DVD Receiver

HTS3455/51/96/98

Service
Service
Service

Service Manual

CLASS 1
LASER PRODUCT

MP3-CD PLAYBACK

DVD VIDEO

COMPACT disc DIGITAL VIDEO

COMPACT disc DIGITAL AUDIO

Contents

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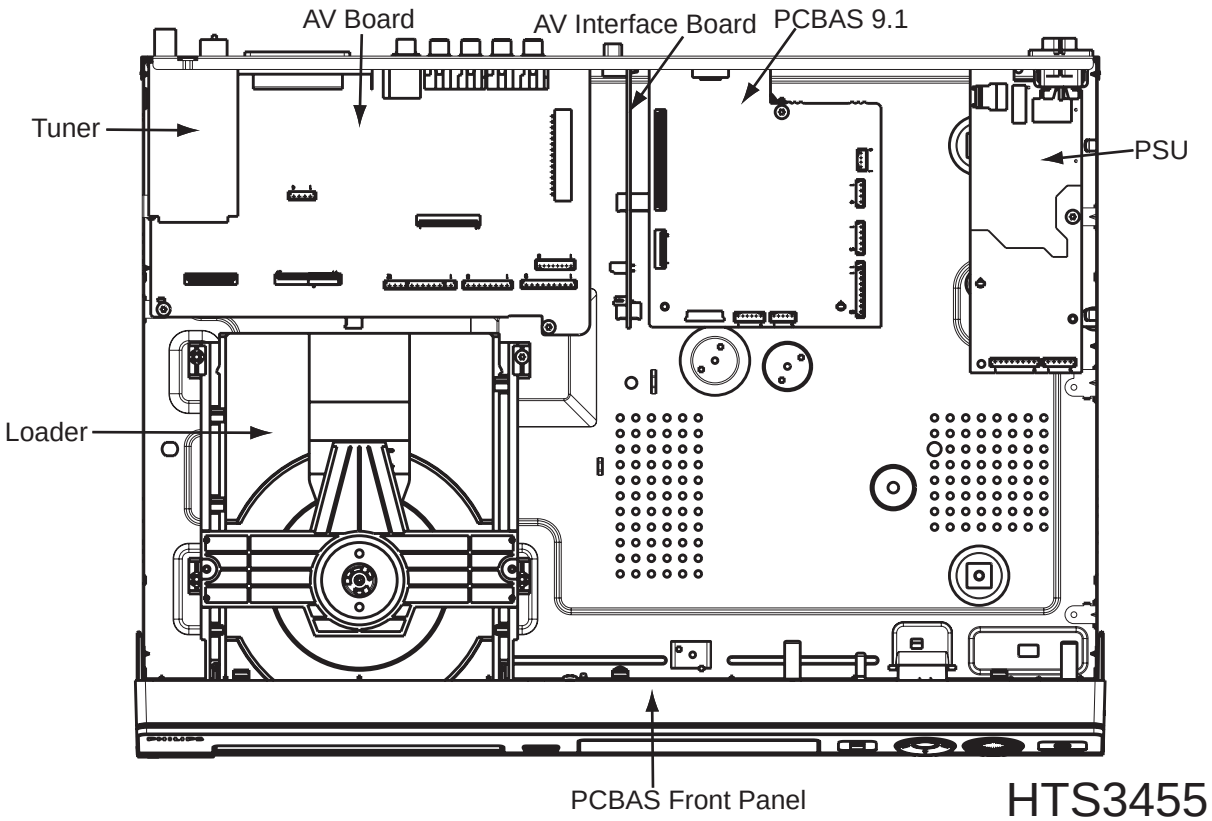
Version 1.0

PHILIPS

LOCATION OF PC BOARDS



VERSION VARIATIONS:

Type /Versions: / Features &	HTS3445		
	/96	/98	/51
Progressive Scan	x	x	x
Digital-In (Coax)	x	x	x
TV-In	x	x	x
Aux-In	x	x	x
Y/Pb/Pr (YUV) Component Video Output	x	x	x
CVBS	x	x	x
S-Video Output	x	x	x
SCART	-	-	-
VGA	x	x	x

1. Specifications

1.1 General:

Mains voltage	:	120V/230V
Mains frequency	:	50/60Hz
Power consumption	:	12W < 0.5W Eco standby power < 70W at 1/8 P_{rated} (For main unit)
Dimension main unit	:	340 x 70 x 330mm

1.2 Tuner

FM

Tuning range	:	87.5-108MHz
Grid	:	100kHz
IF frequency	:	10.7MHz ± 25kHz
Aerial input	:	75Ω coaxial
Sensitivity at 26dB S/N	:	< 7µV
Selectivity at 600kHz bandwidth	:	> 25dB
IF rejection	:	> 60dB
Image rejection	:	> 25dB
Distortion at RF=1mV, dev. 75kHz	:	< 3%
-3dB Limiting point	:	8µV
Crosstalk at RF=1mV, dev. 67.5kHz	:	> 28dB
Crosstalk at RF=1mV, dev. 40kHz	:	> 18dB

MW

Tuning range	:	531-1602kHz 530-1700kHz
Grid	:	9kHz 10kHz
IF frequency	:	450kHz ± 1kHz
Aerial input	:	Frame aerial
Sensitivity at 26dB S/N	:	< 4.0mV/M
Selectivity at 18kHz bandwidth	:	> 20dB
IF rejection	:	> 45dB
Image rejection	:	> 28dB
Distortion at RF=50mV, m=80%	:	< 5%

1.3 AMPLIFIER:

Output power		
Front	:	125W RMS / channel
Rear	:	125W RMS / channel
Center	:	250W RMS
Subwoofer	:	250W RMS
Frequency response ±0.5dB	:	20Hz-20kHz
Hum (Volume Minimum)	:	200nW
Residual noise (Volume Minimum)	:	40nW
Input sensitivity		
Aux In	:	1V ± 3dB at 22kΩ
Scart In	:	0.5V ± 3dB at 22kΩ
Output sensitivity		
Line Out (Left/Right)	:	1V ± 2dB at 10kΩ
Scart Out (Left/Right)	:	1V ± 2dB at 10kΩ

1.4 COMPACT DISC/VCD/DVD:

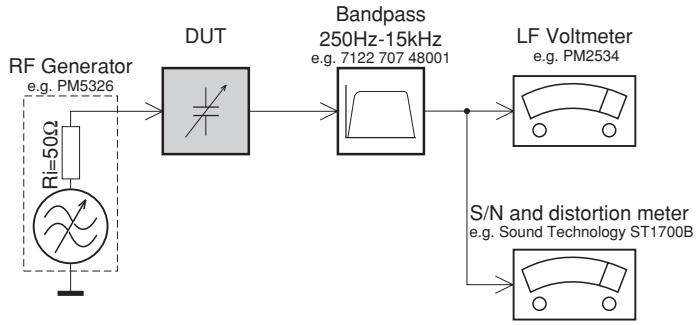
Video Decoding	:	MPEG-1/MPEG-2/ DivX 3/4/5/6, Ultra
Video DAC	:	12 Bits
Signal System	:	PAL / NTSC
Video Format	:	4:3 / 16:9
CVBS Out [1)]		
CVBS level	:	1.0 ± 0.1 V_{p-p}
Luminance S/N	:	>= 55dB
S-Video Out [1)]		
Y level	:	1.0 ± 0.1 V_{p-p}
Y S/N	:	>= 55dB
C level (burst)	:	286 mV_{pp} +1/-4 dB (NTSC)
RGB/YUV Out [1)]		
Amplitude	:	0.7 ± 0.1 V_{p-p}
S/N	:	>= 60dB

[1)] Output terminals to be terminated with 75Ω

2. Measurements Setup, Service Aid & Lead Free Requirements

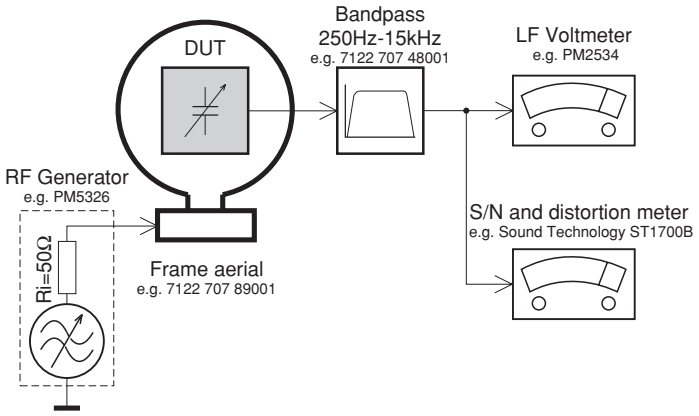
MEASUREMENT SETUP

Tuner FM



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

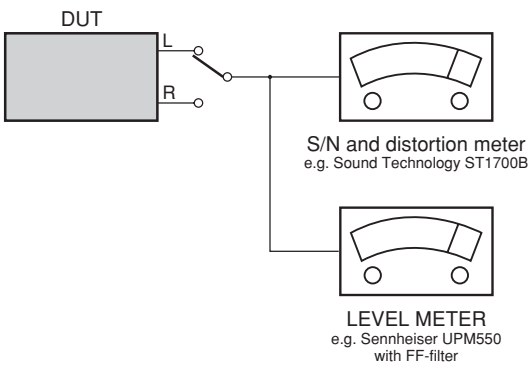
Tuner AM (MW,LW)



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).

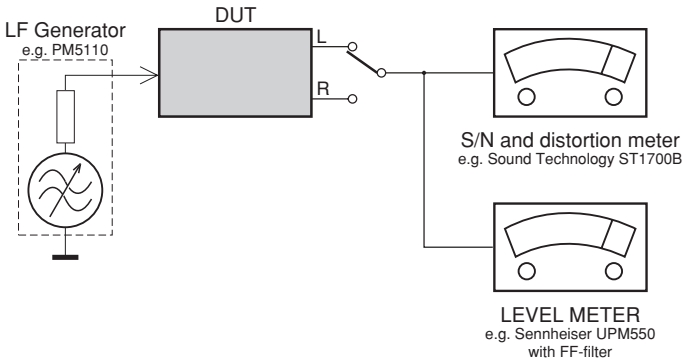
CD

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



Recorder

Use Universal Test Cassette **CrO2** SBC419 4822 397 30069
or Universal Test Cassette **Fe** SBC420 4822 397 30071



SERVICE AIDS

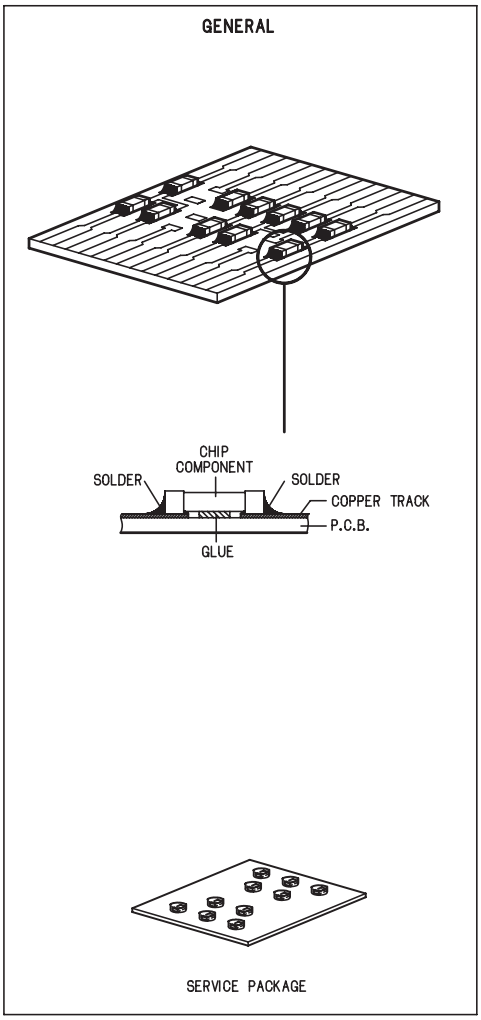
Service Tools:

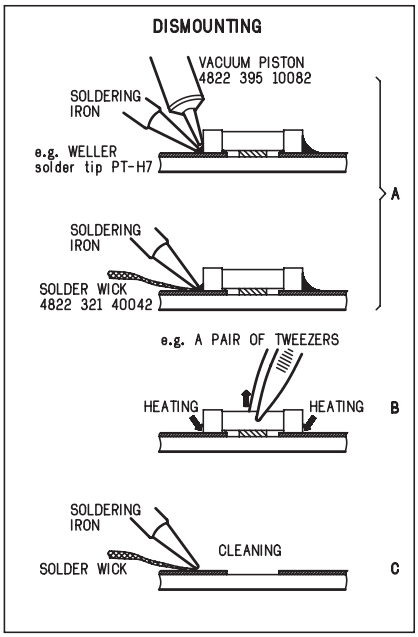
Universal Torx driver holder 4822 395 91019
Torx bit T10 150mm 4822 395 50456
Torx driver set T6 - T20 ..... 4822 395 50145
Torx driver T10 extended 4822 395 50423

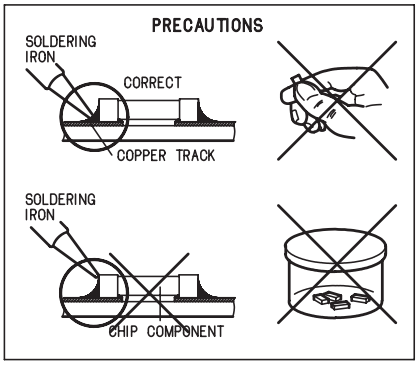
Compact Disc:

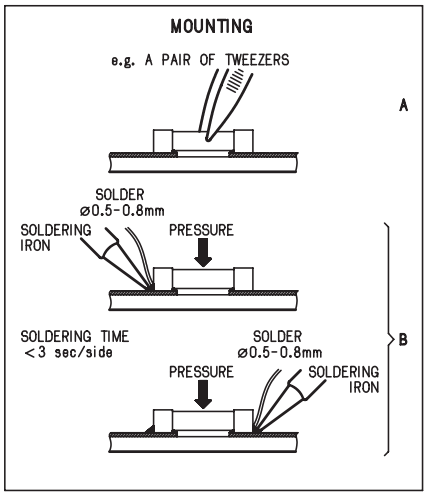
SBC426/426A Test disc 5 + 5A 4822 397 30096
SBC442 Audio Burn-in Test disc 1kHz 4822 397 30155
SBC429 Audio Signals disc 4822 397 30184
Dolby Pro-logic Test Disc 4822 395 10216

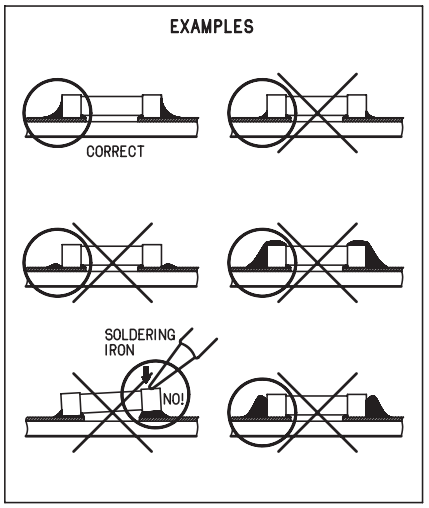
HANDLING CHIP COMPONENTS











ESD

GB WARNING

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

NL WAARSCHUWING

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

F ATTENTION

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

D WARNUNG

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

I AVVERTIMENTO

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

GB ESD PROTECTION EQUIPMENT:

Complete Kit ESD3 (small tablemat, wristband, connection box, extention 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 symbool ⚠

F

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

Less composants de sécurité sont marqués ⚠

D

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

Sicherheitsbauteile sind durch das Symbol ⚠ markiert.

I

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

Componenty di sicurezza sono marcati con ⚠

GB

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

CLASS 1
LASER PRODUCT

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".

2.1 Lead Free Requirements

Pb(Lead) Free Solder

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

INDENTIFICATION:

Regardless of special logo (not always indicated)

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

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

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

- Use only lead-free solder alloy Philips SAC305 with order code 0622 149 00106. If lead-free solder-paste is required, please contact the manufacturer of your solder-equipment. In general use of solder-paste within workshops should be avoided because paste is not easy to store and to handle.
- Use only adequate solder tools applicable for lead-free solder alloy. The solder tool must be able
  - To reach at least a solder-temperature of 400°C,
  - To stabilize the adjusted temperature at the solder-tip
  - To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature around 360°C – 380°C is reached and stabilized at the solder joint. Heating-time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C otherwise wear-out of tips will rise drastically and flux-fluid will be destroyed. To avoid wear-out of tips switch off un-used equipment, or reduce heat.
- Mix of lead-free solder alloy / parts with leaded solder alloy / parts is possible but PHILIPS recommends strongly to avoid mixed solder alloy types (leaded and lead-free).
  If one cannot avoid or does not know whether product is lead-free, clean carefully the solder-joint from old solder alloy and re-solder with new solder alloy (SAC305).
- Use only original spare-parts listed in the Service-Manuals. Not listed standard-material (commodities) has to be purchased at external companies.
- Special information for BGA-ICs:
  - always use the 12nc-recognizable soldering temperature profile of the specific BGA (for de-soldering always use the lead-free temperature profile, in case of doubt)
  - lead free BGA-ICs will be delivered in so-called ‘dry-packaging’ (sealed pack including a silica gel pack) to protect the IC against moisture. After opening, dependent of MSL-level seen on indicator-label in the bag, the BGA-IC possibly still has to be baked dry. (MSL=Moisture Sensitivity Level). This will be communicated via AYS-website.
  Do not re-use BGAs at all.
- For sets produced before 1.1.2005 (except products of 2004), containing leaded solder-alloy and components, all needed spare-parts will be available till the end of the service-period. For repair of such sets nothing changes.
- On our website **www.atyourservice.ce.Philips.com** you find more information to:
  - BGA-de-/soldering (+ baking instructions)
  - Heating-profiles of BGAs and other ICs used in Philips-sets

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

For additional questions please contact your local repair-helpdesk.

2.2 Service Hints

CAUTION

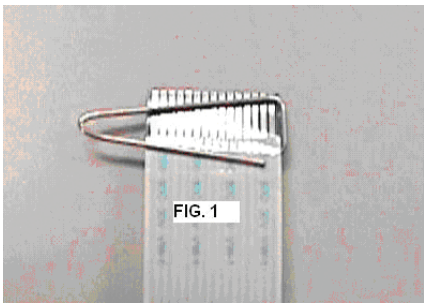
CHARGED CAPACITORS ON THE SERVO BOARD MAY DAMAGE THE DRIVE ELECTRONICS WHEN CONNECTING A NEW DRIVE.THAT'S WHY, BESIDES THE SAFETY MEASURES LIKE

- **SWITCH OFF POWER SUPPLY**
- **ESD PROTECTION**

ADDITIONAL ACTIONS MUST BE TAKEN BY THE REPAIR TECHNICIAN.

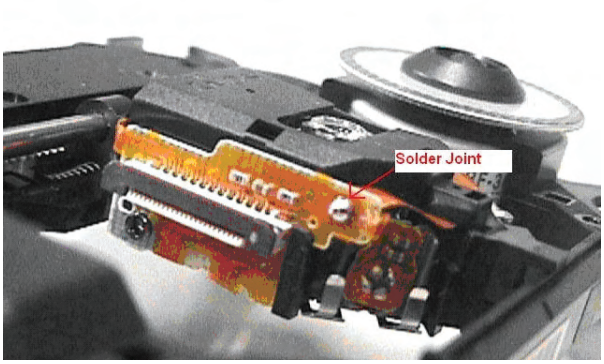
The following steps have to be done when replacing the defective loader :

1. Dismantling of the loader to access the ESD protection point if necessary.
2. **Solder the ESD protection point*.**
3. Disconnect flexfoil cable from the defective loader.
4. Put a paper clip on the flexfoil to short-circuit the contacts (fig.1)
5. Replace the defective loader with a new loader.
6. Remove paperclip from the flexfoil and connect it to the new loader.
7. Remove solder joint on the ESD protection point.



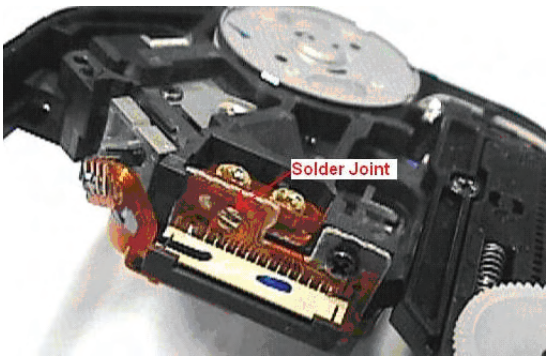
ATTENTION: The laser diode of this loader is protected against ESD by a solder joint which shortcircuits the laserdiode to ground. For proper functionality of the loader this solder joint must be remove **after** connection loader to the set.

Type 1



(ESD protection point is accessible from top of loader)

Type 2

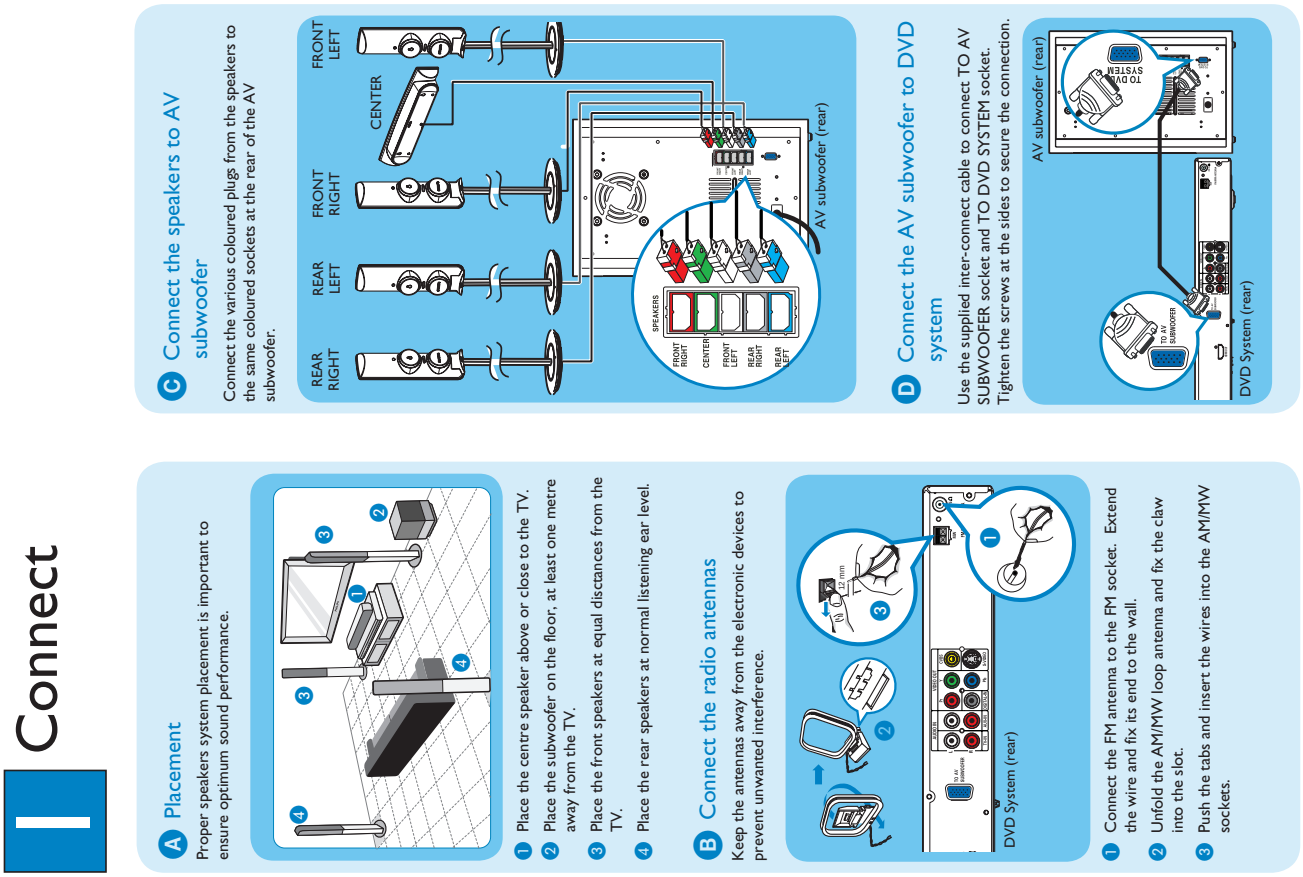


(ESD protection point is accessible from bottom of the loader)

Only applicable for defective loader needed to be sent back to supplier for failure analysis and to support backcharging evidence.
This is also applicable for all partnership workshops.

3. Directions For Use

The following except of the Quick Use Guide serves as an introduction to the set.
The Complete Direction for the Use can be downloaded in different languages from the internet site of Philips Customer care Center:
www.p4c.philips.com



DVD HOME THEATRE SYSTEM

HTS3455

Quick Start Guide

1 Connect
2 Set up
3 Enjoy

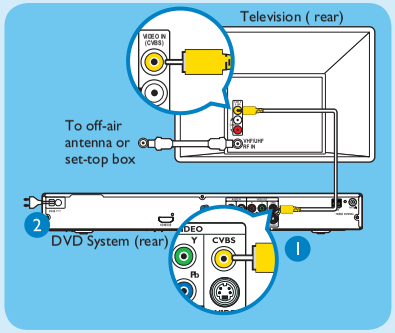
What's in the box?

- DVD system
- 2 Power cables
- FM wire antenna
- 1 centre, 2 front, 2 rear speakers and AV subwoofer
- Remote Control and 2 batteries
- AM/MW loop antenna
- Composite video cable
- Inter-connect cable
- User Manual

PHILIPS

2 Set up

E Connect the DVD system to TV

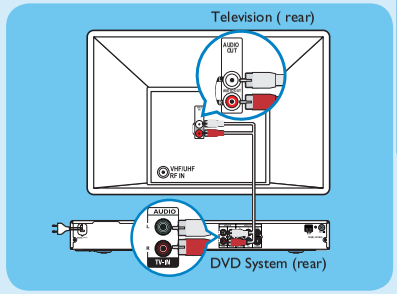


1. Use the supplied composite video cable to connect the CVBS socket on this DVD system to the VIDEO IN socket on your TV.
2. Plug in the power cables from the DVD system, AV subwoofer and TV to the AC power outlets.

Note It is important to connect the DVD system directly to your TV.

F Connect the audio from TV to DVD system (optional)

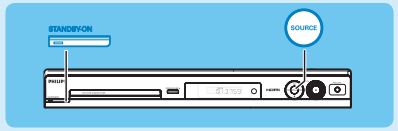
To hear the TV audio through this home theatre system, use the red and white audio cables (not supplied) to connect the TV IN (R/L) sockets on this DVD system to the AUDIO output sockets on your TV.



Note Press **TV** on the remote control to get the sound output from the speakers system when watching the TV programme.

A Finding the viewing channel

1. Press **STANDBY ON** on the DVD system.
2. Press **SOURCE** on the DVD system until "DISC" appears on the display panel.

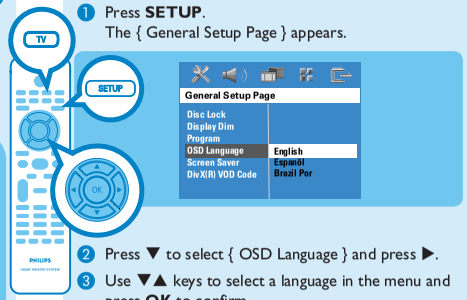


3. Turn on the TV. Use the TV's remote control to select the correct viewing channel for the DVD system.
   You should see the blue DVD background on the TV.

Note To search for the correct viewing channel, press the Channel Down button on the TV's remote control repeatedly (or AV, SELECT, button) until you see the blue DVD background.

B Select the display language on the screen

1. Press **SETUP**.
   The { General Setup Page } appears.



2. Press ▼ to select { OSD Language } and press ▶.
3. Use ▼▲ keys to select a language in the menu and press **OK** to confirm.
4. Press **SETUP** to exit.

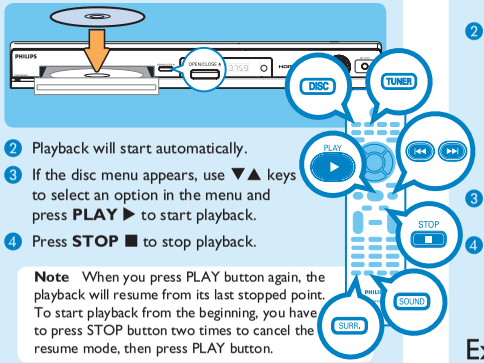
Note The language set here is only for the menus that are shown on the TV while operating this DVD system, not for the DVD disc menu.

There are various setup options (Audio Setup, Video Setup, Preference Setup) available on this DVD system. Refer to the user manual for more information.

3 Enjoy

Start disc playback

1. Press **OPEN CLOSE** to open the disc tray.
   Load a disc and close the disc tray.



2. Playback will start automatically.
3. If the disc menu appears, use ▼▲ keys to select an option in the menu and press **PLAY** ▶ to start playback.
4. Press **STOP** ■ to stop playback.

Note When you press PLAY button again, the playback will resume from its last stopped point. To start playback from the beginning, you have to press STOP button two times to cancel the resume mode, then press PLAY button.

Listen to radio

1. Press **TUNER**.
   The display panel will show "AUTO INSTALL PRESS PLAY".
2. Press **PLAY** ▶ until "START ..." appears on the display panel.
   All the available radio stations with strong reception signal will be stored automatically.

Note This feature is only available for the first time setup. If you wish to reinstall all the radio stations, hold down the PROGRAM button on the remote control.

3. Once complete, use ⏮ ⏭ keys to select a preset radio station.
4. To delete a preset radio station, hold down **STOP** ■ until "FM/MW X DELETED" appears.

Experience surround sound

1. Press **SURR** to switch between stereo and multi-channel.
2. Press **SOUND** to select either CONCERT, DRAMA, ACTION or SCI-FI preset digital sound effects.

Troubleshooting

For more troubleshooting tips, see the user manual.

No picture.
- Press DISC button on the remote control.
- Check the connection to the TV and ensure the plugs are firmly in place.

No sound.
- Check the speaker connections and settings.
- Check the audio connections and press SOURCE button to select the correct input source.
- The centre and rear speakers operate only in multi-channel surround mode. Press SURR button to select multi-channel surround output.

The DVD system does not work.
- Disconnect the power cord from the power outlet for a few minutes. Reconnect the power cord and try again.

Need help?

User Manual
See the user manual that cames with your Philips DVD System

Online
Go to www.philips.com/support

Be responsible
Respect copyrights

12 NC 3139 246 18981
www.philips.com

4. Dismantling Instructions

4.1 Dismantling of the DVD Loader Tray Cover

1) Insert a minus screwdriver and push the lever in the direction as shown in Figure 4-1 to unlock the tray before sliding it out.

Figure 4-1

2) Remove the Tray Cover as shown in Figure 4-2

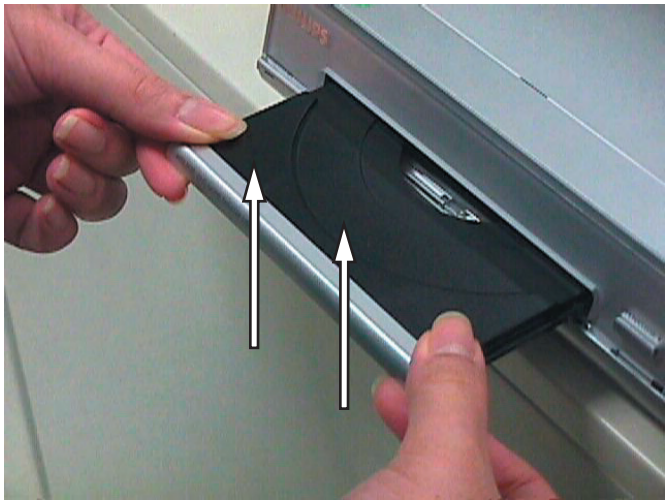


Figure 4-2

4.2 Dismantling of the Front Board, PSU Module & DVD Loader.

1) Release 4 snap hooks to remove the Front Board.
   - 1 snap hook each on the left & right side
   - 2 snap hooks on the bottom side

2) Loosen 2 screws (See Figure 4-3) to remove the PSU Module.

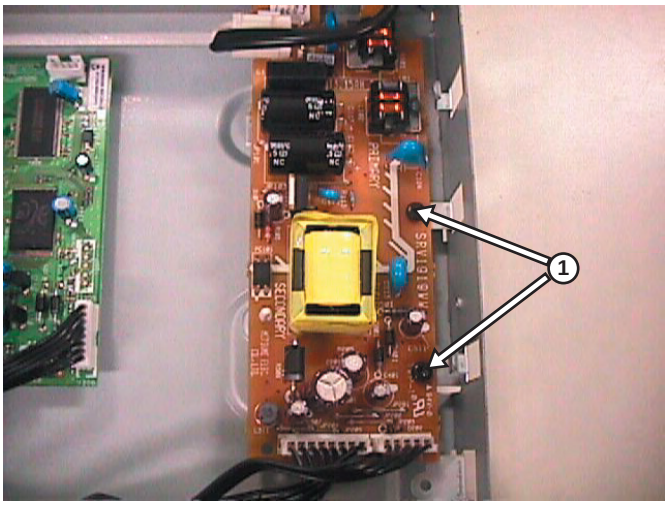


Figure 4-3

3) Loosen 4 screws (See Figure 4-4) to remove the DVD Loader.

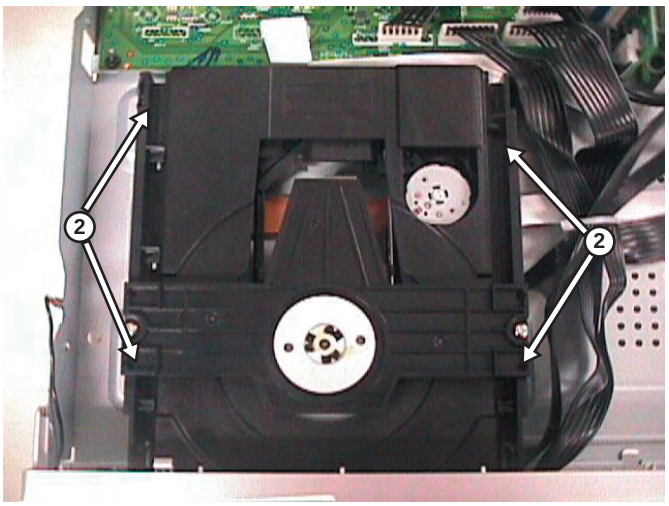


Figure 4-4

4.3 Dismantling of the Tuner Module & AV Board.

1) Loosen 1 screw (See Figure 4-5) to remove the Tuner Module.

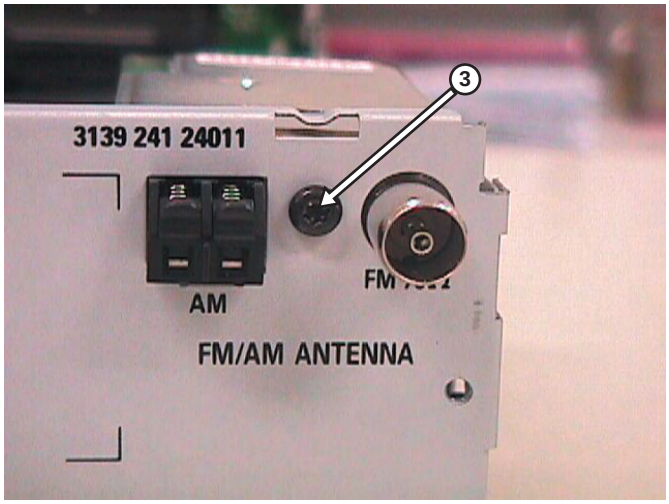


Figure 4-5

2) Loosen 2 screws (See Figure 4-6 & Figure 4-7) to remove the AV Board.

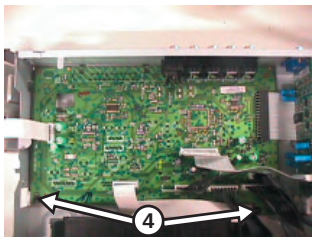


Figure 4-6

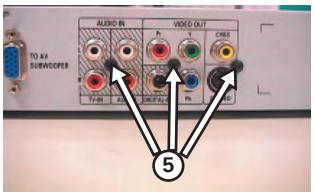


Figure 4-7

4.4 Dismantling of the AV Interface Board & PCBAS 9.1 Board

1) Loosen 2 screws (See Figure 4-8) & 2 screws (Figure 4-9) to remove AV Interface Board & PBCAS 9.1 Board.

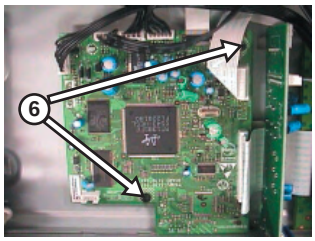
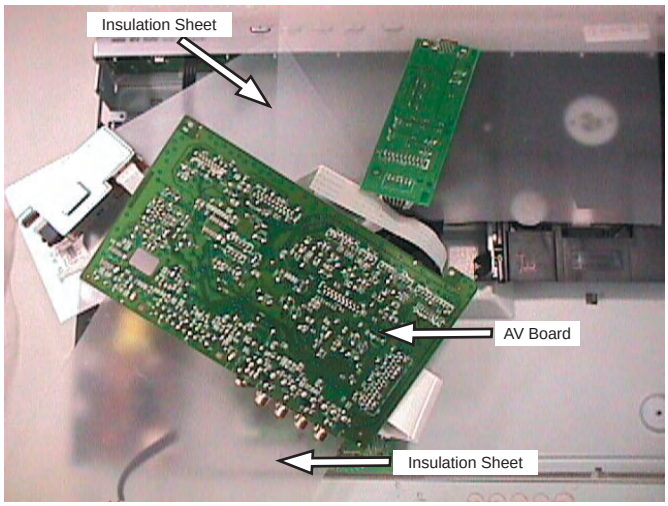


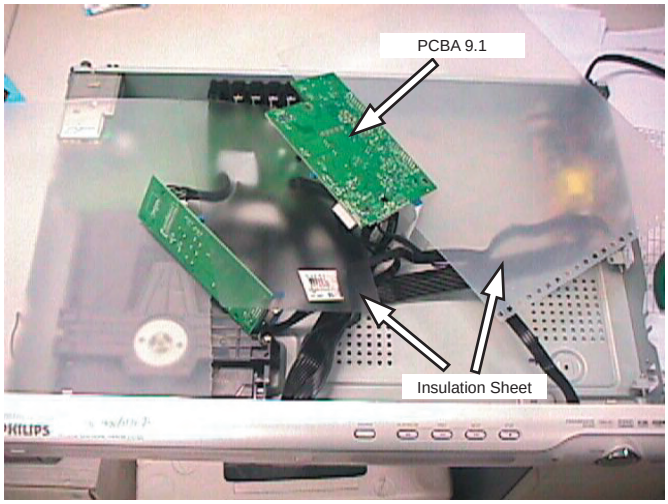
Figure 4-8

Figure 4-9

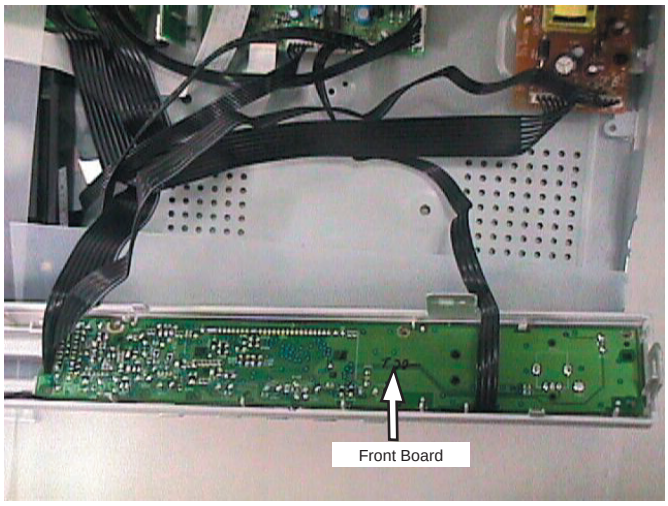
4.5 Service Positions



Service Position - AV Board

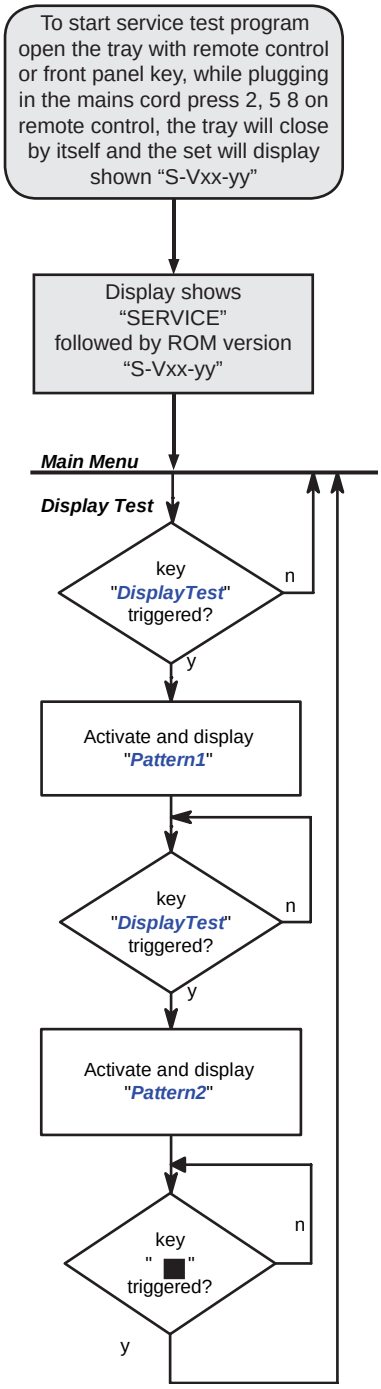


Service Position - PCBAS 9.1



Service Position - Front Board

5. Service Test Program



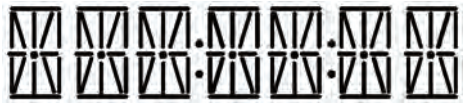
S refers to Service Mode
V refers to Version
xx refers to Software version number of BEA (counting up from 01 to 99)
yy refers to Software version number of Front uP (counting up from 01 to 99)

4.1 Display Test

Purpose:
This test is used to check the driving circuits, the display and whether there are any short-circuits, open-circuits or any other defects.

Player:

Following display patterns are used to test the display and its connections to µP.
Pattern 1: *Default: All display control pins are ON*
- to check the open-circuits



Pattern 2: *Alternate display control pins are on (Test Pattern: 0x55)*
- to check the short-circuits on Data port

Receiver:

Following display patterns are used to test the display and its connections to µP.
Pattern 1: *Default: All display control pins are ON*
- to check the open-circuits

Pattern 2: *Alternate display control pins are on (Test Pattern: 0x55)*
- to check the short-circuits on Data port

5.1.1 Reprogramming of DVD version Matrix

After repair, the customer setting and region code may be lost. Reprogramming will put the set back in the state in which it has left the factory, ie. with the default setting and the allowed region code.

Model	Region	Region Code	TV Type
HTS 3455/51	Russia	5	PAL
HTS 3455/96	Taiwan	3	NTSC
HTS 3455/98	APAC	3	PAL

To reprogram do as follows:
1) Power up the set and select DISC source.
2) Open tray by press “OPEN/CLOSE” button on the set or press and hold “STOP” button on the RC.
3) Press the following buttons on the Remote Control:
   <9> <9> <9> <9> <Subtitle> <4> .....for HTS 3455/51
   <9> <9> <9> <9> <Subtitle> <3> .....for HTS 3455/96
   <9> <9> <9> <9> <Subtitle> <0> .....for HTS 3455/98

4) The display shows **‘YYYY-ZZ’** and the tray will close.
   YYYY = model number (eg. 8300, 8500, etc.)
   ZZ = slash stroke version (eg. 01, 69, etc.)

5.1.2 Procedure for check Software version

1) Power up the set and select DISC source.
2) Open tray by press “OPEN/CLOSE” button on the set or press and hold “STOP” button on the RC.
3) Press “DISPLAY” button on the Remote control.
4) The TV screen will shows:

PPPP-Vxx YYYYY-ZZ
SERVO: GGGGGGGG REG:DD

PPPP = HTS 3300MKII
xx = version number
YYYYY = model # - 3300D
ZZ = stroke version (12, 51, 05, 98, 55, 51K)
GGGGGGGG = version for servo code

5.1.3 Burning of firmware

1. Unzip the zip-archive attached with this service information.
2. Start the CD burning software and create a new CD Project (Data disc) with the following settings:
   a. File System: ISO9660
   b. Format: MODE 2/XA
   c. Recording format: Single Session (Track at once), Finalized CD
3. Place the content of the zip-archive into the root directory of the new CD project.
4. Burn the data onto a blank CDR or CDRW.

Note: ISO9660 is mandatory, UDF discs are not supported! The final CDROM must not contain any other data except the file from the zip-archive.

5.1.4 Procedure to upgrade the firmware

1. Power up the set and open tray.
2. Insert the prepared Upgrade CDROM and close the tray.
3. The set will display:

   1. “LOAD”
   2. Display software version number for 2 sec on the FTD display.
   3. “ERASE”
   4. “WRITE”
   5. “ERROR” (if unsuccessful)
   6. “UPG END” (if successful)
   7. “DISC -> CLOSE -> LOAD”. (Meanwhile tray will be pulled in)

Note: Do not press any button or interrupt the main supply upgrading process,Otherwise the set may become defective.

4. When the upgrade is completed, the tray will close automatic.
5. The tray will close and the set will go to Standby mode automatically when the upgrade process is completed.

5.1.5 Procedure to check the firmware version to confirm upgrading

1. Power up the set and open tray.
2. Press the <Menu Display> button on the Remote Control.
3. The firmware version will be displayed on the top left hand corner of the OSD.

5.1.6 Trade Mode

Trade mode is a feature that will block all set keys when enabled. It is for dealers to prevent customers fromremoving disc, changing source etc using the set keys.Rotary and Remote Control (RC) keys are still allowed inTrade mode.

To activate Trade Mode:

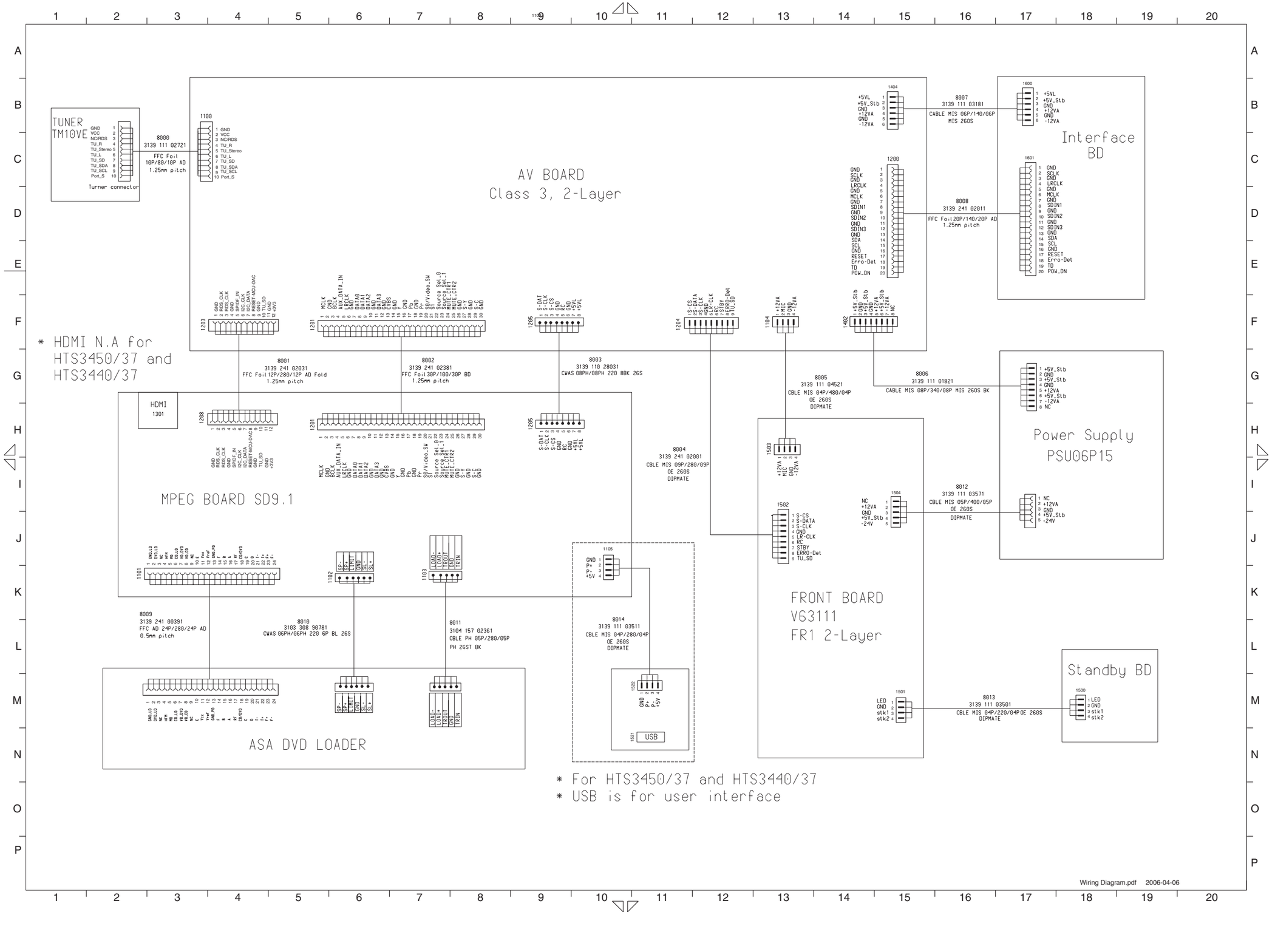
1) Power up the set and select DISC source.
2) Open tray by press “OPEN/CLOSE” button on the set or press and hold “STOP” button on the RC.
3) Then press buttons <2> <5> <9> on the RC.
4) The display shows **‘TRA ON’** and the tray will close.
Trade Mode is now enabled.

To deactivate Trade Mode:

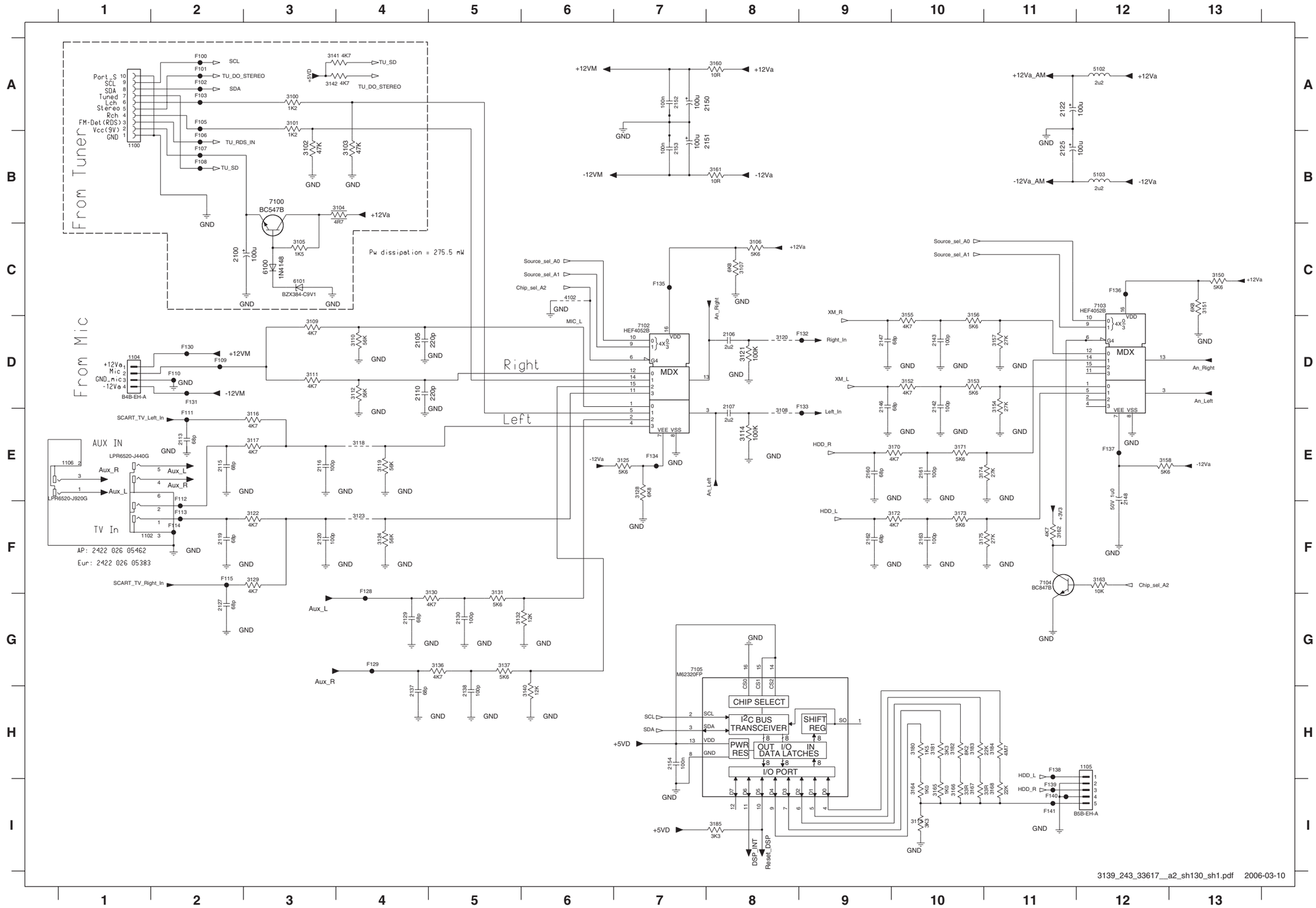
1) Power up the set and select DISC source.
2) Open tray by press and hold “STOP”button on the RC.
3) Then press buttons <2> <5> <9> on the RC.
4) The display shows **‘TRA OFF’** and the tray will close.
Trade Mode is now disabled.

Notes:

Wiring Diagram

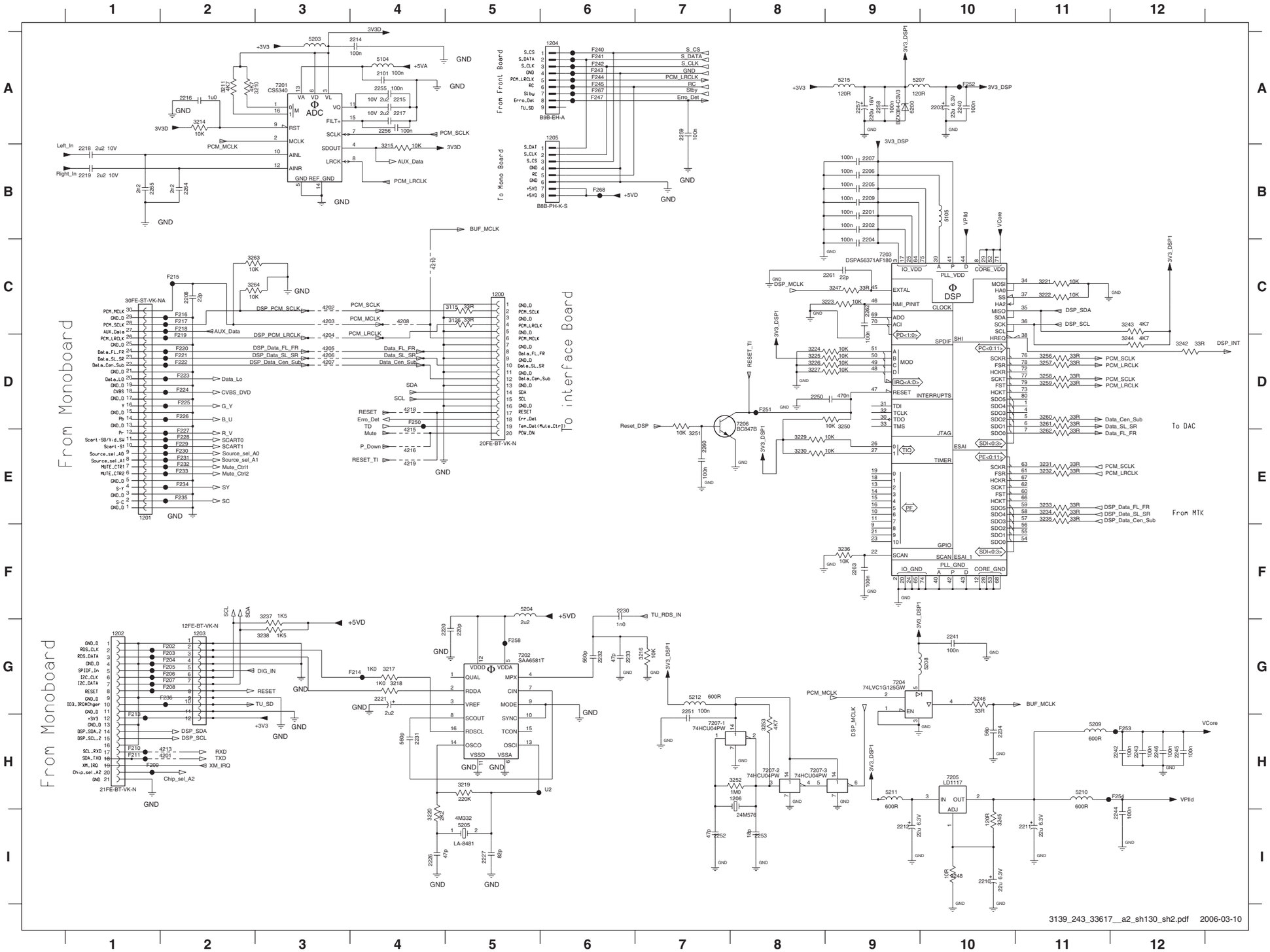


7. AV Board: Circuit Diagram (Part 1)

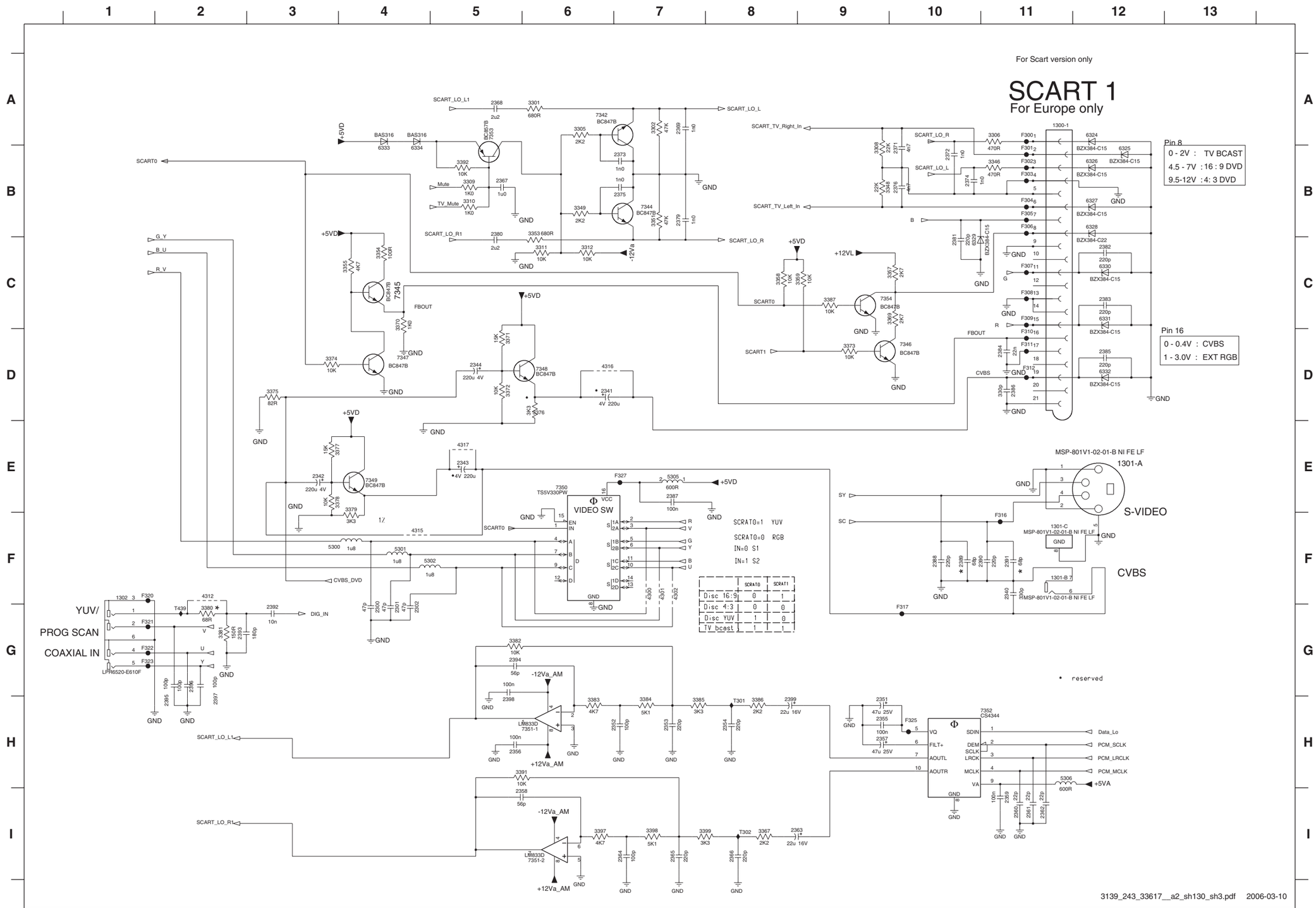


1100	B1	F100	A2
1102	F1	F101	A2
1104	D1	F102	A2
1105	H12	F103	A2
1106	E1	F105	A2
2100	C2	F106	B2
2105	D4	F107	B2
2106	D8	F108	B2
2107	E8	F109	D2
2110	D4	F110	D2
2113	E2	F111	E2
2115	E2	F112	E2
2116	E3	F113	F2
2119	F2	F114	F2
2120	F3	F115	F2
2122	A11	F128	F4
2125	B11	F129	G4
2127	G2	F130	D2
2129	G4	F131	D2
2130	G5	F132	D9
2137	H4	F133	D9
2138	H5	F134	E7
2142	D10	F135	C7
2143	D10	F136	C12
2146	D9	F137	E12
2147	D9	F138	H11
2148	E12	F139	I11
2150	A8	F140	I11
2151	B8	F141	I11
2152	A7		
2153	B7		
2154	H7		
2160	E9		
2161	E10		
2162	F9		
2163	F10		
3100	A3		
3101	A3		
3102	B3		
3103	B4		
3104	B4		
3105	C3		
3106	C8		
3107	C8		
3108	E8		
3109	D3		
3110	D4		
3111	D3		
3112	D4		
3113	I10		
3114	E8		
3116	E3		
3117	E3		
3118	E4		
3119	E4		
3120	D8		
3121	D8		
3122	F3		
3123	F4		
3124	F4		
3125	E7		
3128	E7		
3129	F3		
3130	G5		
3131	G5		
3132	G5		
3136	G5		
3137	G5		
3140	H6		
3141	A3		
3142	A3		
3150	C13		
3151	C13		
3152	D10		
3153	D10		
3154	D11		
3155	D10		
3156	D10		
3157	D11		
3158	E12		
3160	A8		
3161	B8		
3162	F11		
3163	F12		
3164	I10		
3165	I10		
3166	I10		
3167	I10		
3168	I11		
3170	E10		
3171	E10		
3172	F10		
3173	F10		
3174	E10		
3175	F10		
3180	H10		
3181	H10		
3182	H10		
3183	H10		
3184	H11		
3185	I8		
4102	C6		
5102	A12		
5103	B12		
6100	C3		
6101	C3		
7100	B3		
7102	D7		
7103	C12		
7104	F11		
7105	G7		

AV Board: Circuit Diagram (Part 2)

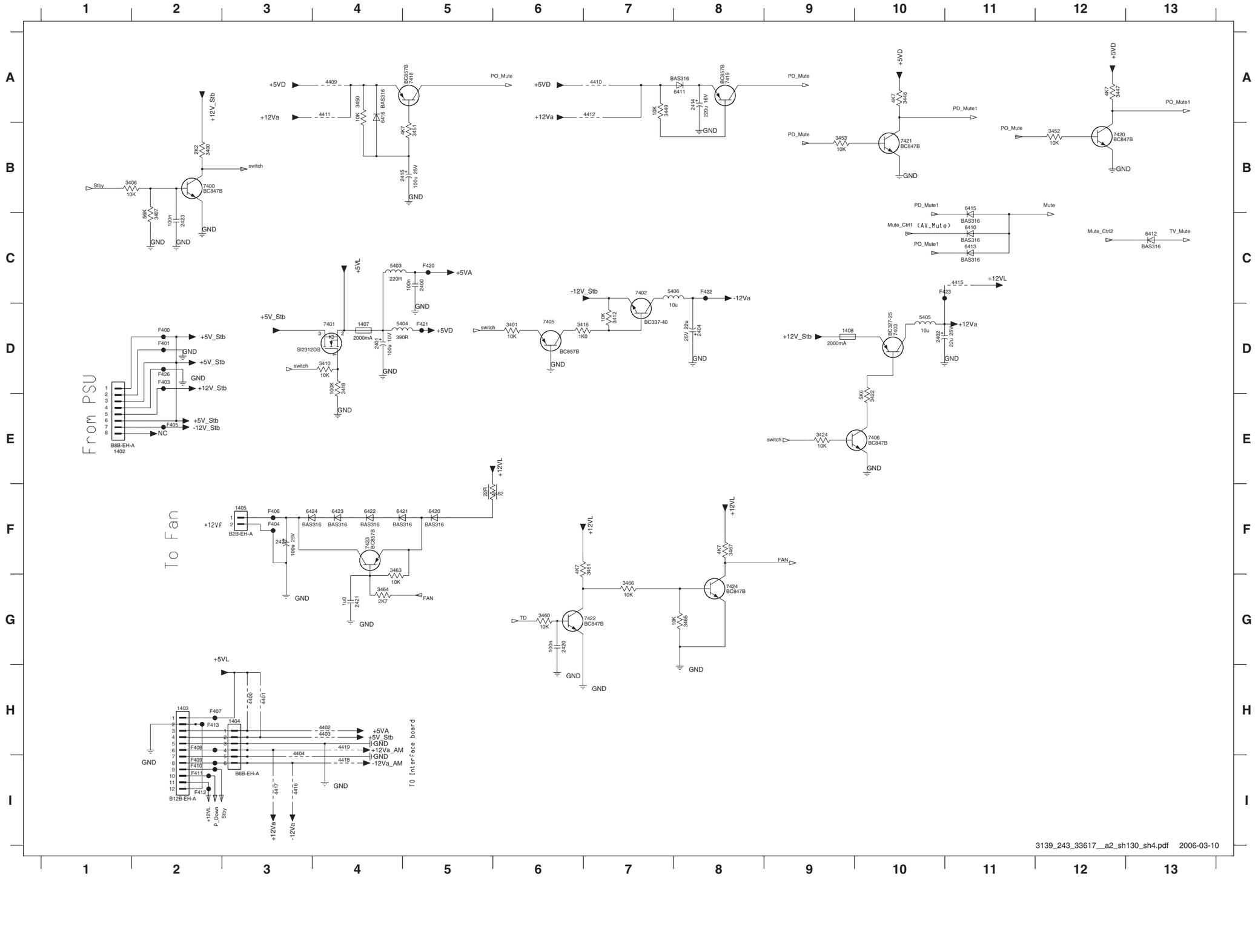


AV Board: Circuit Diagram (Part 3)



1300-1	A11	6324	A12
1301-A	E12	6325	B12
1301-B	F11	6326	B12
1301-C	F11	6327	B12
1302	F1	6328	B12
2300	G4	6329	C10
2301	G4	6330	C12
2302	G4	6331	C12
2340	F11	6332	D12
2341	D6	6333	B4
2342	E3	6334	B4
2343	E5	7342	A6
2344	D5	7344	B7
2351	H9	7345	C4
2352	H7	7346	D10
2353	H7	7347	D4
2354	H8	7348	D6
2355	H9	7349	E4
2356	H5	7350	E6
2357	H9	7351-1	H6
2358	I5	7351-2	I6
2359	I11	7352	H10
2360	I11	7353	A5
2361	I11	7354	C9
2362	I11	F300	A11
2363	I8	F301	B11
2364	I7	F302	B11
2365	I7	F303	B11
2366	I8	F304	B11
2367	B5	F305	B11
2368	A5	F306	B11
2369	A7	F307	C11
2371	B10	F308	C11
2372	B10	F309	C11
2373	B7	F310	D11
2374	B10	F311	D11
2375	B7	F312	D11
2376	B10	F316	F11
2379	B7	F317	G10
2380	B5	F320	F1
2381	C10	F321	G1
2382	C12	F322	G1
2383	C12	F323	G1
2384	D11	F325	H10
2385	D12	F327	E7
2386	D11	T301	H8
2387	E7	T302	I8
2388	F10	T439	G2
2389	F10		
2390	F11		
2391	F11		
2392	G3		
2393	G2		
2394	G5		
2395	H2		
2396	G2		
2397	H2		
2398	H5		
2399	H8		
3301	A6		
3302	A7		
3305	A6		
3306	A11		
3308	B9		
3309	B5		
3310	B5		
3311	C6		
3312	C6		
3346	B11		
3348	B9		
3349	B6		
3351	B7		
3353	B6		
3354	C4		
3355	C4		
3357	C10		
3358	C8		
3359	C9		
3367	I8		
3369	C10		
3370	C4		
3371	D5		
3372	D5		
3373	D9		
3374	D3		
3375	D3		
3376	D6		
3377	E3		
3378	E3		
3379	E4		
3380	G2		
3381	G2		
3382	G5		
3383	H6		
3384	H7		
3385	H7		
3386	H8		
3387	C9		
3391	H5		
3392	B5		
3397	I6		
3398	I7		
3399	I7		
4300	F7		
4301	F7		
4302	F7		
4312	F2		
4315	F4		
4316	D6		
4317	E5		
5300	F3		
5301	F4		
5302	F4		
5305	E7		
5306	H11		

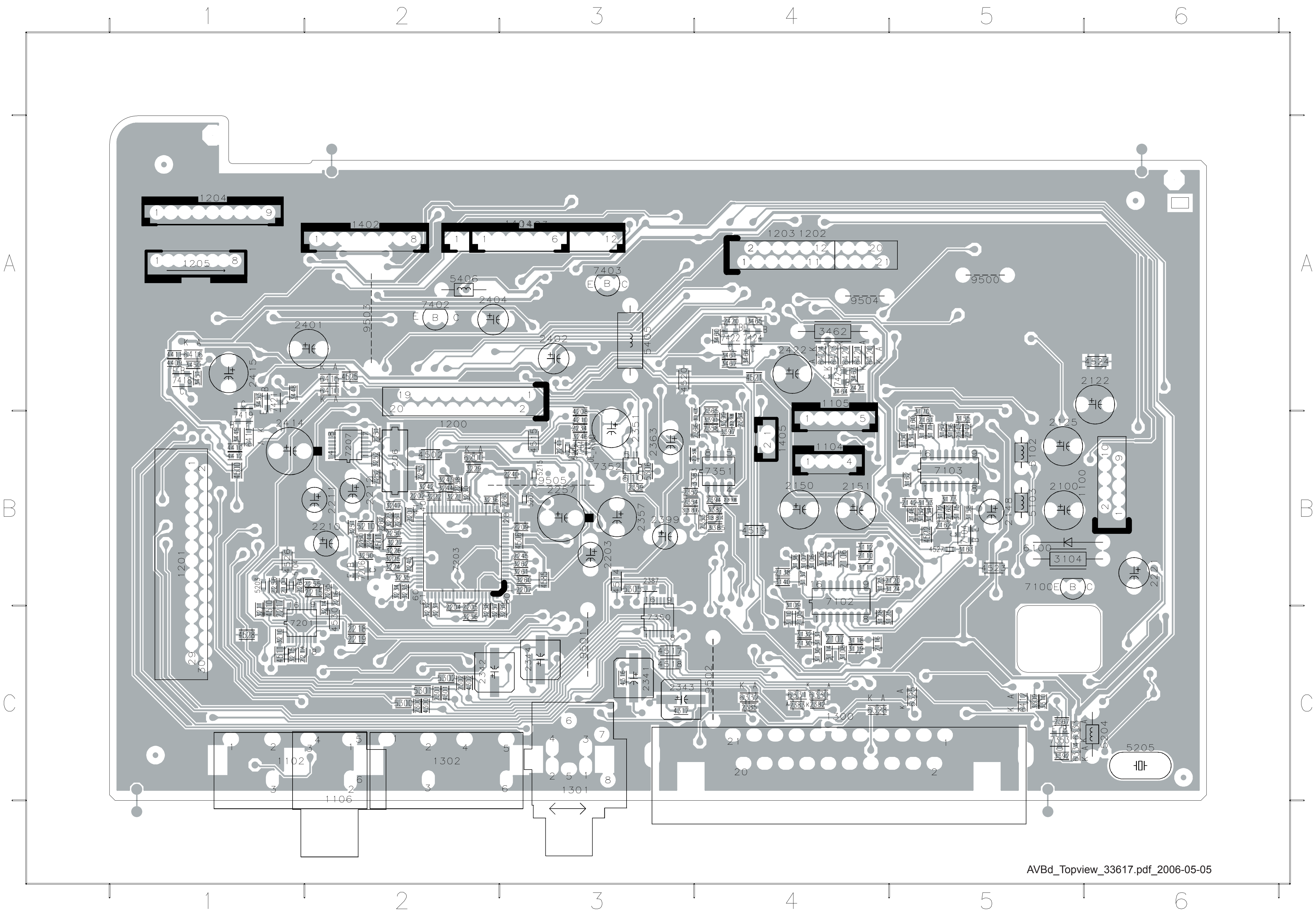
AV Board: Circuit Diagram (Part 4)



1402 E1
1403 H2
1404 H3
1405 F3
1407 D4
1408 D9
2400 C5
2401 D4
2402 D10
2404 D8
2414 A8
2415 B5
2420 G6
2421 G4
2422 F3
2423 C2
3400 B2
3401 D6
3406 B1
3407 C2
3410 D4
3412 D7
3416 D6
3418 D4
3422 E10
3424 E9
3447 A12
3448 A10
3449 A7
3450 A4
3451 B5
3452 B12
3453 B9
3460 G6
3461 F7
3462 F6
3463 F4
3464 G4
3465 G8
3466 G7
3467 F8
4400 H3
4401 H3
4402 H4
4403 H4
4404 I3
4409 A4
4410 A7
4411 A4
4412 A7
4415 C11
4416 I3
4417 I3
4418 I4
4419 H4
5403 C4
5404 D4
5405 D10
5406 C7
6410 C11
6411 A8
6412 C13
6413 C11
6415 B11
6416 A4
6420 F5
6421 F4
6422 F4
6423 F4
6424 F3
7400 B2
7401 D4
7402 C7
7403 D10
7405 D6
7406 E10
7418 A5
7419 A8
7420 B12
7421 B10
7422 G7
7423 F4
7424 G8
F400 D2
F401 D2
F403 D2
F404 F3
F405 E2
F406 F3
F407 H2
F408 H2
F409 I2
F410 I2
F411 I2
F412 I2
F413 H2
F420 C5
F421 D5
F422 C8
F423 C11
F426 D2

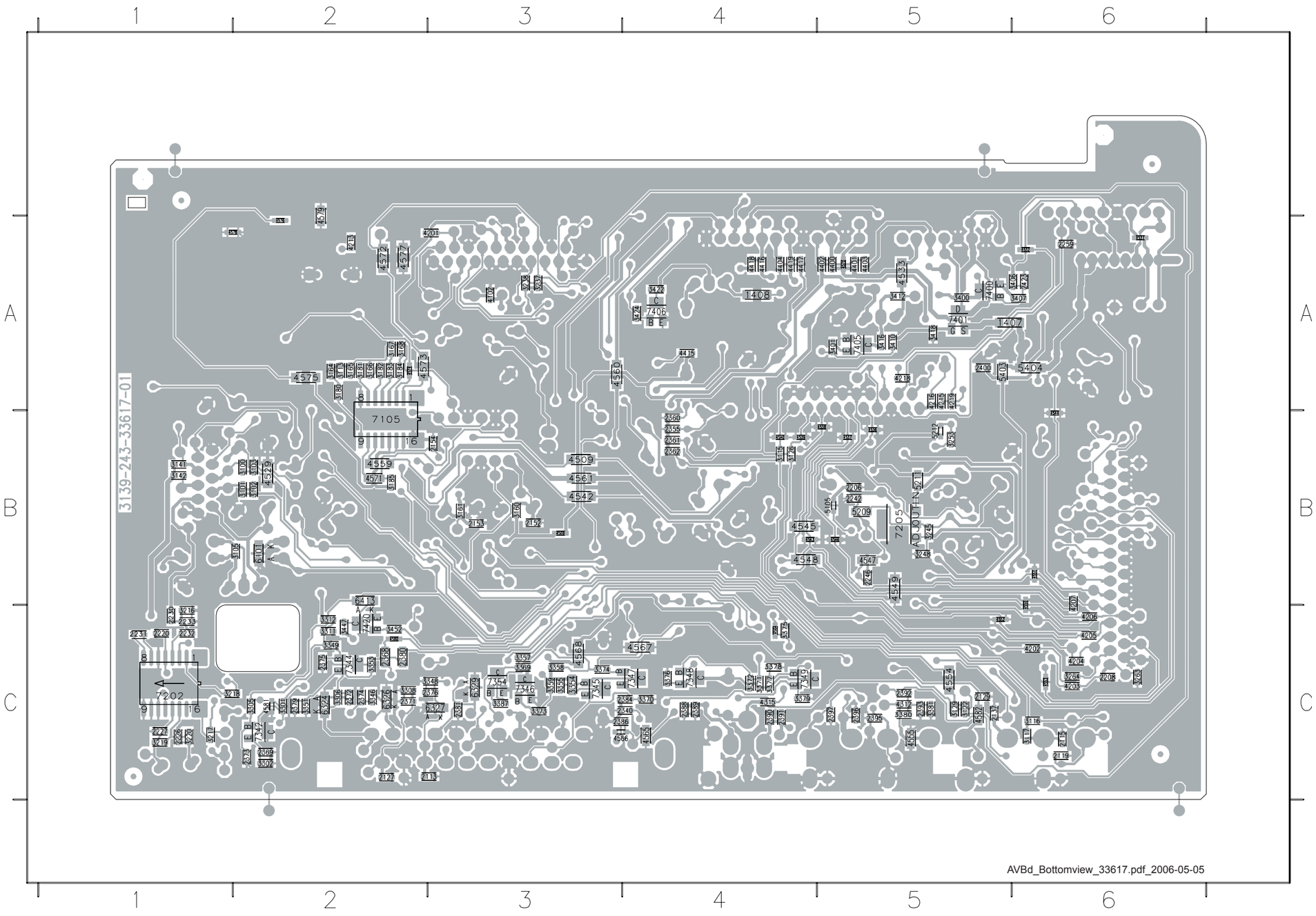
Layout: AV Board (Top view)

1100	B5
1102	C1
1104	B4
1105	A4
1106	C2
1200	B2
1201	B1
1202	A4
1203	A4
1204	A1
1205	A1
1206	B2
1300	C4
1301	C3
1302	C2
1402	A2
1403	A3
1404	A3
1405	B4
2100	B5
2101	B1
2105	C4
2106	B4
2107	C4
2110	B4
2116	C4
2120	B5
2122	A6
2125	B5
2130	C4
2138	B4
2142	B5
2143	B5
2146	B5
2147	B5
2148	B5
2150	B4
2151	B4
2160	B5
2161	B5
2162	B5
2163	B5
2201	B2
2202	B2
2203	B3
2204	C2
2205	C2
2207	B3
2209	B3
2210	B2
2211	B2
2212	B2
2214	C1
2215	B2
2216	B2
2217	C1
2218	C2
2219	C2
2221	B6
2234	B3
2240	B3
2241	B3
2243	B2
2244	B2
2245	B3
2250	B2
2251	B2
2252	B2
2253	B2
2255	B2
2256	B1
2257	B3
2258	B2
2260	B2
2261	B2
2262	B2
2263	B3
2264	B1
2265	B2
2300	C2
2301	C2
2302	C2
2341	C3
2342	C2
2343	C3
2344	C3
2351	B3
2352	B3
2353	B4
2354	B3
2356	B3
2357	B3
2358	B4
2359	B3
2363	B3
2364	B4
2365	A4
2366	B4
2367	C5
2382	C4
2383	C4
2385	C4
2387	B3
2394	B4
2398	B4
2399	B3
2401	A2
2402	A3
2404	A2
2414	B1
2415	A1
2420	A4
2421	A4
2422	A4
3104	B5
3106	B4
3107	B4
3108	C4
3109	B4
3110	C4
3111	B4
3112	B4
3114	C4
3118	C4
3119	C4
3120	B4
3121	B4
3123	B4
3124	B5
3125	C4
3128	C4
3130	C4
3131	C4
3132	C4
3136	B4
3137	B4
3140	B4
3150	B5
3151	B5
3152	B5
3153	B5
3154	B5
3155	B5
3156	B5
3157	B5
3158	B5
3162	B5
3163	B5
3170	B5
3171	B5
3172	B5
3173	B5
3174	B5
3175	B5
3210	C1
3211	C1
3214	C2
3215	C1
3221	B2
3222	B2
3223	B2
3224	B2
3225	B2
3226	B2
3227	B2
3229	B2
3230	B2
3231	C2
3232	C2
3233	B2
3234	B2
3235	B2
3236	B2
3242	B2
3243	B2
3244	B2
3246	B3
3247	B2
3250	B2
3251	B2
3252	B2
3256	C2
3257	C2
3258	C2
3259	C3
3260	B3
3261	B3
3262	B3
3309	C5
3310	C5
3367	B4
3382	B4
3383	B3
3384	B4
3385	B4
3386	B3
3391	B4
3392	C5
3397	B4
3398	B4
3399	B4
3448	A1
3449	B1
3450	A1
3451	A1
3453	A1
3460	A4
3461	A4
3462	A4
3463	A4
3464	A4
3465	A4
3466	A4
3467	A4
4208	B3
4210	B3
4300	C2
4301	C2
4302	C2
4316	C3
4317	C3
4409	A1
4410	B1
4411	A1
4412	B1
4500	B1
4501	B2
4502	B2
4506	B3
4510	C1
4511	C1
4514	B3
4515	B3
4517	C3
4518	C3
4519	B4
4520	A3
4521	A4
4522	B5
4523	B5
4524	A6
4525	A2
4526	B1
4527	B5
4528	C1
4530	C2
4585	B3
5102	B5
5103	B5
5104	B1
5203	B1
5204	C6
5205	C6
5207	B3
5208	B3
5210	B2
5215	B3
5300	C2
5301	C2
5302	C2
5305	B3
5306	B3
5405	A3
5406	A2
6100	B5
6200	B2
6325	C5
6328	C4
6330	C4
6331	C4
6332	C4
6333	C5
6334	C5
6410	A2
6411	B1
6412	C5
6415	A2
6416	A1
6420	A4
6421	A4
6422	A4
6423	A4
6424	A4
7100	B5
7102	B4
7103	B5
7104	B5
7201	C1
7203	B2
7204	B3
7206	B2
7207	B2
7350	C3
7351	B4
7352	B3
7353	C5
7402	A2
7403	A3
7418	A1
7419	B1
7421	A1
7422	A4
7423	A4
7424	A4
9500	A5
9501	C3
9502	C4
9503	A2
9504	A4
9505	B3



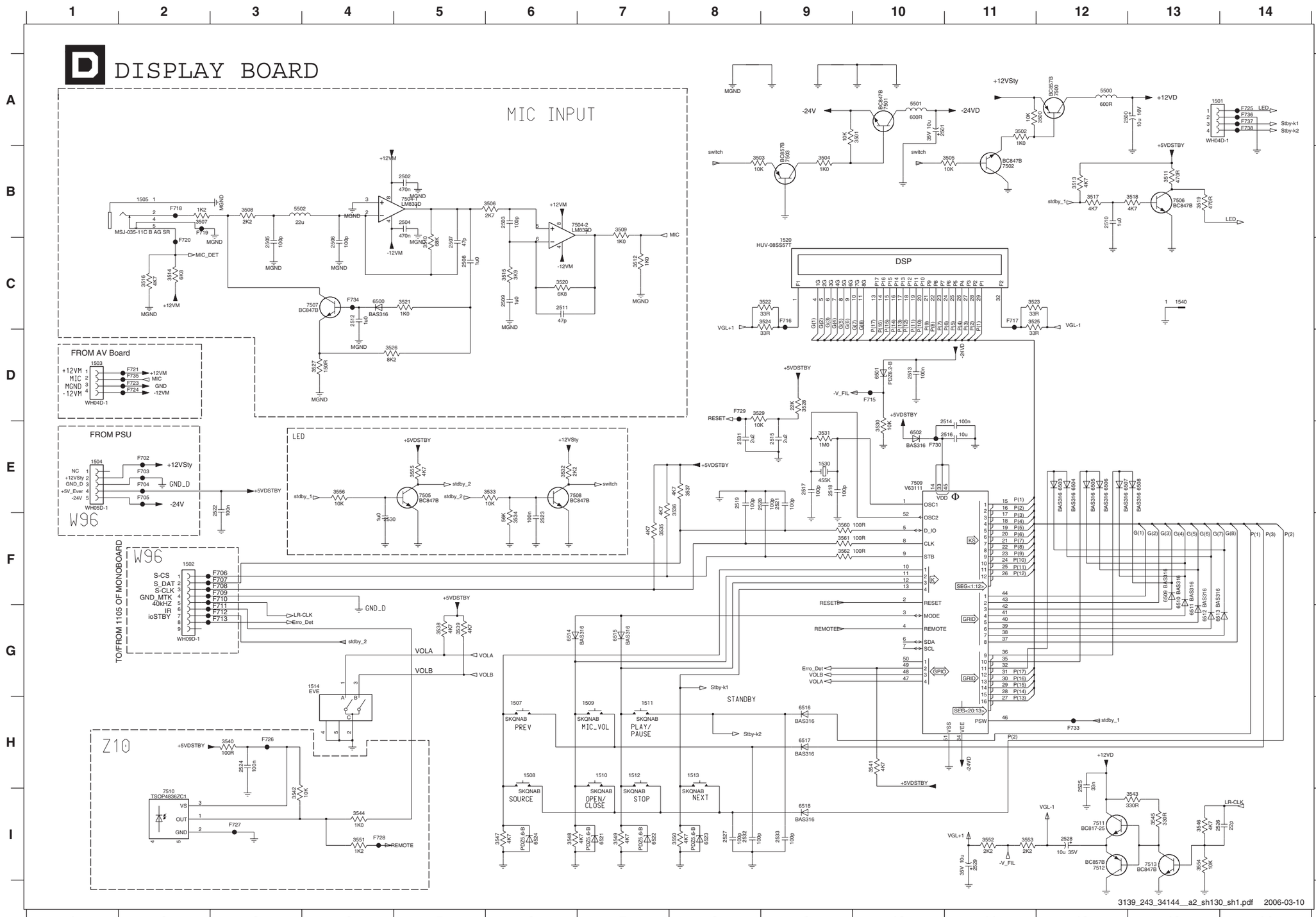
Layout: AV Board (Bottom view)

1407 A5 2153 B3 2232 C1 2362 B4 2379 C2 2392 C5 3102 B2 3129 C5 3168 A2 3218 C1 3264 C6 3348 C3 3369 C3 3378 C4 3410 A5 4201 A3 4216 A5 4404 A4
1408 A4 2154 B3 2233 C1 2368 C2 2380 C2 2393 C5 3103 B2 3141 B1 3180 A2 3219 C1 3301 C2 3349 C2 3370 C4 3379 C4 3412 A5 4202 C6 4218 A5 4415 A4
2113 C3 2206 B5 2242 B5 2369 C2 2381 C3 2395 C5 3105 B2 3142 B1 3181 A2 3220 C1 3302 C2 3350 C2 3371 C4 3380 C5 3416 A5 4203 C6 4219 A5 4416 A4
2115 C6 2208 C6 2246 B5 2371 C2 2384 C4 2396 C5 3106 A2 3160 B3 3182 A2 3237 A3 3305 C2 3352 C2 3372 C4 3381 C5 3418 A5 4204 C6 4312 C5 4417 A4
2119 C6 2220 C1 2259 A6 2372 C2 2386 C3 2397 C5 3113 A2 3161 B3 3183 A2 3238 A3 3306 C2 3353 C2 3373 C3 3387 C3 3422 A4 4205 C6 4315 C4 4418 A4
2127 C2 2226 C1 2340 C4 2373 C2 2388 C4 2400 A5 3115 B4 3164 A2 3184 A2 3245 B5 3308 C2 3354 C3 3374 C3 3400 A5 3424 A4 4206 C6 4400 A5 4419 A4
2129 C5 2227 C1 2355 B4 2374 C2 2389 C4 2423 A6 3116 C6 3165 A2 3185 B2 3248 B5 3311 C2 3355 C3 3375 C4 3401 A5 3447 C2 4207 B6 4401 A5 4509 B3
2137 C5 2230 C1 2360 B4 2375 C2 2390 C4 3100 B2 3117 C5 3166 A2 3216 C1 3253 B5 3312 C2 3357 C3 3376 C4 3406 A6 3452 C2 4213 A2 4402 A5 4529 B2
2152 B3 2231 C1 2361 B4 2376 C3 2391 C4 3101 B2 3122 C5 3167 A2 3217 C1 3263 C6 3346 C2 3359 C3 3377 C4 3407 A6 4102 A3 4215 A5 4403 A5 4531 A6



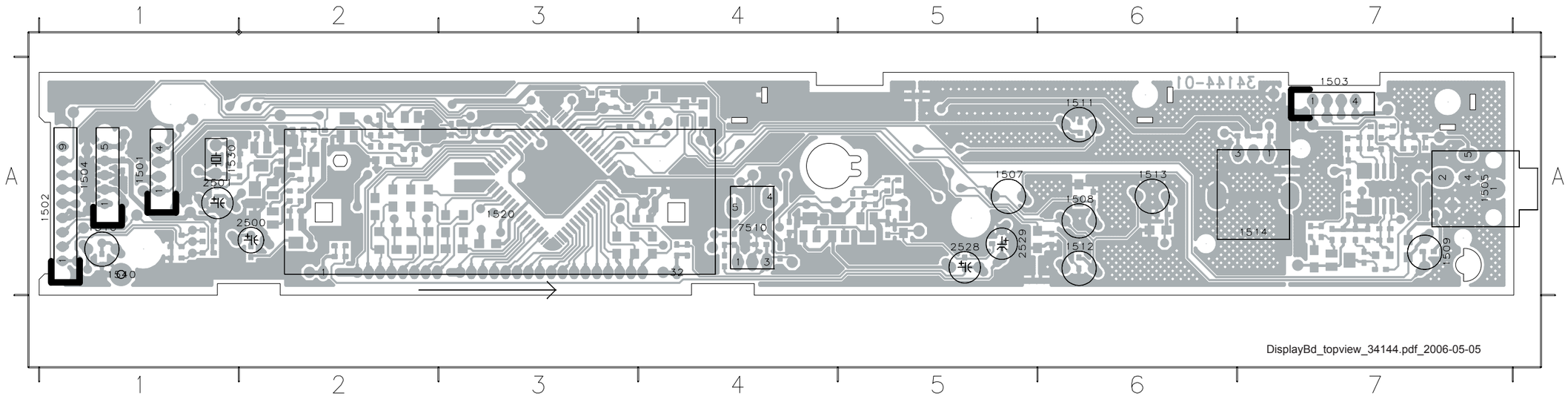
4532 A6
4533 A5
4536 B5
4537 B5
4538 B5
4539 B4
4540 B4
4542 B3
4543 B4
4544 B6
4545 B4
4546 B5
4547 B5
4548 B4
4549 B5
4550 B6
4551 B6
4552 C5
4553 C6
4554 C5
4555 C5
4559 B2
4560 A3
4561 B3
4564 C4
4565 C4
4566 C3
4567 C4
4568 C3
4569 B3
4570 A5
4571 B2
4572 A2
4573 A2
4574 A2
4575 A2
4576 A2
4577 A2
4578 A1
4579 A2
4580 C2
4581 C2
4582 C5
5105 B5
5209 B5
5211 B5
5212 B5
5403 A5
5404 A6
6101 B2
6324 C2
6326 C2
6327 C3
6329 C3
6413 B2
7105 B2
7202 C1
7205 B5
7342 C2
7344 C2
7345 C3
7346 C3
7347 C4
7348 C4
7349 C4
7354 C3
7400 A5
7401 A5
7405 A5
7406 A4
7420 C2

Display Board



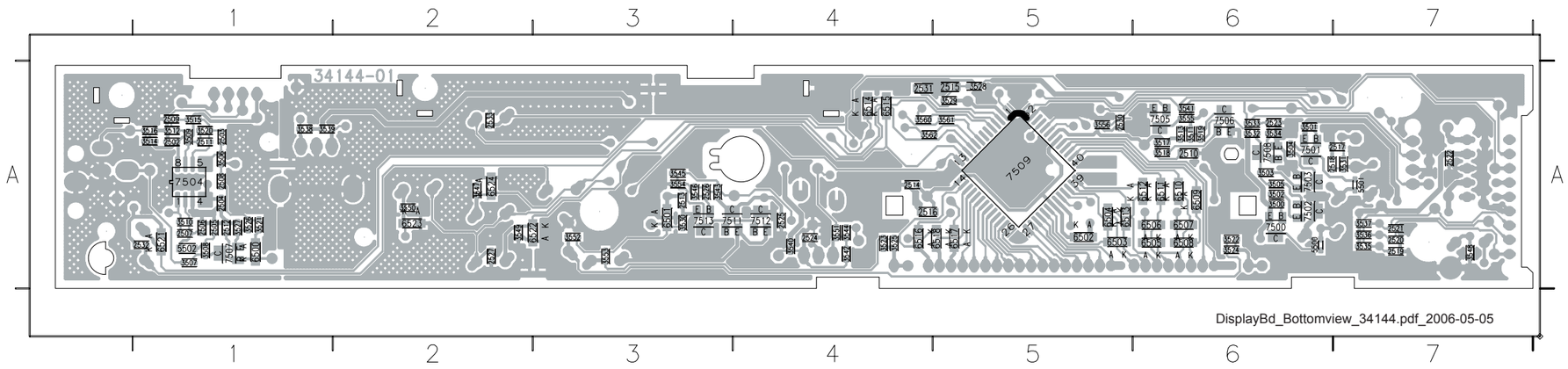
1501 A13
1502 F2
1503 D1
1504 E1
1505 B2
1507 H6
1508 H6
1509 H7
1510 H7
1511 H7
1512 H7
1513 H8
1514 G4
1520 C9
1530 E9
1540 C13
2500 A12
2501 A10
2502 B5
2503 B6
2504 B5
2505 C3
2506 C4
2507 C5
2508 C5
2509 C6
2510 B12
2511 C6
2512 C4
2513 D10
2514 E11
2515 E9
2516 E11
2517 E9
2518 E9
2519 E8
2520 E8
2521 E9
2522 E3
2523 F6
2524 H3
2525 H12
2526 I13
2527 I8
2528 I12
2529 I11
2530 F4
2531 E8
2532 I8
2533 I9
3500 A12
3501 A10
3502 A11
3503 B8
3504 B9
3505 B11
3506 B6
3507 B2
3508 B3
3509 B7
3510 C5
3511 B13
3512 C7
3513 B12
3514 C2
3515 C6
3516 C2
3517 B12
3518 B13
3519 B13
3520 C6
3521 C5
3522 C9
3523 C11
3524 C9
3525 C11
3526 D4
3527 D4
3528 D9
3529 D8
3530 E10
3531 E9
3532 E6
3533 E6
3534 F6
3535 F7
3536 E8
3537 E8
3538 G5
3539 G5
3540 H3
3541 H10
3542 I3
3543 I13
3544 I4
3545 I13
3546 I13
3547 I6
3548 I6
3549 I7
3550 I8
3551 I4
3552 I11
3553 I11
3554 I13
3555 E5
3556 E4
3560 F9
3561 F9
3562 F9
5500 A12
5501 A10
5502 B3
6500 C4
6501 D10
6502 E10
6503 E12
6504 E12
6505 E12
6506 E12
6507 E12
6508 E13
6509 F13
6510 F13
6511 G13
6512 G13
6513 G13
6514 G6
6515 G7
6516 H9
6517 H9
6518 I9
6521 I7
6522 I7
6523 I8
6524 I6
7500 A12
7501 A10
7502 B11
7503 B9
7504-1 B5
7504-2 B6
7505 E5
7506 B13
7507 C4
7508 E6
7509 E10
7510 I2
7511 I12
7512 I12
7513 I13
F702 E2
F703 E2
F704 E2
F705 E2
F706 F3
F707 F3
F708 F3
F709 F3
F710 F3
F711 G3
F712 G3
F713 G3
F715 D10
F716 C9
F717 C11
F718 B2
F719 B2
F720 C2
F721 D2
F723 D2
F724 D2
F725 A14
F726 H3
F727 I3
F728 I4
F730 E10
F733 H12
F734 C4
F735 D2
F736 A14
F737 A14
F738 A14

Layout: Display Board (Top view)



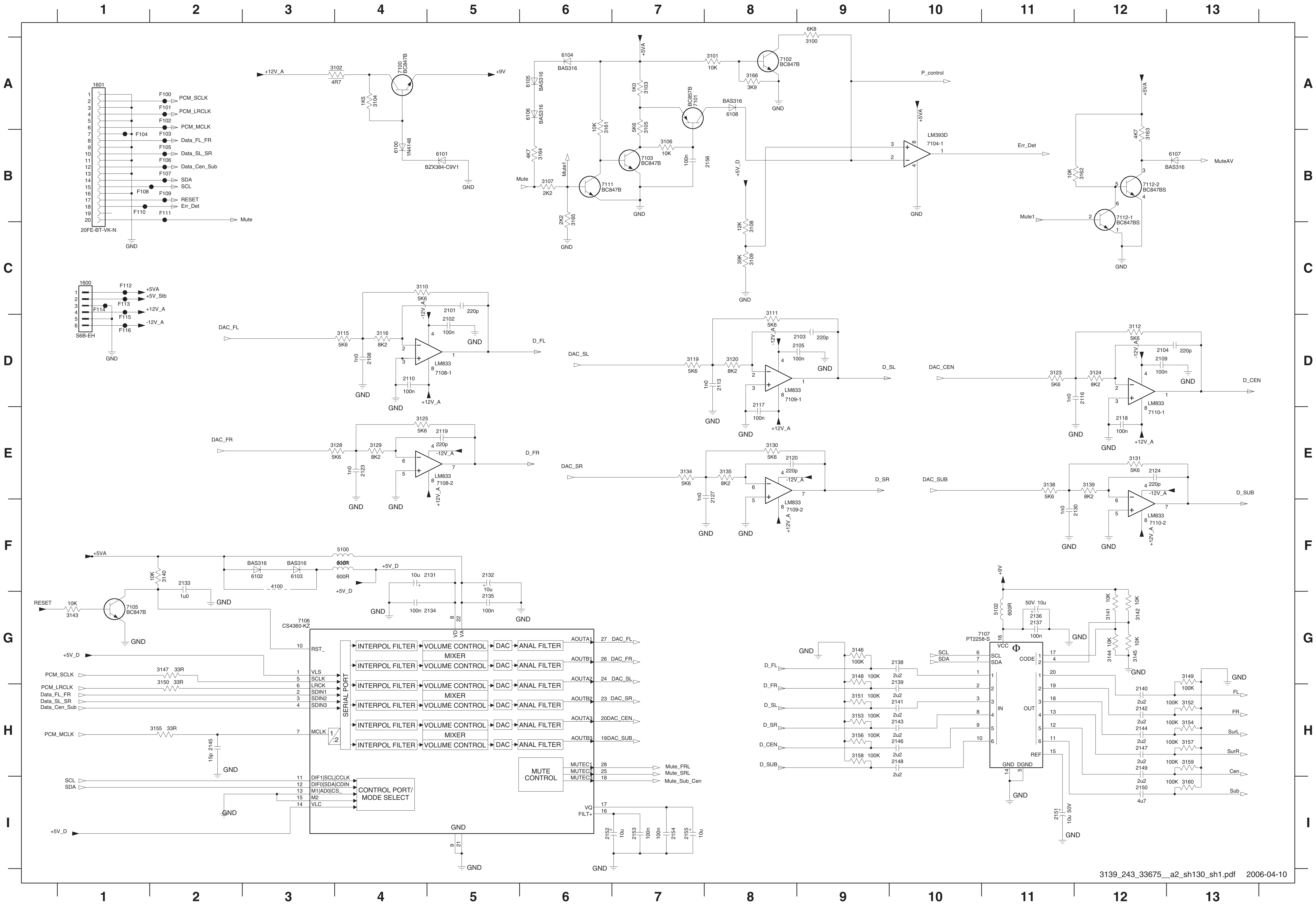
1501 A1
1502 A1
1503 A7
1504 A1
1505 A7
1507 A5
1508 A6
1509 A7
1510 A1
1511 A6
1512 A6
1513 A6
1514 A7
1520 A3
1530 A1
1540 A1
2500 A2
2501 A1
2528 A5
2529 A5
7510 A4

Layout: Display Board (Bottom view)



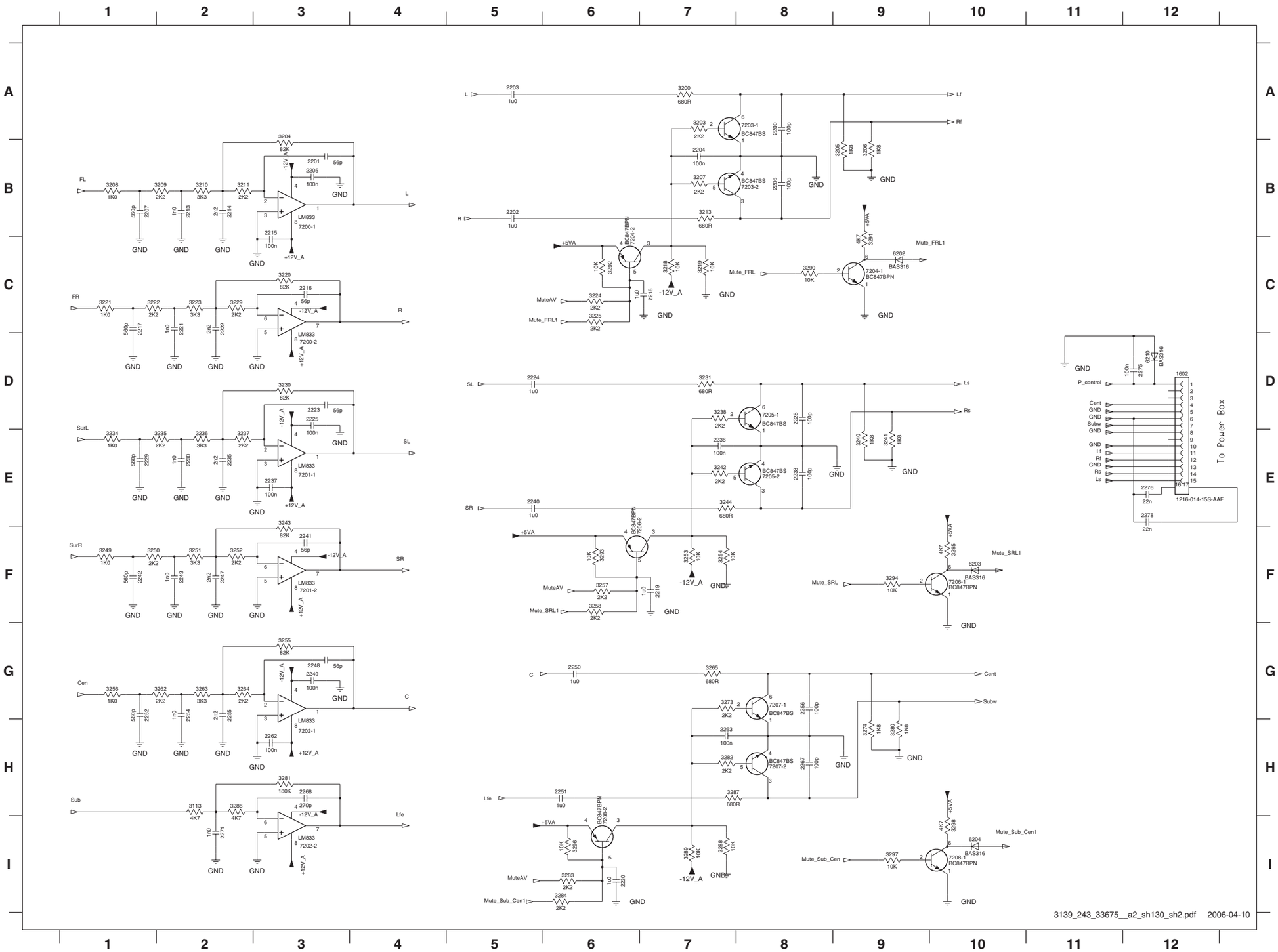
2502 A1
2503 A1
2504 A1
2505 A1
2506 A1
2507 A1
2508 A1
2509 A1
2510 A6
2511 A1
2512 A1
2513 A3
2514 A4
2515 A5
2516 A4
2517 A7
2518 A6
2519 A7
2520 A7
2521 A7
2522 A7
2523 A6
2524 A4
2525 A4
2526 A3
2527 A2
2530 A5
2531 A4
2532 A1
2533 A2
3500 A6
3501 A6
3502 A6
3503 A6
3504 A6
3505 A6
3506 A1
3507 A1
3508 A1
3509 A1
3510 A1
3511 A6
3512 A1
3513 A6
3514 A1
3515 A1
3516 A1
3517 A6
3518 A6
3519 A6
3520 A1
3521 A1
3522 A6
3523 A4
3524 A6
3525 A4
3526 A1
3527 A1
3528 A5
3529 A5
3530 A3
3531 A7
3532 A6
3533 A6
3534 A6
3535 A7
3536 A7
3537 A7
3538 A1
3539 A1
3540 A4
3541 A6
3542 A4
3543 A3
3544 A4
3545 A3
3546 A3
3547 A2
3548 A7
3549 A2
3550 A2
3551 A4
3552 A3
3553 A3
3554 A3
3555 A6
3556 A5
3560 A4
3561 A5
3562 A4
5500 A6
5501 A7
5502 A1
6500 A1
6501 A3
6502 A5
6503 A5
6504 A5
6505 A6
6506 A6
6507 A6
6508 A6
6509 A6
6510 A6
6511 A6
6512 A6
6513 A5
6514 A4
6515 A4
6516 A4
6517 A5
6518 A5
6521 A1
6522 A2
6523 A2
6524 A2
7500 A6
7501 A6
7502 A6
7503 A6
7504 A1
7505 A6
7506 A6
7507 A1
7508 A6
7509 A5
7511 A3
7512 A4
7513 A3

AV Interface Board: Circuit Diagram (Part 1)



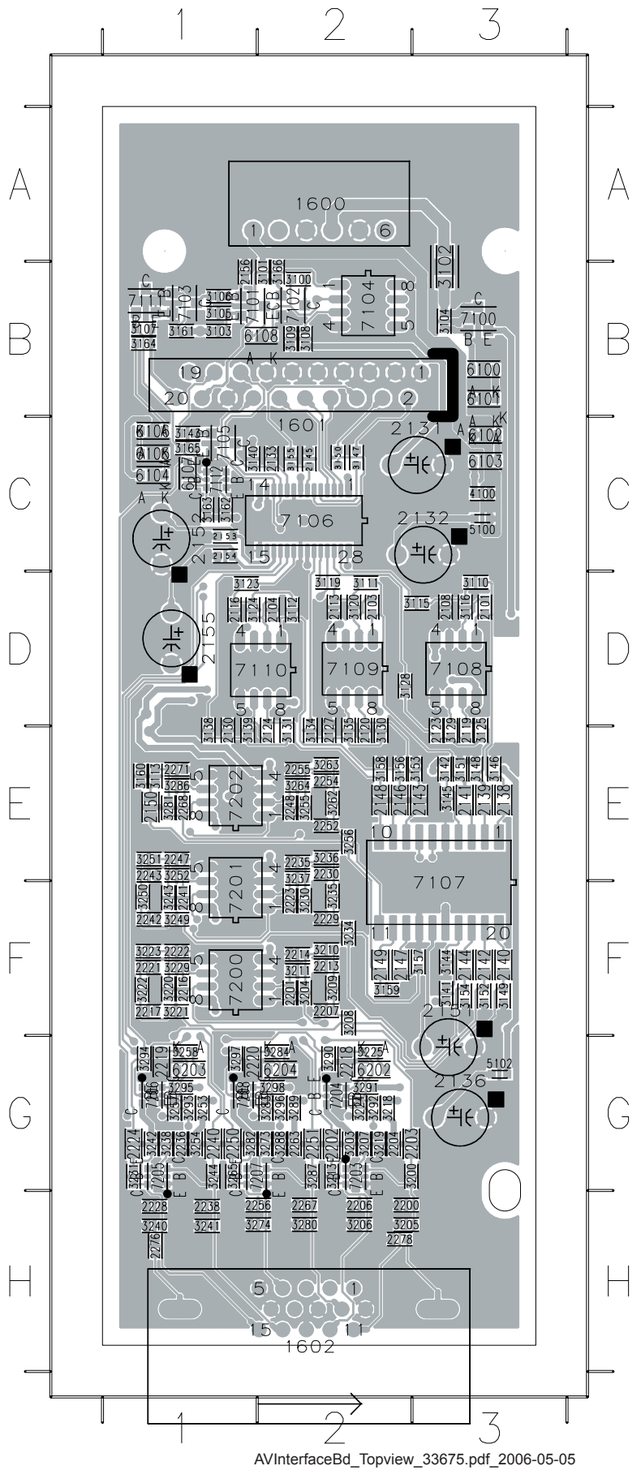
1600 C1
1601 A1
2101 C5
2102 D5
2103 D9
2104 D12
2105 D9
2108 D4
2109 D12
2110 D4
2113 D8
2116 D12
2117 D8
2118 E12
2119 E5
2120 E8
2123 E4
2124 E12
2127 E8
2130 F11
2131 F5
2132 F5
2133 F2
2134 G5
2135 G5
2136 G11
2137 G11
2138 G10
2139 G10
2140 H12
2141 H10
2142 H12
2143 H10
2144 H12
2145 H2
2146 H10
2147 H12
2148 H10
2149 H12
2150 I12
2151 I11
2152 I6
2153 I7
2154 I7
2155 I7
2156 B8
3100 A9
3101 A8
3102 A4
3103 A7
3104 A4
3105 A7
3106 B7
3107 B6
3108 C8
3109 C8
3110 C4
3111 D8
3112 D12
3115 D4
3116 D4
3119 D7
3120 D8
3123 D11
3124 D12
3125 E4
3128 E4
3129 E4
3130 E8
3131 E12
3134 E7
3135 E8
3138 E11
3139 E12
3140 F2
3141 G12
3142 G12
3143 G1
3144 G12
3145 G12
3146 G9
3147 G2
3148 G9
3149 G13
3150 G2
3151 H9
3152 H13
3153 H9
3154 H13
3155 H2
3156 H9
3157 H13
3158 H9
3159 H13
3160 I13
3161 A6
3162 B12
3163 B12
3164 B6
3165 B6
3166 A8
4100 F3
5100 F4
5101 F4
5102 G11
6100 B4
6101 B5
6102 F3
6103 F3
6104 A6
6105 A6
6106 A6
6107 B13
6108 A8
7100 A4
7101 A7
7102 A8
7103 B7
7104-1 B10
7105 G1
7106 G3
7107 G11
7108-1 D5
7108-2 E5
7109-1 D8
7109-2 F8
7110-1 E12
7110-2 F12
7111 B6
7112-1 B12
7112-2 B12
F100 A2
F101 A2
F102 A2
F103 B2
F104 B1
F105 B2
F106 B2
F107 B2
F108 B1
F109 B2
F110 B1
F111 B2
F112 C1
F113 C1
F114 C1
F115 D1
F116 D1

AV Interface Board: Circuit Diagram (Part 2)



1602 D12
2200 A8
2201 B3
2202 B5
2203 A5
2204 B7
2205 B3
2206 B8
2207 B1
2213 B2
2214 B2
2215 B3
2216 C3
2217 C1
2218 C7
2219 F7
2220 I6
2221 C2
2222 C2
2223 D3
2224 D5
2225 D3
2228 D8
2229 E1
2230 E2
2235 E2
2236 E7
2237 E3
2238 E8
2240 E5
2241 F3
2242 F1
2243 F2
2247 F2
2248 G3
2249 G3
2250 G6
2251 H6
2252 G1
2254 G2
2255 G2
2256 G8
2262 H3
2263 H7
2267 H8
2268 H3
2271 I2
2275 D12
2276 E12
2278 E12
3113 H2
3200 A7
3203 A7
3204 A3
3205 B9
3206 B9
3207 B7
3208 B1
3209 B2
3210 B2
3211 B2
3213 B7
3218 C7
3219 C7
3220 C3
3221 C1
3222 C1
3223 C2
3224 C6
3225 C6
3229 C2
3230 D3
3231 D7
3234 E1
3235 E2
3236 E2
3237 E2
3238 D7
3240 E9
3241 E9
3242 E7
3243 E3
3244 E7
3249 F1
3250 F1
3251 F2
3252 F2
3253 F7
3254 F7
3255 G3
3256 G1
3257 F6
3258 F6
3262 G2
3263 G2
3264 G2
3265 G7
3273 G7
3274 H9
3280 H9
3281 H3
3282 H7
3283 I6
3284 I6
3286 H2
3287 H7
3288 I7
3289 I7
3290 C8
3291 C9
3292 C6
3293 F6
3294 F9
3295 F10
3296 I6
3297 I9
3298 I10
6202 C9
6203 F10
6204 I10
6210 D12
7200-1 B3
7200-2 D3
7201-1 E3
7201-2 F3
7202-1 H3
7202-2 I3
7203-1 A8
7203-2 B8
7204-1 C9
7204-2 C6
7205-1 D8
7205-2 E8
7206-1 F10
7206-2 F6
7207-1 G8
7207-2 H8
7208-1 I10
7208-2 I6

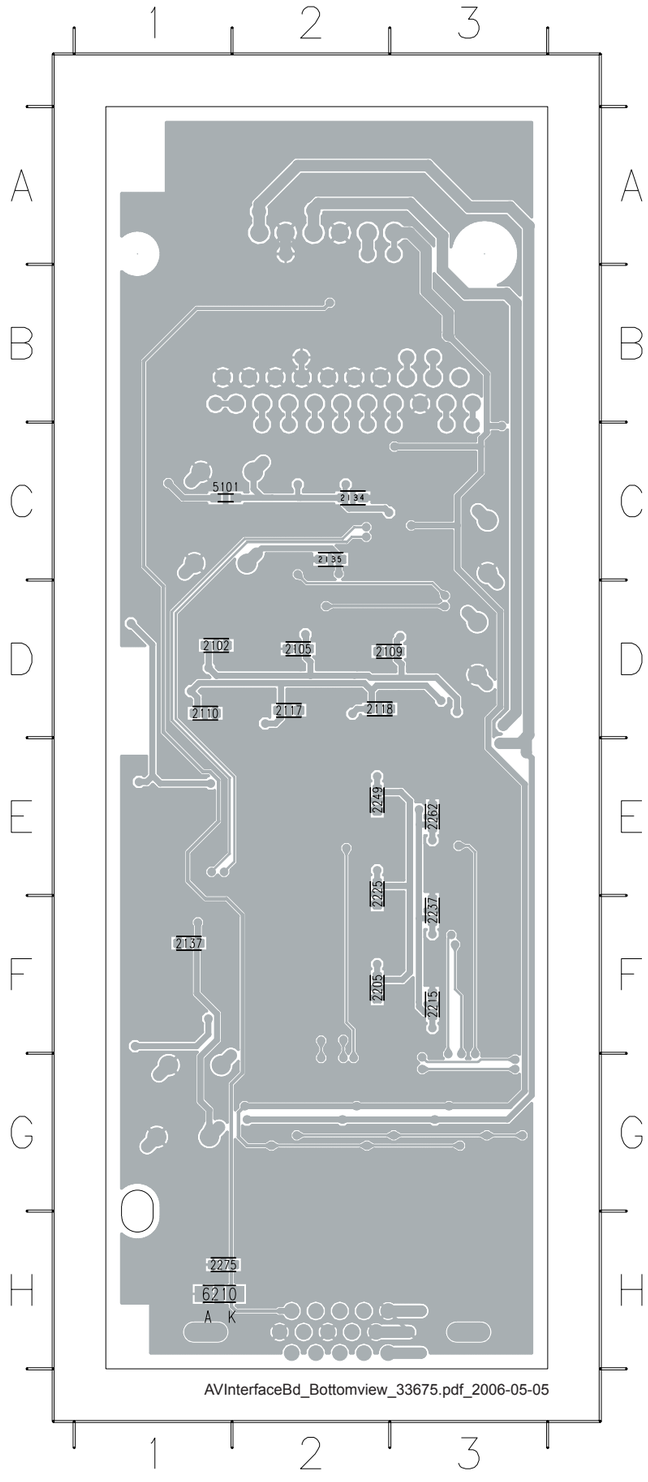
Layout: AV Interface Board (Top view)



AVInterfaceBd_Topview_33675.pdf_2006-05-05

1600	A2	2263	G2	3219	G2	7105	C1
1601	C2	2267	H2	3220	F1	7106	C2
1602	H2	2268	E1	3221	F1	7107	F3
2101	D3	2271	E1	3222	F1	7108	D3
2103	D2	2276	H1	3223	F1	7109	D2
2104	D2	2278	H2	3224	G2	7110	D2
2108	D3	3100	B2	3225	G2	7111	B1
2113	D2	3101	B2	3229	F1	7112	C1
2116	D1	3102	B3	3230	F2	7200	F1
2119	E3	3103	B1	3231	G1	7201	F1
2120	E2	3104	B3	3234	F2	7202	E1
2123	E3	3105	B1	3235	F2	7203	G2
2124	E2	3106	B1	3236	E2	7204	G2
2127	E2	3107	B1	3237	E2	7205	G1
2130	E1	3108	B2	3238	G1	7206	G1
2131	C3	3109	B2	3240	H1	7207	G1
2132	C3	3110	D3	3241	H1	7208	G1
2133	C2	3111	D2	3242	G1		
2136	G3	3112	D2	3243	F1		
2138	E3	3113	E1	3244	G1		
2139	E3	3115	D3	3249	F1		
2140	F3	3116	D3	3250	F1		
2141	E3	3119	D2	3251	E1		
2142	F3	3120	D2	3252	E1		
2143	E3	3123	D1	3253	G1		
2144	F3	3124	D1	3254	G1		
2145	C2	3125	E3	3255	E2		
2146	E2	3128	D2	3256	E2		
2147	F2	3129	E3	3257	G1		
2148	E2	3130	E2	3258	G1		
2149	F2	3131	E2	3262	E2		
2150	E1	3134	E2	3263	E2		
2151	F3	3135	E2	3264	E2		
2152	C1	3138	E1	3265	G1		
2153	C1	3139	E1	3273	G2		
2154	C1	3140	C1	3274	H2		
2155	D1	3141	F3	3280	H2		
2156	B1	3142	E3	3281	E1		
2200	H2	3143	C1	3282	G1		
2201	F2	3144	F3	3283	G2		
2202	G2	3145	E3	3284	G2		
2203	G2	3146	E3	3286	E1		
2204	G2	3147	C2	3287	G2		
2206	H2	3148	E3	3288	G2		
2207	F2	3149	F3	3289	G2		
2213	F2	3150	C2	3290	G2		
2214	F2	3151	E3	3291	G2		
2216	F1	3152	F3	3292	G2		
2217	F1	3153	E3	3293	G1		
2218	G2	3154	F3	3294	G1		
2219	G1	3155	C2	3295	G1		
2220	G1	3156	E2	3296	G2		
2221	F1	3157	F3	3297	G1		
2222	F1	3158	E2	3298	G2		
2223	F2	3159	F2	4100	C3		
2224	G1	3160	E1	5100	C3		
2228	H1	3161	B1	5102	G3		
2229	F2	3162	C1	6100	B3		
2230	E2	3163	C1	6101	B3		
2235	E2	3164	B1	6102	C3		
2236	G1	3165	C1	6103	C3		
2238	H1	3166	B2	6104	C1		
2240	G1	3200	G2	6105	C1		
2241	F1	3203	G2	6106	C1		
2242	F1	3204	F2	6107	C1		
2243	E1	3205	H2	6108	B2		
2247	E1	3206	H2	6202	G2		
2248	E2	3207	G2	6203	G1		
2250	G1	3208	F2	6204	G2		
2251	G2	3209	F2	7100	B3		
2252	E2	3210	F2	7101	B1		
2254	E2	3211	F2	7102	B2		
2255	E2	3213	G2	7103	B1		
2256	H2	3218	G2	7104	B2		

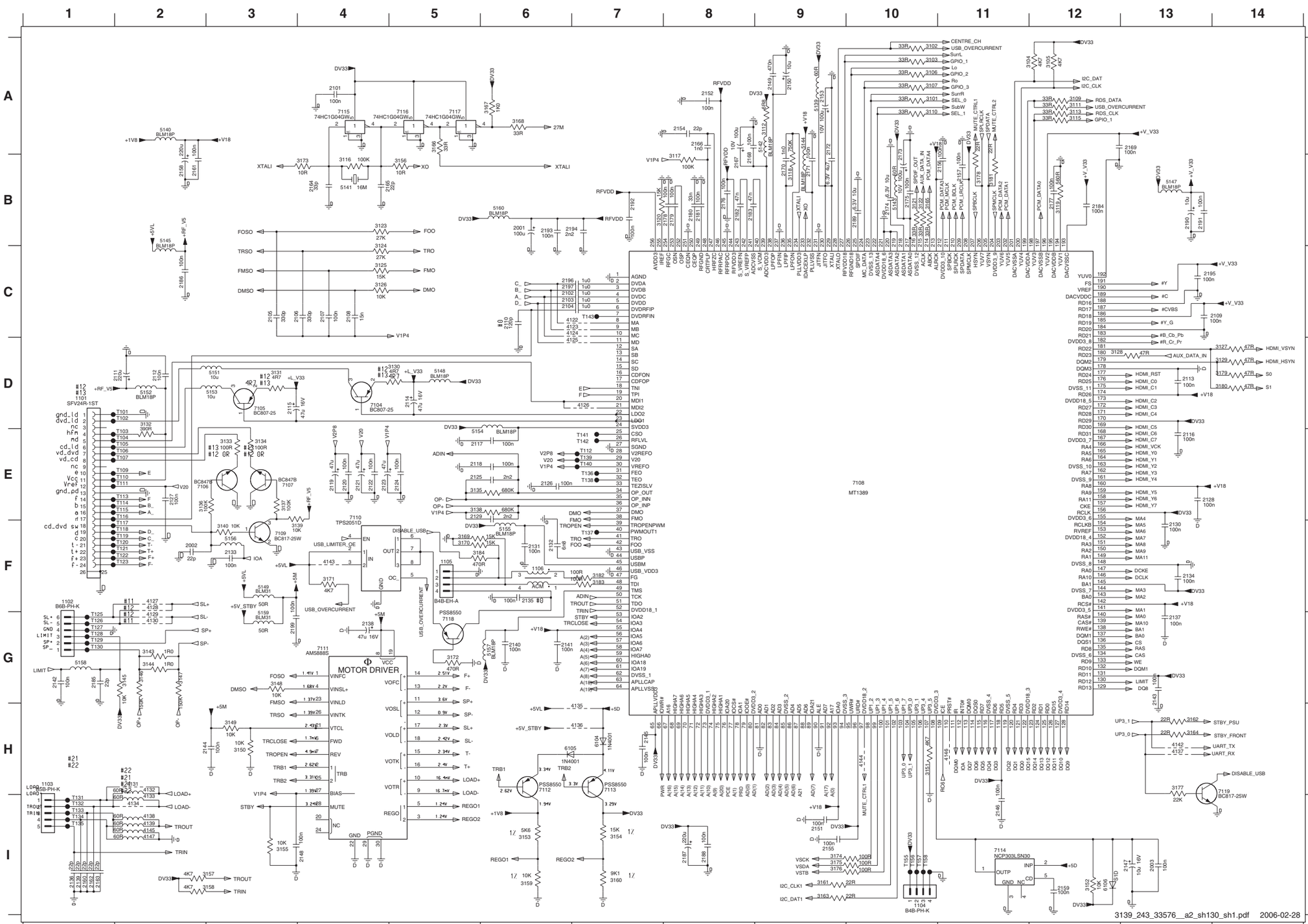
Layout: AV Interface Board (Bottom view)



AVInterfaceBd_Bottomview_33675.pdf_2006-05-05

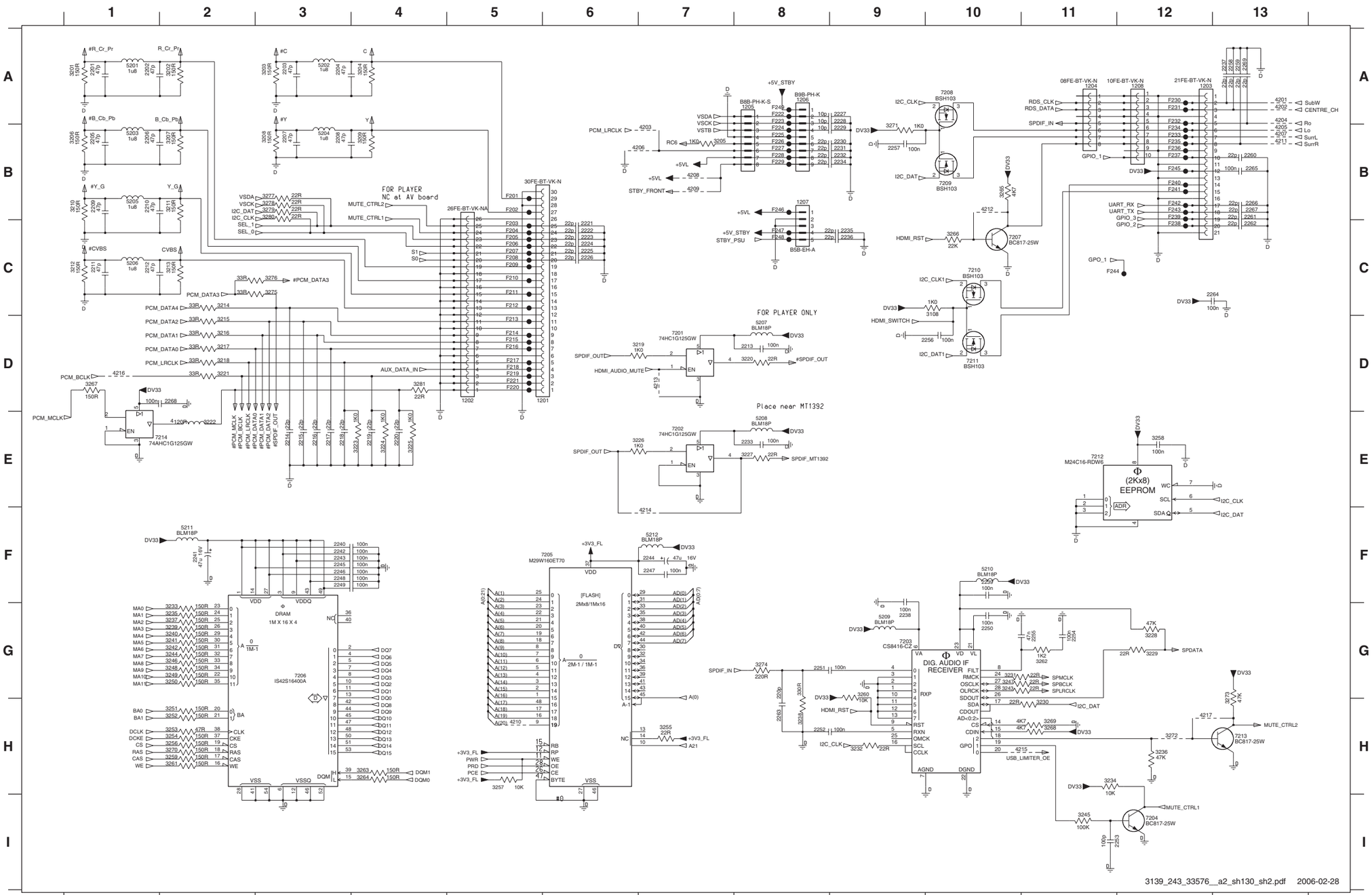
2102	D1
2105	D2
2109	D2
2110	D1
2117	D2
2118	D2
2134	C2
2135	C2
2137	F1
2205	F2
2215	F3
2225	E2
2237	F3
2249	E2
2262	E3
2275	H1
5101	C1
6210	H1

PCBA 9.1 Board: Circuit Diagram (Part 1)



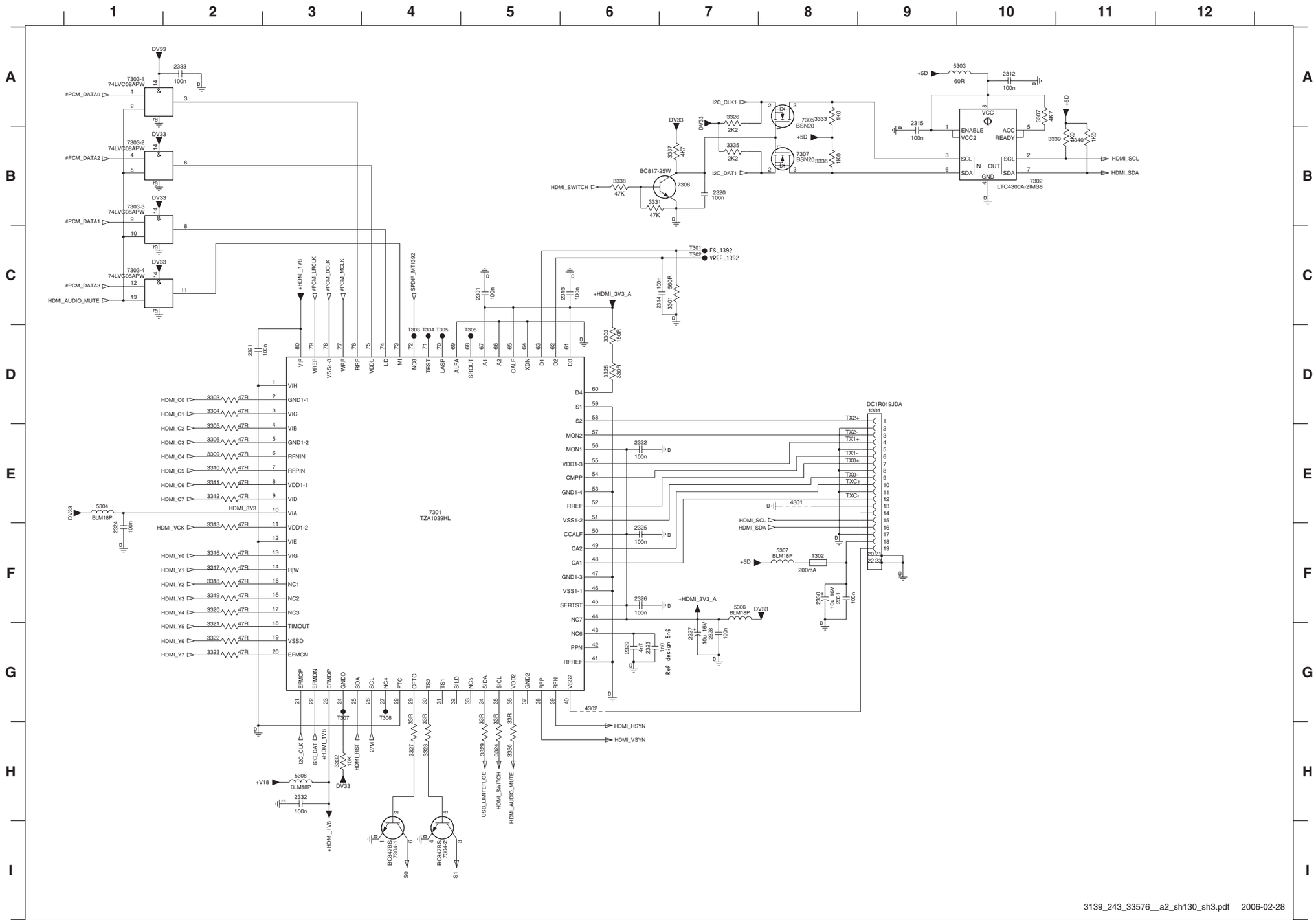
1101 D1	3111 A12	6105 H6	
1102 F1	3112 A9	6106 I12	
1103 H1	3113 A12	7104 D4	
1104 I10	3115 A12	7105 D3	
1105 F5	3116 B4	7106 E2	
1106 F6	3117 B8	7107 E3	
2001 B6	3118 B9	7108 E10	
2002 F2	3119 B12	7109 F3	
2003 I13	3120 B7	7110 E4	
2101 A4	3121 B10	7111 G4	
2102 C6	3122 B10	7112 H6	
2103 C6	3123 B4	7113 H7	
2104 C6	3124 C4	7114 I11	
2105 C3	3125 C4	7115 A4	
2106 C4	3126 C4	7116 A5	
2107 C4	3127 D14	7117 A5	
2108 C4	3128 D12	7118 G5	
2109 C14	3129 D14	7119 H14	
2110 C6	3130 D5	T101 D2	
2111 D2	3131 D3	T102 D2	
2112 D2	3132 D2	T103 E2	
2113 D13	3133 E3	T104 E2	
2114 D5	3134 E3	T105 E2	
2115 D3	3135 E5	T106 E2	
2116 E13	3136 E2	T107 E2	
2117 E5	3137 E3	T109 E2	
2118 E5	3138 E5	T110 E2	
2119 E4	3139 F3	T111 E2	
2120 E4	3140 F3	T112 E7	
2121 E4	3143 G2	T113 E2	
2122 E4	3144 G2	T114 E2	
2123 E4	3145 G2	T115 E2	
2124 E5	3146 G2	T116 E2	
2125 E5	3147 G2	T117 F2	
2126 E6	3148 G3	T118 F2	
2127 E2	3149 H3	T119 F2	
2128 E13	3150 H3	T120 F2	
2129 E5	3151 H10	T121 F2	
2130 F13	3152 I12	T122 F2	
2131 F6	3153 I6	T123 F2	
2132 F6	3154 I7	T125 G1	
2133 F3	3155 I3	T126 G1	
2134 F13	3156 B5	T127 G1	
2135 F6	3157 I3	T128 G1	
2136 I1	3158 I3	T129 G1	
2137 G13	3159 I6	T130 G1	
2138 G4	3160 I7	T131 I1	
2139 I1	3161 I9	T132 I1	
2140 G6	3162 H13	T133 I1	
2141 G6	3163 I9	T134 I1	
2142 G1	3164 H13	T135 I1	
2143 G13	3165 B10	T136 E7	
2144 H3	3166 A5	T137 F7	
2145 H7	3167 A6	T138 E7	
2146 I11	3168 A6	T139 E7	
2147 I13	3169 F5	T140 E7	
2148 I4	3170 F5	T141 E7	
2149 A9	3171 F4	T142 E7	
2150 A9	3172 G5	T143 C7	
2151 I9	3173 B4	T155 I10	
2152 A8	3174 I9	T156 I10	
2153 A9	3175 I9	T157 I10	
2154 A8	3176 I9	T158 I10	
2155 I9	3177 H13		
2156 B10	3178 B11		
2157 B11	3179 D14		
2158 B2	3180 D14		
2159 I12	3181 B11		
2160 I1	3182 F7		
2161 B2	3183 F7		
2162 I1	3184 F5		
2163 I1	4122 C7		
2164 B4	4123 C7		
2165 B5	4124 C7		
2166 A8	4125 D7		
2167 B8	4126 D7		
2168 B8	4127 F2		
2169 A13	4128 F2		
2170 B9	4129 G2		
2171 B9	4130 G2		
2172 A9	4131 H2		
2173 B10	4132 H2		
2174 B10	4133 I2		
2175 B10	4134 I2		
2176 B8	4135 H7		
2177 B12	4136 H7		
2178 B8	4137 H13		
2179 B8	4138 I2		
2180 B8	4139 I2		
2181 B8	4142 H13		
2182 B8	4143 F4		
2183 B8	4144 H10		
2184 B12	4145 I2		
2185 G1	4146 H11		
2186 C2	4147 I2		
2187 I8	5139 A9		
2188 I8	5140 A2		
2189 B10	5141 B4		
2190 B13	5142 A9		
2191 B13	5143 B10		
2192 B7	5144 A9		
2193 B6	5145 B2		
2194 B6	5147 B13		
2195 C13	5148 D5		
2196 C6	5149 F3		
2197 C6	5151 D3		
2199 G3	5152 D2		
3101 A10	5153 D3		
3102 A10	5154 E5		
3103 A10	5155 F6		
3104 A12	5156 F3		
3105 A12	5157 G6		
3106 A10	5158 G1		
3107 A10	5159 G3		
3109 A12	5160 B6		
3110 A10	6104 H7		

PCBA 9.1 Board: Circuit Diagram (Part 2)



1201 D6	3231 G10	F215 D5
1202 D5	3232 H9	F216 D5
1203 A12	3233 G2	F217 D5
1204 A11	3234 H11	F218 D5
1205 A8	3235 G2	F219 D5
1206 A8	3236 H12	F220 D5
1207 B8	3237 G2	F221 D5
1208 A12	3238 H8	F222 A8
2201 A1	3239 G2	F223 A8
2202 A1	3240 G2	F224 B8
2203 A3	3241 G2	F225 B8
2204 A3	3242 G2	F226 B8
2205 B1	3243 G10	F227 B8
2206 B1	3244 G2	F228 B8
2207 B3	3245 I11	F229 B8
2208 B3	3246 G2	F230 A12
2209 B1	3247 G10	F231 A12
2210 B1	3248 G2	F232 A12
2211 C1	3249 G2	F233 B12
2212 C1	3250 G2	F234 B12
2213 D8	3251 H2	F235 B12
2214 E3	3252 H2	F236 B12
2215 E3	3253 H2	F237 B12
2216 E3	3254 H2	F238 C12
2217 E3	3255 H7	F239 B12
2218 E3	3256 H2	F240 B12
2219 E4	3257 H5	F241 B12
2220 E4	3258 E12	F242 B12
2221 C6	3259 H2	F243 B12
2222 C6	3260 G9	F244 C11
2223 C6	3261 H2	F245 B12
2224 C6	3262 G11	F246 B8
2225 C6	3263 H4	F247 C8
2226 C6	3264 H4	F248 C8
2227 A9	3265 B10	F249 A8
2228 A9	3266 C10	
2229 B9	3267 D1	
2230 B9	3268 H11	
2231 B9	3269 H11	
2232 B9	3270 H2	
2233 E8	3271 A9	
2234 B9	3272 H12	
2235 C9	3273 G13	
2236 C9	3274 G8	
2237 A13	3275 C3	
2238 G9	3276 C3	
2239 F10	3277 B3	
2240 F3	3278 B3	
2241 F2	3279 B3	
2242 F3	3280 B3	
2243 F3	3281 D4	
2244 F7	4201 A13	
2245 F3	4202 A13	
2246 F3	4203 B7	
2247 F7	4204 A13	
2248 F3	4205 B13	
2249 F3	4206 B7	
2250 G10	4207 B13	
2251 G8	4208 B7	
2252 H8	4209 B7	
2253 I11	4210 H5	
2254 G11	4211 B13	
2255 G11	4212 B10	
2256 D10	4213 D7	
2257 B9	4214 F7	
2258 A13	4215 H11	
2259 A13	4216 D1	
2260 B13	4217 H12	
2261 B13	5201 A1	
2262 C13	5202 A3	
2263 H8	5203 B1	
2264 C13	5204 B3	
2265 B13	5205 B1	
2266 B13	5206 C1	
2267 B13	5207 D8	
2268 D2	5208 E8	
2269 A13	5209 G9	
3108 C10	5210 F10	
3201 A1	5211 F2	
3202 A2	5212 F7	
3203 A3	7201 D7	
3204 A4	7202 E7	
3205 B7	7203 G9	
3206 B1	7204 I12	
3207 B2	7205 F5	
3208 B3	7206 G3	
3209 B4	7207 C10	
3210 B1	7208 A10	
3211 B2	7209 B10	
3212 C1	7210 C10	
3213 C2	7211 D10	
3214 C2	7212 E11	
3215 D2	7213 H13	
3216 D2	7214 E2	
3217 D2	F201 B5	
3218 D2	F202 B5	
3219 D7	F203 C5	
3220 D8	F204 C5	
3221 D2	F205 C5	
3222 E2	F206 C5	
3223 E4	F207 C5	
3224 E4	F208 C5	
3225 E4	F209 C5	
3226 E7	F210 C5	
3227 E8	F211 C5	
3228 G12	F212 C5	
3229 G12	F213 D5	
3230 H11	F214 D5	

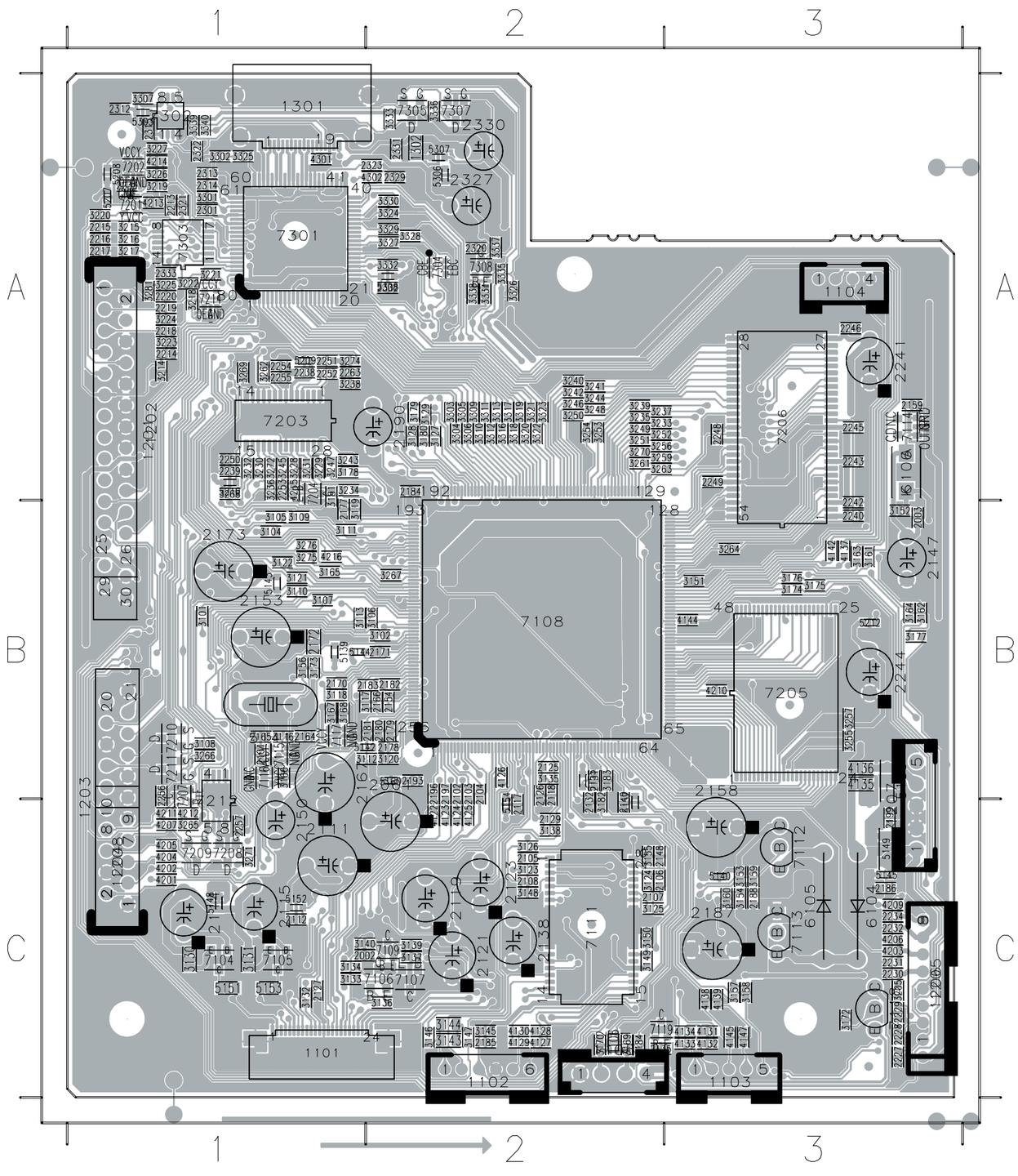
PCBA 9.1 Board: Circuit Diagram (Part 3)



3139_243_33576__a2_sh130_sh3.pdf 2006-02-28

1301 D9
1302 F8
2301 C5
2312 A10
2313 C6
2314 C7
2315 A9
2320 B7
2321 D2
2322 E6
2323 G6
2324 F1
2325 F6
2326 F6
2327 G7
2328 G7
2329 G6
2330 F8
2331 F8
2332 H3
2333 A2
3301 C7
3302 D6
3303 D2
3304 D2
3305 E2
3306 E2
3307 A10
3309 E2
3310 E2
3311 E2
3312 E2
3313 F2
3316 F2
3317 F2
3318 F2
3319 F2
3320 F2
3321 G2
3322 G2
3323 G2
3324 H5
3325 D6
3326 A7
3327 H4
3328 H4
3329 H5
3330 H5
3331 B6
3332 H3
3333 A8
3335 B7
3336 B8
3337 B7
3338 B6
3339 B10
3340 B11
4301 E8
4302 G6
5303 A10
5304 E1
5306 F7
5307 F8
5308 H3
7301 E4
7302 B10
7303-1 A1
7303-2 B1
7303-3 B1
7303-4 C1
7304-1 I4
7304-2 I4
7305 A8
7307 B8
7308 B7
T301 C7
T302 C7
T303 D4
T304 D4
T305 D4
T306 D5
T307 G3
T308 G4

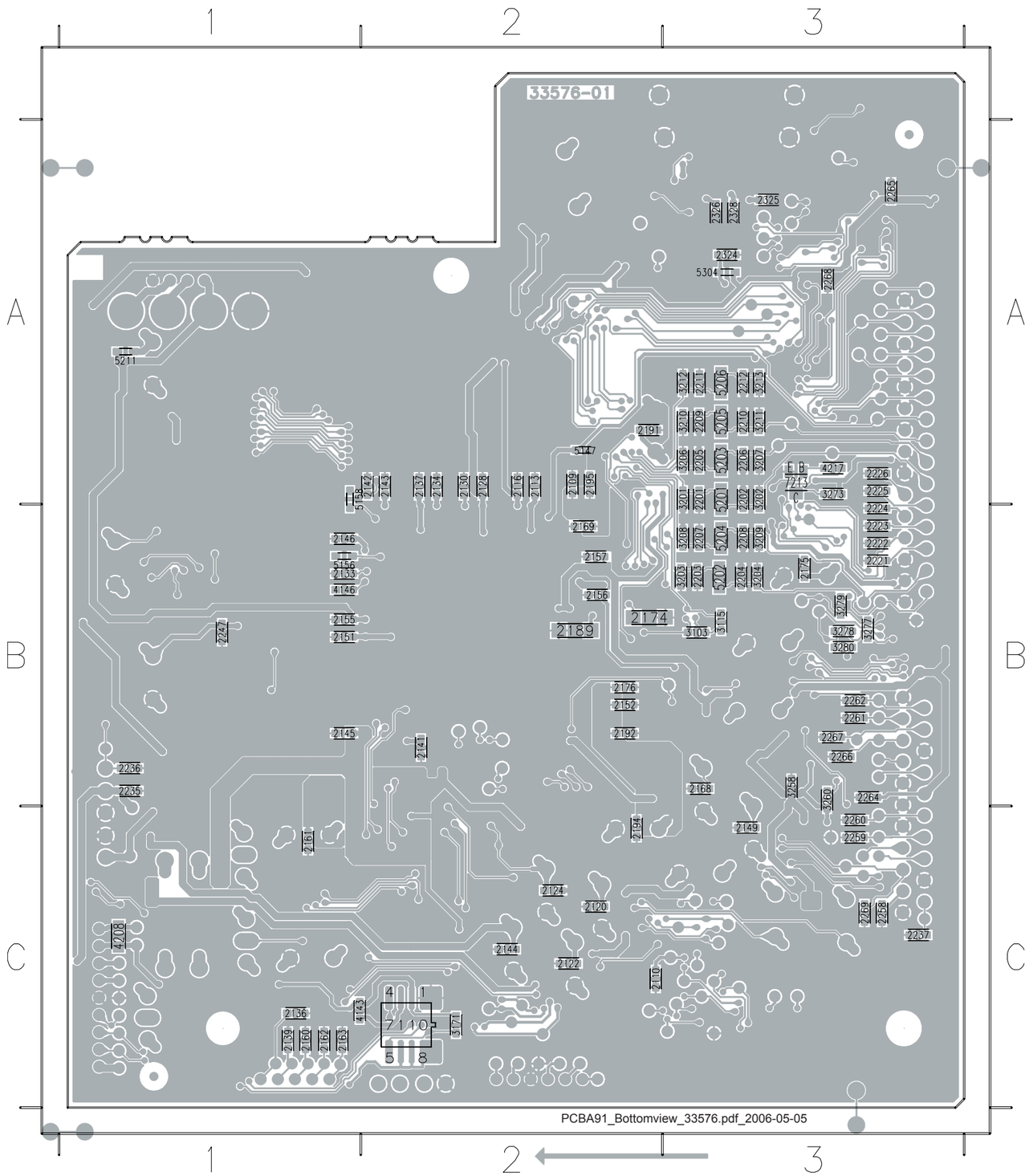
Layout: PCBA 9.1 Board (Top view)



1101 C1	2179 B2	2330 A2	3164 B3	3255 B3	4128 C2	7104 C1		
1102 C2	2180 B2	2331 A2	3165 B1	3256 A2	4129 C2	7105 C1		
1103 C3	2181 B2	2332 A2	3166 B1	3257 B3	4130 C2	7106 C2		
1104 A3	2182 B2	2333 A1	3167 B1	3259 A2	4131 C3	7107 C2		
1105 C2	2183 B2	3101 B1	3168 B1	3261 A2	4132 C3	7108 B2		
1106 C2	2184 A2	3102 B2	3169 C2	3262 A1	4133 C3	7109 C2		
1201 A1	2185 C2	3104 B1	3170 C2	3263 A2	4134 C3	7111 C2		
1202 A1	2186 C3	3105 B1	3172 C3	3264 B3	4135 B3	7112 C3		
1203 B1	2187 C3	3106 B2	3173 B1	3265 C1	4136 B3	7113 C3		
1204 C1	2188 C3	3107 B1	3174 B3	3266 B1	4137 B3	7114 A3		
1205 C3	2190 A2	3108 B1	3175 B3	3267 B2	4138 C3	7115 B1		
1206 C3	2193 B2	3109 B1	3176 B3	3268 A1	4139 C3	7116 B1		
1207 C3	2196 B2	3110 B1	3177 B3	3269 A1	4142 B3	7117 B1		
1208 C1	2197 B2	3111 B1	3178 A1	3270 A2	4144 B3	7118 C3		
1301 A1	2199 C3	3112 B2	3179 A2	3271 C1	4145 C3	7119 C2		
1302 A2	2213 A1	3113 B1	3180 A2	3272 A1	4147 C3	7201 A1		
2001 B2	2214 A1	3116 B1	3181 A1	3274 A1	4201 C1	7202 A1		
2002 C1	2215 A1	3117 B1	3182 C2	3275 B1	4202 C1	7203 A1		
2003 B3	2216 A1	3118 B1	3183 B2	3276 B1	4203 C3	7204 A1		
2101 B1	2217 A1	3119 B1	3184 C2	3281 A1	4204 C1	7205 B3		
2102 B2	2218 A1	3120 B2	3205 C3	3301 A1	4205 C1	7206 A3		
2103 B2	2219 A1	3121 B1	3214 A1	3302 A1	4206 C3	7207 B1		
2104 B2	2220 A1	3122 B1	3215 A1	3303 A2	4207 C1	7208 C1		
2105 C2	2227 C3	3123 C2	3216 A1	3304 A2	4209 C3	7209 C1		
2106 C2	2228 C3	3124 C2	3217 A1	3305 A2	4210 B3	7210 B1		
2107 C2	2229 C3	3125 C2	3218 A1	3306 A2	4211 C1	7211 B1		
2108 C2	2230 C3	3126 C2	3219 A1	3307 A1	4212 C1	7212 C1		
2111 C1	2231 C3	3127 A2	3220 A1	3309 A2	4213 A1	7214 A1		
2112 C1	2232 C3	3128 A2	3221 A1	3310 A2	4214 A1	7301 A1		
2114 C1	2233 A1	3129 A2	3222 A1	3311 A2	4215 A1	7302 A1		
2115 C1	2234 C3	3130 C1	3223 A1	3312 A2	4216 B1	7303 A1		
2117 C2	2238 A1	3131 C1	3224 A1	3313 A2	4301 A1	7304 A2		
2118 B2	2239 A1	3132 C1	3225 A1	3316 A2	4302 A2	7305 A2		
2119 C2	2240 B3	3133 C1	3226 A1	3317 A2	5139 B1	7307 A2		
2121 C2	2241 A3	3134 C1	3227 A1	3318 A2	5140 C3	7308 A2		
2123 C2	2242 B3	3135 B2	3228 A1	3319 A2	5141 B1			
2125 B2	2243 A3	3136 C2	3229 A1	3320 A2	5142 B1			
2126 B2	2244 B3	3137 C2	3230 A1	3321 A2	5143 B1			
2127 C1	2245 A3	3138 C2	3231 A1	3322 A2	5144 B1			
2129 C2	2246 A3	3139 C2	3232 A1	3323 A2	5145 C3			
2131 B2	2248 A3	3140 C1	3233 A2	3324 A2	5148 C1			
2132 C2	2249 A3	3143 C2	3234 A1	3325 A1	5149 C3			
2135 C2	2250 A1	3144 C2	3235 A2	3326 A2	5151 C1			
2138 C2	2251 A1	3145 C2	3236 A1	3327 A2	5152 C1			
2140 C2	2252 A1	3146 C2	3237 A2	3328 A2	5153 C1			
2147 B3	2253 A1	3147 C2	3238 A1	3329 A2	5154 C2			
2148 C2	2254 A1	3148 C2	3239 A2	3330 A2	5155 B2			
2150 C1	2255 A1	3149 C2	3240 A2	3331 A2	5157 C2			
2153 B1	2256 B1	3150 C2	3241 A2	3332 A2	5159 B3			
2154 B2	2257 C1	3151 B3	3242 A2	3333 A2	5160 B2			
2158 B3	2263 A1	3152 B3	3243 A1	3335 A2	5207 A1			
2159 A3	2301 A1	3153 C3	3244 A2	3336 A2	5208 A1			
2164 B1	2312 A1	3154 C3	3245 A1	3337 A2	5209 A1			
2165 B1	2313 A1	3155 C2	3246 A2	3338 A2	5210 A1			
2166 B2	2314 A1	3156 B1	3247 A1	3339 A1	5212 B3			
2167 B1	2315 A1	3157 C3	3248 A2	3340 A1	5303 A1			
2170 B1	2320 A2	3158 C3	3249 A2	4122 C2	5306 A2			
2171 B2	2321 A1	3159 C3	3250 A2	4123 C2	5307 A2			
2172 B1	2322 A1	3160 C3	3251 A2	4124 C2	5308 A2			
2173 B1	2323 A2	3161 B3	3252 A2	4125 C2	6104 C3			
2177 B1	2327 A2	3162 B3	3253 A2	4126 B2	6105 C3			
2178 B2	2329 A2	3163 B3	3254 A2	4127 C2	6106 A3			

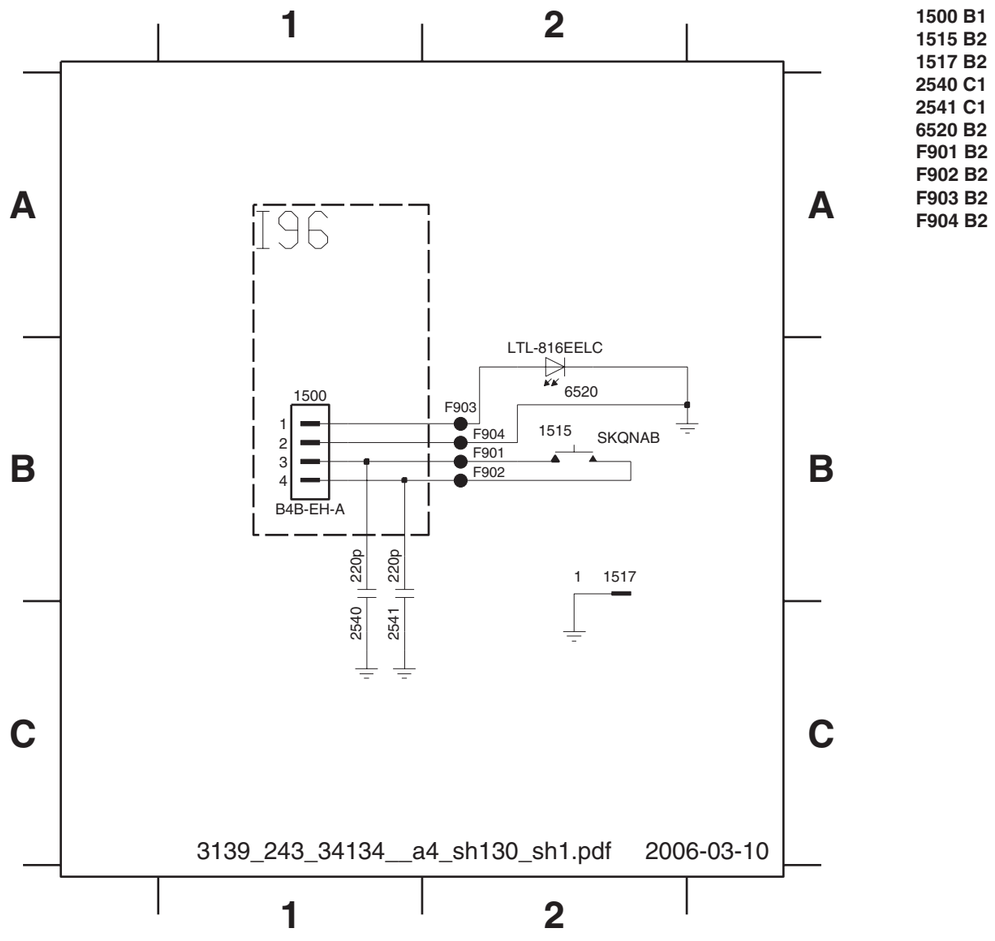
PCBA91_Topview_33576.pdf_2006-05-05

Layout: PCBA 9.1 Board (Bottom view)



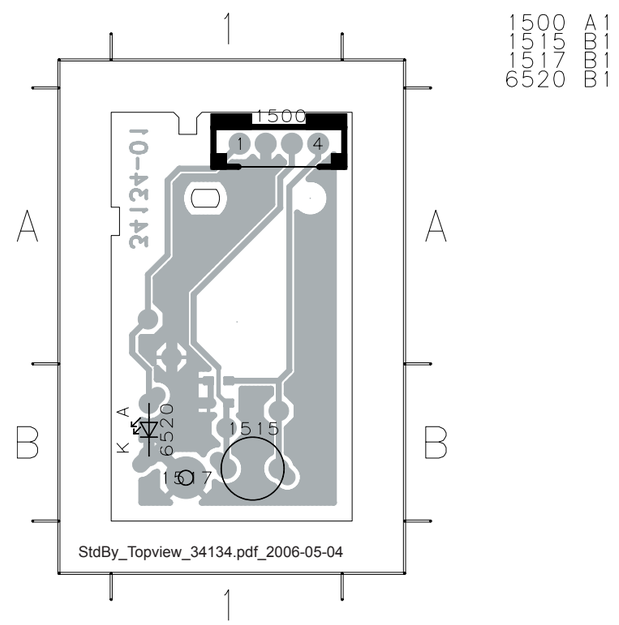
2109	A2	2258	C3
2110	C2	2259	C3
2113	A2	2260	C3
2116	A2	2261	B3
2120	C2	2262	B3
2122	C2	2264	B3
2124	C2	2265	A3
2128	A2	2266	B3
2130	A2	2267	B3
2133	B1	2268	A3
2134	A2	2269	C3
2136	C1	2324	A3
2137	A2	2325	A3
2139	C1	2326	A3
2141	B2	2328	A3
2142	A2	3103	B3
2143	A2	3115	B3
2144	C2	3171	C2
2145	B1	3201	A3
2146	B1	3202	A3
2149	C3	3203	B3
2151	B1	3204	B3
2152	B2	3206	A3
2155	B1	3207	A3
2156	B2	3208	B3
2157	B2	3209	B3
2160	C1	3210	A3
2161	C1	3211	A3
2162	C1	3212	A3
2163	C1	3213	A3
2168	B3	3258	B3
2169	B2	3260	B3
2174	B2	3273	A3
2175	B3	3277	B3
2176	B2	3278	B3
2189	B2	3279	B3
2191	A2	3280	B3
2192	B2	4143	C1
2194	C2	4146	B1
2195	A2	4208	C1
2201	A3	4217	A3
2202	A3	5147	A2
2203	B3	5156	B1
2204	B3	5158	A1
2205	A3	5201	A3
2206	A3	5202	B3
2207	B3	5203	A3
2208	B3	5204	B3
2209	A3	5205	A3
2210	A3	5206	A3
2211	A3	5211	A1
2212	A3	5304	A3
2221	B3	7110	C2
2222	B3	7213	A3
2223	B3		
2224	B3		
2225	A3		
2226	A3		
2235	B1		
2236	B1		
2237	C3		
2247	B1		

Standby Board



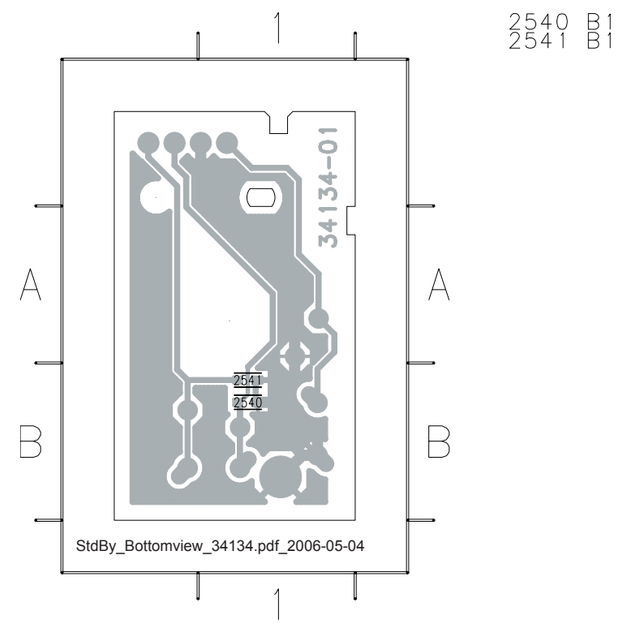
1500 B1
1515 B2
1517 B2
2540 C1
2541 C1
6520 B2
F901 B2
F902 B2
F903 B2
F904 B2

Layout: Standby Board (Top view)



1500 A1
1515 B1
1517 B1
6520 B1

Layout: Standby Board (Bottom view)



2540 B1
2541 B1

8. Exploded View of the Set

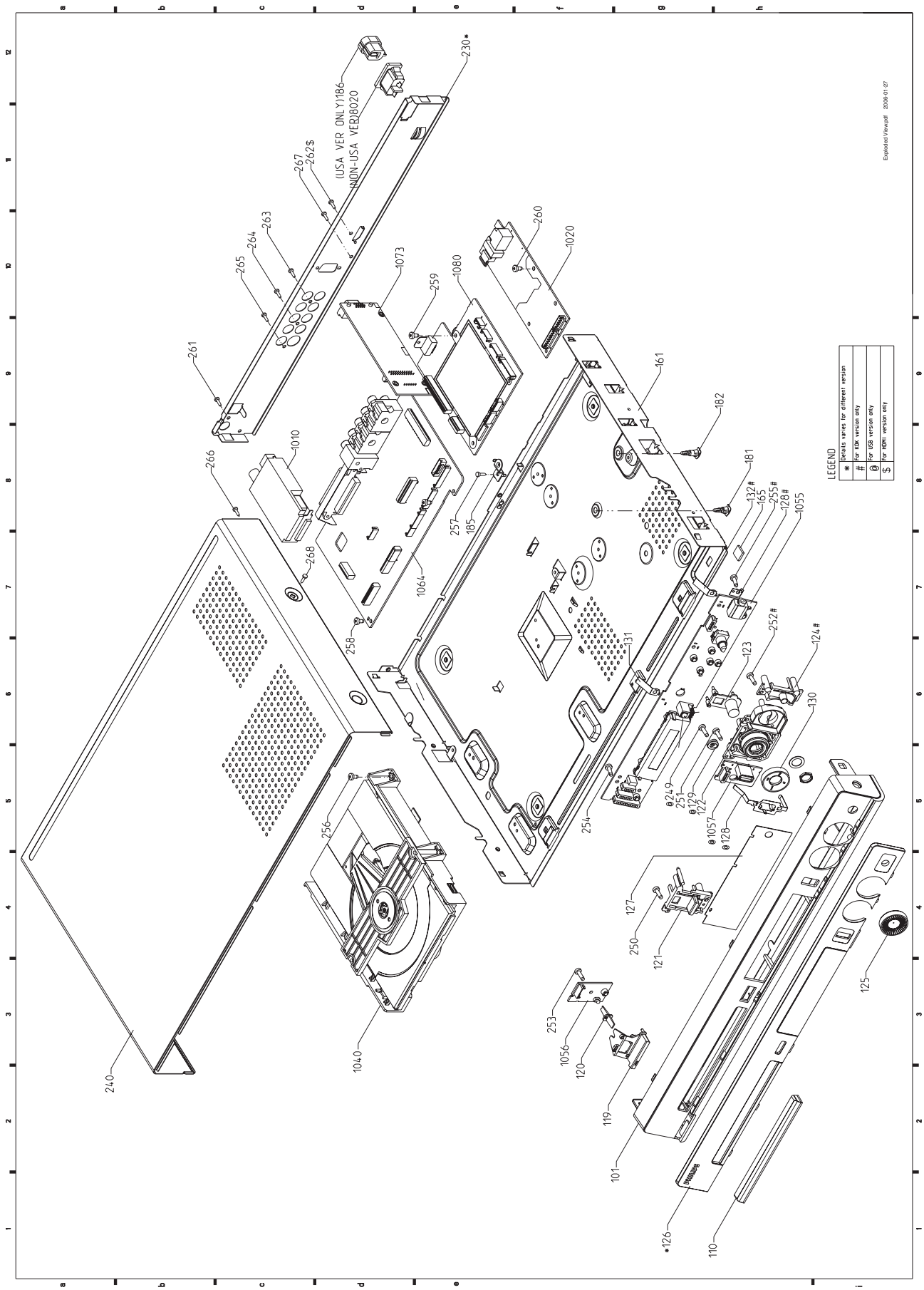


Figure 8-1

HTS3455

MISCELLANEOUS

0110	3139 244 10121		COVER TRAY HTS3455 PNT PRT
0337	2422 076 00546		FM AERIAL 24AWG BK B
0338	2422 549 45386		ANT AM LOOP LAN-011 B
0341	2422 549 00901		REMOTE CONTR HTS3100-KOK B
0345	2422 070 98151	⚠	MAINSCORD EUR 1M5 BK B /51, /98 only
0345	2422 070 00094	⚠	MAINSCORD TWN 2A5 1M5 DET 2P B /96 only
0347	2422 076 00831		CBLE CINCH 1M5 CINCH 1P YE B
0348	2422 076 00654		CBLE HD-SUB15P 3M HD-SUB 15P B
1010	2422 542 00032		TUN A F ENG06806QRF USA B
1020	3139 247 12551	⚠	PSU 06P15 WR SRV1919WW MIT
1040	3139 248 00311		LOADER ASSY 8829-SONY HTS3455
1050	3139 248 87861		PCBAS FRONT BOARD HTS3455
1064	3139 248 87912		PCBAS AV BOARD HTS3455
1073	3139 248 87351		PCBAS AV-INTERFACE BD HTS4550
1080	3139 248 50951		PCBAS 9.1 HTS3455/51 /51 Only
1080	3139 248 87951		PCBAS 9.1 HTS3455 /96,/98 Only
8000	3139 111 02721		FFC FOIL 10P/080/10P AD
8001	3139 241 02031		FFC FOIL 12P/280/12P AD FOLD
8002	3139 241 02381		FFC FOIL 30P/100/30P BD
8008	3139 241 02011		FFC FOIL 20P/140/20P AD
P001	3141 079 36071		FRAME ASSY HTS3450
P002	3141 079 36051		FRONT CAB ASSY HTS3450/55

SUBWOOF ASSY HTS3455 P(NON-US)

9965 000 37432	HTS4750 SUBWOOFER
9965 000 34997	RUBBER FOOT SW

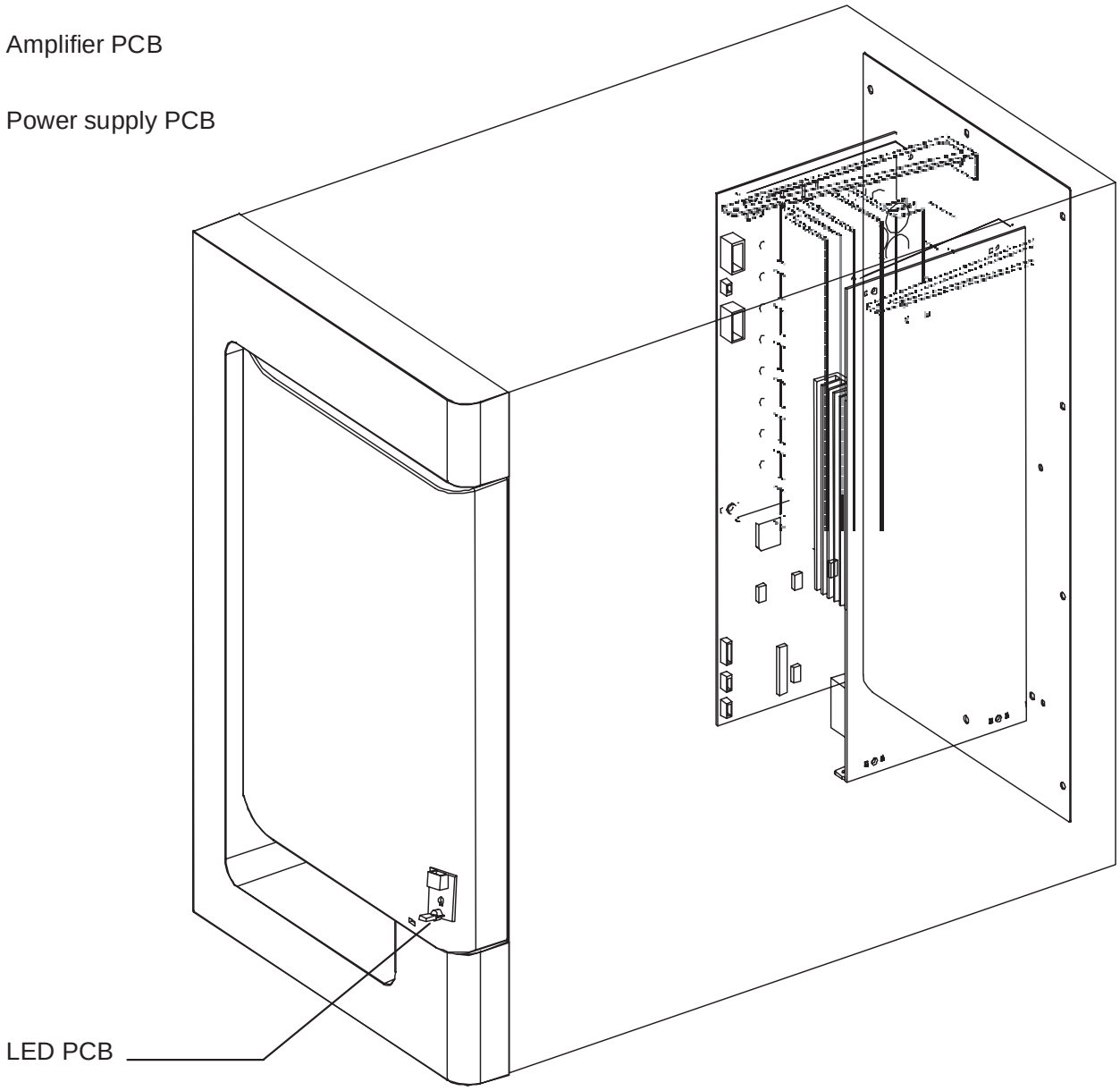
BOX SPK ASSY CENTER CS4750 P

9965 000 37433	SPEAKER BOX CENTER
9965 000 34995	RUBBER FOOT 39.5LX5.5WX2T
9965 000 34994	CABLE A'SSY 5.2M GREEN SMK S

SPK SATS ASSY/STAND HTS4750 P

9965 000 37434	SPEAKER BOX FRONT-L
9965 000 37435	SPEAKER BOX FRONT-R
9965 000 37436	SPEAKER BOX REAR-L
9965 000 37437	SPEAKER BOX REAR-R
9965 000 34987	CABLE A'SSY 5.2M WHITE SMK
9965 000 34988	CABLE A'SSY 5.2M RED SMK
9965 000 34989	CABLE A'SSY 5.2M BLUE SMK
9965 000 34990	CABLE A'SSY 5.2M GREY SMK
9965 000 36536	RUBBER FOOT

LOCATION OF PC BOARDS



SPECIFICATIONS

SUBWOOFER

Subwoofer (not magnetically shielded design).....8"
Output Power.....250W (dual 4 ohm)
THD (Total Harmonic Distortion) .....10% at 55 Hz
Reproduction Frequency Response.....37Hz-145 Hz
Input Sensitivity (Subwoofer In).....2.6 Vrms
AC Power .....127V / 240V, 50Hz / 60 Hz
Power Consumption.....125W (at 1/8 Rated Power)
Dimensions (w x h x d).....240mm x 367mm x 427mm
Weight.....8.5 Kg

DISASSEMBLY INSTRUCTIONS

Dismantling the Front panel & Speaker Driver

1. Place the Subwoofer Box up side down as shown in the Picture 1 and use a flat-head screwdriver to gently force open the plastic front panel. (Start at the arrow locations)
Panel of Subwoofer.

Picture 1

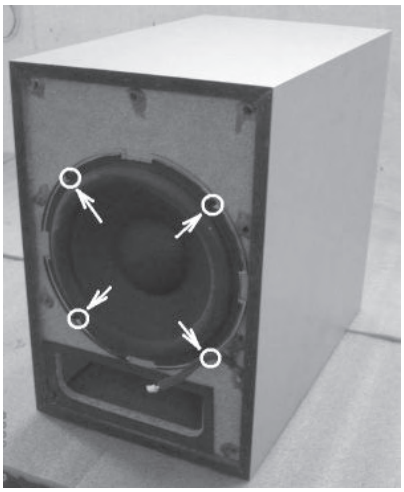
Dismantling the Front Assembly

1. While opening the front panel, a 3-wire cable has to be disconnected between the box and the panel LED assembly.

Caution: Take care the surface when take out the front panel of subwoofer.

WARNING: THERE IS ONLY A LED BETWEEN THE FRONT PANEL AND WOOD BOX. IF NOT NECCESSARY, PLEASE DON'T TRY TO OPEN THE FRONT PANEL!!!

2. Place the Subwoofer Box as shown in the Picture 2 and loosen 4 screws to remove the Speaker Driver.



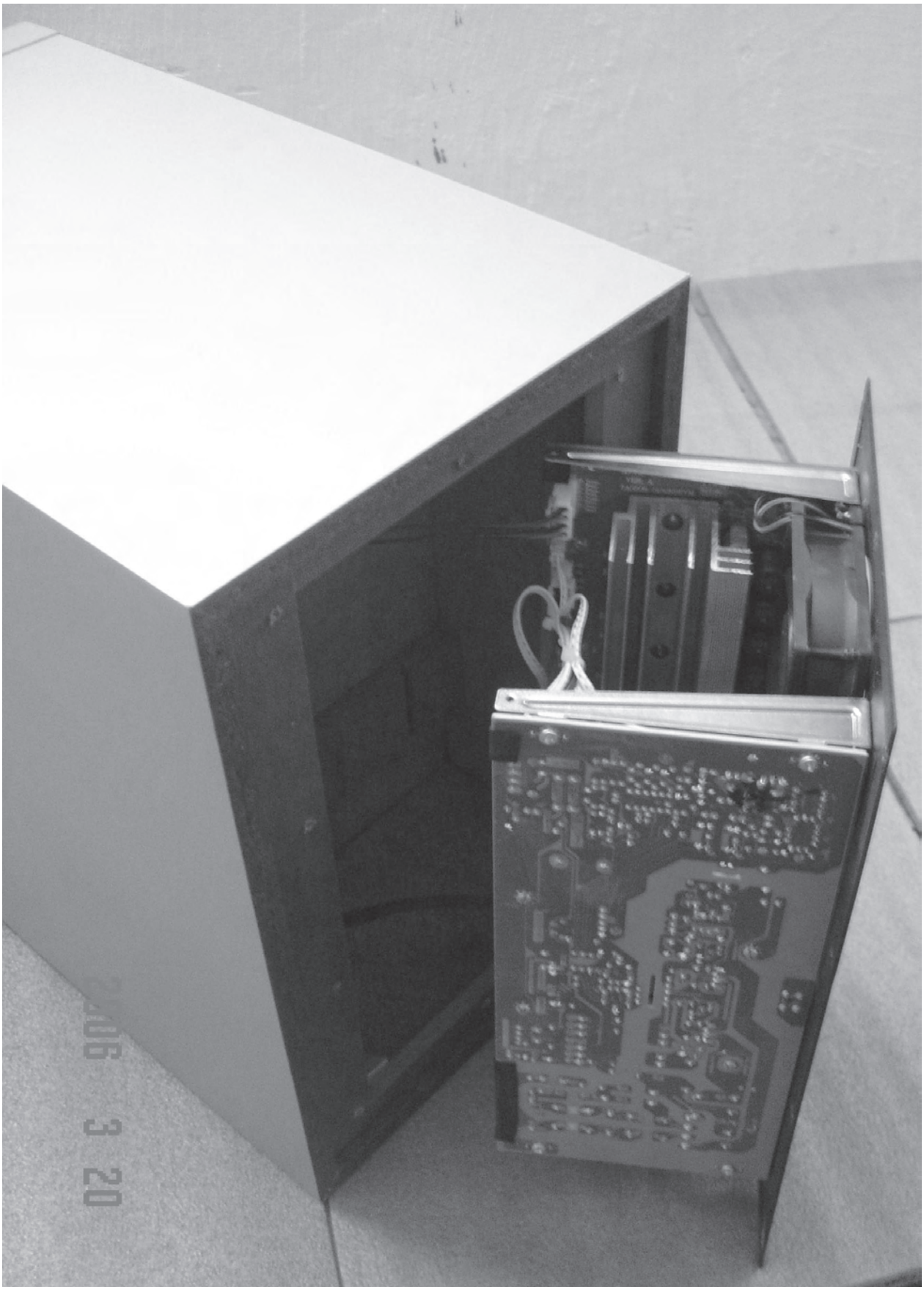
Picture 2

Dismantling the Rear Assembly

1. Loosen 10 screws as shown in the Picture 3 (Rear View) to pull out the Printed Circuit Board assembly.

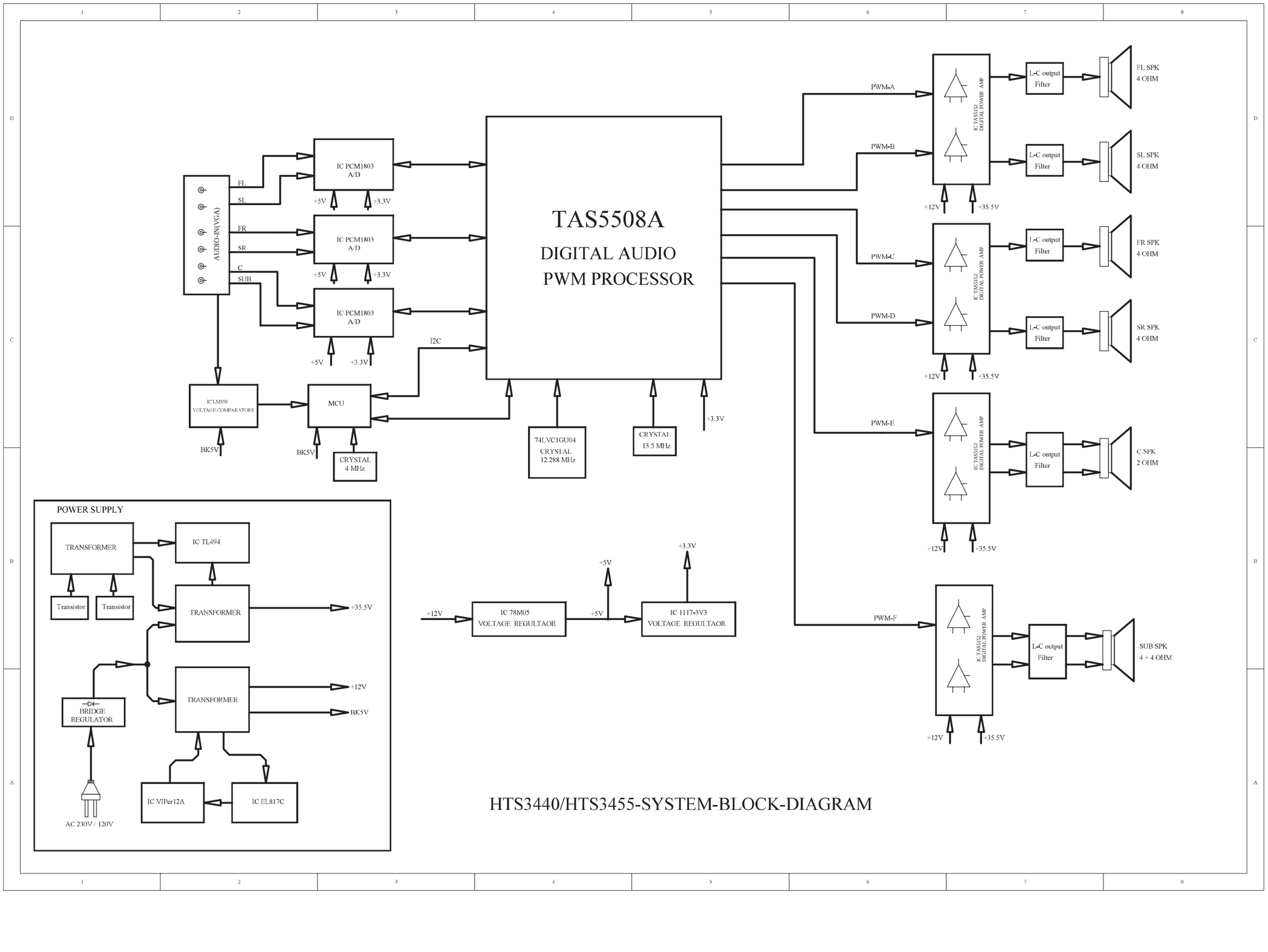
Picture 3

SERVICE POSITION



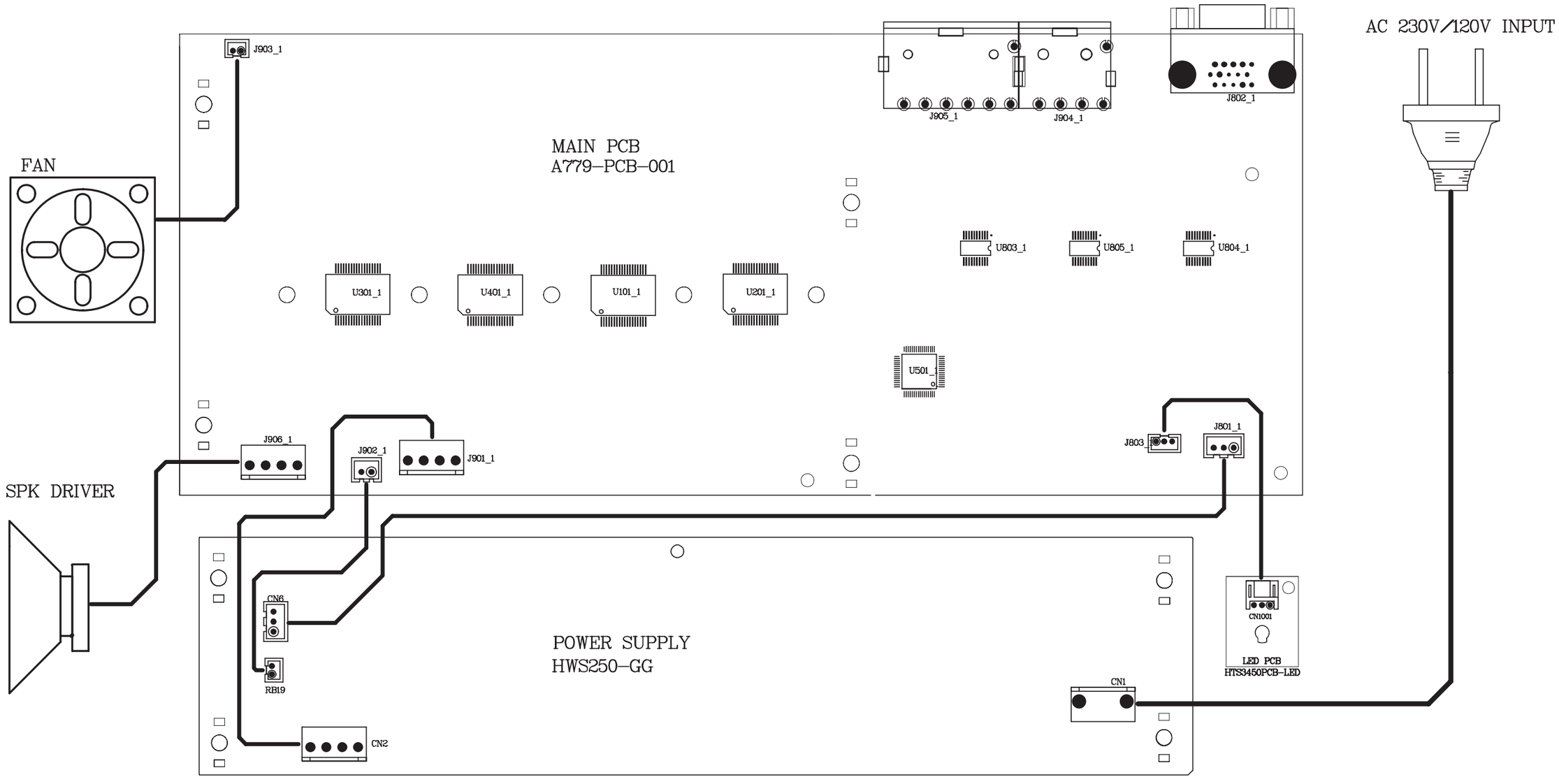
Notes:

Block Diagram (Subwoofer)

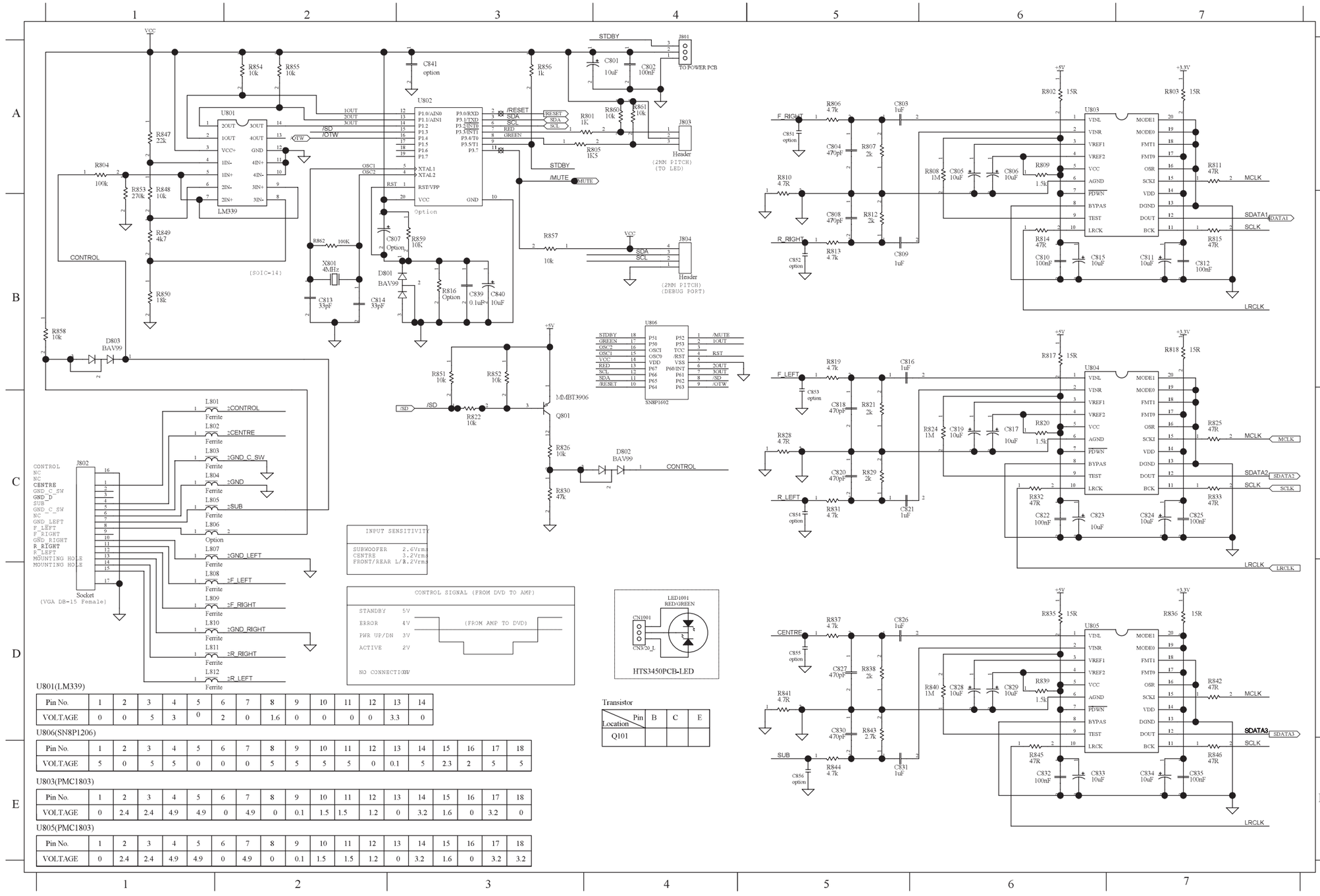


HTS3440/HTS3455-SYSTEM-BLOCK-DIAGRAM

Wiring Diagram (Subwoofer)



Subwoofer Amplifier Board : Circuit Diagram (Part 1)



U801(LM339)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
VOLTAGE	0	0	5	3	0	2	0	1.6	0	0	0	0	3.3	0

U806(SN8P1206)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
VOLTAGE	5	0	5	5	0	0	0	5	5	5	5	0	0.1	5	2.3	2	5	5

U803(PMC1803)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
VOLTAGE	0	2.4	2.4	4.9	4.9	0	4.9	0	0.1	1.5	1.5	1.2	0	3.2	1.6	0	3.2	0

U805(PMC1803)

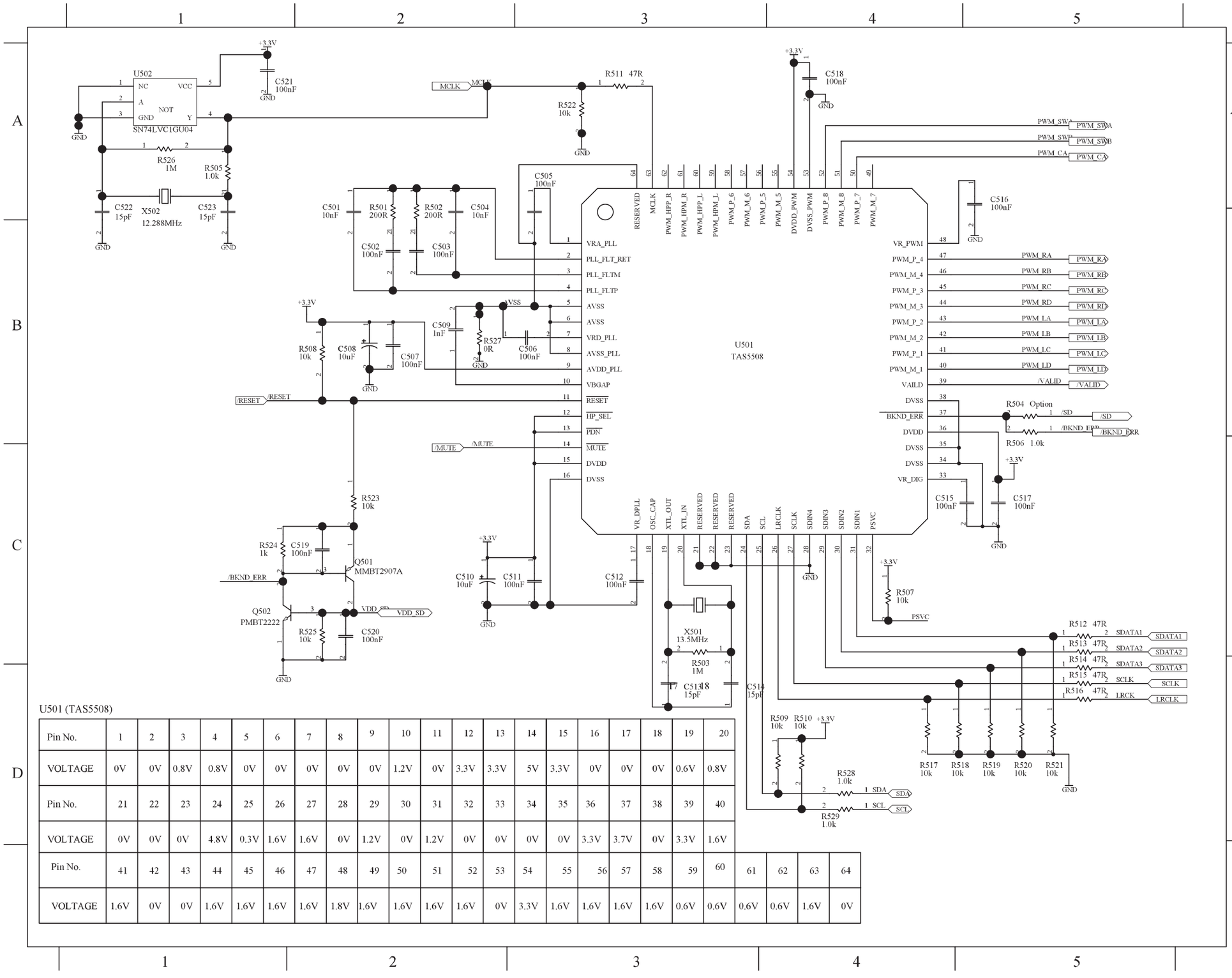
Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
VOLTAGE	0	2.4	2.4	4.9	4.9	0	4.9	0	0.1	1.5	1.5	1.2	0	3.2	1.6	0	3.2	3.2

Transistor

Location \ Pin	B	C	E
Q101			

C801	A4	Q801	C3
C802	A4	R801	A3
C803	A5	R802	A6
C804	A5	R803	A7
C805	A6	R804	A1
C806	A6	R805	A3
C807	B2	R806	A5
C808	B5	R807	A5
C809	B5	R808	A6
C810	B6	R809	A6
C811	B7	R810	B5
C812	B7	R811	A7
C813	B2	R812	B5
C814	B2	R813	B5
C815	B6	R814	B6
C816	B5	R815	B7
C817	C6	R816	B3
C818	C5	R817	B6
C819	C6	R818	B7
C820	C5	R819	B5
C821	C5	R820	C6
C822	C6	R821	C5
C823	C6	R822	C3
C824	C7	R824	C6
C825	C7	R825	C7
C826	D5	R826	C3
C827	D5	R828	B5
C828	D6	R829	C5
C829	D6	R830	C3
C830	D5	R831	C5
C831	E5	R832	C6
C832	E6	R833	C7
C833	E6	R835	D6
C834	E7	R836	D7
C835	E7	R837	D5
C839	B3	R838	D5
C840	B3	R839	D6
C841	A3	R840	D6
C851	A5	R841	D5
C852	B5	R842	D7
C853	C5	R843	D5
C854	C5	R844	E5
C855	D5	R845	E6
C856	E5	R846	E7
CN1001	D4	R847	A1
D801	B3	R848	B1
D802	C4	R849	B1
D803	B1	R850	B1
J801	A4	R851	B1
J802	C1	R852	B3
J803	A4	R853	A1
J804	B4	R854	A2
L801	C1	R855	A2
L802	C1	R856	A3
L803	C1	R857	B3
L804	C1	R858	B1
L805	C1	R859	B3
L806	C1	R860	A4
L807	C1	R861	A4
L808	D1	R862	B2
L809	D1	U801	A1
L810	D1	U802	A3
L811	D1	U803	A6
L812	D1	U804	B6
LED1001	D4	U805	D6
		U806	B4

Subwoofer Amplifier Board : Circuit Diagram (Part 2)



U501 (TAS5508)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VOLTAGE	0V	0V	0.8V	0.8V	0V	0V	0V	0V	0V	1.2V	0V	3.3V	3.3V	5V	3.3V	0V	0V	0V	0.6V	0.8V
Pin No.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
VOLTAGE	0V	0V	0V	4.8V	0.3V	1.6V	1.6V	0V	1.2V	0V	1.2V	0V	0V	0V	0V	3.3V	3.7V	0V	3.3V	1.6V
Pin No.	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
VOLTAGE	1.6V	0V	0V	1.6V	1.6V	1.6V	1.6V	1.8V	1.6V	1.6V	1.6V	1.6V	0V	3.3V	1.6V	1.6V	1.6V	1.6V	0.6V	0.6V	0.6V	0.6V	1.6V	0V

C501	B2	R501	A2
C502	B2	R502	A2
C503	B2	R503	D3
C504	B2	R504	B5
C505	B3	R505	A1
C506	A3	R506	B5
C507	B2	R507	C4
C508	B2	R508	B2
C509	B2	R509	D4
C510	C2	R510	D4
C511	C3	R511	A3
C512	C3	R512	C5
C513	D3	R513	C5
C514	D3	R514	D5
C515	C5	R515	D5
C516	A4	R516	D5
C517	C5	R517	D4
C518	A4	R518	D5
C519	C2	R519	D5
C520	C2	R520	D5
C521	A1	R521	D5
C522	A1	R522	A3
C523	A1	R523	C2
R501	A2	R524	C1
R502	A2	R525	C2
R503	D3	R526	A1
R504	B5	R527	B2
R505	A1	R528	D4
R506	B5	R529	D4
R507	C4	Q501	C2
R508	B2	Q502	C1
R509	D4	U501	B3
R510	D4	U502	A1
R511	A3	X501	D3
R512	C5	X502	A1

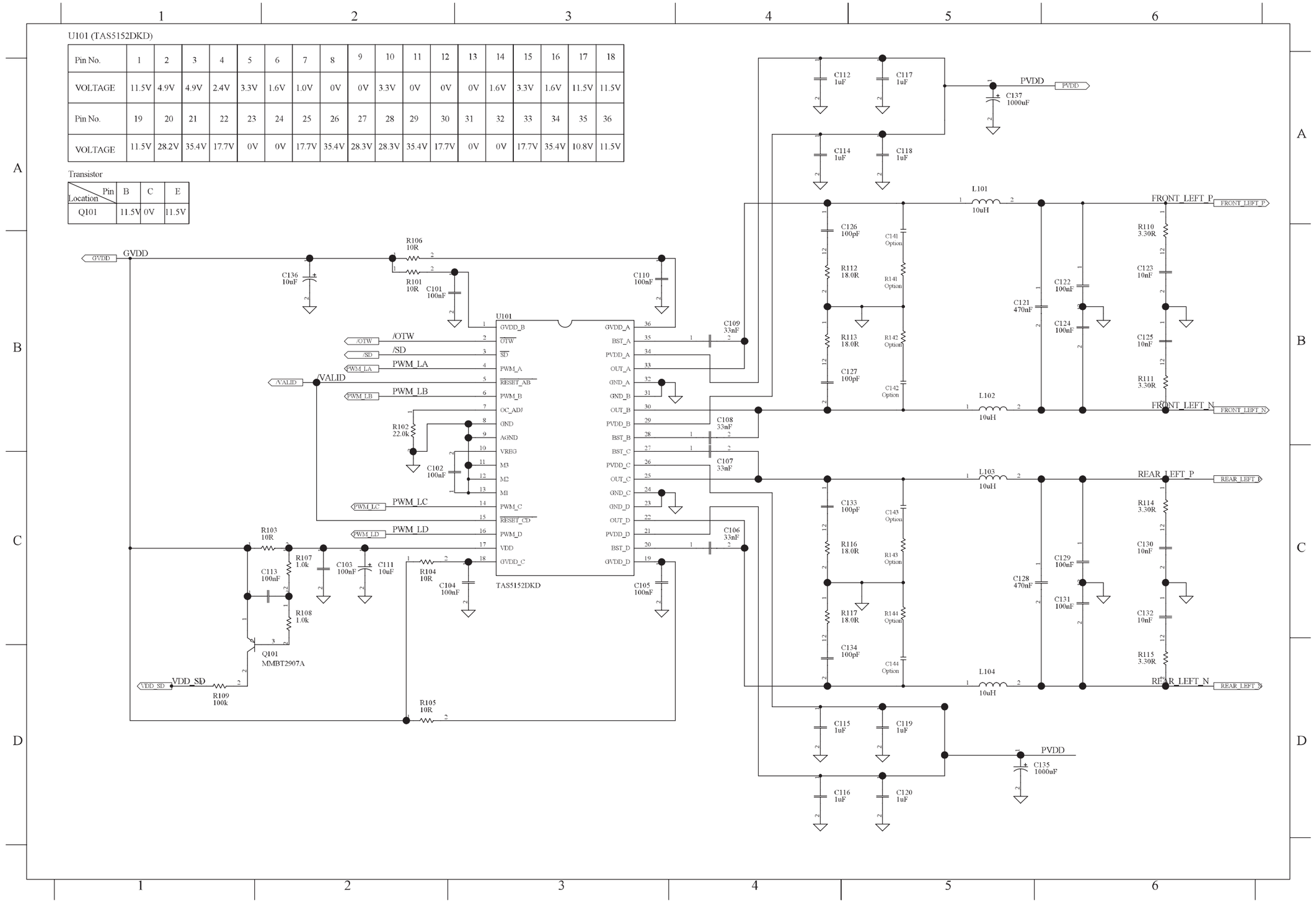
Subwoofer Amplifier Board : Circuit Diagram (Part 3)

U101 (TAS5152DKD)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
VOLTAGE	11.5V	4.9V	4.9V	2.4V	3.3V	1.6V	1.0V	0V	0V	3.3V	0V	0V	0V	1.6V	3.3V	1.6V	11.5V	11.5V
Pin No.	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
VOLTAGE	11.5V	28.2V	35.4V	17.7V	0V	0V	17.7V	35.4V	28.3V	28.3V	35.4V	17.7V	0V	0V	17.7V	35.4V	10.8V	11.5V

Transistor

Location \ Pin	B	C	E
Q101	11.5V	0V	11.5V



C101	B2
C102	B2
C103	C2
C104	C2
C105	C2
C106	C3
C107	C4
C108	C4
C109	B4
C110	B4
C111	B3
C112	C2
C113	A4
C114	C1
C115	A4
C116	D4
C117	D4
C118	A5
C119	A5
C120	D5
C121	D5
C122	B5
C123	B6
C124	B6
C125	B6
C126	B6
C127	B4
C128	B4
C129	C5
C130	C6
C131	C6
C132	C6
C133	C6
C134	C4
C135	D4
C136	A5
C137	D5
C141	B5
C142	B5
C143	C5
C144	D5
L101	A5
L102	B5
L103	C5
L104	D5
Q101	D1
R101	B2
R102	B2
R103	C1
R104	C2
R105	D2
R106	B2
R107	C2
R108	C2
R109	D1
R110	B6
R111	B6
R112	B4
R113	B4
R114	C6
R115	D6
R116	C4
R117	C4
R141	B5
R142	B5
R143	C5
R144	C5
U101	B3

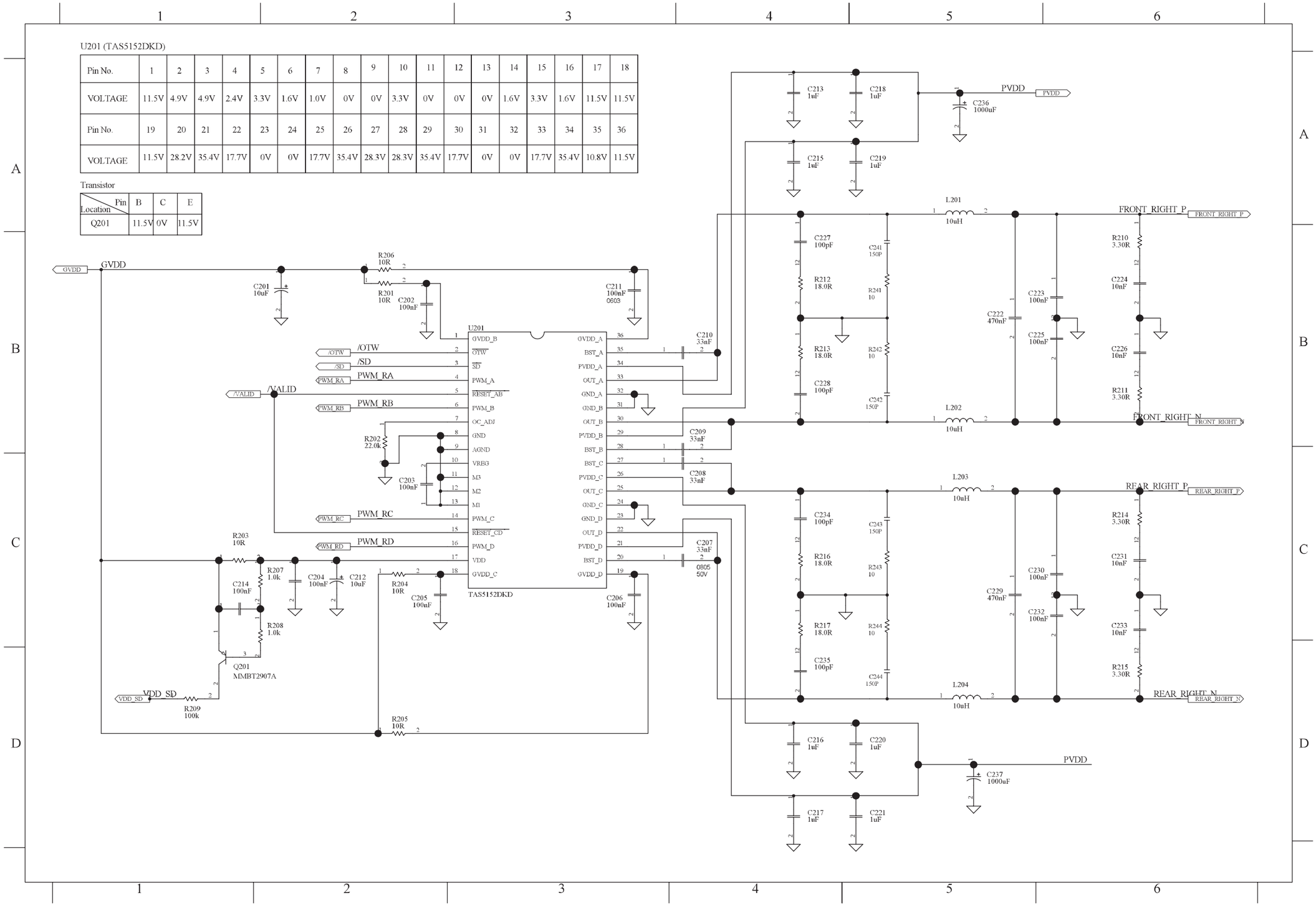
Subwoofer Amplifier Board : Circuit Diagram (Part 4)

U201 (TAS5152DKD)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
VOLTAGE	11.5V	4.9V	4.9V	2.4V	3.3V	1.6V	1.0V	0V	0V	3.3V	0V	0V	0V	1.6V	3.3V	1.6V	11.5V	11.5V
Pin No.	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
VOLTAGE	11.5V	28.2V	35.4V	17.7V	0V	0V	17.7V	35.4V	28.3V	28.3V	35.4V	17.7V	0V	0V	17.7V	35.4V	10.8V	11.5V

Transistor

Location \ Pin	B	C	E
Q201	11.5V	0V	11.5V



C201	B2
C202	B2
C203	C2
C204	C2
C205	C2
C206	C3
C207	C4
C208	C4
C209	B4
C210	B4
C211	B3
C212	C2
C213	A4
C214	C1
C215	A4
C216	D4
C217	D4
C218	A5
C219	A5
C220	D5
C221	D5
C222	B5
C223	B6
C224	B6
C225	B6
C226	B6
C227	B4
C228	B4
C229	C5
C230	C6
C231	C6
C232	C6
C233	C6
C234	C4
C235	D4
C236	A5
C237	D5
C241	B5
C242	B5
C243	C5
C244	D5
L201	A5
L202	B5
L203	C5
L204	D5
Q201	D1
R201	B2
R202	B2
R203	C1
R204	C2
R205	D2
R206	B2
R207	C2
R208	C2
R209	D1
R210	B6
R211	B6
R212	B4
R213	B4
R214	C6
R215	D6
R216	C4
R217	C4
R241	B5
R242	B5
R243	C5
R244	C5
U201	B3

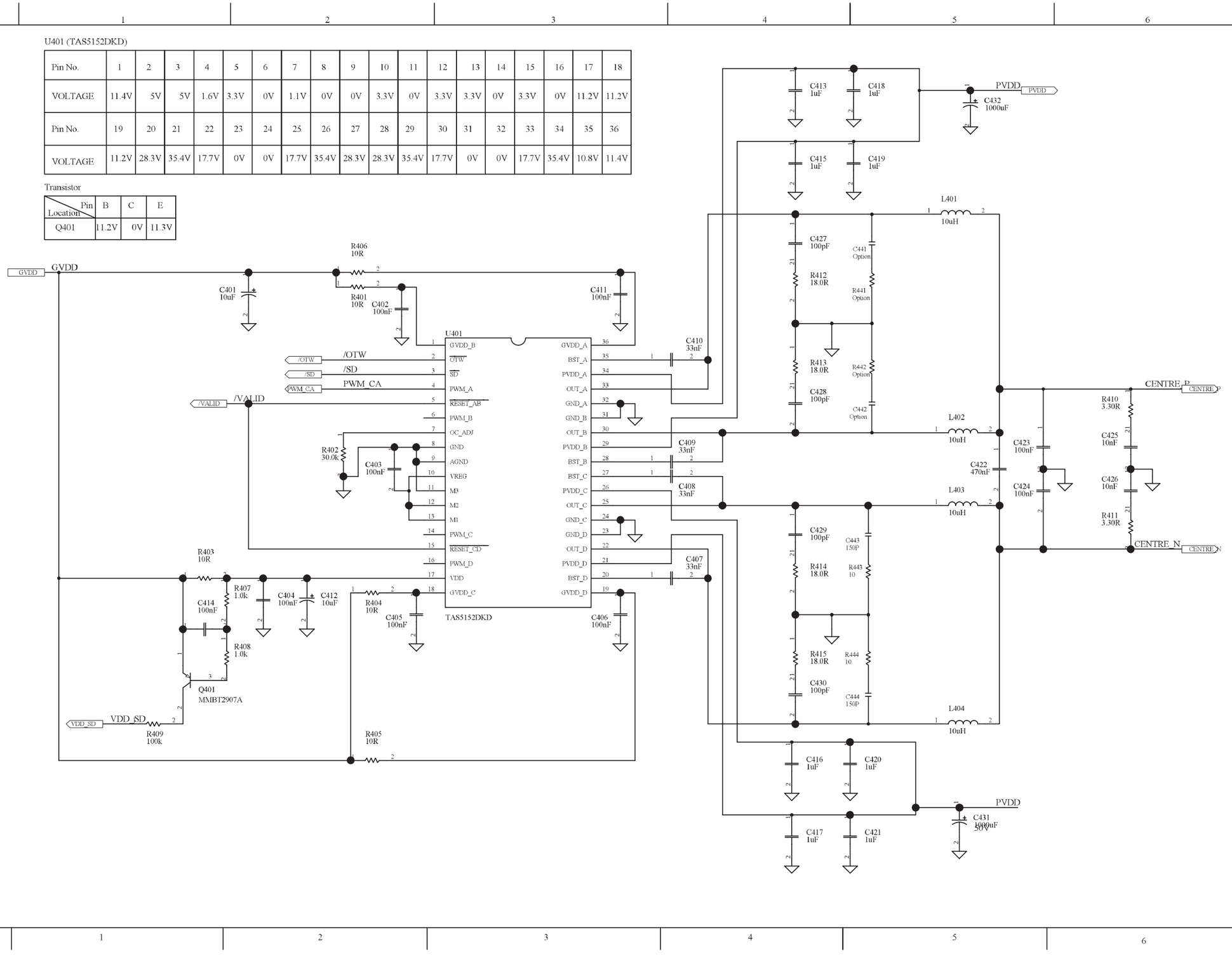
Subwoofer Amplifier Board : Circuit Diagram (Part 5)

U401 (TAS5152DKD)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
VOLTAGE	11.4V	5V	5V	1.6V	3.3V	0V	1.1V	0V	0V	3.3V	0V	3.3V	3.3V	0V	3.3V	0V	11.2V	11.2V
Pin No.	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
VOLTAGE	11.2V	28.3V	35.4V	17.7V	0V	0V	17.7V	35.4V	28.3V	28.3V	35.4V	17.7V	0V	0V	17.7V	35.4V	10.8V	11.4V

Transistor

Pin / Location	B	C	E
Q401	11.2V	0V	11.3V



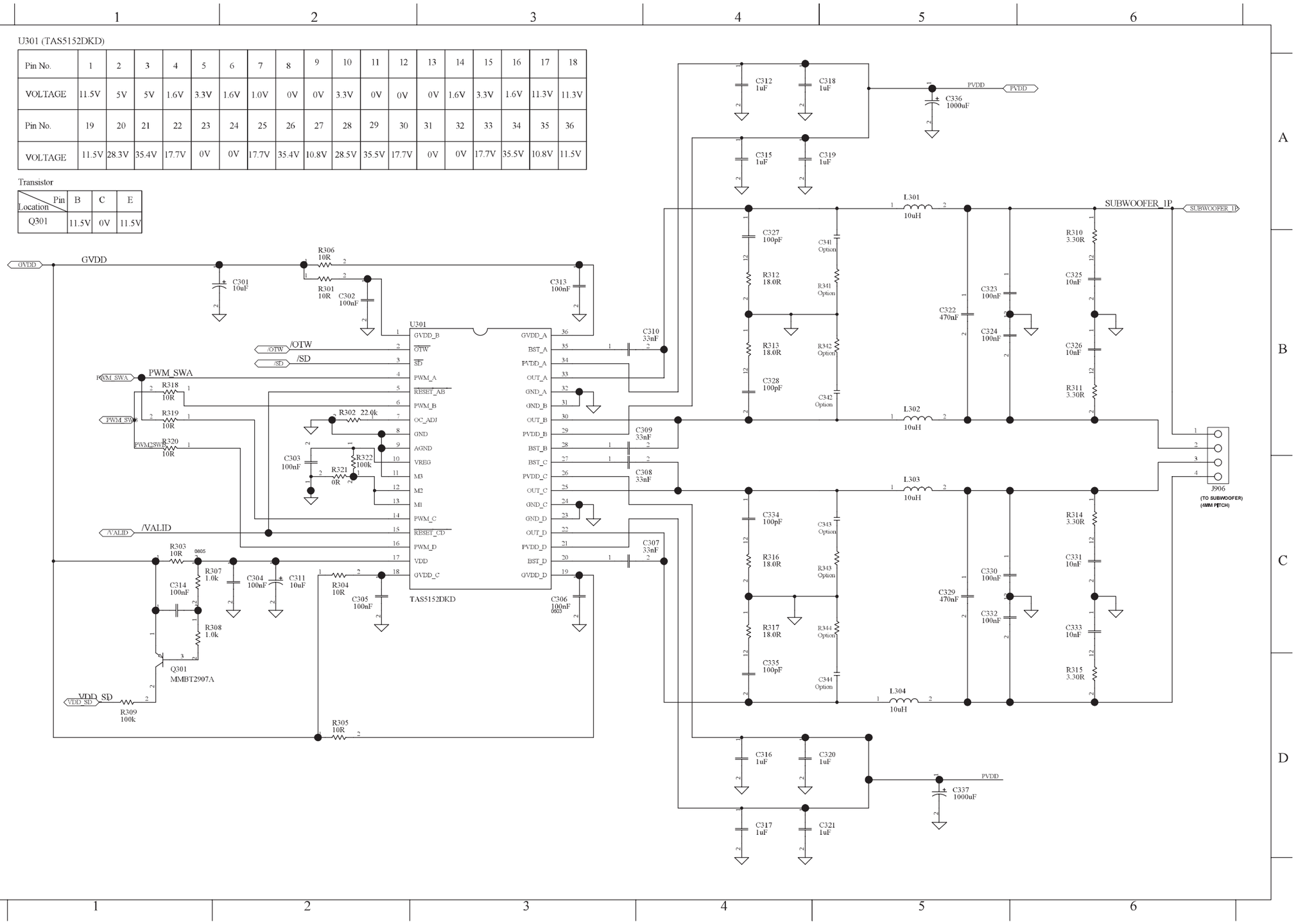
Subwoofer Amplifier Board : Circuit Diagram (Part 6)

U301 (TAS5152DKD)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
VOLTAGE	11.5V	5V	5V	1.6V	3.3V	1.6V	1.0V	0V	0V	3.3V	0V	0V	0V	1.6V	3.3V	1.6V	11.3V	11.3V
Pin No.	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
VOLTAGE	11.5V	28.3V	35.4V	17.7V	0V	0V	17.7V	35.4V	10.8V	28.5V	35.5V	17.7V	0V	0V	17.7V	35.5V	10.8V	11.5V

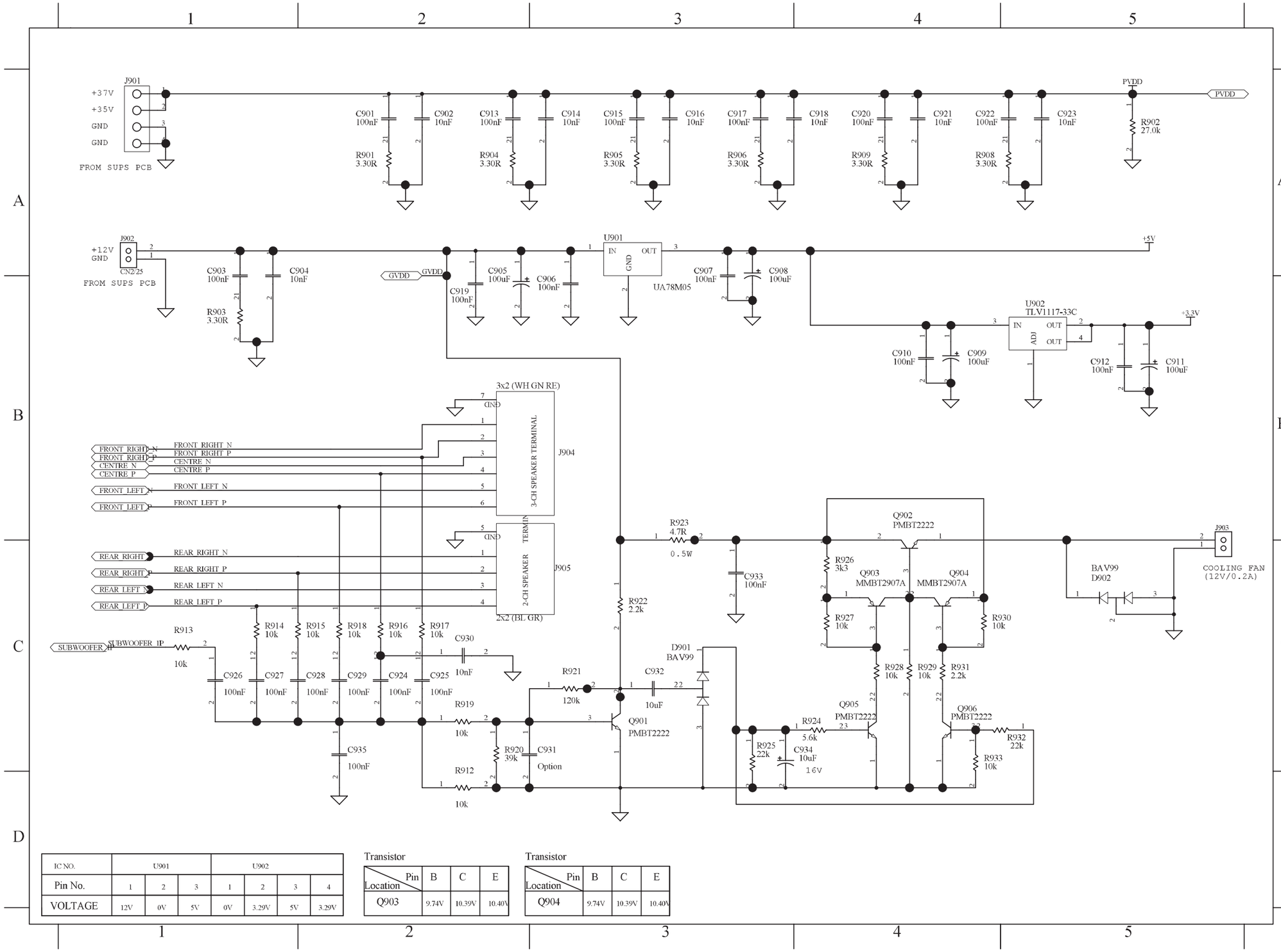
Transistor

Location \ Pin	B	C	E
Q301	11.5V	0V	11.5V



C301	C2
C302	C2
C303	C2
C304	C2
C305	C2
C306	C3
C307	C3
C308	B3
C309	B3
C310	B3
C311	C2
C312	A4
C313	B3
C314	C1
C315	A4
C316	D4
C317	D4
C318	A4
C319	A4
C320	D4
C321	D4
C322	B5
C323	B6
C324	B6
C325	B6
C326	B6
C327	A4
C328	B4
C329	C5
C330	C6
C331	C6
C332	C6
C333	C6
C334	C4
C335	D4
C336	A6
C337	D5
C341	A5
C342	B5
C343	C4
C344	D
J906	C7
L301	A5
L302	B4
L303	C4
L304	D4
Q301	D1
R301	B2
R302	B2
R303	C1
R304	C2
R305	D2
R306	B2
R307	C1
R308	C1
R309	D1
R310	B6
R311	B6
R312	B4
R313	B4
R314	C6
R315	D6
R316	C4
R317	C4
R318	B1
R319	B1
R320	B1
R321	C2
R322	C2
R341	B5
R342	B5
R343	C5
R344	C5
U301	B3

Subwoofer Amplifier Board : Circuit Diagram (Part 7)



IC NO.	U901			U902			
Pin No.	1	2	3	1	2	3	4
VOLTAGE	12V	0V	5V	0V	3.29V	5V	3.29V

Transistor

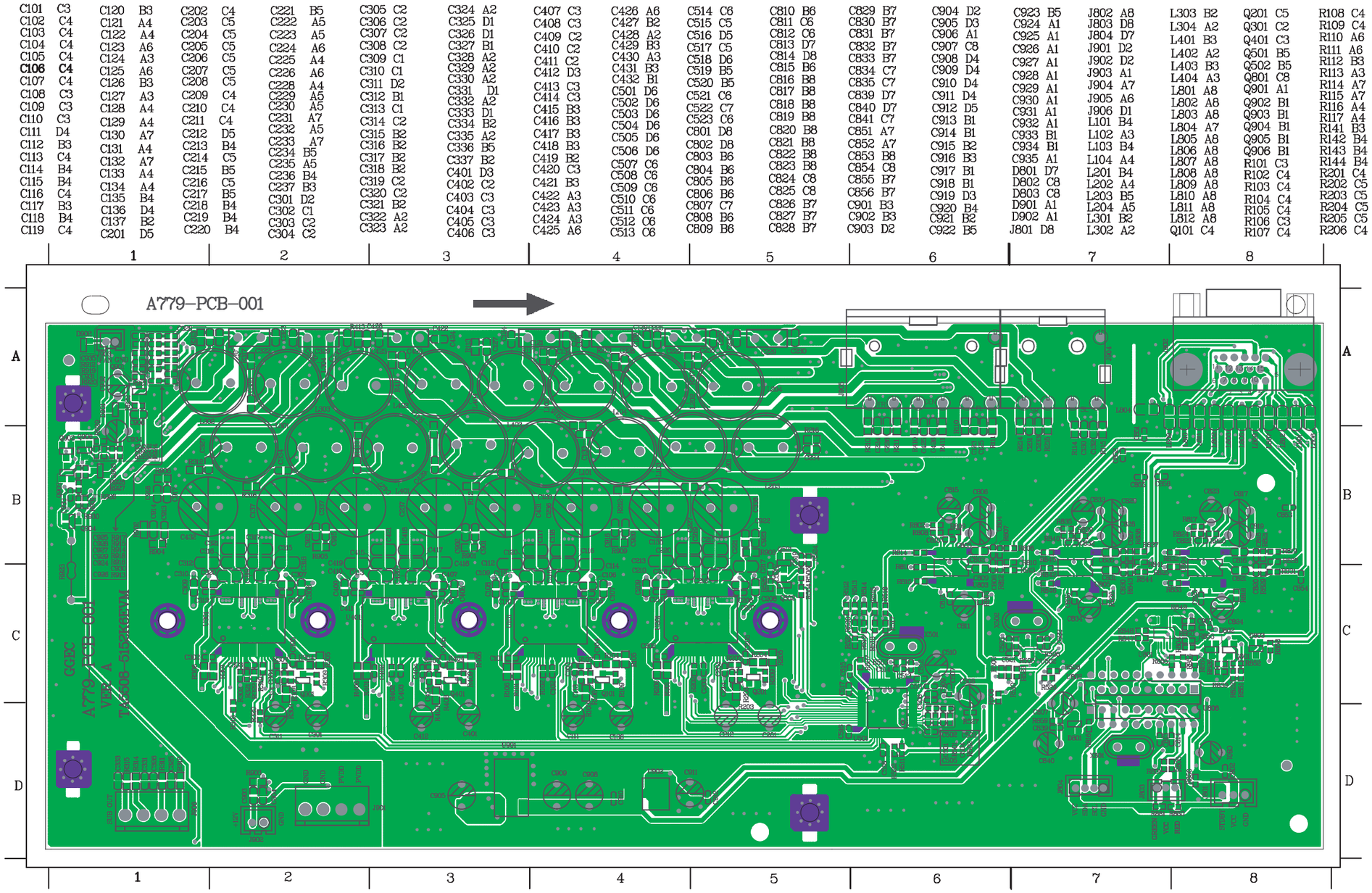
Location \ Pin	B	C	E
Q903	9.74V	10.39V	10.40V

Transistor

Location \ Pin	B	C	E
Q904	9.74V	10.39V	10.40V

J903	C5	Q904	A1
R922	C3	C931	C3
R931	C4	Q902	B4
J904	C3	Q906	C4
R905	A3	Q901	C3
R901	A2	Q905	C4
R909	A4	U902	B5
R903	B1	U901	A3
R904	A2		
R908	A4		
R906	A3		
R926	C4		
J905	C3		
R923	B3		
R924	C4		
R930	C4		
R933	C3		
R916	C2		
R914	C1		
R917	C2		
R929	C4		
R918	C2		
R913	C1		
R927	C4		
R915	C1		
R912	D2		
R928	C4		
R919	C2		
C930	C2		
C921	A4		
C918	A4		
C902	A2		
C914	A3		
C904	A1		
C923	A5		
C916	A3		
C932	C3		
C934	C4		
R932	C5		
R925	C3		
R902	A5		
R920	C2		
C927	C1		
C910	B4		
C935	C2		
C929	C2		
C925	C2		
C912	B5		
C907	B3		
C924	C2		
C926	C1		
C928	C1		
C933	C3		
C903	B2		
C913	A2		
C920	A4		
C901	A2		
C906	B3		
C917	A3		
C915	A3		
C922	A4		
C919	B2		
C905	B2		
C911	B5		
C908	C3		
C909	B4		
R921	C3		
D901	C3		
D902	C5		
J902	A1		
J901	A1		
Q903	A1		

Layout: Amplifier Board (Subwoofer) (Top view)



C101 C3
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C103 C4
C104 C4
C105 C4
C106 C4
C107 C4
C108 C3
C109 C3
C110 C3
C111 D4
C112 B3
C113 C4
C114 B4
C115 B4
C116 C4
C117 B3
C118 B4
C119 C4
C120 B3
C121 A4
C122 A4
C123 A6
C124 A3
C125 A6
C126 B3
C127 A3
C128 A4
C129 A4
C130 A7
C131 A4
C132 A7
C133 A4
C134 A4
C135 B4
C136 D4
C137 B2
C201 D5
C202 C4
C203 C5
C204 C5
C205 C5
C206 C5
C207 C5
C208 C5
C209 C4
C210 C4
C211 C4
C212 D5
C213 B4
C214 C5
C215 B5
C216 C5
C217 B5
C218 B4
C219 B4
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C221 B5
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C223 A5
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C234 B5
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C237 B3
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C306 C2
C307 C2
C308 C2
C309 C1
C310 C1
C311 D2
C312 B1
C313 C1
C314 C2
C315 B2
C316 B2
C317 B2
C318 B2
C319 C2
C320 C2
C321 B2
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C323 A2
C324 A2
C325 D1
C326 D1
C327 B1
C328 A2
C329 A2
C330 A2
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C332 A2
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C334 B2
C335 A2
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C410 C2
C411 C2
C412 D3
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C916 B3
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C918 B1
C919 D3
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C924 A1
C925 A1
C926 A1
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C935 A1
D801 D7
D802 C8
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D902 A1
J801 D8
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J803 D8
J804 D7
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J902 D2
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J905 A6
J906 D1
L101 B4
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L202 A4
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L304 A2
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L809 A8
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L812 A8
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Q201 C5
Q301 C2
Q401 C3
Q501 B5
Q502 B5
Q801 C8
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Q902 B1
Q903 B1
Q904 B1
Q905 B1
Q906 B1
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R933 B1
U101 C4
U201 C5
U301 C2
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U802 C7
U803 B6
U804 B8
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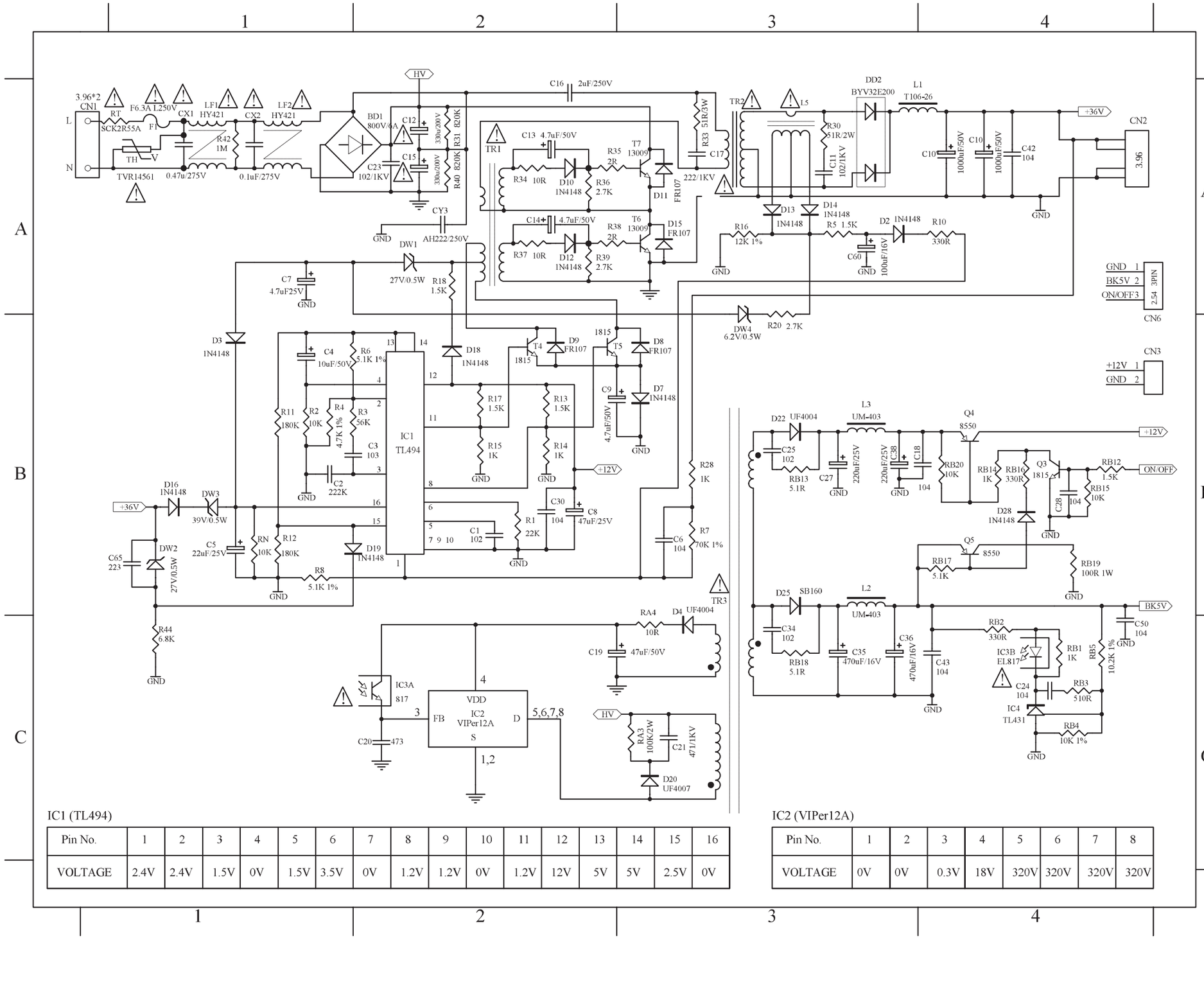
U901 D3
U902 D4
X501 C6
X502 C7
X801 D7

Subwoofer PSU: Circuit Diagram (For Information Only)



IC1 (TL494)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
VOLTAGE	2.4V	2.4V	1.5V	0V	1.5V	3.5V	0V	1.2V	1.2V	0V	1.2V	12V	5V	5V	2.5V	0V

IC2 (VIPer12A)

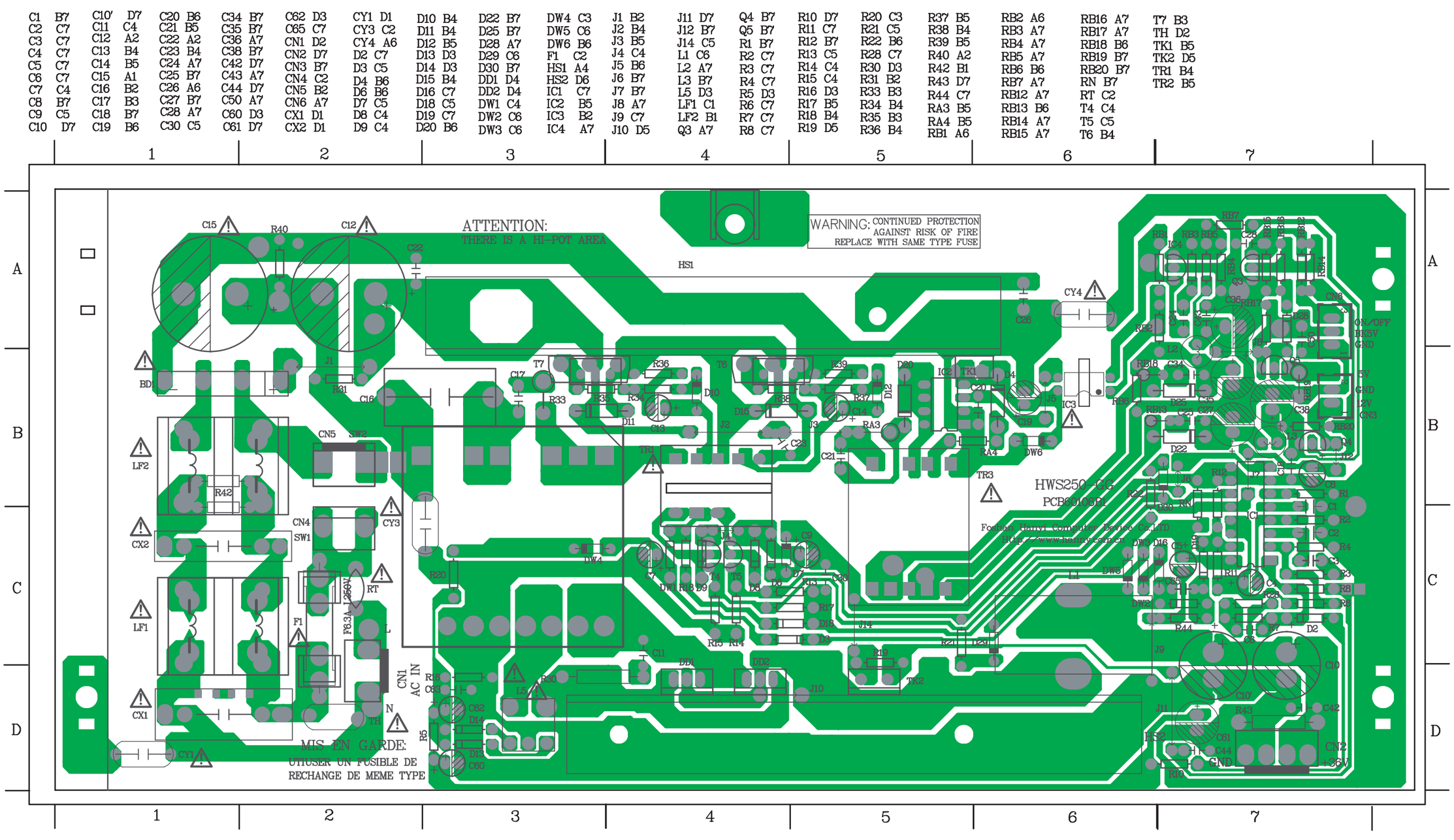
Pin No.	1	2	3	4	5	6	7	8
VOLTAGE	0V	0V	0.3V	18V	320V	320V	320V	320V

R1	B2	RB20	B4	D7	B3
R2	B1	RN	B1	D8	B3
R3	B1	C1	B2	D9	B3
R4	B1	C2	B1	D10	A2
R5	A3	C3	B1	D11	C3
R6	B1	C4	B1	D12	A2
R7	B3	C5	B1	D13	C3
R8	B1	C6	B3	D14	C3
R10	A4	C7	A1	D15	C3
R11	B1	C8	B2	D16	B1
R12	B1	C9	B2	D18	B2
R13	B3	C10	A4	D19	B1
R14	B2	C10'	A4	D20	C3
R15	B2	C11	A3	D22	B3
R16	A3	C12	A2	D25	B3
R17	B2	C13	A2	D28	B4
R18	A2	C14	A2	DD2	A3
R20	B3	C15	A2	DW1	A2
R28	B3	C16	A2	DW2	B1
R30	A3	C17	A3	DW3	B1
R31	A2	C18	B4	DW4	B3
R33	A3	C19	C2	L1	A3
R34	A2	C20	C1	L2	B3
R35	A2	C21	C3	L3	B3
R36	A2	C23	A2	LF1	A1
R37	A2	C24	C4	LF2	A1
R38	A2	C25	B3	IC3	C1
R39	A2	C27	B3	IC4	C4
R40	A2	C28	B4	Q3	B4
R42	A1	C30	B2	Q4	B4
R44	C1	C34	C3	Q5	B4
RA3	C3	C35	C3	T4	B2
RA4	C3	C36	C3	T5	B2
RB1	C4	C38	B3	T6	A3
RB2	C4	C42	A4	T7	A3
RB3	C4	C43	C4	TH	A1
RB4	C4	C50	C4	BD1	A1
RB5	C4	C60	A3	RT	A1
RB12	B4	C65	B1	F1	A1
RB13	B3	CX1	A1		
RB14	B4	CX2	A1		
RB15	B4	CY3	A2		
RB16	B4	CY4	A3		
RB17	B4	D2	C3		
RB18	C3	D3	B1		
RB19	B4	D4	B3		

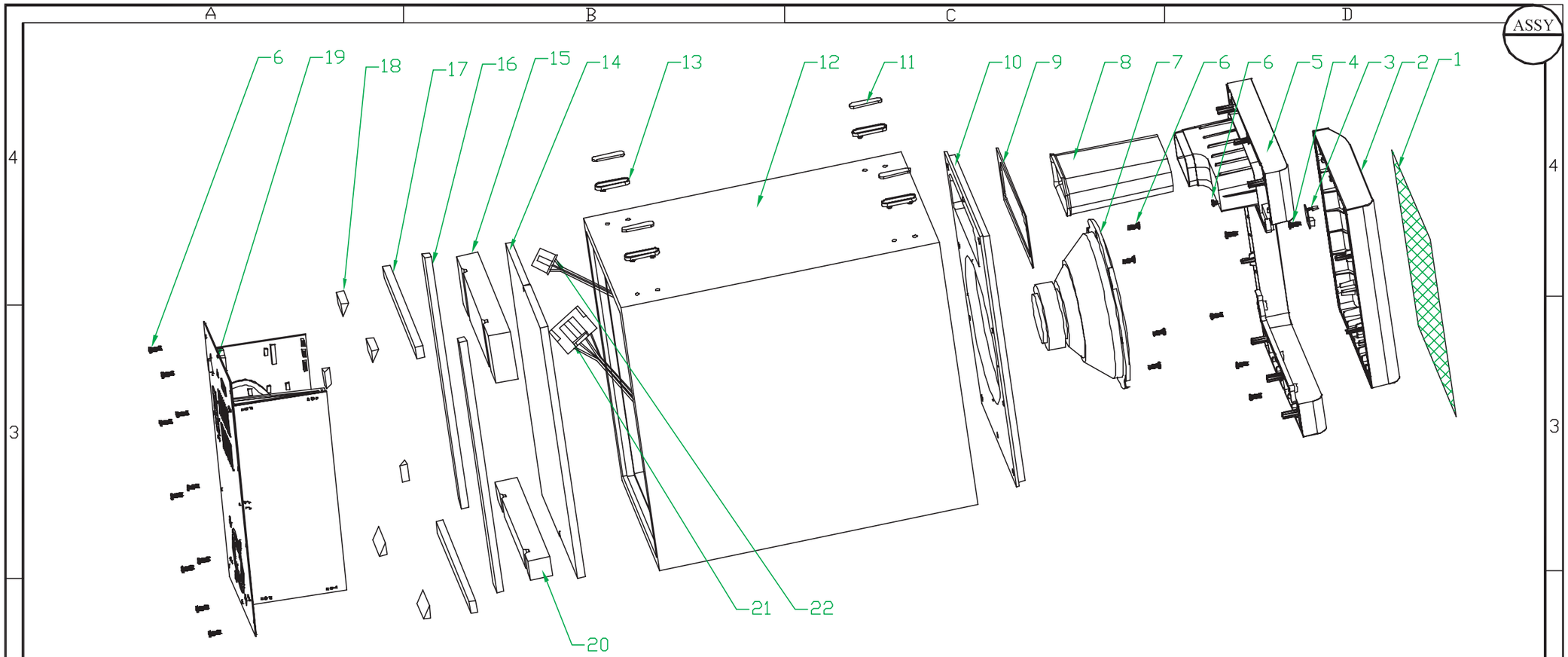
Layout: PSU Circuit Diagram

C1	B7	C10'	D7	C20	B6	C34	B7	C62	D3	CY1	D1	D10	B4	D22	B7	DW4	C3	J1	B2	J11	D7	Q4	B7
C2	C7	C11	C4	C21	B5	C35	B7	C65	C7	CY3	C2	D11	B4	D25	B7	DW5	C6	J2	B4	J12	B7	Q5	B7
C3	C7	C12	A2	C22	A2	C36	A7	CN1	D2	CY4	A6	D12	B5	D28	A7	DW6	B6	J3	B5	J14	C5	R1	B7
C4	C7	C13	B4	C23	B4	C38	B7	CN2	D7	D2	C7	D13	D3	D29	C6	F1	C2	J4	C4	L1	C6	R2	C7
C5	C7	C14	B5	C24	A7	C42	D7	CN3	B7	D3	C5	D14	D3	D30	B7	HS1	A4	J5	B6	L2	A7	R3	C7
C6	C7	C15	A1	C25	B7	C43	A7	CN4	C2	D4	B6	D15	B4	DD1	D4	HS2	D6	J6	B7	L3	B7	R4	C7
C7	C4	C16	B2	C26	A6	C44	D7	CN5	B2	D6	B6	D16	C7	DD2	D4	IC1	C7	J7	B7	L5	D3	R5	D3
C8	B7	C17	B3	C27	B7	C50	A7	CN6	A7	D7	C5	D18	C5	DW1	C4	IC2	B5	J8	A7	LF1	C1	R6	C7
C9	C5	C18	B7	C28	A7	C60	D3	CX1	D1	D8	C4	D19	C7	DW2	C6	IC3	B2	J9	C7	LF2	B1	R7	C7
C10	D7	C19	B6	C30	C5	C61	D7	CX2	D1	D9	C4	D20	B6	DW3	C6	IC4	A7	J10	D5	Q3	A7	R8	C7

R10	D7	R20	C3	R37	B5	RB2	A6	RB16	A7	T7	B3												
R11	C7	R21	C5	R38	B4	RB3	A7	RB17	A7	TH	D2												
R12	B7	R22	B6	R39	B5	RB4	A7	RB18	B6	TK1	B5												
R13	C5	R28	C7	R40	A2	RB5	A7	RB19	B7	TK2	D5												
R14	C4	R30	D3	R42	B1	RB6	B6	RB20	B7	TR1	B4												
R15	C4	R31	B2	R43	D7	RB7	A7	RN	B7	TR2	B5												
R16	D3	R33	B3	R44	C7	RB12	A7	RT	C2														
R17	B5	R34	B4	RA3	B5	RB13	B6	T4	C4														
R18	B4	R35	B3	RA4	B5	RB14	A7	T5	C5														
R19	D5	R36	B4	RB1	A6	RB15	A7	T6	B4														



Exploded View: Subwoofer



NO.	PART NAME	NO.	PART NAME
11	RUBBER FOOT	22	LED CORD
10	FRONT BOARD	21	SPK CORD
9	CUSHION	20	L-BOAED(4)
8	PORT TUBE	19	PCB-AMP
7	SUBWOOFER	18	TRIANGLE BOARD
6	SCREW	17	L-BOAED(2)
5	FRONT CABINET	16	L-BOAED(1)
4	SCREW	15	L-BOAED(3)
3	PCBA-LED	14	MIDDLE BOARD
2	CLOTH FRAME	13	PLASTIC FOOT
1	CLOTH	12	ENCLOSURE BOARD