B3	R307	A3	R328	A2	R355	A3	R378	B3	R506	B4	R821	B1	ZD102	B3
C104	B3	C166	B2	C324	A2	C357	B4	C420	B3	C542	B4	C802	B1	C838	B1	D105	A2	FB1101	A1	FB803	B1	JK501	A3	Q101	B2	R105	B3	R131	B1	R174	B2	R308	A3	R329	A2	R357	A3	R379	B3	R514	B4	R823	B1	ZD103	B2
C105	B3	C179	B3	C325	A2	C358	B3	C439	A2	C544	B3	C804	B1	C839	B1	D105	A2	FB1102	A1	FB804	B1	JK501A	A4	Q102	B2	R106	B2	R134	B1	R175	B2	R309	A3	R330	A2	R358	A4	R380	A2	R517	B3	R825	B2	ZD104	B3
C110	B2	C181	B3	C326	A2	C359	B4	C440	B3	C549	A3	C805	B1	C840	B1	D106	B2	FB1103	A2	FB805	B2	L1101	A1	Q103	B2	R107	B2	R146	B1	R180	A2	R310	A3	R332	A2	R359	B4	R381	A2	R519	B4	R826	B2	ZD105	B3
C1111	A1	C184	B2	C327	A2	C360	B4	C441	B3	C550	A4	C806	B1	C841	B2	D107	B2	FB111	A2	IC101	B1	L1102	A1	Q104	B1	R108	B2	R147	B1	R181	A2	R311	A3	R335	A2	R360	B4	R401	A3	R520	B4	R828	B2	ZD106	B3
C113	B2	C185	B1	C328	A2	C361	B4	C502	B4	C551	B3	C812	B1	C842	B2	D108	B2	FB1111	A1	IC102	B2	L1103	A1	Q107	B3	R109	B2	R151	A1	R186	B3	R312	A3	R336	A2	R362	B4	R402	A3	R527	B4	R830	B2	ZD1101	A1
C1134	B2	C189	B2	C332	A2	C362	B4	C504	B4	C553	B4	C813	B1	C843	B1	D109	B2	FB1112	A1	IC103	A2	L1104	A1	Q108	B2	R110	B2	R152	A1	R187	A2	R313	A3	R337	A2	R363	B4	R403	A3	R532	B4	R831	B2	ZD1103	A1
C1136	B3	C190	B3	C335	A2	C363	B3	C509	A4	C554	B4	C814	B1	C845	B2	D301	B4	FB112	A1	IC104	A2	L3001	B4	Q110	B2	R112	A1	R153	A1	R188	A2	R314	A3	R338	A2	R364	B4	R404	A3	R533	B4	R836	B1	ZD1105	A1
C114	B2	C196	B3	C336	A2	C364	B4	C520	A4	C559	A4	C816	B1	C846	B1	D302	B4	FB114	A1	IC105	B2	L302	A3	Q111	A2	R1107	A1	R155	A1	R3002	A3	R315	A1	R340	A2	R365	B4	R405	A3	R801	B1	R837	B1	ZD1111	A2
C123	A2	C197	A1	C340	A3	C367	B3	C521	B4	C560	A4	C818	B1	CN101	B2	D401	A3	FB115	B1	IC302	A1	L307	A3	Q301	A3	R111	B2	R156	A1	R3002	A3	R316	A1	R342	A2	R366	B4	R406	A4	R802	B1	R838	B1	ZD303	A2
C124	B2	C311	A3	C342	A3	C387	B3	C523	B4	C563	A4	C819	B1	CN102	B3	D402	B3	FB116	B1	IC303	A2	L308	A3	Q302	B4	R1110	A1	R157	B2	R3003	B4	R317	A1	R343	A2	R367	B4	R407	A3	R806	B1	R839	B1	ZD304	A2
C126	A2	C312	A3	C344	A3	C388	B3	C524	B4	C564	A3	C820	B1	CN103	A1	D801	B1	FB121	B3	IC304	A2	L501	A4	Q303	B4	R1114	A1	R158	B2	R3007	B3	R318	A1	R344	A2	R368	B4	R408	B2	R807	B1	R840	B1	ZD305	A3
C129	A1	C313	A3	C346	A3	C402	A3	C529	A4	C567	B4	C823	B1	CN104	B2	D802	B1	FB122	B2	IC305	A3	L502	A4	Q307	B3	R115	B2	R162	B3	R3008	B3	R319	A1	R345	A2	R369	B4	R416	A2	R808	A1	R841	B1	ZD401	B3
C130	A1	C314	A3	C347	A3	C405	A3	C530	A4	C568	B4	C824	B1	CN301A	B4	FB103	B3	FB123	B2	IC306	B4	L503	A4	Q401	B3	R120	B2	R163	B3	R3009	B3	R320	A1	R346	A3	R371	B4	R418	A3	R812	B1	R842	B1		
C132	B1	C315	A1	C348	A3	C406	A3	C533	A4	C569	B4	C825	B1	CN801	B1	FB104	B2	FB124	B1	IC307	B3	L504	A4	Q402	B3	R121	B2	R165	A2	R301	A2	R322	A1	R347	A2	R372	B4	R419	A3	R815	B1	R843	B1		
C137	B1	C316	A1	C349	A3	C409	A3	C534	A3	C570	B3	C826	B1	CN802	B2	FB105	B2	FB125	A1	IC401	A3	L505	A3	Q403	B3	R122	A2	R166	B2	R3011	B3	R323	A2	R348	A3	R373	B4	R421	A3	R816	B2	RA101	A2		
C143	B1	C317	A1	C352	B4	C410	A3	C537	B4	C571	B3	C827	B1	CN803	B2	FB106	B2	FB126	A1	IC501	B4	L506	A3	Q403	B1	R123	A2	R167	B2	R302	A2	R324	A2	R349	A3	R374	B4	R422	B3	R817	B1	RB101	B2		
C144	B1	C318	A1	C353	B4	C413	A3	C538	B4	C580	A4	C828	B1	D101	B2	FB107	B2	FB127	A1	IC502	B3	L507	A4	Q802	B1	R126	B2	R169	B3	R3021	B4	R325	A2	R350	A3	R375	B3	R423	B3	R818	B1	RB102	B4		



# PCB Layout Bottom View

C1001	A4	C1011	B1	C1025	A2	C1108	A4	C117	B3	C134	A4	C183	B3	C305	B1	C343	A2	C404	A2	C425	A2	C505	B1	C548	A2	C578	B1	C831	B4	C854	B3	R1102	A4	R127	A4	R305	B1	R508	A1	R525	A1	ZD1104	A4						
C1002	B3	C1012	A3	C1026	A4	C111	B3	C118	B3	C135	B4	C186	B4	C306	B1	C345	A2	C407	A2	C426	A2	C506	A1	C555	B1	C579	B1	C834	B4	C855	B3	R1103	A4	R133	B4	R306	B1	R509	A1	R526	A1	ZD1106	A4						
C1003	B3	C1013	A4	C1027	A2	C1110	A4	C119	B3	C136	B4	C188	B3	C309	A2	C350	A2	C408	A3	C427	A2	C507	A1	C556	A1	C803	B4	C835	B4	C856	B3	R1104	A4	R159	A4	R321	A4	R510	A1	R803	B4	ZD1112	A3						
C1004	A4	C1015	A4	C103	B4	C1112	A4	C120	B3	C139	B4	C191	B2	C310	A2	C351	B1	C411	A2	C431	B1	C508	A1	C557	A1	C807	B4	C844	B4	C857	B3	R112	B3	R160	B3	R331	A2	R511	A1	R813	B4								
C1005	A4	C1016	A3	C1101	A4	C1113	A4	C121	B3	C140	B4	C193	A1	C319	A4	C366	B2	C412	A2	C432	B1	C525	B1	C558	A1	C808	B4	C847	B4	C858	B3	R113	B3	R172	B3	R333	A3	R512	A1	R814	B4								
C1006	B3	C1017	B3	C1102	A4	C1114	A4	C122	A3	C142	B4	C194	A1	C320	A4	C368	B2	C416	A2	C433	B1	C526	A1	C572	B1	C809	B4	C848	B4	D303	B2	R114	B3	R182	B3	R334	A3	R515	B2	R822	B4								
C1007	B3	C1018	B2	C1103	A4	C1117	A3	C125	A3	C157	B4	C195	B2	C329	A3	C369	A3	C417	A2	C434	B1	C527	A1	C573	B1	C810	B4	C849	B4	D403	B2	R117	A3	R189	B2	R410	A2	R516	A2	R824	B4								
C1008	A4	C1019	B4	C1104	A4	C112	B3	C127	B3	C160	B4	C301	A3	C330	A3	C370	A3	C418	B2	C435	B2	C528	A1	C574	B1	C811	B4	C850	B3	FB101	B3	R118	A3	R3010	B2	R501	A1	R521	B1	R832	B3								
C1009	B4	C102	B4	C1105	A4	C1135	B3	C128	A4	C162	A4	C302	A3	C334	A3	C371	B2	C421	B2	C436	B2	C545	A2	C575	B1	C815	B4	C851	B3	FB113	B4	R119	A3	R3012	B3	R502	B1	R522	A1	R833	B3								
C101	B4	C1021	B1	C1106	A4	C1137	B2	C131	B4	C180	B2	C303	A3	C339	A2	C401	A2	C422	A2	C437	B2	C546	A2	C576	B2	C817	B4	C852	B3	FB128	B3	R124	A3	R3026	B1	R506	A1	R523	A1	R844	B4								
C1010	A3	C1022	A3	C1107	A4	C116	B3	C133	A4	C182	B3	C304	A2	C341	A2	C403	A2	C423	A2	C438	B2	C547	B2	C577	B2	C829	B4	C853	B3	R1101	A4	R125	A3	R3027	B2	R507	A1	R524	A1	ZD1102	A4								



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	0.1	1.6	2.1	1.9	1.9	3.1	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	2.4	2.4	2.2	1.3	1.3	0	1.3	0
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	1.6	2	1.9	1.4	3.3	0.5	0.1	0.2	1.8	0
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(EN2LV30B-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(K4S61632K-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	3.2	2.5	2.5	0	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	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		

VOLTAGE

# POWER BOARD

TABLE OF CONTENTS

Voltage ..... 7-1  
 Circuit Diagram.....7-2  
 PCB Layout Top View .....7-3  
 PCB Layout Bottom View .....7-4

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

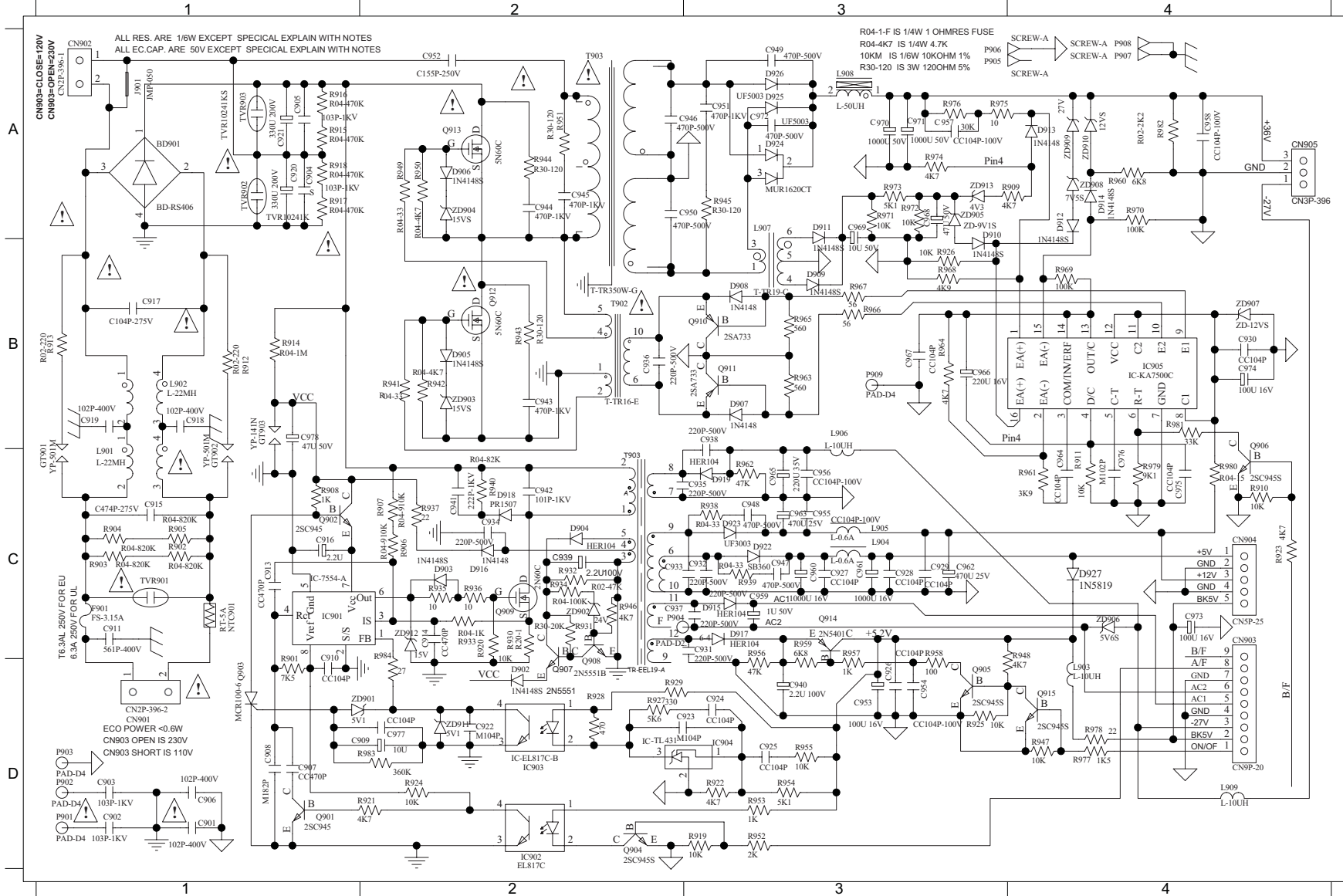
Q913			
Pin NO	b	c	e
Voltage	0.2	0.8	-0.02

Q914			
Pin NO	b	c	e
Voltage	34.8	34.8	5

Q915			
Pin NO	b	c	e
Voltage	4.7	0	0

# CIRCUIT DIAGRAM

BD901	A1	C913	C1	C925	D3	C937	C2	C949	A3	C962	C3	C975	C4	D905	B2	D918	C2	IC904	D3	Q910	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	R925	A3	L903	D4	Q905	D3	R902	C1	R915	A1	R927	D2	R939	C3	R951	A2	R963	B3	R975	A3	T902	B2	ZD910	A4
C905	A1	C918	B1	C930	B4	C942	C2	C955	C3	C967	B3	CN902	A1	D910	B3	R926	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	R927	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	C972	A1	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		



1 2 3 4 A B C D

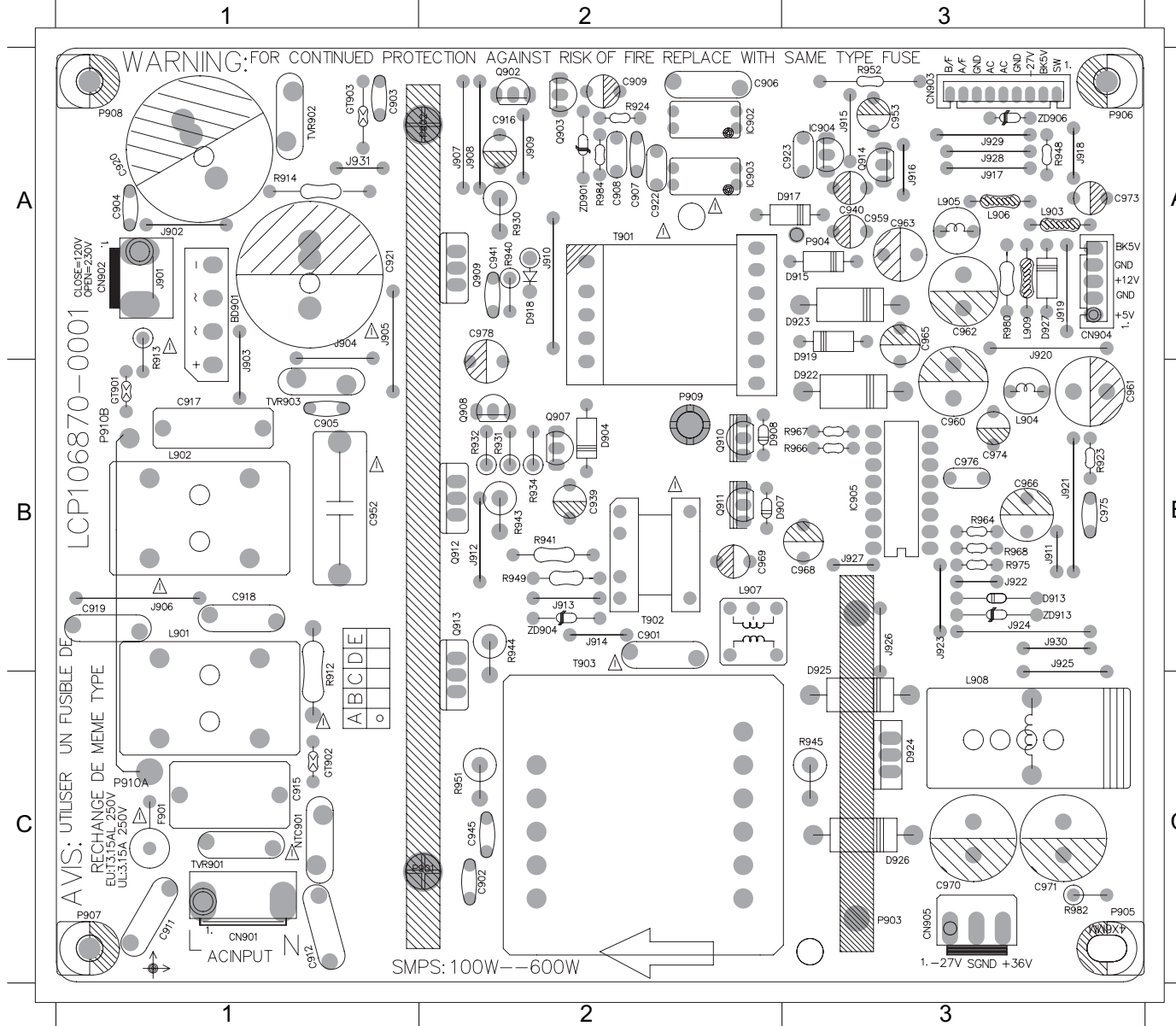


# PCB LAYOUT - TOP VIEW

7 - 3

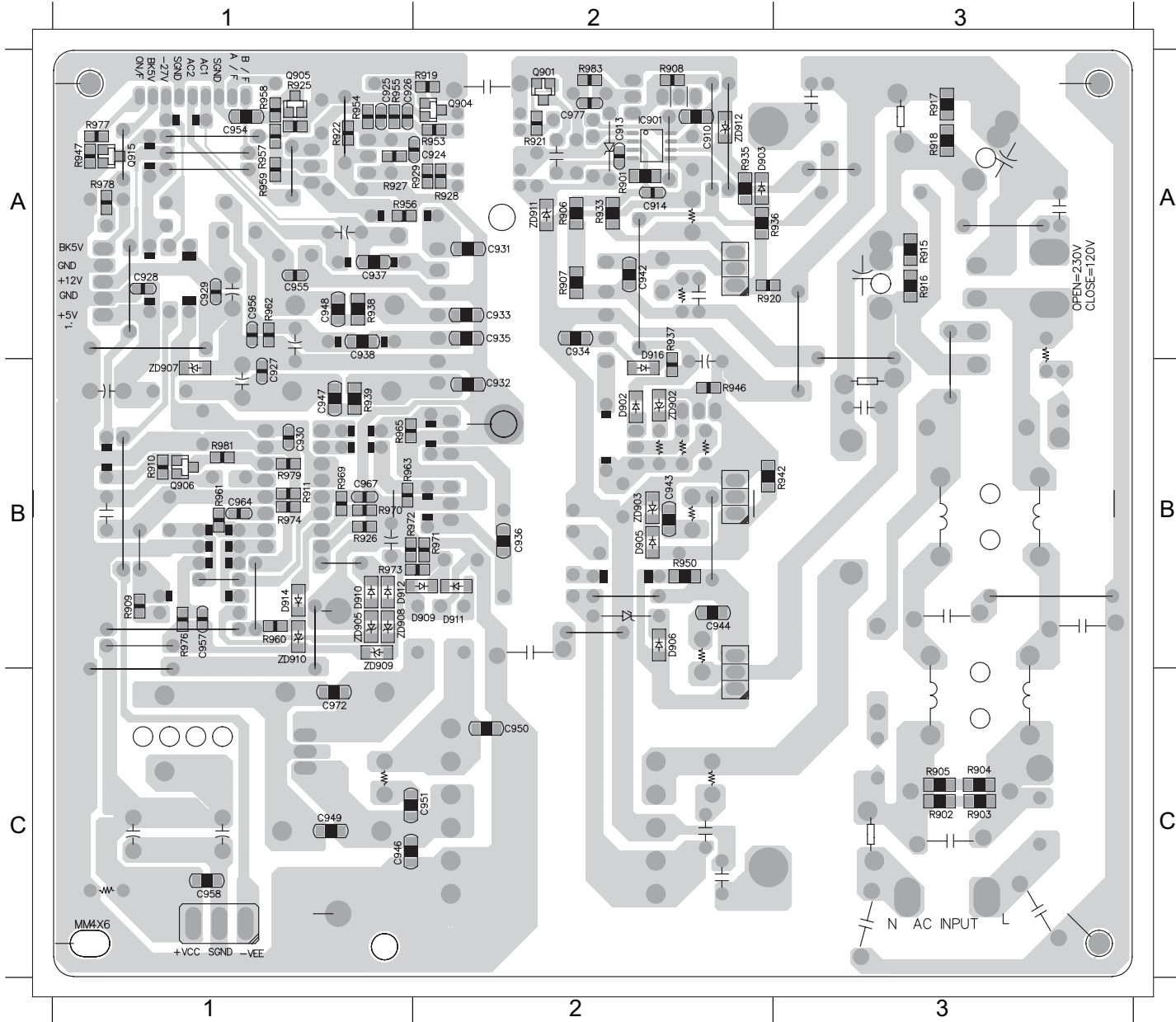
7 - 3

BD901 A1	C909 A2	C922 A2	C961 B3	C974 B3	D904 B2	D925 C3	J902 A1	J911 B3	J920 A3	J929 A3	L907 B2	Q910 B2	R924 A2	R945 C2	R975 B3	ZD904 B2
C901 B2	C911 C1	C923 A3	C962 A3	C975 B3	D907 B2	D926 C3	J903 A1	J912 B2	J921 B3	J930 B3	L908 C3	Q911 B2	R930 A2	R948 A3	R980 A3	ZD906 A3
C902 C2	C915 C1	C939 B2	C963 A3	C976 B3	D908 B2	D927 A3	J904 A1	J913 B2	J922 B3	J931 A1	L909 A3	Q912 B2	R931 B2	R949 B2	R982 C3	ZD913 B3
C903 A1	C916 A2	C940 A3	C965 A3	C978 A2	D915 A3	F901 C1	J905 A1	J914 B2	J923 B3	L901 B1	NTC901C1	Q913 B2	R932 B2	R951 C2	R984 A2	
C904 A1	C917 B1	C941 A2	C966 B3	CN901 C1	D917 A3	GT902 C1	J906 B1	J915 A3	J924 B3	L902 B1	Q902 A2	Q914 A3	R934 B2	R952 A3	T901 A2	
C905 B1	C918 B1	C945 C2	C968 B3	CN902 A1	D918 A2	IC902 A2	J907 A2	J916 A3	J925 B3	L903 A3	Q903 A2	Q915 A1	R940 A2	R954 B3	T902 B2	
C906 A2	C919 B1	C952 B1	C969 B2	CN903 A3	D919 A3	IC903 A2	J908 A2	J917 A3	J926 B3	L904 B3	Q907 B2	R912 C1	R941 B2	R966 B3	T903 C2	
C907 A2	C920 A1	C959 A3	C971 C3	CN904 A3	D922 B3	IC904 A3	J909 A2	J918 A3	J927 B3	L905 A3	Q908 B2	R914 A1	R943 B2	R967 B3	TVR901C1	
C908 A2	C921 A1	C960 B3	C973 A3	CN905 C3	D923 A3	IC905 B3	J910 A2	J919 A3	J928 A3	L906 A3	Q909 A2	R923 B3	R944 B2	R968 B3	ZD901 A2	



# PCB LAYOUT - BOTTOM VIEW

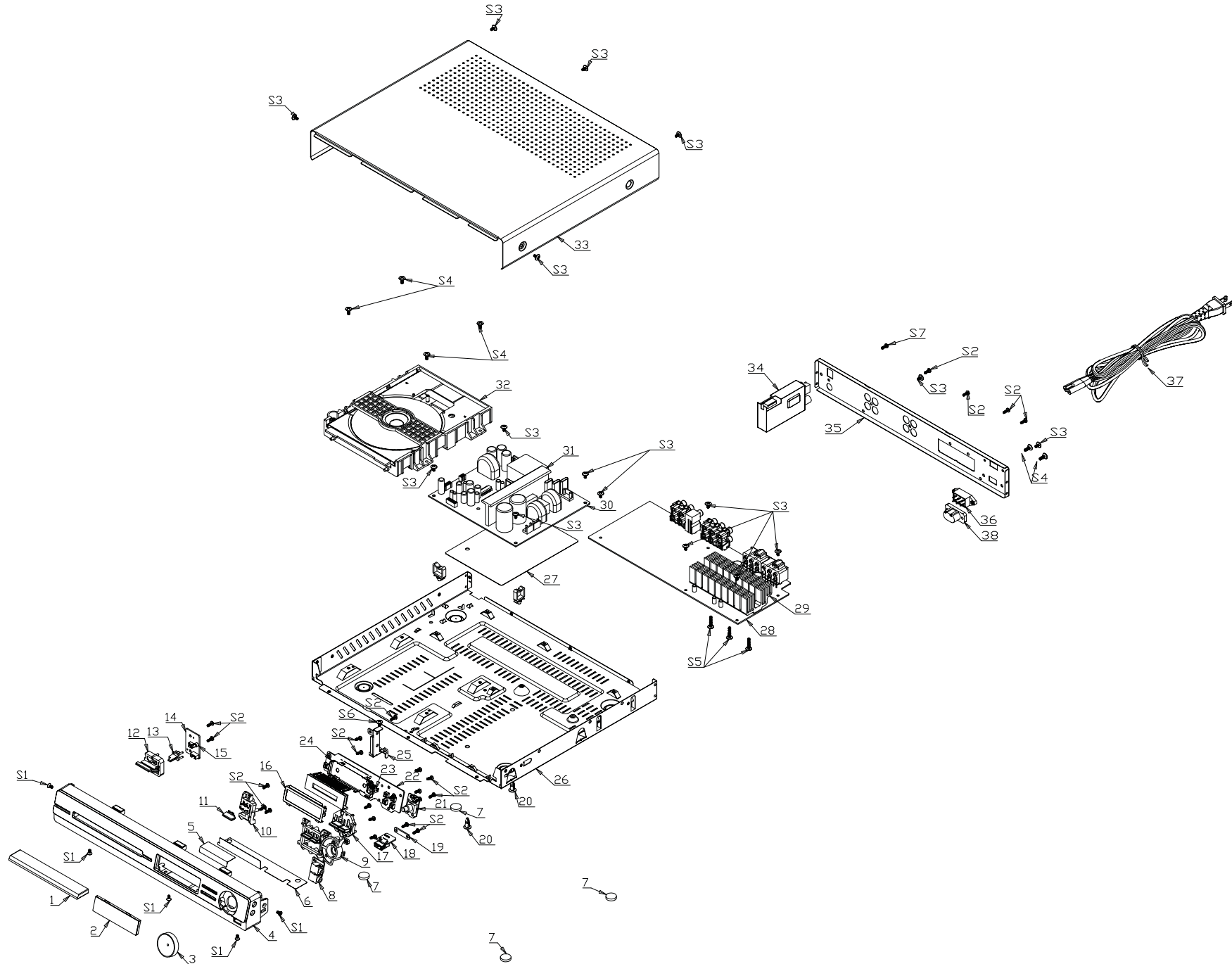
C910	A2	C927	B1	C934	A2	C944	B2	C954	A1	C972	C1	D910	B1	Q904	A2	R905	C3	R915	A3	R922	A1	R935	A2	R947	A1	R958	A1	R969	B1	R977	A1	ZD903	B2
C913	A2	C928	A1	C935	A2	C946	C1	C955	A1	C977	A2	D911	B2	Q905	A1	R906	A2	R916	A3	R925	A1	R936	A2	R950	B2	R959	A1	R970	B1	R978	A1	ZD905	B1
C914	A2	C929	A1	C936	B2	C947	B1	C956	A1	D902	B2	D912	B1	Q906	B1	R907	A2	R917	A3	R926	B1	R937	A2	R953	A2	R960	B1	R971	B2	R979	B1	ZD907	B1
C915	A1	C930	B1	C937	A1	C948	A1	C957	B1	D903	A2	D914	B1	Q901	A2	R908	A2	R918	A3	R927	A1	R938	A1	R954	A1	R961	B1	R972	B1	R981	B1	ZD908	B1
C924	A2	C931	A2	C938	A1	C949	C1	C958	C1	D905	B2	D916	A2	R902	C3	R909	B1	R919	A2	R928	A2	R939	B1	R955	A1	R962	B1	R973	B1	R983	A2	ZD909	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	R956	A1	R963	B1	R974	B1	R985	A1	ZD910	B1
C926	A1	C933	A2	C943	B2	C951	C1	C967	B1	D909	B2	Q901	A2	R904	C3	R911	B1	R921	A2	R933	A2	R946	B2	R957	A1	R965	B1	R976	B1	ZD902	B2	ZD911	A2



# Mechanical Exploded View

9 - 1

9 - 1



## MECHANICAL PART LIST

Loc.	Part No.	Description
1	996510008863	DVD DOOR
2	996510008865	DISPLAY LENS
3	996510008866	VOL KNOB ABS
4	996510007336	FRONT CABINET
7	996510008876	RUBBER FOOT
9	996510008868	FUNCTION BUTTON BASE
10	996510008870	EJECT BUTTON BASE ABS
11	996510008871	EJECT BUTTON ABS
12	996510008872	STANDBY BUTTON ABS
13	996510008864	STANDBY LED LENS
17	996510008867	FUNCTION BUTTON ABS
26	996510008869	BTM CAB SECC
27	996510008875	POWER PCB PC
28	996510008861	MAIN PCB ASSY
30	996510008862	SMPS PCB ASSY 120V/230
32	996510007174	DVD LOADER MODULE
33	996510008874	TOP COVER SECC
34	996510008877	TUNER
35	996510008873	BACK PANEL SECC
0007	310630878621	SPEAKER BOX
0011	310630878941	USB PCB ASSY
0012	310630878951	VOL+MIC PCB ASSY
0013	310630878961	VFD+STB PCB ASSY
0353	310630764881	MAIN CORD
RC	310630879071	RC ASSY YKF171-005 - HTS
FM	996510008878	FM ANTENNA
AM	996510008879	LOOP ANT
VIDEO	996510008880	RCA CABLE
STEREO	996510008881	STEREO CABLE
CN103	996510008882	GP FFC CABLE 10P 60MM
CN801	996510005910	FFC CABLE 24P 160MM