

Service
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Service Manual

Contents	Page
1. Technical Specifications, Connections, and Chassis Overview	2
2. Safety Instructions, Warnings, and Notes	4
3. Directions for Use	5
4. Mechanical Instructions	6
5. Service Modes, Error Codes, and Fault Finding	10
6. <i>Block Diagrams, Test Point Overviews, and Waveforms</i>	
Block Diagram Power Supply	11
Block Diagram SCALER	12
Block Diagram UOCIII	13
Block Diagram Sync Input Multiplexer	14
7. <i>Circuit Diagrams and PWB Layouts</i>	<i>Diagram PWB</i>
Main Board Overview	15 20-21
Main Board Part 1	16 20-21
Main Board Part 2	17 20-21
Main Board Part 3	18 20-21
Main Board Part 4	18 20-21
Side I/O Board	22 22
Control Board	23 23
IR & LED Board	24 24
8. Alignments	25
9. Circuit Descriptions, Abbreviation List, and IC Data Sheets	30
Abbreviation List	31
IC Data Sheets	32
10. Exploded View	36
Spare Parts List	37
11. Revision List	42

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1. Technical Specifications, Connections, and Chassis Overview

Index of this chapter:

- 1.1 Technical Specifications
- 1.2 Connection Overview
- 1.3 Chassis Overview

Notes:

- Figures can deviate due to the different set executions.
- Specifications are indicative (subject to change).

1.1 Technical Specifications

1.1.1 Vision

Display type	: LCD
Screen size	: 19.7" (50 cm), 4 : 3
Resolution	: 640 x 480p
Viewing angle	: 170 / 170
Brightness	: 450 cd/m ²
Contrast ratio	: 600 : 1
Response time	: 20 ms
Tuning system	: PLL
TV Colour systems	: PAL B/G, D/K, I
	: SECAM B/G, D/K, L/L'
Video playback	: NTSC M/N 3.58, 4.43
Presets/channels	: 100 presets
Tuner bands	: VHF
	: UHF
	: CATV
	: Hyper-band (S1-S41)
Picture preset modes	: Movie / Sport / Game /
	Weak signal /
	Personal
Picture formats	: Compressed (16 : 9) /
	Normal (4 : 3) / Auto /
	Expand

1.1.2 Sound

Sound systems	: A2 + NICAM Stereo
Equalizer	: 5-band graphic equalizer
Preset equalizer modes	: Personal / Music /
	Theatre / Voice
Sound effects	: Spatial stereo
Maximum power (W _{RMS})	: 2 x 2

1.1.3 Miscellaneous

Power adapter:	
- Mains voltage (V _{AC})	: 90 - 264
- Mains frequency (Hz)	: 47 - 63
- Output	: 12 Vdc, 6.6 A

Ambient conditions:	
- Temperature range (°C)	: -25 to +70
- Maximum humidity	: 5 - 95 % R.H.

Power consumption (values are indicative):

- Normal operation (W)	: 75
- Stand-by (W)	: 1.8

Dimensions incl. stand (W x H x D, in mm):

- 26PF1000/62	: 610 x 436 x 150
---------------	-------------------

1.2 Connection Overview

Note: The following connector colour abbreviations are used (acc. to DIN/IEC 757): Bk= Black, Bu= Blue, Gn= Green, Gy= Grey, Rd= Red, Wh= White, and Ye= Yellow.

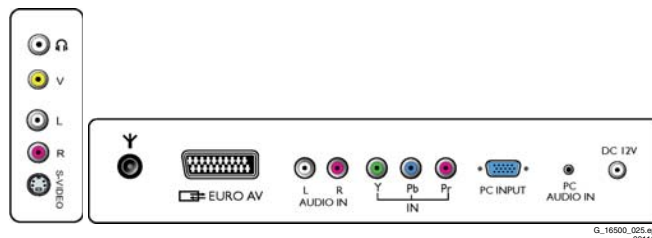


Figure 1-1 Connection overview

1.2.1 Side Connections

Mini Jack: Audio Head phone - Out

Bk - Head phone 32 - 600 ohm / 10 mW



Cinch: Video CVBS - In, Audio - In

Ye - Video CVBS 1 V_{PP} / 75 ohm
Wh - Audio L 0.5 V_{RMS} / 10 kohm
Rd - Audio R 0.5 V_{RMS} / 10 kohm



S-Video (Hosiden): Video Y/C - In

1 - Ground Y Gnd
2 - Ground C Gnd
3 - Video Y 1 V_{PP} / 75 ohm
4 - Video C 0.3 V_{PP} / 75 ohm



1.2.2 Rear Connections

Aerial - In

- IEC-type Coax, 75 ohm



EXT1: AV + RGB

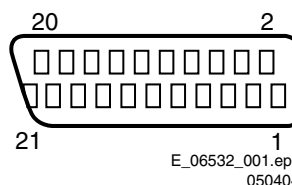


Figure 1-2 SCART connector EXT1

1	- Audio R	0.5 V _{RMS} / 1 kohm	⊕
2	- Audio R	0.5 V _{RMS} / 10 kohm	⊕
3	- Audio L	0.5 V _{RMS} / 1 kohm	⊕
4	- Ground	Gnd (audio)	⊖
5	- Ground	Gnd	⊖
6	- Audio L	0.5 V _{RMS} / 10 kohm	⊕
7	- RGB Blue	0.7 V _{PP} / 75 ohm	⊕
8	- Function Select	0 - 2 V: INT	
		4.5 - 12 V: EXT 4:3	⊕
9	- Ground	Gnd	⊖
10	- Res.	Clock signals	
11	- RGB Green	0.7 V _{PP} / 75 ohm	⊕
12	- Res.	Remote control	
13	- Ground	Gnd	⊖
14	- Ground	Gnd (switch RGB)	⊖
15	- RGB Red	0.7 V _{PP} / 75 ohm	⊕
16	- Switch RGB		⊕
17	- Ground	Gnd (video)	⊖
18	- Ground	Gnd (video out)	⊖

19 - Video out 1 V_{PP} / 75 ohm
 20 - Video in 1 V_{PP} / 75 ohm
 21 - Shield Gnd



Cinch: Audio - In

Wh - Audio L 0.5 V_{RMS} / 10 kohm
 Rd - Audio R 0.5 V_{RMS} / 10 kohm



Cinch: Video YPbPr - In

Gn - Video Y 1 V_{PP} / 75 ohm
 Bu - Video Pb 0.7 V_{PP} / 75 ohm
 Rd - Video Pr 0.7 V_{PP} / 75 ohm



VGA: Video RGB - In

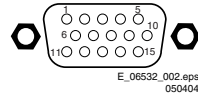
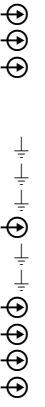


Figure 1-3 VGA Connector

1 - Video Red 0.7 V_{PP} / 75 ohm
 2 - Video Green 0.7 V_{PP} / 75 ohm
 3 - Video Blue 0.7 V_{PP} / 75 ohm
 4 - Self test.
 5 - DDC return
 6 - Ground Red Gnd
 7 - Ground Green Gnd
 8 - Ground Blue Gnd
 9 - +5V_{DC} Supply of DDC circuit
 10 - Ground Sync Gnd
 11 - GND GND
 12 - DDC_SDA DDC data
 13 - H-sync 0 - 5 V
 14 - V-sync 0 - 5 V
 15 - DDC_SCL DDC clock



Mini Jack: PC Audio - In

Wh - Audio L 0.5 V_{RMS} / 10 kohm
 Rd - Audio R 0.5 V_{RMS} / 10 kohm



DC - In

1 - 12 V_{dc} / 6.6 A / 75 W



1.3 Chassis Overview

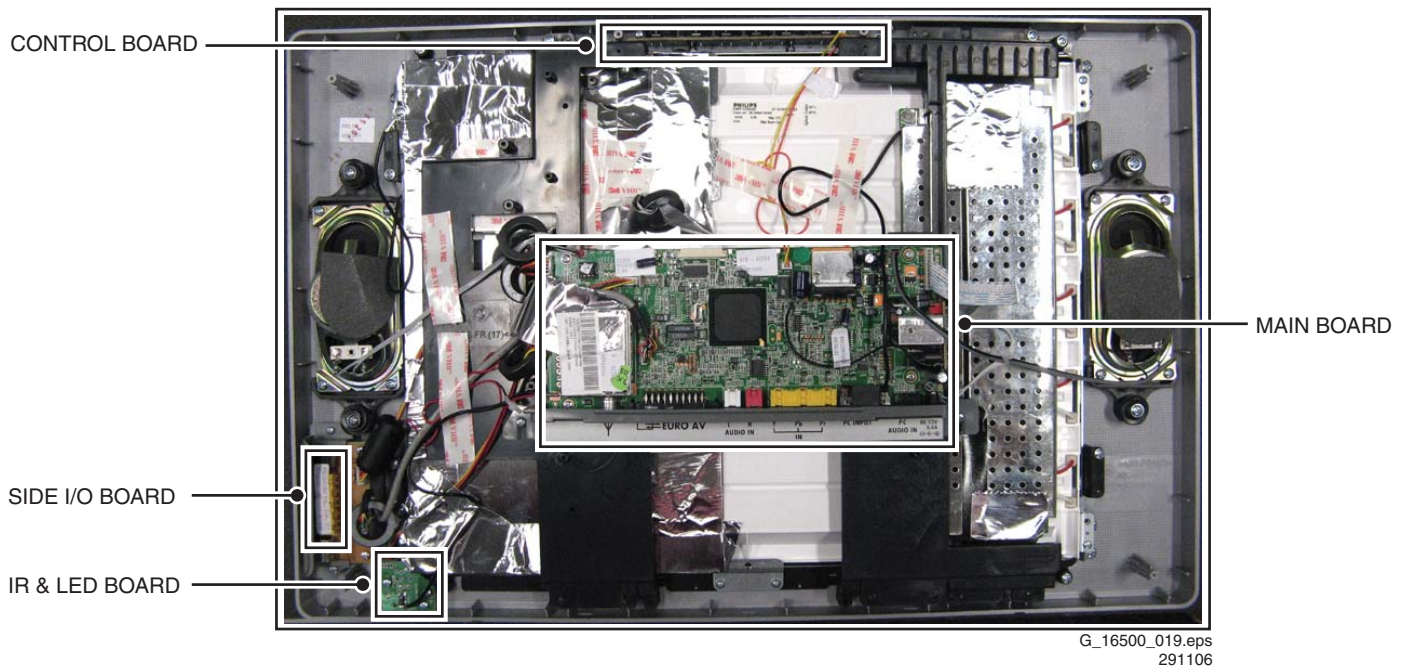


Figure 1-4 PWB locations

2. Safety Instructions, Warnings, and Notes

Index of this chapter:

- 2.1 Safety Instructions
- 2.2 Warnings
- 2.3 Notes

2.1 Safety Instructions

Safety regulations require the following **during** a repair:

- Connect the set to the Mains/AC Power via an isolation transformer (> 800 VA).
- Replace safety components, indicated by the symbol , only by components identical to the original ones. Any other component substitution (other than original type) may increase risk of fire or electrical shock hazard.

Safety regulations require that **after** a repair, the set must be returned in its original condition. Pay in particular attention to the following points:

- Route the wire trees correctly and fix them with the mounted cable clamps.
- Check the insulation of the Mains/AC Power lead for external damage.
- Check the strain relief of the Mains/AC Power cord for proper function.
- Check the electrical DC resistance between the Mains/AC Power plug and the secondary side (only for sets that have a Mains/AC Power isolated power supply):
 1. Unplug the Mains/AC Power cord and connect a wire between the two pins of the Mains/AC Power plug.
 2. Set the Mains/AC Power switch to the "ON" position (keep the Mains/AC Power cord unplugged!).
 3. Measure the resistance value between the pins of the Mains/AC Power plug and the metal shielding of the tuner or the aerial connection on the set. The reading should be between 4.5 Mohm and 12 Mohm.
 4. Switch "OFF" the set, and remove the wire between the two pins of the Mains/AC Power plug.
- Check the cabinet for defects, to prevent touching of any inner parts by the customer.

2.2 Warnings

- All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD ) . Careless handling during repair can reduce life drastically. Make sure that, during repair, you are connected with the same potential as the mass of the set by a wristband with resistance. Keep components and tools also at this same potential. Available ESD protection equipment:
 - Complete kit ESD3 (small tablemat, wristband, connection box, extension cable and earth cable) 4822 310 10671.
 - Wristband tester 4822 344 13999.
- Be careful during measurements in the high voltage section.
- Never replace modules or other components while the unit is switched "ON".
- When you align the set, use plastic rather than metal tools. This will prevent any short circuits and the danger of a circuit becoming unstable.

2.3 Notes

2.3.1 General

- Measure the voltages and waveforms with regard to the chassis (= tuner) ground () , or hot ground () , depending on the tested area of circuitry. The voltages and waveforms shown in the diagrams are indicative. Measure them in the

Service Default Mode (see chapter 5) with a colour bar signal and stereo sound (L: 3 kHz, R: 1 kHz unless stated otherwise) and picture carrier at 475.25 MHz for PAL, or 61.25 MHz for NTSC (channel 3).

- Where necessary, measure the waveforms and voltages with () and without () aerial signal. Measure the voltages in the power supply section both in normal operation () and in stand-by () . These values are indicated by means of the appropriate symbols.
- The semiconductors indicated in the circuit diagram and in the parts lists, are interchangeable per position with the semiconductors in the unit, irrespective of the type indication on these semiconductors.
- Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic" and the "double-D symbol", are trademarks of Dolby Laboratories.

2.3.2 Schematic Notes

- All resistor values are in ohms, and the value multiplier is often used to indicate the decimal point location (e.g. 2K2 indicates 2.2 kohm).
- Resistor values with no multiplier may be indicated with either an "E" or an "R" (e.g. 220E or 220R indicates 220 ohm).
- All capacitor values are given in micro-farads ($\mu = \times 10^{-6}$), nano-farads ($n = \times 10^{-9}$), or pico-farads ($p = \times 10^{-12}$).
- Capacitor values may also use the value multiplier as the decimal point indication (e.g. 2p2 indicates 2.2 pF).
- An "asterisk" (*) indicates component usage varies. Refer to the diversity tables for the correct values.
- The correct component values are listed in the Spare Parts List. Therefore, always check this list when there is any doubt.

2.3.3 Lead-free Solder

Philips CE is producing lead-free sets (PBF) from 1.1.2005 onwards.

Identification: The bottom line of a type plate gives a 14-digit serial number. Digits 5 and 6 refer to the production year, digits 7 and 8 refer to production week (in example below it is 2006 week 17).



E_06532_024.eps
130606

Figure 2-1 Serial number example

Regardless of the special lead-free logo (which is not always indicated), one must treat all sets from this date onwards according to the rules as described below.

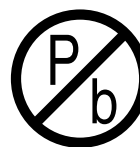


Figure 2-2 Lead-free logo

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

- Use only lead-free soldering tin Philips SAC305 with order code 0622 149 00106. If lead-free solder paste is required, please contact the manufacturer of your soldering equipment. In general, use of solder paste within workshops should be avoided because paste is not easy to store and to handle.
- Use only adequate solder tools applicable for lead-free soldering tin. The solder tool must be able:
 - To reach a solder-tip temperature of at least 400°C.
 - To stabilise the adjusted temperature at the solder-tip.
 - To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature of around 360°C - 380°C is reached and stabilised at the solder joint. Heating time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C, otherwise wear-out of tips will increase drastically and flux-fluid will be destroyed. To avoid wear-out of tips, switch "off" unused equipment or reduce heat.
- Mix of lead-free soldering tin/parts with leaded soldering tin/parts is possible but PHILIPS recommends strongly **to avoid** mixed regimes. If this cannot be avoided, carefully clear the solder-joint from old tin and re-solder with new tin.
- Use only original spare-parts listed in the Service-Manuals. Not listed standard material (commodities) has to be purchased at external companies.
- For sets produced before 1.1.2005, containing leaded soldering tin and components, all needed spare parts will be available till the end of the service period. For the repair of such sets nothing changes.

In case of doubt whether the board is lead-free or not (or with mixed technologies), you can use the following method:

- Always use the highest temperature to solder, when using SAC305 (see also instructions below).
- De-solder thoroughly (clean solder joints to avoid mix of two alloys).

2.3.4 Alternative BOM identification

In September 2003, Philips CE introduced a change in the way the serial number (or production number, see Figure 2-1) is composed. From this date on, the **third digit** in the serial number (example: AG2B0335000001) indicates the number of

the alternative BOM (Bill of Materials used for producing the specific model of TV set). It is possible that the same TV model on the market is produced with e.g. two different types of displays, coming from two different O.E.M.s.

By looking at the third digit of the serial number, the service technician can see if there is more than one type of B.O.M. used in the production of the TV set he is working with. He can then consult the At Your Service Web site, where he can type in the Commercial Type Version Number of the TV set (e.g. 28PW9515/12), after which a screen will appear that gives information about the number of alternative B.O.M.s used. If the third digit of the serial number contains the number 1 (example: AG1B0335000001), then there is only one B.O.M. version of the TV set on the market. If the third digit is a 2 (example: AG2B0335000001), then there are two different B.O.M.s. Information about this is important for ordering the correct spare parts!

For the third digit, the numbers 1...9 and the characters A...Z can be used, so in total: 9 plus 26 = 35 different B.O.M.s can be indicated by the third digit of the serial number.

2.3.5 Board Level Repair (BLR) or Component Level Repair (CLR)

If a board is defective, consult your repair procedure to decide if the board has to be exchanged or if it should be repaired on component level.

If your repair procedure says the board should be exchanged completely, do not solder on the defective board. Otherwise, it cannot be returned to the O.E.M. supplier for back charging!

2.3.6 Practical Service Precautions

- **It makes sense to avoid exposure to electrical shock.** While some sources are expected to have a possible dangerous impact, others of quite high potential are of limited current and are sometimes held in less regard.
- **Always respect voltages.** While some may not be dangerous in themselves, they can cause unexpected reactions that are best avoided. Before reaching into a powered TV set, it is best to test the high voltage insulation. It is easy to do, and is a good service precaution.

3. Directions for Use

You can download this information from the following websites:

<http://www.philips.com/support>

<http://www.p4c.philips.com>

4. Mechanical Instructions

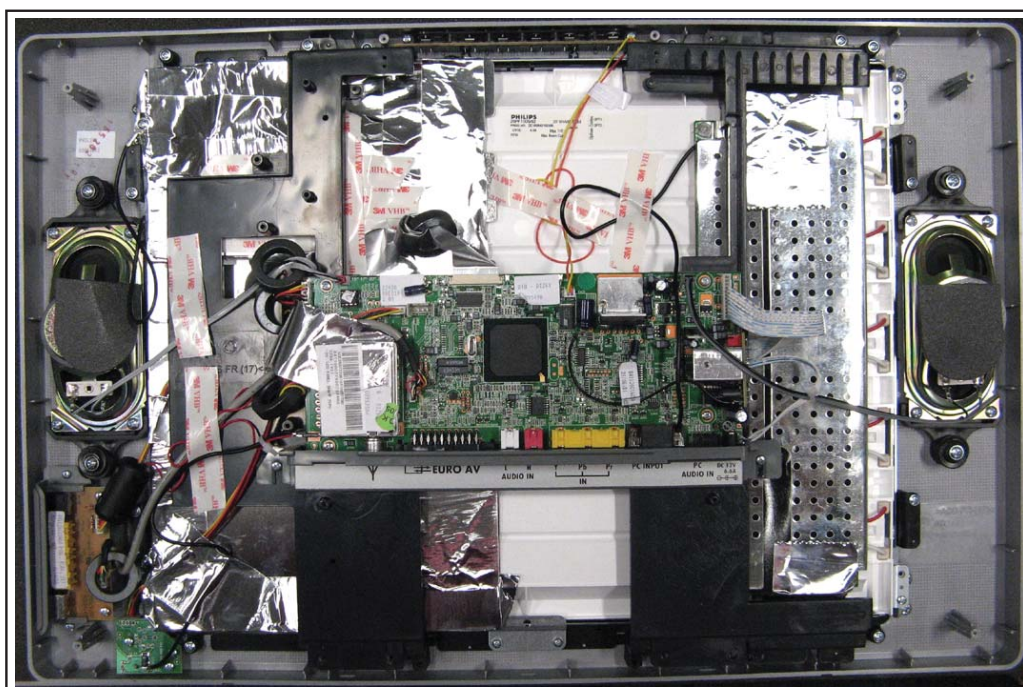
Index of this chapter:

- 4.1 Cable Dressing
- 4.3 Rear Cover Removal
- 4.6 Main Board Removal
- 4.5 IR & LED / Power Switch Board Removal
- 4.4 Side I/O Board Removal
- 4.8 LCD Display Panel Removal
- 4.7 Speaker Removal
- 4.9 Set Re-assembly

Notes:

- Figures below can deviate slightly from the actual situation.
- Follow the disassemble instructions in the described order.
- The presence of adhesive tape can interfere severely with the described actions!
- The removal of adhesive aluminium tape can interfere severely with the quality of the image!

4.1 Cable Dressing



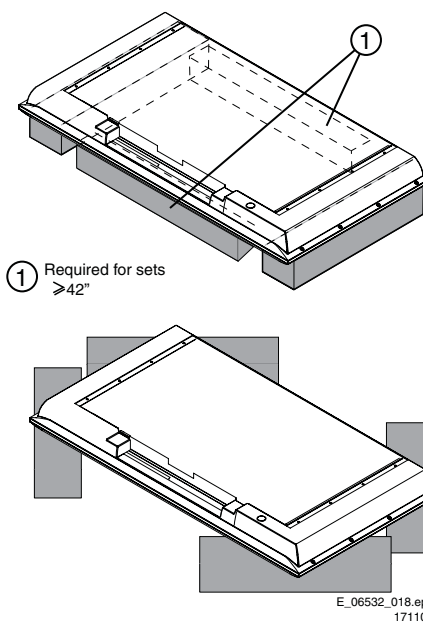
G_16500_009.eps
281106

Figure 4-1 Cable Dressing

4.2 Service Position

For easy servicing of flat TV sets, we have created foam bars, which can be used as indicated in the following drawing.

The foam bars (order code 3122 785 90580 for two pieces) can be used for all types and sizes of Flat TVs. By putting the TV face down on the (ESD protective) foam bars, a stable situation is created to perform measurements and alignments. By placing a mirror under the TV, you can monitor the screen.



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171106

Figure 4-2 Foam bars

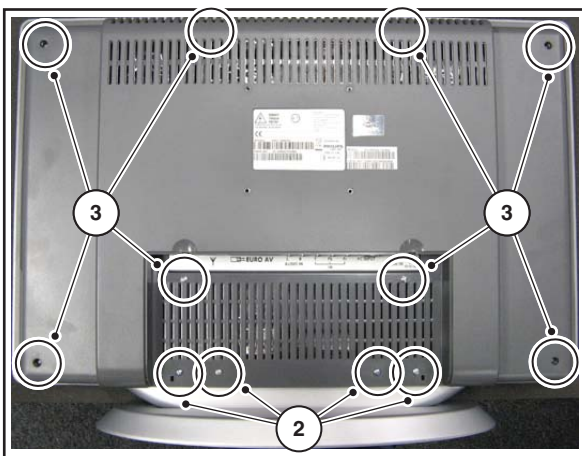
4.3 Rear Cover Removal

1. Put the set face down on a table.
2. Remove cable cover [1].
3. Remove fixation screws [2] and the stand.
4. Remove fixation screws [3] and the rear cover.



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281106

Figure 4-3 Rear cover removal 1/2



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281106

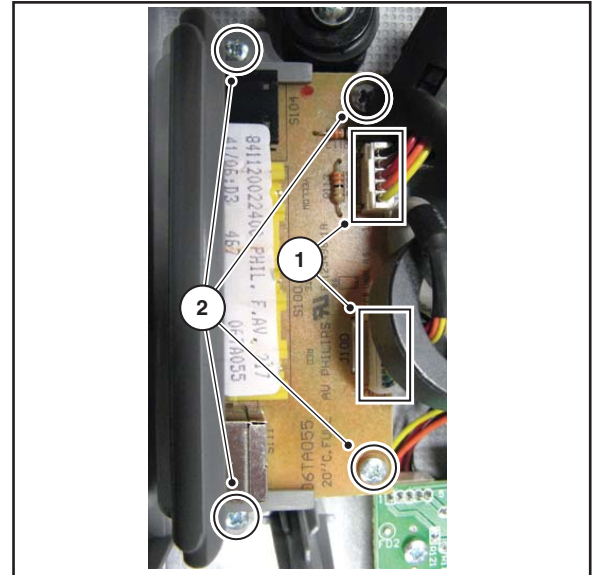
Figure 4-4 Rear cover removal 2/2

Before you assemble the rear cover:

1. Place all cables in their original position (see figure "Cable dressing").

4.4 Side I/O Board Removal

1. Remove the rear cover, as described earlier.
2. Unplug connectors [1].
3. Remove screws [2].
4. Remove the side I/O board.

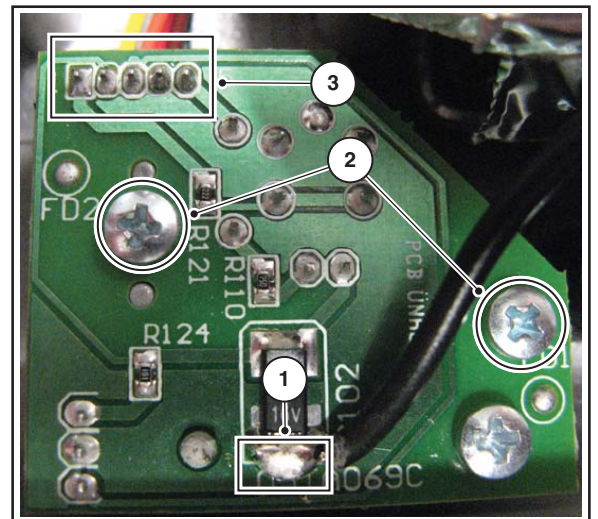


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281106

Figure 4-5 Side I/O board removal

4.5 IR & LED / Power Switch Board Removal

1. Remove the rear cover, as described earlier.
2. De-solder wire [1].
3. Remove fixation screws [2].
4. Unplug connector [3].
5. Remove the IR & LED/ Power Switch board.

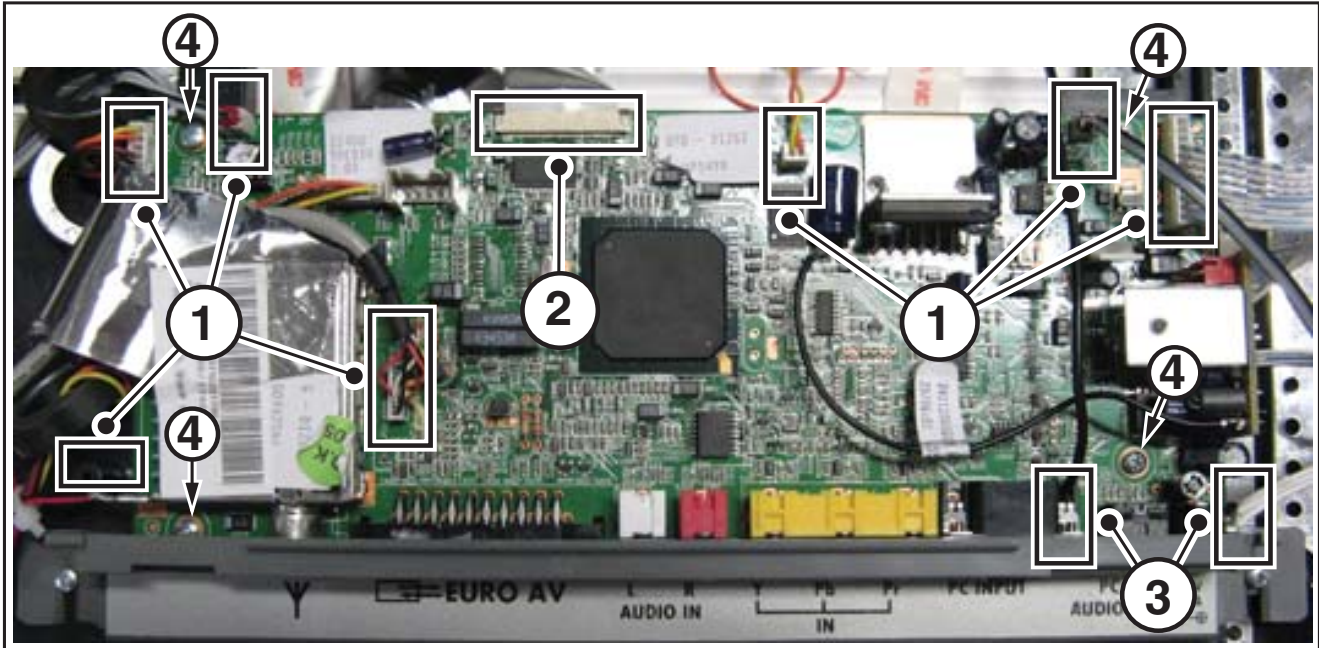


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281106

Figure 4-6 IR & LED / power switch board removal

4.6 Main Board Removal

1. Remove the rear cover, as described earlier.
2. Remove the subframe, as described earlier.
3. Unplug connectors [1].
4. Carefully unplug the fragile LVDS connector [2].
5. De-solder wires [3].
6. Remove fixation screws [4].
7. Remove the main board.

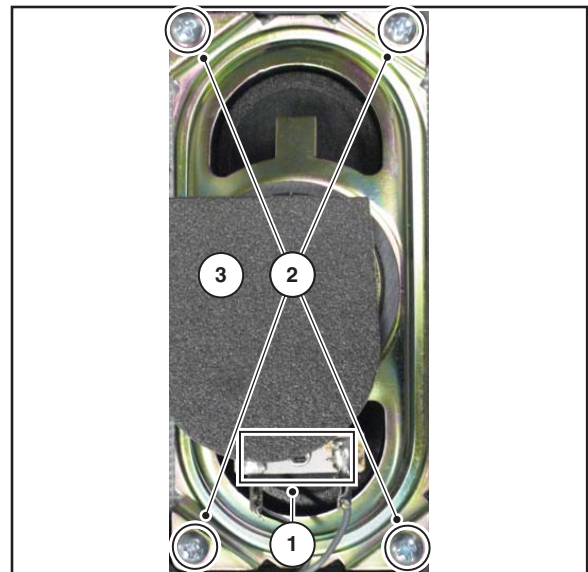


G_16500_012.eps
011206

Figure 4-7 Main board removal

4.7 Speaker Removal

1. Remove the rear cover, as described earlier.
2. De-solder the wires [1] from the speaker contacts.
3. Remove screws [2].
4. Remove the speaker.
5. At installation of a new speaker, also glue a new piece of foam [3] to the speaker.

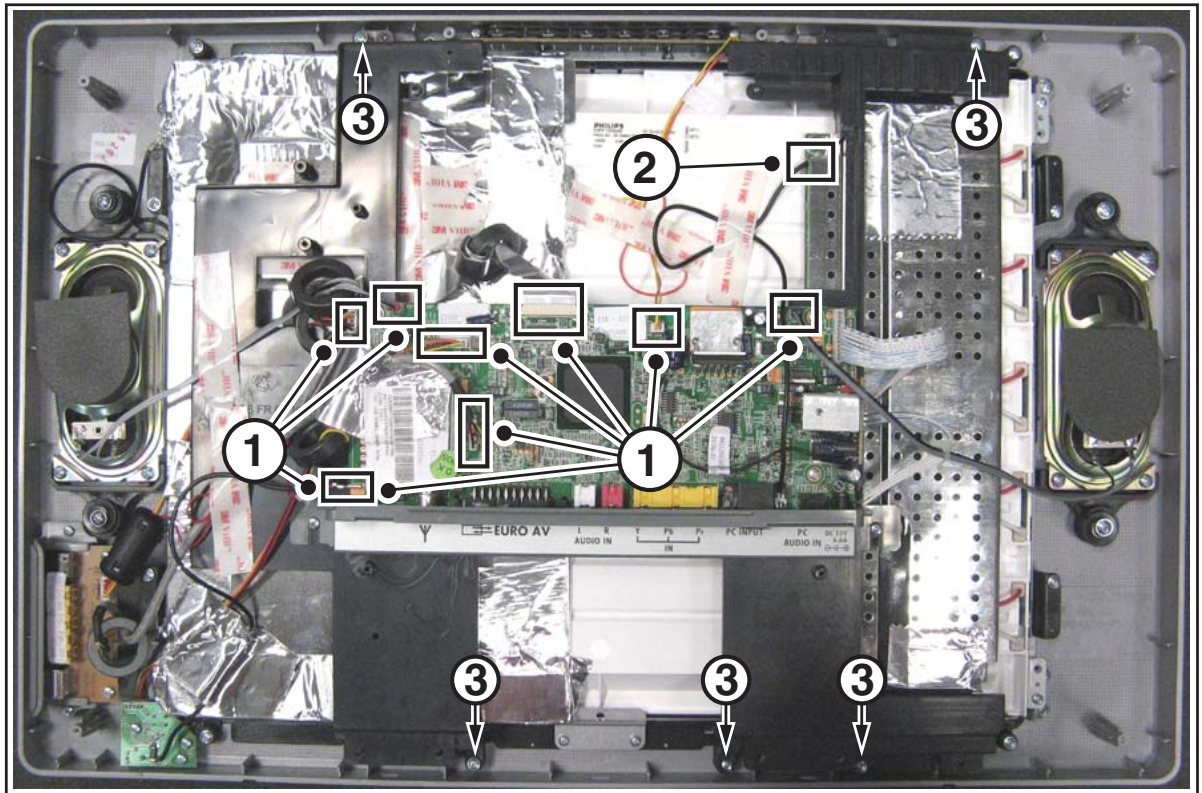


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281106

Figure 4-8 Speaker removal

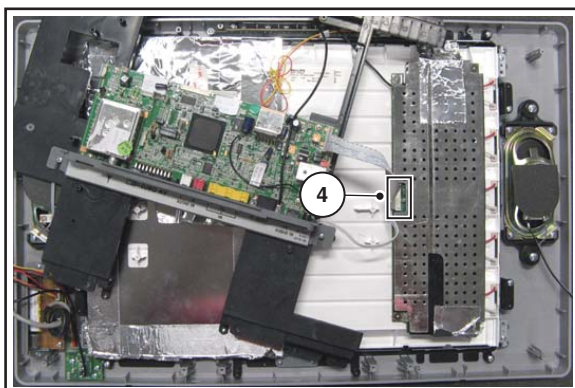
4.8 LCD Display Panel Removal

1. Remove the rear cover, as described earlier.
2. Unplug connectors [1].
3. De-solder wire [2] from the backlight inverter board.
4. Remove fixation screws [3].
5. Move the plastic subframe with the main board to the left, just far enough to have access to connector [4]. Unplug connector [4].
6. Remove fixation screws [5] and bracket [6].
7. Lift the display panel from the front cover, and put it on an appropriate surface (e.g. foam bars).



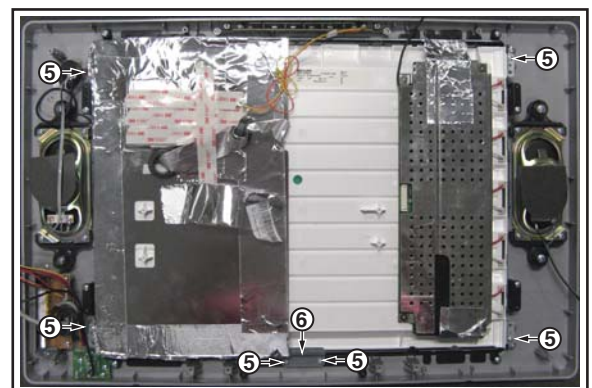
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011206

Figure 4-9 Display panel removal 1/3



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Figure 4-10 Display panel removal 2/3



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291106

Figure 4-11 Display panel removal 3/3

4.9 Set Re-assembly

To re-assemble the whole set, execute all processes in reverse order.

Note:

- While re-assembling, make sure that all cables are placed and connected in their original position. See figure "Cable dressing".
- As the adhesive aluminium tape is crucial for a correct shielding of the set, make sure it is replaced if necessary.

5. Service Modes, Error Codes, and Fault Finding

Index of this chapter:

- 5.1 Service Mode
- 5.2 Error Codes
- 5.3 Fault Finding and Repair Tips

5.1 Service Mode

The Service Mode is activated by pressing ‘1147’ on the Remote Control, while the set is in the Main User Menu. The software provides menu flexibility and full control to the software. Service persons can adjust the TV in all manners. In the Service Menu, you find a list of parameters.

All functions of the Service Mode, and the default parameter settings, are listed in Chapter “Alignments”.

5.2 Error Codes

This set does not generate Error Codes

5.3 Fault Finding and Repair Tips

Notes:

- It is assumed that the components are mounted correctly with correct values and no bad solder joints.
- Before any fault finding actions, check if the correct options are set.

FAULT TRACING DIAGRAM FOR POWER SUPPLY

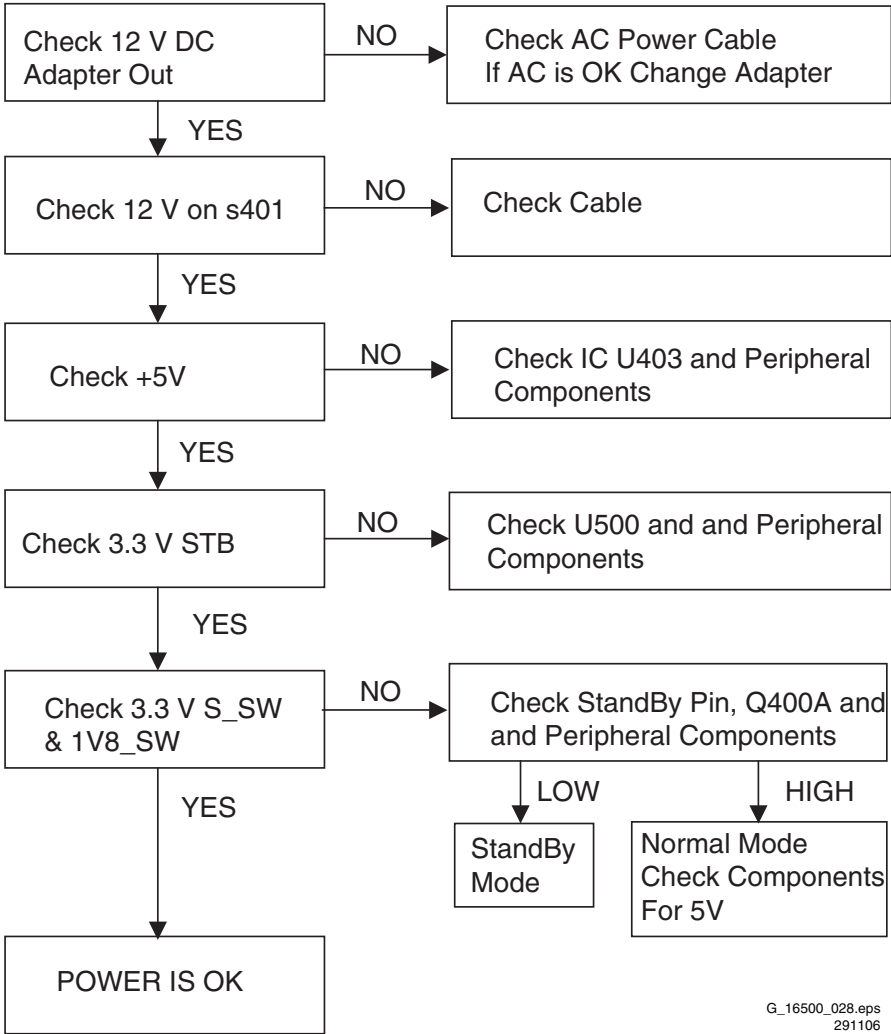
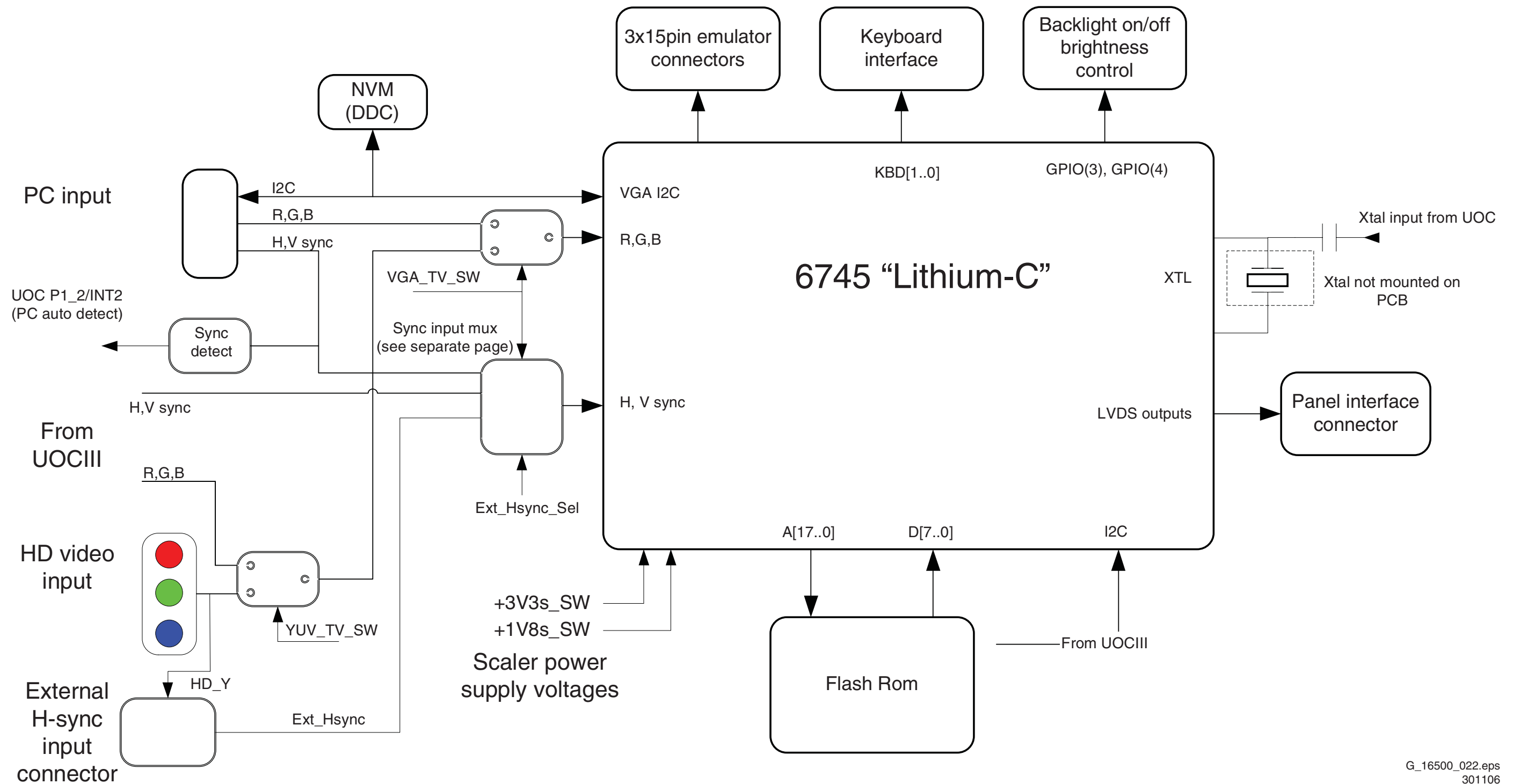


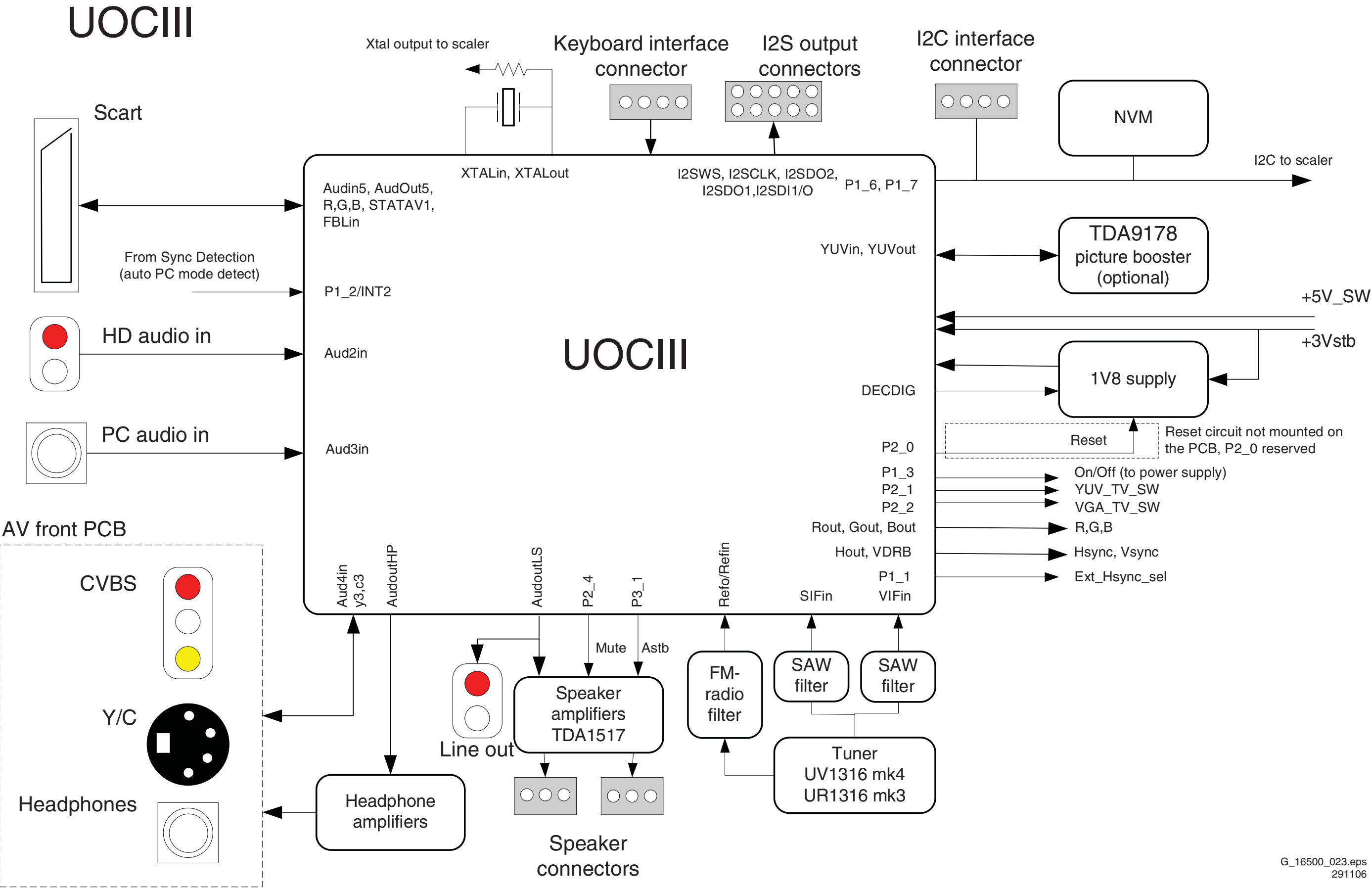
Figure 5-1 Fault finding power supply

Block Diagram SCALER

Scaler Block Diagram

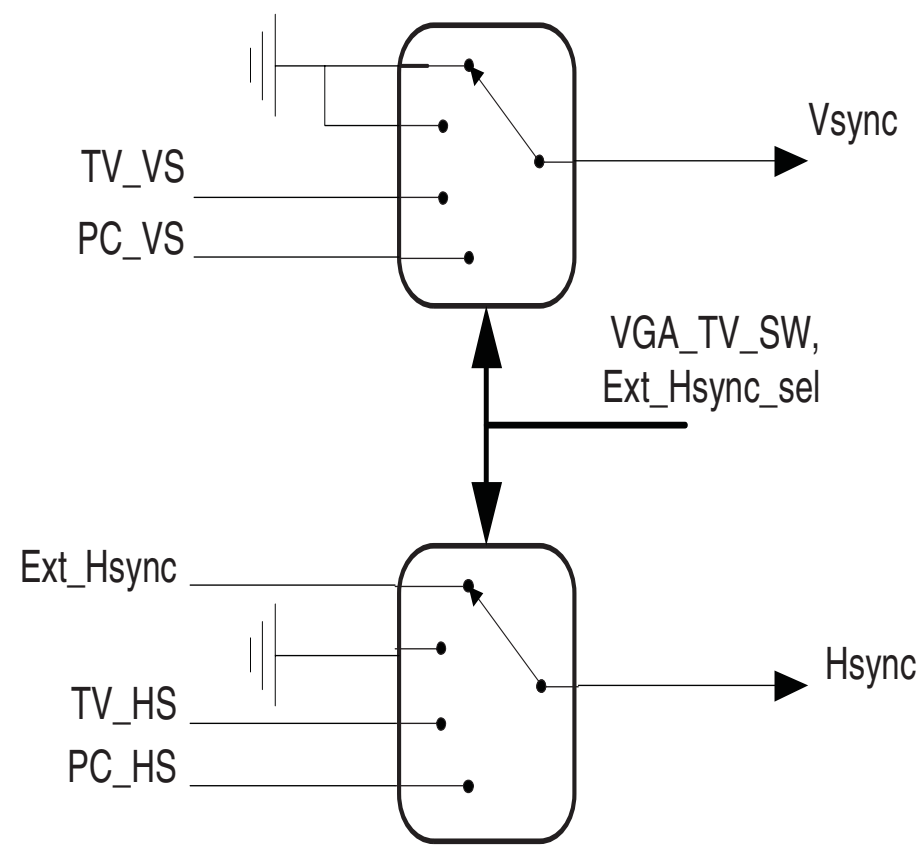


Block Diagram UOCIII



Block Diagram Sync Input Multiplexer

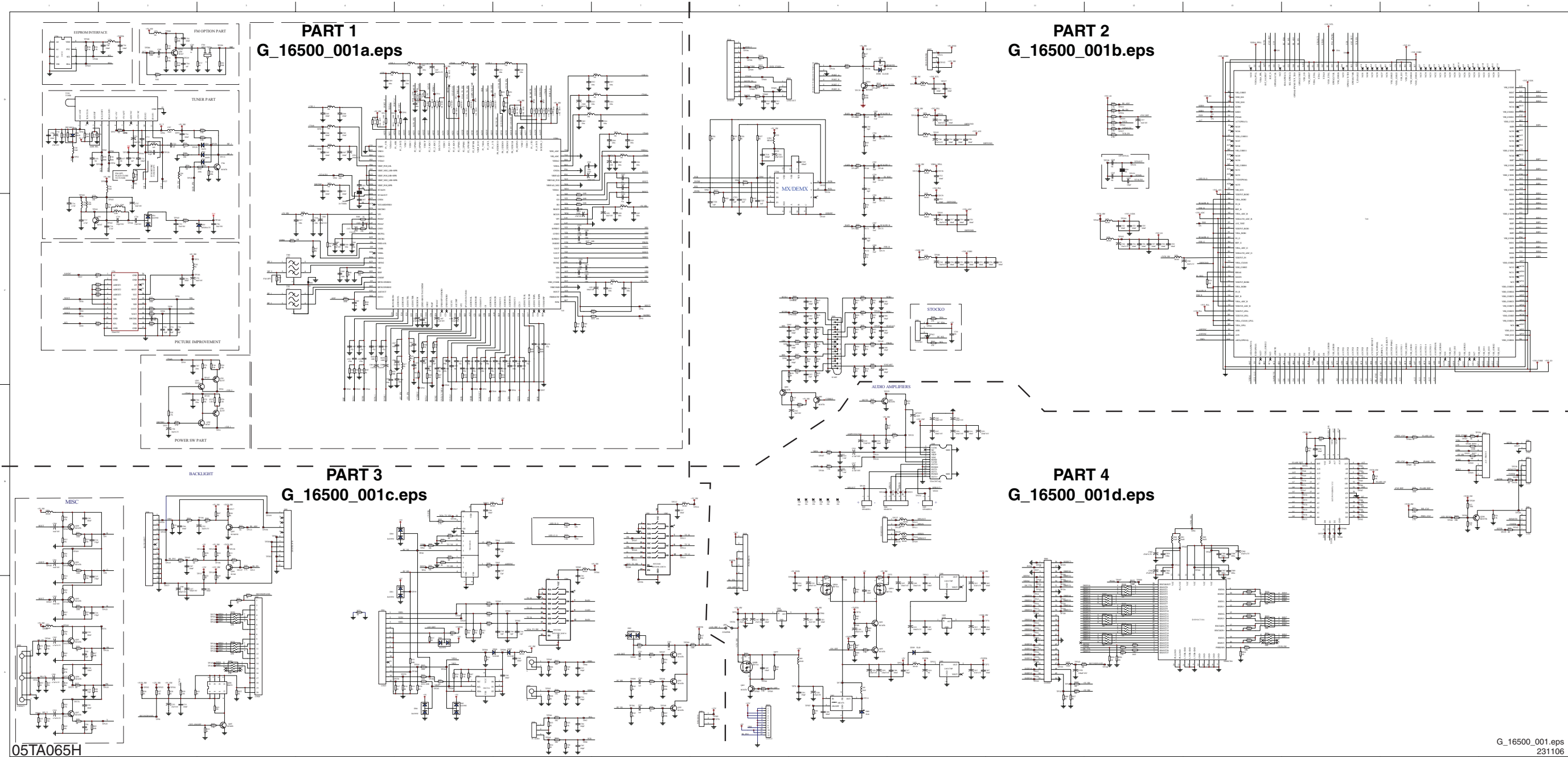
Sync input multiplexer



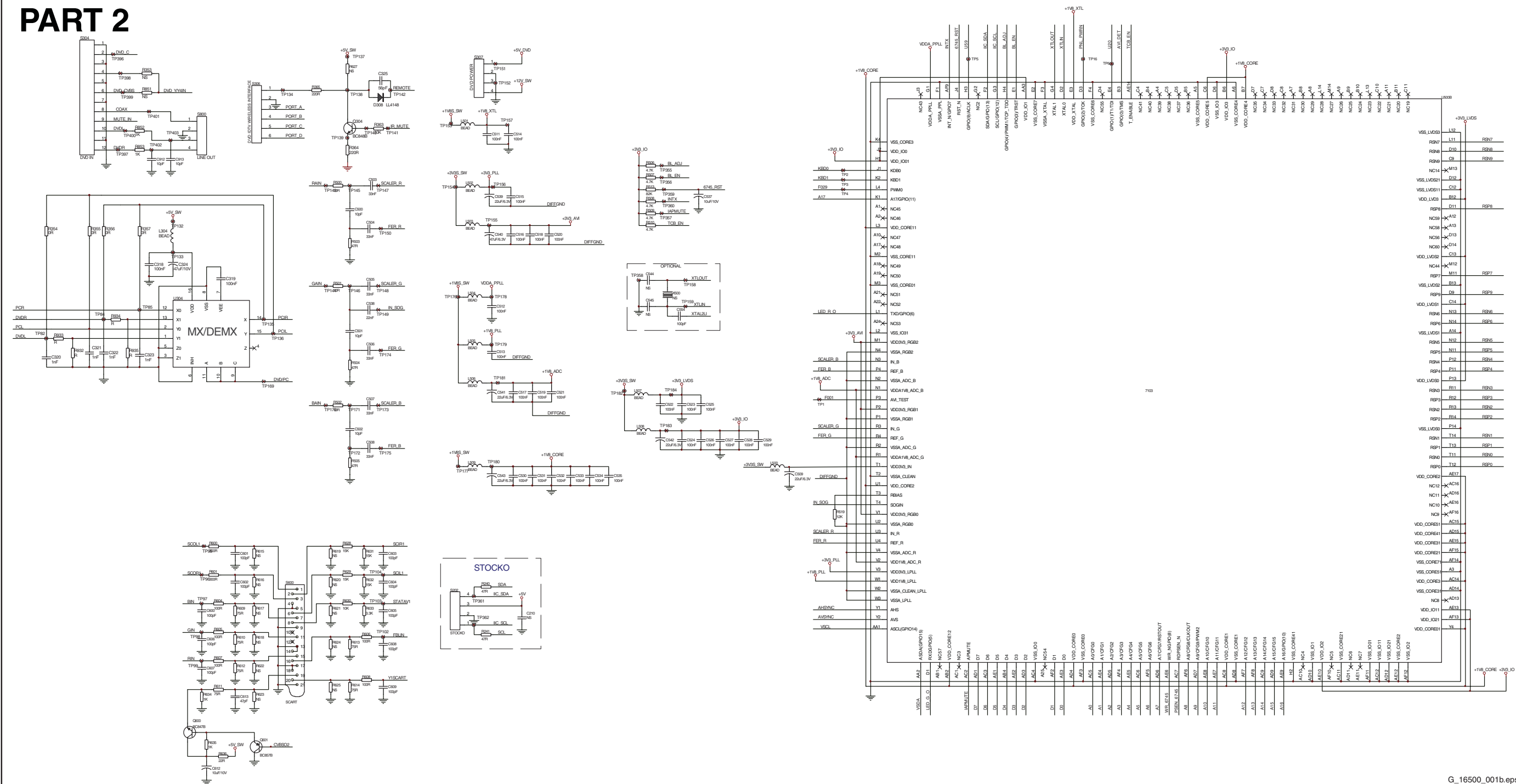
			Function	
On/Off	EXT_Hsync_Sel	VGA_TV_SW	H-sync	V-sync
0	x	x	Off	Off
1	0	0	External	Off
1	0	1	Off	Off
1	1	0	TV	TV
1	1	1	PC	PC

7. Circuit Diagrams and PWB Layouts

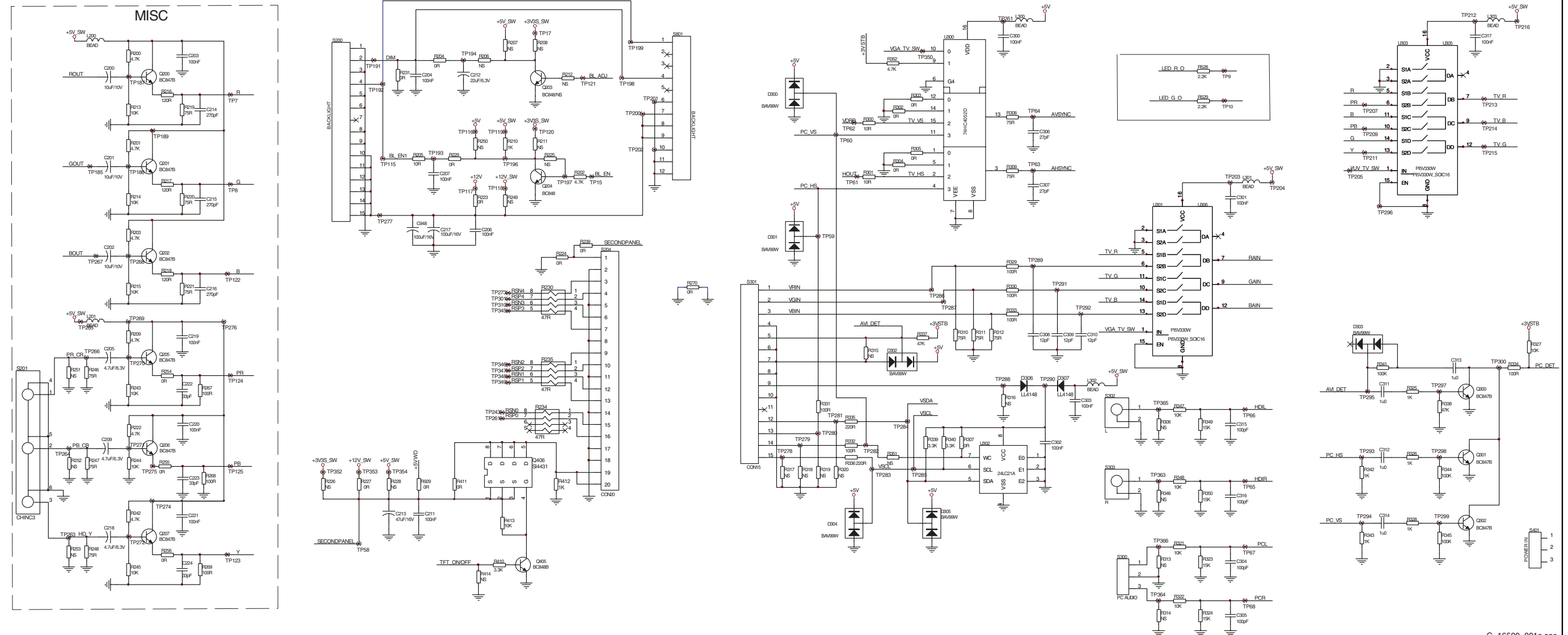
Main Board Overview



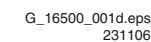
PART 2



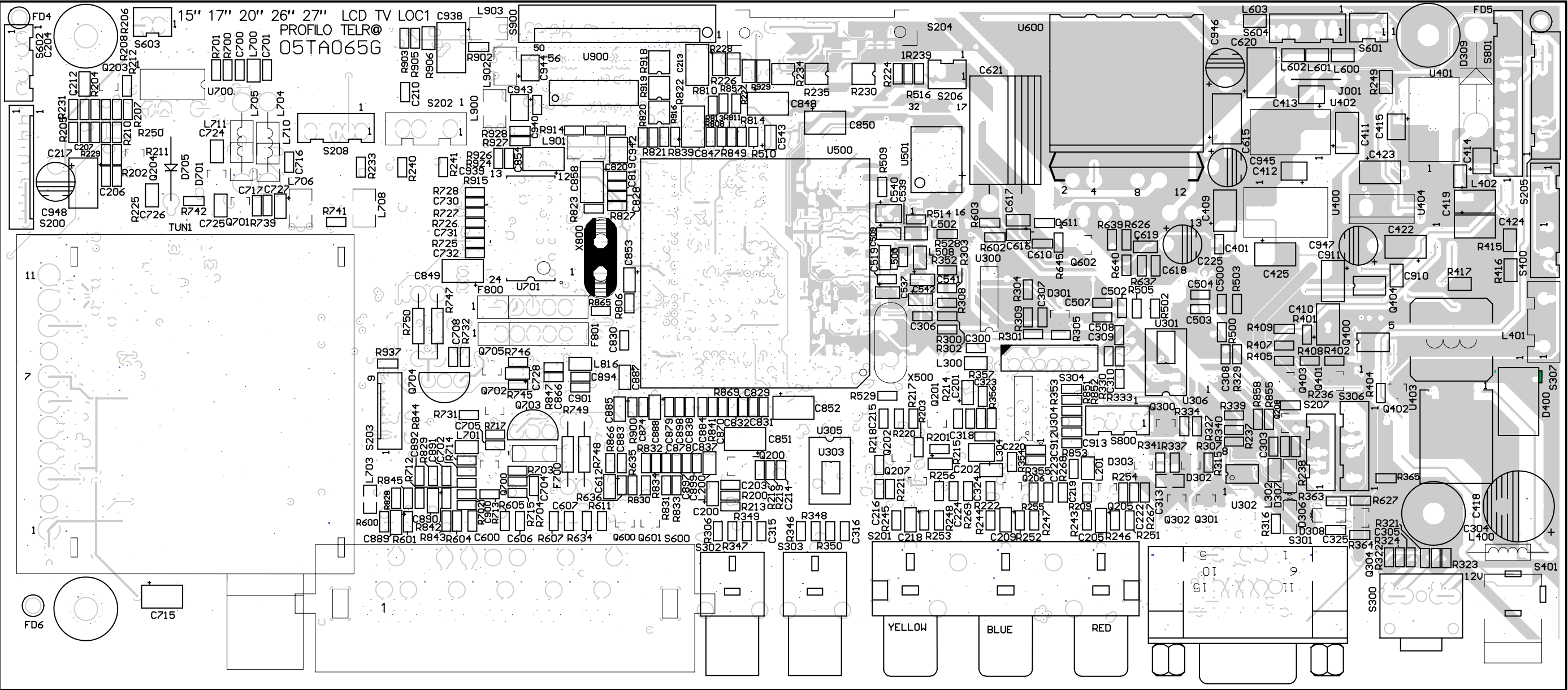
PART 3



PART 4



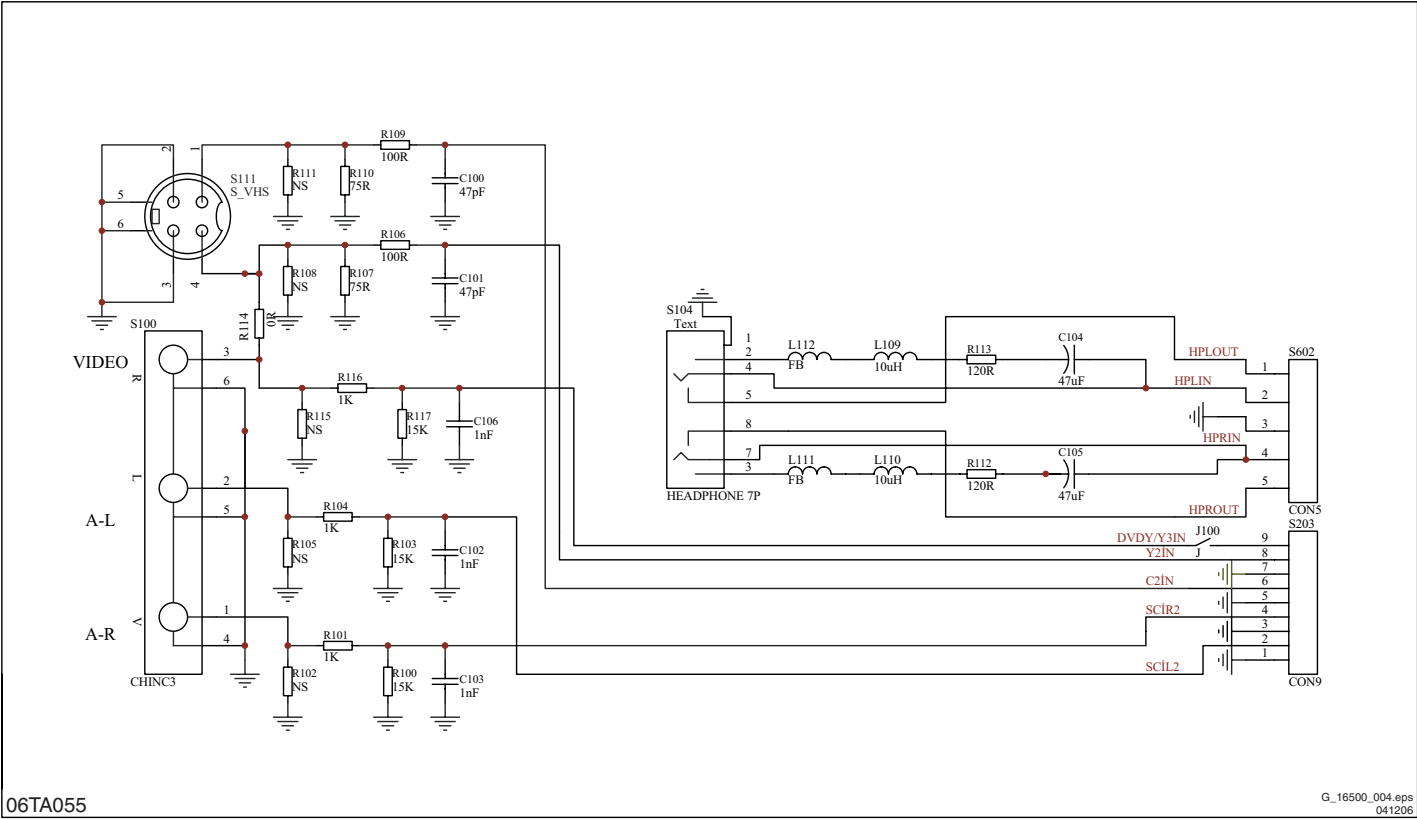
Layout Main Board (Top Side)



06TA065G

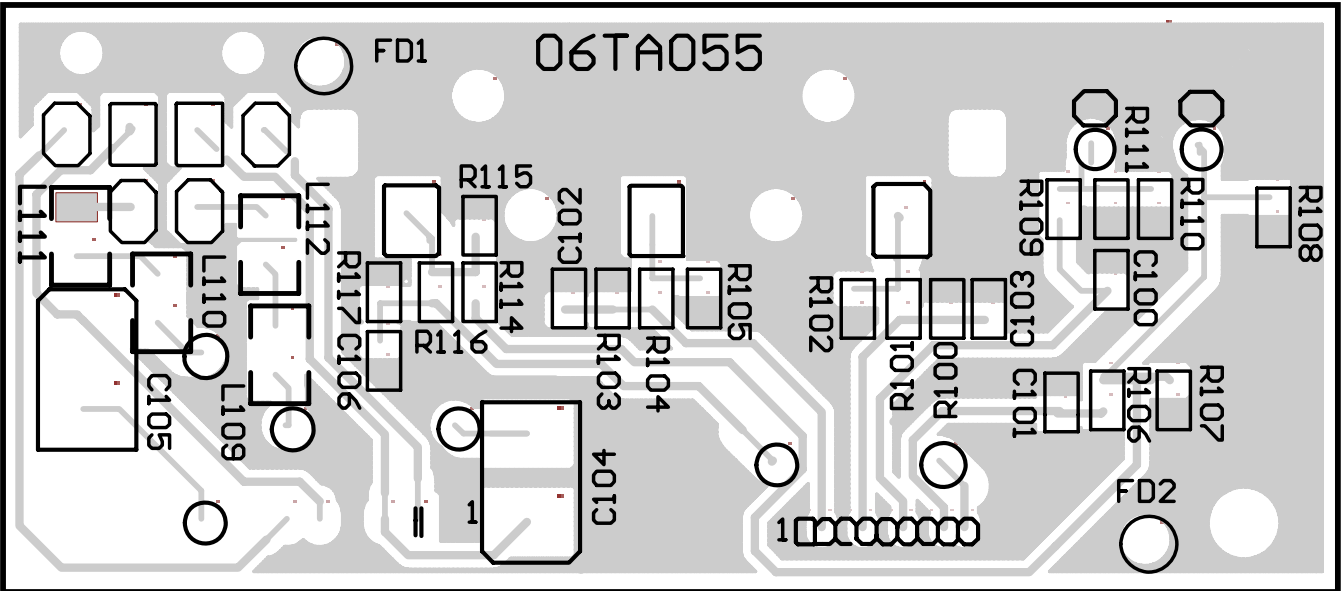
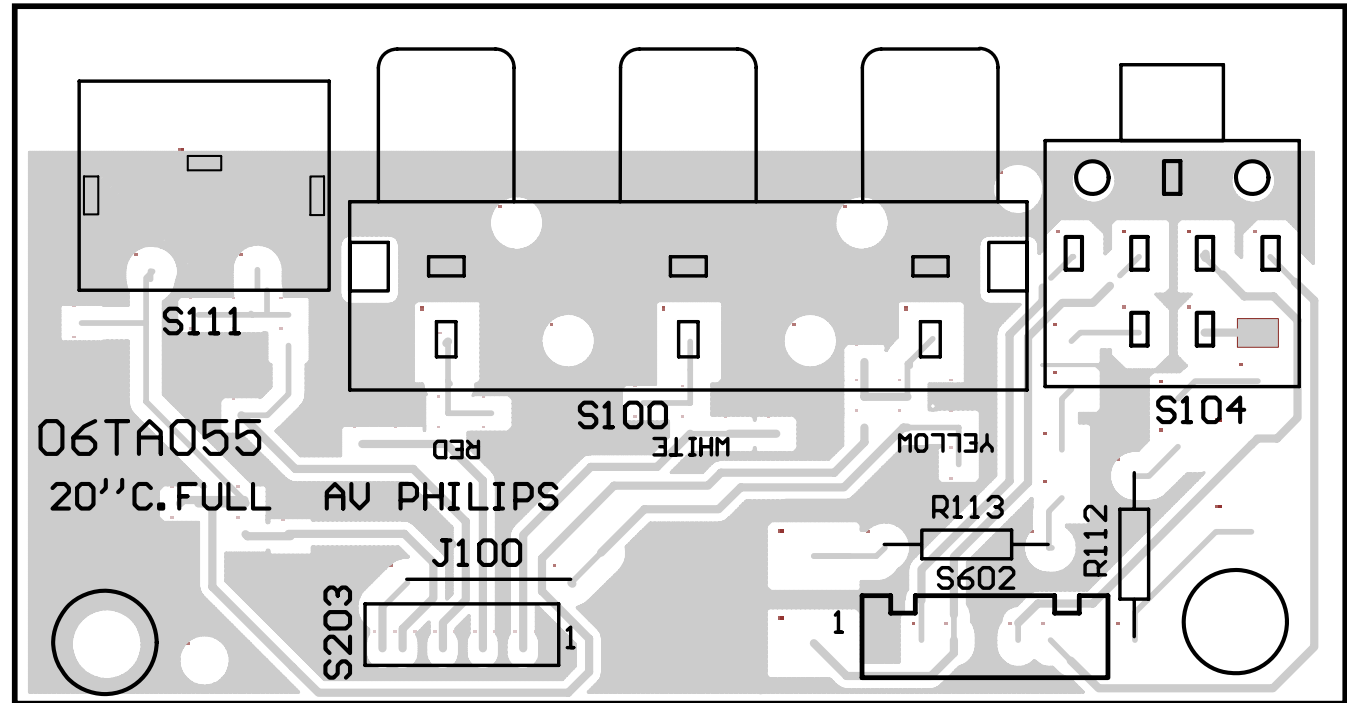
G_16500_003.eps
041206

Side I/O Board

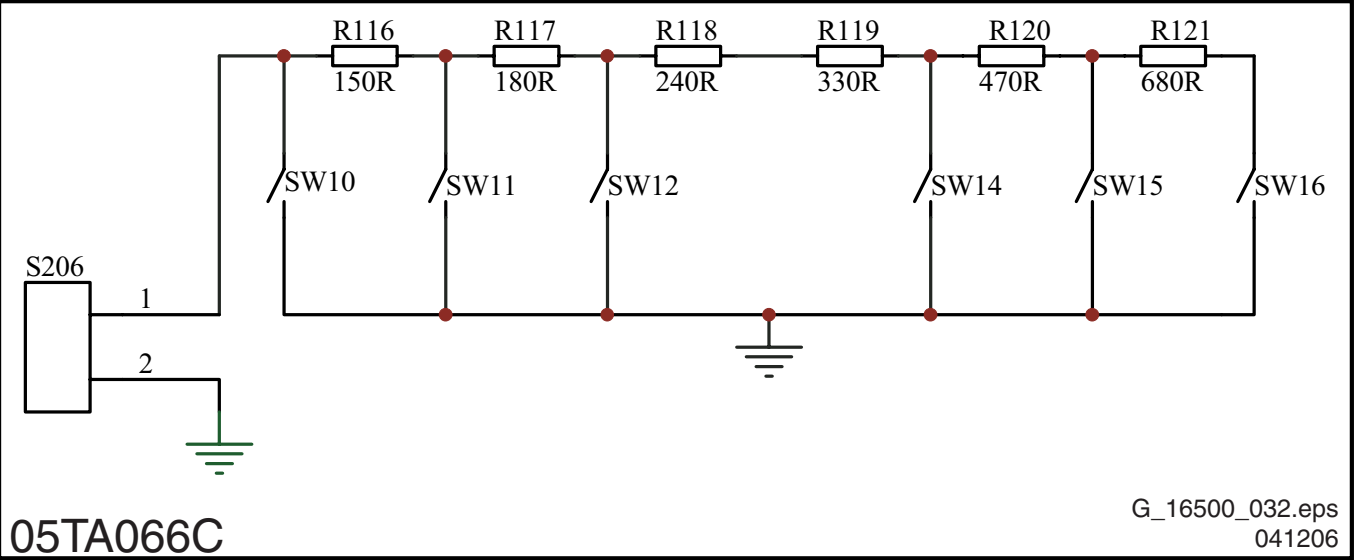


Layout Side I/O Board (Bottom Side)

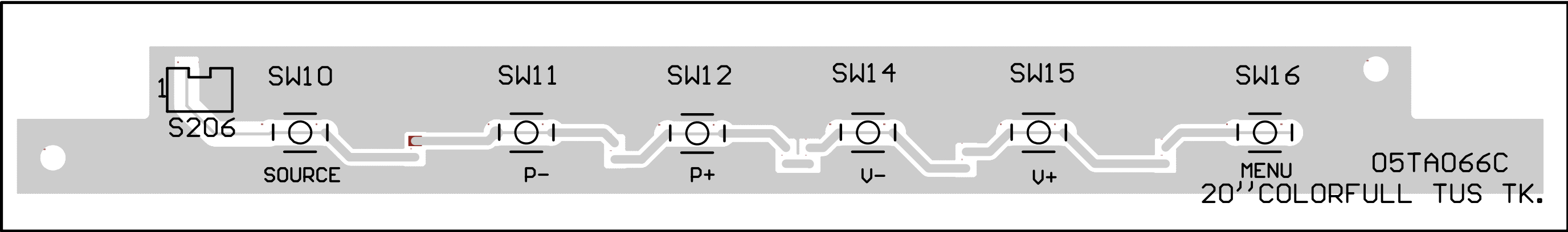
Layout Side I/O Board (Top Side)



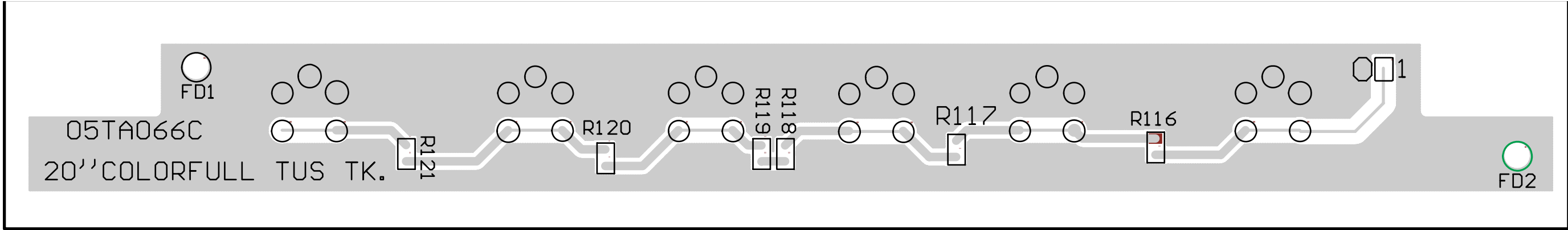
Control Board



Layout Control Board (Top Side)



Layout Control Board (Bottom Side)



8. Alignments

Index of this chapter:

- 8.1 Options
- 8.2 General Alignment Conditions
- 8.3 Hardware Alignments
- 8.4 Software Alignments

8.1 Options

8.1.1 Introduction

Options are used to control the presence/absence of certain features and hardware.

How to Change an Option

Different from other Philips TV sets, the options are not represented as bits and bytes, but as a three-digit number and an abbreviated text.

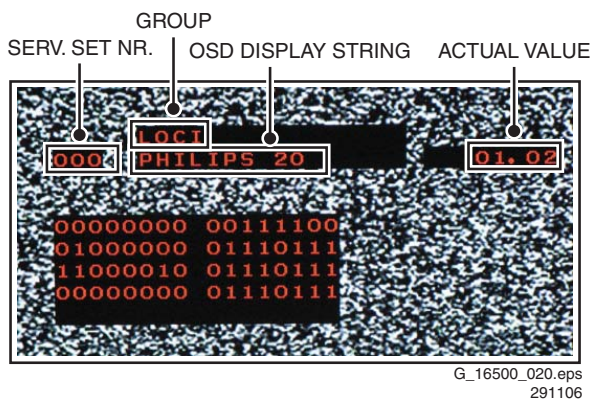


Figure 8-1 Layout of the Service Menu

The option settings are a part of the Service Menu, as are the parameters. The method of entering the Service Menu and the structure of the Service Menu are described in “Software Alignments” below.

Table 8-1 Service Menu

Service Setting Nr.	Group	OSD Display String	Description	Default value
000	LOC I	PF99 Version	Software Version	01.02 (example)
001		Init TV	Initialise NVM	0
002		ISP Mode	Enter ISP mode	0
003		Sedna Version	Version of Sedna Software	2.09.00 (example)
004	Crystal alignment	DCXO	DCXO alignment	88
005		DCXO Auto	Auto DCXO alignment	0
006		NicamLowErLimit	Nicam Lower Error Limit	14
007		NicamUpErrLimit	Nicam Upper Error Limit	50
008	Zoom options	AutoZoom 4:3	Choose Anaronap (0) or Compressed (1)	0
009		WSS	WSS enabled	1
010		Gld-Scart	Golden scart enabled	1
011	Colour alignment	WPR-C	White point red -- Cold	32
012		WPG-C	White point green -- Cold	30
013		WPB-C	White point blue -- Cold	28
014		WPR-N	White point red - Normal	30
015		WPG-N	White point green -- Normal	30
016		WPB-N	White point blue -- Normal	32
017		WPR-W	White point red -- Warm	26
018		WPG-W	White point green -- Warm	28
019		WPB-W	White point blue -- Warm	32
020		RGB	OSD RGB brightness	30
021		PCCOL	Colour PC mode	32
022		PCTINT	Tint adjustment for PC mode	32
023	Video Preset	PV-BR-MV	Brightness Movie Preset	28
024		PV-CL-MV	Colour Movie Preset	31
025		PV-CT-MV	Contrast Movie Preset	34

8.2 General Alignment Conditions

Perform all adjustments under the following conditions:

- AC voltage and frequency: 230 V_{ac} / 50 Hz.
- Connect the set to the mains voltage via an isolation transformer with a low internal resistance.
- Allow the set to warm up for approximately 20 minutes.
- Measure the voltages and waveforms in relation to chassis ground (with the exception of the voltages on the primary side of the power supply). Never use the cooling fins / plates as ground.
- Test probe: Ri > 10 Mohm; Ci < 2.5 pF.
- Use an isolated trimmer / screwdriver to perform the alignments.

8.3 Hardware Alignments

There are no hardware alignments present in the set.

8.4 Software Alignments

8.4.1 Service Menu

The Service Menu consists of a large number of settings. You can activate and deactivate options, or change parameters that influence the quality of the displayed image. Activate and use the Service Menu as follows:

- Press the “Menu” button on the remote control: the screen will display the Customer Menu. At the same time the sound will go to a default level.
- Press “1147” on the remote control: the screen will now display the first item ‘000’ of the Service Menu (refer to the Table “Service Menu” below).
- Navigate with the “^” and “v” cursor buttons on the remote control, or directly key in the number of the parameter you want to change; increase a value with “>”, decrease with “<”.
- To leave the Service Menu, press the “TV” button.

Service Setting Nr.	Group	OSD Display String	Description	Default value
026		PV-SH-MV	Sharpness Movie Preset	2
027		PV-BR-SP	Brightness Sport Preset	31
028		PV-CL-SP	Colour Sport Preset	35
029		PV-CT-SP	Contrast Sport Preset	37
030		PV-SH-SP	Sharpness Sport Preset	2
031		PV-BR-WK	Brightness Weak Preset	20
032		PV-CL-WK	Colour Weak Preset	20
033		PV-CT-WK	Contrast Weak Preset	31
034		PV-SH-WK	Sharpness Weak Preset	1
035		PV-BR-GA	Brightness Game Preset	35
036		PV-CL-GA	Colour Game Preset	40
037		PV-CT-GA	Contrast Game Preset	38
038		PV-SH-GA	Sharpness Game Preset	3
039	Bit Control	ACL	Automatic Colour Limiting	0
040		MUS	NTSC Matrix	0
041		PWL	Peak white limiter control	1
042		PWLDAC	Peak white limiter	8
043		CB	Chroma bandpass centre frequency	0
044		BPS	Bypass chroma base-band	0
045		FCO	Forced Colour on	0
046	Video	PeakFreqPAL443	Peaking centre frequency for PAL 443	0
047		PeakFreqPALM	Peaking centre frequency for PAL M	0
048		PeakFreqPALN	Peaking centre frequency for PAL N	0
049		PeakFreqNTSC443	Peaking centre frequency for NTSC 443	0
050		PeakFreqNTSCM	Peaking centre frequency for NTSC M	0
051		PeakFreqSECAM	Peaking centre frequency for SECAM	0
052		PeakFreqAV	Peaking centre frequency for AV	0
053	Video options	Blackstretch	Black stretch	0
054		Bluestretch	Blue stretch	0
055		Whitestretch	White stretch	0
056	Video	PeakRatioOvShot	Set peaking ratio	0
057		Tint NTSC	Tint definition for NTSC	31
058	Bit Control	OSO	Switch off in vertical overscan	0
059		FSL	Forced slicing level for vertical overscan	0
060		HP2	Synchronisation of OSD / TXT display	0
061		SoftClipLevel	Soft Clipping Level	0
062	Sharpness	CORM0	Sharpness M0: Coring UOCIII	0
063		PeakingM0	Sharpness M0: Peaking UOCIII	13
064		PeakingFreq5M0	Sharpness M0: Peaking UOCIII	13
065		PeakingFreq6M0	Sharpness M0: Peaking UOCIII	13
066		TV H FilterM0	Lithium Horizontal Filter 0	
067		TV V FilterM0	Lithium Vertical Filter 0	
068		CORM1	Sharpness M1: Coring UOCIII	0
069		PeakingM1	Sharpness M1: Peaking UOCIII	13
070		PeakingFreq5M1	Sharpness M1: Peaking UOCIII	13
071		PeakingFreq6M1	Sharpness M1: Peaking UOCIII	13
072		TV H FilterM1	Lithium Horizontal Filter 1	
073		TV V FilterM1	Lithium Vertical Filter 1	
074		CORM2	Sharpness M2: Coring UOCIII	0
075		PeakingM2	Sharpness M2: Peaking UOCIII	13
076		PeakingFreq5M2	Sharpness M2: Peaking UOCIII	13
077		PeakingFreq6M2	Sharpness M2: Peaking UOCIII	13
078		TV H FilterM2	Lithium Horizontal Filter 2	
079		TV V FilterM2	Lithium Vertical Filter 2	
080		CORM3	Sharpness M3: Coring UOCIII	0
081		PeakingM3	Sharpness M3: Peaking UOCIII	13
082		PeakingFreq5M3	Sharpness M3: Peaking UOCIII	13
083		PeakingFreq6M3	Sharpness M3: Peaking UOCIII	13
084		TV H FilterM3	Lithium Horizontal Filter 3	
085		TV V FilterM3	Lithium Vertical Filter 3	
086		CORM4	Sharpness M0: Coring UOCIII	0
087		PeakingM4	Sharpness M0: Peaking UOCIII	13
088		PeakingFreq5M4	Sharpness M0: Peaking UOCIII	13
089		PeakingFreq6M4	Sharpness M0: Peaking UOCIII	13
090		TV H FilterM4	Lithium Horizontal Filter 4	
091		TV V FilterM4	Lithium Vertical Filter 4	
092		HD H FilterM0	Sharpness M0 for HD2: Lithium H filter	23
093		HD V FilterM0	Sharpness M0 for HD2: Lithium V filter	23
094		PC H FilterM0	Sharpness M0 for PC: Lithium H filter	23
095		PC V FilterM0	Sharpness M0 for PC: Lithium V filter	23
096		HD H FilterM1	Sharpness M1 for HD2: Lithium H filter	24
097		HD V FilterM1	Sharpness M1 for HD2: Lithium V filter	25
098		PC H FilterM1	Sharpness M1 for PC: Lithium H filter	24
099		PC V FilterM1	Sharpness M1 for PC: Lithium V filter	25

Service Setting Nr.	Group	OSD Display String	Description	Default value
100		HD H FilterM2	Sharpness M2 for HD2: Lithium H filter	25
101		HD V FilterM2	Sharpness M2 for HD2: Lithium V filter	26
102		PC H FilterM2	Sharpness M2 for PC: Lithium H filter	25
103		PC V FilterM2	Sharpness M2 for PC: Lithium V filter	26
104		HD H FilterM3	Sharpness M3 for HD2: Lithium H filter	25
105		HD V FilterM3	Sharpness M3 for HD2: Lithium V filter	28
106		PC H FilterM3	Sharpness M3 for PC: Lithium H filter	25
107		PC V FilterM3	Sharpness M3 for PC: Lithium V filter	28
108		HD H FilterM4	Sharpness M4 for HD2: Lithium H filter	25
109		HD V FilterM4	Sharpness M4 for HD2: Lithium V filter	30
110		PC H FilterM4	Sharpness M4 for PC: Lithium H filter	25
111		PC V FilterM4	Sharpness M4 for PC: Lithium V filter	25
112	Split contrast	CONFE	Audio configuration	2
113	Audio options	OP AUDIO CONFIG	Audio configuration	2
114		OP BILING	Bilingual mode	1
115		OP HP	Head phone option	1
116		OP EQUAL	Equalizer option	1
117		OP DOLBY	Dolby option	0
118		OP TRUSUR	SRS TruSurround option	0
119		OP DUB DBE	Bass Management option	0
120		OP BBE	BBE option	0
121		AUX3 Gain	AUX3 Volume	60
122		AVL-LEV	AVL Level	5
123		AVL-WGT	AVL weight	0
124		AVL-MOD	AVL decay time	5
125		AVLE	AVL on EW pin enabled	1
126		LOUD-NA	Loudness none attack level	5
127		LOUD-CH	MAIN loudness filter char.	1
128		BBE-CONT	BBE Contour value	7
129		BBE-PROC	BBE process value	7
130		OP CLIP	Clip management	0
131		DEC-LEV	Level scaling DEC	25
132		MONO-LEV	Level scaling Mono	25
133		NIC-LEV	Level scaling Nicam	25
134		ADC-AV-L	External AV level adjust	25
135		E2D	Selection audio output on AUDEEM pin	0
136		FFI	Fast Filter IF-PLL	0
137		TPWM	Audio Amplifier Gain Adjustment	248 *
138	Audio Preset	PA-BA-VO	Preset Audio Voice Bass	32
139		PA-TR-VO	Preset Audio Voice Treble	15
140		PA-LM-VO	Preset Audio Voice Listening Mode	1
141		PA-ST-VO	Preset Audio Voice Effect Strength	5
142		PA-LO-VO	Preset Audio Voice Loudness	0
143		PA-B1-VO	Preset Audio Voice Equalizer Band 1	20
144		PA-B2-VO	Preset Audio Voice Equalizer Band 2	40
145		PA-B3-VO	Preset Audio Voice Equalizer Band 3	50
146		PA-B4-VO	Preset Audio Voice Equalizer Band 4	40
147		PA-B5-VO	Preset Audio Voice Equalizer Band 5	20
148		PA-BA-MU	Preset Audio Music Bass	39
149		PA-TR-MU	Preset Audio Music Treble	39
150		PA-LM-MU	Preset Audio Music Listening Mode	1
151		PA-ST-MU	Preset Audio Music Effect Strength	5
152		PA-LO-MU	Preset Audio Music Loudness	0
153		PA-B1-MU	Preset Audio Music Equalizer Band 1	40
154		PA-B2-MU	Preset Audio Music Equalizer Band 2	50
155		PA-B3-MU	Preset Audio Music Equalizer Band 3	55
156		PA-B4-MU	Preset Audio Music Equalizer Band 4	60
157		PA-B5-MU	Preset Audio Music Equalizer Band 5	63
158		PA-BA-TH	Preset Audio Theatre Bass	34
159		PA-TR-TH	Preset Audio Theatre Treble	36
160		PA-LM-TH	Preset Audio Theatre Listening Mode	31
161		PA-ST-TH	Preset Audio Theatre Effect Strength	5
162		PA-LO-TH	Preset Audio Theatre Loudness	0
163		PA-B1-TH	Preset Audio Theatre Equalizer Band 1	30
164		PA-B2-TH	Preset Audio Theatre Equalizer Band 2	55
165		PA-B3-TH	Preset Audio Theatre Equalizer Band 3	63
166		PA-B4-TH	Preset Audio Theatre Equalizer Band 4	50
167		PA-B5-TH	Preset Audio Theatre Equalizer Band 5	40
168	Tuning	AGC Speed	IF AGC Speed	1
169		AGC Take over	AGC Take Over	30
170		OIF	Correction DC Offset in IF-PLL	32
171		IF	PLL demodulator frequency	2
172	Bit Control	GD	Group Delay Correction	1
173	Source Switching	BPB	1st sound bandpass filter bypass	1

Service Setting Nr.	Group	OSD Display String	Description	Default value
174		BPB2	2nd sound bandpass filter bypass	1
175		BPBS	Stereo sound bandpass filter bypass	1
176		AV2-IN	Enable (1) / Disable (0) AV-2 IN	0
177		AV2S-IN	Enable (1) / Disable AV-2 (0) IN (Side AV)	1
178		DVD-IN	Enable (1) / Disable (0)	0
179		HD-IN	HD input source available	1
180		PC-IN	PC input source available	1
181		AV1 OUT	AV1 out is used as monitor or always to FE	0
182		AutralianHD	Enable/disable Australian HD modes for HD	0
183	TeleText options	TXT-ON	TeleText on / off	1
184		TXT-SPLIT	Full screen / Split screen TeleText	0
185		TXT-H-POS	TeleText Single page start point	10
186		TXT-H-POSA	TeleText left Twin page start point	21
187		TXT-H-POSB	TeleText right Twin page start point	0
188	Timer options	TIM-REM	Enable reminder timer	1
189		TIM-SLP	Enable sleep timer	1
190		TIM-SW	Enable switch timer	1
191		TIM-OFF	Enable switch off timer	1
192		TIM-SKP	Enable skip timer	1
193		TIM-RT	Enable RTC	1
194	Power options	PWR-SAVING	Power saving mode	1
195		PWR-PERF	Startup performance	0
196		PWR-REST	Restore last state mode	1
197		PWR-ONKEY	Key selection for switch on	1
198	LOC I	Factory Mode	Enable factory mode	0
199	Video	YSECAM	Y-delay adjustment for SECAM	11
200		YNTSC	Y-delay adjustment for NTSC	0
201		YPAL	Y-delay adjustment for PAL	8
202		YAV1	Y-delay adjustment for AV1	8
203		YAV2	Y-delay adjustment for AV2	8
204		YSVHS2	Y-delay adjustment for SVHS2	10
205	Video options	CombFil	Enable Comb filter	1
206		BlueBlackNoMute	Enable mute mode	0
207	Installation option	ACI	Enable ACI	1
208		ATS	Enable ATS	1
209	Colour alignment	CL	Cathode drive level	0
210		PGR	Red gain	119
211		PGG	Green gain	119
212		PGB	Blue gain	119
213	Scaler control	BL	Backlight Enable	32
214		BL PWMMin	Backlight PWM Control Minimal value	50
215		BL PWMMax	Backlight PWM Control Maximal value	255
216		BL PWMFreq	Backlight PWM Control Frequency value	240
217		GAMMA	Gamma control	32
218		BRIFE	Brightness control for FE	32
219		SATFE	Saturation control for FE	23
220		PANEL	LCD Panel type	0
221		LPG	UOCIII LPG bit	1
222		EGL	UOCIII EGL bit	0
223		RBL	UOCIII RBL bit	0
224		AutoLevel	Automatic level adjustment without BW	0
225		AutoLvINoOSD	OSD page	0
226		InitPanelNVM	Initializes Panel data in the scaler NVM	0
227		PHAADHD	Phase Adjust for 50 Hz	0
228		CLKADJHD	Clock Adjust for 50 Hz	128
229		HPOSHD	Hor. Position for 60 Hz	128
230		HLENHD	Hor. Length for 50 Hz	128
231		VPOSHD	Vert. Position for 50 Hz	128
232		VLENHD	Vert. Length for 50 Hz	128
233		PHAADJ50	Phase Adjust for 50 Hz	0
234		CLKADJ50	Clock Adjust for 50 Hz	128
235		HPOS50	Hor. Position for 60 Hz	128
236		HLEN50	Hor. Length for 50 Hz	128
237		VPOS50	Vert. Position for 50 Hz	32
238		VLEN50	Vert. Length for 50 Hz	128
245		AutoWhiteBal	Auto White Balance for all sources	0
246		SACR	ADC Clamp Red	22
247		SACG	ADC Clamp Green	22
248		SACB	ADC Clamp Blue	22
249		SAGR	ADC Gain Red	13
250		SAGG	ADC Gain Green	13
251		SAGB	ADC Gain Blue	13
252		PC SACR	ADC Clamp Red	19
253		PC SACG	ADC Clamp Green	19

Service Setting Nr.	Group	OSD Display String	Description	Default value
254		PC SACB	ADC Clamp Blue	19
255		PC SAGR	ADC Gain Red	22
256		PC SAGG	ADC Gain Green	22
257		PC SAGB	ADC Gain Blue	22
258		HD SACR	ADC Clamp Red	150
259		HD SAGC	ADC Clamp Green	18
260		HD SACB	ADC Clamp Blue	150
261		HD SAGR	ADC Gain Red	25
262		HD SAGG	ADC Gain Green	25
263		HD SAGB	ADC Gain Blue	25
264		BrightestR	Returns Darkest Red value by Sedna	101
265		BrightestG	Returns Darkest Green value by Sedna	116
266		BrightestB	Returns Darkest Blue value by Sedna	115
267		DarkestR	Returns Brightest Red value by Sedna	115
268		DarkestG	Returns Brightest Green value by Sedna	9
269		DarkestB	Returns Brightest Blue value by Sedna	23
270		Test Picture	Test picture to check scaler	0
271	Wel.	Welcome	Enable / Disable Welcome menu (best way to leave this test is with the	0
272	Size	Size	SW switching between 15" & 20"	0
273	Cabinet	Cabinet	Shape of the cabinet	0

Note:

* (Nr. 137) If R602 and R603 are 6k2, and V610 and C611 are 4k7, the item value has to be 238; if R602 and R603 are 18k, and V610 and C611 are 1k, the item value has to be 246.

9. Circuit Descriptions, Abbreviation List, and IC Data Sheets

Index of this chapter:

- 9.1 Introduction
- 9.2 Basic Hardware Descriptions
 - 9.3 Block Diagrams
 - 9.3.1 Main Block Diagram
- 9.4 Abbreviation List
- 9.5 IC Data Sheets
 - 9.5.1 UOCIII (Ultimate-One-Chip), TDA15521E/N1F80 (U500)
 - 9.5.3 Audio Amplifier, TDA7057 (U600)
 - 9.5.4 LVDS Receiver, DS90CF386 (U900)

9.1 Introduction

The "TEH1.0E LA" chassis is an LCD TV chassis, only marketed in Turkey, that is used for TV sets with a 20 inch diameter and an aspect ratio of 4 : 3.

9.2 Basic Hardware Descriptions

No information available.

9.3 Block Diagrams

9.3.1 Main Block Diagram

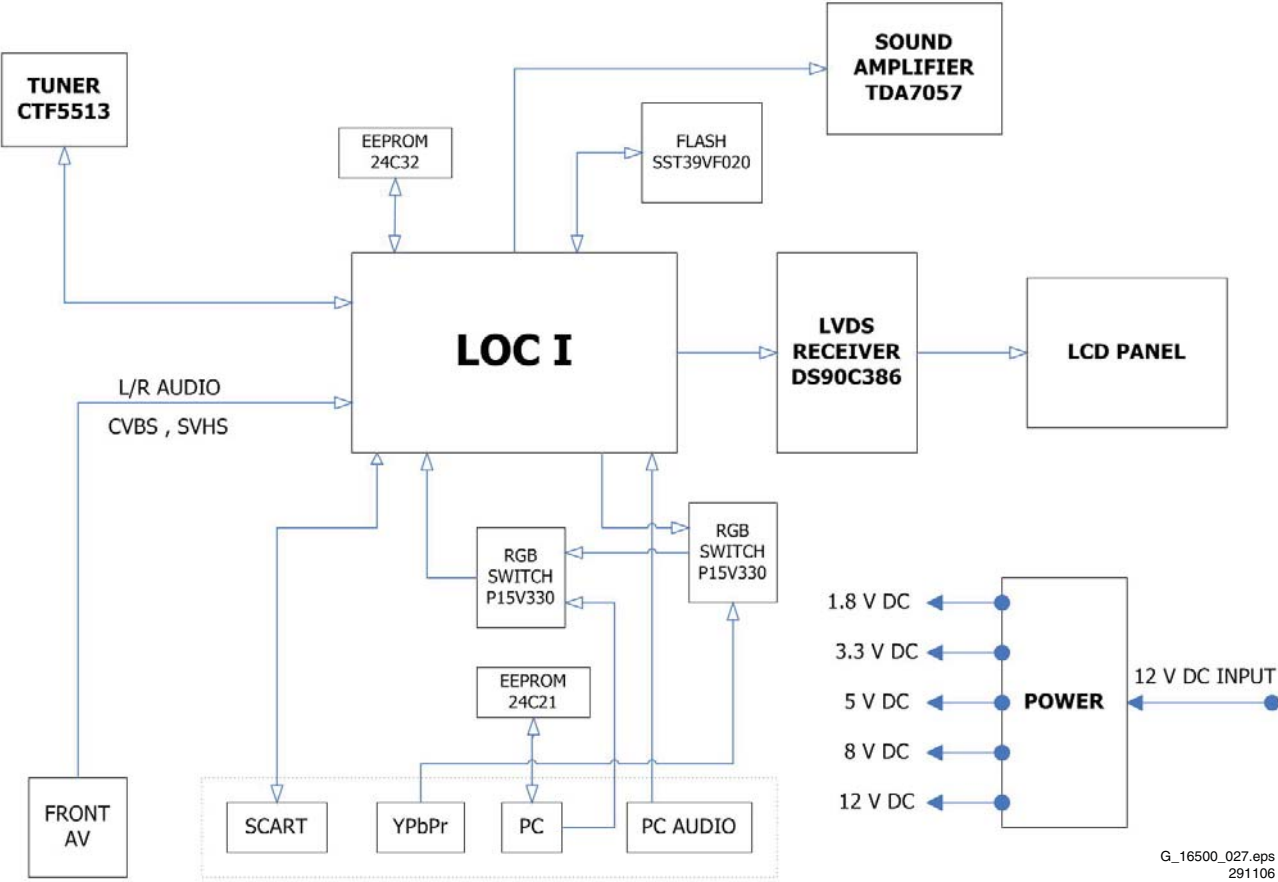


Figure 9-1 Main block diagram

9.4 Abbreviation List

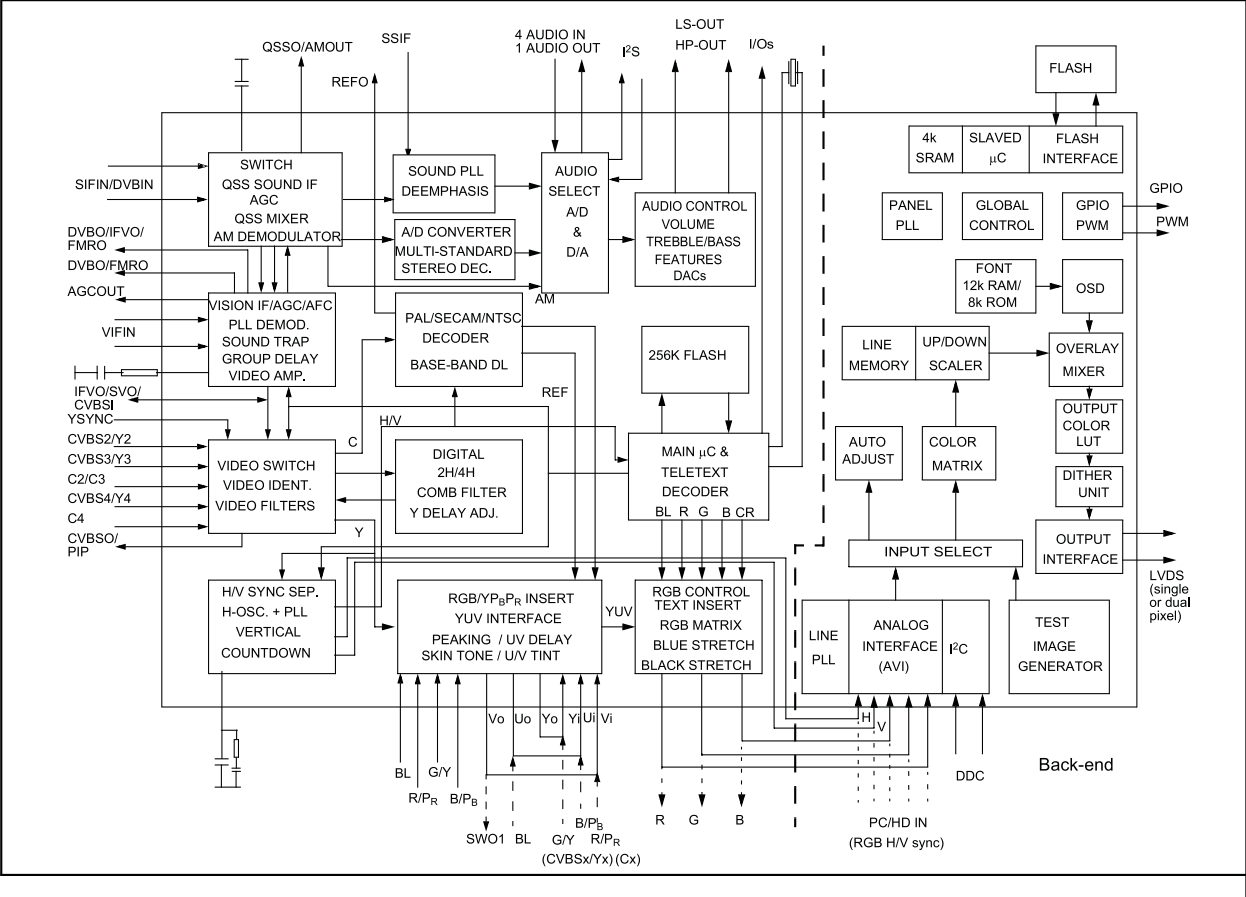
		OSD	On Screen Display
		PAL	Phase Alternate Line. Colour system used mainly in Western Europe (PAL = 4.43361875 MHz) and South America. (PAL M = 3.57561175 MHz; PAL N = 3.58205625 MHz).
2CS	2 Carrier Sound. Analog stereo sound system used, e.g., in Germany.		
4.43	NTSC 4.43; Sound carrier is on 5.5 MHz.		
A/V	Audio / Video. Video is CVBS.	PB	Play Back. Some colour systems cannot be received on air. The sound carrier is on a different frequency.
ADC	Analogue to digital converter		However via External (PB) the sound is offered in base-band, so via Ext. the picture and sound are O.K.
ADE	Scaler chip manufacturer		
AFC	Automatic Frequency Control.		
AGC	Automatic Gain Control: algorithm that controls the video input of the feature box	PCB	Printed Circuit board
		PFC	Power Factor Correction
AM	Amplitude Modulation.	PLL	Phase Locked Loop. Used for e.g. FST tuning systems. The customer can give directly the desired frequency.
B/G	Monochrome TV system. Sound carrier = 5.5 MHz. Also system H (Belgium) is included.		
Black Stretch	The lowest value of the video signal is measured during the scanning time. The black stretch shifts this level to the nominal black level within limits.	QSS	Quasi Split Sound. Sound IF application used for stereo sound.
		RAM	Random Access Memory
BLR	Board Level Repair	RC	Remote Control handset
BTSC	Broadcast Television Systems Committee. Multiplex FM stereo sound system. Originating from USA and used, e.g., in LATAM and AP-NTSC countries.	RC5	Remote Control code standard.
		RGB	Red, Green, and Blue video signals
		ROM	Read Only Memory
		S/C	Short Circuit
CLR	Component Level Repair	Scart	Peri television interconnection 42-pin or 21-pin euro connector
CVBS	Composite Video Blanking and Synchronization	SCL	Serial Clock
		SECAM	Colour system used e.g. in France.
CVI	Component Video Input		Colour carriers: F0R = 4.40625 MHz; F0B = 4.25000 MHz
D/K	Monochrome TV system. Sound carrier = 6.5 MHz.	SIF	Sound Intermediate Frequency
		SRGB	A Standard RGB (Red Green Blue) colour space, created by Hewlett-Packard and MicroSoft.
DAC	Digital to analogue converter		
EEPROM	Electrically Erasable and Programmable Read Only Memory	TBF	To Be Fixed.
EW	East West, related to horizontal deflection of the set	Tint	By the user selectable white tones for different colour temperatures.
EXT	External (source), entering the set via SCART or Cinch. Can either be Ext.1 or Ext.3	TXT	Teletext.
		UOC	Ultimate-One-Chip; all important functions in one package.
FM	Frequency Modulation.		
Gld-Scart	Golden Scart; a Scart connector, slightly adapted for HD-MAC signals.	uP	Microprocessor.
		XTAL	Quartz crystal.
HD-MAC	Early European broadcasting standard for high-definition television, proposed in the late sixties and abandoned in 1993.	YC	Luminance (Y) and Chrominance (C) signal.
I	Monochrome TV system. Sound carrier = 6.0 MHz.		
I2C	Integrated IC bus		
I.F.	Intermediate Frequency		
LED	Light Emitting Diode.		
L/L'	Monochrome TV system, Sound carrier = 6.5 MHz (France), L' is Band I, L is all bands except for Band I		
LS	Loudspeaker		
M/N	Monochrome TV system. Sound carrier = 4.5 MHz.		
MCU	Main Control Unit		
NC	Not Connected		
NICAM	Near Instantaneous Compounded Audio Multiplexing. This is a digital sound system, mainly used in Europe.		
NTSC	National Television Standard Committee. Colour system mainly used in North America and Japan. Colour carrier NTSC M/N = 3.579545 MHz, NTSC 4.43 = 4.433619 MHz (this is a VCR norm, it is not transmitted off-air)		
NVM	Non Volatile Memory: IC containing TV related data e.g. alignments		
OC	Open Circuit		

9.5 IC Data Sheets

This section shows the internal block diagrams and pin layouts of ICs that are drawn as "black boxes" in the electrical diagrams (with the exception of "memory" and "logic" ICs).

9.5.1 UOCIII (Ultimate-One-Chip), TDA15521E/N1F80 (U500)

Block Diagram



Pin Configuration

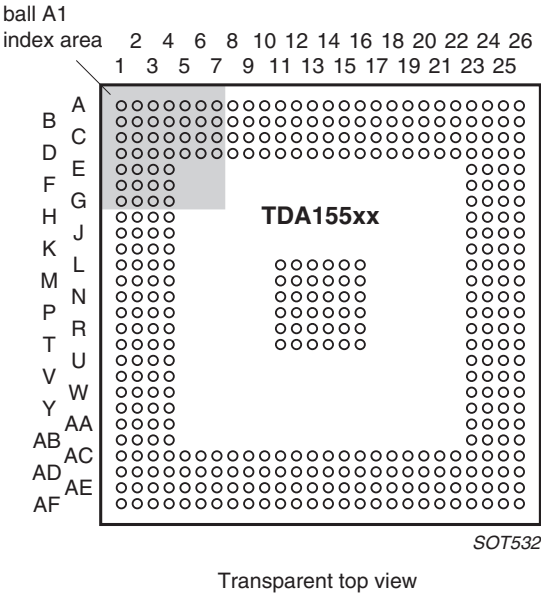
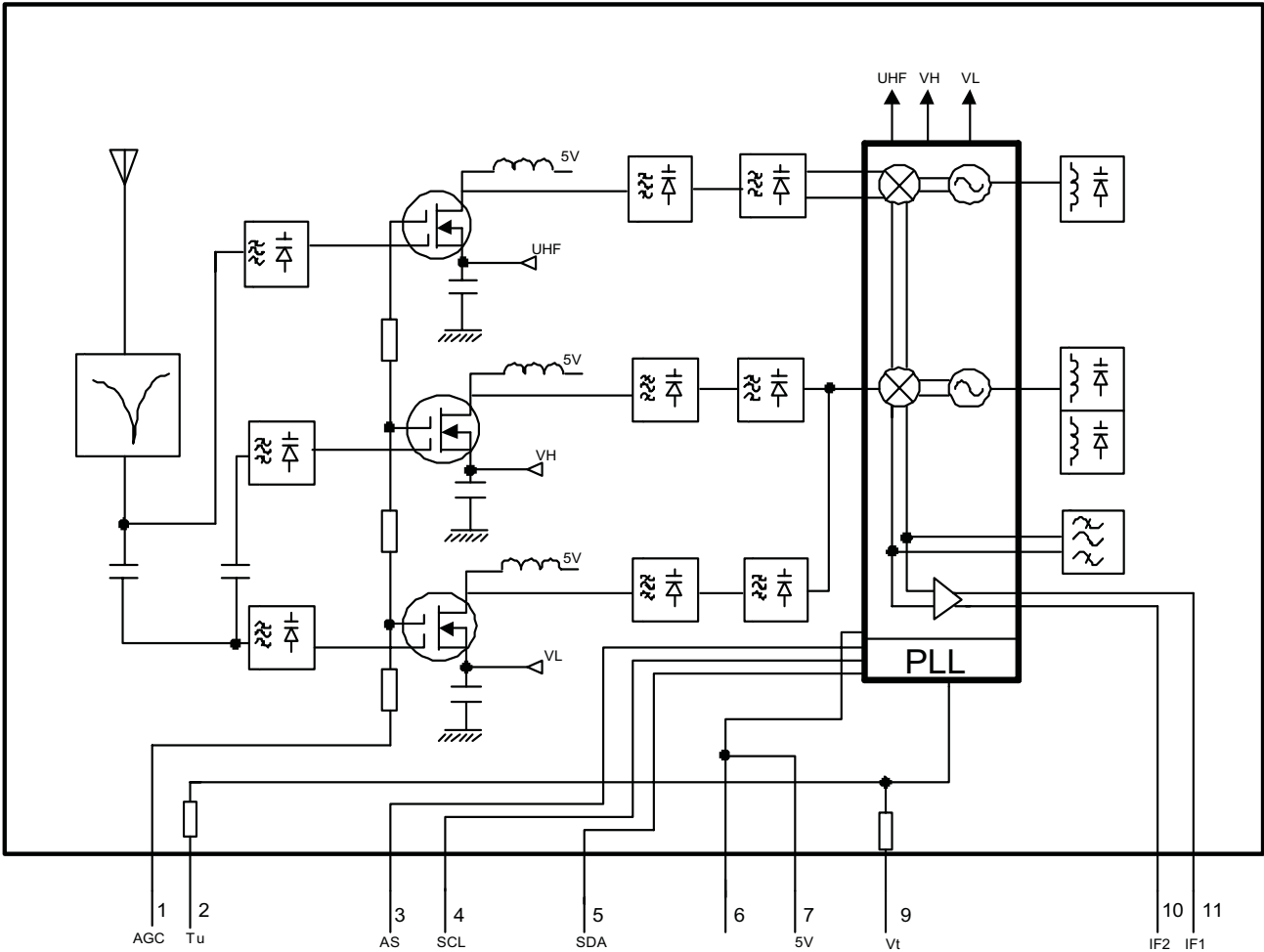


Figure 9-2 Internal block diagram and pin configuration of the UOCIII (Ultimate-One-Chip)

9.5.2 Main Tuner, CTF5513A (TUN1)

Block Diagram



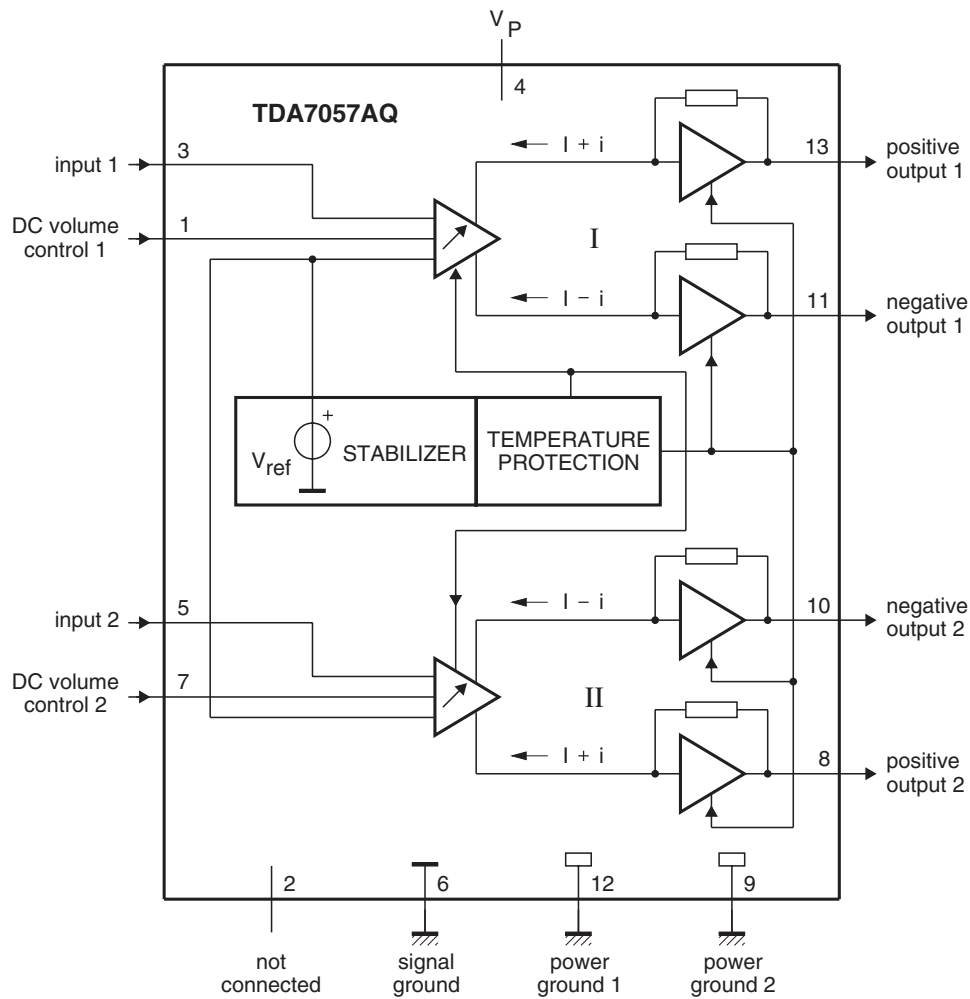
Pin Configuration

Pin	Symbol	Description
1	AGC	Automatic gain control
2	TU	For production process usage
3	AS	Tuner Address Select
4	SCL	I2C serial clock
5	SDA	I2C serial data
6	UB	5V supply voltage
7	5V	Internal connection to pin 6
8	N.C.	-
9	Vt	Tuning voltage (+32V)
10	IF2	IF output (balanced)
11	IF1	IF output (balanced)

Figure 9-3 Internal block diagram and pin configuration of the main tuner

9.5.3 Audio Amplifier, TDA7057 (U600)

BLOCK DIAGRAM



PINNING

SYMBOL	PIN	DESCRIPTION
VC1	1	DC volume control 1
n.c.	2	not connected
$V_{I(1)}$	3	voltage input 1
V_P	4	positive supply voltage
$V_{I(2)}$	5	voltage input 2
SGND	6	signal ground
VC2	7	DC volume control 2
OUT2+	8	positive output 2
PGND2	9	power ground 2
OUT2-	10	negative output 2
OUT1-	11	negative output 1
PGND1	12	power ground 1
OUT1+	13	positive output 1

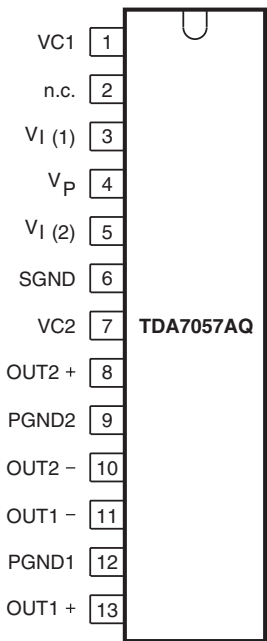


Figure 9-4 Internal block diagram and pin configuration of the audio amplifier

9.5.4 LVDS Receiver, DS90CF386 (U900)

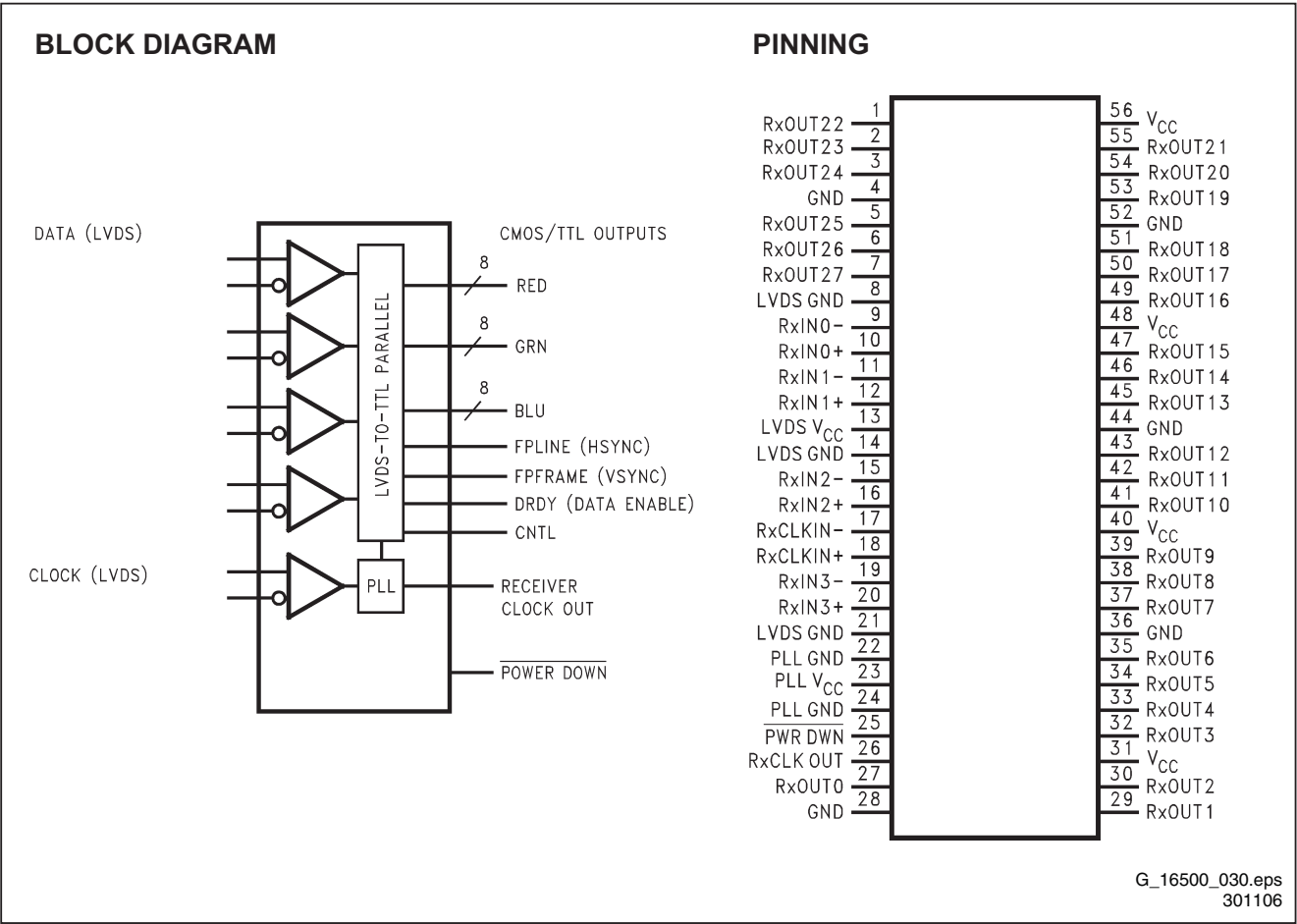


Figure 9-5 Internal block diagram and pin configuration of the LVDS Receiver

9.5.5 Quad 2-channel Multiplexer / De-Multiplexer, PI5V330S (U305)

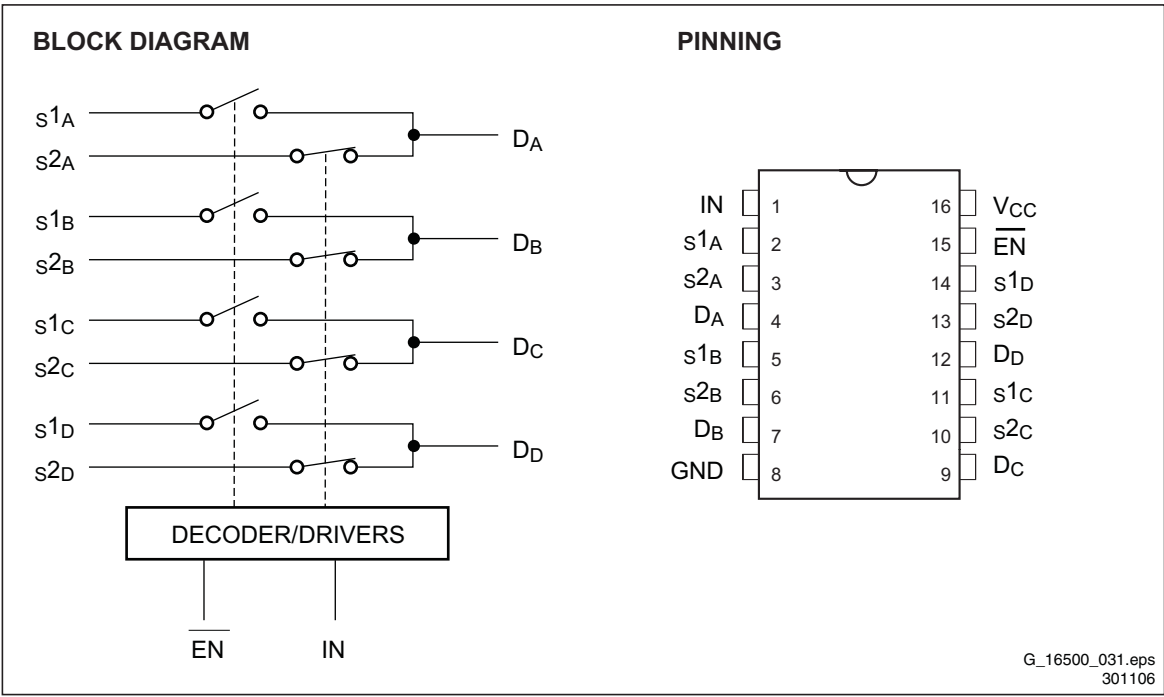
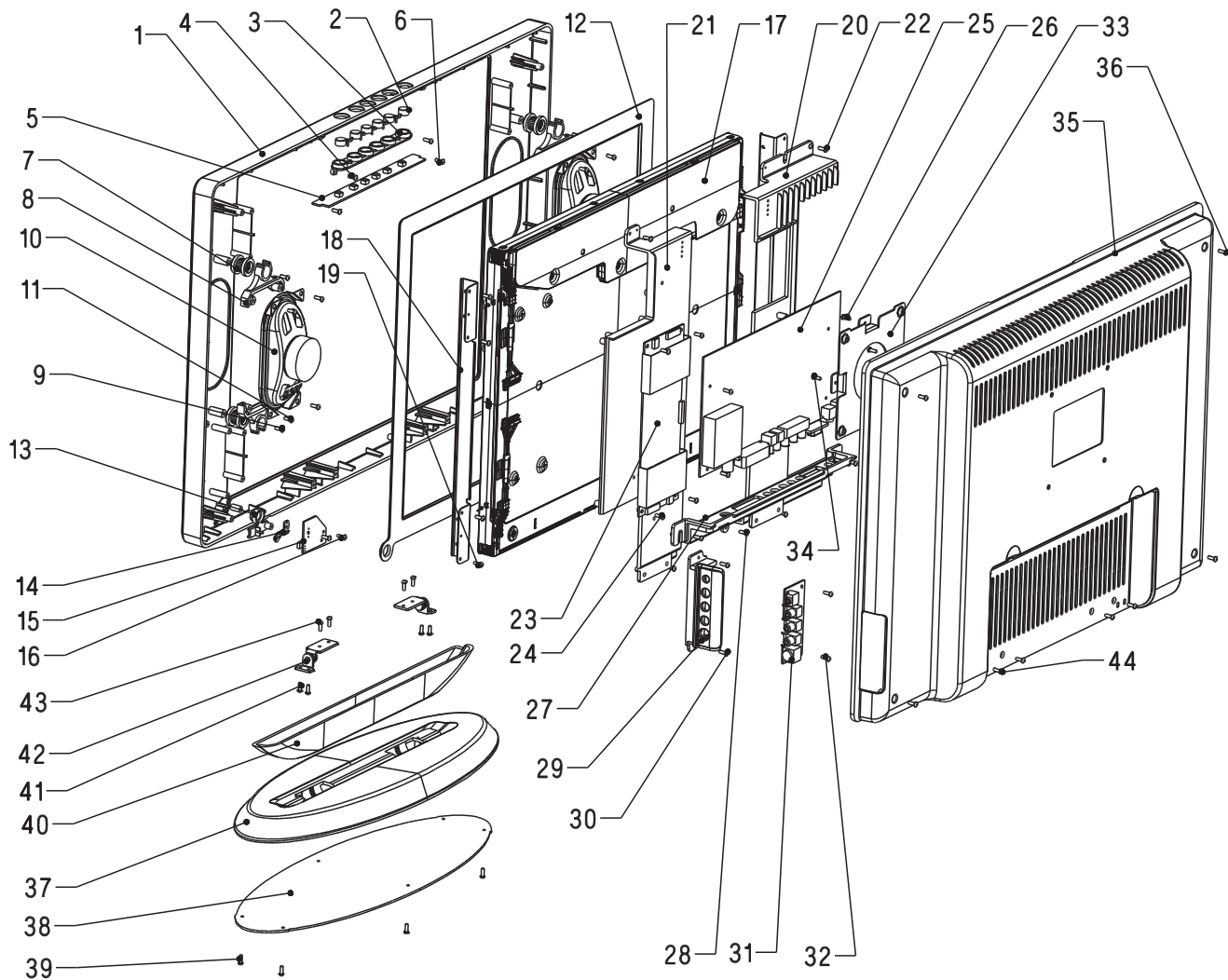


Figure 9-6 Internal block diagram and pin configuration of the Quad 2-channel multiplexer / de-multiplexer

10. Spare Parts List

10.1 Exploded View



1	CABINET	12	20 SHUTTER	23	INVERTER PCB	34	SCREW 2.9X9.5
2	MULTI BUTTON	13	STAND BY BUTTON	24	SCREW 2.9X9.5	35	BACK COVER
3	RING	14	WINDOW	25	MAIN PCB	36	SCREW 2.9X9.5
4	SCREW 2.9X9.5	15	REMOTE PCB	26	SCREW 2.9X9.5	37	STAND
5	MULTI BUTTON PCB	16	SCREW 2.9X9.5	27	SOCKET HOLDER	38	SHEET METAL
6	SCREW 2.9X9.5	17	20 LCD PANEL	28	SCREW 2.9X9.5	39	SCREW 2.9X9.5
7	SPEAKER RUBBER	18	20 LCD PANEL HOLDER	29	AV HOLDER	40	NECK
8	SPEAKER HOLDER	19	SCREW 2.9X9.5	30	SCREW 2.9X9.5	41	SCREW 2.9X9.5
9	SCREW 3.9X9.5	20	MAIN HOLDER RIGHT	31	AV PCB	42	FOOT
10	SPEAKER	21	MAIN HOLDER LEFT	32	SCREW 2.9X9.5	43	SCREW 2.9X9.5
11	SCREW 3.9X9.5	22	SCREW 2.9X9.5	33	VESA METAL	44	SCREW 3.9X25

G_16500_026.eps
011206

Figure 10-1 Exploded view

10.2 Spare Parts List

Note:

Position numbers between x001 and x099 indicate parts on the small extension board of the Main Board; position numbers between x001 and x199 indicate parts on 'periferal' boards like the Side A/V board, Top Control Board, etc.; position numbers above x200 indicate parts on the Main Board.

TELRA NO	TELRA DESCRIPTION	POS
002021100440	CABLE TOPR.TERMINALLI 20CM	
002032000421	CABLE 5P*2SKT.35CM 2MM	S208
002032000421	CABLE 5P*2SKT.35CM 2MM	S602
002039502080	CABLE 2PX1SKT 25CM 2MM RED MIN	S603
002039502090	CABLE 2PX1SKT 25CM 2MM BLCK MN	S601
002069506471	CABLE 2P*1SKT.35CM 2MM	S206
002099902341	CABLE 9P*2SKT 35CM SHIL.1.25MM	S203
002122100111	CABLE 12P*2SKT 15CM 2MM MINI	
002163018680	CABLE FFC 50X-300-05	
002720517120	CABLE 16*0.18 GND.EMC 12CM	K002
002720517150	CABLE 16*0.18 GND. 35CM	SK01
005101008200	PAINTED FRAME 20' C.FULL PHLPS GLO	BCER
005102000770	PAINTED CHROME BUTTON S.BY 20' C.FULL PH	
005207000790	PAINTED CHROME MULTI BUTTON 15-20CFULL PH	
005415025680	BACK COVER LABEL POLYE.82X263PH FTV	
005415056691	BACK COVER LABEL 20 LCD SHARP LOC1 SILVER	
013466066250	LOGO PHILIPS PIMLI 44X 9 MM	
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R254
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R255
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R256
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R302
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R303
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R304
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R305
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R307
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R406
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R516
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R517
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R518
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R730
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R801
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R803
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R843
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R845
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R864
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R906
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R231
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R232
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R355
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R357
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R233
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R229
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R917
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030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R231
030010600061	RESISTOR C.F 0R 1/10W 5% 0603	R855
030010610061	RESISTOR C.F 10R 1/10W 5% 0603	R300
030010610061	RESISTOR C.F 10R 1/10W 5% 0603	R301
030010610061	RESISTOR C.F 10R 1/10W 5% 0603	R500
030010610061	RESISTOR C.F 10R 1/10W 5% 0603	R501
030010610061	RESISTOR C.F 10R 1/10W 5% 0603	R502
030010610061	RESISTOR C.F 10R 1/10W 5% 0603	R849
030010610061	RESISTOR C.F 10R 1/10W 5% 0603	R854
030010610061	RESISTOR C.F 10R 1/10W 5% 0603	R856
030010610161	RESISTOR C.F 100R 1/10W5% 0603	R124
030010610161	RESISTOR C.F 100R 1/10W5% 0603	R101
030010610161	RESISTOR C.F 100R 1/10W5% 0603	R104
030010610161	RESISTOR C.F 100R 1/10W5% 0603	R106

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030010610161	RESISTOR C.F 100R 1/10W5% 0603	R334
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030010610461	RESISTOR C.F 100K 1/10W5% 0603	R804
030010611461	RESISTOR C.F 1K 1/10W1% 0603	R626
030010611461	RESISTOR C.F 1K 1/10W1% 0603	R814
030010612001	RES.ARRAY C.F 120R 1/10W5%0603	R907
030010612001	RES.ARRAY C.F 120R 1/10W5%0603	R908
030010612001	RES.ARRAY C.F 120R 1/10W5%0603	R909
030010612001	RES.ARRAY C.F 120R 1/10W5%0603	R910
030010612001	RES.ARRAY C.F 120R 1/10W5%0603	R911
030010612001	RES.ARRAY C.F 120R 1/10W5%0603	R912
030010612161	RESISTOR C.F 120R 1/10W5% 0603	R216
030010612161	RESISTOR C.F 120R 1/10W5% 0603	R217
030010612161	RESISTOR C.F 120R 1/10W5% 0603	R218
030010612261	RESISTOR C.F 1.2K 1/10W5% 0603	R848
030010612261	RESISTOR C.F 1.2K 1/10W5% 0603	R237
030010612361	RESISTOR C.F 12K 1/10W 5% 0603	R519
030010612361	RESISTOR C.F 12K 1/10W 5% 0603	R862
030010612361	RESISTOR C.F 12K 1/10W 5% 0603	C601
030010615161	RESISTOR C.F 150R 1/10W5% 0603	R116
030010615361	RESISTOR C.F 15K 1/10W 5% 0603	R323
030010615361	RESISTOR C.F 15K 1/10W 5% 0603	R324
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030010615361	RESISTOR C.F 15K 1/10W 5% 0603	R629
030010615361	RESISTOR C.F 15K 1/10W 5% 0603	R859
030010615361	RESISTOR C.F 15K 1/10W 5% 0603	R900
030010615361	RESISTOR C.F 15K 1/10W 5% 0603	R901
030010618161	RESISTOR C.F 180R 1/10W5% 0603	R117
030010618361	RESISTOR C.F 18K 1/10W5% 0603	R637
030010618361	RESISTOR C.F 18K 1/10W5% 0603	R602
030010618361	RESISTOR C.F 18K 1/10W5% 0603	R603
030010622261	RESISTOR C.F 22R 1/10W5% 0603	R636
030010622261	RESISTOR C.F 22R 1/10W5% 0603	R738
030010622261	RESISTOR C.F 22R 1/10W5% 0603	R802
030010624161	RESISTOR C.F 240R 1/10W5% 0603	R118
030010627161	RESISTOR C.F 270R 1/10W5% 0603	R600
030010627161	RESISTOR C.F 270R 1/10W5% 0603	R601
030010627161	RESISTOR C.F 270R 1/10W5% 0603	R921
030010627261	RESISTOR C.F 2.7K 1/10W5% 0603	R633
030010627361	RESISTOR C.F 27K 1/10W 5% 0603	R733
030010627361	RESISTOR C.F 27K 1/10W 5% 0603	R734
030010627361	RESISTOR C.F 27K 1/10W 5% 0603	R860
030010633161	RESISTOR C.F 330R 1/10W5% 0603	R119
030010633161	RESISTOR C.F 330R 1/10W5% 0603	R004
030010633261	RESISTOR C.F 3.3K 1/10W5% 0603	R339
030010633261	RESISTOR C.F 3.3K 1/10W5% 0603	R340
030010633261	RESISTOR C.F 3.3K 1/10W5% 0603	R404
030010633261	RESISTOR C.F 3.3K 1/10W5% 0603	R405
030010633261	RESISTOR C.F 3.3K 1/10W5% 0603	R700
030010633261	RESISTOR C.F 3.3K 1/10W5% 0603	R701
030010633361	RESISTOR C.F 33K 1/10W5%0603SF	R739
030010639161	RESISTOR C.F 390R 1/10W5% 0603	R870
030010647061	RESISTOR C.F 47R 1/10W5% 0603	R742
030010647061	RESISTOR C.F 47R 1/10W5% 0603	R923
030010647061	RESISTOR C.F 47R 1/10W5% 0603	R925
030010647061	RESISTOR C.F 47R 1/10W5% 0603	R913

TELRA NO	TELRA DESCRIPTION	POS
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030010647261	RESISTOR C.F 4.7K 1/10W5% 0603	R201
030010647261	RESISTOR C.F 4.7K 1/10W5% 0603	R203
030010647261	RESISTOR C.F 4.7K 1/10W5% 0603	R209
030010647261	RESISTOR C.F 4.7K 1/10W5% 0603	R222
030010647261	RESISTOR C.F 4.7K 1/10W5% 0603	R242
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030010647261	RESISTOR C.F 4.7K 1/10W5% 0603	R236
030010647261	RESISTOR C.F 4.7K 1/10W5% 0603	R858
030010647261	RESISTOR C.F 4.7K 1/10W5% 0603	R238
030010662261	RESISTOR C.F 6.2K 1/10W5% 0603	R741
030010662261	RESISTOR C.F 6.2K 1/10W5% 0603	R737
030010668161	RESISTOR C.F 680R 1/10W5% 0603	R866
030010668261	RESISTOR C.F 6.8K 1/10W5% 0603	R645
030010668261	RESISTOR C.F 6.8K 1/10W5% 0603	R735
030010668261	RESISTOR C.F 6.8K 1/10W5% 0603	R736
030010668261	RESISTOR C.F 6.8K 1/10W5% 0603	R740
030010675061	RESISTOR C.F 75R 1/10W5% 0603	R110
030010675061	RESISTOR C.F 75R 1/10W5% 0603	R111
030010675061	RESISTOR C.F 75R 1/10W5% 0603	R115
030010682261	RESISTOR C.F 8.2K 1/10W5% 0603	R630
030010682261	RESISTOR C.F 8.2K 1/10W5% 0603	R743
030010682261	RESISTOR C.F 8.2K 1/10W5% 0603	R231
030010682361	RESISTOR C.F 82K 1/10W 5% 0603	R513
030011610261	RESISTOR C.F 75R 1/10W1% 0603	R108
030011610261	RESISTOR C.F 75R 1/10W1% 0603	R219
030011610261	RESISTOR C.F 75R 1/10W1% 0603	R220
030011610261	RESISTOR C.F 75R 1/10W1% 0603	R221
030011610261	RESISTOR C.F 75R 1/10W1% 0603	R246
030011610261	RESISTOR C.F 75R 1/10W1% 0603	R247
030011610261	RESISTOR C.F 75R 1/10W1% 0603	R248
030011610261	RESISTOR C.F 75R 1/10W1% 0603	R308
030011610261	RESISTOR C.F 75R 1/10W1% 0603	R309
030011610261	RESISTOR C.F 75R 1/10W1% 0603	R310
030011610261	RESISTOR C.F 75R 1/10W1% 0603	R311
030011610261	RESISTOR C.F 75R 1/10W1% 0603	R312
030011610261	RESISTOR C.F 75R 1/10W1% 0603	R609
030011610261	RESISTOR C.F 75R 1/10W1% 0603	R610
030011610261	RESISTOR C.F 75R 1/10W1% 0603	R611
030011610261	RESISTOR C.F 75R 1/10W1% 0603	R612
030011610261	RESISTOR C.F 75R 1/10W1% 0603	R613
030011610261	RESISTOR C.F 75R 1/10W1% 0603	R614
030011622161	RESISTOR C.F 220R 1/10W5% 0603	R335
030011622161	RESISTOR C.F 220R 1/10W5% 0603	R336
030011622161	RESISTOR C.F 220R 1/10W5% 0603	R857
030011622261	RESISTOR C.F 2.2K 1/10W5% 0603	R121
030011622261	RESISTOR C.F 2.2K 1/10W5% 0603	R528
030011622261	RESISTOR C.F 2.2K 1/10W5% 0603	R529
030011622261	RESISTOR C.F 2.2K 1/10W5% 0603	R236
030011622261	RESISTOR C.F 2.2K 1/10W5% 0603	R236
030011622271	RESISTOR C.F 2.2K 1/10W1% 0603	R869
030011639361	RESISTOR C.F 39K 1/10W5% 0603	R868
030011647361	RESISTOR C.F 47K 1/10W 5% 0603	R337
030011647361	RESISTOR C.F 47K 1/10W 5% 0603	R338
030011647361	RESISTOR C.F 47K 1/10W 5% 0603	R865
030020615161	RESISTOR C.F 15R 1/10W 5% 0603	R001
030020622911	RESISTOR C.F 2.2R 1/4W 5%	R747
030020622911	RESISTOR C.F 2.2R 1/4W 5%	R748
030020622911	RESISTOR C.F 2.2R 1/4W 5%	R749
030020622911	RESISTOR C.F 2.2R 1/4W 5%	R750
030020633031	RESISTOR C.F 33R 1/4W 5%	R112

TELRA NO	TELRA DESCRIPTION	POS
030020633031	RESISTOR C.F 33R 1/4W 5%	R113
030020647161	RESISTOR C.F 47R 1/10W 1% 0603	R240
030020647161	RESISTOR C.F 47R 1/10W 1% 0603	R241
030020647161	RESISTOR C.F 47R 1/10W 1% 0603	R503
030020647161	RESISTOR C.F 47R 1/10W 1% 0603	R504
030020647161	RESISTOR C.F 47R 1/10W 1% 0603	R505
030140668321	RES.ARRAY C.F 68R 1/10W5% 0603	R916
030140668321	RES.ARRAY C.F 68R 1/10W5% 0603	R918
030140668321	RES.ARRAY C.F 68R 1/10W5% 0603	R919
036016010071	FERRIT RING U5 T 31X7X19	
036016010071	FERRIT RING U5 T 31X7X19	
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L109
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L110
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L200
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L201
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L300
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L301
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L302
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L303
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L402
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L500
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L501
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L502
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L503
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L504
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L505
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L506
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L507
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L508
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L509
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L700
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L800
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L801
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L802
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L803
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L804
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L805
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L806
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L807
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L808
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L809
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L810
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L811
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L812
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L813
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L814
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L815
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L816
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L817
036070204111	FERRIT BEAD LI0805H151R-00 SMD	R331
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L600
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L601
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L602
036070204111	FERRIT BEAD LI0805H151R-00 SMD	L603
037730007771	FILTER SAW K9453M B/GD/KL/L'AU	F801
037730007801	FILTER SAW K3953M B/G L/L' VID	F800
040030042261	CAP CER 27PF 50V 5% COG 0603	C306
040030042261	CAP CER 27PF 50V 5% COG 0603	C307
040030044711	CAP CER 1MF 16V 5% Y5V 0805	C311
040030044711	CAP CER 1MF 16V 5% Y5V 0805	C312
040030044711	CAP CER 1MF 16V 5% Y5V 0805	C313
040030044711	CAP CER 1MF 16V 5% Y5V 0805	C314
040033100101	CAP ESR 100MF 10V SMD	C419
040033100101	CAP ESR 100MF 10V SMD	C424
040033100101	CAP ESR 100MF 10V SMD	C847
040033100101	CAP ESR 100MF 10V SMD	C848
040033100101	CAP ESR 100MF 10V SMD	C849
040033100101	CAP ESR 100MF 10V SMD	C850
040033100101	CAP ESR 100MF 10V SMD	C851
040033100101	CAP ESR 100MF 10V SMD	C852
040033100101	CAP ESR 100MF 10V SMD	C854
040034042761	CAP CER 270PF 50V 5% COG 0603	C214
040034042761	CAP CER 270PF 50V 5% COG 0603	C215
040034042761	CAP CER 270PF 50V 5% COG 0603	C216

TELRA NO	TELRA DESCRIPTION	POS
040040042261	CAP CER 22NF 50V 20% Z5U 0603	C538
040043041861	CAP CER 18PF 50V 5% COG 0603	C308
040043041861	CAP CER 18PF 50V 5% COG 0603	C309
040043041861	CAP CER 18PF 50V 5% COG 0603	C310
040043447261	CAP CER 4.7NF 50V 10% X7R 0603	C716
040043447261	CAP CER 4.7NF 50V 10% X7R 0603	C717
040043447261	CAP CER 4.7NF 50V 10% X7R 0603	C718
040044081861	CAP CER 470NF 16V 10% X7R 0603	C801
040044081861	CAP CER 470NF 16V 10% X7R 0603	C891
040044081861	CAP CER 470NF 16V 10% X7R 0603	C892
040044081861	CAP CER 470NF 16V 10% X7R 0603	C893
040044081861	CAP CER 470NF 16V 10% X7R 0603	C894
040044081861	CAP CER 470NF 16V 10% X7R 0603	C897
040044081861	CAP CER 470NF 16V 10% X7R 0603	C898
040044081861	CAP CER 470NF 16V 10% X7R 0603	C904
040052047661	CAP CER 47PF 50V 5% COG 0603	C100
040052047661	CAP CER 47PF 50V 5% COG 0603	C101
040052047661	CAP CER 47PF 50V 5% COG 0603	C613
040052047661	CAP CER 47PF 50V 5% COG 0603	C862
040052047661	CAP CER 47PF 50V 5% COG 0603	C863
040052047661	CAP CER 47PF 50V 5% COG 0603	C864
040052047661	CAP CER 47PF 50V 5% COG 0603	C865
040052047661	CAP CER 47PF 50V 5% COG 0603	C866
040052047661	CAP CER 47PF 50V 5% COG 0603	C867
040052047661	CAP CER 47PF 50V 5% COG 0603	C868
040052047661	CAP CER 47PF 50V 5% COG 0603	C869
040052047661	CAP CER 47PF 50V 5% COG 0603	C870
040052047661	CAP CER 47PF 50V 5% COG 0603	C873
040052047661	CAP CER 47PF 50V 5% COG 0603	C874
040052047661	CAP CER 47PF 50V 5% COG 0603	C875
040052047661	CAP CER 47PF 50V 5% COG 0603	C878
040052047661	CAP CER 47PF 50V 5% COG 0603	C879
040052047661	CAP CER 47PF 50V 5% COG 0603	C880
040052047661	CAP CER 47PF 50V 5% COG 0603	C881
040052047661	CAP CER 47PF 50V 5% COG 0603	C895
040052047661	CAP CER 47PF 50V 5% COG 0603	C896
040052047661	CAP CER 47PF 50V 5% COG 0603	C871
040052100261	CAP CER 220PF 50V 5% COG 0603	C719
040053043461	CAP CER 330PF 50V 5% COG 0603	C416
040053043461	CAP CER 330PF 50V 5% COG 0603	C417
040054043361	CAP CER 33PF 50V 5% COG 0603	C222
040054043361	CAP CER 33PF 50V 5% COG 0603	C223
040054043361	CAP CER 33PF 50V 5% COG 0603	C224
040067041761	CAP CER 6.8NF 16V 10% 0603	C855
040067141061	CAP CER 100NF 50V 10% X7R 0603	C203
040067141061	CAP CER 100NF 50V 10% X7R 0603	C204
040067141061	CAP CER 100NF 50V 10% X7R 0603	C206
040067141061	CAP CER 100NF 50V 10% X7R 0603	C219
040067141061	CAP CER 100NF 50V 10% X7R 0603	C220
040067141061	CAP CER 100NF 50V 10% X7R 0603	C221
040067141061	CAP CER 100NF 50V 10% X7R 0603	C300
040067141061	CAP CER 100NF 50V 10% X7R 0603	C301
040067141061	CAP CER 100NF 50V 10% X7R 0603	C302
040067141061	CAP CER 100NF 50V 10% X7R 0603	C303
040067141061	CAP CER 100NF 50V 10% X7R 0603	C317
040067141061	CAP CER 100NF 50V 10% X7R 0603	C400
040067141061	CAP CER 100NF 50V 10% X7R 0603	C401
040067141061	CAP CER 100NF 50V 10% X7R 0603	C402
040067141061	CAP CER 100NF 50V 10% X7R 0603	C403
040067141061	CAP CER 100NF 50V 10% X7R 0603	C404
040067141061	CAP CER 100NF 50V 10% X7R 0603	C405
040067141061	CAP CER 100NF 50V 10% X7R 0603	C406
040067141061	CAP CER 100NF 50V 10% X7R 0603	C407
040067141061	CAP CER 100NF 50V 10% X7R 0603	C408
040067141061	CAP CER 100NF 50V 10% X7R 0603	C420
040067141061	CAP CER 100NF 50V 10% X7R 0603	C421
040067141061	CAP CER 100NF 50V 10% X7R 0603	C511
040067141061	CAP CER 100NF 50V 10% X7R 0603	C512
040067141061	CAP CER 100NF 50V 10% X7R 0603	C513
040067141061	CAP CER 100NF 50V 10% X7R 0603	C514
040067141061	CAP CER 100NF 50V 10% X7R 0603	C515
040067141061	CAP CER 100NF 50V 10% X7R 0603	C516
040067141061	CAP CER 100NF 50V 10% X7R 0603	C517
040067141061	CAP CER 100NF 50V 10% X7R 0603	C518

[illegible]

TELRA NO	TELRA DESCRIPTION	POS
040730033261	CAP CER 33NF 25V 10% 0603	C507
040730033261	CAP CER 33NF 25V 10% 0603	C508
040730033291	CAP CER 33NF 50V 10% X7R 0805	C724
040730033291	CAP CER 33NF 50V 10% X7R 0805	C725
040730033291	CAP CER 33NF 50V 10% X7R 0805	C726
040732041061	CAP CER 100PF 50V 5% COG 0603	C304
040732041061	CAP CER 100PF 50V 5% COG 0603	C305
040732041061	CAP CER 100PF 50V 5% COG 0603	C315
040732041061	CAP CER 100PF 50V 5% COG 0603	C316
040732041061	CAP CER 100PF 50V 5% COG 0603	C554
040732041061	CAP CER 100PF 50V 5% COG 0603	C600
040732041061	CAP CER 100PF 50V 5% COG 0603	C602
040732041061	CAP CER 100PF 50V 5% COG 0603	C603
040732041061	CAP CER 100PF 50V 5% COG 0603	C604
040732041061	CAP CER 100PF 50V 5% COG 0603	C605
040732041061	CAP CER 100PF 50V 5% COG 0603	C606
040732041061	CAP CER 100PF 50V 5% COG 0603	C607
040732041061	CAP CER 100PF 50V 5% COG 0603	C608
040732041061	CAP CER 100PF 50V 5% COG 0603	C609
040732041061	CAP CER 100PF 50V 5% COG 0603	C899
040732041061	CAP CER 100PF 50V 5% COG 0603	C902
040740022281	CAP CER 220NF 50V20-80%Y5V0805	C882
040740022301	CAP CER 220NF 50V 10% X7R 0805	C700
040740022301	CAP CER 220NF 50V 10% X7R 0805	C707
040740022301	CAP CER 220NF 50V 10% X7R 0805	C708
040740022301	CAP CER 220NF 50V 10% X7R 0805	C618
040741022271	CAP CER 3.9NF 50V 10% X7R 0603	C886
040742041061	CAP CER 10PF 50V 5% COG 0603	C500
040742041061	CAP CER 10PF 50V 5% COG 0603	C501
040742041061	CAP CER 10PF 50V 5% COG 0603	C502
040744022161	CAP CER 220NF 16V 5% X7R 0603	C800
040744022161	CAP CER 220NF 16V 5% X7R 0603	C802
040744022161	CAP CER 220NF 16V 5% X7R 0603	C839
040744022161	CAP CER 220NF 16V 5% X7R 0603	C840
040744022161	CAP CER 220NF 16V 5% X7R 0603	C841
040744022161	CAP CER 220NF 16V 5% X7R 0603	C842
040744022161	CAP CER 220NF 16V 5% X7R 0603	C843
040744022161	CAP CER 220NF 16V 5% X7R 0603	C844
040744022161	CAP CER 220NF 16V 5% X7R 0603	C845
040744022161	CAP CER 220NF 16V 5% X7R 0603	C846
040744022161	CAP CER 220NF 16V 5% X7R 0603	C903
040752041061	CAP CER 1NF 50V 10% X7R 0603	C720
040752041061	CAP CER 1NF 50V 10% X7R 0603	C722
040752041061	CAP CER 1NF 50V 10% X7R 0603	C808
042140161071	CAP ELECT 100MF 16V 20%	C217
042412161081	CAP ELECT 1000MF 16V 20%	C621
042412161081	CAP ELECT 1000MF 16V 20%	C002
042414161011	CAP TNTL 100MF10V%20SMD CASE C	C409
042414161011	CAP TNTL 100MF10V%20SMD CASE C	C410
042414161011	CAP TNTL 100MF10V%20SMD CASE C	C411
042414161011	CAP TNTL 100MF10V%20SMD CASE C	C425
042414162271	CAP TNTL 22MF6.3V%20SMD CASE A	C509
042414162271	CAP TNTL 22MF6.3V%20SMD CASE A	C539
042414162271	CAP TNTL 22MF6.3V%20SMD CASE A	C540
042414162271	CAP TNTL 22MF6.3V%20SMD CASE A	C541
042414162271	CAP TNTL 22MF6.3V%20SMD CASE A	C542
042414162271	CAP TNTL 22MF6.3V%20SMD CASE A	C543
042414164731	CAP TNTL 4.7MF10V%20SMD CASE A	C205
042414164731	CAP TNTL 4.7MF10V%20SMD CASE A	C209
042414164731	CAP TNTL 4.7MF10V%20SMD CASE A	C218
042414164731	CAP TNTL 4.7MF10V%20SMD CASE A	C616
042414164731	CAP TNTL 4.7MF10V%20SMD CASE A	C617
042414164731	CAP TNTL 4.7MF10V%20SMD CASE A	C885
042414164761	CAP ELECT 47MF 16V 20%	C422
042414165831	CAP TNTL 47MF6.3V%20SMD CASE B	C412
042414165831	CAP TNTL 47MF6.3V%20SMD CASE B	C413
042414165831	CAP TNTL 47MF6.3V%20SMD CASE B	C415
042414165831	CAP TNTL 47MF6.3V%20SMD CASE B	C942
042414165831	CAP TNTL 47MF6.3V%20SMD CASE B	C943
042414165831	CAP TNTL 47MF6.3V%20SMD CASE B	C944
042414165841	CAP TNTL 47MF 10V%20SMD CASE C	C715
042414165841	CAP TNTL 47MF 10V%20SMD CASE C	C858
042414165851	CAP TNTL 47MF 16V%20SMD CASE C	C102
042414165851	CAP TNTL 47MF 16V%20SMD CASE C	C10

TELRA NO	TELRA DESCRIPTION	POS
042414165851	CAP TNTL 47MF 16V%20SMD CASE C	C105
042414165851	CAP TNTL 47MF 16V%20SMD CASE C	C423
042414165851	CAP TNTL 47MF 16V%20SMD CASE C	C938
042414166821	CAP TNTL 1.5MF 16V %20 SMD1206	C853
042414251101	CAP TNTL 10MF 10V%20SMD CASE A	C200
042414251101	CAP TNTL 10MF 10V%20SMD CASE A	C201
042414251101	CAP TNTL 10MF 10V%20SMD CASE A	C202
042414251101	CAP TNTL 10MF 10V%20SMD CASE A	C537
042414251101	CAP TNTL 10MF 10V%20SMD CASE A	C612
042414251101	CAP TNTL 10MF 10V%20SMD CASE A	C723
042414251101	CAP TNTL 10MF 10V%20SMD CASE A	C727
042414251101	CAP TNTL 10MF 10V%20SMD CASE A	C728
042414251101	CAP TNTL 10MF 10V%20SMD CASE A	C859
042414251101	CAP TNTL 10MF 10V%20SMD CASE A	C860
042414251101	CAP TNTL 10MF 10V%20SMD CASE A	C861
042414251101	CAP TNTL 10MF 10V%20SMD CASE A	C619
042414502011	CAP TNTL 2.2MF20V%20SMD CASE A	C887
042414502011	CAP TNTL 2.2MF20V%20SMD CASE A	C888
042414502011	CAP TNTL 2.2MF20V%20SMD CASE A	C889
042414502011	CAP TNTL 2.2MF20V%20SMD CASE A	C890
042449254771	CAP ELECT 470MF 25V 20%	C418
042449254771	CAP ELECT 470MF 25V 20%	C001
045000000321	IC DS90C386	U900
045000000981	IC TDA7057AQ 2X5W STEREO AMP.	U600
045000002421	IC 24C32 EEPROM	U700
045000003301	IC LOC1 TDA15521E	U500
045000003311	IC FLASH128 KB SST39V	U501
045018113181	IC 7808 8V 1A VOLT REG TO-220	U404
045088343881	IC ST24LC21B 1K EEPROM SO8	U302
045100000171	IC HCF4052B SOP SMD	U300
045198000011	IC TL431CLP REGULATOR	Z001
045238103171	IC LF18C 1.8 VOLT . REG. DPAK	U402
045238103211	IC MIC4576-5.0WU V.REG.BUTR	U403
045238103281	IC VOLT REG 3.3V SPX1117	U400
045238103281	IC VOLT REG 3.3V SPX1117	U401
045500000711	IC PI5V330 QSOP	U301
045500000711	IC PI5V330 QSOP	U303
046000000451	TRS IRF7316 SOT8	Q400
046000002391	TRS BC847C SOT23	Q200
046000002391	TRS BC847C SOT23	Q201
046000002391	TRS BC847C SOT23	Q202
046000002391	TRS BC847C SOT23	Q205
046000002391	TRS BC847C SOT23	Q206
046000002391	TRS BC847C SOT23	Q207
046000002391	TRS BC847C SOT23	Q300
046000002391	TRS BC847C SOT23	Q301
046000002391	TRS BC847C SOT23	Q302
046000002391	TRS BC847C SOT23	Q401
046000002391	TRS BC847C SOT23	Q402
046000002391	TRS BC847C SOT23	Q403
046000002391	TRS BC847C SOT23	Q600
046000002391	TRS BC847C SOT23	Q602
046000002391	TRS BC847C SOT23	Q701
046000002391	TRS BC847C SOT23	Q702
046000002391	TRS BC847C SOT23	Q705
046000002391	TRS BC847C SOT23	T700
046001537001	TRS.BD537 TO-220	T001
046848000001	TRS.BC848B SOT-23	Q204
046848480091	TRS.BC857B SOT23	Q208
046848480091	TRS.BC857B SOT23	Q601
046986294161	TRS.2SA720 & BC327 TO-92	Q703
046986294161	TRS.2SA720 & BC327 TO-92	Q704
048000000291	DIODE RECT.BYV36C	D001
048000005241	DIODE SLICON PLANAR BA591	D702
048000005241	DIODE SLICON PLANAR BA591	D704
048000005241	DIODE SLICON PLANAR BA591	D703
048110411111	DIODE LS4148 SOD80 QMELF	D700
048110411111	DIODE LS4148 SOD80 QMELF	D306
048110411111	DIODE LS4148 SOD80 QMELF	D307
048113229121	DIODE BAV99	D300
048113229121	DIODE BAV99	D301
048113229121	DIODE BAV99	D302
048113229121	DIODE BAV99	D303
048113229121	DIODE BAV99	D304

TELRA NO	TELRA DESCRIPTION	POS
048113229121	DIODE BAV99	D305
048113229121	DIODE BAV99	D701
048210200021	DIODE SCHTKY SS32 SMD	D400
048540456081	DIODE ZNR.BZX85C 33V DO-41	D705
048773809001	DIODE LED KLR114L RED 5MM	LED1
049030010671	CRYSTAL 24.576 MHZ HC49U	X800
065001056910	DFU PHILIPS 20PF1000	
065001056940	QSG PHILIPS 20PF1000	
066010037661	CARTON BOX PHILIPS 20 PF1000	
066022750750	BAG NYLON 14' BASKILI NEW	
070512112311	LCD 20' SHARP DZ84 (V2)	
075012880051	SOCKET CHINCH SINGLE RED	S303
075012880061	SOCKET CHINCH SINGLE WHITE	S302
075013220021	SOCKET IC 8P DIP-8	U700
075015420111	CONN 15P VGA/PT100-MONITOR	S301
075016420011	SOCKET HEADPHONE STR	S300
075016420031	SOCKET S.VHS DVD	S111
075016420221	SOCKET HEADPHONE 7PINSTRPHILIP	S104
075016420391	SOCKET CHIN HRZ.TRIP Y/W/R 35B	S100
075016420401	SOCKET CHN.HRZ.TRPGR-BLUE-R35B	S201
075030411061	CONN 2P VRT 2MM MINI	S601
075030411061	CONN 2P VRT 2MM MINI	S603
075030411061	CONN 2P VRT 2MM MINI	S206
075040210101	SOCKET ADAPTER R6.3-2	S401
075040210191	SOCKET SCART 90' 303002	S600
075100411000	CONN 4P VRT W/LOCK	S202
075100411111	CONN 4F PIN STRIPS	K001
075101211131	CONN 12P VRT 2MM MINI	S801
075220480031	CONN 50P FFC SMD(MOL541045096)	S900
075220480051	CONN 9P VRT 1.25MM	S203
075220480051	CONN 9P VRT 1.25MM	S203
075220480061	CONN 5P VRT 2MM MINI	S103
075220480061	CONN 5P VRT 2MM MINI	S602
075220480061	CONN 5P VRT 2MM MINI	S602
075220480061	CONN 5P VRT 2MM MINI	S208
081101111601	SWITCH TACT HRZ MTLCONT 6*6	SW10
081101111601	SWITCH TACT HRZ MTLCONT 6*6	SW11
081101111601	SWITCH TACT HRZ MTLCONT 6*6	SW12
081101111601	SWITCH TACT HRZ MTLCONT 6*6	SW13
081101111601	SWITCH TACT HRZ MTLCONT 6*6	SW14
081101111601	SWITCH TACT HRZ MTLCONT 6*6	SW15
081101111601	SWITCH TACT HRZ MTLCONT 6*6	SW11
399593000090	BATTERY 1.5V AAA GREENLINE PHL	
399915500551	ADAPTOR 6.6A 12VDC 20LOC1 EURO	
608000000121	COIL 56UH 10% 0.068A AXIAL FIX	L704
608000000121	COIL 56UH 10% 0.068A AXIAL FIX	L705
608000000171	COIL CHOKE 15MH 12% AT4043/60	SM02
608080000271	COIL 10UH %5 0.15A SMD 1206	L111
608080000271	COIL 10UH %5 0.15A SMD 1206	L112
608080000271	COIL 10UH %5 0.15A SMD 1206	L706
608080000271	COIL 10UH %5 0.15A SMD 1206	L707
608080000271	COIL 10UH %5 0.15A SMD 1206	L708
608080000271	COIL 10UH %5 0.15A SMD 1206	L900
608080000271	COIL 10UH %5 0.15A SMD 1206	L901
608080000271	COIL 10UH %5 0.15A SMD 1206	L902
608080000271	COIL 10UH %5 0.15A SMD 1206	L903
608080000341	COIL 33UH 5% 2A SMD	L401
608780002411	COIL FILTER 3.5*9*0.8 F.BEAD	L400
608980000231	COIL 12UH 10% SMD 0805	L703
609330001211	PREAMPLIFIER TSOP34836	IR01
610308150211	SPEAKER 8R 15/20W126X58MMXPACE	
616800020091	TUNER PLL THOMSON CTF5513	TUN1
631020001781	REMOTE CONTROL TM4901 (ID)	
841100022400	MAIN CHASSIS 20' LOC1 C.FULL PHL P	9SKT
841120016040	COMPLETE DC ADAPT.DZ84 NO DVD	S307
841120022400	COMPLETE 20' PHIL.F.AV C.FULL LOC1	KFRN
841140000100	COMPLETE BASE 20' C.FULL PHL S.FR	
841150015990	COMPLETE C.FULL KEYBOARD LOC1	KTUS
841160022400	COMPLETE KROM C.FUL 20LED+PREA PHL	KLED
841300300350	COMPLETE 20' C.FULL LCD SPEAKER	
905102203630	PAINTED FRONT CABIN 20' C.FULL PF1000 SF	BKBN
905112008270	BACK COVER 20' PF1000 C.FULL BLACK	AKPK
905952000380	REFLECTOR 15'-20' COLORFULL	
966000030310	STRAPHOR 20' 4/3 COLORFULL	

11. Revision List

11.1 Manual xxxx xxx xxxxx.0

- First release.