

Service  
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# Service Manual



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This Service manual is for HTS3110/75/93/96/98 First and Second Generation models.

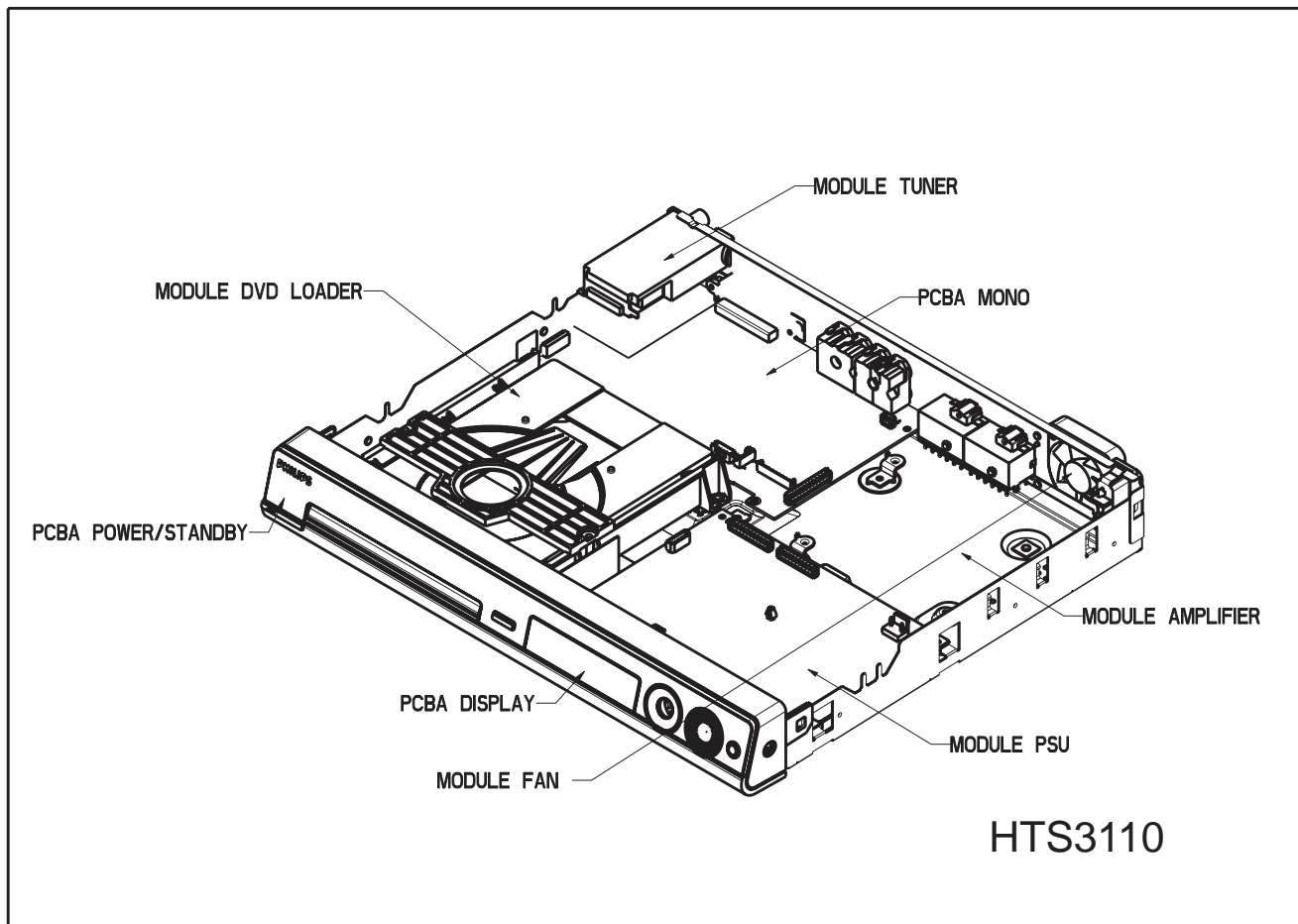
For First Generation model (HTS3110/75/93/96/98), the serial number begins with NW1A xxxx xxxx (PSCI) and VN1A xxxx xxxx (PACH).

For Second Generation model (HTS3110/75/93/96/98), the serial number begins with NW2A xxxx xxxx (PSCI) and VN2A xxxx xxxx (PACH).

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## LOCATION OF PC BOARDS



### VERSION VARIATIONS:

Features &	Type /Versions:	HTS3100			
		/98	/75	/93	/96
Progressive Scan		x	x	x	x
Line-Out		x	x	x	x
TV-In		x	x	x	x
Aux-In		x	x	x	x
Y/Pb/Pr (YUV) Component Video Output		x	x	x	x
CVBS		x	x	x	x
SCART		—	—	—	—

# 1. Specifications

## 1.1 General:

Mains voltage	: 120V/230V
Mains frequency	: 50/60Hz
Power consumption	: 150W < 1W Eco standby power < 150W at 1/8 P <sub>rated</sub> (For main unit)
Dimension main unit	: 435 x 55 x 328mm

## 1.2 Tuner FM

Tuning range	: 87.5-108MHz
Grid	: 50kHz 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	: 100W RMS / channel
Rear	: 75W RMS / channel
Center	: 100W RMS
Subwoofer	: 150W 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 <sup>1)</sup>	
CVBS level	: 1.0 ± 0.1V <sub>p-p</sub>
Luminance S/N	: ≥ 60dB

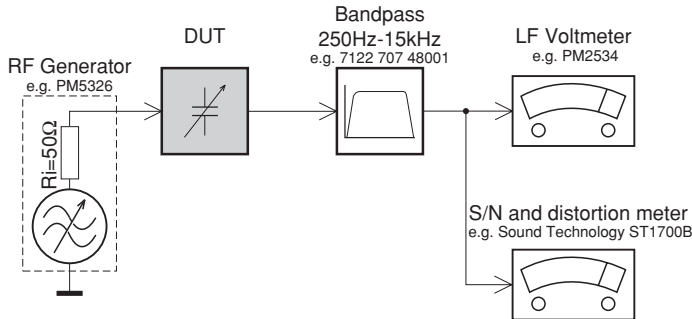
RGB/YUV Out <sup>1)</sup>	
Amplitude	: 1.0 ± 0.1V <sub>p-p</sub>
S/N	: ≥ 60dB

<sup>1)</sup> Output terminals to be terminated with 75Ω

## 2. Measurements Setup, Service Aid & Lead Free Requirements

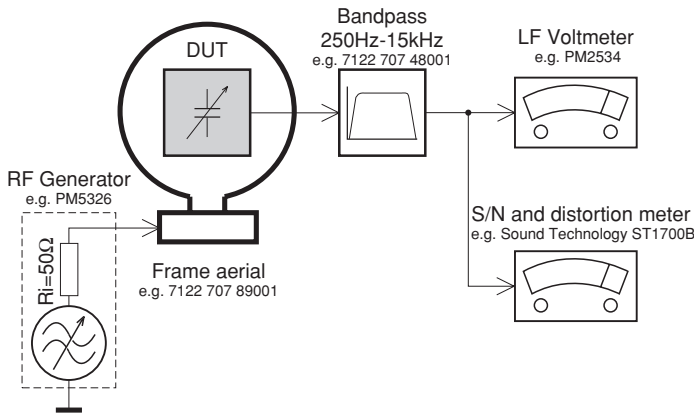
### MEASUREMENT SETUP

#### Tuner FM



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

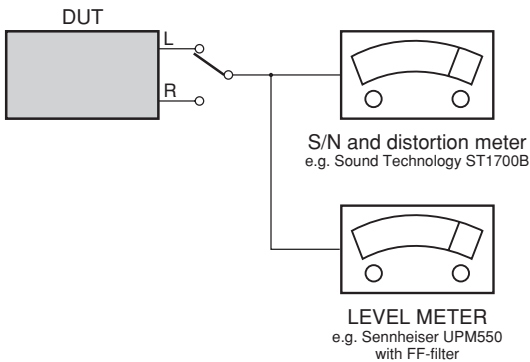
#### Tuner AM (MW,LW)



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).

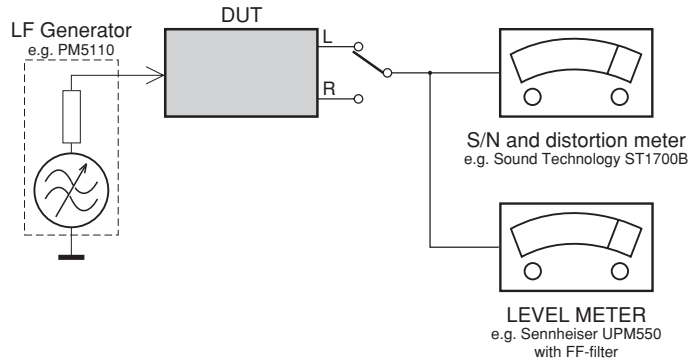
#### CD

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



#### Recorder

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





## SERVICE AIDS

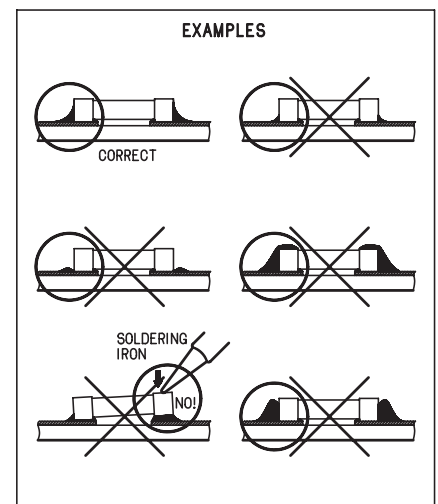
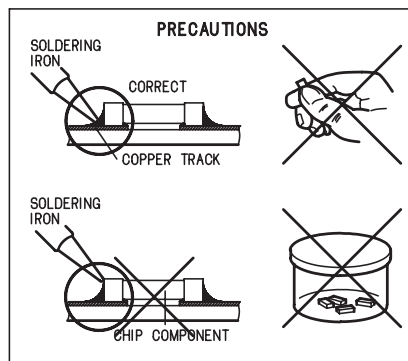
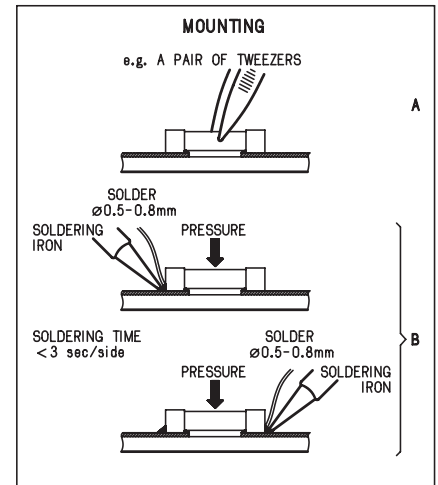
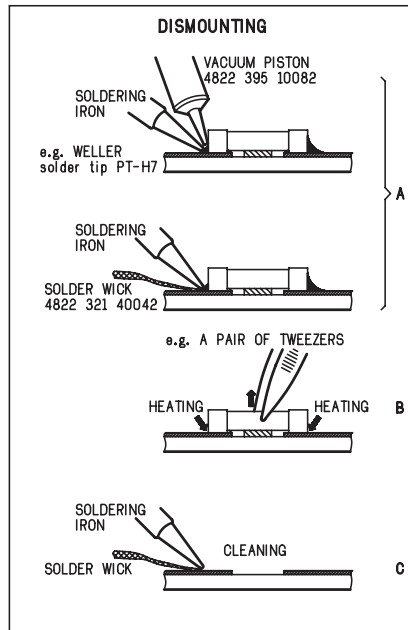
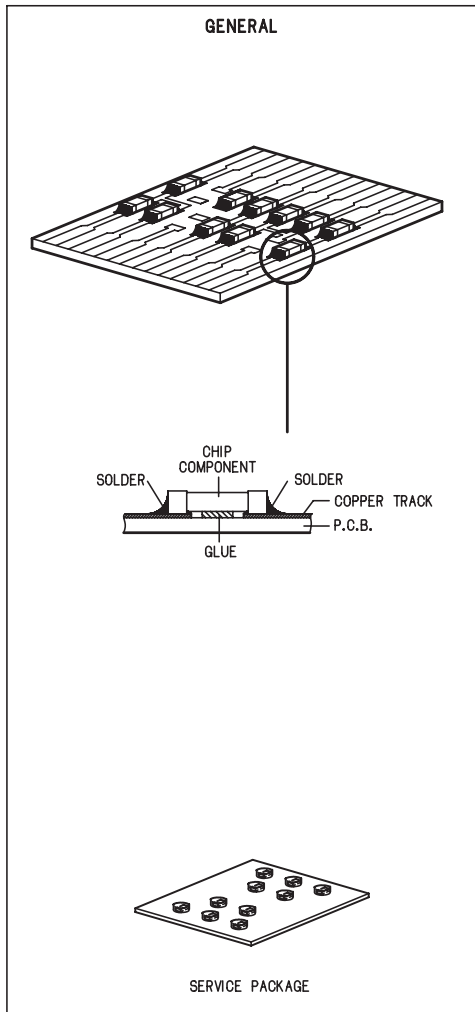
### Service Tools:

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



**(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.

**ESD****(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.

**(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).

Unvorsichtige 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.

**(I) AVVERTIMENTO**

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).

La loro longevità potrebbe essere fortemente ridotta 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, extension 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  $\triangle$ .

**(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  $\triangle$ .

**(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  $\triangle$ .

**(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  $\triangle$  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  $\triangle$ .

**(GB)**

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

**(GB) Warning !**

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

**(S) Varning !**

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

**(SF) Varoitus !**

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

**(DK) Advarse !**

Usynlig laserstrålning ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for strålning.

**(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.

#### 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 (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
    - o To reach at least a solder-temperature of 400°C,
    - o To stabilize the adjusted temperature at the solder-tip
    - o 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](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.

## 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.

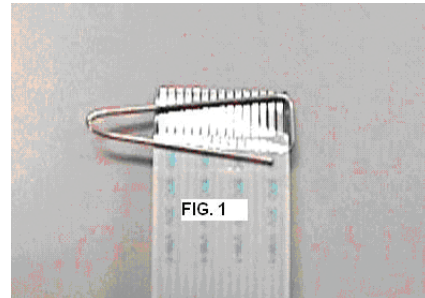
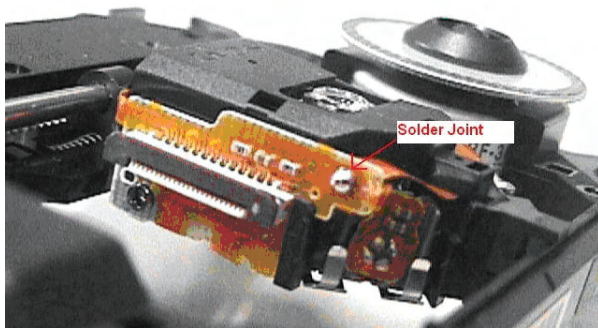


FIG. 1

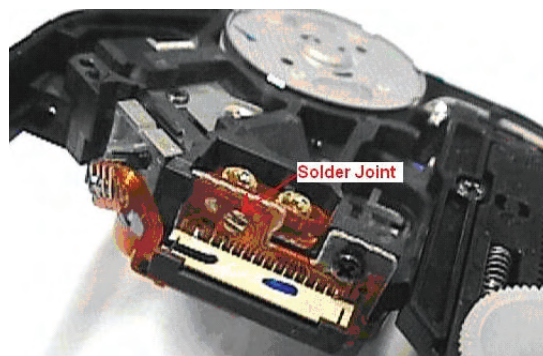
**ATTENTION:** The laser diode of this loader is protected against ESD by a solder joint which shortcircuits the laserdiode to ground. For proper functionality of the loader this solder joint must be remove **after** connection loader to the set.

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.**

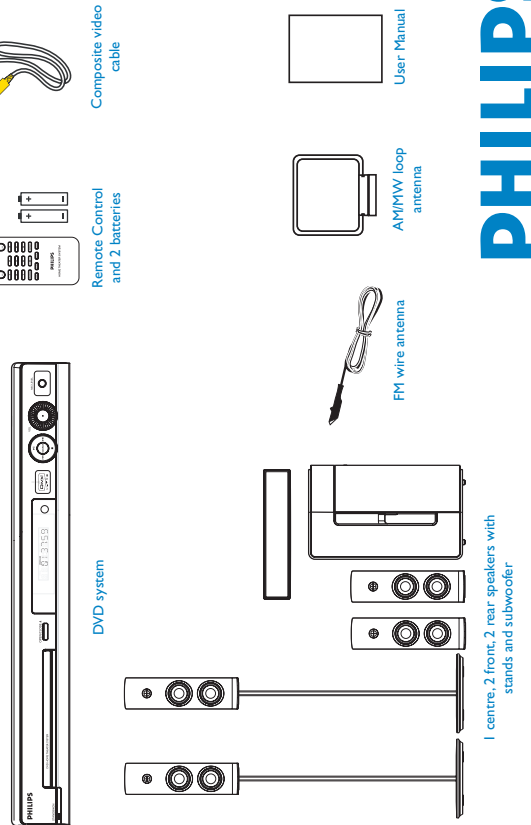
**This is also applicable for all partnership workshops.**

# Quick Start Guide



- 1** Connect
- 2** Set up
- 3** Enjoy

## What's in the box?



# 1 Connect

**A Placement**  
Proper speakers system placement is important to ensure optimum sound performance.

- Place the centre speaker above or close to the TV.
- Place the subwoofer on the floor, at least one metre away from the TV.
- Place the front speakers at equal distances from the TV.
- Place the rear speakers at normal listening ear level.

**B Connect the radio antennas**  
Keep the antennas away from the electronic devices to prevent unwanted interference.

- Connect the FM antenna to the FM socket. Extend the wire and fix its end to the wall.
- Unfold the AM/MW loop antenna and fix the claw into the slot.
- Push the tabs and insert the wires into the AM/MW sockets.

**C Connect the speakers and subwoofer**  
Connect the various coloured plugs from the speakers and subwoofer to the same coloured sockets at the rear of the DVD system.

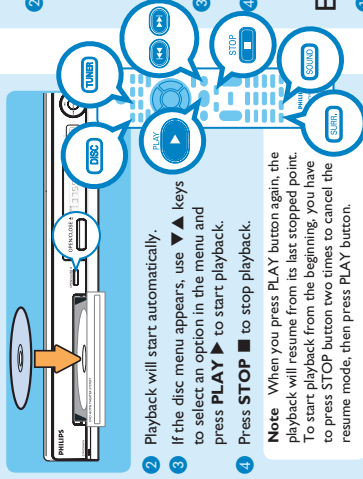
## 3. Directions For Use

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](http://www.p4c.philips.com)

# 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 "FMJMW 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 **SCH-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.**
- Adjust the volume.
  - 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 comes with your Philips DVD System

### Online

Go to [www.philips.com/support](http://www.philips.com/support)

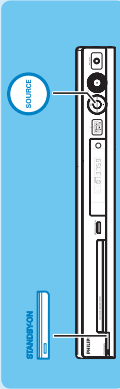


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[www.philips.com](http://www.philips.com)

# 2 Set up

## 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.

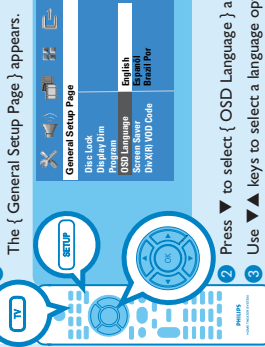


- 3 Turn on the TV. Use the TV's remote control to select the correct viewing channel for the DVD system. You should see the blue DVD background on the TV.

**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.

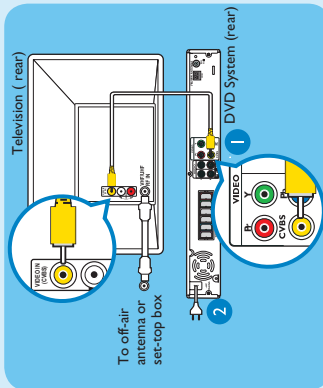


- 2 Press **▼** to select { OSD Language } and press **▶**.
- 3 Use **▲▼** keys to select a language option in the menu and press **OK** to confirm.
- 4 Press **SETUP** to exit.

**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.

## D Connect the DVD system to TV

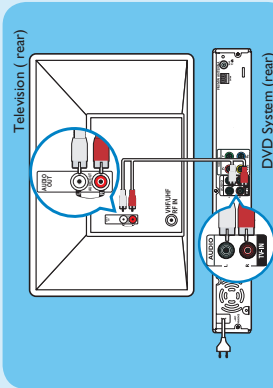


- 1 Use the supplied composite video cable to connect the CVBS socket on this DVD system to the VIDEO IN socket on your TV.
- 2 Plug in the power cable from the DVD system to an AC power outlet.

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

## E 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.



## 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

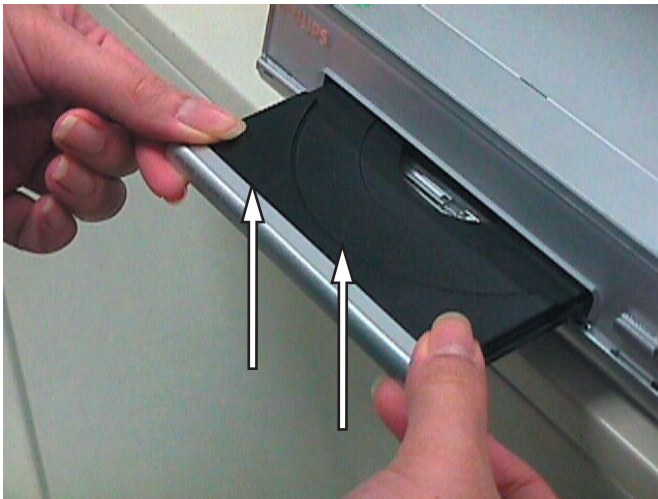


Figure 4-2

### 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 4 screws A (See Figure 4-3) to remove the PSU Module.

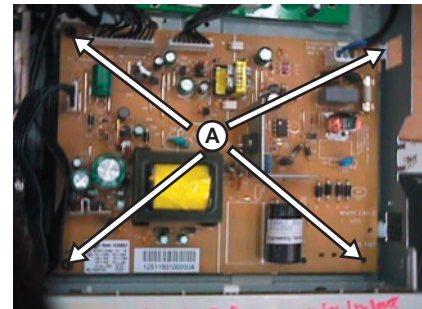


Figure 4 3

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

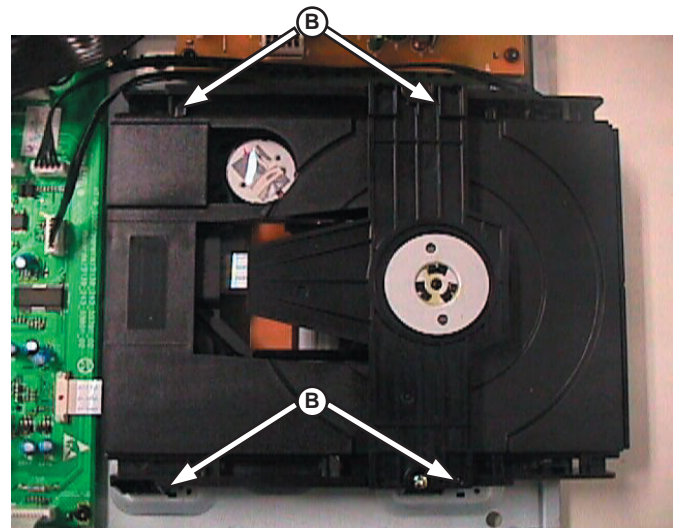


Figure 4-4

### 4.3 Dismantling of the Tuner Module & Mono Board.

- 1) Loosen 1 screw to remove the Tuner Module.
- 2) Loosen 2 screws D to remove the Mono Board.

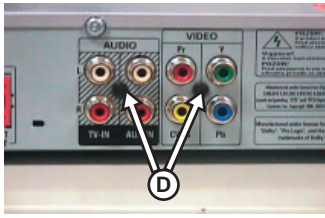


Figure 4-5 (AP)

### 4.4 Dismantling of the Amp-module Board

- 1) Loosen 4 screws F and 2 screws G (See Figure 4-7 & Figure 4-8) to remove Amp-Module Board.

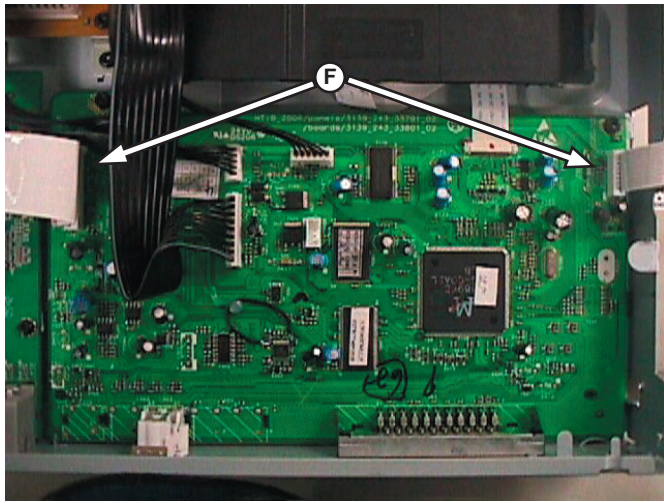


Figure 4-6

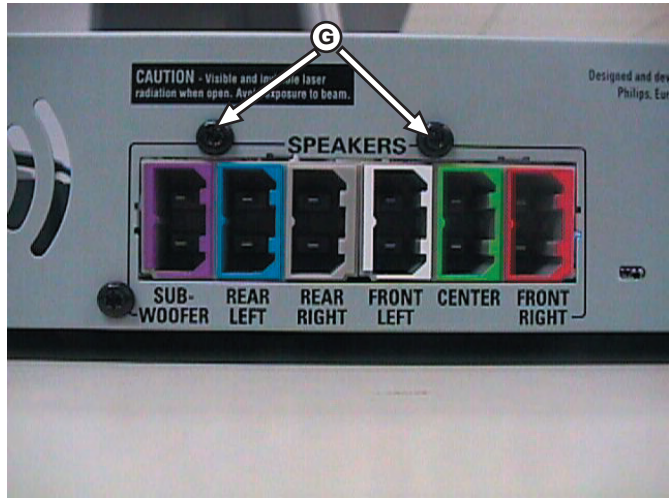


Figure 4-7

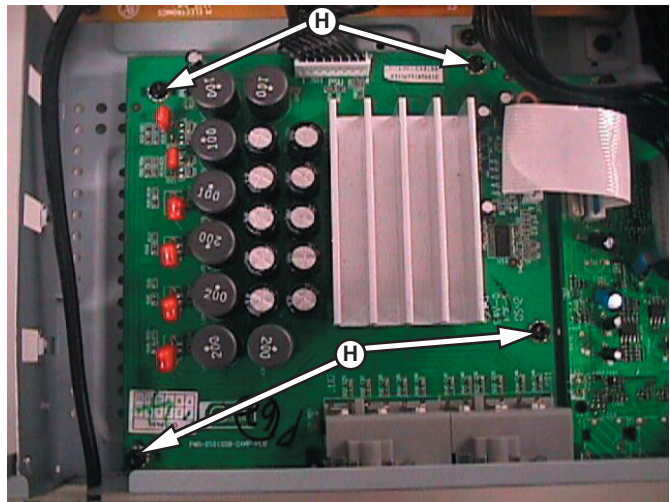
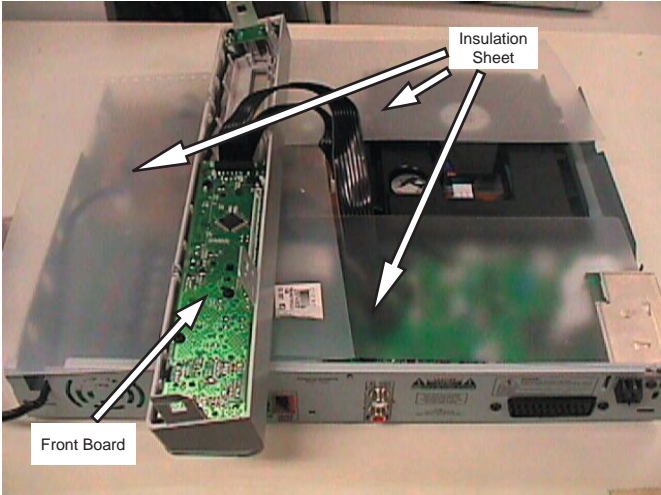


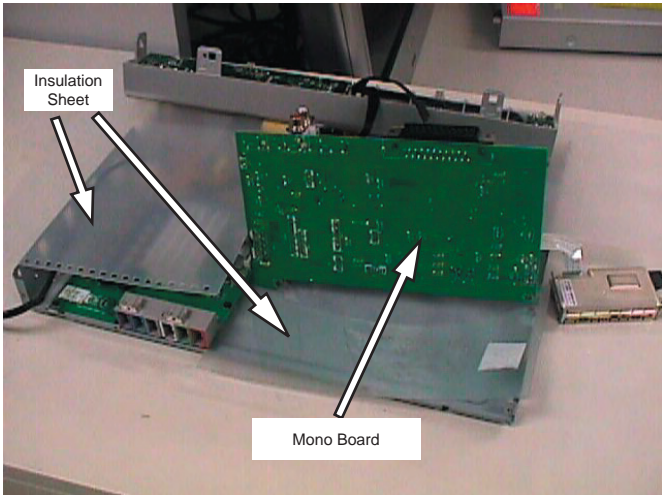
Figure 4-8



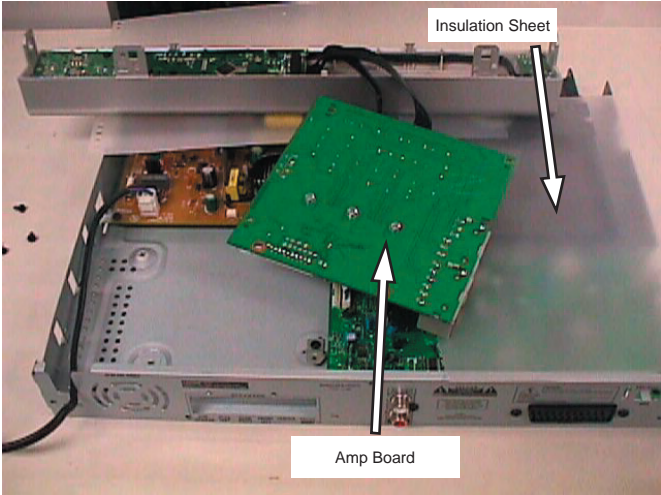
3.4 Service Positions



Service Position - Front Board



Service Position - Mono Board



Service Position -Amp-Board

# 5. Service Test Program

To start service test program open the tray with remote control or front panel key, while plugging in the mains cord press 2, 5 8 on remote control, the tray will close by itself and the set will display shown "S-Vxx-yy"

Display shows "SERVICE" followed by ROM version "S-Vxx-yy"

**Main Menu**

**Display Test**

key "DisplayTest" triggered?

y

n

y

n

y

n

y

n

y

n

y

n

y

n

y

n

y

n

y

n

y

n

y

n

y

n

y

n

y

n

y

n

y

n

y

n

y

n

y

n

y

n

y

n

y

n

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

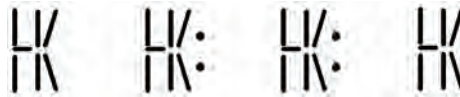
**Purpose:**  
 This test is used to check the driving circuits, the display and whether there are any short-circuits, open-circuits or any other defects.

**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: (HTS3110):**  
 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



#### 4.1.1 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 3110/75	Australia	4	PAL
HTS 3110/93	China	6	PAL
HTS 3110/96	Taiwan	3	NTSC
HTS 3110/98	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> <AUDIO> <9> .....for HTS 3110/75
  - <9> <9> <9> <9> <AUDIO> <3> .....for HTS 3110/93
  - <9> <9> <9> <9> <AUDIO> <4> .....for HTS 3110/96
  - <9> <9> <9> <9> <AUDIO> <6> .....for HTS 3110/98
- 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.)

#### 4.1.2 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

#### 4.1.3 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.

#### 4.1.4 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:

LOAD -> MULTICH -> ..... ->UPG END.  
 The whole process takes less than 2 minutes.

*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.

#### 4.1.5 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.

#### 4.1.6 Trade Mode

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

#### 4.1.7 Procedure to change Tuner Grid (/98, /55 only)

- 1 Press **SOURCE** to select "FM" or "TW".
- 2 Press **STANDBY ON** to switch the DVD system to standby mode.
- 3 Press **STANDBY ON** again to turn on the DVD system and hold down  button on the front panel.  
 → The display will show "GRID 9" or "GRID 10".

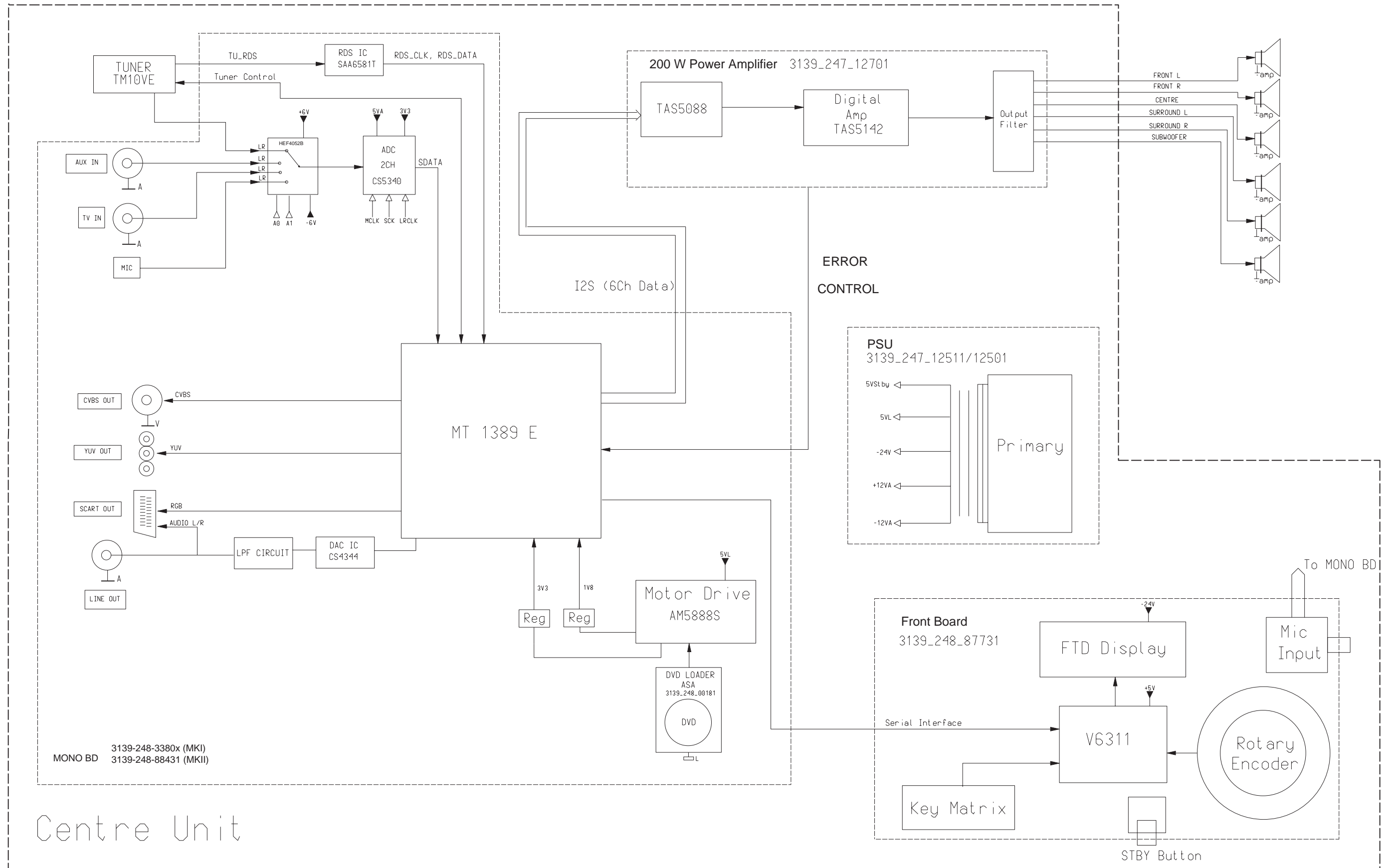
##### Helpful Hint:

– GRID 9 and GRID 10 indicate that the tuning grid is in step of 9 kHz and 10 kHz respectively.

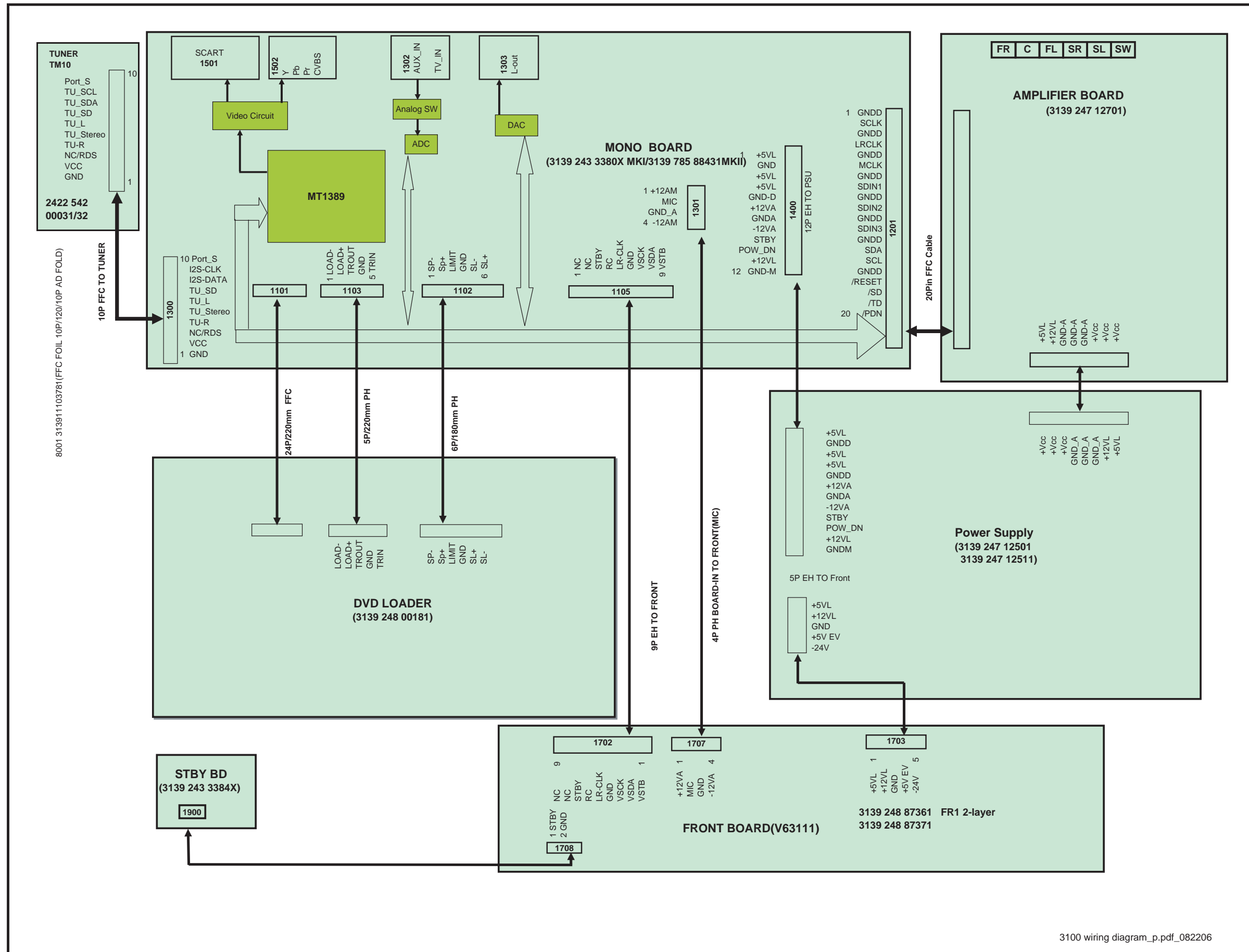
*Note: Repeating the same action will toggle back to its previous tuning grid setting.*

**Notes:**

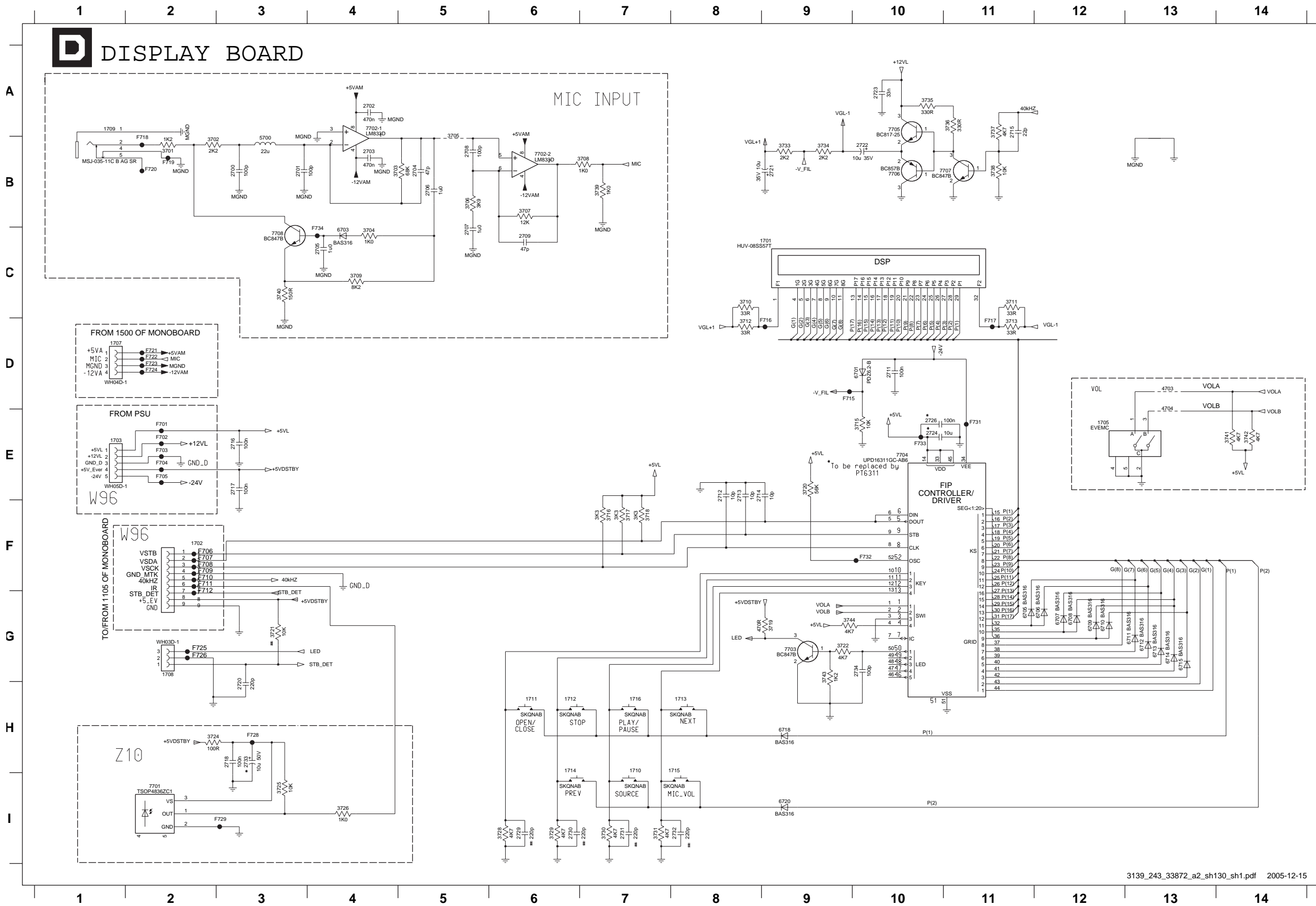
# Block Diagram



# Wiring Diagram



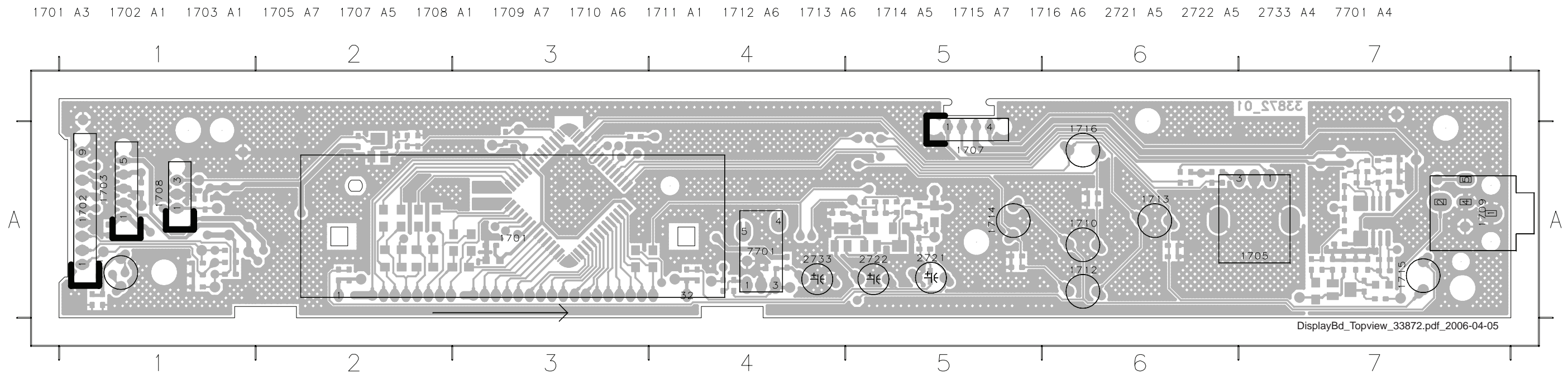
# Front: Display



- 1701 C9
- 1702 F2
- 1703 E1
- 1705 E12
- 1707 D1
- 1708 G2
- 1709 A1
- 1710 H7
- 1711 H6
- 1712 H6
- 1713 H8
- 1714 H6
- 1715 H8
- 1716 H7
- 1718 B3
- 1719 B2
- 1720 B3
- 2701 B3
- 2702 A4
- 2703 B4
- 2704 B5
- 2705 C4
- 2706 B5
- 2707 C5
- 2708 B5
- 2709 C6
- 2711 D10
- 2712 E8
- 2713 E8
- 2714 E8
- 2715 A11
- 2716 E3
- 2717 E3
- 2718 H3
- 2720 H3
- 2721 B9
- 2722 B10
- 2723 A10
- 2724 E10
- 2726 E10
- 2729 I6
- 2730 I6
- 2731 I7
- 2732 I8
- 2734 G10
- 3701 B2
- 3702 B4
- 3703 B4
- 3704 C4
- 3705 B5
- 3706 B5
- 3707 B6
- 3708 B7
- 3709 C4
- 3710 C8
- 3711 C11
- 3712 D8
- 3713 D11
- 3715 E10
- 3716 F7
- 3717 F7
- 3718 F7
- 3719 G9
- 3720 E9
- 3721 G3
- 3722 G9
- 3724 H2
- 3725 I3
- 3726 I4
- 3728 I6
- 3729 I6
- 3730 I7
- 3731 I7
- 3733 B9
- 3734 B9
- 3735 A10
- 3736 A11
- 3737 A11
- 3738 B11
- 3739 B7
- 3740 C3
- 3741 E14
- 3742 E14
- 3743 G9
- 3744 G9
- 4703 D13
- 4704 E13
- 5700 B3
- 6701 D10
- 6703 C4
- 6705 G11
- 6706 G12
- 6707 G12
- 6708 G12
- 6709 G12
- 6710 G12
- 6711 G13
- 6712 G13
- 6713 G13
- 6714 G13
- 6715 G13
- 6718 H9
- 6720 I9
- 7701 I2
- 7702-1 A4
- 7702-2 B6
- 7703 G9
- 7704 E10
- 7705 A10
- 7706 B10
- 7707 B11
- 7708 C3
- F701 E2
- F702 E2
- F703 E2
- F704 E2
- F705 E2
- F706 F2
- F707 F2
- F708 F2
- F709 F2
- F710 F2
- F711 F2
- F712 G2
- F715 D9
- F716 D9
- F717 D11
- F718 B2
- F719 B2
- F720 B2
- F721 D2
- F722 D2
- F723 D2
- F724 D2
- F725 G2
- F726 G2
- F728 H3
- F729 I3
- F731 E11
- F732 F10
- F733 E10
- F734 C4



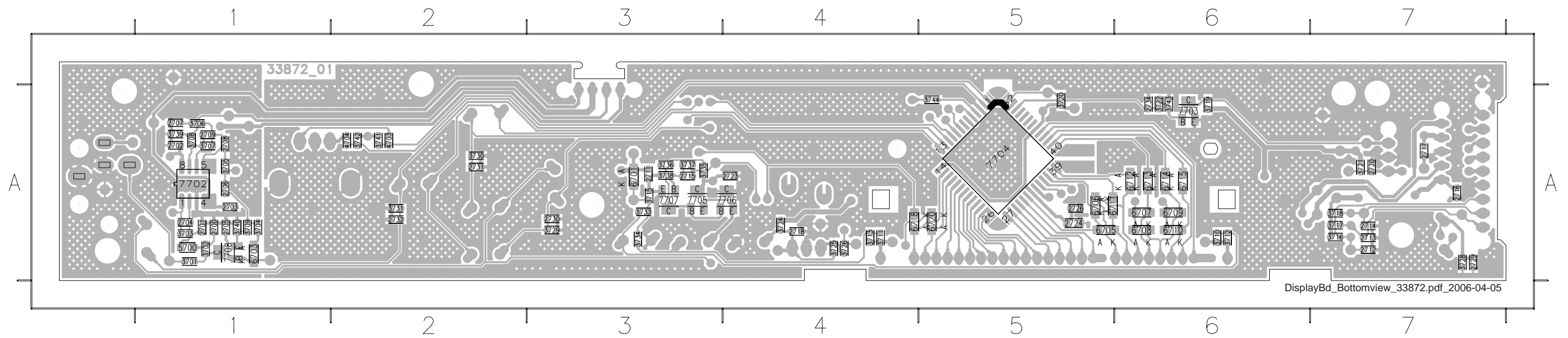
### Front: Display (topview)



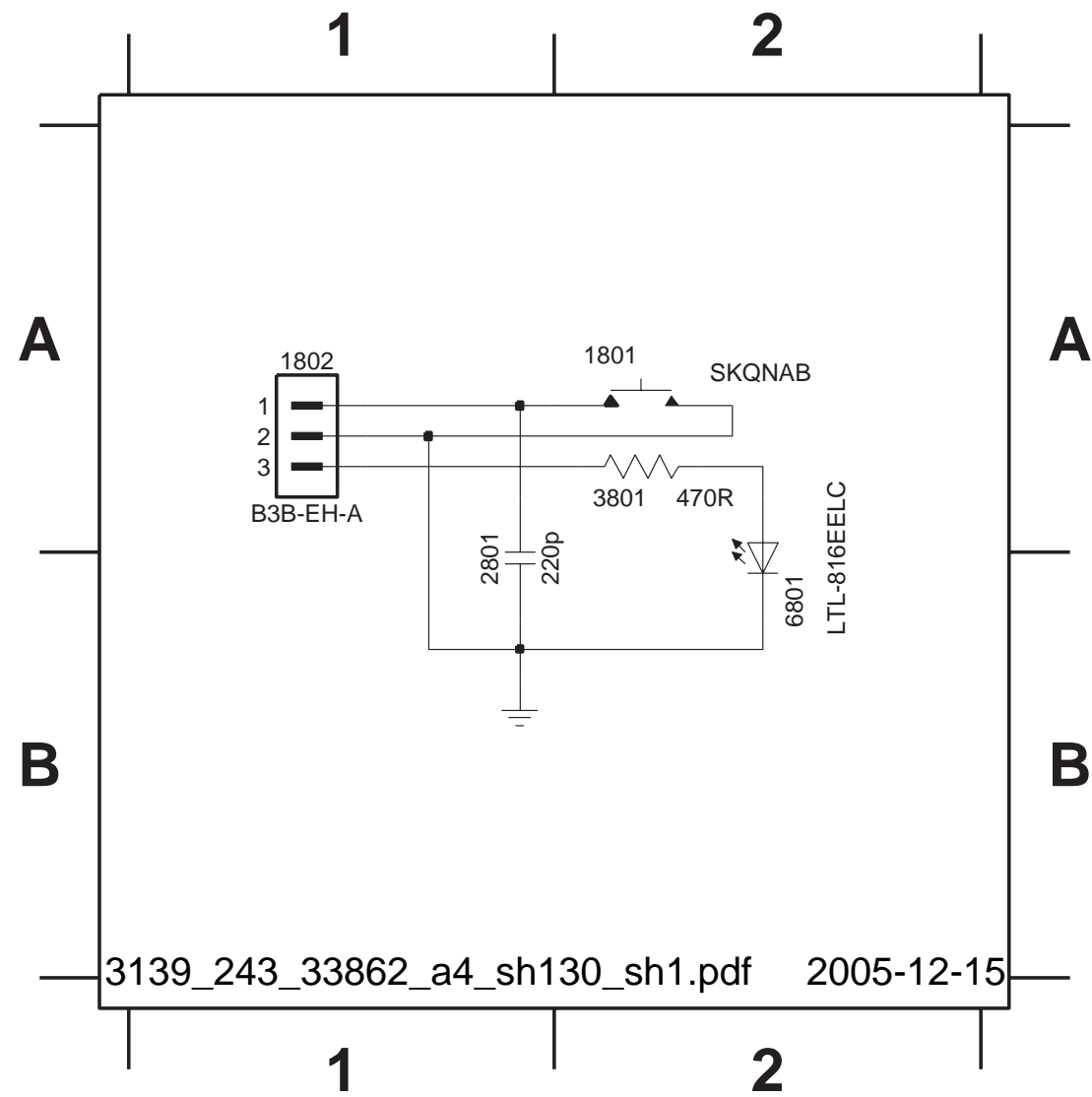


Front: Display (Bottom view)

2700	A1	2705	A1	2711	A3	2716	A7	2724	A5	2732	A2	3704	A1	3709	A1	3715	A3	3720	A5	3726	A4	3733	A3	3738	A3	3743	A6	6701	A3	6708	A6	6713	A6	7702	A1	7707	A3
2701	A1	2706	A1	2712	A7	2717	A7	2726	A5	2734	A6	3705	A1	3710	A6	3716	A7	3721	A7	3727	A7	3734	A3	3739	A1	3744	A6	6702	A1	6709	A6	6714	A6	7703	A6	7708	A1
2702	A1	2707	A1	2713	A7	2718	A4	2729	A7	2730	A1	3706	A1	3711	A4	3717	A7	3722	A6	3728	A3	3735	A3	3740	A1	4703	A2	6703	A5	6710	A6	6715	A6	7704	A5		
2703	A1	2708	A1	2714	A7	2720	A7	2730	A3	2731	A1	3707	A1	3712	A6	3718	A7	3723	A4	3729	A3	3736	A3	3741	A2	4704	A2	6704	A5	6711	A5	6716	A4	7705	A5		
2704	A1	2709	A1	2715	A3	2723	A4	2731	A2	2731	A1	3708	A1	3713	A4	3719	A6	3725	A4	3731	A2	3737	A3	3742	A2	5700	A1	6705	A6	6712	A6	6720	A5	7706	A4		

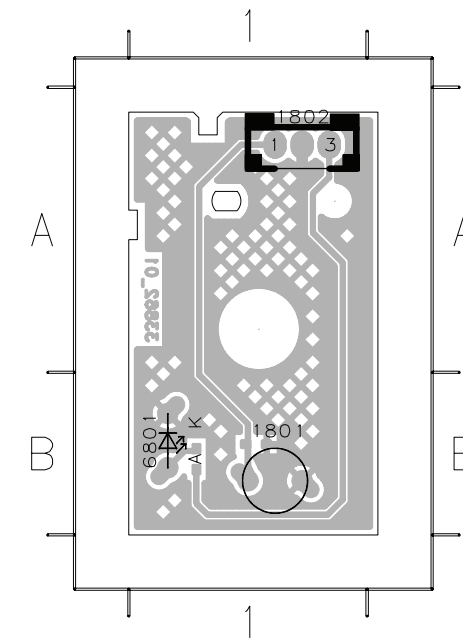


Front: Standby



- 1801 A2
- 1802 A1
- 2801 B1
- 3801 A2
- 6801 B2

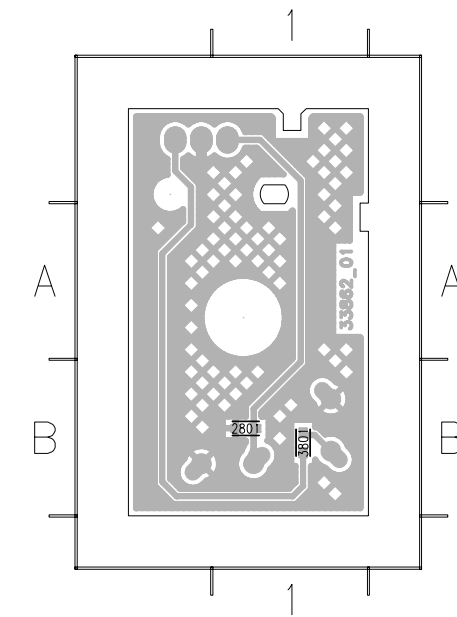
Front: Standby (Top View)



- 1801 B1
- 1802 A1
- 6801 B1

StandbyBoard\_Topview\_33862.pdf\_2006-04-05

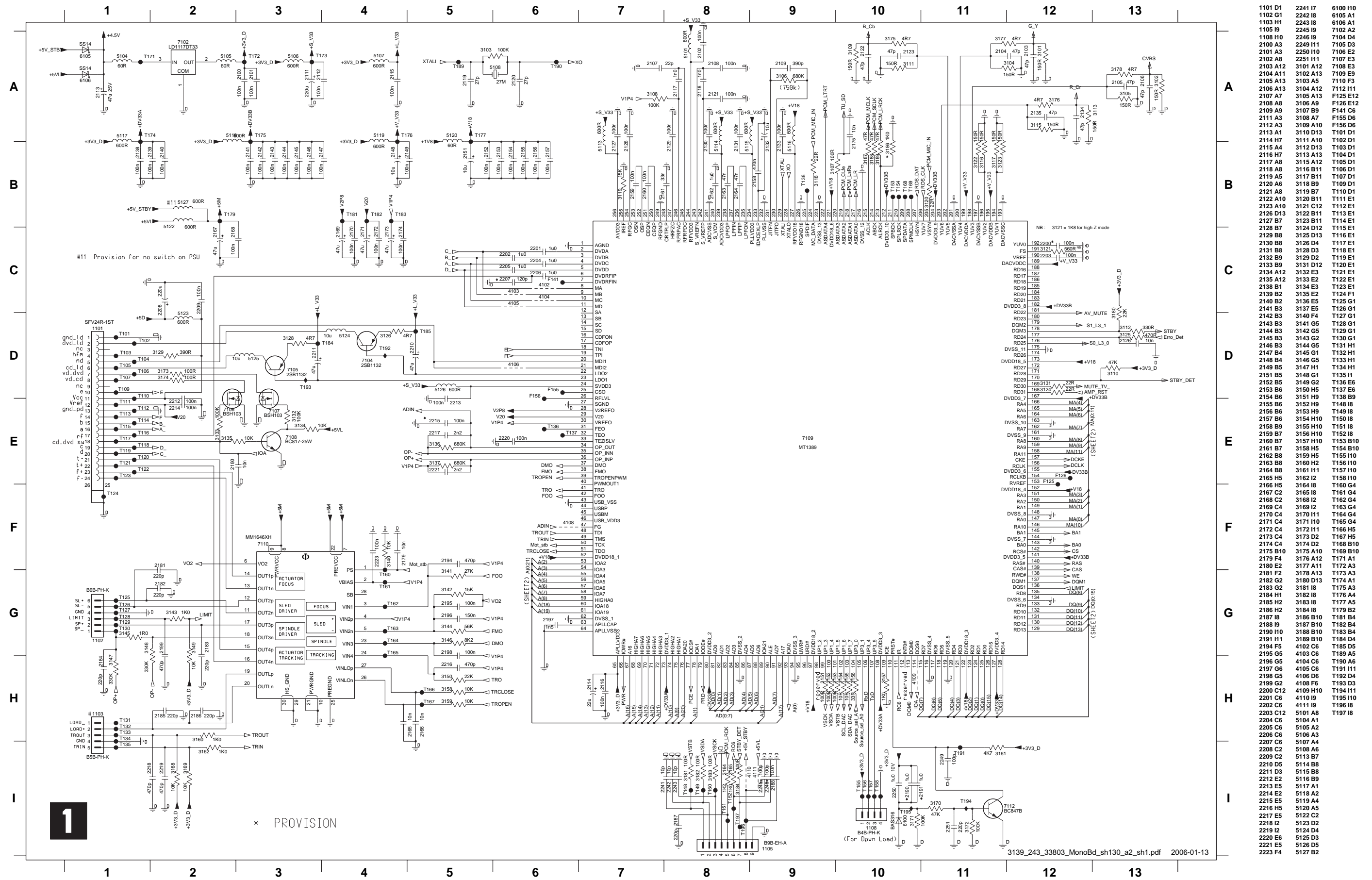
Front: Standby (Bottom View)



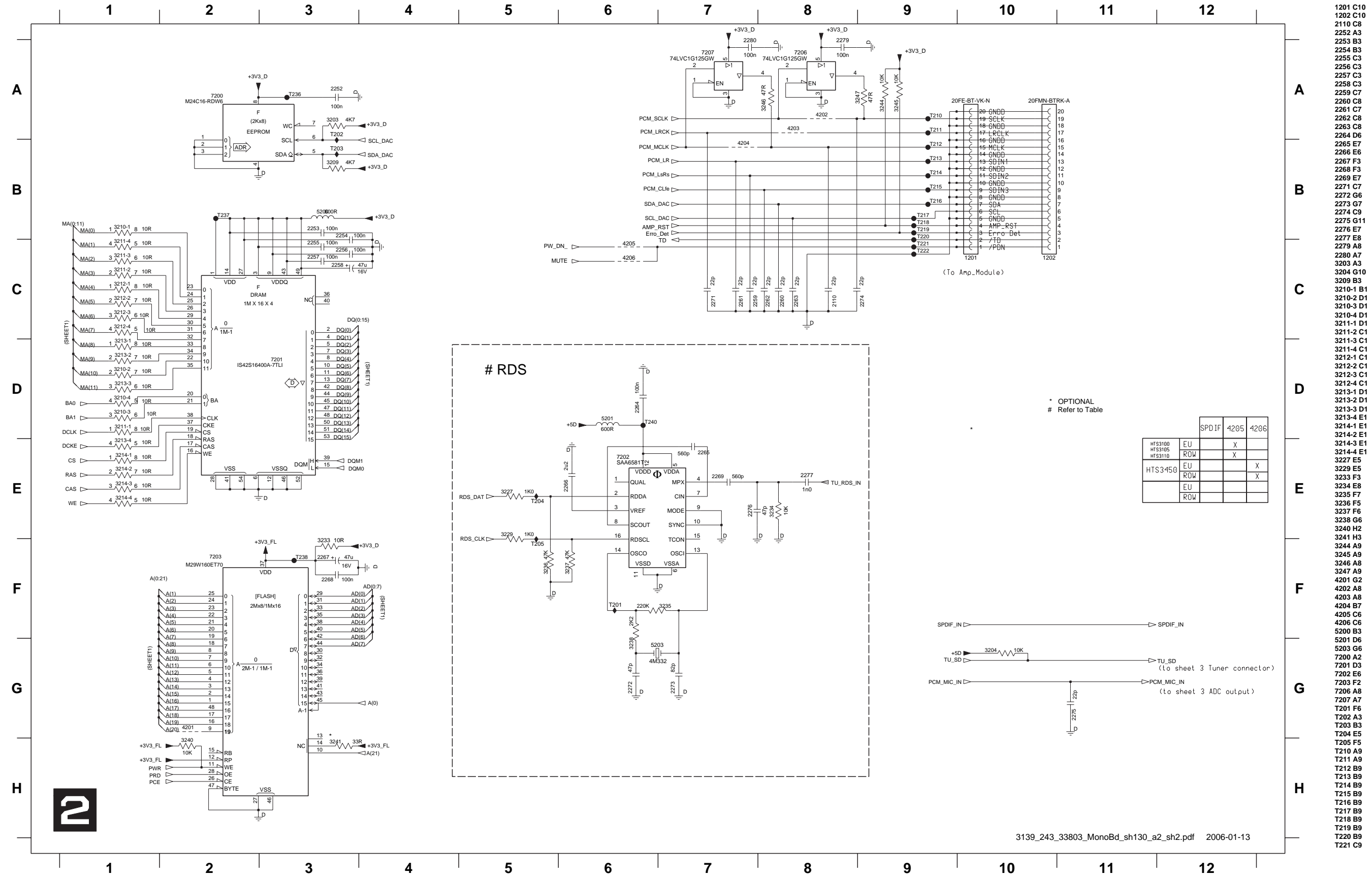
- 2801 B1
- 3801 B1

StandbyBoard\_Bottomview\_33862.pdf\_2006-04-05

# MKI Mono Board: Circuit Diagram (Part 1)



# MKI Mono Board: Circuit Diagram (Part 2)

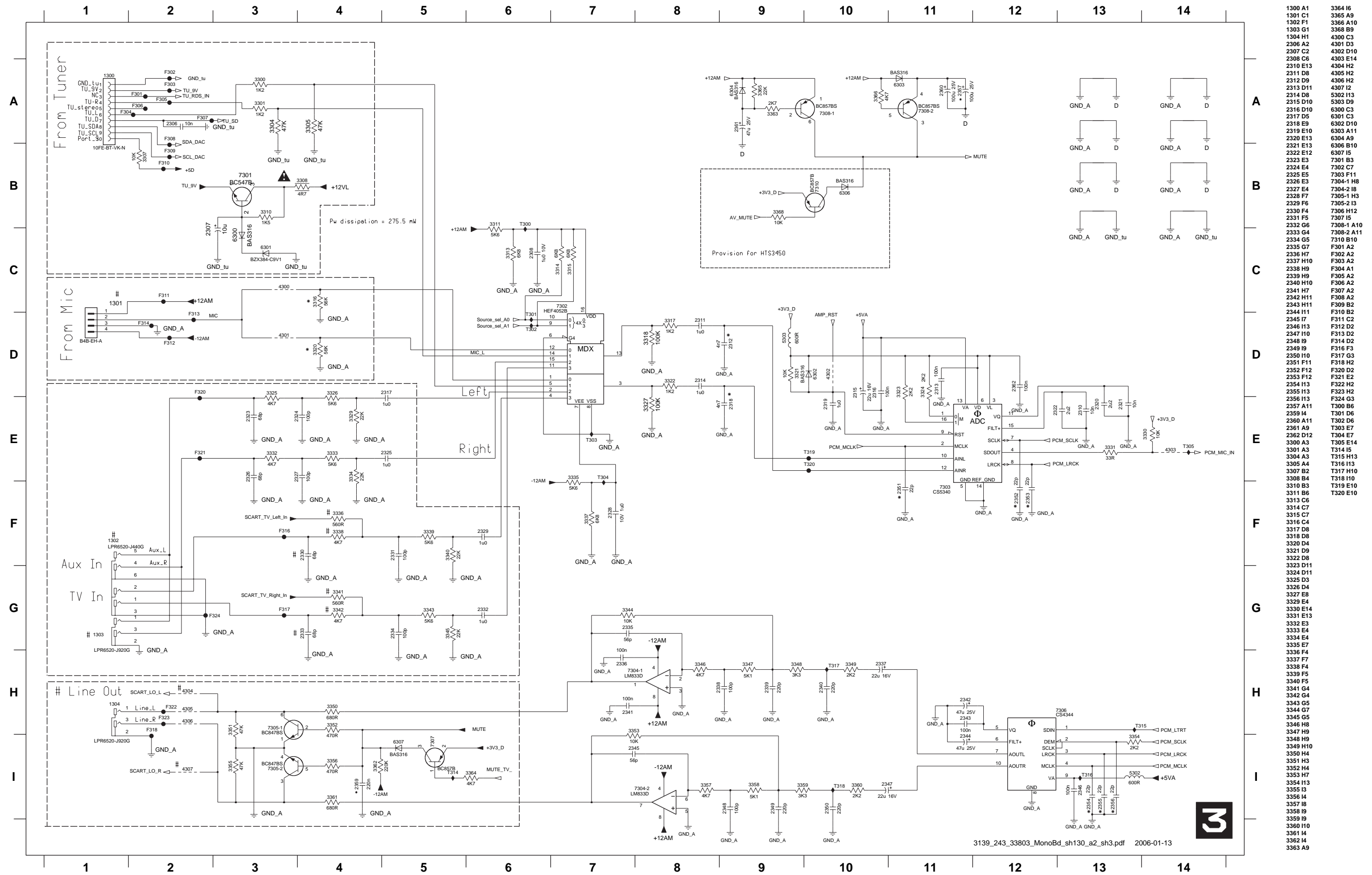


- 1201 C10
- 1202 C10
- 2110 C8
- 2252 A3
- 2253 B3
- 2254 B3
- 2255 C3
- 2256 C3
- 2257 C3
- 2258 C3
- 2259 C7
- 2260 C8
- 2261 C7
- 2262 C8
- 2263 C8
- 2264 D6
- 2265 E7
- 2266 E6
- 2267 F3
- 2268 F3
- 2269 E7
- 2271 C7
- 2272 G6
- 2273 G7
- 2274 C9
- 2275 G11
- 2276 E7
- 2277 E8
- 2279 A8
- 2280 A7
- 3203 A3
- 3204 G10
- 3209 B3
- 3210-1 B1
- 3210-2 D1
- 3210-3 D1
- 3210-4 D1
- 3211-1 D1
- 3211-2 C1
- 3211-3 C1
- 3211-4 C1
- 3212-1 C1
- 3212-2 C1
- 3212-3 C1
- 3212-4 C1
- 3213-1 D1
- 3213-2 D1
- 3213-3 D1
- 3213-4 E1
- 3214-1 E1
- 3214-2 E1
- 3214-3 E1
- 3214-4 E1
- 3227 E5
- 3229 E5
- 3233 F3
- 3234 E8
- 3235 F7
- 3236 F5
- 3237 F6
- 3238 G6
- 3240 H2
- 3241 H3
- 3244 A9
- 3245 A9
- 3246 A8
- 3247 A9
- 4201 G2
- 4202 A8
- 4203 A8
- 4204 B7
- 4205 C6
- 4206 C6
- 5200 B3
- 5201 D6
- 5203 G6
- 7200 A2
- 7201 D3
- 7202 E6
- 7203 F2
- 7206 A8
- 7207 A7
- T201 F6
- T202 A3
- T203 B3
- T204 E5
- T205 F5
- T210 A9
- T211 A9
- T212 B9
- T213 B9
- T214 B9
- T215 B9
- T216 B9
- T217 B9
- T218 B9
- T219 B9
- T220 B9
- T221 C9
- T222 C9
- T236 A3
- T237 B2
- T238 F2
- T240 D6

\* OPTIONAL  
# Refer to Table

	SPDIF	4205	4206
HTS3100	EU	X	
HTS3105	ROW	X	
HTS3110	EU		X
HTS3450	ROW		X
	EU		
	ROW		

# MKI Mono Board: Circuit Diagram (Part 3)

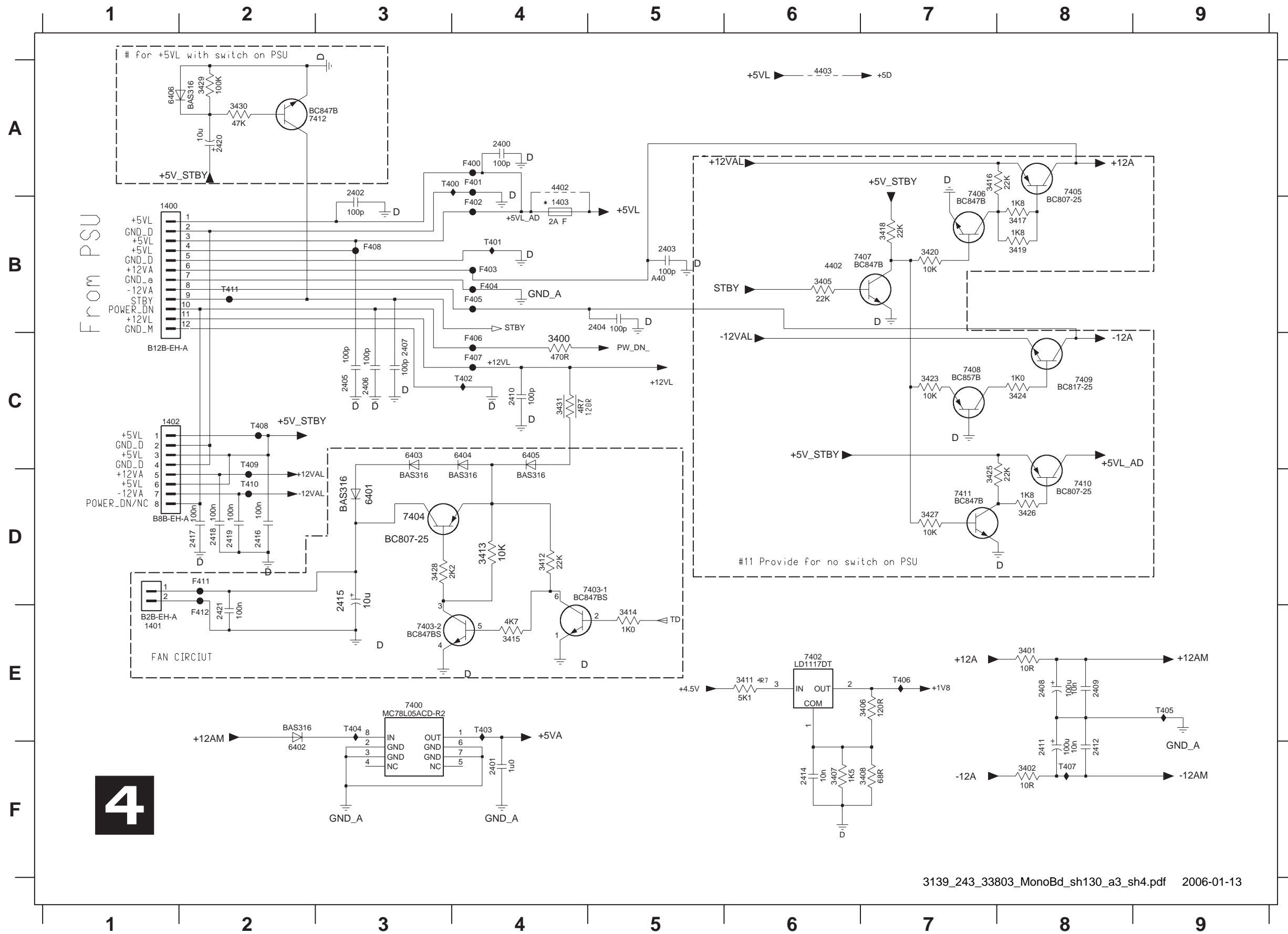


- 1300 A1
- 1301 C1
- 1302 F1
- 1303 G1
- 1304 H1
- 2306 A2
- 2307 C2
- 2308 C6
- 2310 E13
- 2311 D8
- 2312 D9
- 2313 D11
- 2314 D8
- 2315 D10
- 2316 D10
- 2317 D5
- 2318 E9
- 2319 E10
- 2320 E13
- 2321 E13
- 2322 E12
- 2323 E3
- 2324 E4
- 2325 E5
- 2326 E3
- 2327 E4
- 2328 F7
- 2329 F6
- 2330 F4
- 2331 F5
- 2332 G6
- 2333 G4
- 2334 G5
- 2335 G7
- 2336 H7
- 2337 H10
- 2338 H9
- 2339 H9
- 2340 H10
- 2341 H7
- 2342 H11
- 2343 H11
- 2344 I11
- 2345 I7
- 2346 I13
- 2347 I10
- 2348 I9
- 2349 I9
- 2350 I10
- 2351 F11
- 2352 F12
- 2353 F12
- 2354 I13
- 2355 I13
- 2356 I13
- 2357 A11
- 2359 I4
- 2360 A11
- 2361 A9
- 2362 D12
- 2363 A3
- 2364 A3
- 2365 A4
- 2367 B2
- 2368 B4
- 2369 B3
- 2370 B6
- 2371 D8
- 2372 D8
- 2373 D11
- 2374 D11
- 2375 D3
- 2376 D4
- 2377 E8
- 2378 E4
- 2379 E13
- 2380 E3
- 2381 E4
- 2382 E4
- 2383 E7
- 2384 E7
- 2385 E14
- 2386 I5
- 2387 I5
- 2388 I9
- 2389 I9
- 2390 I9
- 2391 I10
- 2392 I10
- 2393 I10
- 2394 I10
- 2395 I10
- 2396 I10
- 2397 I10
- 2398 I10
- 2399 I10
- 2400 I10
- 2401 I10
- 2402 I10
- 2403 I10
- 2404 I10
- 2405 I10
- 2406 I10
- 2407 I10
- 2408 I10
- 2409 I10
- 2410 I10
- 2411 I10
- 2412 I10
- 2413 I10
- 2414 I10
- 2415 I10
- 2416 I10
- 2417 I10
- 2418 I10
- 2419 I10
- 2420 I10
- 2421 I10
- 2422 I10
- 2423 I10
- 2424 I10
- 2425 I10
- 2426 I10
- 2427 I10
- 2428 I10
- 2429 I10
- 2430 I10
- 2431 I10
- 2432 I10
- 2433 I10
- 2434 I10
- 2435 I10
- 2436 I10
- 2437 I10
- 2438 I10
- 2439 I10
- 2440 I10
- 2441 I10
- 2442 I10
- 2443 I10
- 2444 I10
- 2445 I10
- 2446 I10
- 2447 I10
- 2448 I10
- 2449 I10
- 2450 I10
- 2451 I10
- 2452 I10
- 2453 I10
- 2454 I10
- 2455 I10
- 2456 I10
- 2457 I10
- 2458 I10
- 2459 I10
- 2460 I10
- 2461 I10
- 2462 I10
- 2463 I10
- 2464 I10
- 2465 I10
- 2466 I10
- 2467 I10
- 2468 I10
- 2469 I10
- 2470 I10
- 2471 I10
- 2472 I10
- 2473 I10
- 2474 I10
- 2475 I10
- 2476 I10
- 2477 I10
- 2478 I10
- 2479 I10
- 2480 I10
- 2481 I10
- 2482 I10
- 2483 I10
- 2484 I10
- 2485 I10
- 2486 I10
- 2487 I10
- 2488 I10
- 2489 I10
- 2490 I10
- 2491 I10
- 2492 I10
- 2493 I10
- 2494 I10
- 2495 I10
- 2496 I10
- 2497 I10
- 2498 I10
- 2499 I10
- 2500 I10





# MKI Mono Board: Circuit Diagram (Part 4)



# 4

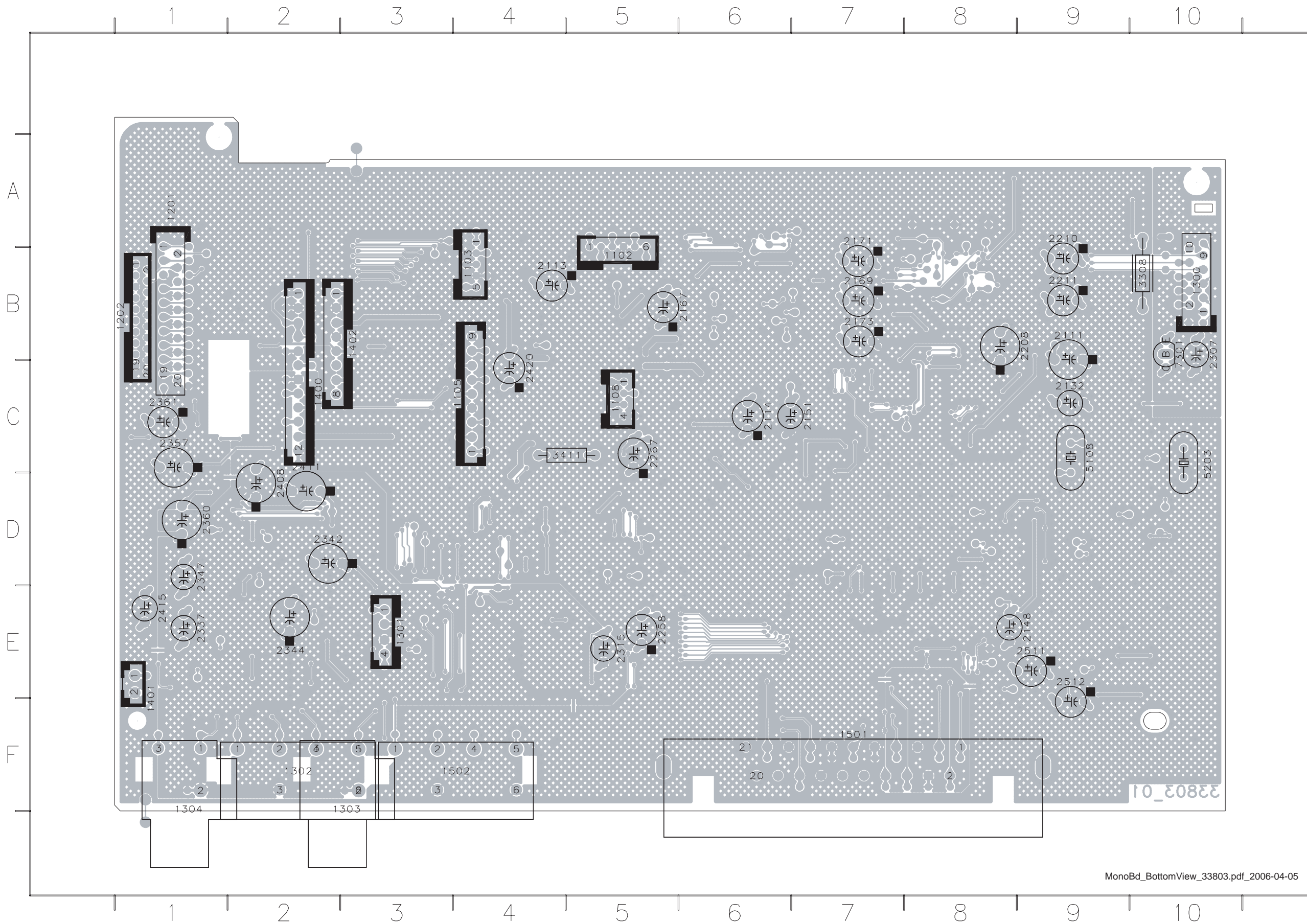
- 1400 B1
- 1401 E1
- 1402 C1
- 1403 B4
- 2400 A4
- 2401 F4
- 2402 A3
- 2403 B5
- 2404 B5
- 2405 C3
- 2406 C3
- 2407 C3
- 2408 E8
- 2409 E8
- 2410 C4
- 2411 F8
- 2412 F8
- 2414 F6
- 2415 D3
- 2416 D2
- 2417 D2
- 2418 D2
- 2419 D2
- 2420 A2
- 2421 E2
- 3400 C4
- 3401 E8
- 3402 F8
- 3405 B6
- 3406 E7
- 3407 F6
- 3408 F7
- 3411 E6
- 3412 D4
- 3413 D4
- 3414 E5
- 3415 E4
- 3416 A7
- 3417 B8
- 3418 B7
- 3419 B8
- 3420 B7
- 3423 C7
- 3424 C8
- 3425 D7
- 3426 D8
- 3427 D7
- 3428 D3
- 3429 A2
- 3430 A2
- 3431 C4
- 4402 A4
- 4403 A6
- 6401 D3
- 6402 F2
- 6403 C3
- 6404 C4
- 6405 C4
- 6406 A1
- 7400 E3
- 7402 E6
- 7403-1 D5
- 7403-2 E3
- 7404 D3
- 7405 A8
- 7406 A7
- 7407 B6
- 7408 C7
- 7409 C8
- 7410 D8
- 7411 D7
- 7412 A2
- F400 A4
- F401 A4
- F402 B4
- F403 B4
- F404 B4
- F405 B4
- F406 C4
- F407 C4
- F408 B3
- F411 D2
- F412 E2
- T400 A3
- T401 B4
- T402 C4
- T403 E4
- T404 E3
- T405 E9
- T406 E7
- T407 F8
- T408 C2
- T409 C2
- T410 D2
- T411 B2





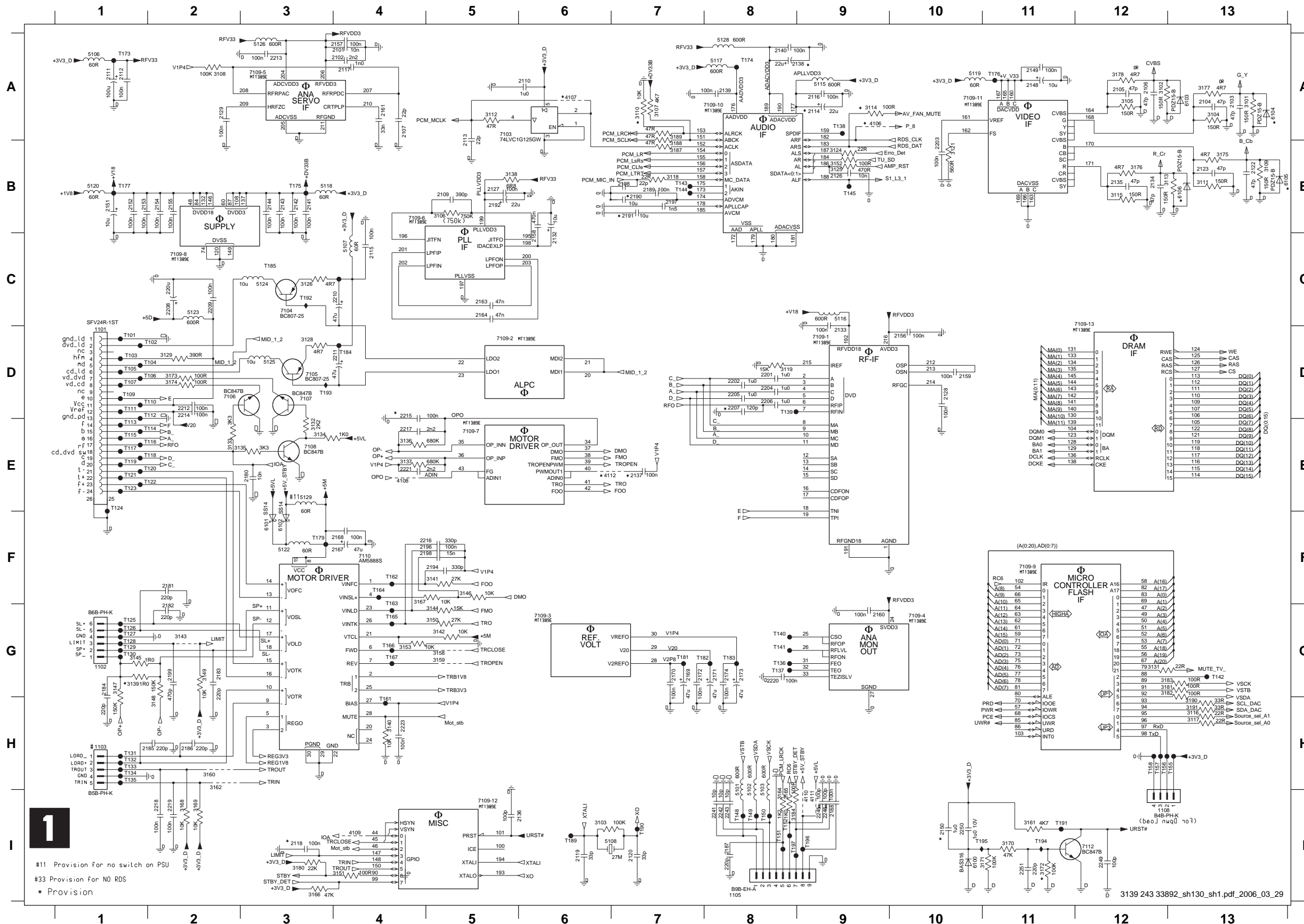


MKI Layout: Mono Board (Bottom view)



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# MKII Mono Board: Circuit Diagram (Part 1)

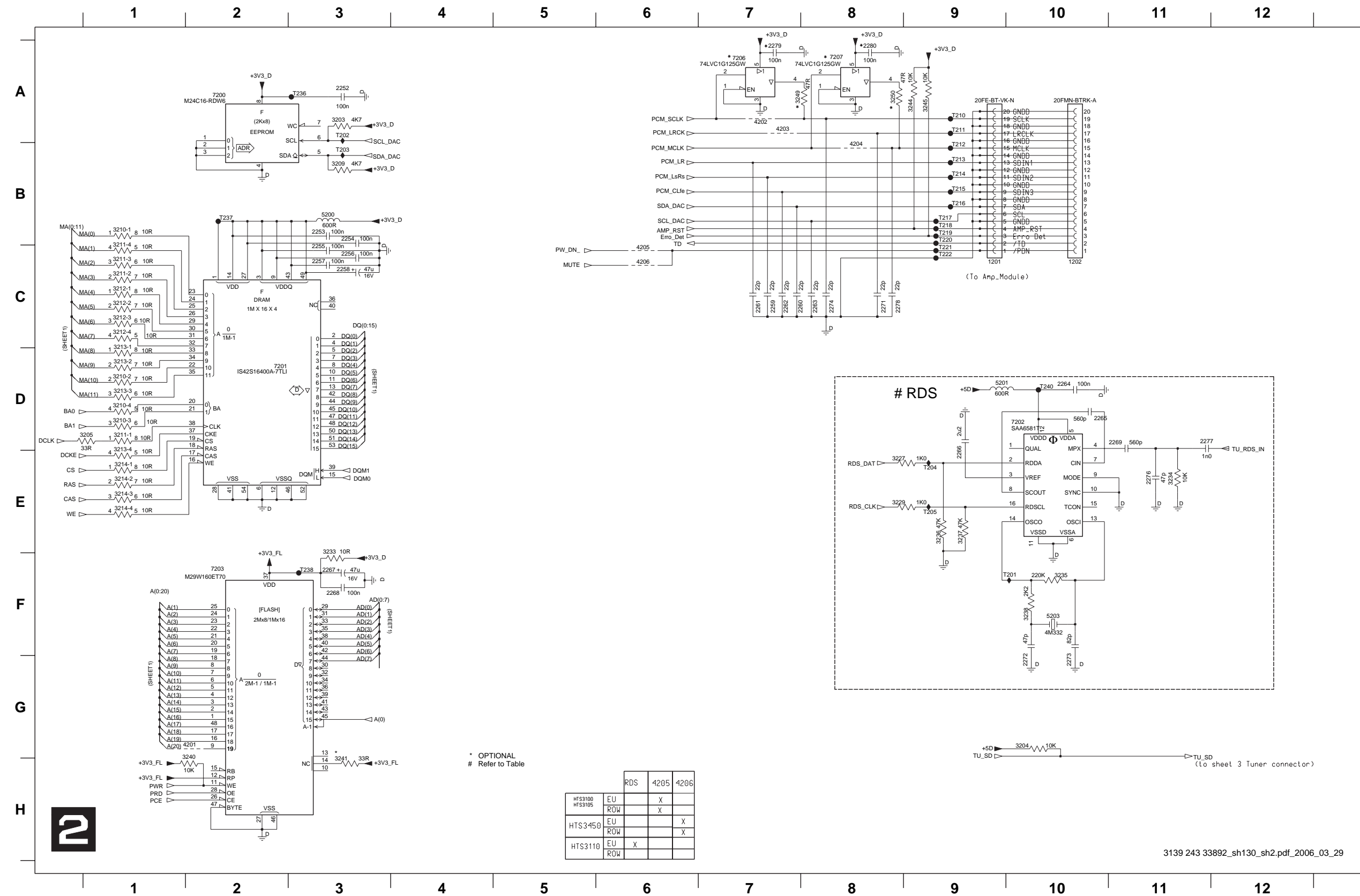


**1**

#11 Provision for no switch on PSU  
 #33 Provision for NO RDS  
 • Provision

1101 D1	2249 H12	6106 B13
1102 G1	7103 A5	7103 A5
1103 H1	2251 H11	7104 C3
1105 I8	3101 A13	7105 D3
1108 I12	3102 A12	7106 D2
2101 A4	3103 I6	7107 D3
2102 A4	3104 A13	7108 E3
2103 A13	3105 A12	7109-1 D9
2104 A13	3106 B5	7109-10 A8
2105 A12	3107 A7	7109-11 A11
2106 A12	3108 A2	7109-12 I5
2107 A4	3109 B13	7109-13 C12
2108 B7	3110 A7	7109-2 D5
2109 B5	3111 B13	7109-3 G6
2110 A6	3112 A5	7109-4 G10
2111 A1	3113 B12	7109-5 A3
2112 A1	3114 A9	7109-6 B4
2113 A5	3115 B12	7109-7 E5
2114 A9	3116 H13	7109-8 C2
2115 C4	3117 H13	7109-9 F11
2116 A9	3118 B7	7110 F4
2117 A4	3119 D8	7112 H12
2118 I3	3121 B10	7101 D1
2119 I6	3124 B9	7102 D2
2120 I7	3125 B9	7103 D1
2122 B13	3126 C3	7104 D2
2123 B13	3128 D3	7105 D1
2126 B9	3129 D2	7106 D2
2127 B5	3131 G12	7107 D1
2128 D10	3132 E3	7109 D1
2129 A2	3133 E2	7110 D2
2132 C6	3134 C3	7111 D1
2133 D9	3135 E2	7112 D2
2134 B12	3136 E4	7113 E1
2135 B12	3137 E4	7114 E2
2136 I5	3138 B5	7115 I5
2137 E7	3139 G1	7116 E2
2138 A9	3140 H4	7117 E1
2139 A8	3141 F5	7118 E2
2140 A8	3142 G5	7119 E1
2141 B3	3143 G2	7120 E2
2142 B3	3144 G5	7121 E1
2143 B3	3145 G1	7122 E2
2144 B3	3146 F5	7123 E1
2148 A11	3147 G1	7124 E1
2149 A11	3148 A2	7125 G1
2150 H10	3149 G2	7126 G1
2151 B1	3150 G5	7127 G1
2152 B1	3151 I4	7128 G1
2153 B1	3152 B9	7129 G1
2154 B2	3153 G4	7130 G1
2155 B2	3158 G5	7131 H1
2156 D10	3159 G5	7132 H1
2157 A4	3160 H2	7133 H1
2158 C6	3161 H1	7134 H1
2159 D10	3162 H2	7135 H1
2160 G9	3164 H8	7136 G8
2161 A4	3165 I8	7137 G8
2163 C5	3166 I3	7138 A9
2164 C5	3167 F4	7139 D8
2167 F4	3168 I2	7140 G8
2168 F4	3169 F2	7141 G8
2169 G7	3170 H1	7142 G13
2170 G7	3171 H1	7143 B7
2171 G8	3172 H1	7144 B7
2172 G7	3173 H2	7145 B9
2173 G8	3174 D2	7148 I8
2174 G8	3175 B13	7149 I8
2180 E3	3176 B12	7150 I8
2181 F2	3177 A13	7151 I8
2182 G2	3178 A12	7152 I8
2183 G2	3180 I3	7155 H13
2184 G1	3181 G12	7156 H12
2185 H2	3182 G12	7157 H12
2186 H2	3183 G12	7158 H12
2187 I8	3184 I8	7161 G4
2188 I9	3187 B7	7162 F4
2189 B7	3188 B7	7163 G4
2190 B7	3189 A7	7164 F4
2191 B7	3190 H13	7165 G4
2192 B5	3191 H13	7166 G4
2194 F5	4106 A9	7167 G4
2196 F4	4107 A6	7173 A1
2197 B7	4108 E4	7174 A8
2198 F4	4109 I4	7175 B3
2199 G2	4110 I9	7176 A11
2201 D8	4111 B9	7177 B1
2202 D8	4112 E6	7179 F3
2203 B10	5101 H8	7181 G7
2204 D8	5102 H8	7182 G7
2205 D8	5103 H8	7183 G8
2206 D8	5106 A1	7184 D4
2207 D8	5107 C4	7185 C3
2208 C2	5108 I6	7189 I6
2209 C2	5115 A9	7190 I7
2210 C3	5116 C9	7191 H1
2211 D3	5117 A8	7192 C3
2212 D3	5118 B3	7193 D3
2213 A3	5119 A10	7194 H1
2214 D2	5120 B1	7195 H10
2215 D4	5122 F3	7196 I9
2216 F4	5123 C4	7197 F4
2217 E4	5124 C3	7198 I8
2218 I2	5125 D3	
2219 I2	5126 A3	
2220 G8	5128 A8	
2221 E4	5129 E3	
2223 H4	6100 H10	
2241 I8	6101 F3	
2242 I8	6102 F3	
2243 I8	6103 A13	
2245 I9	6104 A13	
2246 I9	6105 B13	

# MKII Mono Board: Circuit Diagram (Part 2)

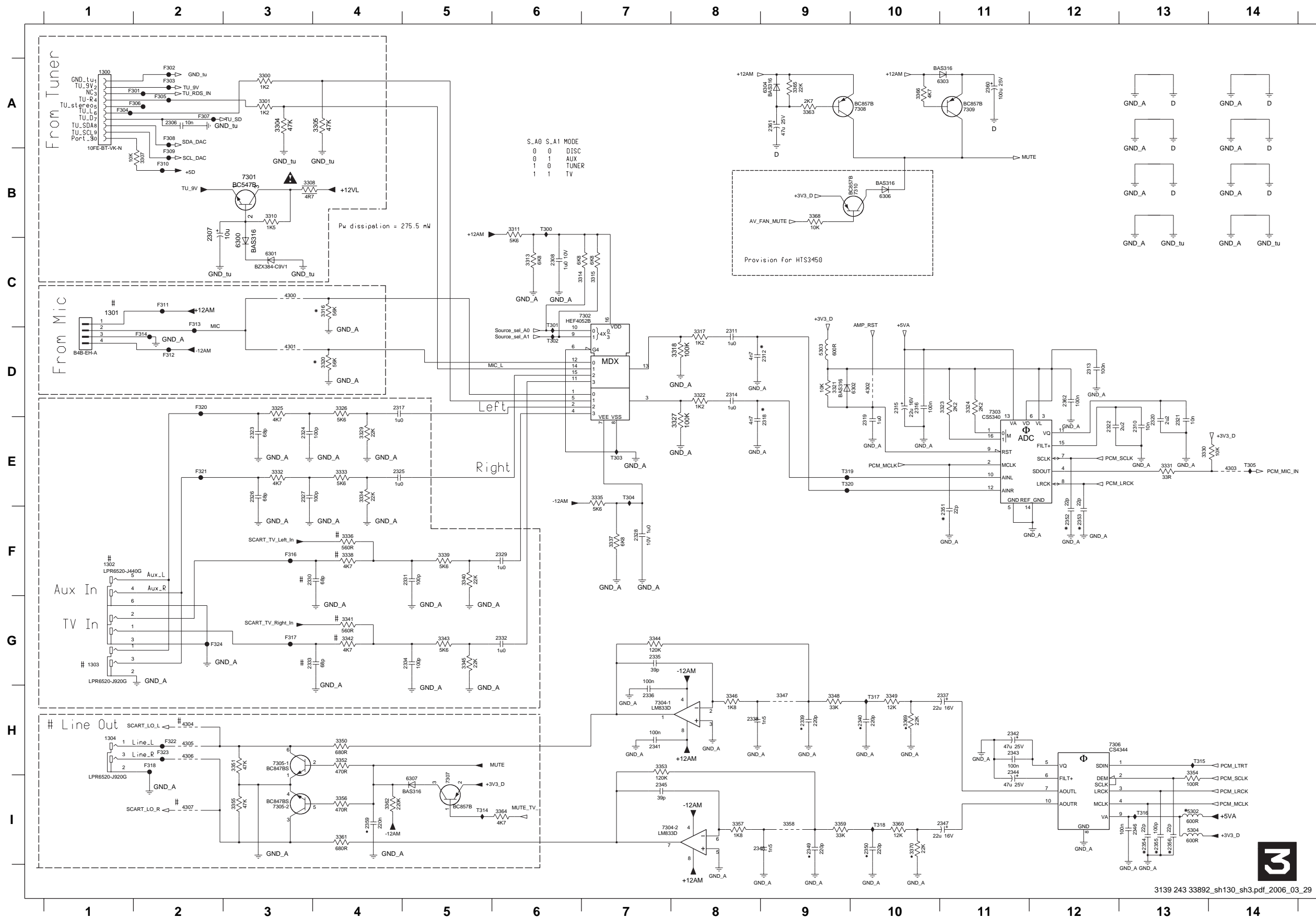


\* OPTIONAL  
# Refer to Table

	RDS	4205	4206
HTS3100	EU	X	
HTS3105	ROW	X	
HTS3450	EU		X
	ROW		X
HTS3110	EU	X	
	ROW		



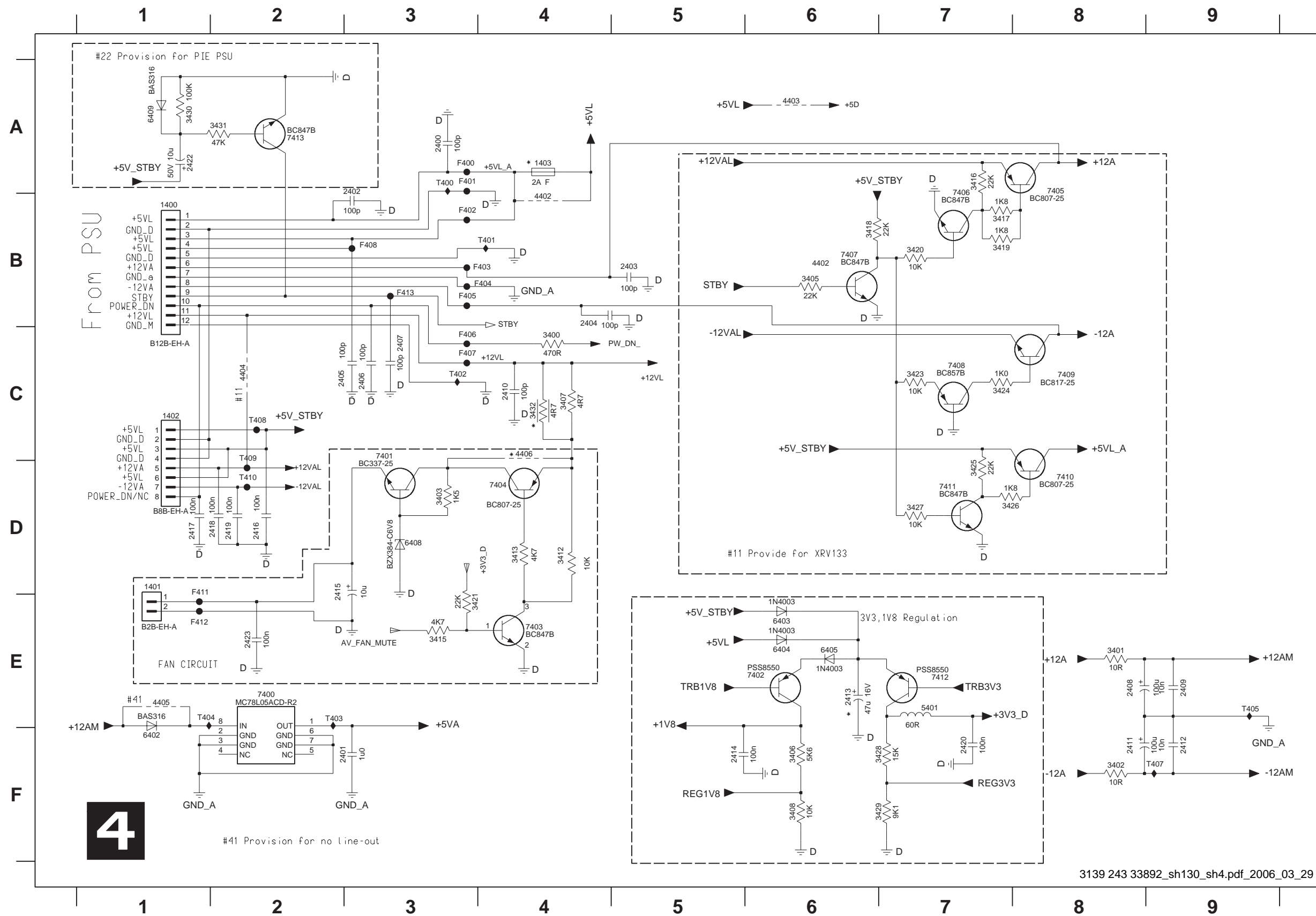
# MKII Mono Board: Circuit Diagram (Part 3)



1300 A1	3364 I6
1301 C1	3365 A9
1302 F1	3366 H10
1303 G1	3368 B9
1304 H1	3369 H10
2306 A2	3370 H10
2307 B2	4300 C3
2308 C6	4301 D3
2310 E13	4302 D10
2311 D8	4303 E14
2312 D9	4304 H2
2313 D12	4305 H2
2314 D8	4306 H2
2315 D10	4307 I2
2316 D10	5302 I13
2317 D4	5303 D9
2318 E9	5304 I13
2319 E10	6300 C3
2320 E13	6301 C3
2321 E13	6302 D10
2322 E12	6303 A11
2323 E3	6304 A9
2324 E3	6306 B10
2325 E4	6307 I5
2326 E3	7301 B3
2327 E3	7302 C7
2328 F7	7303 D11
2329 F6	7304-1 H7
2330 F3	7304-2 I8
2331 F5	7305-1 H3
2332 G6	7305-2 I3
2333 G3	7306 H12
2334 G5	7307 I5
2335 G7	7308 A10
2336 H7	7309 A11
2337 H11	7310 B10
2338 H8	F301 A2
2339 H9	F302 A2
2340 H10	F303 A2
2341 H7	F304 A1
2342 H11	F305 A2
2343 H11	F306 A2
2344 H11	F307 A2
2345 I7	F308 A2
2346 I13	F309 B2
2347 I10	F310 B2
2348 I8	F311 C2
2349 I9	F312 D2
2350 I10	F313 C2
2351 F11	F314 D2
2352 F12	F316 F3
2353 F12	F317 G3
2354 I13	F318 H2
2355 I13	F320 D2
2356 I13	F321 E2
2359 I4	F322 H2
2360 A11	F323 H2
2361 A9	F324 G2
2362 D12	T300 B6
3300 A3	T301 C6
3301 A3	T302 D6
3304 A3	T303 E7
3305 A4	T304 E7
3307 B2	T305 E14
3308 B3	T314 I5
3310 B3	T315 H13
3311 B6	T316 I13
3313 C6	T317 H10
3314 C7	T318 H10
3315 C7	T319 E9
3316 C4	T320 E9
3317 D8	
3318 D8	
3320 D4	
3321 D9	
3322 D8	
3323 D11	
3324 D11	
3325 D3	
3326 D4	
3327 E8	
3329 E4	
3330 E13	
3331 E13	
3332 E3	
3333 E4	
3334 E4	
3335 E7	
3336 F4	
3337 F7	
3338 F4	
3339 F5	
3340 F5	
3341 G4	
3342 G4	
3343 G5	
3344 G7	
3345 G5	
3346 H8	
3347 H9	
3348 H9	
3349 H10	
3350 H4	
3351 H3	
3352 H4	
3353 H7	
3354 H13	
3355 I3	
3356 I4	
3357 I8	
3358 I9	
3359 I9	
3360 I10	
3361 I4	
3362 I4	
3363 A9	



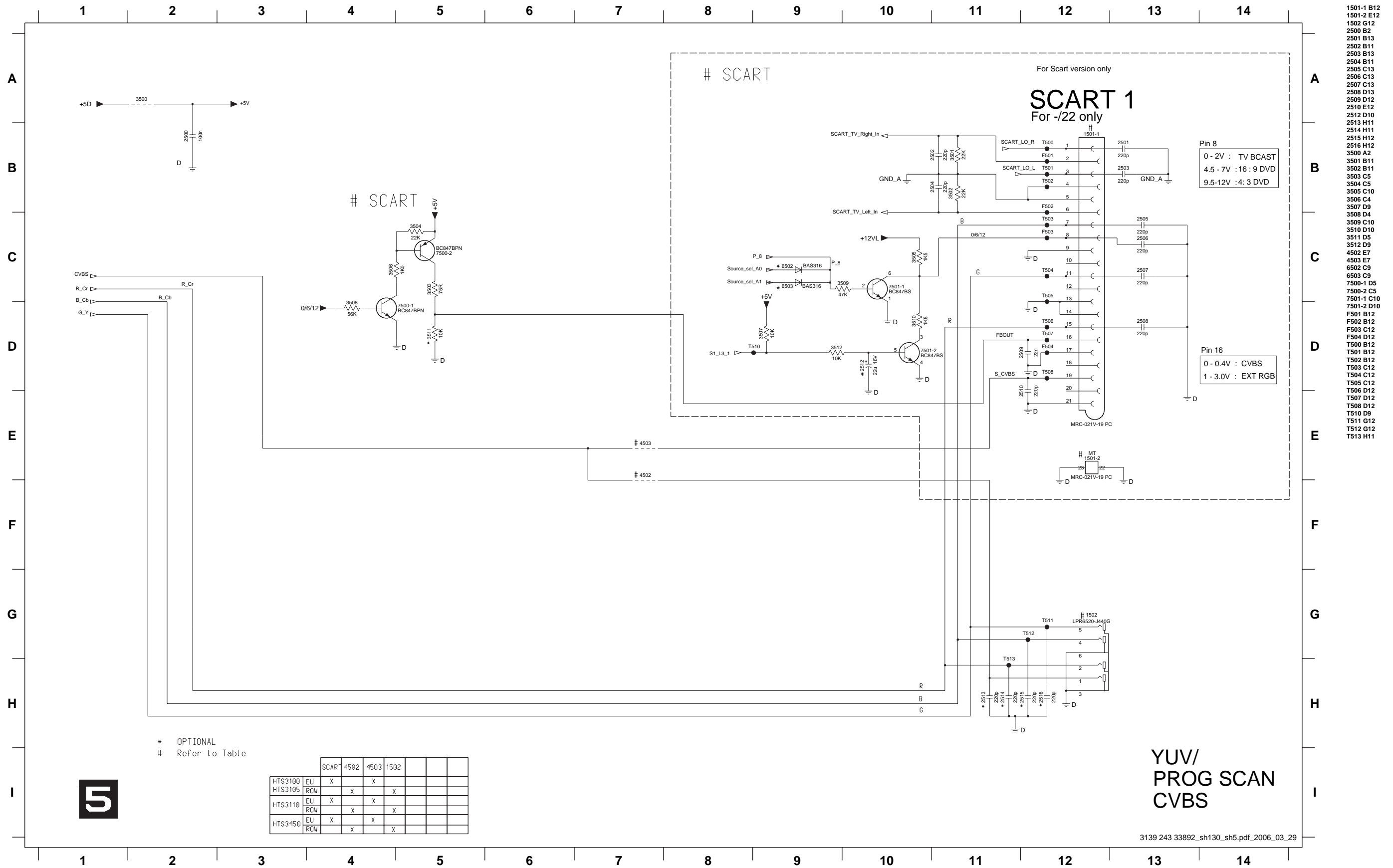
# MKII Mono Board: Circuit Diagram (Part 4)



1400 B1	7411 D7
1401 D1	7412 E7
1402 C1	7413 A2
1403 A4	F400 A3
2400 A3	F401 A3
2401 F3	F402 B3
2402 B3	F403 B4
2403 B5	F404 B4
2404 B4	F405 B3
2405 C2	F406 C3
2406 C3	F407 C3
2407 C3	F408 B3
2408 E8	F411 E1
2409 E9	F412 E1
2410 C4	F413 B3
2411 F8	T400 A3
2412 F9	T401 B4
2413 E6	T402 C3
2414 F5	T403 E2
2415 D2	T404 E1
2416 D2	T405 E9
2417 D1	T407 F9
2418 D2	T408 C2
2419 D2	T409 D2
2420 F7	T410 D2
2422 A1	
2423 E2	
3400 C4	
3401 E8	
3402 F8	
3403 D3	
3405 B6	
3406 F6	
3407 C4	
3408 F6	
3412 D4	
3413 D4	
3415 E3	
3416 A7	
3417 B7	
3418 B6	
3419 B7	
3420 B7	
3421 E3	
3423 C7	
3424 C7	
3425 D7	
3426 D7	
3427 D7	
3428 F7	
3429 F7	
3430 A1	
3431 A2	
3432 C4	
4402 B4	
4403 A6	
4404 C2	
4405 E1	
4406 C4	
5401 E7	
6402 F1	
6403 E6	
6404 E6	
6405 E6	
6408 D3	
6409 A1	
7400 E2	
7401 C3	
7402 E6	
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7408 C7	
7409 C8	
7410 D8	

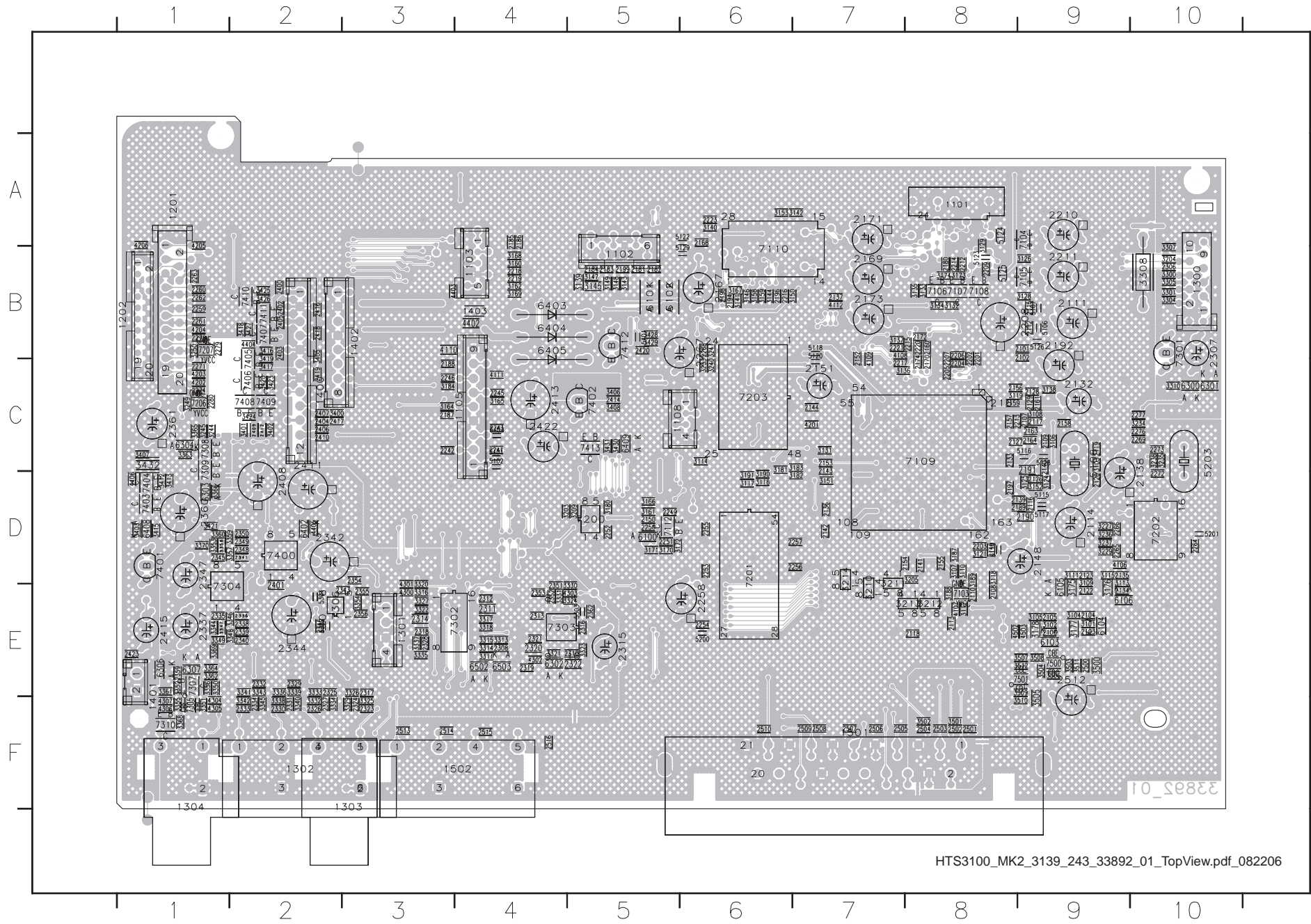
# 4

# MKII Mono Board: Circuit Diagram (Part 5)



- 1501-1 B12
- 1501-2 E12
- 1502 G12
- 2500 B2
- 2501 B13
- 2502 B11
- 2503 B13
- 2504 B11
- 2505 C13
- 2506 C13
- 2507 C13
- 2508 D12
- 2509 D12
- 2510 E12
- 2512 D10
- 2513 H11
- 2514 H11
- 2515 H12
- 2516 H12
- 3500 A2
- 3501 B11
- 3502 B11
- 3503 C5
- 3504 C5
- 3505 C10
- 3506 C4
- 3507 D9
- 3508 D4
- 3509 C10
- 3510 D10
- 3511 D5
- 3512 D9
- 4502 E7
- 4503 E7
- 6502 C9
- 6503 C9
- 7500-1 D5
- 7500-2 C5
- 7501-1 C10
- 7501-2 D10
- F501 B12
- F502 B12
- F503 C12
- F504 D12
- T500 B12
- T501 B12
- T502 B12
- T503 C12
- T504 C12
- T505 D12
- T506 D12
- T507 D12
- T508 D12
- T510 D9
- T511 G12
- T512 G12
- T513 H11

# MKII Layout: Mono Board (Top View)

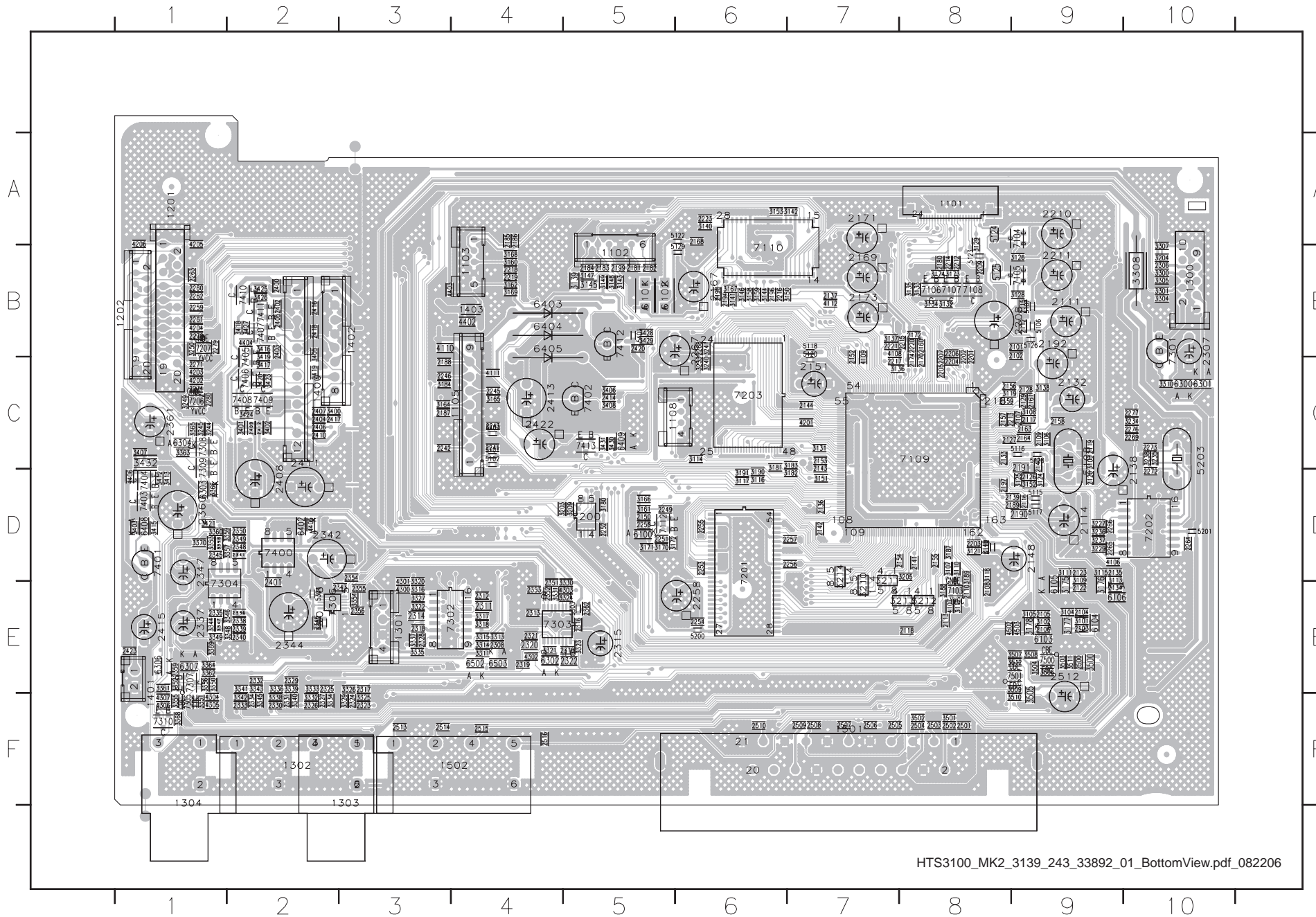


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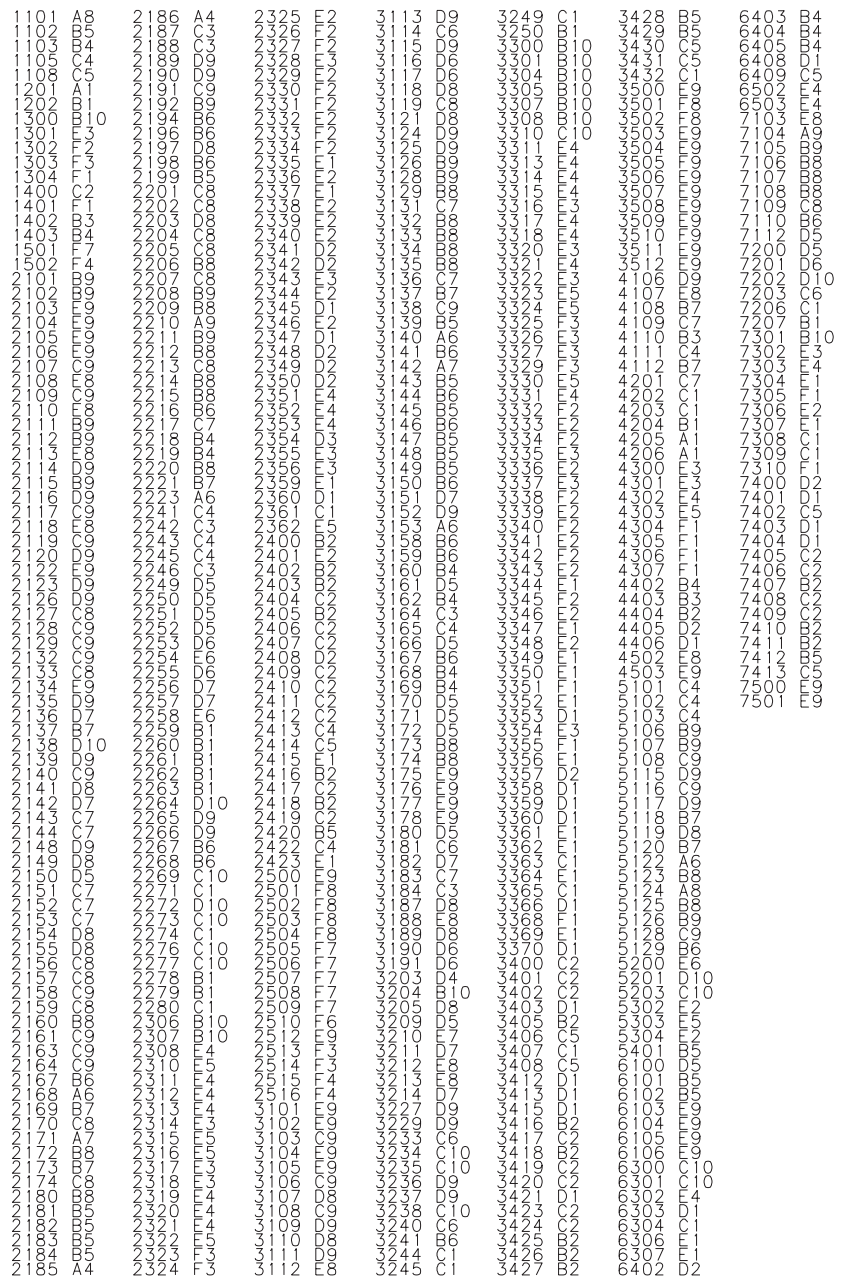
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1101	7110	7109	7108	7107	7106	7105	7104	7103	7102	7101	7067	7066	7065	7064	7063	7062	7061	7059	7058	7057	7056	7055	7054	7053	7052	7051	7048	7049	7047	7046	7045	7044	7043	7042	7041	7040	7039	7038	7037	7036	7035	7034	7033	7032	7031	7030	7029	7028	7027	7026	7025	7024	7023	7022	7021	7020	7019	7018	7017	7016	7015	7014	7013	7012	7011	7010	7009	7008	7007	7006	7005	7004	7003	7002	7001
1101	7110	7109	7108	7107	7106	7105	7104	7103	7102	7101	7067	7066	7065	7064	7063	7062	7061	7059	7058	7057	7056	7055	7054	7053	7052	7051	7048	7049	7047	7046	7045	7044	7043	7042	7041	7040	7039	7038	7037	7036	7035	7034	7033	7032	7031	7030	7029	7028	7027	7026	7025	7024	7023	7022	7021	7020	7019	7018	7017	7016	7015	7014	7013	7012	7011	7010	7009	7008	7007	7006	7005	7004	7003	7002	7001
1101	7110	7109	7108	7107	7106	7105	7104	7103	7102	7101	7067	7066	7065	7064	7063	7062	7061	7059	7058	7057	7056	7055	7054	7053	7052	7051	7048	7049	7047	7046	7045	7044	7043	7042	7041	7040	7039	7038	7037	7036	7035	7034	7033	7032	7031	7030	7029	7028	7027	7026	7025	7024	7023	7022	7021	7020	7019	7018	7017	7016	7015	7014	7013	7012	7011	7010	7009	7008	7007	7006	7005	7004	7003	7002	7001
1101	7110	7109	7108	7107	7106	7105	7104	7103	7102	7101	7067	7066	7065	7064	7063	7062	7061	7059	7058	7057	7056	7055	7054	7053	7052	7051	7048	7049	7047	7046	7045	7044	7043	7042	7041	7040	7039	7038	7037	7036	7035	7034	7033	7032	7031	7030	7029	7028	7027	7026	7025	7024	7023	7022	7021	7020	7019	7018	7017	7016	7015	7014	7013	7012	7011	7010	7009	7008	7007	7006	7005	7004	7003	7002	7001



# MKII Layout: Mono Board (Bottom View)



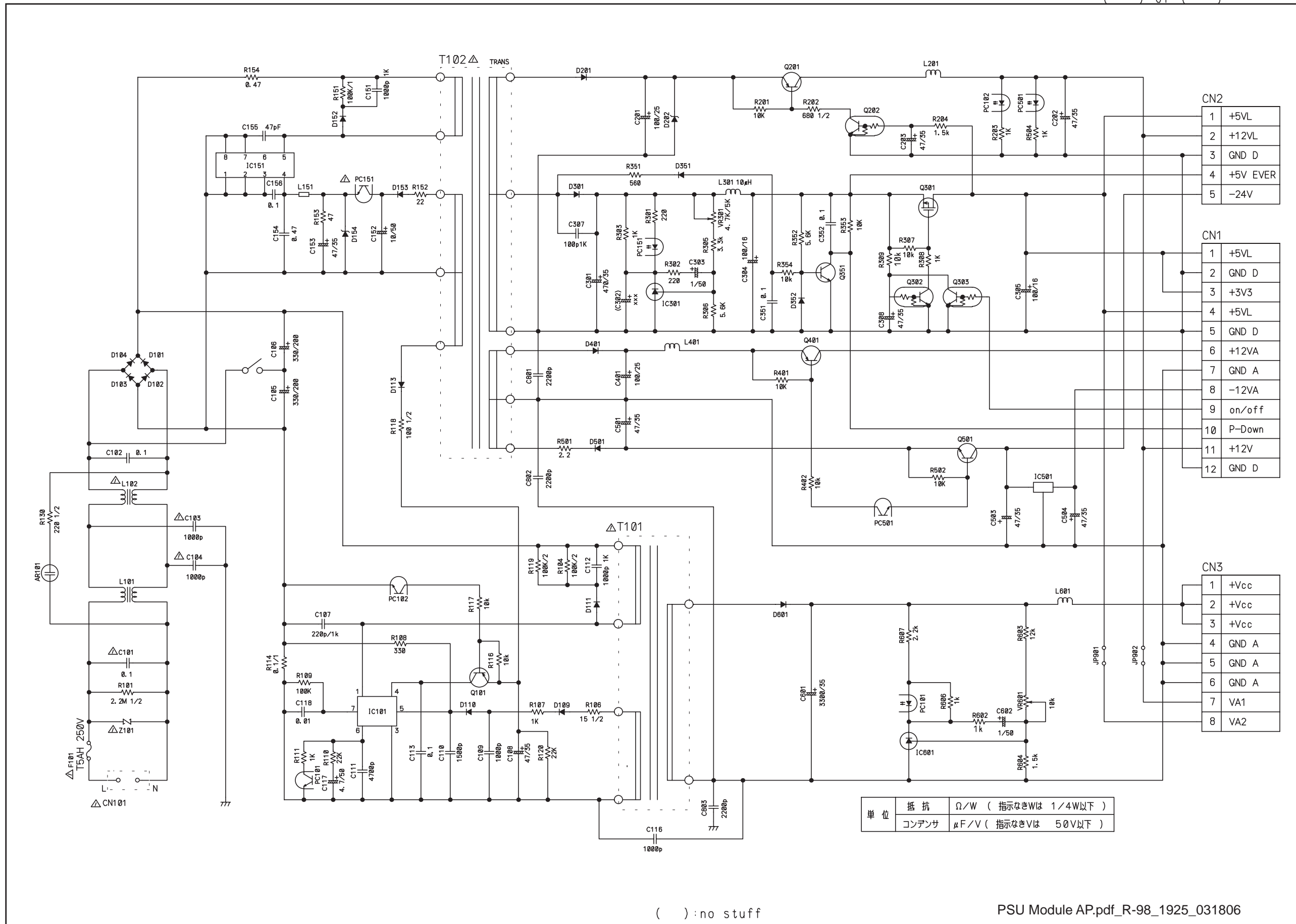
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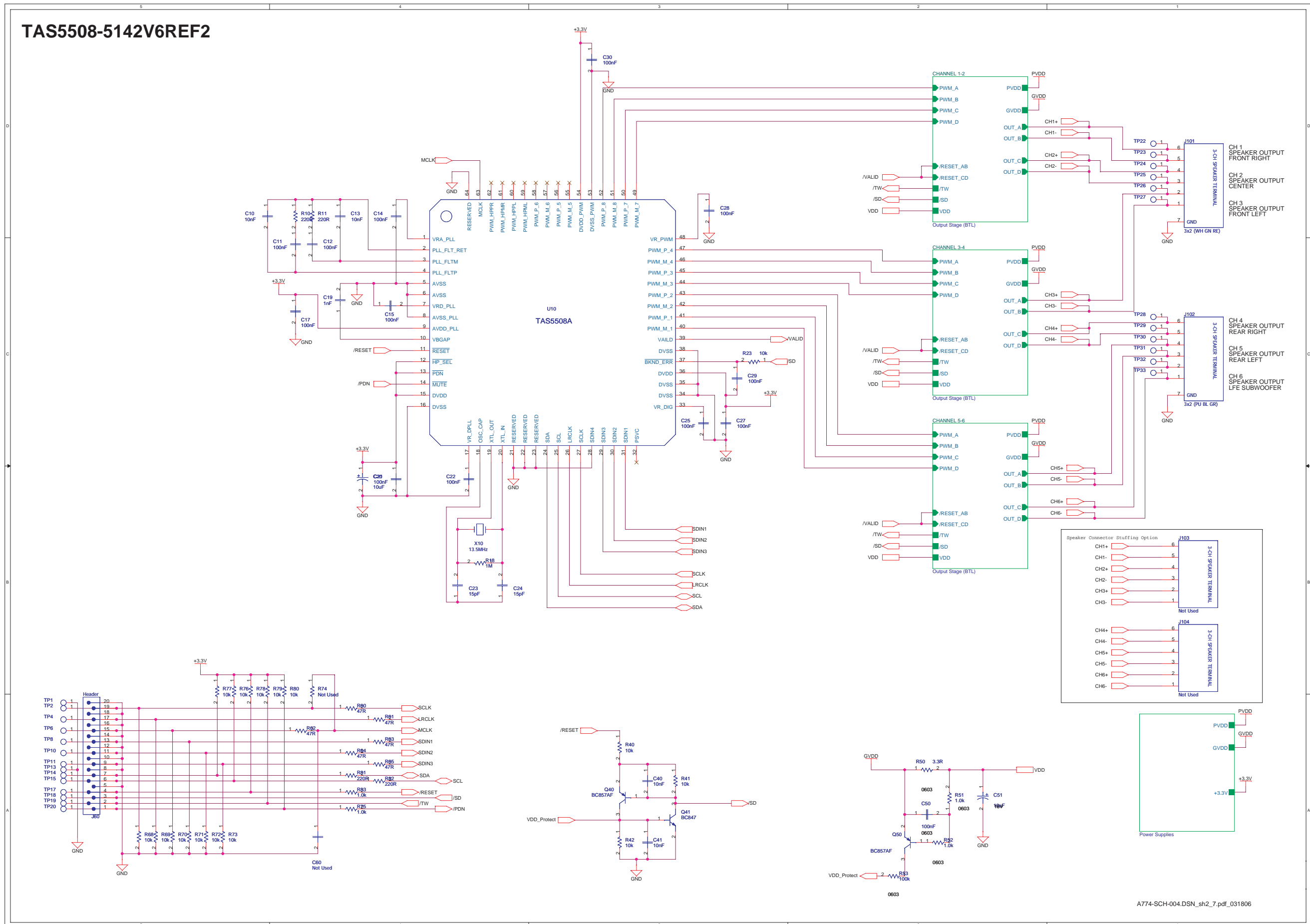
PSU Circuit Diagram (For information only) PSU: Europe

( ) of ( )



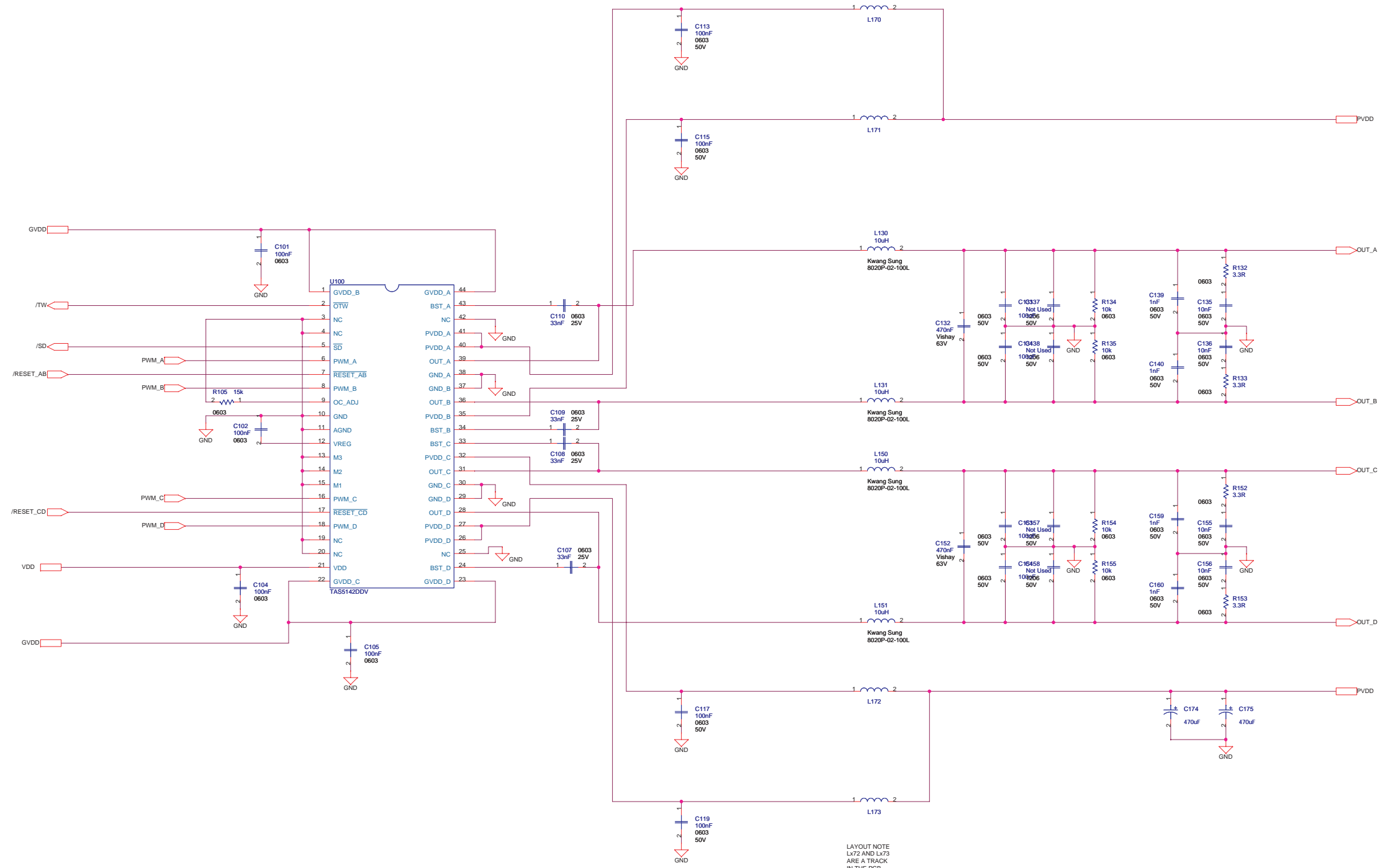
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# For information only (Amp Board)



For information only (Amp Board)

POWER OUTPUT STAGE (BTL)

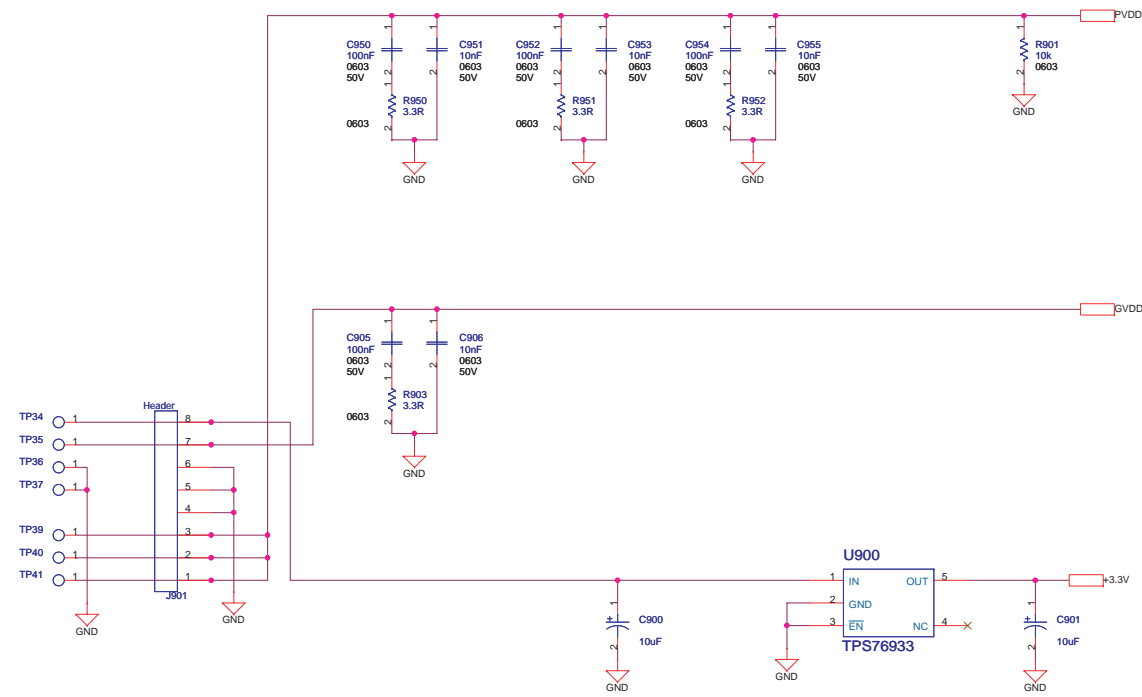


LAYOUT NOTE  
Lx72 AND Lx73  
ARE A TRACK  
IN THE PCB.  
W: TBD MM  
L: TBD MM

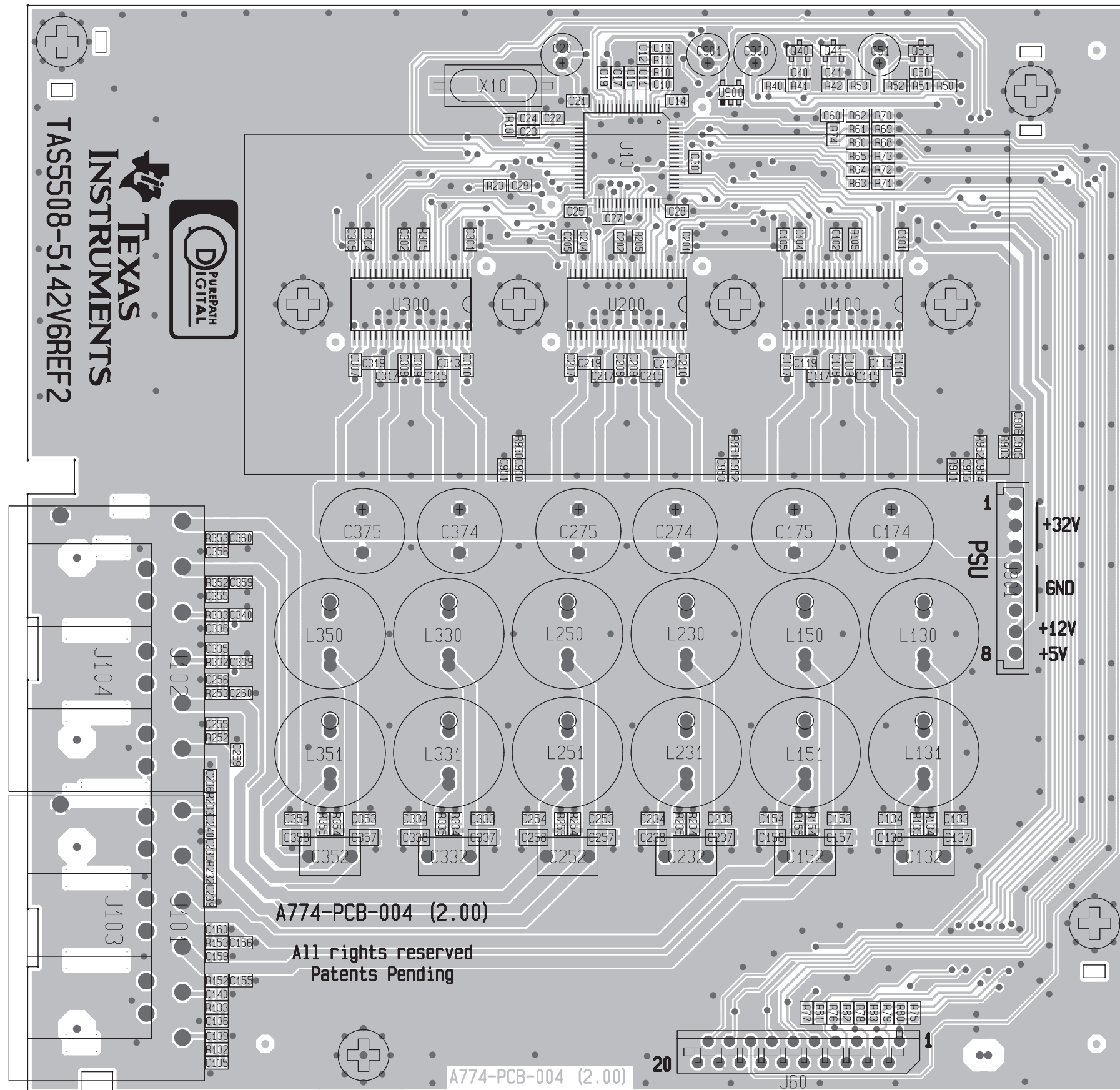
Mode Table

M2	M1	Type	Description
L	L	2x2BTL	Full Protection, 2N+2 mode
L	H	2x2BTL	No OLP - Latching Shutdown, 2N + 2, No Pulse Stretcher
H	L	2x2BTL	Full Protection, 1N + 2 mode
H	H	1x2BTL	Full Protection, 1N + 2 mode (PBTL)

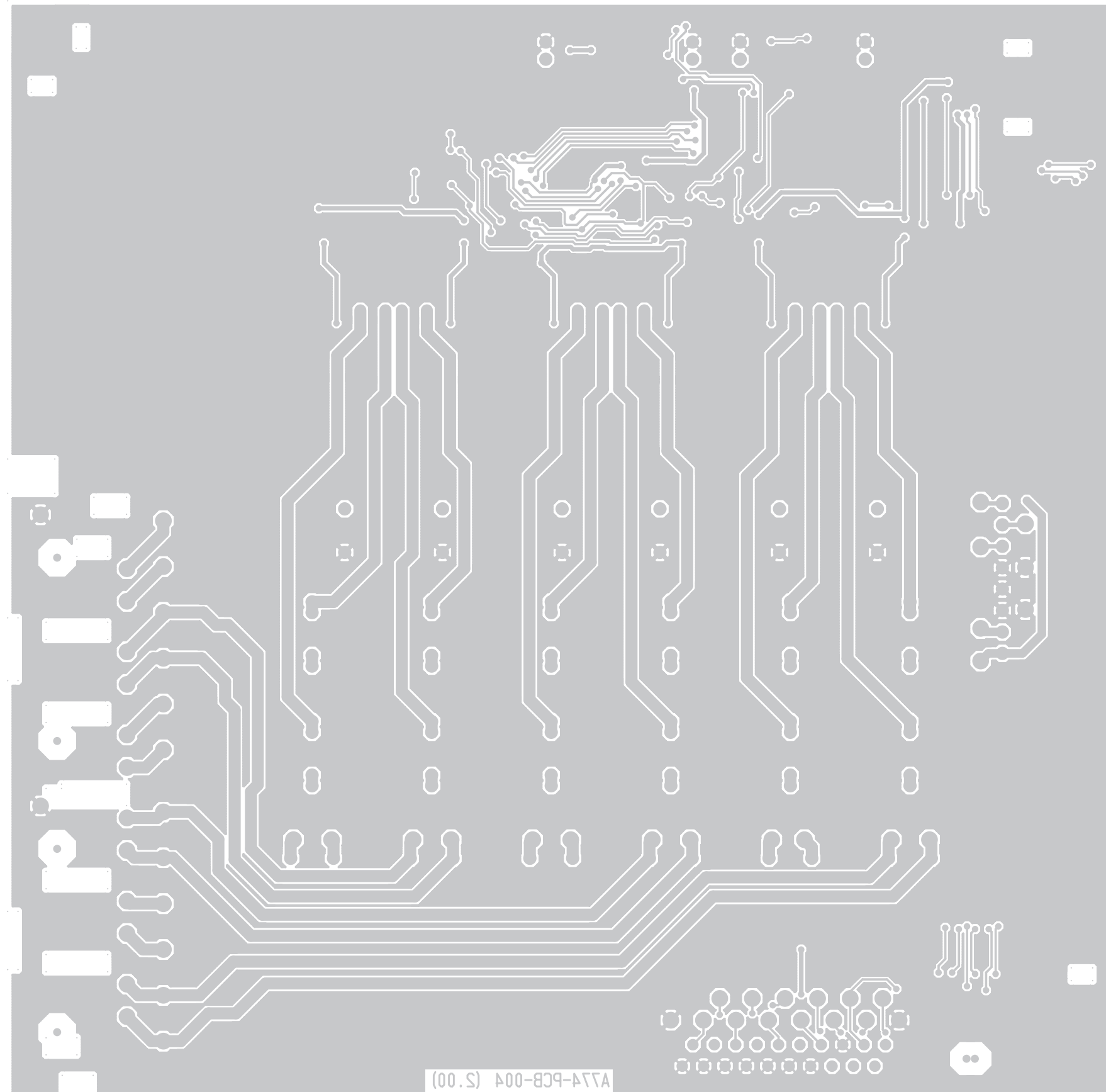
# POWER SUPPLIES



### Amp Board Layout : Topview



### Amp Board Layout : Bottomview



A774-PCB-004 (S.00)



9. Exploded View of the Set

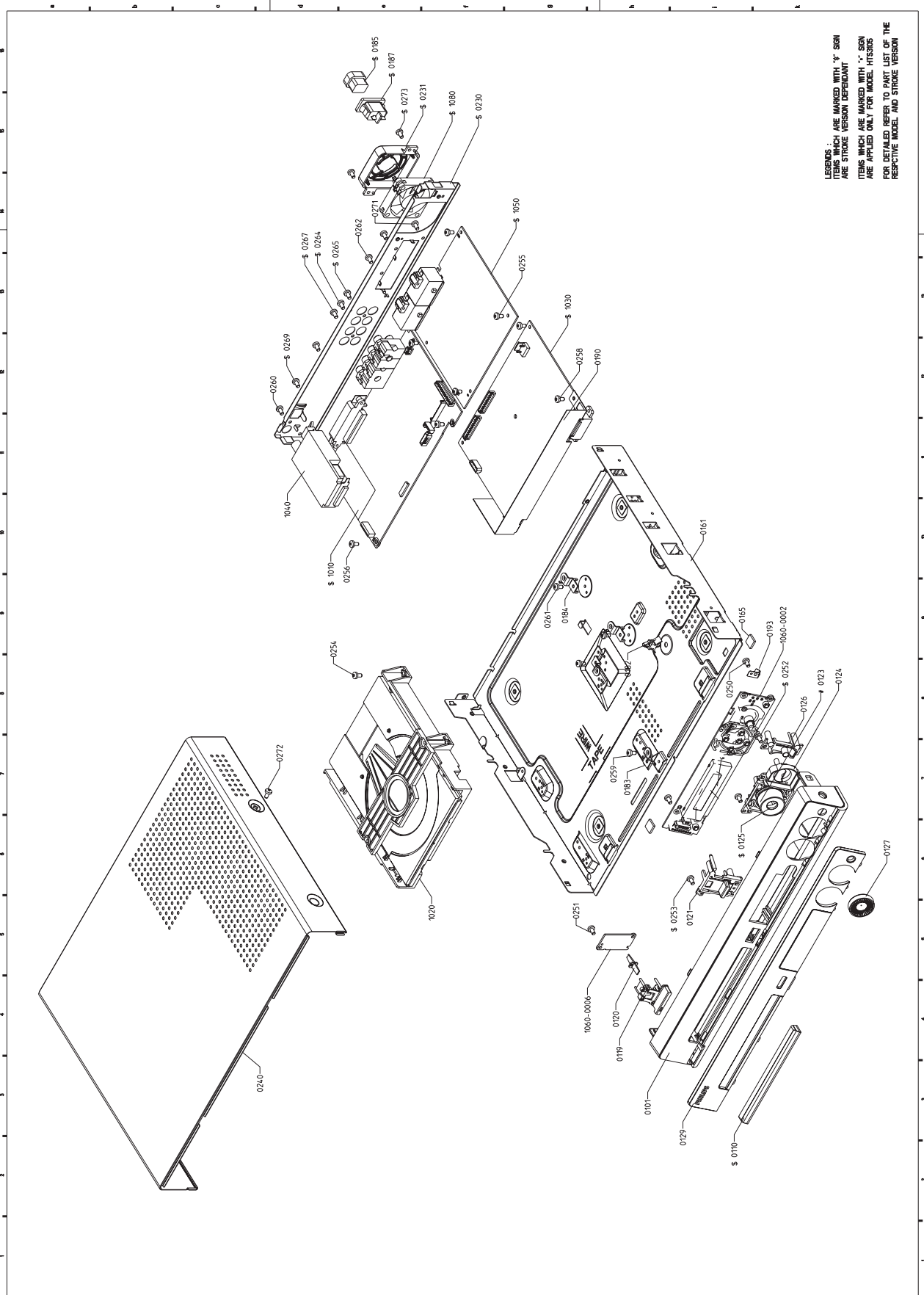


Figure 9-1

**HTS3110****MISCELLANEOUS**

0110	3139 244 11041	COVER CD TRAY HTS3110 PNT PRT
0185	4822 532 60948	BUSH
0331	2422 076 00546	FM AERIAL 24AWG BK B
0332	2422 549 45386	ANT AM LOOP LAN-011 B
0332	2422 549 45813	ANT AM LOOP 039S20014 B
0333	2422 549 00901	REMOTE CONTR HTS3100-KOK B
0336	2422 070 98233	MAINSCORD AUS 7A5 1M8 VH BK B /75 ONLY
0336	2422 070 98232	MAINSCORD CHN 6A 1M8 VH BK B /93 ONLY
0336	2422 070 00093	MAINSCORD TWN 7A 1M8 VH BK B /96 ONLY
0336	4822 321 11499	MAINSCORD 2.0M - EU /98 ONLY
0340	2422 076 00662	CBLE CINCH 1M7 CINCH 1P YE B
1010	3139 248 87711	PCBAS MONO HTS3110 ROW
1020	3139 248 00181	LOADER ASSY WXD8829 KHM313 RX
1030	3139 247 12721	MODULE PSU 06T400M WR
1040	2422 542 00032	TUN A F ENG06806QRF USA B
1050	3139 247 12251	MODULE AMP-05-02 500W
1060	3139 248 87671	PCBAS FRONT HTS3110 ROW
1070	3139 248 88431	PCBAS MONO II HTS3110 ROW
1080	2822 031 00048	FAN 12VDC 0.5W 3700RPM B
8001	3139 241 01381	FFC FOIL10P/120/10P AD FOLD
P001	3141 079 36151	FRAME ASSY HTS3110/75
P002	3141 079 36041	FRONT CAB ASSY HTS3110/75

**BOX SPK ASSY SW-3105 P**

9965 000 35004	SW3105 SUBWOOFER BOX
9965 000 34997	RUBBER FOOT SW
9965 000 34998	CABLE A'SSY 5.3M PURPLE SMK

**LOADER ASSY WXD8829 KHM313 RX**

0151	2422 549 00493	DVD LOADER WXD-8829(Y) B
0152	2422 549 00629	DVD MECHANISM KHM-313AAA Y
1101	3139 241 00341	FFC FOIL 24P/220/24P AD 0.5MMP

**BOX SPK ASSY C-3110 P**

9965 000 35003	SPEAKER BOX CENTER
9965 000 34995	RUBBER FOOT 39.5LX5.5WX2T
9965 000 34994	CABLE A'SSY 5.2M GREEN SMK S

**BOX SPK ASSY F/TALL-3110 P**

9965 000 35003	SPEAKER BOX CENTER
9965 000 34995	RUBBER FOOT 39.5LX5.5WX2T
9965 000 34994	CABLE A'SSY 5.2M GREEN SMK S

**SPK BOX ASSY R-3110 P**

9965 000 35390	SPEAKER BOX REAR-L
9965 000 35391	SPEAKER BOX REAR-R
9965 000 34989	CABLE A'SSY 5.2M BLUE SMK
9965 000 34990	CABLE A'SSY 5.2M GREY SMK
9965 000 35392	RUBBER FOOT
9965 000 35393	RUBBER FOOT

**11 REVISION LIST**

- 1.1 MANUAL 3139 785 31981
- 1. Additional of PCBA MONOBOARD MARK II Circuit Diagrams and Layouts
- 2. Revision of spare parts list for HTS3110/75/93/96/98