

Service  
Service  
**Service**



FWM569



FWM587

# Service Manual

## TABLE OF CONTENTS

	Page
Location of PCBs & Version variations .....	1-2
Technical Specifications .....	1-3
Measurement setup .....	1-4
Service Aids, Safety Instruction, etc. ....	1-5
Connections & Functional Overview .....	1-7 to 1-12
Disassembly Instructions & Service positions .....	2
Service Test Programs .....	3
Set Block diagram .....	4-1
Set Wiring diagram .....	4-2
Front Control Board .....	5
Front Display Board .....	6
ECO6 Tuner Board : Systems Non-Cenelec.....	7A
Systems Cenelec.....	7B
PWR303 Module UCD 100-150W for FWM569.....	8A
PWR303 Module UCD 200-250W for FWM587.....	8B
AF12 Board .....	9
5DTC Module (MP3 Version) .....	10
Set Mechanical Exploded view & parts list .....	11



© Copyright 2003 Philips Consumer Electronics B.V. Eindhoven, The Netherlands  
All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, or otherwise without the prior permission of Philips.

Published by SL 0406 Service Audio Printed in The Netherlands Subject to modification



3140 785 32860

Version 1.0



**PHILIPS**



**SPECIFICATIONS****GENERAL:**

Mains voltage	: 120 ± 10% for /37
Mains frequency	: 60Hz
Power consumption	: < 1W at ECO Power Standby
	: < 25W at Standby (DEMO mode off)
	: 175W at Active
Clock accuracy	: < 4 seconds per day
Dimension centre unit	: 265 x 322 x 390mm

**TUNER:****FM**

Tuning range	: 87.5-108MHz
Grid	: 100kHz for /37
IF frequency	: 10.7MHz ± 25kHz
Aerial input	: 300 Ω click fit for /37
Sensitivity at 26dB S/N	: < 7µV
Selectivity at 600kHz bandwidth	: > 25dB
Image rejection	: > 25dB
Distortion at RF=1mV, dev. 75kHz	: < 3%
-3dB Limiting point	: < 8µV
Crosstalk at RF=1mV, dev. 40kHz	: > 18dB

**MW**

Tuning range	: 530-1700kHz for /37
Grid	: 10kHz for /37
IF frequency	: 450kHz ± 1kHz
Aerial input	: Frame aerial 18.1µH
Sensitivity at 26dB S/N	: < 4.4mV/M
Sensitivity at S9/300KHz	: > 18dB
IF rejection	: > 45dB
Image rejection	: > 28dB
Distortion at RF=50mV, M=80%	: < 5%

**AMPLIFIER:**

Output power (1kHz, 10% THD at frequency from 60Hz  
- 12.5kHz for /37 version)

L & R (4 Ω)	: 2 x 120W FTC M569
L & R (8 Ω)	: 2 x 160W FTC M587
Frequency response within -3dB	: 63Hz-16kHz
MAX Sound	: On / Off
Game Sound	: Speed /Punch /Blast /Off
Dynamic Bass Boost (DBB)	: DBB 1, 2, 3 & Off
Digital Sound Control (DSC)	: Jazz /Rock /Pop / Optimal
Virtual Ambience Control (VAC)	: Cyber / Arcade / Hall / Cinema / Concert

Input sensitivity

Aux in (at 1kHz)	: 640mV ± 2dB
Game Port (at 1kHz)	: 310mV ± 2dB

Output sensitivity

Headphone output at 32 Ω : 700mV ± 2dB (Max. vol.)

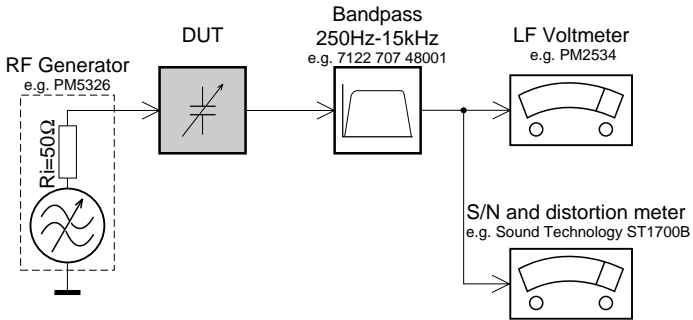
**5DTC:**

Measurement done directly at the connector on the board.

Output Resistance	: < 100 Ω
Output Voltage (0dB, 1kHz)	: 0.5Vrms ± 1dB (unloaded)
Channel Unbalance	: < ±1dB
Channel Separation (1kHz)	: > 60dB
Frequency Response (±3dB)	: 20Hz-20kHz
Signal to Noise Ratio	: > 75dBA
MP3-CD Bit Rate	: 32-256 kbps
Sampling Frequencies	: 32, 44.1, 48 kHz

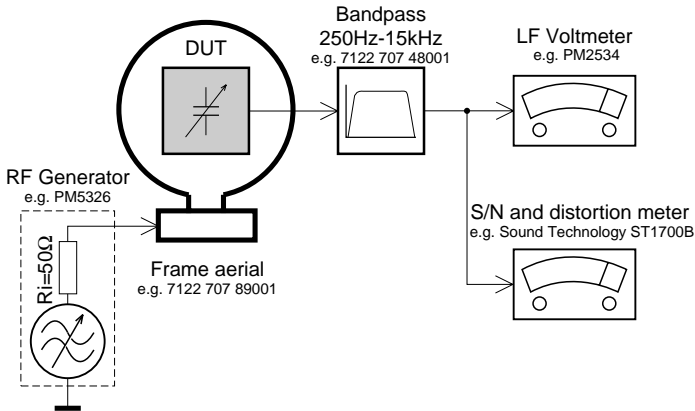
# MEASUREMENT SETUP

## Tuner FM



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

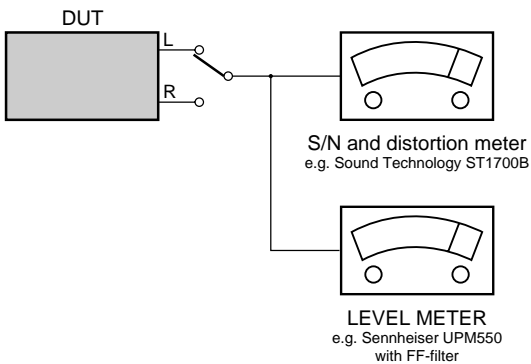
## Tuner AM (MW,LW)



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).

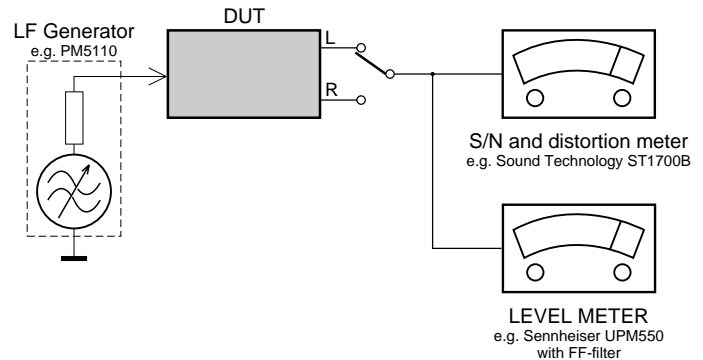
## CD

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

### Cassette:

SBC419 Test cassette CrO2 .....	4822 397 30069
SBC420 Test cassette Fe .....	4822 397 30071
MTT150 Dolby level 200nWb/M .....	4822 397 30271

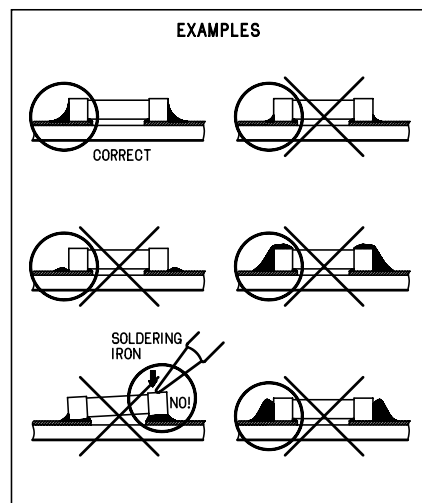
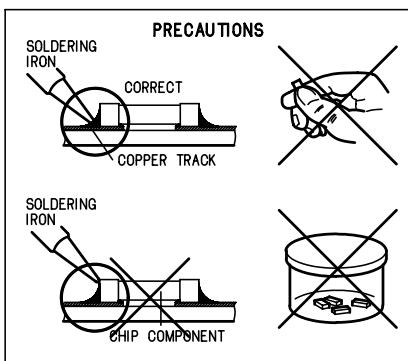
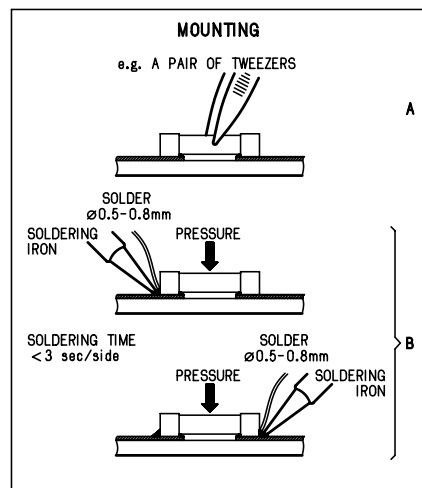
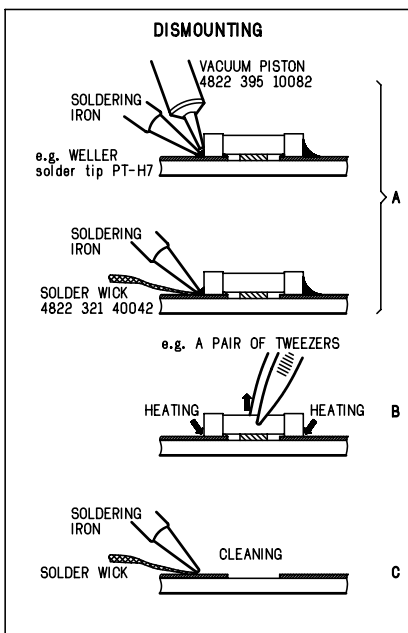
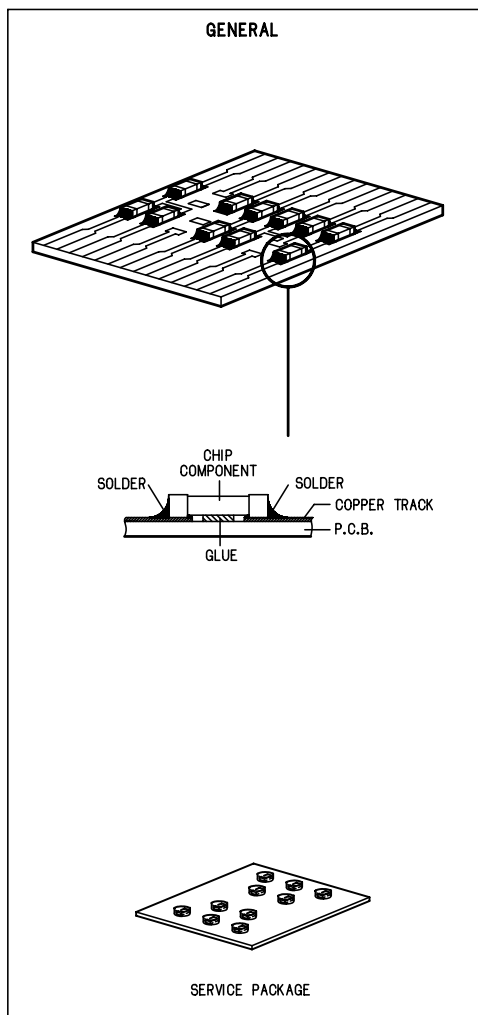
### Compact Disc:

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

### ESD Equipment:

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

## HANDLING CHIP COMPONENTS



**GB WARNING**

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.

When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance.

Keep components and tools also at this potential.

**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 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).

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 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 bracciale a resistenza.

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

**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.

Les 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 spärren är urkopplad. Betrakta ej strålen.

**SF Varoitus !**

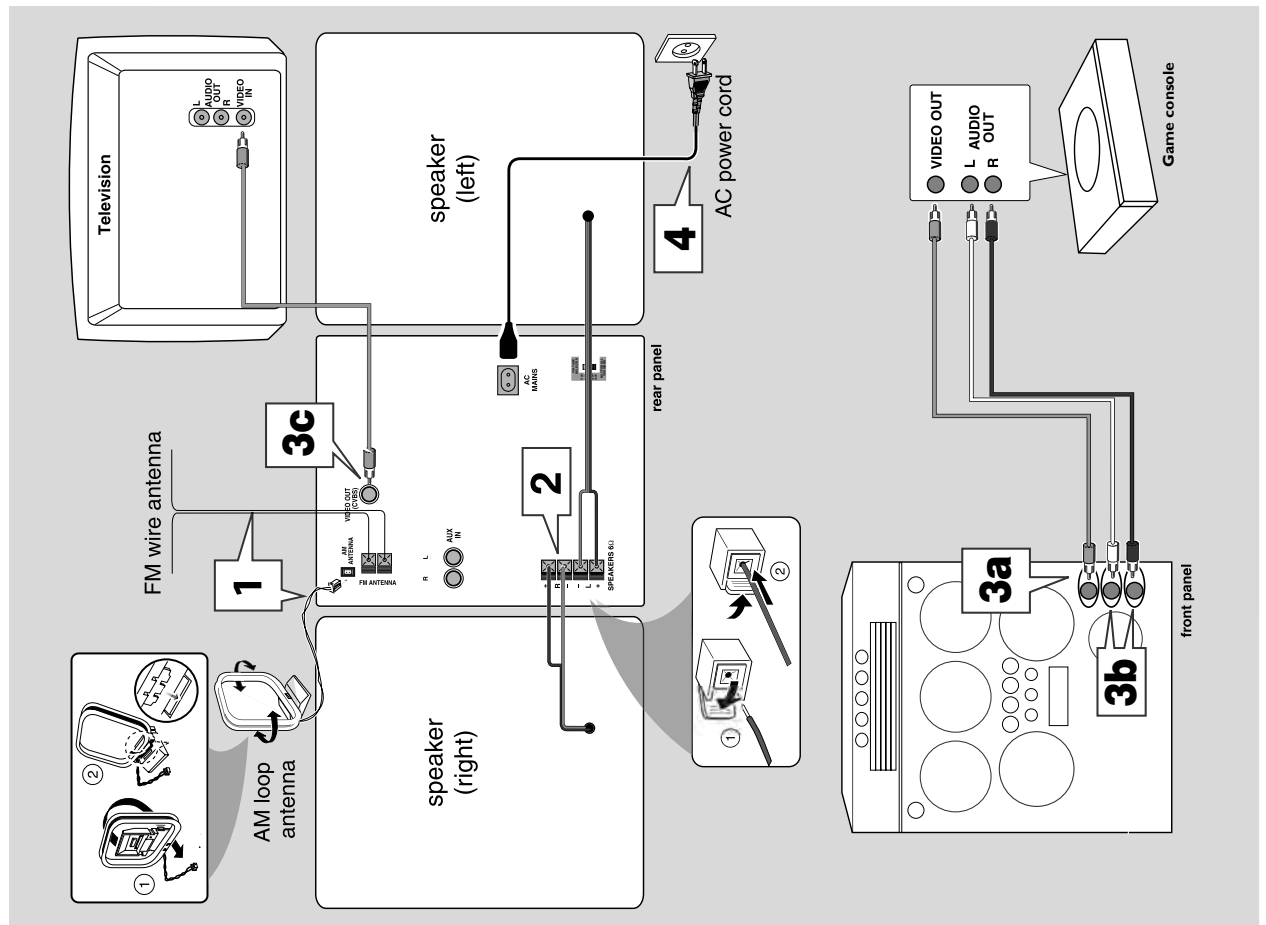
Avatussa laitteessa ja suojalukituksen ohitettaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso säteeseen!

**DK Advare !**

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

**F**

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



**Warning!**

- Use only the supplied speakers. The combination of the main unit and speakers provides the best sound. Using other speakers can damage the unit and sound quality will be negatively affected.
- Never make or change connections with the power switched on.
- Connect the AC power cord to the power outlet only after you have finished hooking up everything.
- To avoid overheating of the system, a safety circuit has been built in. Therefore, your system may switch to Standby mode automatically under extreme conditions. If this happens, let the system cool down before reusing it (not available for all versions).

**Step 1: Connecting FM/AM antennas**

- Place the AM loop antenna on a shelf or attach it to a stand or wall.
- Extend the FM antenna and fix its ends to the wall.
- Adjust the position of the antennas for optimal reception.
- Position the antennas as far as possible from a TV, VCR or other radiation source to prevent unwanted noise.
- For better FM stereo reception, connect external FM antenna.

**Step 2: Connecting the speakers**

Connect the speaker wires to the SPEAKERS terminals, right speaker to "R" and left speaker to "L", colored (marked) wire to "+", and black (unmarked) wire to "-". Fully insert the stripped portion of the speaker wire into the terminal as shown on page 7.

**Notes:**

- Ensure that the speaker cables are correctly connected. Improper connections may damage the system due to short-circuit.
- Do not connect more than one speaker to any one pair of +/- speaker terminals.

**Step 3: Connecting to game console**

**IMPORTANT!**

**Gameport inputs are solely for game console only.**

- Use the game console's video cable (not supplied) to connect its video output to the GAMEPORT-VIDEO terminal.
- Use the game console's audio cables (not supplied) to connect its audio outputs to the GAMEPORT-AUDIO L./AUDIO R. terminals.
- Use the video cable (yellow) to connect the VIDEO OUT terminal to the video input on the TV for viewing.

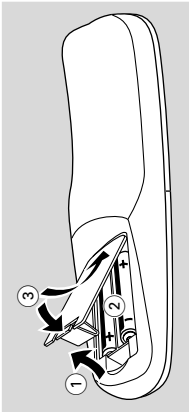
**Notes:**

- On the TV, the Video Input jack is usually yellow and might be labeled AV In, CVBS, Composite or Baseband.
- To avoid magnetic interference, do not position the front speakers too close to your TV.

**Step 4: Connecting the AC power cord**

"AUTO INSTALL - PRESS PLAY" may appear on the display panel when the AC power cord is plugged into the power outlet for the first time. Press ► **II** on the main unit to store all available radio stations or press **■** to exit (refer to 'Tuner Operations').

## Step 5: Inserting batteries into the remote control



- ① Open the battery compartment cover.
- ② Insert two batteries type R06 or AA, following the indications ( + - ) inside the compartment.
- ③ Close the cover.

## Using the remote control to operate the system

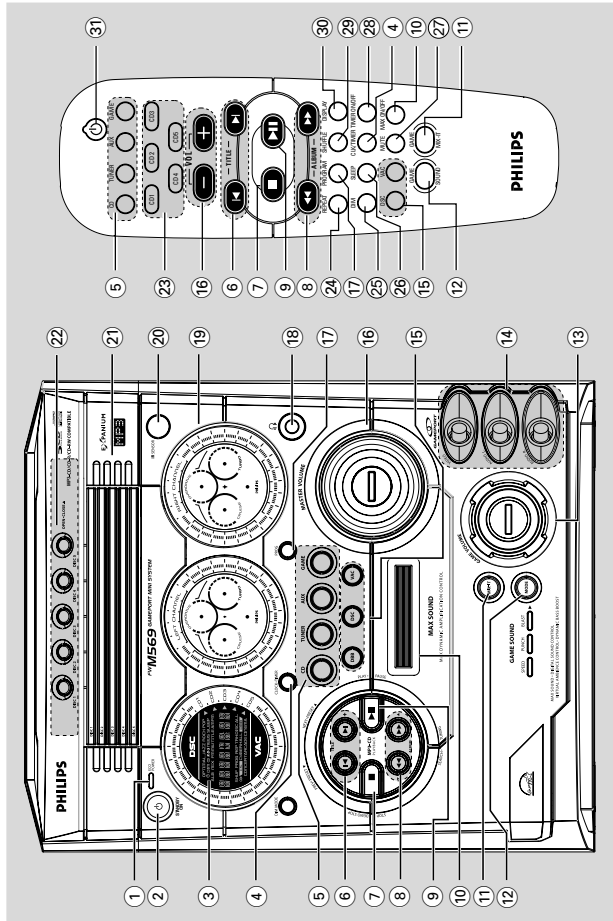
- ① Aim the remote control directly at the remote sensor (IR) on the main unit.
- ② Select the source you wish to control by pressing one of the source select keys on the remote control (for example CD,TUNER).
- ③ Then select the desired function (for example ► II, ◀, ▶).

## CAUTION!

- Remove batteries if they are exhausted or will not be used for a long time.
- Do not use old and new or different types of batteries in combination.
- Batteries contain chemical substances, so they should be disposed of properly.



# Functional Overview



## Main unit and remote control

- ① **ECO POWER indicator**  
Lights up when the system is in the Eco Power standby mode.
- ② **STANDBY ON**   
Switches to the Eco Power standby mode or turns on the system.  
\*Switches to standby mode.
- ③ **Display screen**
- ④ **CLOCK•TIMER (CLK/TIMER)**  
\*Enters clock or timer setting mode.
- ⑤ **CD / TUNER/AUX•GAME**  
Selects the relevant active mode.  
CD: toggles between DISC 1~5.  
TUNER: toggles between FM and AM band.  
AUX•GAME: toggles between AUX and GAMEPORT mode.
- ⑥ **PREV•PRESET ▾ (TITLE -) (◀)**  
CD: selects a track or selects a title from MP3 disc.  
TUNER: selects a preset radio station.  
CLOCK: sets the minutes.
- ⑦ **STOP•DEMO STOP ■**  
Exits an operation.  
CD: stops playback or clears a programme.  
TUNER: \*erases a preset radio station.  
*(only on the main unit)*  
\*Turns on/off the demonstration mode.
- ⑧ **SEARCH•TUNING (ALBUM/PLAYLIST ▼▲) (◀▶▶▶)**  
CD: \*searches backward/forward or selects an album from MP3 disc.  
TUNER: tunes the radio frequency up/down.  
CLOCK: sets the hours.

# Functional Overview

- ⑨ **PLAY•PAUSE ▶ II**  
CD: starts/pauses playback  
*(only on the main unit)*  
TUNER: \*enters Plug & Play mode and/or starts preset radio station installation.
  - ⑩ **MAX SOUND (MAX ON/OFF)**  
Turns on/off the optimal mix of various sound features.
  - ⑪ **MIX IT (GAME MIX IT)**  
Mixes the game sound with your favorite music from one of these music sources (CD, TUNER or AUX).
  - ⑫ **MODE (GAME SOUND)**  
Selects different type of equaliser setting for Gameport (SPEED, PUNCH or BLAST).
  - ⑬ **GAME VOLUME**  
Adjusts the game's output volume level.
  - ⑭ **VIDEO**  
Use a video cable to connect to your game console's video output.
  - AUDIO L. / AUDIO R.**  
Use an audio cable to connect to your game console's left/right audio output.
  - ⑮ **DBB**  
Selects different type of bass boost level settings (DBB 1, DBB 2, DBB 3 or DBB OFF).
  - DSC/PRESET**  
Selects different type of preset sound equaliser settings (OPTIMAL, JAZZ, ROCK or POP).
  - VAC/REVERB**  
Selects different type of ambience-based equaliser settings (HALL, CINEMA, CONCERT, CYBER or ARCADE).
  - ⑯ **MASTER VOLUME (VOL + -)**  
Adjusts the volume level.
  - ⑰ **PROG (PROGRAM)**  
CD: starts or confirms tracks programming.  
TUNER: starts \*automatic/manual preset programming.  
CLOCK: selects 12- or 24-hour clock display.
  - ⑱ **PLAY-PAUSE ▶ II**  
Indicates signal strength of left/right channel.
  - ⑳ **IR SENSOR**  
Point the remote control towards this sensor.
  - ㉑ **Disc trays (1~5)**
  - ㉒ **OPEN•CLOSE ▲ (DISC 1~5)**  
Opens/closes the respective disc tray.
- ## Control buttons available on the remote control only
- ㉓ **CD 1~5**  
Selects a disc tray to playback.
  - REPEAT**  
Repeats a track/disc/all programmed tracks.
  - DIM**  
Turns on/off the dim mode.
  - ㉔ **SLEEP**  
Sets the sleep timer function.
  - MUTE**  
Mutes or restores the volume.
  - ㉕ **TIMER ON/OFF**  
Turns on/off the timer function.
  - ㉖ **SHUFFLE**  
Turns on/off the random play mode.
  - ㉗ **DISPLAY**  
Displays the album and title name for MP3 disc.
  - ㉘   
Switches to Eco Power standby mode.  
\*Switches to standby mode.
- \* = Press and hold the button for more than two seconds.

# Troubleshooting

## WARNING

*Under no circumstances should you try to repair the system yourself, as this will invalidate the warranty. Do not open the system as there is a risk of electric shock.*

*If a fault occurs, first check the points listed below before taking the system for repair. If you are unable to remedy a problem by following these hints, consult your dealer or Philips for help.*

Problem	Solution
<b>Radio reception is poor.</b>	If the signal is too weak, adjust the antenna or connect an external antenna for better reception. Increase the distance between the system and your TV or VCR.
<b>“NO DISC” is displayed or the disc cannot be played.</b>	Insert a disc. Load in the disc with the labeled side facing up. Replace or clean the disc, see “Care and safety information”. Use a finalised CD-R(W) or a correct format disc.
<b>The system does not react when buttons are pressed.</b>	Remove and reconnect the AC power cord and switch on the system again.
<b>Sound cannot be heard or is of poor quality.</b>	Adjust the volume. Disconnect the headphones. Check that the speakers are connected correctly. Check that the AC power cord is connected properly.
<b>The remote control does not function properly.</b>	Select the source (CD or TUNER, for example) before pressing the function button (▶ II, ◀◀, ▶▶). Reduce the distance between the remote control and the system. Replace the battery. Point the remote control directly toward the IR sensor.
<b>The timer is not working.</b>	Set the clock correctly. Press TIMER ON/OFF to switch on the timer.
<b>The system displays features automatically and buttons start flashing.</b>	Press and hold DEMO STOP on the main unit to switch off the demonstration mode.

Refer to the FAQ (Frequently Asked Questions) on the supplied CD-ROM or visit our website [www.audio.philips.com](http://www.audio.philips.com) for latest update on FAQ.

## DISMANTLING INSTRUCTIONS

### Dismantling of the 5DTC Module

- 1) Loosen 4 screws to remove the Cover Top (pos 255) by sliding it out towards the rear before lifting up.
  - 2 screws on the rear
  - 1 screw each on the left & right side
- 2) Loosen 3 screws each to remove the Panel Left (pos 253) and Panel Right (pos 254). The Panels are removed by sliding it towards the rear and outwards.
  - 2 screws on the rear
  - 1 screw on the side
- 3) To loosen the Panel Front Display (pos 120), you have to press in the correct direction and position as shown in Figure 1 and Figure 2. Once the Panel Front Display is loosened, remove it out in the direction as shown in Figure 3.
- 4) Loosen 4 screws A (see Figure 4 and Figure 16) to remove the 5DTC Module (pos 1105).
  - 2 screws on the front
  - 2 screws on the rear

*Note : For information on the 'Emergency opening of the trays' of the 5DTC Module, refer to Chapter 10 (Page 10-7).*



Figure 1



Figure 2



Figure 3

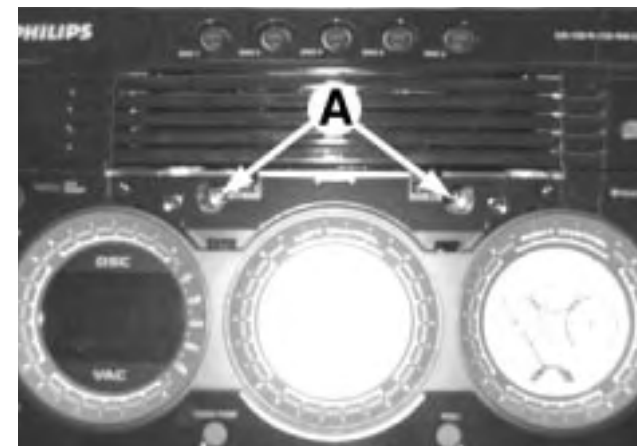


Figure 4

### Detaching the Front Panel assembly from the Bottom/Rear assembly

- 1) Remove 2 screws B (pos 226) as shown in Figure 5 from the bottom of the Cabinet Front (pos 101).
- 2) Release the fixation of the AF Board (pos1102-A) to Bracket CDC Right (pos 186) by releasing the 2 catches C1 (see Figure 7) and pulling the AF Board outwards as shown in Figure 6.
- 3) Uncatch 2 catches C2 (see Figure 7) on the left & right sides of the Cabinet Front (pos 101) and slides the Front Panel assembly out towards the front.

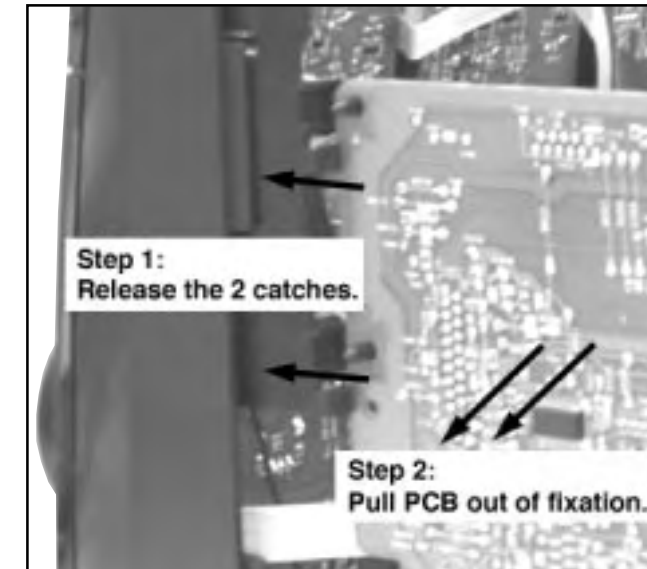


Figure 6

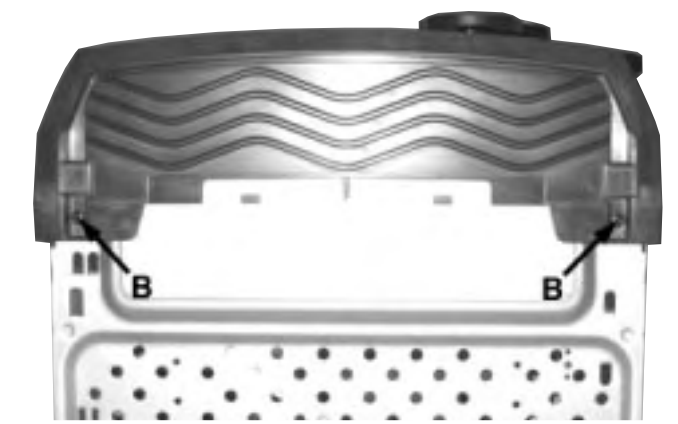


Figure 5

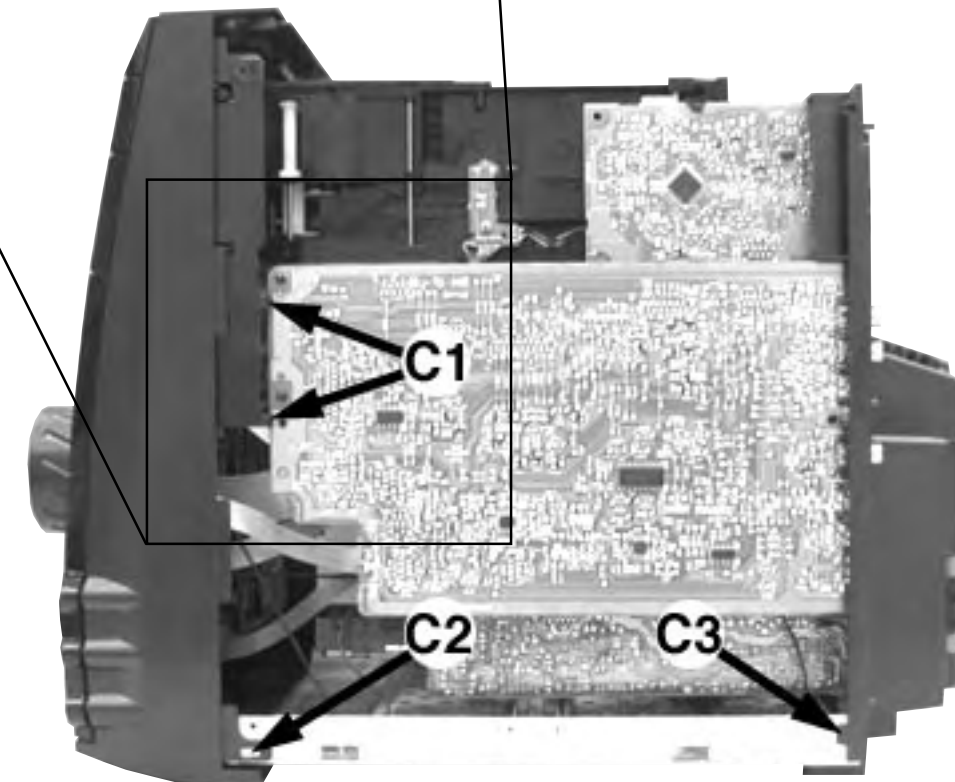


Figure 7

## DISMANTLING INSTRUCTIONS

Dismantling of the Front Control Board and Front Display Board

- 1) The Knob Volume Rotary (pos 164) can be removed by pulling it out in the direction as shown in Figure 8.
- 2) The Knob Game Sound Control (pos 176) can be removed by pulling it out in the direction as shown in Figure 9.

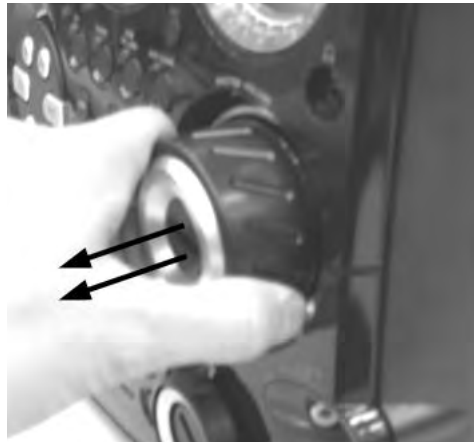


Figure 8



Figure 9

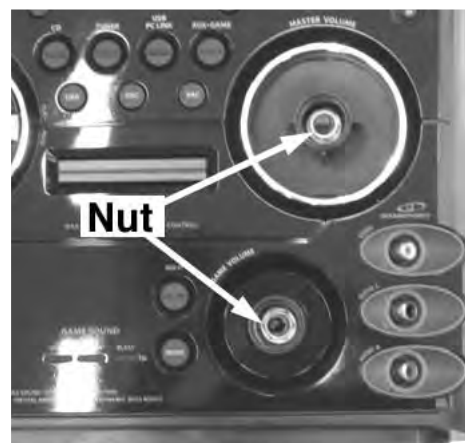


Figure 10

- 3) Loosen 4 screws D (see Figure 11) to remove the Bracket PCB Front Display (pos 183) and Front Display Board (pos 1101-A).
- 4) Loosen 1 screw E (see Figure 12) to remove the IR Eye Board (pos 1107-H).
- 5) Loosen 2 screws F (see Figure 12) to remove the ECO Power Board (pos 1107-E).
- 6) Loosen 3 screws G (see Figure 12) to remove the Bracket VU Meter 2 (pos 136) and loosen 2 screws H to remove the VU Meter Right Board (pos 1107-D) from the Bracket VU Meter 2.
- 7) Loosen 3 screws J (see Figure 12) to remove the Bracket VU Meter 1 (pos 129) and loosen 2 screws K to remove the VU Meter Left Board (pos 1107-C) from the Bracket VU Meter 1.
- 8) Loosen 9 screws M (see Figure 13) and loosen the 2 nuts (see Figure 10) to remove the Front Control Board (pos 1107-A).
- 9) Loosen 1 screw N (see Figure 13) to remove the Headphone Board (pos 1107-B).
- 10) Loosen 3 screws P (see Figure 14) to remove the Game Port Board (pos 1107-G).

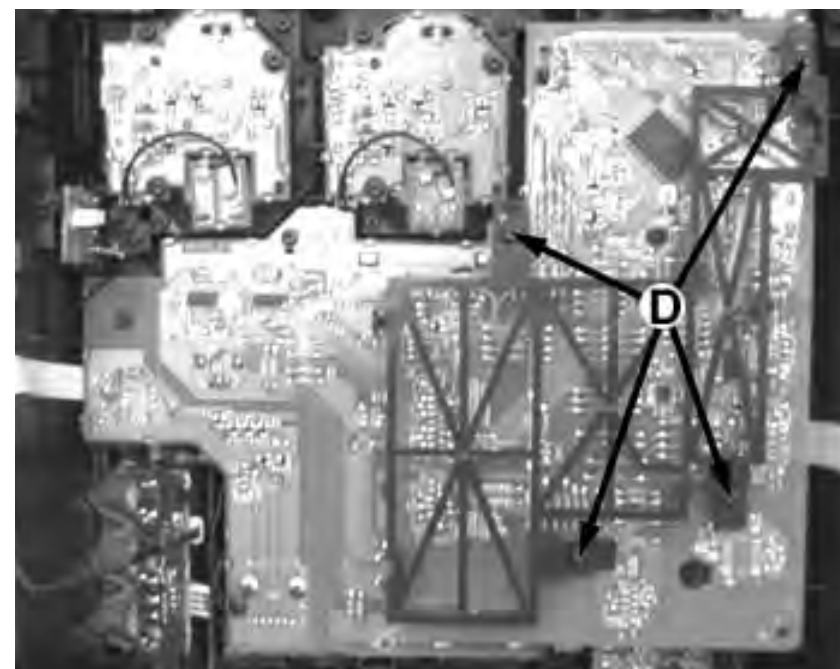


Figure 11

Dismantling of the Front Control Board and Front Display Board

Figure 12

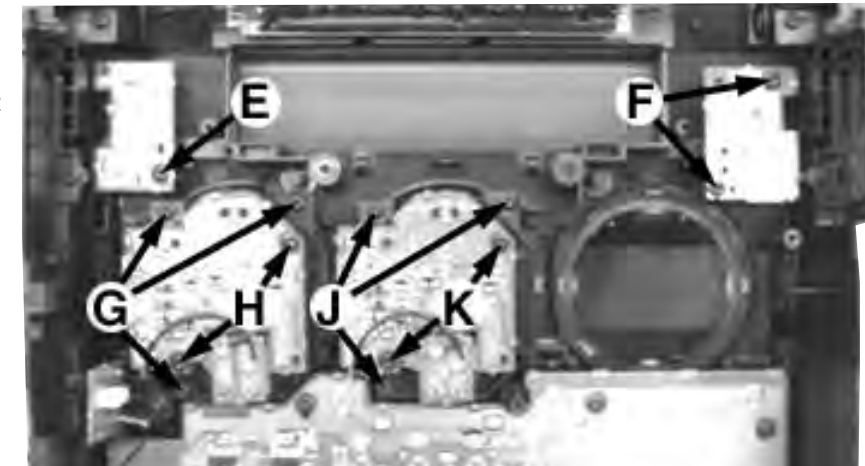


Figure 13

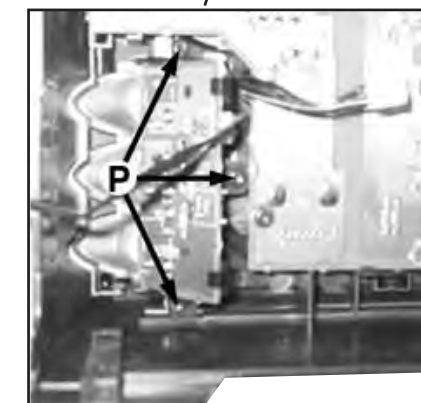
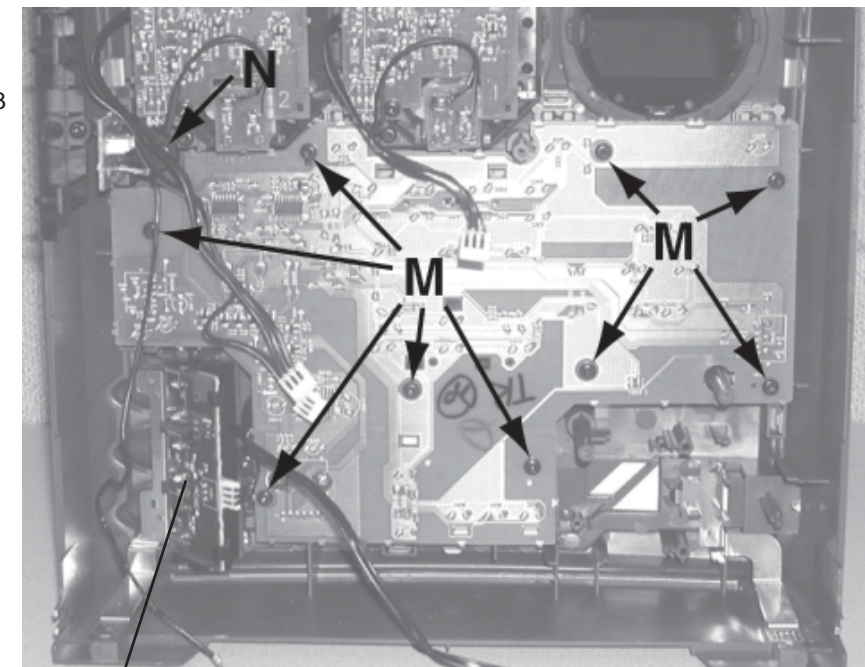


Figure 14

## DISMANTLING INSTRUCTIONS

### *Dismantling of the Rear Panel assembly*

- 1) Loosen 3 screws S and 2 catches C4 (see Figure 16) to remove the Tuner Board assembly.
- 2) Loosen 1 screw T (see Figure 16) to free the AF Board (pos 1102-A).
- 3) Loosen 1 screw U (see Figure 16) to remove the Video Cinch Out Board (pos 1102-B).
- 4) Loosen 1 screw V (see Figure 16) to free the Mains Socket Board (pos 1106-1001-B).
- 5) Loosen 4 screws W (see Figure 16) and 2 catches C3 (see Figure 7) to remove the Panel Rear (pos 256) by sliding it out towards the rear (see Figure 19).  
*Note : Tuner Board assembly and Mains Socket Board can also be remove together with the Panel Rear.*
- 6) Loosen 4 screws Z (see Figure 16) and 4 catches C5 (see Figure 17) to remove the Fan (pos 1008).

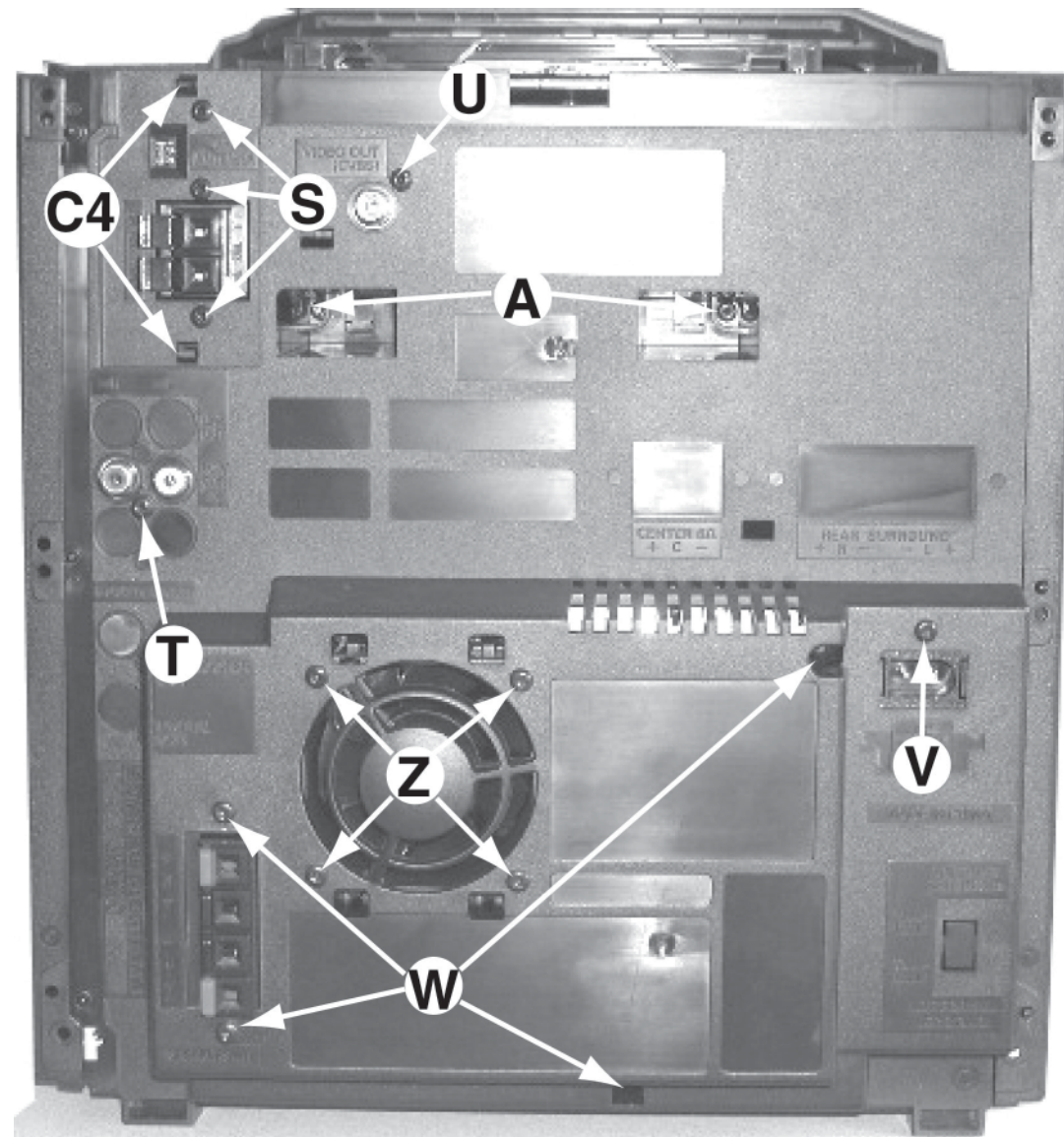


Figure 16

### *Dismantling of the Rear Panel assembly*

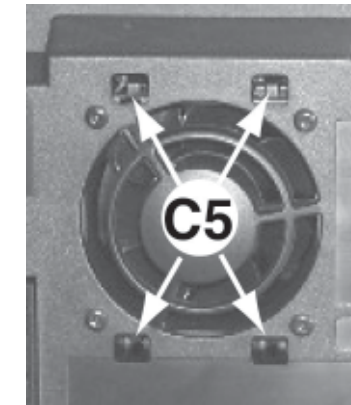


Figure 17

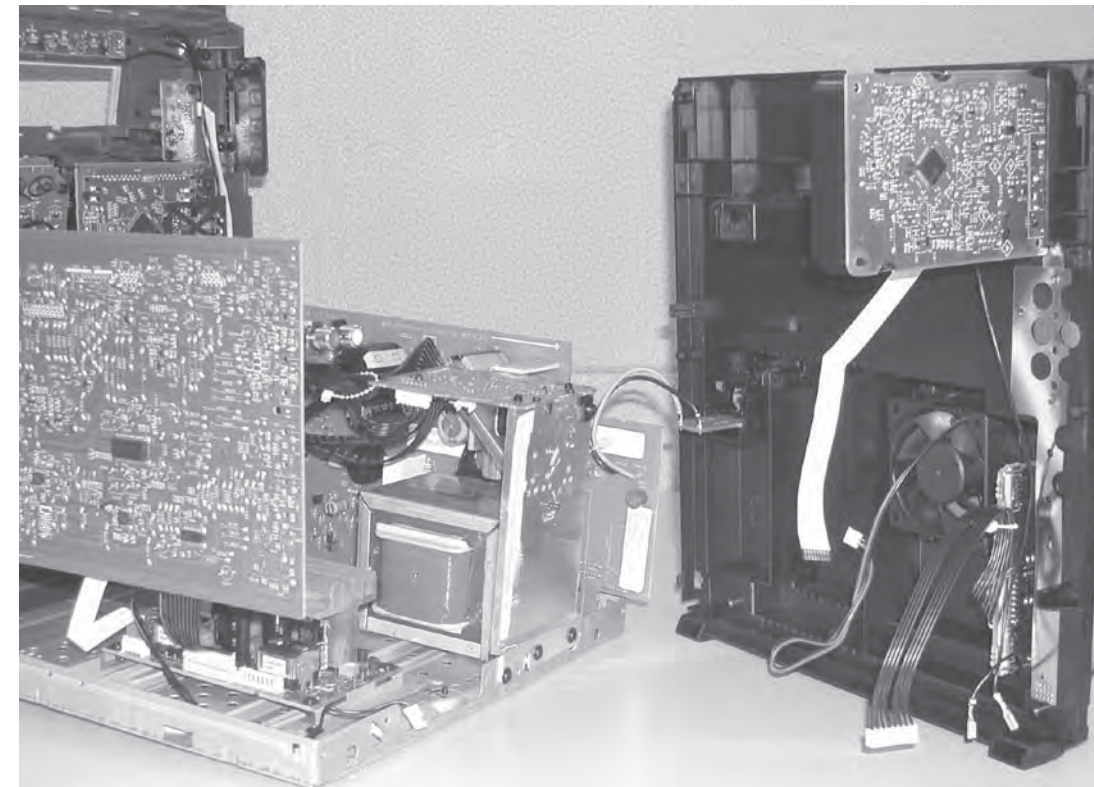


Figure 18

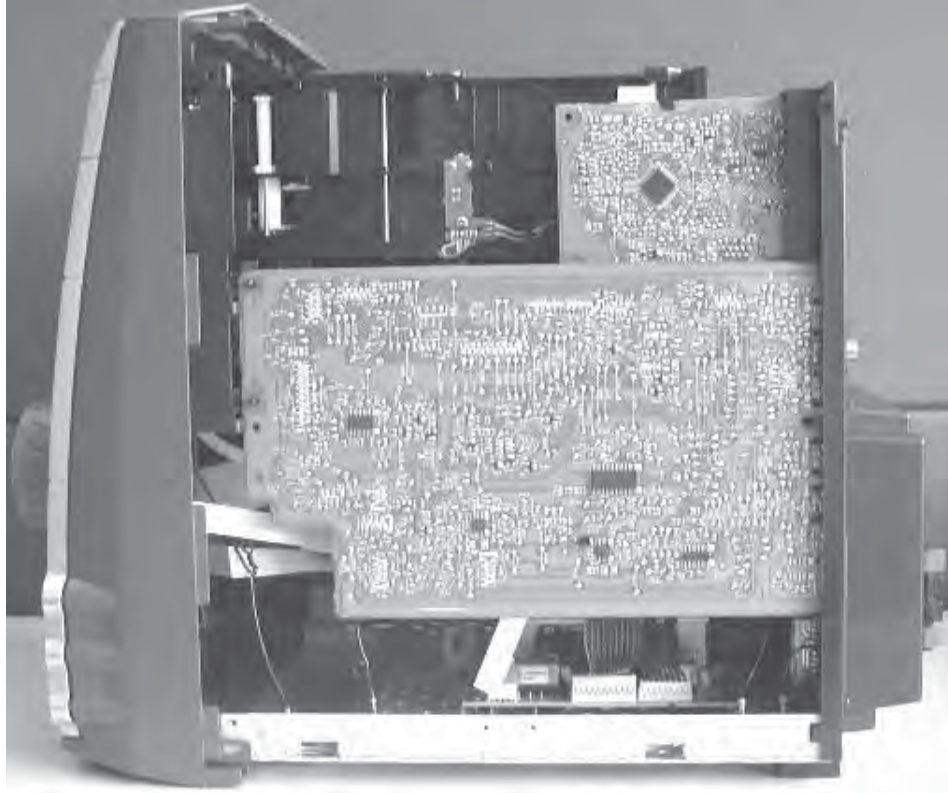
### *Repair Hints*

- 1) During repair it is possible to disconnect the ECO6 Tuner board and/or 5DTC Module completely unless the fault is suspected to be in that area. This will not affect the performance of the rest of the set.

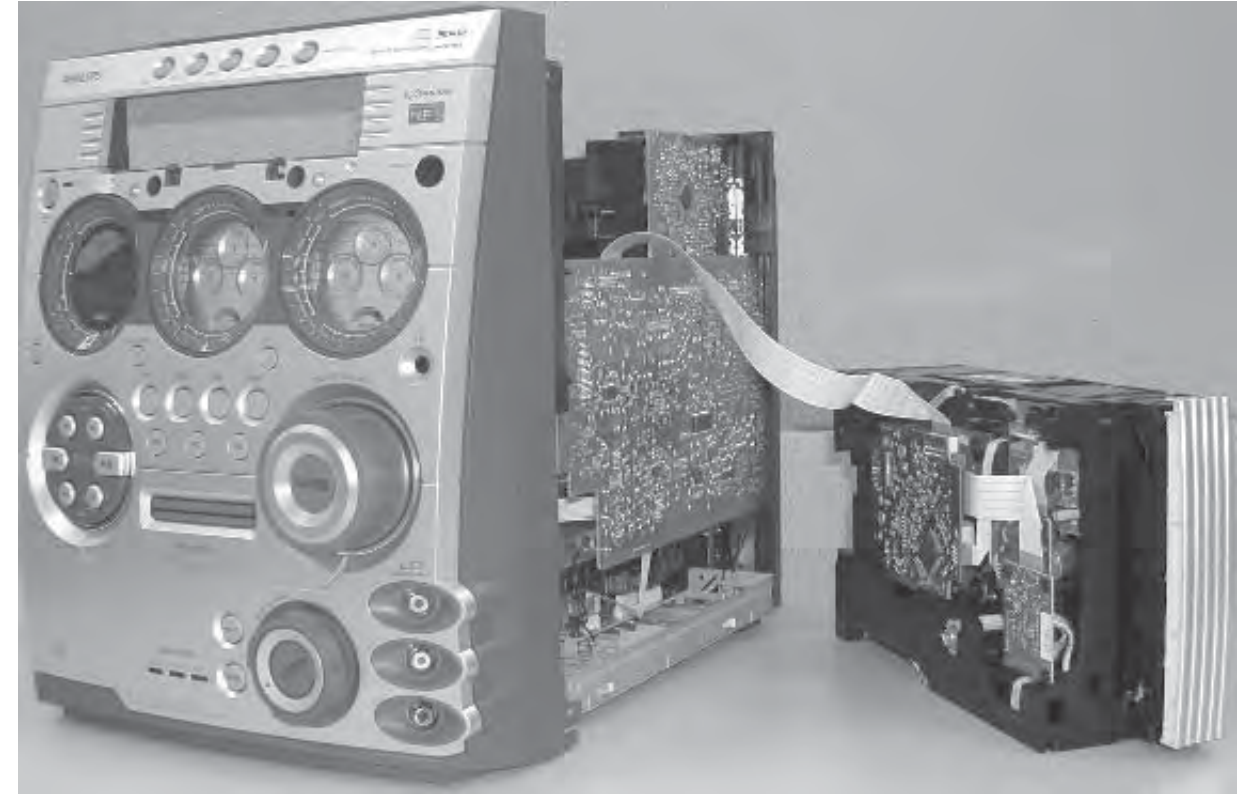
**Note:** The flex cables are very fragile, care should be taken not to damage them during repair. After repair, be very sure that the flex cables are inserted properly into the flex sockets before encasing, otherwise faults may occur.

# DISMANTLING INSTRUCTIONS

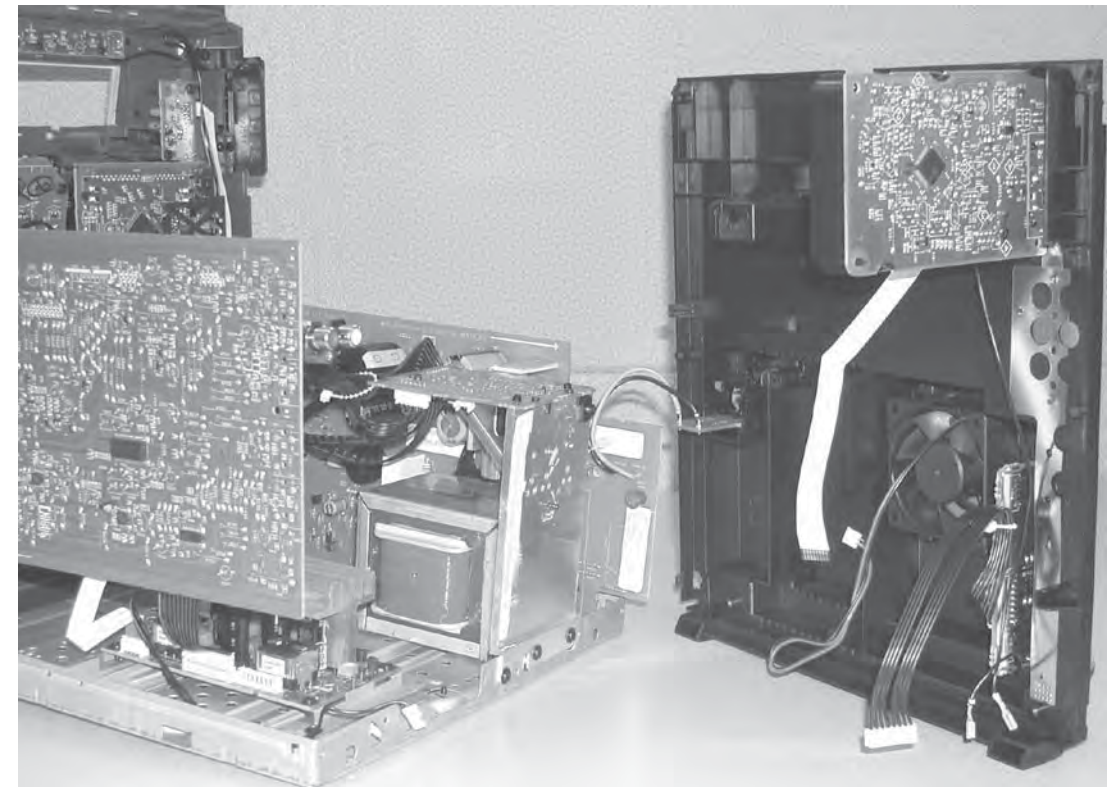
Service position A



Service position B



Service position C



**SERVICE TEST PROGRAM**

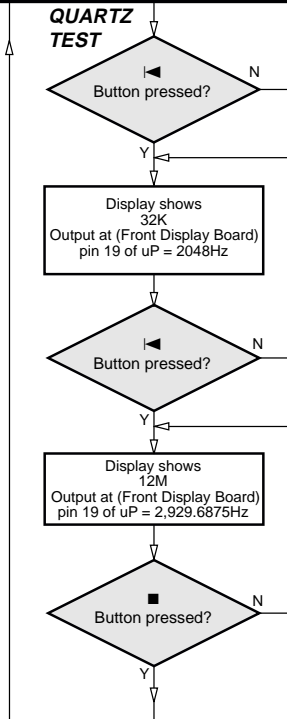
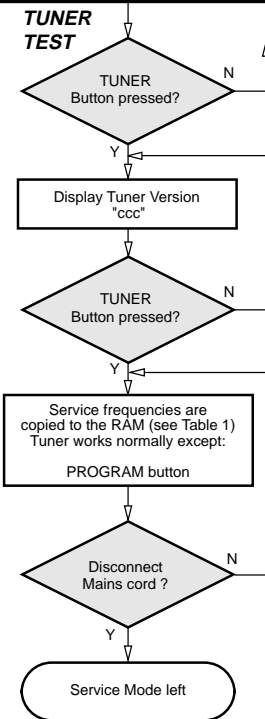
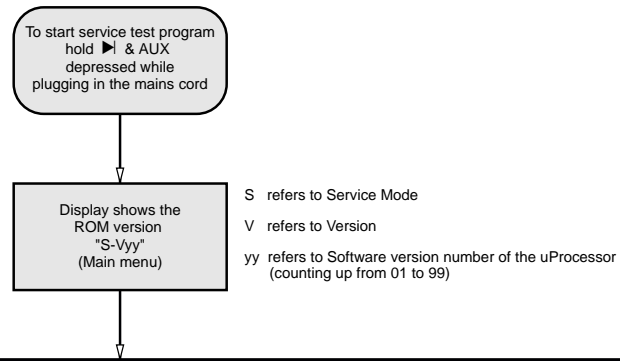


Figure 1

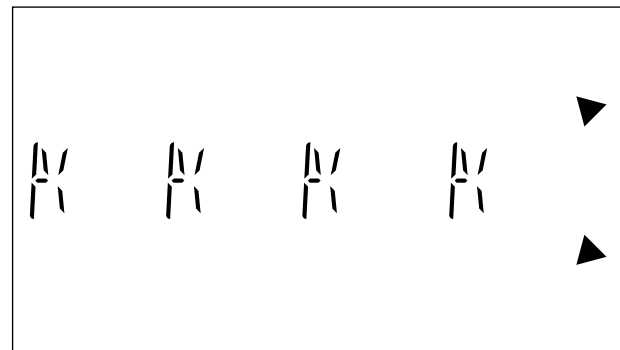
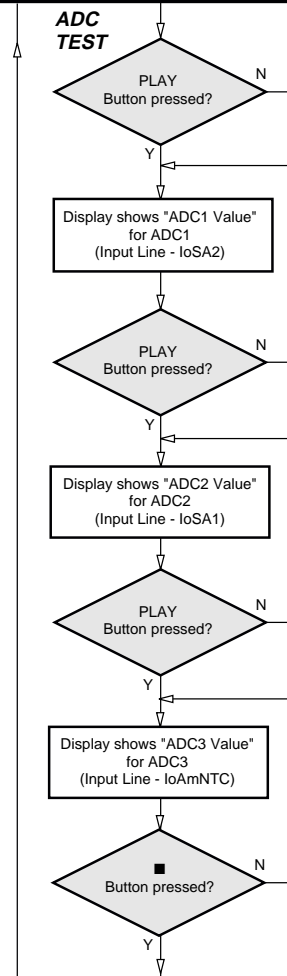
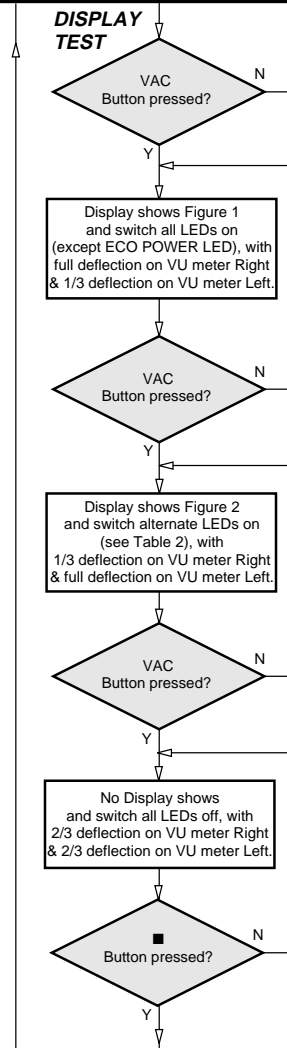


Figure 2



ADC Test is used for checking the ADC inputs to the microprocessor.

The display shows an ADC value between 0 and 255 for an input signal between 0 and 5V.

Various other Tests

PRESET	Europe "EUR"	USA "USA"	Oversea "OSE"
1	87.5MHz	87.5MHz	87.5MHz
2	108MHz	108MHz	108MHz
3	531kHz	530kHz	531/530kHz*
4	1602kHz	1700kHz	1602/1700kHz*
5	558kHz	560kHz	558/560kHz*
6	1494kHz	1500kHz	1494/1500kHz*
7	153kHz	98MHz	87.5/98MHz*
8	279kHz	87.5MHz	87.5MHz
9	198kHz	87.5MHz	87.5MHz
10	98MHz	87.5MHz	87.5MHz
11	87.5MHz	87.5MHz	98/87.5MHz*

Table 1

Note:  
 \* Depending on the selected grid frequency (9 or 10kHz).  
 By holding the TUNER and <right arrow> buttons depressed while switching on the Mains supply, the tuning grid frequency is toggled between 9kHz and 10kHz for the Oversea (/21) version.

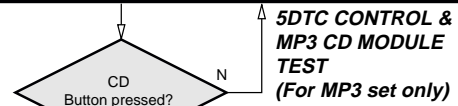
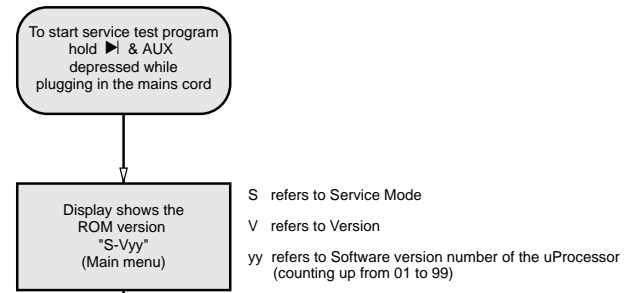
LEDs	FW-C557	FW-C577	FW-M569 FW-M587	FW-C777 FW-M777
CD	-	-	-	OFF
TUNER	-	-	-	ON
AUX / GAME	-	-	-	OFF
USB PC LINK	-	-	-	OFF
DISC 1	-	ON	ON	ON
DISC 2	-	OFF	OFF	OFF
DISC 3	-	ON	ON	ON
DISC 4	-	OFF	OFF	OFF
DISC 5	-	ON	ON	ON
^^ MAX 1 (WOOX 1)	OFF	OFF	OFF	OFF
^^ MAX 2 (WOOX 2)	ON	ON	ON	ON
^^ MAX 3 (WOOX 3)	OFF	OFF	OFF	OFF
SPEED	ON	ON	ON	ON
PUNCH	OFF	OFF	OFF	OFF
BLAST	OFF	OFF	OFF	OFF
USB Indicator	-	OFF	OFF	OFF

Table 2

^^ MAX - FW-C557, FW-C577, FW-C579, FW-M567, FWM569, FWM587, FWM589  
 WOOX - FW-C777, FW-M777

TEST	Activated with	ACTION
EEPROM TEST	<right arrow> ■ to Exit	A test pattern will be sent to the EEPROM. "PASS" is displayed if the uProcessor read back the test pattern correctly, otherwise "FAIL" will be displayed.
EEPROM FORMAT TEST	<left arrow>	Load default data. Display shows "NEW" for 1 second. <b>Caution! All presets from the customer will be lost!!</b>
DEMO TOGGLE	^^ MAX (WOOX 2)	Pressing this button will toggle between DEMO ON and DEMO OFF. The DEMO status will scroll once across the Display.
ROTARY ENCODER TEST	Rotary Volume Knob	Display shows value for 2 seconds. Values increases or decreases until Volume Maximum (VOL MAX) or Volume Minimum (VOL MIN) is reached.
LEAVE SERVICE TEST PROGRAM	Disconnect mains cord	

**SERVICE TEST PROGRAM**

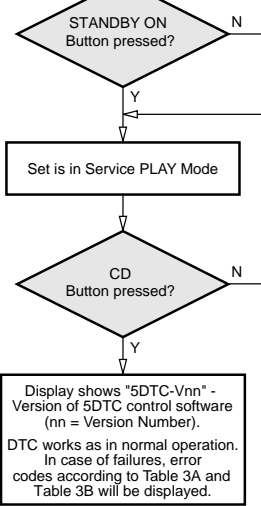


Note : Disc should be available on the tray before entering the Service Test Mode.

STEP	DISPLAY	MESSAGE		ACTION
		OKAY	ERROR	
1	5DTC-Vnn	-	5DTC-ER	Version of the 5DTC control software (nn = Version Number).
2	MP3CD'02	-	-	Indicates the module used.
**3	TI-Vnn	-	-	Version of the MPEG software (nn = Version Number).
**4	TI BUS	BUS OK	BUS ER	Communication test between the Main uP and CD Module
**5	TI SLD I	-	-	CD SLEDGE MOTOR is moved in.
**6	TI SLD O	-	-	CD SLEDGE MOTOR is moved out.
**7	TI FOC	FOC OK	FOC ER	FOCUS SERVO Test.
				Press ■ to exit

\*\* Choose level by pressing  
 ←  
 ↑  
 ↓  
 →

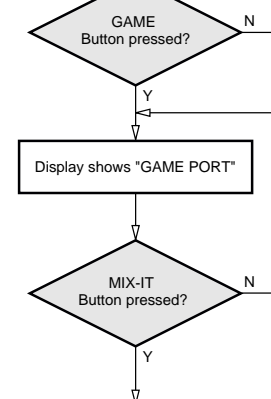
**SERVICE PLAY MODE (For non MP3 set only)**



The Service Play Mode is intended to detect and identify the failures in the CD Mode.

In this mode the DTC works as in normal operation. The electronics will still function even when an error is detected so that repair activities can be carried out.

**GAME PORT TEST**



Choose desired background source by pressing button

" MIX-IT "



STEP	DISPLAY (SCROLL ONCE)	ACTION
1	MIX-CD	Select CD as background sound source. Press PLAY to play the track.
2	MIX-TU	Select TUNER as background sound source.
3	MIX-AUX	Select AUX as background sound source.
4	MIX-OFF	No mixing.
		Disconnect mains cord to exit

Error code	Error Description
E1000	Focus Error Triggered when the focus cannot be found within a certain time when starting up the CD, or if the focus is lost for more than a certain time during playing of CD.
E1001	Radial Error Triggered when the radial servo is off-track for a certain time during playing of CD.
E1002	Sledge In Error The sledge did not reach its inner position (inner-switch is still close) before approximately 6 seconds have passed by. Inner-switch or sledge motor problem.
E1003	Sledge Out Error The sledge did not come out of its inner position (inner-switch is still open) before approximately 250ms have passed by. Inner-switch or sledge motor problem.
E1005	Jump Error Triggered in normal play when the jump destination could not be found within a certain time.

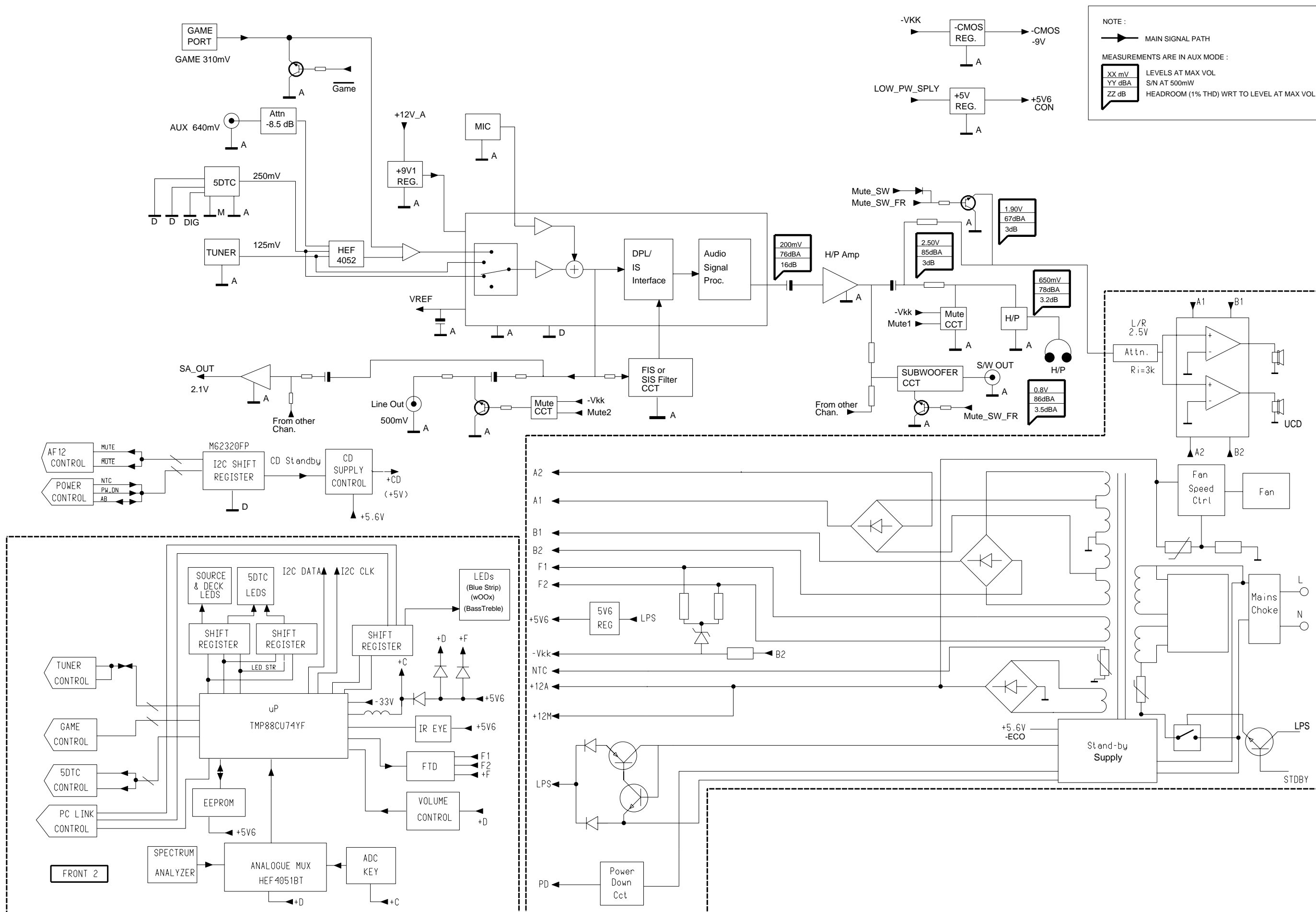
Table 3A

Error code	Error Description
E1006	Subcode Error Triggered when a new subcode was missing for a certain time during playing of CD.
E1007	PLL Error The Phase Lock Loop could not lock within a certain time.
E1008	Turntable Motor Error Generated when the CD could not reached 75% of speed during start-up within a certain time. Disc motor problem.
E1020	Focus Search Error The focus point has not been found within a certain time.
E1061	The tray could not enter the inside position and is opening again. This can happen if the tray is blocked such that it cannot go fully inside, or if the 5DTC control module is defective and never closes.
E1079	The tray could not reach the outside position and is stopped at its blocked position. This can happen if the tray is blocked such that it cannot go fully outside, or if the 5DTC control module is defective and never opens.

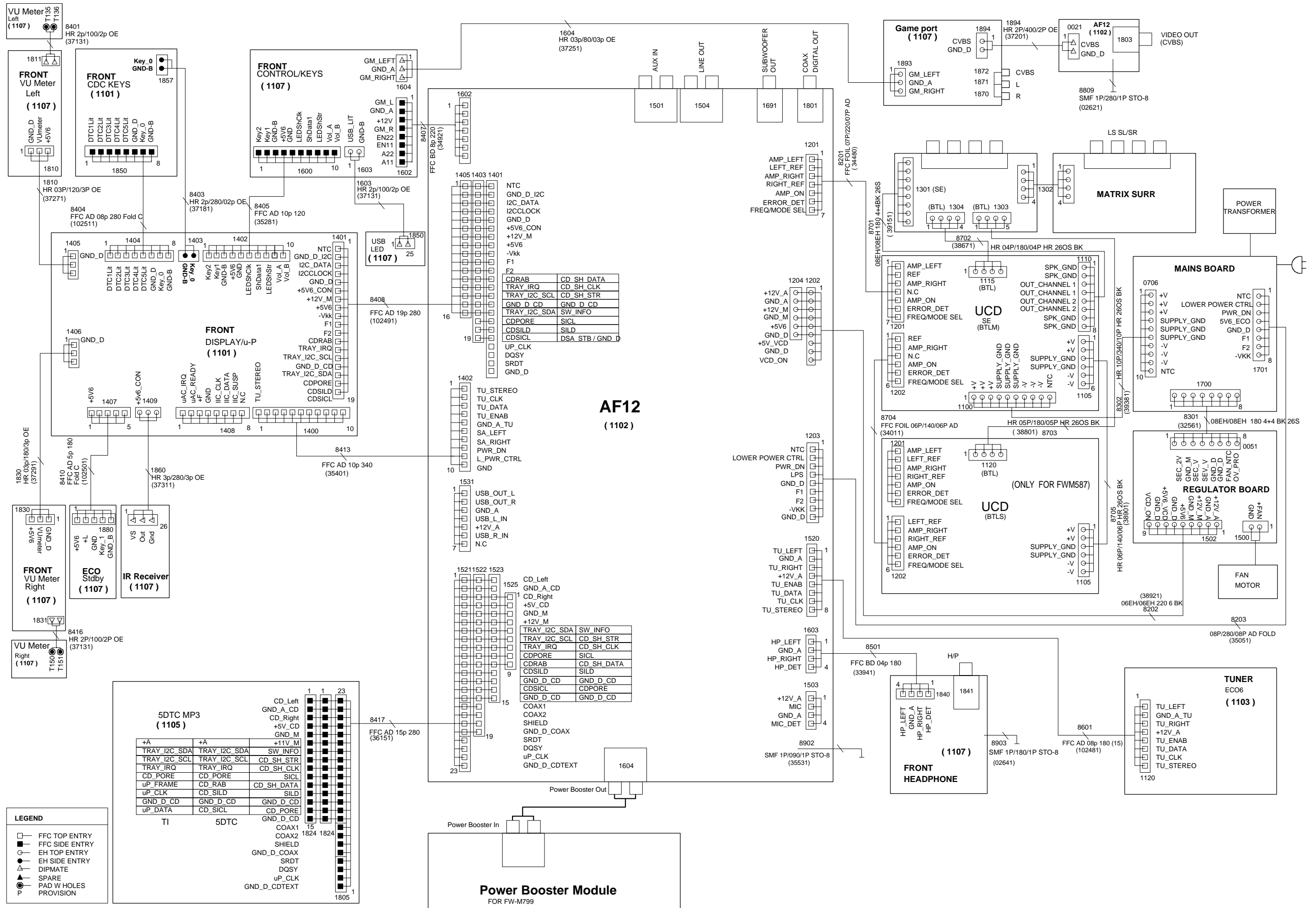
Table 3B



# SET BLOCK DIAGRAM



# SET WIRING DIAGRAM

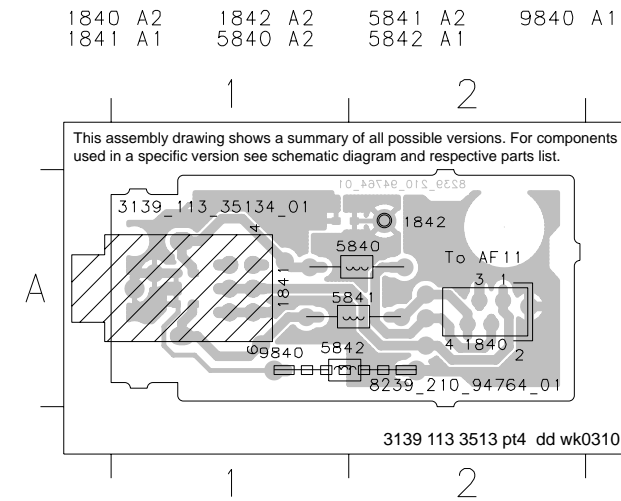


# FRONT CONTROL BOARD

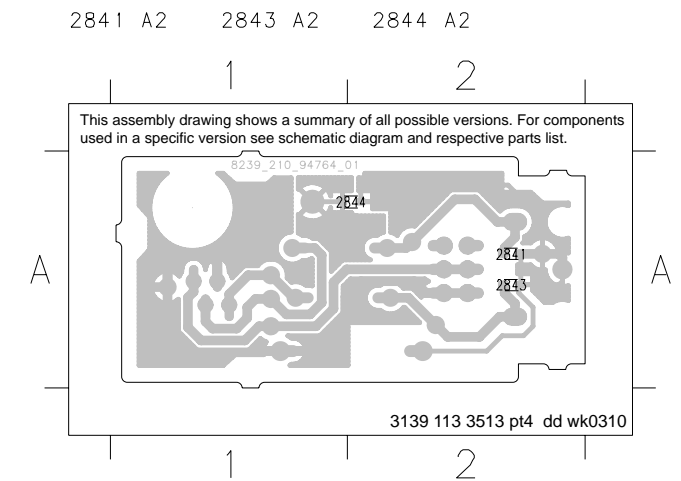
TABLE OF CONTENTS

- Headphone part - Layout & Circuit diagram ..... 5-1
- Control part - Component Layout ..... 5-2
- Control part - Chip Layout ..... 5-3
- Control part - Circuit diagram ..... 5-4
- ECO Power part - Layout & Circuit diagram ..... 5-5
- Game Port part - Layout & Circuit diagram ..... 5-5
- VU Meter (Left) part - Layout & Circuit diagram ..... 5-6
- VU Meter Housing (Left) part - Layout & Circuit ..... 5-6
- VU Meter (Right) part - Layout & Circuit diagram ..... 5-7
- VU Meter Housing (Right) part - Layout & Circuit ..... 5-7
- IR Eye part - Layout & Circuit diagram ..... 5-8
- USB LED part - Layout & Circuit diagram ..... 5-8
- Electrical parts list ..... 5-9

## HEADPHONE BOARD - COMPONENT LAYOUT

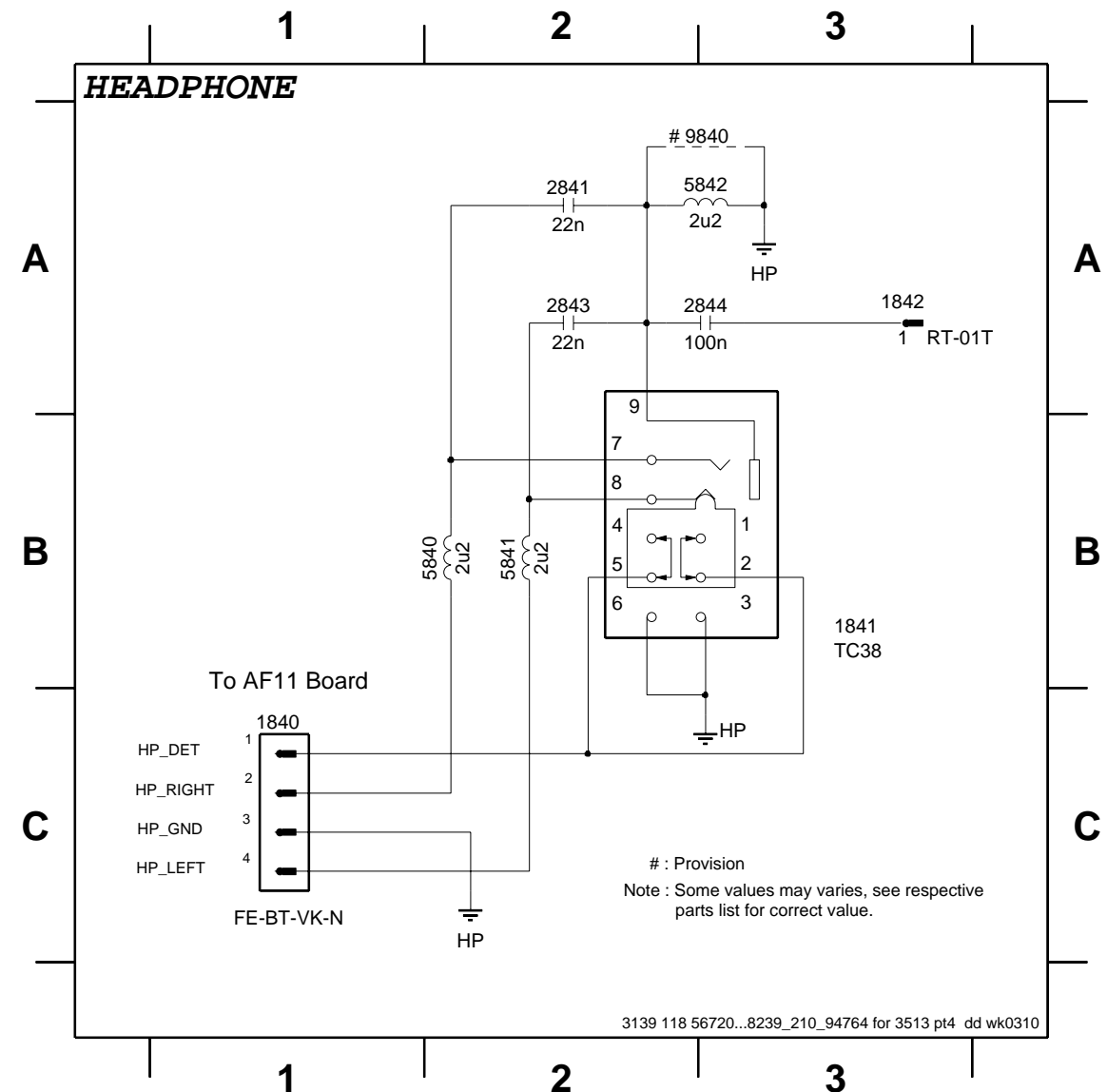


## HEADPHONE BOARD - CHIP LAYOUT



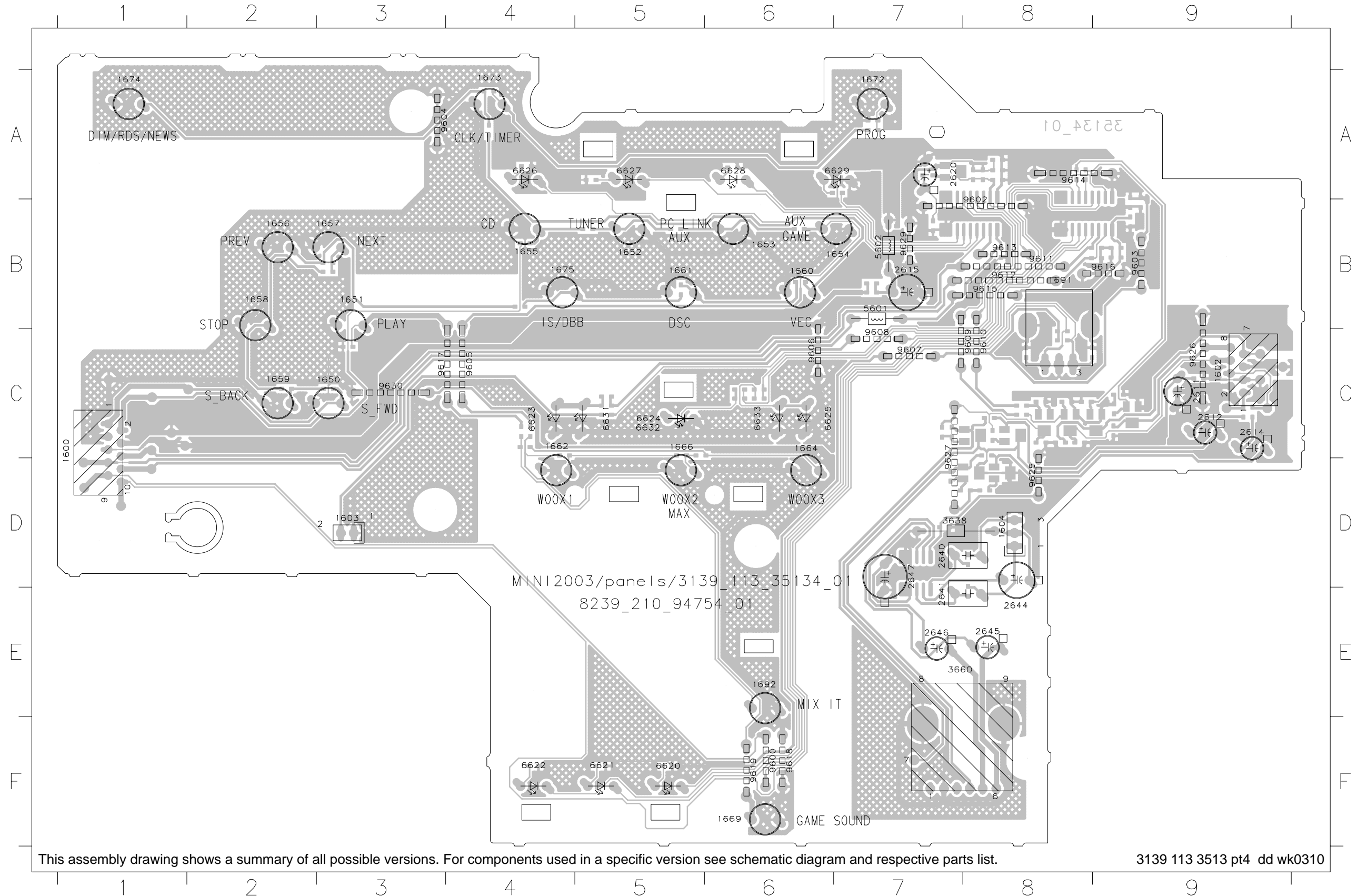
## HEADPHONE BOARD - CIRCUIT DIAGRAM

1840 C1    1841 B3    1842 A3    2841 A2    2843 A2    2844 A3    5840 B2    5841 B2    5842 A3    9840 A3



# CONTROL BOARD - COMPONENT LAYOUT

1600 C1	1651 B3	1656 B2	1661 B5	1672 A7	1692 E6	2620 A7	2646 E7	5602 B7	6624 C5	6629 A7	9602 B8	9607 C7	9612 B8	9617 C3	9627 C7
1602 C9	1652 B5	1657 B3	1662 C4	1673 A4	2611 C9	2640 D7	2647 D7	6620 F5	6625 C6	6631 C5	9603 B9	9608 C7	9613 B8	9618 F6	9629 B7
1603 D3	1653 B6	1658 B2	1664 C6	1674 A1	2612 C9	2641 E7	3638 D7	6621 F5	6626 A4	6632 C5	9604 A3	9609 C8	9614 A8	9619 F6	9630 C3
1604 D8	1654 B7	1659 C2	1666 C5	1675 B4	2614 C9	2644 E8	3660 E7	6622 F4	6627 A5	6633 C6	9605 C4	9610 C8	9615 B8	9625 D8	
1650 C3	1655 B4	1660 B6	1669 F6	1691 B8	2615 B7	2645 E8	5601 B7	6623 C4	6628 A6	9600 F6	9606 C6	9611 B8	9616 B9	9626 C9	

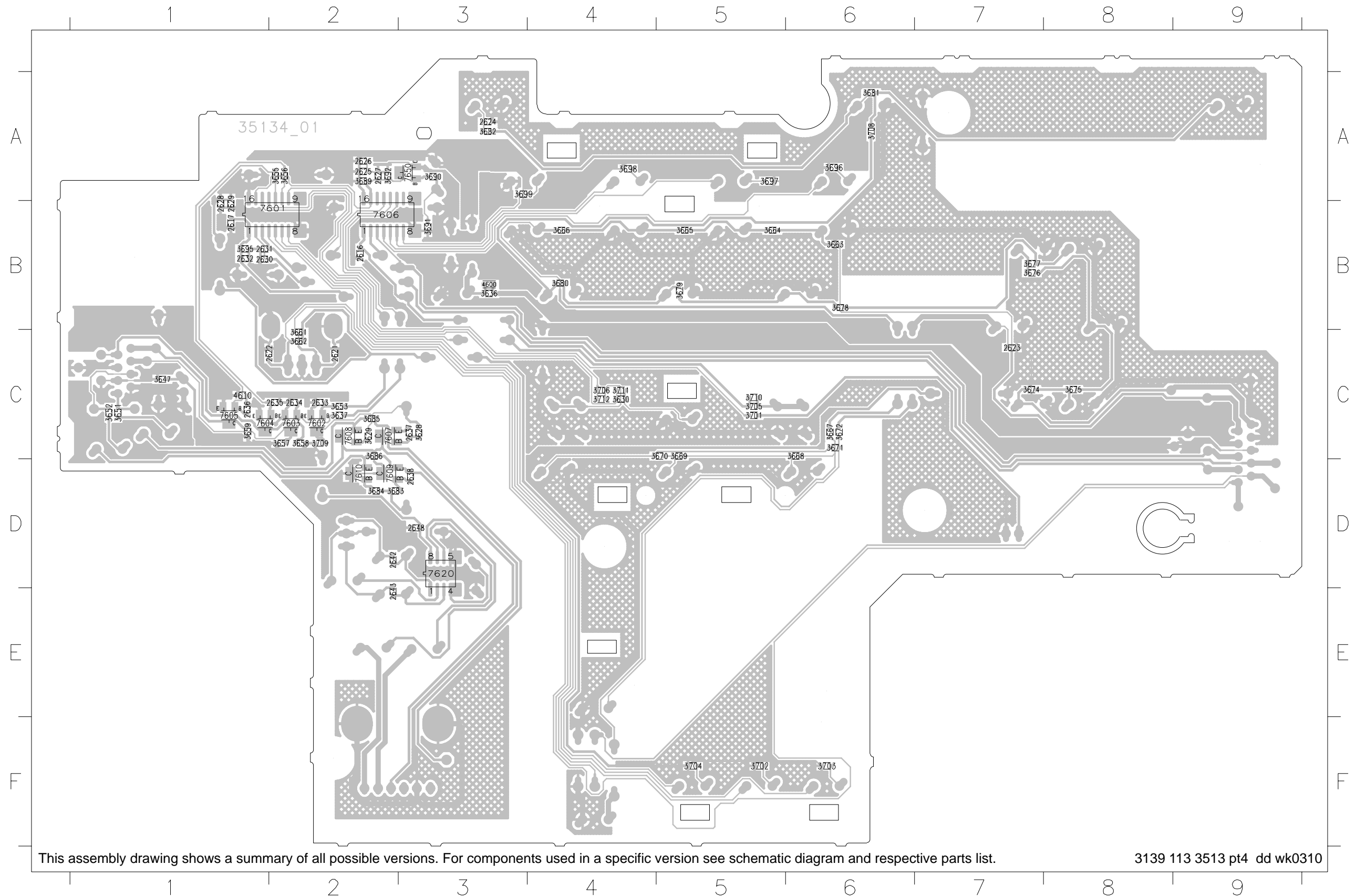


This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram and respective parts list.

3139 113 3513 pt4 dd wk0310

### CONTROL BOARD - CHIP LAYOUT

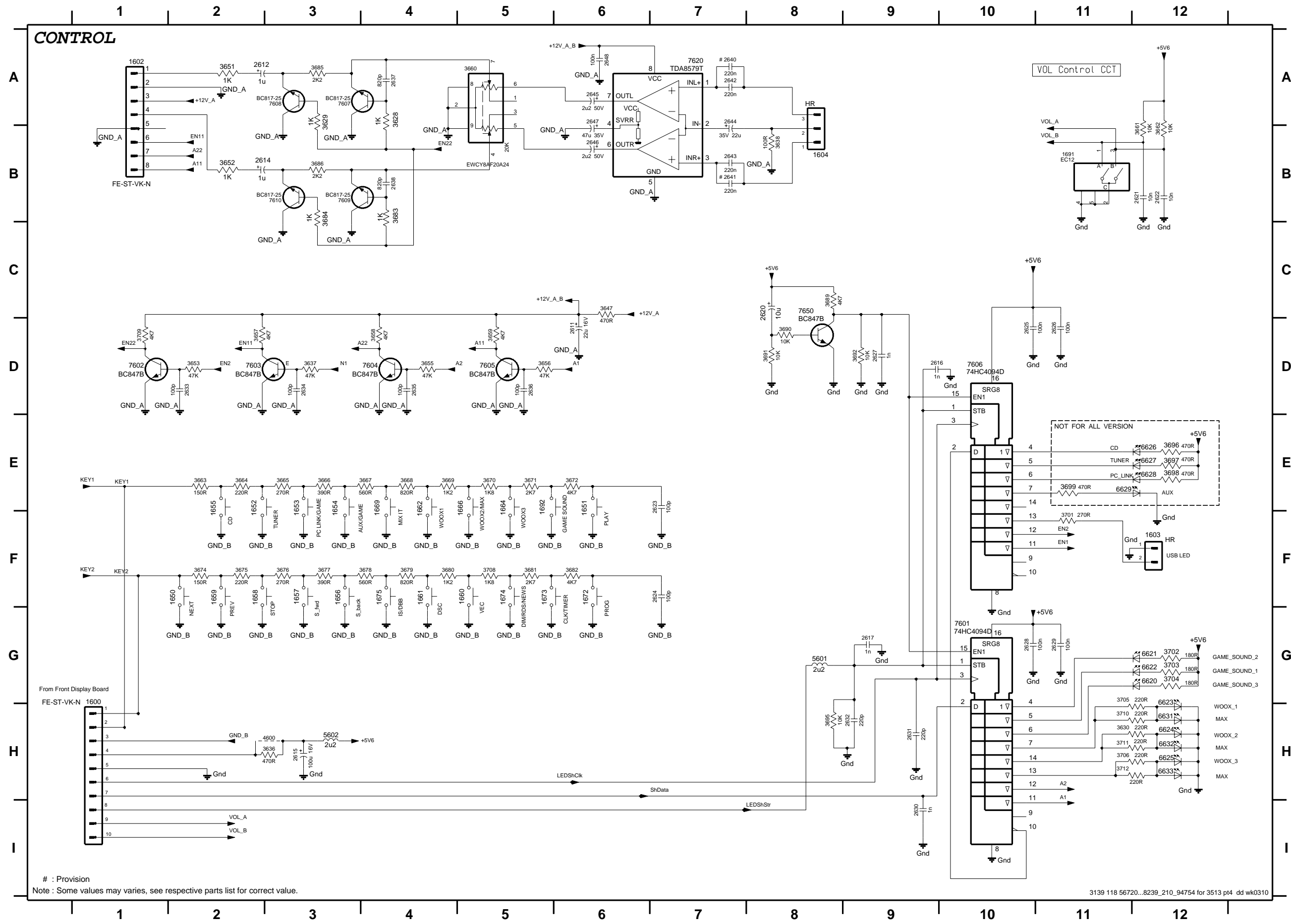
2616 B2	2625 A2	2631 B1	2637 C3	3629 C2	3652 C1	3659 C1	3666 B4	3672 C6	3679 B5	3685 C2	3695 B1	3702 F5	3709 C2	7601 B2	7607 C2
2617 B1	2626 A2	2632 B1	2638 D3	3630 C4	3653 C2	3661 C2	3667 C6	3674 C7	3680 B4	3686 C2	3696 A6	3703 F6	3710 C5	7602 C2	7608 C2
2621 C2	2627 A2	2633 C2	2642 D2	3636 B3	3655 A2	3662 C2	3668 C6	3675 C8	3681 A6	3689 A2	3697 A5	3704 F5	3711 C4	7603 C2	7609 D2
2622 C1	2628 B1	2634 C2	2643 E2	3637 C2	3656 A2	3663 B6	3669 C5	3676 B7	3682 A3	3690 A3	3698 A4	3705 C5	3712 C4	7604 C1	7610 D2
2623 C7	2629 B1	2635 C2	2648 D3	3647 C1	3657 C2	3664 B5	3670 C5	3677 B7	3683 D2	3691 B3	3699 A3	3706 C4	4600 B3	7605 C1	7620 D3
2624 A3	2630 B1	2636 C1	3628 C3	3651 C1	3658 C2	3665 B5	3671 C6	3678 B6	3684 D2	3692 A2	3701 C5	3708 A6	4610 C1	7606 B2	7650 A3



This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram and respective parts list.

3139 113 3513 pt4 dd wk0310

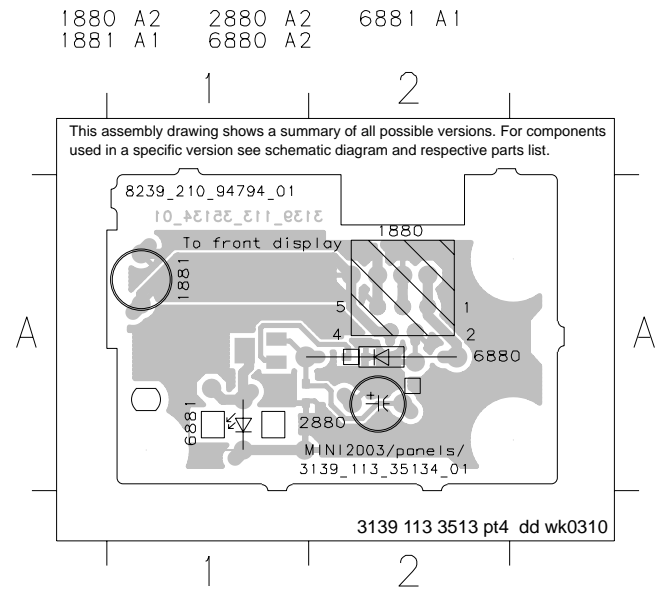
# CONTROL BOARD - CIRCUIT DIAGRAM



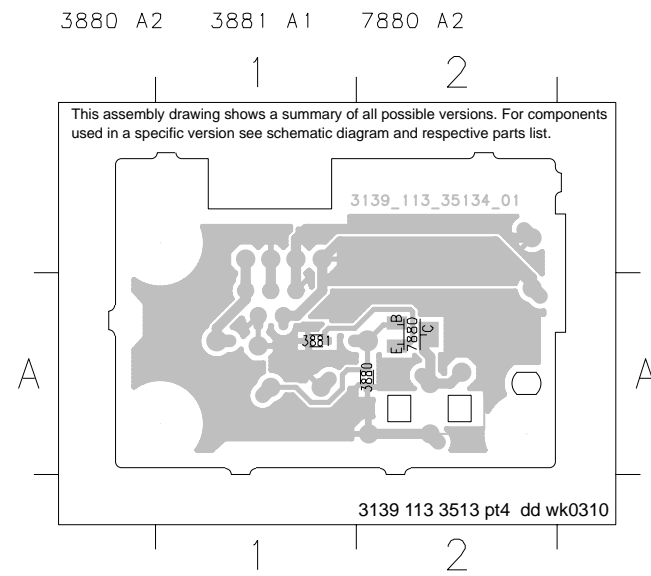
- 1600 H1
- 1602 A1
- 1603 F12
- 1604 B8
- 1650 F2
- 1651 E6
- 1652 E2
- 1653 E3
- 1654 F3
- 1655 F2
- 1656 F3
- 1657 F3
- 1658 F2
- 1659 F2
- 1660 F5
- 1661 F4
- 1662 E4
- 1664 F5
- 1666 F5
- 1669 E4
- 1672 F6
- 1673 F5
- 1674 F5
- 1675 F4
- 1691 B11
- 1692 E5
- 2111 D6
- 2112 A2
- 2114 B2
- 2115 H3
- 2116 D9
- 2117 G9
- 2120 C8
- 2121 B12
- 2122 B12
- 2123 E7
- 2124 F7
- 2125 D10
- 2126 D11
- 2127 D9
- 2128 G10
- 2129 G11
- 2130 I9
- 2131 H9
- 2132 H9
- 2133 D2
- 2134 D3
- 2135 D4
- 2136 D5
- 2137 A4
- 2138 B4
- 2140 A7
- 2141 B7
- 2142 A7
- 2143 B7
- 2144 A7
- 2145 A6
- 2146 B6
- 2147 A6
- 2148 A6
- 2149 A4
- 2150 A3
- 2151 H11
- 2152 H3
- 2153 D3
- 2154 B8
- 2155 C6
- 2156 A2
- 2157 B2
- 2158 D2
- 2159 D5
- 2160 A5
- 2161 B12
- 2162 B12
- 2163 E2
- 2164 E2
- 2165 E3
- 2166 E3
- 2167 E4
- 2168 E4
- 2169 E4
- 2170 E5
- 2171 E5
- 2172 E6
- 2173 F2
- 2174 F3
- 2175 F3
- 2176 F4
- 2177 F4
- 2178 F4
- 2179 F4
- 2180 F4
- 2181 F5
- 2182 F6
- 2183 B3
- 2184 B3
- 2185 A3
- 2186 B3
- 2187 C8
- 2188 D8
- 2189 D8
- 2190 D8
- 2191 D8
- 2192 D9
- 2193 H8
- 2194 E12
- 2195 E12
- 2196 F11
- 2197 G12
- 2198 G12
- 2199 G12
- 2200 G12
- 2201 H11
- 2202 H11
- 2203 H11
- 2204 H11
- 2205 H11
- 2206 H3
- 2207 G8
- 2208 H3
- 2209 G12
- 2210 G12
- 2211 H12
- 2212 H12
- 2213 H12
- 2214 H12
- 2215 H12
- 2216 H12
- 2217 H12
- 2218 H12
- 2219 H12
- 2220 H12
- 2221 H12
- 2222 H12
- 2223 H12
- 2224 H12
- 2225 H12
- 2226 H12
- 2227 H12
- 2228 H12
- 2229 H12
- 2230 H12
- 2231 H12
- 2232 H12
- 2233 H12
- 2234 H12
- 2235 H12
- 2236 H12
- 2237 H12
- 2238 H12
- 2239 H12
- 2240 H12
- 2241 H12
- 2242 H12
- 2243 H12
- 2244 H12
- 2245 H12
- 2246 H12
- 2247 H12
- 2248 H12
- 2249 H12
- 2250 H12
- 2251 H12
- 2252 H12
- 2253 H12
- 2254 H12
- 2255 H12
- 2256 H12
- 2257 H12
- 2258 H12
- 2259 H12
- 2260 H12
- 2261 H12
- 2262 H12
- 2263 H12
- 2264 H12
- 2265 H12
- 2266 H12
- 2267 H12
- 2268 H12
- 2269 H12
- 2270 H12
- 2271 H12
- 2272 H12
- 2273 H12
- 2274 H12
- 2275 H12
- 2276 H12
- 2277 H12
- 2278 H12
- 2279 H12
- 2280 H12
- 2281 H12
- 2282 H12
- 2283 H12
- 2284 H12
- 2285 H12
- 2286 H12
- 2287 H12
- 2288 H12
- 2289 H12
- 2290 H12
- 2291 H12
- 2292 H12
- 2293 H12
- 2294 H12
- 2295 H12
- 2296 H12
- 2297 H12
- 2298 H12
- 2299 H12
- 2300 H12

# : Provision  
 Note : Some values may varies, see respective parts list for correct value.

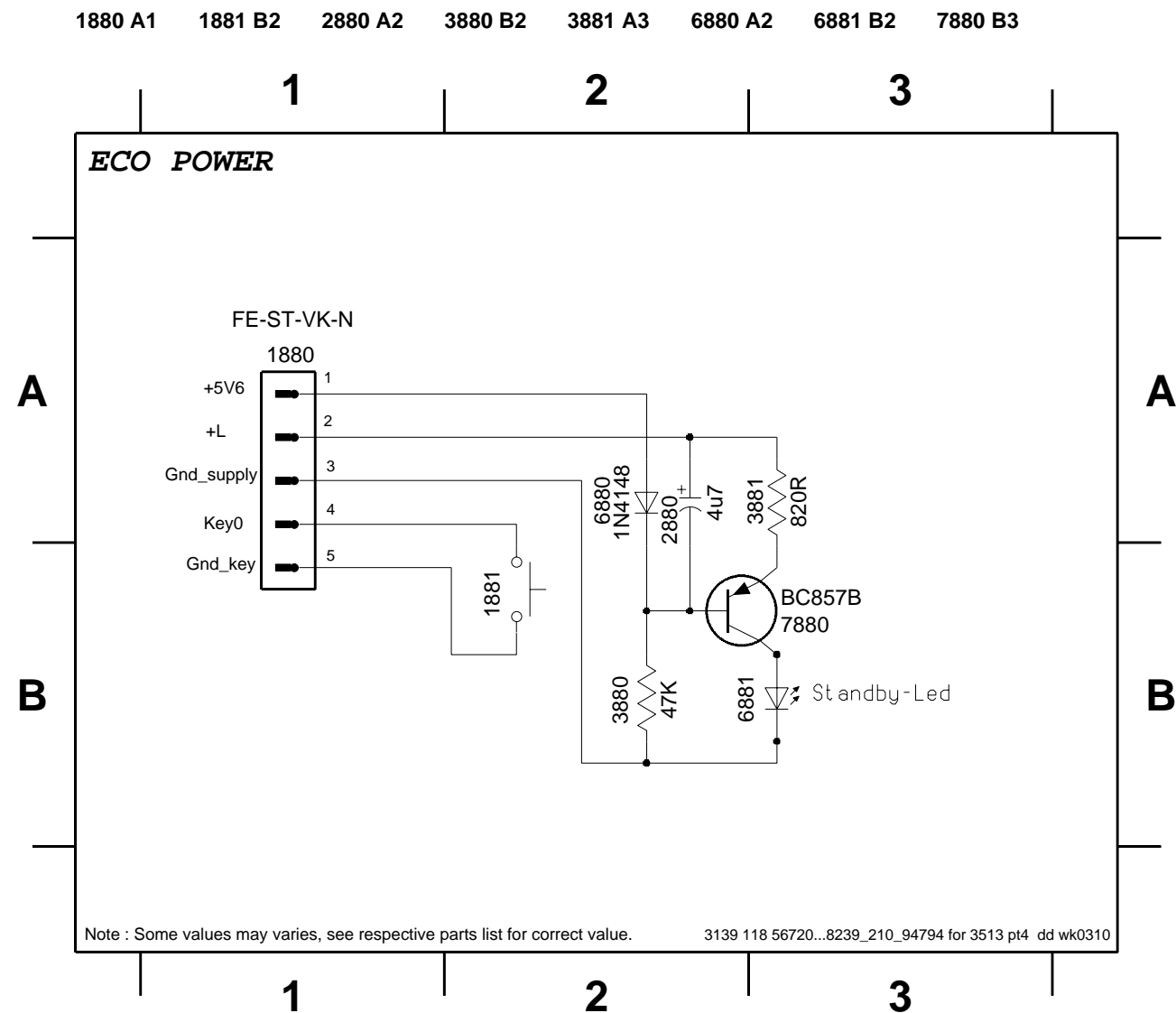
**ECO POWER BOARD - COMPONENT LAYOUT**



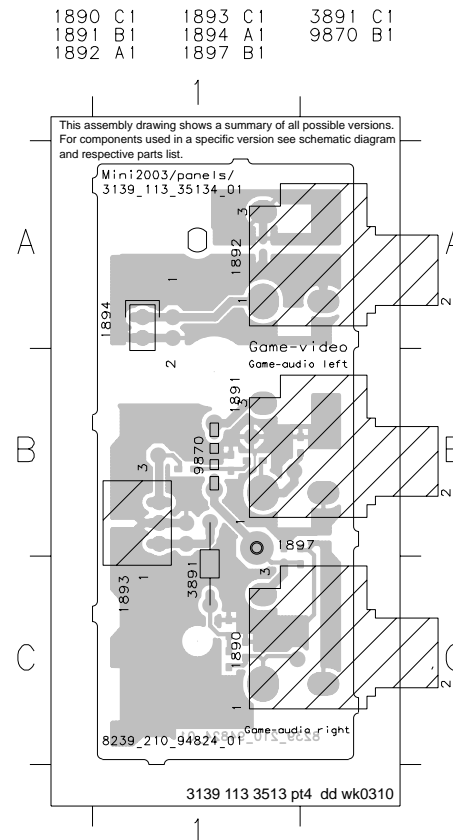
**ECO POWER BOARD - CHIP LAYOUT**



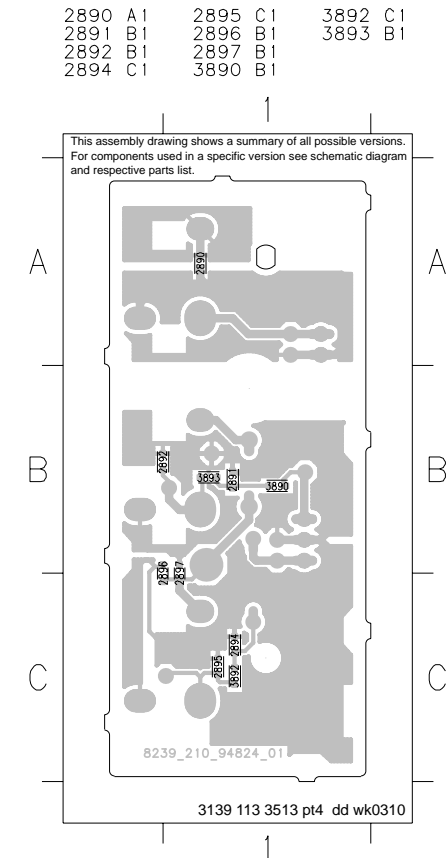
**ECO POWER BOARD - CIRCUIT DIAGRAM**



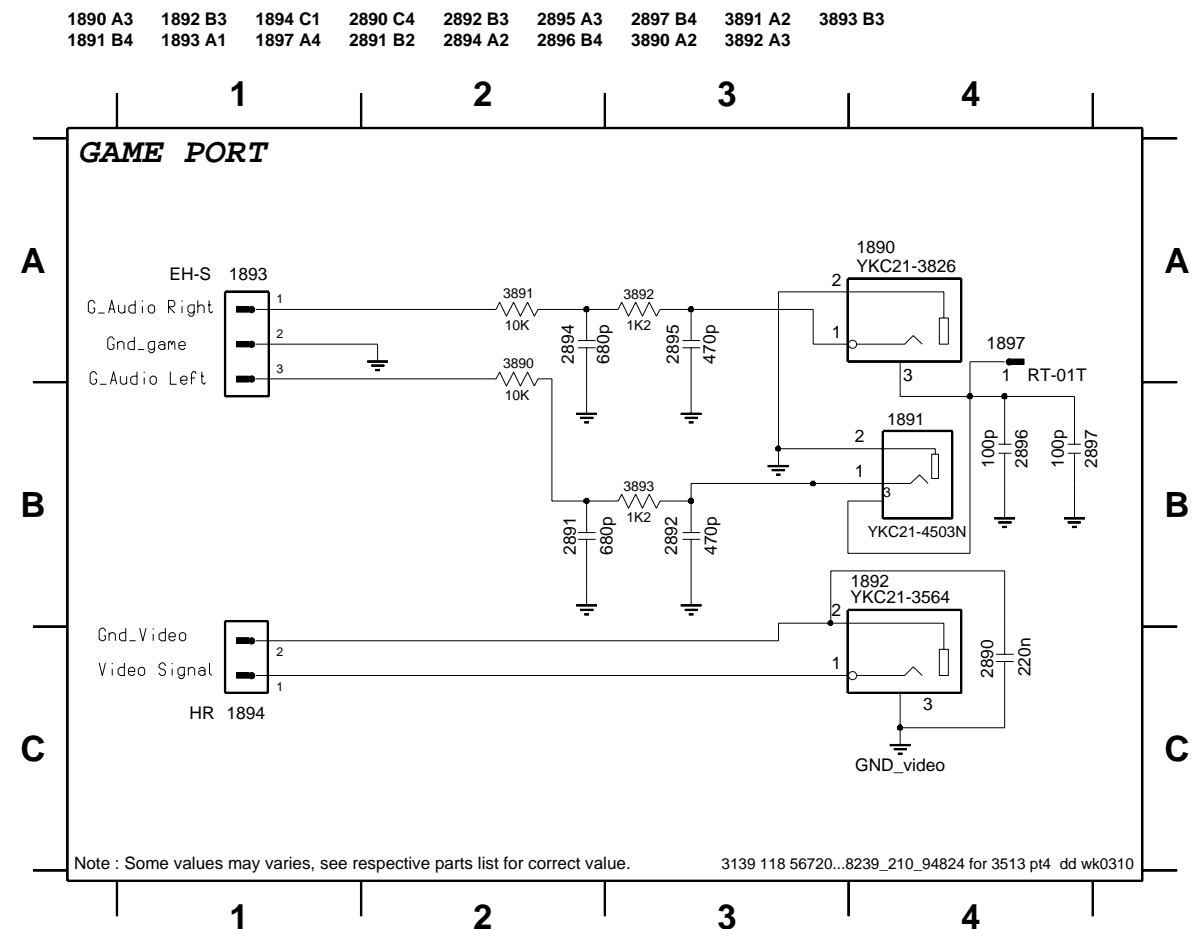
**GAME PORT BOARD - COMPONENT LAYOUT**



**GAME PORT BOARD - CHIP LAYOUT**

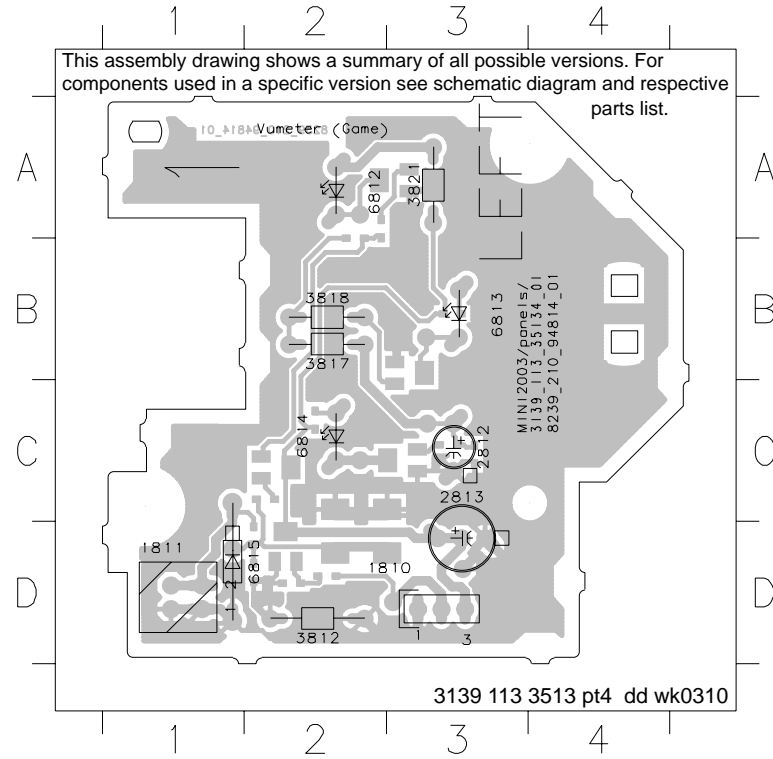


**GAME PORT BOARD - CIRCUIT DIAGRAM**



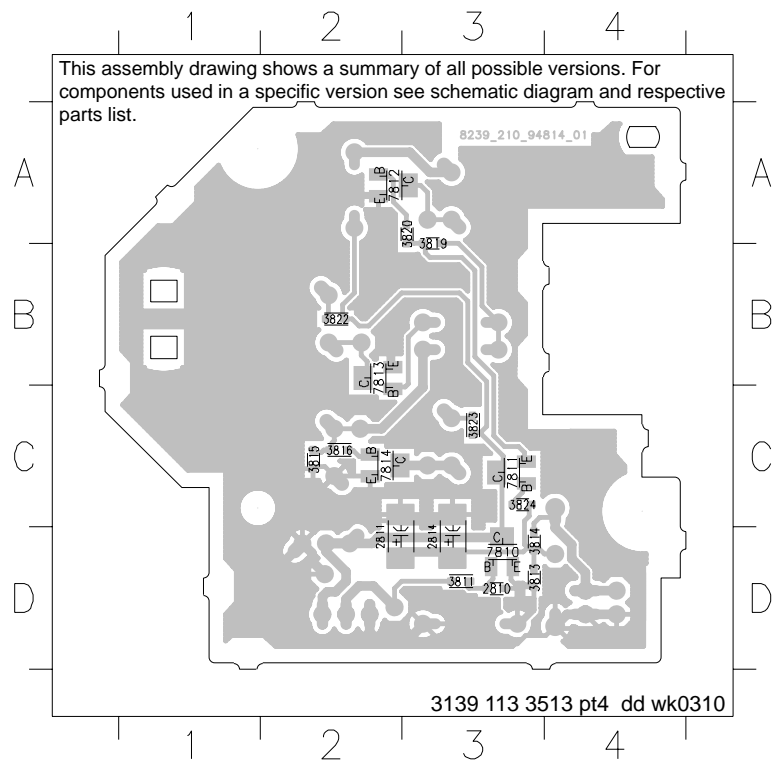
### VU METER (LEFT) BOARD - COMPONENT LAYOUT

1810 D3	2813 C3	3818 B2	6813 B3
1811 D1	3812 D2	3821 A3	6814 C2
2812 C3	3817 B2	6812 A2	6815 D2



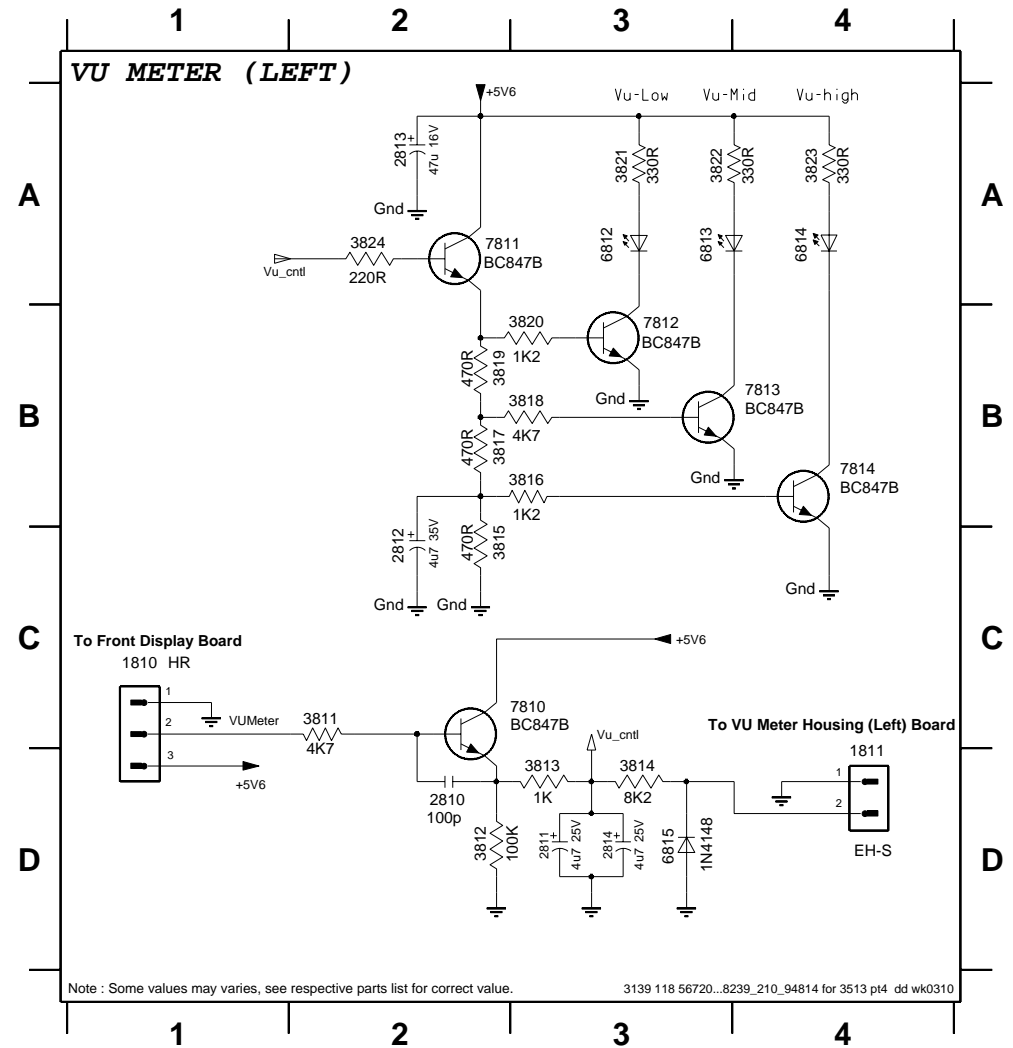
### VU METER (LEFT) BOARD - CHIP LAYOUT

2810 D3	3813 D3	3819 A3	3824 C3	7813 B2
2811 D2	3814 D3	3820 A3	7810 D3	7814 C2
2814 D3	3815 C2	3822 B2	7811 C3	
3811 D3	3816 C2	3823 C3	7812 A2	

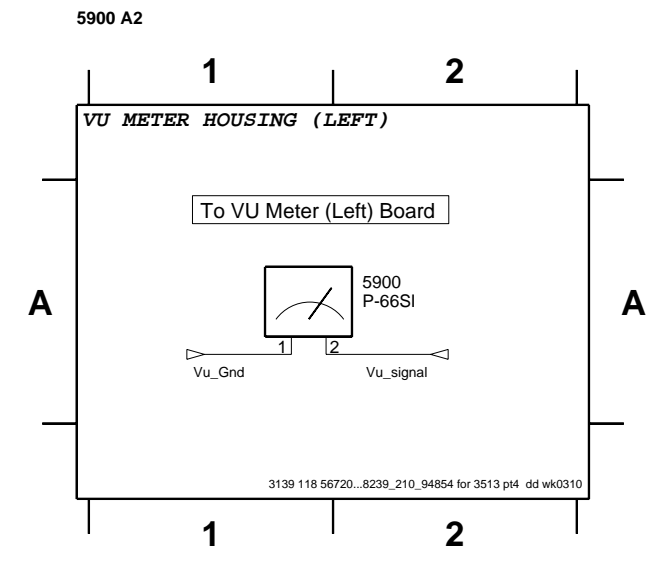
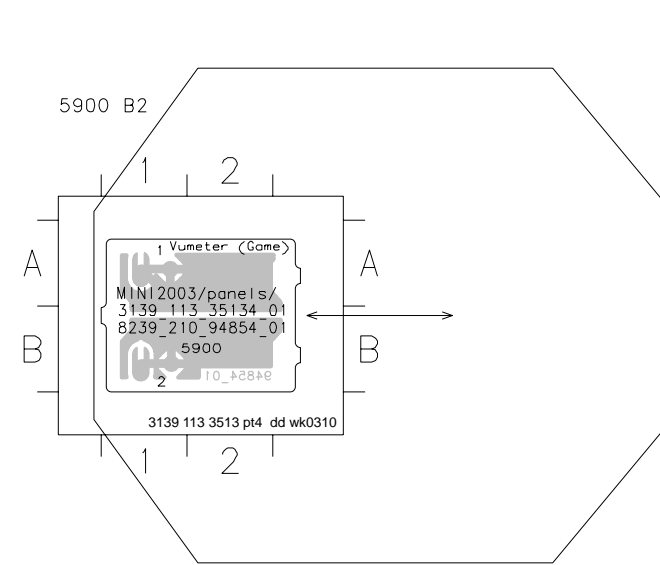


### VU METER (LEFT) BOARD - CIRCUIT DIAGRAM

1810 C1	2811 D3	2814 D3	3813 D3	3816 B3	3819 B2	3822 A3	6812 A3	6815 D3	7812 B3
1811 D4	2812 C2	3811 C2	3814 D3	3817 B2	3820 B3	3823 A4	6813 A3	7810 C2	7813 B4
2810 D2	2813 A2	3812 D2	3815 C2	3818 B3	3821 A3	3824 A2	6814 A4	7811 A2	7814 B4



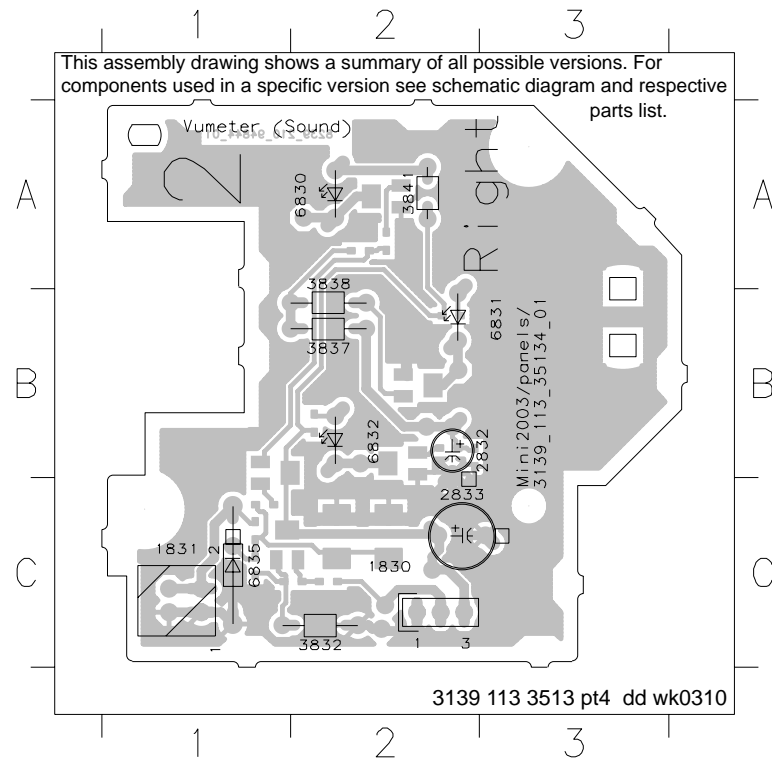
### VU METER HOUSING (LEFT) BOARD - COMPONENT LAYOUT & CIRCUIT DIAGRAM





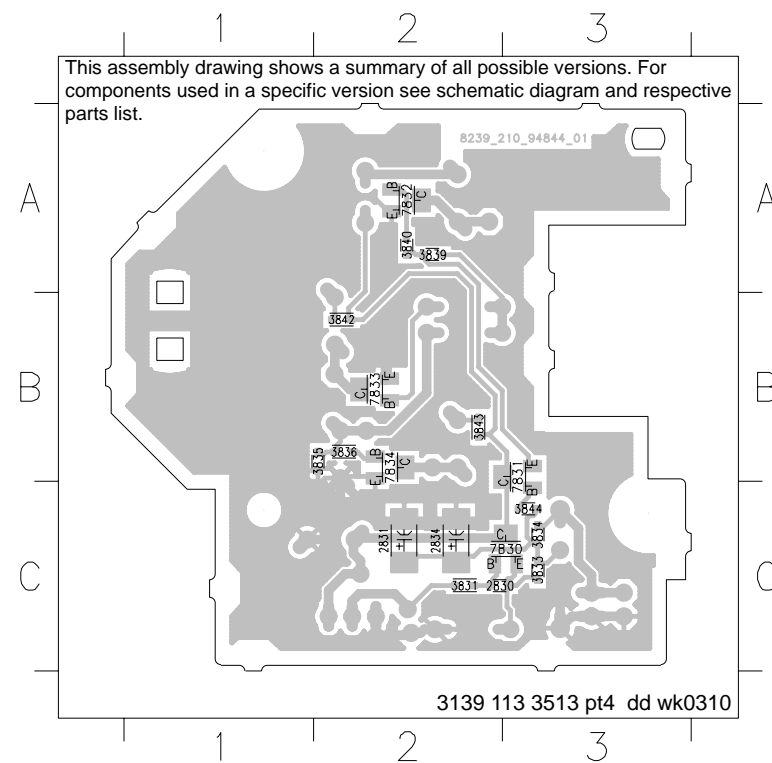
**VU METER (RIGHT) BOARD - COMPONENT LAYOUT**

1830 C2	2833 C2	3838 A2	6831 B3
1831 C1	3832 C2	3841 A2	6832 B2
2832 B3	3837 B2	6830 A2	6835 C1



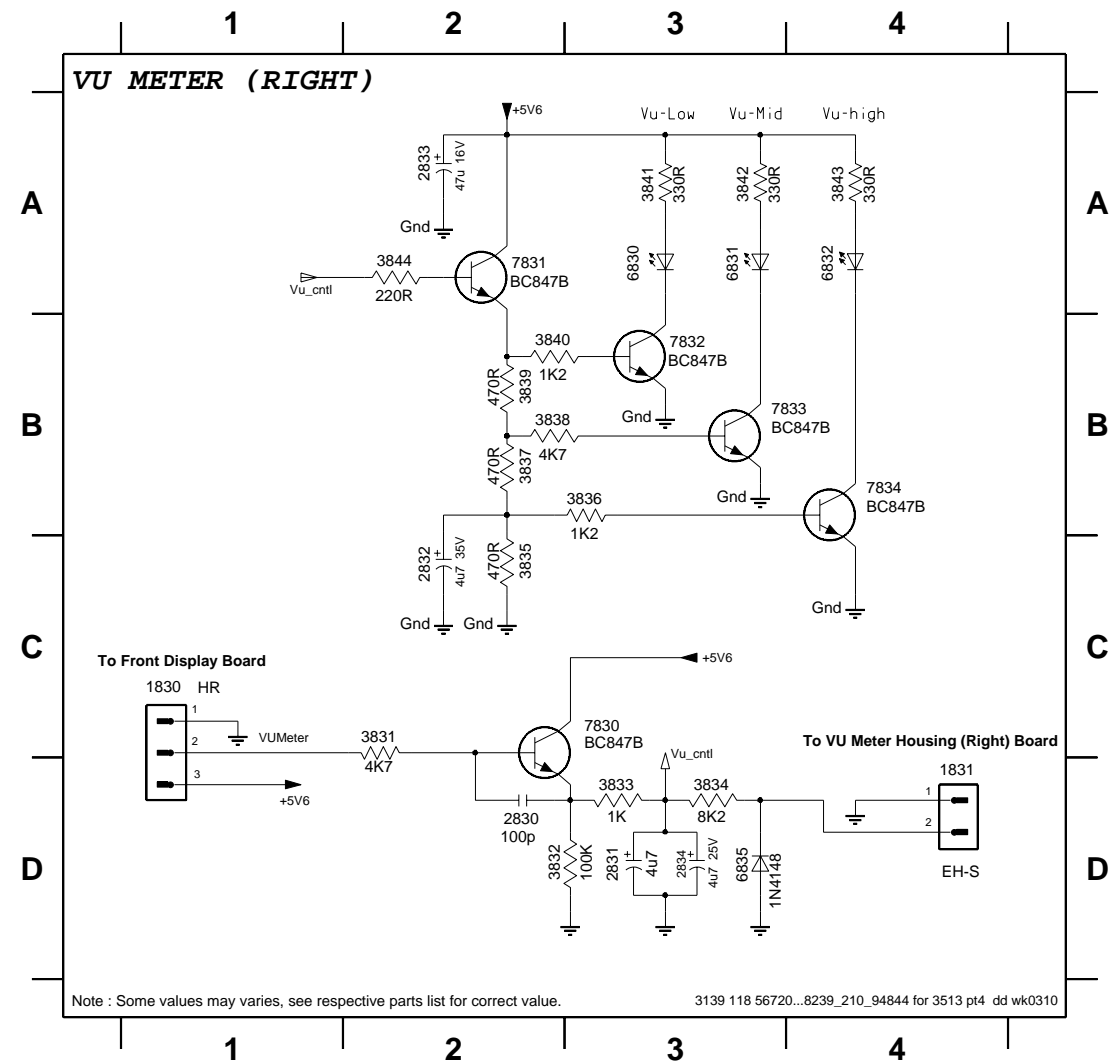
**VU METER (RIGHT) BOARD - CHIP LAYOUT**

2830 C2	3833 C3	3839 A2	3844 C3	7833 B2
2831 C2	3834 C3	3840 A2	7830 C3	7834 B2
2834 C2	3835 B2	3842 B2	7831 B3	
3831 C2	3836 B2	3843 B2	7832 A2	

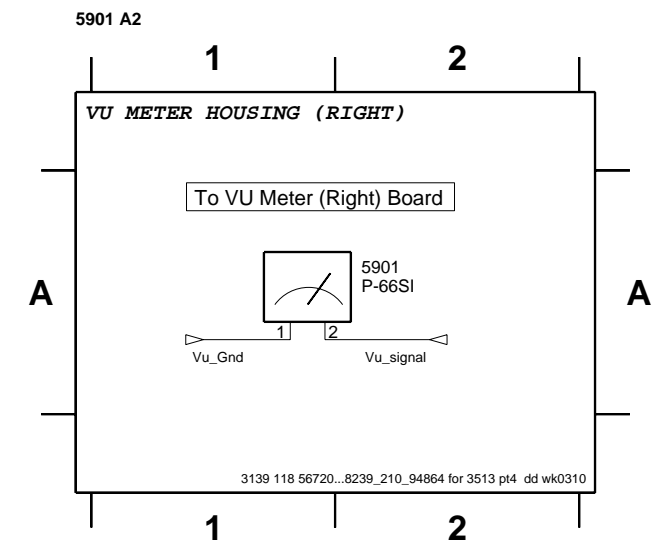
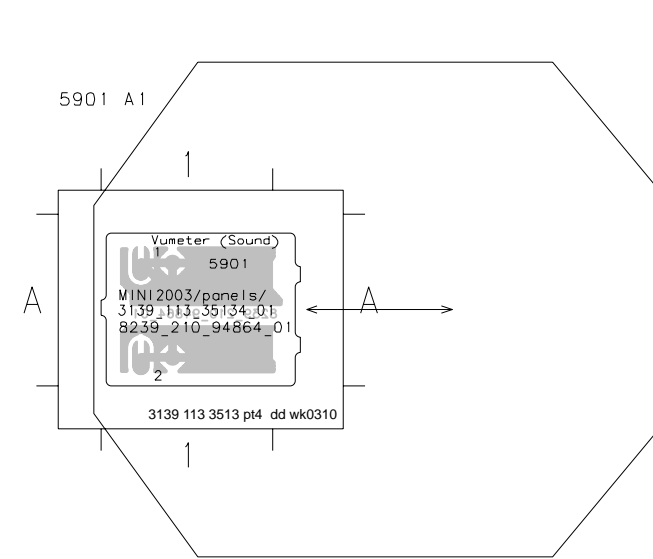


**VU METER (RIGHT) BOARD - CIRCUIT DIAGRAM**

1830 C1	2831 D3	2834 D3	3833 D3	3836 B3	3839 B2	3842 A3	6830 A3	6835 D3	7832 B3
1831 D4	2832 C2	3831 C2	3834 D3	3837 B2	3840 B2	3843 A4	6831 A3	7830 C3	7833 B3
2830 D2	2833 A2	3832 D2	3835 C2	3838 B2	3841 A3	3844 A2	6832 A4	7831 A2	7834 B4

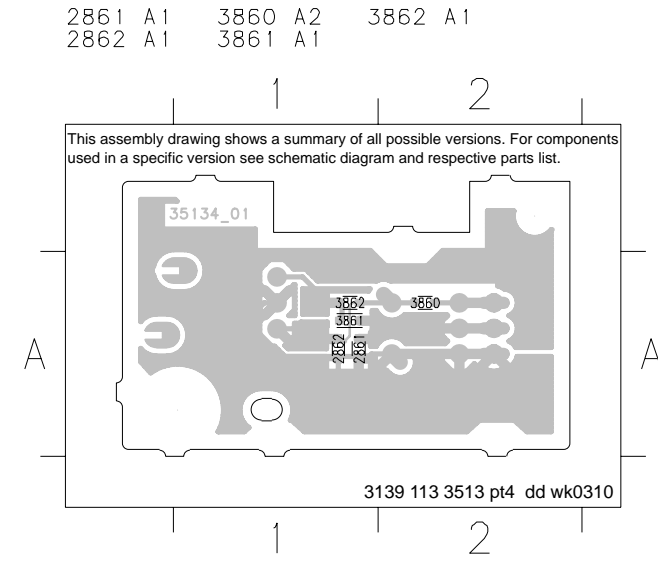
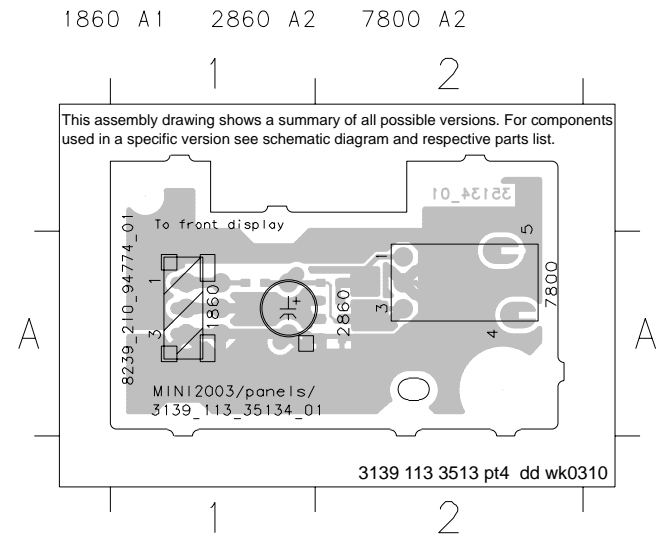


**VU METER HOUSING (RIGHT) BOARD - COMPONENT LAYOUT & CIRCUIT DIAGRAM**



**IR EYE BOARD - COMPONENT LAYOUT**

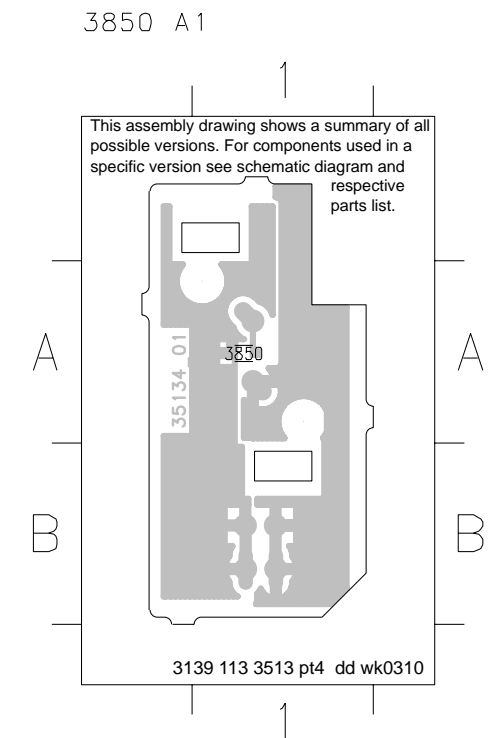
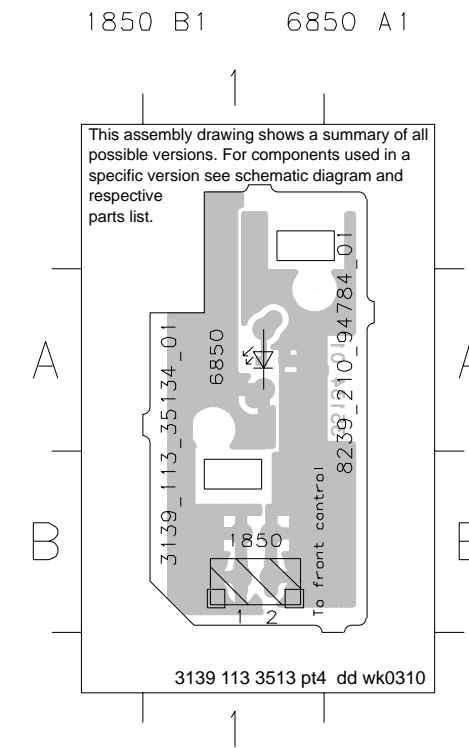
**IR EYE BOARD - CHIP LAYOUT**



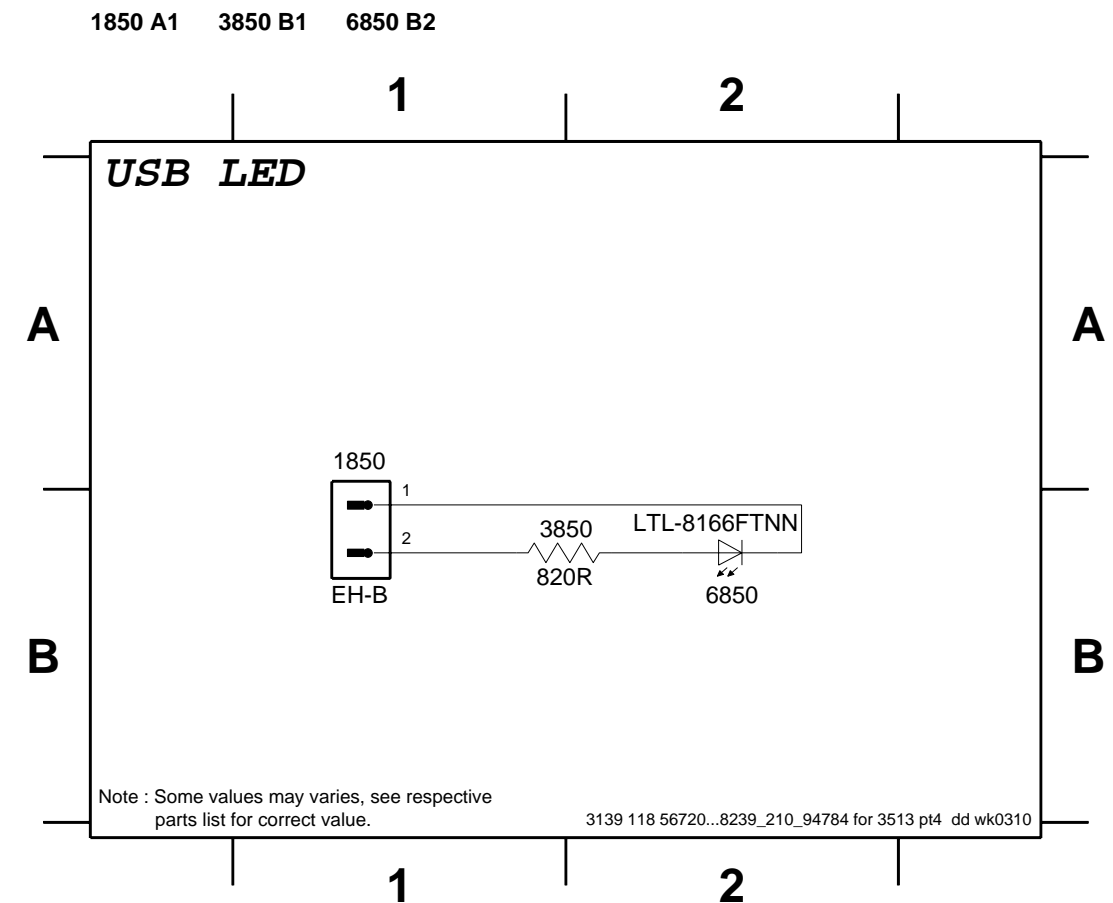
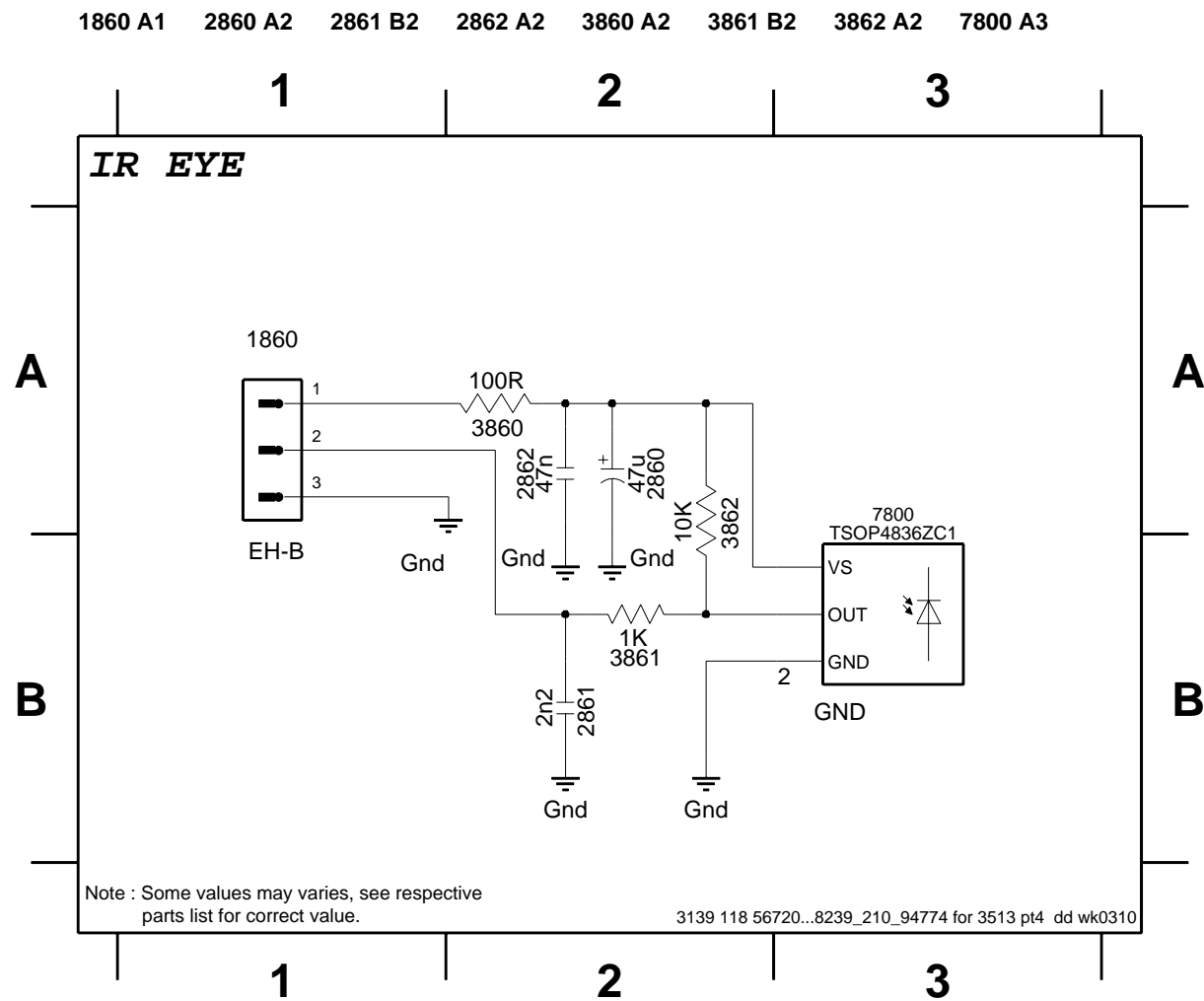
**IR EYE BOARD - CIRCUIT DIAGRAM**

**USB LED BOARD - COMPONENT LAYOUT**

**USB LED BOARD - CHIP LAYOUT**



**USB LED BOARD - CIRCUIT DIAGRAM**



**ELECTRICAL PARTS LIST - FRONT CONTROL BOARD****MISCELLANEOUS**

1600	4822 265 11208	Flex Connector 10P	2635	2020 552 94427	100pF 5% 50V
1602	4822 265 11535	Flex Connector 8P	2636	2020 552 94427	100pF 5% 50V
1650	4822 276 13775	Tact Switch	2637	3198 016 38210	820pF 25V
1651	4822 276 13775	Tact Switch	2638	3198 016 38210	820pF 25V
1652	4822 276 13775	Tact Switch	2642	4822 126 13879	220nF +80/-20% 16V
1653	4822 276 13775	Tact Switch	2643	4822 126 13879	220nF +80/-20% 16V
1654	4822 276 13775	Tact Switch	2644	3198 028 42290	22uF 20% 35V
1655	4822 276 13775	Tact Switch	2645	4822 124 22652	2,2uF 20% 50V
1656	4822 276 13775	Tact Switch	2646	4822 124 22652	2,2uF 20% 50V
1657	4822 276 13775	Tact Switch	2647	3198 028 44790	47uF 20% 35V
1658	4822 276 13775	Tact Switch	2648	2238 586 59812	100nF 50V
1659	4822 276 13775	Tact Switch	2810	2020 552 94427	100pF 5% 50V
1660	4822 276 13775	Tact Switch	2811	4822 124 12312	4,7uF 20% 16V
1661	4822 276 13775	Tact Switch	2812	4822 124 22726	4,7uF 35V
1666	4822 276 13775	Tact Switch	2813	4822 124 81286	47uF 20% 16V
1669	4822 276 13775	Tact Switch	2814	4822 124 12312	4,7uF 20% 16V
1672	4822 276 13775	Tact Switch	2830	2020 552 94427	100pF 5% 50V
1673	4822 276 13775	Tact Switch	2831	4822 124 12312	4,7uF 20% 16V
1674	4822 276 13775	Tact Switch	2832	4822 124 22726	4,7uF 35V
1675	4822 276 13775	Tact Switch	2833	4822 124 81286	47uF 20% 16V
1691	2422 129 16708	Rotary Encoder 24P	2834	4822 124 12312	4,7uF 20% 16V
1692	4822 276 13775	Tact Switch	2841	4822 126 14494	22nF 10% 25V
1840	4822 267 10733	Flex Connector 4P	2843	4822 126 14494	22nF 10% 25V
1841	4822 265 11529	Headphone Socket	2844	2238 586 59812	100nF 50V
1880	4822 267 10958	Flex Connector 5P	2860	4822 124 40433	47uF 20% 25V
1881	4822 276 13775	Tact Switch	2861	4822 126 14238	2,2nF 50V
1890	4822 265 10913	Cinch Socket - G/Port Audio R	2862	3198 017 34730	47nF 16V
1891	2422 026 05434	Cinch Socket - G/Port Audio L	2880	4822 124 40769	4,7uF 20% 100V
1892	4822 267 31996	Cinch Socket - G/Port Video	2890	4822 126 13879	220nF +80/-20% 16V

**CAPACITORS**

2611	4822 124 81151	22uF 50V	2891	3198 016 36810	680pF 25V
2612	4822 124 21913	1uF 20% 63V	2892	4822 126 13881	470pF 5% 50V
2614	4822 124 21913	1uF 20% 63V	2894	3198 016 36810	680pF 25V
2615	4822 124 23052	100uF 20% 16V	2895	4822 126 13881	470pF 5% 50V
2616	3198 016 31020	1nF 25V	2896	2020 552 94427	100pF 5% 50V
2617	3198 016 31020	1nF 25V	2897	2020 552 94427	100pF 5% 50V
2620	4822 124 11947	10uF 20% 16V	<b>RESISTORS</b>		
2621	5322 126 11583	10nF 10% 50V	3628	4822 051 30102	1k 5% 0,062W
2622	5322 126 11583	10nF 10% 50V	3629	4822 051 30102	1k 5% 0,062W
2623	2020 552 94427	100pF 5% 50V	3630	4822 051 30221	220R 5% 0,062W
2624	2020 552 94427	100pF 5% 50V	3636	4822 051 30471	470R 5% 0,062W
2625	2238 586 59812	100nF 50V	3637	4822 117 12925	47k 1% 0,063W
2626	2238 586 59812	100nF 50V	3638	4822 116 52175	100R 5% 0,5W
2627	3198 016 31020	1nF 25V	3647	4822 051 30471	470R 5% 0,062W
2628	2238 586 59812	100nF 50V	3651	4822 051 30102	1k 5% 0,062W
2629	2238 586 59812	100nF 50V	3652	4822 051 30102	1k 5% 0,062W
2630	3198 016 31020	1nF 25V	3653	4822 117 12925	47k 1% 0,063W
2631	4822 126 13883	220pF 5% 50V	3655	4822 117 12925	47k 1% 0,063W
2632	4822 126 13883	220pF 5% 50V	3656	4822 117 12925	47k 1% 0,063W
2633	2020 552 94427	100pF 5% 50V	3657	4822 051 30472	4k7 5% 0,062W
2634	2020 552 94427	100pF 5% 50V	3658	4822 051 30472	4k7 5% 0,062W
			3659	4822 051 30472	4k7 5% 0,062W

**ELECTRICAL PARTS LIST - FRONT CONTROL BOARD**

3660	4822 101 11904	POTM 20KX2 20% 0,025W	3821	4822 116 52219	330R 5% 0,5W
3661	4822 051 30103	10k 5% 0,062W	3822	4822 051 30331	330R 5% 0,062W
3662	4822 051 30103	10k 5% 0,062W	3823	4822 051 30331	330R 5% 0,062W
3663	4822 051 30151	150R 5% 0,062W	3824	4822 051 30221	220R 5% 0,062W
3664	4822 051 30221	220R 5% 0,062W	3831	4822 051 30472	4k7 5% 0,062W
3665	4822 051 30271	270R 5% 0,062W	3832	4822 116 52234	100k 5% 0,5W
3666	4822 051 30391	390R 5% 0,062W	3833	4822 051 30102	1k 5% 0,062W
3667	4822 051 30561	560R 5% 0,062W	3834	4822 117 12902	8k2 1% 0,063W
3668	4822 117 12968	820R 5% 0,62W	3835	4822 051 30471	470R 5% 0,062W
3669	4822 117 11817	1k2 1% 1/16W	3836	4822 117 11817	1k2 1% 1/16W
3670	4822 117 12903	1k8 1% 0,063W	3837	4822 116 83883	470R 5% 0,5W
3671	4822 051 30272	2k7 5% 0,062W	3838	4822 116 52283	4k7 5% 0,5W
3672	4822 051 30472	4k7 5% 0,062W	3839	4822 051 30471	470R 5% 0,062W
3674	4822 051 30151	150R 5% 0,062W	3840	4822 117 11817	1k2 1% 1/16W
3675	4822 051 30221	220R 5% 0,062W	3841	4822 116 52219	330R 5% 0,5W
3676	4822 051 30271	270R 5% 0,062W	3842	4822 051 30331	330R 5% 0,062W
3677	4822 051 30391	390R 5% 0,062W	3843	4822 051 30331	330R 5% 0,062W
3678	4822 051 30561	560R 5% 0,062W	3844	4822 051 30221	220R 5% 0,062W
3679	4822 117 12968	820R 5% 0,62W	3850	4822 117 12968	820R 5% 0,62W
3680	4822 117 11817	1k2 1% 1/16W	3860	4822 051 30101	100R 5% 0,062W
3681	4822 051 30272	2k7 5% 0,062W	3861	4822 051 30102	1k 5% 0,062W
3682	4822 051 30472	4k7 5% 0,062W	3862	4822 051 30103	10k 5% 0,062W
3683	4822 051 30102	1k 5% 0,062W	3880	4822 117 12925	47k 1% 0,063W
3684	4822 051 30102	1k 5% 0,062W	3881	4822 117 12968	820R 5% 0,62W
3685	4822 051 30222	2k2 5% 0,062W	3890	4822 051 30103	10k 5% 0,062W
3686	4822 051 30222	2k2 5% 0,062W	3891	4822 050 21003	10k 1% 0,06W
3689	4822 051 30472	4k7 5% 0,062W	3892	4822 117 11817	1k2 1% 1/16W
3690	4822 051 30103	10k 5% 0,062W	3893	4822 117 11817	1k2 1% 1/16W
3691	4822 051 30103	10k 5% 0,062W	4600	4822 051 30008	0R Jumper 0603
3692	4822 051 30103	10k 5% 0,062W	4610	4822 051 30008	0R Jumper 0603
3695	4822 051 30103	10k 5% 0,062W	4890	4822 051 30008	0R Jumper 0603
3701	4822 051 30271	270R 5% 0,062W	4891	4822 051 30008	0R Jumper 0603
3702	4822 051 30181	180R 5% 0,062W	<b>COILS &amp; FILTERS</b>		
3703	4822 051 30181	180R 5% 0,062W	5601	4822 157 62552	Coil 2,2uH 5%
3704	4822 051 30181	180R 5% 0,062W	5602	4822 157 62552	Coil 2,2uH 5%
3705	4822 051 30221	220R 5% 0,062W	5840	4822 157 62552	Coil 2,2uH 5%
3706	4822 051 30221	220R 5% 0,062W	5841	4822 157 62552	Coil 2,2uH 5%
3708	4822 117 12903	1k8 1% 0,063W	5842	4822 157 62552	Coil 2,2uH 5%
3709	4822 051 30472	4k7 5% 0,062W	<b>DIODES</b>		
3710	4822 051 30221	220R 5% 0,062W	6620	4822 130 11589	LED VS LTL-1CHAE
3711	4822 051 30221	220R 5% 0,062W	6621	4822 130 11589	LED VS LTL-1CHAE
3712	4822 051 30221	220R 5% 0,062W	6622	4822 130 11589	LED VS LTL-1CHAE
3811	4822 051 30472	4k7 5% 0,062W	6631	4822 130 11589	LED VS LTL-1CHAE
3812	4822 116 52234	100k 5% 0,5W	6632	4822 130 11589	LED VS LTL-1CHAE
3813	4822 051 30102	1k 5% 0,062W	6633	4822 130 11589	LED VS LTL-1CHAE
3814	4822 117 12902	8k2 1% 0,063W	6812	9322 178 15676	LED VS LTL-8166FTNN
3815	4822 051 30471	470R 5% 0,062W	6813	9322 178 15676	LED VS LTL-8166FTNN
3816	4822 117 11817	1k2 1% 1/16W	6814	9322 191 85676	LED VS LTL816KETNN
3817	4822 116 83883	470R 5% 0,5W	6815	4822 130 30621	1N4148
3818	4822 116 52283	4k7 5% 0,5W	6830	9322 178 15676	LED VS LTL-8166FTNN
3819	4822 051 30471	470R 5% 0,062W			
3820	4822 117 11817	1k2 1% 1/16W			

**ELECTRICAL PARTS LIST - FRONT CONTROL BOARD**

---

**DIODES**

---

6831	9322 178 15676	LED VS LTL-8166FTNN
6832	9322 191 85676	LED VS LTL816KETNN
6835	4822 130 30621	1N4148
6850	9322 178 15676	LED VS LTL-8166FTNN
6880	4822 130 30621	1N4148
6881	9322 167 73676	LED VS LTL-4221NLC-KA

**TRANSISTORS & INTEGRATED CIRCUITS**

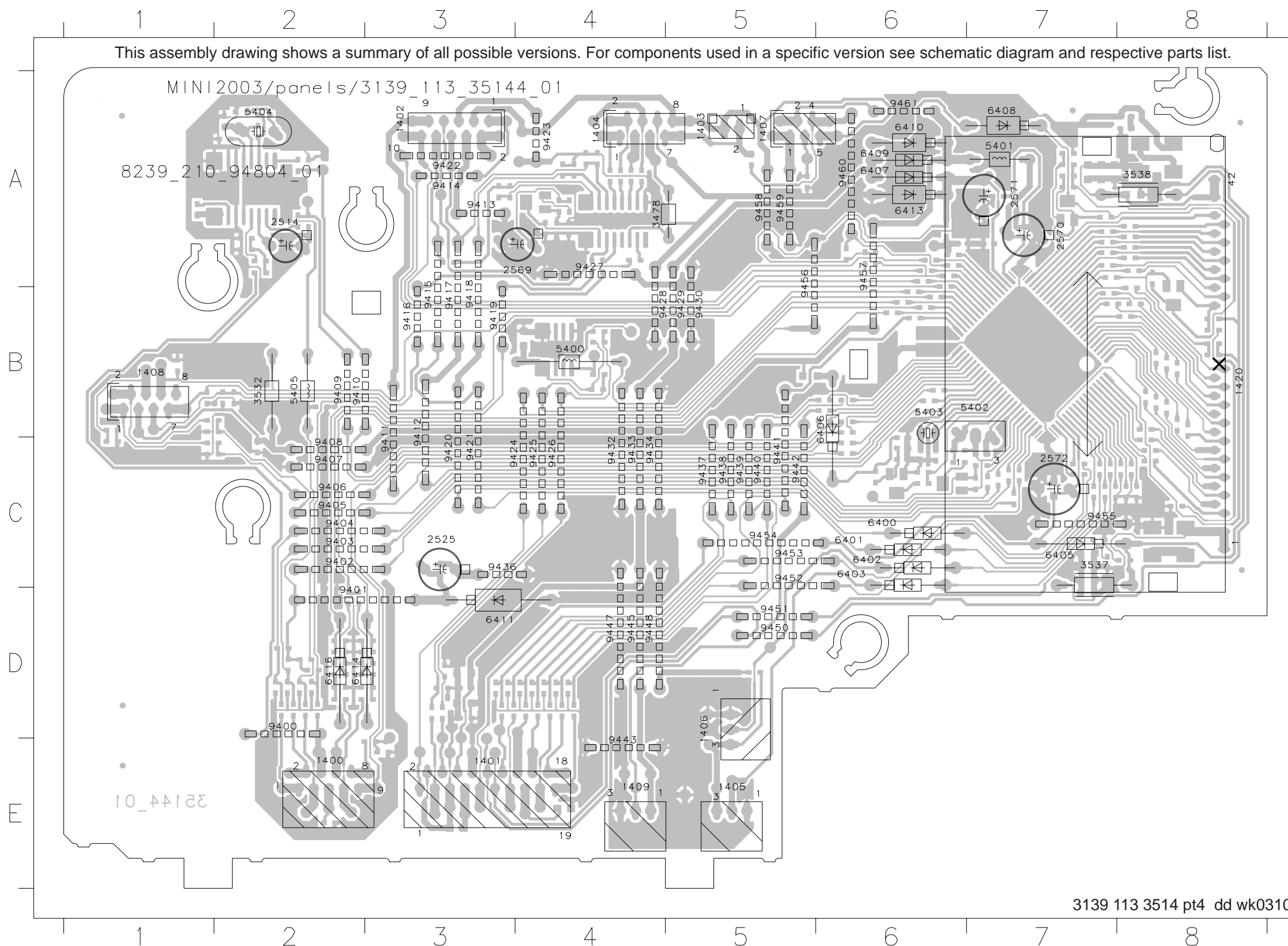
---

7601	4822 209 15449	74HC4094D
7602	5322 130 60159	BC847B
7603	5322 130 60159	BC847B
7604	5322 130 60159	BC847B
7605	5322 130 60159	BC847B
7606	4822 209 15449	74HC4094D
7607	4822 130 42804	BC817-25
7608	4822 130 42804	BC817-25
7609	4822 130 42804	BC817-25
7610	4822 130 42804	BC817-25
7620	4822 209 33985	TDA8579T/N1
7650	5322 130 60159	BC847B
7800	9322 185 97667	IR Receiver TSOP4836ZC1
7810	5322 130 60159	BC847B
7811	5322 130 60159	BC847B
7812	5322 130 60159	BC847B
7813	5322 130 60159	BC847B
7814	5322 130 60159	BC847B
7830	5322 130 60159	BC847B
7831	5322 130 60159	BC847B
7832	5322 130 60159	BC847B
7833	5322 130 60159	BC847B
7834	5322 130 60159	BC847B
7880	4822 130 60373	BC857B

Note : Only the parts mentioned in this list are normal service spare parts.

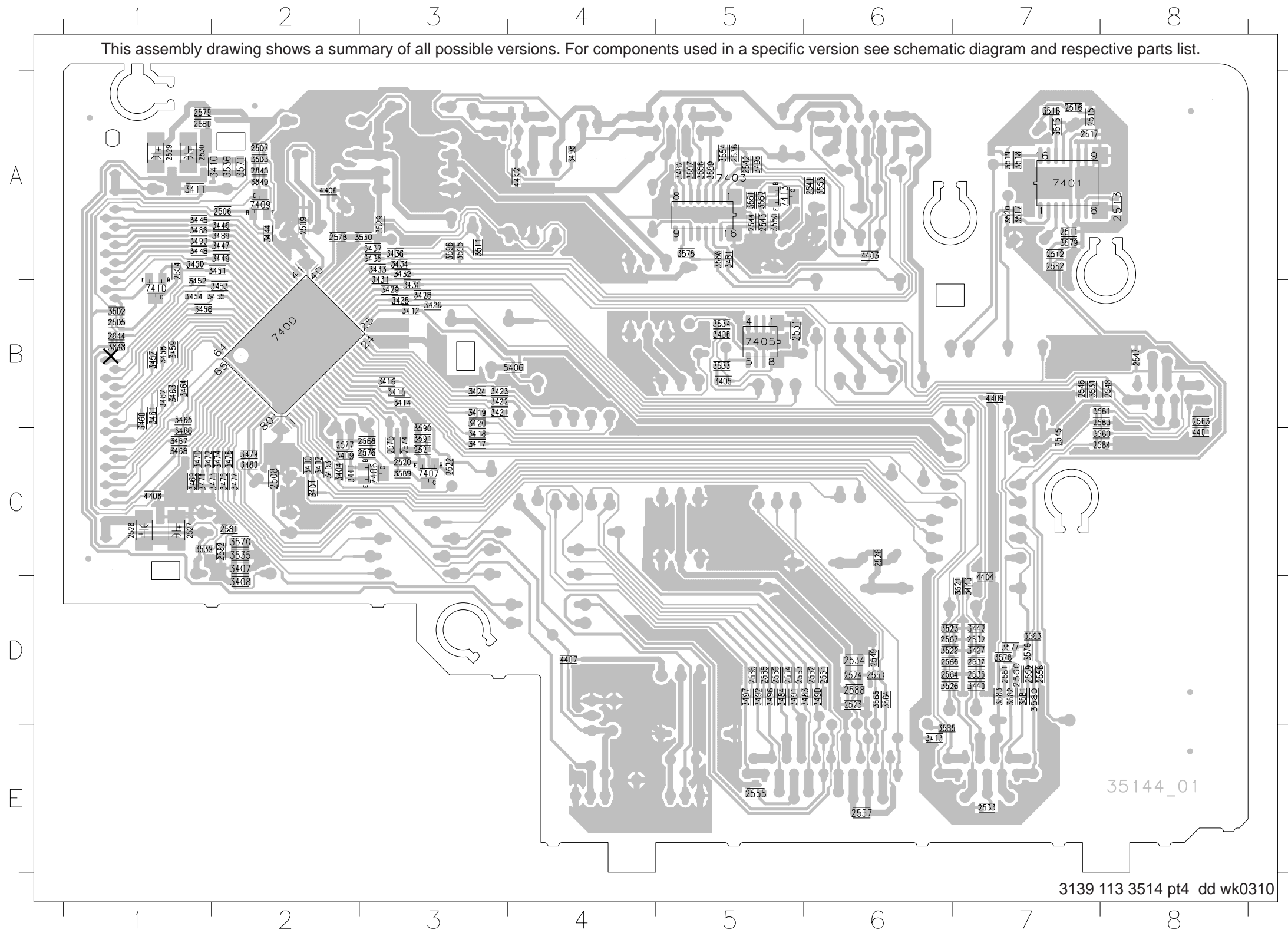


# DISPLAY BOARD - COMPONENT LAYOUT



1400	E2	9428	B4
1401	E3	9429	B5
1402	A3	9430	B5
1403	A5	9432	C4
1404	A4	9433	C4
1405	E5	9434	C4
1406	D5	9436	C3
1407	A5	9437	C5
1408	B1	9438	C5
1409	E4	9439	C5
1420	B8	9440	C5
2514	A2	9441	C5
2525	C3	9442	C5
2569	A4	9443	E4
2570	A7	9445	D4
2571	A7	9447	D4
2572	C7	9448	D4
3478	A4	9450	D5
3532	B2	9451	D5
3537	C7	9452	C5
3538	A8	9453	C5
5400	B4	9454	C5
5401	A7	9455	C7
5402	B7	9456	A5
5403	B6	9457	A6
5404	A2	9458	A5
5405	B2	9459	A5
6400	C6	9460	A6
6401	C6	9461	A6
6402	C6		
6403	C6		
6405	C7		
6406	B6		
6407	A6		
6408	A7		
6409	A6		
6410	A6		
6411	D3		
6413	A6		
6414	D2		
6416	D2		
9400	D2		
9401	D2		
9402	C2		
9403	C2		
9404	C2		
9405	C2		
9406	C2		
9407	C2		
9408	C2		
9409	B2		
9410	B2		
9411	C3		
9412	B3		
9413	A3		
9414	A3		
9415	B3		
9416	B3		
9417	B3		
9418	B3		
9419	B3		
9420	C3		
9421	C3		
9422	A3		
9423	A4		
9424	C3		
9425	C4		
9426	C4		
9427	A4		

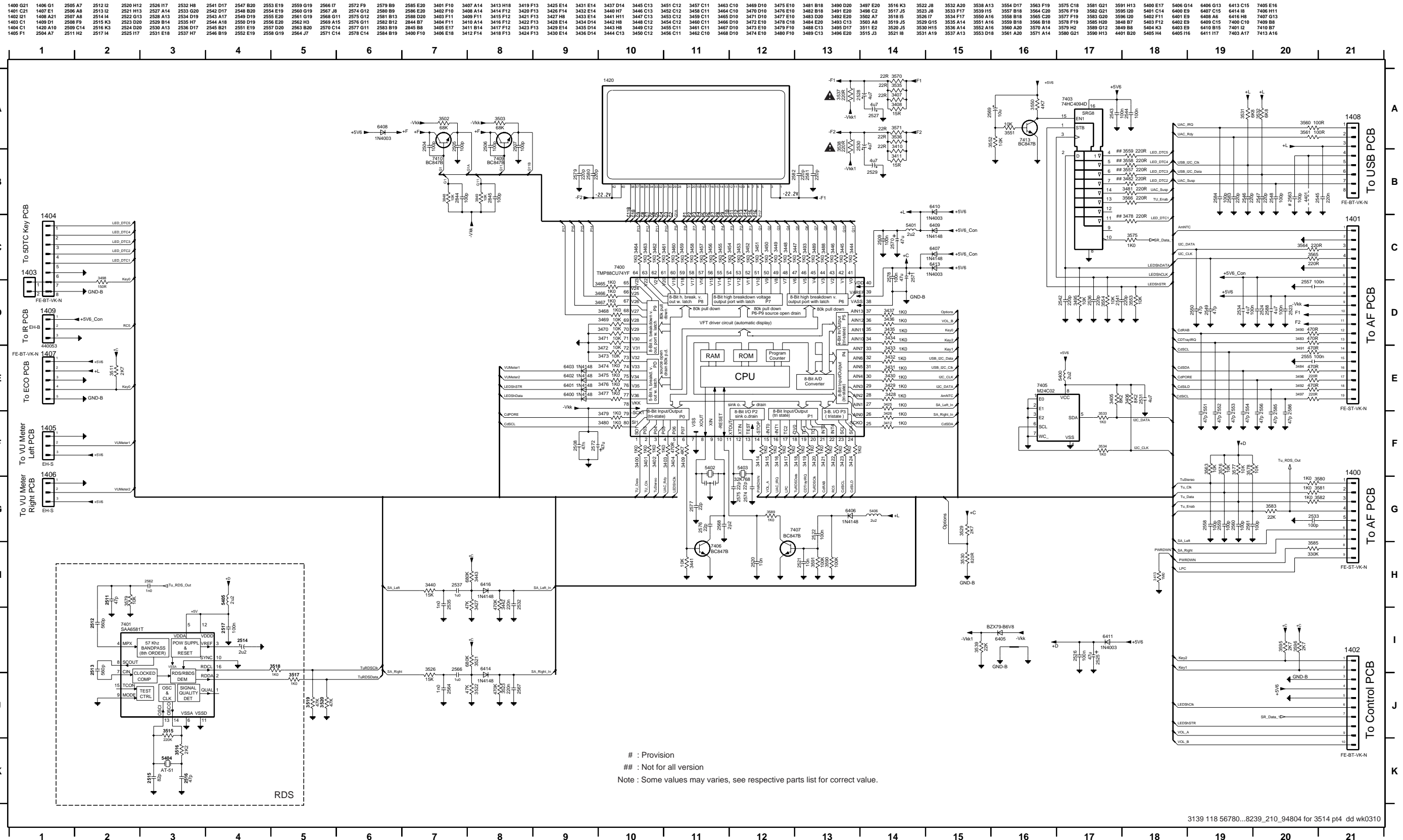
# DISPLAY BOARD - CHIP LAYOUT



2504	A1	2588	D6	3468	C1	3581	D7
2505	B1	2844	B1	3469	C1	3582	D7
2506	A2	2845	A2	3470	C1	3583	D7
2507	A2	3400	C2	3471	C1	3585	E6
2508	C2	3401	C2	3472	C1	3589	C3
2509	A2	3402	C2	3473	C2	3590	C3
2511	A7	3403	C2	3474	C2	3591	C3
2512	A7	3404	C2	3475	C2	3595	A3
2513	A8	3405	B5	3476	C2	3596	A3
2515	A7	3406	B5	3477	C2	3848	B1
2516	A7	3407	C2	3479	C2	3849	A2
2517	A7	3408	D2	3480	C2	4401	C8
2520	C3	3409	C2	3481	A5	4402	A4
2521	C3	3410	A2	3482	A5	4403	A6
2522	C3	3411	A1	3483	D6	4404	D7
2523	D6	3412	B3	3484	D5	4406	A2
2524	D6	3413	E6	3488	A1	4407	D4
2526	C6	3414	B3	3489	A2	4408	C1
2527	C1	3415	B3	3490	D6	4409	B7
2528	C1	3416	B3	3491	D5	5406	B4
2529	A1	3417	C3	3492	D5	7400	B2
2530	A1	3418	C3	3493	A1	7401	A7
2531	B5	3419	B3	3495	A5	7403	A5
2532	D7	3420	B3	3496	D5	7405	B5
2533	E7	3421	B3	3497	D5	7406	C3
2534	D6	3422	B3	3498	A4	7407	C3
2535	D7	3423	B3	3502	B1	7409	A2
2536	A5	3424	B3	3503	A2	7410	B1
2537	D7	3425	B3	3511	A3	7413	A5
2541	A6	3426	B3	3515	A7		
2542	A5	3427	D7	3516	A7		
2543	A5	3428	B3	3517	A7		
2544	A5	3429	B3	3518	A7		
2545	C7	3430	B3	3519	A7		
2546	B7	3431	A3	3520	A7		
2547	B8	3432	A3	3521	D7		
2548	B8	3433	A3	3522	D6		
2549	D6	3434	A3	3523	D6		
2550	D6	3435	A3	3526	D6		
2551	D6	3436	A3	3529	A3		
2552	D6	3437	A3	3530	A3		
2553	D5	3440	D7	3531	B7		
2554	D5	3441	C2	3533	B5		
2555	E5	3442	D7	3534	B5		
2556	D5	3443	D7	3535	C2		
2557	E6	3444	A2	3536	A2		
2558	D7	3445	A1	3539	C1		
2559	D7	3446	A2	3550	A5		
2560	D7	3447	A2	3551	A5		
2561	D7	3448	A1	3552	A5		
2562	A7	3449	A2	3553	A6		
2563	B8	3450	A1	3554	A5		
2564	D6	3451	A2	3557	A5		
2566	D6	3452	B1	3558	A5		
2567	D6	3453	B2	3559	A5		
2568	C3	3454	B1	3560	C8		
2574	C3	3455	B2	3561	B8		
2575	C3	3456	B1	3563	D7		
2576	C3	3457	B1	3564	D6		
2577	C2	3458	B1	3565	D6		
2578	A2	3459	B1	3566	A5		
2579	A1	3460	B1	3570	C2		
2580	A1	3461	B1	3571	A2		
2581	C2	3462	B1	3575	A5		
2582	C2	3463	B1	3576	D7		
2583	B8	3464	B1	3577	D7		
2584	C8	3465	B1	3578	D7		
2585	D5	3466	C1	3579	A7		
2586	D5	3467	C1	3580	D7		

3139 113 3514 pt4 dd wk0310

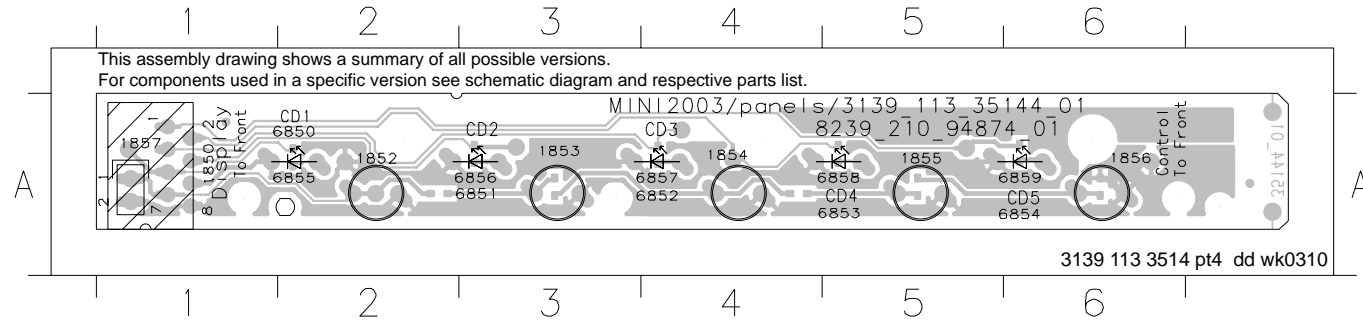
# DISPLAY BOARD - CIRCUIT DIAGRAM





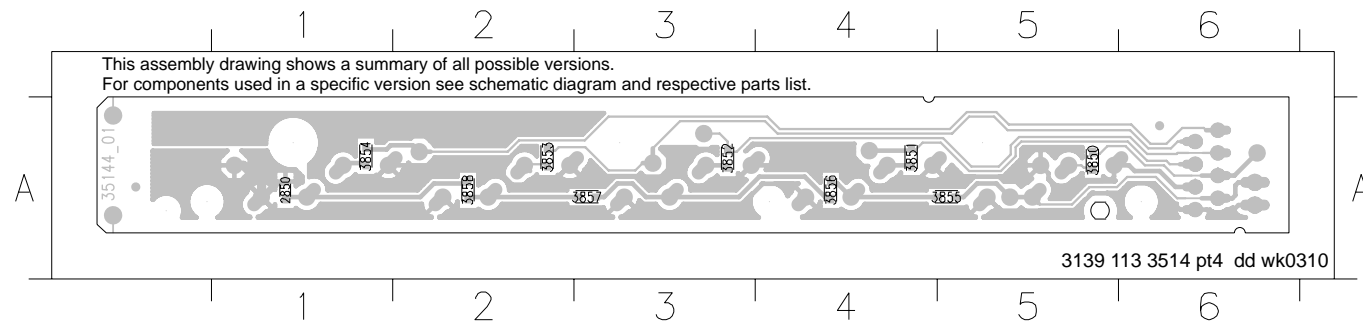
**5DTC KEY BOARD - COMPONENT LAYOUT**

1850 A1 1853 A3 1855 A5 1857 A1 6851 A3 6853 A5 6855 A2 6857 A4 6859 A6  
 1852 A2 1854 A4 1856 A6 6850 A2 6852 A4 6854 A6 6856 A3 6858 A5



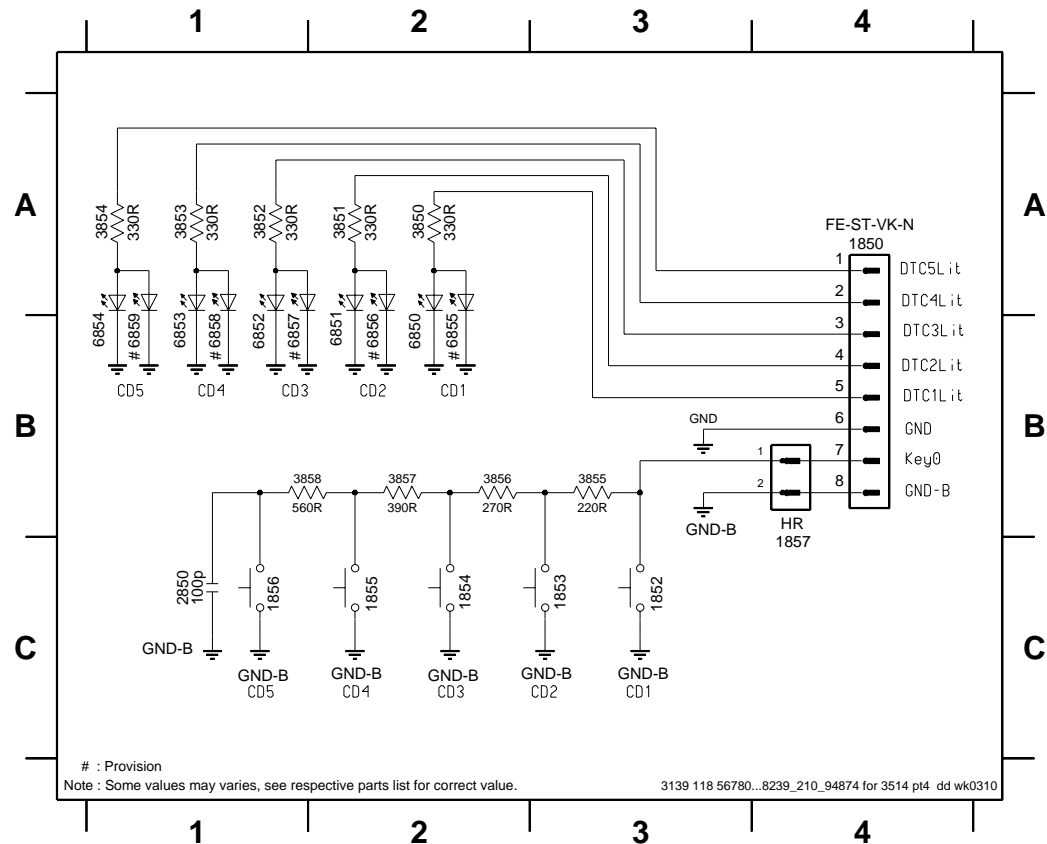
**5DTC KEY BOARD - CHIP LAYOUT**

2850 A1 3850 A5 3851 A4 3852 A3 3853 A2 3854 A1 3855 A5 3856 A4 3857 A3 3858 A2



**5DTC KEY BOARD - CIRCUIT DIAGRAM**

1850 A4 1854 C2 1857 C4 3851 A2 3854 A1 3857 B2 6851 A2 6854 B1 6857 B1  
 1852 C3 1855 C2 2850 C1 3852 A1 3855 B3 3858 B1 6852 A1 6855 B2 6858 B1  
 1853 C3 1856 C1 3850 A2 3853 A1 3856 B2 6850 A2 6853 A1 6856 B2 6859 B1



**ELECTRICAL PARTS LIST - FRONT DISPLAY BOARD**

**MISCELLANEOUS**

1400	4822 265 11531	Flex Connector 9P	2556	4822 126 11785	47pF 5% 50V
1401	4822 265 11545	Flex Connector 19P	2557	2238 586 59812	100nF +80/-20% 50V
1402	4822 267 10729	Flex Connector 10P	2558	2020 552 94427	100pF 5% 50V
1403	2412 020 00724	Flex Connector 2P	2559	2020 552 94427	100pF 5% 50V
1407	4822 267 10954	Flex Connector 5P	2560	2020 552 94427	100pF 5% 50V
1420	3139 110 53411	FTD	2561	2020 552 94427	100pF 5% 50V
1852	4822 276 13775	Tact Switch	2563	2020 552 94427	100pF 5% 50V
1853	4822 276 13775	Tact Switch	2564	5322 126 11578	1nF 10% 50V
1854	4822 276 13775	Tact Switch	2566	3198 017 41050	1uF 10V
1855	4822 276 13775	Tact Switch	2567	4822 126 13879	220nF +80/-20% 16V
1856	4822 276 13775	Tact Switch	2568	4822 126 14223	2,2pF 50V
			2569	4822 124 40248	10uF 20% 63V
			2570	4822 124 12233	47uF 20% 25V
			2571	4822 124 12233	47uF 20% 25V
			2572	3198 028 44790	47uF 20% 35V
			2574	4822 122 33761	22pF 5% 50V
			2575	4822 122 33761	22pF 5% 50V
			2576	4822 122 33761	22pF 5% 50V
			2577	4822 122 33761	22pF 5% 50V
			2578	2238 586 59812	100nF +80/-20% 50V
			2579	4822 126 13883	220pF 5% 50V
			2580	4822 126 13883	220pF 5% 50V
			2581	4822 126 13883	220pF 5% 50V
			2582	4822 126 13883	220pF 5% 50V
			2583	4822 126 13883	220pF 5% 50V
			2584	2020 552 94427	100pF 5% 50V
			2585	4822 126 11785	47pF 5% 50V
			2586	4822 126 11785	47pF 5% 50V
			2588	2020 552 96305	4,7uF +80/-20% 10V
			2844	2020 552 94427	100pF 5% 50V
			2845	2020 552 94427	100pF 5% 50V
			2850	2020 552 94427	100pF 5% 50V

**CAPACITORS**

2504	2020 552 94427	100pF 5% 50V	2571	4822 124 12233	47uF 20% 25V
2505	2020 552 94427	100pF 5% 50V	2572	3198 028 44790	47uF 20% 35V
2506	2020 552 94427	100pF 5% 50V	2574	4822 122 33761	22pF 5% 50V
2507	2020 552 94427	100pF 5% 50V	2575	4822 122 33761	22pF 5% 50V
2508	3198 024 44730	47nF 50V	2576	4822 122 33761	22pF 5% 50V
2509	2238 586 59812	100nF +80/-20% 50V	2577	4822 122 33761	22pF 5% 50V
2520	5322 126 11583	10nF 10% 50V	2578	2238 586 59812	100nF +80/-20% 50V
2521	5322 126 11583	10nF 10% 50V	2579	4822 126 13883	220pF 5% 50V
2522	2238 586 59812	100nF +80/-20% 50V	2580	4822 126 13883	220pF 5% 50V
2523	2238 586 59812	100nF +80/-20% 50V	2581	4822 126 13883	220pF 5% 50V
2524	2238 586 59812	100nF +80/-20% 50V	2582	4822 126 13883	220pF 5% 50V
2525	4822 124 12233	47uF 20% 25V	2583	4822 126 13883	220pF 5% 50V
2526	2238 586 59812	100nF +80/-20% 50V	2584	2020 552 94427	100pF 5% 50V
2527	4822 124 12312	4,7uF 20% 16V	2585	4822 126 11785	47pF 5% 50V
2528	4822 124 12312	4,7uF 20% 16V	2586	4822 126 11785	47pF 5% 50V
2529	4822 124 12312	4,7uF 20% 16V	2588	2020 552 96305	4,7uF +80/-20% 10V
2530	4822 124 12312	4,7uF 20% 16V	2844	2020 552 94427	100pF 5% 50V
2531	2020 552 96305	4,7uF +80/-20% 10V	2845	2020 552 94427	100pF 5% 50V
2532	4822 126 13879	220nF +80/-20% 16V	2850	2020 552 94427	100pF 5% 50V
2533	2020 552 94427	100pF 5% 50V			
2534	2020 552 96305	4,7uF +80/-20% 10V			
2535	5322 126 11578	1nF 10% 50V			
2536	4822 126 13883	220pF 5% 50V			
2537	3198 017 41050	1uF 10V			
2541	4822 126 13883	220pF 5% 50V			
2542	4822 126 13883	220pF 5% 50V			
2543	2238 586 59812	100nF +80/-20% 50V			
2544	2238 586 59812	100nF +80/-20% 50V			
2545	4822 126 13879	220nF +80/-20% 16V			
2546	4822 126 13883	220pF 5% 50V			
2547	4822 126 13883	220pF 5% 50V			
2548	2020 552 94427	100pF 5% 50V			
2549	4822 126 11785	47pF 5% 50V			
2550	4822 126 11785	47pF 5% 50V			
2551	4822 126 11785	47pF 5% 50V			
2552	4822 126 11785	47pF 5% 50V			
2553	4822 126 11785	47pF 5% 50V			
2554	4822 126 11785	47pF 5% 50V			
2555	2238 586 59812	100nF +80/-20% 50V			

**RESISTORS**

3400	4822 051 30102	1k 5% 0,062W
3401	4822 051 30102	1k 5% 0,062W
3402	4822 051 30102	1k 5% 0,062W
3403	4822 051 30102	1k 5% 0,062W
3404	4822 051 30471	470R 5% 0,062W
3405	4822 117 12902	8k2 1% 0,063W
3406	4822 117 12902	8k2 1% 0,063W
3407	4822 051 20229	22R 5% 0,1W
3408	4822 051 20159	15R 5% 0,1W
3409	4822 051 30472	4k7 5% 0,062W
3410	4822 051 20229	22R 5% 0,1W
3411	4822 051 20159	15R 5% 0,1W
3412	4822 051 30102	1k 5% 0,062W
3413	4822 051 30105	1M 5% 0,062W
3414	4822 051 30102	1k 5% 0,062W
3415	4822 051 30102	1k 5% 0,062W
3416	4822 051 30102	1k 5% 0,062W
3417	4822 051 30102	1k 5% 0,062W

**ELECTRICAL PARTS LIST - FRONT DISPLAY BOARD****RESISTORS**

3418	4822 051 30102	1k 5% 0,062W	3472	4822 051 30103	10k 5% 0,062W
3419	4822 051 30102	1k 5% 0,062W	3473	4822 051 30103	10k 5% 0,062W
3420	4822 051 30102	1k 5% 0,062W	3474	4822 051 30102	1k 5% 0,062W
3421	4822 051 30102	1k 5% 0,062W	3475	4822 051 30102	1k 5% 0,062W
3422	4822 051 30102	1k 5% 0,062W	3476	4822 051 30102	1k 5% 0,062W
3423	4822 051 30102	1k 5% 0,062W	3477	4822 051 30102	1k 5% 0,062W
3424	4822 051 30102	1k 5% 0,062W	3479	4822 051 30102	1k 5% 0,062W
3425	4822 051 30102	1k 5% 0,062W	3480	4822 051 30102	1k 5% 0,062W
3426	4822 051 30102	1k 5% 0,062W	3481	4822 051 30221	220R 5% 0,062W
3427	4822 117 12925	47k 1% 0,063W	3483	4822 051 30471	470R 5% 0,062W
3428	4822 051 30102	1k 5% 0,062W	3484	4822 051 30471	470R 5% 0,062W
3429	4822 051 30102	1k 5% 0,062W	3488	4822 051 30102	1k 5% 0,062W
3430	4822 051 30102	1k 5% 0,062W	3489	4822 051 30102	1k 5% 0,062W
3431	4822 051 30102	1k 5% 0,062W	3490	4822 051 30471	470R 5% 0,062W
3432	4822 051 30102	1k 5% 0,062W	3491	4822 051 30471	470R 5% 0,062W
3433	4822 051 30102	1k 5% 0,062W	3492	4822 051 30471	470R 5% 0,062W
3434	4822 051 30102	1k 5% 0,062W	3493	4822 051 30102	1k 5% 0,062W
3435	4822 051 30102	1k 5% 0,062W	3495	4822 051 30103	10k 5% 0,062W
3436	4822 051 30102	1k 5% 0,062W	3496	4822 051 30221	220R 5% 0,062W
3437	4822 051 30102	1k 5% 0,062W	3497	4822 051 30221	220R 5% 0,062W
3440	4822 051 30153	15k 5% 0,062W	3498	4822 051 30151	150R 5% 0,062W
3441	4822 051 30103	10k 5% 0,062W	3502	4822 051 30683	68k 5% 0,062W
3442	4822 051 30474	470k 5% 0,062W	3503	4822 051 30683	68k 5% 0,062W
3443	4822 051 30684	680k 5% 0,062W	3511	4822 051 30272	2k7 5% 0,062W
3444	4822 051 30102	1k 5% 0,062W	3519	4822 117 12925	47k 1% 0,063W
3445	4822 051 30102	1k 5% 0,062W	3520	4822 117 12925	47k 1% 0,063W
3446	4822 051 30102	1k 5% 0,062W	3521	4822 051 30684	680k 5% 0,062W
3447	4822 051 30102	1k 5% 0,062W	3522	4822 117 12925	47k 1% 0,063W
3448	4822 051 30102	1k 5% 0,062W	3523	4822 051 30474	470k 5% 0,062W
3449	4822 051 30102	1k 5% 0,062W	3526	4822 051 30153	15k 5% 0,062W
3450	4822 051 30102	1k 5% 0,062W	3529	4822 051 30272	2k7 5% 0,062W
3451	4822 051 30102	1k 5% 0,062W	3530	3198 021 31810	180R 5% 0,62W
3452	4822 051 30102	1k 5% 0,062W	3531	4822 051 30682	6k8 5% 0,062W
3453	4822 051 30102	1k 5% 0,062W	3532	4822 116 83961	6k8 5%
3454	4822 051 30102	1k 5% 0,062W	3533	4822 051 30102	1k 5% 0,062W
3455	4822 051 30102	1k 5% 0,062W	3534	4822 051 30102	1k 5% 0,062W
3456	4822 051 30102	1k 5% 0,062W	3535	4822 051 20229	22R 5% 0,1W
3457	4822 051 30102	1k 5% 0,062W	3536	4822 051 20229	22R 5% 0,1W
3458	4822 051 30102	1k 5% 0,062W	3537	4822 052 10221	△ 220R 5% 0,33W
3459	4822 051 30102	1k 5% 0,062W	3538	4822 052 10221	△ 220R 5% 0,33W
3460	4822 051 30102	1k 5% 0,062W	3539	4822 051 30223	22k 5% 0,062W
3461	4822 051 30102	1k 5% 0,062W	3550	4822 051 30472	4k7 5% 0,062W
3462	4822 051 30102	1k 5% 0,062W	3551	4822 051 30103	10k 5% 0,062W
3463	4822 051 30102	1k 5% 0,062W	3552	4822 051 30103	10k 5% 0,062W
3464	4822 051 30102	1k 5% 0,062W	3553	4822 051 30103	10k 5% 0,062W
3465	4822 051 30102	1k 5% 0,062W	3554	4822 051 30103	10k 5% 0,062W
3466	4822 051 30102	1k 5% 0,062W	3563	4822 051 30103	10k 5% 0,062W
3467	4822 051 30102	1k 5% 0,062W	3564	4822 051 30221	220R 5% 0,062W
3468	4822 051 30102	1k 5% 0,062W	3565	4822 051 30221	220R 5% 0,062W
3469	4822 051 30103	10k 5% 0,062W	3566	4822 051 30221	220R 5% 0,062W
3470	4822 051 30103	10k 5% 0,062W	3570	4822 051 20229	22R 5% 0,1W
3471	4822 051 30103	10k 5% 0,062W	3571	4822 051 20229	22R 5% 0,1W

**ELECTRICAL PARTS LIST - FRONT DISPLAY BOARD**

3575	4822 051 30102	1k 5% 0,062W	7400	3139 110 52071	TMP88CU74YF - FWM569,779
3576	4822 051 30103	10k 5% 0,062W	7403	4822 209 15449	74HC4094D
3577	4822 051 30103	10k 5% 0,062W	7405	9322 145 26668	M24C02-WMN6
3578	4822 051 30103	10k 5% 0,062W	7406	5322 130 60159	BC847B
3580	4822 051 30102	1k 5% 0,062W	7407	5322 130 60159	BC847B
3581	4822 051 30102	1k 5% 0,062W	7409	5322 130 60159	BC847B
3582	4822 051 30102	1k 5% 0,062W	7410	5322 130 60159	BC847B
3583	4822 051 30223	22k 5% 0,062W	7413	5322 130 60159	BC847B
3585	4822 051 30334	330k 5% 0,062W			
3589	4822 051 30102	1k 5% 0,062W			
3590	4822 117 13632	100k 1% 0,62W			
3591	4822 117 13632	100k 1% 0,62W			
3595	4822 051 30272	2k7 5% 0,062W			
3596	4822 051 30272	2k7 5% 0,062W			
3848	4822 051 30103	10k 5% 0,062W			
3849	4822 051 30103	10k 5% 0,062W			
3855	4822 051 30221	220R 5% 0,062W			
3856	4822 051 30271	270R 5% 0,062W			
3857	4822 051 30391	390R 5% 0,062W			
3858	4822 051 30561	560R 5% 0,062W			
4402	4822 051 30008	0R Jumper 0603			
4403	4822 051 30008	0R Jumper 0603			
4404	4822 051 30008	0R Jumper 0603			
4406	4822 051 30008	0R Jumper 0603			
4407	4822 051 30008	0R Jumper 0603			
4408	4822 051 30008	0R Jumper 0603			
4409	4822 051 30008	0R Jumper 0603			

Note : Only the parts mentioned in this list are normal service spare parts.

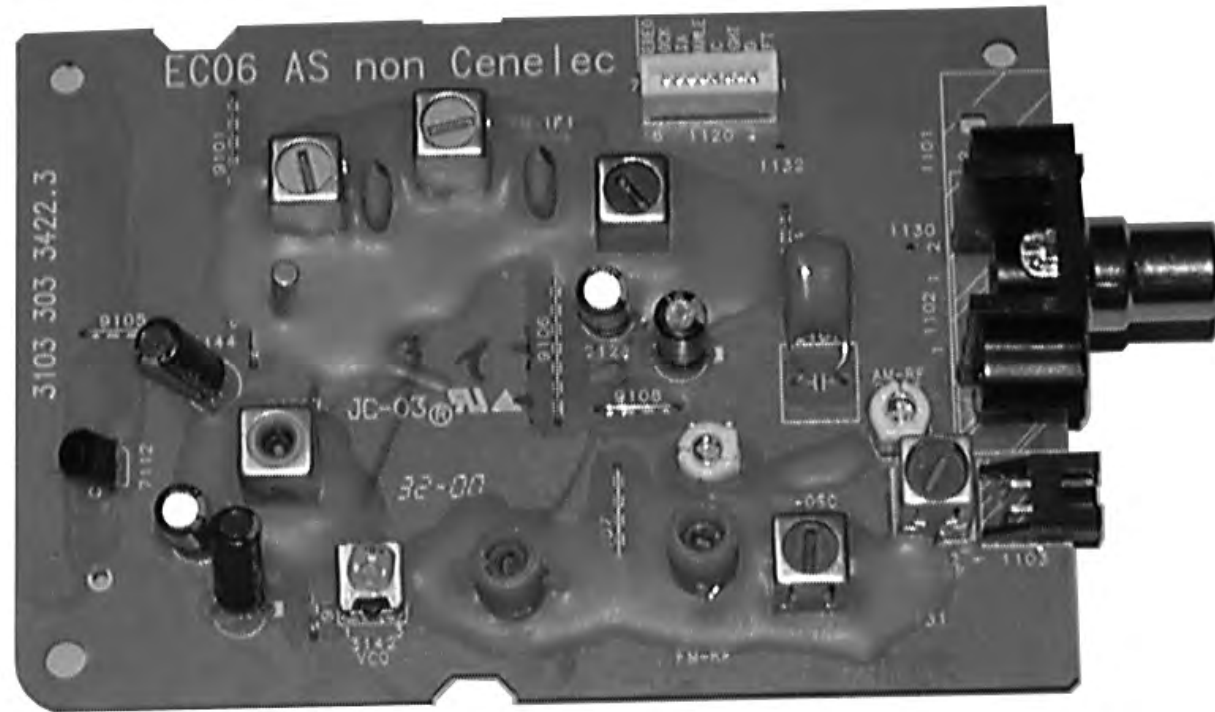
**COILS & FILTERS**

5400	4822 157 62552	Coil 2,2uH 5%
5401	4822 157 62552	Coil 2,2uH 5%
5402	5322 242 73686	RES CER 12MHz
5403	4822 242 70938	RES XTL 32,768kHz
5406	4822 157 10586	Coil 2,2uH 10%

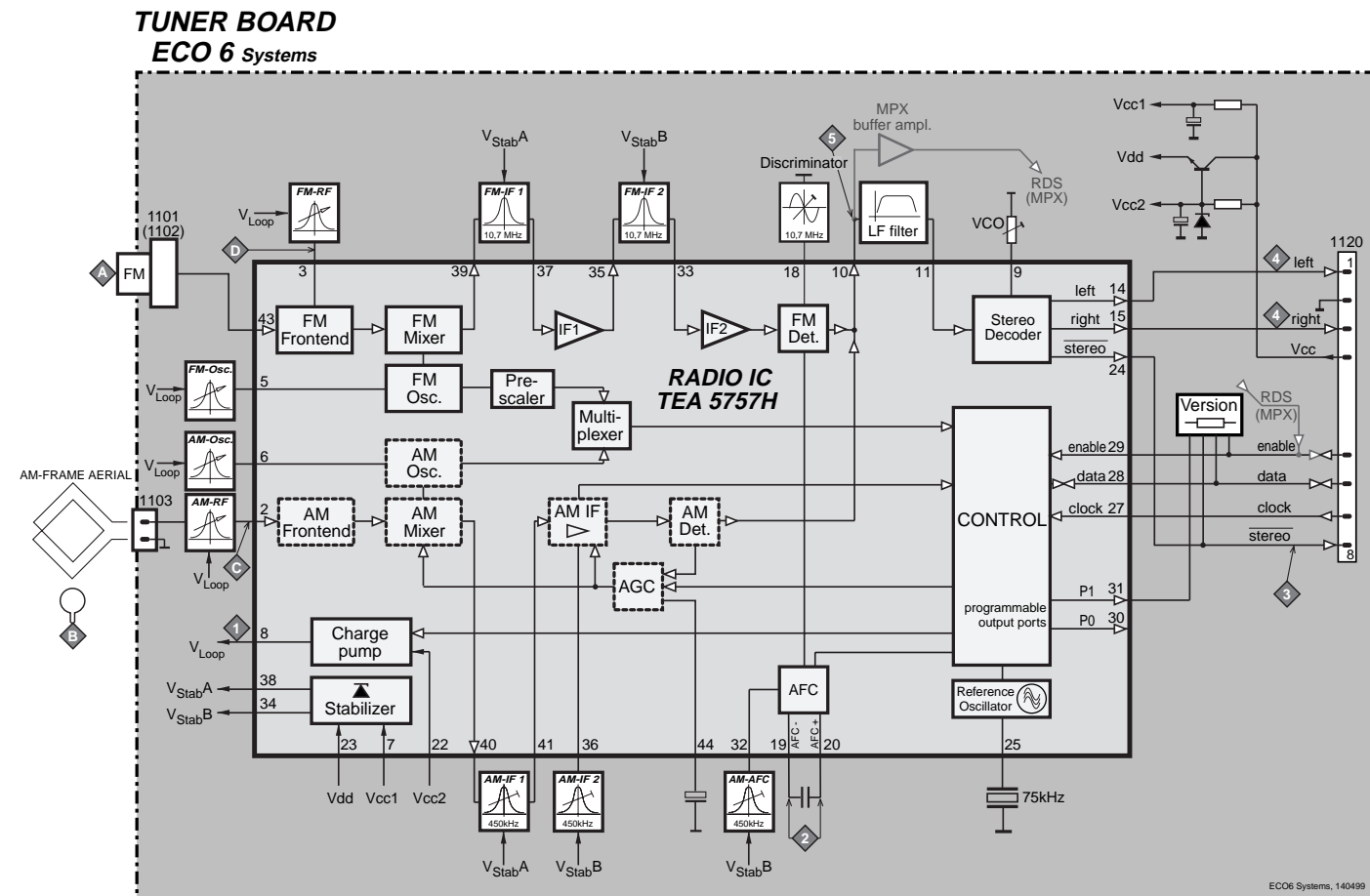
**DIODES**

6400	4822 130 30621	1N4148
6401	4822 130 30621	1N4148
6402	4822 130 30621	1N4148
6403	4822 130 30621	1N4148
6405	4822 130 34278	BZX79-B6V8
6406	4822 130 30621	1N4148
6407	4822 130 30621	1N4148
6408	4822 130 31878	1N4003G
6409	4822 130 30621	1N4148
6410	4822 130 31878	1N4003G
6411	4822 130 31878	1N4003G
6413	4822 130 31878	1N4003G
6414	4822 130 30621	1N4148
6416	4822 130 30621	1N4148

**TRANSISTORS & INTEGRATED CIRCUITS**



BLOCK DIAGRAM

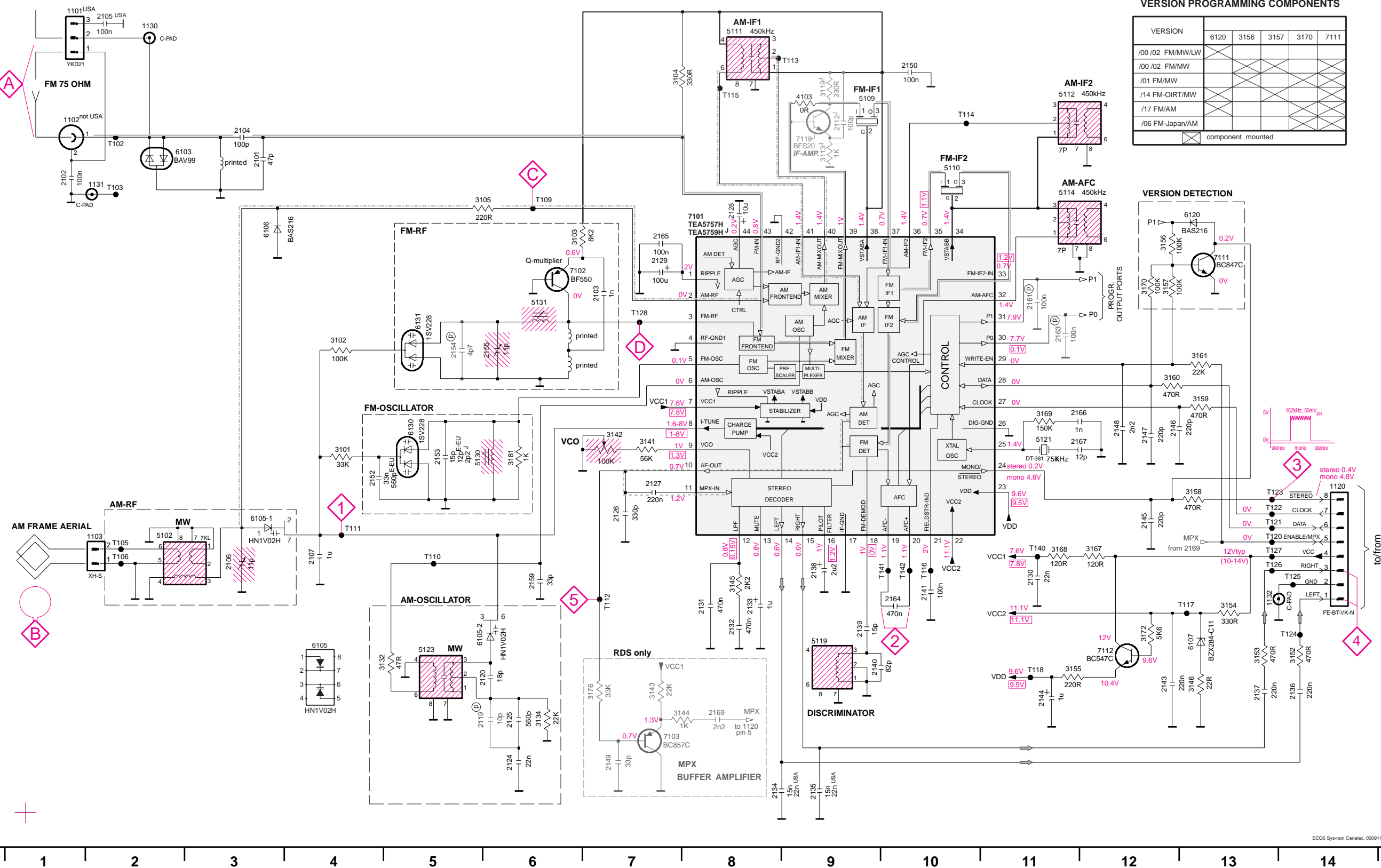


**ECO6 Tuner Board**  
version: **SYSTEMS non-CENELEC**

TABLE OF CONTENTS

Blockdiagram .....7A-1  
 Schematic Diagram .....7A-2  
 Component Layout.....7A-3  
 Adjustment table .....7A-3  
 Electrical Partslist.....7A-4

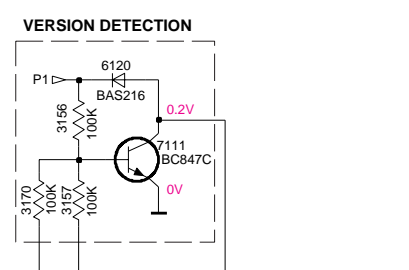
# TUNER BOARD ECO6 / SYSTEMS NON CENELEC



### VERSION PROGRAMMING COMPONENTS

VERSION	6120	3156	3157	3170	7111
/00 /02 FM/MW/LW					
/00 /02 FM/MW					
/01 FM/MW					
/14 FM-OIRT/MW					
/17 FM/AM					
/06 FM-Japan/AM					

component mounted



- 1101 A1
- 1102 B1
- 1103 F2
- 1120 E14
- 1130 A2
- 1131 B2
- 1132 G13
- 2101 B3
- 2102 B1
- 2103 C7
- 2104 B3
- 2105 A2
- 2106 F3
- 2107 F4
- 2119 H6
- 2120 G6
- 2124 H6
- 2125 H6
- 2126 F7
- 2127 E7
- 2128 C8
- 2129 C7
- 2130 F11
- 2131 G8
- 2132 G8
- 2133 G8
- 2134 H8
- 2135 H9
- 2136 G14
- 2137 G13
- 2138 F9
- 2139 G9
- 2140 G9
- 2141 F10
- 2143 G12
- 2144 G11
- 2145 F12
- 2146 E12
- 2147 E12
- 2148 E12
- 2149 H7
- 2150 A10
- 2152 A4
- 2153 E5
- 2154 D5
- 2155 D5
- 2159 F6
- 2161 C11
- 2163 D11
- 2164 F10
- 2165 C7
- 2166 E11
- 2167 E11
- 2169 H8
- 3101 E4
- 3102 D4
- 3103 C6
- 3104 A7
- 3105 B6
- 3132 G5
- 3134 H6
- 3141 E7
- 3142 E7
- 3143 G7
- 3144 H7
- 3145 F8
- 3146 G13
- 3152 G14
- 3153 G13
- 3154 G13
- 3155 G11
- 3156 C12
- 3157 C12
- 3158 E13
- 3159 D13
- 3160 D12
- 3161 D13
- 3167 F12
- 3168 F11
- 3169 E11
- 3170 C12
- 3172 G12
- 3176 G7
- 3181 E6
- 5102 E2
- 5109 B9
- 5110 B10
- 5111 A8
- 5112 A11
- 5114 A11
- 5119 G9
- 5121 E11
- 5123 G5
- 530 E5
- 531 C6
- 6103 B2
- 6105 F3
- 6105-2 G5
- 6106 C3
- 6107 G13
- 6120 C13
- 6130 E5
- 6131 D5
- 7101 C8
- 7102 C6
- 7103 H7
- 7111 C13
- 7112 F13
- 7127 F13
- T102 B2
- T103 B2
- T105 F2
- T106 F2
- T109 B6
- T110 F5
- T111 F4
- T112 F7
- T113 A8
- T114 B10
- T115 A8
- T116 A8
- T117 G10
- T118 G13
- T119 B6
- T122 F13
- T123 F13
- T124 F13
- T125 F13
- T126 F13
- T127 F13
- T128 D7
- T140 F11
- T141 F10
- T142 F10

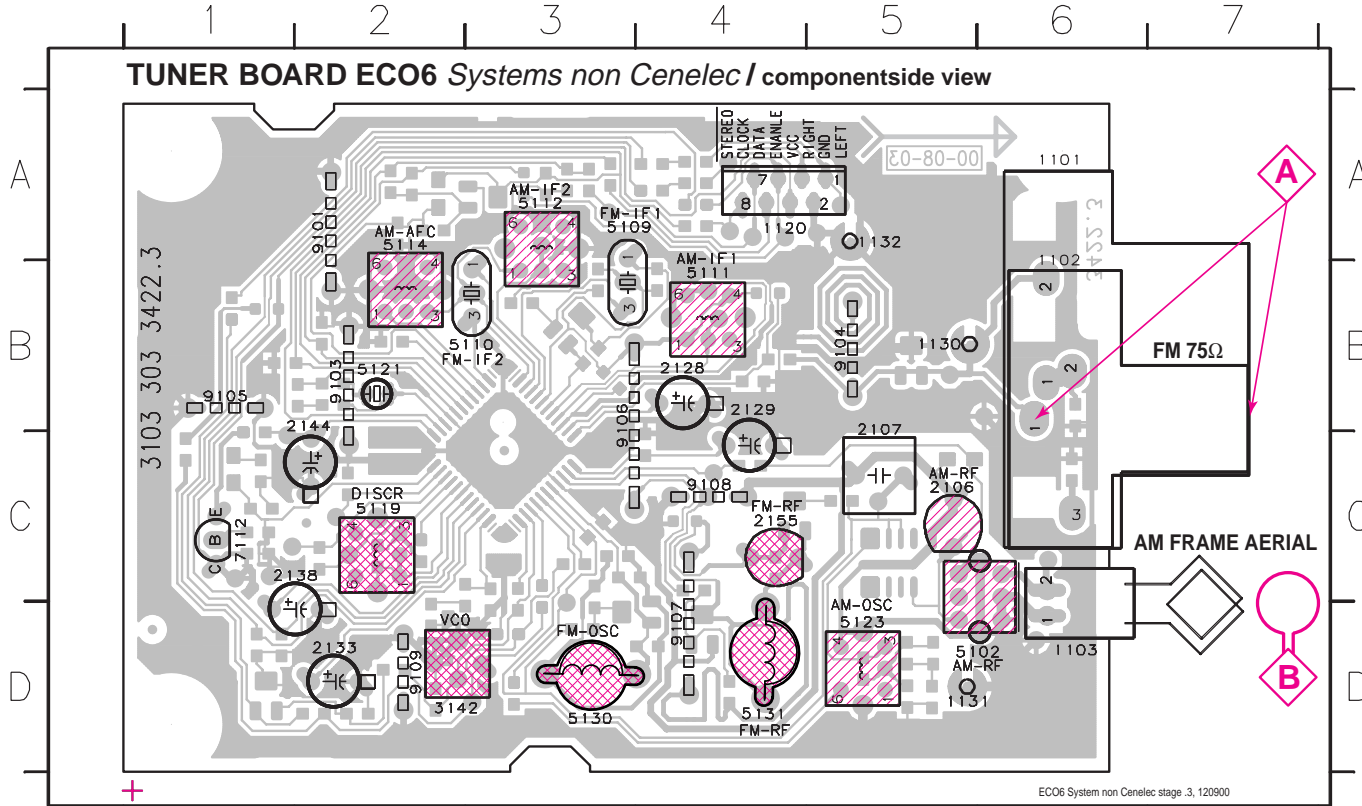
**LEGEND**  
 (P)...for provision only  
 USA ... for USA version only  
 E-EU ... for East European version only  
 J ... for Japanese version only

...V FM mode stereo  
 ...V MW mode  
 ...V LW mode  
 voltages measured while set is tuned to a strong transmitter

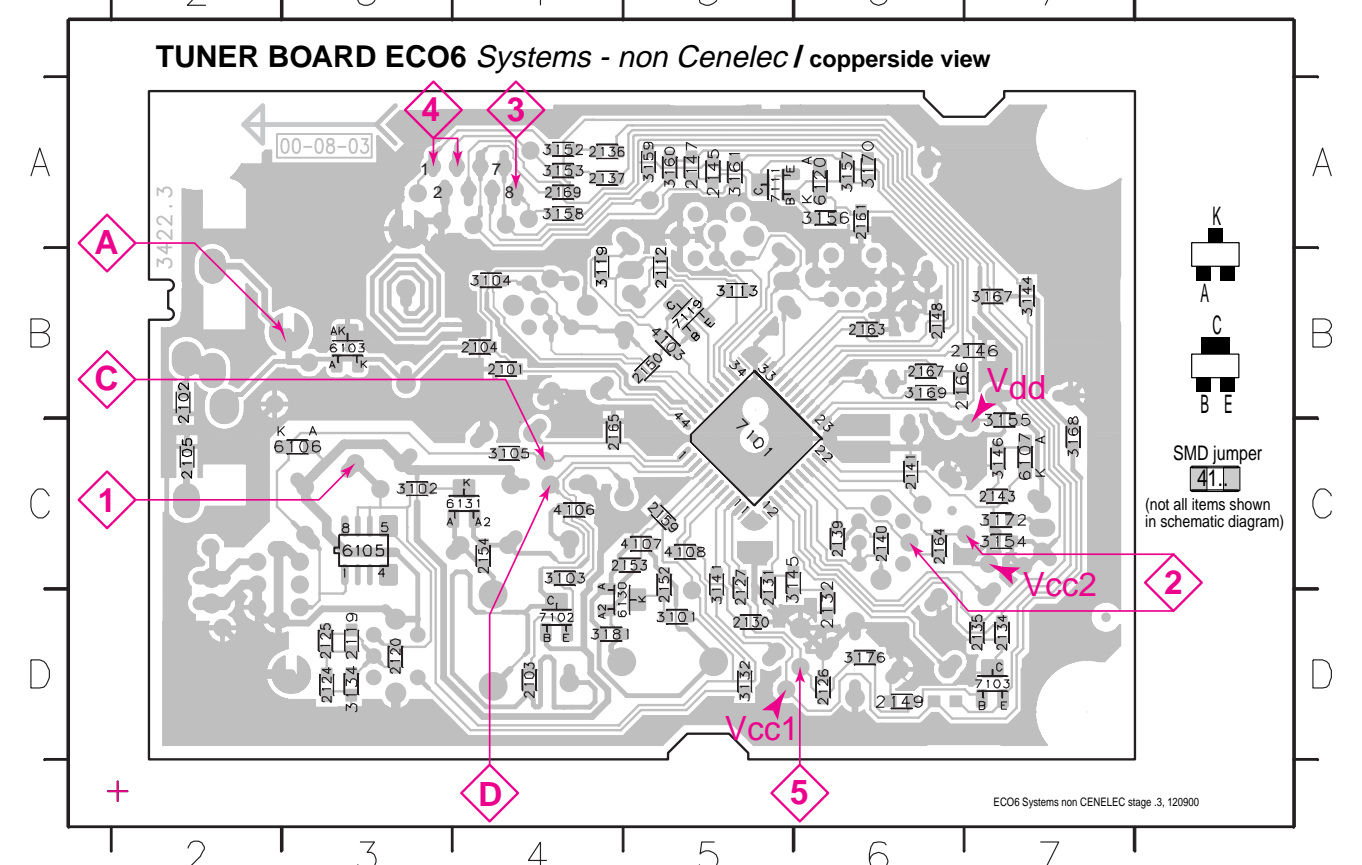
**Signal path**  
 — FM  
 - - - AM  
 ····· MPX (Audio Frequency)  
 ⇨ AF - left/right

ECO6 Sys-non Cenelec, 000911

1101 A6 1120 A4 1132 A5 2128 C4 2138 C2 3142 D2 5110 B3 5114 A2 5123 D5 7112 C1 9104 B5 9107 D4  
 1102 B6 1130 B5 2106 C5 2129 B4 2144 B2 5102 D6 5111 B4 5119 C2 5130 D3 9101 A2 9105 B1 9108 C4  
 1103 D6 1131 D5 2107 B5 2133 D2 2155 C4 5109 A3 5112 A3 5121 B2 5131 D4 9103 B2 9106 B3 9109 D2



2101 B4 2119 D3 2130 D5 2137 A4 2146 B7 2153 C5 2165 C4 3103 C4 3134 D3 3152 A4 3158 A4 3169 B6 4106 C4 6107 C7 7103 D7  
 2102 B1 2120 D3 2131 C5 2139 C6 2147 A5 2154 C4 2166 B6 3104 B4 3141 C5 3153 A4 3159 A5 3170 A6 4107 C5 6120 A6 7111 A5  
 2103 D4 2124 D3 2132 D6 2140 C6 2148 B6 2159 C5 2167 B6 3105 C4 3143 D6 3154 C7 3160 A5 3172 C7 4108 C5 6130 D4 7119 B5  
 2104 B4 2125 D3 2134 D7 2141 C6 2149 D6 2161 A6 2169 A4 3113 B5 3144 B7 3155 C7 3161 A5 3176 D6 6103 B3 6131 C4  
 2105 C1 2126 D6 2135 D7 2143 C7 2150 B5 2163 B6 3101 D5 3119 B5 3145 C5 3156 A6 3167 B7 3181 D4 6105 C3 7101 C5  
 2112 B5 2127 C5 2136 A4 2145 A5 2152 C5 3102 C3 3132 D5 3146 C7 3157 A6 3168 C7 4103 B5 6106 C3 7102 D4



These assembly drawings show a summary of all possible versions.  
 For components used in a specific version see schematic diagram respectively partlist.

TUNER ADJUSTMENT TABLE ( ECO6 FM/MW- and FM/MW/LW - versions with AM-frame aerial )

Waverange	Input frequency	Input	Tuned to	Adjust	Output	Scope/Voltmeter
<b>VARICAP ALIGNMENT</b>						
<b>FM</b> 87.5 - 108MHz (65.81 - 74, 87.5 - 108MHz)			108MHz	5130		8V ±0.2V
			87.5MHz (65.81MHz)	check		4.3V ±0.5V (1.2V ±0.5V)
<b>MW</b> FM/AM-version, 10kHz grid 530 - 1700kHz			1700kHz	5123		8V ±0.2V
			530kHz	check		1.1V ±0.4V
FM/MW-version, 9kHz grid 531 - 1602kHz			1602kHz	5123	1	6.9V ±0.2V
			531kHz	check		1.1V ±0.4V
<b>LW</b> 153 - 279kHz			279kHz	5122		8V ±0.2V
			153kHz	check		1.1V ±0.4V
<b>MW</b> FM/MW/LW- version, 9kHz grid 531 - 1602kHz			1602kHz	5123		8V ±0.2V
			531kHz	check		1.1V ±0.4V
<b>FM IF</b>						
<b>FM</b>	10.7MHz, 45mV continuous wave	D		5119	2	0 ± 3 mV DC
<b>FM RF</b>						
<b>FM</b> 87.5 - 108MHz (65.81 - 74, 87.5 - 108MHz)	108MHz	A	108MHz	2155	4	MAX
	87.5MHz (65.81MHz)	mod=1kHz Δf=±22.5kHz	87.5MHz (65.81MHz)	5131		
<b>VCO</b>						
<b>FM</b>	98MHz, 1mV continuous wave	A	98MHz	3142	3	152kHz ±1kHz <sup>1)</sup>
<b>AM IF</b>						
<b>MW</b>	450kHz connect pin 6 of IC 7101 (AM Osc.) with 3.3kΩ to Vcc	C		5111	5	
		C		5112		
<b>AM AFC</b> <b>MW</b>		C	continuous wave V <sub>RF</sub> = 2mV	5114	2	0 ± 2 mV DC
<b>AM RF<sup>3)</sup></b>						
<b>MW<sup>4)</sup></b> FM/MW/LW- and FM/MW-version (9kHz grid)	1494kHz	B	1494kHz	2106	5	
	531 - 1602kHz		558kHz	5102		
<b>LW</b>	198kHz		198kHz	5103		
<b>MW</b> FM/AM-version, 10kHz grid 530 - 1700kHz	1500kHz	B	1500kHz	2106	5	
	560kHz		560kHz	5102		

Use Service Testprogram. By selecting the TUNER TEST test frequencies will be stored as preset frequencies automatically.

- 1) If sensitivity of frequency counter is too low adjust to max. channel separation (input signal: stereo left 90° + 9°, adjust output on right channel to minimum)
- 2) RC network serves for damping the IF-filter while adjusting the other one.
- 3) For AM RF adjustments the original frame antenna has to be used!
- 4) MW has to be aligned before LW.

↑ Repeat

MISCELLANEOUS

1101	2422 015 19376	SOCKET 2P CLICKFIT	USA only
1102	4822 267 10283	SOCKET COAX, IEC 75Ω	not USA
1103	4822 265 31184	JST CONNECTOR 2 POLE	
1120	4822 265 11515	FFC SOCKET, 8P	

CAPACITORS

2101	4822 126 13692	47pF	1%	63V	
2102	4822 126 13838	100nF	10%	50V	not USA
2103	5322 122 31647	1nF	10%	63V	
2104	5322 122 32531	100pF	5%	50V	
2105	4822 126 13838	100nF	10%	50V	USA only

2106	2020 800 00191	3-11pF TRIMCAP.,N450	
2107	4822 121 51319	1μF	20% 50V
2120	4822 126 13689	18pF	1% 63V
2124	5322 122 32654	22nF	10% 63V
2125	2020 552 96199	560pF	1% 50V

2126	5322 122 31863	330pF	5%	50V
2127	4822 126 14076	220nF	20%	25V
2128	4822 124 40248	10μF	20%	63V
2129	4822 124 41584	100μF	20%	10V
2130	5322 122 32654	22nF	10%	63V

2131	4822 126 13482	470nF	20%	16V	
2132	4822 126 13482	470nF	20%	16V	
2133	4822 124 21913	1μF	20%	63V	
2134	4822 126 13188	15nF	5%	63V	not USA
2134	5322 122 32654	22nF	10%	63V	USA only

2135	4822 126 13188	15nF	5%	63V	not USA
2135	5322 122 32654	22nF	10%	63V	USA only
2136	4822 126 14076	220nF	20%	25V	
2137	4822 126 14076	220nF	20%	25V	
2138	4822 124 22652	2,2μF	20%	50V	

2139	4822 126 14236	15pF	5%	50V
2140	4822 126 13695	82pF	1%	63V
2141	4822 126 13838	100nF	10%	50V
2143	4822 126 14076	220nF	20%	25V
2144	4822 124 21913	1μF	20%	63V

2145	4822 122 33575	220pF	5%	50V	
2146	4822 122 33575	220pF	5%	50V	
2147	4822 122 33575	220pF	5%	50V	
2148	4822 122 33127	2,2nF	10%	63V	
2149	5322 122 32659	33pF	5%	50V	RDS only

2150	4822 126 13838	100nF	10%	50V	
2152	4822 126 12105	33nF	5%	63V	not for East Europe
2152	5322 116 80853	560pF	5%	63V	for East Europe only
2153	4822 126 13486	15pF	2%	63V	not for East Europe
2153	4822 122 33926	12pF	2%	50V	for East Europe only

2155	2020 800 00191	3-11pF TRIMCAP.,N450		
2159	5322 122 32659	33pF	5%	50V
2164	4822 126 13482	470nF	20%	16V
2165	4822 126 13838	100nF	10%	50V
2166	5322 122 31647	1nF	10%	63V

2167	4822 122 33926	12pF	5%	50V	
2169	4822 122 33127	2,2nF	10%	63V	RDS only

RESISTORS

3101	4822 051 20333	33kΩ	5%	0,1W
3102	4822 117 10837	100kΩ	1%	0,1W
3103	4822 051 20822	8,2kΩ	5%	0,1W
3104	4822 117 13577	330Ω	1%	0,1W
3105	4822 117 11503	220Ω	5%	0,1W

3132	4822 051 20479	47Ω	5%	0,1W
3134	4822 051 20223	22kΩ	5%	0,1W
3141	4822 117 11148	56kΩ	1%	0,1W
3142	4822 100 12159	TRIMPOT. 100kΩ		

RESISTORS

3143	4822 051 20223	22kΩ	5%	0,1W	RDS only
3144	4822 051 10102	1kΩ	2%	0,25W	RDS only
3145	4822 117 11449	2,2kΩ	1%	0,1W	
3146	4822 051 20229	22Ω	5%	0,1W	
3152	4822 051 20471	470Ω	5%	0,1W	

3153	4822 051 20471	470Ω	5%	0,1W
3154	4822 117 13577	330Ω	1%	0,1W
3155	4822 117 11503	220Ω	5%	0,1W
3156	4822 117 10837	100kΩ	1%	0,1W
3157	4822 117 10837	100kΩ	1%	0,1W

3158	4822 051 20471	470Ω	5%	0,1W
3159	4822 051 20471	470Ω	5%	0,1W
3160	4822 051 20471	470Ω	5%	0,1W
3161	4822 051 20223	22kΩ	5%	0,1W
3167	4822 051 20121	120Ω	5%	0,1W

3168	4822 051 20121	120Ω	5%	0,1W	
3169	4822 051 20154	150kΩ	5%	0,1W	
3170	4822 117 10837	100kΩ	1%	0,1W	
3172	4822 051 20562	5,6kΩ	5%	0,1W	
3176	4822 051 20333	33kΩ	5%	0,1W	RDS only

3181	4822 051 10102	1kΩ	2%	0,25W
4103	4822 051 20008	CHIP JUMPER 0805		
4106	4822 051 20008	CHIP JUMPER 0805		
4107	4822 051 20008	CHIP JUMPER 0805		
4108	4822 051 20008	CHIP JUMPER 0805		

COILS

5102	4822 157 71634	RF-COIL MW
5109	4822 242 70665	FM-IF FILTER 10,7MHz
5110	4822 242 70665	FM-IF FILTER 10,7MHz
5111	2422 549 44023	AM-IF FILTER 450kHz
5112	4822 157 70302	AM-IF FILTER 450kHz

5114	4822 157 70302	AM-IF FILTER 450kHz
5119	4822 157 11443	DISCRIMINATOR COIL
5121	4822 242 10261	QUARTZ 75kHz
5123	2422 549 44108	RF-COIL, AM-OSCILLATOR
5130	4822 157 11843	RF COIL 1,5 TURNS

5131	4822 157 11843	RF COIL 1,5 TURNS
------	----------------	-------------------

DIODES

6103	5322 130 34337	BAV99
6105	4822 130 83075	HN1V02H
6106	4822 130 83757	BAS216
6107	9340 386 90115	BZX284-C11
6120	4822 130 83757	BAS216

6130	4822 130 82833	1SV228
6131	4822 130 82833	1SV228

TRANSISTORS

7102	4822 130 42131	BF550	
7103	5322 130 42756	BC857C	RDS only
7111	5322 130 42755	BC847C	
7112	4822 130 44503	BC547C	

INTEGRATED CIRCUITS

7101	9351 740 80557	TEA5757H/V1, RADIO IC
------	----------------	-----------------------

# PWR303 MODULE UCD 100-150W

Mains pt5 / Reg pt3 / Amp pt2 / Spk pt5 - 17 Nov 03

TABLE OF CONTENTS

Mains UCD Board

Mains Socket UCD Board - Component Layout ..... 8-1  
 Mains Socket UCD Board - Circuit Diagram ..... 8-1  
 Mains UCD Board - Component Layout ..... 8-2  
 Mains UCD Board - Circuit Diagram ..... 8-3

Regulator UCD Board

Component & Chip Layout ..... 8-4  
 Circuit Diagram ..... 8-5

Amplifier UCD Board (SE)

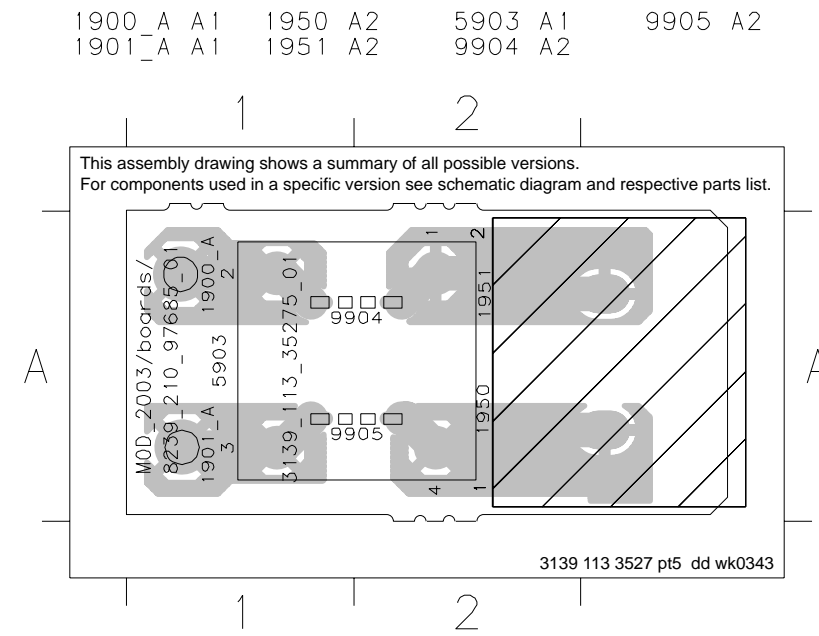
Component Layout ..... 8-6  
 Chip Layout ..... 8-7  
 Circuit Diagram Part 1 ..... 8-8  
 Circuit Diagram Part 2 ..... 8-9

Speaker UCD Board

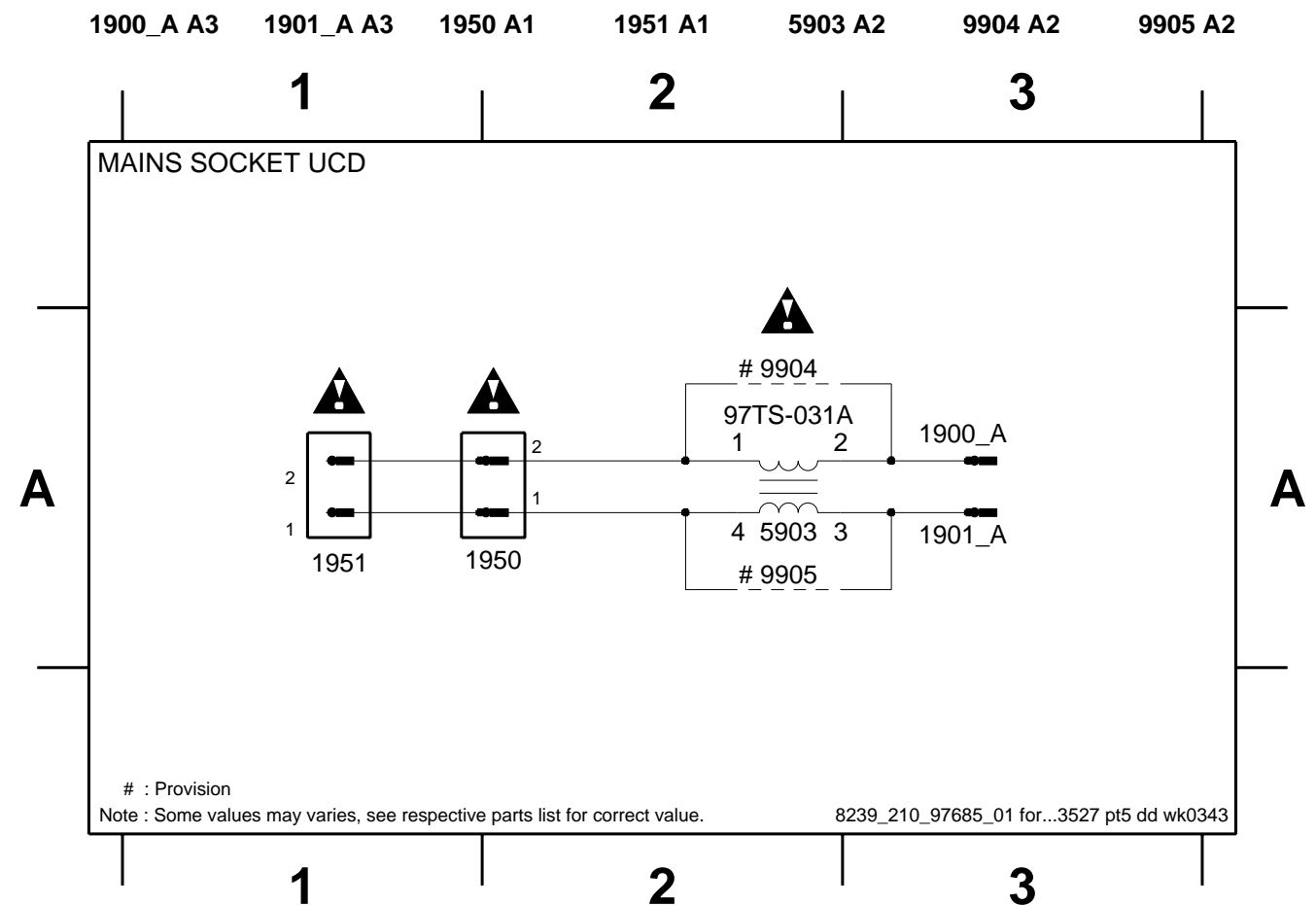
Component Layout ..... 8-10  
 Circuit Diagram ..... 8-10  
 Variation Table ..... 8-10

Wiring Diagram ..... 8-11  
 Exploded View ..... 8-12  
 Electrical parts list ..... 8-13

## MAINS SOCKET UCD BOARD - COMPONENT LAYOUT



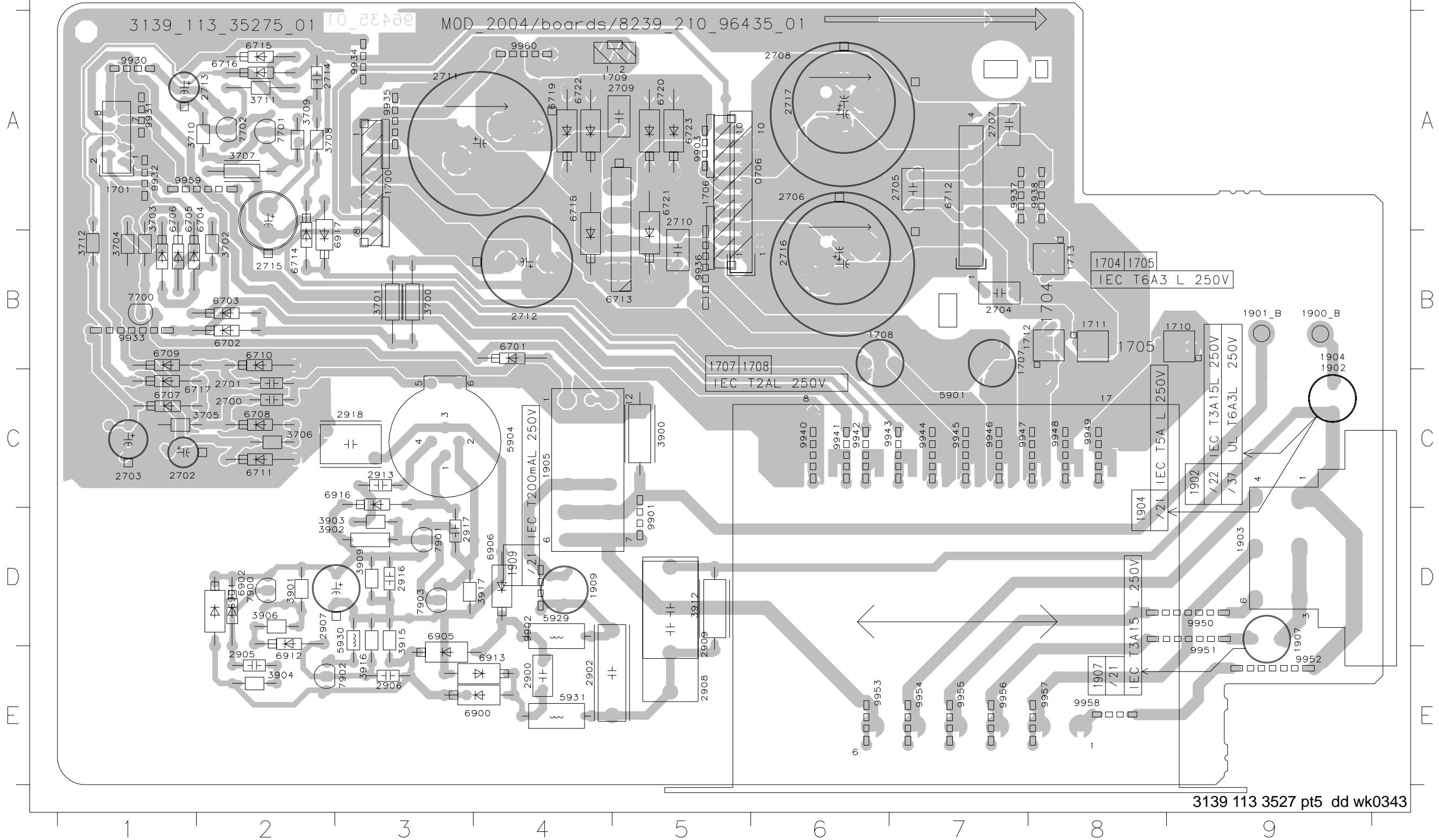
## MAINS SOCKET UCD BOARD - CIRCUIT DIAGRAM



# MAINS UCD BOARD - COMPONENT LAYOUT

0706 A6	1713 B8	2701 C2	2711 A3	2906 E3	3702 B2	3712 B1	3916 E3	6704 A2	6714 B2	6900 E4	7701 A2	9931 A1	9942 C6	9952 E9
1700 A3	1900_B B9	2702 C1	2712 B4	2907 D2	3703 A1	3900 C5	3917 D4	6705 A1	6715 A2	6901 D2	7702 A2	9932 A1	9943 C6	9953 E6
1701 A1	1901_B B9	2703 C1	2713 A2	2908 E5	3704 B1	3901 D2	5901 C7	6706 A1	6716 A2	6902 D2	7900 D2	9933 B1	9944 C7	9954 E7
1706 A5	1902_B9	2704 B7	2714 A2	2909 D5	3705 C2	3902 D2	5904 C4	6707 C1	6717 C2	6905 D3	7901 D3	9934 A3	9945 C7	9955 E7
1707 B7	1903 D9	2705 A7	2715 B2	2913 C3	3706 C2	3903 D2	5929 D4	6708 C2	6718 A4	6906 D4	7902 E3	9935 A3	9946 C7	9956 E7
1708 B6	1904 B9	2706 A6	2716 B6	2916 D3	3707 A2	3904 E2	5930 D3	6709 B1	6719 A4	6912 E2	7903 D3	9936 B5	9947 C7	9957 E8
1709 A5	1905 C4	2707 A7	2717 A6	2917 D3	3708 A2	3906 D2	5931 E4	6710 B2	6720 A5	6913 E4	9901 D5	9937 A7	9948 C8	9958 E8
1710 B9	1907 D9	2708 A6	2900 E4	2918 C3	3709 A2	3909 D3	6701 B4	6711 C2	6721 A5	6916 C3	9902 D4	9938 A8	9949 C8	9959 A1
1711 B8	1909 D4	2709 A5	2902 E4	3700 B3	3710 A1	3912 D5	6702 B2	6712 A7	6722 A4	6917 B3	9903 A5	9940 C6	9950 D9	9960 A4
1712 B7	2700 C2	2710 A5	2905 E2	3701 B3	3711 A2	3915 D3	6703 B2	6713 B5	6723 A5	7700 B1	9930 A1	9941 C6	9951 E9	

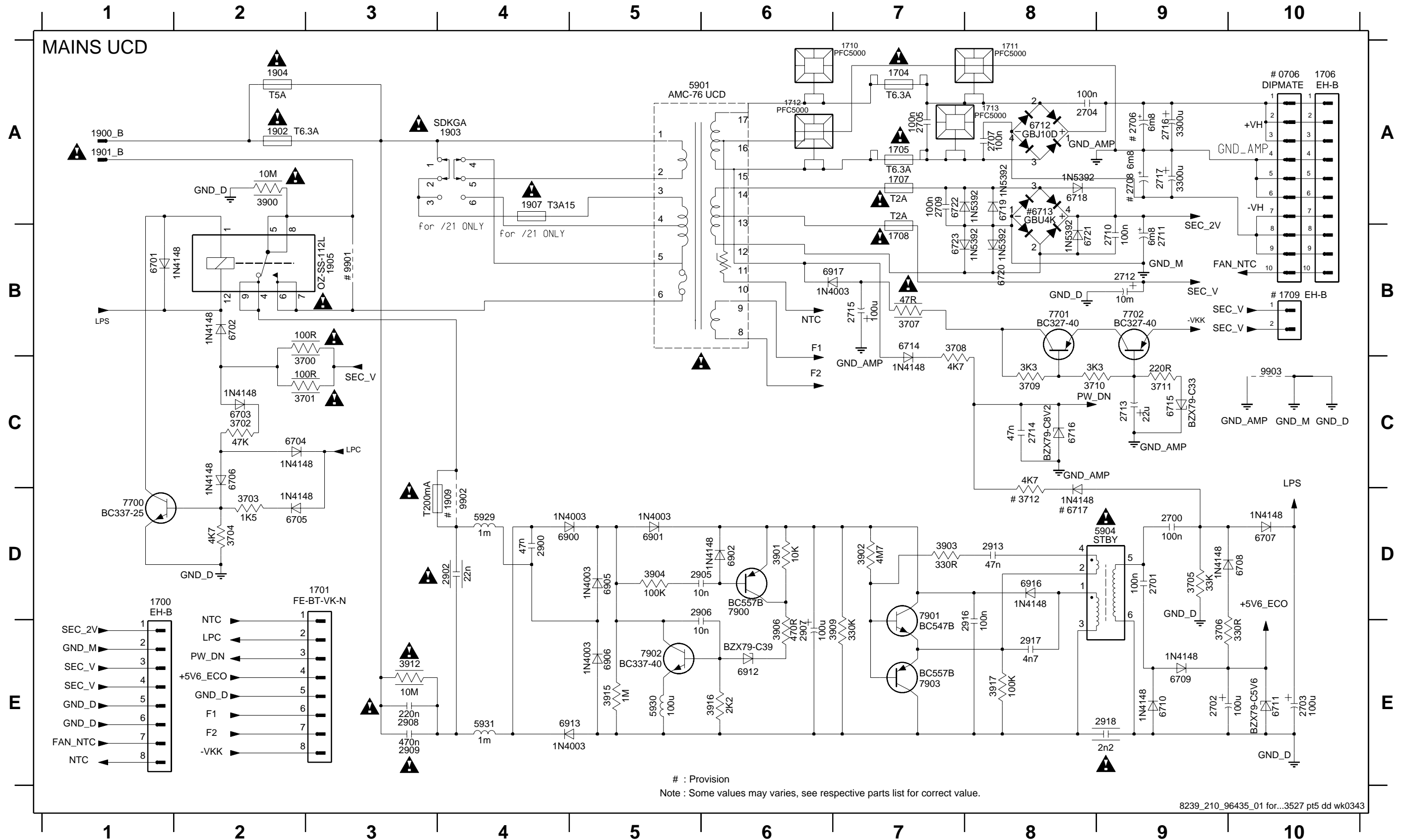
This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram and respective parts list.





# MAINS UCD BOARD - CIRCUIT DIAGRAM

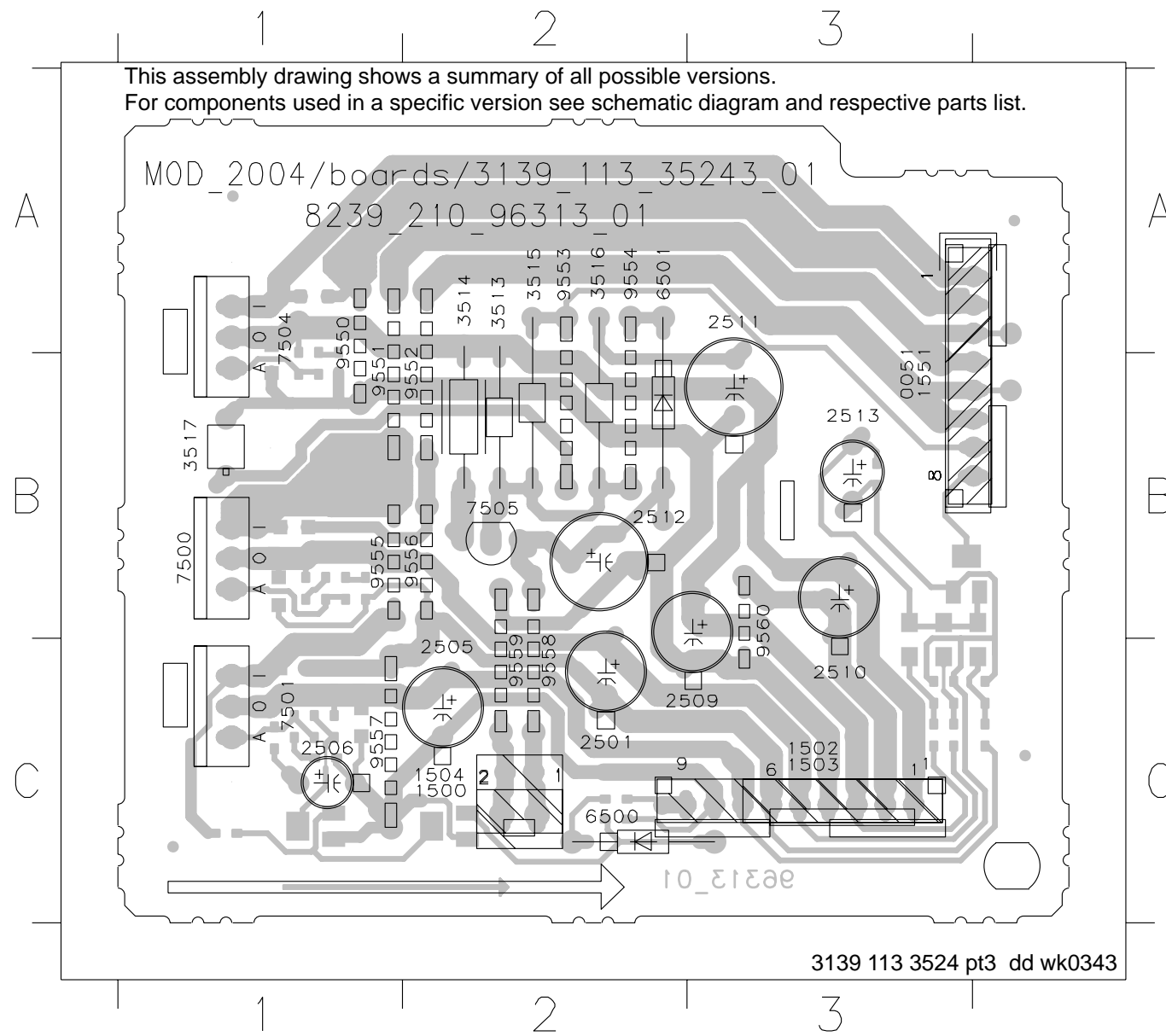
0706 A10	1708 B7	1901_B A1	2700 D9	2707 A8	2714 C8	2906 D5	2918 E9	3706 E9	3900 A2	3912 E3	5930 E5	6706 C2	6713 A8	6720 B8	6905 D5	7701 B8	9902 D4
1700 D1	1709 B10	1902 A2	2701 D9	2708 A9	2715 B7	2907 E6	3700 C2	3707 B7	3901 D6	3915 E5	5931 E4	6707 D10	6714 B7	6721 B8	6906 E5	7702 B9	9903 C10
1701 D3	1710 A7	1903 A4	2702 E9	2709 A7	2716 A9	2908 E3	3701 C2	3708 B7	3902 D7	3916 E6	6701 B1	6708 D10	6715 C9	6722 A8	6912 E6	7900 D6	
1704 A7	1711 A8	1904 A2	2703 E10	2710 B9	2717 A9	2909 E3	3702 C2	3709 C8	3903 D7	3917 E8	6702 B2	6709 E9	6716 C8	6723 B7	6913 E5	7901 D7	
1705 A7	1712 A6	1905 B3	2704 A8	2711 B9	2718 A9	2910 D4	3703 D2	3710 C8	3904 D5	5901 A6	6703 C2	6710 E9	6717 D8	6900 D4	6916 D8	7902 E5	
1706 A10	1713 A7	1907 A4	2705 A7	2712 B9	2902 D4	2916 E8	3704 D2	3711 C9	3906 E6	5904 D8	6704 C2	6711 E10	6718 A8	6901 D5	6917 B7	7903 E7	
1707 A7	1900_B A1	1909 D4	2706 A9	2713 C9	2905 D5	2917 E8	3705 D9	3712 D8	3909 E7	5929 D4	6705 D2	6712 A8	6719 A8	6902 D6	7700 D1	9901 B3	



# : Provision  
 Note : Some values may varies, see respective parts list for correct value.

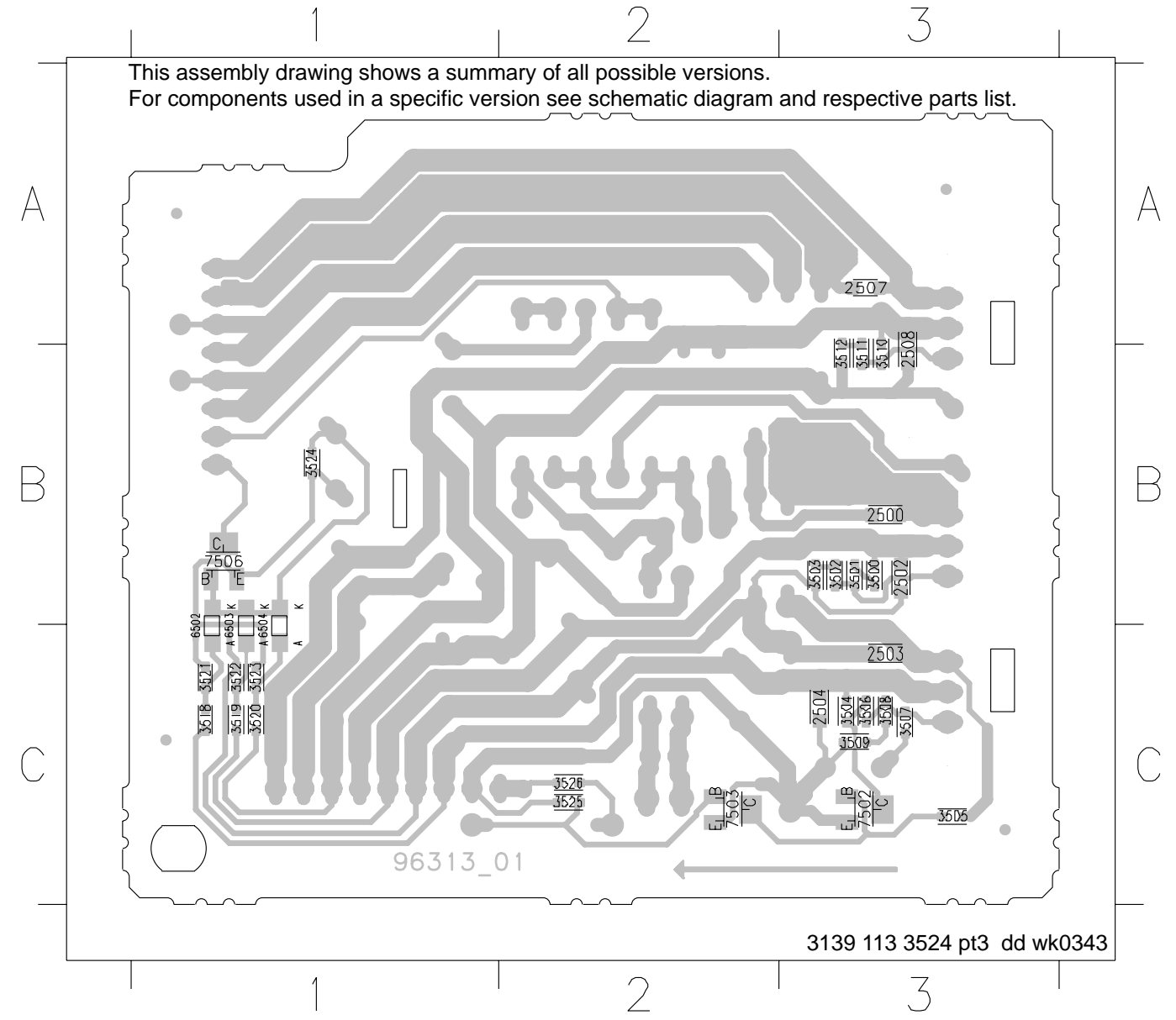
**REGULATOR UCD BOARD - COMPONENT LAYOUT**

0051 B3	2501 C2	2512 B2	3517 B1	7505 B2	9555 B1
1500 C2	2505 C2	2513 B3	6500 C2	9550 A1	9556 B2
1502 C3	2506 C1	3513 A2	6501 A2	9551 B1	9557 C1
1503 C3	2509 C3	3514 A2	7500 B1	9552 B2	9558 C2
1504 C2	2510 C3	3515 A2	7501 C1	9553 A2	9559 C2
1551 B3	2511 A3	3516 A2	7504 A1	9554 A2	9560 B3



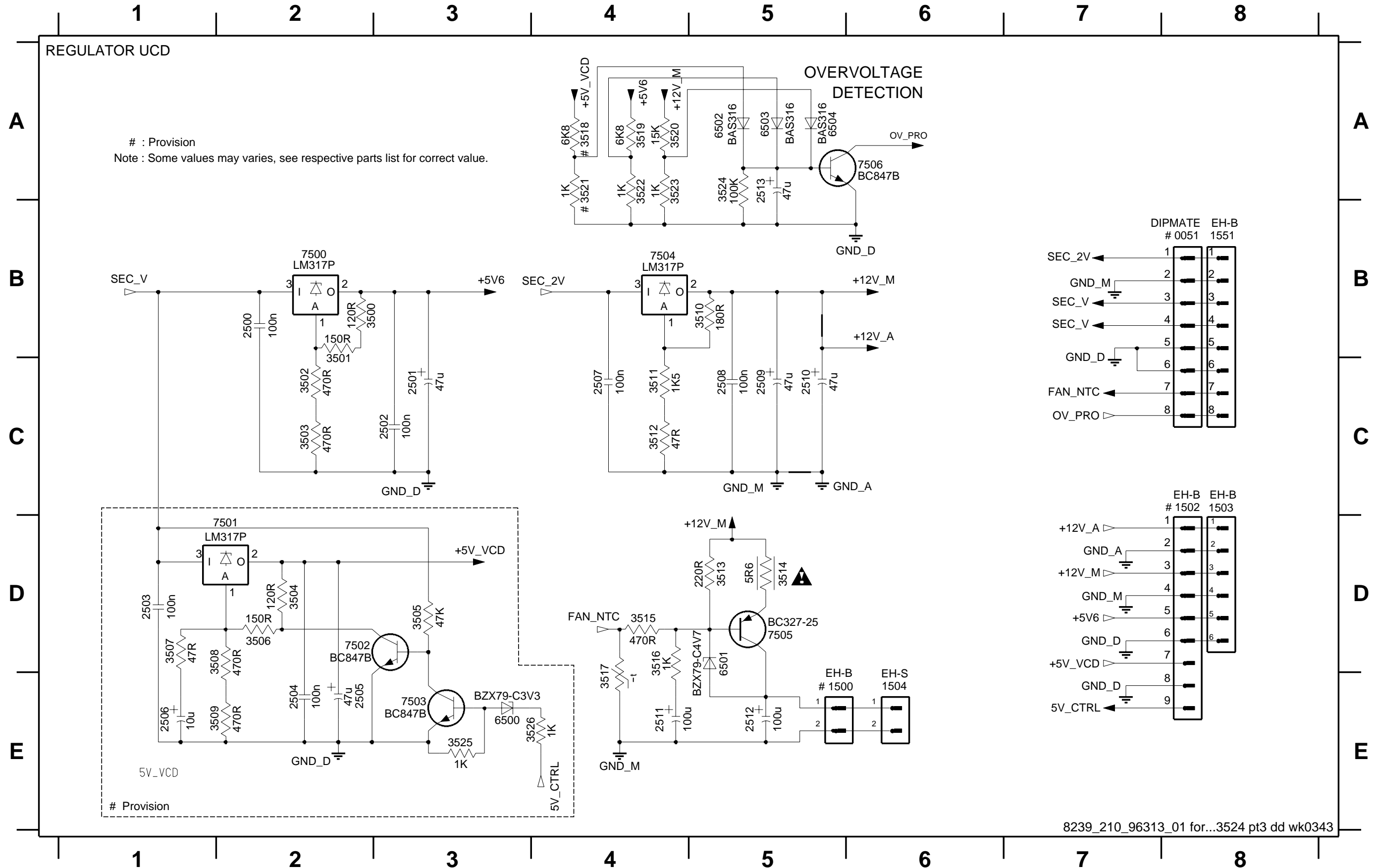
**REGULATOR UCD BOARD - CHIP LAYOUT**

2500 B3	2508 B3	3504 C3	3509 C3	3519 C1	3524 B1	6504 C1
2502 B3	3500 B3	3505 C3	3510 B3	3520 C1	3525 C2	7502 C3
2503 C3	3501 B3	3506 C3	3511 B3	3521 C1	3526 C2	7503 C2
2504 C3	3502 B3	3507 C3	3512 B3	3522 C1	6502 C1	7506 B1
2507 A3	3503 B3	3508 C3	3518 C1	3523 C1	6503 C1	



REGULATOR UCD BOARD - CIRCUIT DIAGRAM

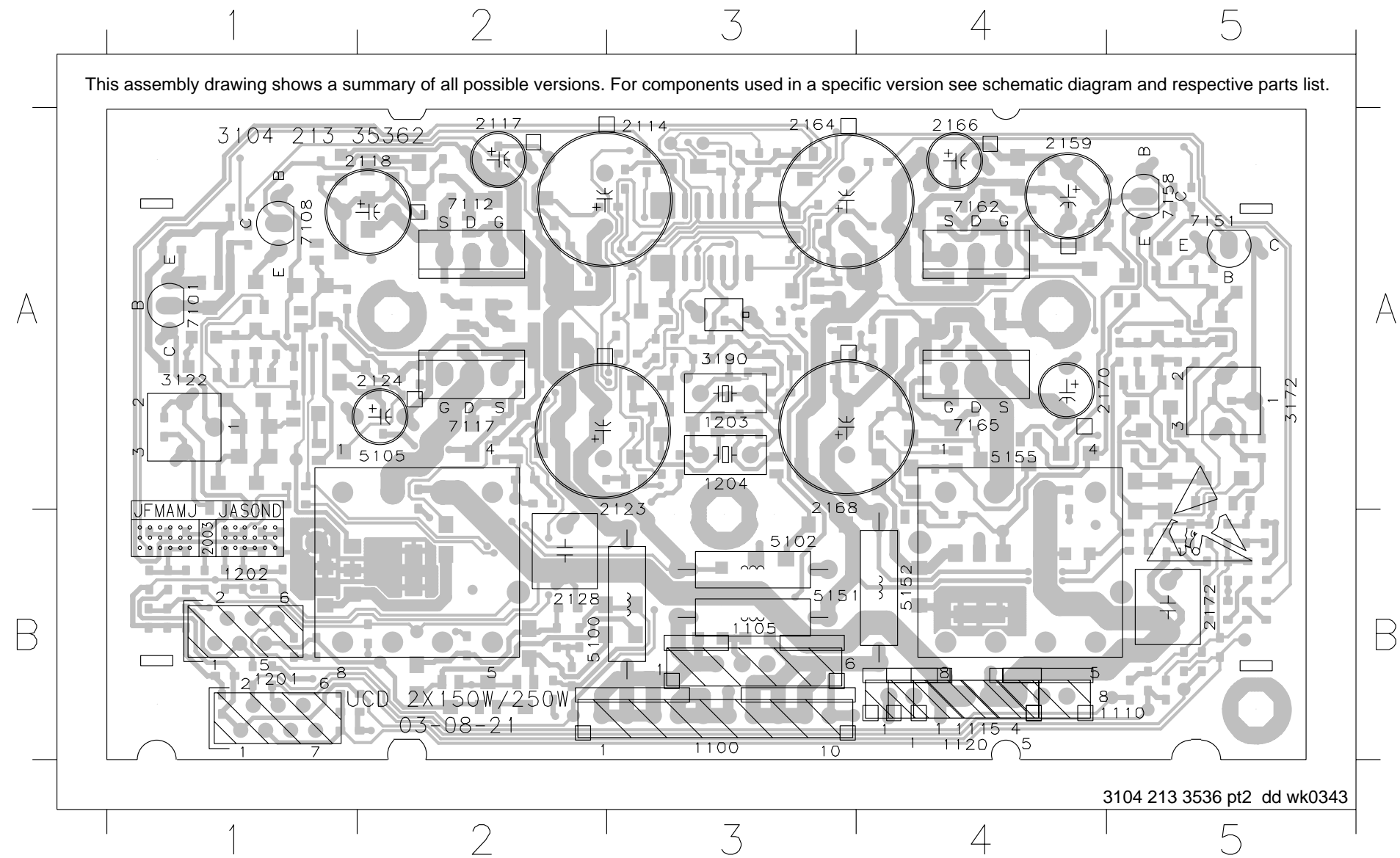
0051 B8	1503 C8	2500 B2	2503 D1	2506 E1	2509 C5	2512 E5	3501 B2	3504 D2	3507 D1	3510 B5	3513 D5	3516 D4	3519 A4	3522 A4	3525 E3	6501 D5	6504 A5	7502 D2	7505 D5
1500 E5	1504 E6	2501 C3	2504 E2	2507 C4	2510 C5	2513 A5	3502 C2	3505 D3	3508 D2	3511 C4	3514 D5	3517 E4	3520 A4	3523 A4	3526 E4	6502 A5	7500 B2	7503 E3	7506 A6
1502 C8	1551 B8	2502 C3	2505 E2	2508 C5	2511 E4	3500 B2	3503 C2	3506 D2	3509 E2	3512 C4	3515 D4	3518 A4	3521 A4	3524 A5	6500 E3	6503 A5	7501 D1	7504 B4	



### AMPLIFIER UCD BOARD (SE) - COMPONENT LAYOUT

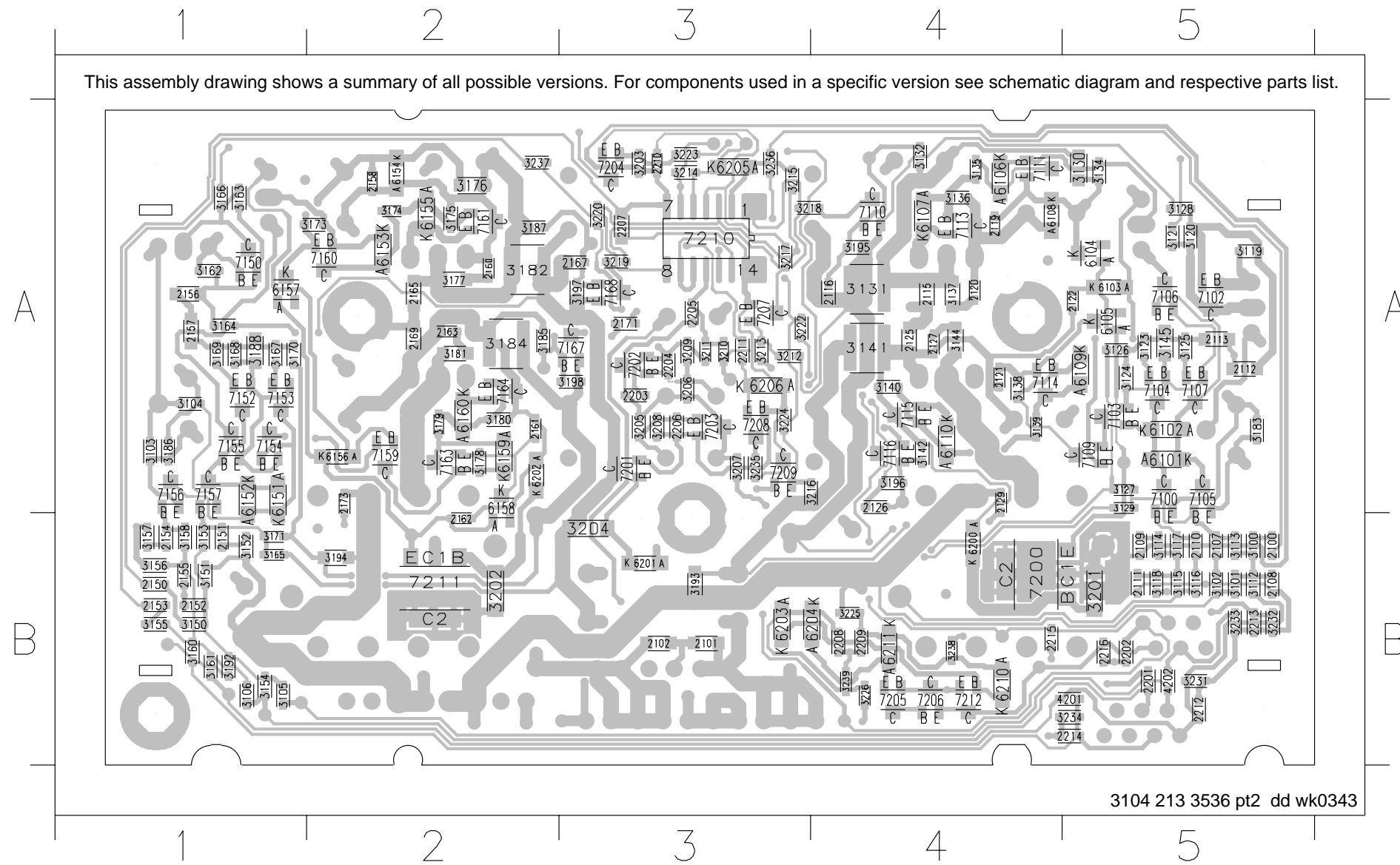
1100 B3	1201 B1	2117 A2	2159 A4	2172 B5	5102 B3	7101 A1	7158 A5
1105 B3	1202 B1	2118 A2	2164 A3	3122 A1	5105 B2	7108 A1	7162 A4
1110 B4	1203 A3	2123 A2	2166 A4	3172 A5	5151 B3	7112 A2	7165 A4
1115 B4	1204 A3	2124 A2	2168 A3	3190 A3	5152 B4	7117 A2	
1120 B4	2114 A2	2128 B2	2170 A4	5100 B3	5155 B4	7151 A5	

This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram and respective parts list.



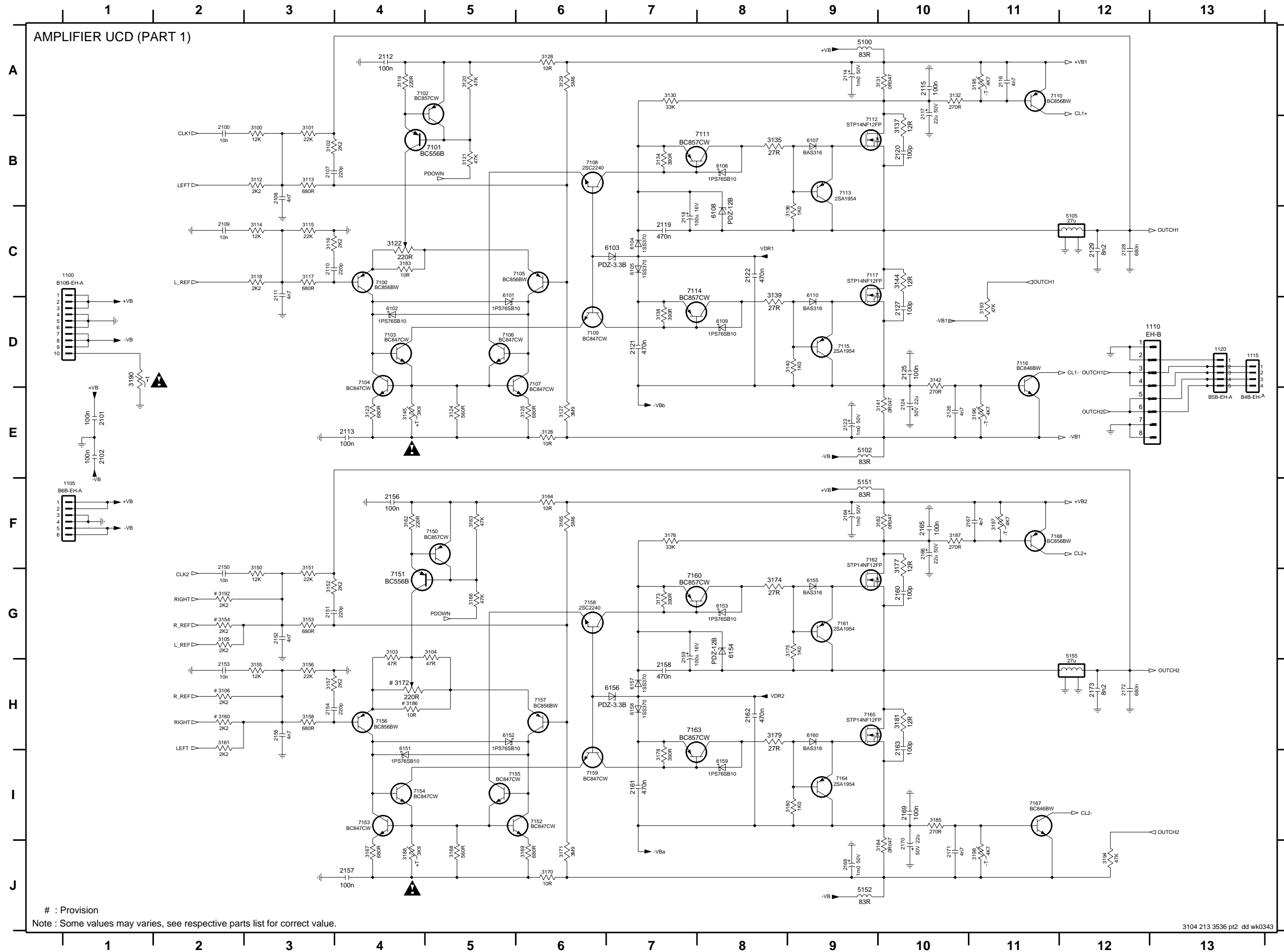
AMPLIFIER UCD BOARD (SE) - CHIP LAYOUT

2100 B5	2122 A5	2161 A2	2208 B4	3106 B1	3127 A5	3144 A4	3164 A1	3180 A2	3198 A3	6158 A2	F101 B3
2101 B3	2125 A4	2162 B2	2209 B4	3112 B5	3128 A5	3145 A5	3165 B1	3181 A2	3201 B5	6159 A2	F102 B3
2102 B3	2126 A4	2163 A2	2210 A3	3113 B5	3129 A5	3150 B1	3166 A1	3182 A2	3202 B2	6160 A2	F103 B2
2107 B5	2127 A4	2165 A2	2211 A3	3114 B5	3130 A5	3151 B1	3167 A1	3183 A5	3203 A3	6200 B4	F104 B2
2108 B5	2129 A4	2167 A3	2212 B5	3115 B5	3131 A4	3152 B1	3168 A1	3184 A2	3204 B3	6201 B3	F105 B2
2109 B5	2150 B1	2169 A2	2213 B5	3116 B5	3132 A4	3153 B1	3169 A1	3185 A2	3205 A3	6202 A2	F106 B3
2110 B5	2151 B1	2171 A3	2214 B5	3117 B5	3134 A5	3154 B1	3170 A1	3186 A1	3206 A3	6203 B3	F107 A4
2111 B5	2152 B1	2173 A2	2215 B4	3118 B5	3135 A4	3155 B1	3171 B1	3187 A2	3207 A3	6204 B4	F108 A4
2112 A5	2153 B1	2201 B5	2216 B5	3119 A5	3136 A4	3156 B1	3173 A2	3188 A1	3208 A3	6205 A3	F109 A2
2113 A5	2154 B1	2202 B5	3100 B5	3120 A5	3137 A4	3157 B1	3174 A2	3192 B1	3209 A3	6206 A3	F110 A3
2115 A4	2155 B1	2203 A3	3101 B5	3121 A5	3138 A4	3158 B1	3175 A2	3193 B3	3210 A3	6210 B4	F111 A5
2116 A4	2156 A1	2204 A3	3102 B5	3123 A5	3139 A4	3160 B1	3176 A2	3194 B2	3211 A3	6211 B4	F112 B2
2119 A4	2157 A1	2205 A3	3103 A1	3124 A5	3140 A4	3161 B1	3177 A2	3195 A4	3212 A3	7100 A5	F113 A3
2120 A4	2158 A2	2206 A3	3104 A1	3125 A5	3141 A4	3162 A1	3178 A2	3196 A4	3213 A3	7102 A5	F114 B1
2121 A4	2160 A2	2207 A3	3105 B1	3126 A5	3142 A4	3163 A1	3179 A2	3197 A3	3214 A3	7103 A5	F115 B1



3198 A3	6158 A2	F101 B3
3201 B5	6159 A2	F102 B3
3202 B2	6160 A2	F103 B2
3203 A3	6200 B4	F104 B2
3204 B3	6201 B3	F105 B2
3205 A3	6202 A2	F106 B3
3206 A3	6203 B3	F107 A4
3207 A3	6204 B4	F108 A4
3208 A3	6205 A3	F109 A2
3209 A3	6206 A3	F110 A3
3210 A3	6210 B4	F111 A5
3211 A3	6211 B4	F112 B2
3212 A3	7100 A5	F113 A3
3213 A3	7102 A5	F114 B1
3214 A3	7103 A5	F115 B1
3215 A3	7104 A5	F116 B1
3216 A4	7105 A5	F117 B1
3217 A3	7106 A5	F118 B4
3218 A3	7107 A5	F119 B4
3219 A3	7109 A5	F120 B4
3220 A3	7110 A4	F121 A3
3222 A3	7111 A4	F122 A3
3223 A3	7113 A4	
3224 A3	7114 A4	
3225 B4	7115 A4	
3226 B4	7116 A4	
3231 B5	7150 A1	
3232 B5	7152 A1	
3233 B5	7153 A1	
3234 B5	7154 A1	
3235 A3	7155 A1	
3236 A3	7156 A1	
3237 A2	7157 A1	
3238 B4	7159 A2	
3239 B4	7160 A2	
4201 B5	7161 A2	
4202 B5	7163 A2	
6101 A5	7164 A2	
6102 A5	7167 A3	
6103 A5	7168 A3	
6104 A5	7200 B4	
6105 A5	7201 A3	
6106 A4	7202 A3	
6107 A4	7203 A3	
6108 A4	7204 A3	
6109 A5	7205 B4	
6110 A4	7206 B4	
6151 A1	7207 A3	
6152 A1	7208 A3	
6153 A2	7209 A3	
6154 A2	7210 A3	
6155 A2	7211 B2	
6156 A2	7212 B4	
6157 A1	F100 B3	

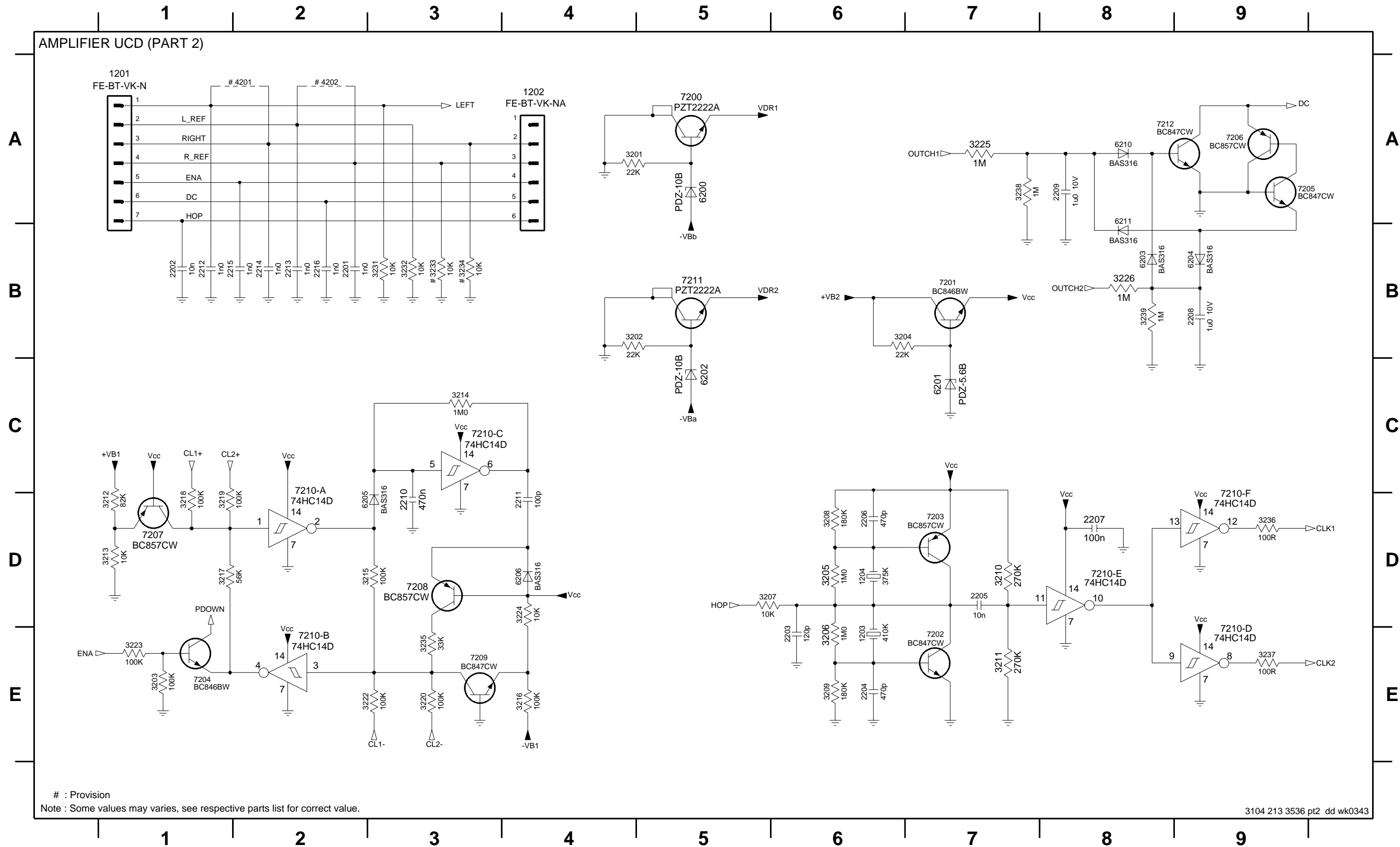
# AMPLIFIER UCD BOARD (SE) - CIRCUIT DIAGRAM PART 1



1100 C1	3187 F10
1105 F1	3188 J4
1110 D12	3190 D1
1115 D13	3192 G2
1120 D13	3193 D11
2100 B2	3194 J12
2101 E1	3195 A11
2102 E1	3196 E11
2107 B3	3197 F11
2108 B3	3198 J11
2109 C2	5100 A9
2110 C3	5102 E9
2111 C3	5105 C12
2112 A4	5151 F9
2113 E4	5152 J9
2114 A9	5155 G12
2115 A10	6101 D5
2116 A11	6102 D4
2117 A10	6103 C7
2118 C7	6104 C7
2119 C7	6105 C7
2120 B10	6106 B8
2121 D7	6107 B9
2122 C8	6108 C8
2123 E9	6109 D8
2124 E10	6110 D9
2125 D10	6151 I4
2126 E10	6152 H5
2127 D10	6153 G8
2128 C12	6154 G8
2129 C12	6155 G9
2150 G2	6156 H7
2151 G3	6157 H7
2152 G3	6158 H7
2153 H2	6159 I8
2154 H3	6160 H9
2155 H3	7100 C4
2156 F4	7101 B5
2157 J4	7102 A4
2158 H7	7103 D4
2159 G7	7104 D4
2160 G10	7105 C6
2161 I7	7106 D5
2162 H8	7107 D6
2163 H10	7108 B6
2164 F9	7109 D6
2165 F10	7110 A11
2166 F10	7111 B8
2167 F11	7112 B9
2168 J9	7113 B9
2169 I10	7114 C8
2170 J10	7115 D9
2171 J10	7116 D11
2172 H12	7117 C9
2173 H12	7150 F5
3100 B3	7151 F4
3101 B3	7152 I6
3102 B3	7153 I4
3103 G4	7154 I4
3104 G5	7155 I6
3105 G2	7156 H4
3106 H2	7157 H6
3112 B3	7158 G6
3113 B3	7159 I6
3114 C3	7160 G8
3115 C3	7161 G9
3116 C3	7162 F9
3117 C3	7163 H8
3118 C3	7164 I9
3119 A4	7165 H9
3120 A5	7167 I11
3121 B5	7168 F11
3122 C4	
3123 A4	
3124 E5	
3125 E6	
3126 E6	
3127 E6	
3128 A6	
3129 A6	
3130 A7	
3131 A10	
3132 A10	
3134 B7	
3135 B8	
3136 C9	
3137 B10	
3138 D7	
3139 D8	
3140 D9	
3141 E10	
3142 D10	
3144 C10	
3145 E4	
3150 G3	
3151 G3	
3152 G3	
3153 G3	
3154 G2	
3155 H3	
3156 H3	
3157 H3	
3158 H3	
3160 H2	
3161 H2	
3162 F4	
3163 F5	
3164 F6	
3165 F6	
3166 G5	
3167 J4	
3168 J5	
3169 J6	
3170 J6	
3171 J6	
3172 H4	
3173 G7	
3174 G8	
3175 G9	
3176 F7	
3177 F10	
3178 I7	
3179 H8	
3180 I9	
3181 H10	
3182 F10	
3183 C4	
3184 J10	
3185 I10	
3186 H4	

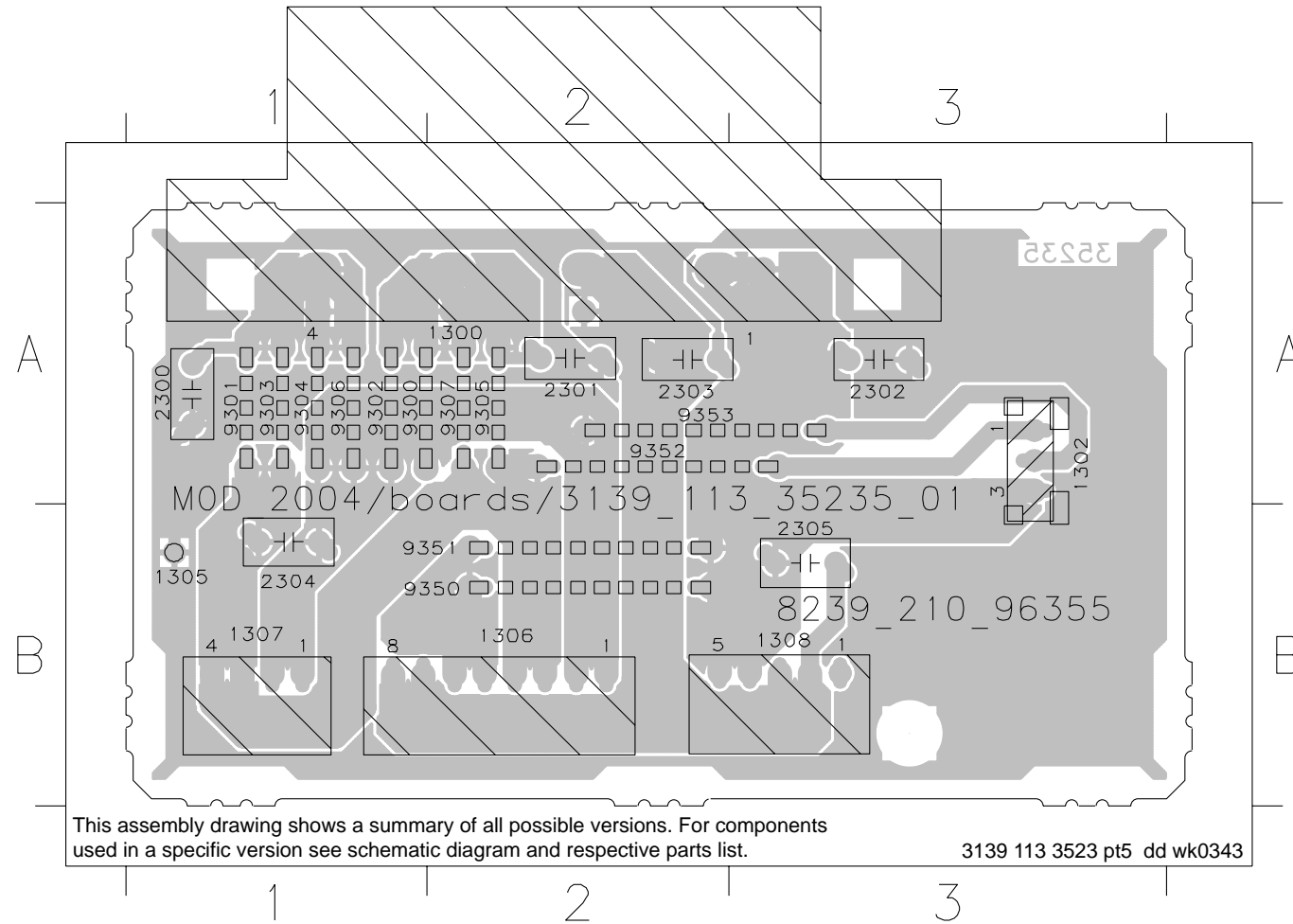
# AMPLIFIER UCD BOARD (SE) - CIRCUIT DIAGRAM PART 2

1201 A1	2201 B2	2205 D7	2209 A8	2213 B2	3201 A4	3205 D6	3209 E6	3213 D1	3217 D1	3222 E3	3226 B8	3234 B3	3238 A7	6200 A5	6204 B9	6211 B8	7203 D7	7207 D1	7210-B E2	7210-F D9
1202 A4	2202 B1	2206 D6	2210 D3	2214 B2	3202 B4	3206 E6	3210 D7	3214 C3	3218 D1	3223 E1	3231 B3	3235 E3	3239 B8	6201 C7	6205 D2	7200 A5	7204 E1	7208 D3	7210-C C3	7211 B5
1203 E6	2203 E6	2207 D8	2211 D4	2215 B1	3203 E1	3207 D5	3211 E7	3215 D3	3219 D1	3224 D4	3232 B3	3236 D9	4201 A2	6202 C5	6206 D4	7201 B7	7205 A9	7209 E3	7210-D E9	7212 A8
1204 D6	2204 E6	2208 B9	2212 B1	2216 B2	3204 B6	3208 D6	3212 D1	3216 E4	3220 E3	3225 A7	3233 B3	3237 E9	4202 A2	6203 B8	6210 A8	7202 E7	7206 A9	7210-A D2	7210-E D8	



**SPEAKER UCD BOARD - COMPONENT LAYOUT**

1300 A2	1307 B1	2302 A3	9300 A1	9304 A1	9350 B2
1302 A3	1308 B3	2303 A2	9301 A1	9305 A2	9351 B2
1305 B1	2300 A1	2304 B1	9302 A1	9306 A1	9352 A2
1306 B2	2301 A2	2305 B3	9303 A1	9307 A2	9353 A2

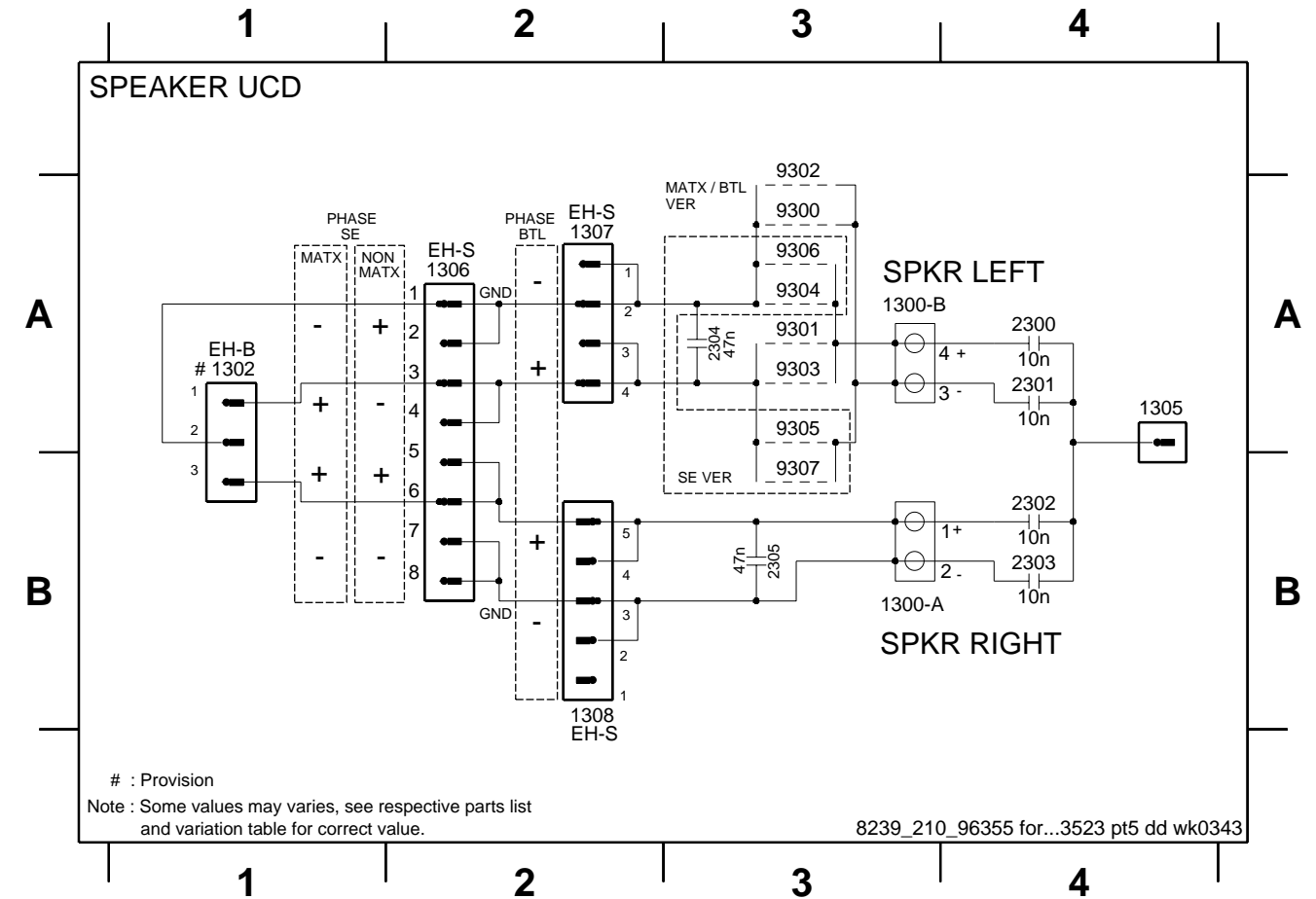


This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram and respective parts list.

3139 113 3523 pt5 dd wk0343

**SPEAKER UCD BOARD - CIRCUIT DIAGRAM**

1300-A B3	1302 A1	1306 A2	1308 B2	2301 A4	2303 B4	2305 B3	9301 A3	9303 A3	9305 A3	9307 B3
1300-B A3	1305 A4	1307 A2	2300 A4	2302 B4	2304 A3	9300 A3	9302 A3	9304 A3	9306 A3	



# : Provision

Note : Some values may varies, see respective parts list and variation table for correct value.

8239\_210\_96355 for...3523 pt5 dd wk0343

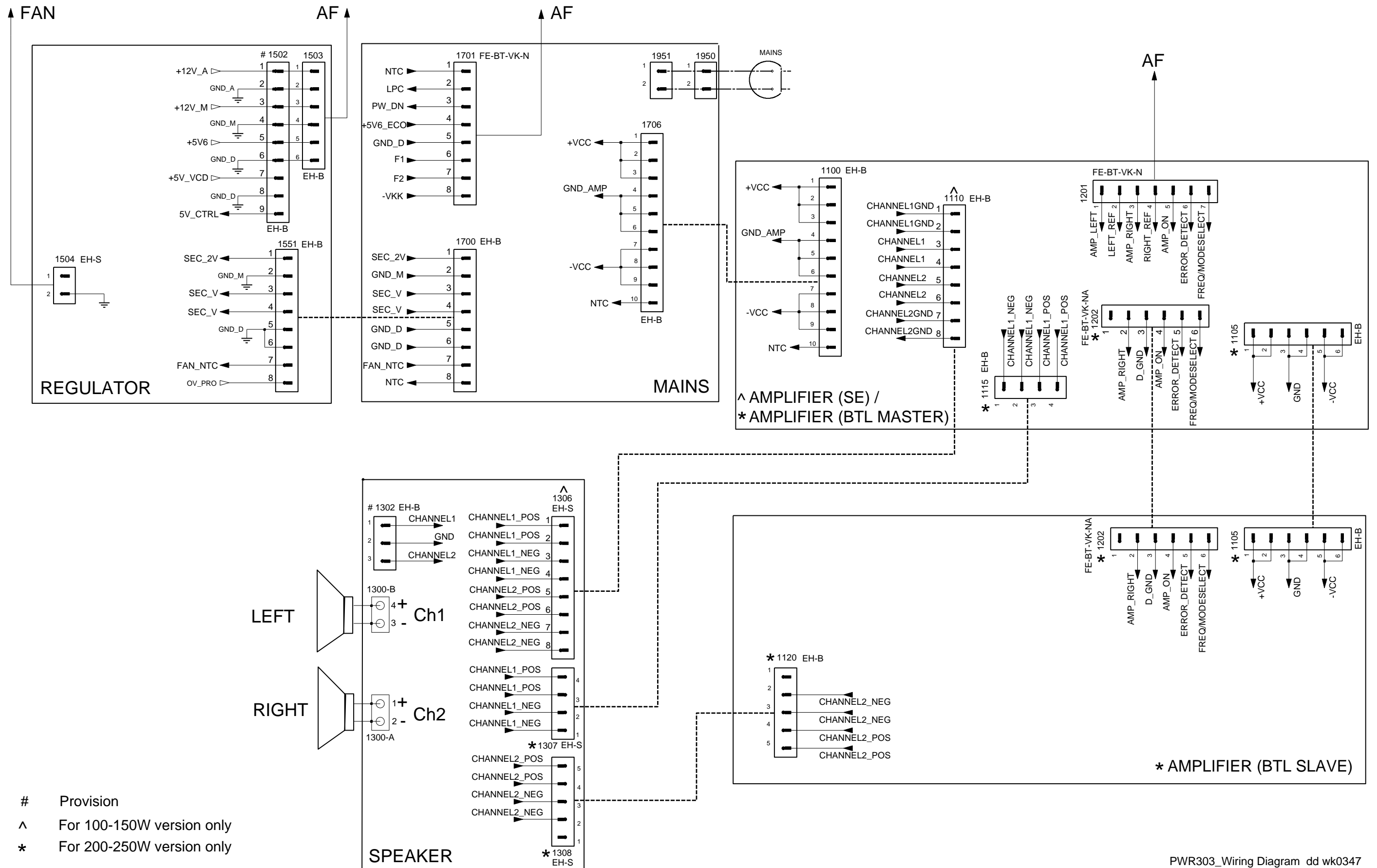
**SPEAKER UCD BOARD - VARIATION TABLE**

Item No.	SPEAKER UCD BOARD	
	100-150W (Non Matrix Version)	200-250W
1302	-	-
1306	X	-
1307 , 1308	-	X
2304 , 2305	-	X
9300 , 9301	-	X
9302 , 9303	-	X
9304 , 9305	X	-
9306 , 9307	X	-

X - item in use.

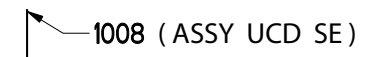
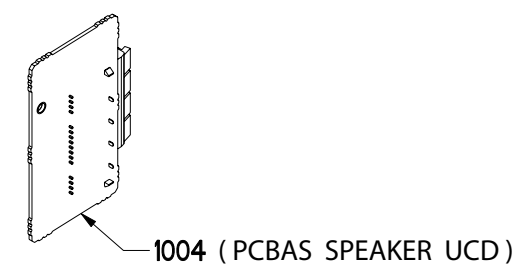
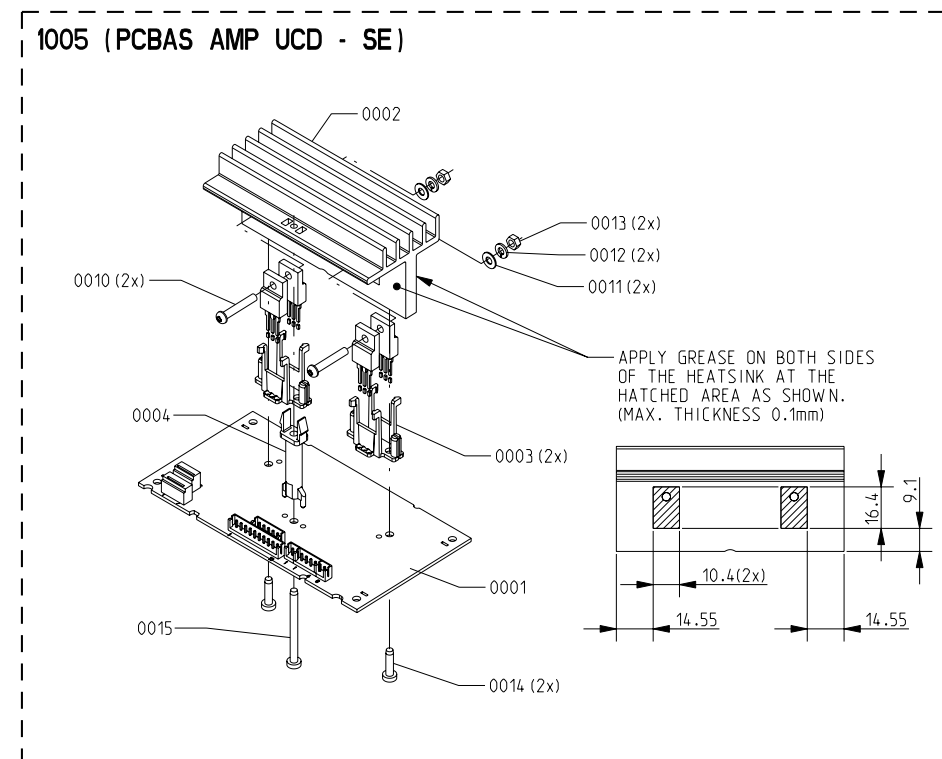
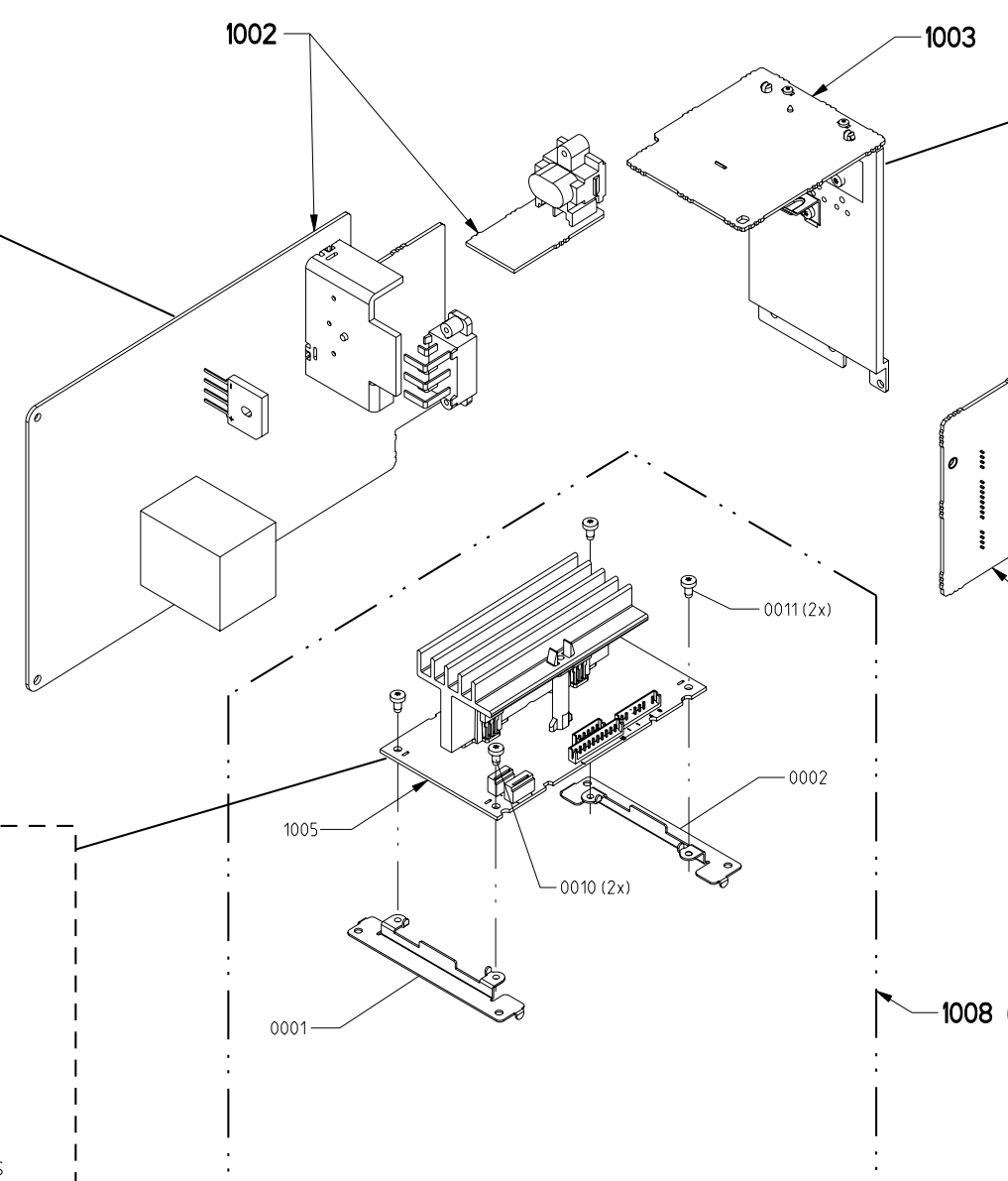
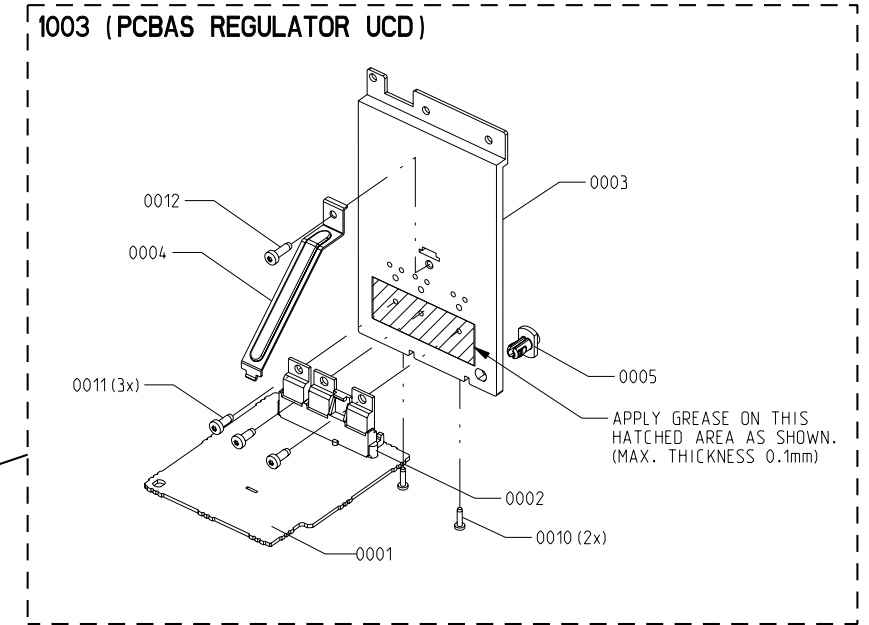
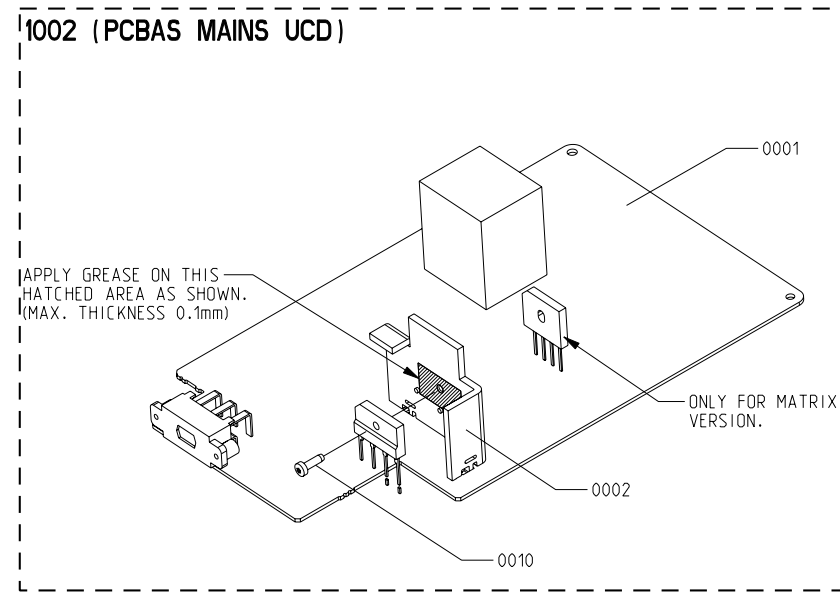


WIRING DIAGRAM



- # Provision
- ^ For 100-150W version only
- \* For 200-250W version only

**EXPLODED VIEW**



**SCREW LISTS**

**ASSY UCD SE**

0010	M3 x 6
0011	M3 x 6

**PCBAS MAINS UCD**

0010	D3 x 10
------	---------

**PCBAS REGULATOR UCD**

0010	D2 x 8
0011	D2.5 x 8
0012	D3 x 10

**PCBAS AMP UCD - SE**

0010	M3 x 18
0014	D3 x 12
0015	D3 x 35

**ELECTRICAL PARTS LIST - MAINS UCD BOARD****MISCELLANEOUS**

1701	4822 265 11515	FLEX CONNECTOR 8P
1704	4822 070 36302	△ FUSE 5X20 T 6,3A 250V
1705	4822 070 36302	△ FUSE 5X20 T 6,3A 250V
1707	9965 000 07788	△ FUSE RAD LT 2A 250V
1708	9965 000 07788	△ FUSE RAD LT 2A 250V
1710	2422 090 01101	SOC FUSE V 1P F
1711	2422 090 01101	SOC FUSE V 1P F
1712	2422 090 01101	SOC FUSE V 1P F
1713	2422 090 01101	SOC FUSE V 1P F
1902	4822 071 53152	△ FUSE RAD LT 3,15A 250V/22
1902	4822 252 51123	△ FUSE RAD LT 6,3A 250V /37
1903	9965 000 07789	△ VOLTAGE SELECTOR /21
1904	4822 071 55002	△ FUSE RAD LT 5A 250V /21
1905	2422 132 07519	△ RELAY 1P 12V 16A OZ-SS L
1907	4822 071 53152	△ FUSE RAD LT 3,15A 250V/21
1950	4822 265 31015	△ MAINS SOCKET /21/22
1951	2422 030 00328	△ MAINS SOCKET /37

**CAPACITORS**

2700	2020 561 90365	100nF +80/-20% 50V
2701	2020 561 90365	100nF +80/-20% 50V
2702	4822 124 41584	100uF 20% 10V
2703	4822 124 40207	100uF 20% 25V
2704	5322 121 42578	100nF 5% 250V
2705	5322 121 42578	100nF 5% 250V
2707	5322 121 42578	100nF 5% 250V
2709	5322 121 42578	100nF 5% 250V
2710	5322 121 42578	100nF 5% 250V
2711	2022 020 00782	6800uF 20% 35V
2712	2020 012 93745	10000uF 20% 16V
2713	4822 124 81151	22uF 50V
2714	4822 126 12785	47nF 50V
2715	2020 012 93741	100uF 20% 100V
2716	2022 020 00644	3300uF 20% 50V
2717	2022 020 00644	3300uF 20% 50V
2900	4822 121 43526	47nF 5% 250V
2902	2222 336 19106	△ 22nF 20% 275V
2905	4822 121 51387	10nF 20% 16V
2906	4822 121 51387	10nF 20% 16V
2907	4822 124 40255	100uF 20% 63V
2908	4822 121 10512	△ 220nF 20% 275V /22
2909	4822 126 13589	△ 470nF 20% 275V /21/37
2913	4822 126 12785	47nF 50V
2916	2020 561 90365	100nF +80/-20% 50V
2917	4822 126 11714	4,7nF 20%
2918	4822 126 14088	△ 2,2nF 20% 250V

**RESISTORS**

3700	4822 052 10101	△ 100R 5% 0,33W
3701	4822 052 10101	△ 100R 5% 0,33W
3702	4822 116 83884	47k 5% 0,5W
3703	4822 116 52243	1k5 5% 0,5W

3704	4822 116 52283	4k7 5% 0,5W
3705	4822 050 23303	33k 1% 0,6W
3706	4822 116 52219	330R 5% 0,5W
3707	4822 052 10479	△ 47R 5% 0,33W
3708	4822 116 52283	4k7 5% 0,5W
3709	4822 116 52269	3k3 5% 0,5W
3710	4822 116 52269	3k3 5% 0,5W
3711	4822 116 83872	220R 5% 0,5W
3900	4822 053 21106	△ 10M 5% 0,5W /37
3901	4822 050 21003	10k 1% 0,6W
3902	4822 050 24705	4M7 1% 0,6W
3903	4822 116 52219	330R 5% 0,5W
3904	4822 116 52234	100k 5% 0,5W
3906	4822 116 83883	470R 5% 0,5W
3909	4822 116 52272	330k 5% 0,5W
3912	4822 053 21106	△ 10M 5% 0,5W
3915	4822 116 83866	1M 5% 0,5W
3916	4822 116 52256	2k2 5% 0,5W
3917	4822 116 52234	100k 5% 0,5W

**COILS & FILTERS**

5903	4822 157 11628	△ FIL MAINS
5904	2422 549 45157	△ TRAFO STANDBY 3A1631N
5929	4822 157 53473	IND FXD 1000uH 10%
5930	4822 157 52333	IND FXD 100uH 5%
5931	4822 157 53473	IND FXD 1000uH 10%

**DIODES**

6701	4822 130 30621	1N4148
6702	4822 130 30621	1N4148
6703	4822 130 30621	1N4148
6704	4822 130 30621	1N4148
6705	4822 130 30621	1N4148
6706	4822 130 30621	1N4148
6707	4822 130 30621	1N4148
6708	4822 130 30621	1N4148
6709	4822 130 30621	1N4148
6710	4822 130 30621	1N4148
6711	4822 130 34173	BZX79-C5V6
6712	9322 197 92682	BRIDGE GBJ10D
6714	4822 130 30621	1N4148
6715	4822 130 34142	BZX79-C33
6716	4822 130 34382	BZX79-C8V2
6718	4822 130 31878	1N5392
6719	4822 130 31878	1N5392
6720	4822 130 31878	1N5392
6721	4822 130 31878	1N5392
6722	4822 130 31878	1N5392 /21
6723	4822 130 31878	1N5392 /21
6900	4822 130 31878	1N4003G
6901	4822 130 31878	1N4003G
6902	4822 130 30621	1N4148

**ELECTRICAL PARTS LIST - MAINS UCD BOARD**

6905	4822 130 31878	1N4003G
6906	4822 130 31878	1N4003G
6912	4822 130 34145	BZX79-C39
6913	4822 130 31878	1N4003G
6916	4822 130 30621	1N4148
6917	4822 130 31878	1N4003G

**TRANSISTORS & INTEGRATED CIRCUITS**

7700	4822 130 40981	BC337-25
------	----------------	----------

7701	4822 130 41327	BC327-40
7702	4822 130 41327	BC327-40
7900	4822 130 44568	BC557B
7901	4822 130 40959	BC547B
7902	4822 130 40855	BC337-40
7903	4822 130 44568	BC557B

Note : Only the parts mentioned in this list are normal service spare parts.

**ELECTRICAL PARTS LIST - REGULATOR UCD BOARD****MISCELLANEOUS**

0002	3139 114 75361	HOLDER IC
0005	3139 114 71010	STOPPER HEATSINK

**CAPACITORS**

2500	4822 126 14585	100nF 10% 50V
2501	4822 124 81286	47uF 20% 16V
2502	4822 126 14585	100nF 10% 50V
2507	2222 580 15649	100nF 10% 50V
2508	4822 126 14585	100nF 10% 50V
2509	4822 124 81286	47uF 20% 16V
2510	4822 124 81286	47uF 20% 16V
2511	4822 124 41643	100uF 20% 16V
2512	4822 124 41643	100uF 20% 16V
2513	4822 124 80231	47uF 20% 16V

**RESISTORS**

3500	4822 051 30121	120R 5% 0,062W
3501	4822 051 30151	150R 5% 0,062W
3502	4822 051 30471	470R 5% 0,062W
3503	4822 051 30471	470R 5% 0,062W
3510	4822 051 30181	180R 5% 0,062W
3511	4822 051 30152	1k5 5% 0,062W
3512	4822 051 30479	47R 5% 0,062W
3513	4822 116 83872	220R 5% 0,5W

3514	4822 052 10568	△ 5R6 5% 0,33W
3515	4822 116 83883	470R 5% 0,5W
3516	4822 050 11002	1k 1% 0,4W
3517	4822 117 12063	NTC DC 5W 10k 5%
3519	4822 051 30682	6k8 5% 0,062W
3520	4822 051 30153	15k 5% 0,062W
3522	4822 051 30102	1k 5% 0,062W
3523	4822 051 30102	1k 5% 0,062W
3524	4822 117 13632	100k 1% 0,62W

**DIODES**

6501	4822 130 34174	BZX79-C4V7
6502	4822 130 11397	BAS316
6503	4822 130 11397	BAS316
6504	4822 130 11397	BAS316

**TRANSISTORS & INTEGRATED CIRCUITS**

7500	4822 209 81351	IC LM317P
7504	4822 209 81351	IC LM317P
7505	4822 130 41246	BC327-25
7506	5322 130 60159	BC847B

Note : Only the parts mentioned in this list are normal service spare parts.

**ELECTRICAL PARTS LIST - SPEAKER UCD BOARD****MISCELLANEOUS**

1300	4822 267 31176	SOC CLICK 4P
------	----------------	--------------

**CAPACITORS**

2300	4822 121 41857	10nF 5% 250V
2301	4822 121 41857	10nF 5% 250V

2302	4822 121 41857	10nF 5% 250V
2303	4822 121 41857	10nF 5% 250V

Note : Only the parts mentioned in this list are normal service spare parts.



**ELECTRICAL PARTS LIST - AMPLIFIER UCD BOARD (SE)****DIODES**

6151	4822 130 11528	1PS76SB10	7163	9340 218 60115	TRA SIG SM BC857CW
6152	4822 130 11528	1PS76SB10	7164	9322 198 96685	TRA SIG SM 2SA1954B
6153	4822 130 11528	1PS76SB10	7165	9322 173 29687	FET POW STP14NF12FP
6154	9340 548 61115	DIO REG SM PDZ12B	7167	9340 217 40135	TRA SIG SM BC846BW
6155	4822 130 11397	BAS316	7168	9340 218 20135	TRA SIG SM BC856BW
6156	9340 548 47115	PDZ3.3B	7200	9339 753 30135	TRA POW SM PZT2222A
6157	9322 198 95685	DIO SIG SM 1SS370	7201	9340 217 40135	TRA SIG SM BC846BW
6158	9322 198 95685	DIO SIG SM 1SS370	7202	3198 010 42310	TRA SIG SM BC847BW
6159	4822 130 11528	1PS76SB10	7203	3198 010 42320	TRA SIG SM BC857BW
6160	4822 130 11397	BAS316	7204	9340 217 40135	TRA SIG SM BC846BW
6200	4822 130 11551	PDZ10B	7205	9340 217 80115	TRA SIG SM BC847CW
6201	3198 020 55680	DIO REG SM PDZ5.6B	7206	9340 218 60115	TRA SIG SM BC857CW
6202	4822 130 11551	PDZ10B	7207	9340 218 60115	TRA SIG SM BC857CW
6203	4822 130 11397	BAS316	7208	9340 218 60115	TRA SIG SM BC857CW
6204	4822 130 11397	BAS316	7209	9340 217 80115	TRA SIG SM BC847CW
6205	4822 130 11397	BAS316	7210	5322 209 11548	IC SM 74HC14D
6206	4822 130 11397	BAS316	7211	9339 753 30135	TRA POW SM PZT2222A
6210	4822 130 11397	BAS316	7212	9340 217 80115	TRA SIG SM BC847CW
6211	4822 130 11397	BAS316			

Note : Only the parts mentioned in this list are normal service spare parts.

**TRANSISTORS & INTEGRATED CIRCUITS**

7100	9340 218 20135	TRA SIG SM BC856BW
7101	4822 130 41691	TRA SIG BC556B
7102	9340 218 60115	TRA SIG SM BC857CW
7103	9340 217 80115	TRA SIG SM BC847CW
7104	9340 217 80115	TRA SIG SM BC847CW
7105	9340 218 20135	TRA SIG SM BC856BW
7106	9340 217 80115	TRA SIG SM BC847CW
7107	9340 217 80115	TRA SIG SM BC847CW
7108	4822 130 43233	TRA SIF 2SC2240
7109	9340 217 80115	TRA SIG SM BC847CW
7110	9340 218 20135	TRA SIG SM BC856BW
7111	9340 218 60115	TRA SIG SM BC857CW
7112	9322 173 29687	FET POW STP14NF12FP
7113	9322 198 96685	TRA SIG SM 2SA1954B
7114	9340 218 60115	TRA SIG SM BC857CW
7115	9322 198 96685	TRA SIG SM 2SA1954B
7116	9340 217 40135	TRA SIG SM BC846BW
7117	9322 173 29687	FET POW STP14NF12FP
7150	9340 218 60115	TRA SIG SM BC857CW
7151	4822 130 41691	TRA SIG BC556B
7152	9340 217 80115	TRA SIG SM BC847CW
7153	9340 217 80115	TRA SIG SM BC847CW
7154	9340 217 80115	TRA SIG SM BC847CW
7155	9340 217 80115	TRA SIG SM BC847CW
7156	9340 218 20135	TRA SIG SM BC856BW
7157	9340 218 20135	TRA SIG SM BC856BW
7158	4822 130 43233	TRA SIG 2SC2240
7159	9340 217 80115	TRA SIG SM BC847CW
7160	9340 218 60115	TRA SIG SM BC857CW
7161	9322 198 96685	TRA SIG SM 2SA1954B
7162	9322 173 29687	FET POW STP14NF12FP



# PWR303 MODULE UCD 200-250W

Mains pt5 / Reg pt3 / Amp pt2 / Spk pt5 - 17 Nov 03

TABLE OF CONTENTS

Mains UCD Board

Mains Socket UCD Board - Component Layout ..... 8-1  
 Mains Socket UCD Board - Circuit Diagram ..... 8-1  
 Mains UCD Board - Component Layout ..... 8-2  
 Mains UCD Board - Circuit Diagram ..... 8-3

Regulator UCD Board

Component & Chip Layout ..... 8-4  
 Circuit Diagram ..... 8-5

Amplifier UCD Board (BTL Master/Slave)

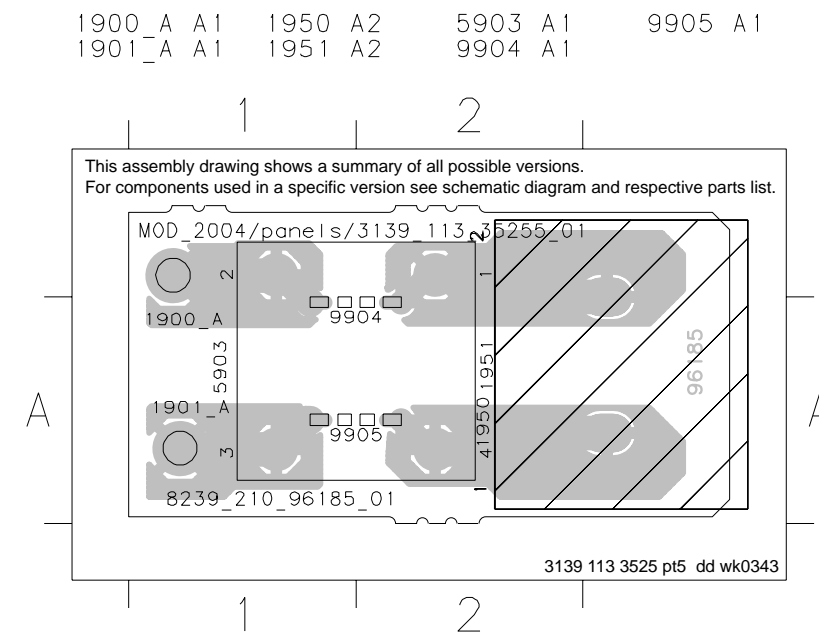
Component Layout ..... 8-6  
 Chip Layout ..... 8-7  
 Circuit Diagram Part 1 ..... 8-8  
 Circuit Diagram Part 2 ..... 8-9

Speaker UCD Board

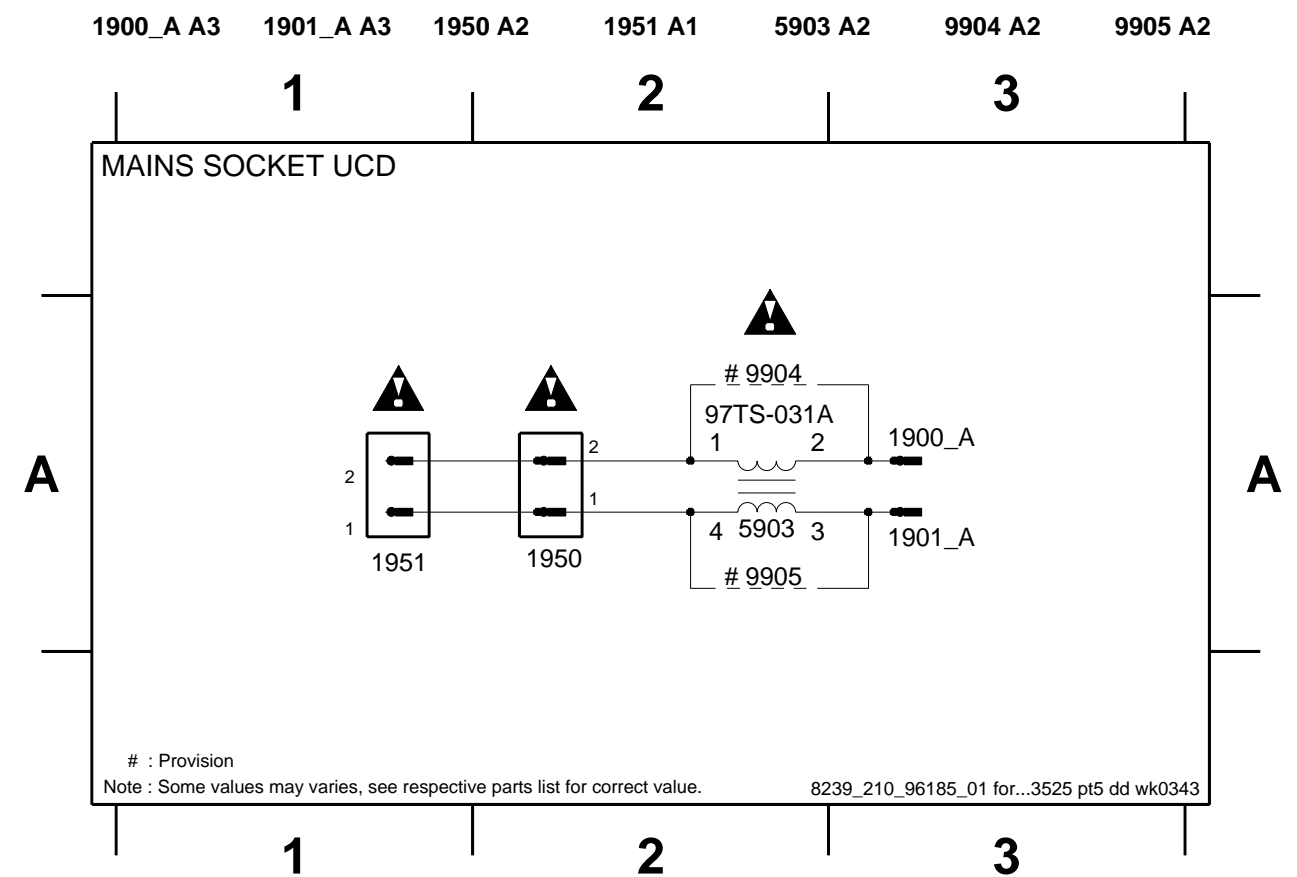
Component Layout ..... 8-10  
 Circuit Diagram ..... 8-10  
 Variation Table ..... 8-10

Wiring Diagram ..... 8-11  
 Exploded View ..... 8-12  
 Electrical parts list ..... 8-13

## MAINS SOCKET UCD BOARD - COMPONENT LAYOUT



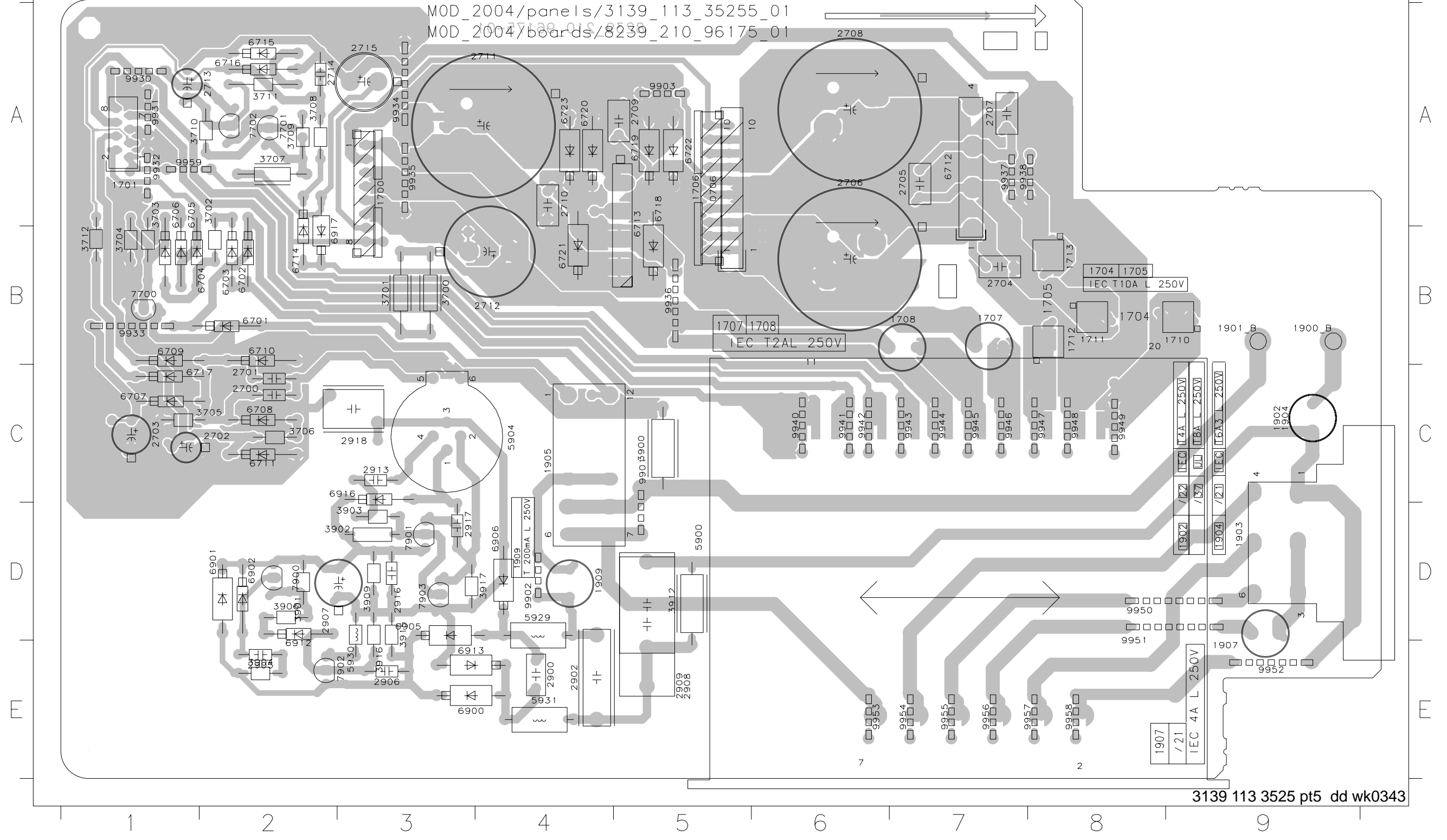
## MAINS SOCKET UCD BOARD - CIRCUIT DIAGRAM



MAINS UCD BOARD - COMPONENT LAYOUT

0706 A5	1900_B B9	2702 C2	2712 B4	2909 E5	3705 C2	3902 D3	5904 C4	6707 C1	6717 C2	6905 D3	7901 D3	9934 A3	9945 C7	9955 E7
1700 A3	1901_B B9	2703 C1	2713 A2	2913 C3	3706 C2	3903 D3	5929 D4	6708 C2	6718 A5	6906 D4	7902 E3	9935 A3	9946 C7	9956 E7
1701 A1	1902 C9	2704 B7	2714 A2	2916 D3	3707 A2	3904 E2	5930 E3	6709 B1	6719 A5	6912 E2	7903 D3	9936 B5	9947 C8	9957 E7
1706 A5	1903 D9	2705 A7	2715 A3	2917 D3	3708 A2	3906 D2	5931 E4	6710 B2	6720 A4	6913 E3	9901 C5	9937 A7	9948 C8	9958 E8
1707 B7	1904 C9	2706 A6	2900 E4	2918 C3	3709 A2	3909 D3	6701 B2	6711 C2	6721 B4	6916 C3	9902 D4	9938 A7	9949 C8	9959 A1
1708 B7	1905 C4	2707 A7	2902 E4	3700 B3	3710 A1	3912 D5	6702 B2	6712 A7	6722 A5	6917 B2	9903 A5	9940 C6	9950 D8	
1710 B9	1907 E9	2708 A6	2905 E2	3701 B3	3711 A2	3915 D3	6703 B2	6713 A5	6723 A4	7700 B1	9930 A1	9941 C6	9951 D8	
1711 B8	1909 D4	2709 A5	2906 E3	3702 A2	3712 B1	3916 E3	6704 B2	6714 B2	6900 E3	7701 A2	9931 A1	9942 C6	9952 E9	
1712 B8	2700 C2	2710 A4	2907 D2	3703 A1	3900 C5	3917 D4	6705 A1	6715 A2	6901 D2	7702 A2	9932 A1	9943 C7	9953 E6	
1713 B8	2701 C2	2711 A4	2908 E5	3704 B1	3901 D2	5900 D5	6706 A1	6716 A2	6902 D2	7900 D2	9933 B1	9944 C7	9954 E7	

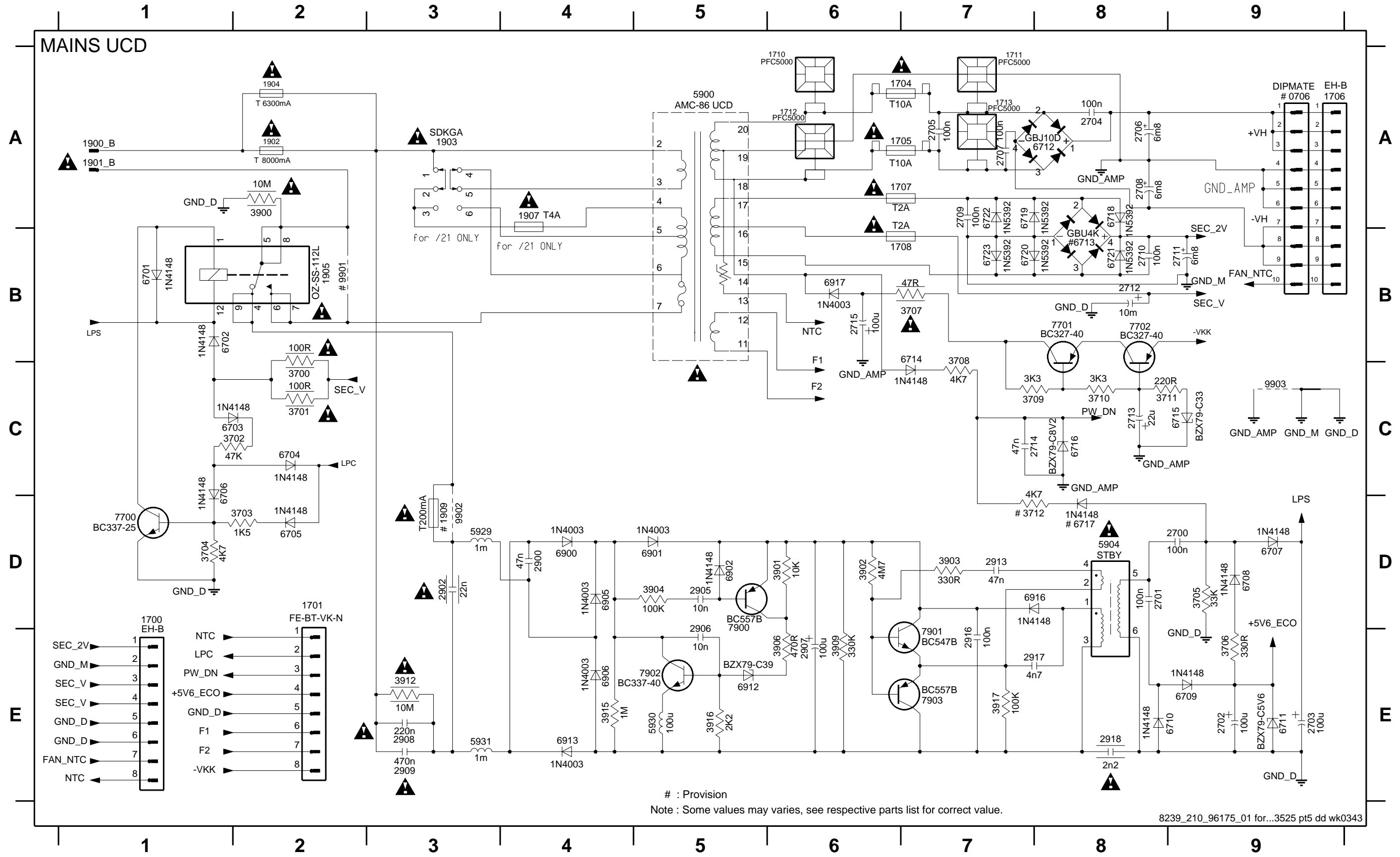
This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram and respective parts list.





# MAINS UCD BOARD - CIRCUIT DIAGRAM

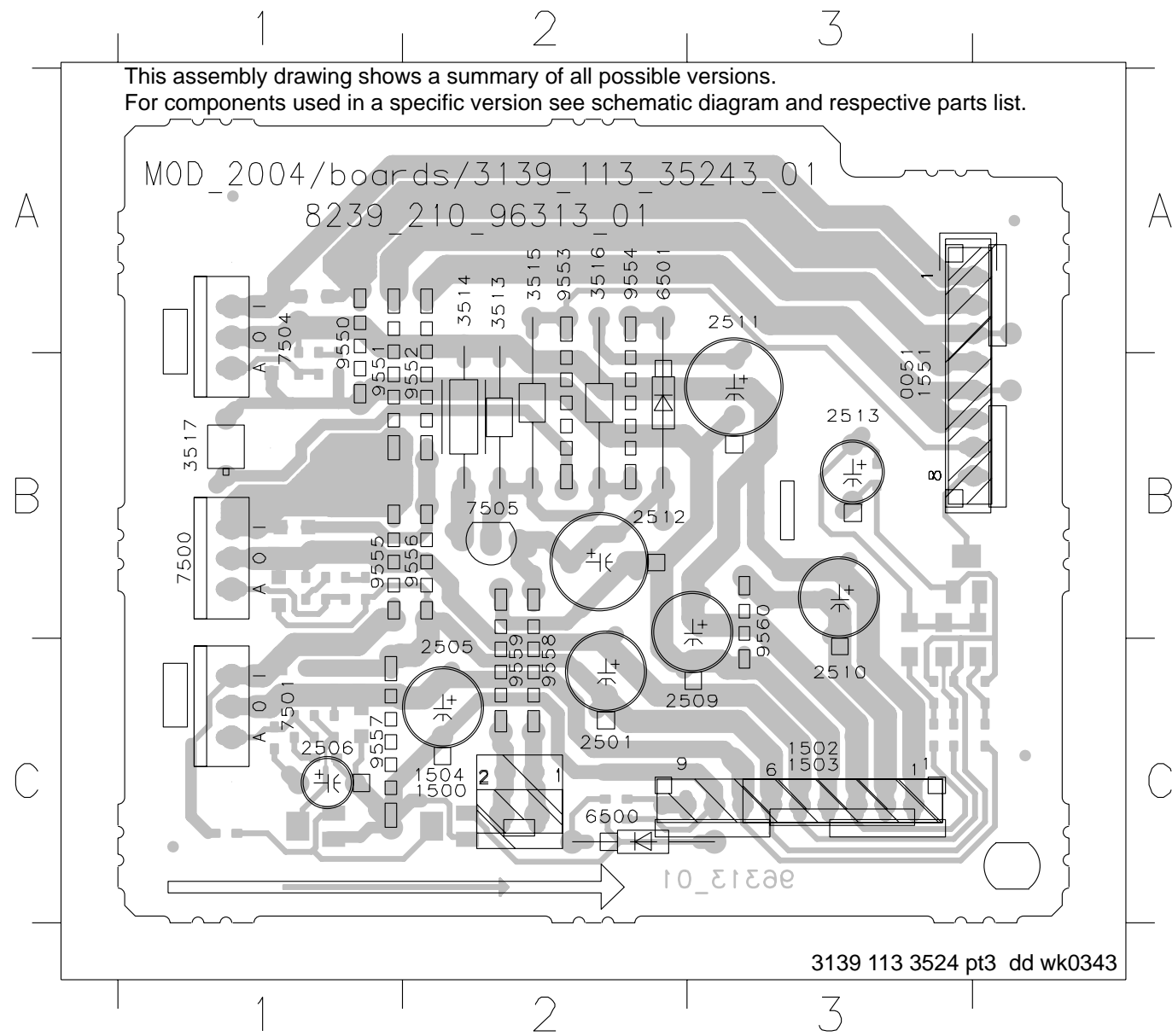
0706 A9	1707 A6	1900_B A1	1907 A4	2704 A8	2710 B8	2900 D4	2909 E3	3701 C2	3707 B7	3900 A2	3909 E6	5904 D8	6703 C1	6709 E9	6715 C9	6721 B8	6905 D4	7700 D1	7903 E7
1700 E1	1708 B6	1901_B A1	1909 D3	2705 A7	2711 B9	2902 D3	2913 D7	3702 C2	3708 C7	3901 D6	3912 E3	5929 D3	6704 C2	6710 E8	6716 C8	6722 A7	6906 E4	7701 B8	9901 B2
1701 D2	1710 A6	1902_A2	2700 D9	2706 A8	2712 B8	2905 D5	2916 E7	3703 D2	3709 C7	3902 D6	3915 E4	5930 E5	6705 D2	6711 E9	6717 D8	6723 B7	6912 E5	7702 B8	9902 D3
1704 A6	1711 A7	1903 A3	2701 D8	2707 A7	2713 C8	2906 E5	2917 E7	3704 D1	3710 C8	3903 D7	3916 E5	5931 E3	6706 C1	6712 A8	6718 A8	6900 D4	6913 E4	7900 D5	9903 C9
1705 A6	1712 A6	1904 A2	2702 E9	2708 A8	2714 C7	2907 E6	2918 E8	3705 D9	3711 C8	3904 D5	3917 E7	6701 B1	6707 D9	6713 B8	6719 A8	6901 D5	6916 D8	7901 E7	
1706 A9	1713 A7	1905 B2	2703 E9	2709 A7	2715 B6	2908 E3	3700 C2	3706 E9	3712 D7	3906 E6	5900 A5	6702 B1	6708 D9	6714 B7	6720 B7	6902 D5	6917 B6	7902 E5	



# : Provision  
 Note : Some values may varies, see respective parts list for correct value.

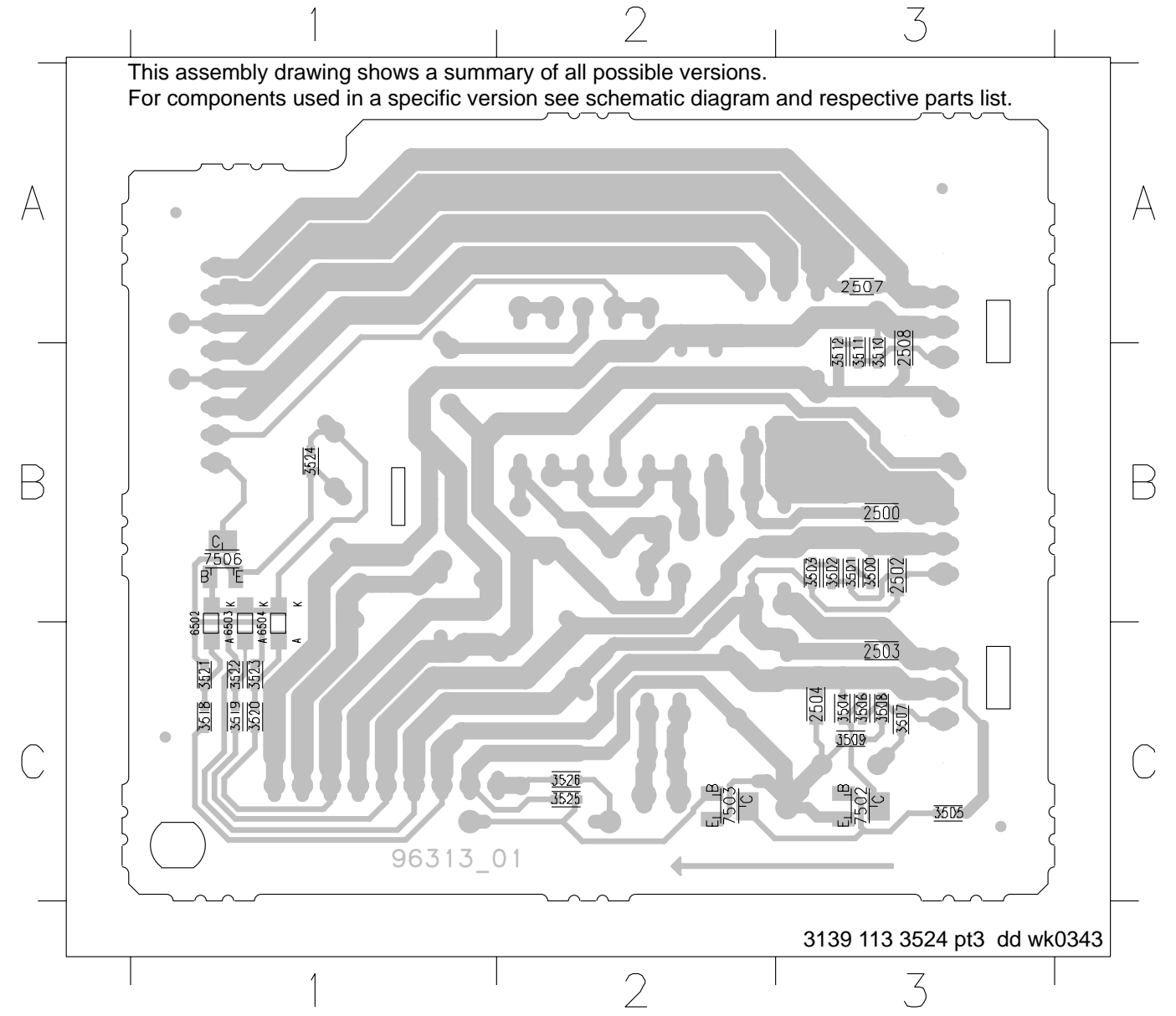
REGULATOR UCD BOARD - COMPONENT LAYOUT

0051 B3	2501 C2	2512 B2	3517 B1	7505 B2	9555 B1
1500 C2	2505 C2	2513 B3	6500 C2	9550 A1	9556 B2
1502 C3	2506 C1	3513 A2	6501 A2	9551 B1	9557 C1
1503 C3	2509 C3	3514 A2	7500 B1	9552 B2	9558 C2
1504 C2	2510 C3	3515 A2	7501 C1	9553 A2	9559 C2
1551 B3	2511 A3	3516 A2	7504 A1	9554 A2	9560 B3



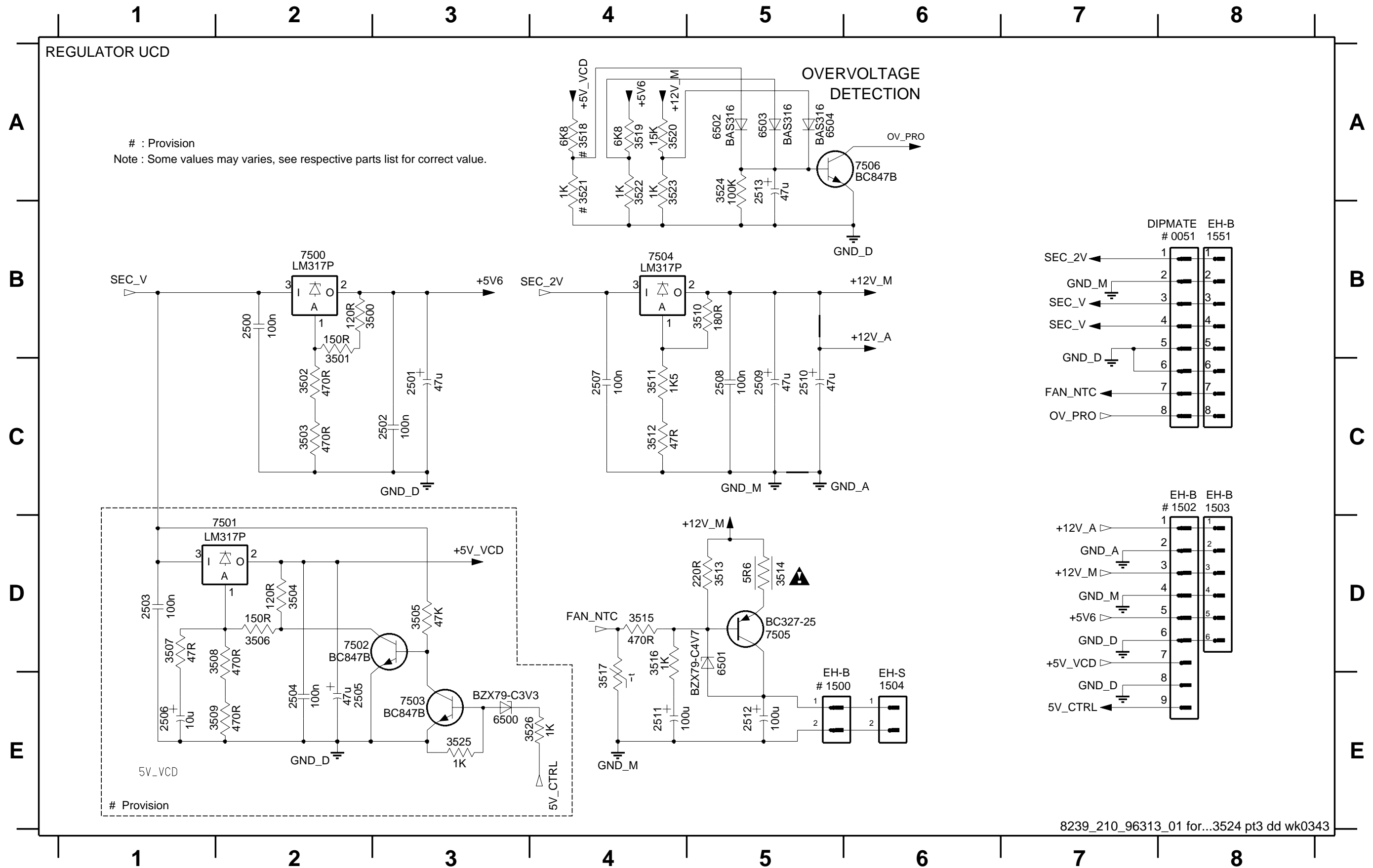
REGULATOR UCD BOARD - CHIP LAYOUT

2500 B3	2508 B3	3504 C3	3509 C3	3519 C1	3524 B1	6504 C1
2502 B3	3500 B3	3505 C3	3510 B3	3520 C1	3525 C2	7502 C3
2503 C3	3501 B3	3506 C3	3511 B3	3521 C1	3526 C2	7503 C2
2504 C3	3502 B3	3507 C3	3512 B3	3522 C1	6502 C1	7506 B1
2507 A3	3503 B3	3508 C3	3518 C1	3523 C1	6503 C1	



# REGULATOR UCD BOARD - CIRCUIT DIAGRAM

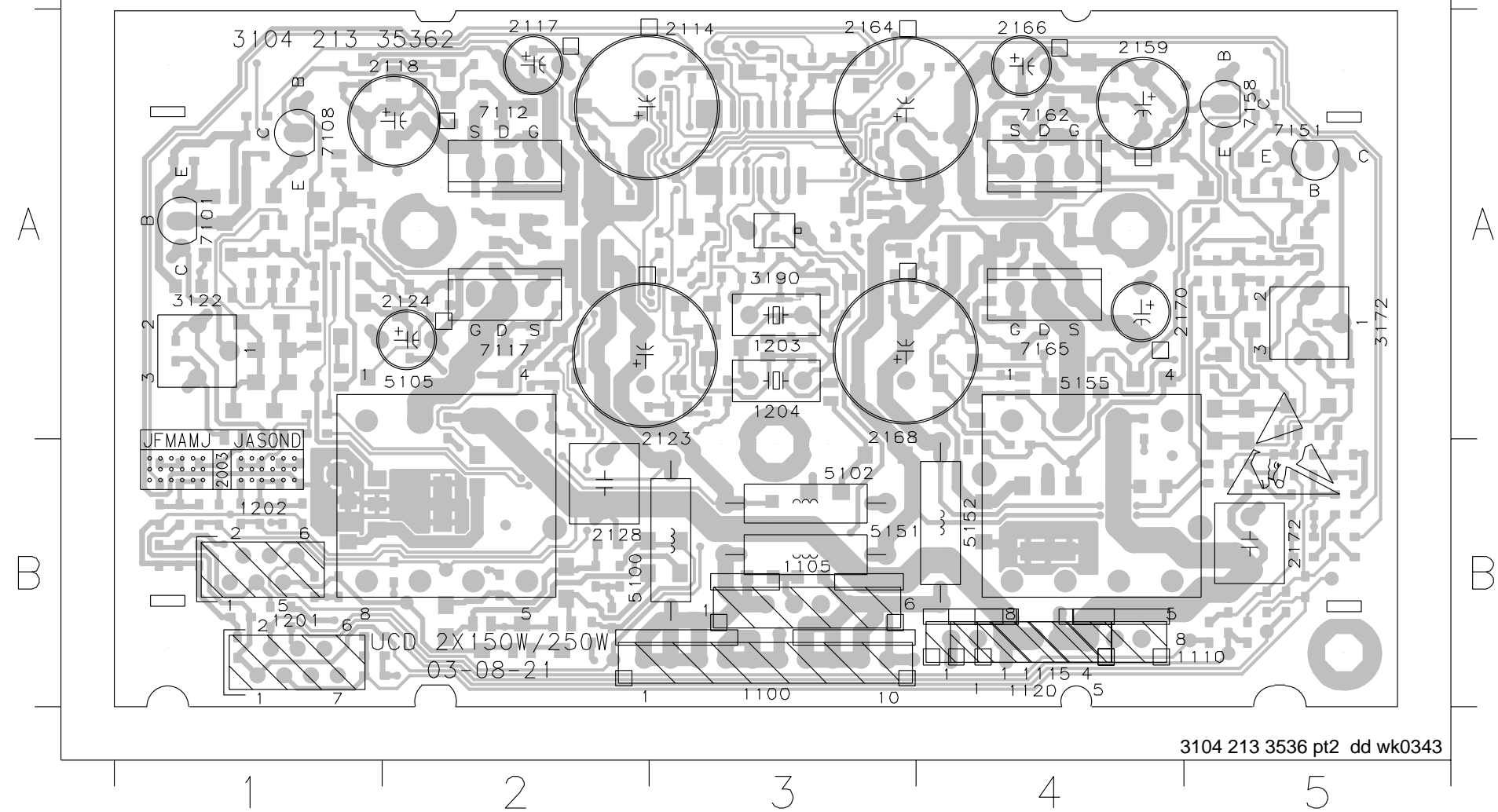
0051 B8	1503 C8	2500 B2	2503 D1	2506 E1	2509 C5	2512 E5	3501 B2	3504 D2	3507 D1	3510 B5	3513 D5	3516 D4	3519 A4	3522 A4	3525 E3	6501 D5	6504 A5	7502 D2	7505 D5
1500 E5	1504 E6	2501 C3	2504 E2	2507 C4	2510 C5	2513 A5	3502 C2	3505 D3	3508 D2	3511 C4	3514 D5	3517 E4	3520 A4	3523 A4	3526 E4	6502 A5	7500 B2	7503 E3	7506 A6
1502 C8	1551 B8	2502 C3	2505 E2	2508 C5	2511 E4	3500 B2	3503 C2	3506 D2	3509 E2	3512 C4	3515 D4	3518 A4	3521 A4	3524 A5	6500 E3	6503 A5	7501 D1	7504 B4	



AMPLIFIER UCD BOARD (BTL MASTER/SLAVE) - COMPONENT LAYOUT

1100 B3	1201 B1	2117 A2	2159 A4	2172 B5	5102 B3	7101 A1	7158 A5
1105 B3	1202 B1	2118 A2	2164 A3	3122 A1	5105 B2	7108 A1	7162 A4
1110 B4	1203 A3	2123 A2	2166 A4	3172 A5	5151 B3	7112 A2	7165 A4
1115 B4	1204 A3	2124 A2	2168 A3	3190 A3	5152 B4	7117 A2	
1120 B4	2114 A2	2128 B2	2170 A4	5100 B3	5155 B4	7151 A5	

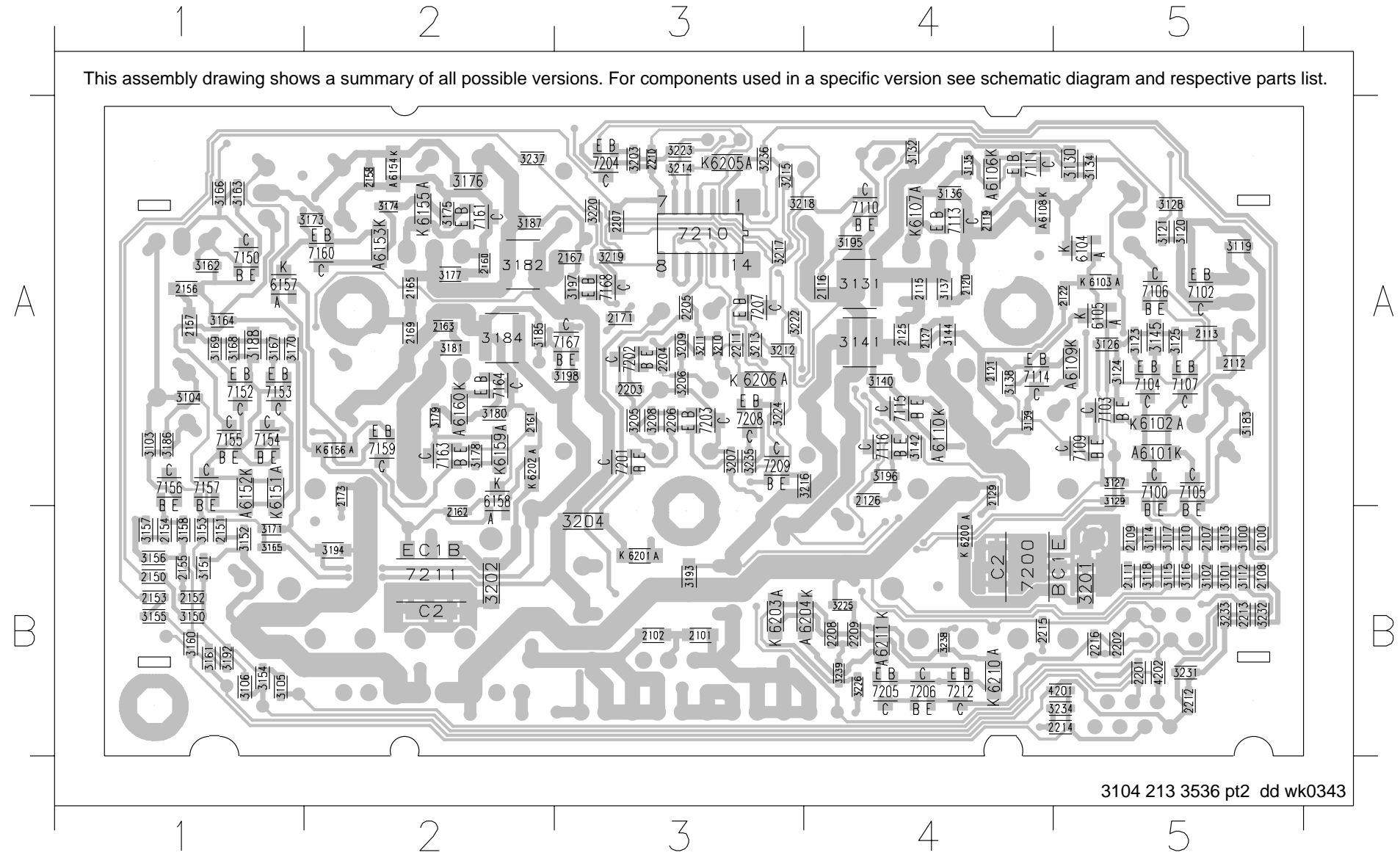
This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram and respective parts list.



AMPLIFIER UCD BOARD (BTL MASTER/SLAVE) - CHIP LAYOUT

2100	B5	2122	A5	2161	A2	2208	B4	3106	B1	3127	A5	3144	A4	3164	A1	3180	A2
2101	B3	2125	A4	2162	B2	2209	B4	3112	B5	3128	A5	3145	A5	3165	B1	3181	A2
2102	B3	2126	A4	2163	A2	2210	A3	3113	B5	3129	A5	3150	B1	3166	A1	3182	A2
2107	B5	2127	A4	2165	A2	2211	A3	3114	B5	3130	A5	3151	B1	3167	A1	3183	A5
2108	B5	2129	A4	2167	A3	2212	B5	3115	B5	3131	A4	3152	B1	3168	A1	3184	A2
2109	B5	2150	B1	2169	A2	2213	B5	3116	B5	3132	A4	3153	B1	3169	A1	3185	A2
2110	B5	2151	B1	2171	A3	2214	B5	3117	B5	3134	A5	3154	B1	3170	A1	3186	A1
2111	B5	2152	B1	2173	A2	2215	B4	3118	B5	3135	A4	3155	B1	3171	B1	3187	A2
2112	A5	2153	B1	2201	B5	2216	B5	3119	A5	3136	A4	3156	B1	3173	A2	3188	A1
2113	A5	2154	B1	2202	B5	3100	B5	3120	A5	3137	A4	3157	B1	3174	A2	3192	B1
2115	A4	2155	B1	2203	A3	3101	B5	3121	A5	3138	A4	3158	B1	3175	A2	3193	B3
2116	A4	2156	A1	2204	A3	3102	B5	3123	A5	3139	A4	3160	B1	3176	A2	3194	B2
2119	A4	2157	A1	2205	A3	3103	A1	3124	A5	3140	A4	3161	B1	3177	A2	3195	A4
2120	A4	2158	A2	2206	A3	3104	A1	3125	A5	3141	A4	3162	A1	3178	A2	3196	A4
2121	A4	2160	A2	2207	A3	3105	B1	3126	A5	3142	A4	3163	A1	3179	A2	3197	A3

3198	A3	6158	A2	F101	B3
3201	B5	6159	A2	F102	B3
3202	B2	6160	A2	F103	B2
3203	A3	6200	B4	F104	B2
3204	B3	6201	B3	F105	B2
3205	A3	6202	A2	F106	B3
3206	A3	6203	B3	F107	A4
3207	A3	6204	B4	F108	A4
3208	A3	6205	A3	F109	A2
3209	A3	6206	A3	F110	A3
3210	A3	6210	B4	F111	A5
3211	A3	6211	B4	F112	B2
3212	A3	7100	A5	F113	A3
3213	A3	7102	A5	F114	B1
3214	A3	7103	A5	F115	B1
3215	A3	7104	A5	F116	B1
3216	A4	7105	A5	F117	B1
3217	A3	7106	A5	F118	B4
3218	A3	7107	A5	F119	B4
3219	A3	7109	A5	F120	B4
3220	A3	7110	A4	F121	A3
3222	A3	7111	A4	F122	A3
3223	A3	7113	A4		
3224	A3	7114	A4		
3225	B4	7115	A4		
3226	B4	7116	A4		
3231	B5	7150	A1		
3232	B5	7152	A1		
3233	B5	7153	A1		
3234	B5	7154	A1		
3235	A3	7155	A1		
3236	A3	7156	A1		
3237	A2	7157	A1		
3238	B4	7159	A2		
3239	B4	7160	A2		
4201	B5	7161	A2		
4202	B5	7163	A2		
6101	A5	7164	A2		
6102	A5	7167	A3		
6103	A5	7168	A3		
6104	A5	7200	B4		
6105	A5	7201	A3		
6106	A4	7202	A3		
6107	A4	7203	A3		
6108	A4	7204	A3		
6109	A5	7205	B4		
6110	A4	7206	B4		
6151	A1	7207	A3		
6152	A1	7208	A3		
6153	A2	7209	A3		
6154	A2	7210	A3		
6155	A2	7211	B2		
6156	A2	7212	B4		
6157	A1	F100	B3		

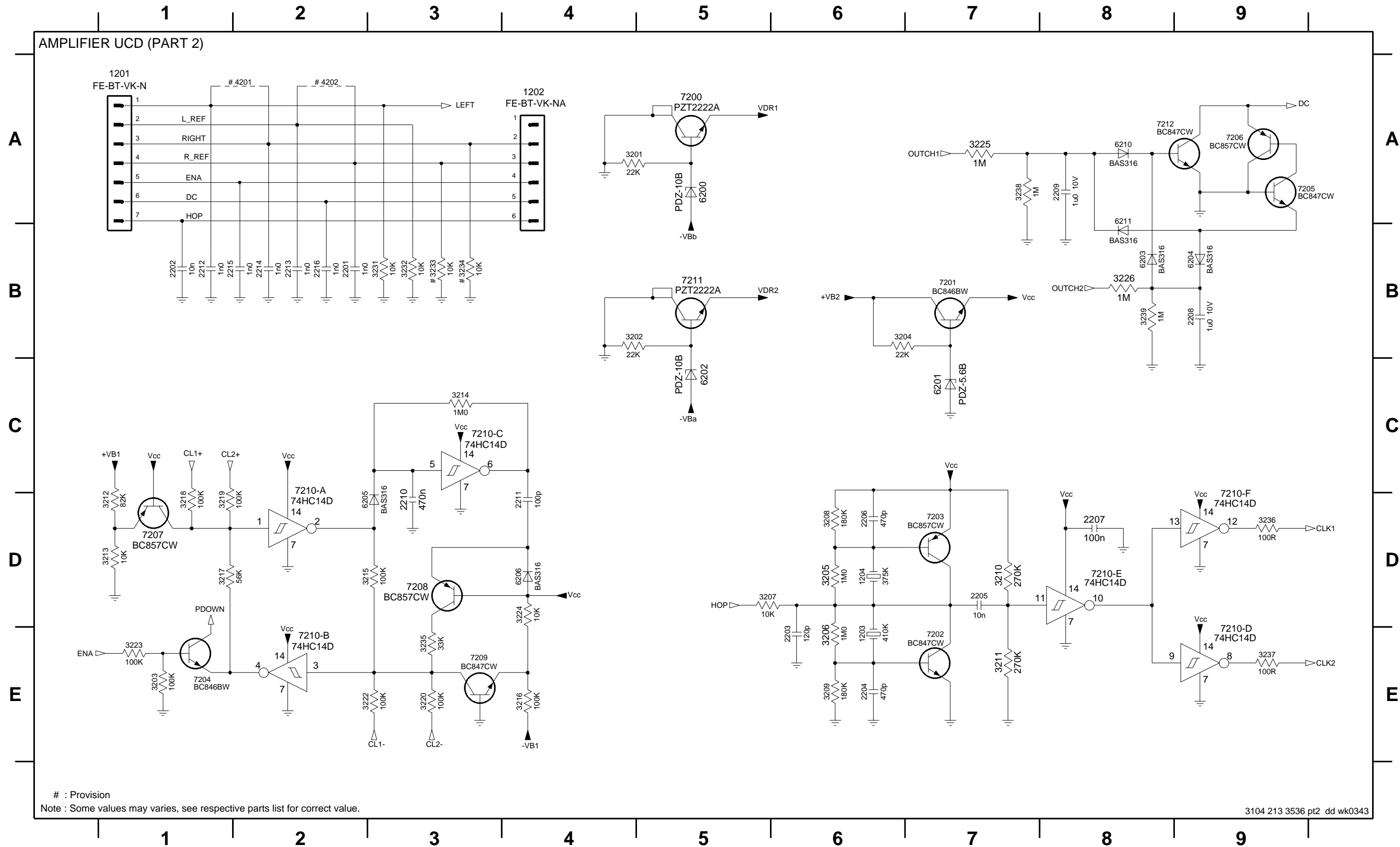


3104 213 3536 pt2 dd wk0343



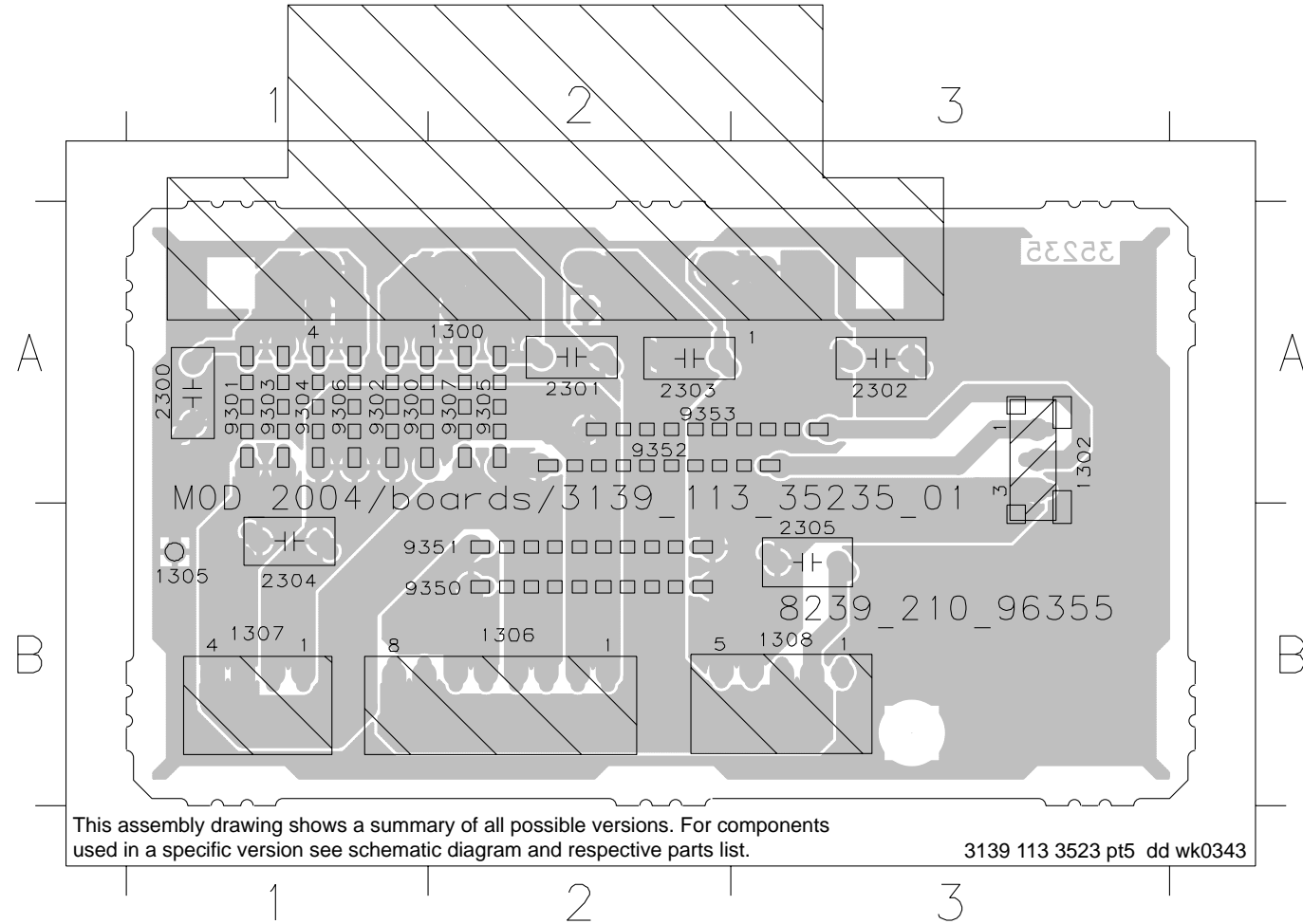
# AMPLIFIER UCD BOARD (BTL MASTER/SLAVE) - CIRCUIT DIAGRAM PART 2

1201 A1	2201 B2	2205 D7	2209 A8	2213 B2	3201 A4	3205 D6	3209 E6	3213 D1	3217 D1	3222 E3	3226 B8	3234 B3	3238 A7	6200 A5	6204 B9	6211 B8	7203 D7	7207 D1	7210-B E2	7210-F D9
1202 A4	2202 B1	2206 D6	2210 D3	2214 B2	3202 B4	3206 E6	3210 D7	3214 C3	3218 D1	3223 E1	3231 B3	3235 E3	3239 B8	6201 C7	6205 D2	7200 A5	7204 E1	7208 D3	7210-C C3	7211 B5
1203 E6	2203 E6	2207 D8	2211 D4	2215 B1	3203 E1	3207 D5	3211 E7	3215 D3	3219 D1	3224 D4	3232 B3	3236 D9	4201 A2	6202 C5	6206 D4	7201 B7	7205 A9	7209 E3	7210-D E9	7212 A8
1204 D6	2204 E6	2208 B9	2212 B1	2216 B2	3204 B6	3208 D6	3212 D1	3216 E4	3220 E3	3225 A7	3233 B3	3237 E9	4202 A2	6203 B8	6210 A8	7202 E7	7206 A9	7210-A D2	7210-E D8	



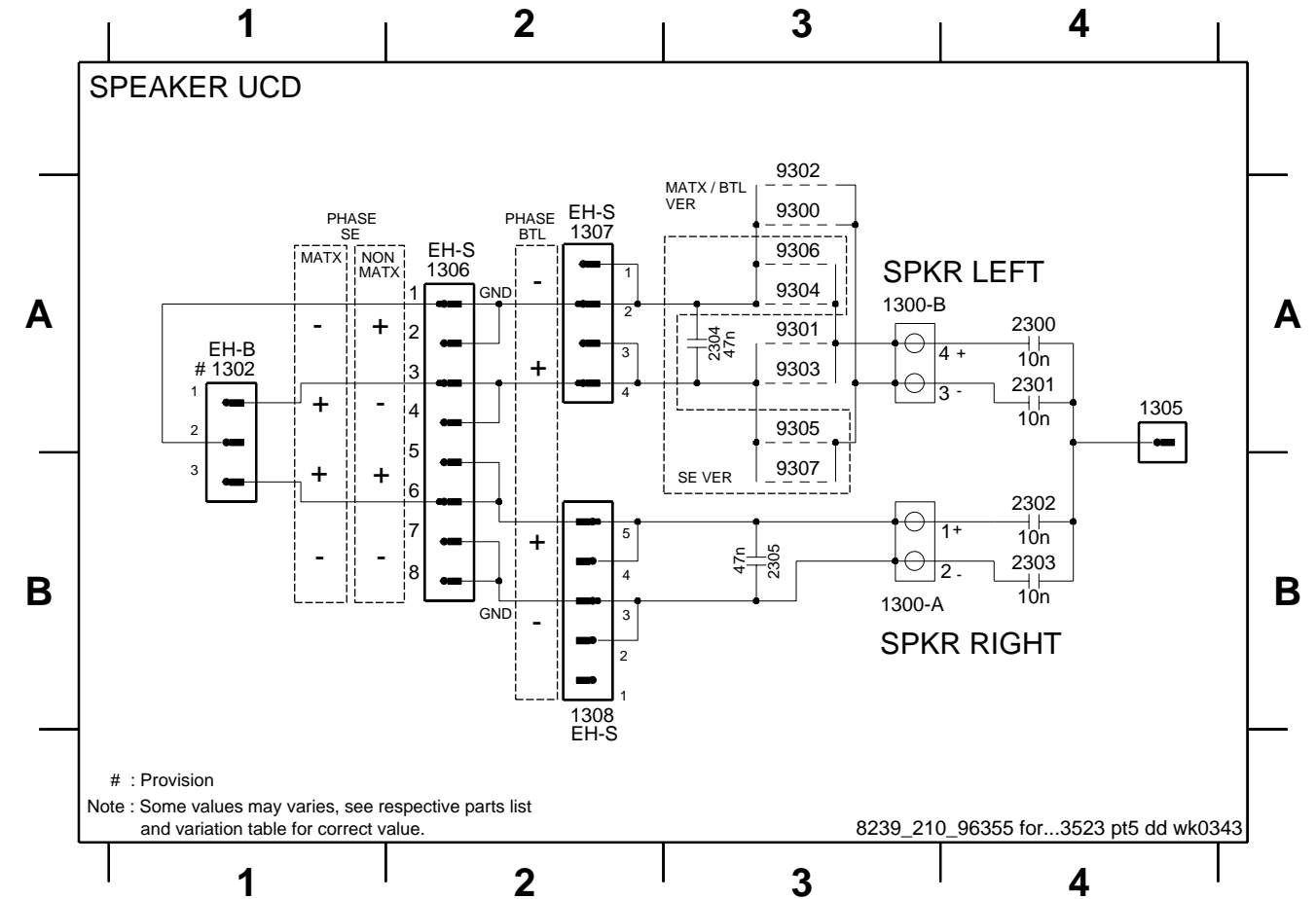
**SPEAKER UCD BOARD - COMPONENT LAYOUT**

1300 A2	1307 B1	2302 A3	9300 A1	9304 A1	9350 B2
1302 A3	1308 B3	2303 A2	9301 A1	9305 A2	9351 B2
1305 B1	2300 A1	2304 B1	9302 A1	9306 A1	9352 A2
1306 B2	2301 A2	2305 B3	9303 A1	9307 A2	9353 A2



**SPEAKER UCD BOARD - CIRCUIT DIAGRAM**

1300-A B3	1302 A1	1306 A2	1308 B2	2301 A4	2303 B4	2305 B3	9301 A3	9303 A3	9305 A3	9307 B3
1300-B A3	1305 A4	1307 A2	2300 A4	2302 B4	2304 A3	9300 A3	9302 A3	9304 A3	9306 A3	



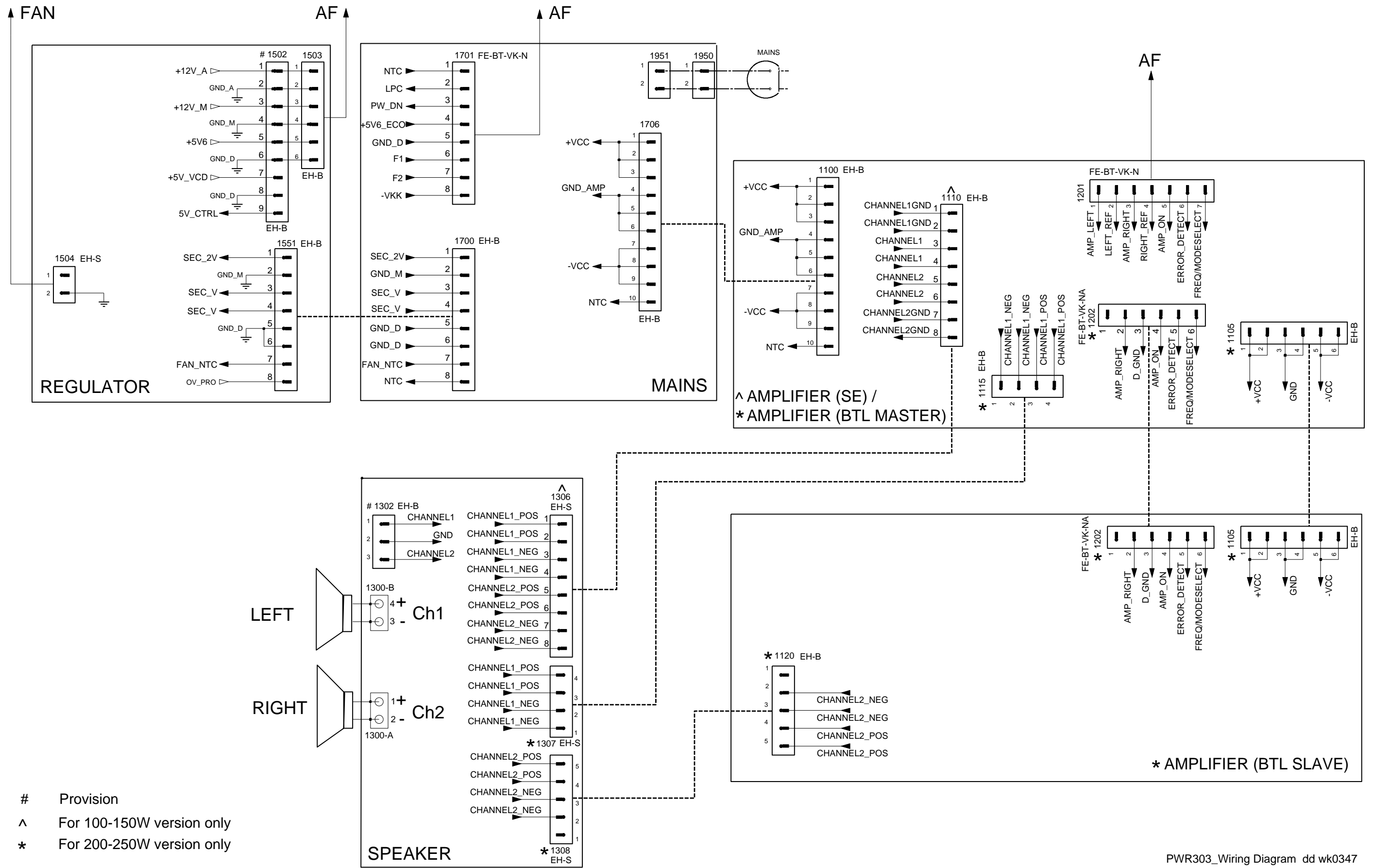
**SPEAKER UCD BOARD - VARIATION TABLE**

Item No.	SPEAKER UCD BOARD	
	100-150W (Non Matrix Version)	200-250W
1302	-	-
1306	X	-
1307 , 1308	-	X
2304 , 2305	-	X
9300 , 9301	-	X
9302 , 9303	-	X
9304 , 9305	X	-
9306 , 9307	X	-

X - item in use.

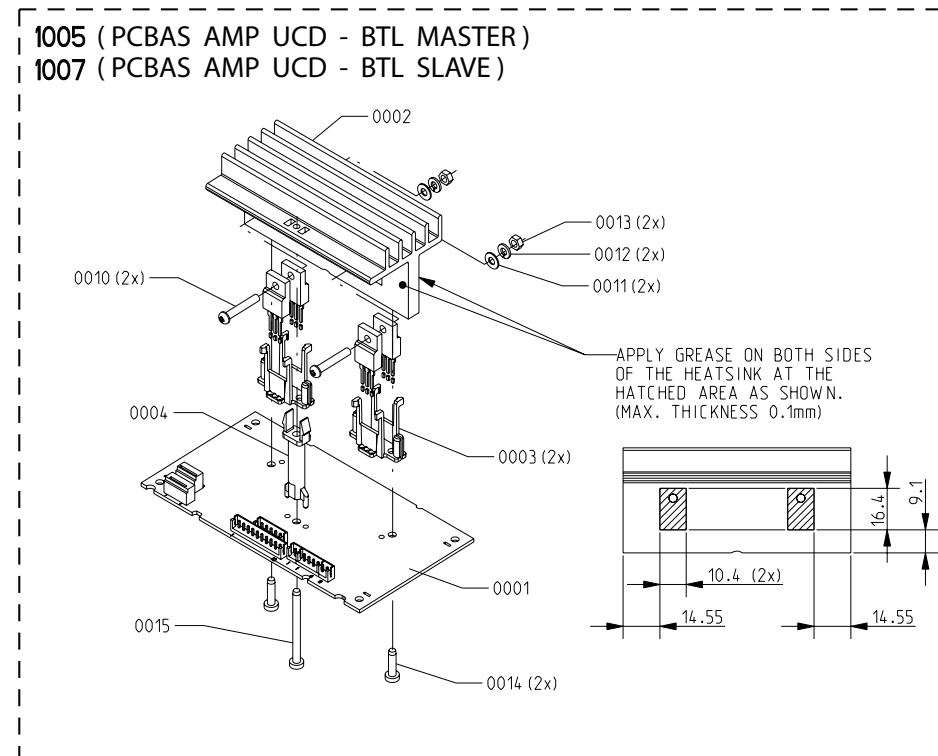
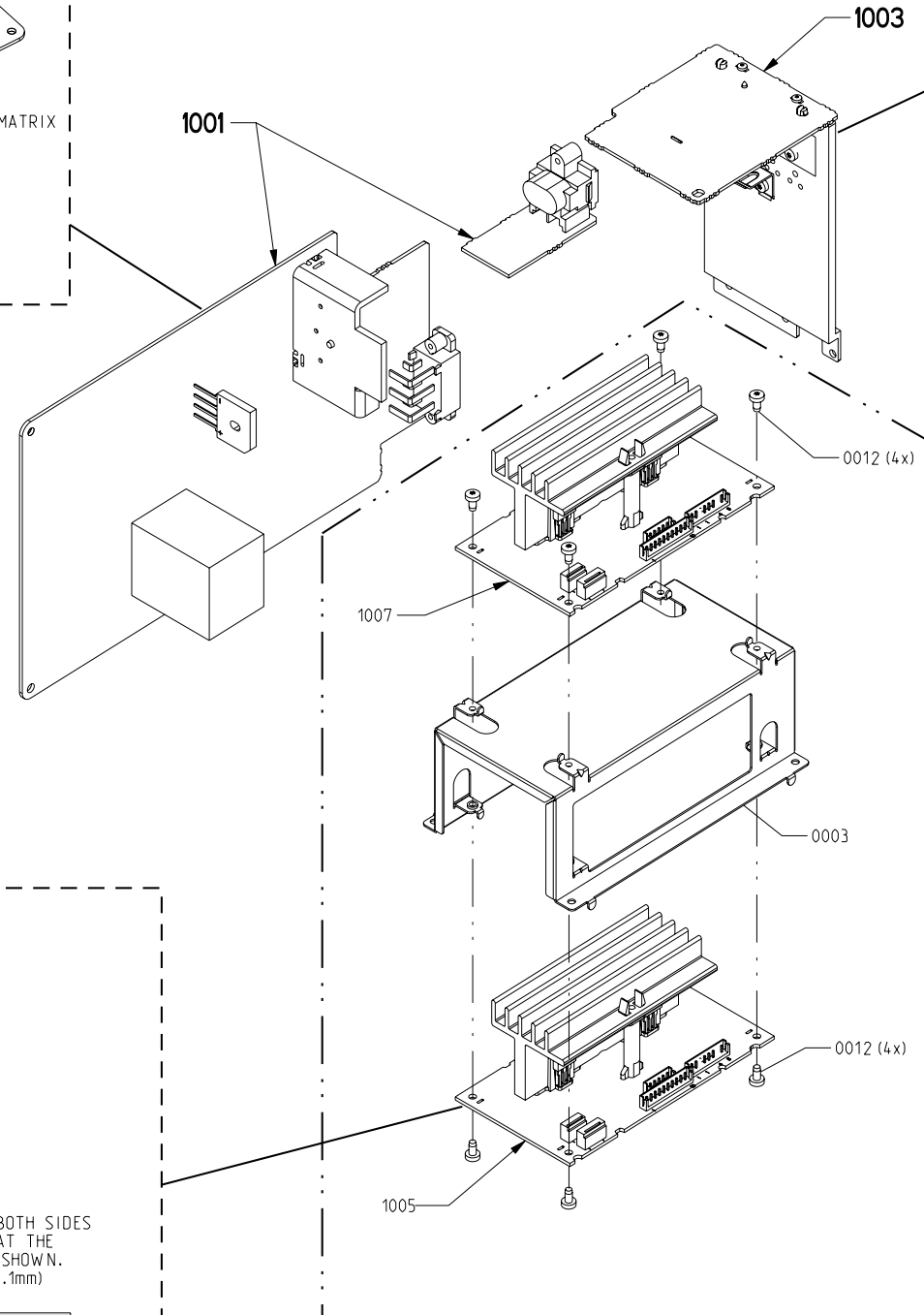
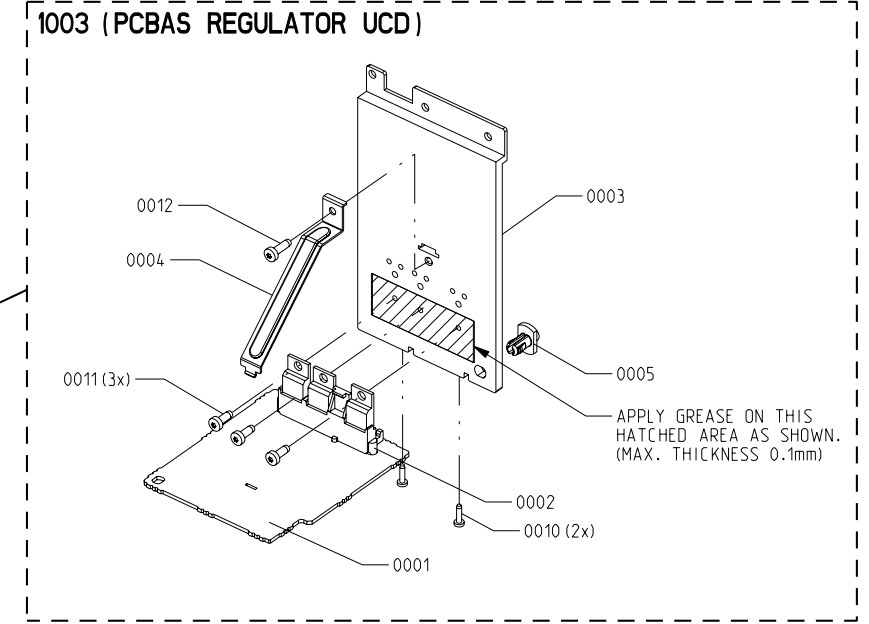
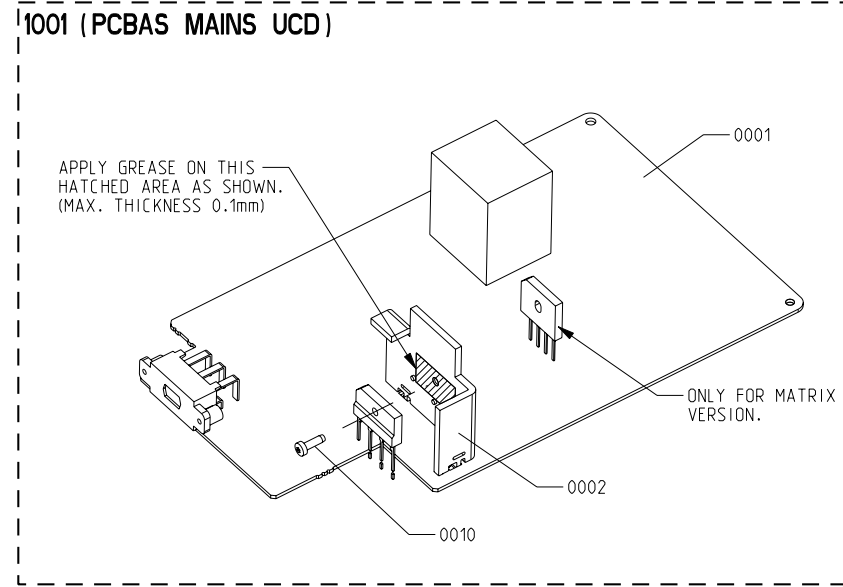


# WIRING DIAGRAM



- # Provision
- ^ For 100-150W version only
- \* For 200-250W version only

**EXPLODED VIEW**



**1004 (PCBAS SPEAKER UCD)**

**1008 (ASSY UCD BTL)**

**SCREW LISTS**

**ASSY UCD BTL**

0012	M3 x 6
------	--------

**PCBAS MAINS UCD**

0010	D3 x 10
------	---------

**PCBAS REGULATOR UCD**

0010	D2 x 8
0011	D2.5 x 8
0012	D3 x 10

**PCBAS AMP UCD - BTL MASTER/SLAVE**

0010	M3 x 18
0014	D3 x 12
0015	D3 x 35

**ELECTRICAL PARTS LIST - MAINS UCD BOARD****MISCELLANEOUS**

1701	4822 265 11515	FLEX CONNECTOR 8P
1704	2422 086 02152	△ FUSE 5X20 T 10A 250V
1705	2422 086 02152	△ FUSE 5X20 T 10A 250V
1707	9965 000 07788	△ FUSE RAD LT 2A 250V
1708	9965 000 07788	△ FUSE RAD LT 2A 250V
1710	2422 090 01101	SOC FUSE V 1P F
1711	2422 090 01101	SOC FUSE V 1P F
1712	2422 090 01101	SOC FUSE V 1P F
1713	2422 090 01101	SOC FUSE V 1P F
1902	9965 000 07786	△ FUSE RAD LT 4A 250V /22
1902	2422 086 11115	△ FUSE RAD T 8A 250V /37
1903	9965 000 07789	△ VOLTAGE SELECTOR /21
1904	2422 086 11109	△ FUSE RAD T 6A3 250V/21
1905	2422 132 07519	△ RELAY 1P 12V 16A OZ-SS L
1907	9965 000 07786	△ FUSE RAD LT 4A 250V /21
1950	4822 265 31015	△ MAINS SOCKET /21/22
1951	2422 030 00328	△ MAINS SOCKET /37

**CAPACITORS**

2700	2020 561 90365	100nF +80/-20% 50V
2701	2020 561 90365	100nF +80/-20% 50V
2702	4822 124 41584	100uF 20% 10V
2703	4822 124 40207	100uF 20% 25V
2704	5322 121 42578	100nF 5% 250V
2705	5322 121 42578	100nF 5% 250V
2706	2022 020 00737	6800uF 20% 50V
2707	5322 121 42578	100nF 5% 250V
2708	2022 020 00737	6800uF 20% 50V
2709	5322 121 42578	100nF 5% 250V
2710	5322 121 42578	100nF 5% 250V
2711	2022 020 00782	6800uF 20% 35V
2712	2020 012 93745	10000uF 20% 16V
2713	4822 124 81151	22uF 50V
2714	4822 126 12785	47nF 50V
2715	2020 012 93741	100uF 20% 100V
2900	4822 121 43526	47nF 5% 250V
2902	2222 336 19106	△ 22nF 20% 275V
2905	4822 121 51387	10nF 20% 16V
2906	4822 121 51387	10nF 20% 16V
2907	4822 124 40255	100uF 20% 63V
2908	4822 121 10512	△ 220nF 20% 275V /22
2909	4822 126 13589	△ 470nF 20% 275V /21/37
2913	4822 126 12785	47nF 50V
2916	2020 561 90365	100nF +80/-20% 50V
2917	4822 126 11714	4,7nF 20%
2918	4822 126 14088	△ 2,2nF 20% 250V

**RESISTORS**

3700	4822 052 10101	△ 100R 5% 0,33W
3701	4822 052 10101	△ 100R 5% 0,33W
3702	4822 116 83884	47k 5% 0,5W
3703	4822 116 52243	1k5 5% 0,5W

3704	4822 116 52283	4k7 5% 0,5W
3705	4822 050 23303	33k 1% 0,6W
3706	4822 116 52219	330R 5% 0,5W
3707	4822 052 10479	△ 47R 5% 0,33W
3708	4822 116 52283	4k7 5% 0,5W
3709	4822 116 52269	3k3 5% 0,5W
3710	4822 116 52269	3k3 5% 0,5W
3711	4822 116 83872	220R 5% 0,5W
3900	4822 053 21106	△ 10M 5% 0,5W /37
3901	4822 050 21003	10k 1% 0,6W
3902	4822 050 24705	4M7 1% 0,6W
3903	4822 116 52219	330R 5% 0,5W
3904	4822 116 52234	100k 5% 0,5W
3906	4822 116 83883	470R 5% 0,5W
3909	4822 116 52272	330k 5% 0,5W
3912	4822 053 21106	△ 10M 5% 0,5W
3915	4822 116 83866	1M 5% 0,5W
3916	4822 116 52256	2k2 5% 0,5W
3917	4822 116 52234	100k 5% 0,5W

**COILS & FILTERS**

5903	4822 157 11628	△ FIL MAINS
5904	2422 549 45157	△ TRAFO STANDBY 3A1631N
5929	4822 157 53473	IND FXD 1000uH 10%
5930	4822 157 52333	IND FXD 100uH 5%
5931	4822 157 53473	IND FXD 1000uH 10%

**DIODES**

6701	4822 130 30621	1N4148
6702	4822 130 30621	1N4148
6703	4822 130 30621	1N4148
6704	4822 130 30621	1N4148
6705	4822 130 30621	1N4148
6706	4822 130 30621	1N4148
6707	4822 130 30621	1N4148
6708	4822 130 30621	1N4148
6709	4822 130 30621	1N4148
6710	4822 130 30621	1N4148
6711	4822 130 34173	BZX79-C5V6
6712	9322 197 92682	BRIDGE GBJ10D
6714	4822 130 30621	1N4148
6715	4822 130 34142	BZX79-C33
6716	4822 130 34382	BZX79-C8V2
6718	4822 130 31878	1N5392
6719	4822 130 31878	1N5392
6720	4822 130 31878	1N5392
6721	4822 130 31878	1N5392
6722	4822 130 31878	1N5392
6723	4822 130 31878	1N5392
6900	4822 130 31878	1N4003G
6901	4822 130 31878	1N4003G
6902	4822 130 30621	1N4148

**ELECTRICAL PARTS LIST - MAINS UCD BOARD**

6905	4822 130 31878	1N4003G
6906	4822 130 31878	1N4003G
6912	4822 130 34145	BZX79-C39
6913	4822 130 31878	1N4003G
6916	4822 130 30621	1N4148
6917	4822 130 31878	1N4003G

**TRANSISTORS & INTEGRATED CIRCUITS**

7700	4822 130 40981	BC337-25
------	----------------	----------

7701	4822 130 41327	BC327-40
7702	4822 130 41327	BC327-40
7900	4822 130 44568	BC557B
7901	4822 130 40959	BC547B
7902	4822 130 40855	BC337-40
7903	4822 130 44568	BC557B

Note : Only the parts mentioned in this list are normal service spare parts.

**ELECTRICAL PARTS LIST - REGULATOR UCD BOARD****MISCELLANEOUS**

0002	3139 114 75361	HOLDER IC
0005	3139 114 71010	STOPPER HEATSINK

**CAPACITORS**

2500	4822 126 14585	100nF 10% 50V
2501	4822 124 81286	47uF 20% 16V
2502	4822 126 14585	100nF 10% 50V
2507	2222 580 15649	100nF 10% 50V
2508	4822 126 14585	100nF 10% 50V
2509	4822 124 81286	47uF 20% 16V
2510	4822 124 81286	47uF 20% 16V
2511	4822 124 41643	100uF 20% 16V
2512	4822 124 41643	100uF 20% 16V
2513	4822 124 80231	47uF 20% 16V

**RESISTORS**

3500	4822 051 30121	120R 5% 0,062W
3501	4822 051 30151	150R 5% 0,062W
3502	4822 051 30471	470R 5% 0,062W
3503	4822 051 30471	470R 5% 0,062W
3510	4822 051 30181	180R 5% 0,062W
3511	4822 051 30152	1k5 5% 0,062W
3512	4822 051 30479	47R 5% 0,062W
3513	4822 116 83872	220R 5% 0,5W

**ELECTRICAL PARTS LIST - SPEAKER UCD BOARD****MISCELLANEOUS**

1300	4822 267 31176	SOC CLICK 4P
------	----------------	--------------

**CAPACITORS**

2300	4822 121 41857	10nF 5% 250V
2301	4822 121 41857	10nF 5% 250V
2302	4822 121 41857	10nF 5% 250V

**DIODES**

6501	4822 130 34174	BZX79-C4V7
6502	4822 130 11397	BAS316
6503	4822 130 11397	BAS316
6504	4822 130 11397	BAS316

**TRANSISTORS & INTEGRATED CIRCUITS**

7500	4822 209 81351	IC LM317P
7504	4822 209 81351	IC LM317P
7505	4822 130 41246	BC327-25
7506	5322 130 60159	BC847B

Note : Only the parts mentioned in this list are normal service spare parts.

Note : Only the parts mentioned in this list are normal service spare parts.

**ELECTRICAL PARTS LIST - ASSEMBLY UCD BTL**

8002 3139 110 36161 FFC FOIL 06P/100/06P AD

**ELECTRICAL PARTS LIST - AMPLIFIER UCD BOARD (BTL MASTER)****MISCELLANEOUS**

0003 3104 214 39321 TO-220 HOLDER  
 0004 3104 214 39331 SPACER  
 1201 4822 267 10953 FLEX CONNECTOR 7P  
 1202 4822 267 10731 FLEX CONNECTOR 6P  
 1203 2422 540 98578 RES CER 410kHz  
 1204 2422 540 98552 RES CER 375kHz

**CAPACITORS**

2100 5322 126 11583 10nF 10% 50V  
 2101 2222 580 15649 100nF 10% 50V  
 2102 2222 580 15649 100nF 10% 50V  
 2107 4822 126 13883 220pF 5% 50V  
 2108 4822 126 13193 4,7nF 10% 63V  
 2109 5322 126 11583 10nF 10% 50V  
 2110 4822 126 13883 220pF 5% 50V  
 2111 4822 126 13193 4,7nF 10% 63V  
 2112 2222 580 15649 100nF 10% 50V  
 2113 2222 580 15649 100nF 10% 50V  
 2114 3198 026 51020 1000uF 20% 50V  
 2115 2222 580 15649 100nF 10% 50V  
 2116 4822 126 13193 4,7nF 10% 63V  
 2117 4822 124 81151 22uF 50V  
 2118 4822 124 41643 100uF 20% 16V  
 2119 3198 017 44740 470nF 10V  
 2120 2020 557 90726 100pF 5% 100V  
 2121 3198 017 44740 470nF 10V  
 2122 3198 017 44740 470nF 10V  
 2123 3198 026 51020 1000uF 20% 50V  
 2124 4822 124 81151 22uF 50V  
 2125 2222 580 15649 100nF 10% 50V  
 2126 4822 126 13193 4,7nF 10% 63V  
 2127 2020 557 90726 100pF 5% 100V  
 2128 5322 121 42498 680nF 5% 63V  
 2129 2238 586 15635 8,2nF 10% 50V  
 2150 5322 126 11583 10nF 10% 50V  
 2151 4822 126 13883 220pF 5% 50V  
 2152 4822 126 13193 4,7nF 10% 63V  
 2153 5322 126 11583 10nF 10% 50V  
 2154 4822 126 13883 220pF 5% 50V  
 2155 4822 126 13193 4,7nF 10% 63V  
 2156 2222 580 15649 100nF 10% 50V  
 2157 2222 580 15649 100nF 10% 50V  
 2158 3198 017 44740 470nF 10V  
 2159 4822 124 41643 100uF 20% 16V  
 2160 2020 557 90726 100pF 5% 100V

2161 3198 017 44740 470nF 10V  
 2162 3198 017 44740 470nF 10V  
 2163 2020 557 90726 100pF 5% 100V  
 2164 3198 026 51020 1000uF 20% 50V  
 2165 2222 580 15649 100nF 10% 50V  
 2166 4822 124 81151 22uF 50V  
 2167 4822 126 13193 4,7nF 10% 63V  
 2168 3198 026 51020 1000uF 20% 50V  
 2169 2222 580 15649 100nF 10% 50V  
 2170 4822 124 81151 22uF 50V  
 2171 4822 126 13193 4,7nF 10% 63V  
 2172 5322 121 42498 680nF 5% 63V  
 2173 2238 586 15635 8,2nF 10% 50V  
 2201 5322 126 11578 1nF 10% 50V  
 2202 5322 126 11583 10nF 10% 50V  
 2203 5322 122 33861 120pF 10% 50V  
 2204 4822 126 13881 470pF 5% 50V  
 2205 5322 126 11583 10nF 10% 50V  
 2206 4822 126 13881 470pF 5% 50V  
 2207 2222 580 15649 100nF 10% 50V  
 2208 3198 017 41050 1uF 10V  
 2209 3198 017 41050 1uF 10V  
 2210 3198 017 44740 470nF 10V  
 2211 2020 552 94427 100pF 5% 50V  
 2212 5322 126 11578 1nF 10% 50V  
 2213 5322 126 11578 1nF 10% 50V  
 2214 5322 126 11578 1nF 10% 50V  
 2215 5322 126 11578 1nF 10% 50V  
 2216 5322 126 11578 1nF 10% 50V

**RESISTORS**

3100 4822 051 30123 12k 5% 0,062W  
 3101 4822 051 30223 22k 5% 0,062W  
 3102 4822 051 30222 2k2 5% 0,062W  
 3103 4822 051 30479 47R 5% 0,062W  
 3104 4822 051 30479 47R 5% 0,062W  
 3105 4822 051 30222 2k2 5% 0,062W  
 3112 4822 051 30222 2k2 5% 0,062W  
 3113 4822 051 30681 680R 5% 0,062W  
 3114 4822 051 30123 12k 5% 0,062W  
 3115 4822 051 30223 22k 5% 0,062W  
 3116 4822 051 30222 2k2 5% 0,062W  
 3117 4822 051 30681 680R 5% 0,062W  
 3118 4822 051 30222 2k2 5% 0,062W  
 3119 4822 051 30221 220R 5% 0,062W

**ELECTRICAL PARTS LIST - AMPLIFIER UCD BOARD (BTL MASTER)**

3120 4822 117 12925 47k 1% 0,063W  
 3121 4822 117 12925 47k 1% 0,063W  
 3122 4822 101 11382 220R 30% 1W  
 3123 4822 051 30681 680R 5% 0,062W  
 3124 4822 051 30561 560R 5% 0,062W  
 3125 4822 051 30681 680R 5% 0,062W  
 3126 4822 051 30109 10R 5% 0,062W  
 3127 2322 702 60395 RST SM 0603 3M9 5%  
 3128 4822 051 30109 10R 5% 0,062W  
 3129 2322 702 60565 RST SM 0603 5M6 5%  
 3130 4822 051 20333 33k 5% 0,1W  
 3131 2122 118 06384 RST SM 1218 R047 5%  
 3132 4822 051 30271 270R 5% 0,062W  
 3134 4822 051 30391 390R 5% 0,062W  
 3135 2322 702 60279 RST SM 0603 27R 5%  
 3136 4822 051 30102 1k 5% 0,062W  
 3137 4822 051 20129 12R 5% 0,1W  
 3138 4822 051 30391 390R 5% 0,062W  
 3139 2322 702 60279 RST SM 0603 27R 5%  
 3140 4822 051 30102 1k 5% 0,062W  
 3141 2122 118 06384 RST SM 1218 R047 5%  
 3142 4822 051 30271 270R 5% 0,062W  
 3144 4822 051 20129 12R 5% 0,1W  
 3145 2122 663 00025  $\Delta$  PTC SM 0805 40V 3k9 10%  
 3150 4822 051 30123 12k 5% 0,062W  
 3151 4822 051 30223 22k 5% 0,062W  
 3152 4822 051 30222 2k2 5% 0,062W  
 3153 4822 051 30681 680R 5% 0,062W  
 3155 4822 051 30123 12k 5% 0,062W  
 3156 4822 051 30223 22k 5% 0,062W  
 3157 4822 051 30222 2k2 5% 0,062W  
 3158 4822 051 30681 680R 5% 0,062W  
 3161 4822 051 30222 2k2 5% 0,062W  
 3162 4822 051 30221 220R 5% 0,062W  
 3163 4822 117 12925 47k 1% 0,063W  
 3164 4822 051 30109 10R 5% 0,062W  
 3165 2322 702 60565 RST SM 0603 5M6 5%  
 3166 4822 117 12925 47k 1% 0,063W  
 3167 4822 051 30681 680R 5% 0,062W  
 3168 4822 051 30561 560R 5% 0,062W  
 3169 4822 051 30681 680R 5% 0,062W  
 3170 4822 051 30109 10R 5% 0,062W  
 3171 2322 702 60395 RST SM 0603 3M9 5%  
 3173 4822 051 30391 390R 5% 0,062W  
 3174 2322 702 60279 RST SM 0603 27R 5%  
 3175 4822 051 30102 1k 5% 0,062W  
 3176 4822 051 20333 33k 5% 0,1W  
 3177 4822 051 20129 12R 5% 0,1W  
 3178 4822 051 30391 390R 5% 0,062W  
 3179 2322 702 60279 RST SM 0603 27R 5%  
 3180 4822 051 30102 1k 5% 0,062W  
 3181 4822 051 20129 12R 5% 0,1W

3182 2122 118 06384 RST SM 1218 R047 5%  
 3183 4822 051 30109 10R 5% 0,062W  
 3184 2122 118 06384 RST SM 1218 R047 5%  
 3185 4822 051 30271 270R 5% 0,062W  
 3187 4822 051 30271 270R 5% 0,062W  
 3188 2122 663 00025  $\Delta$  PTC SM 0805 40V 3k9 10%  
 3190 4822 117 12063  $\Delta$  NTC DC 5W 10k 5%  
 3193 4822 117 10834 47k 1% 0,1W  
 3194 4822 117 10834 47k 1% 0,1W  
 3195 2322 615 33472 NTC SM 0603 0W125 4k7 5%  
 3196 2322 615 33472 NTC SM 0603 0W125 4k7 5%  
 3197 2322 615 33472 NTC SM 0603 0W125 4k7 5%  
 3198 2322 615 33472 NTC SM 0603 0W125 4k7 5%  
 3201 4822 051 10223 22k 2% 0,25W  
 3202 4822 051 10223 22k 2% 0,25W  
 3203 4822 117 13632 100k 1% 0,62W  
 3204 4822 051 10223 22k 2% 0,25W  
 3205 4822 051 30105 1M 5% 0,062W  
 3206 4822 051 30105 1M 5% 0,062W  
 3207 4822 051 30103 10k 5% 0,062W  
 3208 2322 702 60184 RST SM 0603 180k 5%  
 3209 2322 702 60184 RST SM 0603 180k 5%  
 3210 4822 117 12889 270k 1% 0,063W  
 3211 4822 117 12889 270k 1% 0,063W  
 3212 4822 117 12864 82k 5% 0,6W  
 3213 4822 051 30103 10k 5% 0,062W  
 3214 4822 051 30105 1M 5% 0,062W  
 3215 4822 117 13632 100k 1% 0,62W  
 3216 4822 117 13632 100k 1% 0,62W  
 3217 4822 051 30563 56k 5% 0,062W  
 3218 4822 117 13632 100k 1% 0,62W  
 3219 4822 117 13632 100k 1% 0,62W  
 3220 4822 117 13632 100k 1% 0,62W  
 3222 4822 117 13632 100k 1% 0,62W  
 3223 4822 117 13632 100k 1% 0,62W  
 3224 4822 051 30103 10k 5% 0,062W  
 3225 4822 051 30105 1M 5% 0,062W  
 3226 4822 051 30105 1M 5% 0,062W  
 3231 4822 051 30103 10k 5% 0,062W  
 3232 4822 051 30103 10k 5% 0,062W  
 3235 4822 051 30333 33k 5% 0,062W  
 3236 4822 051 30101 100R 5% 0,062W  
 3237 4822 051 30101 100R 5% 0,062W  
 3238 4822 051 30105 1M 5% 0,062W  
 3239 4822 051 30105 1M 5% 0,062W

**COILS & FILTERS**

5100 4822 157 11411 IND FXD BEAD 100MHz 83R  
 5102 4822 157 11411 IND FXD BEAD 100MHz 83R  
 5105 3104 218 15671 IND FXD SC4684-145 PM1  
 5151 4822 157 11411 IND FXD BEAD 100MHz 83R  
 5152 4822 157 11411 IND FXD BEAD 100MHz 83R

**ELECTRICAL PARTS LIST - AMPLIFIER UCD BOARD (BTL MASTER)****COILS & FILTERS**

5155 3104 218 15671 IND FXD SC4684-145 PM1

**DIODES**

6101 4822 130 11528 1PS76SB10  
 6102 4822 130 11528 1PS76SB10  
 6103 9340 548 47115 PDZ3.3B  
 6104 9322 198 95685 DIO SIG SM 1SS370  
 6105 9322 198 95685 DIO SIG SM 1SS370  
 6106 4822 130 11528 1PS76SB10  
 6107 4822 130 11397 BAS316  
 6108 9340 548 61115 DIO REG SM PDZ12B  
 6109 4822 130 11528 1PS76SB10  
 6110 4822 130 11397 BAS316  
 6151 4822 130 11528 1PS76SB10  
 6152 4822 130 11528 1PS76SB10  
 6153 4822 130 11528 1PS76SB10  
 6154 9340 548 61115 DIO REG SM PDZ12B  
 6155 4822 130 11397 BAS316  
 6156 9340 548 47115 PDZ3.3B  
 6157 9322 198 95685 DIO SIG SM 1SS370  
 6158 9322 198 95685 DIO SIG SM 1SS370  
 6159 4822 130 11528 1PS76SB10  
 6160 4822 130 11397 BAS316  
 6200 4822 130 11551 PDZ10B  
 6201 3198 020 55680 DIO REG SM PDZ5.6B  
 6202 4822 130 11551 PDZ10B  
 6203 4822 130 11397 BAS316  
 6204 4822 130 11397 BAS316  
 6205 4822 130 11397 BAS316  
 6206 4822 130 11397 BAS316  
 6210 4822 130 11397 BAS316  
 6211 4822 130 11397 BAS316

**TRANSISTORS & INTEGRATED CIRCUITS**

7100 9340 218 20135 TRA SIG SM BC856BW  
 7101 4822 130 41691 TRA SIG BC556B  
 7102 9340 218 60115 TRA SIG SM BC857CW  
 7103 9340 217 80115 TRA SIG SM BC847CW  
 7104 9340 217 80115 TRA SIG SM BC847CW  
 7105 9340 218 20135 TRA SIG SM BC856BW  
 7106 9340 217 80115 TRA SIG SM BC847CW  
 7107 9340 217 80115 TRA SIG SM BC847CW  
 7108 4822 130 43233 TRA SIG 2SC2240  
 7109 9340 217 80115 TRA SIG SM BC847CW  
 7110 9340 218 20135 TRA SIG SM BC856BW  
 7111 9340 218 60115 TRA SIG SM BC857CW  
 7112 9322 173 29687 FET POW STP14NF12FP  
 7113 9322 198 96685 TRA SIG SM 2SA1954B  
 7114 9340 218 60115 TRA SIG SM BC857CW  
 7115 9322 198 96685 TRA SIG SM 2SA1954B  
 7116 9340 217 40135 TRA SIG SM BC846BW  
 7117 9322 173 29687 FET POW STP14NF12FP

7150 9340 218 60115 TRA SIG SM BC857CW  
 7151 4822 130 41691 TRA SIG BC556B  
 7152 9340 217 80115 TRA SIG SM BC847CW  
 7153 9340 217 80115 TRA SIG SM BC847CW  
 7154 9340 217 80115 TRA SIG SM BC847CW  
 7155 9340 217 80115 TRA SIG SM BC847CW  
 7156 9340 218 20135 TRA SIG SM BC856BW  
 7157 9340 218 20135 TRA SIG SM BC856BW  
 7158 4822 130 43233 TRA SIG 2SC2240  
 7159 9340 217 80115 TRA SIG SM BC847CW  
 7160 9340 218 60115 TRA SIG SM BC857CW  
 7161 9322 198 96685 TRA SIG SM 2SA1954B  
 7162 9322 173 29687 FET POW STP14NF12FP  
 7163 9340 218 60115 TRA SIG SM BC857CW  
 7164 9322 198 96685 TRA SIG SM 2SA1954B  
 7165 9322 173 29687 FET POW STP14NF12FP  
 7167 9340 217 40135 TRA SIG SM BC846BW  
 7168 9340 218 20135 TRA SIG SM BC856BW  
 7200 9339 753 30135 TRA POW SM PZT2222A  
 7201 9340 217 40135 TRA SIG SM BC846BW  
 7202 3198 010 42310 TRA SIG SM BC847BW  
 7203 3198 010 42320 TRA SIG SM BC857BW  
 7204 9340 217 40135 TRA SIG SM BC846BW  
 7205 9340 217 80115 TRA SIG SM BC847CW  
 7206 9340 218 60115 TRA SIG SM BC857CW  
 7207 9340 218 60115 TRA SIG SM BC857CW  
 7208 9340 218 60115 TRA SIG SM BC857CW  
 7209 9340 217 80115 TRA SIG SM BC847CW  
 7210 5322 209 11548 IC SM 74HC14D  
 7211 9339 753 30135 TRA POW SM PZT2222A  
 7212 9340 217 80115 TRA SIG SM BC847CW

Note : Only the parts mentioned in this list are normal service spare parts.

**ELECTRICAL PARTS LIST - AMPLIFIER UCD BOARD (BTL SLAVE)****MISCELLANEOUS**

0003 3104 214 39321 TO-220 HOLDER  
 0004 3104 214 39331 SPACER  
 1202 4822 267 10731 FLEX CONNECTOR 6P  
 1203 2422 540 98578 RES CER 410kHz  
 1204 2422 540 98552 RES CER 375kHz

**CAPACITORS**

2100 5322 126 11583 10nF 10% 50V  
 2101 2222 580 15649 100nF 10% 50V  
 2102 2222 580 15649 100nF 10% 50V  
 2107 4822 126 13883 220pF 5% 50V  
 2108 4822 126 13193 4,7nF 10% 63V  
 2109 5322 126 11583 10nF 10% 50V  
 2110 4822 126 13883 220pF 5% 50V  
 2111 4822 126 13193 4,7nF 10% 63V  
 2112 2222 580 15649 100nF 10% 50V  
 2113 2222 580 15649 100nF 10% 50V  
 2114 3198 026 51020 1000uF 20% 50V  
 2115 2222 580 15649 100nF 10% 50V  
 2116 4822 126 13193 4,7nF 10% 63V  
 2117 4822 124 81151 22uF 50V  
 2118 4822 124 41643 100uF 20% 16V  
 2119 3198 017 44740 470nF 10V  
 2120 2020 557 90726 100pF 5% 100V  
 2121 3198 017 44740 470nF 10V  
 2122 3198 017 44740 470nF 10V  
 2123 3198 026 51020 1000uF 20% 50V  
 2124 4822 124 81151 22uF 50V  
 2125 2222 580 15649 100nF 10% 50V  
 2126 4822 126 13193 4,7nF 10% 63V  
 2127 2020 557 90726 100pF 5% 100V  
 2128 5322 121 42498 680nF 5% 63V  
 2129 2238 586 15635 8,2nF 10% 50V  
 2150 5322 126 11583 10nF 10% 50V  
 2151 4822 126 13883 220pF 5% 50V  
 2152 4822 126 13193 4,7nF 10% 63V  
 2153 5322 126 11583 10nF 10% 50V  
 2154 4822 126 13883 220pF 5% 50V  
 2155 4822 126 13193 4,7nF 10% 63V  
 2156 2222 580 15649 100nF 10% 50V  
 2157 2222 580 15649 100nF 10% 50V  
 2158 3198 017 44740 470nF 10V  
 2159 4822 124 41643 100uF 20% 16V  
 2160 2020 557 90726 100pF 5% 100V  
 2161 3198 017 44740 470nF 10V  
 2162 3198 017 44740 470nF 10V  
 2163 2020 557 90726 100pF 5% 100V  
 2164 3198 026 51020 1000uF 20% 50V  
 2165 2222 580 15649 100nF 10% 50V  
 2166 4822 124 81151 22uF 50V  
 2167 4822 126 13193 4,7nF 10% 63V  
 2168 3198 026 51020 1000uF 20% 50V

2169 2222 580 15649 100nF 10% 50V  
 2170 4822 124 81151 22uF 50V  
 2171 4822 126 13193 4,7nF 10% 63V  
 2172 5322 121 42498 680nF 5% 63V  
 2173 2238 586 15635 8,2nF 10% 50V  
 2201 5322 126 11578 1nF 10% 50V  
 2202 5322 126 11583 10nF 10% 50V  
 2203 5322 122 33861 120pF 10% 50V  
 2204 4822 126 13881 470pF 5% 50V  
 2205 5322 126 11583 10nF 10% 50V  
 2206 4822 126 13881 470pF 5% 50V  
 2207 2222 580 15649 100nF 10% 50V  
 2208 3198 017 41050 1uF 10V  
 2209 3198 017 41050 1uF 10V  
 2210 3198 017 44740 470nF 10V  
 2211 2020 552 94427 100pF 5% 50V  
 2212 5322 126 11578 1nF 10% 50V  
 2213 5322 126 11578 1nF 10% 50V  
 2214 5322 126 11578 1nF 10% 50V  
 2215 5322 126 11578 1nF 10% 50V  
 2216 5322 126 11578 1nF 10% 50V

**RESISTORS**

3100 4822 051 30123 12k 5% 0,062W  
 3101 4822 051 30223 22k 5% 0,062W  
 3102 4822 051 30222 2k2 5% 0,062W  
 3103 4822 051 30479 47R 5% 0,062W  
 3104 4822 051 30479 47R 5% 0,062W  
 3105 4822 051 30222 2k2 5% 0,062W  
 3112 4822 051 30222 2k2 5% 0,062W  
 3113 4822 051 30681 680R 5% 0,062W  
 3114 4822 051 30123 12k 5% 0,062W  
 3115 4822 051 30223 22k 5% 0,062W  
 3116 4822 051 30222 2k2 5% 0,062W  
 3117 4822 051 30681 680R 5% 0,062W  
 3118 4822 051 30222 2k2 5% 0,062W  
 3119 4822 051 30221 220R 5% 0,062W  
 3120 4822 117 12925 47k 1% 0,063W  
 3121 4822 117 12925 47k 1% 0,063W  
 3122 4822 101 11382 220R 30% 1W  
 3123 4822 051 30681 680R 5% 0,062W  
 3124 4822 051 30561 560R 5% 0,062W  
 3125 4822 051 30681 680R 5% 0,062W  
 3126 4822 051 30109 10R 5% 0,062W  
 3127 2322 702 60395 RST SM 0603 3M9 5%  
 3128 4822 051 30109 10R 5% 0,062W  
 3129 2322 702 60565 RST SM 0603 5M6 5%  
 3130 4822 051 20333 33k 5% 0,1W  
 3131 2122 118 06384 RST SM 1218 R047 5%  
 3132 4822 051 30271 270R 5% 0,062W  
 3134 4822 051 30391 390R 5% 0,062W  
 3135 2322 702 60279 RST SM 0603 27R 5%

**ELECTRICAL PARTS LIST - AMPLIFIER UCD BOARD (BTL SLAVE)****RESISTORS**

3136	4822 051 30102	1k 5% 0,062W	3204	4822 051 10223	22k 2% 0,25W
3137	4822 051 20129	12R 5% 0,1W	3205	4822 051 30105	1M 5% 0,062W
3138	4822 051 30391	390R 5% 0,062W	3206	4822 051 30105	1M 5% 0,062W
3139	2322 702 60279	RST SM 0603 27R 5%	3207	4822 051 30103	10k 5% 0,062W
3140	4822 051 30102	1k 5% 0,062W	3208	2322 702 60184	RST SM 0603 180k 5%
3141	2122 118 06384	RST SM 1218 R047 5%	3209	2322 702 60184	RST SM 0603 180k 5%
3142	4822 051 30271	270R 5% 0,062W	3210	4822 117 12889	270k 1% 0,063W
3144	4822 051 20129	12R 5% 0,1W	3211	4822 117 12889	270k 1% 0,063W
3145	2122 663 00025	△ PTC SM 0805 40V 3k9 10%	3212	4822 117 12864	82k 5% 0,6W
3150	4822 051 30123	12k 5% 0,062W	3213	4822 051 30103	10k 5% 0,062W
3151	4822 051 30223	22k 5% 0,062W	3214	4822 051 30105	1M 5% 0,062W
3152	4822 051 30222	2k2 5% 0,062W	3215	4822 117 13632	100k 1% 0,62W
3153	4822 051 30681	680R 5% 0,062W	3216	4822 117 13632	100k 1% 0,62W
3155	4822 051 30123	12k 5% 0,062W	3217	4822 051 30563	56k 5% 0,062W
3156	4822 051 30223	22k 5% 0,062W	3218	4822 117 13632	100k 1% 0,62W
3157	4822 051 30222	2k2 5% 0,062W	3219	4822 117 13632	100k 1% 0,62W
3158	4822 051 30681	680R 5% 0,062W	3220	4822 117 13632	100k 1% 0,62W
3161	4822 051 30222	2k2 5% 0,062W	3222	4822 117 13632	100k 1% 0,62W
3162	4822 051 30221	220R 5% 0,062W	3223	4822 117 13632	100k 1% 0,62W
3163	4822 117 12925	47k 1% 0,063W	3224	4822 051 30103	10k 5% 0,062W
3164	4822 051 30109	10R 5% 0,062W	3225	4822 051 30105	1M 5% 0,062W
3165	2322 702 60565	RST SM 0603 5M6 5%	3226	4822 051 30105	1M 5% 0,062W
3166	4822 117 12925	47k 1% 0,063W	3231	4822 051 30103	10k 5% 0,062W
3167	4822 051 30681	680R 5% 0,062W	3232	4822 051 30103	10k 5% 0,062W
3168	4822 051 30561	560R 5% 0,062W	3235	4822 051 30333	33k 5% 0,062W
3169	4822 051 30681	680R 5% 0,062W	3236	4822 051 30101	100R 5% 0,062W
3170	4822 051 30109	10R 5% 0,062W	3237	4822 051 30101	100R 5% 0,062W
3171	2322 702 60395	RST SM 0603 3M9 5%	3238	4822 051 30105	1M 5% 0,062W
3173	4822 051 30391	390R 5% 0,062W	3239	4822 051 30105	1M 5% 0,062W
3174	2322 702 60279	RST SM 0603 27R 5%	4201	4822 051 30008	0R JUMPER 0603
3175	4822 051 30102	1k 5% 0,062W	4202	4822 051 30008	0R JUMPER 0603
3176	4822 051 20333	33k 5% 0,1W			
3177	4822 051 20129	12R 5% 0,1W			
3178	4822 051 30391	390R 5% 0,062W			
3179	2322 702 60279	RST SM 0603 27R 5%			
3180	4822 051 30102	1k 5% 0,062W			
3181	4822 051 20129	12R 5% 0,1W			
3182	2122 118 06384	RST SM 1218 R047 5%			
3183	4822 051 30109	10R 5% 0,062W			
3184	2122 118 06384	RST SM 1218 R047 5%			
3185	4822 051 30271	270R 5% 0,062W			
3187	4822 051 30271	270R 5% 0,062W			
3188	2122 663 00025	△ PTC SM 0805 40V 3k9 10%			
3193	4822 117 10834	47k 1% 0,1W			
3194	4822 117 10834	47k 1% 0,1W			
3195	2322 615 33472	NTC SM 0603 0W125 4k7 5%			
3196	2322 615 33472	NTC SM 0603 0W125 4k7 5%			
3197	2322 615 33472	NTC SM 0603 0W125 4k7 5%			
3198	2322 615 33472	NTC SM 0603 0W125 4k7 5%			
3201	4822 051 10223	22k 2% 0,25W			
3202	4822 051 10223	22k 2% 0,25W			
3203	4822 117 13632	100k 1% 0,62W			

**COILS & FILTERS**

5100	4822 157 11411	IND FXD BEAD 100MHz 83R
5102	4822 157 11411	IND FXD BEAD 100MHz 83R
5105	3104 218 15671	IND FXD SC4684-145 PM1
5151	4822 157 11411	IND FXD BEAD 100MHz 83R
5152	4822 157 11411	IND FXD BEAD 100MHz 83R
5155	3104 218 15671	IND FXD SC4684-145 PM1

**DIODES**

6101	4822 130 11528	1PS76SB10
6102	4822 130 11528	1PS76SB10
6103	9340 548 47115	PDZ3.3B
6104	9322 198 95685	DIO SIG SM 1SS370
6105	9322 198 95685	DIO SIG SM 1SS370
6106	4822 130 11528	1PS76SB10
6107	4822 130 11397	BAS316
6108	9340 548 61115	DIO REG SM PDZ12B
6109	4822 130 11528	1PS76SB10
6110	4822 130 11397	BAS316
6151	4822 130 11528	1PS76SB10

**ELECTRICAL PARTS LIST - AMPLIFIER UCD BOARD (BTL SLAVE)**

6152	4822 130 11528	1PS76SB10	7164	9322 198 96685	TRA SIG SM 2SA1954B
6153	4822 130 11528	1PS76SB10	7165	9322 173 29687	FET POW STP14NF12FP
6154	9340 548 61115	DIO REG SM PDZ12B	7167	9340 217 40135	TRA SIG SM BC846BW
6155	4822 130 11397	BAS316	7168	9340 218 20135	TRA SIG SM BC856BW
6156	9340 548 47115	PDZ3.3B	7200	9339 753 30135	TRA POW SM PZT2222A
6157	9322 198 95685	DIO SIG SM 1SS370	7201	9340 217 40135	TRA SIG SM BC846BW
6158	9322 198 95685	DIO SIG SM 1SS370	7202	3198 010 42310	TRA SIG SM BC847BW
6159	4822 130 11528	1PS76SB10	7203	3198 010 42320	TRA SIG SM BC857BW
6160	4822 130 11397	BAS316	7204	9340 217 40135	TRA SIG SM BC846BW
6200	4822 130 11551	PDZ10B	7205	9340 217 80115	TRA SIG SM BC847CW
6201	3198 020 55680	DIO REG SM PDZ5.6B	7206	9340 218 60115	TRA SIG SM BC857CW
6202	4822 130 11551	PDZ10B	7207	9340 218 60115	TRA SIG SM BC857CW
6203	4822 130 11397	BAS316	7208	9340 218 60115	TRA SIG SM BC857CW
6204	4822 130 11397	BAS316	7209	9340 217 80115	TRA SIG SM BC847CW
6205	4822 130 11397	BAS316	7210	5322 209 11548	IC SM 74HC14D
6206	4822 130 11397	BAS316	7211	9339 753 30135	TRA POW SM PZT2222A
6210	4822 130 11397	BAS316	7212	9340 217 80115	TRA SIG SM BC847CW
6211	4822 130 11397	BAS316			

**TRANSISTORS & INTEGRATED CIRCUITS**

7100	9340 218 20135	TRA SIG SM BC856BW
7101	4822 130 41691	TRA SIG BC556B
7102	9340 218 60115	TRA SIG SM BC857CW
7103	9340 217 80115	TRA SIG SM BC847CW
7104	9340 217 80115	TRA SIG SM BC847CW
7105	9340 218 20135	TRA SIG SM BC856BW
7106	9340 217 80115	TRA SIG SM BC847CW
7107	9340 217 80115	TRA SIG SM BC847CW
7108	4822 130 43233	TRA SIG 2SC2240
7109	9340 217 80115	TRA SIG SM BC847CW
7110	9340 218 20135	TRA SIG SM BC856BW
7111	9340 218 60115	TRA SIG SM BC857CW
7112	9322 173 29687	FET POW STP14NF12FP
7113	9322 198 96685	TRA SIG SM 2SA1954B
7114	9340 218 60115	TRA SIG SM BC857CW
7115	9322 198 96685	TRA SIG SM 2SA1954B
7116	9340 217 40135	TRA SIG SM BC846BW
7117	9322 173 29687	FET POW STP14NF12FP
7150	9340 218 60115	TRA SIG SM BC857CW
7151	4822 130 41691	TRA SIG BC556B
7152	9340 217 80115	TRA SIG SM BC847CW
7153	9340 217 80115	TRA SIG SM BC847CW
7154	9340 217 80115	TRA SIG SM BC847CW
7155	9340 217 80115	TRA SIG SM BC847CW
7156	9340 218 20135	TRA SIG SM BC856BW
7157	9340 218 20135	TRA SIG SM BC856BW
7158	4822 130 43233	TRA SIG 2SC2240
7159	9340 217 80115	TRA SIG SM BC847CW
7160	9340 218 60115	TRA SIG SM BC857CW
7161	9322 198 96685	TRA SIG SM 2SA1954B
7162	9322 173 29687	FET POW STP14NF12FP
7163	9340 218 60115	TRA SIG SM BC857CW

Note : Only the parts mentioned in this list are normal service spare parts.

**BRIEF INTRODUCTION OF THE AF12 BOARD**


---

# AF12 BOARD

---

## TABLE OF CONTENTS

Brief Introduction of the AF12 Board .....	8-1
AF12 Board - Component Layout .....	8-2
AF12 Board - Component & Chip Layout (Mapping) .....	8-3
AF12 Board - Chip Layout .....	8-4
AF12 Board - Circuit Diagram (Part 1) .....	8-5
AF12 Board - Circuit Diagram (Part 2) .....	8-6
AF12 Board - Circuit Diagram (Part 3) .....	8-7
Video Out Cinch part - Layout & Circuit diagram .....	8-8
Electrical parts list.....	8-8

The AF12 Board consists of the following features :

a. TDA7468D IC

TDA7468D IC (7501) which includes functions such as source selection, loudness control, dynamic bass control, treble control, volume control and muting function. Sound features such as ALC, DBB, DSC and IS are controllable via I<sup>2</sup>C Bus from the microprocessor.

The TDA7468D IC caters for 4 input sources namely TUNER, PC LINK, CD and AUX. It also has a Mic mix input. In our application, software will switch the input source to previous source MUTE during STANDBY mode and some other occasions where noise from other input sources is undesirable.

Note that the input to the TDA7468D IC must be ac coupled to prevent 'pop' noise. Input networks are included to provide appropriate attenuation for various sources.

b. SIMPLE MIC MIXING

The AF12 Board has provisions which can be configured to cater for one of the following:

MM : which caters for Mic mixing with additional Mic amplifier board.  
 NM : non Mic mixing.

c. LINE OUT

Line out cinch socket for connection to external amplifier.

d. SUB-WOOFER OUT

Sub-woofer out cinch socket for connection to active sub-woofer speaker.

e. INCREDIBLE SURROUND

Incredible surround effect using transistor circuit to create phase shifting and spatial effect.

f. HEADPHONE AMPLIFIER

Headphone amplifier to drive 32 ohm to 1kohm headphone.

g. CD STANDBY CONTROL

CD Standby Control circuit which switches on the supply to CD servo control IC, digital out buffer IC, HF circuit and the laser light pen in CD mode only.

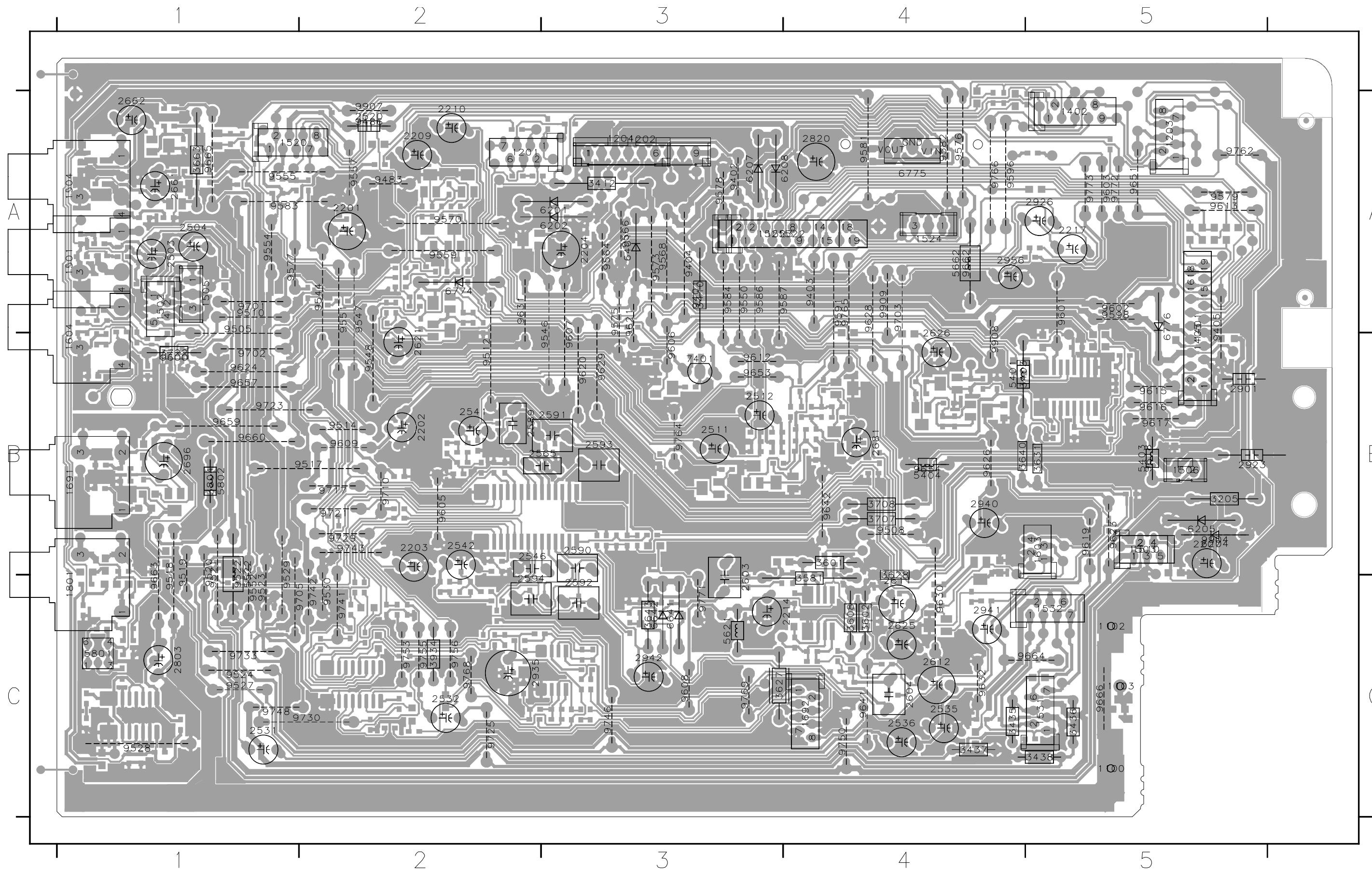
h. ATTENUATION NETWORK

Attenuation network is provided at the output of the AF12 Board for interfacing with power board of different output power.

i. CD DIGITAL OUT

CD Digital out cinch socket for connection to external digital audio decoders.

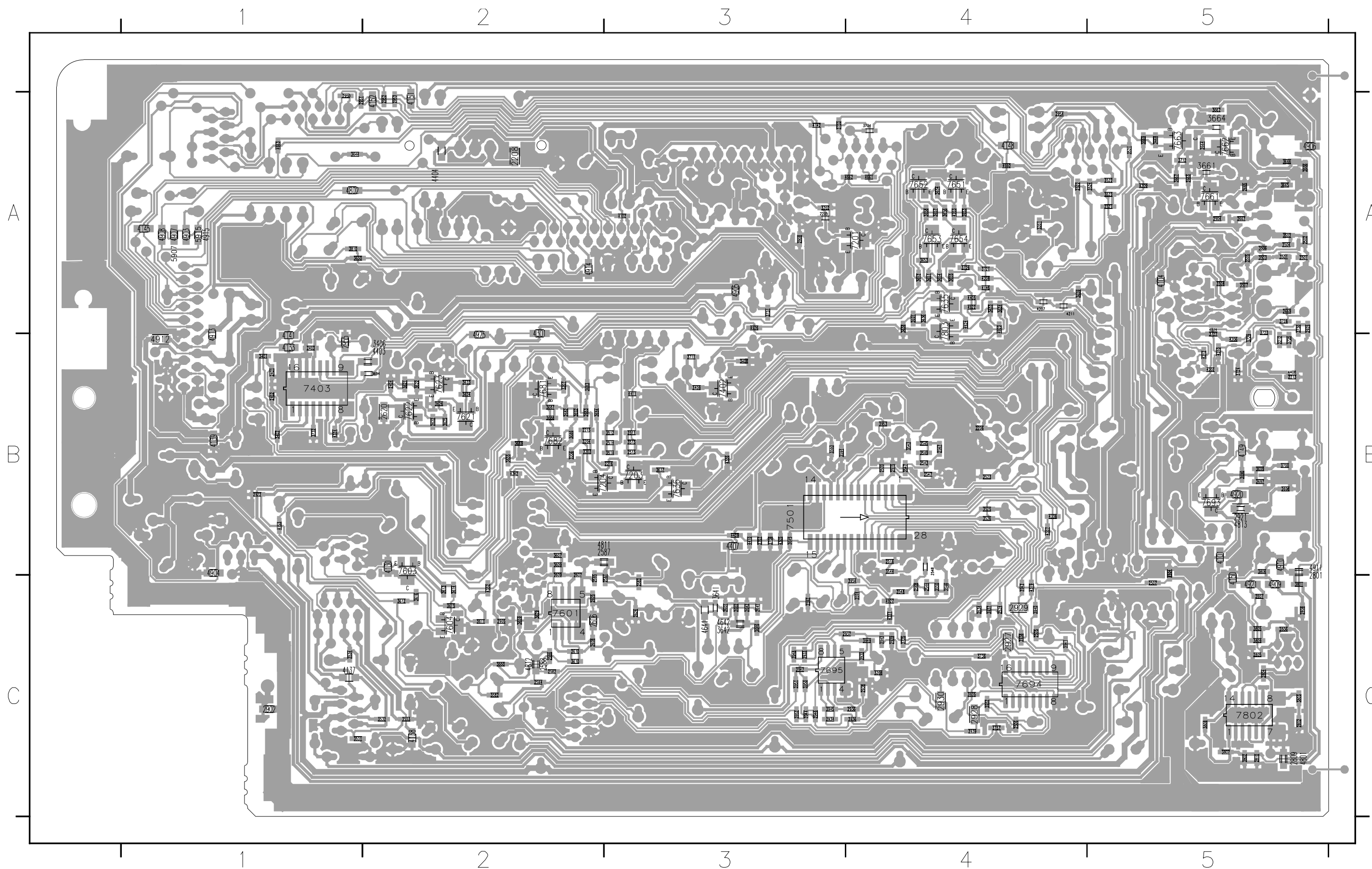
# AF12 BOARD - COMPONENT LAYOUT



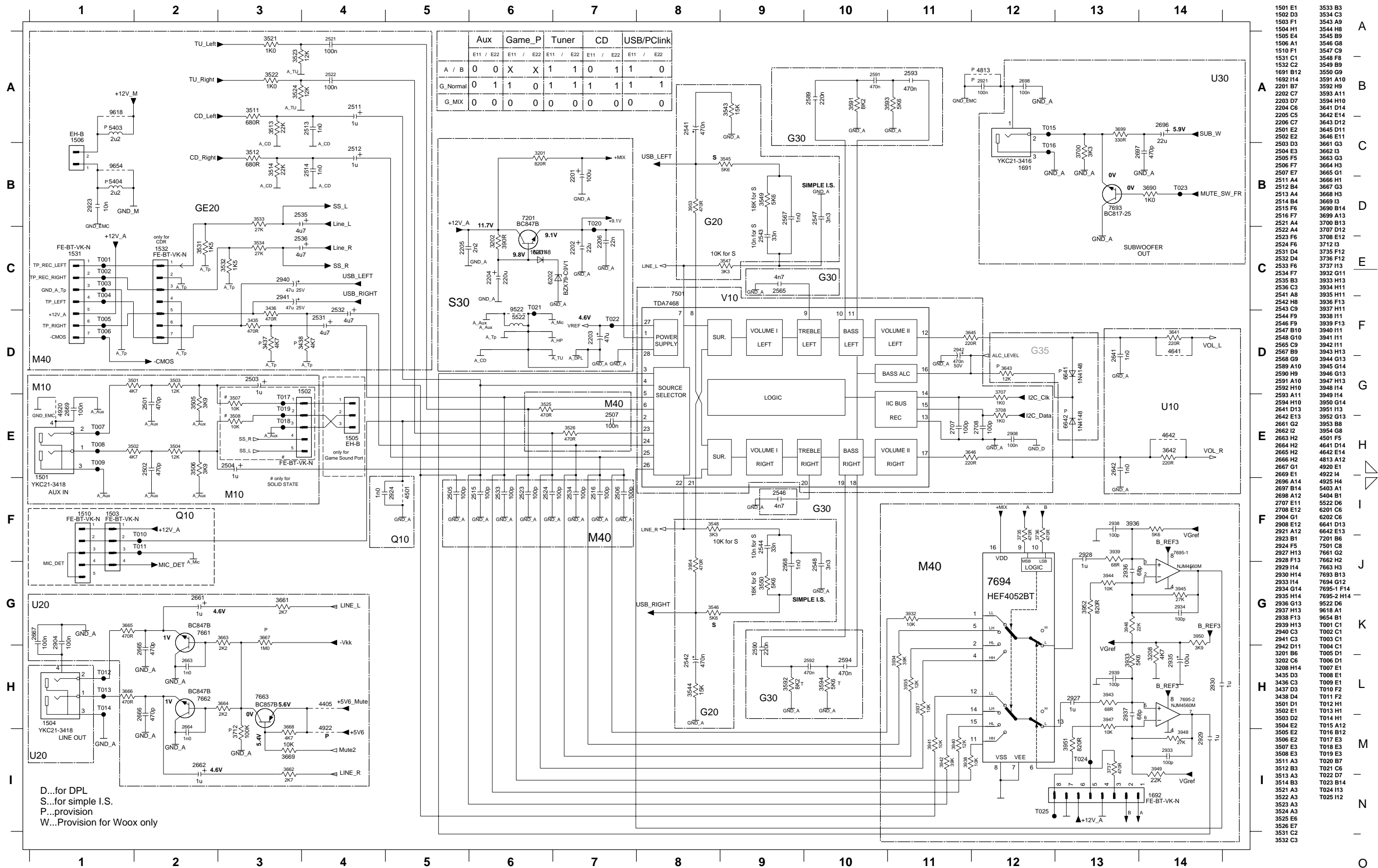




# AF12 BOARD - CHIP LAYOUT

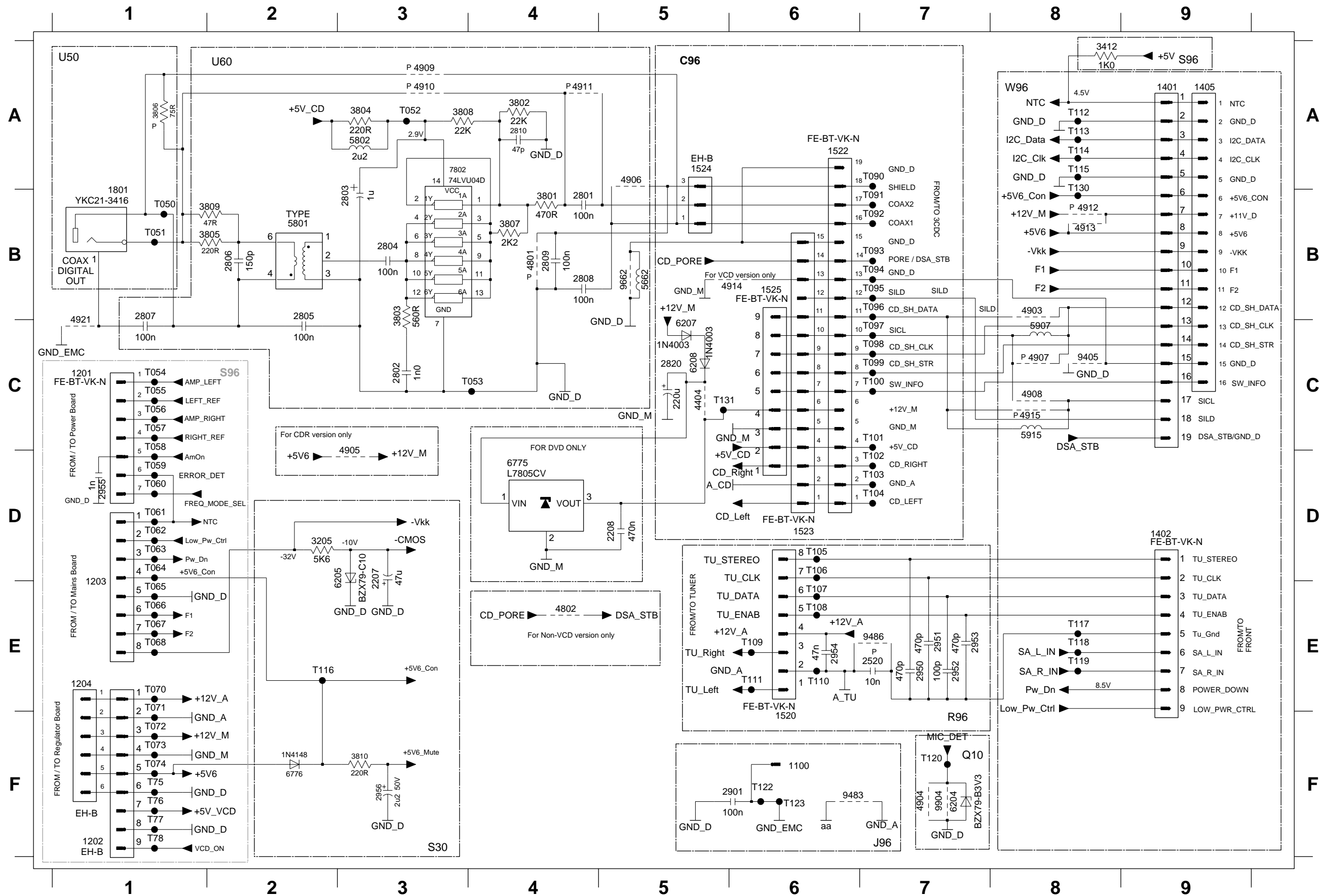


AF12 BOARD - CIRCUIT DIAGRAM (PART 1)



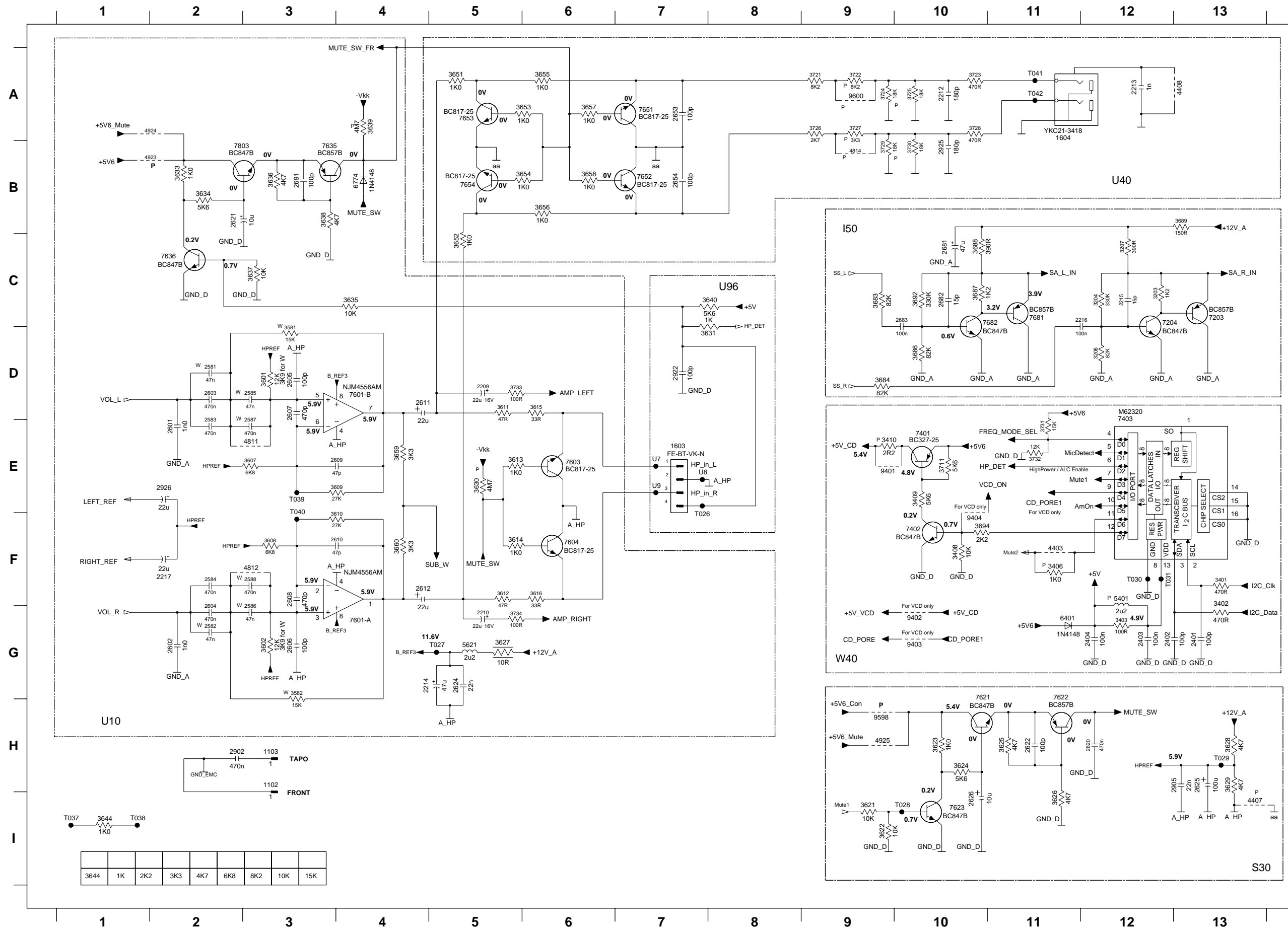
- 1501 E1
- 1502 D3
- 1503 F1
- 1504 H1
- 1505 E4
- 1506 A1
- 1510 F1
- 1531 C1
- 1532 C2
- 1691 B12
- 1692 H4
- 2201 B7
- 2202 C7
- 2203 D7
- 2204 C6
- 2205 C5
- 2206 C7
- 2501 E2
- 2502 E2
- 2503 D3
- 2504 E3
- 2505 F5
- 2506 F7
- 2507 E7
- 2511 A4
- 2512 B4
- 2513 A4
- 2514 B4
- 2515 F6
- 2516 F7
- 2521 A4
- 2522 A4
- 2523 F6
- 2524 F6
- 2531 D4
- 2532 D4
- 2533 F6
- 2534 F7
- 2535 B3
- 2536 C3
- 2541 A8
- 2542 H8
- 2543 C9
- 2544 F9
- 2546 F9
- 2547 B10
- 2548 G10
- 2565 C9
- 2567 B9
- 2568 G9
- 2589 A10
- 2590 H9
- 2591 A10
- 2592 H10
- 2593 A11
- 2594 H10
- 2595 D3
- 2642 E13
- 2661 G2
- 2662 I2
- 2663 H2
- 2664 H2
- 2665 H2
- 2666 H2
- 2667 G1
- 2669 E1
- 2696 A14
- 2697 B14
- 2698 A12
- 2707 E11
- 2708 E12
- 2908 E12
- 2921 A12
- 2923 B1
- 2924 F5
- 2927 H13
- 2928 F13
- 2929 H4
- 2930 H14
- 2933 H4
- 2934 G14
- 2935 H14
- 2936 G13
- 2937 H13
- 2938 H13
- 2939 H13
- 2940 C3
- 2941 C3
- 2942 D11
- 3201 B6
- 3202 C6
- 3208 H14
- 3435 D3
- 3437 D3
- 3438 D4
- 3501 D1
- 3502 E1
- 3503 D2
- 3504 E2
- 3505 E2
- 3506 E2
- 3507 E3
- 3508 E3
- 3511 A3
- 3512 B3
- 3513 A3
- 3514 B3
- 3521 A3
- 3522 A3
- 3523 A3
- 3524 A3
- 3525 E6
- 3526 E7
- 3531 C2
- 3532 C3
- 3533 B3
- 3534 C3
- 3543 A9
- 3544 H8
- 3545 B9
- 3546 G8
- 3547 C9
- 3548 F8
- 3549 B9
- 3550 G9
- 3591 A10
- 3592 H9
- 3593 A11
- 3594 H10
- 3641 D14
- 3642 E14
- 3643 D12
- 3645 D11
- 3646 E11
- 3661 G3
- 3662 I3
- 3663 G3
- 3664 H3
- 3665 G1
- 3666 H1
- 3667 G3
- 3668 H3
- 3690 B14
- 3699 A13
- 3700 B13
- 3707 D12
- 3708 E12
- 3712 I3
- 3731 D12
- 3736 F12
- 3737 I3
- 3933 H13
- 3934 H11
- 3935 H11
- 3942 H11
- 3943 H13
- 3944 H13
- 3945 G14
- 3946 G13
- 3947 H13
- 3948 H14
- 3949 H14
- 3950 G14
- 3951 G13
- 3952 G13
- 3953 B8
- 3954 F8
- 4501 F5
- 4641 D14
- 4642 E14
- 4813 A12
- 4923 H11
- 4922 I4
- 4925 H4
- 5403 A1
- 5404 B1
- 5522 D6
- 6201 C6
- 6202 C6
- 6641 D13
- 6642 E13
- 7201 B6
- 7501 C8
- 7661 G2
- 7662 H2
- 7663 H3
- 7693 B13
- 7694 G12
- 7695-1 F14
- 7695-2 H14
- 9522 D6
- 9618 A1
- 9654 B1
- 9658 B1
- 9659 B1
- 9660 C1
- 9661 D1
- 9662 E1
- 9663 F1
- 9664 G1
- 9665 H1
- 9666 I1
- 9667 J1
- 9668 K1
- 9669 L1
- 9670 M1
- 9671 N1
- 9672 O1
- 9673 P1
- 9674 Q1
- 9675 R1
- 9676 S1
- 9677 T1
- 9678 U1
- 9679 V1
- 9680 W1
- 9681 X1
- 9682 Y1
- 9683 Z1
- 9684 AA1
- 9685 AB1
- 9686 AC1
- 9687 AD1
- 9688 AE1
- 9689 AF1
- 9690 AG1
- 9691 AH1
- 9692 AI1
- 9693 AJ1
- 9694 AK1
- 9695 AL1
- 9696 AM1
- 9697 AN1
- 9698 AO1
- 9699 AP1
- 9700 AQ1
- 9701 AR1
- 9702 AS1
- 9703 AT1
- 9704 AU1
- 9705 AV1
- 9706 AW1
- 9707 AX1
- 9708 AY1
- 9709 AZ1
- 9710 BA1
- 9711 BB1
- 9712 BC1
- 9713 BD1
- 9714 BE1
- 9715 BF1
- 9716 BG1
- 9717 BH1
- 9718 BI1
- 9719 BJ1
- 9720 BK1
- 9721 BL1
- 9722 BM1
- 9723 BN1
- 9724 BO1
- 9725 BP1
- 9726 BQ1
- 9727 BR1
- 9728 BS1
- 9729 BT1
- 9730 BU1
- 9731 BV1
- 9732 BW1
- 9733 BX1
- 9734 BY1
- 9735 BZ1
- 9736 CA1
- 9737 CB1
- 9738 CC1
- 9739 CD1
- 9740 CE1
- 9741 CF1
- 9742 CG1
- 9743 CH1
- 9744 CI1
- 9745 CJ1
- 9746 CK1
- 9747 CL1
- 9748 CM1
- 9749 CN1
- 9750 CO1
- 9751 CP1
- 9752 CQ1
- 9753 CR1
- 9754 CS1
- 9755 CT1
- 9756 CU1
- 9757 CV1
- 9758 CW1
- 9759 CX1
- 9760 CY1
- 9761 CZ1
- 9762 DA1
- 9763 DB1
- 9764 DC1
- 9765 DD1
- 9766 DE1
- 9767 DF1
- 9768 DG1
- 9769 DH1
- 9770 DI1
- 9771 DJ1
- 9772 DK1
- 9773 DL1
- 9774 DM1
- 9775 DN1
- 9776 DO1
- 9777 DP1
- 9778 DQ1
- 9779 DR1
- 9780 DS1
- 9781 DT1
- 9782 DU1
- 9783 DV1
- 9784 DW1
- 9785 DX1
- 9786 DY1
- 9787 DZ1
- 9788 EA1
- 9789 EB1
- 9790 EC1
- 9791 ED1
- 9792 EE1
- 9793 EF1
- 9794 EG1
- 9795 EH1
- 9796 EI1
- 9797 EJ1
- 9798 EK1
- 9799 EL1
- 9800 EM1
- 9801 EN1
- 9802 EO1
- 9803 EP1
- 9804 EQ1
- 9805 ER1
- 9806 ES1
- 9807 ET1
- 9808 EU1
- 9809 EV1
- 9810 EW1
- 9811 EX1
- 9812 EY1
- 9813 EZ1
- 9814 FA1
- 9815 FB1
- 9816 FC1
- 9817 FD1
- 9818 FE1
- 9819 FF1
- 9820 FG1
- 9821 FH1
- 9822 FI1
- 9823 FJ1
- 9824 FK1
- 9825 FL1
- 9826 FM1
- 9827 FN1
- 9828 FO1
- 9829 FP1
- 9830 FQ1
- 9831 FR1
- 9832 FS1
- 9833 FT1
- 9834 FU1
- 9835 FV1
- 9836 FW1
- 9837 FX1
- 9838 FY1
- 9839 FZ1
- 9840 GA1
- 9841 GB1
- 9842 GC1
- 9843 GD1
- 9844 GE1
- 9845 GF1
- 9846 GG1
- 9847 GH1
- 9848 GI1
- 9849 GJ1
- 9850 GK1
- 9851 GL1
- 9852 GM1
- 9853 GN1
- 9854 GO1
- 9855 GP1
- 9856 GQ1
- 9857 GR1
- 9858 GS1
- 9859 GT1
- 9860 GU1
- 9861 GV1
- 9862 GW1
- 9863 GX1
- 9864 GY1
- 9865 GZ1
- 9866 HA1
- 9867 HB1
- 9868 HC1
- 9869 HD1
- 9870 HE1
- 9871 HF1
- 9872 HG1
- 9873 HH1
- 9874 HI1
- 9875 HJ1
- 9876 HK1
- 9877 HL1
- 9878 HM1
- 9879 HN1
- 9880 HO1
- 9881 HP1
- 9882 HQ1
- 9883 HR1
- 9884 HS1
- 9885 HT1
- 9886 HU1
- 9887 HV1
- 9888 HW1
- 9889 HX1
- 9890 HY1
- 9891 HZ1
- 9892 IA1
- 9893 IB1
- 9894 IC1
- 9895 ID1
- 9896 IE1
- 9897 IF1
- 9898 IG1
- 9899 IH1
- 9900 II1
- 9901 IJ1
- 9902 IK1
- 9903 IL1
- 9904 IM1
- 9905 IN1
- 9906 IO1
- 9907 IP1
- 9908 IQ1
- 9909 IR1
- 9910 IS1
- 9911 IT1
- 9912 IU1
- 9913 IV1
- 9914 IW1
- 9915 IX1
- 9916 IY1
- 9917 IZ1
- 9918 JA1
- 9919 JB1
- 9920 JC1
- 9921 JD1
- 9922 JE1
- 9923 JF1
- 9924 JG1
- 9925 JH1
- 9926 JI1
- 9927 JJ1
- 9928 JK1
- 9929 JL1
- 9930 JM1
- 9931 JN1
- 9932 JO1
- 9933 JP1
- 9934 JQ1
- 9935 JR1
- 9936 JS1
- 9937 JT1
- 9938 JU1
- 9939 JV1
- 9940 JW1
- 9941 JX1
- 9942 JY1
- 9943 JZ1
- 9944 KA1
- 9945 KB1
- 9946 KC1
- 9947 KD1
- 9948 KE1
- 9949 KF1
- 9950 KG1
- 9951 KH1
- 9952 KI1
- 9953 KJ1
- 9954 KK1
- 9955 KL1
- 9956 KM1
- 9957 KN1
- 9958 KO1
- 9959 KP1
- 9960 KQ1
- 9961 KR1
- 9962 KS1
- 9963 KT1
- 9964 KU1
- 9965 KV1
- 9966 KW1
- 9967 KX1
- 9968 KY1
- 9969 KZ1
- 9970 LA1
- 9971 LB1
- 9972 LC1
- 9973 LD1
- 9974 LE1
- 9975 LF1
- 9976 LG1
- 9977 LH1
- 9978 LI1
- 9979 LJ1
- 9980 LK1
- 9981 LL1
- 9982 LM1
- 9983 LN1
- 9984 LO1
- 9985 LP1
- 9986 LQ1
- 9987 LR1
- 9988 LS1
- 9989 LT1
- 9990 LU1
- 9991 LV1
- 9992 LW1
- 9993 LX1
- 9994 LY1
- 9995 LZ1
- 9996 MA1
- 9997 MB1
- 9998 MC1
- 9999 MD1
- 1000 ME1

# AF12 BOARD - CIRCUIT DIAGRAM (PART 2)



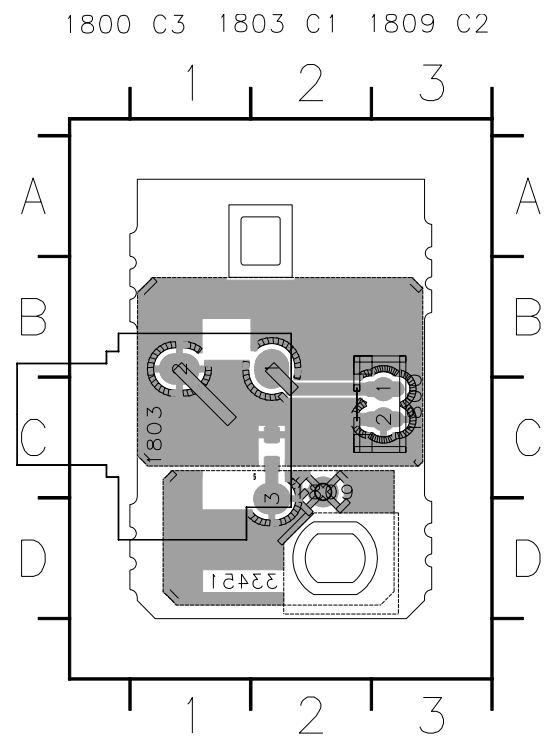
- T75 F1
- T76 F1
- T77 F1
- T78 F1
- 1100 F6
- 1201 C1
- 1202 F1
- 1203 E1
- 1204 E1
- 1401 A9
- 1402 D9
- 1401 A9
- 1402 D9
- 1405 A9
- 1520 F6
- 1522 A6
- 1524 A5
- 1525 B6
- 1801 B1
- 2207 D3
- 2208 D5
- 2520 E7
- 2802 C3
- 2803 B3
- 2804 B3
- 2805 B2
- 2806 B2
- 2807 B1
- 2808 B4
- 2809 B4
- 2810 A4
- 2820 C5
- 2901 F6
- 2950 E7
- 2951 E7
- 2952 E7
- 2953 E7
- 2954 E6
- 2955 D1
- 2956 F3
- 3205 D2
- 3412 A8
- 3801 B4
- 3802 A4
- 3803 B3
- 3804 A3
- 3805 B2
- 3806 A1
- 3807 B4
- 3808 B3
- 3809 B2
- 3810 F3
- 4404 C5
- 4801 B4
- 4802 E4
- 4903 B8
- 4904 F7
- 4905 D3
- 4906 A5
- 4907 C8
- 4908 C8
- 4909 A3
- 4910 A3
- 4911 A4
- 4912 B8
- 4913 B8
- 4914 B6
- 4915 C8
- 4921 C1
- 5662 B5
- 5801 B2
- 5802 A3
- 5907 C8
- 5915 C8
- 6204 F7
- 6205 D3
- 6207 B5
- 6208 C5
- 6775 D4
- 6776 F2
- 7802 A3
- 9405 C8
- 9483 F6
- 9486 E7
- 9662 B5
- 9904 F7
- T050 B1
- T051 B1
- T052 A3
- T053 C4
- T054 C1
- T055 C1
- T057 C1
- T058 C1
- T059 D1
- T060 D1
- T061 A1
- T062 A1
- T063 A1
- T064 A1
- T065 A1
- T066 A1
- T067 A1
- T068 A1
- T070 A1
- T071 A1
- T072 A1
- T073 A1
- T074 A1
- T075 A1
- T076 A1
- T077 A1
- T078 A1
- T090 GND\_D
- T091 SHIELD
- T092 COAX2
- T093 COAX1
- T094 GND\_D
- T095 SILD
- T096 CD\_SH\_DATA
- T097 SICL
- T098 CD\_SH\_CLK
- T099 CD\_SH\_STR
- T100 SW\_INFO
- T101 +12V\_M
- T102 +5V\_CD
- T103 CD\_RIGHT
- T104 CD\_LEFT
- T105 TU\_STEREO
- T106 TU\_CLK
- T107 TU\_DATA
- T108 TU\_ENAB
- T109 +12V\_A
- T110 A\_TU
- T111 GND\_A
- T112 NTC
- T113 GND\_D
- T114 I2C\_DATA
- T115 I2C\_CLK
- T116 +5V6\_Con
- T117 SA\_L\_IN
- T118 SA\_R\_IN
- T119 SA\_R\_IN
- T122 GND\_D
- T123 GND\_A

# AF12 BOARD - CIRCUIT DIAGRAM (PART 3)

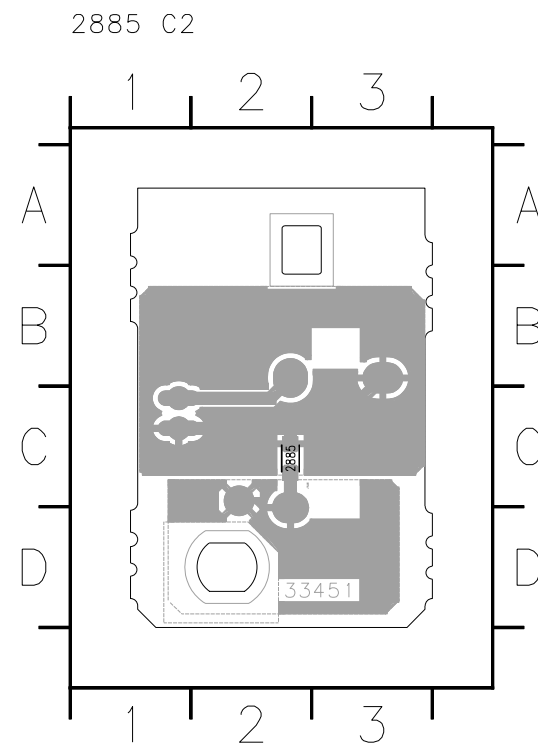


- U7 E7 3686 D10
- U8 E7 3687 C10
- U9 E7 3688 C10
- 1102 H3 3689 B13
- 1103 H3 3692 C10
- 1603 E7 3694 F10
- 1604 A11 3711 E10
- 2209 D5 3721 A9
- 2210 G5 3722 A9
- 2212 A10 3723 A10
- 2213 A12 3724 A9
- 2214 G4 3725 A10
- 2215 C12 3726 A9
- 2216 C12 3727 A9
- 2217 F2 3728 A10
- 2401 G13 3729 B9
- 2402 G12 3730 B10
- 2403 G12 3731 E11
- 2404 G12 3732 E11
- 2581 D2 3733 D5
- 2582 G2 3734 G5
- 2583 E2 4403 F11
- 2584 F2 4407 H3
- 2585 D3 4408 A13
- 2586 G3 4811 E3
- 2587 E3 4812 F3
- 2588 F3 4814 B9
- 2601 E2 4923 B2
- 2602 G2 4924 A2
- 2603 D2 4925 H9
- 2604 G2 5401 F12
- 2605 D3 5621 G5
- 2606 G3 6401 G11
- 2607 D3 6774 B4
- 2608 F3 7203 C13
- 2609 E4 7204 C12
- 2610 F4 7401 E10
- 2611 D4 7402 F10
- 2612 F4 7403 D12
- 2620 H12 7601 A G4
- 2621 B2 7601-B D4
- 2622 H11 7603 E5
- 2624 G5 7604 F6
- 2625 H13 7621 H10
- 2626 I10 7622 G11
- 2653 A7 7623 I10
- 2654 B7 7635 B3
- 2681 C10 7636 C2
- 2682 C10 7651 A7
- 2683 C10 7652 B7
- 2691 B3 7653 A5
- 2902 H2 7654 B5
- 2905 H13 7681 C11
- 2922 D7 7682 C10
- 2925 B10 7803 B3
- 2926 E2 9401 E9
- 3203 C12 9402 G10
- 3204 C12 9403 G10
- 3206 D12 9404 F10
- 3207 C12 9598 H9
- 3401 F13 9600 A9
- 3402 F13 T026 F7
- 3403 G12 T027 G5
- 3406 F11 T028 H10
- 3408 F10 T029 H13
- 3409 E10 T030 F12
- 3410 E9 T031 F12
- 3581 D3 T037 H1
- 3582 G3 T038 H1
- 3601 D3 T039 E3
- 3602 G3 T040 F3
- 3607 E3 T041 A11
- 3608 F4 T042 A11
- 3609 E4
- 3610 F4
- 3611 D5
- 3612 F5
- 3613 E5
- 3614 F5
- 3615 D6
- 3616 F6
- 3621 I9
- 3622 I9
- 3623 H10
- 3624 H10
- 3625 H11
- 3626 I11
- 3627 G5
- 3628 H13
- 3629 H13
- 3630 E5
- 3631 D8
- 3633 B2
- 3634 B2
- 3635 C4
- 3636 B3
- 3637 C3
- 3638 B3
- 3639 A4
- 3640 C8
- 3644 I1
- 3651 A5
- 3652 C5
- 3653 A6
- 3654 B6
- 3655 A6
- 3656 B6
- 3657 A6
- 3658 B6
- 3659 E4
- 3660 F4
- 3683 C9
- 3684 D9

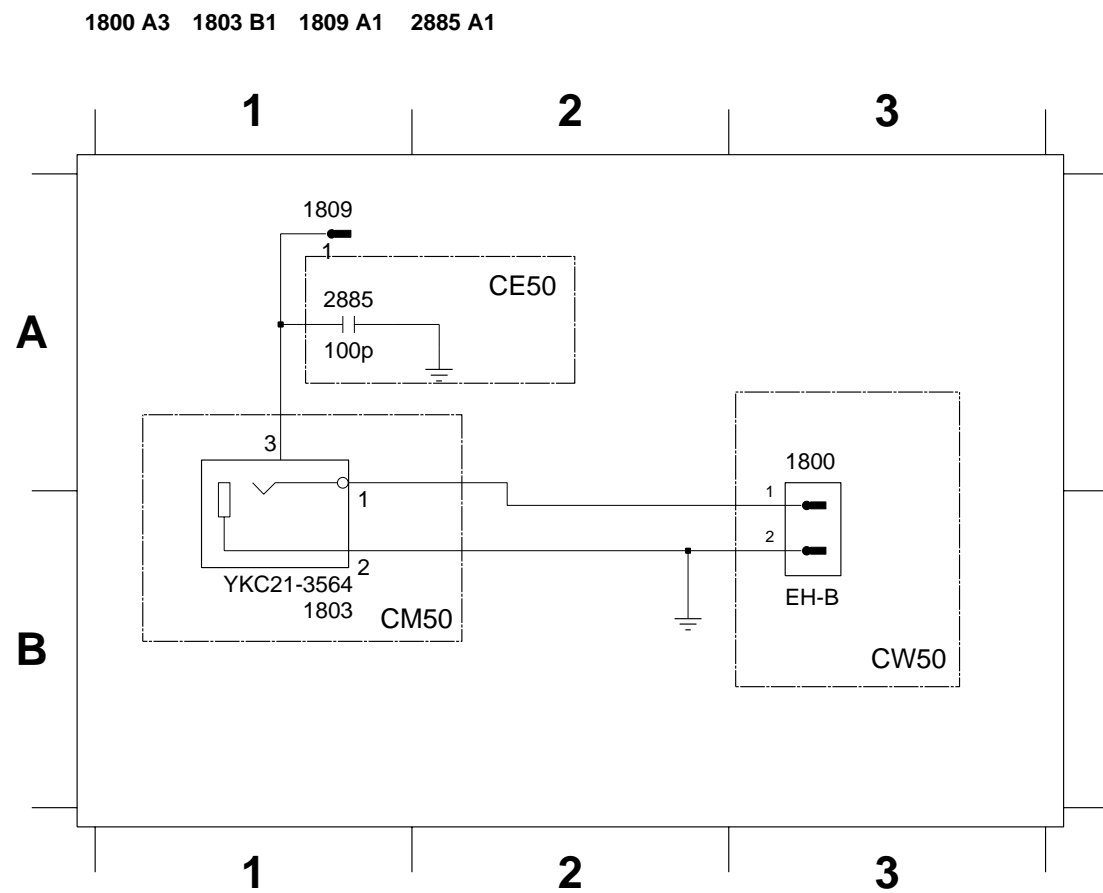
**VIDEO OUT CINCH BOARD - COMPONENT LAYOUT**



**VIDEO OUT CINCH BOARD - CHIP LAYOUT**



**VIDEO OUT CINCH BOARD - CIRCUIT DIAGRAM**

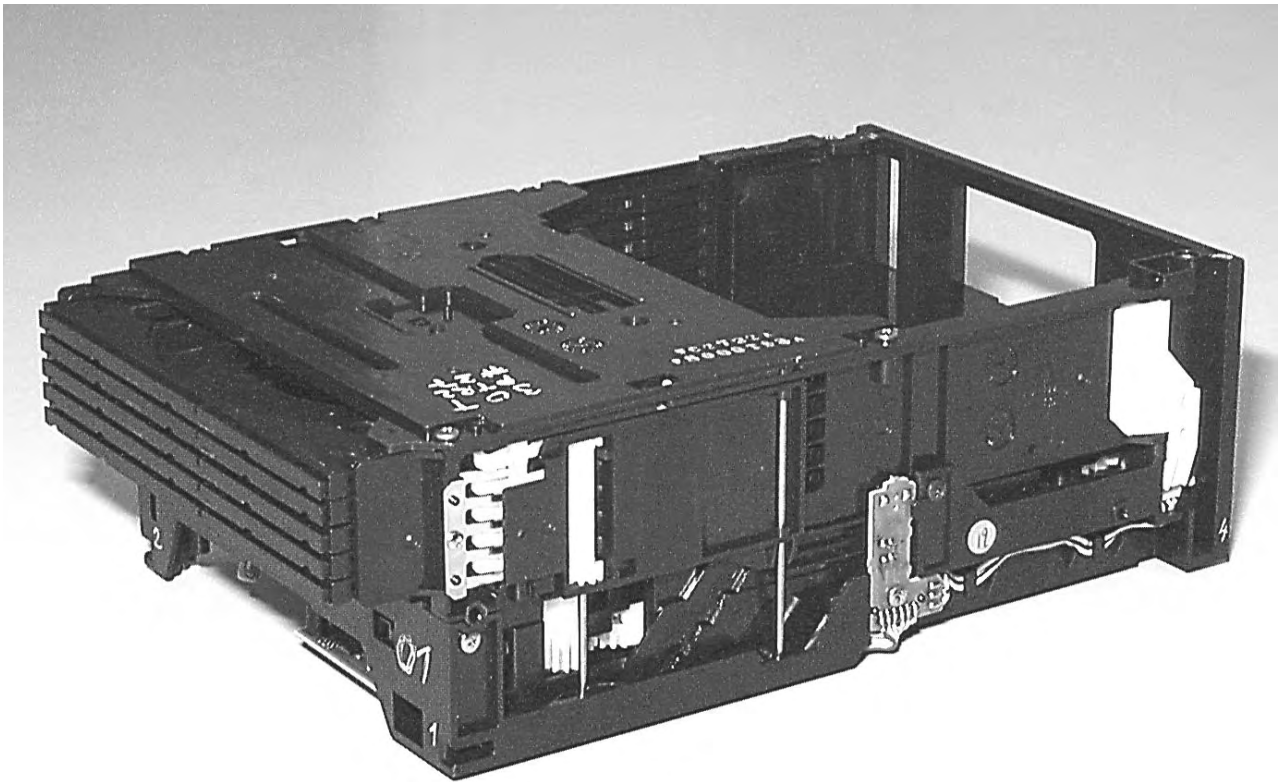


**ELECTRICAL PARTSLIST - AF12 BOARD**

**- IC & TRANSISTORS -**

7201	5322 130 60159	BC846B
7204	5322 130 60159	BC846B
7402	5322 130 60159	BC846B
7621	5322 130 60159	BC846B
7623	5322 130 60159	BC846B
7636	5322 130 60159	BC846B
7682	5322 130 60159	BC846B
7803	5322 130 60159	BC846B
7203	4822 130 60373	BC856B
7622	4822 130 60373	BC856B
7635	4822 130 60373	BC856B
7681	4822 130 60373	BC856B
7603	4822 130 42804	BC817-25
7604	4822 130 42804	BC817-25
7401	4822 130 41246	BC327-25
7601	4822 209 31378	NJM4556MB
7403	4822 209 17345	M62320FP
7501	9322 150 74668	IC SM TDA7468D
7694	5322 209 11102	HEF4052BT
7695	4822 209 83357	NJM4560M

**Note:** Only these parts mentioned in the list are normal service parts.



# **5DTC Module**

## **(MP3 version)**

Layout stage .4

### TABLE OF CONTENTS

Service hints .....	10-2
Location of Printed Circuit Boards .....	10-5
Wiring .....	10-6
Emergency opening .....	10-7
Location of switches.....	10-8
Blockdiagram .....	10-9
<b>CD BOARD</b>	
Circuit Diagram .....	10-10
Component Layout side A .....	10-11
Component Layout side B .....	10-12
<b>CONTROL BOARD</b>	
Circuit Diagram .....	10-13
Component Layout .....	10-13
<b>MP3 BOARD</b>	
Circuit Diagram .....	10-14
Component Layout .....	10-15
Exploded view loader .....	10-16
Partslist .....	10-17

**Service Hints**

**In case of symptom „skipping tracks“ perform following actions:**

**1. VERIFY THE COMPLAINT**

**PLAYABILITY CHECK**

Use CDDA SBC 444A: .....4822 397 30245  
 TR 14 (600µ black dot) maximum at 01:15  
 TR 19 (fingerprint)  
 TR 10 (1000µ wedge)

Use CD-RW Printed Audio Disk .....7104 099 96611  
 TR 3 (Fingerprint)  
 TR 8 (600µ black dot) maximum at 01:00

- playback of all these tracks without audible disturbance
- jump forward/backward within a reasonable time

**2. CLEAN THE LENS**

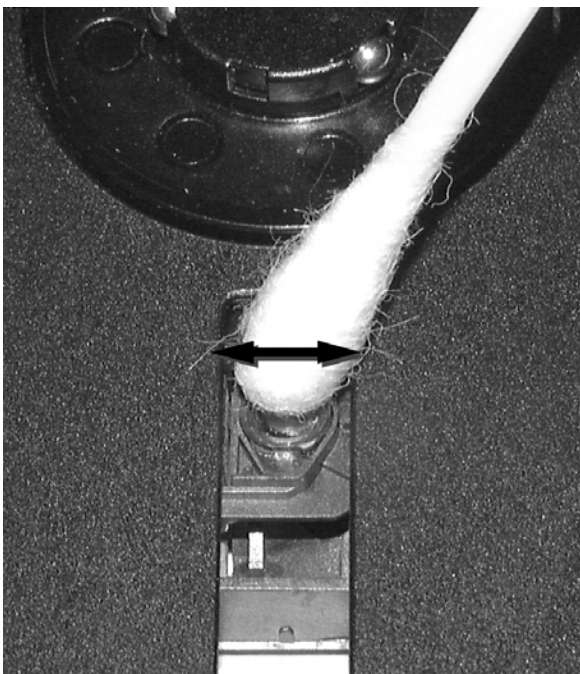
**CD DRIVE – LENS CLEANING**

**Before touching the lens it is advised to clean the surface of the lens by blowing clean air over it in order to avoid that little particles make scratches on the lens.**

Because the material of the lens is synthetic and coated with a special anti-reflectivity layer, cleaning must be done with a non-aggressive cleaning fluid. It is advised to use "KODAK LENS CLEANER CAT 176 71 36", available in normal photo shops.

The actuator is a very precise mechanical component and may not be damaged in order to guarantee its full function. It is advised to clean the lens gently (don't press too hard) with a soft and clean cotton bud moistened with the special lens cleaner.

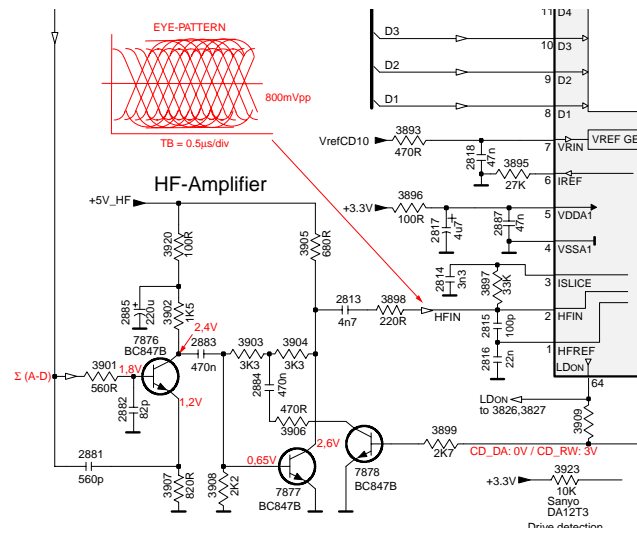
The direction of cleaning must be in the way as indicated in the picture below.



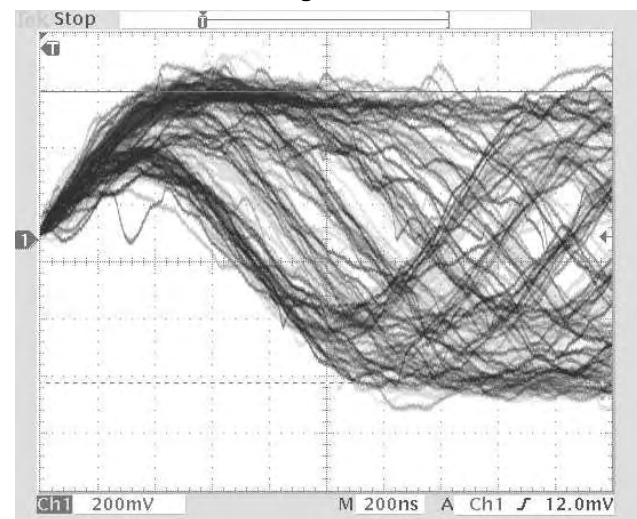
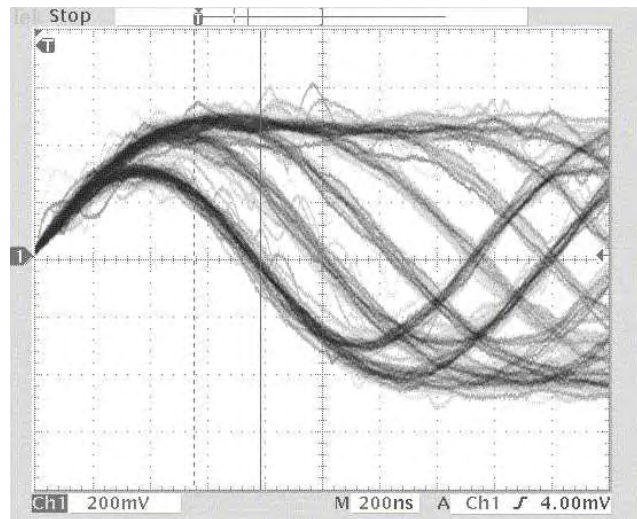
**3. MEASURE THE EYE-PATTERN SIGNAL**

**EYE-PATTERN SIGNAL – JITTER MEASUREMENT**

Measure the signal direct on resistor 3898 using an oscilloscope (see also chapter 10-9).



See below examples of the signal. Amplitude should read at least 700mVpp using SBC444A.



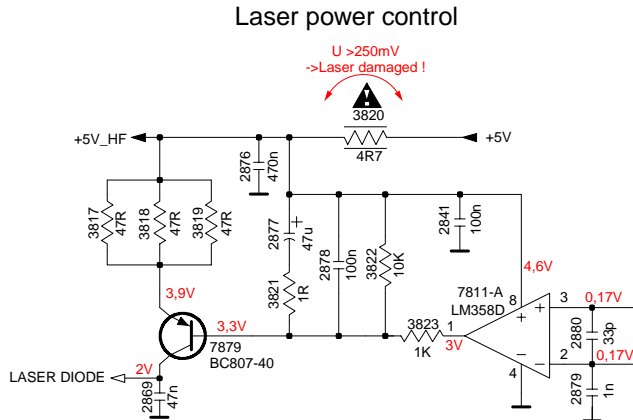
If the oscilloscope shows a signal like the 'bad' one, and/or the amplitude decreases within 1minute - the CD drive has to be replaced.



**4. MEASURE THE LASER CURRENT**

**CD DRIVE – LASER CURRENT MEASUREMENT**

The laser current can be measured as a voltage drop on resistor 3820. Typical value 170 - 190mV for CD-DA respectively 200 - 220mV for CD-RW.



**5. MEASURE THE OFFSETS OF THE CD-DRIVE**

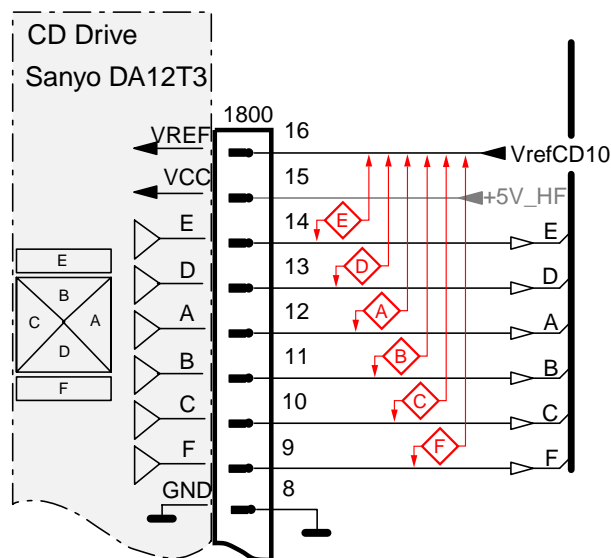
**CD DRIVE – OFFSET MEASUREMENT**

Each photodiode of the CD-drive may have an offset. This offset has to be compensated by the signal processor. A high offset of the CD-drive leads to poor playability of some CDs (skipping tracks).

Start the **Service Test Program** - section „Focus Test“ without a CD. Focus sensitivity = CD-RW.

Use a DC Millivoltmeter for measurement. The offsets can be measured direct on the connector. See drawing below.

The values from diode A-D should read  $0 \pm 10mV$ . Diodes E and F are less critical.



If one of the offsets is higher than  $\pm 10mV$  the CD drive has to be replaced.

**6. MEASURE THE OFFSETS OF THE CD10**

**SIGNAL PROCESSOR – OFFSET MEASUREMENT**

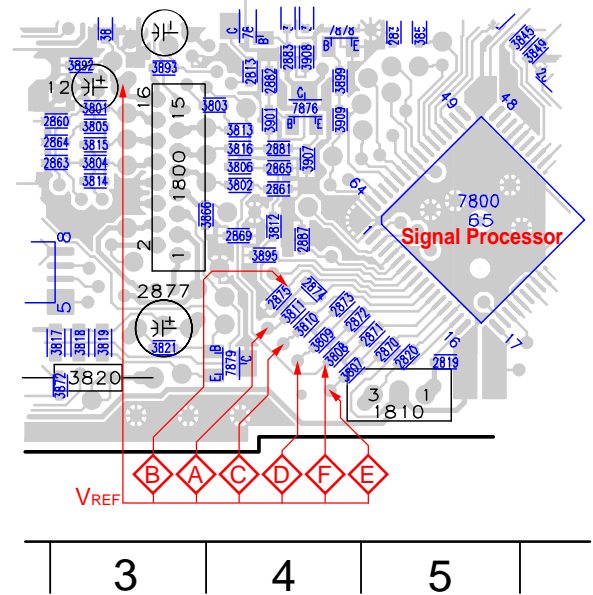
Each ADC input of the CD10 may have an offset too. Also this offset leads (together with the offsets of the CD Drive) to poor playability of some CDs (skipping tracks).

Start the **Service Test Program** - section „Focus Test“ using a CD-RW disc.

Use a DC Millivoltmeter for measurement. The offsets can be measured on capacitors near the signal processor. See drawing below.

The value should read  $0mV \pm 10mV$ .

CD Board side A view



If one of the offsets is higher than  $\pm 10mV$  the signal processor has to be replaced.

If none of the measured offsets is higher than  $\pm 10mV$  - replace the part with the higher value.

**WARNING**

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

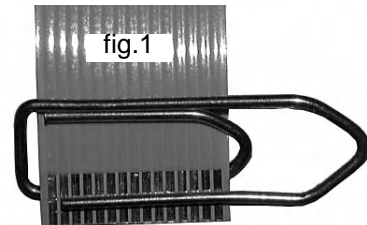
- **SWITCH OFF POWER SUPPLY**
- **ESD PROTECTION**

**ADDITIONAL ACTIONS MUST BE TAKEN BY THE REPAIR TECHNICIAN.**

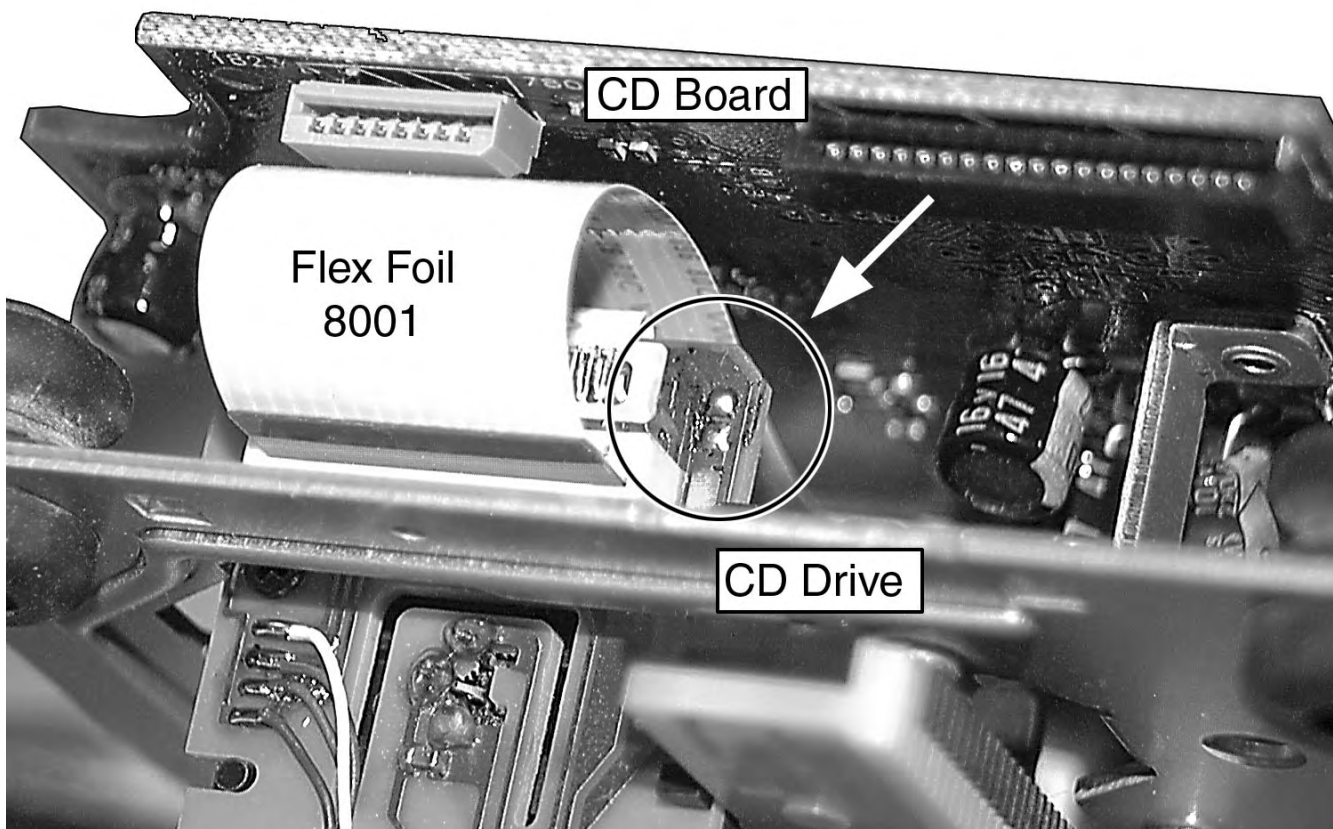
The CD drive forms a compact building block with the CD Board.

The following steps have to be done when replacing the CD mechanism:

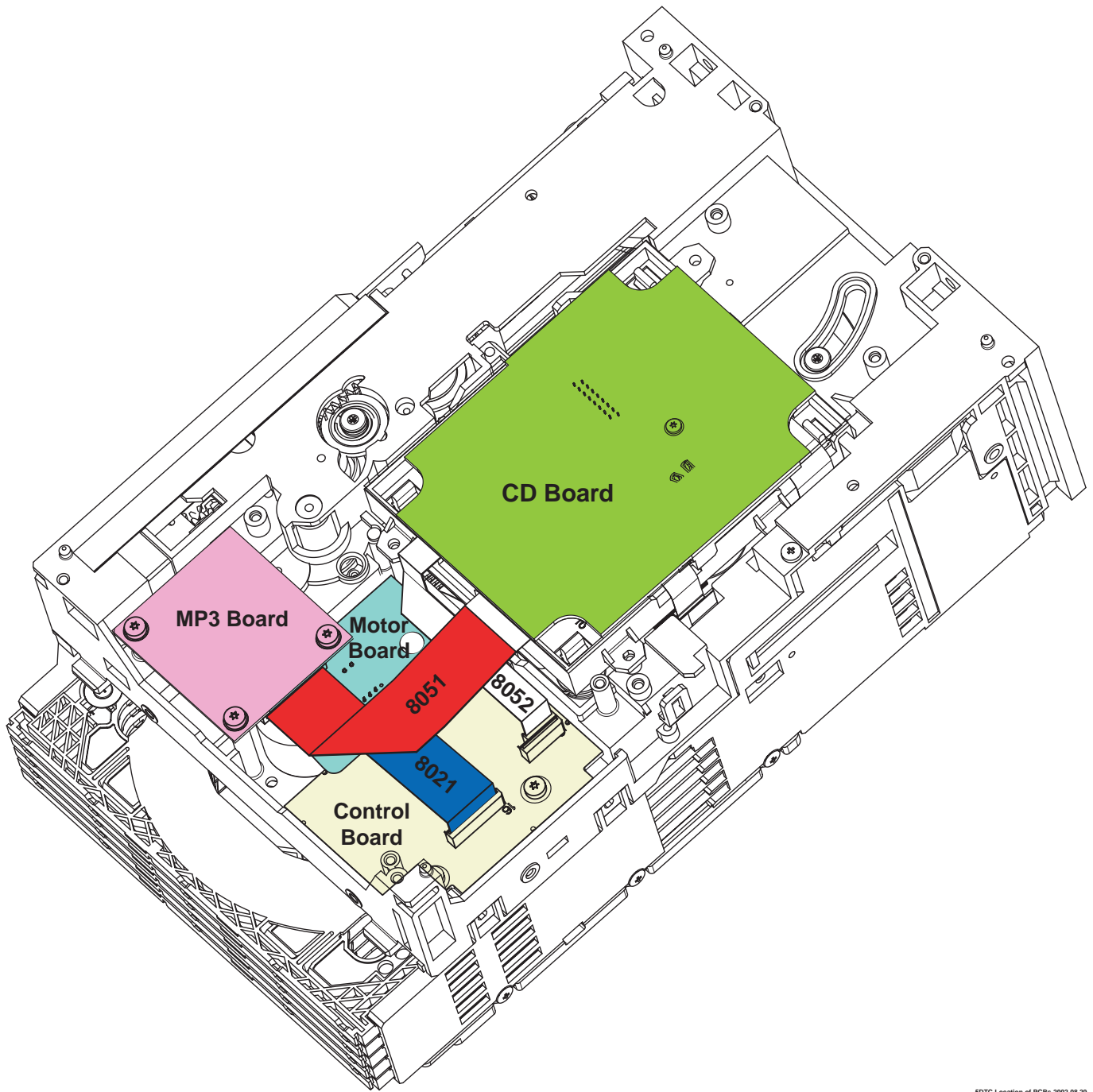
1. Desolder disc and slide motor
2. Loosen 2x screw
1. Disconnect flexfoil from old CD drive
2. Put a paperclip over contacts of flexfoil to short-circuit the contacts (fig.1)
3. Remove old CD drive
4. Mount new CD drive to CD board
5. Solder disc and slide motor **after** fixing the drive to the board
5. Move slide outside
6. Remove paperclip from flexfoil
7. Connect flexfoil to new CD drive
8. Remove ESD-protection (solder joint) from laserunit (see picture below)



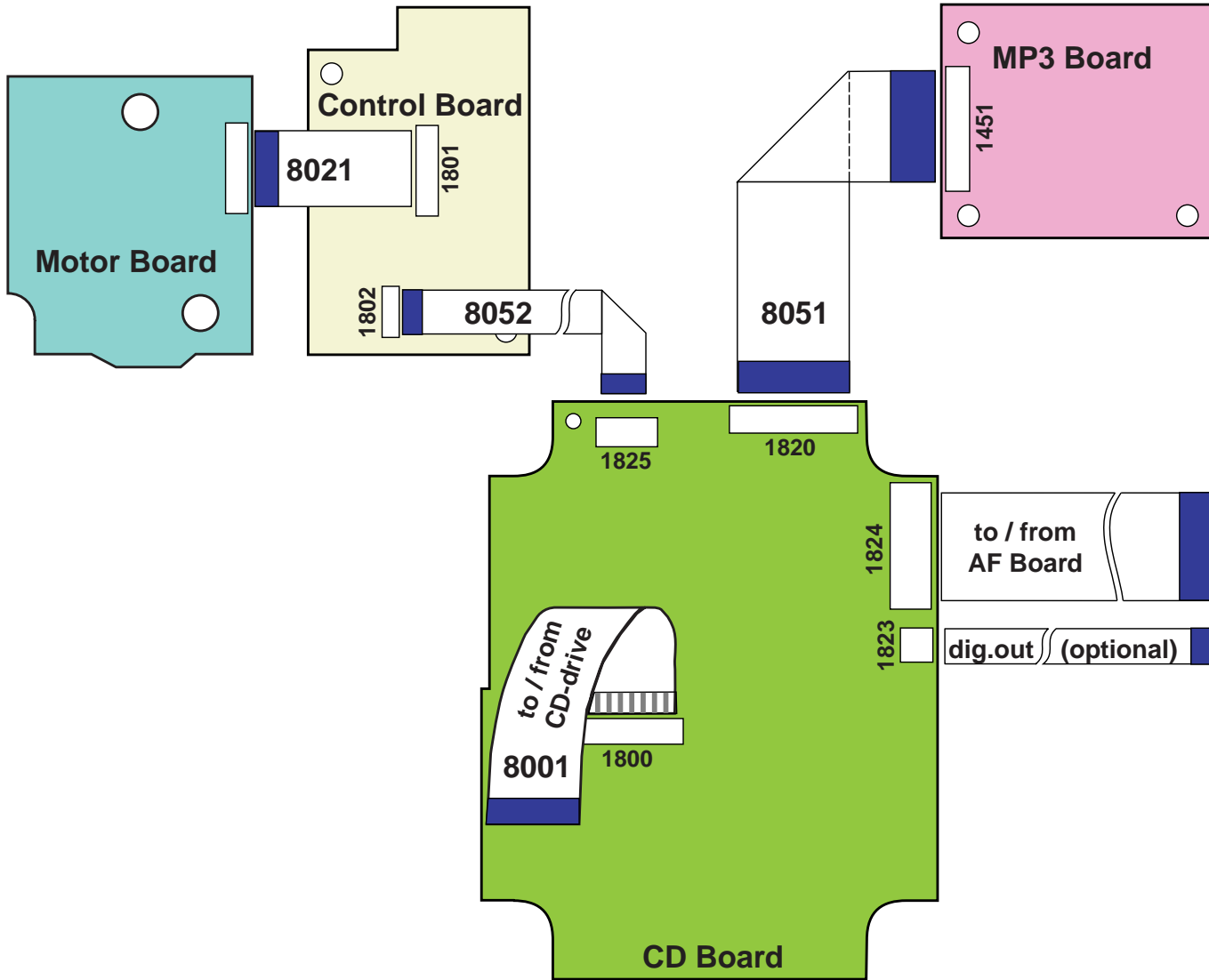
**Attention:** The laser diode of this CD drive is protected against ESD by a solder joint which shortcircuits the laserdiode to ground. For proper functionality of the CD drive this solder joint must be removed **after** connection the drive to the set.



# Location of Printed Circuit Boards



## Wiring Diagram 5DTC Module



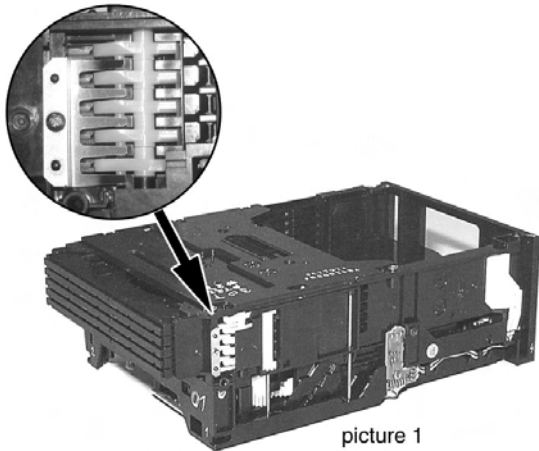
5DTC Wiring Diagram 2002 08 30

The FFC-Cables are available as sparepart.

8001	3103 308 93090	FFC CABLE 16Pin 80mm BD	Connection from CD Board to CD Drive
8051	3103 308 93100	FFC-CABLE 19Pin 90mm AD	Connection from CD Board to MP3 Board
8052	3103 308 93120	FFC CABLE 8Pin 80mm BD	Connection from CD Board to Control Board
8021	3103 308 93110	FFC-CABLE 16Pin 60mm AD	Connection from Control Board to Motor Board

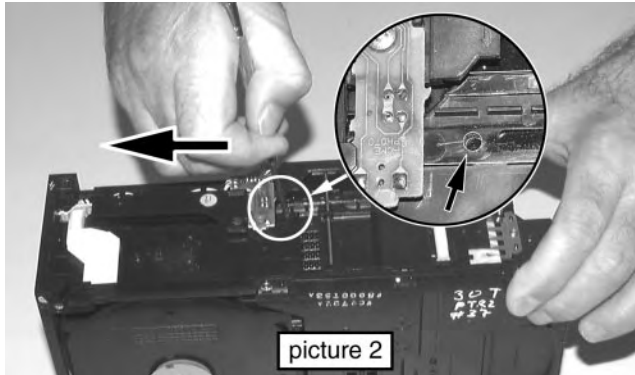
## Emergency opening of the trays

The trays of the 5DTC are mechanically locked.



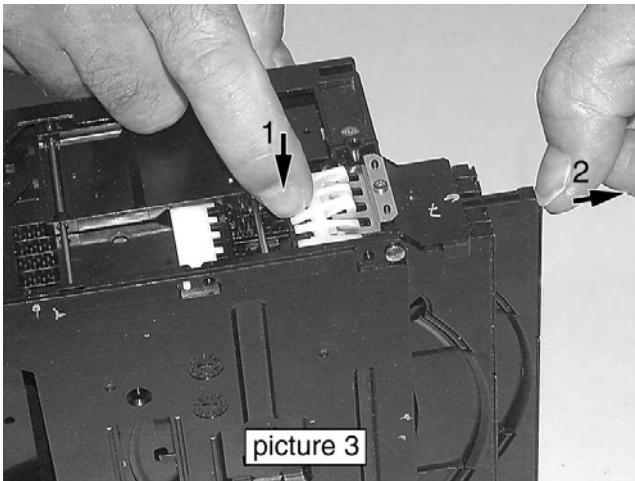
picture 1

To open tray 1, 2 and 3 move lever (pos 29) backwards (e.g. with a screwdriver - see picture 2) to its endposition.



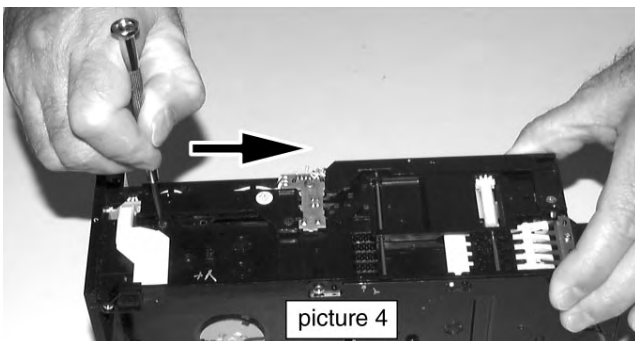
picture 2

Release the locking mechanism and pull out the tray (see picture 3).



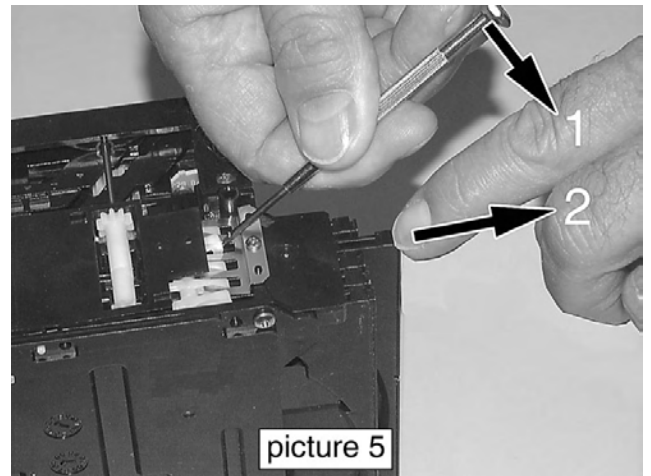
picture 3

To open tray 4 and 5 move lever (pos 29) forward to its endposition (see picture 4).



picture 4

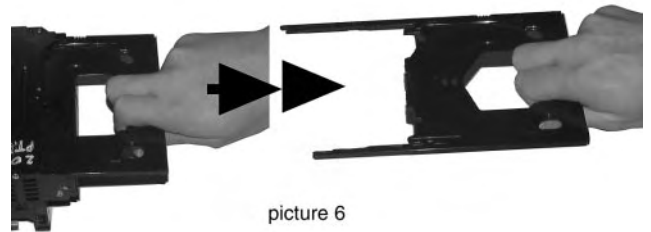
Release snap as shown in picture 5 and pull tray out.



picture 5

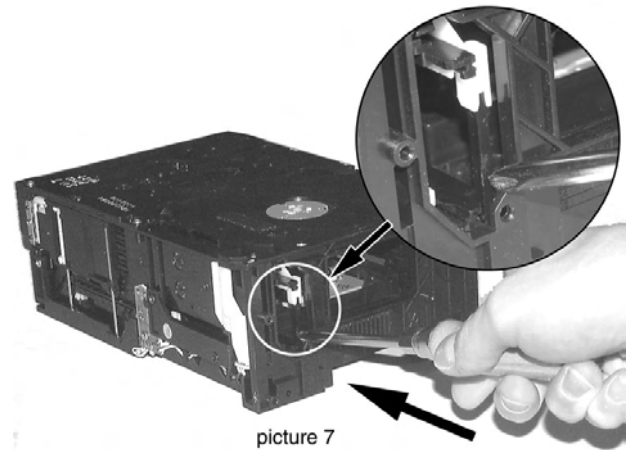
To remove a CD from Play Position perform following steps:

1. Open tray 1 as described before.
2. Tear the tray out with speed (see picture 6). The tray can be inserted afterwards without any alignment.



picture 6

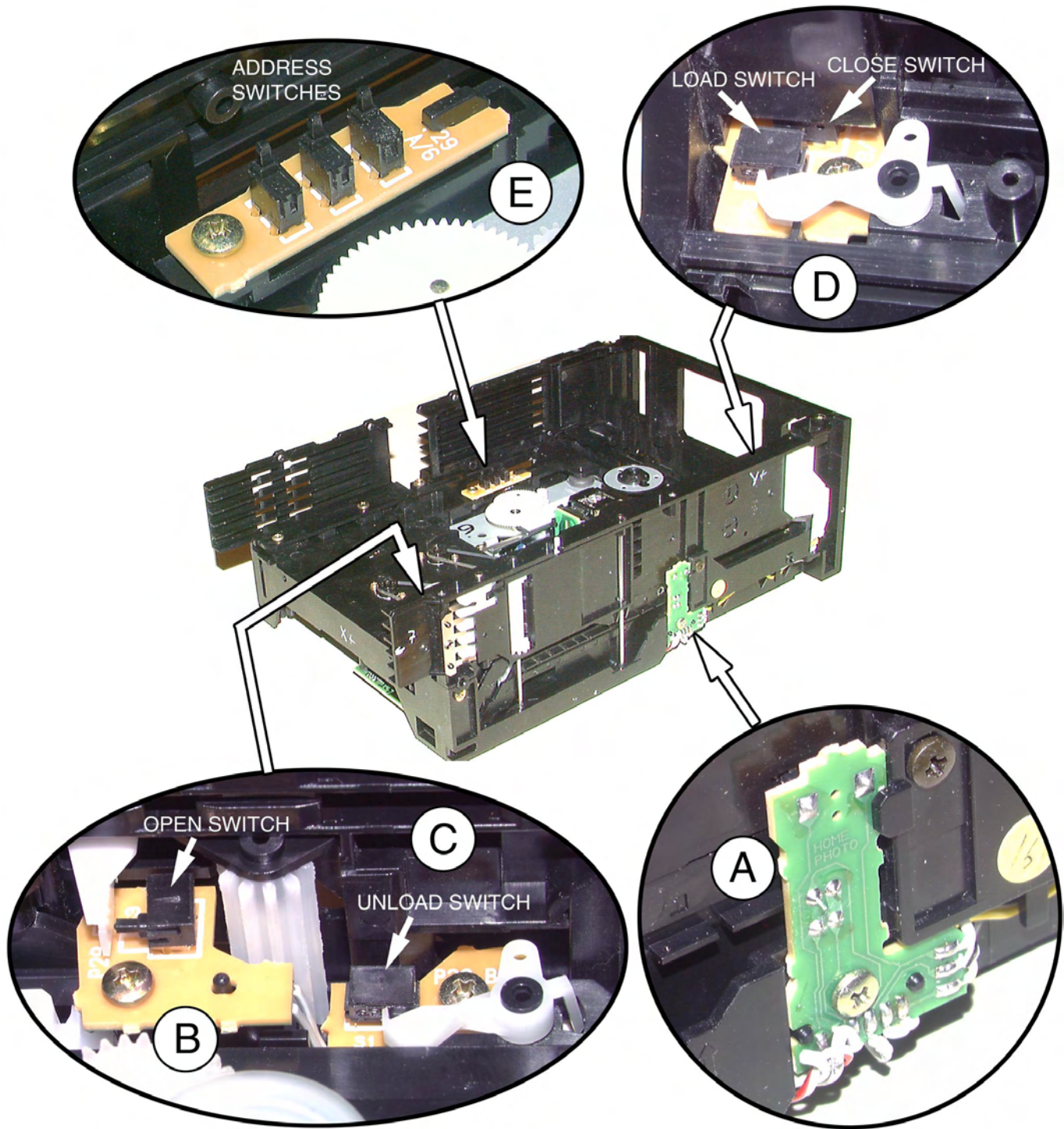
3. Move lever (pos 29) forward to its endposition (see picture 4).
4. Push lever (pos 31) forward (see picture 7).



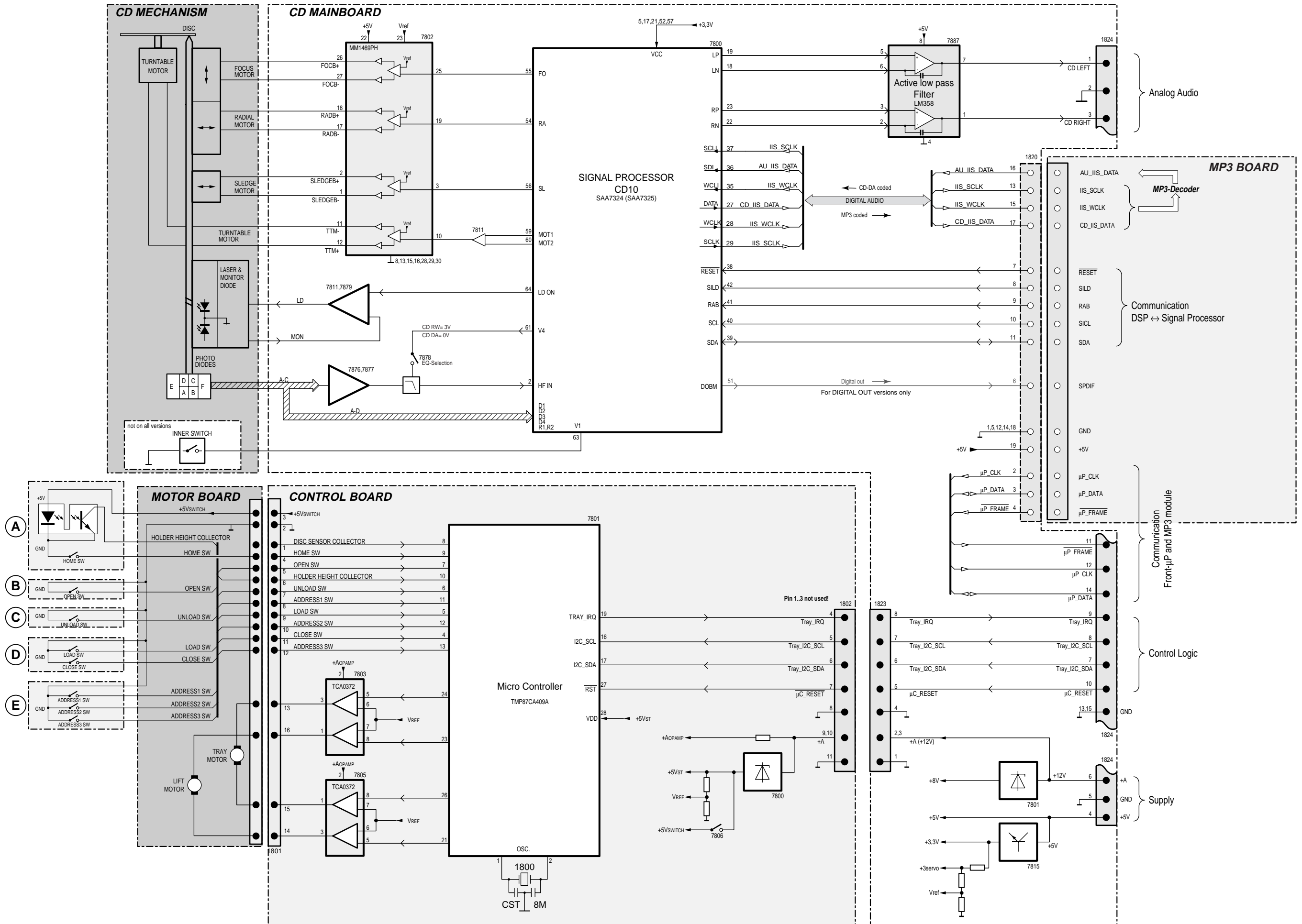
picture 7

5. Remove CD.

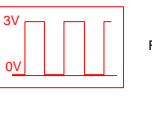
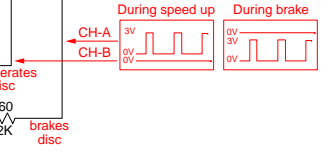
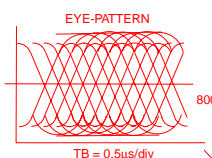
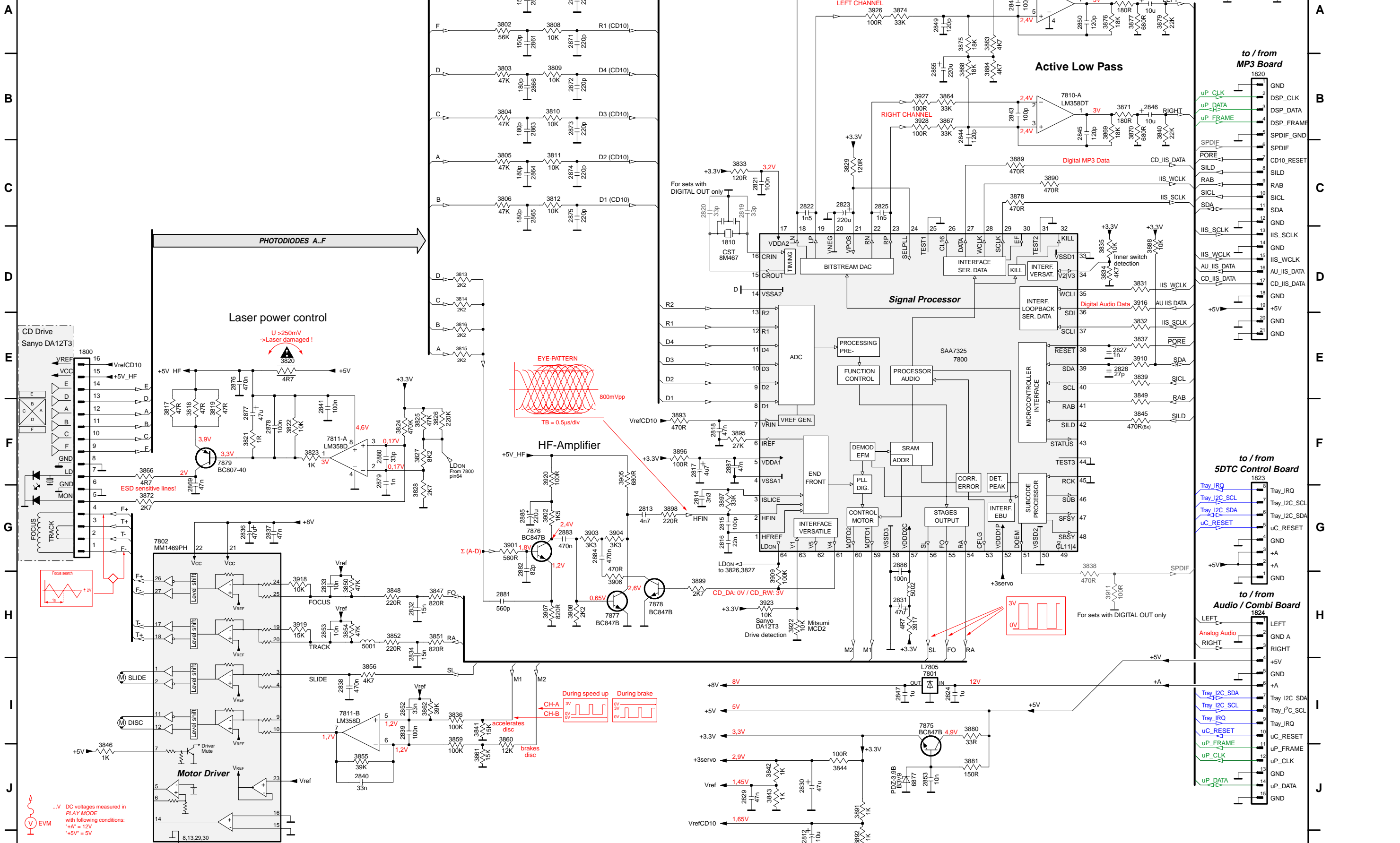
### Location of switches



# BLOCK DIAGRAM 5DTC MP3 Version



# 5DTC CD BOARD



...V DC voltages measured in PLAY MODE with following conditions:  
 \*+A = 12V  
 \*+5V = 5V



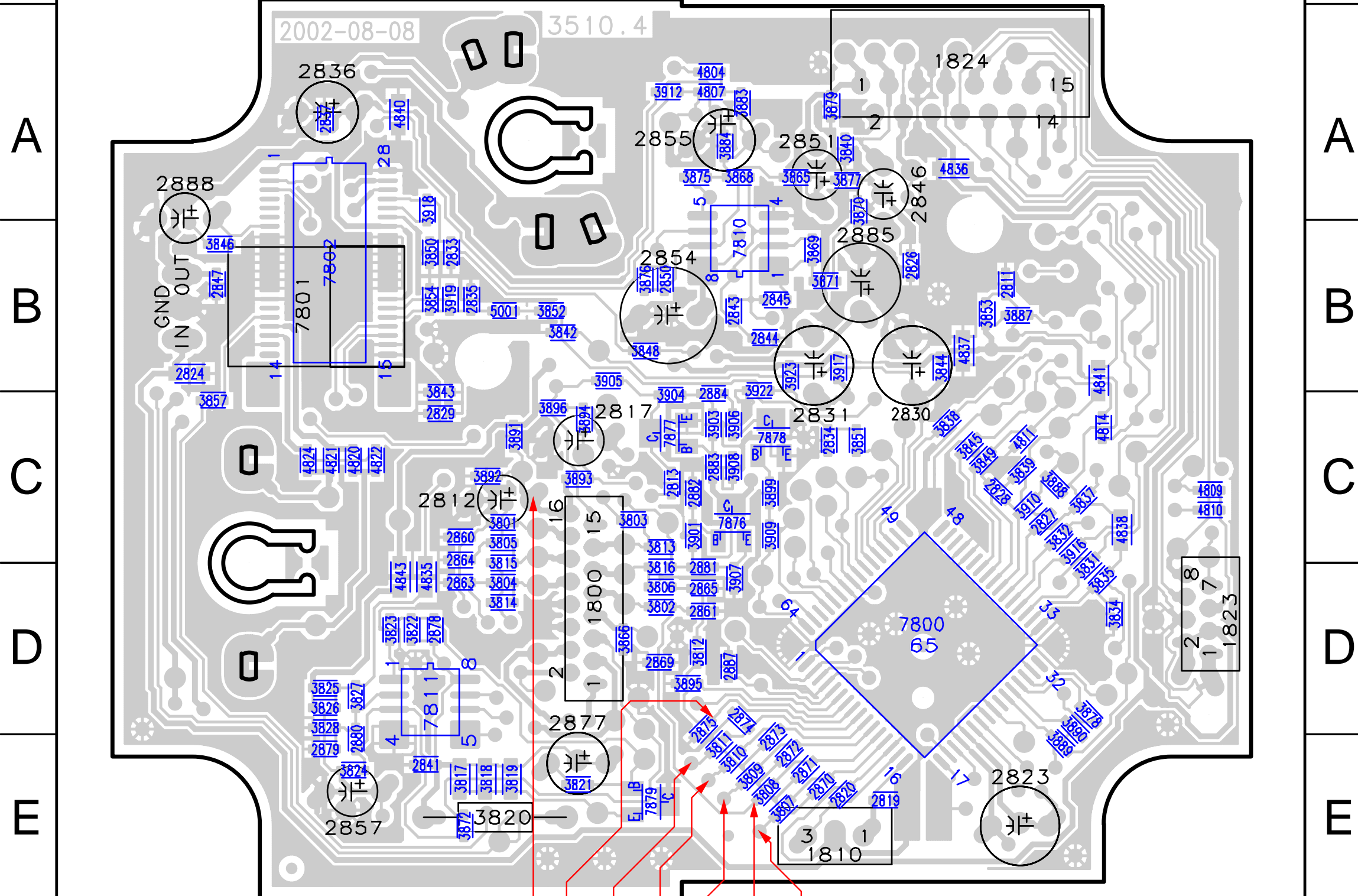
MAPPING FOR  
CIRCUIT DIAGRAM

MAPPING FOR  
COMPONENT LAYOUT

1800	E1	3827	F5
1810	D9	3828	G5
1820	B15	3829	C10
1823	F15	3831	D14
1824	H15	3832	E14
2187	F9	3833	C9
2812	J10	3834	D13
2813	G8	3835	D13
2814	G9	3836	I6
2815	G9	3837	E14
2816	G9	3838	G13
2817	F9	3839	E14
2818	F9	3840	B14
2819	C9	3841	I6
2820	C9	3842	J9
2821	C9	3843	J9
2822	C10	3844	J10
2823	C10	3845	F14
2824	I12	3846	J1
2825	C11	3847	H5
2826	A15	3848	H5
2827	E13	3849	F14
2828	E13	3850	H4
2829	J9	3851	H5
2830	J10	3852	H5
2831	H11	3854	H4
2832	H5	3855	J4
2833	H4	3856	I5
2834	H5	3859	I6
2836	G3	3860	I6
2837	G3	3861	J6
2838	I4	3862	I5
2839	I5	3864	B11
2840	J4	3865	A14
2841	F4	3866	F2
2843	B12	3867	B11
2844	B12	3868	B12
2845	B13	3869	B13
2846	B14	3870	B14
2847	I11	3871	B14
2848	A12	3872	G2
2849	A11	3873	A11
2850	A13	3874	A11
2851	A14	3875	A12
2852	I5	3876	A13
2853	H4	3877	A14
2853	J11	3878	C12
2854	A12	3879	A14
2855	B11	3880	I12
2860	A6	3881	J12
2861	A6	3883	A12
2863	B6	3884	B12
2864	C6	3888	D14
2865	C6	3889	C12
2866	B6	3890	C13
2869	F2	3891	J10
2870	A7	3892	J10
2871	A7	3893	F8
2872	B7	3895	F9
2873	B7	3896	F8
2874	C7	3897	G9
2875	C7	3898	G8
2876	E3	3899	H8
2877	F3	3901	G6
2878	F3	3902	G7
2879	F5	3903	G7
2880	F5	3904	G8
2881	H6	3905	F8
2882	G6	3906	H8
2884	G7	3907	H7
2885	G6	3908	H7
2886	G11	3909	H9
2893	G7	3910	E14
3801	A6	3911	H13
3802	A6	3912	A11
3803	B6	3917	H11
3804	B6	3918	H4
3805	C6	3919	H4
3806	C6	3920	F7
3807	A7	3922	H10
3808	A7	3923	H9
3809	B7	3925	A11
3810	B7	3926	A11
3811	C7	3927	B11
3812	C7	3928	B11
3813	D6	5001	H5
3814	D6	5002	H11
3815	E6	6877	J11
3816	D14	7800	D11
3816	E6	7801	I11
3817	F2	7802	G2
3818	F2	7810-A	B13
3819	F3	7810-B	A13
3820	E4	7811-A	F4
3821	F3	7811-B	I4
3822	F4	7875	I11
3823	F4	7876	G7
3824	F5	7877	H8
3825	F5	7878	H8
3826	F5	7879	F3

1800	D3	3851	C5
1810	E5	3852	B3
1823	D7	3853	B6
1824	A5	3854	B2
2811	B6	3857	C1
2812	C3	3865	A4
2813	C4	3866	D3
2817	C3	3868	A4
2819	E5	3869	B5
2820	E5	3870	A5
2823	E6	3871	B5
2824	B1	3872	E3
2826	B5	3875	A4
2827	C6	3876	B4
2828	C6	3877	A5
2829	C2	3878	D6
2830	B5	3879	A5
2831	B5	3883	A4
2833	B2	3884	A4
2834	C5	3887	B6
2835	B3	3888	C6
2836	A2	3889	E6
2837	A2	3890	E6
2841	E2	3891	C3
2843	B4	3892	C3
2844	B4	3893	C3
2845	B4	3894	C3
2846	A5	3895	D4
2847	B1	3896	C3
2850	B4	3899	C4
2851	A5	3901	C4
2854	B4	3903	C4
2855	A4	3904	C4
2857	E2	3905	B3
2860	C3	3906	C4
2861	D4	3907	D4
2863	D3	3908	C4
2864	D3	3909	C4
2865	D4	3910	C6
2869	D4	3912	A4
2870	E5	3916	C6
2871	E5	3917	B5
2872	E4	3918	A2
2873	E4	3919	B2
2874	D4	3922	C4
2875	E4	3923	B4
2877	D3	4804	A4
2878	D2	4807	A4
2879	E2	4809	C7
2880	E2	4810	C7
2881	D4	4811	C6
2882	C4	4814	C6
2883	C4	4820	C2
2884	C4	4821	C2
2885	B5	4822	C2
2887	D4	4824	C2
2888	A1	4835	D2
3801	C3	4836	A5
3802	D4	4837	B5
3803	C4	4838	C6
3804	D3	4840	A2
3805	C3	4841	B6
3806	D4	4843	D2
3807	E4	5001	B3
3808	E4	7800	C6
3809	E4	7801	B2
3810	E4	7802	B2
3811	E4	7810	B4
3812	D4	7811	D2
3813	C4	7876	C4
3814	D3	7877	C4
3815	D3	7878	C4
3816	D4	7879	E4
3817	E3		
3818	E3		
3819	E3		
3820	E3		
3821	E3		
3822	D2		
3823	D2		
3824	E2		
3825	D2		
3826	D2		
3827	D2		
3828	D2		
3831	D6		
3832	C6		
3834	D6		
3835	D6		
3837	C6		
3838	C5		
3839	C6		
3840	A5		
3842	B3		
3843	C2		
3844	B5		
3845	C6		
3846	B1		
3848	B4		
3849	C6		
3850	B2		

### 5DTC CD Board Side A

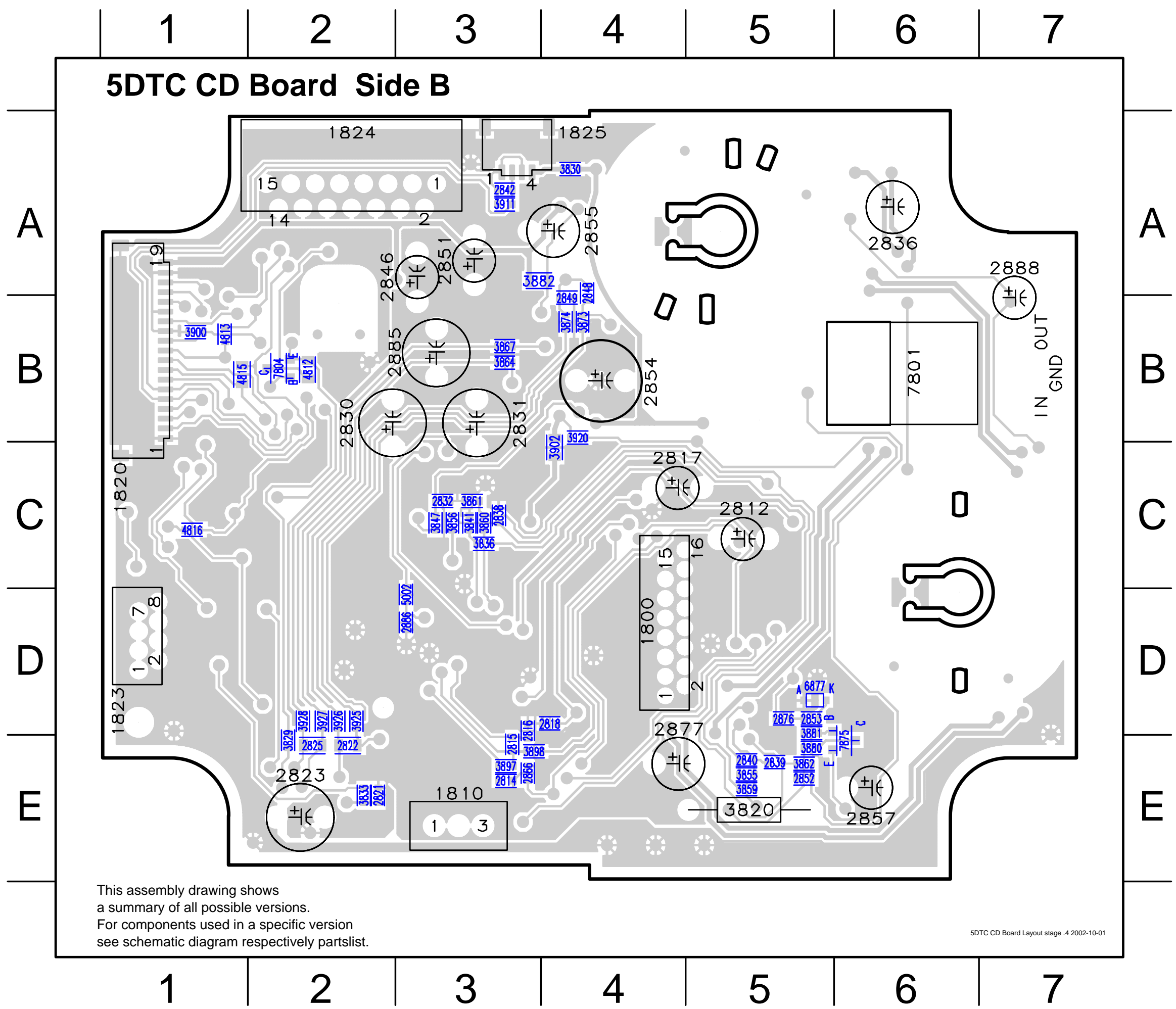


This assembly drawing shows  
a summary of all possible versions.  
For components used in a specific version  
see schematic diagram respectively partslist.



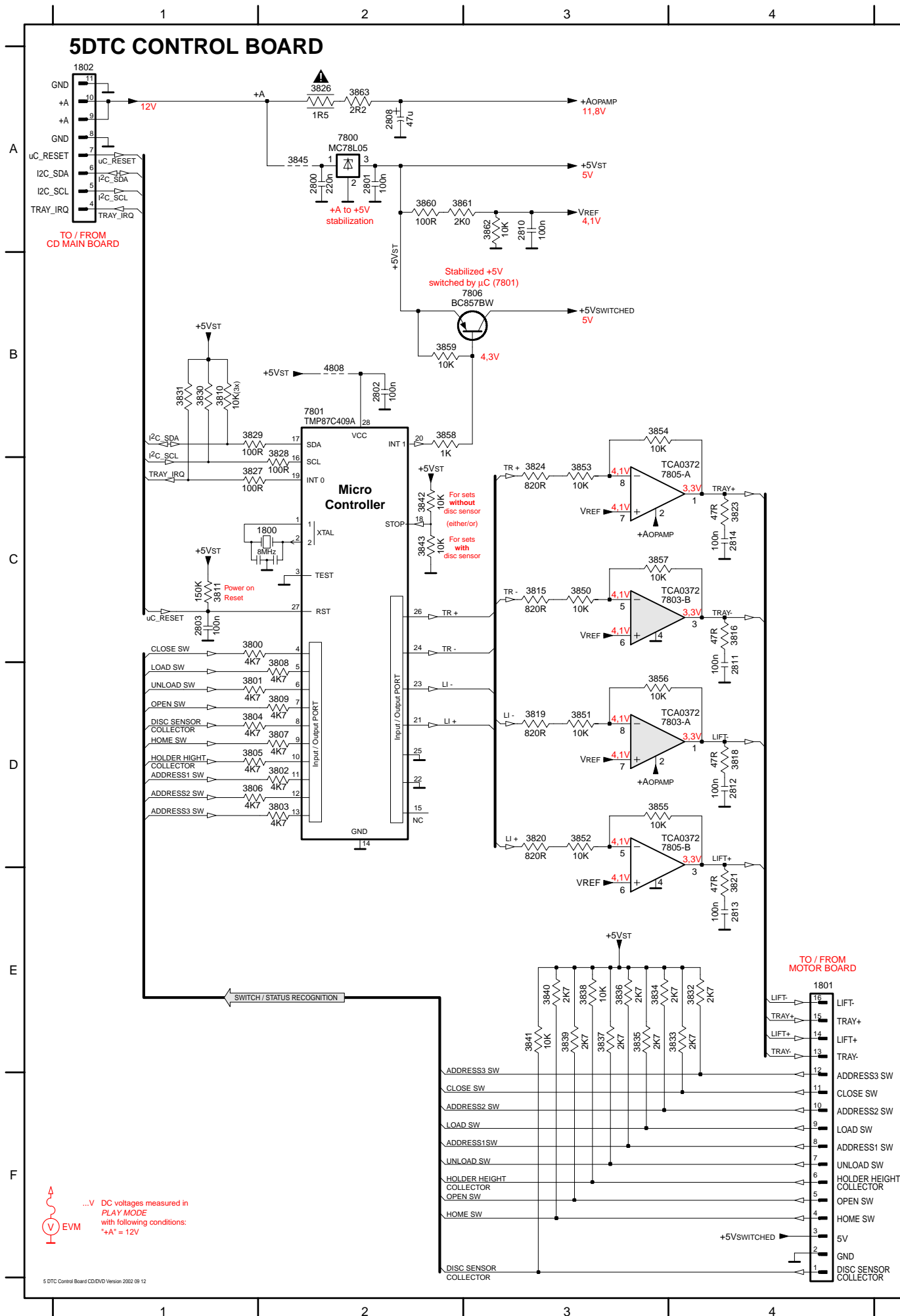
5DTC CD Board Layout stage .4 2002-10-01

# 5DTC CD Board Side B



- 1800 D5
- 1810 E3
- 1820 C1
- 1823 D1
- 1824 A3
- 1825 A4
- 2812 C5
- 2814 E4
- 2815 E4
- 2816 D4
- 2817 C5
- 2818 D4
- 2821 E3
- 2822 E3
- 2823 E2
- 2825 E2
- 2830 B2
- 2831 B4
- 2832 C3
- 2836 A6
- 2838 C4
- 2839 E5
- 2840 E5
- 2842 A4
- 2846 A3
- 2848 A4
- 2849 B4
- 2851 A3
- 2852 E6
- 2853 D6
- 2854 B5
- 2855 A4
- 2857 E6
- 2866 E4
- 2876 D5
- 2877 D5
- 2885 B3
- 2886 D3
- 2888 A7
- 3820 E5
- 3829 E2
- 3830 A4
- 3833 E3
- 3836 C3
- 3841 C3
- 3847 C3
- 3855 E5
- 3856 C3
- 3859 E5
- 3860 C3
- 3861 C3
- 3862 E6
- 3864 B4
- 3867 B4
- 3873 B4
- 3874 B4
- 3880 E6
- 3881 D6
- 3882 A4
- 3897 E4
- 3898 E4
- 3900 B1
- 3902 C4
- 3911 A4
- 3920 B4
- 3925 D3
- 3926 D2
- 3927 D2
- 3928 D2
- 4812 B2
- 4813 B2
- 4815 B2
- 4816 C1
- 5002 D3
- 6877 D6
- 7801 B6
- 7804 B2
- 7875 E6

This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram respectively partslist.

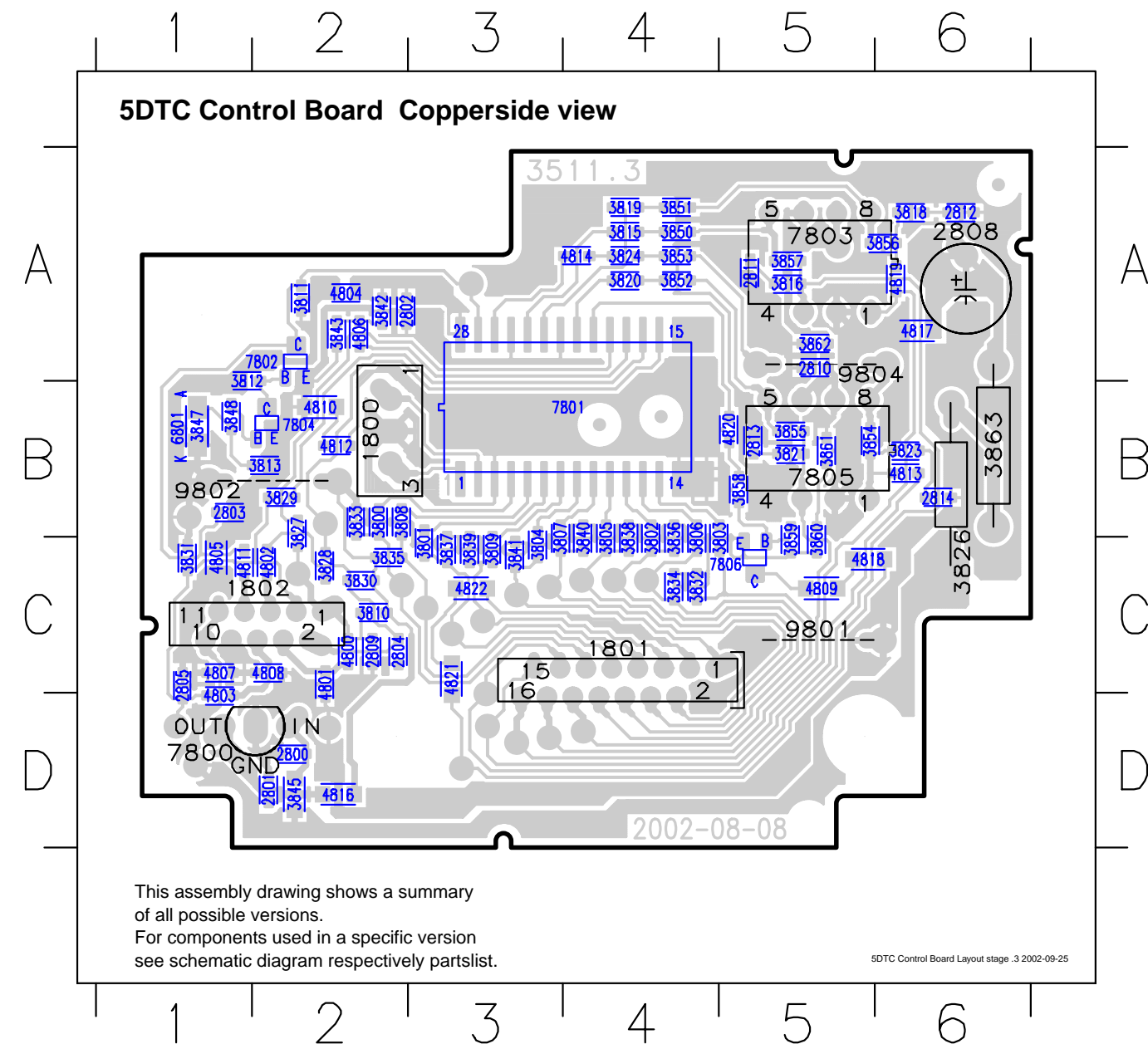


#### MAPPING FOR CIRCUIT DIAGRAM

1800	C2	2810	A3	3804	D1	3811	C1	3824	C3	3833	E4	3841	E3	3854	B3	3862	A3	7805-B	D3
1801	E4	2811	D4	3805	D1	3815	C3	3826	A2	3834	E3	3842	C2	3855	D3	3863	A2	7806	B3
1802	A1	2812	D4	3806	D1	3816	C4	3827	C1	3835	E3	3843	C2	3856	D3	3868	B2		
2800	A2	2813	E4	3807	D2	3818	D4	3828	C2	3836	E3	3845	A2	3857	C3	7800	A2		
2801	A2	2814	C4	3808	D1	3819	D3	3829	B1	3837	E3	3850	C3	3858	B2	7801	B2		
2802	B2	3800	C1	3808	D2	3820	D3	3830	B1	3838	E3	3851	D3	3859	B3	7803-A	D3		
2803	C1	3802	D2	3809	D2	3821	E4	3831	B1	3839	E3	3852	D3	3860	A2	7803-B	C3		
2808	A2	3803	D2	3810	B1	3823	C4	3832	E4	3840	E3	3853	C3	3861	A2	7805-A	C3		

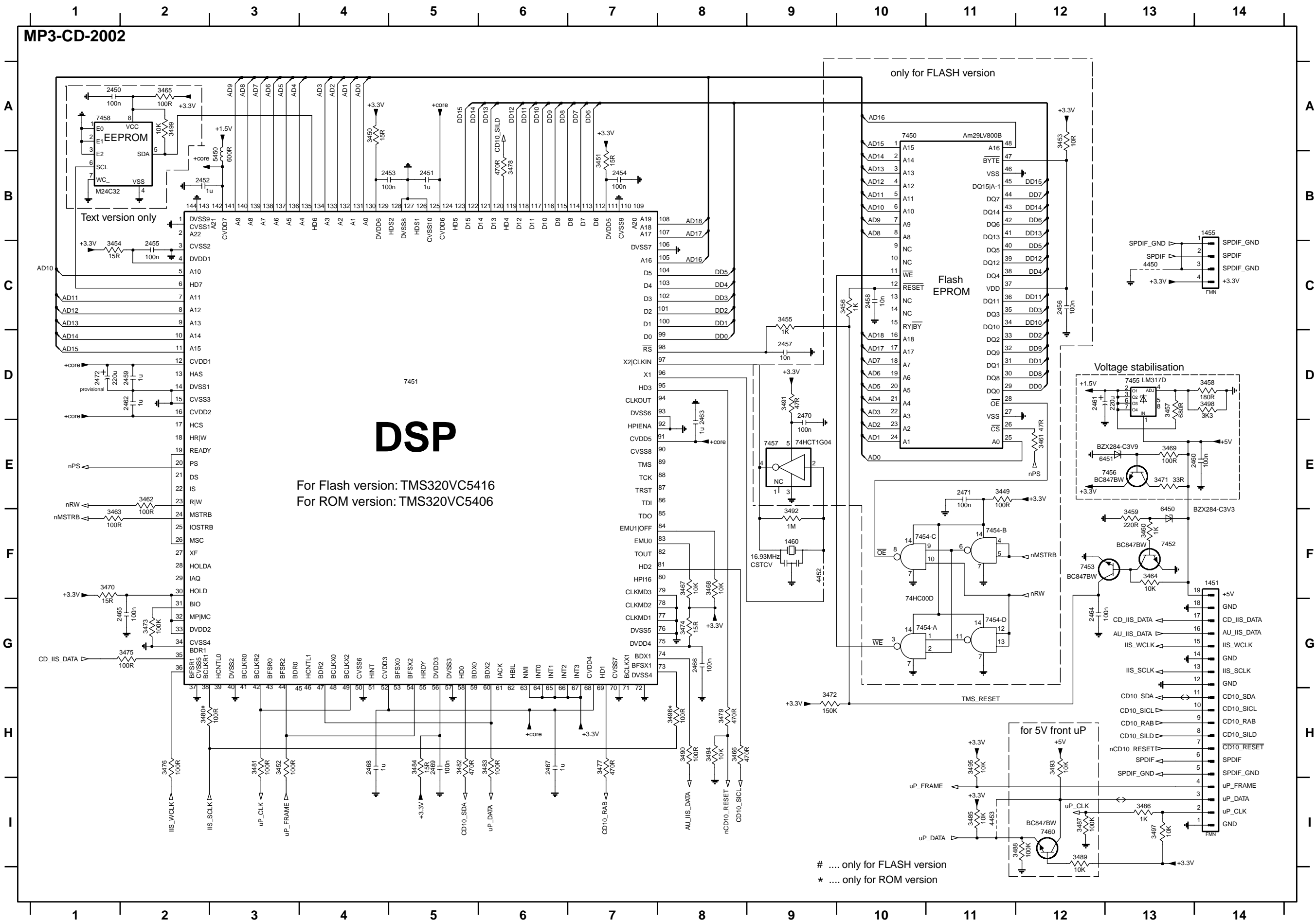
#### MAPPING FOR COMPONENT LAYOUT

1800	B2	2810	A5	3806	C4	3819	A4	3832	C4	3843	A2	3857	A5	4804	A2	4816	D2	7803	A5
1801	C4	2811	A5	3807	C3	3820	A4	3833	B2	3845	D2	3858	B5	4805	C1	4817	A6	7804	B2
1802	C2	2812	A6	3808	B2	3821	B5	3834	C4	3847	B1	3859	C5	4806	A2	4818	C5	7806	C5
2800	D2	2813	B5	3809	C3	3823	B6	3835	C2	3848	B1	3860	C5	4807	C1	4819	A6	9801	C5
2801	D2	2814	B6	3810	C2	3824	A4	3836	C4	3850	A4	3861	B5	4808	C2	4820	B5	9802	B2
2802	A2	3800	B2	3811	A2	3826	B6	3837	C3	3851	A4	3862	A5	4809	C5	4821	C3	9804	A5
2803	B1	3801	C3	3812	A1	3827	B2	3838	C4	3852	A4	3863	B6	4810	B2	4822	C3		
2804	C2	3802	C4	3813	B2	3828	C2	3839	C3	3853	A4	4800	C2	4811	C1	6801	B1		
2805	C1	3803	C4	3815	A4	3829	B2	3840	C4	3854	B5	4801	C2	4812	B2	7800	D2		
2808	A6	3804	C3	3816	A5	3829	C2	3841	C3	3855	B5	4802	C2	4813	B6	7801	B4		
2809	C2	3805	C4	3818	A6	3831	C1	3842	A2	3856	A6	4803	D1	4814	A4	7802	A2		



This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram respectively partslist.

MP3 BOARD - CIRCUIT DIAGRAM



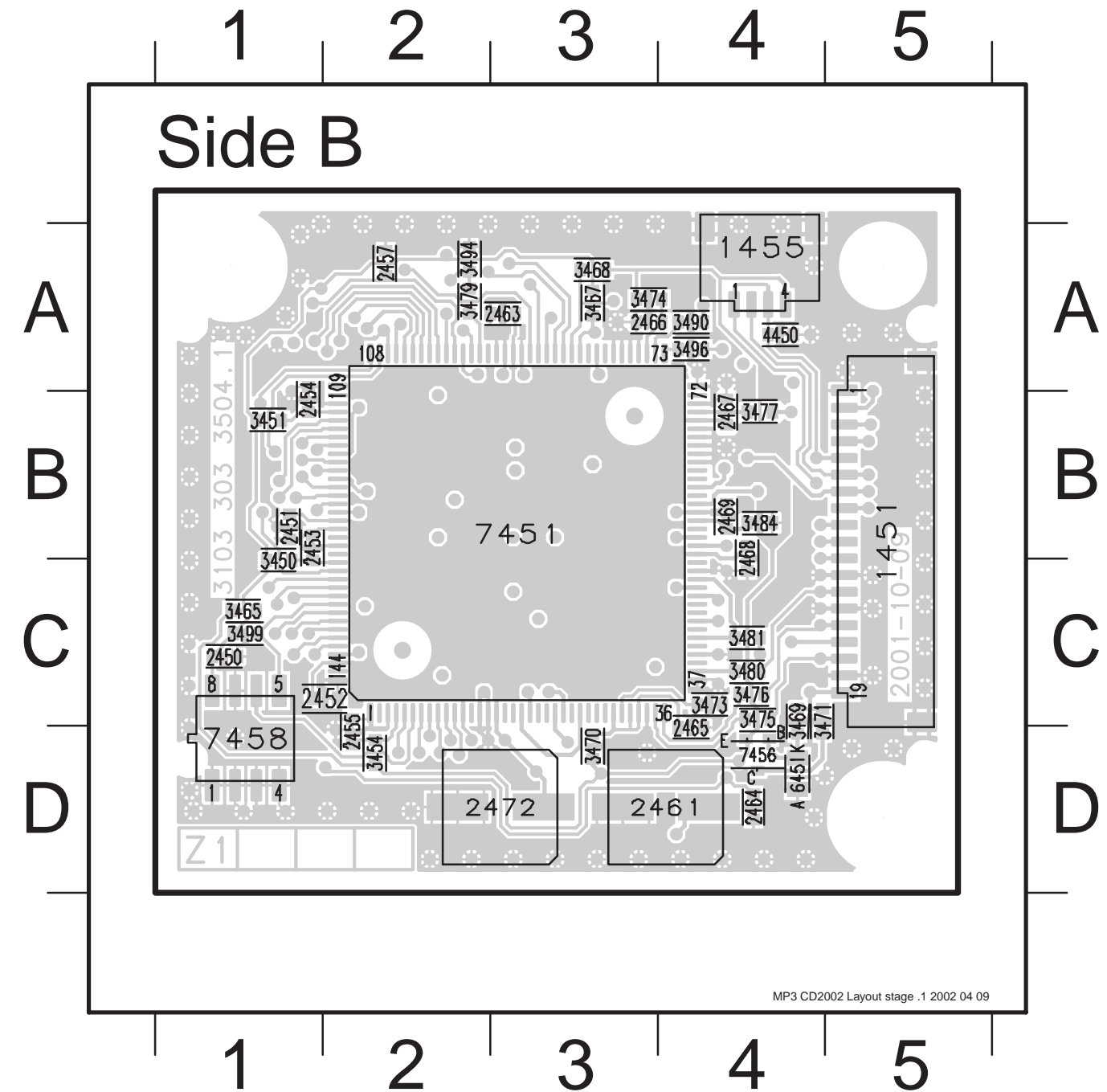
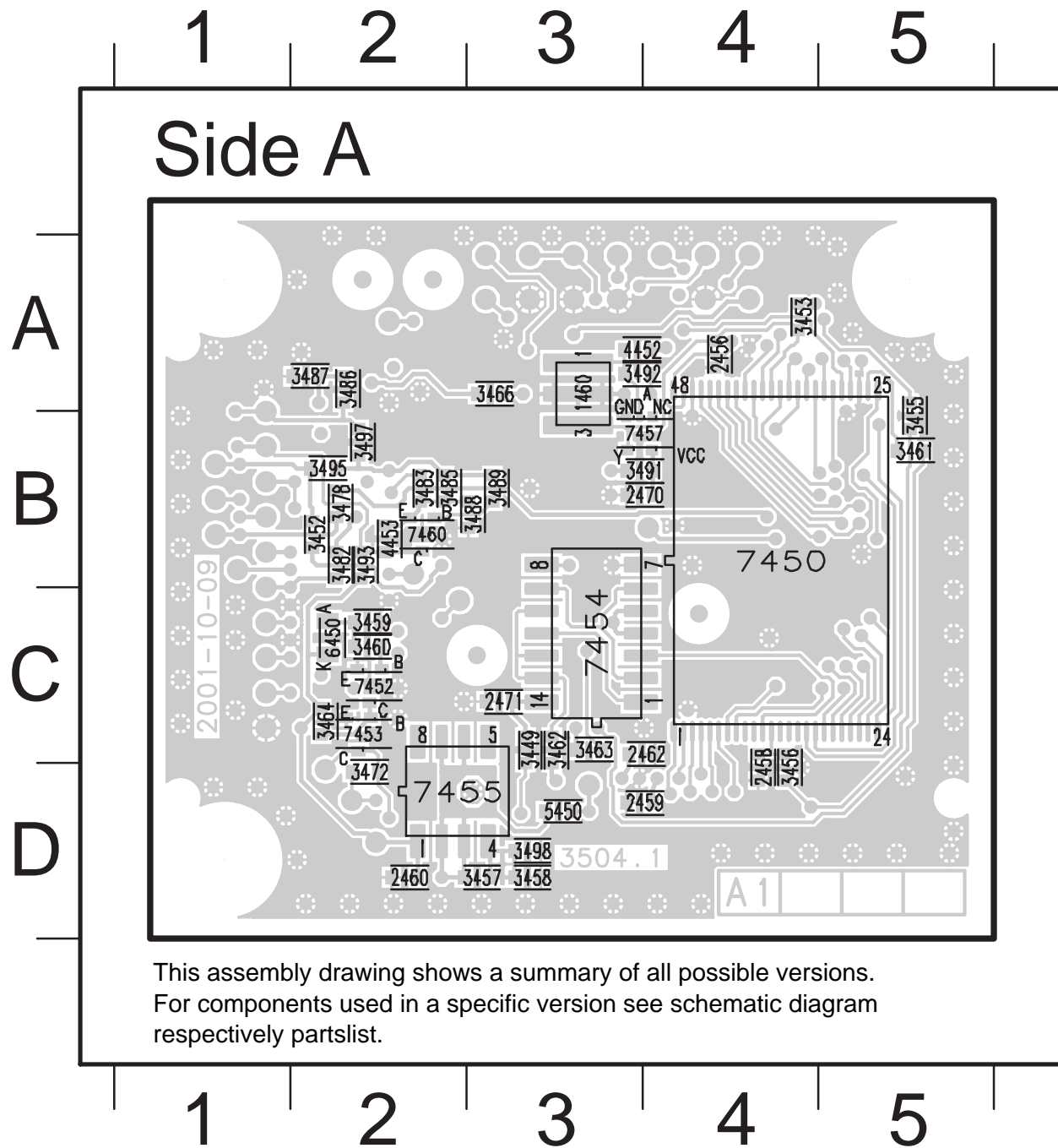
- 2451 B5
- 2452 B2
- 2453 B4
- 2454 B7
- 2455 C2
- 2456 C12
- 2457 D9
- 2458 C10
- 2459 D2
- 2460 E13
- 2461 D12
- 2462 D2
- 2463 D8
- 2464 G12
- 2465 G2
- 2466 G8
- 2467 H6
- 2468 H4
- 2469 H5
- 2470 D9
- 2471 E11
- 2472 D1
- 2473 E11
- 2474 D1
- 2475 A4
- 2476 B7
- 2477 H3
- 2478 A12
- 2479 C1
- 2480 C9
- 2481 C10
- 2482 D13
- 2483 D14
- 2484 F13
- 2485 F13
- 2486 E12
- 2487 E2
- 2488 F1
- 2489 F13
- 2490 A2
- 2491 H8
- 2492 F8
- 2493 F8
- 2494 E13
- 2495 F1
- 2496 E13
- 2497 H9
- 2498 G2
- 2499 G8
- 2500 G2
- 2501 H2
- 2502 H7
- 2503 B6
- 2504 H8
- 2505 H2
- 2506 H3
- 2507 H5
- 2508 H6
- 2509 H5
- 2510 I11
- 2511 H3
- 2512 H5
- 2513 H6
- 2514 H5
- 2515 I11
- 2516 H3
- 2517 H2
- 2518 H2
- 2519 H2
- 2520 H2
- 2521 H2
- 2522 H2
- 2523 H2
- 2524 H2
- 2525 H2
- 2526 H2
- 2527 H2
- 2528 H2
- 2529 H2
- 2530 H2
- 2531 H2
- 2532 H2
- 2533 H2
- 2534 H2
- 2535 H2
- 2536 H2
- 2537 H2
- 2538 H2
- 2539 H2
- 2540 H2
- 2541 H2
- 2542 H2
- 2543 H2
- 2544 H2
- 2545 H2
- 2546 H2
- 2547 H2
- 2548 H2
- 2549 H2
- 2550 H2

# .... only for FLASH version  
 \* .... only for ROM version

# MP3 BOARD - COMPONENT LAYOUT

1460 A3	3449 C3	3460 C2	3482 B2	3492 A3	6450 C2
2456 A4	3452 B2	3461 B5	3483 B2	3493 B2	7450 B4
2458 D4	3453 A4	3462 C3	3485 B2	3495 B2	7452 C2
2459 D4	3455 B5	3463 C3	3486 A2	3497 B2	7453 C2
2460 D2	3456 D4	3464 C2	3487 A2	3498 D3	7454 C3
2462 C4	3457 D3	3466 A3	3488 B3	4452 A3	7455 D2
2470 B4	3458 D3	3472 D2	3489 B3	4453 B2	7457 B4
2471 C3	3459 C2	3478 B2	3491 B4	5450 D3	7460 B2

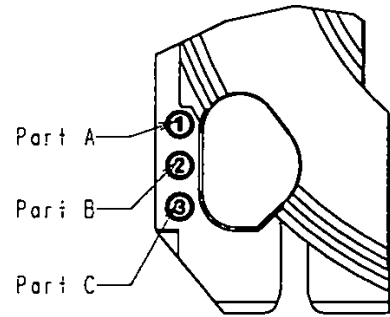
1451 B5	2457 A2	2469 B4	3469 C4	3479 A2	4450 A4
1455 A4	2461 D4	2472 D3	3470 D3	3480 C4	6451 D4
2450 C1	2463 A3	3450 C1	3471 C4	3481 C4	7451 B3
2451 B1	2464 D4	3451 B1	3473 C4	3484 B4	7456 D4
2452 C2	2465 D4	3454 D2	3474 A3	3490 A4	7458 D1
2453 B1	2466 A3	3465 C1	3475 C4	3494 A2	
2454 B1	2467 B4	3467 A3	3476 C4	3496 A4	
2455 D2	2468 B4	3468 A3	3477 B4	3499 C1	



Exploded view 5DTC mechanic - for orientation only

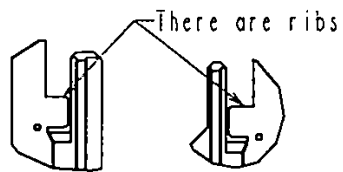
Sketch-1

TRAY(SUB)	3	83	84	85	86
TRAY No.	TRAY 1	TRAY 2; TRAY 3	TRAY 4	TRAY 5	
Part A	1	HOLE	1	HOLE	1
Part B	2	2	HOLE	HOLE	2
Part C	3	3	3	3	HOLE

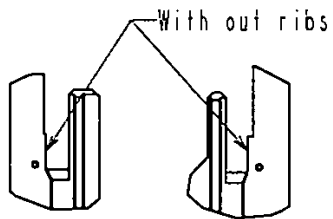


Sketch-2

TRAY(MAIN)

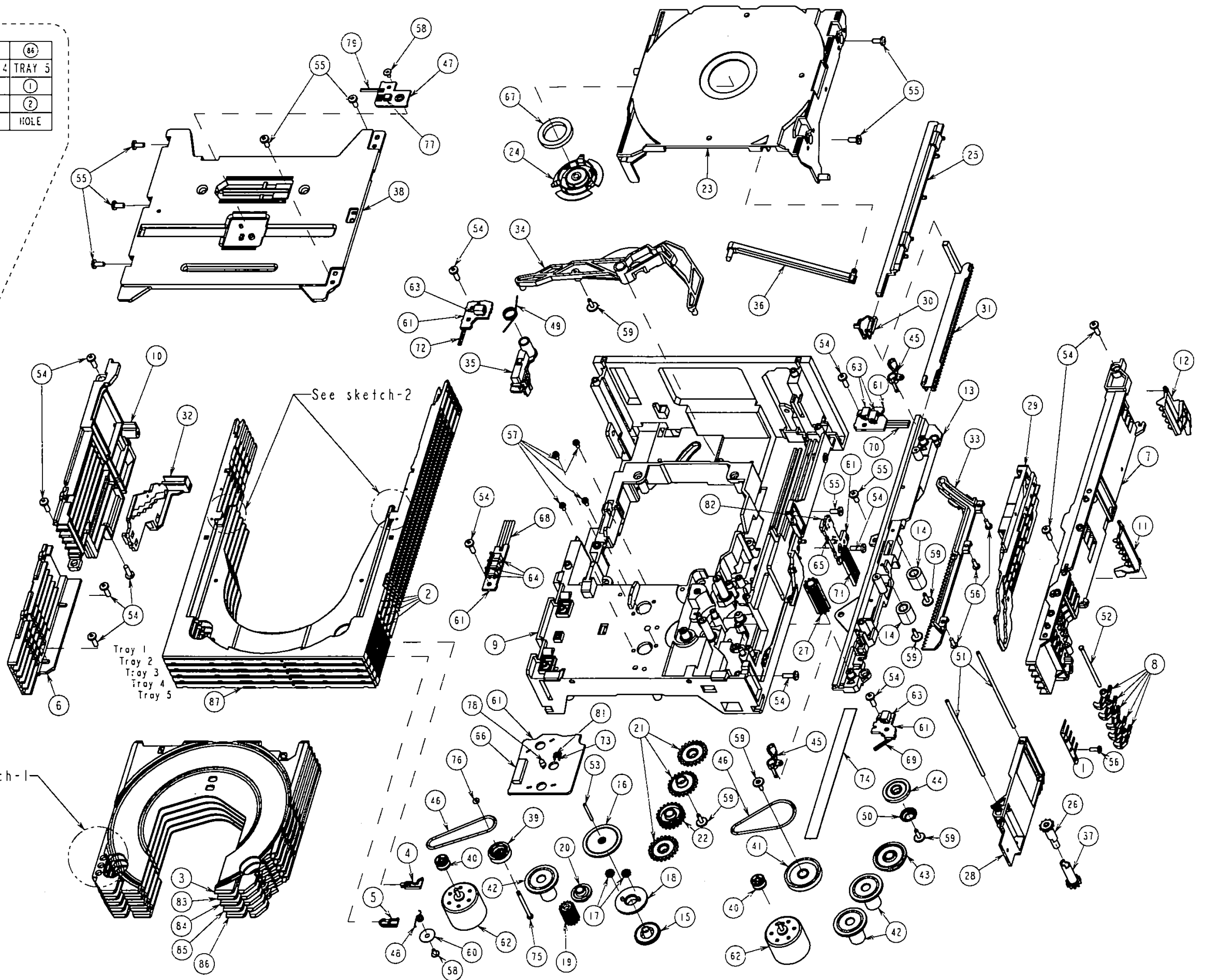


2 TRAY 1~4



87 TRAY 5

See sketch-1



**ELECTRICAL PARTSLIST 5DTC MODULE MP3CD Version CD Board**

## MECHANICAL PARTS

	<b>3103 308 54710</b>	<b>5DTC Module</b> (mechanic w/o electronic)
201	3103 309 05390	CD DRIVE DA12T3
252	4822 529 10387	Rubber damper CD DRIVE, FRONT
253	4822 529 10386	Rubber damper CD DRIVE, REAR

## MISCELLANEOUS

	<b>3103 308 67020</b>	<b>MP3 Board</b>
1800	4822 267 11028	FFC-CONNECTOR 16P, Side entry
1820	2422 025 17303	FFC-CONNECTOR 19P, Side entry
1823	2422 025 16371	FFC-CONNECTOR 8P, Side entry
1824	4822 265 10979	FFC-CONNECTOR, 15P, Side entry

8001	3103 308 93090	FFC CABLE 16Pin 80mm BD
8051	3103 308 93100	FFC-CABLE 19Pin 90mm AD
8052	3103 308 93120	FFC CABLE 8Pin 80mm BD

## CAPACITORS

2812	4822 124 11947	10µF	20%	16V
2813©	4822 126 13193	4,7nF	10%	63V
2814©	5322 126 11579	3,3nF	10%	63V
2815©	2020 552 94427	100pF	5%	50V
2816©	3198 017 42230	22nF	10%	50V

2817	4822 124 22726	4,7µF	20%	35V
2818©	3198 024 44730	47nF	5%	50V
2821©	2238 586 59812	100nF	10%	50V
2822©	4822 126 13344	1,5nF	5%	63V
2823	4822 124 42383	220µF	20%	4V

2824©	4822 126 14043	1µF	20%	16V
2825©	4822 126 13344	1,5nF	5%	63V
2826©	3198 017 34730	47nF	10%	16V
2827©	5322 126 11578	1nF	10%	63V
2828©	4822 126 11669	27pF	10%	50V

2829©	3198 017 34730	47nF	10%	16V
2830	4822 124 81286	47µF	20%	16V
2831	4822 124 81286	47µF	20%	16V
2832©	3198 017 31530	15nF	10%	50V
2833©	5322 126 11583	10nF	10%	63V

2834©	3198 017 31530	15nF	10%	50V
2835©	5322 126 11583	10nF	10%	63V
2836	4822 124 40433	47µF	20%	25V
2837©	3198 017 34730	47nF	10%	16V
2838©	3198 017 44740	470nF	20%	10V

2839©	2238 586 59812	100nF	10%	50V
2840©	4822 126 14549	33nF	10%	16V
2841©	2238 586 59812	100nF	10%	50V
2843©	2020 552 94427	100pF	5%	50V
2844©	5322 122 33861	120pF	5%	NP0

2845©	5322 122 33861	120pF	5%	NP0
2846	4822 124 40248	10µF	20%	63V
2847©	3198 017 41050	1µF	20%	10V
2848©	2020 552 94427	100pF	5%	50V
2849©	5322 122 33861	120pF	5%	NP0

2850©	5322 122 33861	120pF	5%	NP0
2851	4822 124 40248	10µF	20%	63V
2852©	4822 126 14549	33nF	10%	16V
2853©	5322 126 11583	10nF	10%	63V
2854	4822 124 12245	220µF	20%	16V

2855	4822 124 11912	220µF	20%	6,3V
2860©	4822 122 33753	150pF	5%	50V
2861©	4822 122 33753	150pF	5%	50V
2863©	4822 126 14508	180pF	5%	50V
2864©	4822 126 14508	180pF	5%	50V

2865©	4822 126 14508	180pF	5%	50V
2866©	4822 126 14508	180pF	5%	50V

## CAPACITORS

2869©	3198 017 34730	47nF	10%	16V
2870©	4822 126 13883	220pF	5%	50V
2871©	4822 126 13883	220pF	5%	50V
2872©	4822 126 13883	220pF	5%	50V
2873©	4822 126 13883	220pF	5%	50V

2874©	4822 126 13883	220pF	5%	50V
2875©	4822 126 13883	220pF	5%	50V
2876©	3198 017 44740	470nF	20%	10V
2877	4822 124 40433	47µF	20%	25V
2878©	2238 586 59812	100nF	10%	50V

2879©	5322 126 11578	1nF	10%	63V
2880©	2222 867 15339	33pF	5%	50V
2881©	4822 126 14249	560pF	10%	50V
2882©	4822 126 14226	82pF	5%	50V
2883©	3198 017 44740	470nF	20%	10V

2884©	3198 017 44740	470nF	20%	10V
2885	4822 124 40196	220µF	20%	16V
2886©	2238 586 59812	100nF	10%	50V
2887©	3198 017 34730	47nF	10%	16V

## RESISTORS

3801©	4822 051 30563	56kΩ	5%	0,06W
3802©	4822 051 30563	56kΩ	5%	0,06W
3803©	4822 117 12925	47kΩ	1%	0,06W
3804©	4822 117 12925	47kΩ	1%	0,06W
3805©	4822 117 12925	47kΩ	1%	0,06W

3806©	4822 117 12925	47kΩ	1%	0,06W
3807©	4822 051 30103	10kΩ	5%	0,06W
3808©	4822 051 30103	10kΩ	5%	0,06W
3809©	4822 051 30103	10kΩ	5%	0,06W
3810©	4822 051 30103	10kΩ	5%	0,06W

3811©	4822 051 30103	10kΩ	5%	0,06W
3812©	4822 051 30103	10kΩ	5%	0,06W
3813©	4822 051 30222	2,2kΩ	5%	0,06W
3814©	4822 051 30222	2,2kΩ	5%	0,06W
3815©	4822 051 30222	2,2kΩ	5%	0,06W

3816©	4822 051 30222	2,2kΩ	5%	0,06W
3817©	4822 051 30479	47Ω	5%	0,06W
3818©	4822 051 30479	47Ω	5%	0,06W
3819©	4822 051 30479	47Ω	5%	0,06W
3820▲	4822 052 10478	4,7Ω	5%	NFR25

3821©	4822 117 12917	1Ω	5%	0,06W
3822©	4822 051 30103	10kΩ	5%	0,06W
3823©	4822 051 30102	1kΩ	5%	0,06W
3824©	4822 051 30474	470kΩ	5%	0,06W
3825©	5322 117 13029	47kΩ	1%	0,06W

3826©	4822 117 12891	220kΩ	1%	0,06W
3827©	5322 117 13056	8,2kΩ	1%	0,06W
3828©	5322 117 13052	2,7kΩ	1%	0,06W
3829©	4822 051 30121	120Ω	5%	0,06W
3831©	4822 051 30471	470Ω	5%	0,06W

3832©	4822 051 30471	470Ω	5%	0,06W
3833©	4822 051 30121	120Ω	5%	0,06W
3834©	4822 051 30472	4,7kΩ	5%	0,06W
3836©	4822 117 13632	100kΩ	1%	0,06W
3837©	4822 051 30471	470Ω	5%	0,06W

3839©	4822 051 30471	470Ω	5%	0,06W
3840©	4822 051 30223	22kΩ	5%	0,06W
3841©	4822 051 30153	15kΩ	5%	0,06W
3842©	4822 051 30102	1kΩ	5%	0,06W
3843©	4822 051 30102	1kΩ	5%	0,06W

3844©	4822 051 30101	100Ω	5%	0,06W
3845©	4822 051 30471	470Ω	5%	0,06W

**ELECTRICAL PARTSLIST 5DTC MODULE MP3CD Version CD Board****RESISTORS**

3846	4822 051 30102	1kΩ	5%	0,06W
3847	4822 117 12968	820Ω	5%	0,06W
3848	4822 051 30221	220Ω	5%	0,06W
3849	4822 051 30471	470Ω	5%	0,06W
3850	4822 117 12925	47kΩ	1%	0,06W
3851	4822 117 12968	820Ω	5%	0,06W
3852	4822 051 30221	220Ω	5%	0,06W
3854	4822 117 12925	47kΩ	1%	0,06W
3855	4822 051 30393	39kΩ	5%	0,06W
3856	4822 051 30472	4,7kΩ	5%	0,06W
3857	4822 051 30008	CHIP JUMPER 0603		
3859	4822 117 13632	100kΩ	1%	0,06W
3860	4822 051 30123	12kΩ	5%	0,06W
3861	4822 051 30153	15kΩ	5%	0,06W
3862	4822 051 30393	39kΩ	5%	0,06W
3864	4822 051 30333	33kΩ	5%	0,06W
3865	4822 051 30181	180Ω	5%	0,06W
3866	4822 117 13608	4,7Ω	5%	0,06W
3867	4822 051 30333	33kΩ	5%	0,06W
3868	4822 051 30183	18kΩ	5%	0,06W
3869	4822 051 30183	18kΩ	5%	0,06W
3870	4822 051 30681	680Ω	5%	0,06W
3871	4822 051 30181	180Ω	5%	0,06W
3872	4822 051 30272	2,7kΩ	5%	0,06W
3873	4822 051 30333	33kΩ	5%	0,06W
3874	4822 051 30333	33kΩ	5%	0,06W
3875	4822 051 30183	18kΩ	5%	0,06W
3876	4822 051 30183	18kΩ	5%	0,06W
3877	4822 051 30681	680Ω	5%	0,06W
3878	4822 051 30471	470Ω	5%	0,06W
3879	4822 051 30223	22kΩ	5%	0,06W
3880	4822 051 30339	33Ω	5%	0,06W
3881	4822 051 30151	150Ω	5%	0,06W
3883	4822 051 30472	4,7kΩ	5%	0,06W
3884	4822 051 30472	4,7kΩ	5%	0,06W
3888	4822 051 30103	10kΩ	5%	0,06W
3889	4822 051 30471	470Ω	5%	0,06W
3890	4822 051 30471	470Ω	5%	0,06W
3891	4822 051 30102	1kΩ	5%	0,06W
3892	4822 051 30102	1kΩ	5%	0,06W
3893	4822 051 30471	470Ω	5%	0,06W
3895	4822 051 30273	27kΩ	5%	0,06W
3896	4822 051 30101	100Ω	5%	0,06W
3897	4822 051 30333	33kΩ	5%	0,06W
3898	4822 051 30221	220Ω	5%	0,06W
3899	4822 051 30272	2,7kΩ	5%	0,06W
3901	4822 051 30561	560Ω	5%	0,06W
3902	4822 117 11139	1,5kΩ	1%	0,1W
3903	4822 051 30332	3,3kΩ	5%	0,06W
3904	4822 051 30332	3,3kΩ	5%	0,06W
3905	4822 051 30681	680Ω	5%	0,06W
3906	4822 051 30471	470Ω	5%	0,06W
3907	4822 117 12968	820Ω	5%	0,06W
3908	4822 051 30222	2,2kΩ	5%	0,06W
3909	4822 117 13632	100kΩ	1%	0,06W
3910	4822 051 30471	470Ω	5%	0,06W
3912	4822 051 30221	220Ω	5%	0,06W
3916	4822 051 30471	470Ω	5%	0,06W
3917	4822 117 13608	4,7Ω	5%	0,06W
3918	4822 051 30103	10kΩ	5%	0,06W
3919	4822 051 30153	15kΩ	5%	0,06W
3920	4822 051 30101	100Ω	5%	0,06W
3923	4822 051 30103	10kΩ	5%	0,06W

**RESISTORS**

3925	4822 051 30101	100Ω	5%	0,06W
3926	4822 051 30101	100Ω	5%	0,06W
3927	4822 051 30101	100Ω	5%	0,06W
3928	4822 051 30101	100Ω	5%	0,06W
4807	4822 051 30008	CHIP JUMPER 0603		
4809	4822 051 30008	CHIP JUMPER 0603		
4820	4822 051 30008	CHIP JUMPER 0603		
4824	4822 051 30008	CHIP JUMPER 0603		
4835	4822 051 20008	CHIP JUMPER 0805		
4836	4822 051 20008	CHIP JUMPER 0805		
4837	4822 051 20008	CHIP JUMPER 0805		
4838	4822 051 20008	CHIP JUMPER 0805		
4840	4822 051 20008	CHIP JUMPER 0805		
4841	4822 051 20008	CHIP JUMPER 0805		
4843	4822 051 20008	CHIP JUMPER 0805		

**COILS**

1810	2422 540 98519	RESONATOR 8,467MHz		
5001	2422 549 44607	FERRITE BEAD		
5002	2422 549 44607	FERRITE BEAD		

**DIODES**

6877	9322 129 34685	BZX284-C3V9		
------	----------------	-------------	--	--

**TRANSISTORS**

7875	5322 130 42755	BC847C		
7876	5322 130 42755	BC847C		
7877	5322 130 42755	BC847C		
7878	5322 130 42755	BC847C		
7879	5322 130 60123	BC807-40		

**INTEGRATED CIRCUITS**

7800	9352 684 20557	SAA7325H/T/M2B, Signal Processor		
7801	4822 209 72554	MC7808CT 8V Regulator		
7802	9322 181 79668	MM1469PH Motor Driver		
7810	5322 209 82941	LM358D, Dual Opamp		
7811	5322 209 82941	LM358D, Dual Opamp		



**ELECTRICAL PARTSLIST 5DTC MODULE MP3CD Version Control Board****MECHANICAL PARTS**

**3103 308 54710 5DTC Module** (mechanic w/o electronic)

**MISCELLANEOUS**

1801 2422 025 17065 FFC-CONNECTOR 16P, top entry  
1802 2422 025 17788 FFC-CONNECTOR 8P, top entry  
8021 3103 308 93110 FFC-CABLE 16Pin 60mm AD

**CAPACITORS**

2800© 4822 126 13879 220nF 20% 16V  
2801© 2238 586 59812 100nF 10% 50V  
2802© 2238 586 59812 100nF 10% 50V  
2803© 2238 586 59812 100nF 10% 50V  
2808 4822 124 40433 47µF 20% 25V  
  
2810© 3198 017 34730 47nF 10% 16V  
2811© 2238 586 59812 100nF 10% 50V  
2812© 2238 586 59812 100nF 10% 50V  
2813© 2238 586 59812 100nF 10% 50V  
2814© 2238 586 59812 100nF 10% 50V

**RESISTORS**

3800© 4822 051 30472 4,7kΩ 5% 0,06W  
3801© 4822 051 30472 4,7kΩ 5% 0,06W  
3802© 4822 051 30472 4,7kΩ 5% 0,06W  
3803© 4822 051 30472 4,7kΩ 5% 0,06W  
3804© 4822 051 30472 4,7kΩ 5% 0,06W  
  
3805© 4822 051 30472 4,7kΩ 5% 0,06W  
3806© 4822 051 30472 4,7kΩ 5% 0,06W  
3807© 4822 051 30472 4,7kΩ 5% 0,06W  
3808© 4822 051 30472 4,7kΩ 5% 0,06W  
3809© 4822 051 30472 4,7kΩ 5% 0,06W  
  
3810© 4822 051 30103 10kΩ 5% 0,06W  
3811© 4822 051 30154 150kΩ 5% 0,0625W  
3815© 5322 117 13057 820Ω 1% 0,06W  
3816© 4822 051 30479 47Ω 5% 0,06W  
3818© 4822 051 30479 47Ω 5% 0,06W  
  
3819© 5322 117 13057 820Ω 1% 0,06W  
3820© 5322 117 13057 820Ω 1% 0,06W  
3821© 4822 051 30479 47Ω 5% 0,06W  
3823© 4822 051 30479 47Ω 5% 0,06W  
3824© 5322 117 13057 820Ω 1% 0,06W  
  
3826▲ 4822 117 12148 1,5Ω 5% 0,33W  
3827© 4822 051 30101 100Ω 5% 0,06W  
3828© 4822 051 30101 100Ω 5% 0,06W  
3829© 4822 051 30101 100Ω 5% 0,06W  
3830© 4822 051 30103 10kΩ 5% 0,06W  
  
3831© 4822 051 30103 10kΩ 5% 0,06W  
3832© 4822 051 30272 2,7kΩ 5% 0,06W  
3833© 4822 051 30272 2,7kΩ 5% 0,06W  
3834© 4822 051 30272 2,7kΩ 5% 0,06W  
3835© 4822 051 30272 2,7kΩ 5% 0,06W  
  
3836© 4822 051 30272 2,7kΩ 5% 0,06W  
3837© 4822 051 30272 2,7kΩ 5% 0,06W  
3838© 4822 051 30103 10kΩ 5% 0,06W  
3839© 4822 051 30272 2,7kΩ 5% 0,06W  
3840© 4822 051 30272 2,7kΩ 5% 0,06W  
  
3841© 4822 051 30103 10kΩ 5% 0,06W  
3842© 4822 051 30103 10kΩ 5% 0,06W  
3845© 4822 051 20159 15Ω 5% 0,1W  
3850© 4822 117 12706 10kΩ 1% 0,06W  
3851© 4822 117 12706 10kΩ 1% 0,06W  
  
3852© 4822 117 12706 10kΩ 1% 0,06W  
3853© 4822 117 12706 10kΩ 1% 0,06W  
3854© 4822 117 12706 10kΩ 1% 0,06W

**RESISTORS**

3855© 4822 117 12706 10kΩ 1% 0,06W  
3856© 4822 117 12706 10kΩ 1% 0,06W  
3857© 4822 117 12706 10kΩ 1% 0,06W  
3858© 4822 051 30102 1kΩ 5% 0,06W  
3859© 4822 051 30103 10kΩ 5% 0,06W  
  
3860© 5322 117 13017 100Ω 1% 0,06W  
3861© 2322 704 62002 2kΩ 1% 0,06W  
3862© 4822 117 12706 10kΩ 1% 0,06W  
3863 4822 053 10228 2,2Ω 5% 1W  
4800© 4822 051 30008 CHIP JUMPER 0603  
  
4802© 4822 051 30008 CHIP JUMPER 0603  
4803© 4822 051 30008 CHIP JUMPER 0603  
4804© 4822 051 30008 CHIP JUMPER 0603  
4805© 4822 051 20008 CHIP JUMPER 0805  
4806© 4822 051 30008 CHIP JUMPER 0603  
  
4807© 4822 051 30008 CHIP JUMPER 0603  
4808© 4822 051 30008 CHIP JUMPER 0603  
4809© 4822 051 20008 CHIP JUMPER 0805  
4810© 4822 051 20008 CHIP JUMPER 0805  
4811© 4822 051 30008 CHIP JUMPER 0603  
  
4812© 4822 051 30008 CHIP JUMPER 0603  
4813© 4822 051 30008 CHIP JUMPER 0603  
4814© 4822 051 30008 CHIP JUMPER 0603  
4816© 4822 051 20008 CHIP JUMPER 0805  
4817© 4822 051 20008 CHIP JUMPER 0805  
  
4818© 4822 051 20008 CHIP JUMPER 0805  
4819© 4822 051 30008 CHIP JUMPER 0603  
4820© 4822 051 30008 CHIP JUMPER 0603  
4821© 4822 051 20008 CHIP JUMPER 0805  
4822© 4822 051 20008 CHIP JUMPER 0805

**COILS**

1800 4822 242 72066 CERAMIC FILTER 8,0MHz

**TRANSISTORS**

7806© 3198 010 42320 BC857BW

**INTEGRATED CIRCUITS**

7800 4822 209 72042 MC78L05ACP, STABILIZER  
7801© 3103 307 01640 TMP87P809M Microcontroller  
7803 4822 209 62059 TCA0372DP1, 2-FOLD OP-AMP.  
7805 4822 209 62059 TCA0372DP1, 2-FOLD OP-AMP.

**ELECTRICAL PARTSLIST 5DTC MODULE MP3CD Version MP3 Board****MISCELLANEOUS**

1451 2422 025 17303 FFC-CONNECTOR 19P,side entry

**CAPACITORS**

2450	2238 586 59812	100nF	10%	50V
2451	3198 017 41050	1µF	20%	10V
2452	3198 017 41050	1µF	20%	10V
2453	2238 586 59812	100nF	10%	50V
2454	2238 586 59812	100nF	10%	50V

2455	2238 586 59812	100nF	10%	50V
2456	2238 586 59812	100nF	10%	50V
2457	5322 126 11583	10nF	10%	63V
2458	5322 126 11583	10nF	10%	63V
2459	3198 017 41050	1µF	20%	10V

2460	2238 586 59812	100nF	10%	50V
2461	4822 124 81059	220µF	20%	4V
2462	3198 017 41050	1µF	20%	10V
2463	3198 017 41050	1µF	20%	10V
2464	2238 586 59812	100nF	10%	50V

2465	2238 586 59812	100nF	10%	50V
2466	2238 586 59812	100nF	10%	50V
2467	3198 017 41050	1µF	20%	10V
2468	3198 017 41050	1µF	20%	10V
2469	2238 586 59812	100nF	10%	50V

2470	2238 586 59812	100nF	10%	50V
2471	2238 586 59812	100nF	10%	50V

**RESISTORS**

3449	4822 051 30101	100Ω	5%	0,06W
3450	4822 117 12971	15Ω	5%	0,06W
3451	4822 117 12971	15Ω	5%	0,06W
3452	4822 051 30101	100Ω	5%	0,06W
3453	4822 051 30109	10Ω	5%	0,06W

3454	4822 117 12971	15Ω	5%	0,06W
3455	4822 051 30102	1kΩ	5%	0,06W
3456	4822 051 30102	1kΩ	5%	0,06W
3457	5322 117 13051	680Ω	1%	0,06W
3458	5322 117 13061	180Ω	1%	0,06W

3459	4822 051 30221	220Ω	5%	0,06W
3460	4822 051 30102	1kΩ	5%	0,06W
3461	4822 051 30479	47Ω	5%	0,06W
3462	4822 051 30101	100Ω	5%	0,06W
3463	4822 051 30101	100Ω	5%	0,06W

3464	4822 051 30103	10kΩ	5%	0,06W
3465	4822 051 30101	100Ω	5%	0,06W
3466	4822 051 30471	470Ω	5%	0,06W
3467	4822 051 30103	10kΩ	5%	0,06W
3468	4822 051 30103	10kΩ	5%	0,06W

3469	4822 051 30101	100Ω	5%	0,06W
3470	4822 117 12971	15Ω	5%	0,06W
3471	4822 051 30339	33Ω	5%	0,06W
3472	4822 051 30154	150kΩ	5%	0,06W
3473	4822 117 13632	100kΩ	1%	0,06W

3474	4822 117 12971	15Ω	5%	0,06W
3475	4822 051 30101	100Ω	5%	0,06W
3476	4822 051 30101	100Ω	5%	0,06W
3477	4822 051 30471	470Ω	5%	0,06W
3478	4822 051 30471	470Ω	5%	0,06W

3479	4822 051 30471	470Ω	5%	0,06W
3480	4822 051 30101	100Ω	5%	0,06W
3481	4822 051 30101	100Ω	5%	0,06W
3482	4822 051 30471	470Ω	5%	0,06W
3483	4822 051 30101	100Ω	5%	0,06W

**RESISTORS**

3484	4822 117 12971	15Ω	5%	0,06W
3486	4822 051 30101	100Ω	5%	0,06W
3488	4822 117 13632	100kΩ	1%	0,06W
3489	4822 051 30103	10kΩ	5%	0,06W
3490	4822 051 30101	100Ω	5%	0,06W

3491	4822 051 30479	47Ω	5%	0,06W
3492	4822 051 30105	1MΩ	5%	0,06W
3493	4822 051 30103	10kΩ	5%	0,06W
3494	4822 051 30103	10kΩ	5%	0,06W
3495	4822 051 30103	10kΩ	5%	0,06W

3497	4822 051 30103	10kΩ	5%	0,06W
3498	4822 051 30332	3,3kΩ	5%	0,06W
3499	4822 051 30103	10kΩ	5%	0,06W
4450	4822 051 30008	CHIP JUMPER 0603		

**COILS**

1460	4822 242 10989	CER.RES. 16,9MHz		
5450	4822 157 11074	100µH		

**DIODES**

6450	4822 130 11411	BZX284-C3V3
6451	4822 130 11366	BZX284-C3V9
7454	4822 130 34174	BZX79-B4V7

**TRANSISTORS**

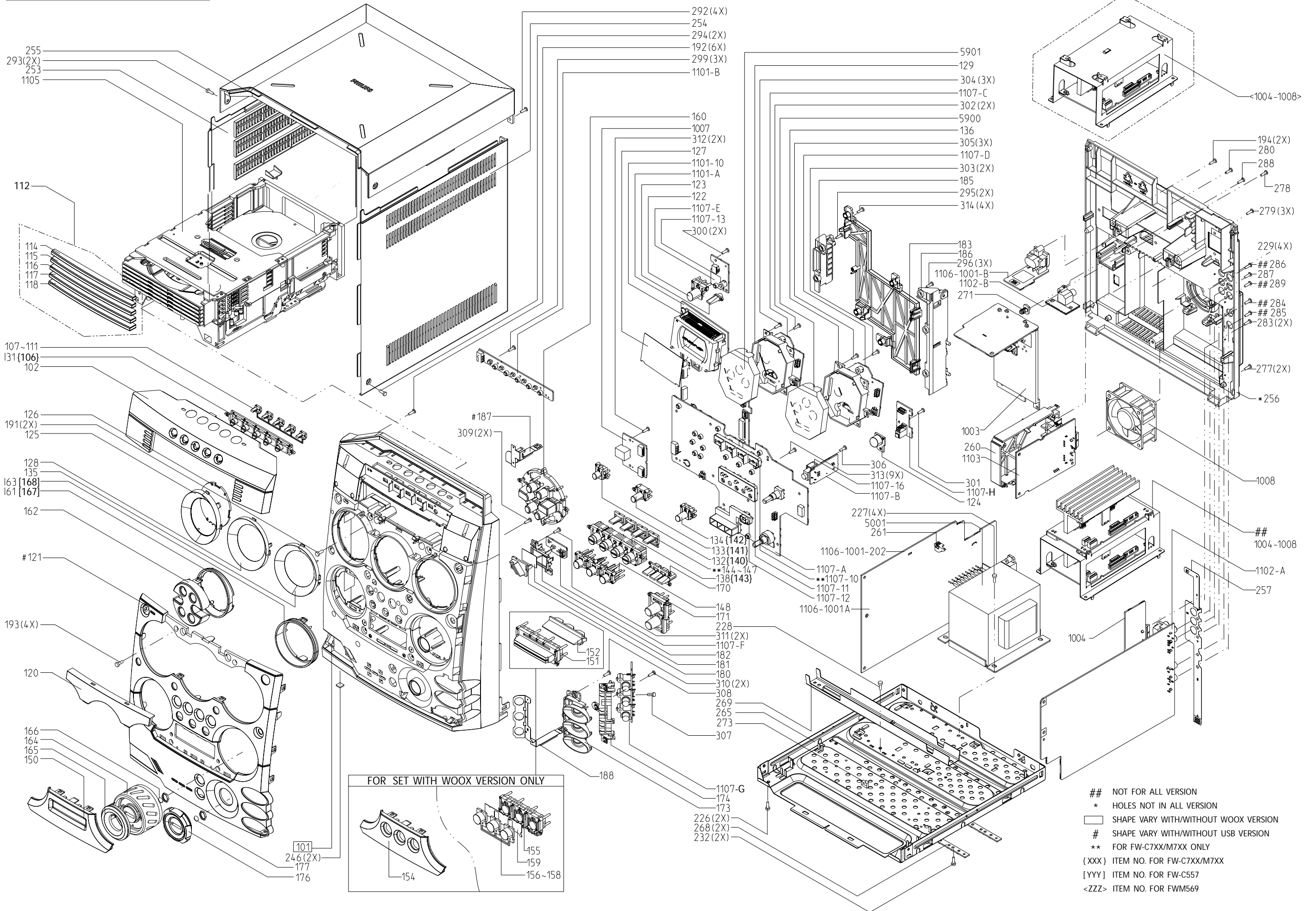
7452	3198 010 42310	BC847BW
7453	3198 010 42310	BC847BW
7456	3198 010 42310	BC847BW
7460	3198 010 42310	BC847BW

**INTEGRATED CIRCUITS**

7451	not available	please order complete MP3 Board
7455	4822 209 17108	LM317LD Voltage Regulator
7457	9352 456 50115	HC1G04, Inverter
7458	9322 130 41668	M24C64, EEPROM

**3103 308 67020 MP3 Board**

SET MECHANICAL EXPLODED VIEW



**MECHANICAL & ACCESSORIES PARTS LIST - MAIN UNIT****SCREW LISTS - MAIN UNIT**

0112	3140 117 72141	Cover Tray Pre-Assy	0255	3139 114 78222	Cover Top	191	D3 x 12
0114	3140 117 70191	Cover Tray 5DTC 1	0256	3140 114 61932	Panel Rear /M569	192	D2 x 6
0115	3140 117 70201	Cover Tray 5DTC 2	0256	3140 114 63111	Panel Rear /M587	193	D3 x 12
0116	3140 117 70211	Cover Tray 5DTC 3				194	D3 x 12
0117	3140 117 70221	Cover Tray 5DTC 4	0203	3140 117 70531	Windows Pre-Assy	226	M3 x 6
			0125	3139 118 19761	Cover Ring FTD		
0118	3140 117 70231	Cover Tray 5DTC 5	0126	3139 118 19792	Window Display FTD	227	M3 x 10
						228	M3 x 6
0120	3140 117 70251	Panel Front Display M569	0204	3140 117 70511	Volume Knob Pre-Assy	229	D3 x 12
0120	3140 117 73511	Panel Front Display M587	0164	3140 114 62331	Knob Volume Rotary	232	M3 x 6
0129	3139 114 78261	Bracket VU Meter 1(L)	0165	3139 118 19881	Cap Knob Volume	276	M3 x 6
0136	3139 114 78271	Bracket VU Meter 2(R)	0166	4822 492 51374	Ring		
0174	3139 114 78191	Bracket Game Port				277	M3 x 10
			0253	3139 114 79071	Panel Left M2003 V2	278	D3 x 16
0176	3139 118 19931	Knob Game Sound Control	0254	3139 114 79091	Panel Right M2003 V2	279	D3 x 12
0177	4822 492 51374	Ring	0271	3139 114 71010	Stopper Heatsink	280	D3 x 12
0183	3139 114 78301	Bracket PCB Front Display				283	D3 x 12
0201	3140 117 70301	Cab Front Pre-Assy	0345	3140 118 51741	Box Speaker Assy /M569		
0101	3140 117 71872	Cabinet Front V2	0345	3140 118 51731	Box Speaker Assy /M587	287	D3 x 12
			0351	4822 303 50063	FM Aerial	288	D3 x 12
0102	3140 117 70331	Panel Front 5DTC	0352	4822 303 50082	Antenna AM Loop	292	M3 x 12
0121	3140 117 70361	Panel Frt Ctrl	0353	3139 238 06181	Remote Control	293	M3 x 12
0121	3140 117 71592	Panel Frt Control USB /22				294	M3 x 6
0122	3140 117 70371	But ECO/Stdby Power	0356	2422 070 98246 Δ	Mains Cord		
0123	3139 114 77901	Lightguide Power ECO	0358	2422 076 00208	Cable Cinch/1M7/Cinch	295	D3 x 12
			1008	2822 031 01494	Fan 12VDC 0,8W 3100RPM	296	D3 x 12
0124	3140 114 62251	Lightguide IR	5001	3139 118 32811 Δ	Mains Transformer /M569	299	D2 x 8
0128	3139 118 19771	Cover Ring VU Meter 1(L)	5001	3139 118 32851 Δ	Mains Transformer /M587	300	D3 x 12
0131	3140 114 62271	Button Set 5DTC Play				301	D3 x 12
0132	3140 114 62281	Button DIM	5900	3139 110 53461	Meter VU		
0133	3140 114 62291	Button PROG	5901	3139 110 53461	Meter VU	302	D3 x 10
			8201	3139 110 33701	FFC Foil 07P/220/07P AD	303	D3 x 10
0134	3140 114 62301	Button CLOCK	8203	3140 110 22501	FFC Foil 08P/280/08P AD	304	D3 x 12
0135	3139 118 19781	Cover Ring VU Meter 2(R)	8405	3139 110 35281	FFC Foil 10P/120/10P AD	305	D3 x 12
0138	3140 114 62311	Butt Set Source Select				306	D3 x 12
0148	3140 117 70391	Butt Set DBB/DSC/VAC	8407	3139 110 34921	FFC Foil 08P/280/08P BD		
0150	3140 117 70401	Cover Orn MAX	8408	3139 111 02491	FFC Foil 19P/280/19P AD	307	D3 x 12
			8410	3139 111 02501	FFC Foil 05P/180/05PAD Fold	308	D3 x 12
0151	3139 114 78071	Button MAX	8413	3139 110 35401	FFC Foil 09P/340/09P AD	309	D2 x 8
0160	3139 118 19841	Button Set Func Control	8417	3139 110 36151	FFC Foil 15P/280/15P AD	310	D3 x 10
0161	3139 118 19861	Cover Ring Func Ctrl Foil				311	D2 x 8
0162	3140 117 71851	Cap Func Control	8501	3139 110 33941	FFC Foil 04P/180/04P BD		
0163	3139 118 19891	Cover Ring Volume Foil	8601	3139 111 02481	FFC Foil 08P/180/08P AD	312	D3 x 12
						313	D3 x 12
0170	3139 114 78161	Lightguide Game Sound				314	D3 x 12
0171	3140 117 70461	Butt MIX-IT/Game Mode					
0173	3139 114 78201	Cover Game Port					
0185	3139 114 72756	Bracket CDC Left					
0186	3139 114 72765	Bracket CDC Right					
0246	3139 113 27141	Foot Rubber 4mm					
0202	3140 117 72181	Panel Rear Pre-Assy /M569					
0202	3140 117 70471	Panel Rear Pre-Assy /M587					

Note : Only the parts mentioned in this list are normal service spare parts.