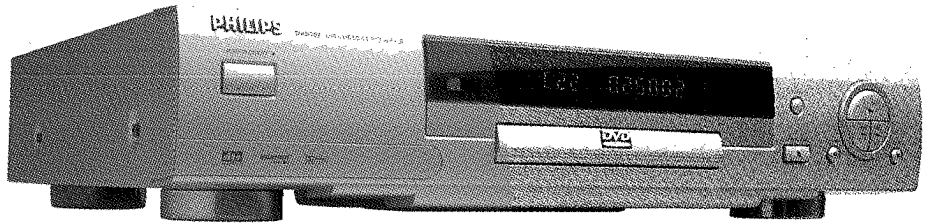


00529

Service
Service
Service

DVD752 /001/021/051
DVD762 /001/021/051



CL 16532007_071.eps
140201

Service Manual



Contents	Page
1 Technical Specifications And Connection Facilities	2
2 Warnings, Laser Safety Instructions And Notes	3
3 Directions For Use	6
4 Mechanical Instructions And Exploded Views	16
5 Diagnostic Software Descriptions And Troubleshooting	21
6 <i>Block and Wiring Diagram</i>	
Block Diagram	39
Wiring Diagram	40
7 <i>Electrical Diagrams And Print-Layouts</i>	<i>Diagram PWB</i>
Power Supply	41 42-43
A/V Board Video Control (Diagram A1)	44 47-50
A/V Board Audio 1 (Diagram A2)	45 47-50
A/V Board Audio 2 (Diagram A3)	46 47-50
Display Panel(Diagram D)	51 52-54
Bare Board Standby	55 55
SCART Board Switching (Diagram S1)	56 58-60
SCART Board SCART (Diagram S2)	57 58-60
8 Electrical Alignments	61
9 Circuit Descriptions And List Of Abbreviations	61 64
10 Spare Part List	65

© Copyright 2001 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.



PHILIPS

1. Technical Specifications

Specification

English

PLAYBACK SYSTEM

DVD Video
Video CD & SVCD
CD (CD-R and CD-RW)
DVD+RW
MP3

OPTICAL READOUT SYSTEM

Lasertype	Semiconductor AlGaAs
Numerical Aperture	0.60 (DVD) 0.45 (VCD/CD)
Wavelength	650 nm (DVD) 780 nm (VCD/CD)

DVD DISC FORMAT

Medium	Optical Disc	
Diameter	12cm (8cm)	
Playing time (12cm)	One layer	2.15 h*
	Dual layer	4 h*
	Two side	4.30 h*
	Single layer	
	Two side	8 h*
	Dual layer	

VIDEO FORMAT

DA Converter	10 bits
Signal handling	Components
Digital Compression	MPEG2 for DVD, MPEG1 for VCD

TV STANDARD

	(PAL/50Hz)	(NTSC/60Hz)
Number of lines	625	525
Playback	Multistandard	(PAL/NTSC)

DVD

Horiz. Resolution	720 pixels	720 pixels
Vertical Resolution	576 lines	480 lines

VCD

Horiz. Resolution	352 pixels	352 pixels
Vertical Resolution	288 lines	240 lines

VIDEO PERFORMANCE

Video output	1 Vpp into 75 ohm
S-Video output	Y: 1 Vpp into 75 ohm C: 0.3 Vpp into 75 ohm
RGB (SCART) output	0.7 Vpp into 75 ohm
Black Level Shift	On/Off
Video Shift	Left/Right

AUDIO FORMAT

Digital	MPEG	Compressed Digital
	DTS/Dolby Digital	16, 20, 24 bits
	PCM	fs, 44.1, 48, 96 kHz

Analog Sound Stereo

Dolby Pro Logic downmix from Dolby Digital multi-channel sound
3D Sound (TruSurround) for virtual 5.1 channel sound on 2 speakers

AUDIO PERFORMANCE

DA Converter	24 bits	
DVD	fs 96 kHz	4 Hz - 44 kHz
	fs 48 kHz	4 Hz - 22 kHz
Video CD	fs 44.1 kHz	4 Hz - 20 kHz
CD	fs 44.1 kHz	4 Hz - 20 kHz
Signal-Noise (1kHz)		100 dB
Dynamic Range (1kHz)		97 dB
Crosstalk (1kHz)		110 dB
Distortion and Noise (1kHz)		88 dB
MPEG MP3		MPEG Audio L3

CONNECTIONS

SCART	Euroconnector 2x
S-Video Output	Mini DIN, 4 pins
Video Output	Cinch (yellow)
Audio L+R output	Cinch (white/red)
6 Channel Analog Output	
Audio Front Left/Right	Cinch (white/red)
Audio Surround Left/Right	Cinch (white/red)
Audio Center	Cinch (blue)
Audio Subwoofer	Cinch (black)
Digital Output	1 coaxial, 1 optical IEC958 for CDDA / LPCM IEC1937 for MPEG1/2, Dolby Digital and DTS

CABINET

Dimensions (w x h x d)	435 x 92 x 320 mm
Weight	Approx. 4 Kg

GENERAL FUNCTIONALITY

Stop / Play / Pause
Fast Forward / Backward
Time Search
Step Forward / Backward
Slow Motion
Title / Chapter / Track Select
Skip Next / Previous
Repeat (Chapter / Title / All) or (Track / All)
A-B Repeat
Shuffle
Scan
New enhanced user graphical interface
Perfect Still with digital multi-tap filter
Zoom (x1.33, x2, x4) with picture enhancement
Smart Picture for convenient personal colour setting
Cinematic interconnection for plug & play
NTSC/PAL Conversion
Screen Saver (Dim 75% after 15 min.)
5:1 Channels user defined speaker settings
3D Sound (TruSurround)
Virtual Jog Shuttle
Audio and video bit rate indicator

DVD FUNCTIONALITY

Multi-angle Selection
Audio Selection (1 out of max. 8 languages)
Subtitles Selection (1 out of max. 32 languages)
Aspect Ratio conversion (16:9, 4:3 Letterbox, 4:3 Pan Scan)
Parental Control and Child Lock
Disc Menu support (Title Menu and Root Menu)
Resume (5 discs) after stop / standby
Programming Titles/chapters with Favourite Selection

VIDEO CD FUNCTIONALITY

Playback Control for VCD 2.0 discs
Child Lock
Resume (5 discs) after stop / standby
Programming Tracks with Favourite Selection

AUDIO CD FUNCTIONALITY

Time Display (Total / Track / Remaining Track Time)
Full audio functionality with remote control
Programming with Favourite Track Selection

MP3 FUNCTIONALITY

Time Display (Track)
Album and Track Selection
Repeat (Disc / Album / Track)

* typical playing time for movie with 2 spoken languages and 3 subtitle languages.

Specifications subject to change without prior notice

2. Warnings And Laser Safety Instructions

GB WARNING

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

F ATTENTION

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

GB

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

NL

Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt terug gebracht en dat onderdelen, identiek aan de gespecificeerde worden toegepast.

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.

ESD



NL WAARSCHUWING

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

D WARNUNG

Alle IC und viele andere Halbleiter sind empfindlich gegen elektrostatische Entladungen (ESD). Unsorgfältige Behandlung bei der Reparatur kann die Lebensdauer drastisch vermindern. Sorgen sie dafür, das Sie im Reparaturfall über ein Polsarmband mit Widerstand mit dem Massepotential des Gerätes verbunden sind.
Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

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.

I

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

I AVVERTIMENTO

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

LASER SAFETY

This unit employs a laser. Only a qualified service person should remove the cover or attempt to service this device, due to possible eye injury.

LASER DEVICE UNIT

Type:	Semiconductor laser GaAlAs
Wave length:	650 nm (DVD) 780 nm (VCD/CD)
Output Power:	7 mW (DVD) 10 mW (VCD/CD)
Beam divergence:	60 degree



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

WARNING

The use of optical instruments with this product will increase eye hazard.
Repair handling should take place as much as possible with a disc loaded inside the player

WARNING LOCATION: INSIDE ON LASER COVERSIELD

CAUTION VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN AVOID EXPOSURE TO BEAM
 ADVARSEL SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING UNDGÅ UDSÆTTELSE FOR STRÅLING
 ADVARSEL SYNLIG OG USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN
 VARNING SYNLIG OCH OSYNLIG LASERSTRÅLNING NÅR DENNA DEL ÅR ÖPPNAD BETRakta EJ STRÅLEN
 VARO! AVATT AESSA OLET ALTTIINA NÄKYVÄLLE JA NÄKYMÄTT ÖMÄLLE LASER SÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN
 VORSICHT SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG WENN ABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETZEN
 DANGER VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN AVOID DIRECT EXPOSURE TO BEAM
 ATTENTION RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE EXPOSITION DANGEREUSE AU FAISCEAU

Warning for powersupply on position 1005

The primary side of the powersupply including the heatsink carries live mains voltage when the player is connected to the mains even when the player is switched off !

This primary area is not shielded so it is possible to touch copper tracks and/or components when servicing the player. Service personnel have to take precautions to prevent touching this area or components in this area .

The primary side of the powersupply has been indicated with a lightning stroke and a stripe-marked printed on the printed wiring board

2.1 Notes

2.1.1 DVD-Module

For repair of the DVD-module SD3, the service manual 3122 785 11010 has to be used.

2.1.2 ComPair

For assistance with the repair process of the monoboard an electronic Fault finding guidance has been developed , this program is called ComPair.

This ComPair program is available on CDROM.
The Version of the CDROM for repair of the monoboard is V1.3 or higher and can be ordered with codenumber : 4822 727 21637.

This is an update CDROM , so when the COMPAIR CDROM is used for the first time , one has to install the ComPair ENGINE CDROM V1.2 first.

The V1.2 CDROM can be ordered with codenumber 4822 727 634 and has to registered after installation , the procedure for registration is explained in the help file of the program and in the booklet from the CDROM.

The cable to connect the monoboard with a PC can be ordered with codenumber 3122 785 90017.

All the hardware and software requirements of the systems necessary for working with ComPair is described on the CDROM.

3. Directions For Use

General Information

The region code for this set is 2.

Since it is usual for DVD movies to be released at different times in different regions of the world, all players have region codes and discs can have an optional region code. If you load a disc of a different region code to your player, you will see the region code notice on the screen. The disc will not playback, and should be unloaded.

NOTE:
PICTURES SHOWN MAY BE DIFFERENT BETWEEN COUNTRIES.

NEVER MAKE OR CHANGE CONNECTIONS WITH THE POWER SWITCHED ON.

CAUTION (WARNING LOCATION: ON THE BACKPLATE OF SET)

Manufactured under license from Digital Theater Systems, Inc. US Pat. No. 5,451,942 and other world-wide patents issued and pending. "DTS" and "DTS DIGITAL SURROUND" are trademarks of Digital Theater Systems, Inc. © 1996 Digital Theater Systems, Inc. All rights reserved.

CE The DVD VIDEO player is in conformity with the EMC directive and low-voltage directive.

The Surround and the SRS symbol are trademarks of SRS Labs, Inc. TruSurround technology is manufactured under license from SRS Labs, Inc.

TruSurround™
by **SRS**

For Customer Use:

Read carefully the information located at the bottom of your DVD VIDEO player and enter below the Serial No. Retain this information for future reference.

Model No. DVD VIDEO
Serial No. _____

4 GENERAL INFORMATION

English

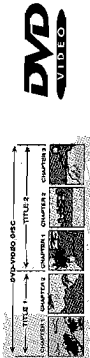
Introduction

Philips DVD Video Introduction

Your Philips DVD Video player will playback digital video discs conforming to the universal DVD Video standard. The unique features of DVD Video, such as selection of sound track, subtitle languages and different camera angles (disc dependent), are all supported. In addition to DVD Video discs, you will be able to playback all Video CDs, SVCDs and Audio CDs.

DVD Video

You will recognise DVD Video discs by the logo shown. Depending on the material on the disc (a movie, video clips, a drama series, etc.) the disc may have one or more Titles.



Video CD

You will recognise Video CDs by the logo shown.

Super Video CD (SVCD)

SVCDs are based on the SuperVCD IO Standard, referring to the Standard of Electronics Industry of the People's Republic of China.

Audio CD

Audio CDs contain music tracks only. You will recognise Audio CDs by their logo shown.

MP3 (MPEG Audio Layer-3)

This player supports the MP3 format which contains compressed music tracks.

Note:
- Only the first session of multisection discs is supported.

Unpacking

First check and identify the contents of your DVD Video player package. You should have the following items:

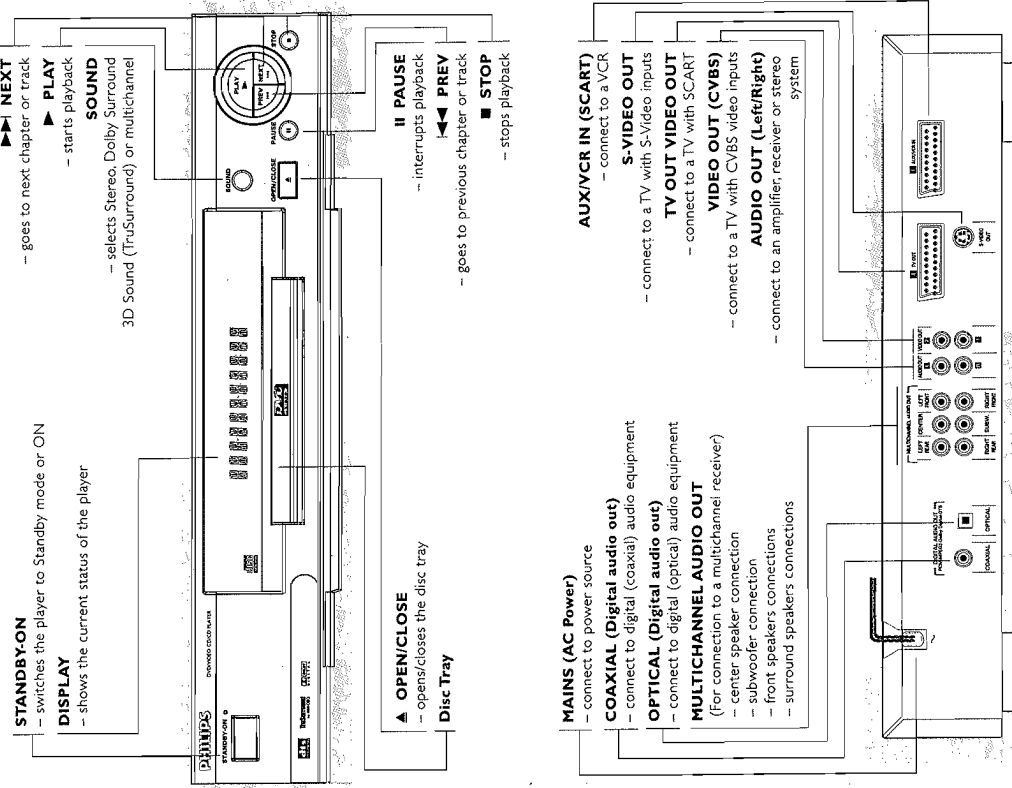
- DVD Video player
 - Remote Control with batteries
 - Audio cable
 - SCART cable
 - Instructions for use
- If any item is damaged or missing, contact your retailer or Philips.
- Keep the packaging materials for future transportation.

6 INTRODUCTION

English

Functional Overview

Front and Rear Panels

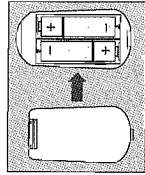


Caution: Do not touch the inner pins of the jacks on the rear panel connectors. Electrostatic discharge may cause permanent damage to the unit.

Remote Control Battery Installation

- Insert batteries as indicated inside the battery compartment.

Caution: Do not mix old and new batteries. Never mix different types of batteries (standard, alkaline, etc.)



Environmental Information

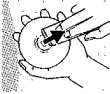
- Your system consists of materials which can be recycled and reused if disassembled by a specialised company. Please observe the local regulations regarding the disposal of packaging materials, exhausted batteries and old equipment.

Safety Information

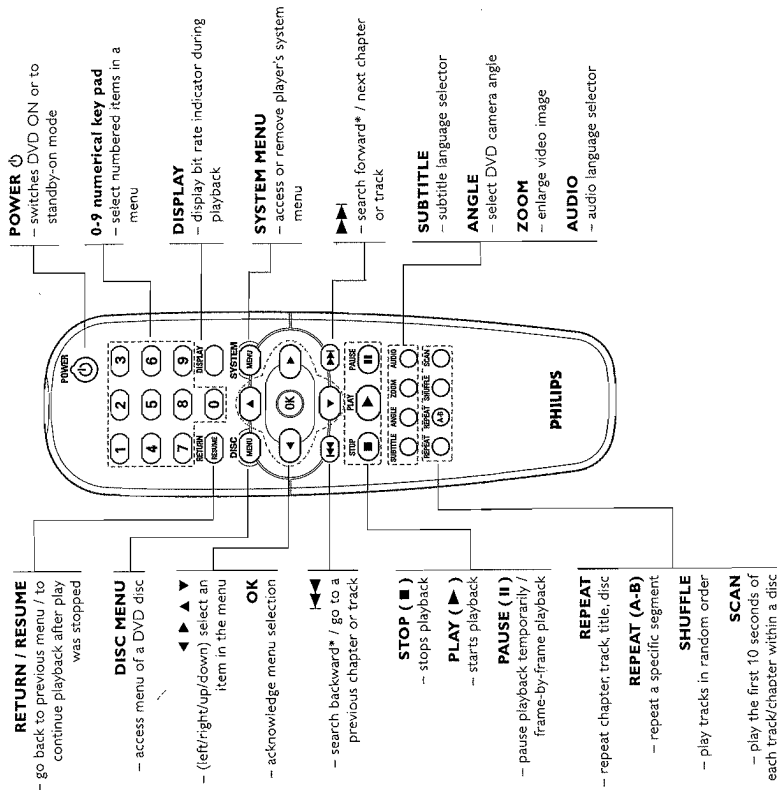
- Do not expose the system to excessive moisture, rain, sand or heat sources.
- Place the player on a firm, flat surface.
- Keep the player away from domestic heating equipment and direct sunlight.
- In a cabinet, allow about 2.5 cm (1 inch) of free space all around the player for adequate ventilation.
- If the DVD Video player cannot read CDs/DVDs correctly, use a commonly available cleaning CD/DVD to clean the lens before taking the DVD Video player to be repaired. Other cleaning methods may destroy the lens. Always keep the tray closed to avoid dust on the lens.
- The lens may cloud over when the DVD Video player is suddenly moved from cold to warm surroundings. Playing a CD/DVD is not possible then. Leave the power on for about one hour with no disc in the unit until normal playback is possible.

Cleaning Discs

- When a disc becomes dirty, clean it with a cleaning cloth. Wipe the disc from the centre out, in a straight line.
- Do not use solvents such as benzene, thinner, commercially available cleaners, or anti-static spray intended for analog discs.



Remote Control



Preparation

General Notes

- Depending on your TV and other equipment you wish to connect, there are various ways you could connect the player. Use only one of the connections described below.
- Please refer to the manuals of your TV, VCR, Stereo System or other devices as necessary to make the best connections.
- For better sound reproduction, connect the player's audio out jacks to the audio in jacks of your amplifier, receiver, stereo or AV equipment. See "Connecting to Optional Equipment."
- Caution:**
 - Make sure the DVD player is connected directly to the TV. Set the TV to the correct video input channel.
 - Do not connect the player's audio out jack to the phono in jack of your audio system.
 - Do not connect your DVD-player via your VCR. The DVD image could be distorted by the copy protection system.

Connecting to a TV

- Make one of the following connections, depending on the capabilities of your existing equipment.
 - Connect the SCART to the corresponding connector on the TV using the SCART cable supplied (Z).
 - If your TV is not equipped with a SCART, you can select one of the following alternative connections:

S-Video (Y/C) connection

- Connect the Y/C S-VIDEO OUT jack on the DVD player to the S-Video in jack on the TV using an optional S-Video cable (V).
- Connect the Left and Right AUDIO OUT jacks of the DVD player to the audio left/right in jacks on the TV (A).

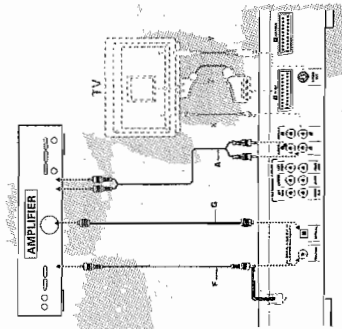
CVBS connection

- Connect the (CVBS) VIDEO OUT jack on the DVD player to the video in jack on the TV using an optional video cable (X).
- Connect the Left and Right AUDIO OUT jacks of the DVD player to the audio left/right in jacks on the TV (A).

English

English

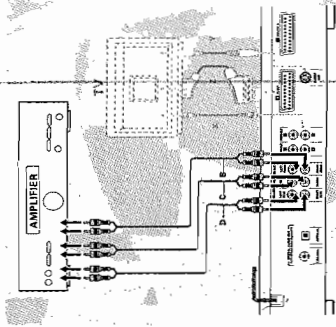
Digital Multi-channel sound
Digital multi-channel connection provides the best sound quality. For this you need a multi-channel AV receiver that supports one or more of the audio formats supported by your DVD player (MP3, 2, Dolby Digital™ and DTS). Check the receiver manual and the logos on the front of the receiver.



Analog connection to a multi-channel AV receiver with 6 Channel connectors (Dolby Digital / DTS)

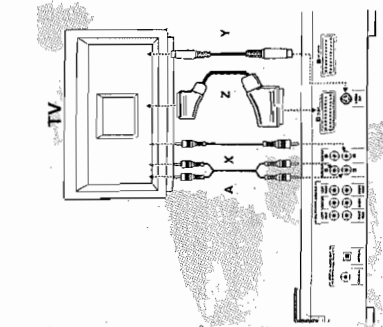
This DVD player contains a multi-channel decoder. This enables playback of DVDs recorded in Multi-channel Surround without the need for an optional decoder.

- Connect an optional audio out jacks for the Center speaker and the Subwoofer connection (C) to the corresponding in jacks on your receiver.
- Connect an optional Left and Right audio out jacks for the front speaker (B) to the corresponding in jack on your receiver.
- Connect an optional Left and Right audio out jacks for Surround speaker (D) to the corresponding in jacks on your receiver.
- Make the appropriate Sound settings for Analog Output and Speaker Settings in the Personal Preferences menu.



Note:

- 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.
- Six Channel Digital Surround Sound via digital connection can only be obtained if your receiver is equipped with a Digital Multi-channel decoder.
- To see the selected audio format of the current DVD in the Status Window, press SYSTEM MENU.



Connecting to Optional Equipment

Connecting to an amplifier equipped with two channel analog stereo or Dolby Surround

- Connect the Left and Right AUDIO OUT jacks of the DVD player to the audio left and right in jacks on your amplifier, receiver or stereo system, using the supplied audio cable (A).

Note:

- You cannot use the MP3 function with the digital out connectors.

Connecting to an amplifier equipped with two channel digital stereo (PCM) or to an AV receiver equipped with a multi-channel decoder (Dolby Digital™, MPEG 2 and DTS)

- Connect the player's digital audio out jack (optical G or coaxial F) to the corresponding in jack on your amplifier. Use an optional digital (optical G or coaxial F) audio cable. You will need to activate the player's digital output (see Personal Preferences).

English

English

10 PREPARATION

PREPARATION 9

English

General Explanation

About this manual

This manual gives the basic instructions for operating the DVD player. Some DVD's require specific operation or allow only limited operation during playback, which may not respond to all operating commands. When this occurs, the symbol X appears on the TV screen, indicating that the operation is not permitted by the player or the disc.

Remote control operation

- Unless stated, all operations can be carried out with the remote control. Always point the remote control directly at the player, making sure there are no obstructions in the path of the infrared beam.
- Corresponding keys on the front panel of the player can also be used.

Menu bar operation

- A number of operations can be carried out via the menu bar on the screen. The menu bar can be accessed by pressing the cursor keys on the remote control.
- Pressing SYSTEM MENU while the menu bar is displayed will clear the menu bar from the screen.
- This selected item will be highlighted and the appropriate cursor keys to operate will be displayed below the icon.
- The symbols < or > indicate more items are available at the left/right of the menu bar. Press ◀ or ▶ to select these items.

English

Initial Setup (Virgin Mode)

General

In 'Initial Setup' you may have to set your preferences for some of the player's features. (not applicable for all models)

Operation

- After switching on the player for the very first time, the 'Initial Setup Screen' will appear.
- The menu for the first item to be set is displayed and the first option is highlighted.
- Use the ▲ keys to go through the options in the menu.
- The icon of the selected option will be highlighted.
- Use OK to confirm your selection and to go to the next menu.

Note:

- Preferences have to be set in the order of which the item menus will appear on the screen.
- The 'Initial Setup' screen will only disappear after the settings for the last item have been confirmed.
- If any keys other than ▲ or OK are pressed, X will appear on the screen.
- If the player is switched off while setting personal preferences, all preferences have to be set again after switching the player on again.

The following items may have to be set in Initial Setup:

Menu language

You can choose from different languages. The On Screen Menu will be displayed in the language available on the player.

Audio language

You can choose from different languages if available on the disc. The player will play the audio in the selected language. If the selected language is not available, speech will revert to the first spoken language on the disc.

Subtitle language

You can choose from different subtitle languages. If available on the disc, subtitles will be in the language chosen. If the selected language is not available, subtitles will revert to the first subtitle language on the disc.

NTSC/PAL Settings

You can switch the NTSC/PAL setting of the DVD player to match the video signal of your TV. This setting only affects the television's on-screen display that shows the stop and setup modes. You may select either NTSC or PAL. To change the DVD player setting to PAL or NTSC, follow the steps below.

- Unplug the DVD player from the mains.
- Press and hold ■ and ▶ on the front of the DVD player. While holding ■ and ▶, plug in the mains.
- After PAL or NTSC appears on the display of the DVD player, release ■ and ▶ at the same time. The PAL or NTSC indicator that appears on the display indicates the current setting.
- To change the setting, press ▶ within three seconds. The new setting (PAL or NTSC) will appear on the display.

NTSC/PAL Conversion

This player is equipped with a NTSC/PAL conversion feature to convert the video output of the disc to match your TV system. The conversions supported are as below:

Disc Format	Output format			
	NTSC	PAL	NTSC	PAL
DVD	NTSC	PAL	PAL	NTSC
VCD	PAL	NTSC	PAL	NTSC

- In the Preference Menu, select **TV System**.
- Press ▲ or ▼ to select PAL, NTSC or AUTO.

Notes:

- AUTO can only be selected when using a TV that has both the NTSC and PAL systems.
- This is applicable for CVBS output on cinch and SCART only.
- Slight picture distortions may occur due to this conversion. This is normal. Thus, the AUTO format is most suitable for the best picture quality.

TV Shape

If you have a wide screen (16:9) TV, select 16:9. If you have a regular (4:3) TV, select 4:3. Letterbox for a wide-screen picture with black bars top and bottom or Pan Scan for a full-width picture with the sides trimmed. If a disc supports the format, the picture will be shown accordingly.

Country

Select your country. This is used as input for the 'Parental Control' feature (see 'Access Control').

Note:

- All these items may have to be set during 'Initial Setup'. After that, they can always be changed in the Personal Preferences Menu.

Menu Bar/Status Window

As there are multiple menu-bars, the items on the menu-bar are arranged according to usage availability of direct access keys. Pressing the SYSTEM MENU keys once will toggle through menu-bar-1, menu-bar-2, menu-bar-3 and OFF.

- Menu-bar-1
 - Personal Preferences
 - Subtitle Language
 - Audio Language
 - Colour
 - Sound
- Menu-bar-2
 - Step
 - Slow motion
 - Fast motion
 - Angle
 - Zoom
- Menu-bar-3
 - Title
 - Chapter
 - Time Search
 - Favourite Track Selection (FTS)

Temporary Feedback Field Icons



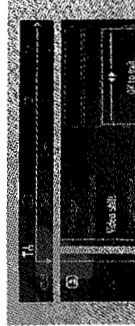
Picture

- **TV Shape**
See Initial Setup.
- **Black level shift (NTSC only)**
Select ON for adapting the colour dynamics to obtain richer contrasts.



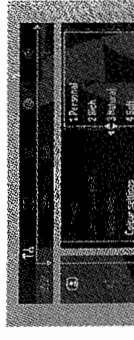
Video shift

The factory centres the video on your screen. Use this setting to personalize the position of the picture on your TV by scrolling it to the left or right.



Colour settings

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



Personal colour

Allows you to fine-tune the selected colour settings: saturation, brightness and contrast.

TV System

Allows you to select between PAL, NTSC and AUTO mode depending on your TV.

Sound

- **Digital output**
Factory setting: ALL. This means that both coaxial and optical outputs are on. If you are not connecting to equipment with a digital input, change the setting to OFF. If your equipment doesn't include digital multi-channel decoder, set the digital output to PCM (Pulse Code Modulation).



Analog output

Select Stereo, Dolby Surround, 3D Sound (TruSurround) or multichannel output to match your system's playback capability.

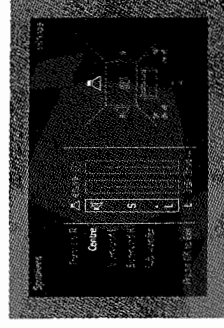


Night Mode

Optimizes the dynamics of the sound for low volume playback.

Speaker settings

Allows you to delay speaker settings including volume balance and delay time and to test the speaker settings. Speaker settings are only active on the Analog Multi-Channel Output. (See appendix)



Karaoke vocal

Put this setting to ON only when a multi-channel karaoke DVD is being played. The karaoke channels on the disc will then be mixed into a normal stereo sound.

Language

Select the required Menu, Audio and Subtitle language. See Initial Setup.
Audio language and Subtitle language can also be adapted via the Menu bar on the screen.

Features

- **Access Control**
Access Control contains the following features:
Child Lock - When Child Lock is set to ON, a 4-digit code needs to be entered in order to playback discs.
Parental control - Allows the conditional presentation of DVDs containing Parental Control Information (see Access Control).

Status Window

Displays the current status of the player and appears with the menu bar. When disc playback is stopped, it is displayed with the Temporary Feedback Field in the default screen. See On-Screen Display information.
Factory setting is ON. Select OFF to suppress display of the Status Window.



Bit Rate Indicator

When activated, the bit rate for video and audio, as well as the total bit rate is displayed. This is only applicable during playback of DVD and SVCD discs.



Help text

When set to ON, help text describes the icons selected. Select OFF if you no longer require the help text.

Low Power Standby

If this is set to ON, the player will go in low-power standby when the standby button is pressed (front panel or remote control).

PBC (Playback Control)

The Playback Control can be set to ON or OFF.



Personal Preferences

You can set your own personal preferences on the player.

General operation:

- Press SYSTEM MENU on the remote control
- Select [] in the menu bar.
- The Personal Preferences menu appears.
- Use the [] keys to toggle through the menus, submenus and submenu options.
- When a menu item is selected, the cursor keys (on the remote control) to operate the item are displayed next to the item.
- Press OK to confirm and return to the main menu.
- The following items can be adapted:

14 PREPARATION

13 PREPARATION

Operation

Loading Discs

- 1 Press OPEN/CLOSE on the front of the player to open disc tray.
- 2 Load your chosen disc in the tray, label side up.
- 3 Press OPEN/CLOSE again, to close the tray.

Note:

- If 'CHILD LOCK' is set to ON and the disc inserted is not authorized, the 4-digit code must be entered and/or the disc must be authorized (see Access Control).

Playing a DVD Video and Video CD disc

- After inserting the disc and closing the tray, playback starts automatically and the status window of the player display shows the type of disc loaded, as well as disc's information and playing time.
- The disc may invite you to select an item from a menu. If the selections are numbered, press the appropriate numerical key; if not, use the [] keys to highlight your selection, then press OK.
- The currently playing title and chapter number are displayed.
- Playback may stop at the end of the title, and then may return to the DVD menu. To go on to the next title, press [] to stop playback, press [] to return to the DVD menu.
- The default screen will appear, giving information about the current status.
- You can resume playback from the point at which you stopped playback. Press [] when you see the Resume icon on the screen, press [] again.
- The RESUME feature applies not only to the disc in the player but also to the last four discs you have played. Simply reload the disc and press RESUME on the remote control. Or, press [] when you see the Resume icon on the screen, then press [] again.

Note:
- 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.

General Features

Note:
- Unless stated, all operations described are based on remote control operation. A number of operations can also be carried out via the menu bar on the screen.

Moving to another title/chapter

- When a disc has more than one title or chapter, you can move to another title/chapter, as follows:
- Press SYSTEM MENU, then select [] or [] in the menu bar.
- Press [] or [] to select a title/chapter.

Slow Motion

- Select [] (SLOW MOTION) in the menu bar.
- Use the [] keys to enter the SLOW MOTION menu.
- Playback will pause.
- Use the cursor keys [] to select the required speed: -1, -1/2, -1/4 or -1/8 (backward), or +1/8, +1/4, +1/2 or +1 (forward).
- Select 1 to play the disc at normal speed again.
- If [] is pressed, the speed will be set to zero (PAUSE).
- To exit slow motion mode, press [] and [].

Still Picture and Frame-by-frame playback

- Select [] (STEP) in the menu bar.
- Use the [] key to enter the step by step menu.
- Playback will pause.
- Use the cursor keys [] to select the previous or next picture frame.
- To exit step by step playback, press [] or [].
- You can also step forward by pressing [] repeatedly on the remote control.

Scan

- Scanning plays the first 10 seconds of each chapter/track on the disc.
- Press SCAN.
- To continue playback at your chosen chapter/track, press SCAN again, or press [].

Search

- Select [] (FAST MOTION) in the menu bar.
- Use the [] keys to enter the FAST MOTION menu.
- Use the [] keys to select the required speed: -32, -8 or -4 (backward), or +4, +8, +12 (forward).
- Select 1 to play the disc at normal speed again.
- To exit FAST MOTION mode, press [] or [].
- To search forward or backward through different speeds, you can also hold down [] or [].



Repeat

DVD Video Discs

- To repeat the current chapter, press []
- REPEAT CHPT appears on the player display.
- To repeat the current title, press REPEAT a second time.
- REPEAT TITL appears on the display.
- To repeat the entire disc, press REPEAT a third time.
- REPEAT appears on the display.
- To exit Repeat mode, press REPEAT a fourth time.

Video CDs

- Repeat track/disc
To repeat the current track, press REPEAT.
- REPEAT TRK appears on the player display.
- To repeat the entire disc, press REPEAT a second time.
- REPEAT appears on the display and the TV screen.
- To exit Repeat mode, press REPEAT a third time.

Repeat A-B

- To repeat a specific portion of a title:
Press REPEAT A-B at your chosen starting point.
- A- appears briefly on the screen.
- Press REPEAT A-B again at your chosen end point.
- REPEAT A-B appears briefly on the display and the repeat sequence begins (REPEAT A-B is displayed on the front panel of the player).
- To cancel the sequence and continue playback, press REPEAT A-B.

Shuffle

- DVD Video discs
This shuffles the playing order of chapters within a title, if the title has more than one chapter.
Press SHUFFLE during playback.
- SHUFFLE appears on the TV screen for about two seconds.
- To return to normal playback, press SHUFFLE again.

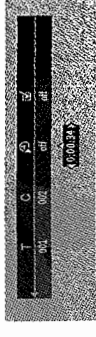
Video CDs

- Press SHUFFLE during playback.
- SHUFFLE appears on the TV screen for about two seconds.
- To return to normal playback, press SHUFFLE again.

Time search

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

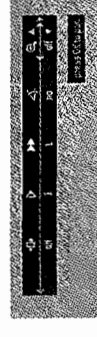
- Select [] (TIME SEARCH) in the menu bar.
- Press [].
- Playback will pause.
- A time edit box appears on the screen, showing the elapsed playing time of the current disc.
- Use the numeric keys to enter the required start time.
- Enter hours, minutes and seconds from left to right in the box.
- Each time an item has been entered, the next item will be highlighted.
- Press OK to confirm the start time.
- The time edit box will disappear and playback starts from the selected time position on the disc.



Zoom

The Zoom function allows you to enlarge the video image and to pan through the enlarged image.

- Select [] (ZOOM).
- Press [] to activate the ZOOM function and select the required zoom factor: 1.33 or 2 or 4.
- Playback will pause.
- The selected zoom factor appears below the Zoom icon in the menu bar and Press OK to pan appears below the menu bar.
- The picture will change accordingly.
- Press OK to confirm the selection.
- The panning icons appear on the screen.
- Use the [] keys to pan across the screen.
- When OK is pressed only the zoomed picture will be shown on the screen.
- To exit ZOOM mode:
- Press [] to resume playback.



Special DVD Features

Checking the contents of DVD Video discs:

DVDs may contain menus to navigate the disc, and access special features. To use the menu, press the appropriate numerical key or use the **▲**, **▶**, **▶**, **▶** keys to highlight your selection, then press **OK**.

Title/Disc menu

- Press **DISC MENU**
- If the current title has a menu, the menu will appear on the screen otherwise, the disc menu will be displayed.
- The menu can list camera angles, spoken language and subtitle options, and chapters for the title.
- To remove the title menu, press **DISC MENU** again.

Camera Angle

If the disc contains sequences recorded from different camera angles, the angle icon appears, showing the number of available angles and the angle being shown currently. You can then change the camera angle if you wish. Use the **▲** keys to select the required angle. After a while, playback changes to the selected angle. The angle icon remains displayed until multiple angles are no longer available.



Changing the audio language

- Select **(A)** (AUDIO) in the menu bar.
- Press **(L)** or **(R)** repeatedly to see the different languages.



Subtitles

- Select **(S)** (SUBTITLE) in the menu bar.
- Press **(L)** or **(R)** repeatedly to see the different subtitles.



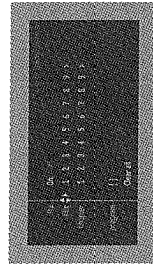
FTS-Video

The FTS-Video function allows you to store your favourite titles and chapters (DVD) and favourite tracks and indexes (VCD) for a particular disc in the player memory. FTS program can contain 20 items (titles, chapters etc.). A programmed FTS will be placed on top of the list when playback is activated. When the list is full a new program will replace the last program on the list.

- The programme can be selected and played at any time.
- Storing a FTS-Video Programme**
- In STOP mode, select **VIDEO FTS** in the menu bar.
- Press **▶** to open the menu.
- Use **▲** and **▶** to select the required selection number.
- Press **OK** or **▶** to select **ON** or **OFF**.

Storing titles/tracks

- Press **▶** to select **TITLES**.
- Use **▶** and **▲** to select the required title.
- Press **OK** if you wish to store the entire title.
- The title number will be added to the list of selections.



Storing chapters/indexes

- Press **▶** on the selected title number.
- The title number will be marked and the highlight moves to the first available chapter number for this title.
- Use **▶** and **▲** to select the required chapter number.
- Press **OK** to confirm the selection.
- The title/chapter selection will be added to the list of selections.
- Press **SYSTEM MENU** to exit the **VIDEO FTS** menu.

Erasing a FTS-Video Programme

- In STOP mode, select **VIDEO FTS** in the menu bar.
- Use **▶** to select **PROGRAM**.
- Use **▶** and **▲** to select the required selection number.
- Press **OK** to erase the selection.
- Press **SYSTEM MENU** to exit.

If you wish to erase all selections:

- In STOP mode, select **VIDEO FTS** in the menu bar.
- Use **▶** to select **CLEAR ALL**.
- Press **OK**.
- All selections will now be erased.
- Press **SYSTEM MENU** to exit.

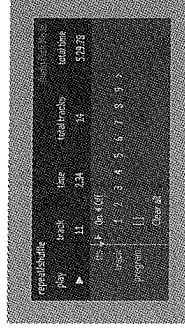
Special VCD & SVCD Features

Playback Control (PBC)

Load a Video CD with PBC and press **▶**. Go through the menu with the keys indicated on the TV screen until your chosen passage starts to playback if a PBC menu consists of a list of titles, you can select a title directly. Enter your choice with the numerical keys (0-9). Press **RETURN** to go back to the previous menu. You may also select **PBC OFF** under Personal Preferences.

Playing an Audio CD

After loading the disc, playback starts automatically. If the TV is on, the Audio CD screen appears. The number of tracks and the total playing time of the disc will be shown on the TV screen. During playback, the current track number and its elapsed playing time will be shown on the TV screen and on the player display. Playback will stop at the end of the disc. To stop playback at any other time, press **■**.



Pause

- Press **II** during playback.
- To return to playback, press **▶**.

Search

- To search forward or backward through the disc at four times the normal speed, hold down **◀◀◀** or **▶▶▶** for about one second during playback.
- Search begins, and sound is partially muted.
- To step up to eight times the normal speed, press **◀◀** or **▶▶** again.
- Search goes to eight times the speed, and the sound is muted.
- To return to four times the normal speed, press **◀** or **▶** again.
- If the TV is on, search speed and direction are indicated on the screen each time **◀◀** or **▶▶** is pressed.
- To end the search, press **▶** to resume playback or press **■** to stop playback.

Moving to another track

- Press **◀** or **▶** briefly during playback to go to the next track or to return to the beginning of the current track.
- Press **◀◀** or **▶▶** twice briefly to step back to the previous track.
- To go directly to any track, enter the track number using the numerical keys (0-9).

Shuffle

- Press **SHUFFLE** during playback.
- To return to normal playback, press **SHUFFLE** again.

Repeat track/disc

- To repeat the current track, press **REPEAT**.
- REPEAT TM** appears on the display.
- To repeat the entire disc, press **REPEAT** a second time.
- REPEAT** appears on the display.
- To exit Repeat mode, press **REPEAT** a third time.

Repeat A-B

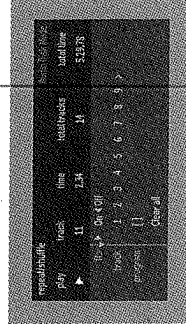
- To repeat a specific portion of a track: Press **REPEAT A-B** at your chosen starting point.
- A** appears on the player display.
- Press **REPEAT A-B** again at your chosen end point.
- A-B** appears on the display, and the sequence begins to play repeatedly.
- To cancel the sequence and continue playback, press **REPEAT A-B**.

Scan

- Scan plays the first 10 seconds of each track on the disc.
- Press **SCAN**.
- To continue playback at your chosen track, press **SCAN** again or press **▶**.

FTS Programme

- FTS Programme allows you to store your favourite tracks for a particular disc in the player memory.
- Each FTS Programme can contain 20 tracks.



English

English

Storing an FTS Programme

- Load a disc, and stop playback.
- Use **▶** to go to the list of available tracks.
- Use **▶** or **▲** to select tracks from the list. To go directly to any track, enter the track number using the numerical keys (0-9).
- Store each track by pressing **OK**.
 - The track numbers will be added to the list.
 - The number of tracks and the playing time of the program will be shown on the TV screen and the player display.

When your FTS Programme is complete, press **▶** to start playback or press **▲** to go back to stop mode. In either case, the FTS Program will be automatically memorized.

Switching FTS ON/OFF

- Use **▶** to move and select desired tracks.
- Use **▶** or **▲** to select either **ON** or **OFF**.

Erasing a track from an FTS Program

- Use **▶** to go to the list of selected tracks.
- Use **▶** and **▲** to select the track number you wish to erase.
- Press **OK**.
 - The track number will be erased from the list of selected tracks.

Erasing the complete program

- Use **▶** to select **CLEAR ALL**, then press **OK**.
 - The complete FTS Program for the disc will be erased.

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, *DLE, *M3U, *PLS
- Chinese filename
- The non-session based 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	Bit Rate	Approximate MP3 File Size	Approximate CD Time	Comments
MP3 (VBR)	128 kbps	10.5 MB	20:00	Standard quality
MP3 (VBR)	160 kbps	14.1 MB	20:00	Standard quality
MP3 (VBR)	192 kbps	17.7 MB	20:00	Standard quality
MP3 (VBR)	224 kbps	22.4 MB	20:00	Standard quality
MP3 (VBR)	256 kbps	26.1 MB	20:00	Standard quality
MP3 (VBR)	320 kbps	32.0 MB	20:00	Standard quality

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 SD-M1, digital-out is muted while playing MP3 discs.
- Due to the recording nature of Digital Audio MP3 (DAP), only Digital Audio music will play.
- The disc reading time may exceed 10 seconds due to the large number of songs compiled into one disc.
- Only the first session of multisection discs is supported.

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 Album.
- Press **◀** to scroll through the previous or next Track.



- You can also select the desired album/track number directly using the numerical 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**
 - Press **REPEAT** to repeat a track, press **REPEAT** again.
 - REPEAT TM** appears on the display.
 - Press **REPEAT** again to repeat a track, press **REPEAT** a second time.
 - REPEAT ALB** appears on the player display.
 - To repeat the entire disc, press **REPEAT** a third time.
 - REPEAT DISC** appears on the player display.

Access Control

Access Control; Child Lock (DVD Video and Video CD)

Activating/deactivating the child lock

- When disc playback is stopped, select **ACCESS CONTROL** in the features menu using the **▲** keys.
- Enter a 4-digit code of your own choice.
- Enter the code a second time.
- Move to "CHILD LOCK", using the **▲** keys.
- Move to **LOCK/UNLOCK** using the **▶** key.
- Select **LOCK** using the **▲** keys.
- Press **OK** or **▶** to confirm, then press **▶** again to exit the menu.
 - Now unauthorized discs will not be played unless the 4-digit code is entered.
- Select **UNLOCK** to deactivate the **CHILD LOCK**.

Note: Confirmation of the 4-digit code is necessary when:

- The code is entered for the very first time (see above).
- The code is changed (see "Changing the 4-digit code").
- The code is cancelled (see "Changing the 4-digit code").



Authorizing discs

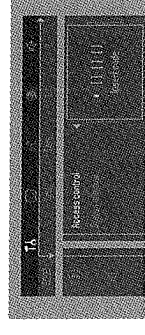
- Insert the disc. See "Loading discs".
- The "child protect" dialog will appear. You will be asked to enter your secret code for Playback Once or Playback Always. If you select Playback Once, the disc can be played as long as it is in the player and the player is ON. If you select Playback Always, the disc will become child safe (authorized) and can always be played, even if the Child Lock is set to ON.

Notes:

- The player memory maintains a list of 120 authorized ("Child safe") disc titles. A disc will be placed in the list when Playback Always is selected in the "child protect" dialog.
- Each time a "child safe" disc is played, it will be placed on top of the list. When the list is full and a new disc is added, the last disc in the list will be removed from the list.
- Double sided DVDs may have a different ID for each side. In order to make the disc child safe, each side has to be authorized.
- Multi-volume VCDs may have a different ID for each volume. In order to make the complete set "child safe", each volume has to be authorized.

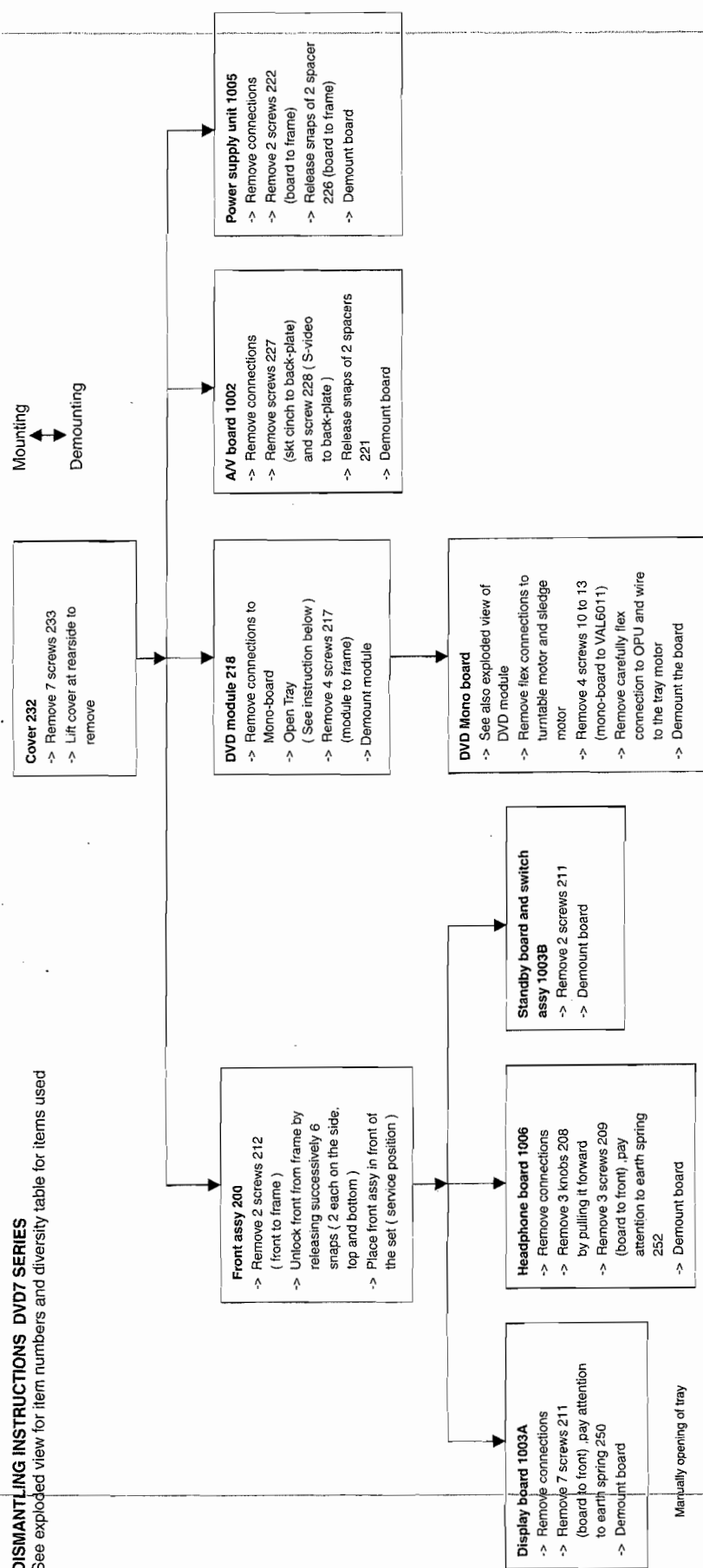
Access Control; Parental Control (DVD Video only)

Movies on DVDs may contain scenes not suitable for children. Therefore, disc may contain Parental Control information which applies to the complete disc or to certain scenes on the disc. These scenes are rated from 1 to 8, and alternative, more suitable scenes are available on the disc. Ratings are country dependent. The Parental Control feature allows you to prevent discs from being played by your children or to have certain discs played with alternative scenes.

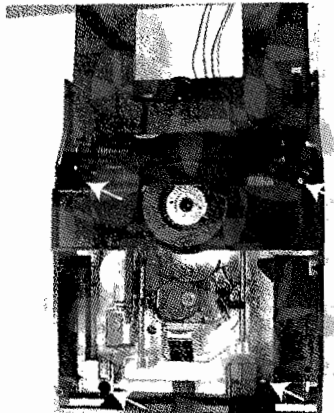
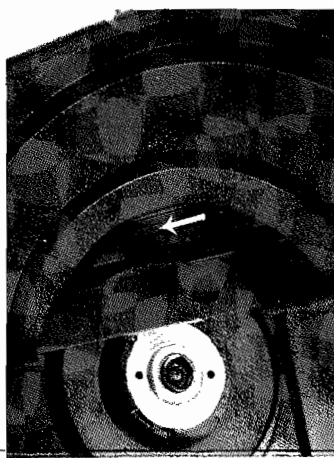


4. Mechanical Instructions

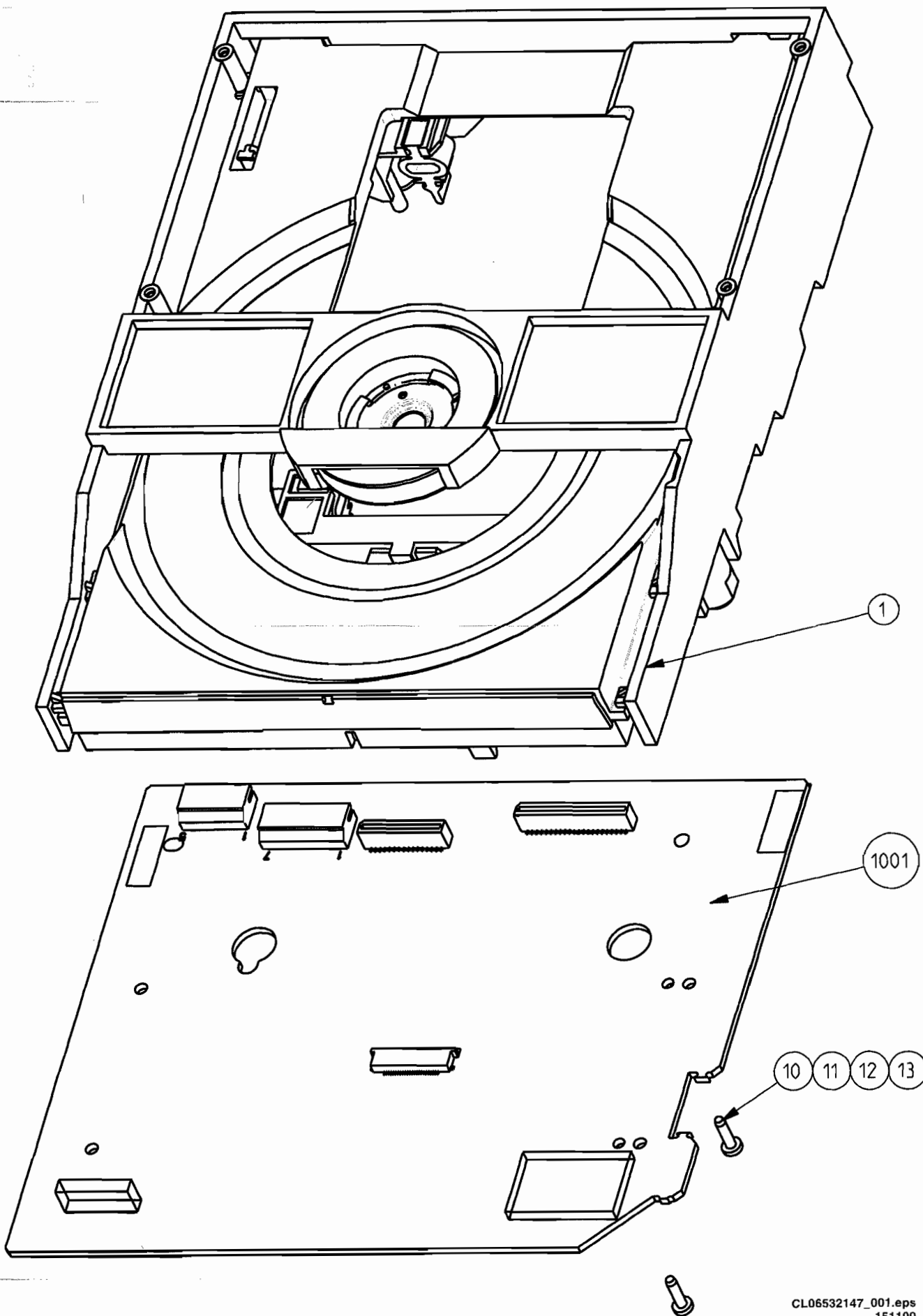
4.1 Dismantling Instructions



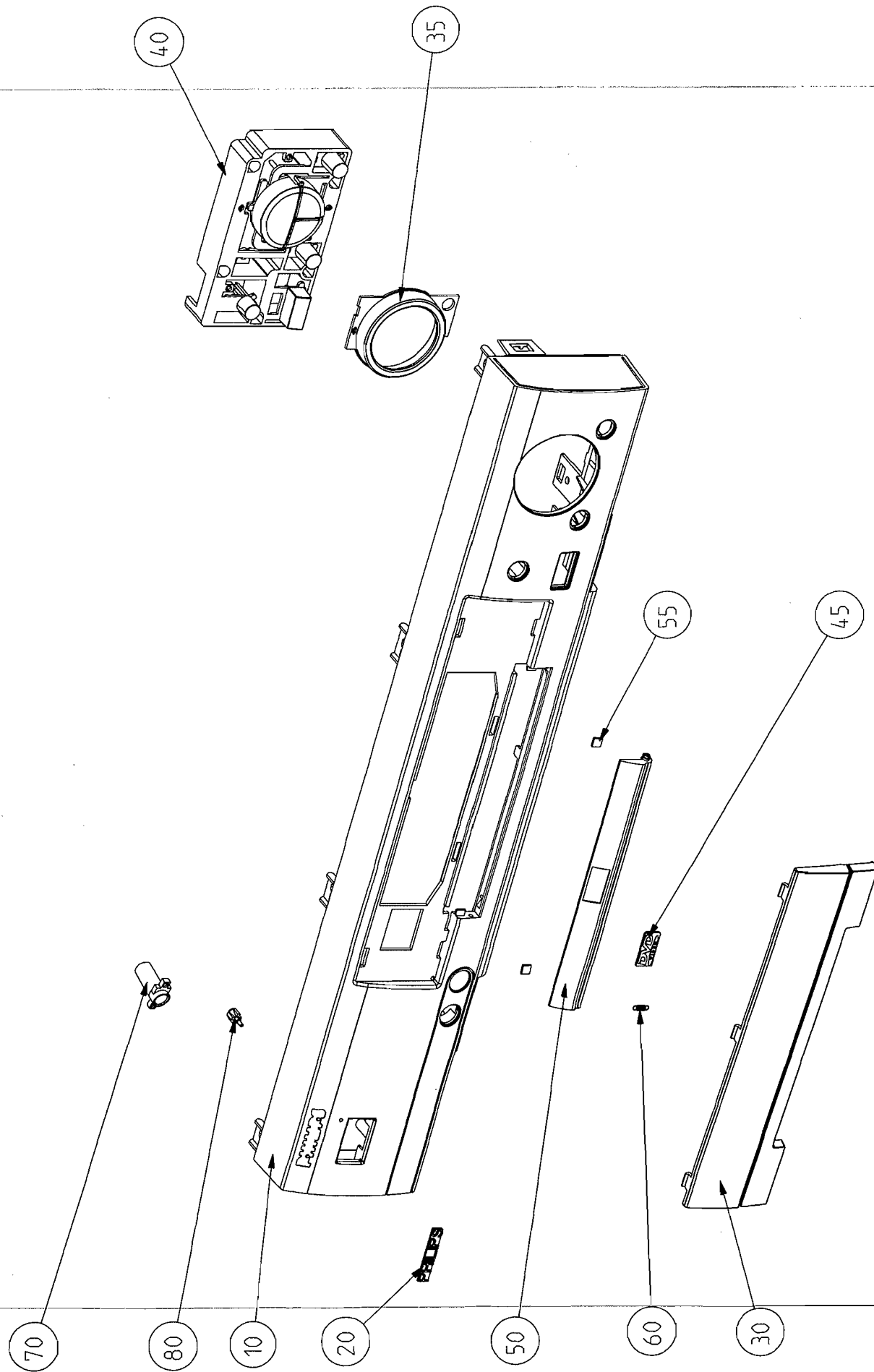
Manually opening of tray
When it is not possible to open the tray with the open/close button, the tray can manually be opened.
When no disc is loaded, unlock the tray by moving the slide from the left to the right and pull tray outwards.



CL 10032007_057.eps
24x40



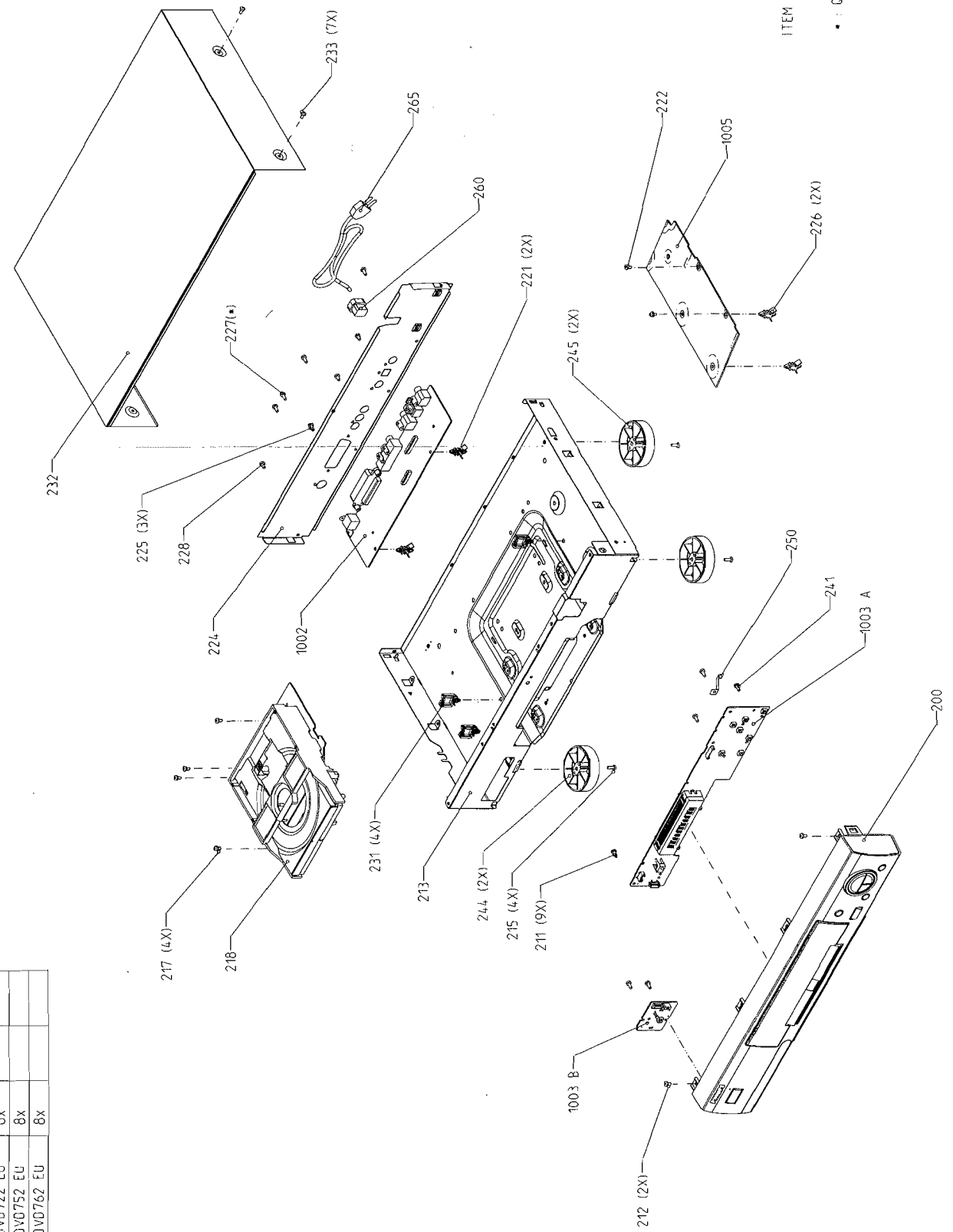
4.2 Exploded Views



Item number correspond to part list

Cl. 16532007_029 eps 000201

MODEL	ITEM	227
DVD772 EU	6X	
DVD722 EU	6X	
DVD752 EU	8X	
DVD762 EU	8X	



ITEM NUMBER CORRESPOND TO PART LIST
• QUANTITY REFER TO TABLE

Cl. 16532007_072 eps 110401

4.3 Service Position

See figure 4-1 for the service position

1. Remove the cables from the cable tie housing.
2. Remove 4 screws that mount the DVD module to the bottom frame.
3. Move the DVD module backward slightly and flip the module over, so that the component side of the board faces upwards, and the module is in the service position.

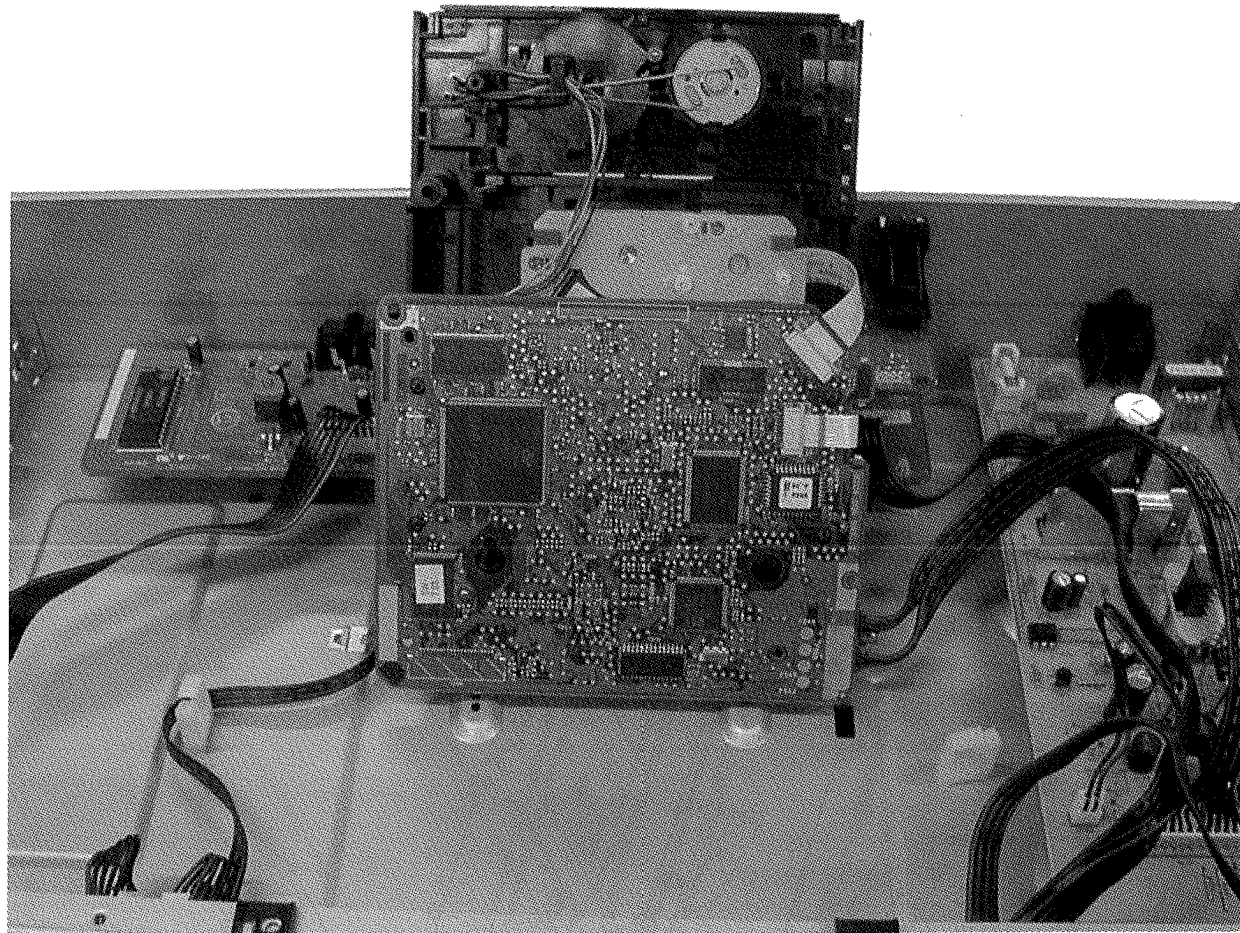


Figure 4-1

5. Diagnostic Software Descriptions And Troubleshooting

5.1 Dealerscript

5.1.2 Contents of Dealer Script

5.1.1 Purpose of Dealer Script

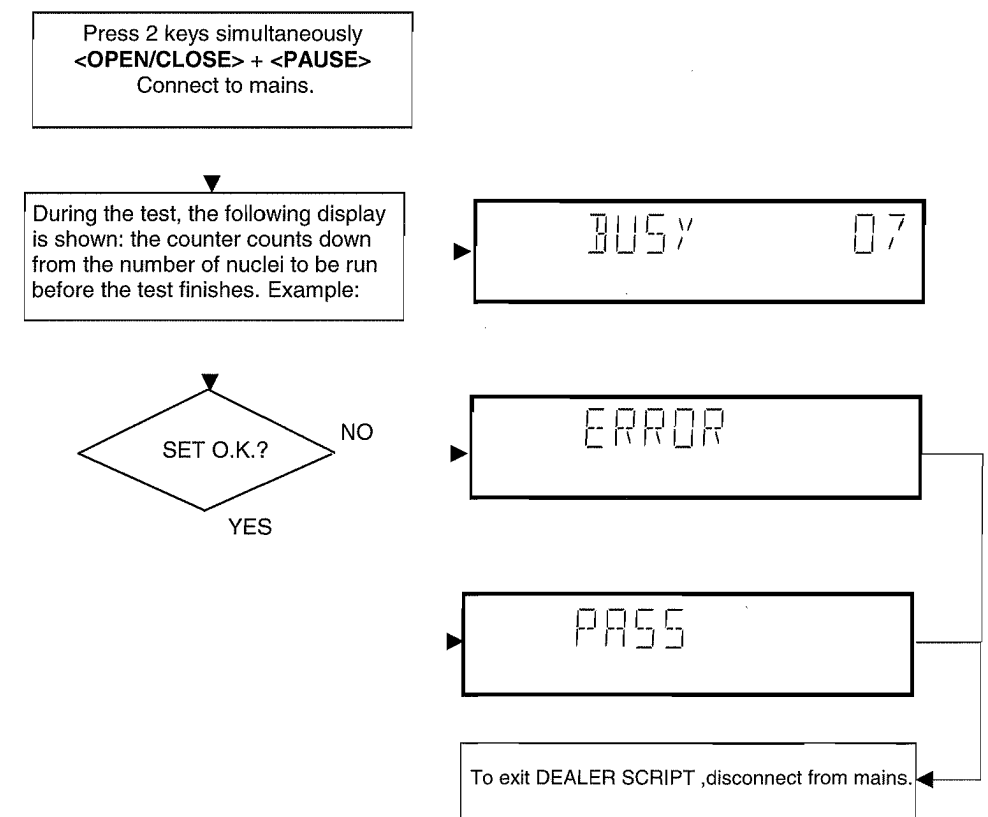
The dealer script can give a diagnosis on a standalone DVD player; no other equipment is needed to perform a number of hardware tests to check if the DVD player is faulty. The diagnosis is simply a "error" or "pass" message; no indication is given of faulty hardware modules. Only tests within the scope of the diagnostic software will be executed hence only faults within this scope can be detected.

The dealer script executes all diagnostic nuclei that do not need any user interaction and are meaningful on a standalone DVD player. The nuclei called in the dealer script are the following (the number after each nucleus name corresponds with the number being on the local display when the nucleus is executed during the dealer script):

Nucleus		Description
VideoColSetupComm	7	Checks the I2C interface with the RGB video processor on the Audio/Video board (only for DVD players with RGB video processor).
PapChksFl	6	Calculate and verify checksum of FLASH memory.
PapI2cDisp	5	Checks the I2C interface with the slave processor on the display PCB.
PapS2bEcho	4	Checks the I2C interface to the basic engine.
PapI2cNvram	3	Checks the I2C interface with the NVRAM.
PapNvramWrR	2	Pattern test of all locations in the NVRAM
CompSdramWrR	1	Pattern test of all locations in the SDRAM(s).

CL06532096_001.eps
050700

Figure 5-1



CL 96532065_004.eps
120799

Figure 5-2

5.2 Player Script

5.2.1 Purpose Of Player Script

The Player script will give the opportunity to perform a test that will determine which of the DVD player's modules are faulty, to read the error log and error bits and to perform an endurance loop test. To successfully perform the tests, the DVD player must be connected to a tv set to check the output of a number of nuclei. For DVDv2b a multi-channel amplifier, a set of 6 boxes and an external video source are necessary to test. To be able to check results of certain nuclei, the player script expects some interaction of the user (i.e. to approve a test picture or a test sound). Some nuclei (e.g. nuclei that test functionality of the Basic Engine module) require that the DVD player itself is opened, to enable the user to observe moving parts and approve their movement visually. Only tests within the scope of the diagnostic software will be executed hence only faults within this scope can be detected.

5.2.2 Contents Of Player Script

The player script contains all nuclei that are useful on a DVD player that is connected to a tv-set and help to determine which module of the DVD player is faulty, as well as to read out the contents of the error logs.

5.2.3 Structure Of Player Script

The player script consists of a set of nuclei testing the three hardware modules in the DVD player: the Display PWB, the Digital PWB and the Basic Engine. Nuclei run by the player test need some user interaction; in the next paragraph this interaction is described. The player test is done in two phases:

1. Interactive tests: this part of the player test depends strongly on user interaction and input to determine nucleus results and to progress through the full test. Reading the error log and error bits information can be useful to determine any errors that occurred recently during normal operation of the DVD player.
2. The loop test will loop through the list of nuclei indefinitely, till the NEXT key is pressed. The list of nuclei is as follows:
 - VideoColSetupComm
 - VideoScartSwComm
 - PapChksFlash
 - Papl2cNvram
 - CompSdramWrR
 - PapS2bEcho
 - Papl2cDisp

For DSW version 1.6 and above, the DSW version number will be displayed on the local display. Press NEXT to continue to the display test.

The display should look like the following:

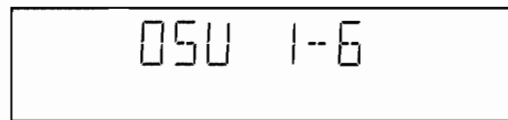


Figure 5-3

5.2.4 Survey

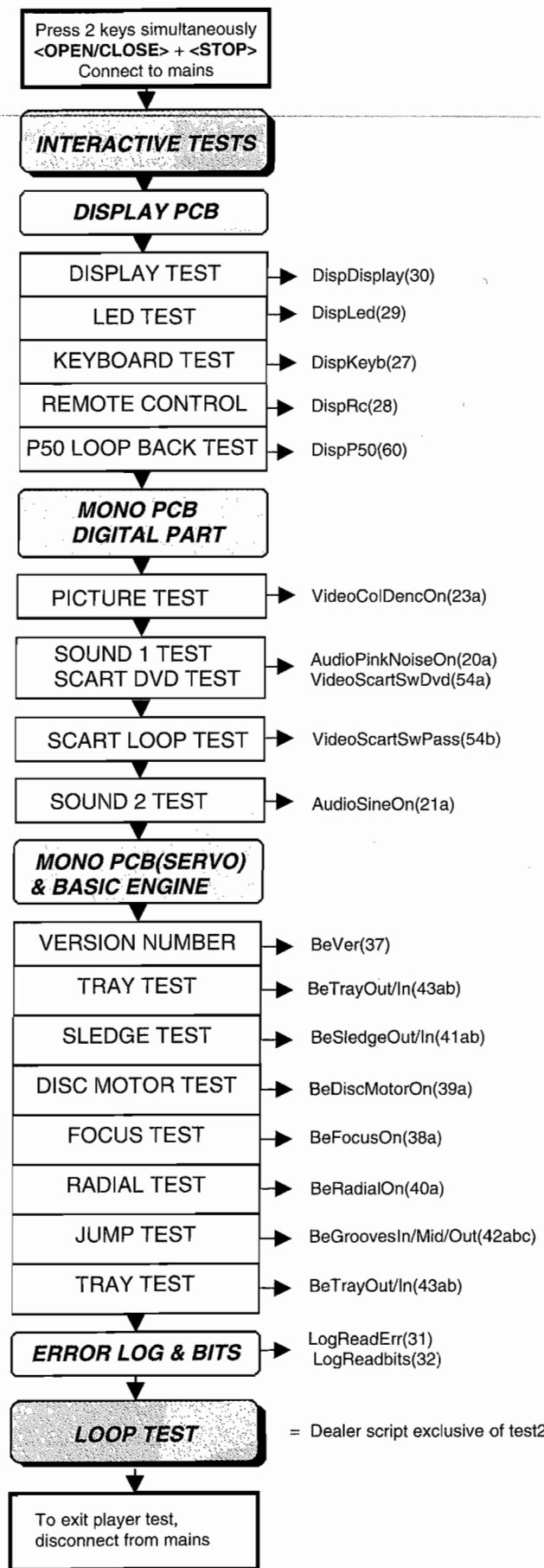


Figure 5-4

5.3 Display PCB

5.3.1 Display Test

The display test is performed by nucleus DispDisplay. By putting a series of test patterns on the local display, the local display is tested. To step through all different patterns, the user must either press PLAY (pattern is ok) or PAUSE (pattern was incorrect) to proceed to the next pattern. The display of patterns is continued in a cyclic manner until the user presses NEXT. If the user presses NEXT before all display patterns are tested, the DispDisplay nucleus will return TRUE (display test successful).

5.3.2 LED Test

The LED(s) on the DVD player is (are) tested by nucleus DispLed. The user must check if the LED(s) is (are) lighted; if it is, press PLAY, if it is not, press PAUSE. By pressing NEXT the script will proceed to the next test. If the user presses NEXT before PLAY or PAUSE, the DispLed nucleus will return TRUE (LED test successful).

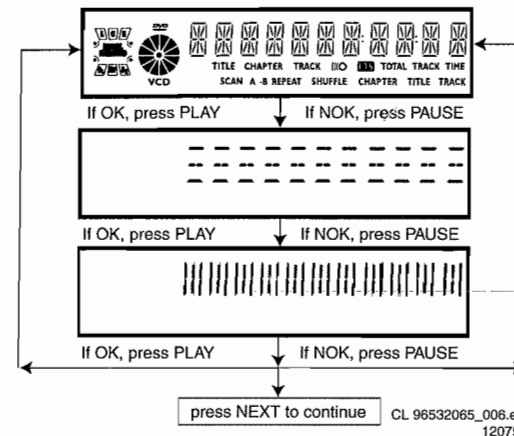


Figure 5-5

5.3.3 Keyboard Test

The keyboard of the DVD player is tested by nucleus DispKeyb. The user is expected to press all keys on the local keyboard once. The code of the key pressed is shown on the local display (1 hexadecimal digit) immediately followed by a (hexadecimal) number indicating how many times that key has been pressed. Example of the local display during this test:

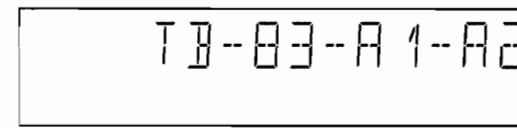


Figure 5-6

The key-codes displayed on the local display will scroll from right to left when the display gets full, the text "tb-" will remain on display.

key id.	key
0	PLAY
1	NEXT
2	PREVIOUS
3	PAUSE
4	STOP
5	OPEN/CLOSE
6	3D-SURROUND
7	KEY- (Mic Control)
8	Once More (Mic Control)
9	KEY+(Mic Control)
A	STAND BY

CL16532007_007.eps
300101

Figure 5-7

If any keys are detected more than once (due to hardware error), the key-code is displayed twice (or more), with the second digit increased by 1. If the user does not press all keys minimally once (in any order), the DispKeys nucleus will return FALSE and cause an error in the overall result of the player script. The test will also pass if all buttons, except the microphone key buttons, are pressed. The user can leave the keyboard test by pressing the NEXT key on the local display of the DVD player for at least one full second. The result of the keyboard test is shown on local display as follows:

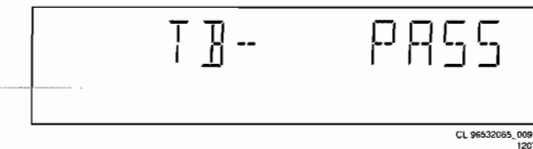


Figure 5-8

Or

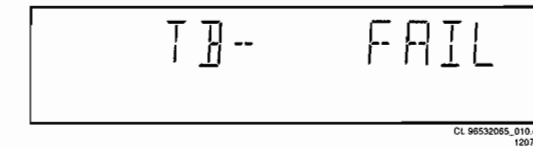


Figure 5-9

Pressing NEXT on the local keyboard again will proceed to the next test.

5.3.4 Remote Control Test

The remote control of the DVD player is tested by nucleus DispRc. The user must press any key on the remote control just once. The codes of the key pressed will be shown on the local display in hexadecimal format. Example:

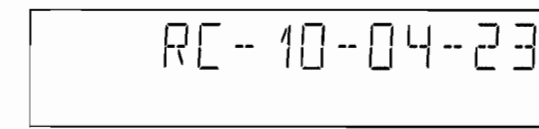


Figure 5-10

In this example 23 is the hexadecimal code of the pressed RC key. The user can leave the remote-control test by pressing NEXT on the local keyboard of the DVD player. The remote

control test is successful if a code was received before the user pressed the NEXT key; pressing the NEXT key before pressing a key on the remote control gives an error in the remote control test (note that the remote control test will also fail if a key on the remote control was pressed but no code was received). The remote control test does not check upon the contents of the received code, that is it will not be checked if the received code matches the key pressed. If desired, the user can manually check this code by using a code-table for the remote control key-codes.

C Key id	Hexadecimal code
STANDBY	0C
STOP	31
PLAY	2C
PLAY BACKWARD	2D
PAUSE	30
STEP FORWARD	F6
STEP BACKWARD	F5
FORWARD	28
FORWARD 4X	DF
FORWARD 8X	E0
BACKWARD	29
BACKWARD 4X	DE
BACKWARD 8X	DD
SLOW	22
SLOW 2	D9
SLOW BACKWARD	23
SLOW BACKWARD 2	DA
NEXT	20
PREVIOUS	21
CURSOR UP	58
CURSOR DOWN	59
CURSOR LEFT	5A
CURSOR RIGHT	5B
OK	5C
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
TOGGLE	C8
ANGLE	85
AUDIO	4E
SUBTITLES	4B
SUBTITLE ON/OFF	E3
ROOT MENU	54
TITLE MENU	71
MENU	D1
SETUP MENU	82
OSD ON/OFF	F
RETURN	83
RESUME	D7
SCAN	2A
SHUFFLE	1C
REPEAT	1D
A/B REPEAT	3B
TOGGLE SCART	43
OPEN/CLOSE	42
FTS	FB
KARAOKE	E4
OPTION	FA

Figure 5-11

After pressing NEXT, the result of the remote control test is displayed on the local display of the DVD player as follows:

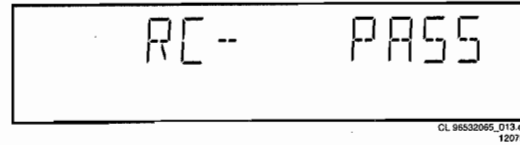


Figure 5-12

Or

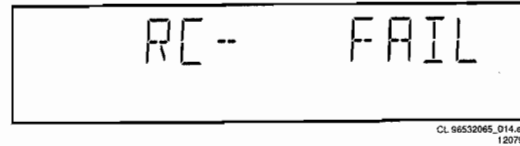


Figure 5-13

Pressing NEXT on the local keyboard again will proceed to the next test.

5.3.5 P50 Loop-Back Test

For the P50 loop-back test, the user must first press a key to decide if the test is to be performed. The display will show the following message:

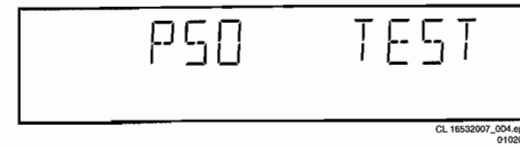


Figure 5-14

If the user presses PAUSE, the P50 test will be skipped. If the user presses PLAY, the P50 test is performed and the result is displayed as follows:

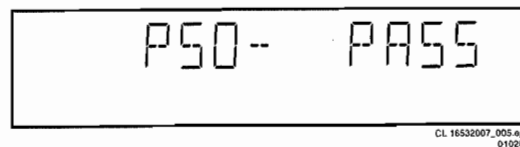


Figure 5-15

Test fails:

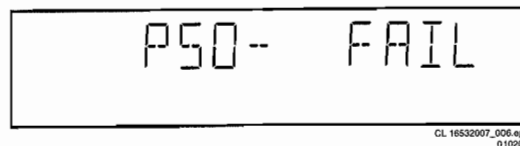


Figure 5-16

Press the NEXT key to continue to the next text

5.4 Mono PCB Digital Part

5.4.1 Picture Test

The picture test is performed by putting a predefined picture (colour bar) on the display (nucleus VideoColDencOn) and asking the user for confirmation. The display will show the following message:

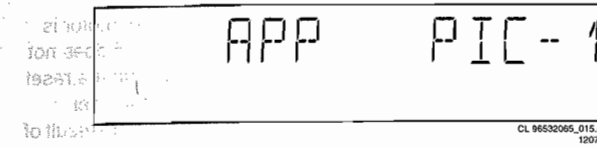


Figure 5-17

By pressing PLAY the user confirms the test, pressing PAUSE will indicate the picture was invisible or incorrect. Pressing NEXT will proceed to the next test

5.4.2 Sound 1 & SCART DVD Test

The first soundtest is performed by starting a pink noise sound that needs confirmation from the user (nucleus AudioPinkNoiseOn); the display will show the following message very shortly:

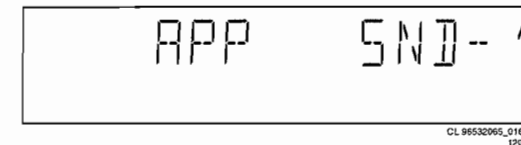


Figure 5-18

This sound will only be audible from version cut3.1 of Sti5505 (item7503 on mono board) onwards. After starting up sound 1, SCART loop-trough will be simultaneously active during this test. SCART loop-trough will be measured with the aid of an external video source. When entering the SCART loop-trough, the local display indicates:

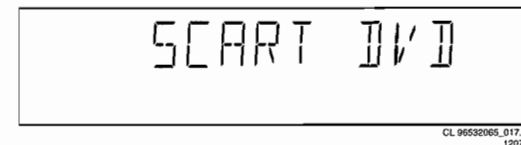


Figure 5-19

On the TV screen a colour bar (generated by nucleus VideoColDencOn) is visual and the internally generated pinknoise is audible. By pressing PLAY the user confirms the test, pressing PAUSE will indicate the sound was inaudible or incorrect. Pressing NEXT will proceed to the next test; if the user presses NEXT without pressing PLAY or PAUSE first, the result of this test will be TRUE (sound ok). By pressing the NEXT button there will be switched over to the external source, this must become now visible on the TV screen (using the SCART). The local display indicates:



Figure 5-20

The internally generated colour bar is still available on the CVBS and Y/C outputs. And the pinknoise-signal is still available on the cinch audio outputs. By pressing the PREV button, the internal generated colour bar becomes visual again. The test can be left by pressing the NEXT key for more than one second.

5.4.3 Sound 2 Test

The second soundtest is performed by producing a sine sound (nucleus AudioSineOn). The signal can be stopped by pressing the STOP-key. The display will show the following message:

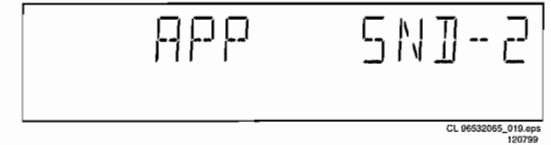


Figure 5-21

By pressing PLAY the user confirms the test, pressing PAUSE will indicate that something went wrong. Pressing NEXT will proceed to the next; if the user presses NEXT without pressing PLAY or PAUSE first, the result of this test will be TRUE (sound ok).

5.4.4 Colour Setup Test

The colour setup test is performed by putting the internally generated colour bar in different settings on the TV screen. The first colour bar will be displayed in setting 1. the display will show the following message:



Figure 5-22

By pressing the NEXT button, you can go to the second setting. The local display indicates:

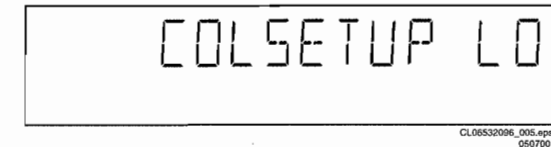


Figure 5-23

By pressing the PREVIOUS button, the colour bar with the first setting becomes visual again. By pressing PLAY the user confirms the test, pressing PAUSE will indicate that something went wrong. The test can be left by pressing the NEXT key for more than one second; if the user presses NEXT without pressing PLAY or PAUSE first, the result of the test will be TRUE (colour set- up ok).

5.5 Basic Engine

5.5.1 Version Number

In the basic engine tests, the version number of the Basic Engine will be shown first, as the following example:

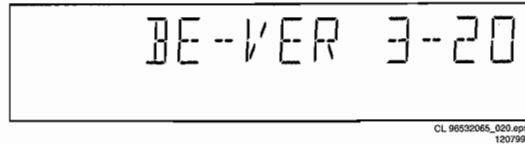


Figure 5-24

By pressing the NEXT key, the Basic Engine tests are started.

5.5.2 Tray Test

First, the tray is tested. The purpose of this test is also to give the user the opportunity to put a disc in the tray of the DVD player. Some tests on the Basic Engine require that a disc (e.g. DVD MPTD test disc) is present in the player. At the end of the Basic Engine tests this tray test will be repeated solely to enable the user to remove the disc in the tray. The local display will look as follows:

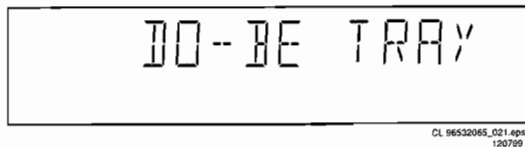


Figure 5-25

By pressing PLAY or PAUSE the user can toggle the position of the tray. Note that this test will not contribute to the test result of the Basic Engine. Pressing NEXT will proceed to the next test, after the tray has been closed (by the software) if it was open.

5.5.3 Sledge Test (Visual Test)

The second Basic Engine test tests the sledge; the user can move the sledge as many times as desired by using PLAY (nucleus BeSledgeOut) and PAUSE (nucleus BeSledgeIn). Pressing NEXT on the local keyboard proceeds to the next test. Note that this test will not contribute to the test result of the Basic Engine. The local display will look as follows during the sledge test:

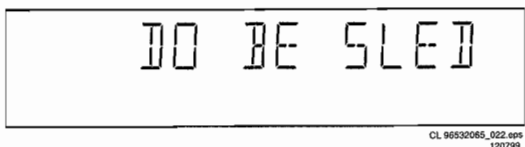


Figure 5-26

5.5.4 Disc Motor Test (Visual Test)

The third Basic Engine test tests the disc motor (nucleus BeDiscMotorOn); the local display looks as follows:

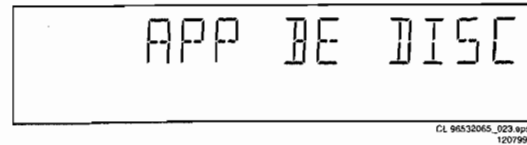


Figure 5-27

By pressing PLAY the user confirms that the disc motor is running; pressing PAUSE indicates the disc motor does not work. Pressing NEXT proceeds to the next test, after a reset of the disc motor (nucleus BeDiscMotorOff). If the user presses NEXT before pressing PLAY or PAUSE, the result of this test will be TRUE (disc motor is running).

5.5.5 Focus Test (Visual Test)

The fourth Basic Engine test tests the focussing; first focussing is turned on by calling nucleus BeFocusOn. The display will look as follows:



Figure 5-28

By pressing PLAY the user confirms that the focussing was successful; pressing PAUSE indicates a focussing failure. Pressing NEXT proceeds to the next test after a reset of the focussing (nucleus BeFocusOff); if NEXT is pressed before PLAY or PAUSE, the result of this test will be TRUE (focus successful).

5.5.6 Radial Test (Visual & Listening Test)

The fifth Basic Engine test tests the radial functionality (nucleus BeRadialOn); the local display looks as follows:



Figure 5-29

By pressing PLAY the user confirms that the radial function worked; pressing PAUSE indicates the function does not work. Pressing NEXT proceeds to the next test, after a reset of the radial (nucleus BeRadialOff). If the user presses NEXT before pressing PLAY or PAUSE, the result of this test will be TRUE (radial successful).

5.5.7 Jump Test (Listening Test)

The sixth and last Basic Engine test tests the jumping by calling nuclei BeGroovesIn, BeGroovesMid and BeGroovesOut. During this test, the local display looks as follows:

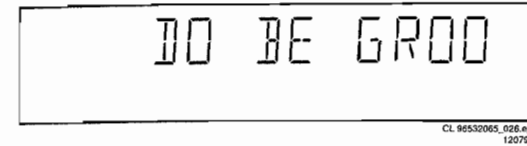


Figure 5-30

The user can switch between the three different types of groove settings by pressing PLAY (forward to next nucleus in the list In-Mid-Out) or PAUSE (backward in the list In-Mid-Out). This is done in a cyclic manner; note that this test will not contribute to the test result of the Basic Engine. Pressing NEXT proceeds to the next test, after the disc motor has been shut off with a call to nucleus BeDiscMotorOff.

5.5.8 Tray Test

As a last action for the Basic Engine tests, the tray test is repeated. The local display will look as follows:

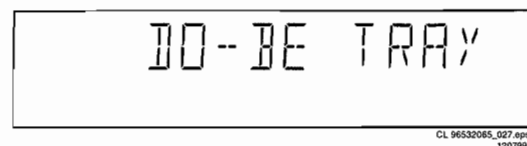


Figure 5-31

This test is meant to give the user the opportunity to remove the disc in the tray. The tray position can be toggled using the PLAY and PAUSE key. The tray will be closed (by the software, if it is open) before proceeding to the next test when the user presses the NEXT key.

5.5.9 Error Log (See Table On Page 30)

Reading the error log and error bits information can be useful to determine any errors that occurred recently during normal operation of the DVD player. Reading the error log is done by nucleus LogReadErr. The display during the errorlog readout looks as follows:

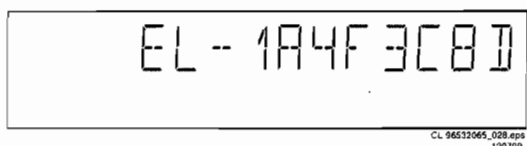


Figure 5-32

By pressing PLAY or PAUSE the user can move forward or backward (respectively) through the logged error codes. The highlighted number indicates which errorcode is currently on display (in the example above, errorcode number 4 is displayed). If "0000" is displayed at all positions, the error log is empty. Display of the logged errors is done in a cyclic manner. The errorcode with the lowest highlighted number is the most recent. By pressing NEXT on the local keyboard, the user can proceed to the next test.

5.5.10 Error Bits (See Table On Page 30)

Reading the error bits is done by nucleus LogReadBits. The display during the errorbits readout looks as follows:

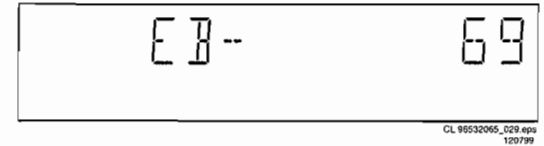


Figure 5-33

Only the set errorbits will be shown by their (decimal) number. Refer to the appropriate documentation for the explanation of each bit number. If the display only shows "EB-0", no error bits were set. By pressing NEXT the user can continue to the next test.

5.6 Loop Test (See Table Below)

At the start of the loop test, the display will show the result of the interactive player test:

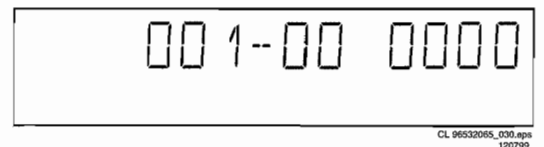


Figure 5-34

The left side of the display contains a 3-digit code, which can have a value between 000 and 111. These values are to be interpreted as follows:

Displayed Value	Indication for each module		
	Basic Engine	Mono PCB	Display PCB
000	ok	ok	ok
001	ok	ok	faulty
010	ok	faulty	ok
011	ok	faulty	faulty
100	faulty	ok	ok
101	faulty	ok	faulty
110	faulty	faulty	ok
111	faulty	faulty	faulty

Figure 5-35

The loop test will perform the same nuclei as the dealer test, but it will loop through the list of nuclei indefinitely. The display of the DVD player will display not only the three digits indicating correct/faulty modules and the last found error code (as mentioned, faults are detected as far as they can be within the scope of the diagnostic software), but also a loop counter indicating how many times the loop has been gone through. Example:

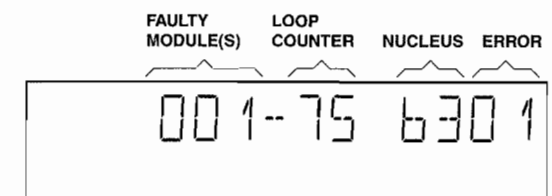


Figure 5-36

The number after the hyphen indicates the number of times the loop test has been performed; the 4 digits at the right side of the display show the last error that was found when running the loop test: the leftmost two digits of this code

indicate which nucleus resulted in a fault; the rightmost two digits refer to the faultcode within that nucleus. For further explanation of this error code, see list of error codes below.

ERROR CODES LOOP TEST

ERROR CODE	NUCLEUS NUMBER	ERROR DESCRIPTION
0601	6	Calculated checksum of FLASH is not correct
1101	11	I2C bus busy before start
1102		NVRAM access time-out
1103		No NVRAM Acknowledge
1104		NVRAM reply time-out
1201	12	I2C bus busy
1202		I2C bus not working
1203		Slave controller not responding
1204		Slave response is not correct
1301	13	Parity error from basic engine to serial
1302		Parity error from serial to basic engine
1303		No communication between serial and basic engine
1304		Communication time-out error
1601	16	The SDRAM is faulty
5201	52	I2C bus busy
5202		Error sending I2C command to COLOR SETUP IC
5203		Colour setup IC not responding
5204		Colour setup IC response is not correct
5401	54	I2C bus busy
5402		Error sending I2C command to SCART SWITCH IC
5403		SCART Switch is not responding
5403		SCART Switch response is not correct

CL06532096_006.eps
050700

Figure 5-37

Error log / bits table	Read ERROR LOG in player script	Read ERROR BITS in player script
Basic engine errors	Value:	Value:
Command to the Basic Engine not allowed in this state or unknown command	150101	8
Parameter(s) from the command to the Basic Engine is not valid	150102	7
Sledge could not be moved to the inner home position	150103	6
Focus failure	150104	5
Turntable motor speed could not be reached within timeout	150105	4
Radial servo could not get on track on the disc	150106	3
PLL could not lock in the accessing or tracking state	150107	2
Subcode or sector information could not be read	150108	1
requested subcode could not be found	150109	16
Tray could not be closed or opened completely	15010A	15
TOC could not be read within timeout	15010B	14
The requested seek on the disc could not be executed	15010C	13
A requested lead-in is not on the disc	15010D	12
A non existing burst cutting area is requested	15010E	11
S2b communication error	1501F0	10
S2b communication error	1501F1	9
S2b communication error	1501F3	24
S2b communication error	1501F4	23
S2b communication error	1501F5	22
Digital PWB errors		
Communication error with the Sti 5505	90000	32
Communication error with the Sti 5505	90001	31
Disply processor errors		
Communication error with the display processor	190000	40

5.6.1 Servicing DVD Loader

The DVD Loader / mechanism, VAL6011, has to be exchanged completely in case of failure. A new mechanism can be ordered with codenumber 9305 023 61101.

5.6.2 Reprogramming Of New Mono Boards.

Caution

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

After reset of NV-memory or repair of the mono board, all the customer settings and also the region code will be lost.

Reprogramming of the mono board will put the player back in the state in which it has left the factory, i.e. with the default settings and the allowed region code.

Reprogramming is limited to 25 times

When the counter reaches 25, reprogramming is not possible anymore

Reprogramming will be done by way of the remote control.

Put the player in stop mode, no disc loaded.

Press the following keys on the remote control:

<PLAY> followed by numerical keys <1> <5> <9>

The display shows: "-----"

Press now successively the following keys :

for DVD752-762 /001 /021 /051 : <0><3><2> <0><0><0><0><0><0><0><0><0><0>

Press <PLAY> again.

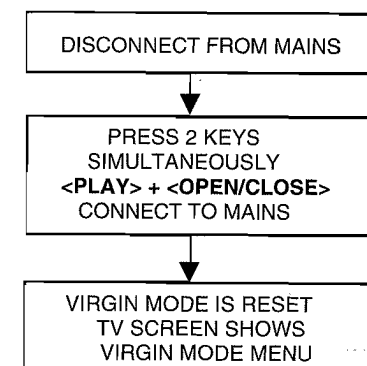
The TV screen will become BLUE during a short time to confirm that the mono board has been reprogrammed.

CL 16532007_083.eps
260401

Figure 5-38

5.6.3 Reset Of Virgin Mode

After the player has been powered up for test by the dealer, it would have gone through the Virgin Mode. It is possible to reset the settings made during that mode before the delivery of player to the customer. This can be done as shown in the following diagram:

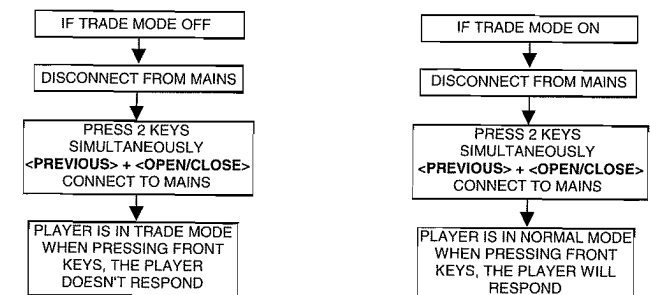


CL 96532065_034.eps
070700

Figure 5-39

TRADE MODE

When the player is in Trade Mode, the player cannot be controlled by means of the front key buttons, but only by means of the remote control.



C06532096_008.eps
050700

Figure 5-40

5.7 Test Instruction Audio/Video Board

These test instructions can be used for all versions of the A/V board which has the following outputs:

- Audio L/R
- 5.1 Audio output
- Subwoofer output
- Optical / Coaxial digital output
- CVBS
- Y/G_vid,U/B_vid,V/R_vid output
- S-video
- Scart output

5.7.1 General

- All the waveforms measurement carried out in these test instruction will be base on the testpoint indicated in the A/V board schematic diagram in the Service manual.
- Impedance of the measuring-equipment should be > 1MΩ
- Most of the tests can be done using either the Diagnostic software " Player script" which can be found in the chapter "Diagnostic Software description and troubleshooting" or the Menu interface using the Service PC with a terminal emulation program (e.g. Window Hyperterminal) where it is possible to control the execution of the Diagnostic Nuclei
- Setup for the measurement will be done in set level with all modules connected as shown in the Wiring Block diagram.

5.7.2 General Start-Up Measurement

Supply check:

Before starting the measurement,ensure that all power supply are connected to the A/V board.

Pin nbr	Supply
1010-9	-5V (-Vcc)
1010-10	+5V
1010-11	+5V

The supply currents can be measured using a Tektronics AM503B current probe or equivalent.

Supply	Power consumption (AVG)
+5VA	+5V 3% I = 200mA
+5Vvid	+5V 3% I = 200mA
-5V	-5V 3% I = 200mA

Clock Check

Ensure the present of the clock to the DAC

Clock Name	Testpoint	Frequency
PCM_CLK	TP10	11.2896MHz 0.02% tolerance

Audio mute check

Measure the Audio mute voltage input at pin 12 of connector 1010

Status	Value
AudioMuteOn	4.7V 10%
AudioMuteOff	-8V 10%

To toggle between ON and OFF,use the following commands:

Ref.#	Command Name	Remarks
19a	AudioMuteOn	Audio Mute On
19b	AudioMuteOff	Audio Mute Off

5.7.3 Audio DAC And Amplifier

Ensure that the Audio mute signal is OFF
To check the DAC and buffer amplifier,send the following commands:

Ref.#	Command Name	Remarks	Audio output
21a	AudioSineOn	Audio Sine signal ON	Sine,1Khz on stereo
----	Press stop button	Audio Sine signal OFF	No waveform
20a	AudioPinkNoiseOn	Audio Pinknoise ON	Pink Noise on 6 channels
20b	AudioPinkNoiseOff	Audio Pinknoise OFF	No waveform

The audio signal (sine or pink noise) will also be present on the digital output (SPDIF).This can be checked by connecting digital signal to an amplifier with digital input. Check the I2S and audio signal at the following testpoints:

Name	Testpoint
LRCLK	TP8
SCLK	TP9
PCM_CLK	P10
PCM_OUT0	TP7
PCM_OUT1	TP27
PCM_OUT2	TP28
SPDIF	TP11
Front L/R out-Audio cinch	TP13
H/P L/R out	TP20
Analog out -Audio cinch	TP25

All waveforms can be refer to the waveform diagram in the chapter "Diagnostic software description and troubleshooting".

5.7.4 Video Output And Buffer Amplifier

Check DC output-level at all video cinch output : 1.0V DC ± 10%

Generate a color bar using the following software commands:

Ref.#	Command Name	Remarks
23a	VideoColDencOn	Colour DENC ON
61a	VideoColOutRGB	RGB Colourbar
61b	VideoColOutYUV	YUV Colourbar
23b	VideoColDencOff	Colourbar DENC OFF

Check the video outputs at the following testpoints:

Name	Testpoint
B_ViD	TP1
G_ViD	TP2
R_ViD	TP3
CVBS out	TP14
S-Video-C out	TP15
S-Video-Y out	TP16
Y out	TP17
U out	TP18
V out	TP19

All waveforms can be refer to the waveform diagram in the chapter "Diagnostic Software description and troubleshooting".

5.7.5 Play And 16/9 Detection

Check DC voltage at S-Video-chroma output (pin 4) with a 6K8 ohm load and Scart connector (pin 8) and change the 0/6/12 input (1010-8) using the following commands:

Ref.#	Command Name	Remarks	Chroma output
25a	VideoScartLo	Sends out 0V 0.5V	<0.1V
25b	VideoScartMi	Sends out 6V 10%	2.0V 10% with load 5.0V 10% without load
25c	VideoScartHi	Sends out 12V 10%	<0.1V

5.7.6 Kill Circuit

To check the functionality of the Kill circuitry,the audio outputs has to be present by the following command:

Ref.#	Command Name	Remarks	Audio output
21a	AudioPinkNoiseOn	Audio Pinknoise ON	Pink Noise on 6 channels

Check the audio outputs at the audio cinch of the A/V board : Pink Noise

Activate the Kill circuit by using the following command:

Ref.#	Command Name	Remarks
19a	AudioMuteOn	Audio Mute On

Check the audio outputs at the audio cinch of the A/V board : No waveform

Switch off the kill circuit by using the following command:

Ref.#	Command Name	Remarks
19b	AudioMuteOff	Audio Mute Off

Check the audio outputs at the audio cinch of the A/V board : Pink Noise

5.8 Test Instructions Display Board

5.8.1 Introduction

These test instructions are written for all versions of the display PCBAS. The contents of the PCB can be split up into next blocks:

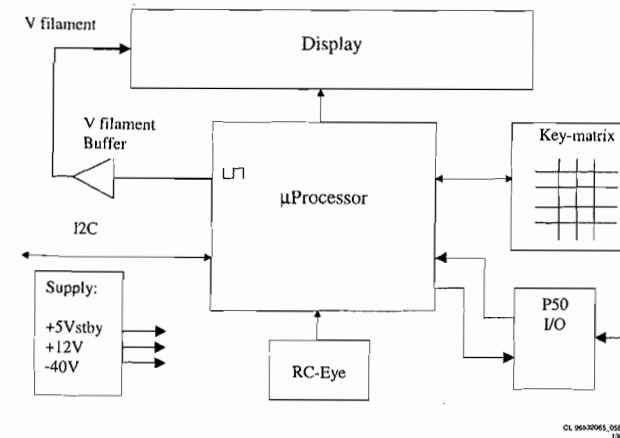


Figure 5-41

5.8.2 Functionality Description:

The essential component of the display PCB is the μP (slave). This slave works on an 8MHz resonator and has a reset circuit that is triggered by the +5Vstby. After the reset pulse, the standby control line will release the reset of the host μP. This host μP will then initialise the slave. In addition, when going to stand-by, the slave will put the host μP in reset. When the slave receives the right IR or key code to leave the standby mode, the reset of the host μP will be released. Other slave functions are:

- Square signal generator to generate the filament voltage, which is required for an AC FTD.
- Generates the grid and segment scanning for the FTD.
- Generates a scanning grid for the keys (separated from display scanning).
- Has inputs for RC (RC5 and RC6) and P50 (P50 controller is built in).

5.8.3 General

- Oscilloscope measurements have been carried out using a Philips PM3392A.
- Impedance of measuring-equipment should be > 1MΩ.
- To do correct measurements we recommend to use supply 3122 427 22570.

5.8.4 Reset

Check next reset timing with an oscilloscope at pin 10 of the microprocessor.

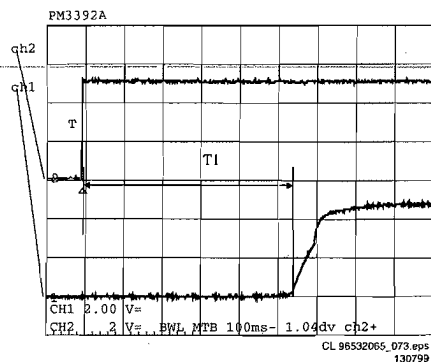


Figure 5-42

Timing: 400msec < T1 > 700msec.
CH1: +5Vstby voltage at power on.
CH2: Voltage at pin 10.

5.8.5 Display Steering

Check next timing and level for all grid-lines (G1 r G14).

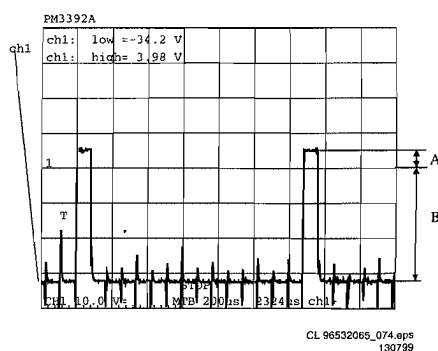


Figure 5-43

1. Check level A: +4V5 +/-10% for grid lines 1 => 11
2. Check level A: +4V0 +/-10% for grid lines 12 => 14
3. Check level B: -33V +/-10%
4. Check timing and levels of segment-lines P1 => P10:

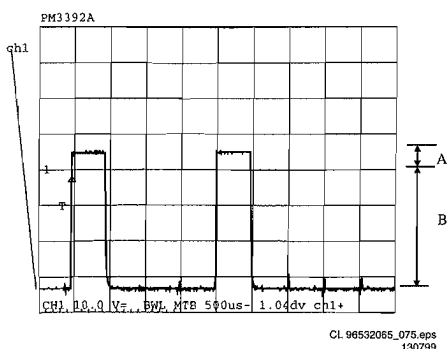


Figure 5-44

Level A: +4V5 +/-10%
Level B: -33V +/-10%

The data on these segment-lines depend on the characters that are displayed.

The characters can be set by sending I2C commands to the display.

See the Slave URS how to send a display command.

5.8.6 Key-matrix

Connect a extra 10kΩ pull-up to pin 36 en 37 of the μP and check next matrix scanning at these pins.

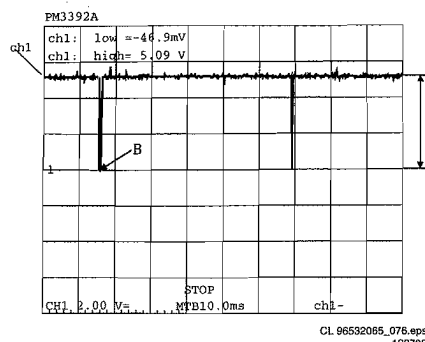


Figure 5-45

Level A: 5.0V +/-7%
Level B: 0V +/-200mV
Check matrix scanning from pin 26 until 33 of the μP. The results should be the same as the diagram above.

5.8.7 I.R. Receiver

Check at pin 23 of the μP if this line switches from low (< 0.3V) to high (> 4.5V), while pressing a key on a Philips RC5 or RC6 remote control.

5.8.8 Karaoke Interface

The karaoke interface (4 lines) is a single direction communication. This means that it consists of four μP output lines. The interface can be checked by setting or resetting these output-ports via the I2C bus. Send next command via the I2C bus:

Address	: 0x70
Command byte	: 0x24
Data byte	: xxxabcd
Where	: a = Karaoke reset.
	: b = Karaoke data.
	: c = Karaoke clock.
	: d = Karaoke strobe.

5.8.9 P50 Interface

P50 is a bi-directional serial interface, which is used for communication between video equipment. For European sets, this communication goes via pin 10 of the scart-bus. In other regions, it can be a cinch bus at the back of the set.

1. Keep the μP in reset by short-circuiting emitter and collector of transistor 7108, via resistor 3100 and 3104 transistor 7101 is switched on.
2. Check the voltage at the P50 output connector 1118-5: < 200mV.

When the reset is released the μP output-pin becomes low and transistor 7101 is switched off.

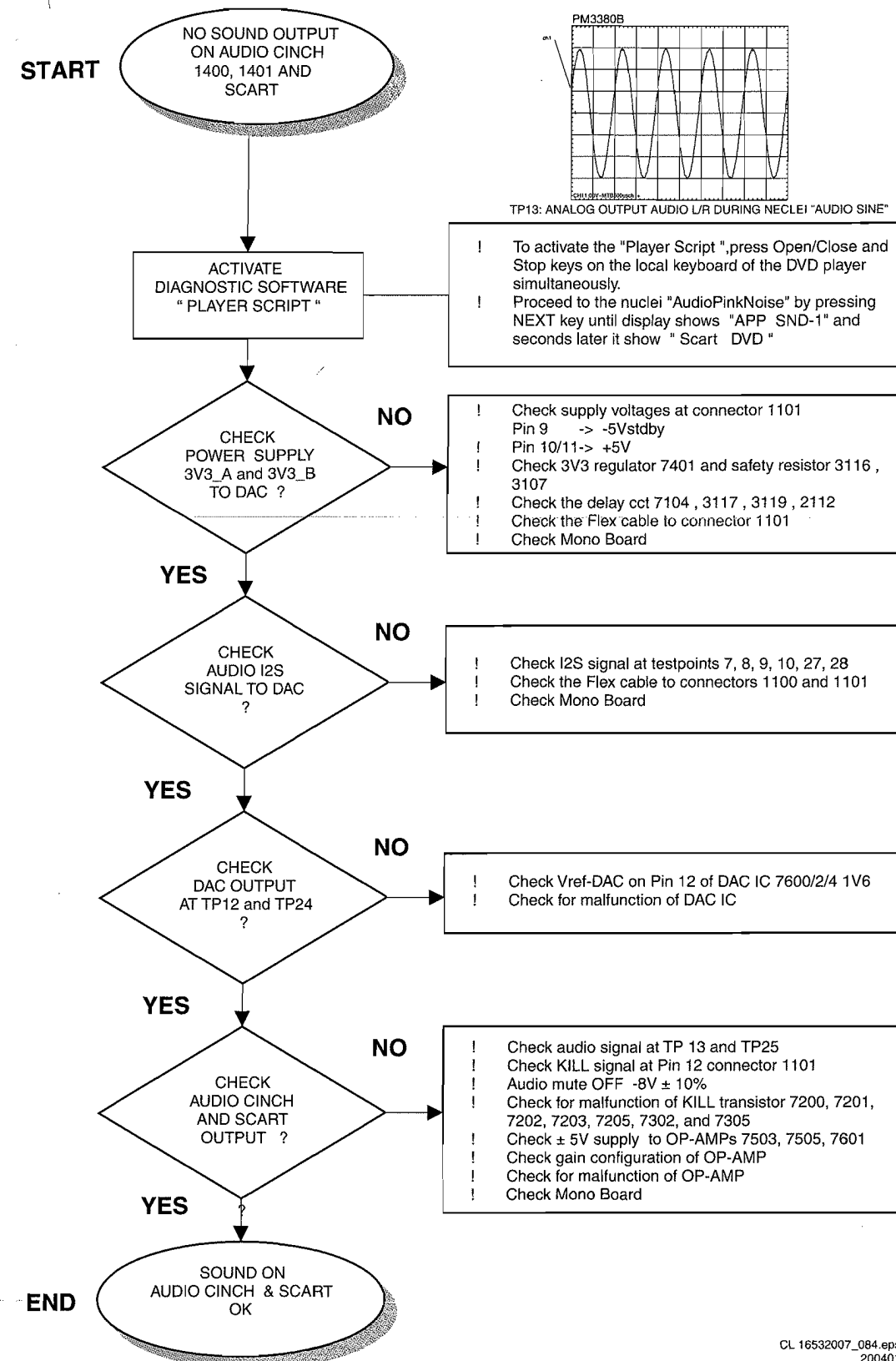
1. Check the voltage at the P50 output connector 1118-5: 4V9 +/-5%.
2. Check also the μP P50 input (μP pin 20): 5V +/-5%.
3. Connect the P50 line (connector 1118-5) to ground.
4. Check again the μP P50 input (μP pin 20): <0V3.

5.9 Troubleshooting

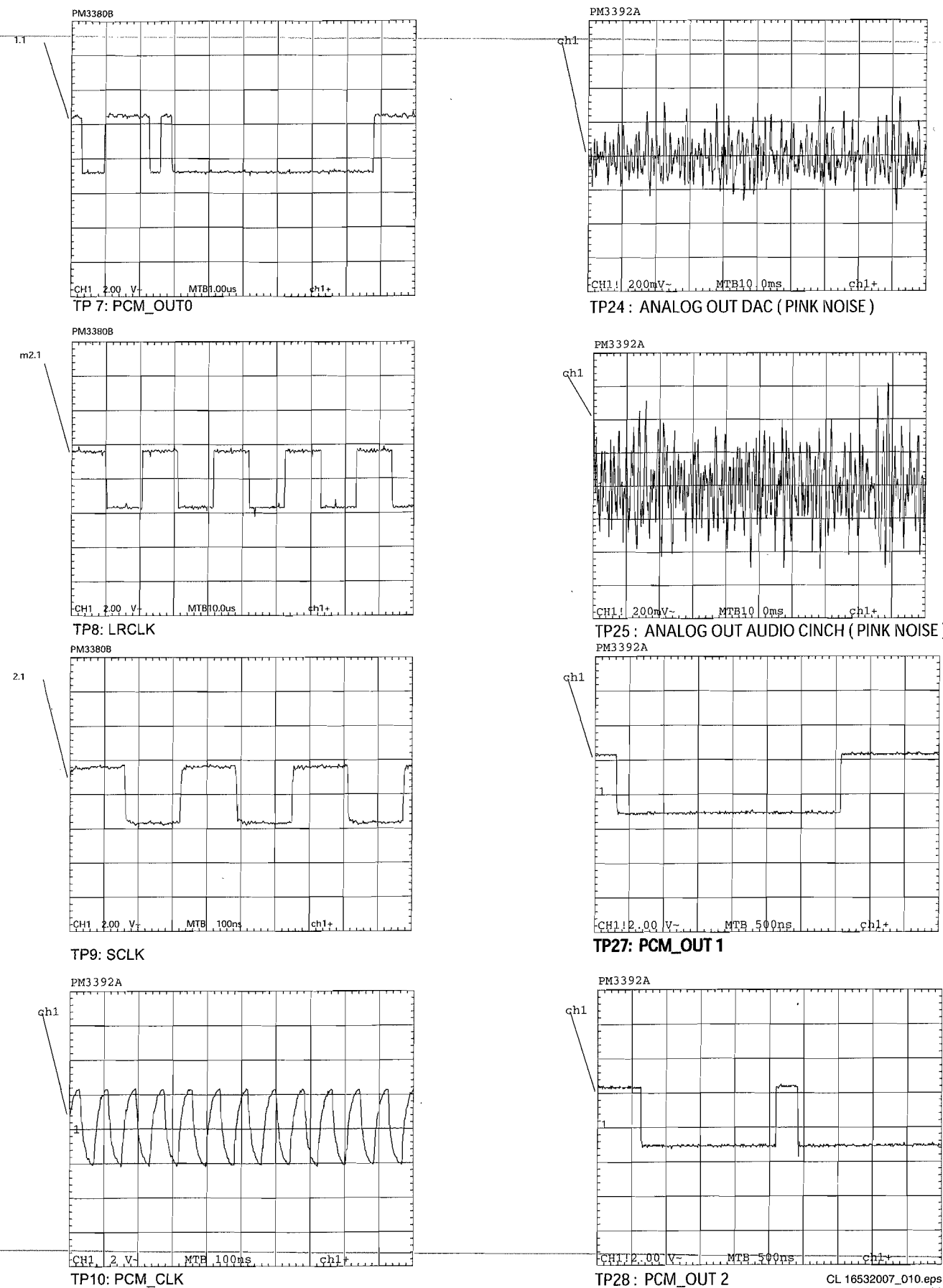
5.9.1 Troubleshooting A/V Board

Testing of A/V board can be done using diagnostic software "PLAYER SCRIPT". MONO board is used to generate a sound with the sound tests SND-1 and SND-2 or a VIDEO signal with the picture PIC-1. See description in the chapter of "DIAGNOSTIC SOFTWARE: SCRIPT INTERFACES".

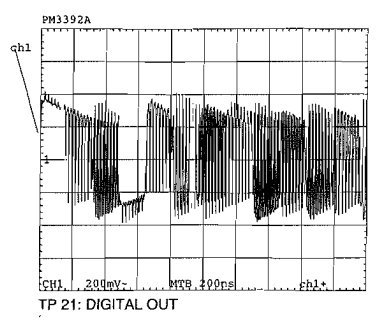
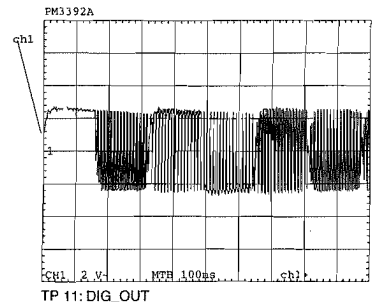
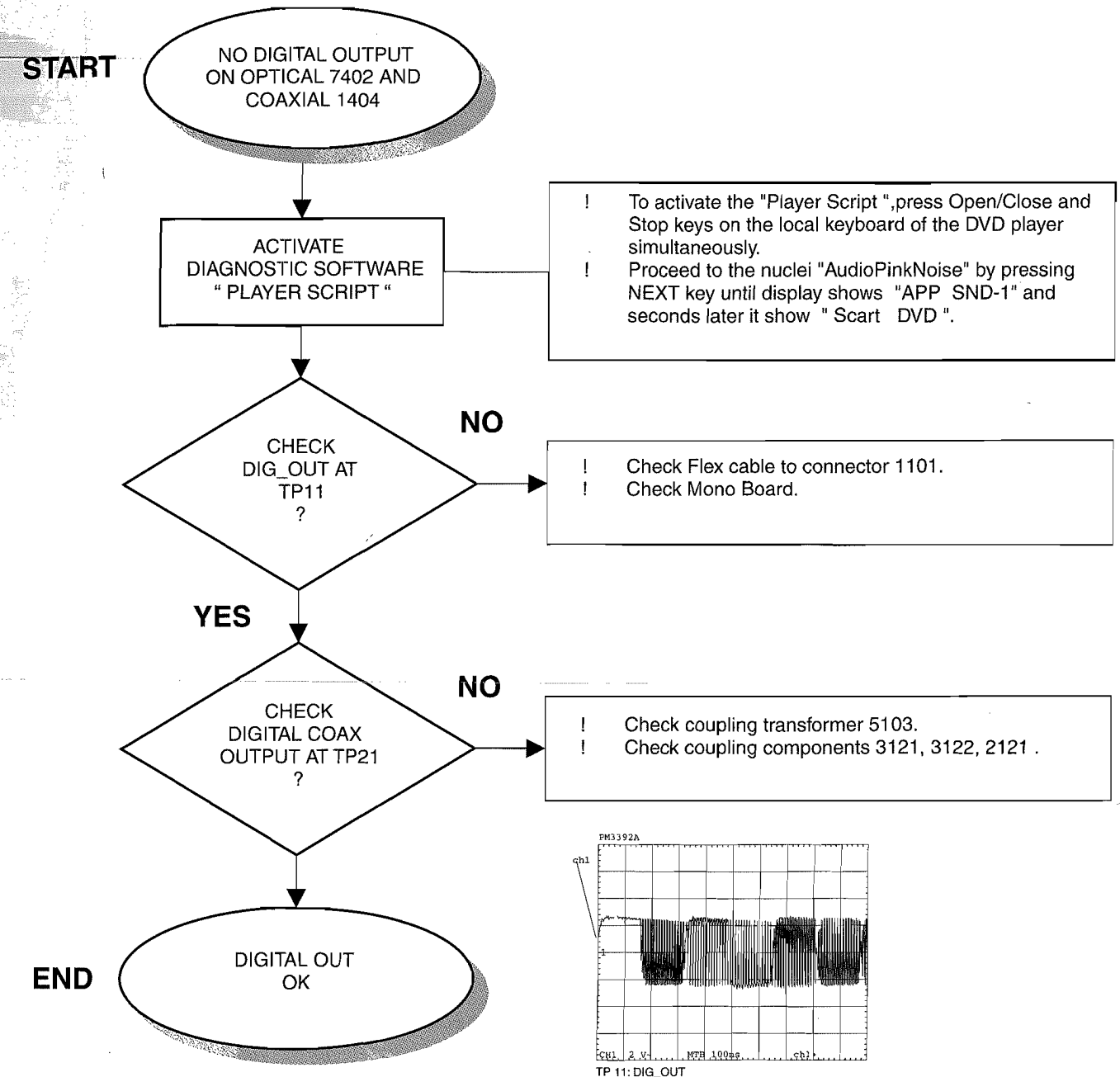
AUDIO PART OF AUDIO/VIDEO BOARD 3139 243 30280



AUDIO WAVEFORM MEASUREMENT

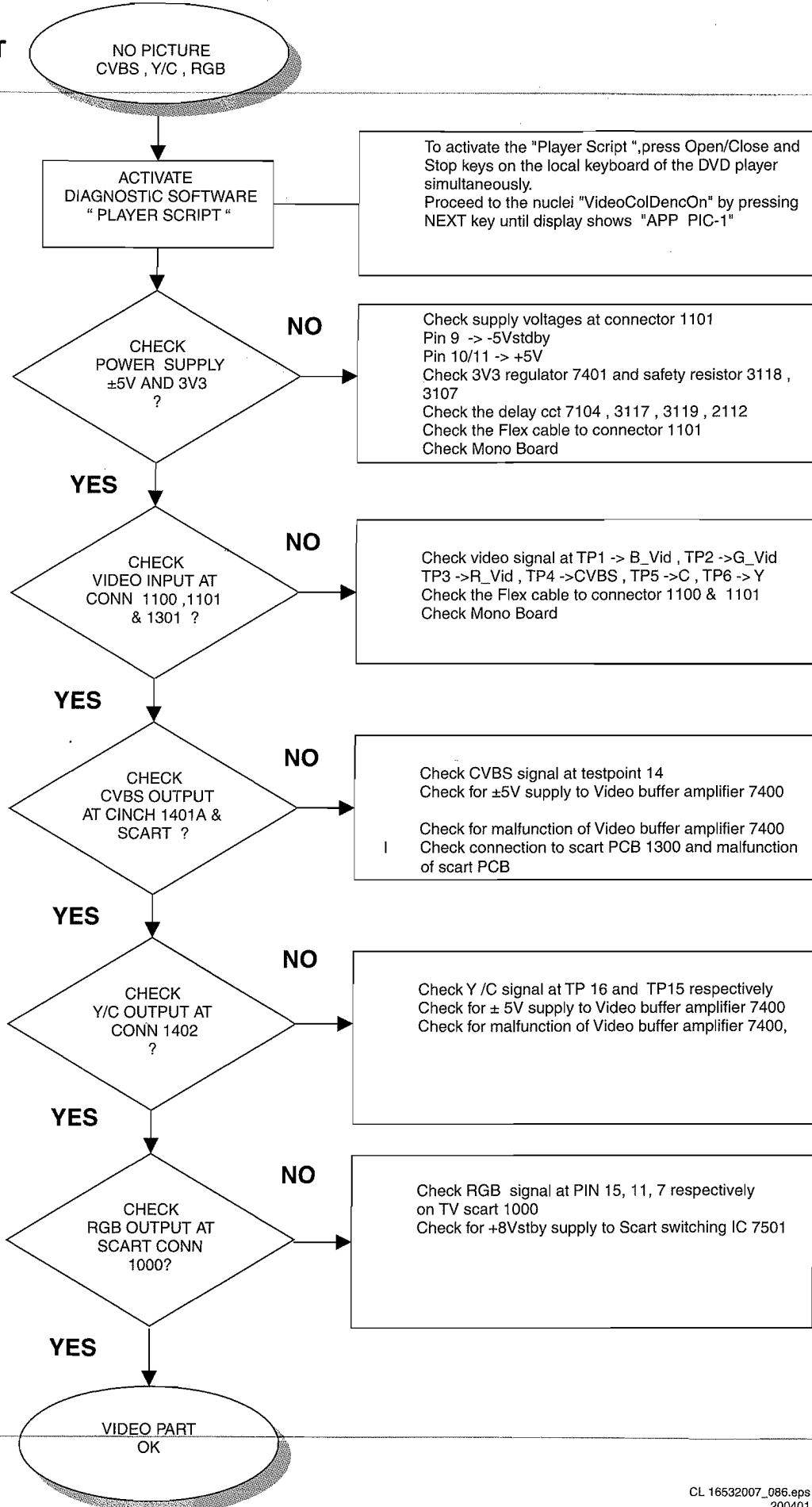


AUDIO PART OF AUDIO/VIDEO BOARD 3139 243 30280

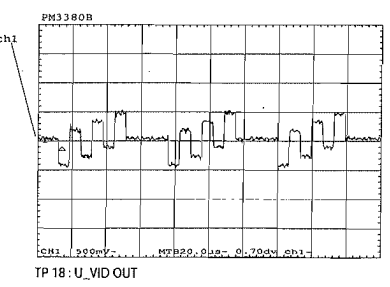
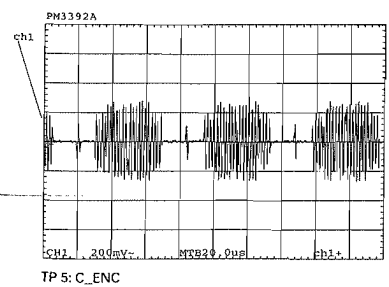
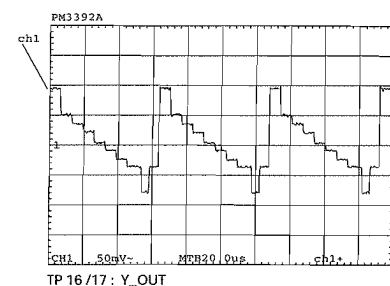
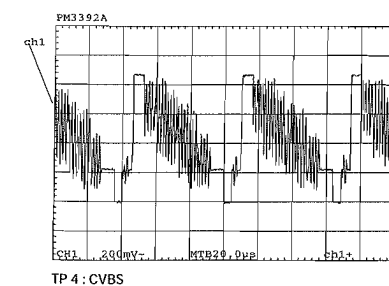
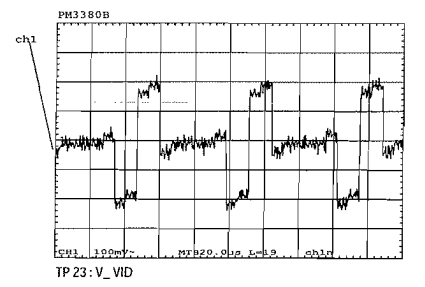
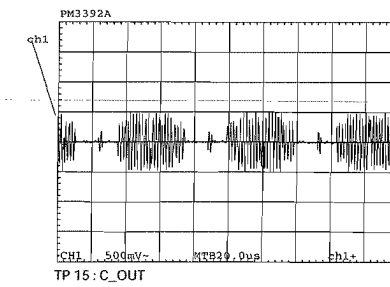
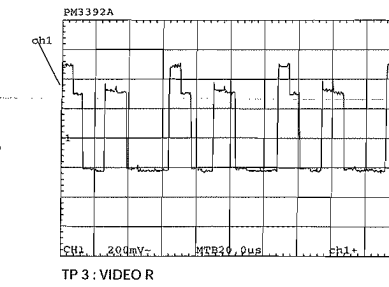
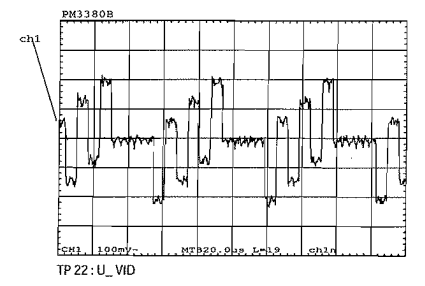
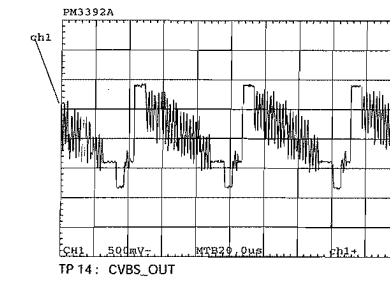
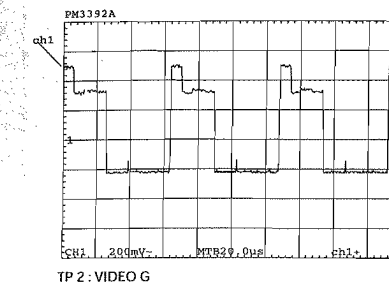
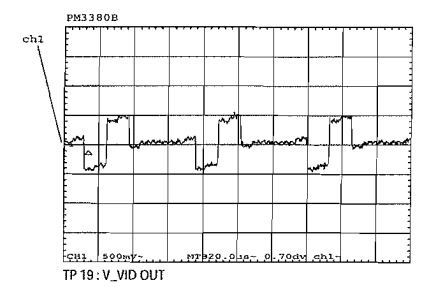
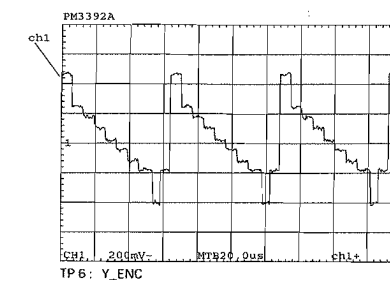
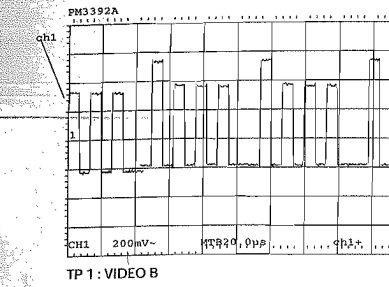


VIDEO PART OF AUDIO/VIDEO BOARD 3139 243 30280

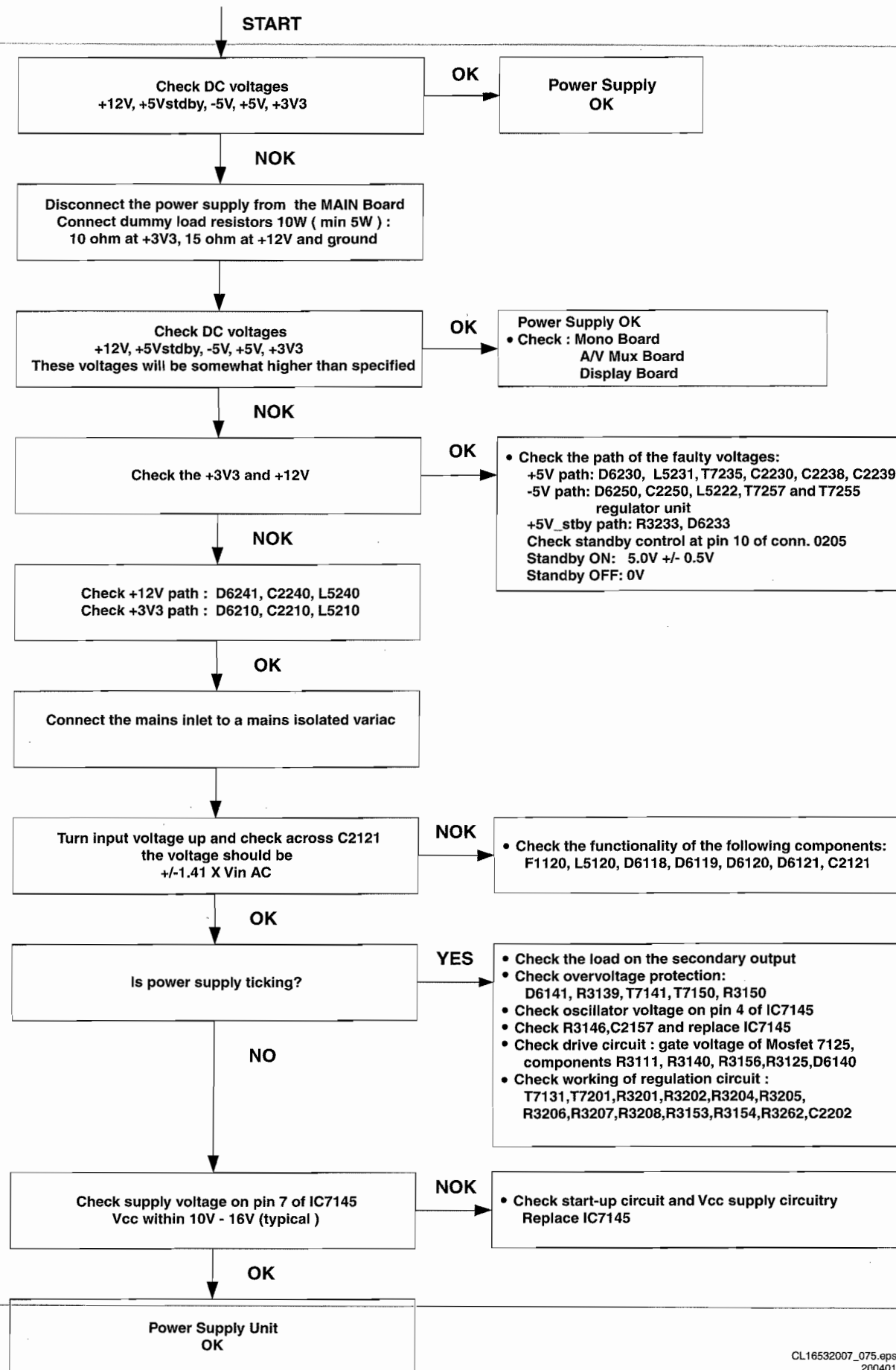
START



VIDEO WAVEFORM MEASUREMENT



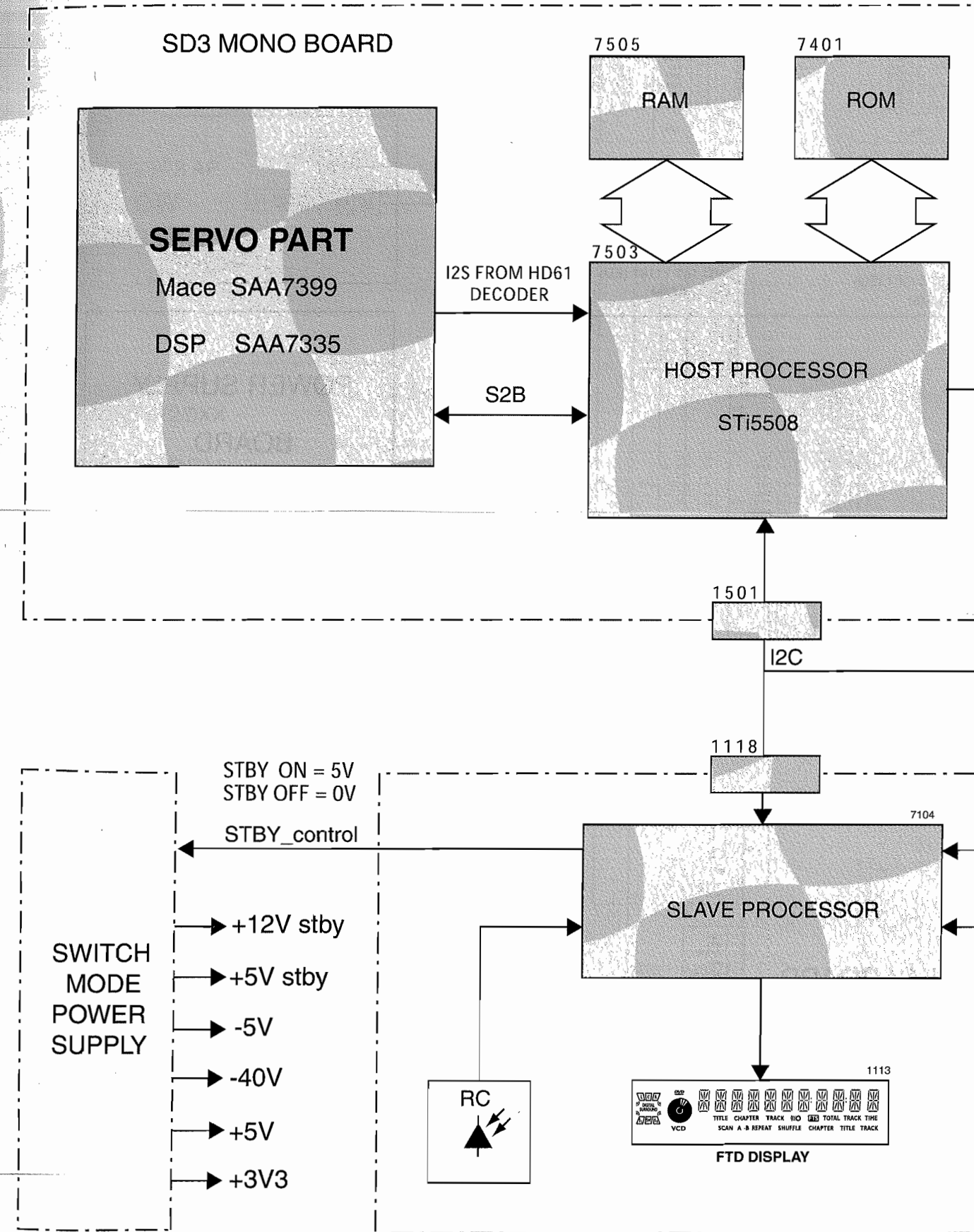
TROUBLESHOOTING POWER SUPPLY UNIT VFM EURO



6. Block and Wiring Diagram.

Blockdiagram DVD 752-762 /OX1

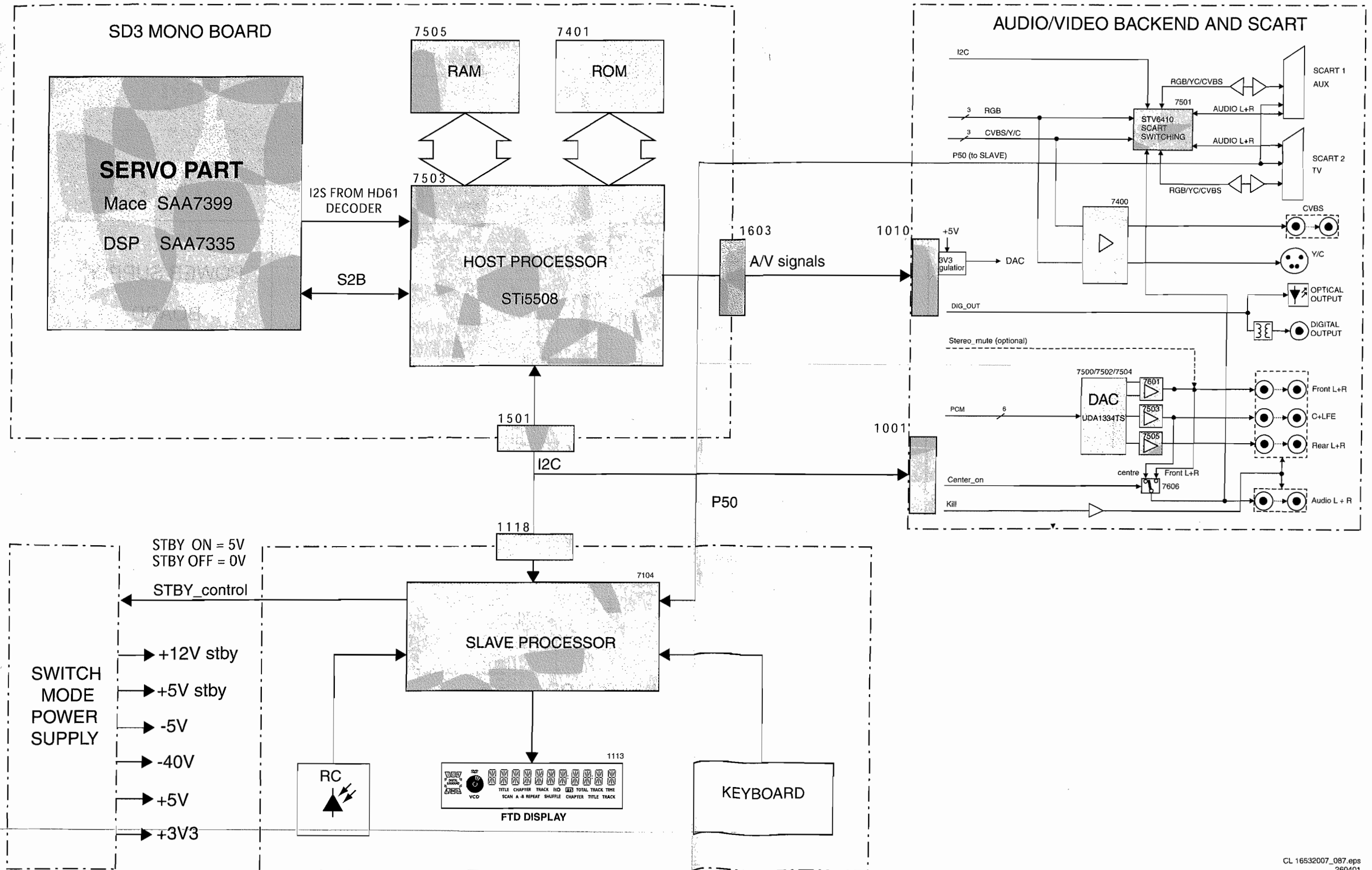
Block Diagram DVD752-762/OX1



6. Block and Wiring Diagram.

Blockdiagram DVD 752-762 /0X1

Block Diagram DVD752-762/0X1



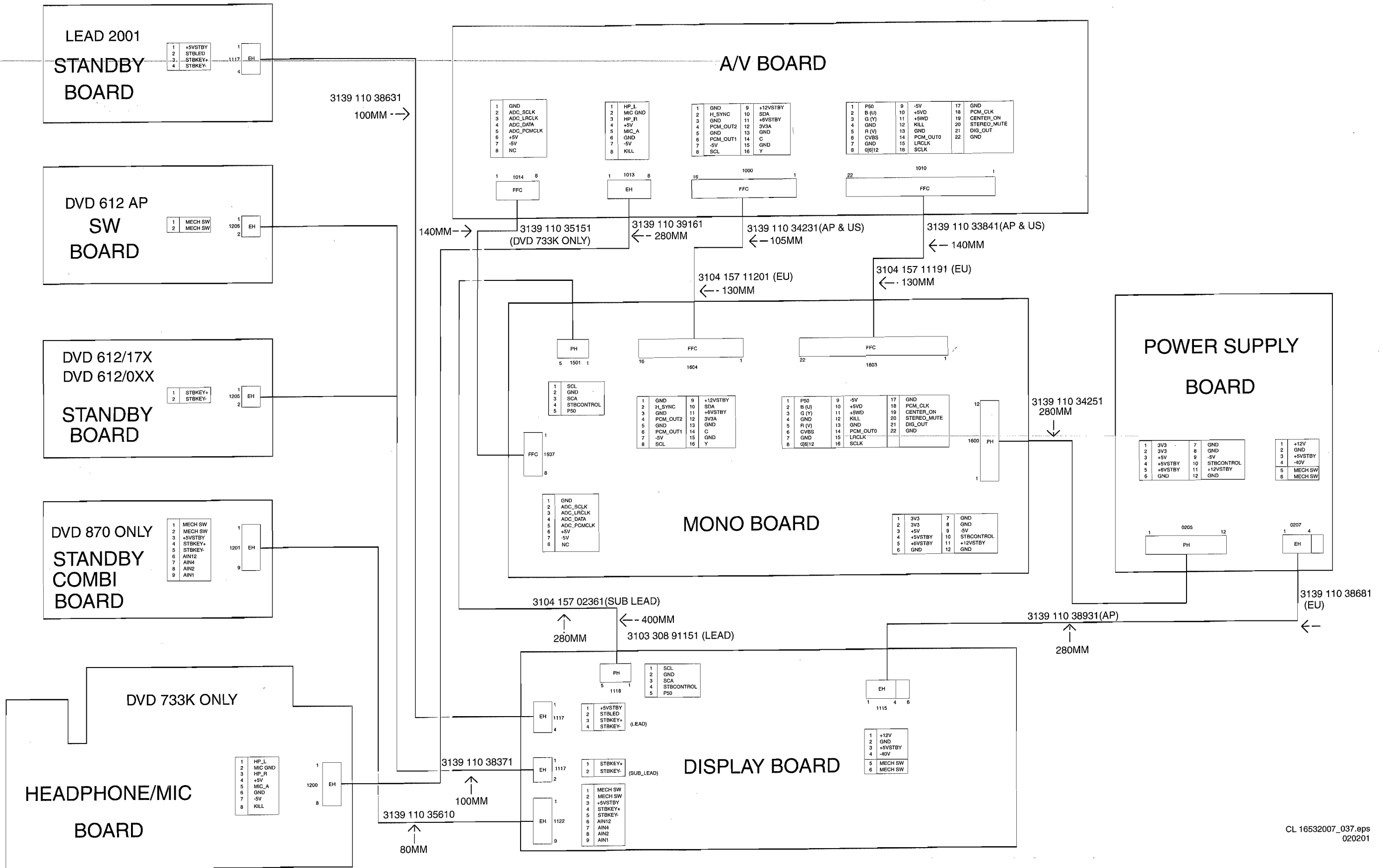
2238, C2239
d T7255
0205

Components:
21, C2121

15
at 7125,
5,D6140
,C2202

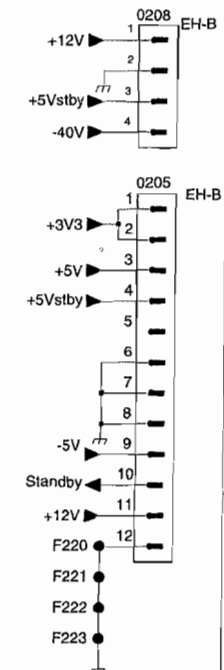
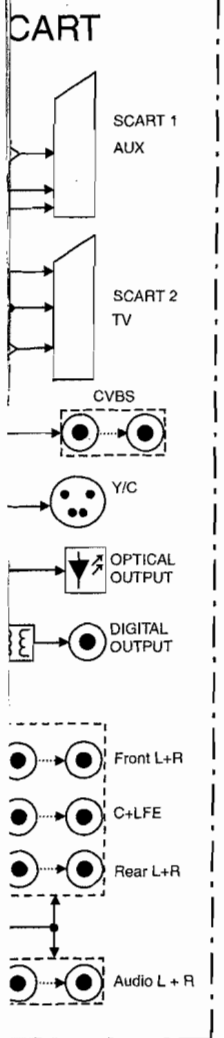
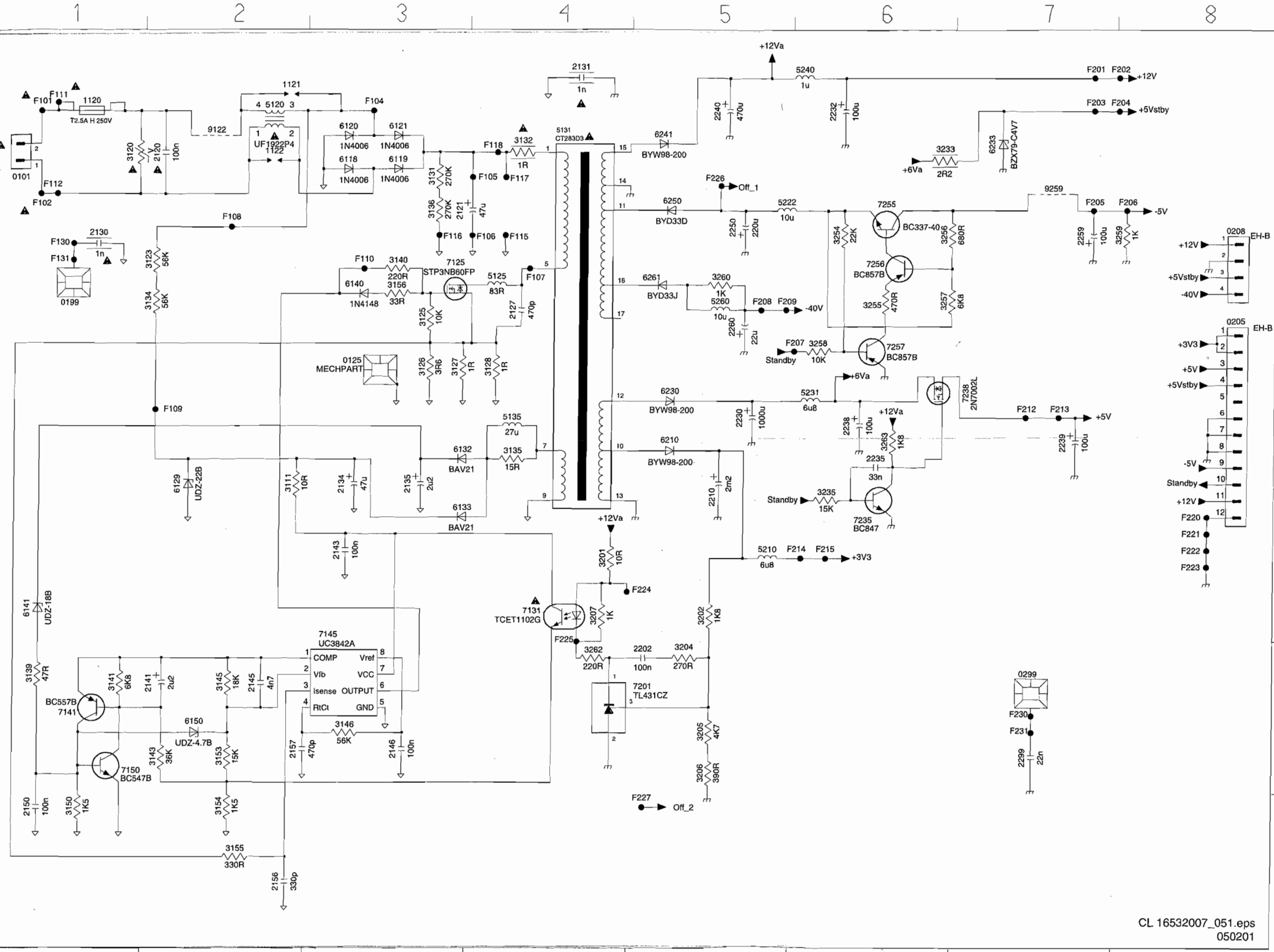
uity

Wiring Diagram



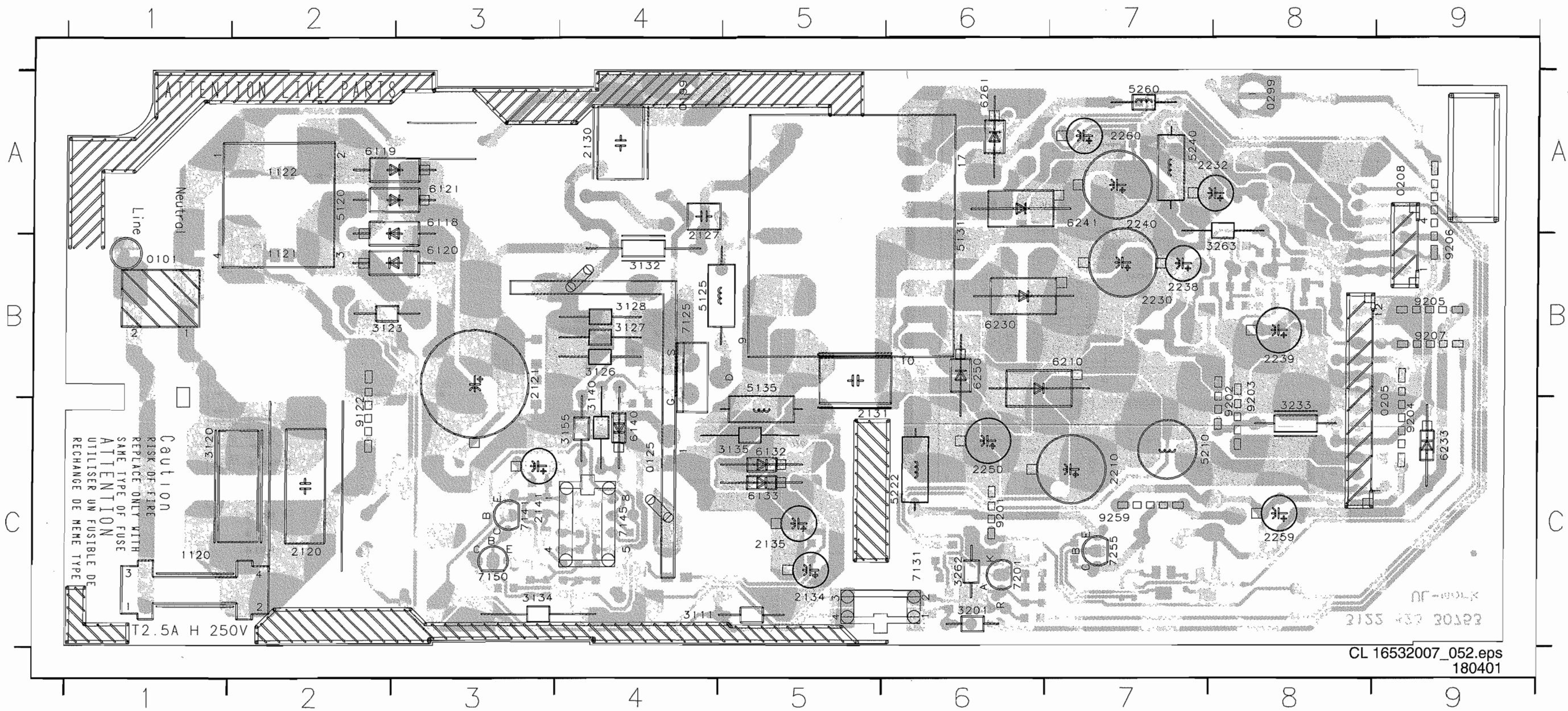
7. Electrical Diagrams And Print-Layouts

Power Supply Unit VFM EURO (3122 427 22570)



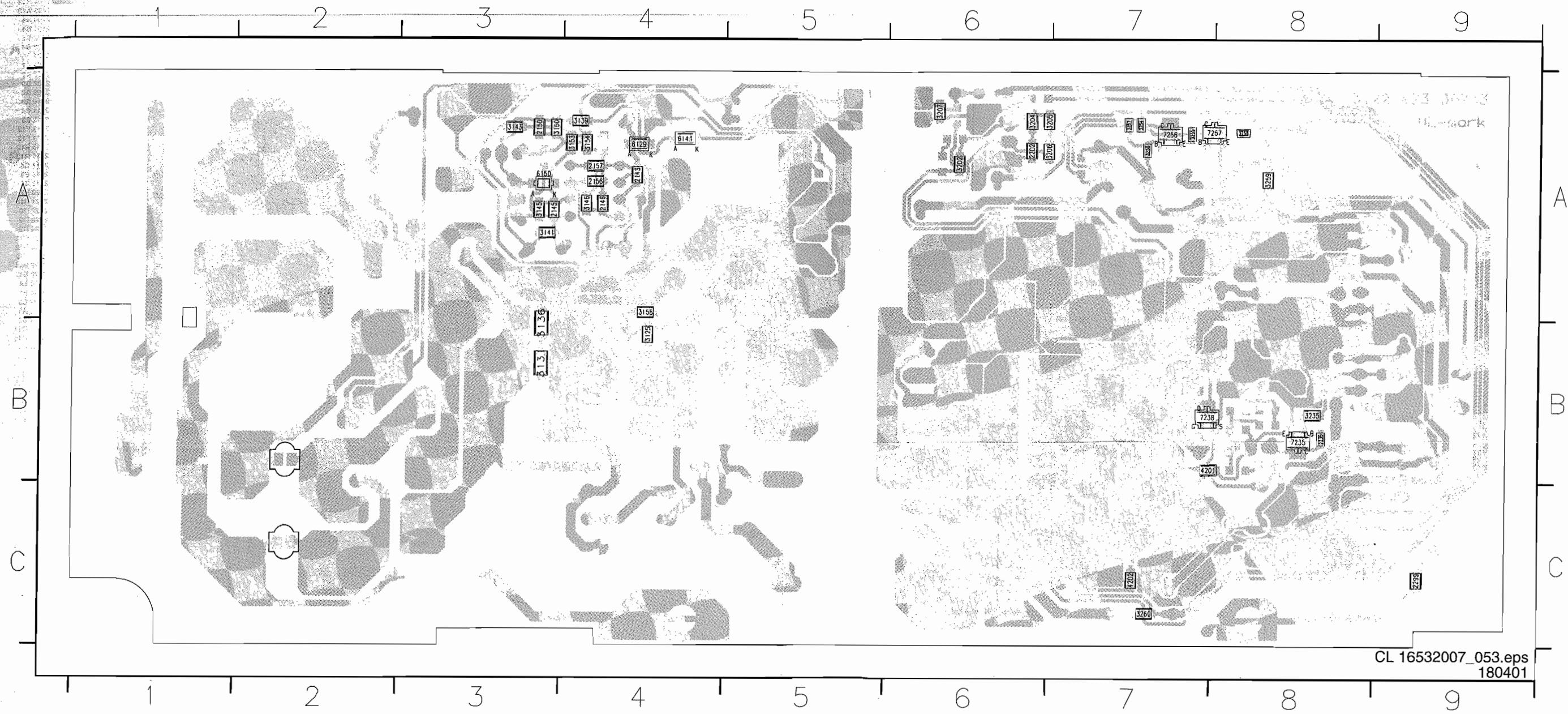
Layout Power Supply Unit VFM EURO (Component Side)

0101	B1	0209	A9	2121	B3	2130	A4	2135	C5	2232	A8	2240	A7	2259	C8	3111	C4	3123	B2	3133	A3	3201	C6	5120	A2	5210	C7	5260	A7	6120	B3	6128	A4	6211	C6	6241	A7	7125	B4	7201	C6	7259	C8	9203	B8	9259	C7
0125	C4	0299	A8	2122	C2	2131	C5	2141	C3	2233	A8	2241	A6	2260	A7	3112	C5	3126	B4	3134	C3	3232	B8	5121	B2	5222	C6	6110	C3	6121	A3	6132	C5	6230	B6	6250	B6	7131	C6	7233	A8	9122	C2	9204	C9		
0199	A4	1120	C1	2123	B3	2132	C5	2210	C7	2236	B6	2250	C6	2261	A7	3120	C1	3127	B4	3135	C5	3233	C8	5125	B4	5230	B7	6111	C3	6122	C3	6133	C5	6231	B6	6259	C7	7141	C3	7236	B7	9125	B4	9205	B9		
0205	C9	2119	B2	2127	B4	2133	C5	2211	B7	2238	B7	2251	B6	2263	A6	3121	C3	3128	B4	3140	B4	3262	C6	5131	B6	5231	B7	6118	A3	6123	B3	6140	C4	6233	C9	6260	A6	7145	C4	7237	B8	9201	C6	9206	B9		
0208	A9	2120	C2	2129	C4	2134	C5	2230	B7	2239	B8	2253	C7	3105	C1	3122	B2	3132	B4	3155	C4	3263	B8	5135	B5	5240	A7	6119	A2	6127	A4	6210	B7	6240	B6	6261	A6	7150	C3	7255	C7	9202	C8	9207	B9		

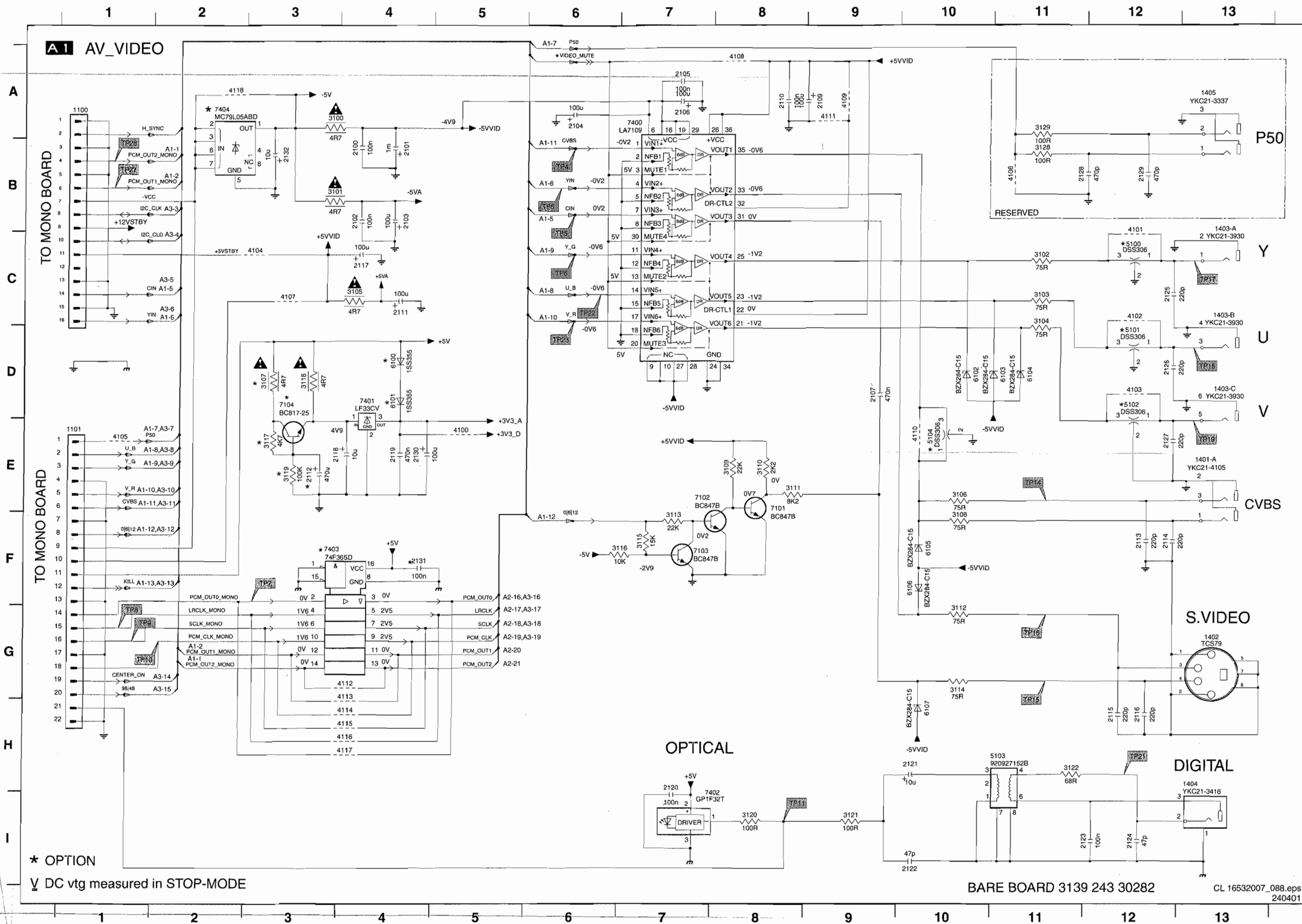


Layout Power Supply Unit VFM EURO (Bottom Side)

2142	A3	2146	A4	2156	A4	2202	A6	2235	B8	3125	B4	3137	A5	3143	A3	3150	A3	3156	A4	3204	A6	3207	A6	3235	B8	3241	B8	3255	A7	3258	A8	4201	B7	6141	A4	7238	B7
2143	A4	2150	A3	2157	A4	2203	A6	2262	B8	3131	B3	3139	A4	3145	A3	3153	A4	3202	A6	3205	A6	3208	A6	3236	B8	3253	A7	3256	A7	3259	A8	4202	C7	6150	A3	7256	A7
2145	A3	2152	A4	2201	A6	2234	B8	2299	C9	3136	B3	3141	A3	3146	A4	3154	A4	3203	A6	3206	A6	3234	B8	3237	B8	3254	A7	3257	A7	3260	C7	6129	A4	7235	B8	7257	A7



A/V Board (Video)

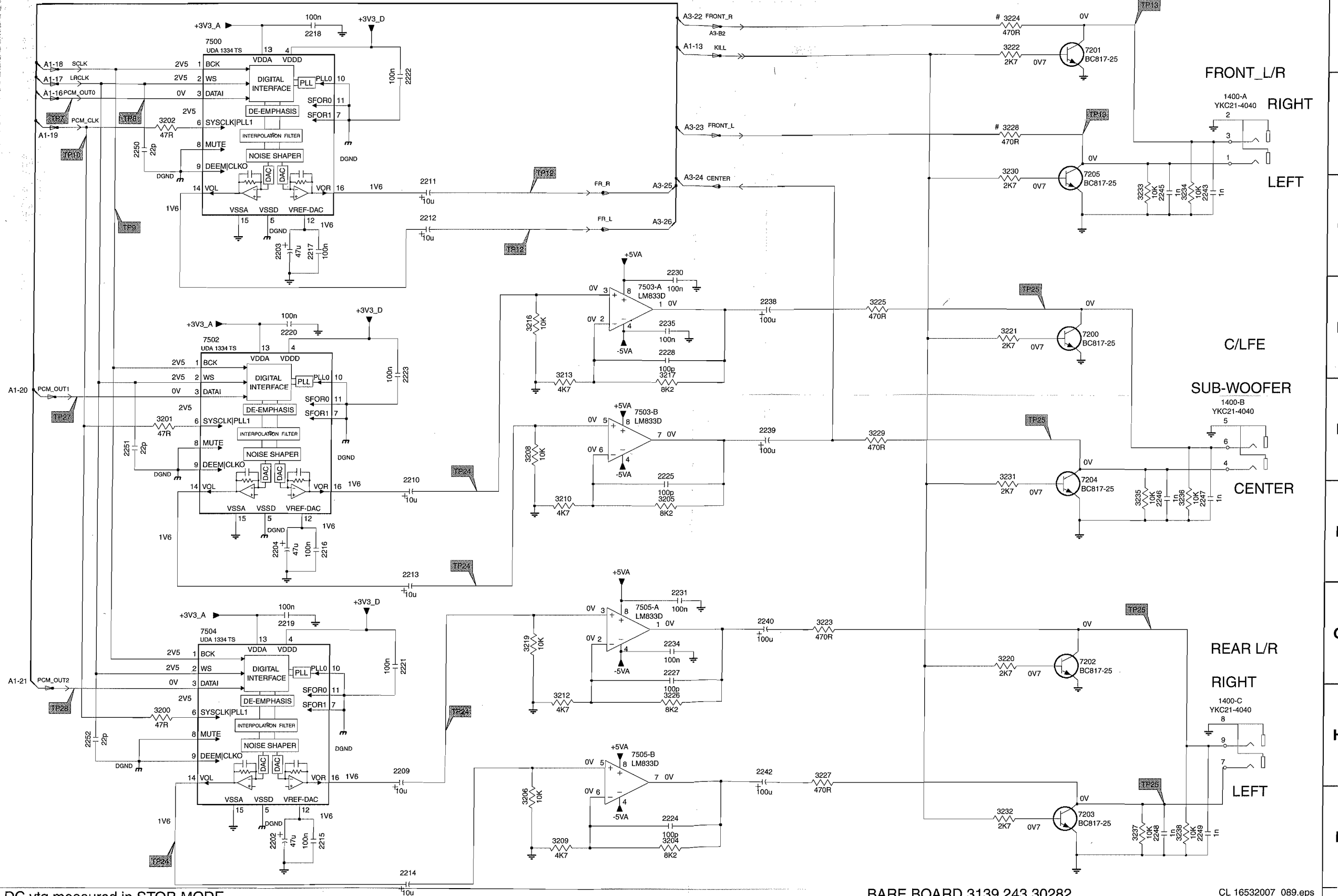


- 1100 A1
- 1101 E1
- 1401-A E13
- 1402 G13
- 1403-A B13
- 1403-B C13
- 1403-C D13
- 1404 H13
- 1405 A13
- 2100 B4
- 2101 B4
- 2102 B4
- 2103 B4
- 2104 A6
- 2105 A7
- 2106 A7
- 2107 D9
- 2109 A9
- 2110 A8
- 2111 C4
- 2112 E3
- 2113 F12
- 2114 F12
- 2115 H12
- 2116 H12
- 2117 C4
- 2118 E3
- 2119 E4
- 2120 H7
- 2121 H10
- 2122 I10
- 2123 I12
- 2124 I12
- 2125 C12
- 2126 D12
- 2127 E12
- 2128 B11
- 2129 B12
- 2130 E4
- 2131 F4
- 2132 B3
- 3100 A3
- 3101 B3
- 3102 C11
- 3103 C11
- 3104 C11
- 3105 C4
- 3106 E10
- 3107 D3
- 3108 F10
- 3109 E8
- 3110 E8
- 3111 E8
- 3112 G10
- 3113 F7
- 3114 G10
- 3115 F7
- 3116 F7
- 3117 E3
- 3118 D3
- 3119 E3
- 3120 I6
- 3121 I9
- 3122 H11
- 3128 B11
- 3129 A11
- 4100 E5
- 4101 C12
- 4102 C12
- 4103 D12
- 4104 C3
- 4105 E1
- 4106 B11
- 4107 C3
- 4108 A8
- 4109 A8
- 4110 E10
- 4111 A9
- 4112 G4
- 4113 H4
- 4114 H4
- 4115 H4
- 4116 H4
- 4117 H4
- 4118 A2
- 5100 C12
- 5101 D12
- 5102 D12
- 5103 H11
- 5104 E10
- 6100 D4
- 6101 D4
- 6102 D10
- 6103 D11
- 6104 D11
- 6105 F10
- 6106 F10
- 6107 H10
- 7101 E8
- 7102 E7
- 7103 F7
- 7104 D3
- 7400 A7
- 7401 D4
- 7402 I8
- 7403 F3
- 7404 A2

* OPTION
 √ DC vtg measured in STOP-MODE

A/V Board (Audio 1)

A2 AV_AUDIO1



DC vtg measured in STOP-MODE

BARE BOARD 3139 243 30282

CL 16532007_089.eps 240401

- 1400-A B13
- 1400-B E13
- 1400-C H13
- 2202 J3
- 2203 C3
- 2204 F3
- 2209 H5
- 2210 F5
- 2211 C5
- 2212 C5
- 2213 F5
- 2214 I5
- 2215 I4
- 2216 F4
- 2217 C4
- 2218 A4
- 2219 G3
- 2220 D3
- 2221 G5
- 2222 B5
- 2223 D5
- 2224 I7
- 2225 E7
- 2227 G7
- 2228 D7
- 2230 C7
- 2231 G7
- 2234 G7
- 2235 D7
- 2238 D8
- 2239 E8
- 2240 G8
- 2242 H8
- 2243 C12
- 2245 C12
- 2246 F12
- 2247 F12
- 2248 I12
- 2249 I12
- 2250 B2
- 2251 E2
- 2252 H1
- 3200 H2
- 3201 E2
- 3202 B2
- 3204 I7
- 3205 F7
- 3206 I6
- 3208 E6
- 3209 I6
- 3210 F6
- 3212 H6
- 3213 D6
- 3216 D6
- 3217 D7
- 3219 G6
- 3220 G10
- 3221 D10
- 3222 A10
- 3223 G9
- 3224 A10
- 3225 D9
- 3226 H7
- 3227 H9
- 3228 B10
- 3229 E9
- 3230 B10
- 3231 E10
- 3232 I10
- 3233 C12
- 3234 C12
- 3235 F12
- 3236 F12
- 3237 I12
- 3238 I12
- 7200 D11
- 7201 A11
- 7202 G11
- 7203 I11
- 7204 F11
- 7205 C11
- 7500 A3
- 7502 D3
- 7503-A D7
- 7503-B E7
- 7504 G3
- 7505-A G7
- 7505-B H7

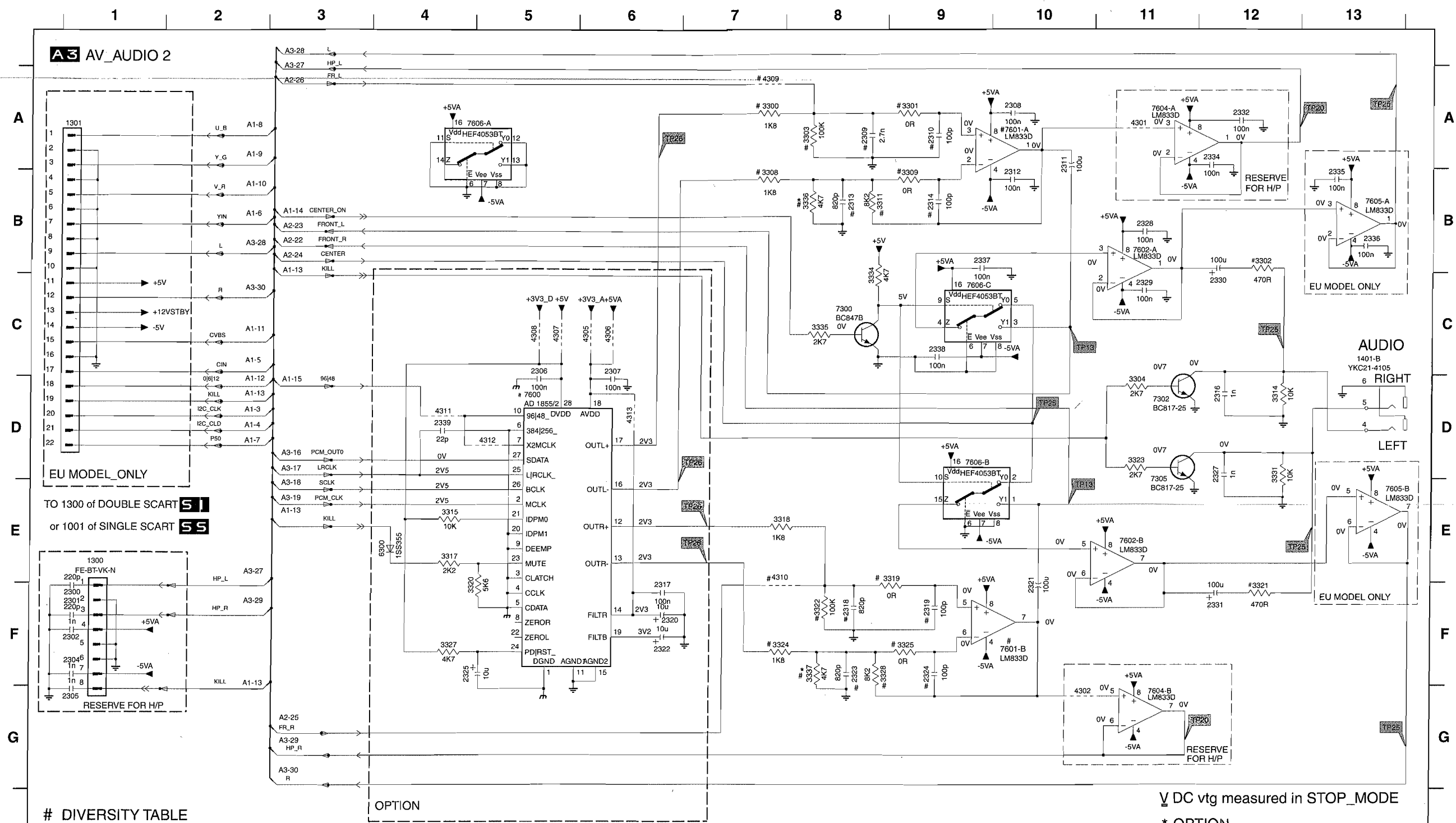
41 A4 7238 B7
50 A3 7256 A7
55 B8 7257 A7

30753
-mark

32007_053.eps
180401

9

A/V Board (Audio 2)



DIVERSITY TABLE

REF	3224	3228	2309	2310	2313	2314	2318	2319	2323	2324	3300	3301	3302	3303	3308	3309	3311	3318	3319	3321	3322	3324	3325	3328	3336	3337	4309	4310	7600	7601
DVD 752	470R	470R	---	---	---	100p	---	---	---	100p	---	JP	470R	100K	---	JP	8K2	---	JP	470R	100K	---	JP	8K2	4K7	4K7	JP	JP	---	LM 833
DVD 762	470R	470R	---	---	---	100p	---	---	---	100p	---	JP	470R	100K	---	JP	8K2	---	JP	470R	100K	---	JP	8K2	4K7	4K7	JP	JP	---	LM 833
DVD Q40	470R	470R	---	---	---	100p	---	---	---	100p	---	JP	470R	100K	---	JP	8K2	---	JP	470R	100K	---	JP	8K2	4K7	4K7	JP	JP	---	LM 833
DVD 952	220R	220R	820p	330p	820p	330p	820p	330p	820p	330p	1K8	2K	220R	2K	1K8	2K	2K	1K8	2K	2K	1K8	2K	2K	2K	2K	---	---	---	---	AD 1855/NE 5532
DVD Q50	220R	220R	820p	330p	820p	330p	820p	330p	820p	330p	1K8	2K	220R	2K	1K8	2K	2K	1K8	2K	2K	1K8	2K	2K	2K	---	---	---	---	---	AD 1852 OP 275

BARE BOARD 3139 243 30282

CL 16532007_090.eps
240401

- 1300 E1
- 1301 A1
- 1401-B C13
- 1401-B C13
- 1326 E11
- 1331 A7
- 1332 B7
- 1333 E5
- 1334 E7
- 1335 E5
- 1336 E7
- 1337 F6
- 1338 A10
- 1338 F5
- 1339 A8
- 1339 F6
- 1340 A11
- 1341 B8
- 1342 B10
- 1343 B12
- 1344 C8
- 1345 D11
- 1346 D11
- 1347 E10
- 1348 F12
- 1349 F8
- 1350 G11
- 1351 A4
- 1352 A8
- 1353 E8
- 1300 E1
- 1301 A1
- 1302 B12
- 1303 A8
- 1304 D11
- 1305 B7
- 1306 B7
- 1307 B9
- 1308 B7
- 1309 B9
- 1310 B8
- 1311 D12
- 1312 E4
- 1313 E4
- 1314 E7
- 1315 E9
- 1316 E5
- 1317 F2
- 1318 D11
- 1319 F4
- 1320 F8
- 1321 D12
- 1322 C8
- 1323 B8
- 1324 F7
- 1325 F9
- 1326 F8
- 1327 F4
- 1328 F8
- 1329 D12
- 1330 C8
- 1331 D12
- 1332 F8
- 1333 F8
- 1334 C8
- 1335 B8
- 1336 F8
- 1337 F8
- 1338 A11
- 1339 E7
- 1340 C10
- 1341 C5
- 1342 C5
- 1343 A7
- 1344 D5
- 1345 D5
- 1346 D6
- 1347 C8
- 1348 C8
- 1349 D5
- 1350 E11
- 1351 A10
- 1352 A11
- 1353 E11
- 1354 A5
- 1355 A1
- 1356 A1
- 1357 B1
- 1358 B1
- 1359 C1
- 1360 E1
- 1361 F1
- 1362 F1
- 1363 F1
- 1364 C1
- 1365 D5
- 1366 A9
- 1367 A10
- 1368 D13
- 1369 B9
- 1370 C12
- 1371 F9
- 1372 F13
- 1373 C8
- 1374 B10

V_{DC} v_{tg} measured in STOP_MODE

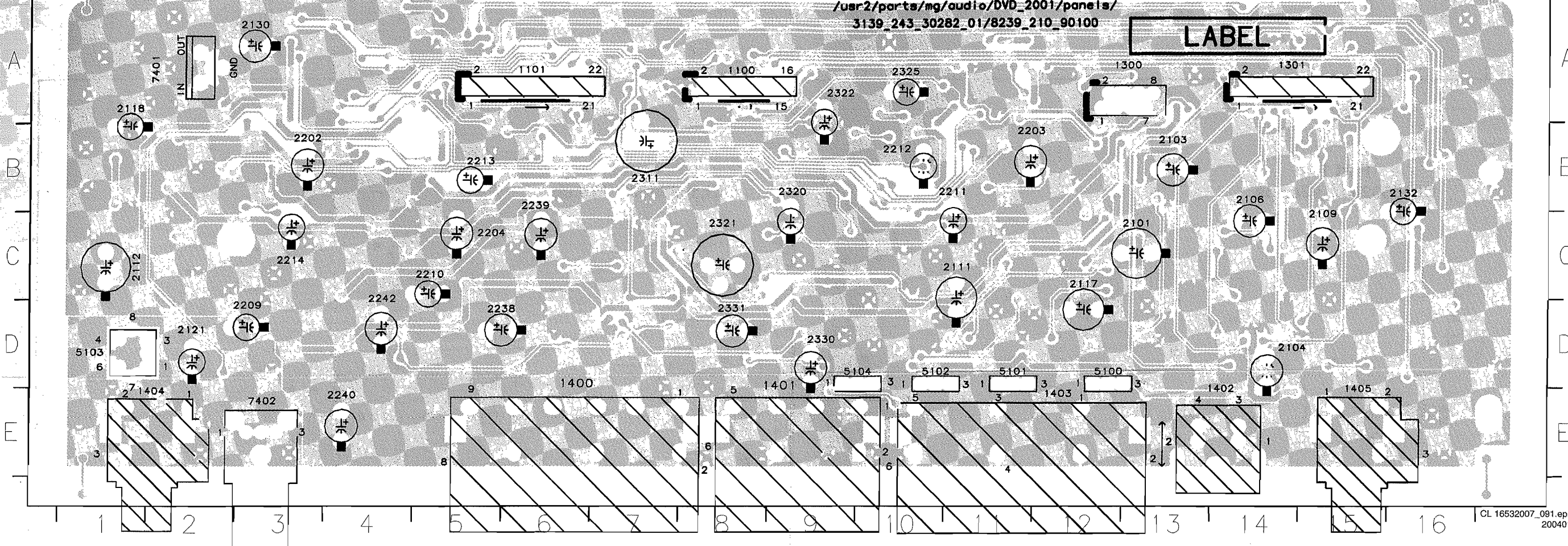
* OPTION

Layout AV Board (Component Side)

1400-A B13	1100 A8	1301 A14	1402 E14	1405 E15	2104 D14	2111 C11	2118 A1	2132 B16	2204 C5	2211 B11	2214 C3	2240 E4	2320 B9	2325 A10	5100 D12	5103 D1	7402 E3
1400-B E13	1101 A6	1400 D6	1403 E12	2101 C13	2106 B14	2112 C1	2121 D2	2202 B3	2209 D3	2212 B10	2238 D5	2242 C4	2321 C8	2330 D9	5101 D11	5104 D10	
1400-C H13	1300 A13	1401 D9	1404 E2	2103 B13	2109 C15	2117 C12	2130 A3	2203 B11	2210 C5	2213 B5	2239 B6	2311 B7	2322 A9	2331 D8	5102 D10	7401 A2	

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

A
B
C
D
E
F
G
H
I



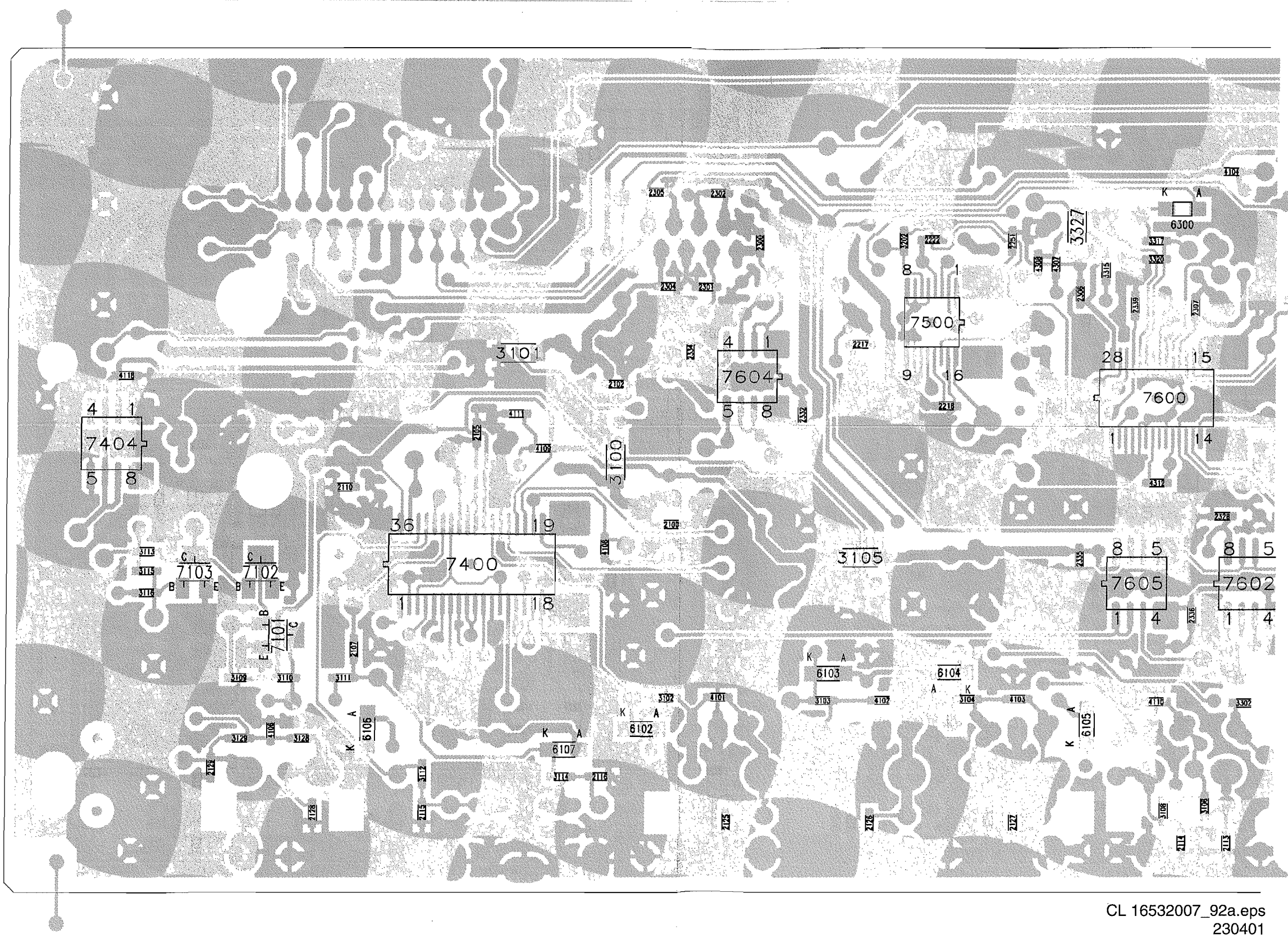
1400-A B13
1400-B E13
1400-C H13
2202 I3
2203 C3
2204 F3
2209 H5
2210 F5
2211 C5
2212 C5
2213 F5
2214 I5
2215 I4
2216 F4
2217 C4
2218 A4
2219 G3
2220 D3
2221 G5
2222 B5
2223 D5
2224 I7
2225 E7
2227 G7
2228 D7
2230 C7
2231 G7
2234 G7
2235 D7
2238 D8
2239 E8
2240 G8
2242 H8
2243 C12
2245 C12
2246 F12
2247 F12
2248 I12
2249 I12
2250 B2
2251 E2
2252 H1
3200 H2
3201 E2
3202 B2
3204 I7
3205 F7
3206 I6
3208 E6
3209 I6
3210 F6
3212 H6
3213 D6
3216 D6
3217 D7
3219 G6
3220 G10
3221 D10
3222 A10
3223 G9
3224 A10
3225 D9
3226 H7
3227 H9
3228 B10
3229 E9
3230 B10
3231 E10
3232 I10
3233 C12
3234 C12
3235 F12
3236 F12
3237 I12
3238 I12
7200 D11
7201 A11
7202 G11
7203 I11
7204 F11
7205 C11
7500 A3
7502 D3
7503-A D7
7503-B E7
7504 G3
7505-A G7
7505-B H7

A/V Board (Part 1 Bottom Side)

7402 E3

1 2 3 4 5 6 7 8

A
B
C
D
E



CL 16532007_091.eps
200401

CL 16532007_92a.eps
230401

1 2 3 4 5 6 7 8

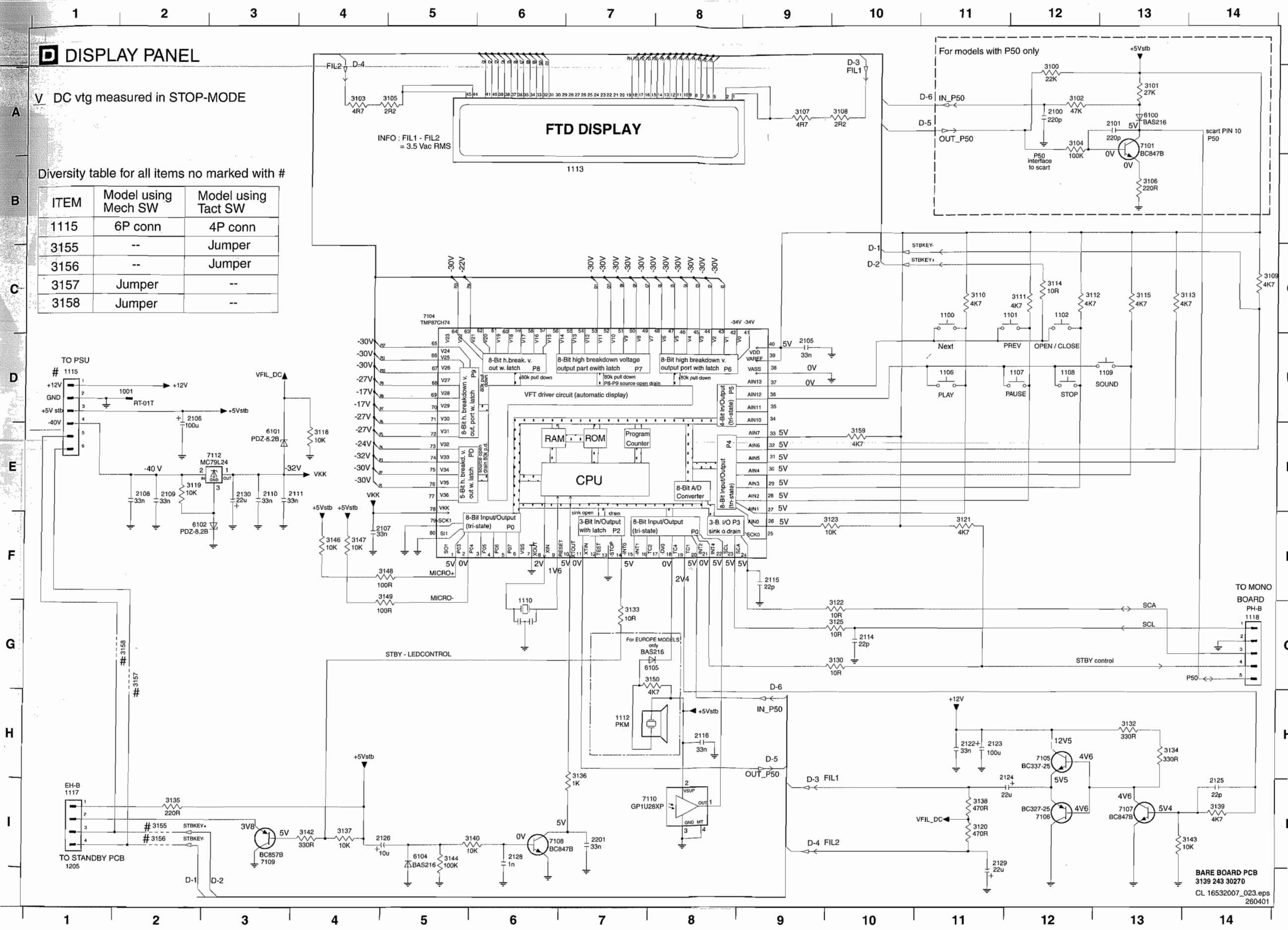
Display Board

DISPLAY PANEL

V DC vtg measured in STOP-MODE

Diversity table for all items no marked with #

ITEM	Model using Mech SW	Model using Tact SW
1115	6P conn	4P conn
3155	--	Jumper
3156	--	Jumper
3157	Jumper	--
3158	Jumper	--

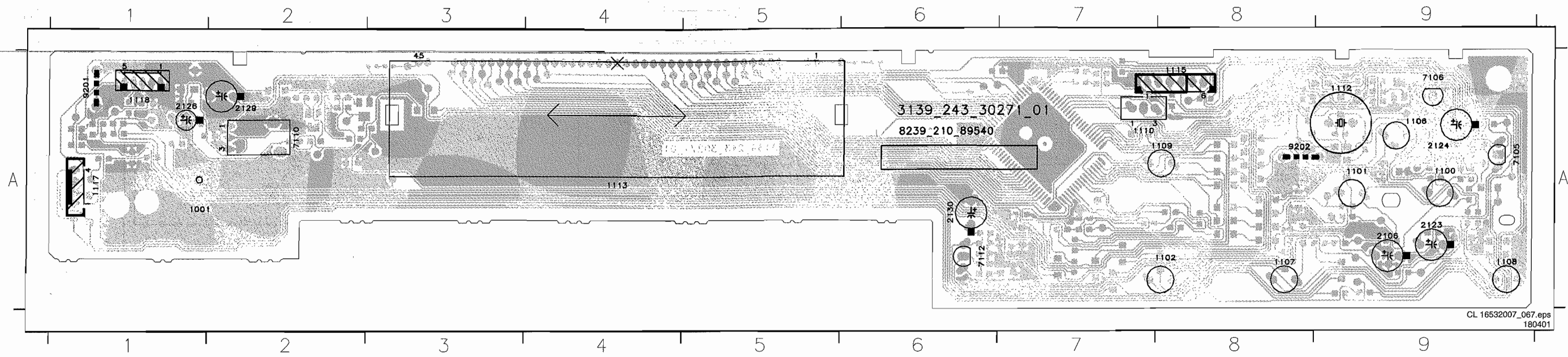


- F143 A12
- F144 A12
- F145 G8
- F146 D3
- F147 E3
- F148 D1
- F149 D5
- F150 E5
- F151 E5
- F152 E9
- F153 C5
- F154 E5
- F155 E9
- F156 E5
- F157 E9
- F158 E5
- F159 E9
- F160 E9
- F161 E9
- F162 I5
- F163 I7
- F164 H6
- F165 A13
- F166 A13
- F167 B13
- F168 F1
- F169 F1
- F170 I1
- F171 I1
- F172 I1
- F173 I1
- F174 I1
- F175 I1
- F176 I1
- F177 I1
- F178 I1
- F179 I1
- F180 I1
- F181 I1
- F182 I1
- F183 I1
- F184 I1
- F185 I1
- F186 E9
- F203 D2
- F205 E1
- F208 G13
- F209 G13
- F210 G13
- F228 D1
- F233 D9
- F234 I1
- F235 I1
- F241 G14
- F242 G14

BARE BOARD PCB
3139 243 30270
CL 16532007_023.eps
260401

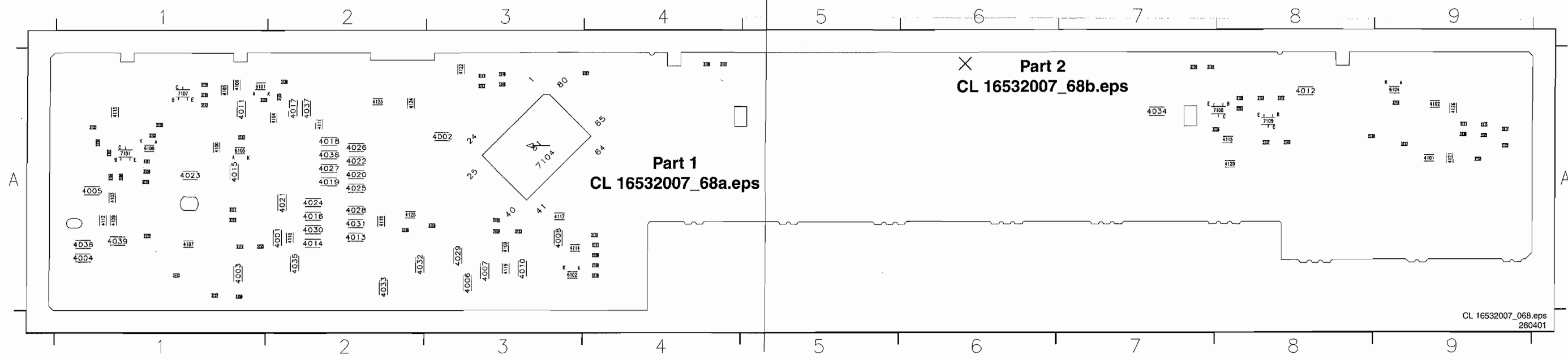
Layout Display Board (Component Side)

1001 A1 1101 A9 1106 A9 1108 A9 1110 A7 1113 A4 1117 A1 2106 A9 2124 A9 2130 A2 7105 A9 7110 A2 9201 A1
 1100 A9 1102 A8 1107 A8 1109 A8 1112 A9 1115 A8 1118 A1 2123 A9 2126 A1 2130 A6 7106 A9 7112 A6 9202 A8



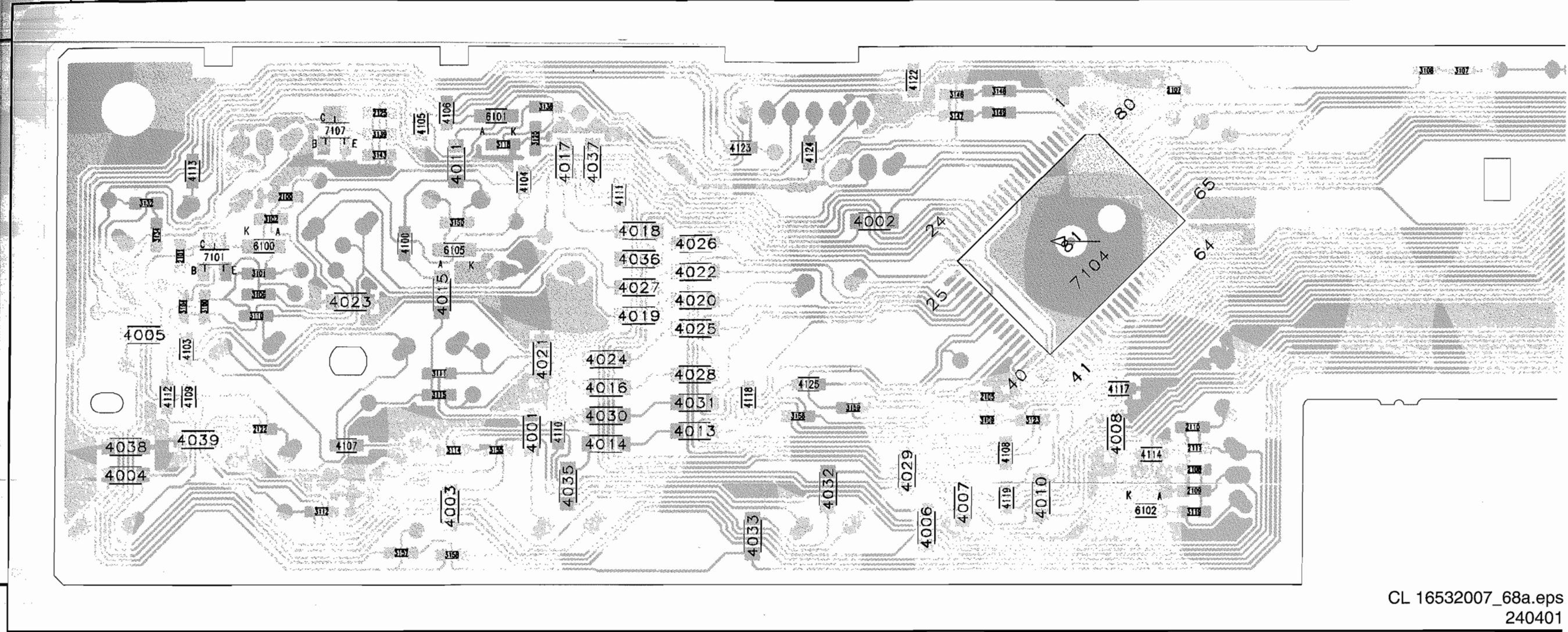
Layout Display Board (Overview Bottom Side)

2100 A1 2110 A4 2125 A1 3103 A7 109 A3 3115 A1 3123 A3 3135 A9 3142 A8 3149 A3 3159 A3 4006 A3 4013 A2 4019 A2 4025 A2 4031 A2 4037 A2 4103 A1 4109 A1 4115 A8 4122 A3 6101 A1 7107 A1
 2101 A1 2111 A4 2128 A8 3104 A7 110 A1 3119 A8 3127 A3 3135 A9 3142 A8 3149 A3 3159 A3 4006 A3 4013 A2 4019 A2 4025 A2 4031 A2 4037 A2 4103 A1 4109 A1 4115 A8 4122 A3 6101 A1 7107 A1
 2105 A3 2115 A9 2201 A8 3105 A7 111 A1 3120 A2 3128 A3 3135 A9 3142 A8 3149 A3 3159 A3 4006 A3 4013 A2 4019 A2 4025 A2 4031 A2 4037 A2 4103 A1 4109 A1 4115 A8 4122 A3 6101 A1 7107 A1
 2107 A4 2115 A9 2201 A8 3105 A7 111 A1 3120 A2 3128 A3 3135 A9 3142 A8 3149 A3 3159 A3 4006 A3 4013 A2 4019 A2 4025 A2 4031 A2 4037 A2 4103 A1 4109 A1 4115 A8 4122 A3 6101 A1 7107 A1
 2108 A4 2116 A8 3101 A1 3107 A4 112 A1 3121 A9 3133 A8 3140 A1 3147 A3 3157 A1 4004 A1 4011 A1 4017 A2 4023 A1 4029 A3 4035 A2 4101 A9 4107 A1 4113 A1 4120 A8 4126 A9 7101 A1
 2109 A4 2122 A1 3102 A1 3108 A4 114 A1 3122 A9 3134 A1 3144 A3 3155 A1 4005 A1 4012 A8 4018 A2 4024 A2 4030 A2 4036 A2 4102 A9 4108 A3 4114 A3 4121 A9 6100 A1 7104 A3
 2109 A4 2122 A1 3102 A1 3108 A4 114 A1 3122 A9 3134 A1 3144 A3 3155 A1 4005 A1 4012 A8 4018 A2 4024 A2 4030 A2 4036 A2 4102 A9 4108 A3 4114 A3 4121 A9 6100 A1 7104 A3



Layout Display Board (Part 1 Component Side)

1 2 3 4



CL 16532007_68a.eps
240401

1 2 3 4

- 1001 D2
- 1100 C11
- 1101 C12
- 1102 C12
- 1106 D11
- 1107 D12
- 1108 D12
- 1109 D13
- 1110 G6
- 1112 H7
- 1113 A7
- 1115 D1
- 1117 I1
- 1118 G14
- 2100 A12
- 2101 A13
- 2105 D9
- 2106 D2
- 2107 F4
- 2108 E2
- 2109 E2
- 2110 E3
- 2111 E4
- 2114 G10
- 2115 F9
- 2116 H8
- 2122 H11
- 2123 H11
- 2124 H12
- 2125 I14
- 2126 I5
- 2128 I6
- 2129 I11
- 2130 E3
- 2201 I7
- 3100 A12
- 3101 A13
- 3102 A12
- 3103 A4
- 3104 A12
- 3105 A5
- 3106 B3
- 3107 A9
- 3108 A10
- 3109 C14
- 3110 C11
- 3111 C12
- 3112 C12
- 3113 C14
- 3114 C12
- 3115 C13
- 3118 E4
- 3119 E2
- 3120 I11
- 3121 F11
- 3122 G10
- 3123 F10
- 3125 G10
- 3130 G10
- 3132 H13
- 3133 G7
- 3134 H13
- 3135 I2
- 3136 H7
- 3137 I4
- 3138 I11
- 3139 I14
- 3140 I6
- 3142 I4
- 3143 I14
- 3144 I5
- 3146 F4
- 3147 F4
- 3148 F5
- 3149 F5
- 3150 G8
- 3155 I2
- 3156 I2
- 3157 G2
- 3158 G2
- 3159 E10
- 6100 A13
- 6101 E3
- 6102 F2
- 6104 I5
- 6105 G8
- 7101 A13
- 7104 C5
- 7105 H12
- 7106 H12
- 7107 H13
- 7108 I6
- 7109 I3
- 7110 I8
- 7112 E3
- F102 D5
- F103 D5
- F108 A5
- F109 A9
- F119 C7
- F120 C7
- F121 C7
- F122 C8
- F123 C8
- F124 C8
- F125 C5
- F129 C7
- F130 C7
- F131 C7
- F132 C8
- F133 C8
- F137 D5
- F138 D5
- F139 D5
- F140 H8
- F141 D5
- F142 D9
- F143 A12
- F144 A12
- F145 G8
- F146 D3
- F147 E3
- F148 D1
- F149 D5
- F150 E5
- F151 E5
- F152 E9
- F153 C5
- F154 E5
- F155 E9
- F156 E5
- F157 E9
- F158 E5
- F159 E9
- F160 E9
- F161 E9
- F162 I6
- F163 I7
- F164 H6
- F165 A13
- F166 A13
- F167 B13
- F168 F1
- F169 F1
- F183 I1
- F184 I1
- F186 E9
- F203 D2
- F205 E1
- F208 G13
- F209 G13
- F210 G13
- F228 D1
- F233 D9
- F234 I1
- F235 I1
- F241 G14
- F242 G14

A

B

C

D

E

F

G

H

I

MONO

JARD

PH-B

1118

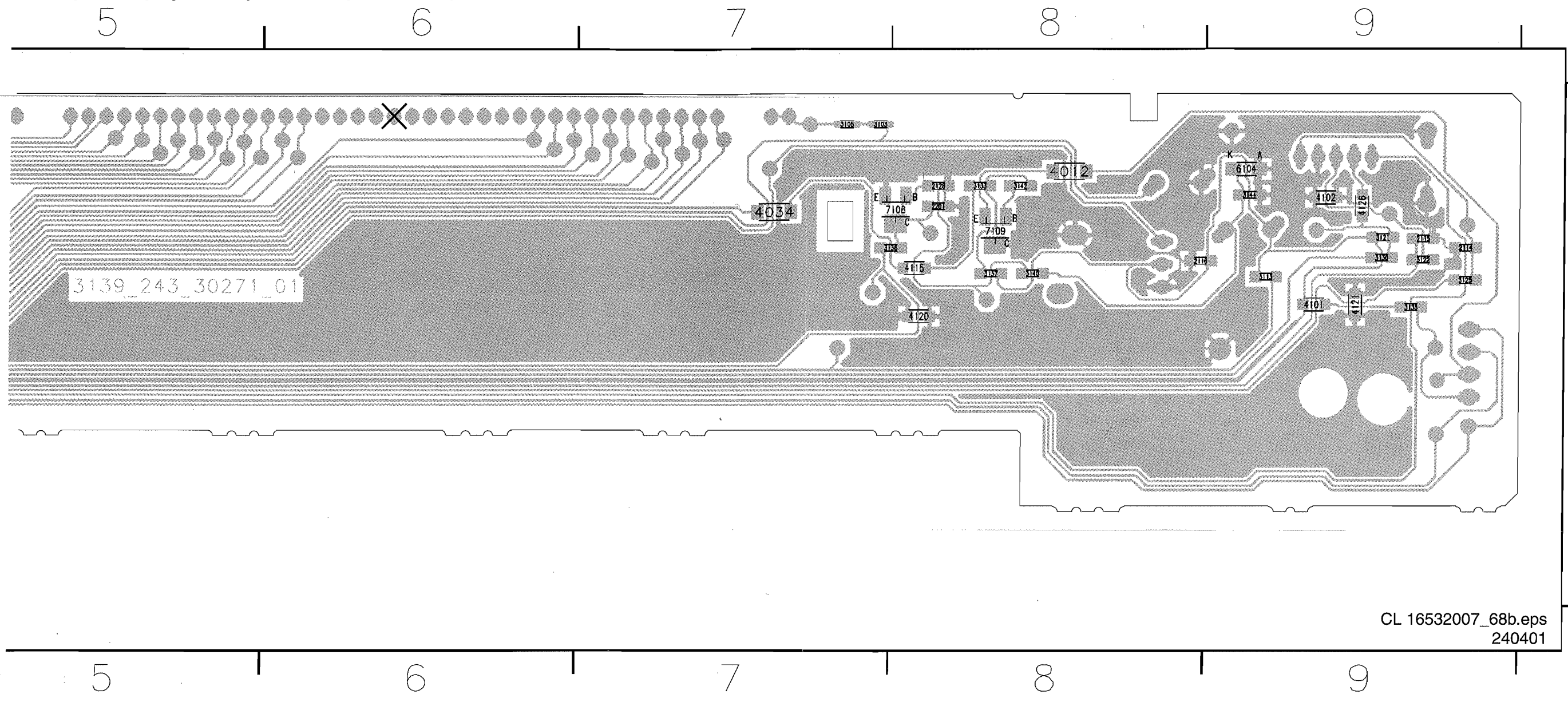
PCB

D

023.eps

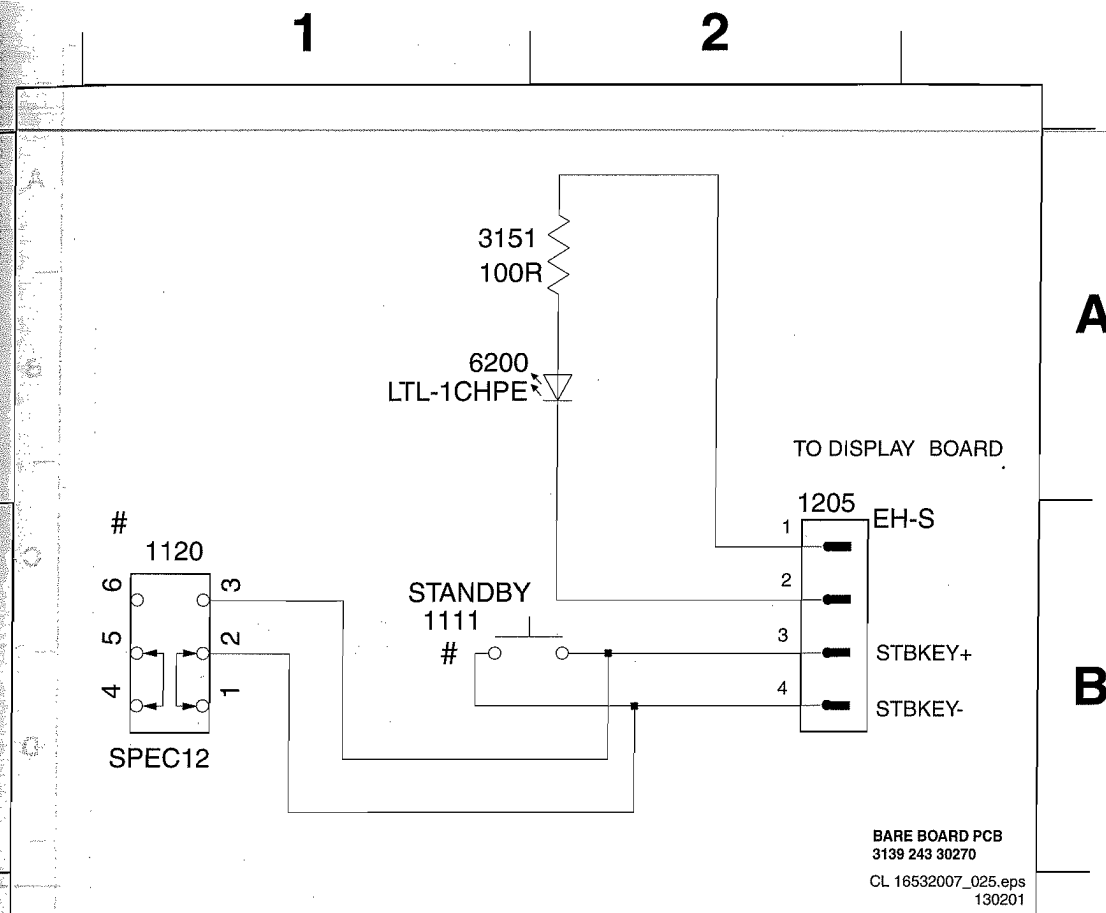
260401

Layout Display Board (Part 2 Component Side)



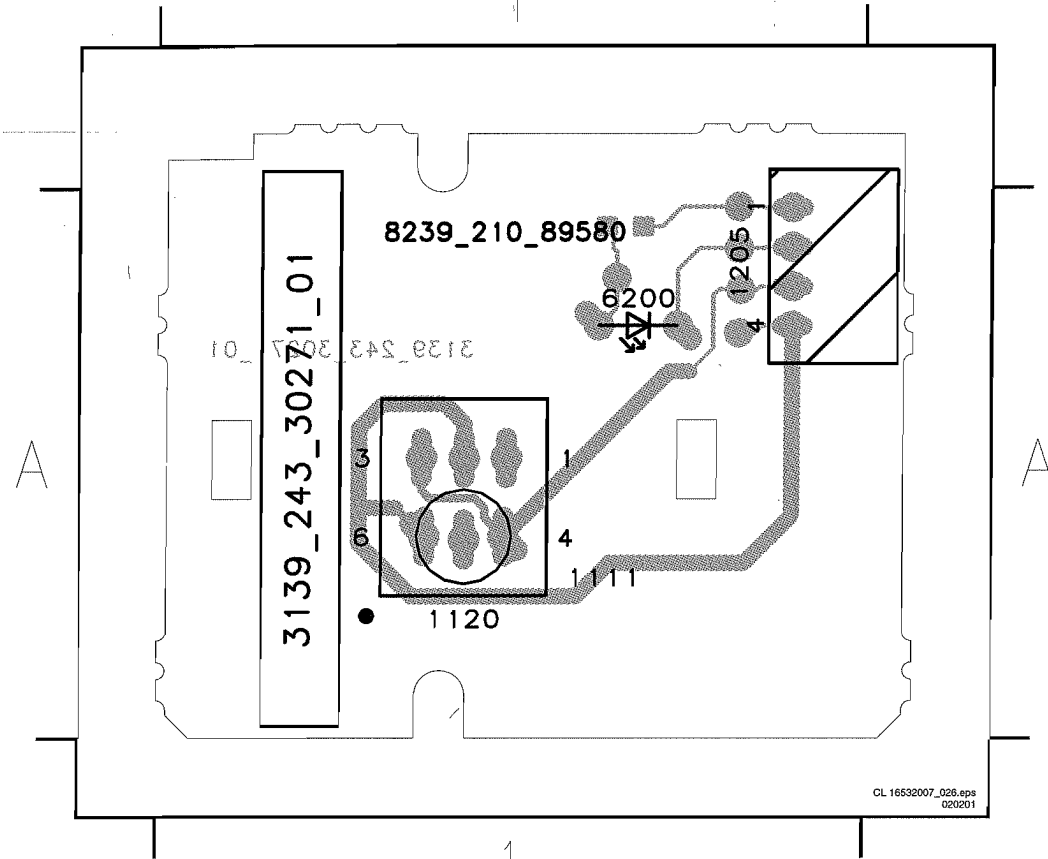
CL 16532007_68b.eps
240401

Bare Board Standby



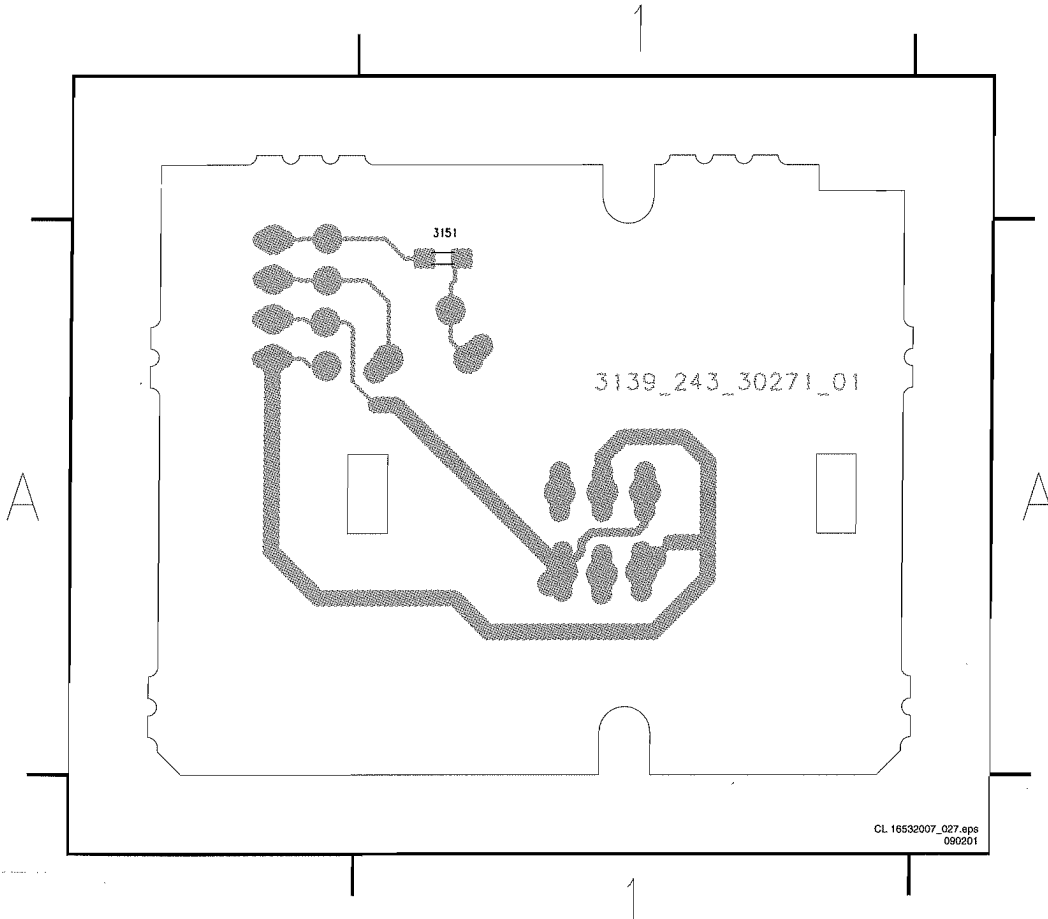
- 1111 B1
- 1120 B1
- 1205 B2
- 3151 A1
- 6200 A1
- F236 A2
- F237 A1
- F238 B1
- F239 B2
- F240 B2

Layout Bare Board Standby (Component side)



- 1111 A1
- 1120 A1
- 1205 A1
- 6200 A1

Layout Bare Board Standby (Component side)



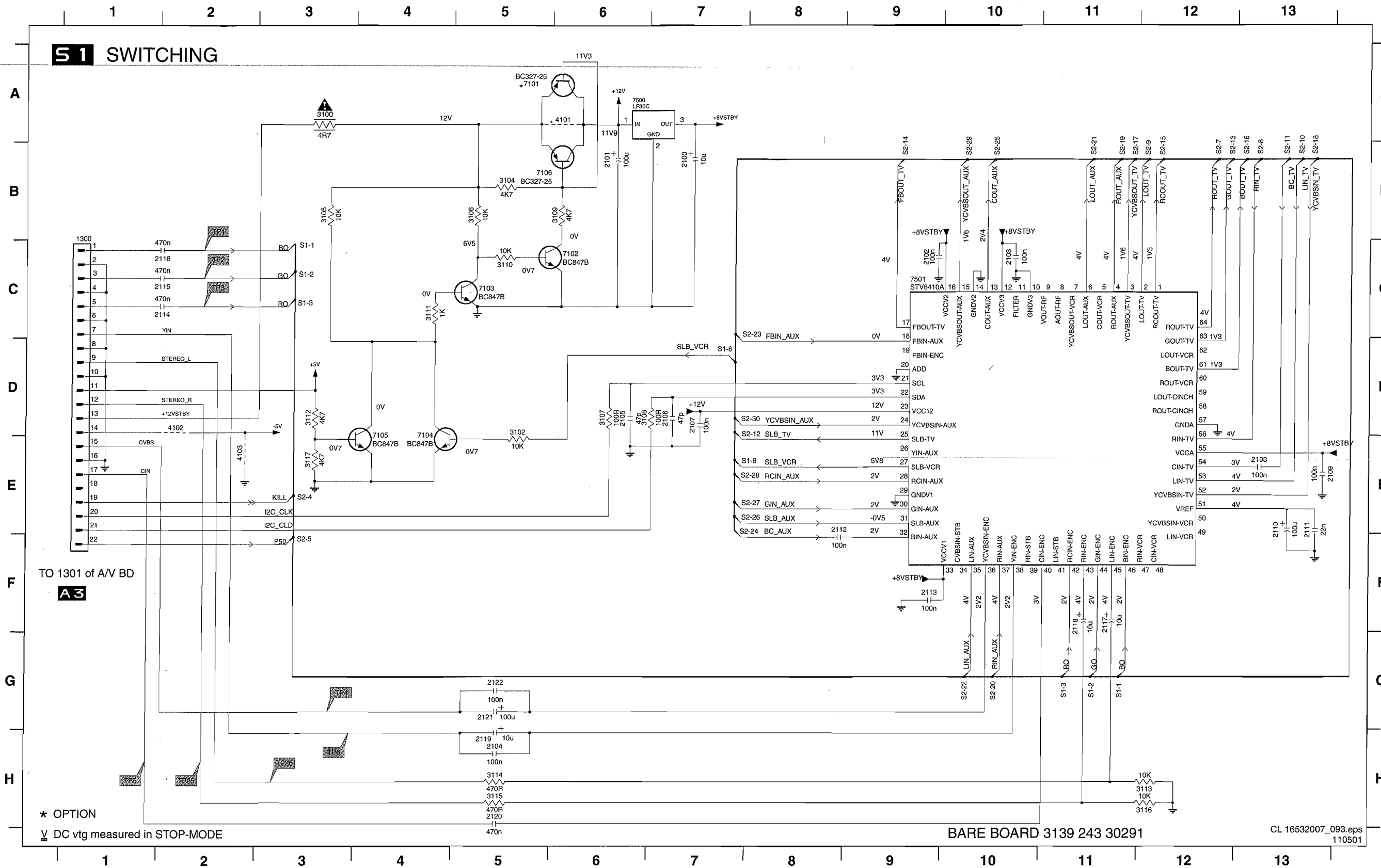
- 3151 A1

DIVERSITY

#	MODEL USING MECH SWITCH SW	MODEL USING TACT SWITCH SW
1120	YES	
1111		YES

Switching

S1 SWITCHING



TO 1301 of A/V BD
A3

* OPTION
V DC vtg measured in STOP-MODE

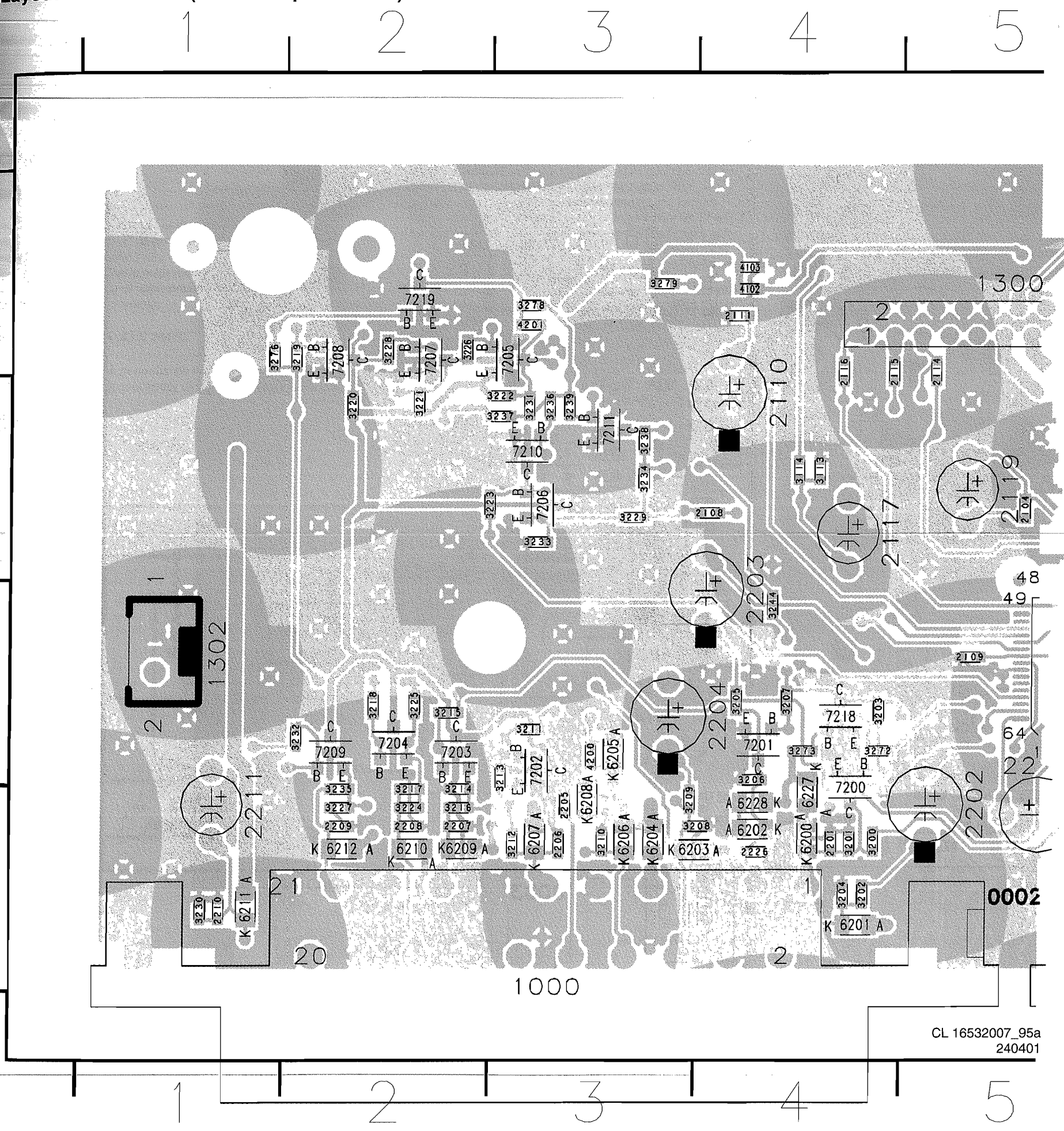
BARE BOARD 3139 243 30291

CL 16532007_093.eps
110501

- 1300 C1
- 2100 B7
- 2101 B6
- 2102 C3
- 2103 C10
- 2104 H5
- 2105 D6
- 2107 D7
- 2108 E13
- 2109 E13
- 2110 E13
- 2111 E13
- 2112 E8
- 2113 F9
- 2114 C2
- 2115 C2
- 2116 C2
- 2117 F11
- 2118 F11
- 2119 H5
- 2120 H5
- 2121 G5
- 2122 G5
- 3100 A3
- 3102 D5
- 3104 B5
- 3105 B3
- 3106 B5
- 3107 D6
- 3108 D6
- 3109 B6
- 3110 C5
- 3111 C4
- 3112 D3
- 3113 H12
- 3114 H5
- 3115 H5
- 3116 H2
- 3117 E3
- 4101 A6
- 4102 D2
- 4102 E2
- 4101 A5
- 7101 A5
- 7102 C6
- 7103 C5
- 7104 E4
- 7105 E4
- 7106 B5
- 7500 A6
- 7501 C9

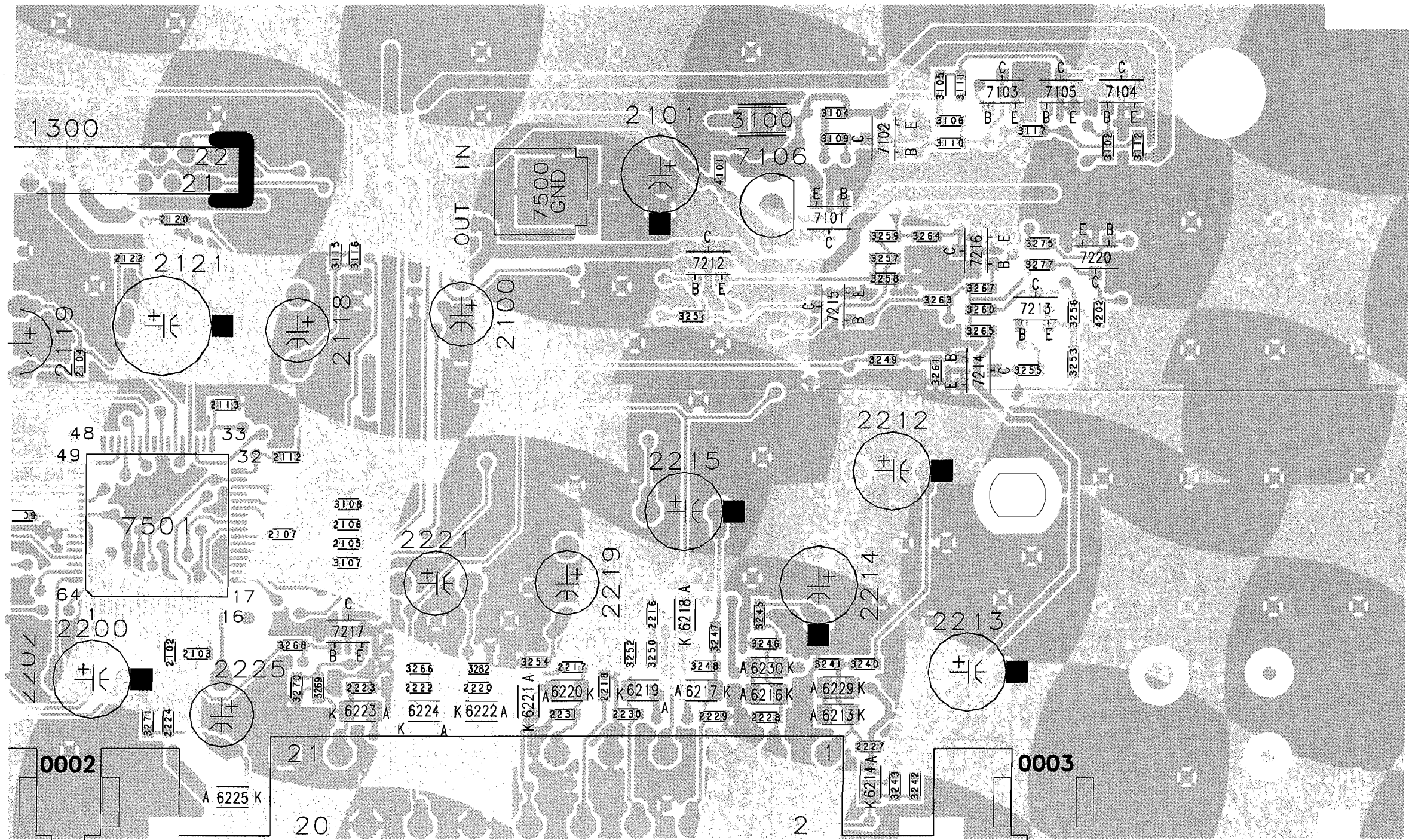
Layout SCART Board (Part 1 Component Side)

- 6200 A11
- 6201 A11
- 6202 A10
- 6203 B11
- 6204 B9
- 6205 B9
- 6206 C11
- 6207 C11
- 6208 C11
- 6209 D9
- 6210 D11
- 6211 D11
- 6212 E10
- 6213 E9
- 6214 F9
- 6216 F9
- 6217 G9
- 6218 G10
- 6219 H10
- 6220 H10
- 6221 H11
- 6222 H10
- 6223 I10
- 6224 I10
- 6225 I10
- 6227 A11
- 6228 B10
- 6229 F9
- 6230 F9
- 7200 A9
- 7201 B9
- 7202 B8
- 7203 C8
- 7204 D8
- 7205 D3
- 7206 D5
- 7207 D2
- 7208 D1
- 7209 D6
- 7210 E4
- 7211 E6
- 7212 H5
- 7213 H3
- 7214 H1
- 7215 I4
- 7216 I6
- 7217 I8
- 7218 B5
- 7219 E2
- 7220 I2



Layout SCART Board (Part 2 Component Side)

5 6 7 8 9 10 11



A

B

C

D

5 6 7 8 9 10 11

8. Alignments

No electrical alignments available

9. Circuit Descriptions And List Of Abbreviations

9.1 Current Mode Power Supply

9.1.1 Introduction

The switch mode power supply (SMPS) is mains isolated. The control IC 7145 (UC 3842A) produces pulses to drive the power switch, Mosfet 7125. Power supply regulation is achieved by using duty cycle control at fix frequency ,of approximately 58KHz ,determined by the RC timing components.

DC-to-DC converter application. This integrated circuit feature a trimmed oscillator for precise duty cycle control, a temperature compensated reference, high gain error amplifier, current sensing comparator and a high current totem pole output ideally suited for driving a power MOSFET. Also included are protective features consisting of input and reference undervoltage lockouts each with hysteresis, cycle by cycle current limiting, programmable output deadtime and a latch for single pulse metering.

A representative Block diagram and Pin function description is shown in Fig 9-1 and Fig 9-2 respectively.

9.1.2 General Description of UC 3842C

The UC 3842 is a high performance fixed frequency current mode controller that is specifically designed for off-line and

9.1.3 Block Diagram

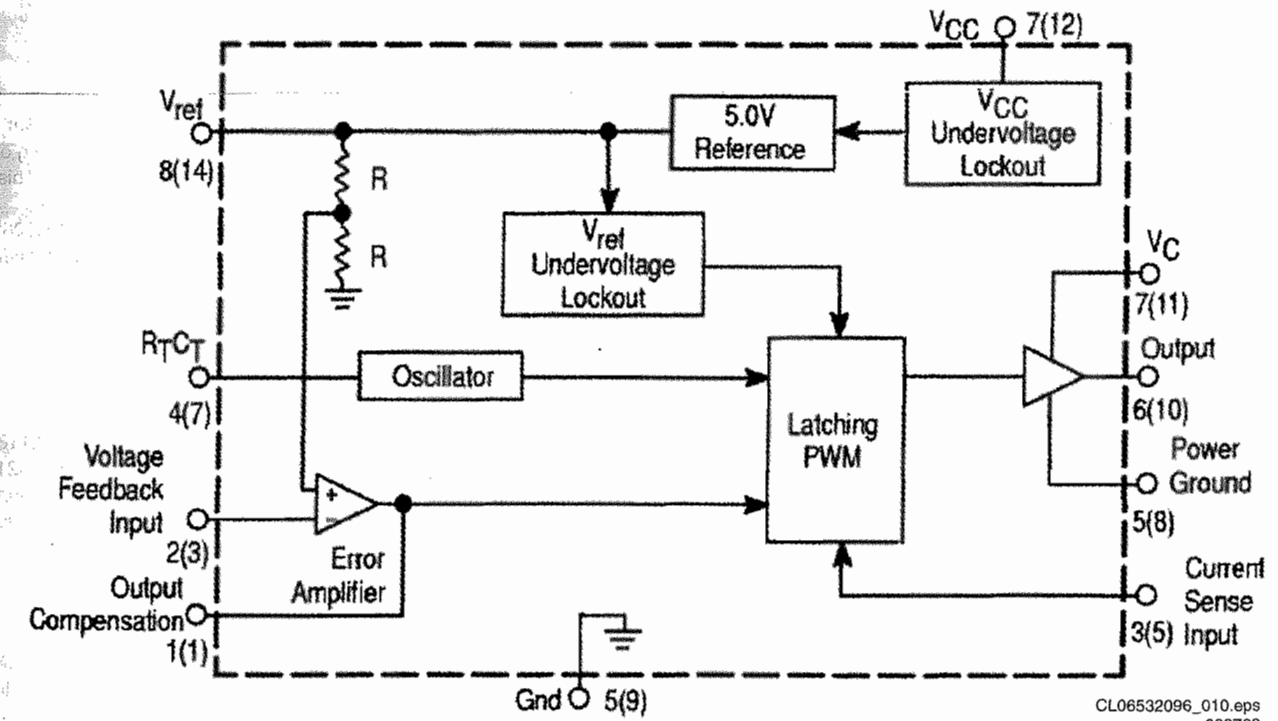
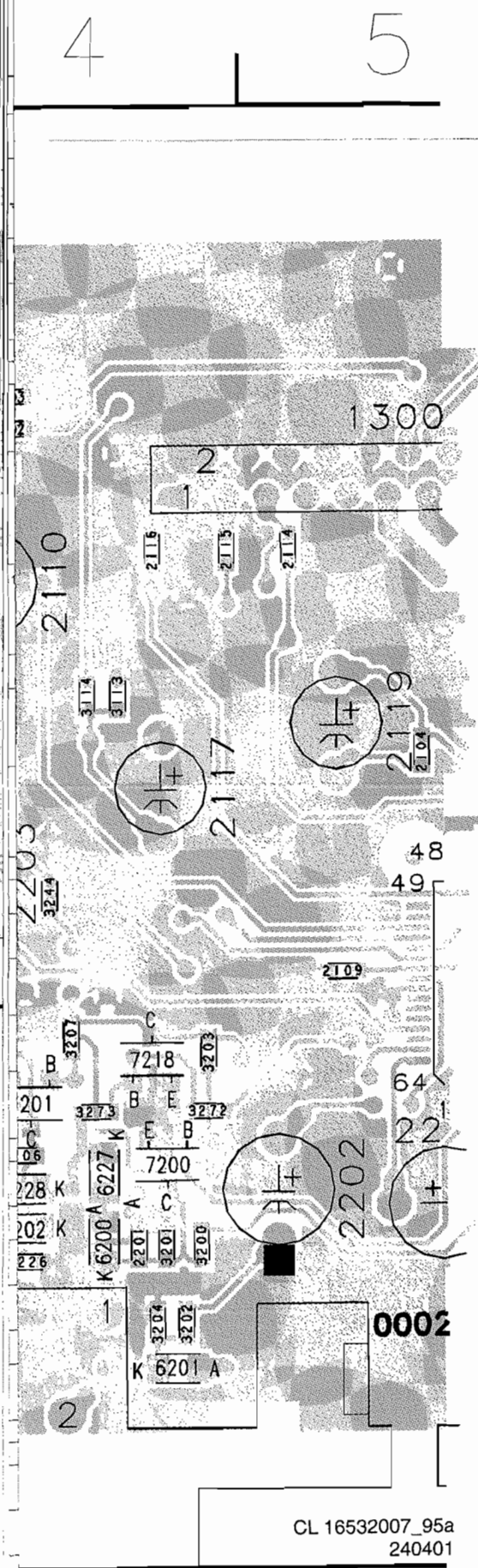


Figure 9-1

CL06532096_010.eps
060700



CL 16532007_95a
240401

9.1.4 Pin Function Description

Pin		Function	Description
8-Pin	14-Pin		
1	1	Compensation	This pin is Error Amplifier output and is made available for loop compensation.
2	3	Voltage Feedback	This is the inverting input of the Error Amplifier. It is normally connected to the switching power supply output through a resistor divider.
3	5	Current Sense	A voltage proportional to inductor current is connected to this input. The PWM uses this information to terminate the output switch conduction.
4	7	R_T/C_T	The Oscillator frequency and maximum Output duty cycle are programmed by connecting resistor R_T to V_{ref} and capacitor C_T to ground. Operation to 500 kHz is possible.
5	-	Gnd	This pin is the combined control circuitry and power ground (8-pin package only).
6	10	Output	This output directly drives the gate of a power MOSFET. Peak currents up to 1.0 A are sourced and sunk by this pin.
7	12	VCC	This pin is the positive supply of the control IC.
8	14	V_{ref}	This is the reference output. It provides charging current for capacitor C_T through resistor R_T .
-	8	Power Ground	This pin is a separate power ground return (14-pin package only) that is connected back to the power source. It is used to reduce the effects of switching transient noise on the control circuitry.
-	11	V_C	The Output high state (V_{OH}) is set by the voltage applied to this pin (14-pin package only). With a separate power source connection, it can reduce the effects of switching transient noise on the control circuitry.
-	9	Gnd	This pin is the control circuitry ground return (14-pin package only) and is connected back to the power source ground.
-	2,4,6,13	NC	No connection (14-pin package only). These pins are not internally connected.

CL06532096_011.eps
060700

Figure 9-2

9.1.5 Pin Connection

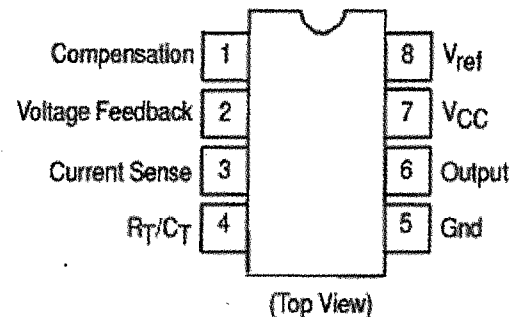
CL06532096_012.eps
060700

Figure 9-3

9.1.6 Output Voltages

- +12V (For Display board, Monoboard, A/V board) created via D6241, C2240, L5240, C2232 (This voltage is also present during standby)
- +5V_{stdby} (For Display board, Standby PCB, Monoboard) created from +6V via R3233 and D6233 (This voltage is also present during standby)
- +6V_{stdby} (Reserve) created from D6230, C2230, L5231 (This voltage is also present during standby)
- +5V (For Monoboard, A/V board) derive from +6V stdby via Mosfet 7238, C2239 and it will be switch off via R3235, T7235 during Standby.
- 5V (For Monoboard, A/V board) created from D6250, C2250, C2259, L5222, R3259, T7255 regulator circuit and will switch off via R3258, T7257 during standby (control signal Standby is HIGH)

- 3V3 (For Monoboard, A/V board) The 3V3 power supply is regulated by the control loop comprising of 7201, 7131 and 7145 of the switch mode PSU. This voltage is also present during standby
- 40V (For Display board) created via D6261, R3260, L5260, C2260 This will not be present during standby

9.2 Control Cicutry

9.2.1 Mains Input Circuit

The mains voltage is rectified by bridge rectifier (D6118 to D6121) and filter by C2121. The DC voltage across C2121 is the DC input voltage ,approximately 300V, is the DC input to pin 1 of transformer T5131. The mains input also consists of a lighting protection R3120.

9.2.2 Start-Up And Takeover Circuitry

The start-up circuitry consist R3123, R3134, R3111, D6129, C2134 and with the mains voltage input, the C2134 will charge via R3123 and R3134. When the voltage at pin 7 of IC7145 reaches the start-up threshold of min 14.5V, IC7145 will start-up and the control circuit start to operate. After start-up, the max sinking current of 17mA is required by IC7145 which is not able to be delivered by the start-up circuitry, so the takeover circuitry must be present. If the takeover circuit does not occurred, the supply voltage at pin 7 will decrease gradually till it reaches the IC7145 minimal operating voltage of 8.5V and the IC will switch off. The whole operation cycle will repeat itself with audible hiccup sound if takeover is not present.

The takeover circuit comprises of D6133, R3135, I5135, C2134. During the control circuit start-up, the voltage across winding pin 7 and 9 will gradually built up and charged C2134

via D6133, R3135 which will takeover the supply voltage of T7145 at pin 7.

it goes into the overvoltage protection and a complete restart sequence is required.

9.2.3 Secondary Voltage Sensing

The secondary voltage regulating circuit comprise of the opto-coupler 7131 which isolate the error signal from the control IC7145 ,on the primary side, and a reference component 7201 (TL431). The 7201 can be represented by two components:

- A very stable and accurate reference diode
- A high gain amplifier

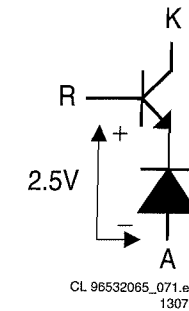


Figure 9-4

When the output voltage increases, due to a reduction in the load, the voltage across R3205 and R3206 increases to above the internal reference voltage of about 2.5V then TL431 conduct. The current through the opto-coupler 7131 will increase due to the fact that the series resistor in 7201 decreases. This result in a increase of voltage to pin 2 of IC7145, thus reducing the on-time of FET 7125.

In the event of a decrease in output voltage (increase in load),the control circuit will operate in the opposite way to the explanation above.

9.2.4 Primary Current Sensing

The current through the FET 7125 resulting in a voltage drop across R3126, R3127, R3128 which is couple to pin 3 of IC7145, current sense input. The higher the input voltage, the more the primary current is limited. In this way the maximum output power of the power supply is limited.

9.2.5 Undervoltage Protection

Two undervoltage lockout comparators have been incorporated to guarantee that the IC7145 is fully functional before the output stage is enable. The supply voltage at pin 7 and reference voltage at pin 8 of IC7145 are each monitored by separate comparators with built-in hysteresis. If the supply voltage at pin 7 of IC7145 drops below 10V (typical), due to a secondary voltage is short-circuit or excessive load, the drive pulse at pin 6 of IC7145 will be disabled and the controller will switch off the complete SMPS.

Remarks : In the event of the overvoltage situation remaining present, the SMPS will go in sequence of protection, start-up cycle, protection and the cycle repeats. This effect is highly audible.

9.2.6 Overvoltage Protection

The overvoltage circuitry comprising of D6141, R3139, R3150, R3141, T7141, T7150 which is used to detect an over voltage situation on the secondary side of the transformer. After start-up, when the voltage across C2135 exceeds 18V, the overvoltage circuit will trigger the internal latch circuit, pin 1 of IC7145 and the output buffer is disabled and

9.3 List Of Abbreviations

B	Buffered Video input Blue from DVD monoboard
BC_AUX	Blue or Chroma input from AUX-scart
BC_TV	Blue or Chroma output to TV-scart
C_ENC	Buffered Chroma input from DVD monoboard
CVBS	Buffered Composite video input from DVD monoboard
DC_OFF	Control signal to switch off 0.8Vstby and +12Vstby during standby
DIG_OUT	Digital out
FBIN_AUX	Fast blanking input from AUX-scart
FBOU_TV	Fast blanking output to TV-scart
G	Buffered Video input Green from DVD monoboard
GIN_AUX	Video input Green from AUX-scart
GOUT_TV	Video output Green to TV-scart
HP_L	Audio output left to headphone and audio scart switch TEA6420
HP_R	Audio output right to headphone and audio scart switch TEA6420
KILL	Kill control signal for audio outputs and for soft mute of DAC
LIN_AUX	Audio input left from AUX-scart
LIN_TV	Audio input left from TV-scart
LOUT_AUX	Audio output left to AUX-scart
LOUT_TV	Audio output left to TV-scart
LRCLK	Left/Right clock
PCM_CLK	Audio system clock for DAC
PCM_OUT0	Audio serial output data
R	Buffered Video input Red from DVD monoboard
RCIN_TV	Red or Chroma input from TV-scart
RCOUT_TV	Red or Chroma output to TV-scart
RIN_AUX	Audio input right from AUX-scart
RIN_TV	Audio input right from TV-scart
ROUT_AUX	Audio output right to AUX-scart
ROUT_TV	Audio output right to TV-scart
SCL	I2C bus clock
SCLK	Audio serial bit clock
SDA	I2C bus data
SELECT	Control signal for video scart switches; high = TV, low = AUX
SELECT_HIGH	Control signal for switching fast blanking and slow blanking signals; high = TV, low = AUX
SLB_AUX	Slow blanking control signal from AUX-scart
SLB_TV	Slow blanking control signal to TV-scart
STANDBY	Control signal from STI5505 used to switch off 0.8Vstby and +12Vstby during standby.
STEREO_L	Audio cinch output left
STEREO_R	Audio cinch output right
Y_ENC	Buffered Luma input from DVD monoboard
YCVBSIN_AUX	Luma or CVBS input from AUX-scart
YCVBSIN_TV	Luma or CVBS input from TV-scart
YCVBSOUT_AUX	Luma or CVBS output to AUX-scart
YCVBSOUT_TV	Luma or CVBS output to TV-scart
0/6/12	Scart switch control signal A/V board. 0V : loop through (AUX to TV), 6V : play 16:9 format, 12V : play 4:3 format

10. Spare Parts List

Mechanical DVD752 /001 /021

Various

0010	3139 247 53461	CAB FRONT DVD752/00X PPT
0012	3139 244 00351	BUTTON STANDBY DVD711 BLACK
0015	4822 459 10887	
0030	3139 247 50900	WINDOW DVD711/17X PNT PRT
0035	3139 247 50960	RING DVD751/17X PNT PRT CHROMG
0040	3139 247 50870	BTN CONTROL DVD711/17X PNT PRT
0045	3139 240 00030	DVD LOGO DVD711
0050	3139 247 50930	DOOR DVD711/17X PNT PRT
0060	3139 241 20110	DOOR SPRING
0200	3139 247 53421	FRONT ASSY DVD752/00X
0224	3139 247 53491	BACK PLATE DVD752/00X PPT
0232	3139 247 50340	COVER TOP
0244	3139 247 51261	FOOT ASSY DVD711 EU FOIL
0245	3139 247 51271	FOOT ASSY DVD711 EU
0265	4822 321 11196	MAINS CORD 20/21"
0333	3103 308 92610	CABLE AUDIO 2X2RCA MALE 1.5MTR
0382	3111 170 21992	SCART CABLE (L=1.10M) BMS
0384	3139 228 87051	PROD.ASSY RC19133001/01 PACKED
0387	3139 246 11001	IFU DVD752/00X
1006	3139 248 81031	PCBAS SCART SWITCH DVD762 EU
1014	3104 157 11190	CWAS FLEX DVD 22 130 32S
1018	3104 157 11200	CWAS FLEX DVD 16 130 32S
1022	3104 157 11190	CWAS FLEX DVD 22 130 32S

AV PWB DVD752 /001 /021 /051

Various

1100	2422 025 16525	CON BM V 16P F 1.00 FFC 0.3 R
1101	2422 025 16526	CON BM V 22P F 1.00 FFC 0.3 R
1301	2422 025 16526	CON BM V 22P F 1.00 FFC 0.3 R
1400	2422 026 05015	CON BM CINCH H 6P F B
1401	2422 026 05051	CON BM CINCH H 4P F B
1402	4822 267 10994	4P, MDIN
1404	4822 267 31729	

-II-

2100	4822 126 14305	100nF 10% 16V 0603
2101	4822 124 40184	1000µF 20% 10V
2102	4822 126 14305	100nF 10% 16V 0603
2103	4822 124 40207	100µF 20% 25V
2104	4822 124 40207	100µF 20% 25V
2105	4822 126 14305	100nF 10% 16V 0603
2106	4822 124 40207	100µF 20% 25V
2107	3198 017 44740	0603 10V 470nF COL
2109	4822 124 40207	100µF 20% 25V
2110	4822 126 14305	100nF 10% 16V 0603
2111	4822 124 23052	100µF 20% 16V
2113	4822 126 13883	220pF 5% 50V
2114	4822 126 13883	220pF 5% 50V
2115	4822 126 13883	220pF 5% 50V
2116	4822 126 13883	220pF 5% 50V
2117	4822 124 23052	100µF 20% 16V
2118	4822 124 21732	10µF 20% 25V
2119	3198 017 44740	0603 10V 470nF COL
2120	4822 126 14305	100nF 10% 16V 0603
2121	4822 124 11947	10µF 20% 16V
2122	4822 122 33777	47pF 5% 63V
2123	4822 126 14305	100nF 10% 16V 0603
2124	4822 122 33777	47pF 5% 63V
2130	4822 124 41584	100µF 20% 10V
2202	4822 124 80231	47µF 20% 16V

2203	4822 124 80231	47µF 20% 16V
2204	4822 124 80231	47µF 20% 16V
2209	4822 124 11947	10µF 20% 16V
2210	4822 124 11947	10µF 20% 16V
2211	4822 124 11947	10µF 20% 16V
2212	4822 124 11947	10µF 20% 16V
2213	4822 124 11947	10µF 20% 16V
2214	4822 124 11947	10µF 20% 16V
2215	4822 126 14305	100nF 10% 16V 0603
2216	4822 126 14305	100nF 10% 16V 0603
2217	4822 126 14305	100nF 10% 16V 0603
2218	4822 126 14305	100nF 10% 16V 0603
2219	4822 126 14305	100nF 10% 16V 0603
2220	4822 126 14305	100nF 10% 16V 0603
2221	4822 126 14305	100nF 10% 16V 0603
2222	4822 126 14305	100nF 10% 16V 0603
2223	4822 126 14305	100nF 10% 16V 0603
2224	4822 122 31765	100pF 2% 63V
2225	4822 122 31765	100pF 2% 63V
2227	4822 122 31765	100pF 2% 63V
2228	4822 122 31765	100pF 2% 63V
2230	4822 126 14305	100nF 10% 16V 0603
2231	4822 126 14305	100nF 10% 16V 0603
2234	4822 126 14305	100nF 10% 16V 0603
2235	4822 126 14305	100nF 10% 16V 0603
2238	4822 124 40207	100µF 20% 25V
2239	4822 124 40207	100µF 20% 25V
2240	4822 124 40207	100µF 20% 25V
2242	4822 124 40207	100µF 20% 25V
2243	3198 016 31020	0603 25V 1nF
2245	3198 016 31020	0603 25V 1nF
2246	3198 016 31020	0603 25V 1nF
2247	3198 016 31020	0603 25V 1nF
2248	3198 016 31020	0603 25V 1nF
2249	3198 016 31020	0603 25V 1nF
2250	4822 122 33761	22pF 5% 50V
2251	4822 122 33761	22pF 5% 50V
2252	4822 122 33761	22pF 5% 50V
2306	4822 126 14305	100nF 10% 16V 0603
2307	4822 126 14305	100nF 10% 16V 0603
2308	4822 126 14305	100nF 10% 16V 0603
2311	4822 124 22339	100UE 16V
2312	4822 126 14305	100nF 10% 16V 0603
2314	4822 122 31765	100pF 2% 63V
2316	3198 016 31020	0603 25V 1nF
2321	4822 124 22339	100UE 16V
2324	4822 122 31765	100pF 2% 63V
2327	3198 016 31020	0603 25V 1nF
2328	4822 126 14305	100nF 10% 16V 0603
2329	4822 126 14305	100nF 10% 16V 0603
2330	4822 124 41584	100µF 20% 10V
2331	4822 124 41584	100µF 20% 10V
2335	4822 126 14305	100nF 10% 16V 0603
2336	4822 126 14305	100nF 10% 16V 0603
2337	4822 126 14305	100nF 10% 16V 0603
2338	4822 126 14305	100nF 10% 16V 0603

-III-

3100	4822 117 11152	407 5%
3101	4822 117 11152	407 5%
3102	4822 051 30759	75Ω 5% 0.062W
3103	4822 051 30759	75Ω 5% 0.062W
3104	4822 051 30759	75Ω 5% 0.062W
3105	4822 117 11152	407 5%
3106	4822 051 30759	75Ω 5% 0.062W
3108	4822 051 30759	75Ω 5% 0.062W
3109	4822 051 30223	22k 5% 0.062W
3110	4822 051 30222	2k2 5% 0.062W
3111	4822 117 12902	8k2 1% 0.063W 0603
3112	4822 051 30759	75Ω 5% 0.062W
3113	4822 051 30223	22k 5% 0.062W
3114	4822 051 30759	75Ω 5% 0.062W
3115	4822 051 30153	15k 5% 0.062W
3116	4822 051 30103	10k 5% 0.062W
3118	4822 117 11152	407 5%
3120	4822 051 30101	100Ω 5% 0.062W
3121	4822 051 30101	100Ω 5% 0.062W
3122	4822 051 30689	68Ω 5% 0.063W 0603 RC21 RST SM
3200	4822 051 30479	47Ω 5% 0.062W
3201	4822 051 30479	47Ω 5% 0.062W
3202	4822 051 30479	47Ω 5% 0.062W
3204	4822 117 12902	8k2 1% 0.063W 0603
3205	4822 117 12902	8k2 1% 0.063W 0603
3206	4822 051 30103	10k 5% 0.062W
3208	4822 051 30103	10k 5% 0.062W
3209	4822 051 30472	4k7 5% 0.062W
3210	4822 051 30472	4k7 5% 0.062W

3212	4822 051 30472	4k7 5% 0.062W
3213	4822 051 30472	4k7 5% 0.062W
3216	4822 051 30103	10k 5% 0.062W
3217	4822 117 12902	8k2 1% 0.063W 0603
3219	4822 051 30103	10k 5% 0.062W
3220	4822 051 30272	2k7 5% 0.062W
3221	4822 051 30272	2k7 5% 0.062W
3222	4822 051 30272	2k7 5% 0.062W
3223	4822 051 30471	470Ω 5% 0.062W
3224	4822 051 30471	470Ω 5% 0.062W
3225	4822 051 30471	470Ω 5% 0.062W
3226	4822 117 12902	8k2 1% 0.063W 0603
3227	4822 051 30471	470Ω 5% 0.062W
3228	4822 051 30471	470Ω 5% 0.062W
3229	4822 051 30471	470Ω 5% 0.062W
3230	4822 051 30272	2k7 5% 0.062W
3231	4822 051 30272	2k7 5% 0.062W
3232	4822 051 30272	2k7 5% 0.062W
3233	4822 051 30103	10k 5% 0.062W
3234	4822 051 30103	10k 5% 0.062W
3235	4822 051 30103	10k 5% 0.062W
3236	4822 051 30103	10k 5% 0.062W
3237	4822 051 30103	10k 5% 0.062W
3238	4822 051 30103	10k 5% 0.062W
3301	4822 051 30008	0Ω jumper
3302	4822 051 30471	470Ω 5% 0.062W
3303	4822 117 13632	100k 1% 0.0603 0.62W
3304	4822 051 30272	2k7 5% 0.062W
3309	4822 051 30008	0Ω jumper
3311	4822 117 12902	8k2 1% 0.063W 0603
3314	4822 051 30103	10k 5% 0.062W
3319	4822 051 30008	0Ω jumper
3321	4822 051 30471	470Ω 5% 0.062W
3322	4822 117 13632	100k 1% 0.0603 0.62W
3323	4822 051 30272	2k7 5% 0.062W
3325	4822 051 30008	0Ω jumper
3328	4822 117 12902	8k2 1% 0.063W 0603
3331	4822 051 30103	10k 5% 0.062W
3334	4822 051 30472	4k7 5% 0.062W
3335	4822 051 3	

1108	4822 276 13775	SWITCH
1109	4822 276 13775	SWITCH
1110	2422 540 98423	RES CER 8MHz CSTS*MHz 03
1111	4822 276 13775	SWITCH
1113	3139 240 50061	FTD HNV-11SS28T DVD702
1115	4822 267 10565	4P
1117	4822 267 10565	4P
1118	4822 267 10637	B5B-PH-K (5P)
1205	4822 267 10567	4P

-II-

2100	4822 126 13883	220pF 5% 50V
2101	4822 126 13883	220pF 5% 50V
2105	4822 126 14549	33nF 16V O6O3
2106	4822 124 40207	100µF 20% 25V
2107	3198 024 44730	47nF 50V O6O3
2108	3198 024 44730	47nF 50V O6O3
2109	3198 024 44730	47nF 50V O6O3
2110	3198 024 44730	47nF 50V O6O3
2111	3198 024 44730	47nF 50V O6O3
2114	4822 122 33761	22pF 5% 50V
2115	4822 122 33761	22pF 5% 50V
2116	4822 126 14549	33nF 16V O6O3
2122	4822 126 14549	33nF 16V O6O3
2123	4822 124 40207	100µF 20% 25V
2124	3198 028 42290	EL 5MM 35V 22µF PM20 COL A
2125	4822 122 33761	22pF 5% 50V
2126	4822 124 11947	10µF 20% 16V
2128	5322 126 11578	1nF 10% 50V O6O3
2129	3198 028 42290	EL 5MM 35V 22µF PM20 COL A
2130	4822 124 41751	47µF 20% 50V
2201	4822 126 14549	33nF 16V O6O3

-I-

3100	4822 051 30223	22k 5% 0.062W
3101	4822 051 30273	27k 5% 0.062W
3102	4822 117 12925	47k 1% 0.063W O6O3
3103	4822 117 13608	4.7Ω 5% 0.603 0.0016W
3104	4822 117 13632	100k 1% 0.603 0.62W
3105	4822 117 13613	2Ω 5% 0.603
3106	4822 051 30221	220Ω 5% 0.062W
3107	4822 117 13608	4.7Ω 5% 0.603 0.0016W
3108	4822 117 13613	2Ω 5% 0.603
3109	4822 051 30472	4k7 5% 0.062W
3110	4822 051 30472	4k7 5% 0.062W
3111	4822 051 30472	4k7 5% 0.062W
3112	4822 051 30472	4k7 5% 0.062W
3113	4822 051 30472	4k7 5% 0.062W
3114	4822 051 30109	10Ω 5% 0.062W
3115	4822 051 30472	4k7 5% 0.062W
3118	4822 051 30103	10k 5% 0.062W
3119	4822 051 30103	10k 5% 0.062W
3120	4822 051 30471	470Ω 5% 0.062W
3121	4822 051 30472	4k7 5% 0.062W
3122	4822 051 30109	10Ω 5% 0.062W
3123	4822 051 30103	10k 5% 0.062W
3125	4822 051 30109	10Ω 5% 0.062W
3130	4822 051 30109	10Ω 5% 0.062W
3132	4822 051 30331	330Ω 5% 0.062W
3133	4822 051 30109	10Ω 5% 0.062W
3134	4822 051 30331	330Ω 5% 0.062W
3135	4822 051 30221	220Ω 5% 0.062W
3136	4822 051 30102	1k 5% 0.062W
3137	4822 051 30103	10k 5% 0.062W
3138	4822 051 30471	470Ω 5% 0.062W
3139	4822 051 30472	4k7 5% 0.062W
3140	4822 051 30103	10k 5% 0.062W
3142	4822 051 30331	330Ω 5% 0.062W
3143	4822 051 30103	10k 5% 0.062W
3144	4822 117 13632	100k 1% 0.603 0.62W
3146	4822 051 30103	10k 5% 0.062W
3147	4822 051 30103	10k 5% 0.062W
3148	4822 051 30101	100Ω 5% 0.062W
3149	4822 051 30101	100Ω 5% 0.062W
3151	4822 051 30101	100Ω 5% 0.062W
3155	4822 051 30008	0Ω jumper
3156	4822 051 30008	0Ω jumper
3159	4822 051 30472	4k7 5% 0.062W

-II-

6100	4822 130 11397	BAS316
6101	9965 000 04709	UDZ6.2BTE-17
6102	4822 130 10837	UDZS8.2B
6104	4822 130 11397	BAS316
6200	4822 130 82978	LTL-16KPE-P

7101	4822 130 60511	BC847B
7104	3104 123 94532	TMP87CH74F-1E29- V2.18-DVDSLAVE
7105	4822 130 40981	BC337-25
7106	4822 130 40854	BC327
7107	4822 130 60511	BC847B
7108	4822 130 60511	BC847B
7109	4822 130 60373	BC856B
7110	4822 130 10165	GP1U28XP
7112	4822 209 31257	MC79L24ACP

PSU PWB DVD752 /001 /021 /051

Various

0101▲	4822 265 20723	B2P3-VH
0120▲	4822 265 11253	FUSE HOLDER 2P
0205	2422 025 08333	CON BM V 12P M 2.50 EH B
0208	4822 267 10565	4P
1120▲	4822 253 30383	19181 (2,5A)

-II-

2120▲	4822 121 10711	100nF 20% 275V
2121	2222 151 90048	47µF 20% 400V
2127	4822 122 50116	470pF 10% 1KV
2130▲	4822 126 13841	1nF 20% 250V
2131▲	4822 126 13841	1nF 20% 250V
2134	4822 124 11566	47µF 20% 50V
2135	4822 124 22652	2.2µF 20% 50V
2141	4822 124 22652	2.2µF 20% 50V
2143	4822 126 14585	100nF 10% 50V
2145	5322 126 10223	4.7nF 10% 63V
2146	4822 126 14585	100nF 10% 50V
2150	4822 126 14585	100nF 10% 50V
2156	5322 122 31863	63V 330pF PM5
2157	5322 122 32268	63V 470P PM5
2202	4822 126 14585	100nF 10% 50V
2210	2020 012 93728	EL YK 10V S 2200µF PM20 B
2230	2020 012 93757	EL YK 10V S 1000µF PM20 B
2232	4822 124 81021	100µF 20% 16V
2235	4822 126 14549	33nF 16V O6O3
2238	4822 124 81021	100µF 20% 16V
2239	4822 124 81021	100µF 20% 16V
2240	4822 124 11767	470µF 20% 25V
2250	4822 124 41545	220µF 20% 16V
2259	4822 124 81021	100µF 20% 16V
2260	4822 124 81151	22µF 50V
2299	5322 122 32654	63V 22nF PM10 R

-I-

3111	4822 116 52176	10Ω 5% 0.5W
3120▲	2322 595 90023	VDR DC 1M A/423V S MAX 800V B
3123	4822 116 52291	56k 5% 0.5W
3125	4822 051 20223	22k 5% 0.1W
3126	4822 116 81801	3Ω 6% 0.5W
3127	4822 116 80176	1Ω 5% 0.5W
3128	4822 116 80176	1Ω 5% 0.5W
3129	4822 051 10274	270k 2% 0.25W
3131	4822 051 11108	1Ω 5% 0.5W
3132▲	4822 051 11108	1Ω 5% 0.5W
3134	4822 116 52291	56k 5% 0.5W
3135	4822 116 52182	15Ω 5% 0.5W
3136	4822 051 10274	270k 2% 0.25W
3137	4822 117 10837	100k 1% 0.1W
3139	4822 051 20479	47Ω 5% 0.1W
3140	4822 116 52226	560Ω 5% 0.5W
3141	4822 117 11507	6k8 1% 0.1W
3143	3198 021 53630	36k 5% 0.1W 0805
3145	4822 117 10965	18k 1% 0.1W
3146	4822 117 11148	56k 1% 0.1W
3150	4822 117 11139	1k5 1% 0.1W
3153	4822 116 83933	15k 1% 0.1W
3154	4822 117 11139	1k5 1% 0.1W
3155	4822 116 52219	330Ω 5% 0.5W
3156	4822 051 20339	33Ω 5% 0.1W
3201	4822 116 52176	10Ω 5% 0.5W
3202	4822 117 11141	1k8 1% 0.1W
3204	4822 117 11504	270Ω 1% 0.1W
3205	4822-117-11145	4k7-1%-0.1W
3206	4822 051 20391	390Ω 5% 0.1W
3207	4822 051 10102	1k 2% 0.25W
3233	4822 052 10228	2Ω 5% 0.33W
3235	4822 116 83933	15k 1% 0.1W

SCART PWB DVD752-762 /001 /021 /051

Various

1000	2422 025 12352	CON BM EURO H 21P F BK GRND-L
1001	2422 025 12352	CON BM EURO H 21P F BK GRND-L
1300	2422 025 16526	CON BM V 22P F 1.00 FFC 0.3 R

-II-

2100	4822 124 11947	10µF 20% 16V
2101	4822 124 40207	100µF 20% 25V
2102	4822 126 14305	100nF 10% 16V O6O3
2103	4822 126 14305	100nF 10% 16V O6O3
2104	4822 126 14305	100nF 10% 16V O6O3
2105	4822 122 33777	47pF 5% 63V
2106	4822 122 33777	47pF 5% 63V
2107	4822 126 14305	100nF 10% 16V O6O3
2108	4822 126 14305	100nF 10% 16V O6O3
2109	4822 126 14305	100nF 10% 16V O6O3
2110	4822 124 41584	100µF 20% 10V

2111	4822 126 14494	22nF 10% 25V O6O3
2112	4822 126 14305	100nF 10% 16V O6O3
2113	4822 126 14305	100nF 10% 16V O6O3
2114	3198 017 44740	0603 10V 470nF COL
2115	3198 017 44740	0603 10V 470nF COL
2116	3198 017 44740	0603 10V 470nF COL
2117	4822 124 11947	10µF 20% 16V
2118	4822 124 11947	10µF 20% 16V
2119	4822 124 21732	10µF 20% 25V
2120	3198 017 44740	0603 10V 470nF COL
2121	4822 124 40207	100µF 20% 25V
2122	4822 126 14305	100nF 10% 16V O6O3
2200	4822 124 12032	4.7µF 20% 50V
2201	4822 126 13883	220pF 5% 50V
2202	4822 124 12032	4.7µF 20% 50V
2203	4822 124 12032	4.7µF 20% 50V
2204	4822 124 12032	4.7µF 20% 50V
2205	4822 122 31765	100pF 2% 63V
2206	4822 126 13883	220pF 5% 50V
2207	4822 126 13883	220pF 5% 50V
2208	4822 126 13883	220pF 5% 50V
2209	4822 126 13883	220pF 5% 50V
2210	4822 126 13883	220pF 5% 50V
2211	4822 124 21732	10µF 20% 25V
2212	4822 124 12032	4.7µF 20% 50V
2213	4822 124 12032	4.7µF 20% 50V
2214	4822 124 12032	4.7µF 20% 50V
2215	4822 124 12032	4.7µF 20% 50V
2216	4822 126 13883	220pF 5% 50V
2217	4822 126 13883	220pF 5% 50V
2218	4822 122 31765	100pF 2% 63V
2219	4822 124 11947	10µF 20% 16V
2220	4822 126 13883	220pF 5% 50V
2221	4822 124 11947	10µF 20% 16V
2222	4822 126 13883	220pF 5% 50V
2223	4822 126 13883	220pF 5% 50V
2224	4822 126 13883	220pF 5% 50V
2225	4822 124 21732	10µF 20% 25V
2226	4822 126 13883	220pF 5% 50V

-I-

3100	4822 117 11152	4Ω 7% 5%
3102	4822 051 30103	10k 5% 0.062W
3104	4822 051 30472	4k7 5% 0.062W
3105	4822 051 30103	10k 5% 0.062W
3106	4822 051 30103	10k 5% 0.062W
3107	4822 051 30101	100Ω 5% 0.062W
3108	4822 051 30101	100Ω 5% 0.062W
3109	4822 051 30472	4k7 5% 0.062W
3110	4822 051 30103	10k 5% 0.062W
3111	4822 051 30102	1k 5% 0.062W
3112	4822 051 30472	4k7 5% 0.062W
3113	4822 051 30103	10k 5% 0.062W
3114	4822 051 30471	470Ω 5% 0.062W
3115	4822 051 30471	470Ω 5% 0.062W
3116	4822 051 30103	10k 5% 0.062W
3117	4822 051 30472	4k7 5% 0.062W
3200	4822 051 30221	220R 5% 0.062W

Mechanical DVD762 /051**Various**

0010	3139 247 53481	CAB FRONT DVD762/00X PPT
0015	4822 459 10887	
0025	3139 247 50850	BTN STANDBY DVD751/ 00X PNT PRT
0030	3139 247 50900	WINDOW DVD711/17X PNT PRT
0035	3139 247 50950	RING DVD751/00X PNT PRT
0040	3139 247 50880	BTN CONTROL DVD751/ 00X PNT PRT
0045	3139 240 00030	DVD LOGO DVD711
0050	3139 247 50940	DOOR DVD751/00X PNT PRT
0060	3139 241 20110	DOOR SPRING
0200	3139 247 53431	FRONT ASSY DVD762/ 00X
0224	3139 247 53491	BACK PLATE DVD752/00X PPT
0232	3139 247 51170	COVER TOP DVD751/ 00X PNT PRT
0244	3139 247 51261	FOOT ASSY DVD711 EU FOIL
0245	3139 247 51271	FOOT ASSY DVD711 EU
0265▲	3139 128 75222	MAINS CORD (2.3M) UK BK (VHR)
0333	3103 308 92610	CABLE AUDIO 2X2RCA MALE 1.5MTR
0336	4822 321 61579	VIDEO-CABLE
0382	3111 170 21992	SCART CABLE (L=1.10M) BMS
0384	3139 228 87051	PROD.ASSY RC19133001/ 01 PACKED
0387	3139 246 11031	IFU DVD752/05X
1014	3104 157 11190	CWAS FLEX DVD 22 130 32S
1018	3104 157 11200	CWAS FLEX DVD 16 130 32S
1022	3104 157 11190	CWAS FLEX DVD 22 130 32S