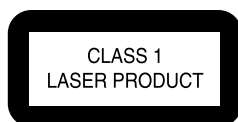


Service
Service
Service



DVD733-foto.eps

Service Manual



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PHILIPS

1. Technical Specifications and PWB Location Drawing

1.1 Technical Specifications

Specifications

PLAYBACK SYSTEM

DVD Video
 Video CD & SVCD
 CD (CD-Recordable and CD-Rewritable)
 MP3 CD

VIDEO PERFORMANCE

CVBS 1 Vpp into 75 ohm
 RGB (SCART) 0.7 Vpp into 75 ohm

AUDIO FORMAT

Digital	MPEG/AC-3/DTS	Compressed Digital
	PCM	16, 20, 24 bits
		fs, 44.1, 48, 96 kHz
MPEG MP3	MPEG Audio L3	
Analogue Stereo Sound		

AUDIO PERFORMANCE

DA Converter	24 bits
Signal-Noise (1kHz)	90 dB
Dynamic Range (1kHz)	80 dB
DVD	fs 96 kHz 4 Hz - 44 kHz
DVD/SVCD	fs 48 kHz 4 Hz - 22 kHz
SVCD/VCD/CD	fs 44.1 kHz 4 Hz - 20 kHz
MPEG MP3	MPEG Audio L3

TV STANDARD (PAL/50Hz) (NTSC/60Hz)

Number of lines	625	525
Playback	Multistandard	(PAL/NTSC)

CONNECTIONS

SCART	Euroconnector
Video Output	Cinch (yellow)
Audio L+R output	Cinch (white/red)
Digital Output	1 coaxial
	IEC958 for CDDA / LPCM/
	MPEG1
	IEC1937 for MPEG2, Dolby
	Digital and DTS

CABINET

Dimensions (w x h x d)	435 x 50 x 300 mm
Weight	Approximately 2.7 Kg

Specifications subject to change without prior notice

Maintenance

Cleaning the Cabinet

- | Use a soft cloth slightly moistened with a mild detergent solution. Do not use a solution containing alcohol, spirits, ammonia or abrasives.

Cleaning Discs

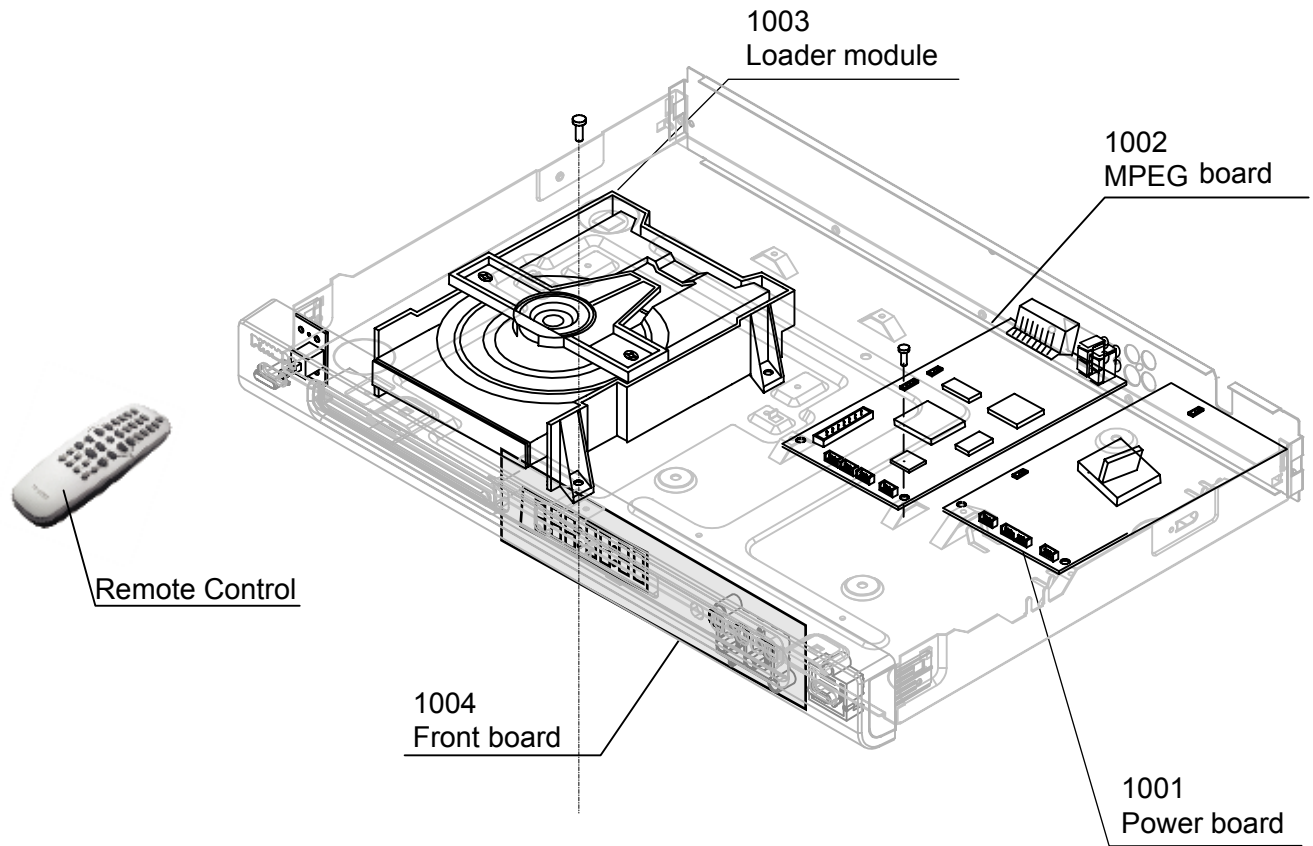
- | When a disc becomes dirty, clean it with a cleaning cloth. Wipe the disc from the centre out. Do not wipe in a circular motion.
- | Do not use solvents such as benzine, thinner, commercially available cleaners, or antistatic spray intended for analogue records.

Cleaning the disc lens

- | After prolonged use, dirt or dust may accumulate at the disc lens. To ensure good playback quality, clean the disc lens with Philips CD Lens Cleaner or any commercially available cleaner. Follow the instructions supplied with the cleaner.

1.2 PWB Location Drawing

PCB LOCATION DVD733/001/021/051



PARTS 12NC LIST

DVD733/001/021/051	
1001 PSU board	3122 427 23431
1002 MPEG board	3139 248 82362
1003 Loader module	3141 018 03140
1004 Front board	3141 018 03251
Remote control	3141 017 90220


Figure 1-1 PWB Location Drawing

2. Safety Instructions, Warnings and Notes

2.1 Safety Instructions

2.1.1 General Safety

Safety regulations require that during a repair:

- Connect the unit to the mains via an isolation transformer.
- Replace safety components, indicated by the symbol , only by components identical to the original ones. Any other component substitution (other than original type) may increase risk of fire or electrical shock hazard.

Safety regulations require that after a repair, you must return the unit in its original condition. Pay, in particular, attention to the following points:

- Route the wires/cables correctly, and fix them with the mounted cable clamps.
- Check the insulation of the mains lead for external damage.
- Check the electrical DC resistance between the mains plug and the secondary side:
 1. Unplug the mains cord, and connect a wire between the two pins of the mains plug.
 2. Set the mains switch to the 'on' position (keep the mains cord unplugged!).
 3. Measure the resistance value between the mains plug and the front panel, controls, and chassis bottom.
 4. Repair or correct unit when the resistance measurement is less than 1 MΩ.
 5. Verify this, before you return the unit to the customer/user (ref. UL-standard no. 1492).
 6. Switch the unit 'off', and remove the wire between the two pins of the mains plug.

2.1.2 Laser Safety

This unit employs a laser. Only qualified service personnel may remove the cover, or attempt to service this device (due to possible eye injury).

Laser Device Unit

Type	: Semiconductor laser GaAlAs
Wavelength	: 650 nm (DVD) 780 nm (VCD/CD)
Output Power	: 20 mW (DVD+RW writing) 0.8 mW (DVD reading) 0.3 mW (VCD/CD reading)
Beam divergence	: 60 degree

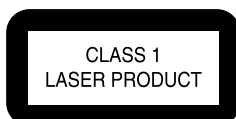



Figure 2-1 Class 1 Laser Product

Note: Use of controls or adjustments or performance of procedure other than those specified herein, may result in hazardous radiation exposure. Avoid direct exposure to beam.

2.2 Warnings

2.2.1 General

- All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD, symbol ) . Careless handling during repair can reduce life drastically. Make sure that, during repair, you are at the same potential as the mass of the set by a wristband with resistance. Keep components and tools at this same potential. Available ESD protection equipment:
 - Complete kit ESD3 (small tablemat, wristband, connection box, extension cable and earth cable) 4822 310 10671.
 - Wristband tester 4822 344 13999.
- Be careful during measurements in the live voltage section. The primary side of the power supply (pos. 1005), including the heatsink, carries live mains voltage when you connect the player to the mains (even when the player is 'off!'). It is possible to touch copper tracks and/or components in this unshielded primary area, when you service the player. Service personnel must take precautions to prevent touching this area or components in this area. A 'lightning stroke' and a stripe-marked printing on the printed wiring board, indicate the primary side of the power supply.
- Never replace modules, or components, while the unit is 'on'.

2.2.2 Laser

- The use of optical instruments with this product, will increase eye hazard.
- Only qualified service personnel may remove the cover or attempt to service this device, due to possible eye injury.
- Repair handling should take place as much as possible with a disc loaded inside the player.
- Text below is placed inside the unit, on the laser cover shield:

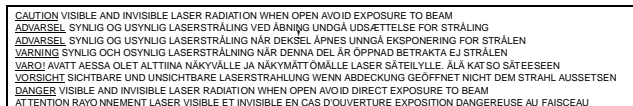


Figure 2-2 Warning text

2.2.3 Notes

Dolby

Manufactured under licence from Dolby Laboratories. "Dolby", "Pro Logic" and the double-D symbol are trademarks of Dolby Laboratories. Confidential Unpublished Works. ©1992-1997 Dolby Laboratories, Inc. All rights reserved.



Figure 2-3

Trusurround

TRUSURROUND, SRS and symbol (fig 2-4) are trademarks of SRS Labs, Inc. TRUSURROUND technology is manufactured under licence from SRS labs, Inc.



Figure 2-4

3. Directions for Use

Introduction

Thank you for purchasing this Philips DVD player. This Owner's Manual explains the basic operation of this DVD player.

Environmental Information

All unnecessary packaging has been omitted. We have tried to make the packaging easy to separate into three materials: cardboard (box), polystyrene foam (buffer) and polyethylene (bags, protective foam sheet).
Your DVD player consists of materials which can be recycled and reused if disassembled by a specialised company. Please observe the local regulations regarding the disposal of packaging materials, exhausted batteries and old equipment.

Supplied accessories

- Remote control
- Batteries (two AA size) for remote control
- Audio cable
- SCART cable (not available for all versions)
- CVBS cable
- Owner's Manual

Safety Information

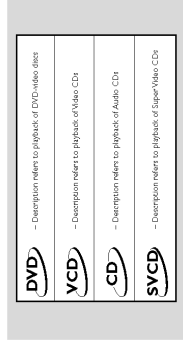
- Before operating the DVD player, check that the operating voltage indicated on the typeplate (or the voltage indication beside the voltage selector) is identical with the voltage of your local power supply. If not, please consult your dealer.
- Place the DVD player on a flat, hard and stable surface.
- There must be sufficient room in front of the player for the drawer to be opened.

English

English

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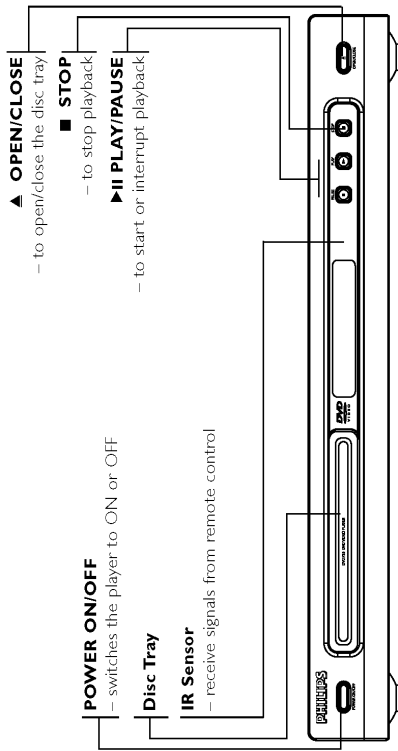


Helpful Hints!

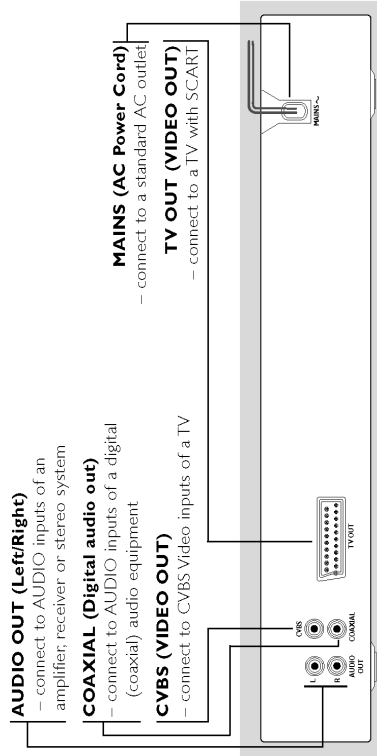
- Some DVD video discs require specific functions or allow only limited functions during playback.
- “ ” may appear on the TV screen which means that the function is not available on that specific DVD video disc.

Functional Overview

Front and Rear Panels



- POWER ON/OFF**
 - switches the player to ON or OFF
- Disc Tray**
 - opens/closes the disc tray
- IR Sensor**
 - receives signals from remote control

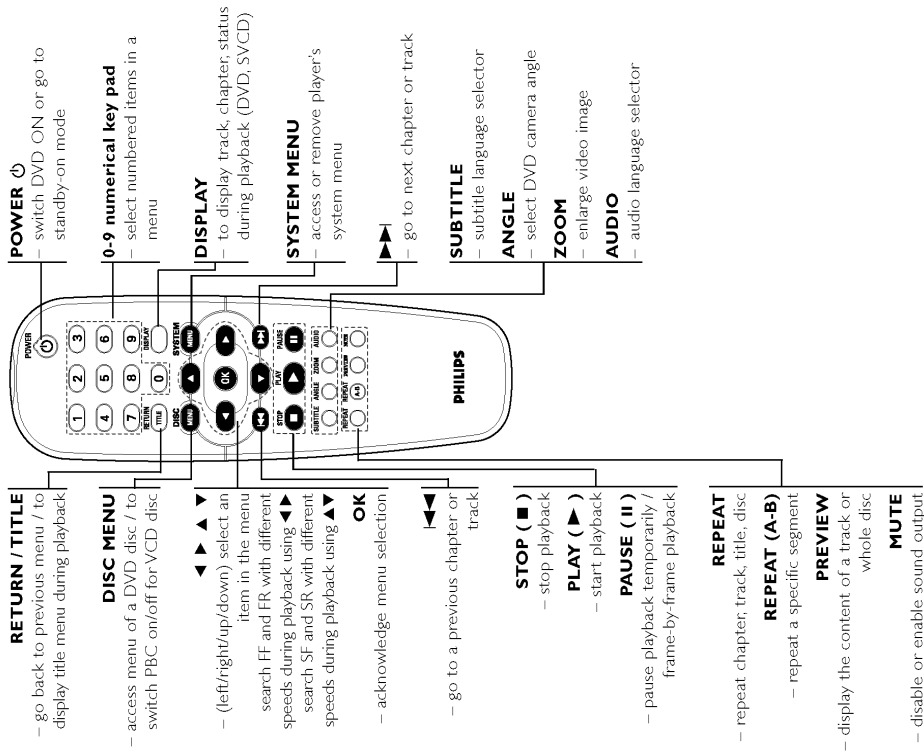


- AUDIO OUT (Left/Right)**
 - connect to AUDIO inputs of an amplifier, receiver or stereo system
- COAXIAL (Digital audio out)**
 - connect to AUDIO inputs of a digital (coaxial) audio equipment
- CVBS (VIDEO OUT)**
 - connect to CVBS Video inputs of a TV
- MAINS (AC Power Cord)**
 - connect to a standard AC outlet
- TV OUT (VIDEO OUT)**
 - connect to a TV with SCART

Caution: Do not touch the inner pins of the jacks on the rear panel. Electrostatic discharge may cause permanent damage to the unit.

Functional Overview

Remote Control



- POWER**
 - switch DVD ON or go to standby-on mode
- 0-9 numerical key pad**
 - select numbered items in a menu
- DISC MENU**
 - access menu of a DVD disc / to switch PBC on/off for VCD disc
- SYSTEM MENU**
 - access or remove player's system menu
- RETURN / TITLE**
 - go back to previous menu / to display title menu during playback
- DISC MENU**
 - access menu of a DVD disc / to switch PBC on/off for VCD disc
- STOP**
 - stop playback
- PLAY**
 - start playback
- PAUSE (II)**
 - pause playback temporarily / frame-by-frame playback
- REPEAT**
 - repeat chapter, track, title, disc
- REPEAT (A-B)**
 - repeat a specific segment
- PREVIEW**
 - display the content of a track or whole disc
- MUTE**
 - disable or enable sound output

Note:
 - Press numerical key pad "1" for 2 seconds to OPEN/CLOSE disc tray.

Preparation

English

English

Basic Connections

- Please refer to the instruction manuals of your TV, VCR, Stereo System or other devices as necessary to make the best connections.
- Make one of the following connections, depending on the capabilities of your existing equipment.

The following guidelines are options for the best picture and sound quality available on your DVD player:

Picture

- 1 Use the CVBS Video Output for good picture quality.
- 2 Use SCART Output for best picture quality.

Sound

- 1 Digital audio connections provide the clearest sound. Connect one of the DVD player's DIGITAL AUDIO OUT (COAXIAL) to your amplifier or receiver.
- 2 If digital connections are not possible, connect the DVD player's Left and Right (white and red) AUDIO OUT to your amplifier; receiver; stereo or TV.

Warning!

- Never make or change connections with the power switched on.
- Connect the DVD player directly to your TV, instead of eg. a VCR, to avoid distortion because DVD video discs are copy protected.
- Do not connect the DVD player AUDIO OUT to PHONO IN of your amplifier or receiver.

Connecting to a TV

- 1 Connect the SCART (TV OUT) on the DVD player to the corresponding connector on the TV IN.

Note:

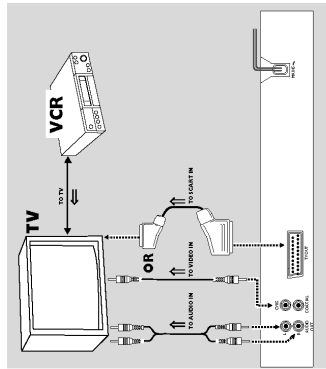
- Ensure that the "TV" indication on SCART cable is connected to the TV set and "DVD" indication on SCART cable is connected to the DVD player.

Preparation

If your TV is not equipped with a SCART input, you can select the following connection:

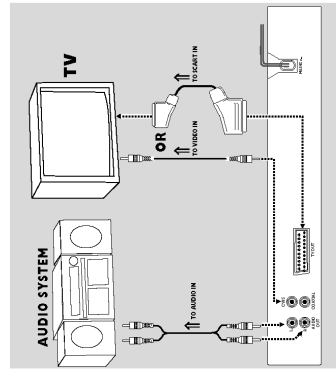
If your TV has a CVBS Video input connector,

- 1 Connect the CVBS VIDEO OUT on the DVD player to the CVBS VIDEO IN.
- 2 Connect the Left and Right AUDIO OUT on the DVD player to the Left and Right AUDIO IN on the TV.



Connecting to an Audio System

- 1 You can also listen to the sound of audio CDs and DVD video discs by connecting to an optional stereo system.
- 2 Connect the Left and Right AUDIO OUT on the DVD player to the Left and Right AUDIO IN on the stereo system.

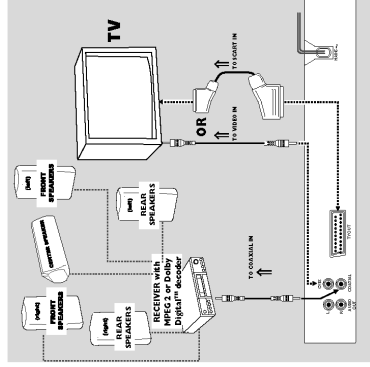


Connecting to Optional Equipment

- A digital component with a built-in MPEG 2, or Dolby Digital™ decoder allows you to enjoy the surround sound while producing the effect of being in a movie theater or a concert hall. The player outputs the surround sound signals from the DIGITAL OUT COAXIAL connectors.

If your receiver has a MPEG 2 or Dolby Digital™ decoder,

- 1 Connect the COAXIAL DIGITAL AUDIO OUT of the DVD player to the COAXIAL DIGITAL AUDIO IN on your receiver.

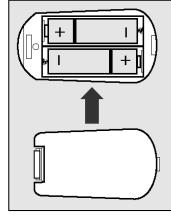


Notes:

- If the audio format of the digital output does not match the capabilities of your receiver, the receiver will produce a strong, distorted sound or no sound at all.
- To see the selected audio format of the current DVD in the Setup Menu, refer to "Setup Menu".

Inserting batteries into the Remote Control

- 1 Open the battery cover.
- 2 Insert batteries (AA size) with the correct polarity as indicated by the + and - symbols inside the battery compartment.
- 3 Close the cover.



CAUTION!

- Remove batteries if they are exhausted or not to 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 off properly and kept away from children.

Using the Remote Control

- Direct the remote control at the remote sensor of the DVD player.
- Do not drop the remote control.
- Do not leave the remote control near extremely hot or humid places.
- Do not spill water or put anything wet on the remote control.

Switching On

- 1 Connect the A.C. power cord to the power outlet.
- 2 Switch on the TV and DVD player.
- 3 Set the TV to the correct Video IN channel. (eg. EXT1, EXT2, AV1, AV2, AUDIO/VIDEO, etc. (Refer to your TV owner's manual for detail))
 - The player display lights up and the default screen appears on the TV.
- 4 If you are using an external equipment (eg. audio system or receiver), turn them on and select the appropriate input source that was used to connect to the DVD player output. Refer to the equipment owner's manual for details.

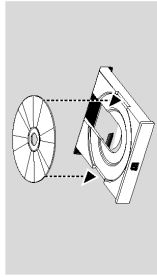
Operation

English

English

Basic Playback

- 1 Press POWER ON/OFF on the front panel.
- 2 Press OPEN/CLOSE \blacktriangle on the front panel to open disc loading tray.
- 3 Place the chosen disc in the tray, with the label facing up.
- 4 Press OPEN/CLOSE \blacktriangle again to close the tray. \rightarrow Playback starts automatically.



Notes:

- DVDs may have a region code. Your player will not play discs that have a region code different from the region code of your player.
- If "Disc Lock" is set to ON and the disc inserted is not authorised, the 4-digit code must be entered and/or the disc must be authorised (see "Disc Lock").

General Features

Note:

- Unless stated, all operations described are based on remote control use. Some operations can be carried out using the menu bar on the TV screen.

Video Control during playback

- 1 You can resume playback from the point where the playback was last stopped by pressing the STOP key once.
- 2 Playback will start from the beginning if you press STOP key twice to stop playback.

Audio Control during playback

MUTE

DVD \blacktriangleleft **VCD** \blacktriangleright **CD** \blacktriangleright **SVCD**

- 1 Press MUTE to disable the sound output.
- 2 Press MUTE again to enable the sound output again.

SURROUND SOUND

DVD \blacktriangleleft **VCD** \blacktriangleright **CD** \blacktriangleright **SVCD**

The DVD player can reproduce virtual surround sound effect.

- 1 Press DISPLAY on the remote control.
- 2 Use \blacktriangleleft to highlight 3D option.
- 3 Press \blacktriangle to switch between ON or OFF mode.

Audio Channel Selection

VCD \blacktriangleleft **CD** \blacktriangleright **SVCD**

- 1 SVCD discs has two stereo audio channels which are used for playing karaoke or for selecting the audio language. (eg. choose one channel for music background of the song while playing a karaoke disc).
- 2 Press AUDIO on the remote control to select the preferred audio channel.
- 3 VCD discs has only one channel. Mono left audio or mono right audio channel by pressing the AUDIO on the remote control.

Repeat

DVD \blacktriangleleft **VCD** \blacktriangleright **CD** \blacktriangleright **SVCD**

Repeat chapter/title/disc

- To repeat the current chapter, press REPEAT.
- To repeat the current title, press REPEAT a second time.
- To exit Repeat mode, press REPEAT a third time.

VCD \blacktriangleleft **CD** \blacktriangleright **SVCD**

Repeat track/disc

- To repeat the current track, press REPEAT.
- To repeat the entire disc, press REPEAT a second time.
- To exit Repeat mode, press REPEAT a third time.

Repeat A-B DVD, VCD, YCD, XCD

- DVD-Video Discs: repeat a sequence in a title
- Video and Audio CDs: repeat a sequence in a track

- 1 Press REPEAT A-B at your chosen starting point.
- 2 Press REPEAT A-B again at your chosen end point.
- 3 \rightarrow The playback of the repeat sequence begins. To exit the sequence, press REPEAT A-B.

5 Disc Resume

DVD \blacktriangleleft **VCD** \blacktriangleright **CD** \blacktriangleright **SVCD**

The RESUME feature applies not only to the disc in the player, but also to the last four discs you have played.

- 1 Simply reload the disc on the disc tray.
- 2 Press PLAY while disc is loading.
- 3 \rightarrow Playback resume from the point at which you've last stopped.

OSD (On-Screen Display)

DVD \blacktriangleleft **VCD** \blacktriangleright **CD** \blacktriangleright **SVCD**

A number of operations can be done with the menu bar on the screen.

- 1 Press DISPLAY on the remote control to access to the menu bar.

Title Selection

- 1 Press \blacktriangleleft to highlight TITLE number option.
- 2 Press \blacktriangle to change the Title number.
- 3 \rightarrow Playback will start from the selected Title.

Chapter Selection

- 1 Press \blacktriangleleft to highlight CHAPTER number option.
- 2 Press \blacktriangle to change the Chapter number.
- 3 \rightarrow Playback will start from the selected Chapter.

Operation

PAUSE/STEP

DVD \blacktriangleleft **VCD** \blacktriangleright **CD** \blacktriangleright **SVCD**

- 1 Press PAUSE once to get a still picture during playback.
- 2 \rightarrow Playback will pause.
- 3 To step forward to the next picture frame, press PAUSE again.
- 4 To resume normal playback, press PLAY.

SEARCH (Fast Forward and Fast Backward)

DVD \blacktriangleleft **VCD** \blacktriangleright **CD** \blacktriangleright **SVCD**

- 1 Press \blacktriangle or \blacktriangleright during playback to go to the fast forward / backward searching.
- 2 Press \blacktriangle or \blacktriangleright again to increase the speed for searching.
- 3 To resume normal playback, press PLAY.

SLOW MOTION (Slow Forward and Slow Backward)

DVD

- 1 Press \blacktriangle or \blacktriangleright during playback to get slow motion effect.
- 2 Press \blacktriangle or \blacktriangleright again to get different playback forward/backward speed.
- 3 To resume normal playback, press PLAY.

VCD \blacktriangleleft **CD** \blacktriangleright **SVCD**

- 1 Press \blacktriangle during playback to get slow motion effect.
- 2 Press \blacktriangle again to get different playback forward speed.
- 3 To resume normal playback, press PLAY.

Note:

- SLOW BACKWARD feature is not available for SVCD/VCD/CD discs.

Operation

English

English

Time Search

The Time Search function allows you to start playing at any chosen time on the disc.

- 1 Press **◀▶** to highlight Time Display.
DVD discs:
→ CC: Total time played in Current Chapter
→ CR: Remainder time in Current chapter
→ TC: Total time played in Current Title
→ TR: Remainder time in Current Title

SVCD or VCD discs:

- DC: Total time played in Current Disc
 - DR: Remainder time in Current disc
 - TC: Total time played in Current track
 - TR: Remainder time in Current track
- 2 Press **◀▶** to highlight item TIME, and playback starts from the selected time position on the disc.
→ Enter hours, minutes and seconds from left to right in the time edit box using remote control numerical key pad.
→ Press OK to confirm the selected time.

Zoom DVD, YCD, SVCD

The Zoom function allows you to enlarge the video image.

- 1 Press ZOOM on the remote control to activate the zoom function.
- 2 Use the **◀▶▲▼** keys to pan across the screen.
→ Playback will continue.
- 3 To exit Zoom mode, select zoom to "ZOOM OFF" by pressing ZOOM key on the remote control.

Note:
– This function is subject to availability of the disc.

Operation

English

English

Special DVD Features

- **Playing a title/chapter**
DVD video discs may have one or more TITLES, and each TITLE may have one or more CHAPTERS.

- 1 Insert a disc and close the tray; playback starts automatically.
→ The display on the screen shows the type of disc loaded, disc's information and playing time. When the Disc Menu appear on the TV screen, use **▼▲▶◀** keys or numerical keys on the remote control to select an option and continue playback.
- 2 If the titles are numbered, press the numerical keys or use the **▼▲** keys to select desired title in the menubar.
→ Press OK to confirm the selection.

Camera Angle DVD

Some discs contain scenes which have been shot simultaneously from various angles.

- This DVD player allows you to select the desired camera angle.
Press ANGLE on the remote control repeatedly to display the multiple angles (1/4, 3/4, 2/4, 1/4).

Note:
– This function is subject to availability of the DVD disc.

Changing the audio language DVD

- Press AUDIO on the remote control repeatedly to select the different languages.

Note:
– This feature is subject to availability of the disc.

Subtitles DVD, SVCD

- 1 Press the SUBTITLE key on the remote control repeatedly to select the different subtitles.
- 2 Press SUBTITLE for about 2 seconds to switch subtitle off.

Note:
– This feature is subject to availability of the disc.

Special VCD & SVCD Features

- 1 **Playback Control (PBC)**
Load a Video CD with PBC and press PLAY; Press DISC MENU on the remote control to select PBC ON or OFF.
- 2 Use **◀▶** or **▶▶** to select your preferred page. If the PBC menu consists of a list of numbered index menu, enter your choice with the numerical key pad (0-9) or **◀▶▲▼** keys for direct selection.
- 3 Press OK to confirm playback.

Notes:

- You can also press RETURN to enter the index menu during playback.
- This feature is subject to availability of the disc.

If you want to skip the index menu and playback from the beginning.

- Press DISC MENU on the remote control to switch off the function.
- For karaoke discs, even if the PBC function is off, you can still use the **◀▶** or **▶▶** to select your preferred track.

Preview YCD, SVCD

- At stop mode, press PREVIEW on the remote control.
→ The preview menu will be displayed.



1. INTRO

DVD player will playback every track for few seconds with full screen to obtain a summary of the disc content.

- 1 Press numerical key pad '1'.
- 2 Press OK to confirm.
→ The full screen of each track will appear in sequence.
- 3 Press STOP to quit previewing.

2. DISC

Reduce the picture of 9 tracks enough to display in a full screen.



- 1 Press numerical key pad '2'.
- 2 Press OK to confirm.
→ The preview of 9 track with full screen will appear.
- 3 To select other tracks beyond this page, press **◀▶** or **▶▶**.
- 4 Press the numerical key pad to select preferred track.
- 5 Press OK to confirm.

3. TRACK

Reduce the picture of a single track enough to display in a full screen.



- 1 Press numerical key pad '3'.
 - 2 Press OK to confirm.
→ The preview of one track with 9 parts in a full screen will appear.
 - 3 To select other tracks, press **◀▶** or **▶▶**.
 - 4 Press the numerical key pad to choose the starting point.
 - 5 Press OK to playback the starting point.
- 4. EXIT**
- 1 Press numerical key pad '4'.
 - 2 Press OK to exit.

Setup Menu

English

English

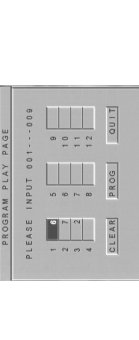
Notes:
 - When playback a locked disc, the DVD player will prompt to enter your password or 3308 (default) password.
 - To change the password, refer to option PASSWORD in PREFERENCE menu.

- Basic Operations**
 At Stop mode, press SYSTEM MENU to enter the Setup menu.
 → Setup menu appears on the TV screen.
 Press OK to enter to next submenu or confirm your selection.
- Use ◀▶ keys to enter the submenu or return to previous menu.
- Use ▲▼ keys to select the preferred option.
- Press SYSTEM MENU again to exit from the Setup Menu.
- All settings will be stored in the DVD player's memory even if the DVD player is switched to power off.



- General Setup**
 Some settings are essential during the start up of the DVD player. For example: DISC LOCK, PROGRAM, OSD LANGUAGE and SCREEN SAVER.
 Press SYSTEM MENU to enter the Setup menu.
 Press ▲▼ keys to choose GENERAL SETUP menu.
 Press OK to confirm selection.
 → Setting for GENERAL SETUP menu appears on the TV screen.
- To exit to the default screen, select MAIN PAGE.

- Storing a track**
 1 Enter a valid track number using the numerical key pad.
 2 Press ◀▶▲▼ keys to move the cursor to next selected position.
 3 Repeat above sequence to enter another track number until the whole program is completed.
 4 Press ◀▶ or ▶▶▶ to program more tracks.



- Exclude a track**
 1 Press ◀▶▲▼ keys to move the cursor to the track that you want to exclude.
 2 Enter an invalid track number.

MP3 CD Playback

English

- Album/Title**
 This feature allows you to view and select the next or previous MP3 disc/Album/Title.
 Press ◀▶/▶▶ to scroll through the previous or next Track.
 You can also select the desired album/track number directly using the numeric keys on the remote control.
- Note:**
 - In STOP mode: numbers are used for ALBUM selection.
 - In PLAY mode: numbers are used for TRACK selection.

- Only the following functions are possible for MP3 discs:
 - STOP / PLAY / PAUSE
 - SKIP NEXT / PREVIOUS
 - REPEAT (TRACK / ALBUM / DISC)

- MP3 Discs - Album/Track/Disc**
 To repeat a track, press REPEAT.
 → REP ONE appears on the player display. To repeat the entire disc, press REPEAT a second time.
 → REP ALL appears on the player display. To exit REPEAT mode, press REPEAT a third time.
 → REPEAT OFF appears on the player display.

- MP3 Disc Features**
 Support following MP3-CD formats (ISO9660 format):
 ● Max. 30 characters
 ● Max. nested directory is 8 levels
 ● The max. ALB number is 32
 ● Supported VBR bit-rate
 ● Supported sampling frequencies for MP3 disc are: 32 kHz, 44.1 kHz, 48 kHz
 ● Supported Bit-rates of MP3 disc are: 32, 64, 96, 128, 192, 256 (kbps)
- Following formats can't be supported**
 ● The files like *.WMA, *.AAC, *.DIF, *.M3U, *.PLS
 ● Chinese filenames
 ● The non-session closed discs
 ● The discs recorded under UDF format

Downloading MP3 files from the Internet or copying songs from your own legal discs is a delicate process.

Sound	Approximate Playback Time	Approximate total File Size	Comment
MP3 (VBR)	10 hrs	40 MB (100 MB)	Sound quality significantly affected (not recommended)
MP3 (CBR)	16 hrs	20 hrs	Balanced sound quality
CD-R/RW	15 hr	15 hrs	compression rate
CD-R	25 hrs	5 - 1 hrs	Compression rate low
CD-RW	3 - 1 hrs	3 hrs	subject to play/CD speed

You may experience an occasional "skip" while listening to your MP3 files. This is normal.

- Additional note for MP3 disc Playback:**
 - In compliance with the SDMI, digital-out is muted while playing MP3 discs.
 - Due to the recording nature of Digital Audio MP3 (DAM), only Digital Audio music will play.
 - The disc reading time may exceed 10 seconds due to the large number of songs compiled onto one disc.
 - For multi-session discs, only the first session will be available.

English

Setup Menu

Cancel all tracks

- 1 Press **◀▶▶** keys to move the cursor to the CLEAR button.
- 2 Press **OK** to erase all tracks.
- 3 Now you can input your favourite tracks again.

Playback tracks

- When programming is completed,
- 1 Press **◀▶▶** keys to move the cursor to the PROG button.
 - 2 Press **OK**.
- Playback starts with the selected programmed sequence.

Stop the program playback

- At the program page,
- 1 Press **◀▶▶** keys to move the cursor to the QUIT button.
 - 2 Press **OK** to exit this menu or press **STOP** key twice.

VFD Dim

This function is used to adjust the brightness of the display on the front panel.

- 1 Press **▶▶▶** keys to select the VFD DIM in the General Setup menu and press **OK** to confirm.
- 2 Enter the submenu by pressing the **▶** key.
- 3 Use the **▶▶** keys to highlight an option.
 - 100%:VFD brighter than normal.
 - 70%:standard brightness
 - 40%:VFD to dim mode
 - OFF: switch off front panel display
- 4 Press **OK** and press **◀** key to return to General Setup menu.

OSD Language

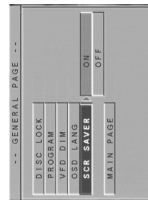
There are 14 languages available for information display on the TV screen.



- 1 Press **▶▶▶** keys to select the OSD LANG in the General Setup menu and press **OK** to confirm.
- 2 Enter the submenu by pressing the **▶** key.
- 3 Use the **▶▶** keys to highlight an option.
 - ENGLISH: OSD information will be displayed in English.
 - FRENCH: OSD information will be displayed in Français and etc.
- 4 Press **OK** and press **◀** key to return to General Setup menu.

Screen Saver

This function is used to turn on or off the screen saver.



- 1 Press **▶▶▶** keys to select the SCR SAVER in the General Setup menu and press **OK** to confirm.
- 2 Enter the submenu by pressing the **▶** key.
- 3 Use the **▶▶** keys to highlight an option.
 - ON: At stop mode, screen saver will turn on within 5-6 minutes.
 - OFF: Screen is disable.
- 4 Press **OK** and press **◀** key to return to General Setup menu.

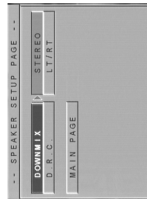
Setup Menu

Speaker setup

This menu contains setup options of your speaker system, such as DOWNMIX and D.R.C. (Dynamic Range Compression).

- 1 Press **SYSTEM MENU** to enter the Setup menu.
- 2 Press **▶▶▶** keys to choose **SPEAKER SETUP** menu.
- 3 Press **OK** to confirm selection.
- 4 → Setting for **SPEAKER SETUP** menu appears on the TV screen.

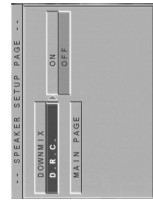
DOWNMIX mode



- 1 Press **▶▶▶** keys to select the DOWNMIX in the Speaker Setup menu and press **OK** to confirm.
- 2 Enter the submenu by pressing the **▶** key.
- 3 Use the **▶▶** keys to highlight an option.
 - STEREO: This setting will downmix the signal of Dolby Digital into stereo signals directly output from L/R connector.
 - L/R/R/T: Select this settings when the DVD player is connected to a Dolby Pro Logic decoder which send a signal output from the DVD player.
- 4 Press **OK** and press **◀** key to return to Speaker Setup menu.

D.R.C. (Dynamic Range Compression)

To optimised the dynamic sound output. High volume outputs are softened, enabling you to watch your favourite action movie without disturbing others.



- 1 Press **▶▶▶** keys to select the D.R.C. in the Speaker Setup menu and press **OK** to confirm.
- 2 Enter the submenu by pressing the **▶** key.
- 3 Use the **▶▶** keys to highlight an option.
 - ON: Enable D.R.C.
 - OFF: Disable D.R.C.
- 4 Press **OK** and press **◀** key to return to Speaker Setup menu.

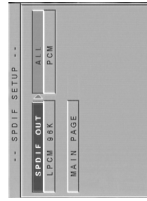
SPDIF setup

- 1 Press **SYSTEM MENU** to enter the Setup menu.
- 2 Press **▶▶▶** keys to choose **SPDIF SETUP** menu.
- 3 Press **OK** to confirm selection.
- 4 → Setting for **SPDIF** setup menu appears on the TV screen.

Note:

→ **SPDIF** is the abbreviation of **Sony Philips Digital Interface** which is a protocol of digital data transferring.

SPDIF OUT setup



- 1 Press **▶▶▶** keys to select the **SPDIF OUT** in the **SPDIF SETUP** menu and press **OK** to confirm.
- 2 Enter the submenu by pressing the **▶** key.
- 3 Use the **▶▶** keys to highlight an option.
 - ALL: Original digital signals output
 - PCM: Convert to PCM signals to digital output.
- 4 Press **OK** and press **◀** key to return to **SPDIF SETUP** menu.

English

English

Setup Menu

English

English

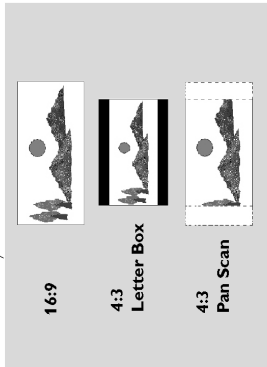
TV Display

Select the aspect ratio of the TV to be connected.

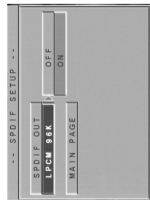
16:9 → when you connect a wide-screen TV to the DVD player.

4:3 LETTER BOX → when you connect a normal TV to the DVD player. Displays a wide picture with bands displayed on the upper and lower portions of the TV screen.

4:3 PAN SCAN → when you connect a normal TV to the DVD player. Displays the wide picture on the whole TV screen with a portion automatically cut off.



LPCM 96K mode



- 1 Press **▲▼** keys to select the LPCM 96K in the SPDIF Setup menu and press OK to confirm.
- 2 Enter the submenu by pressing the **▶** key.
- 3 Use the **▲▼** keys to highlight an option.
 - ON: Detect the loading disc for appropriate sampling rate.
 - OFF: The decoding process is under the sampling rate of 48KHz.
- 4 Press OK and press **◀** key to return to SPDIF Setup menu.

Video Out Setup

Some settings that are included in VIDEO OUT PAGE menu are: TV DISPLAY, VIDEO OUTPUT, TV TYPE, VIDEO MODE, BRIGHTNESS, CONTRAST, SATURATION.

- 1 Press STOP twice.
- 2 Press SYSTEM MENU to enter its menu.
- 3 Select the VIDEO OUTPUT SETUP by pressing **▲▼** key and OK the confirm selection.

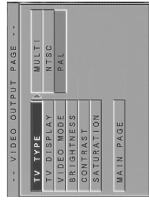
Setup Menu

English

English

TV Type

This player is equipped with an NTSC/PAL settings to ensure that the DVD player system matches your TV.

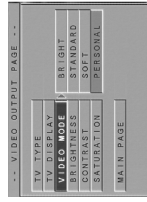


- 1 Press **▲▼** keys to select the TV TYPE in the General Setup menu and press OK to confirm.
- 2 Enter the submenu by pressing the **▶** key.
- 3 Use the **▲▼** keys to highlight an option.
 - MULTI: Video output is depending on the format of the disc.
 - NTSC: DVD player will output only NTSC system.
 - PAL: DVD player will output only PAL system.
- 4 Press OK and press **◀** key to return to VIDEO OUTPUT Setup menu.

Smart Picture

You can select one of the predefined set of colour settings, and one set (Personal) which you can define yourself.

Video mode



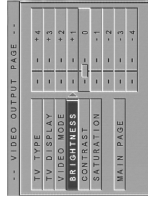
- You can choose one picture setting from a fixed predefined set (Bright, Standard and Soft).
- 1 Press **▲▼** keys to select the VIDEO MODE in the VIDEO OUT Setup menu and press OK to confirm.

- 2 Enter the submenu by pressing the **▶** key.
- 3 Use the **▲▼** keys to highlight an option.
 - BRIGHT: TV screen brighter
 - STANDARD: Standard picture setting
 - SOFT: TV screen softer
 - PERSONAL: Reapply the previous setting
- 4 Press OK and press **◀** key to return to VIDEO OUTPUT Setup menu.

Personal Picture setting

Personal picture setting includes setup of BRIGHTNESS, CONTRAST, SATURATION which allows you to personalise your picture setting.

Brightness/Contrast/Saturation



- 1 Press **▲▼** keys to select the BRIGHTNESS/CONTRAST/SATURATION in the VIDEO OUT Setup menu and press OK to confirm.
- 2 Enter the submenu by pressing the **▶** key.
- 3 Use the **▲▼** keys to adjust the level.
- 4 Press OK and press **◀** key to return to VIDEO OUTPUT Setup menu.

Setup Menu

English

English

Setup Menu

English

Preferences setup

- Some settings that are included in PREFERENCES menu are: AUDIO, SUBTITLE, DISC MENU, PARENTAL CONTROL, PASSWORD, DEFAULT and SMART NAV.
- 1 Press STOP twice.
 - 2 Press SYSTEM MENU to enter its menu.
 - 3 Select the PREFERENCES by pressing **▲** key and OK the confirm selection.

Audio language

DVD discs are available for multi-audio languages. Use these settings to select your preferred default language.



- 1 Press **▲** keys to select the AUDIO in the Preferences menu and press OK to confirm.
- 2 Enter the submenu by pressing the **▶** key.
- 3 Use the **▲** keys to highlight an option.
- 4 Press OK and press **◀** key to return to Preferences menu.

- Notes:**
- This feature is subject to availability of the disc.
 - If the language selected is not available on the disc, the default language designated by each disc will be selected.

Subtitle language

DVD discs are available for multi-subtitle languages. Use these settings to select your preferred default language.

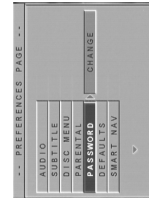


- 1 Press **▲** keys to select the SUBTITLE in the Preferences menu and press OK to confirm.
- 2 Enter the submenu by pressing the **▶** key.
- 3 Use the **▲** keys to highlight an option.
- 4 Press OK and press **◀** key to return to Preferences menu.

- Notes:**
- This feature is subject to availability of the disc.
 - If the language selected is not available on the disc, the default language designated by each disc will be selected.

Password

You can change the setup of parental control and disc lock. Enter your password when required by the DVD player.



- 1 Press **▲** keys to select the PASSWORD in the Preferences menu and press OK to confirm.
- 2 Enter the submenu by pressing the **▶** key.
- 3 Use the **▲** keys to highlight an option.



- 4 Enter the current 4 digit code.
- 5 Enter a new 4-digit code when the DVD player prompt for a new code.
- 6 Enter the code a second time to reconfirm.
- 5 Press PLAY key to return to Preferences menu. → The new 4 digit code will take effect.

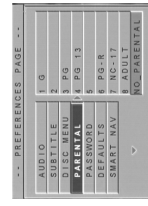
Note:

- If you forget the password, you can enter the default password 3308 and replace your password after logging in.

Parental Control

Parental Control allows you to prevent discs from being played by your children or to have certain discs played with alternative scenes.

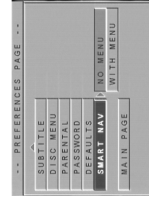
- If you set a rating for the player, all scenes with the same rating or lower will be played.
- If no suitable ratings is found, playback will stop and the 4-digit code has to be entered.
- VCD, SVCD, CD and illegal DVD discs have no level of definition, thus Parental Control is not available on these discs.



- 1 Press **▲** keys to select the PARENTAL in the Preferences menu and press OK to confirm.
- 2 Enter the submenu by pressing the **▶** key.
- 3 Press OK.

Smart Navigator

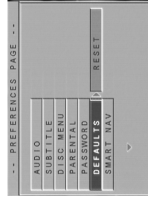
Smart Navigator menu will be displayed during picture CD and MP3 CD playback.



- 1 Press **▲** keys to select the SMART NAV in the Preferences menu and press OK to confirm.
- 2 Enter the submenu by pressing the **▶** key.
- 3 Use the **▲** keys to highlight an option.
 - NO MENU; playback all images or Mp3 musics in sequence automatically
 - WITH MENU; playback images or Mp3 musics in the selected folder.
- 4 Press OK to confirm your selection.

Default

Use DEFAULT feature if problems occur during setting the DVD player. This feature will reset all settings to factory default and all the personal settings will be erased.



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.

Problem	Solution
No power	<ul style="list-style-type: none"> Check if the AC power cord is properly connected.
No picture	<ul style="list-style-type: none"> Check if the TV is switched on. Check the video connection.
Distorted picture	<ul style="list-style-type: none"> Sometimes a small amount of picture distortion may appear. This is not a malfunction.
Completely distorted picture or black/white picture with DVD or Video CD	<ul style="list-style-type: none"> Make sure the NTSC/PAL setting at the DVD player matches the video signal of your television. (See NTSC/PAL Conversion/Settings)
No sound or distorted sound	<ul style="list-style-type: none"> Adjust the volume. Check that the speakers are connected correctly.
No audio at digital output	<ul style="list-style-type: none"> Check the digital connections. Check the settings menu to make sure the digital output is set to ALL or PCM. Check if the audio format of the selected audio language matches your receiver capabilities.
No sound and picture	<ul style="list-style-type: none"> Check that the SCART cable is connected to the correct device. (See Connecting to a TV)
Disc can't be played	<ul style="list-style-type: none"> Ensure the disc label is facing up. Check if the disc is defective by trying another disc. Region code incorrect.
Picture freezes momentarily during playback	<ul style="list-style-type: none"> Check the disc for fingerprints/scratches and clean with a soft cloth wiping from centre to edge.
No return to start-up screen when disc is removed	<ul style="list-style-type: none"> Reset the unit by switching the player off, then on again.
The player does not respond to the remote control	<ul style="list-style-type: none"> Aim the remote control directly at the sensor on the front of the player. Reduce the distance to the player. Replace the batteries in the remote control. Re-insert the batteries with their polarities (+/- signs) as indicated.
Buttons do not work or player stops responding	<ul style="list-style-type: none"> To completely reset the player, unplug the AC cord from the AC outlet for 5-10 seconds.
Player does not respond to some operating commands during playback.	<ul style="list-style-type: none"> Operations may not be permitted by the disc.
DVD Video player cannot read CDs/DVDs	<ul style="list-style-type: none"> Use a commonly available cleaning CD/DVD to clean the lens before sending the DVD player for repair.

If you are unable to remedy a problem by following these hints, consult your dealer or service centre (HOTLINE).

English

English

Specifications

TV STANDARD (PAL/50Hz) (NTSC/60Hz)

Number of lines 625 525
 Playback Multistandard (PAL/NTSC)

CONNECTIONS

SCART Euroconnector
 Video Output Cinch (yellow)
 Audio L+R output Cinch (white/red)
 Digital Output 1 coaxial
 IEC958 for CDDA / LPCM / MPEG1
 IEC1937 for MPEG2, Dolby Digital and DTS

CABINET

Dimensions (w x h x d) 435 x 50 x 300 mm
 Weight Approximately 2,7 kg

Specifications subject to change without prior notice

PLAYBACK SYSTEM

DVD Video
 Video CD & SVCD
 CD (CD-Recordable and CD-Rewritable)
 MP3 CD

VIDEO PERFORMANCE

CVBS 1 Vpp into 75 ohm
 RGB (SCART) 0.7 Vpp into 75 ohm

AUDIO FORMAT

Digital MPEG/AC-3/DTS Compressed
 Digital 16, 20, 24 bits
 PCM 16, 20, 24 bits
 MPEG MP3 MPEG Audio L3 16, 44.1, 48, 96 kHz
 Analogue Stereo Sound

AUDIO PERFORMANCE

DA Converter 24 bits
 Signal-to-Noise (1kHz) 90 dB
 Dynamic Range (1kHz) 80 dB
 DVD 4 Hz - 44 kHz
 DVS/SVCD 16 kHz - 22 kHz
 SVCD/VCD/CD 4 Hz - 20 kHz
 MPEG MP3 MPEG Audio L3

Maintenance

Cleaning the Cabinet

- Use a soft cloth slightly moistened with a mild detergent solution. Do not use a solution containing alcohol, spirits, ammonia or abrasives.

Cleaning Discs

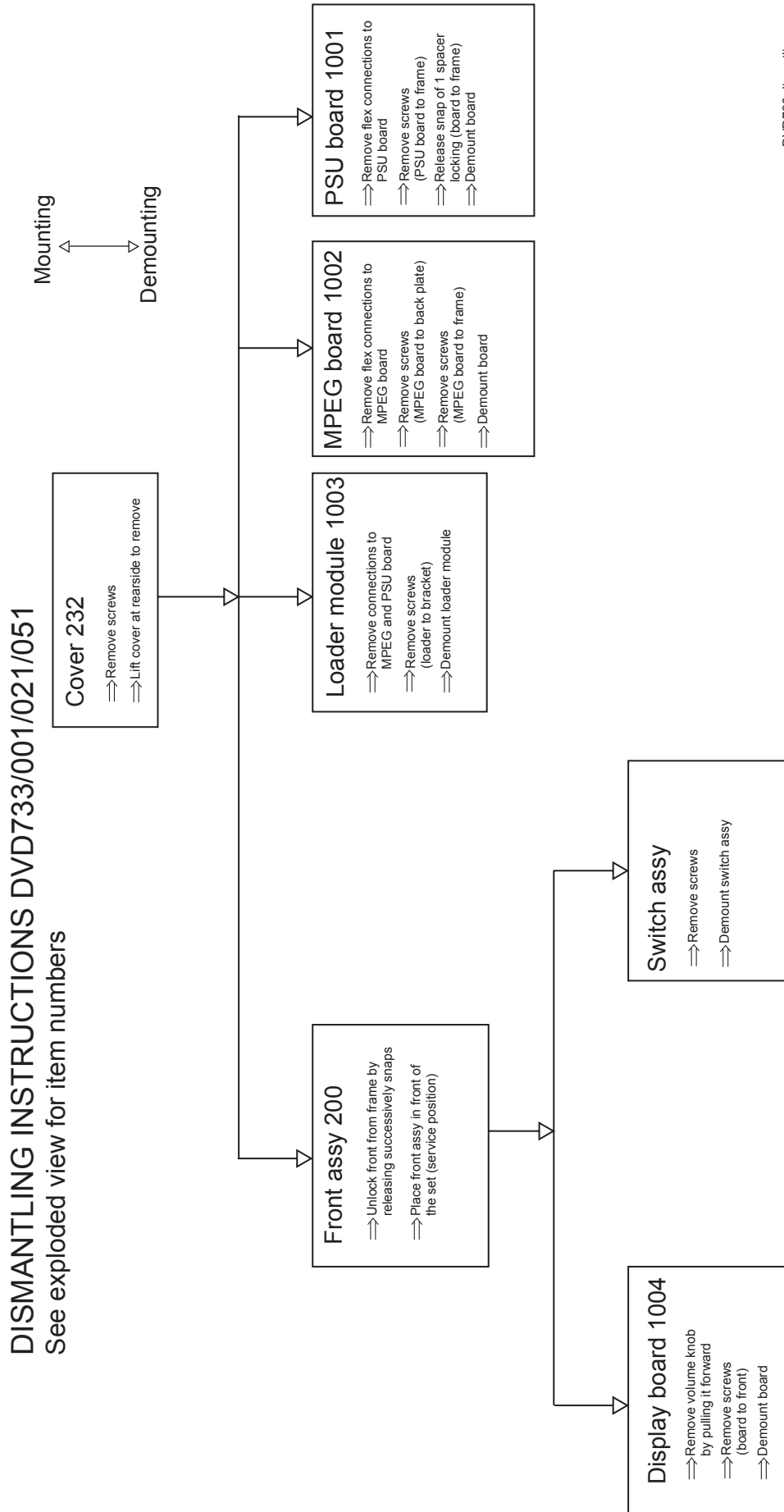
- When a disc becomes dirty, clean it with a cleaning cloth. Wipe the disc from the centre out. Do not wipe in a circular motion.
- Do not use solvents such as benzine, thinner, commercially available cleaners, or antistatic spray intended for analogue records.

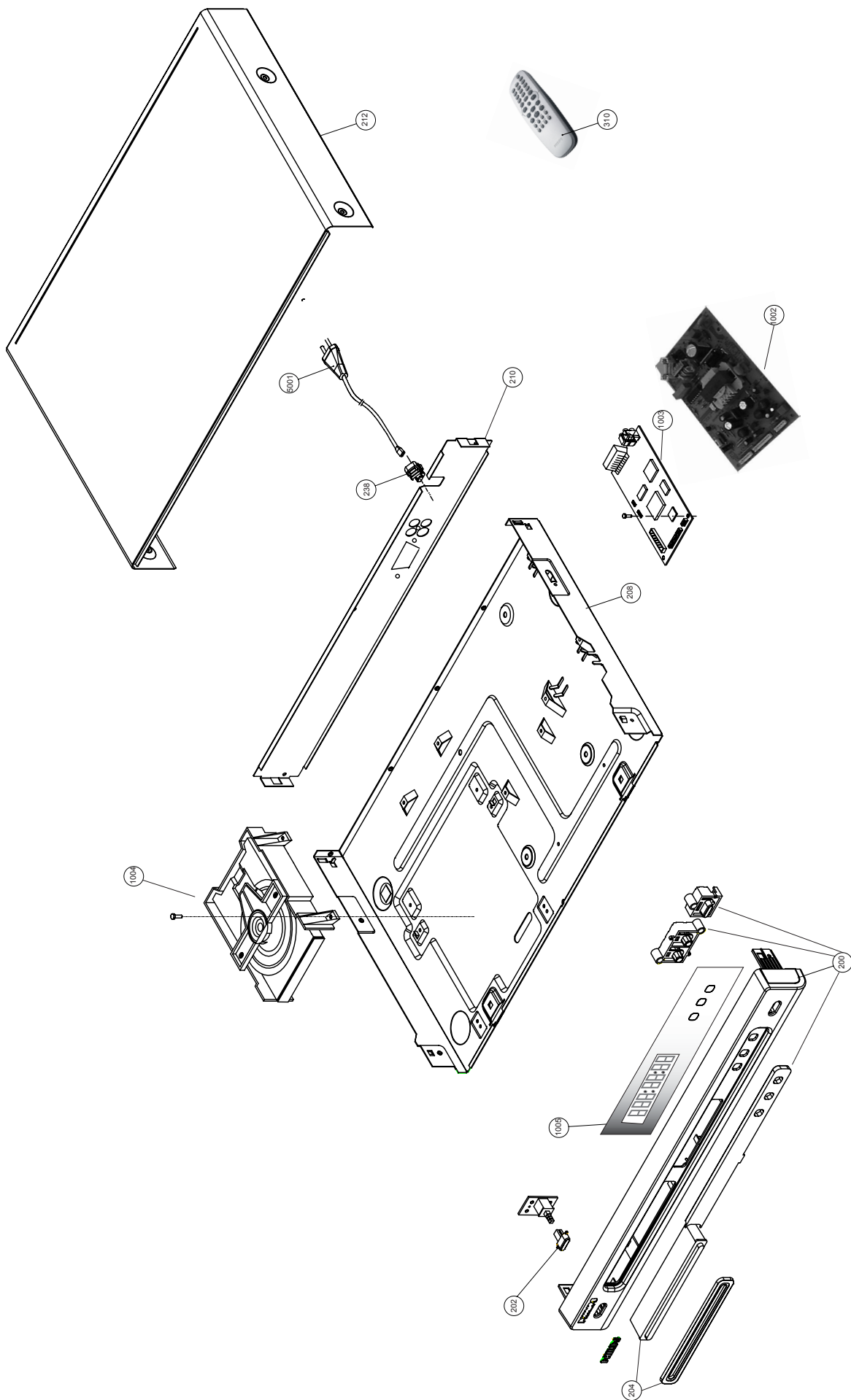
Cleaning the disc lens

- After prolonged use, dirt or dust may accumulate at the disc lens. To ensure good playback quality, clean the disc lens with Philips CD Lens Cleaner or any commercially available cleaner. Follow the instructions supplied with the cleaner.

4. Mechanical- and Dismantling Instructions

Dismantling Instructions





Exploded View DVD733/001/021/051

Figure 4-1 Exploded view

5. Diagnostic Software, Trouble Shooting and Test Instructions

5.1 Service Hints

5.1.1 Repair tips

Switched mode power supply

The power supply unit has to be replaced in case of failure. The schematic diagram provided in the service manual is only for information and no service parts will be available.

Atapi Engine

The Atapi Engine is an integrated unit of loader and servo board. The loader and servo board are non-repairable unit and in case of failure, it has to be replaced with a complete DVD Atapi Engine.

Mpeg board and Front Display

The Mpeg board and Front display has to be repaired down to component level.

5.1.2 Change of Software setting

The software setting can be change according to the following procedure:

- Press (OPEN/CLOSE) button on the front of the player or (1) on the remote control to open the disc tray.
 - Enter the 4-digit code (0) (0) (0) (0) on the remote control.
 - Enter one of the keys below to change the software setting.

– REGION CODE:	USA	==>	1
–	EUROPE	==>	2
–	AP	==>	3
–	LATAM	==>	4
–	INDIA / RUSSIA	==>	5
–	CHINA	==>	6
 - (SUBTITLE) Set to Picture CD Off (Off = DVD634)
 - (ANGLE) Set to Picture CD On (On = DVD640 / 733)
 - (ZOOM) Set to 3 front key matrix (for DVD640)
 - (AUDIO) Set to 6 front key matrix (for DVD634)
 - (REPEAT A-B) Set to 4 front key matrix (for DVD733)
- The change should effect immediately with information indicated on TV screen.

5.1.3 Software upgrade via Download disc

Both the application and servo software can be flashed into the DVD player by means of a CD-ROM disc. The CD-ROM disc has to be made with a CD writer SW.

Application software

- Open disc tray on the player.
- Insert the DOWNLOAD DISC into the player and close disc tray.
- The upgrading operation will start automatically.
- Once the DOWNLOAD DISC is recognized, the player will automatically eject the disc tray.
- Remove the DOWNLOAD DISC.
- Upgrading of the software will continue with the status being shown on the FTD.
- Once when the software is upgraded, the disc tray will automatically close.
- The player will be restarted automatically and display on FTD will show (NO DISC)

Servo software

- Open disc tray on the player

- Insert the DOWNLOAD DISC into the player and close disc tray. The player should identify this file as MP3 format.
- Press (MENU), followed by (SUBTITLE)(AUDIO)(ANGLE) to enter Update Menu for the loader.
- From the menu, use arrow keys to move down and select UPGRADE menu item.
- Press right arrow button and then 'OK' to start upgrading.
- A flashing digit in the bottom line indicates the progress. It will start from 1 and upgrading will be completed when it reaches 30.
- The player will restart and upgrading is completed.

5.1.4 Verify setting

To check that the setting has change successfully.

- Press (DISPLAY) button on the remote control while disc tray is open.
- Two lines text will appear on the TV screen. That is how it looks like.

DVD640/634_V319_0522
RG 2 LD 0836 F6 Jpeg-0 3000

In text, the following numbers refer to:

- V319_0522 ==> refer to Application software version
- RG 2 ==> refer to region code
- LD 0836 ==> refer to servo software version
- F6 ==> refer to DVD634/640 front key matrix
- Jpeg-0 ==> refer to Picture CD On/Off

5.1.5 ComPair

There is no ComPair available for DVD640 / DVD733

5.2 Trouble Shooting

In this paragraph some troubleshooting tips are given to diagnos the DVD640 player. For detailed diagnostics, check the faulting tree since no built-in diagnostic software is available in the player.

5.2.1 Atapi Engine

The Atapi engine is a non-repairable component. Hence, it is necessary to determine if any fault condition of the player are caused by the DVD engine before replacing it.

The engine is a stand-alone system, an integrated unit of the loader and servo board, which does not need to be connected to the Mpeg board to perform it basic operation. Once a stable voltage is supplied to the engine, some mechanical movement will be observed. Hence, to determine whether the engine is faulty, remove the 40 pins flex cable and observe the mechanical movement. If no mechanical movement is observed, the engine should be faulty and it should be reconfirm with a working engine.

The loader has an optical unit consisting of two lasers, one for CD with a wavelength of 780 nm, and one for, DVD with a wavelength of 650 nm. If any one type of disc (DVD or VCD / CD) cannot be identified by the player, it can be sure that the fault is due to the engine.

5.3 Fault Finding Trees

5.3.1 No Operation

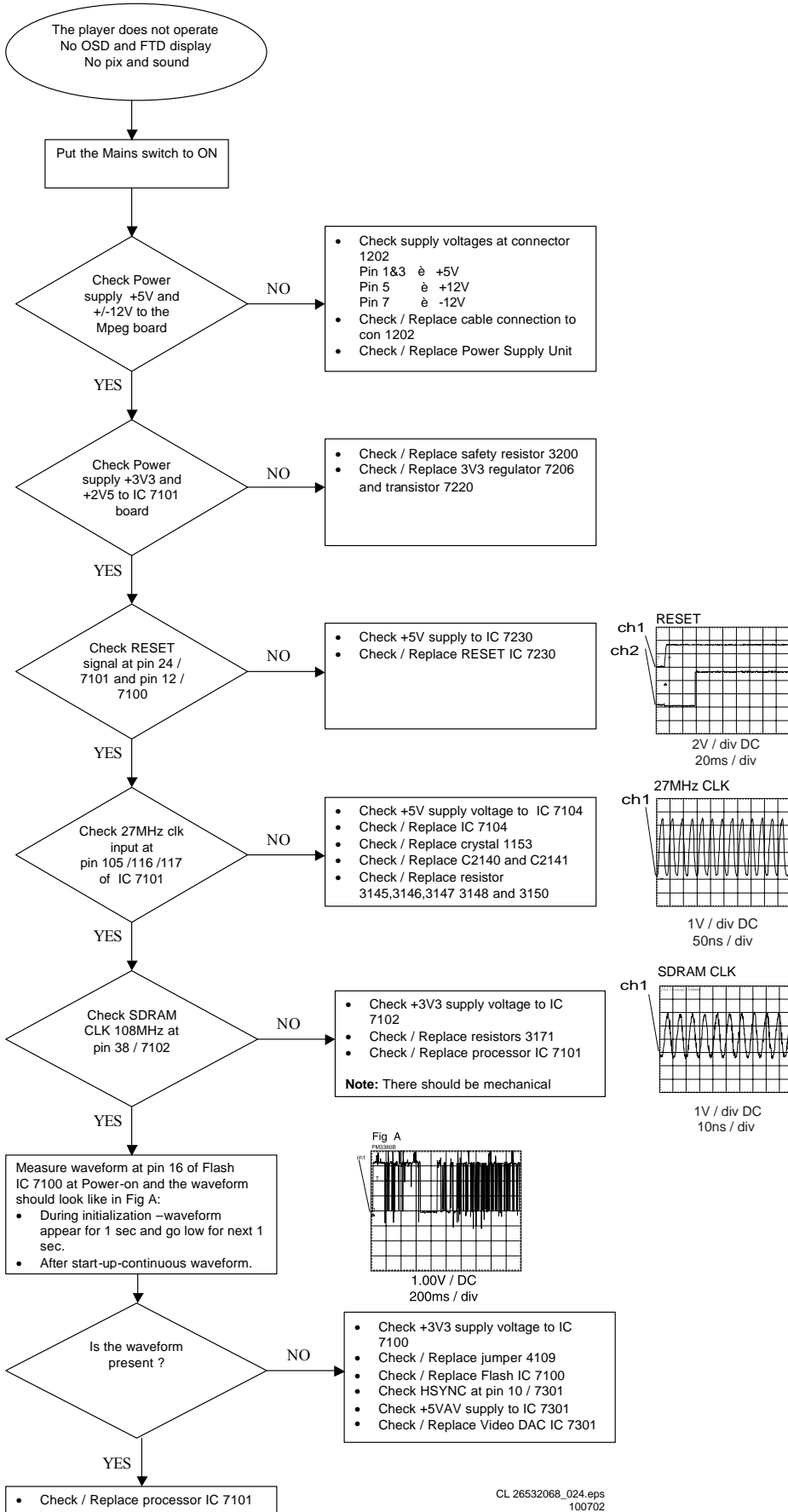


Figure 5-1 No operation

5.3.2 No Picture

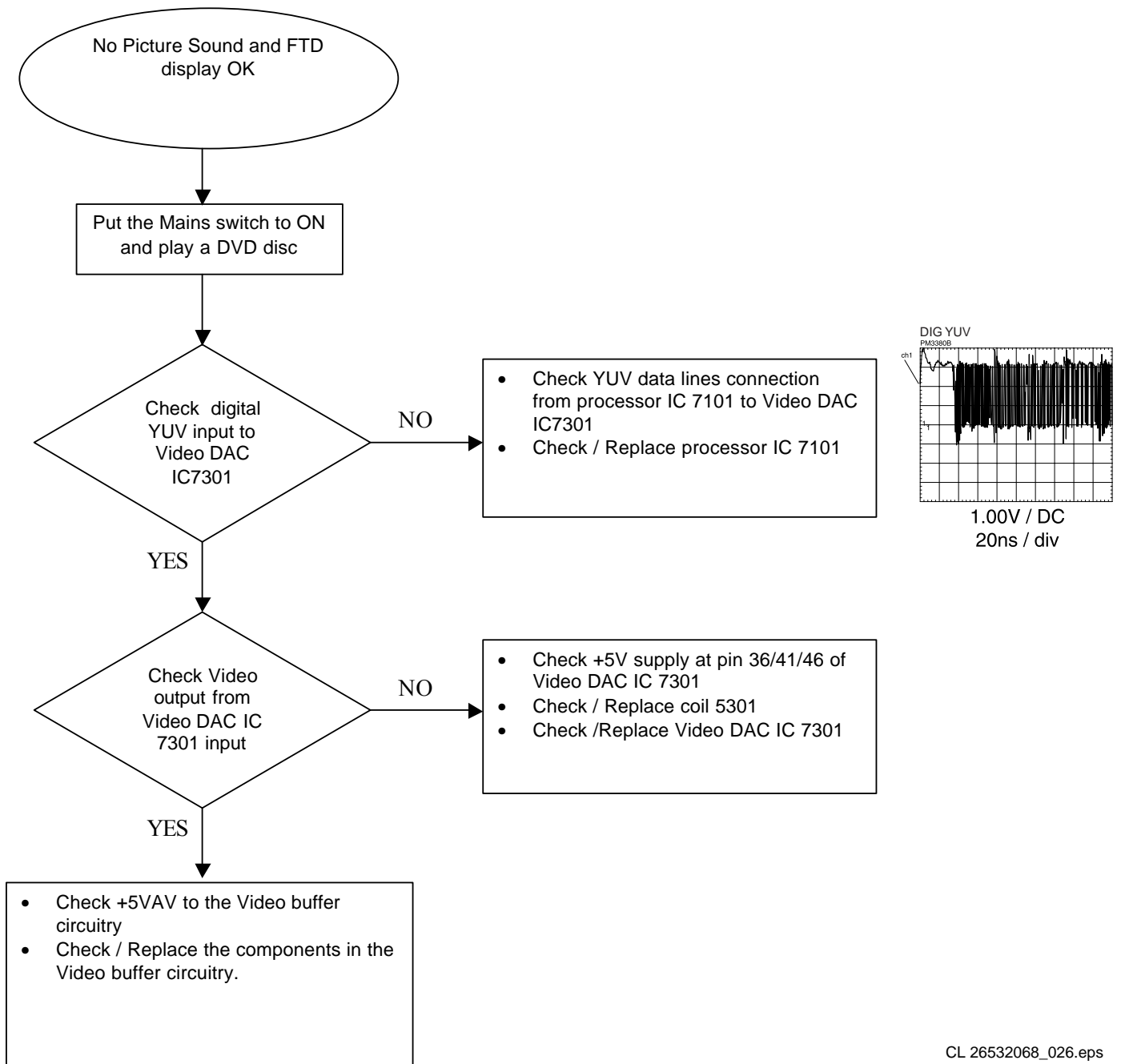
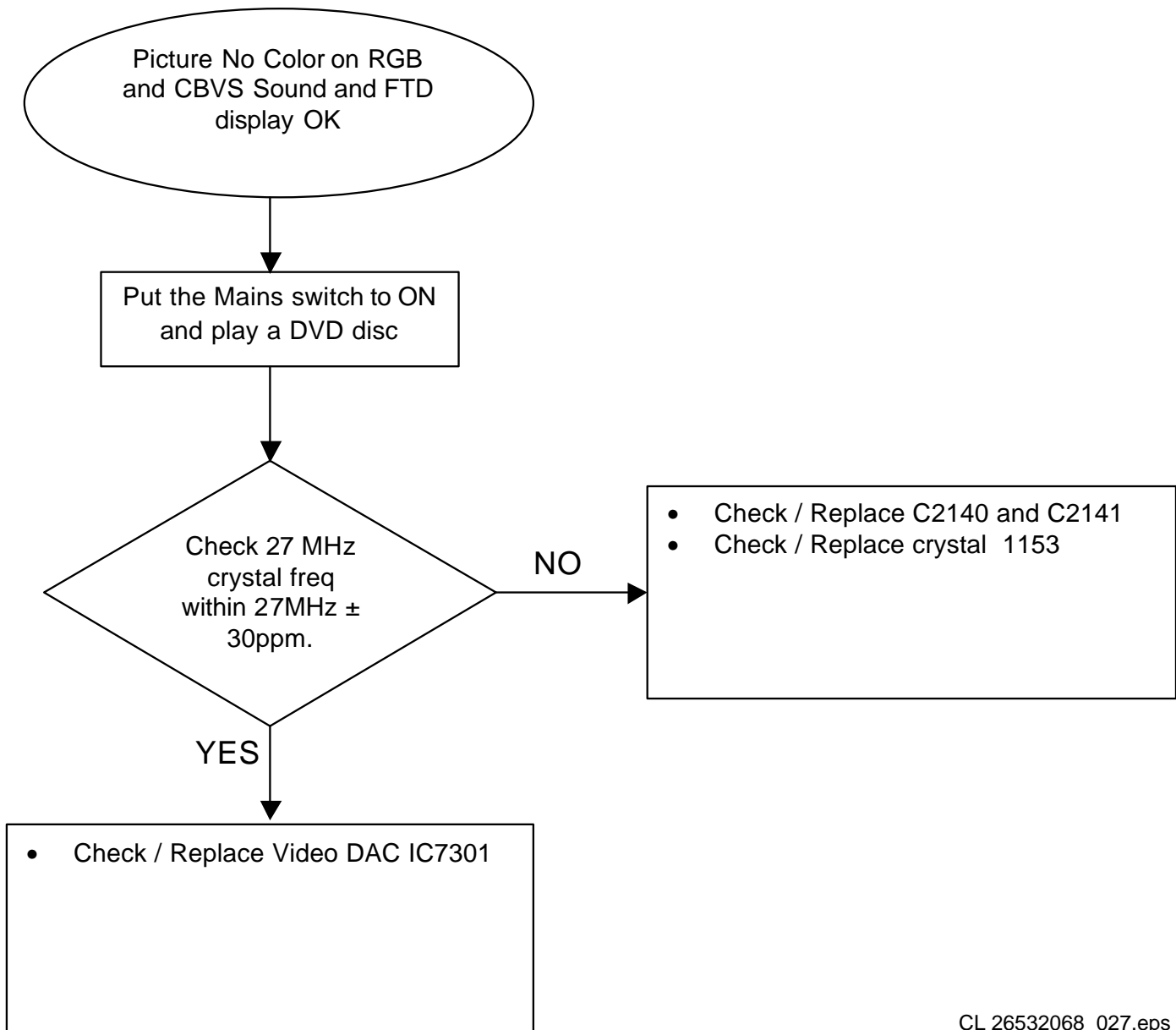


Figure 5-2 No Picture

5.3.3 No Color



CL 26532068_027.eps
040702

Figure 5-3 Pix no color

5.3.4 No Sound

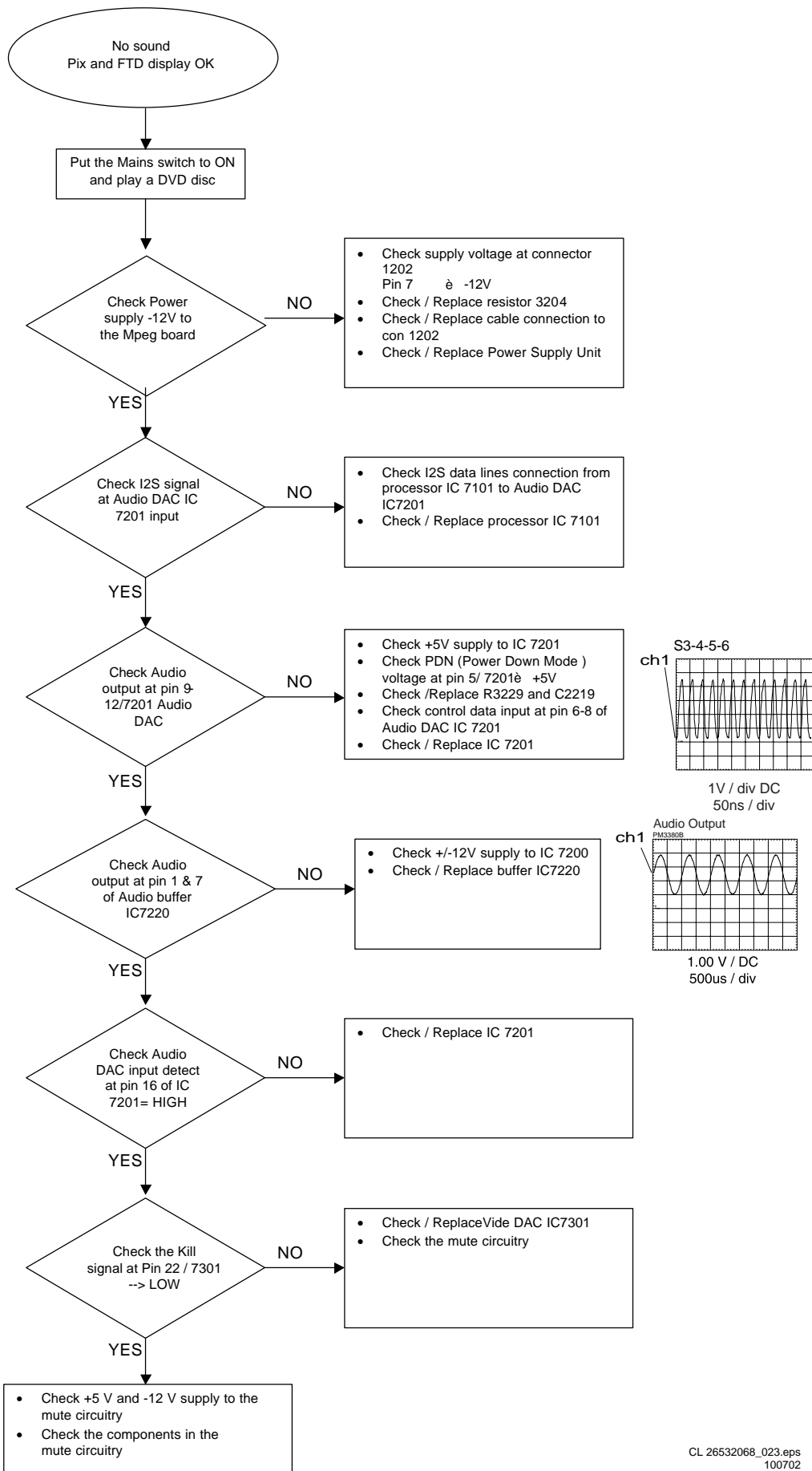
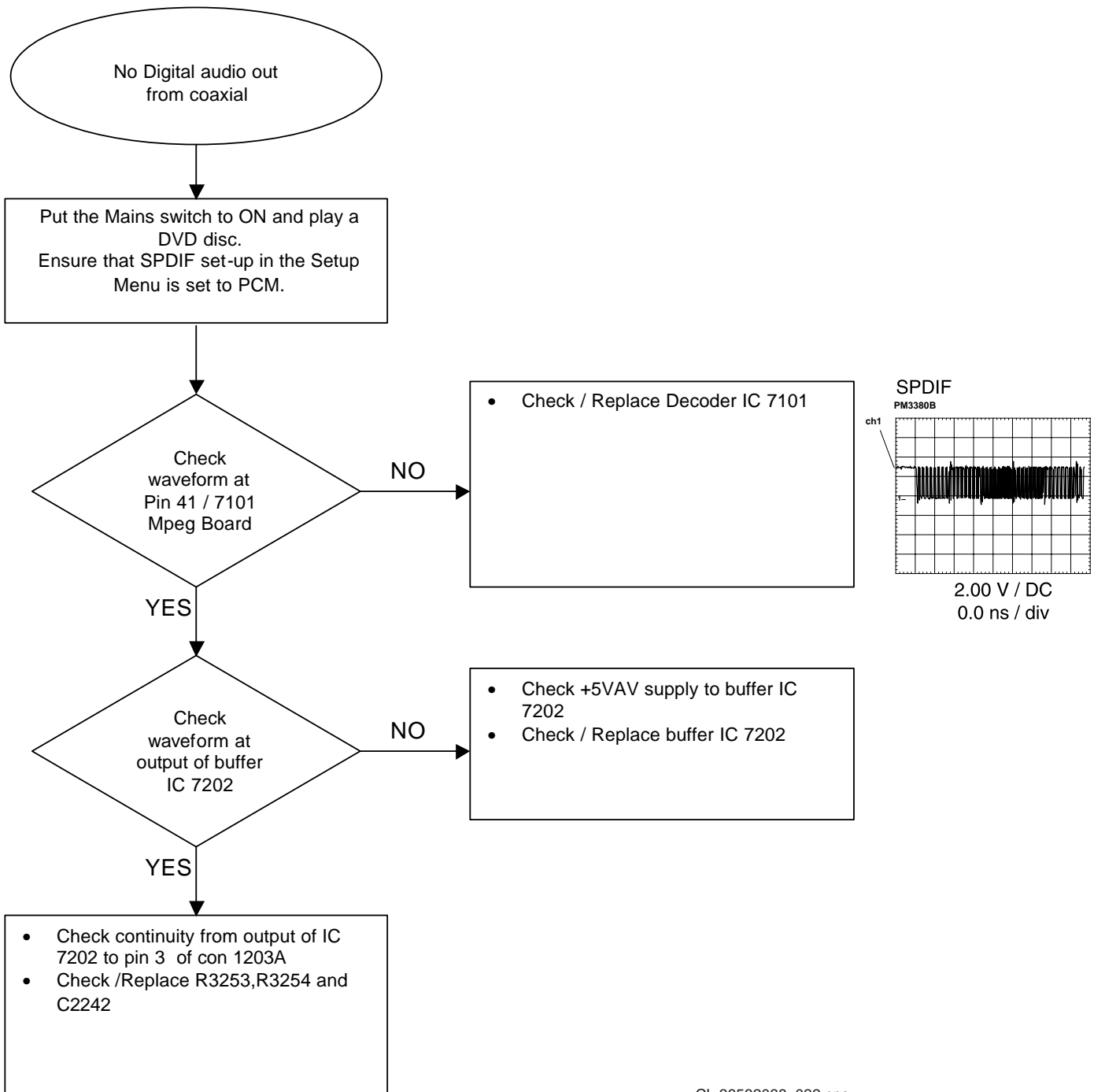


Figure 5-4 No sound

5.3.5 No Digital Audio Out



CL 26532068_022.eps
030702

Figure 5-5 No Digital audio out

5.3.6 No RC and FTD Display

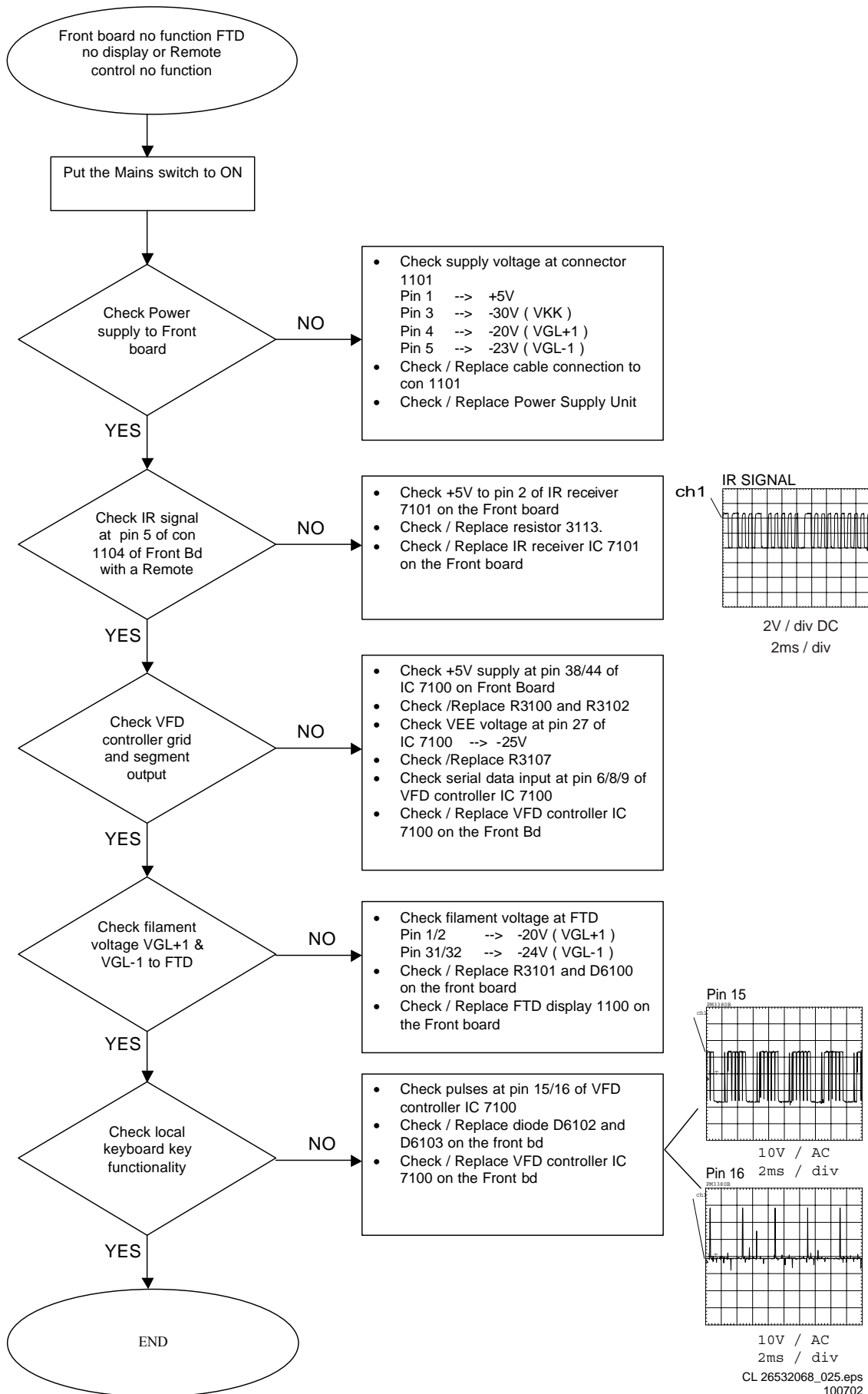
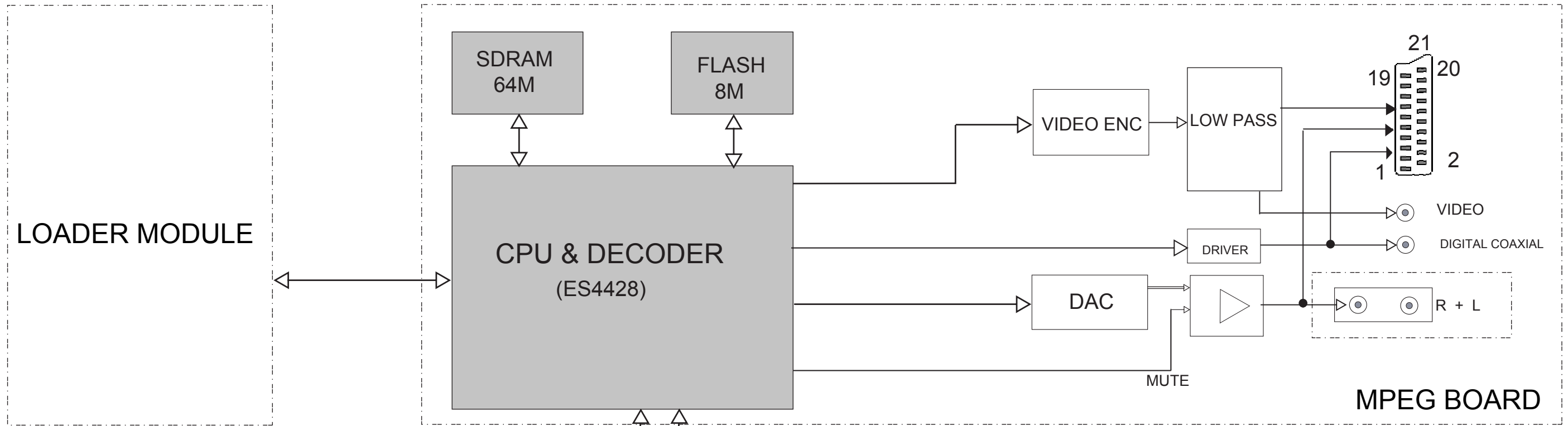


Figure 5-6 No RC and FTD display

6. Block and Wiring Diagram.

Block Diagram DVD733



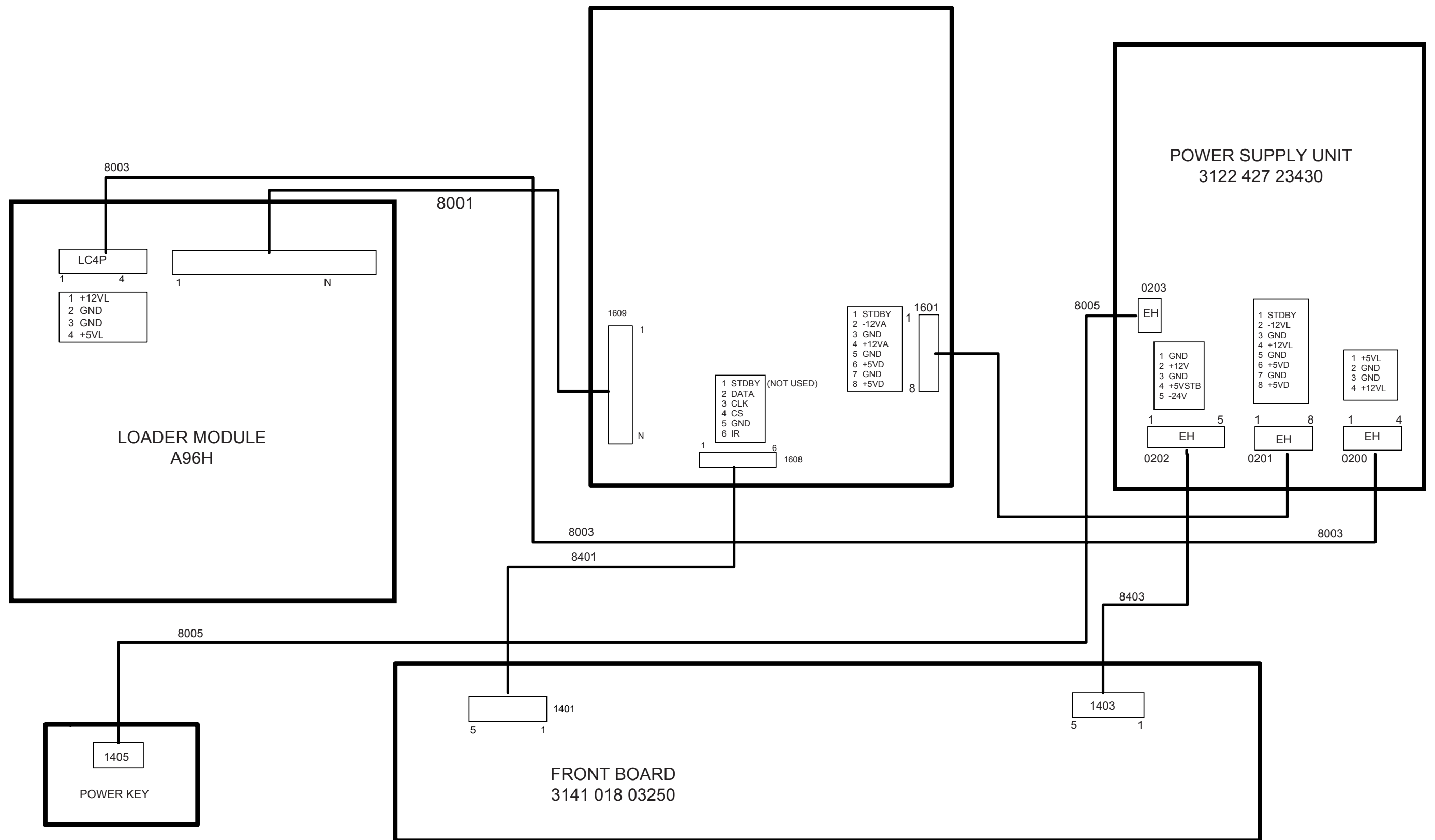
SCART INTERFACE

Pin	Assignment	Description
1	AOR	Audio Out Right
2	AIR	Audio In Right
3	AOL	Audio Out Left + Right
4	AGND	Audio Ground
5	BGND	RGB Blue Ground
6	AIL	Audio In Left + Mono1
7	B	RGB Blue
8	SWTCH	Audio/RGB switch/16:9
9	GGND	RGB Green Ground
10	CLKOUT	Clock Out
11	G	RGB Green
12	DATA	Data Out
13	RGND	RGB Red Ground
14	DATAGND	Data Out
15	R	RGB Red/Chrominance
16	BLNK	Blanking Signal
17	VGND	Composite Video Ground
18	BLNKGND	Blanking Signal Ground
19	VOUT	Composite Video Out
20	VIN	Composite Video In/Luminance
21	SHIELD	Ground/Shield (connected to chassis)

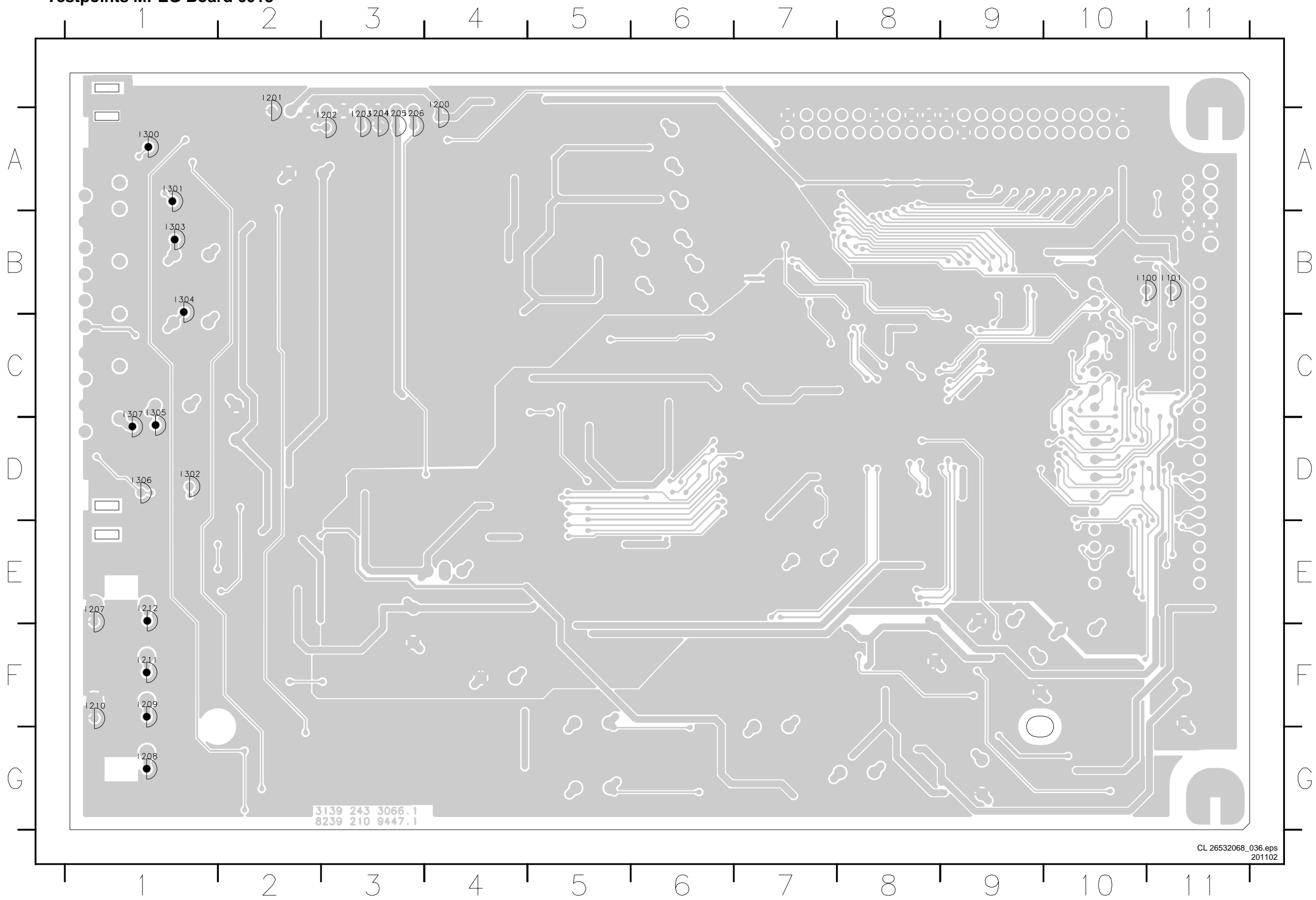
Wiring Diagram DVD733 EU

Wiring diagram DVD733/001/021/051

MPEG BOARD
3139 248 82360



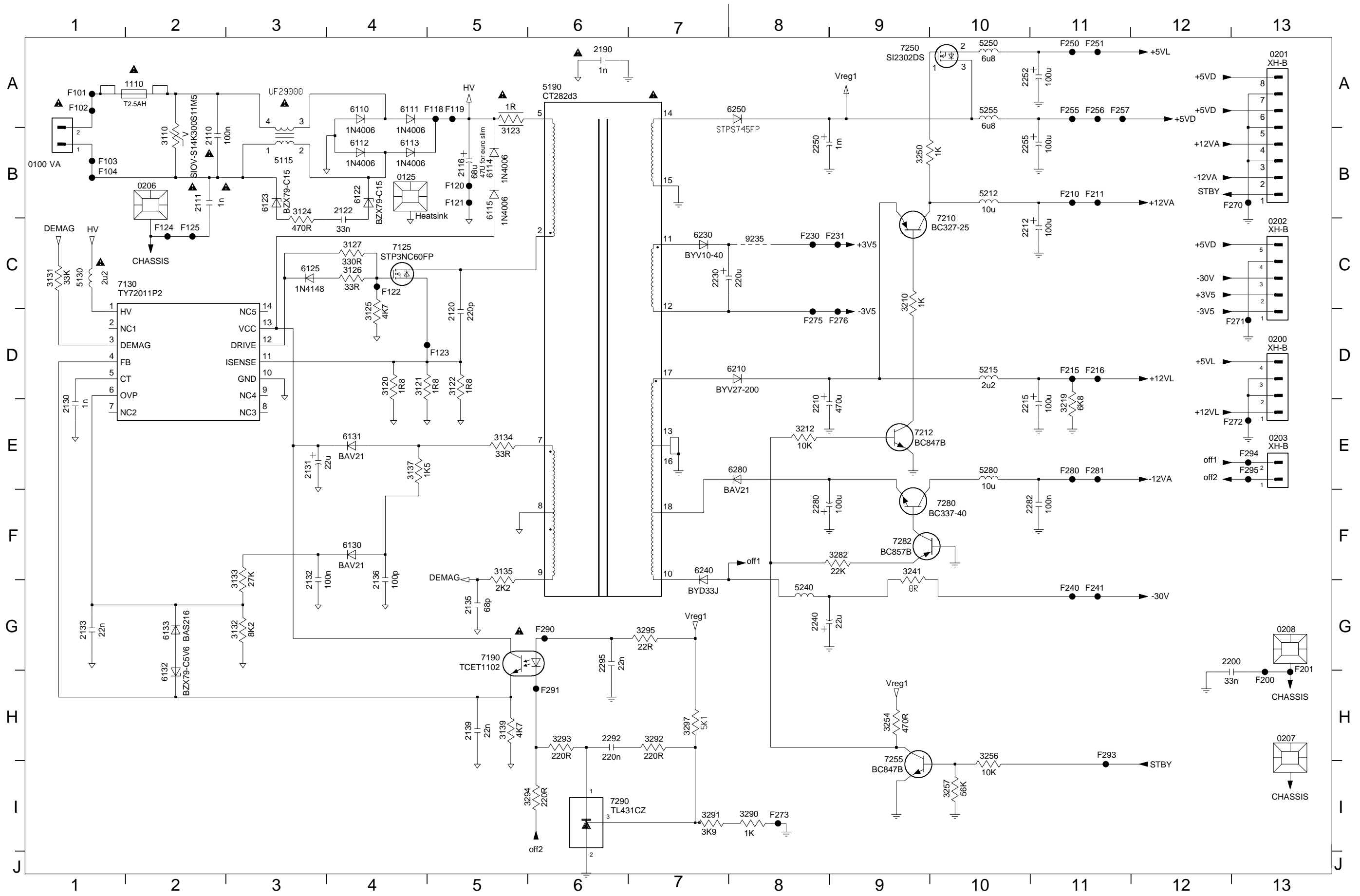
Testpoints MPEG Board 6018



- I100 B10
- I101 B11
- I200 A4
- I201 A2
- I202 A3
- I203 A3
- I204 A3
- I205 A3
- I206 A3
- I207 E1
- I208 G1
- I209 F1
- I210 F1
- I211 F1
- I212 E1
- I300 A1
- I301 A1
- I302 D1
- I303 B1
- I304 B1
- I305 D1
- I306 D1
- I307 D1

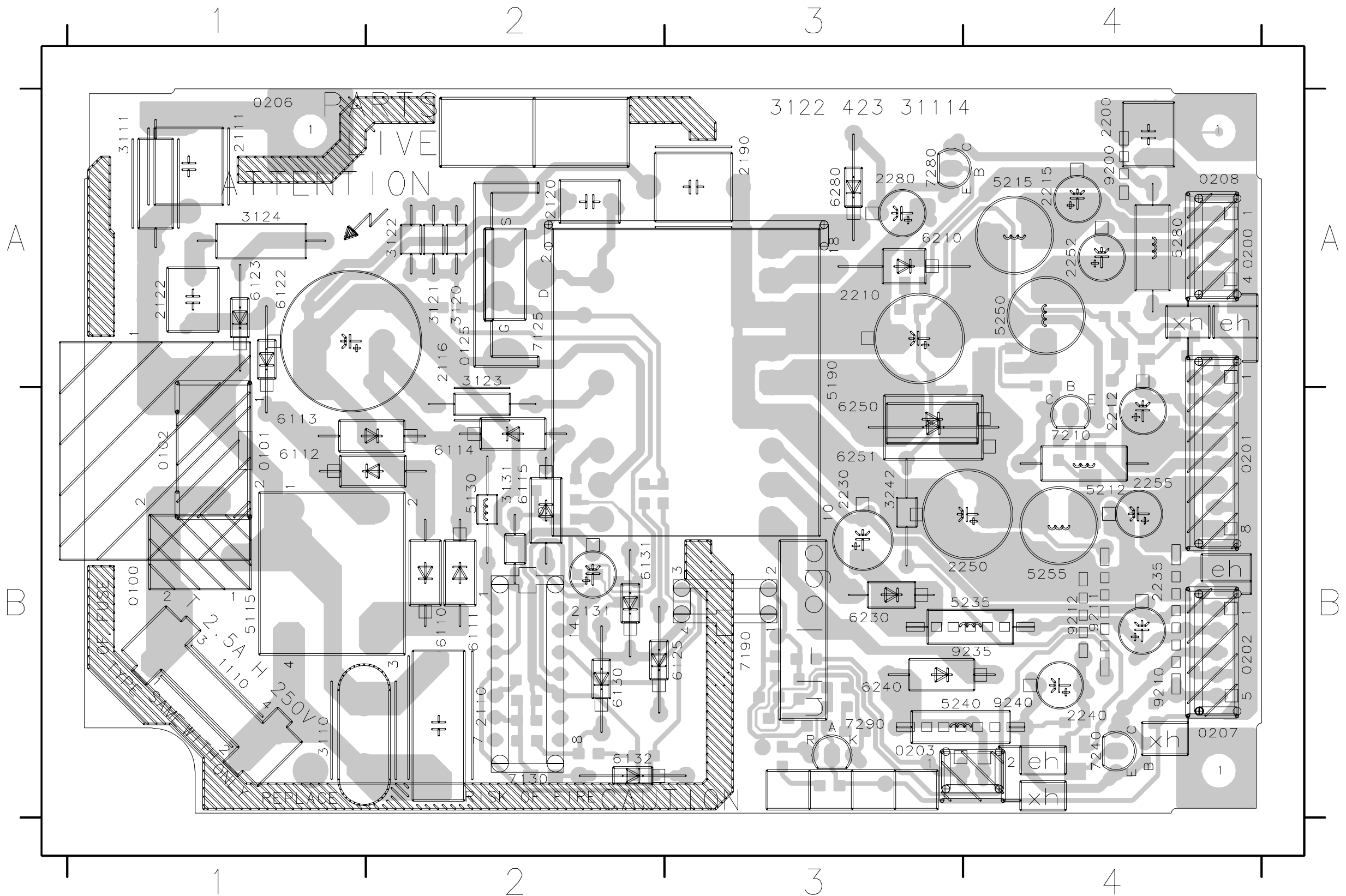
7. Electrical Diagrams

Power Supply Unit



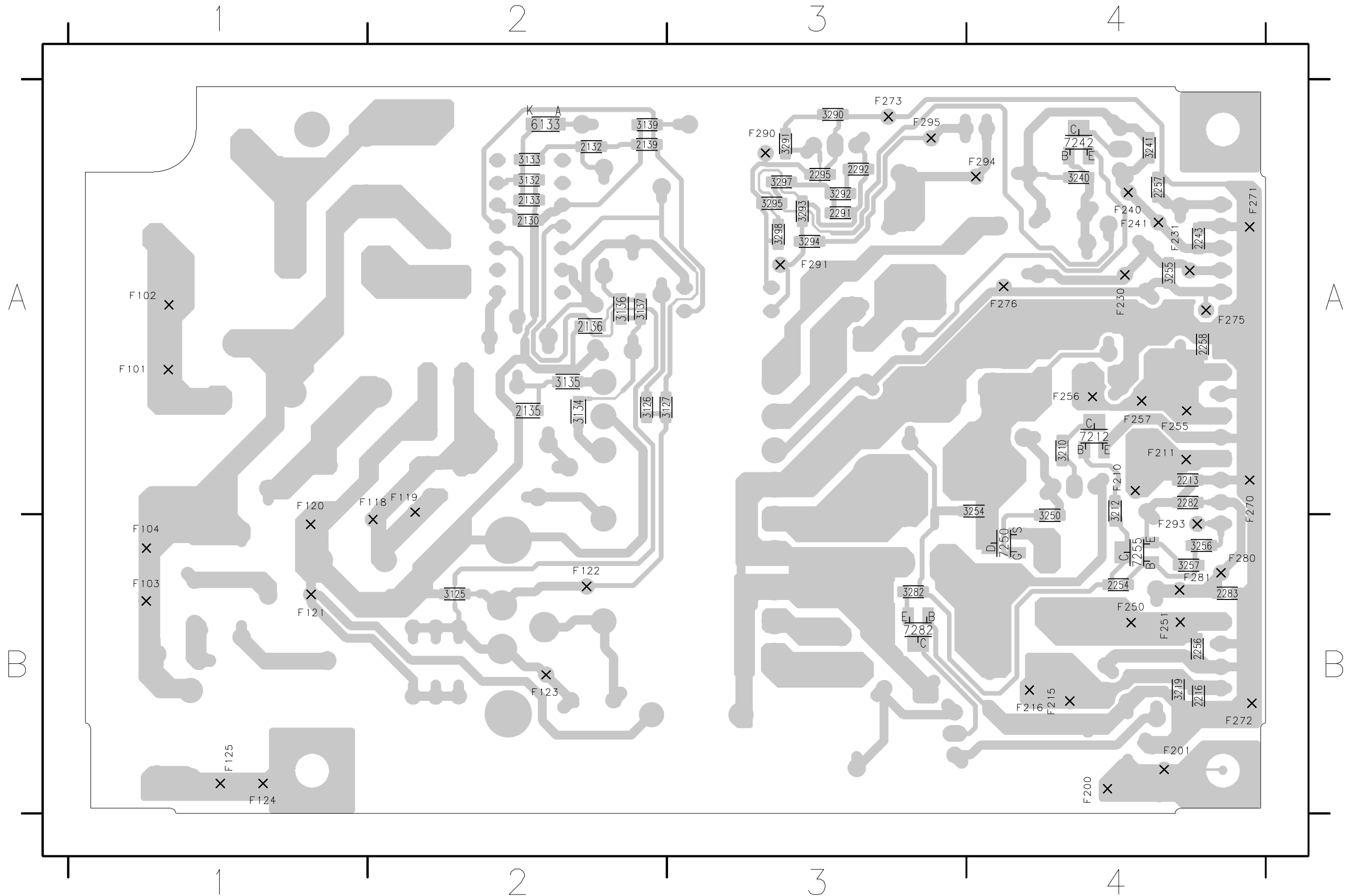
Layout PSU (Top View)

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01001	B1	02007	B4	21331	B2	22335	B4	31220	A2	51300	B2	52800	A4	61223	A1	62250	B3	72800	A3
01002	B1	02008	A4	21900	A3	22335	B4	31220	A2	51300	B2	52800	A4	61223	A1	62250	B3	72800	A3
01225	A2	11100	B1	22000	A4	22335	B4	31220	A2	51300	B2	52800	A4	61223	A1	62250	B3	72800	A3
02000	A4	21100	B2	22100	A3	22335	B4	31220	A2	51300	B2	52800	A4	61223	A1	62250	B3	72800	A3
02001	B4	21111	A1	22112	B4	22335	B4	31220	A2	51300	B2	52800	A4	61223	A1	62250	B3	72800	A3
02002	B4	21116	A2	22115	A4	22335	B4	31220	A2	51300	B2	52800	A4	61223	A1	62250	B3	72800	A3
02003	B3	21220	A2	22330	B3	31111	A1	51115	B1	52555	B4	61222	A1	62240	B3	72400	B4	92240	B4

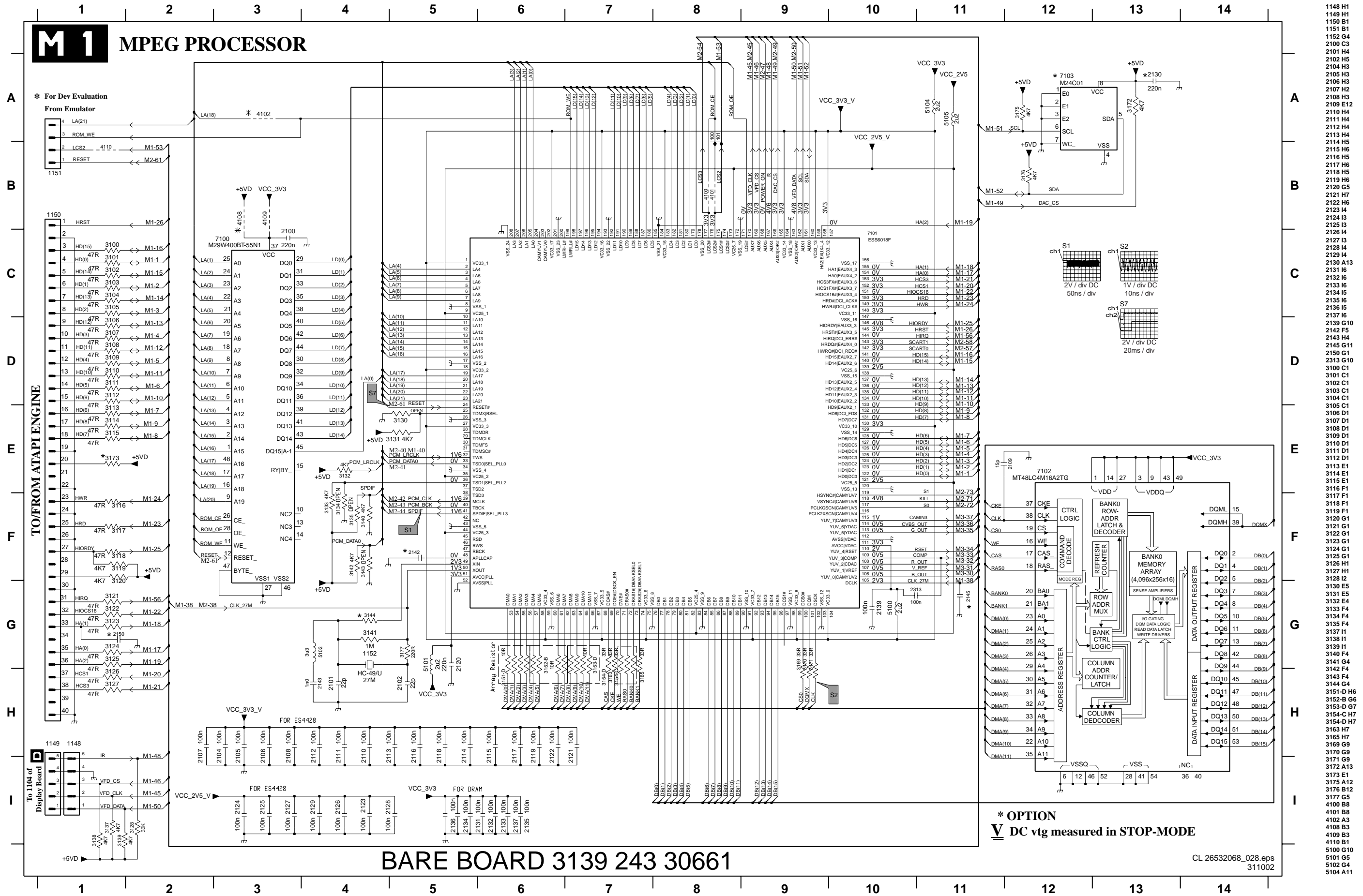


Layout PSU (Bottom View)

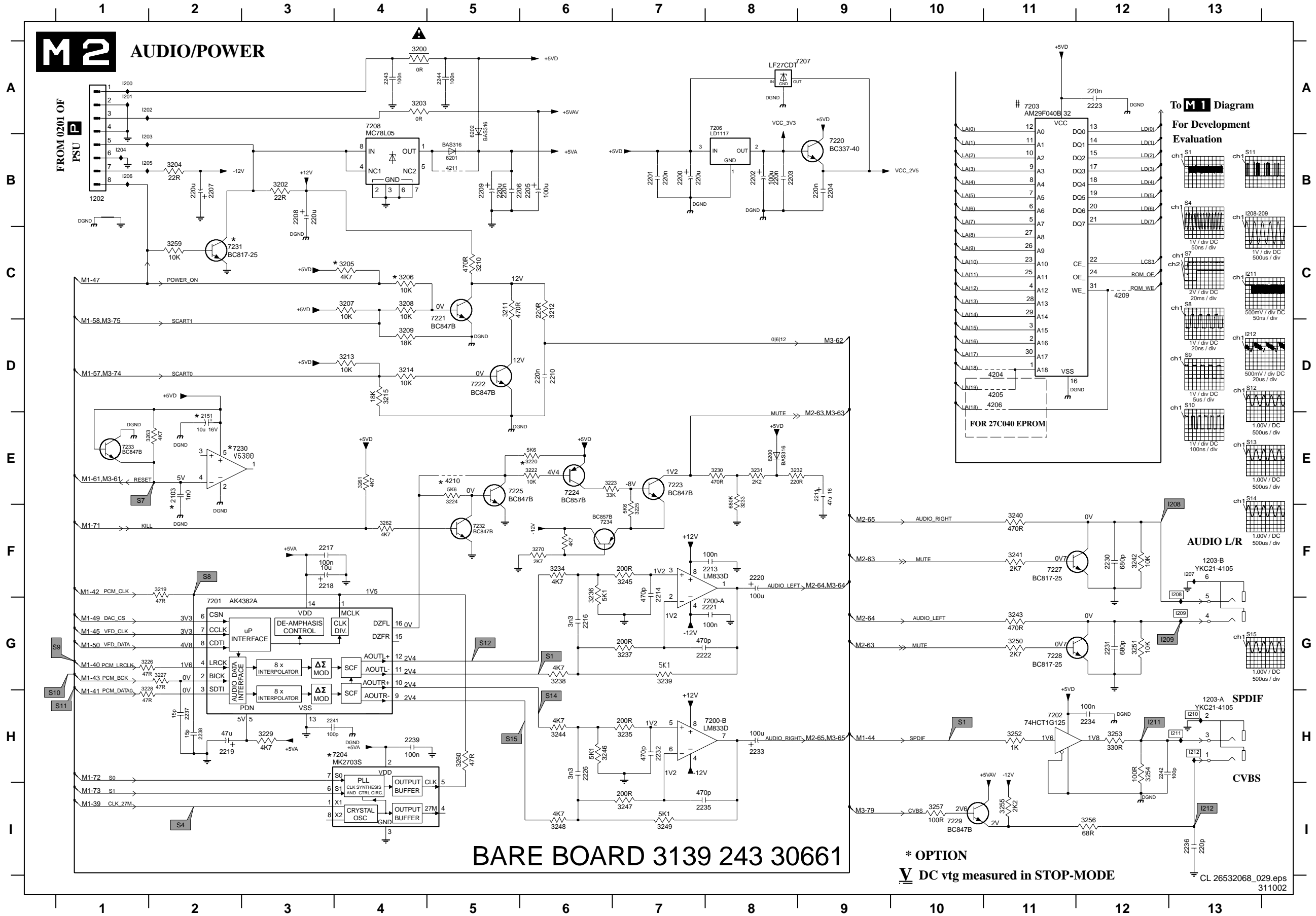
2130	A2	2139	A2	2256	B4	2291	A3	3127	A2	3136	A2	3219	B4	3255	A4	3291	A3	3297	A3	7250	B4
2132	A2	2213	A4	2257	A4	2292	A3	3132	A2	3137	A2	3240	A4	3256	B4	3292	A3	3298	A3	7255	B4
2133	A2	2216	B4	2258	A4	2295	A3	3133	A2	3139	A2	3241	A4	3257	B4	3293	A3	6133	A2	7282	B3
2135	A2	2243	A4	2282	A4	3125	B2	3134	A2	3210	A4	3250	B4	3282	B3	3294	A3	7212	A4		
2136	A2	2254	B4	2283	B4	3126	A2	3135	A2	3212	A4	3254	A4	3290	A3	3295	A3	7242	A4		



MPEG Board 6018: Processor



MPEG Board 6018: Audio Power



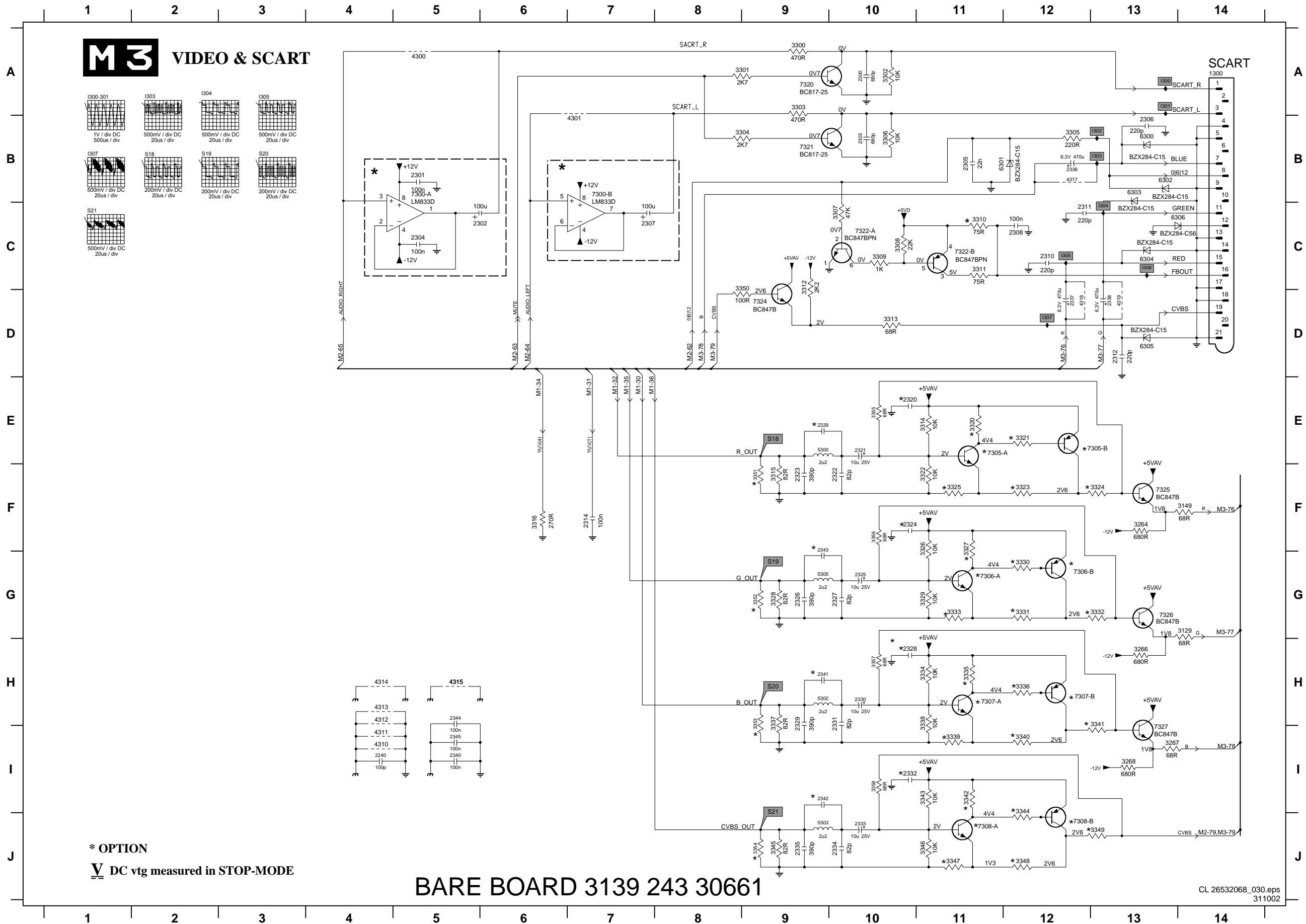
BARE BOARD 3139 243 30661

* OPTION
V DC vtg measured in STOP-MODE

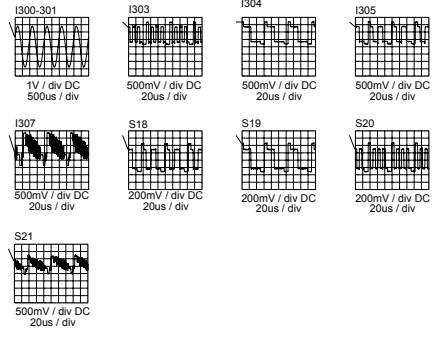
CL 26532068_029.eps
 311002

1202 B1	7200-B H7
1203-A H13	7201 G2
1203-B F13	7202 H11
2103 E2	7203 A11
2151 E2	7204 H3
2200 B7	7206 A8
2201 B7	7207 A9
2202 B8	7208 A4
2203 B8	7209 B9
2204 B9	7221 D5
2205 B6	7222 D5
2206 B5	7223 E7
2207 B2	7224 E6
2208 B3	7225 E5
2209 B5	7227 F11
2210 D6	7228 G11
2211 E9	7229 I10
2213 F8	7230 E2
2214 F7	7231 C2
2216 G6	7232 F5
2217 F3	7233 E1
2218 F3	7234 F6
2219 H2	I200 A1
2220 F8	I201 A1
2221 G8	I202 A1
2222 G7	I203 B1
2223 A12	I204 B1
2226 H6	I205 B1
2230 F12	I206 B1
2231 G12	I207 F13
2232 H7	I208 F13
2233 H8	I209 G13
2234 H12	I210 H13
2235 I7	I211 H13
2236 H13	I212 H13
2237 H2	
2238 F2	
2239 H4	
2241 H3	
2242 H12	
2243 A4	
2244 A5	
3136 F6	
3200 A4	
3202 B3	
3203 A4	
3204 B2	
3205 C4	
3206 C4	
3207 C4	
3208 C4	
3209 D4	
3210 C5	
3211 C5	
3212 C6	
3213 D4	
3214 D4	
3215 D4	
3219 F2	
3220 E6	
3222 E6	
3223 E6	
3224 E5	
3225 F7	
3226 G1	
3227 G2	
3228 H1	
3229 H3	
3230 E8	
3231 E8	
3232 E8	
3233 E8	
3234 F6	
3235 H7	
3236 F6	
3237 G7	
3238 G6	
3239 G7	
3240 F11	
3241 F11	
3242 F12	
3243 G11	
3244 H6	
3245 F7	
3246 H6	
3247 I7	
3248 I6	
3249 I7	
3250 G11	
3251 G12	
3252 H11	
3253 H12	
3254 H12	
3255 I11	
3256 I11	
3257 I10	
3259 C2	
3260 H5	
3261 E4	
3262 F4	
3263 E2	
3270 F6	
4204 D11	
4205 D11	
4206 D11	
4209 C12	
4210 E5	
4211 B5	
6200 E8	
6201 B5	
6202 A5	
7200-A G7	

MPEG Board 6018: Video & Scart



M3 VIDEO & SCART

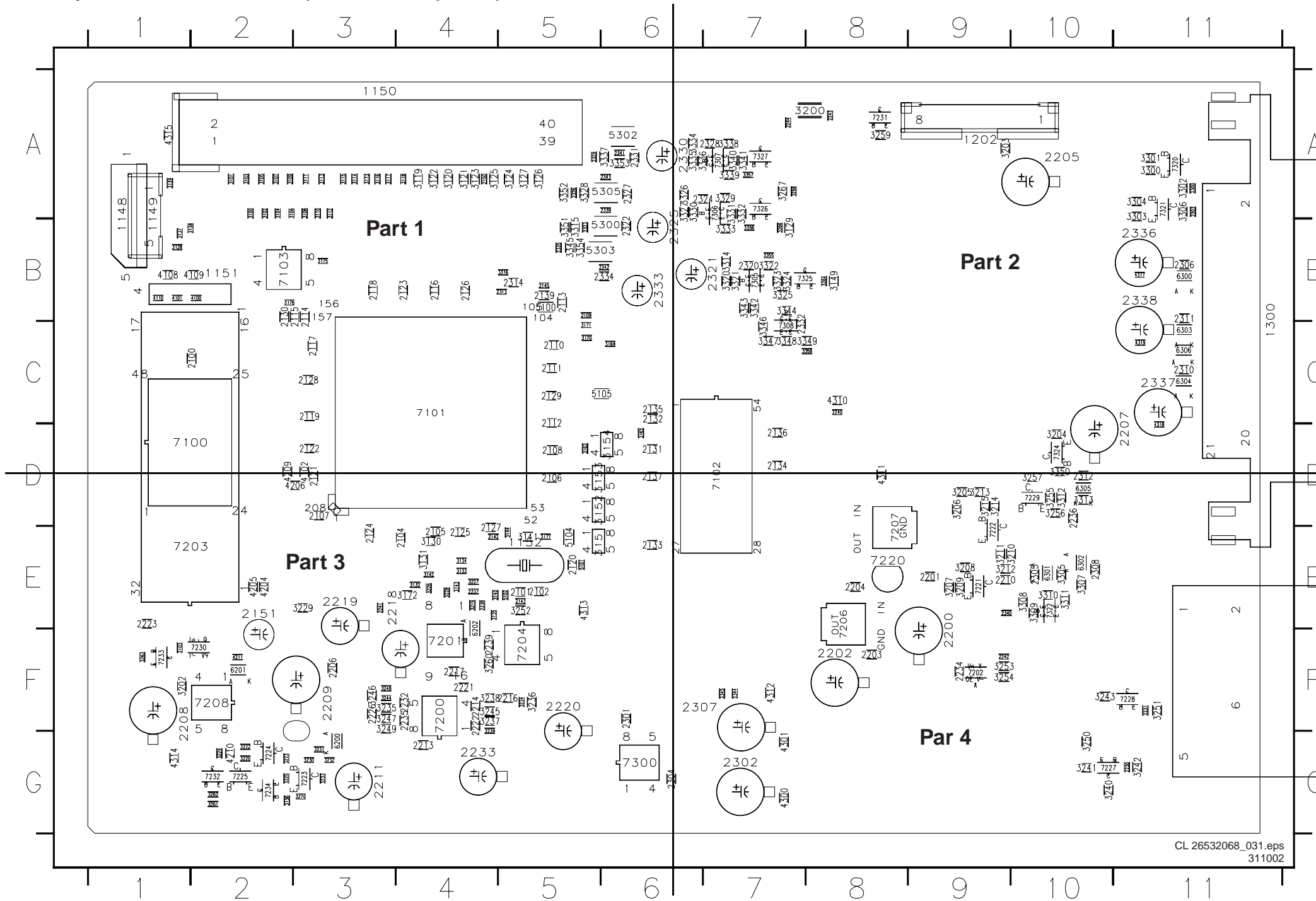


- 1300 A14
- 2240 I4
- 2300 A10
- 2301 B5
- 2302 C6
- 2303 B10
- 2304 C5
- 2305 B11
- 2306 B13
- 2307 C7
- 2308 C12
- 2310 C12
- 2311 C12
- 2312 D13
- 2314 F7
- 2320 E10
- 2321 E10
- 2322 F10
- 2323 F9
- 2324 F10
- 2325 G10
- 2326 G9
- 2327 G10
- 2328 H10
- 2329 H9
- 2330 H10
- 2331 H10
- 2332 I10
- 2333 J10
- 2334 J10
- 2335 J9
- 2336 B12
- 2337 D12
- 2338 D13
- 2339 E9
- 2340 I5
- 2341 H9
- 2342 I9
- 2343 G9
- 2344 H5
- 2345 I5
- 3129 G14
- 3149 F14
- 3264 F13
- 3266 H13
- 3267 H13
- 3268 H13
- 3300 A9
- 3301 A9
- 3302 A10
- 3303 A9
- 3304 B9
- 3305 B12
- 3306 B10
- 3307 C10
- 3308 C10
- 3309 C10
- 3310 C11
- 3311 C11
- 3312 C9
- 3313 D10
- 3314 E11
- 3315 F9
- 3316 F6
- 3320 E11
- 3321 E12
- 3322 F11
- 3323 F12
- 3324 F13
- 3325 F11
- 3326 F11
- 3327 F11
- 3328 G9
- 3329 G11
- 3330 G12
- 3331 G12
- 3332 G13
- 3333 G11
- 3334 H11
- 3335 H11
- 3336 H12
- 3337 H9
- 3338 H11
- 3339 I11
- 3340 I2
- 3341 I3
- 3342 I11
- 3343 I11
- 3344 J2
- 3345 J9
- 3346 J11
- 3347 J11
- 3348 J12
- 3349 J13
- 3350 D9
- 3351 F9
- 3352 G9
- 3353 H9
- 3354 J9
- 3355 E10
- 3356 F10
- 3357 H10
- 3358 I10
- 4300 A5
- 4301 B7
- 4310 I4
- 4311 I4
- 4312 H4
- 4313 H4
- 4314 H4
- 4315 H5
- 4317 B12
- 4318 D12
- 4319 D13
- 5300 E9
- 5302 H9
- 5303 J9
- 5305 G9
- 6300 B13
- 6303 B13
- 6304 C13
- 6305 D13
- 6306 C14
- 7300-A B5
- 7300-B B7
- 7305-A E11
- 7305-B E12
- 7306-A G11
- 7306-B G12
- 7307-A H11
- 7307-B H12
- 7308-A J11
- 7308-B J12
- 7320 A9
- 7321 B9
- 7322-A C10
- 7322-B C11
- 7324 D9
- 7325 F13
- 7326 G13
- 7327 I13
- 1300 A14
- 1301 A14
- 1302 B13
- 1303 B13
- 1304 C13
- 1305 C12
- 1306 C13
- 1307 D12

* OPTION
 V DC vtg measured in STOP-MODE

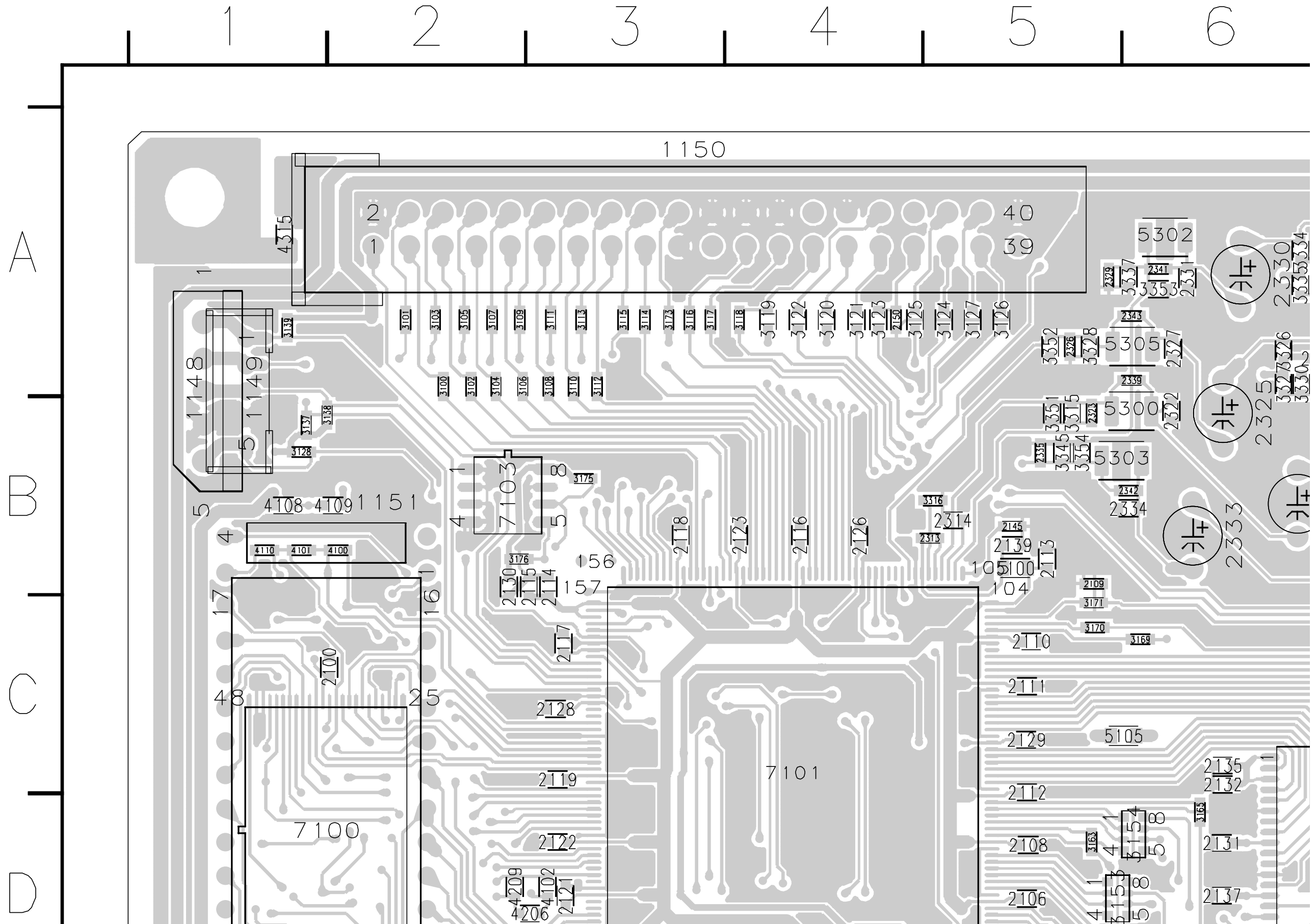
BARE BOARD 3139 243 30661

Layout MPEG Board 6018 (Overview Top Side)

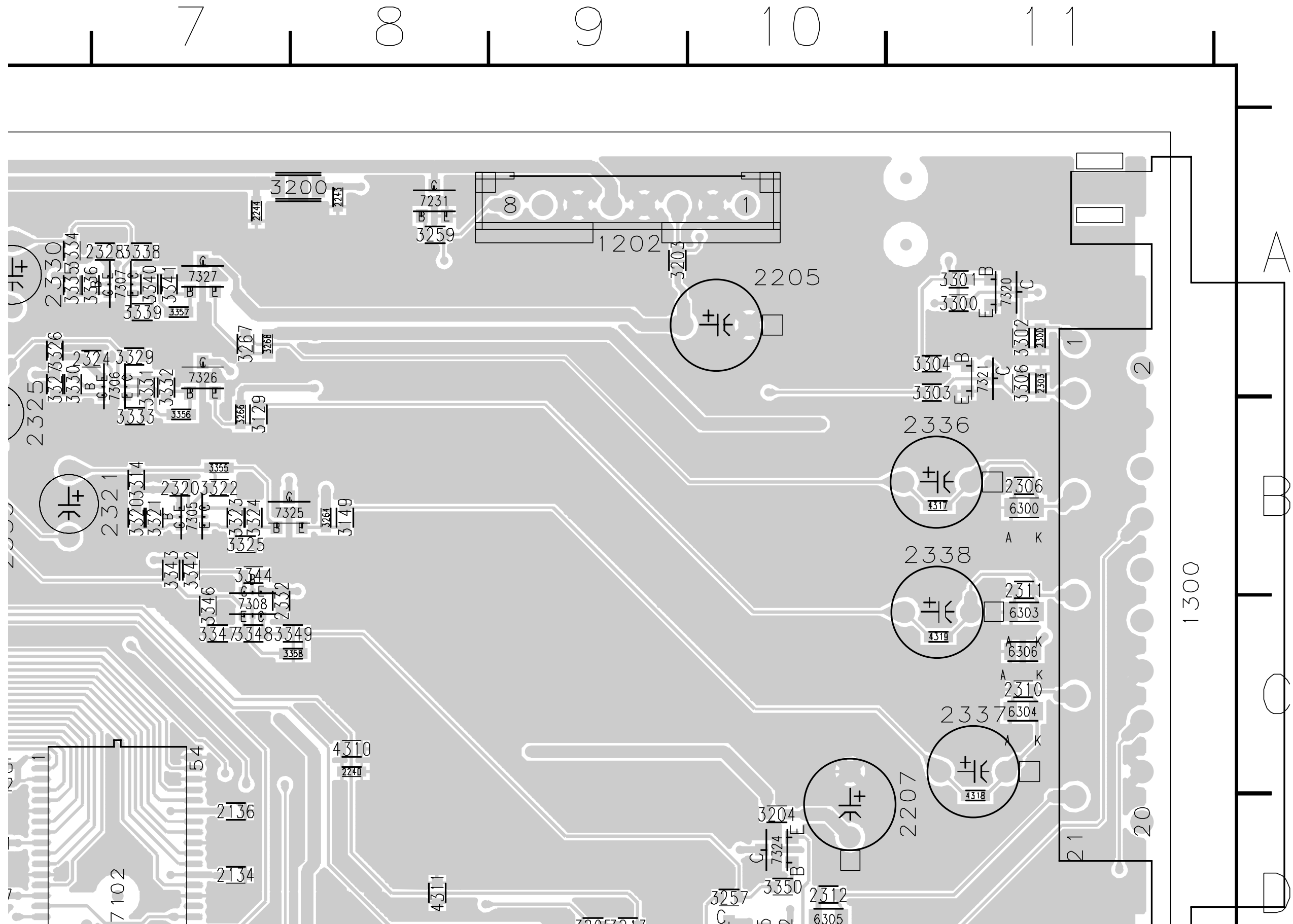


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1151 B2	2220 F5	3106 A2	3213 D9	3315 B5	5102 E5
1152 E5	2221 F4	3107 A2	3214 D9	3316 B5	5104 E5
1202 A9	2222 F4	3108 A3	3215 D9	3320 B7	5105 C6
1300 B11	2223 E1	3109 A2	3219 E4	3321 B7	5300 B6
2100 C2	2226 F3	3110 A3	3220 G2	3322 B7	5302 A6
2101 E5	2230 G11	3111 A3	3222 G2	3323 B7	5303 B5
2102 E5	2231 F11	3112 A3	3223 G2	3324 B7	5305 A6
2103 F1	2232 F4	3113 A3	3224 G2	3325 B7	6200 G3
2104 E4	2233 G4	3114 A3	3225 G2	3326 A6	6201 F2
2105 E4	2234 F9	3115 A3	3226 E4	3327 A6	6202 E4
2106 D5	2235 F4	3116 A3	3227 E4	3328 A5	6300 B11
2107 D3	2236 D10	3117 A3	3228 E4	3329 A7	6301 E10
2108 D5	2237 E4	3118 A4	3229 E3	3330 A6	6302 E10
2109 B5	2238 E4	3119 A4	3230 G3	3331 A7	6303 C11
2110 C5	2239 F4	3120 A4	3231 G3	3332 A7	6304 C11
2111 C5	2240 C8	3121 A4	3232 G3	3333 B7	6305 D10
2112 C5	2241 E3	3122 A4	3233 G3	3334 A6	6306 C11
2113 B5	2242 F9	3123 A4	3234 F5	3335 A6	7100 D1
2114 B3	2243 A8	3124 A5	3235 F3	3336 A6	7101 C4
2115 B3	2244 A7	3125 A4	3236 F5	3337 A6	7102 D7
2116 B4	2300 A11	3126 A5	3237 F4	3338 A7	7103 B2
2117 C3	2301 F6	3127 A5	3238 F4	3339 A7	7200 F4
2118 B3	2302 G7	3128 B1	3239 F4	3340 A7	7201 F4
2119 C3	2303 A11	3129 B7	3240 G10	3341 A7	7202 F9
2120 E5	2304 G6	3130 E4	3241 G10	3342 B7	7203 E1
2121 D3	2305 E10	3131 E4	3242 G11	3343 B7	7204 F5
2122 D3	2306 B11	3132 E4	3243 F10	3344 B7	7206 E8
2123 B4	2307 F6	3133 E4	3244 F3	3345 B5	7207 E8
2124 E3	2308 E10	3134 E4	3245 F4	3346 C7	7208 F2
2125 E4	2310 C11	3135 E4	3246 F3	3347 C7	7220 E8
2126 B4	2311 B11	3136 G2	3247 F3	3348 C7	7221 E9
2127 E4	2312 D10	3137 B1	3248 F3	3349 C8	7222 E9
2128 C3	2313 B5	3138 B1	3249 F3	3350 D10	7223 G3
2129 C5	2314 B5	3139 A1	3250 G10	3351 B5	7224 G2
2130 B2	2320 B7	3140 E4	3251 F11	3352 A5	7225 G2
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2132 C6	2322 B6	3142 E4	3253 F9	3354 B5	7228 F11
2133 E6	2323 B5	3143 E4	3254 F9	3355 B7	7229 D10
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2135 C6	2325 B6	3149 B8	3256 D10	3357 A7	7231 A8
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2137 D6	2327 A6	3152 D5	3259 A8	4100 B2	7233 F1
2139 B5	2328 A7	3153 D5	3260 F4	4101 B1	7234 G2
2142 E4	2329 A5	3154 D6	3261 G2	4102 D3	7300 G6
2143 E5	2330 A6	3163 D5	3262 G2	4108 B1	7305 B7
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2150 A4	2332 C7	3169 C6	3264 B8	4110 B1	7307 A7
2151 E2	2333 B6	3170 C5	3266 B7	4204 E2	7308 C7
2200 F9	2334 B6	3171 C5	3267 A7	4205 E2	7320 A11
2201 E9	2335 B5	3172 E4	3268 A7	4206 D3	7321 A11
2202 F8	2336 B11	3173 A3	3270 G3	4209 D2	7322 E10
2203 F8	2337 C11	3175 B3	3300 A11	4210 G2	7324 D10
2204 E8	2338 B11	3176 B2	3301 A11	4211 F2	7325 B7
2205 A10	2339 A6	3177 E5	3302 A11	4300 G7	7326 A7
2206 F3	2340 E9	3200 A8	3303 A11	4301 G7	7327 A7
2207 D11	2341 A6	3202 F1	3304 A11	4310 C8	
2208 F1	2342 B6	3203 A9	3305 E10	4311 D8	
2209 F3	2343 A6	3204 D10	3306 A11	4312 F7	
2210 E9	2344 F7	3205 D9	3307 E10	4313 E5	
2211 G3	2345 F7	3206 D9	3308 E10	4314 G1	
2213 G4	3100 A2	3207 E9	3309 E10	4315 A1	
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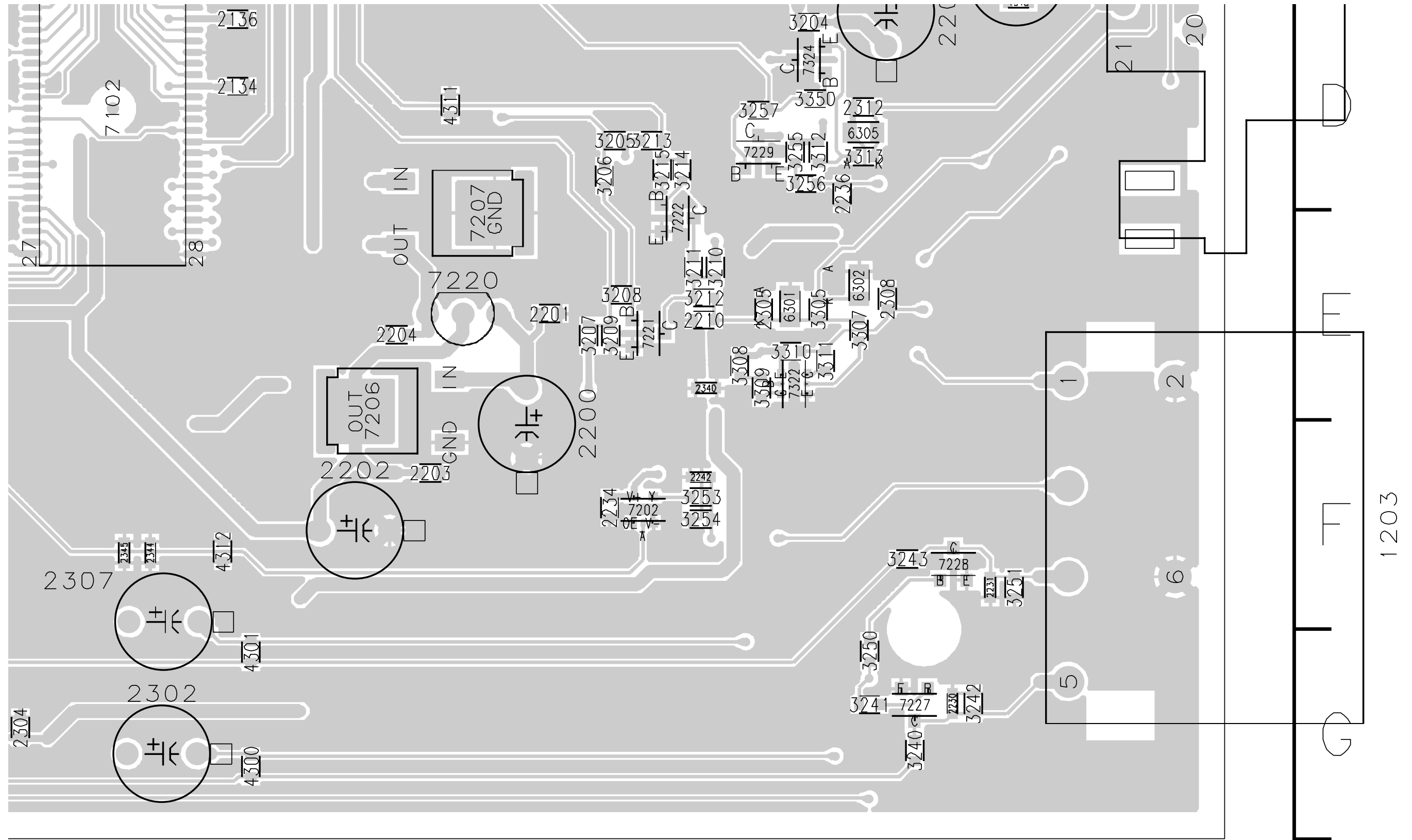
Layout MPEG Board 6018 (Top Side Part 1)



Layout MPEG Board 6018 (Top Side Part 2)



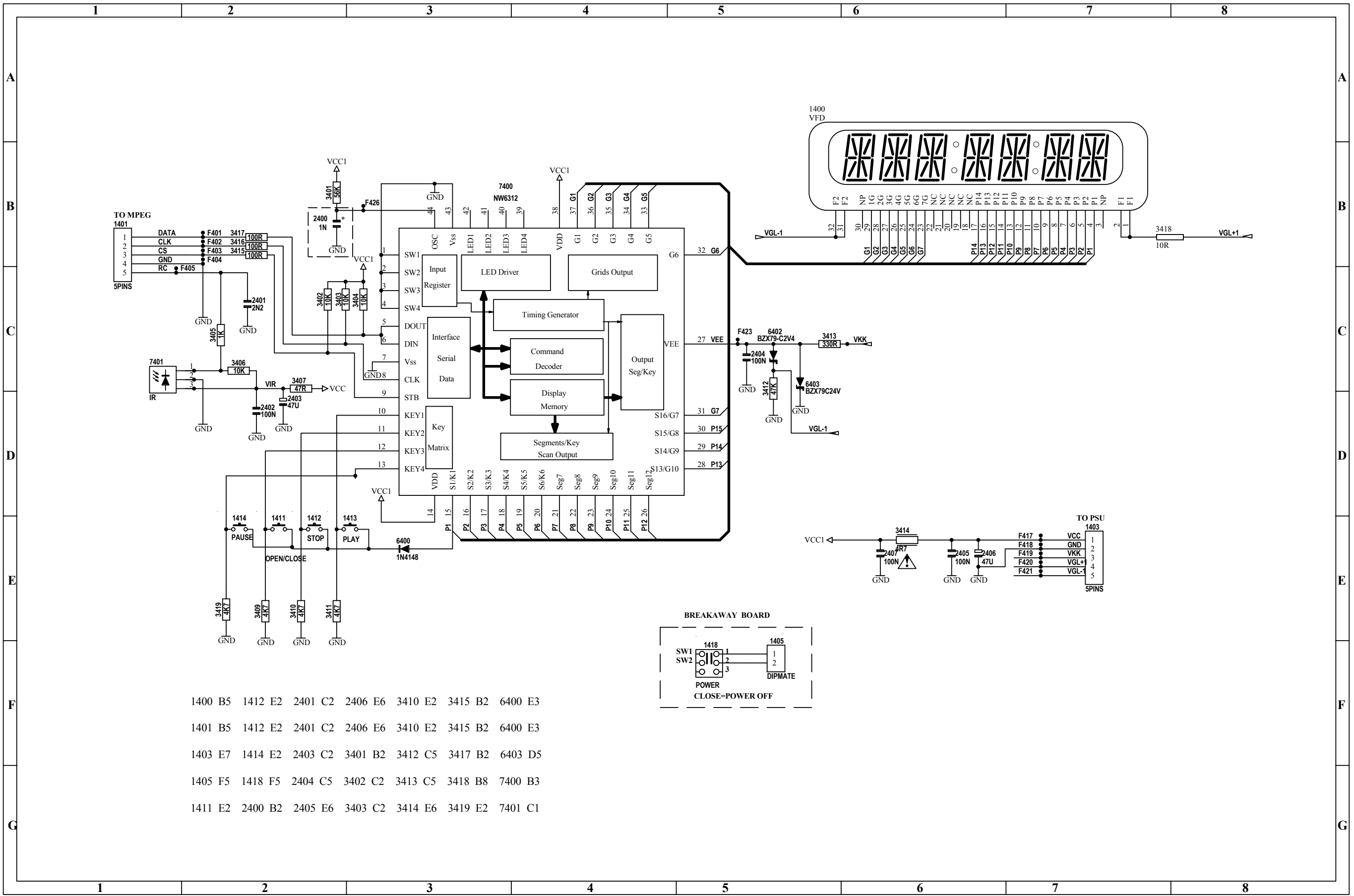
Layout MPEG Board 6018 (Top Side Part 4)



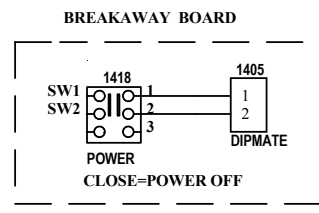
CL 26532068_31d.eps
201102

7 8 9 10 11

Front Board



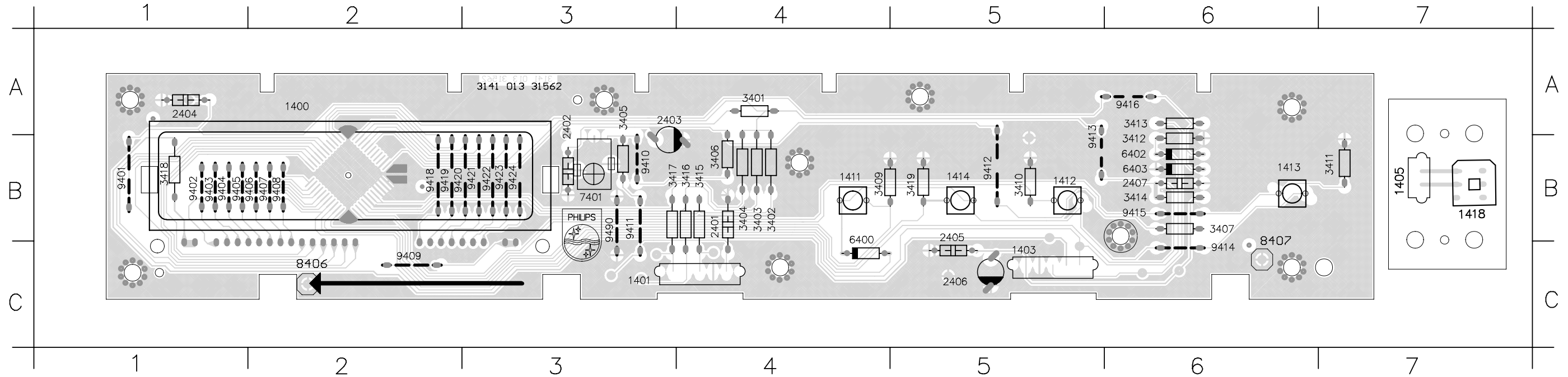
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- 1401 B5 1412 E2 2401 C2 2406 E6 3410 E2 3415 B2 6400 E3
- 1403 E7 1414 E2 2403 C2 3401 B2 3412 C5 3417 B2 6403 D5
- 1405 F5 1418 F5 2404 C5 3402 C2 3413 C5 3418 B8 7400 B3
- 1411 E2 2400 B2 2405 E6 3403 C2 3414 E6 3419 E2 7401 C1



Layout Front Board

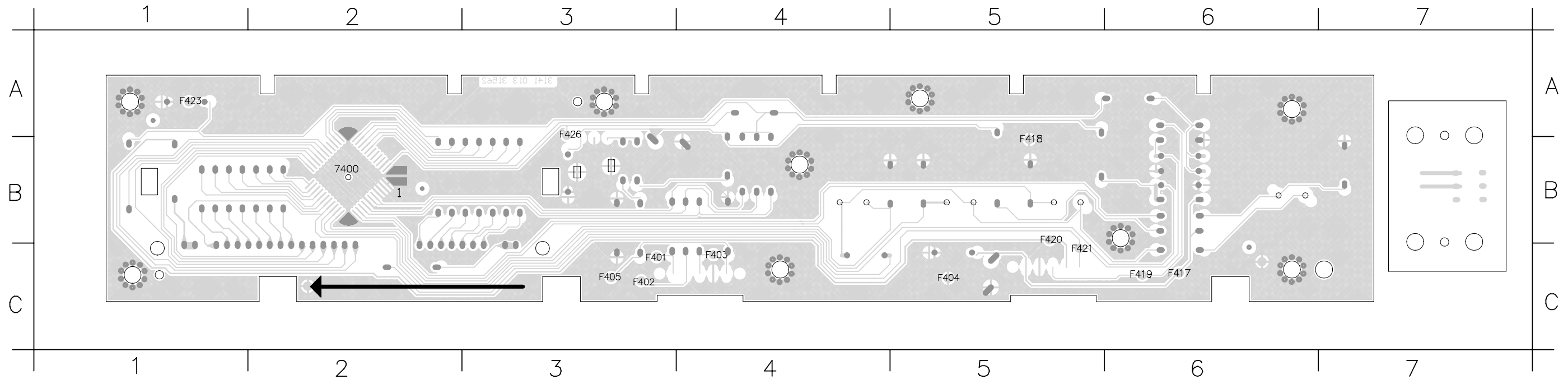
Layout Front Board (Components Side)

1400 C1	1411 B4	1418 B7	2404 A1	3401 A4	3405 B3	3410 B5	3414 B6	3418 B1	6403 B6	9402 B1	9406 B2	9410 B3	9414 C6	9419 B2	9423 B3
1401 C3	1412 B5	2401 C4	2405 C5	3402 A4	3406 B4	3411 B7	3415 C4	3419 B5	7400 B2	9403 B1	9407 B2	9411 C3	9415 B6	9420 B3	9424 B3
1403 C5	1413 B6	2402 B3	2406 C5	3403 A4	3407 B6	3412 B6	3416 C4	6400 C4	7401 B3	9404 B1	9408 B2	9412 B5	9416 A6	9421 B3	9490 C3
1405 B7	1414 B5	2403 B3	2407 B6	3404 A4	3409 B5	3413 A6	3417 C3	6402 B6	9401 B1	9405 B1	9409 C2	9413 B5	9418 B2	9422 B3	



Layout Front Board (Copper Side)

7400 B2	F403 C4	F417 C6	F420 B5	F426 A3
F401 C3	F404 C5	F418 B5	F421 C5	
F402 C3	F405 C3	F419 C6	F423 A1	



8. Alignments

Not applicable.

9. Circuit Descriptions, List of Abbreviations, and IC Data

9.1 Circuit Descriptions

Not applicable.

9.2 List of abbreviations

Not applicable.

9.3 IC Data

9.3.1 uPD16312

BLOCK DIAGRAM

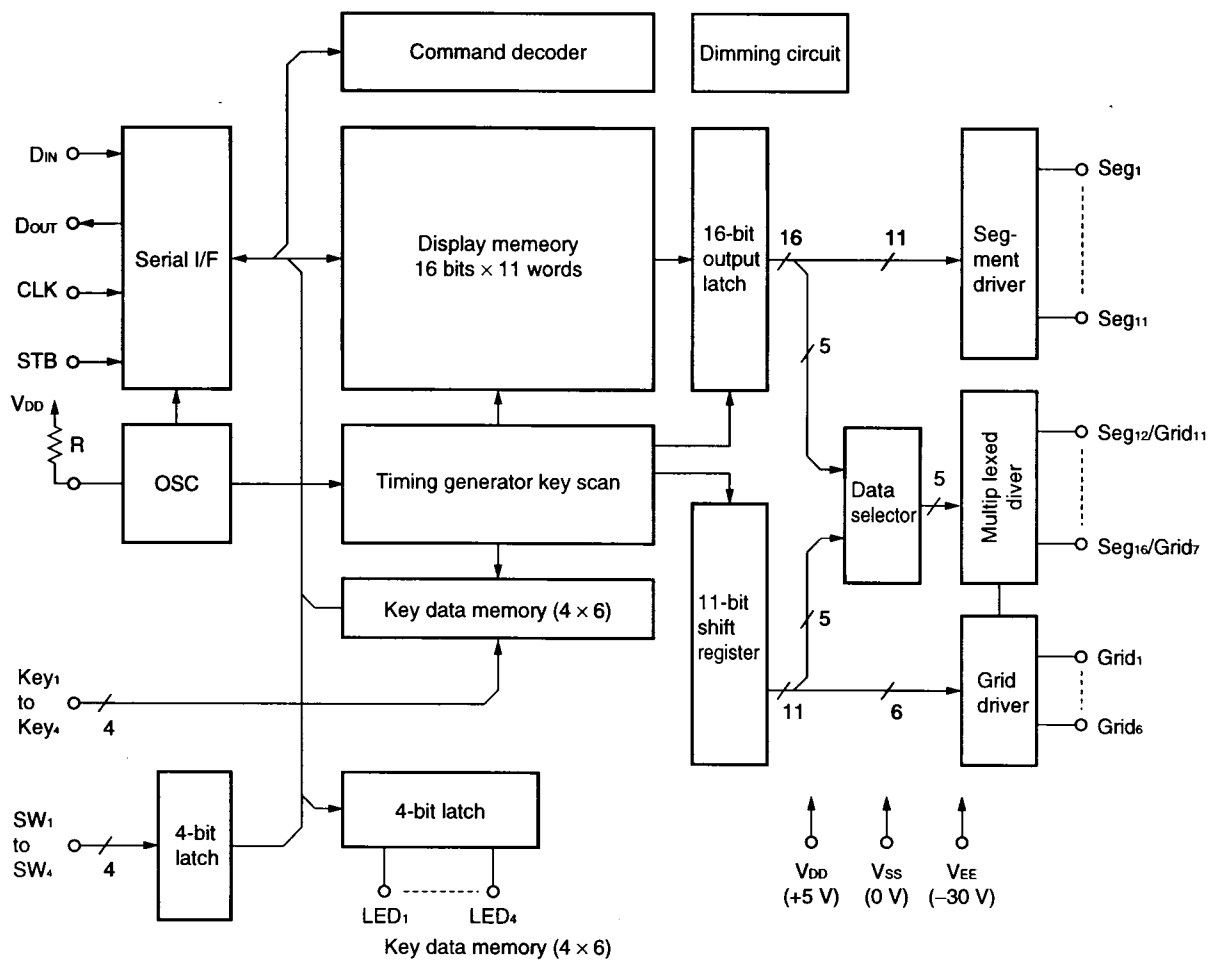
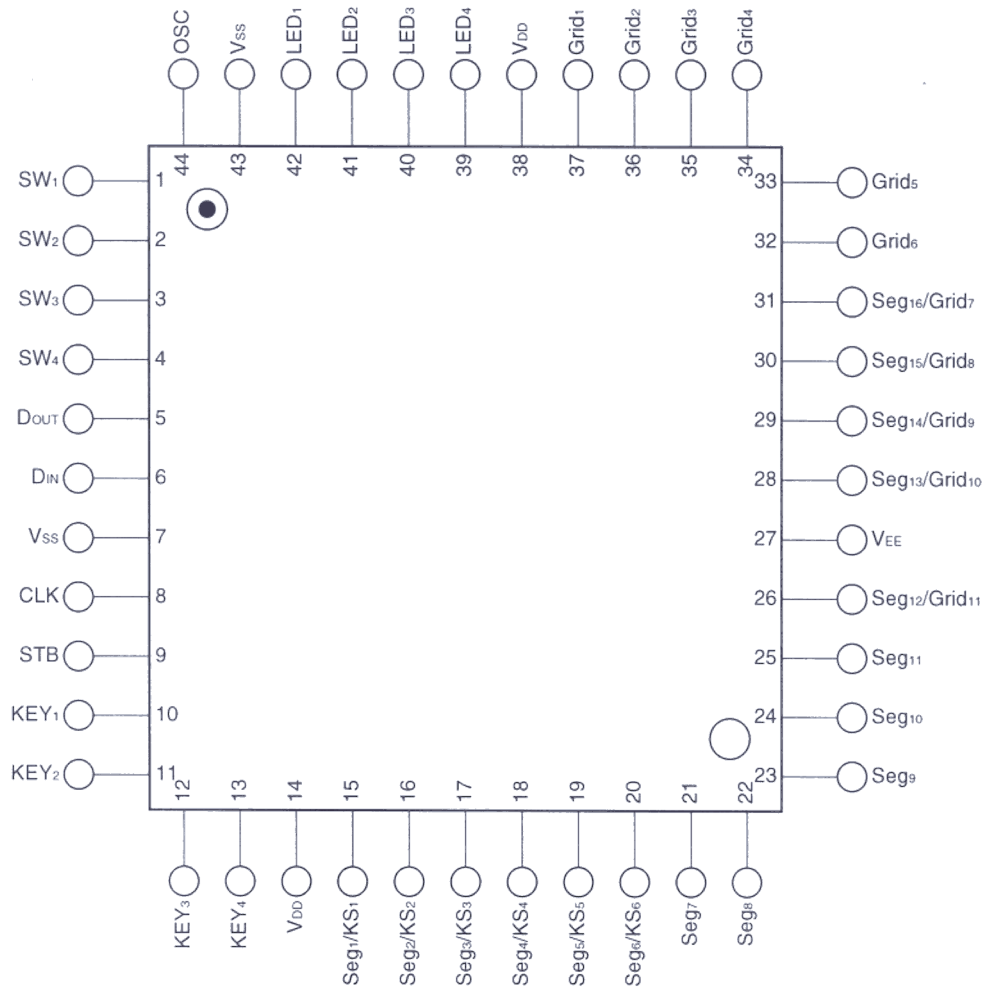


Figure 9-1 Block Diagram uPD16312

PIN CONFIGURATION (Top View)



Use all power pins.

Figure 9-2 Pinning uPD16312

Pin Function

Symbol	Pin Name	Pin No	Description
DIN	Data input	6	Input serial data at rising edge of shift clock, starting from the low order bit.
DO _{UT}	Data output	5	Output serial data at the falling edge of the shift clock, starting from low order bit. This is N-ch open-drain output pin.
STB	Strobe	9	Initializes serial interface at the rising or falling edge of the μ PD16312. It then waits for reception of a command. Data input after STB has fallen is processed as a command. While command data is processed, current processing is stopped, and the serial interface is initialized. While STB is high, CLK is ignored.
CLK	Clock input	8	Reads serial data at the rising edge, and outputs data at the falling edge.
OSC	Oscillator pin	44	Connect resistor to this pin to determine the oscillation frequency to this pin.
Seg ₁ /KS ₁ to Seg ₆ /KS ₆	High-voltage output	15 to 20	Segment output pins (Dual function as key source)
Seg ₇ to Seg ₁₁	High-voltage output (segment)	21 to 25	Segment output pins
Grid ₁ to Grid ₆	High-voltage output (grid)	37 to 32	Grid output pins
Seg ₁₂ /Grid ₁₁ to Seg ₁₆ /Grid ₇	High-voltage output (segment/grid)	26, 28 to 31	These pins are selectable for segment or grid driving.
LED ₁ to LED ₄	LED output	42 to 39	CMOS output. +20 mA max.
KEY ₁ to KEY ₄	Key data input	10 to 13	Data input to these pins is latched at the end of the display cycle.
SW ₁ to SW ₄	Switch input	1 to 4	These pins constitute a 4-bit general-purpose input port.
V _{DD}	Logic power	14, 38	5 V \pm 10 %
V _{SS}	Logic ground	7, 43	Connect this pin to system GND.
V _{EE}	Pull-down level	27	V _{DD} – 35 V max.

Figure 9-3 Pin Description μ PD16312

10. Spare Parts List

Accessories /001

Various

0308	2422 076 00304	CABLE CINCH/CINCH 1M5 YE/RD/WH
0310	3141 017 90220	REMOTE CONTROL DVD-Q30/751

Mechanical /001

Various

0200	3141 017 77481	FRONT ASSY DVD733/001
0202	3141 017 77351	BUTTON POWER DVD733K PNT
0204	3141 017 77600	DOOR ASSY DVD733
0208	3141 017 77491	FRAME ASSY DVD733
0210	3141 017 77501	BACK PLATE DVD733/001 PPT
0212	3141 017 77441	COVER TOP DVD733K PNT
0238	4822 532 60948	
1001▲	3122 427 23431	PBAS PSU BPAVC 7XX EURO SLIM (
1002	3139 248 82362	PCBAS MPEG DVD634
1003	3141 018 03140	DVD LOADER MODULE A96H
1004	3141 018 03251	PBAS FRONT DVD733/001/021/051

5001▲	2422 070 98231	MAIN CORD IEC 2A5 1M8 VH BK B
8001	3141 010 21361	CWAS 04EH/04LC 510 20S
8002	3139 241 00181	CBLE DATD 40P 280MM
8003	3141 010 21431	CWAS 08EH/08EH 600 8 WH

Accessories /021

Various

0308	2422 076 00304	CABLE CINCH/CINCH 1M5 YE/RD/WH
0310	3141 017 90220	REMOTE CONTROL DVD-Q30/751

Mechanical /021

Various

0200	3141 017 77481	FRONT ASSY DVD733/001
0202	3141 017 77351	BUTTON POWER DVD733K PNT
0204	3141 017 77600	DOOR ASSY DVD733
0208	3141 017 77491	FRAME ASSY DVD733
0210	3141 017 77501	BACK PLATE DVD733/001 PPT
0212	3141 017 77441	COVER TOP DVD733K PNT
0238	4822 532 60948	
1001▲	3122 427 23431	PBAS PSU BPAVC 7XX EURO SLIM (
1002	3139 248 82362	PCBAS MPEG DVD634
1003	3141 018 03140	DVD LOADER MODULE A96H
1004	3141 018 03251	PBAS FRONT DVD733/001/021/051

5001▲	2422 070 98231	MAIN CORD IEC 2A5 1M8 VH BK B
8001	3141 010 21361	CWAS 04EH/04LC 510 20S
8002	3139 241 00181	CBLE DATD 40P 280MM
8003	3141 010 21431	CWAS 08EH/08EH 600 8 WH

Accessories /051

Various

0308	2422 076 00304	CABLE CINCH/CINCH 1M5 YE/RD/WH
0310	3141 017 90220	REMOTE CONTROL DVD-Q30/751

Mechanical 051

Various

0200	3141 017 77481	FRONT ASSY DVD733/001
0202	3141 017 77351	BUTTON POWER DVD733K PNT
0204	3141 017 77600	DOOR ASSY DVD733
0208	3141 017 77491	FRAME ASSY DVD733
0210	3141 017 77501	BACK PLATE DVD733/001 PPT
0212	3141 017 77441	COVER TOP DVD733K PNT
0238	4822 532 60948	
1001▲	3122 427 23431	PBAS PSU BPAVC 7XX EURO SLIM (
1002	3139 248 82362	PCBAS MPEG DVD634
1003	3141 018 03140	DVD LOADER MODULE A96H
1004	3141 018 03251	PBAS FRONT DVD733/001/021/051

5001▲	3141 018 71340	A.C. MAINS CORD PQ8B1V6Y10A-05
8001	3141 010 21361	CWAS 04EH/04LC 510 20S
8002	3139 241 00181	CBLE DATD 40P 280MM
8003	3141 010 21431	CWAS 08EH/08EH 600 8 WH

MPEG ES 6018 PWB

Various

1149	4822 267 10734	B5B-EH-A
1150	2422 025 17682	CON BM V 40P M 2.54 440094 B
1152	4822 242 81246	27MHz 20P HC49/UT
1202	4822 267 10574	CON BM V 8P 2.50
1203	2422 026 05353	SOC CINCH H 4P F WHYERDBK Y
1300	2422 025 12352	CON BM EURO H 21P F BK GRND-L

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2100	4822 126 13879	220nF 20% 16V
2101	4822 122 33761	22pF 5% 50V
2102	4822 122 33761	22pF 5% 50V
2104	2238 586 59812	0603 50V 100NP80M
2105	2238 586 59812	0603 50V 100NP80M
2106	2238 586 59812	0603 50V 100NP80M
2107	2238 586 59812	0603 50V 100NP80M
2108	2238 586 59812	0603 50V 100NP80M
2109	4822 122 33752	15pF 5% 50V
2110	2238 586 59812	0603 50V 100NP80M
2111	2238 586 59812	0603 50V 100NP80M
2112	2238 586 59812	0603 50V 100NP80M
2113	2238 586 59812	0603 50V 100NP80M
2114	2238 586 59812	0603 50V 100NP80M
2115	2238 586 59812	0603 50V 100NP80M
2116	2238 586 59812	0603 50V 100NP80M
2117	2238 586 59812	0603 50V 100NP80M
2118	2238 586 59812	0603 50V 100NP80M
2119	2238 586 59812	0603 50V 100NP80M
2120	4822 126 13879	220nF 20% 16V
2121	2238 586 59812	0603 50V 100NP80M
2122	2238 586 59812	0603 50V 100NP80M
2123	2238 586 59812	0603 50V 100NP80M
2124	2238 586 59812	0603 50V 100NP80M
2125	2238 586 59812	0603 50V 100NP80M
2126	2238 586 59812	0603 50V 100NP80M
2127	2238 586 59812	0603 50V 100NP80M
2128	2238 586 59812	0603 50V 100NP80M

2129	2238 586 59812	0603 50V 100NP80M
2131	2238 586 59812	0603 50V 100NP80M
2132	2238 586 59812	0603 50V 100NP80M
2133	2238 586 59812	0603 50V 100NP80M
2134	2238 586 59812	0603 50V 100NP80M
2135	2238 586 59812	0603 50V 100NP80M
2136	2238 586 59812	0603 50V 100NP80M
2137	2238 586 59812	0603 50V 100NP80M
2139	2238 586 59812	0603 50V 100NP80M
2143	3198 016 31020	0603 25V 1nF
2200	4822 124 40196	220μF 20% 16V
2201	4822 126 13879	220nF 20% 16V
2202	4822 124 23052	100μF 20% 16V
2203	4822 126 13879	220nF 20% 16V
2204	4822 126 13879	220nF 20% 16V
2205	4822 124 23052	100μF 20% 16V
2206	4822 126 13879	220nF 20% 16V
2207	4822 124 40196	220μF 20% 16V
2208	4822 124 40196	220μF 20% 16V
2209	4822 124 40196	220μF 20% 16V
2210	4822 126 13879	220nF 20% 16V
2211	4822 124 80231	47μF 20% 16V
2213	2238 586 59812	0603 50V 100NP80M
2214	4822 126 13881	470pF 5% 50V
2216	5322 126 11579	3.3nF 10% 63V
2217	2238 586 59812	0603 50V 100NP80M
2218	4822 124 11947	10μF 20% 16V
2219	4822 124 80231	47μF 20% 16V
2220	4822 124 23052	100μF 20% 16V
2221	2238 586 59812	0603 50V 100NP80M
2222	4822 126 13881	470pF 5% 50V
2223	4822 126 13879	220nF 20% 16V
2226	5322 126 11579	3.3nF 10% 63V
2230	4822 126 13909	680pF 10% 50V
2231	4822 126 13909	680pF 10% 50V
2232	4822 126 13881	470pF 5% 50V
2233	4822 124 23052	100μF 20% 16V
2234	2238 586 59812	0603 50V 100NP80M
2235	4822 126 13881	470pF 5% 50V
2236	4822 126 13883	220pF 5% 50V
2237	4822 122 33752	15pF 5% 50V
2238	4822 122 33752	15pF 5% 50V
2239	2238 586 59812	0603 50V 100NP80M
2240	2238 586 59812	0603 50V 100NP80M
2241	2238 586 59812	0603 50V 100NP80M
2300	4822 126 13909	680pF 10% 50V
2301	2238 586 59812	0603 50V 100NP80M
2303	4822 126 13909	680pF 10% 50V
2305	4822 126 14494	22nF 10% 25V 0603
2306	4822 126 13883	220pF 5% 50V
2308	2238 586 59812	0603 50V 100NP80M
2310	4822 126 13883	220pF 5% 50V
2311	4822 126 13883	220pF 5% 50V
2312	4822 126 13883	220pF 5% 50V
2313	2238 586 59812	0603 50V 100NP80M
2314	2238 586 59812	0603 50V 100NP80M
2321	4822 124 11947	10μF 20% 16V
2322	2020 552 94427	0603 50V 100P 5%
2323	4822 126 14315	390pF 5% 50V 0603
2325	4822 124 11947	10μF 20% 16V
2326	4822 126 14315	390pF 5% 50V 0603
2327	2020 552 94427	0603 50V 100P 5%
2329	4822 126 14315	390pF 5% 50V 0603
2330	4822 124 11947	10μF 20% 16V
2331	2020 552 94427	0603 50V 100P 5%
2333	4822 124 11947	10μF 20% 16V
2334	2020 552 94427	0603 50V 100P 5%
2335	4822 126 14315	390pF 5% 50V 0603
2336	4822 124 80791	470μF 16V 20% 105C DXH=8X11.5
2337	4822 124 80791	470μF 16V 20% 105C DXH=8X11.5
2338	4822 124 80791	470μF 16V 20% 105C DXH=8X11.5
2340	2238 586 59812	0603 50V 100NP80M
2344	2238 586 59812	0603 50V 100NP80M
2345	2238 586 59812	0603 50V 100NP80M

—WW—

3100	4822 051 30479	47Ω 5% 0.062W
3101	4822 051 30479	47Ω 5% 0.062W
3102	4822 051 30479	47Ω 5% 0.062W
3103	4822 051 30479	47Ω 5% 0.062W
3104	4822 051 30479	47Ω 5% 0.062W
3105	4822 051 30479	47Ω 5% 0.062W
3106	4822 051 30479	47Ω 5% 0.062W
3107	4822 051 30479	47Ω 5% 0.062W
3108	4822 051 30479	47Ω 5% 0.062W



7400	8241 010 40440	IC PT6312 QFP44
7401	3141 010 50271	IR RECEIVER HK361BT-12
8401	3141 010 21400	CWAS 05EH/05OP 180 WH 26F
8403	3141 010 21410	CWAS 05EH/05OP 190 WH 26F
8405	3141 010 21420	CWAS 02EH/02OP 560 WH 26F
8406	3141 010 20250	CWAS 01 SPA/01 OP 110 BK 24F T

11. Errata

11.1 Revision List

11.1.1 Manual 3122 785 12801

- In the manual 3122 785 12800 ,the wrong Mpeg board schematic and print layout was published.
- In this version of the service manual, the corrected ES6018 Mpeg board schematic and print layout are given