LC4.31E

AA

Service
Service
Service

G_16210_000.eps
200106

Service Manual

Contents **Page**

1. Technical Specifications, Connections, and Chassis Overview 2
2. Safety Instructions, Warnings, and Notes 5
3. Directions for Use 6
4. Mechanical Instructions 7
5. Service Modes, Error Codes, and Fault Finding 12
6. *Block Diagrams, Test Point Overviews, and Waveforms*
   - Wiring Diagram 26” & 32” 21
   - Wiring Diagram 37” 22
   - Block Diagram Supply 37” 23
   - Block Diagram Video 24
   - Block Diagram Audio 25
   - Test Point Overview Small Signal Board 26
   - I2C Overview 27
   - Supply Voltage Overview 28
7. *Circuit Diagrams and PWB Layouts* *Diagram* *PWB*
   - PSU (37”): Mains Filter & Standby (A1) 29 31-36
   - PSU (37”): Supply (A2) 30 31-36
   - SSB: Tuner and VIF(B1) 37 60-69
   - SSB: Hercules (B2) 38 60-69
   - SSB: Sync Interface (B3) 39 60-69
   - SSB: Audio Delay Line (PDP Only) (B4) 40 60-69
   - SSB: Audio Processing (B5) 41 60-69
   - SSB: DC-DC Converter (B6) 42 60-69
   - SSB: Diversity Tables B1-B6 43
   - SSB: Scaler (B7) 44 60-69
   - SSB: Scaler (B8) 45 60-69
   - SSB: Scaler Interface (B9) 46 60-69
   - SSB: SDRAM (B10) 47 60-69
   - SSB: Flash / Control (B11) 48 60-69
   - SSB: HDMI (B12) 49 60-69
   - SSB: MUX-Sync Interface (B13) 50 60-69
   - SSB: Digital I/O (B14) 51 60-69
   - SSB: SCART Analog I/O (B15A) 52 60-69
   - SSB: DMMI (B15B) 53 60-69
   - SSB: Top Connectors (B16) 54 60-69
   - SSB: Side Connectors (B17) 55 60-69
   - SSB: ADC (B18) 56 60-69
   - SSB: Columbus (B19) 57 60-69
   - SSB: Pacific 3 (B20) 58 60-69
   - SSB: Diversity Tables B9-B20 59
   - Class D Audio Amplifier (26” & 32”) (C) 70 71
   - Side I/O Panel (26” & 32”) (D) 72 73
   - Side I/O Panel (37”) (D) 74 75
   - Keyboard Control Board (26” & 32”) (E) 76 76
   - Keyboard Control Board (37”) (E) 77 77
   - Front IR / LED Panel (26” & 32”) (ME5P) (J) 78 78
   - IR-LED and Light Sensor Panel (ME5FL) (J) 79 79
   - Front IR / LED Panel (37”)(J) 80 81
   - Standby & Audio Panel (37”) : Connections (SA1) 79 85-87
   - Standby & Audio Panel (37”): Standby (SA2) 83 85-87
   - Standby & Audio Panel (37”) : Audio (SA3) 84 85-87
   - OTC Flash (For 1000pg TXT) (37”) (T) 88 89
8. Alignments 91
9. Circuit Descriptions, Abbreviation List, and IC Data Sheets 96
   - Abbreviation List 97
   - IC Data Sheets 100
10. Spare Parts List (Only for: 26PF5321/10 - /12, 32PF5321/10 - /12) 104
11. Revision List 110

©Copyright 2006 Philips Consumer Electronics B.V. Eindhoven, The Netherlands.
All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, or otherwise without the prior permission of Philips.

Published by WS 0661 TV Service Printed in the Netherlands Subject to modification EN 3122 785 16210

PHILIPS

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, IPS
Screen size	:	
- 26PF5321/10/12	:	26” (66 cm), 16:9
- 32PF5321/10/12	:	32” (82 cm), 16:9
- 37PF5321/10/12	:	37” (94 cm), 16:9
- 26PF7321/12	:	26” (66 cm), 16:9
- 32PF7321/12	:	32” (82 cm), 16:9
- 37PF7321/10/12	:	37” (94 cm), 16:9
Resolution (HxV pixels)	:	1366 x 768
Contrast ratio	:	
- 26PF5321/10/12	:	1200:1
- 32PF5321/10/12	:	1200:1
- 37PF5321/10/12	:	1200:1
- 26PF7321/12	:	2400:1
- 32PF7321/12	:	2400:1
- 37PF7321/10/12	:	2400:1
Light output (cd/m^2)	:	500
Response time (ms)	:	8
Viewing angle (HxV degrees)	:	
- 26PF5321/10/12	:	178x178
- 32PF5321/10/12	:	178x178
- 37PF5321/10/12	:	176x176
- 26PF7321/12	:	178x178
- 32PF7321/12	:	178x178
- 37PF7321/10/12	:	176x176
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
	:	PAL B/G
	:	SECAM L/L’
Supported computer formats	:	VGA (640x480)
	:	MAC (640x480)
	:	SVGA (800x600)
	:	XVGA (1024x768)
	:	WXGA (1280x768)
Supported video formats	:	640x480p - 2fH
	:	720x576p - 2fH
	:	1280x720p - 3fH
	:	1920x1080i - 2fH
Presets/channels	:	100 presets
Tuner bands	:	VHF
	:	UHF
	:	S-band
	:	Hyper-band

1.1.2 Sound

Sound systems	:	NICAM B/G, D/K, I, L
	:	AV Stereo
Maximum power (W_{RMS})	:	
- 26PF5321/10/12	:	2 x 5
- 32PF5321/10/12	:	2 x 15
- 37PF5321/10/12	:	2 x 15
- 26PF7321/12	:	2 x 5
- 32PF7321/12	:	2 x 15
- 37PF7321/10/12	:	2 x 15

1.1.3 Miscellaneous

Power supply:		
Mains voltage (V_{AC})	:	
- 26PF5321/10/12	:	110 - 240
- 32PF5321/10/12	:	110 - 240
- 37PF5321/10/12	:	220 - 240
- 26PF7321/12	:	110 - 240
- 32PF7321/12	:	110 - 240
- 37PF7321/10/12	:	220 - 240
Mains frequency (Hz)	:	50 / 60
Ambient conditions:		
- Temperature range (°C)	:	+5 to +40
- Maximum humidity	:	90% R.H.
Power consumption:		
Normal operation (W)	:	
- 26PF5321/10/12	:	100
- 32PF5321/10/12	:	120
- 37PF5321/10/12	:	180
- 26PF7321/12	:	100
- 32PF7321/12	:	120
- 37PF7321/10/12	:	180
Stand-by (W)	:	
- 26PF5321/10/12	:	< 1
- 32PF5321/10/12	:	< 1
- 37PF5321/10/12	:	< 2
- 26PF7321/12	:	< 1
- 32PF7321/12	:	< 1
- 37PF7321/10/12	:	< 2
Dimensions (WxHxD cm):		
- 26PF5321/10/12	:	80.45 x 43.8 x 11.4
- 32PF5321/10/12	:	92.4 x 50.7 x 11.9
- 37PF5321/10/12	:	110.0 x 60.9 x 10.25
- 26PF7321/12	:	69.75 x 49.48 x 9.97
- 32PF7321/12	:	93.5 x 51.65 x 12.0
- 37PF7321/10/12	:	111.4 x 61.8 x 10.3
Weight (kg):		
- 26PF5321/10/12	:	13.3
- 32PF5321/10/12	:	18.9
- 37PF5321/10/12	:	25.1
- 26PF7321/12	:	13.0
- 32PF7321/12	:	19.2
- 37PF7321/10/12	:	25.9

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.

1.2.1 Side I/O connections

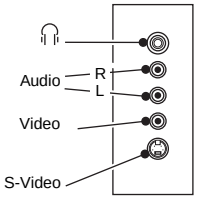


Figure 1-1 Side I/O connections

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	⊕

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	⊕◎

Mini Jack: Audio Head phone - Out

Bk	- Head phone	32 - 600 ohm / 10 mW	3.5mm

1.2.2 Rear Connections

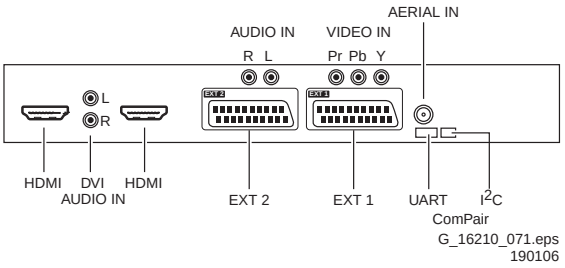


Figure 1-2 Rear I/O

Aerial - In

-	- IEC-type (EU)	Coax, 75 ohm	⊤⊥

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	⊕◎

Cinch: DVI Audio - In

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

Service connector (ComPair)

1	- SDA-S	I^2C Data (0 - 5 V)	⊕⊖
2	- SCL-S	I^2C Clock (0 - 5 V)	⊕
3	- Ground	Gnd	⏚

Service connector (UART)

1	- UART_TX	Transmit	⊖
2	- Ground	Gnd	⏚
3	- UART_RX	Receive	⊕

HDMI: Digital Video/Digital Audio - In

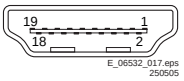


Figure 1-3 HDMI (type A) connector

1	- D2+	Data channel	⊕
2	- Shield	Gnd	⏚
3	- D2-	Data channel	⊕
4	- D1+	Data channel	⊕
5	- Shield	Gnd	⏚
6	- D1-	Data channel	⊕
7	- D0+	Data channel	⊕
8	- Shield	Gnd	⏚
9	- D0-	Data channel	⊕
10	- CLK+	Data channel	⊕
11	- Shield	Gnd	⏚
12	- CLK-	Data channel	⊕
13	- n.c.		
14	- n.c.		
15	- DDC_SCL	DDC clock	⊕
16	- DDC_SDA	DDC data	⊕⊖
17	- Ground	Gnd	⏚
18	- +5V		⊕
19	- HPD	Hot Plug Detect	⊕
20	- Ground	Gnd	⏚

EXT1: Video RGB - In, CVBS - In/Out, Audio - In/Out

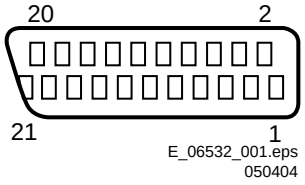
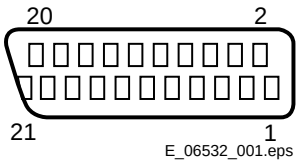


Figure 1-4 SCART connector

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 Audio	Gnd	⏚
5	- Ground Blue	Gnd	⏚
6	- Audio L	0.5 V_{RMS} / 10 kohm	⊕
7	- Video Blue	0.7 V_{PP} / 75 ohm	⊕
8	- Function Select	0 - 2 V: INT 4.5 - 7 V: EXT 16:9 9.5 - 12 V: EXT 4:3	⊕
9	- Ground Green	Gnd	⏚
10	- n.c.		
11	- Video Green	0.7 V_{PP} / 75 ohm	⊕
12	- n.c.		
13	- Ground Red	Gnd	⏚
14	- Ground	Gnd	⏚
15	- Video Red	0.7 V_{PP} / 75 ohm	⊕
16	- Status/FBL	0 - 0.4 V: INT 1 - 3 V: EXT / 75 ohm	⊕
17	- Ground Video	Gnd	⏚
18	- Ground FBL	Gnd	⏚
19	- Video Terr. CVBS	1 V_{PP} / 75 ohm	⊖
20	- Video CVBS/Y	1 V_{PP} / 75 ohm	⊕
21	- Shield	Gnd	⏚

EXT2: Video Y/C - in, CVBS - In/Out, Audio - In/Out

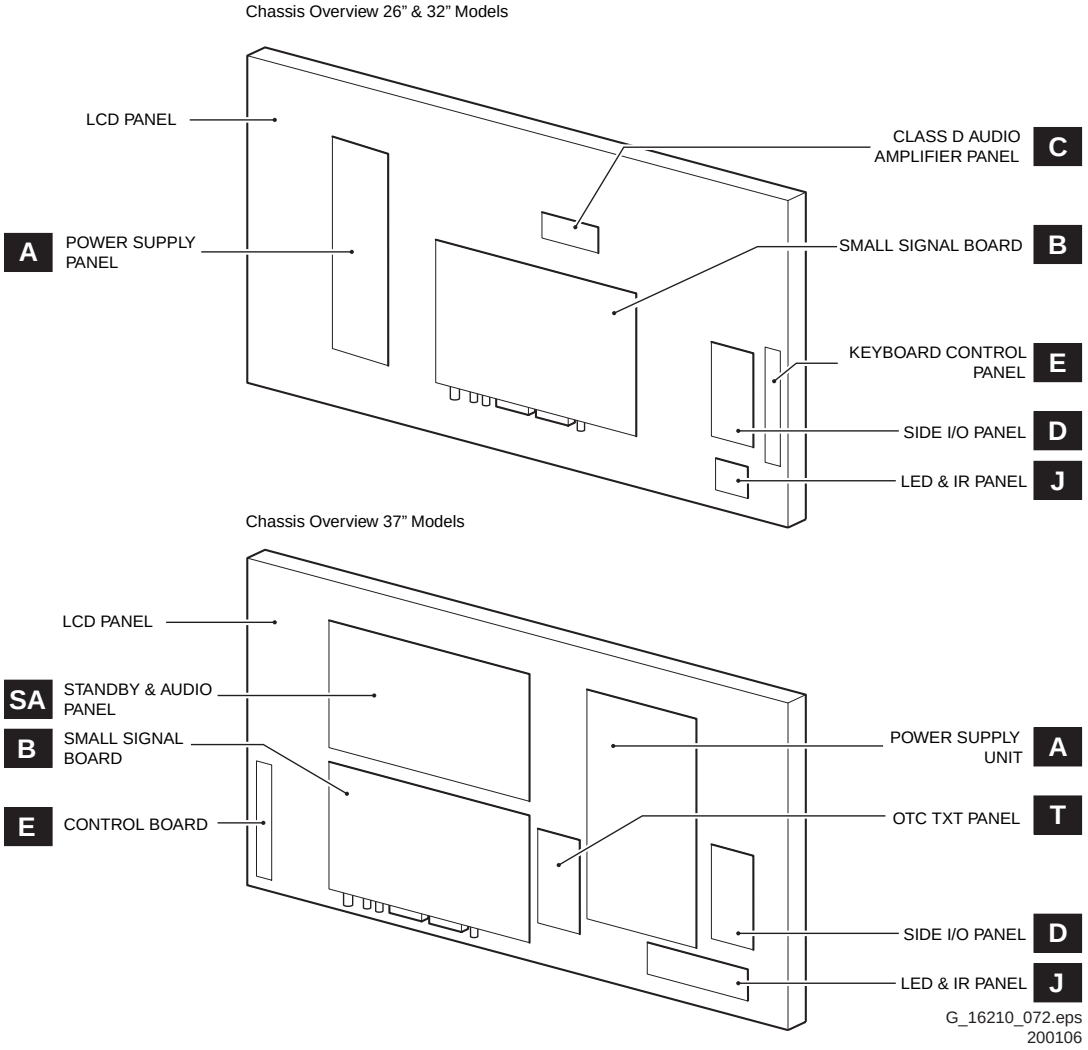


E_06532_001.eps
050404

Figure 1-5 SCART connector

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 Audio	Gnd	⏚
5	- Ground Blue	Gnd	⏚
6	- Audio L	0.5 V_{RMS} / 10 kohm	⊕
7	- n.c.		
8	- Function Select	0 - 2 V: INT 4.5 - 7 V: EXT 16:9 9.5 - 12 V: EXT 4:3	⊕
9	- Ground Green	Gnd	⏚
10	- n.c.		
11	- n.c.		
12	- n.c.		
13	- Ground Red	Gnd	⏚
14	- Ground	Gnd	⏚
15	- YC/C - in	0.7 V_{PP} / 75 ohm	⊕
16	- n.c.		
17	- Ground Video	Gnd	⏚
18	- Ground	Gnd	⏚
19	- Video Mon. CVBS	1 V_{PP} / 75 ohm	⊖→
20	- YC/Y - in	0.7 V_{PP} / 75 ohm	⊕
21	- Shield	Gnd	⏚

1.3 Chassis Overview



G_16210_072.eps
200106

Figure 1-6 Chassis overview

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.

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 (μ= x10^{-6}), nano-farads (n= x10^{-9}), or pico-farads (p= x10^{-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 Rework on BGA (Ball Grid Array) ICs

General

Although (LF)BGA assembly yields are very high, there may still be a requirement for component rework. By rework, we mean the process of removing the component from the PWB and replacing it with a new component. If an (LF)BGA is removed from a PWB, the solder balls of the component are deformed drastically so the removed (LF)BGA has to be discarded.

Device Removal

As is the case with any component that, is being removed, it is essential when removing an (LF)BGA, that the board, tracks, solder lands, or surrounding components are not damaged. To remove an (LF)BGA, the board must be uniformly heated to a temperature close to the reflow soldering temperature.
A uniform temperature reduces the risk of warping the PWB. To do this, we recommend that the board is heated until it is certain that all the joints are molten. Then carefully pull the component off the board with a vacuum nozzle. For the appropriate temperature profiles, see the IC data sheet.

Area Preparation

When the component has been removed, the vacant IC area must be cleaned before replacing the (LF)BGA.
Removing an IC often leaves varying amounts of solder on the mounting lands. This excessive solder can be removed with either a solder sucker or solder wick. The remaining flux can be removed with a brush and cleaning agent.

After the board is properly cleaned and inspected, apply flux on the solder lands and on the connection balls of the (LF)BGA.
Note: Do not apply solder paste, as this has been shown to result in problems during re-soldering.

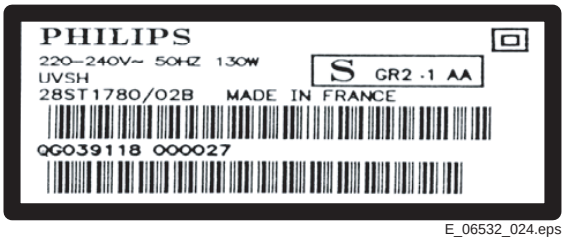
Device Replacement
The last step in the repair process is to solder the new component on the board. Ideally, the (LF)BGA should be aligned under a microscope or magnifying glass. If this is not possible, try to align the (LF)BGA with any board markers. So as not to damage neighbouring components, it may be necessary to reduce some temperatures and times.

More Information
For more information on how to handle BGA devices, visit this URL: *www.atyourservice.ce.philips.com* (needs subscription, not available for all regions). After login, select “Magazine”, then go to “Repair downloads”. Here you will find Information on how to deal with BGA-ICs.

2.3.4 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 1991 week 18).



E_06532_024.eps
230205

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.
- Special information for lead-free BGA ICs: these ICs will be delivered in so-called "dry-packaging" to protect the IC against moisture. This packaging may only be opened shortly before it is used (soldered). Otherwise the body of the IC gets "wet" inside and during the heating time the structure of the IC will be destroyed due to high (steam-) pressure inside the body. If the packaging was opened before usage, the IC has to be heated up for some hours (around 90°C) for drying (think of ESD-protection!).
  Do not re-use BGAs at all!
- 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 the mixing of two alloys).

Caution: For BGA-ICs, you **must** use the correct temperature profile, which is coupled to the 12NC. For an overview of these profiles, visit the website *www.atyourservice.ce.philips.com* (needs subscription, but is not available for all regions).
You will find this and more technical information within the “Magazine”, chapter “Repair downloads”.
For additional questions please contact your local repair help desk.

2.3.5 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

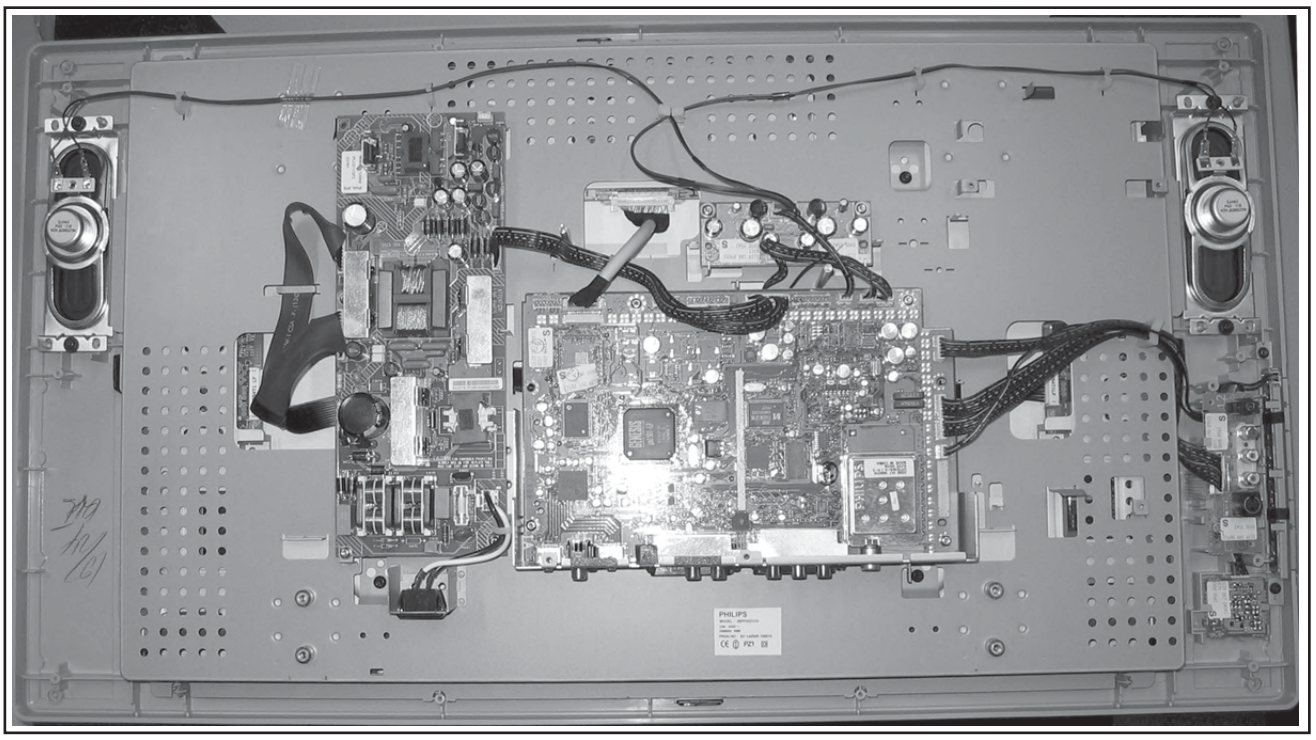
Index of this chapter:

4.1 Cable Dressing
4.2 Service Position
4.3 Assy/Panel Removal
4.4 Set Re-assembly

Notes:

- Figures below can deviate slightly from the actual situation, due to the different set executions.
- Follow the disassembling instructions in described order.

4.1 Cable Dressing



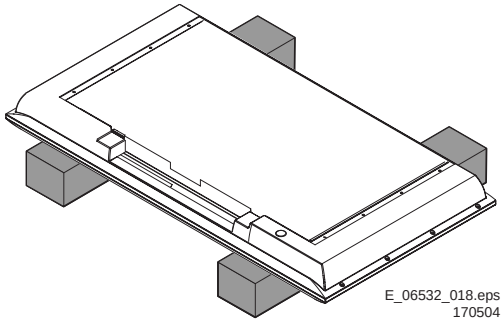
G_16210_073.eps
190106

Figure 4-1 Cable dressing (26PF5321/10)

4.2 Service Position

First, put the TV set in its service position. Therefore, place it upside down on a table top (use a protection sheet or foam bars).

4.2.1 The Foam Bars



E_06532_018.eps
170504

Figure 4-2 Foam bars

The foam bars (order code 3122 785 90580) can be used for all types and sizes of Flat TVs. By laying the plasma or LCD TV flat on the (ESD protective) foam bars, a stable situation is created to perform measurements and alignments. By first placing a mirror flat on the table under the TV you can easily see if something is happening on the screen.

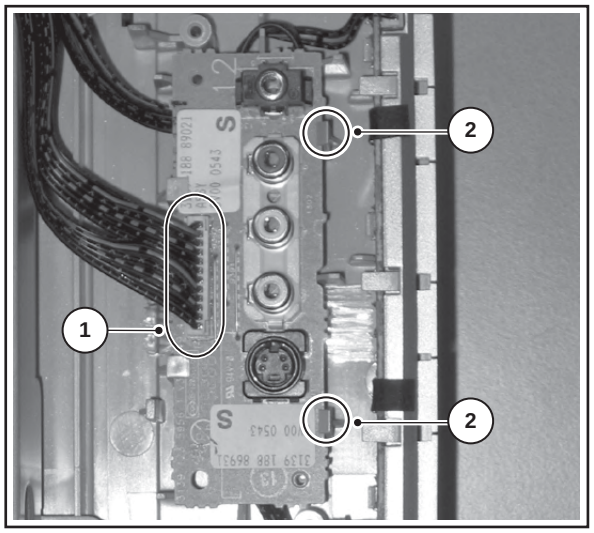
4.3 Assy/Panel Removal

4.3.1 Rear Cover

Warning: Disconnect the mains power cord before you remove the rear cover.

1. Remove the screws that secure the rear cover.
2. Lift the rear cover from the cabinet cautiously. Make sure that wires and other internal components are not damaged during cover removal.

4.3.2 Side I/O Panel

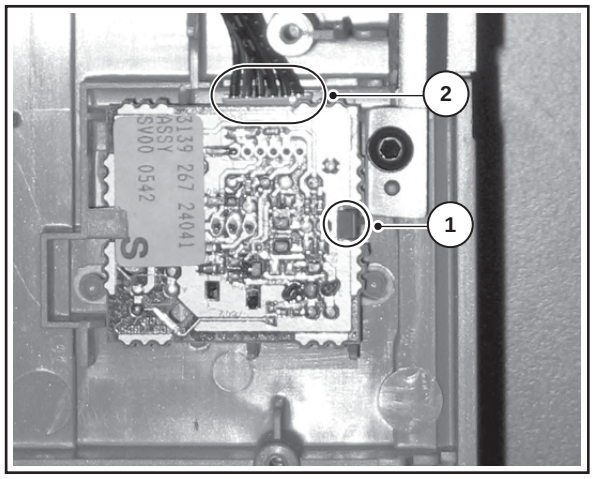


G_16210_074.eps
190106

Figure 4-3 Side I/O panel

1. Disconnect the cable [1] from the panel.
2. Release the two fixation clamps [2] and lift the panel out of the bracket.

4.3.3 LED Panel

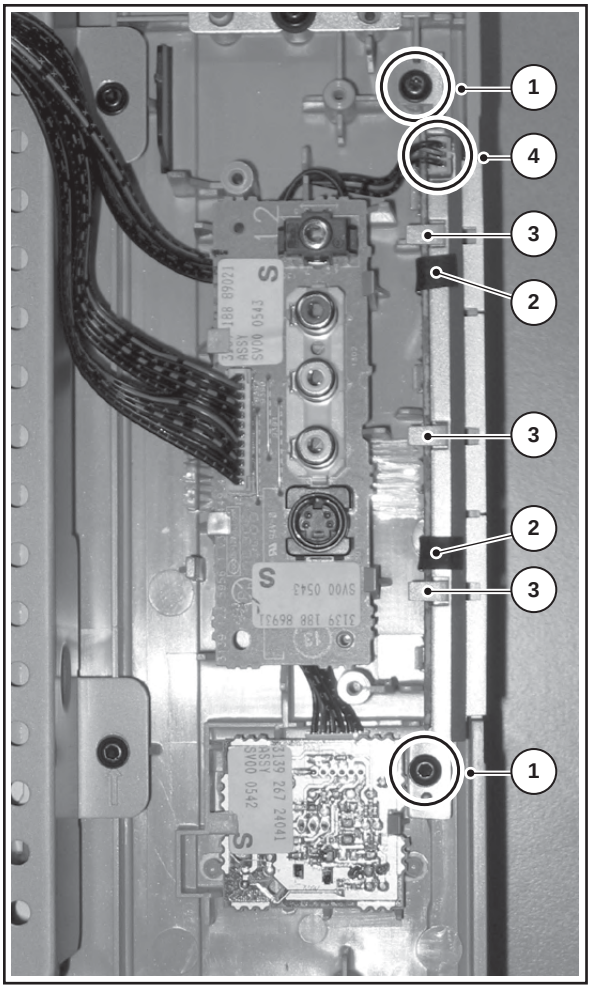


G_16210_075.eps
190106

Figure 4-4 LED panel

1. Release the fixation clamp [1] and take the panel out of the bracket.
2. Disconnect the cable [2] from the panel.

4.3.4 Keyboard Control Panel

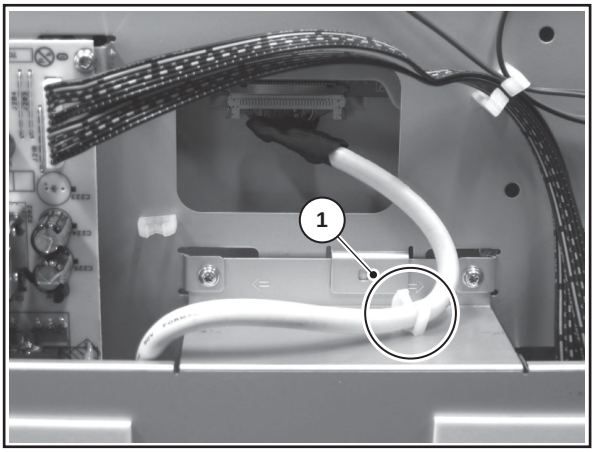


G_16210_076.eps
190106

Figure 4-5 Keyboard control panel

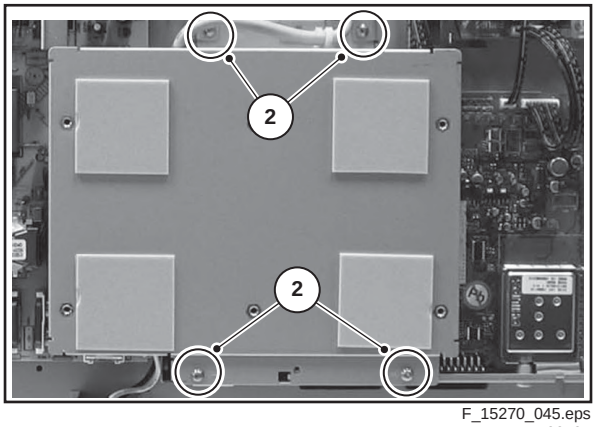
1. Remove the two fixation screws [1] from the bracket and take out the panel/bracket combination.
2. Remove the fixation tape [2] from the panel/bracket combination.
3. Release the three fixation clamps [3] and lift the panel out of the bracket.
4. Disconnect the cable [4] from the panel.

4.3.5 SSB Cover Shield (depending on model)



F_15270_044.eps
180505

Figure 4-6 Cable clip on cover shield

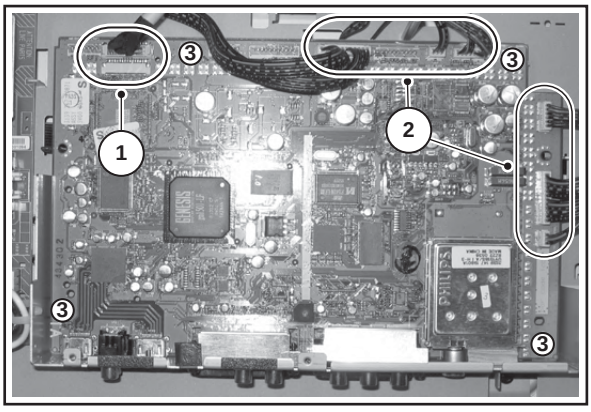


F_15270_045.eps
190505

Figure 4-7 SSB cover shield

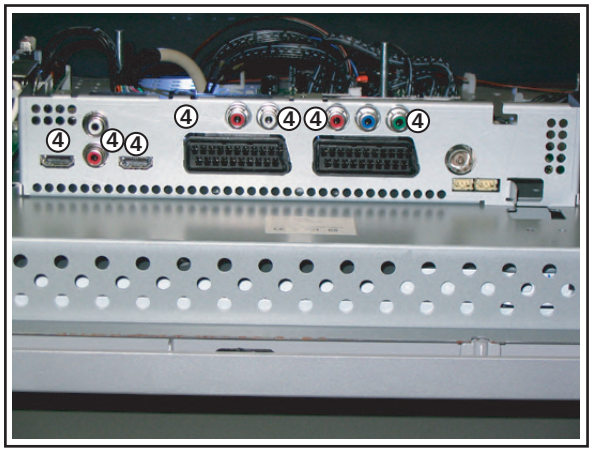
1. Release the cable from the plastic cable clip [1] on the shield (see Figure “Cable clip on cover shield” above).
2. Remove the four fixation screws (2, see Figure “SSB cover shield”; the screws are also indicated by arrows on the shield) and remove the shield.
   Notice that on one side, the shield is not only held by two screws, but also by two brackets (see Figure “Cable clip on cover shield” above).

4.3.6 Small Signal Board



G_16210_077.eps
190106

Figure 4-8 SSB connectors

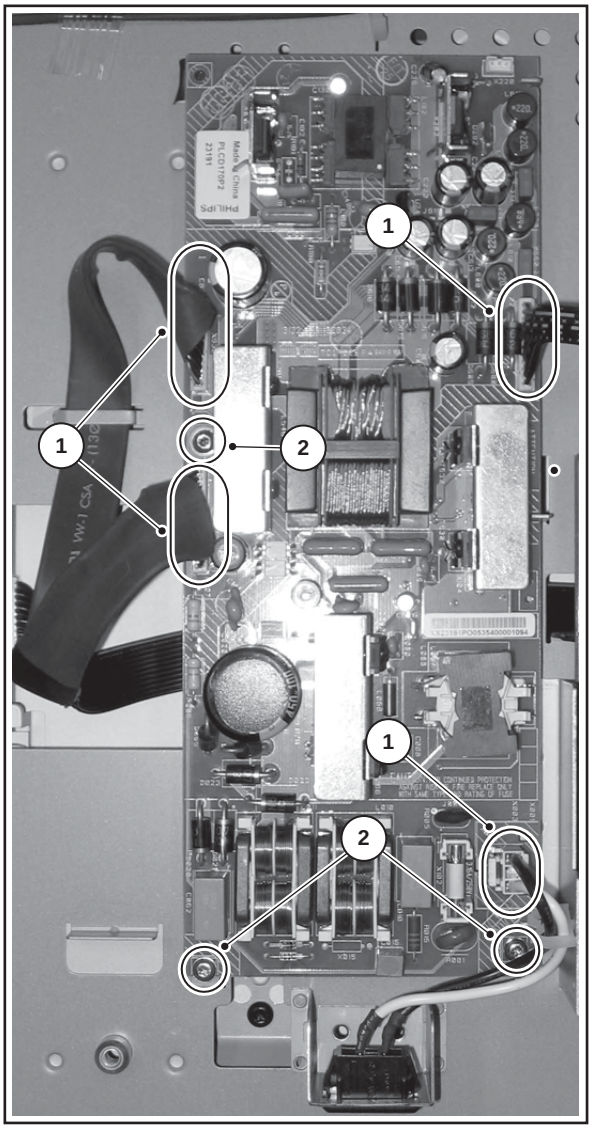


G_16210_078.eps
200106

Figure 4-9 Connector screws

1. Very **cautiously** disconnect the LVDS cable [1] from the panel (see Figure “SSB connectors”). Notice that this cable is very fragile.
2. Disconnect the other cables [2] from the panel.
3. Remove the fixation screws [3] that secure the SSB (depending on model) and also the fixation screws [4] from the connector plate (see Figure “Connector screws”).
4. Take the panel out of its brackets.

4.3.7 Power Supply Panel (various models used)

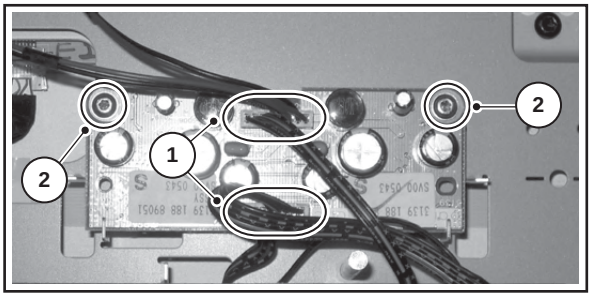


G_16210_079.eps
200106

Figure 4-10 Power supply panel

1. Disconnect all cables [1] from the panel.
   Notice that the two connectors for X520 and X530 on this panel are similar, and should not be mixed up later when they are reconnected (X520 is connected via its flatcable to connector CN01 on the LCD panel, near the R-speaker; X530 is connected via its flatcable to connector CN04 on the LCD panel, near the L-speaker).
2. Remove the fixation screws [2] from the panel.
3. Take the panel out of its brackets.

4.3.8 Audio Amplifier Panel

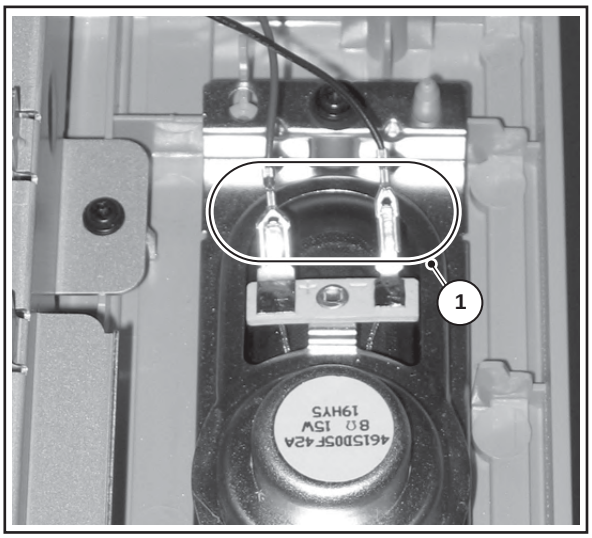


G_16210_080.eps
200106

Figure 4-11 Audio amplifier panel

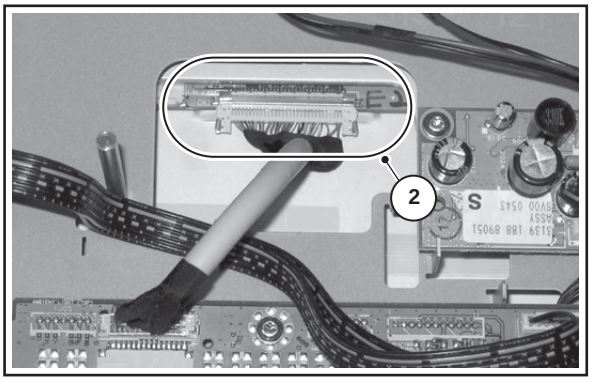
1. Disconnect all cables [1] from the panel.
2. Remove the fixation screws [2] from the panel.
3. Remove the panel.

4.3.9 LCD Panel



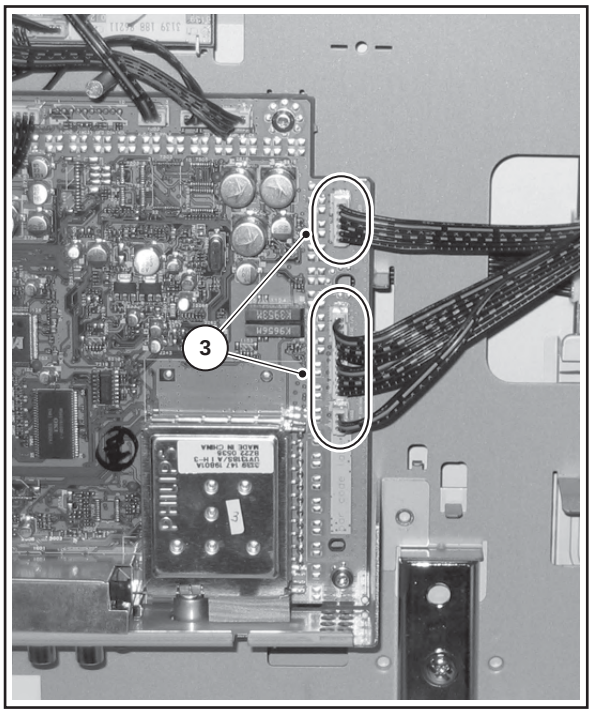
G_16210_081.eps
200106

Figure 4-12 Loudspeaker cables



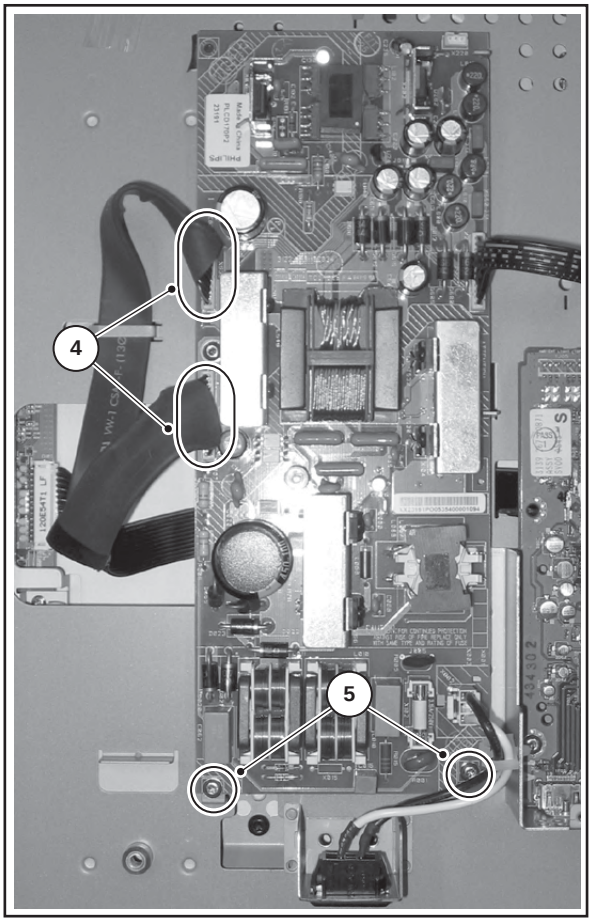
G_16210_082.eps
200106

Figure 4-13 LVDS connector



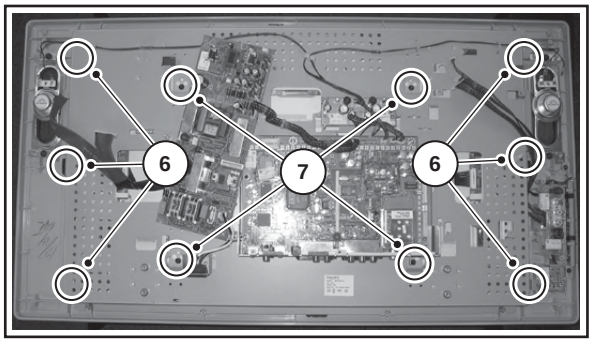
G_16210_083.eps
200106

Figure 4-14 SSB connectors for side I/O, side control panel, and LED



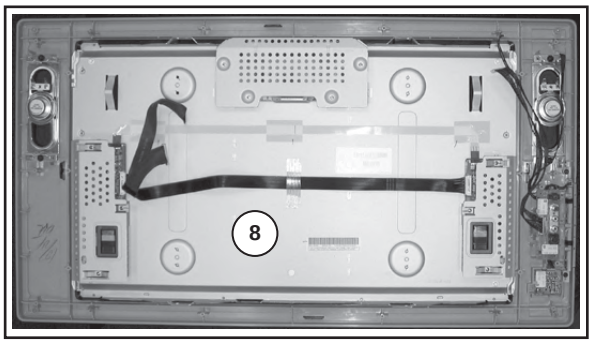
G_16210_084.eps
200106

Figure 4-15 Connectors X520 and X530 and fixation screws on power supply panel



G_16210_085.eps
200106

Figure 4-16 Shield screws of the LCD panel



G_16210_086.eps
200106

Figure 4-17 LCD panel

To remove the LCD-panel, carry out the following steps:

1. Disconnect the cables [1] from the “L” and the “R” loudspeakers (see Figure “Loudspeaker cables”).
2. **Important:** Unplug the LVDS connector [2] on the LCD panel (see Figure “LVDS connector”), or better: remove the cable completely.
   Be careful, as this is a very fragile connector/cable!
3. Unplug the connectors [3] of the Side I/O panel, the Top Control panel, and the LED panel on the SSB (see Figure “SSB connectors for side I/O, side control panel, and LED”).
4. Unplug the connectors X520 and X530 [4] on the Power Supply board (see Figure “Connectors X520 and X530 and fixation screws on power supply panel”).
5. Loosen the fixation screws [5] from the power supply board, and put the power supply board a bit aside.
6. Loosen screws [6] and [7] (see Figure “Shield screws of the LCD panel”).
7. Lift the metal frame (together with all PWBs) from the LCD panel.
   Take care not to damage the fragile LVDS cable.
8. After removal of the metal frame, you can lift the LCD display [8] from its plastic frame (see Figure “LCD panel”).
9. If the plastic frame is damaged, replace it by a new frame, after removing the loudspeakers, the Side I/O panel, the Side Control panel, and the LED panel.

4.4 Set Re-assembly

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

Notes:

- While re-assembling, make sure that all cables are placed and connected in their original positions. See Figure “Cable dressing”.
  Be careful with the fragile LVDS cable.

5. Service Modes, Error Codes, and Fault Finding

Index of this chapter:

5.1 Test Points
5.2 Service Modes
5.3 Problems and Solving Tips Related to CSM
5.4 Service Tools
5.5 Error Codes
5.6 The Blinking LED Procedure
5.7 Fault Finding and Repair Tips

5.1 Test Points

This chassis is equipped with test points. In the schematics, test points are indicated with a rectangle box around Fxxx or Ixxx, in the layouts with a half-moon.
Perform measurements under the following conditions:

- Television set in Service Default Mode.
- Video input: Colour bar signal.
- Audio input: 3 kHz left channel, 1 kHz right channel.

5.2 Service Modes

Service Default mode (SDM) and Service Alignment Mode (SAM) offer several features for the service technician, while the Customer Service Mode (CSM) is used for communication between the call centre and the customer.

This chassis also offers the option of using ComPair, a hardware interface between a computer and the TV chassis. It offers the possibilities of structured troubleshooting, error code reading, and software version read-out for all chassis.
Minimum requirements for ComPair: a Pentium processor, a Windows OS, and a CD-ROM drive (see also paragraph "ComPair").

5.2.1 Service Default Mode (SDM)

Purpose

- To create a predefined setting for measurements to be made.
- To override software protections.
- To start the blinking LED procedure.
- To inspect the error buffer.
- To check the life timer.

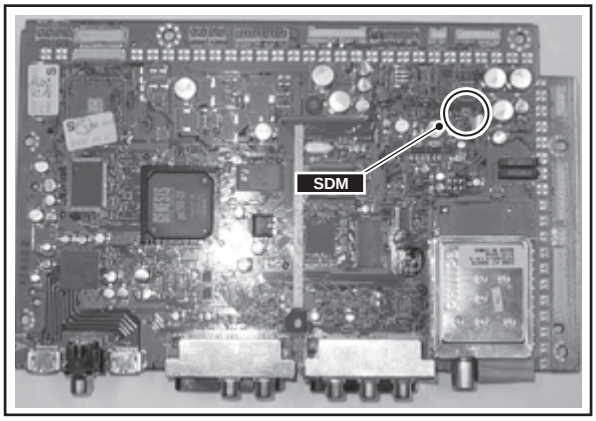
Specifications

- Tuning frequency: 475.25 MHz.
- Colour system: PAL-BG.
- All picture settings at 50% (brightness, colour contrast, hue).
- Bass, treble, and balance at 50 %; volume at 25 %.
- All service-unfriendly modes (if present) are disabled. The service unfriendly modes are:
  - Timer / Sleep timer.
  - Child / parental lock.
  - Blue mute.
  - Hotel / hospital mode.
  - Auto shut off (when no “IDENT” video signal is received for 15 minutes).
  - Skipping of non-favourite presets / channels.
  - Auto-storage of personal presets.
  - Auto user menu time-out.
  - Auto Volume Levelling (AVL).

How to Enter

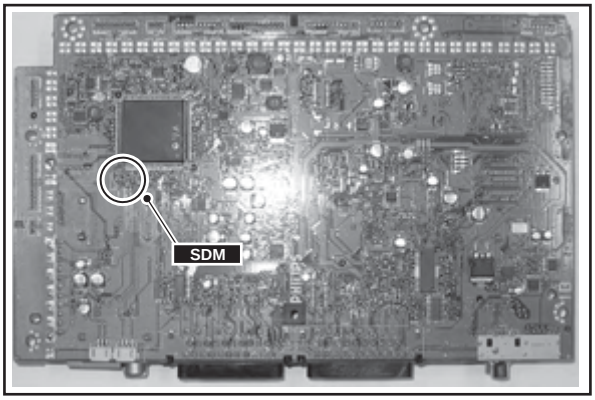
To enter SDM, use one of the following methods:

- Press the following key sequence on the remote control transmitter: “**062596**” directly followed by the MENU button (do not allow the display to time out between entries while keying the sequence).
- Short one of the "Service" jumpers on the TV board during cold start and apply mains (see Figures "Service jumper"). Then press the mains button (remove the short after start-up).
  Caution: Entering SDM by shorting "Service" jumpers will override the +8V-protection. Do this only for a short period. When doing this, the service-technician must know exactly what he is doing, as it could damage the television set.
- Or via ComPair.



G_16210_087.eps
200106

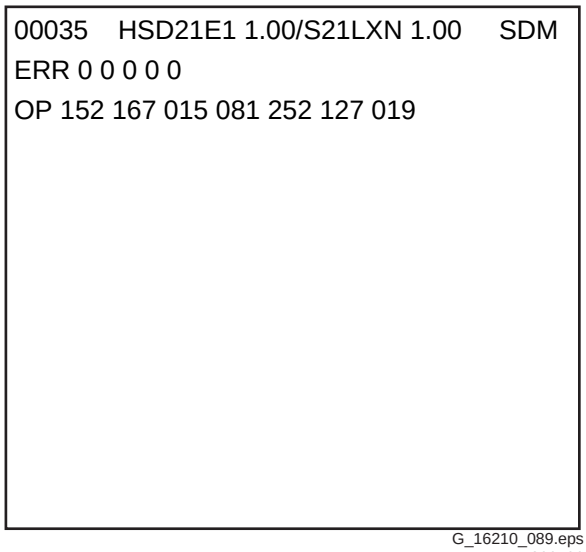
Figure 5-1 Service jumper (component side)



G_16210_088.eps
200106

Figure 5-2 Service jumper (solder side)

After entering SDM, the following screen is visible, with SDM in the upper right corner of the screen to indicate that the television is in Service Default Mode.



G_16210_089.eps
200106

Figure 5-3 SDM menu

How to Navigate

Use one of the following methods:

- When you press the MENU button on the remote control, the set will switch on the normal user menu in the SDM mode.
- On the TV, press and hold the VOLUME DOWN and press the CHANNEL DOWN for a few seconds, to switch from SDM to SAM and reverse; or press the following key sequence on the remote control transmitter: "**062596**" directly followed by the OSD button to switch to SAM (do not allow the display to time out between entries while keying the sequence).

How to Exit

Switch the set to STANDBY by pressing the mains button on the remote control transmitter or the television set.
If you turn the television set off by removing the mains (i.e., unplugging the television) without using the mains button, the television set will remain in SDM when mains is re-applied, and the error buffer is not cleared.

5.2.2 Service Alignment Mode (SAM)

Purpose

- To change option settings.
- To display / clear the error code buffer.
- To perform alignments.

Specifications

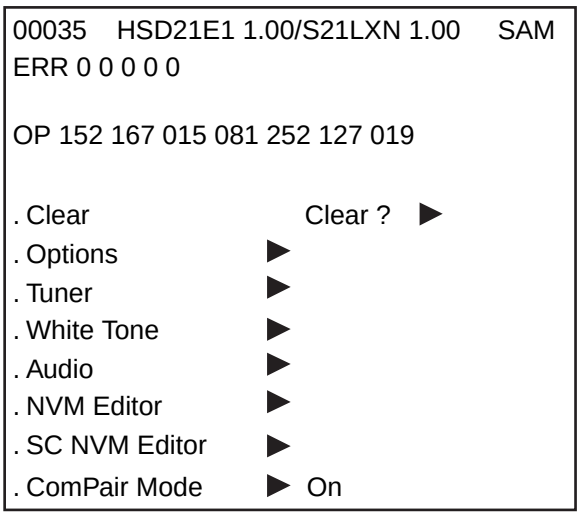
- Operation hours counter (maximum five digits displayed).
- Software version, Error codes, and Option settings display.
- Error buffer clearing.
- Option settings.
- Software alignments (Tuner, White Tone, Geometry & Audio).
- NVM Editor.
- ComPair Mode switching.

How to Enter

To enter SAM, use one of the following methods:

- Press the following key sequence on the remote control transmitter: "**062596**" directly followed by the OSD/ STATUS/INFO(I+) button (do not allow the display to time out between entries while keying the sequence).
- Or via ComPair.

After entering SAM, the following screen is visible, with SAM in the upper right corner of the screen to indicate that the television is in Service Alignment Mode.



G_16210_090.eps
200106

Figure 5-4 SAM menu

Menu Explanation

1. **LLLLL.** This represents the run timer. The run timer counts normal operation hours, but does not count standby hours.
2. **AAABCD X.YY.** This is the software identification of the main microprocessor:
   - **A**= the project name (LC04.x).
   - **B**= the region: E= Europe, A= Asia Pacific, U= NAFTA, L= LATAM.
   - **C**= the software diversity:
     - **Europe:** T= 1 page TXT, F= Full TXT, V= Voice control.
     - **LATAM and NAFTA:** N= Stereo non-dBx, S= Stereo dBx.
     - **Asian Pacific:** T= TXT, N= non-TXT, C= NTSC.
     - **ALL regions:** M= mono, D= DVD, Q= Mk2.
   - **D**= the language cluster number.
   - **X**= the main software version number (updated with a major change that is incompatible with previous versions).
   - **Y**= the sub software version number (updated with a minor change that is compatible with previous versions).
3. **EEEEE F.GG.** This is the software identification of the Scaler:
   - **EEEEEE**= the scaler sw cluster
   - **F**= the main sw version no.
   - **GG**= the sub-version no.
4. **SAM.** Indication of the Service Alignment Mode.
5. **Error Buffer.** Shows all errors detected since the last time the buffer was erased. Five errors possible.
6. **Option Bytes.** Used to read-out the option bytes. See "Options" in the Alignments section for a detailed description. Seven codes are possible.
7. **Clear.** Erases the contents of the error buffer. Select the CLEAR menu item and press the MENU RIGHT key. The content of the error buffer is cleared.
8. **Options.** Used to set the option bits. See "Options" in the Alignments section for a detailed description.
9. **Tuner.** Used to align the tuner. See "Tuner" in the Alignments section for a detailed description.
10. **White Tone.** Used to align the white tone. See "White Tone" in the Alignments section for a detailed description.
11. **Audio.** No audio alignment is necessary for this television set.
12. **NVM Editor.** Can be used to change the NVM data in the television set. See table "NVM data" further on.

13. **SC NVM Editor.** Can be used to edit Scaler NVM.
14. **ComPalr.** Can be used to switch on the television to In System Programming (ISP) mode, for software uploading via ComPair.
    Caution: When this mode is selected without ComPair connected, the TV will be blocked. Remove the AC power to reset the TV.

How to Navigate

- In SAM, select menu items with the MENU UP/DOWN keys on the remote control transmitter. The selected item will be indicated. When not all menu items fit on the screen, use the MENU UP/DOWN keys to display the next / previous menu items.
- With the MENU LEFT/RIGHT keys, it is possible to:
  – Activate the selected menu item.
  – Change the value of the selected menu item.
  – Activate the selected submenu.
- In SAM, when you press the MENU button twice, the set will switch to the normal user menus (with the SAM mode still active in the background). To return to the SAM menu press the MENU button.
- When you press the MENU key in while in a submenu, you will return to the previous menu.
- On the TV, press and hold the VOLUME DOWN and press the CHANNEL DOWN for a few seconds, to switch from SAM to SDM and reverse; or press the following key sequence on the remote control transmitter: "**062596**" directly followed by the MENU button to switch to SDM (do not allow the display to time out between entries while keying the sequence).

How to Store SAM Settings

To store the settings changed in SAM mode, leave the top level SAM menu by using the POWER button on the remote control transmitter or the television set.

How to Exit

Switch the set to STANDBY by pressing the mains button on the remote control transmitter or the television set.
If you turn the television set "off" by removing the mains (i.e., unplugging the television) without using the mains button, the television set will remain in SAM when mains is re-applied, and the error buffer is not cleared.

5.2.3 Customer Service Mode (CSM)

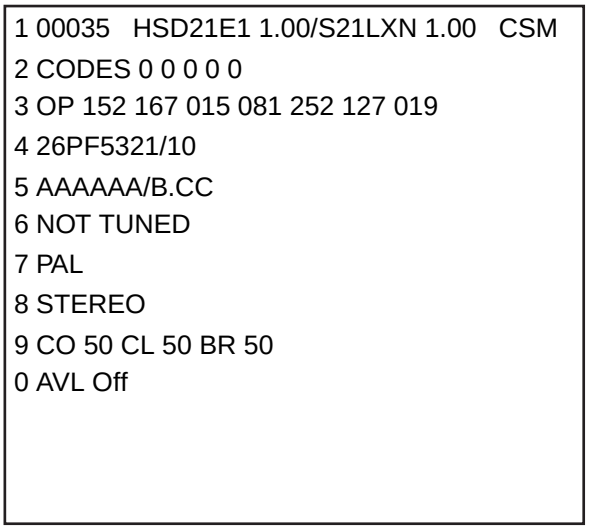
Purpose

The Customer Service Mode shows error codes and information on the TV's operation settings. The call centre can instruct the customer (by telephone) to enter CSM in order to identify the status of the set. This helps the call centre to diagnose problems and failures in the TV set before making a service call.
The CSM is a read-only mode; therefore, modifications are not possible in this mode.

How to Enter

To enter CSM, press the following key sequence on the remote control transmitter: "**123654**" (do not allow the display to time out between entries while keying the sequence).

Upon entering the Customer Service Mode, the following screen will appear:



G_16210_091.eps
200106

Figure 5-5 CSM menu

Menu Explanation

1. Indication of the decimal value of the operation hours counter, Main/Scaler software version (see "Service Alignment Mode" for an explanation), and the service mode (CSM = Customer Service Mode).
2. Displays the last five errors detected in the error code buffer.
3. Displays the option bytes.
4. Displays the type number version of the set.
5. **aaaaaa / b.ccc** Firmware identification of the Pacific 3 and the OTC:
   – **aaaaaa** = the firmware version of the Pacific 3 (Pixel+)
   – **b.ccc** = the firmware version of the OTC (for the 1000 page TXT decoder).
6. Indicates the television is receiving an "IDENT" signal on the selected source. If no "IDENT" signal is detected, the display will read "NOT TUNED".
7. Displays the detected Colour system (e.g. PAL/NTSC).
8. Displays the detected Audio (e.g. stereo/mono).
9. Displays the picture setting information.
10. Displays the sound setting information.

How to Exit

To exit CSM, use one of the following methods:

- Press the MENU button twice, or POWER button on the remote control transmitter.
- Press the POWER button on the television set.

5.3 Problems and Solving Tips Related to CSM

5.3.1 Picture Problems

Note: The problems described below are all related to the TV settings. The procedures used to change the value (or status) of the different settings are described.

Picture too Dark or too Bright

If:

- The picture improves when you press the SMART PICTURE button on the remote control transmitter, or
- The picture improves when you enter the Customer Service Mode,

Then:
1. Press the SMART PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to select the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys (if necessary) to select BRIGHTNESS.
6. Press the MENU LEFT/RIGHT keys to increase or decrease the value of the selected parameter.
7. Use the MENU UP/DOWN keys to select STORE.
8. Press the MENU RIGHT key to store the new value.
9. Press the MENU key to exit the PERSONAL picture mode.

White Line around Picture Elements and Text

If:
The picture improves after you have pressed the SMART PICTURE button on the remote control transmitter,

Then:
1. Press the SMART PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to select the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys (if necessary) to select SHARPNESS.
6. Press the MENU LEFT/RIGHT keys to increase or decrease the value of the selected parameter.
7. Use the MENU UP/DOWN keys to select STORE.
8. Press the MENU RIGHT key to store the new value.
9. Press the MENU key to exit the PERSONAL picture mode.

Snowy Picture
Check CSM line 6. If this line reads “Not Tuned”, check the following:
- Antenna not connected. Connect the antenna.
- No antenna signal or bad antenna signal. Connect a proper antenna signal.
- The tuner is faulty (in this case line 2, the Error Buffer line, will contain error number 10). Check the tuner and replace/ repair the tuner if necessary.

Black and White Picture

If:
- The picture improves after you have pressed the SMART PICTURE button on the remote control transmitter,

Then:
1. Press the SMART PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to select the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys (if necessary) to select COLOUR.
6. Press the MENU LEFT/RIGHT keys to increase or decrease the value of the selected parameter.
7. Use the MENU UP/DOWN keys to select STORE.
8. Press the MENU RIGHT key to store the new value.
9. Press the MENU key to exit the PERSONAL picture mode.

5.4 Service Tools

5.4.1 ComPair

Introduction
ComPair (Computer Aided Repair) is a service tool for Philips Consumer Electronics products. ComPair is a further development on the European DST (service remote control), which allows faster and more accurate diagnostics. ComPair has three big advantages:
1. ComPair helps you to quickly get an understanding on how to repair the chassis in a short time by guiding you systematically through the repair procedures.
2. ComPair allows very detailed diagnostics (on I^2C level) and is therefore capable of accurately indicating problem areas. You do not have to know anything about I^2C commands yourself because ComPair takes care of this.
3. ComPair speeds up the repair time since it can automatically communicate with the chassis (when the microprocessor is working) and all repair information is directly available. When ComPair is installed together with the Force/SearchMan electronic manual of the defective chassis, schematics and PWBs are only a mouse click away.

Specifications
ComPair consists of a Windows based fault finding program and an interface box between PC and the (defective) product. The ComPair interface box is connected to the PC via a serial (or RS-232) cable.
For this chassis, the ComPair interface box and the TV communicate via a bi-directional service cable via the service connector(s).

The ComPair fault finding program is able to determine the problem of the defective television. ComPair can gather diagnostic information in two ways:
- Automatically (by communicating with the television): ComPair can automatically read out the contents of the entire error buffer. Diagnosis is done on I^2C/UART level. ComPair can access the I^2C/UART bus of the television. ComPair can send and receive I^2C/UART commands to the micro controller of the television. In this way, it is possible for ComPair to communicate (read and write) to devices on the I^2C/UART buses of the TV-set.
- Manually (by asking questions to you): Automatic diagnosis is only possible if the micro controller of the television is working correctly and only to a certain extent. When this is not the case, ComPair will guide you through the fault finding tree by asking you questions *(e.g. Does the screen give a picture? Click on the correct answer: YES / NO)* and showing you examples *(e.g. Measure test-point I7 and click on the correct oscillogram you see on the oscilloscope)*. You can answer by clicking on a link *(e.g. text or a waveform picture)* that will bring you to the next step in the fault finding process.

By a combination of automatic diagnostics and an interactive question / answer procedure, ComPair will enable you to find most problems in a fast and effective way.

How to Connect
This is described in the chassis fault finding database in ComPair.

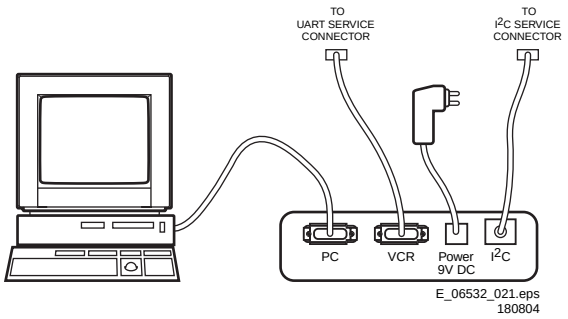


Figure 5-6 ComPair interface connection

How to Order
- ComPair order codes (EU/AP/LATAM):
- Starter kit ComPair32/SearchMan32 software and ComPair interface (excl. transformer): 3122 785 90450.
- ComPair interface (excl. transformer): 4822 727 21631.
- Starter kit ComPair32 software (registration version): 3122 785 60040.
- Starter kit SearchMan32 software: 3122 785 60050.
- ComPair32 CD (update): 3122 785 60070 (year 2002), 3122 785 60110 (year 2003 onwards).
- SearchMan32 CD (update): 3122 785 60080 (year 2002), 3122 785 60120 (year 2003), 3122 785 60130 (year 2004).
- ComPair firmware upgrade IC: 3122 785 90510.
- Transformer (non-UK): 4822 727 21632.
- Transformer (UK): 4822 727 21633.
- ComPair interface cable: 3122 785 90004.
- ComPair interface extension cable: 3139 131 03791.
- ComPair UART interface cable: 3122 785 90630.

Note: If you encounter any problems, contact your local support desk.

5.4.2 LVDS Tool

Introduction
This service tool (also called “ComPair Assistant 1“) may help you to identify, in case the TV does not show any picture, whether the Small Signal Board (SSB) **or** the display of a Flat TV is defective.
Furthermore it is possible to program EPLDs with this tool (Byte blaster). Read the user manual for an explanation of this feature.

Since 2004, the LVDS output connectors in our Flat TV models are standardised (with some exceptions). With the two delivered LVDS interface cables (31p and 20p) you can cover most chassis (in special cases, an extra cable will be offered).

When operating, the tool will show a small (scaled) picture on a VGA monitor. Due to a limited memory capacity, it is not possible to increase the size when processing high-resolution LVDS signals (> 1280x960). Below this resolution, or when a DVI monitor is used, the displayed picture will be full size.

Generally this tool is intended to determine if the SSB is working or not. Thus to determine if LVDS, RGB, and sync signals are okay.

How to Connect
Connections are explained in the user manual, which is packed with the tool.

Note: To use the LVDS tool, you must have ComPair release 2004-1 (or later) on your PC (engine version >= 2.2.05).
For every TV type number and screen size, one must choose the proper settings via ComPair. The ComPair file will be updated regularly with new introduced chassis information.

How to Order
- LVDS tool (incl. two LVDS cables: 31p and 20p): 3122 785 90671.
- LVDS tool Service Manual: 3122 785 00810.
- LVDS cable 30p (for LC4.3): 3122 785 90821 (available soon).
- LVDS cable 41p -> 31p for HD PDPs (dual -> single LVDS): 3122 785 90831 (available soon).

5.5 Error Codes

The error code buffer contains all errors detected since the last time the buffer was erased. The buffer is written from left to right. When an error occurs that is not yet in the error code buffer, it is displayed at the left side and all other errors shift one position to the right.

5.5.1 How to Read the Error Buffer

You can read the error buffer in 3 ways:
- On screen via the SAM (if you have a picture).
  Examples:
  - ERROR: 0 0 0 0 0 : No errors detected
  - ERROR: 6 0 0 0 0 : Error code 6 is the last and only detected error
  - ERROR: 9 6 0 0 0 : Error code 6 was detected first and error code 9 is the last detected (newest) error
- Via the blinking LED procedure (when you have no picture). See “The Blinking LED Procedure”.
- Via ComPair.

5.5.2 How to Clear the Error Buffer

The error code buffer is cleared in the following cases:
- By using the CLEAR command in the SAM menu:
  - To enter SAM, press the following key sequence on the remote control transmitter: “**062596**” directly followed by the OSD/i+ button (do not allow the display to time out between entries while keying the sequence).
  - Make sure the menu item CLEAR is selected. Use the MENU UP/DOWN buttons, if necessary.
  - Press the MENU RIGHT button to clear the error buffer. The text on the right side of the “CLEAR” line will change from “CLEAR?” to “CLEARED”
- If the contents of the error buffer have not changed for 50 hours, the error buffer resets automatically.

Note: If you exit SAM by disconnecting the mains from the television set, the error buffer is not reset.

5.5.3 Error Codes

In case of non-intermittent faults, write down the errors present in the error buffer and clear the error buffer before you begin the repair. This ensures that old error codes are no longer present.
If possible, check the entire contents of the error buffer. In some situations, an error code is only the result of another error and not the actual cause of the problem (for example, a fault in the protection detection circuitry can also lead to a protection).

Table 5-1 Error code overview

Error	Error Description	Check Item	Diagram
0	No Error		
1	Mis-match of TV (Hercules) SW and Scaler SW	Software versions	N.A.
2	+12V from PSU error	PSU	A
3	Plasma I^2C error (only for plasma sets)	N.A.	N.A.
4	I^2C error while communicating with the Genesis Scaler	7801	B7 + B8
5	+5V protection	7752	B6
6	General I^2C error; communication between ADC, analogue tuner, and/or Columbus I^2C failed	1102, 7L01, 7M00	B1 + B18 + B19
7	I^2C error while communicating with ADC	7L01	B18
8	I^2C error while communicating with the Scaler EEPROM	7C01	B11
9	I^2C error while communicating with the Hercules EEPROM (NVM for TV). **Remark:** when the Hercules EEPROM is defective, the Hercules should operate with its default values.	7217	B2
10	I^2C error while communicating with the PLL tuner	1102	B1
11	I^2C error while communicating with the 3D combfilter IC-7M00 (Columbus)	7M00	B19
12	I^2C error while communicating with iBoard uP (only iTV sets)	N.A.	N.A.
13	I^2C error while communicating with the HDMI decoder IC-7D03 (only for NAFTA and AP)	N.A.	N.A.
14	Read-write error with the Scaler SDRAM	7B01	B10
15	I^2C error while communicating with the OTC	-	-
16	I^2C error while communicating with EPLD or Pacific III	7N02	B20 + B21
17	I^2C error while communicating with the Digital Module (only for digital sets)	N.A.	N.A.
18	IBO hardware error (only for digital sets)	N.A.	N.A.

5.6 The Blinking LED Procedure

Using this procedure, you can make the contents of the error buffer visible via the front LED. This is especially useful when there is no picture.

When the SDM is entered, the front LED will blink the contents of the error-buffer:

- The LED blinks with as many pulses as the error code number, followed by a time period of 1.5 seconds, in which the LED is off.
- Then this sequence is repeated.

Any RC5 command terminates this sequence.

Example of error buffer: **12 9 6 0 0**
After entering SDM, the following occurs:

- 1 long blink of 5 seconds to start the sequence,
- 12 short blinks followed by a pause of 1.5 seconds,
- 9 short blinks followed by a pause of 1.5 seconds,
- 6 short blinks followed by a pause of 1.5 seconds,
- 1 long blink of 1.5 seconds to finish the sequence,
- The sequence starts again with 12 short blinks.

5.7 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.

5.7.1 NVM Editor

In some cases, it can be handy if one directly can change the NVM contents. This can be done with the “NVM Editor” in SAM mode. With this option, single bytes can be changed.

Caution:

- **Do not change the NVM settings without understanding the function of each setting, because incorrect NVM settings may seriously hamper the correct functioning of the TV set!**
- **Do not change the Scaler NVM settings, as this will hamper the DVI functionality of the TV set!**
- Always note down the existing NVM settings, before changing the settings. This will enable you to return to the original settings, if the new settings turn out to be incorrect.

Table 5-2 NVM editor overview

	Hex	Dec	Description
.ADR	0x000A	10	Existing value
.VAL	0x0000	0	New value
.Store	Store?		

Table 5-3 NVM Default values (option bit settings through NVM Editor in SAM Mode)

Byte Nr.	Bit	Feature/Mode	Description	26PF5321/10/12 32PF5321/10/12 37PF5321/10/12 26PF7321/12 32PF7321/12 37PF7321/10/12
Byte 0 174(dec)	0	QSS (LSB)	Mode of quasi split sound amplifier	1
	1	FMI	Connection of output of QSS amplifier	1
	2	HCO	EHT tracking mode	0
	3	HP2	Synchronization of OSD/Text display	1
	4	FSL	Forced slicing level for vertical sync	1
	5	TFR	DC transfer ratio of luminance signal	1
	6	OSVE	Black current measuring in overscan	0
	7	MVK (MSB)	(For Future Usage, as defined by software)	0
		Total Dec Values		59
		Total Hex Values		3B
Byte 1 175(dec)	0	PSE	PSE	0
	1	OPC	OPC	0
	2	PRIS	PRIS	0
	3	CONTINUOUS FACTORY	Continuous factory mode	1
	4	WHITE PATTERN ON	Last colour pattern status in factory mode	0
	5	SDM MODE	Service default mode on/off	0
	6	SAM MODE	Service Align mode on/off	0
	7	SVMA	Scavem On / Off	0
		Total Dec Values		8
		Total Hex Values		08
Byte 2 176(dec)	0	MUTE STATUS	Mute status	0
	1	TUNER AUTO MODE	Auto mode	1
	2	CABLE MODE	Cable/Antenna mode	0
	3	LAST POWER MODE	Last power status of the set	1
	4	CHILD LOCK MODE	Child lock enabled	0
	5	SURF MODE	Surf mode on/off	0
	6	FACTORY MODE	Factory mode on	1
	7	PSNS	For PAL colour enhancement in ES4	1
		Total Dec Values		202
		Total Hex Values		CA
Byte 3 177(dec)	0	RADIO/TV MODE	Radio mode or TV mode	0
	1	WAKE-UP MODE	WAKE-UP MODE	0
	2	HOTEL MODE	TV in Hotel mode	0
	3	HOTEL KBD LOCK	Keyboard locked	0
	4	HBL	HBL	0
	5	BLS	Blue stretch mode	1
	6	SL	SL	0
	7	CFA0	Comb filter On/Off	0
		Total Dec Values		32
		Total Hex Values		20
Byte 4 178(dec)	0	Signal Strength	Signal Strength Switch in MK2	0
	1	LPG	LPG	0
	2	DVD TRAY LOCK	Lock/Unlock DVD tray	0
	3	SCRSAVER MODE	Screen saver mode	1
	4	BKS	Black Stretch Mode	1
	5	BSD	Black Stretch Depth	1
	6	CRA0	Coring on SVM	1
	7	PIP QSS	PIP QSS	0
		Total Dec Values		120
		Total Hex Values		78
Byte 5 179(dec)	0	FFI	Fast Filter	0
	1	NNR	No red reduction during blue stretch	1
	2	MUS	NTSC matrix	1
	3	GAM	Gamma control	1
	4	CBS	Control sequence of beam current limiting	0
	5	LLB	Low level of beam current limiter	0
	6	DSA	Dynamic skin tone angle area	1
	7	DSK	Dynamic skin tone angle on/ off	0
		Total Dec Values		78
		Total Hex Values		4E

Byte Nr.	Bit	Feature/Mode	Description	26PF5321/10/12 32PF5321/10/12 37PF5321/10/12 26PF7321/12 32PF7321/12 37PF7321/10/12
Byte 6 180(dec)	0	LTI status	LTI last status	0
	1	Inc_Life_Time	Inc_Life_Time	0
	2	PC_Mode	PC_Mode	0
	3	HD_Mode	HD_Mode	0
	4	Tact_Switch	Tact_Switch	0
	5	Set_In_Special_Stby	Set_In_Special_Stby	0
	6	Hotel_OSDDisplay	Hotel_OSDDisplay	0
	7	Hotel_MonitorOut	Hotel_MonitorOut	0
		Total Dec Values		0
		Total Hex Values		00
Byte 7 181(dec)	0	Hotel_IconMode	Hotel_IconMode	0
	1	DBE	DBE	1
	2	SD	SD	0
	3	Set_in_PC_Sleep_Mode	Set_in_PC_Sleep_Mode	0
	4	Reserved	Reserved	1
	5	Reserved	Reserved	0
	6	Reserved	Reserved	0
	7	Reserved	Reserved	0
		Total Dec Values		18
		Total Hex Values		12

5.7.2 Load Default NVM Values

In case a blank NVM is placed or when the NVM content is corrupted, default values can be downloaded into the NVM. (For empty NVM replacement, short the SDM with a jumper and apply the mains voltage. Remember to remove the jumper after the reload is completed). After the default values are downloaded, it will be possible to start up and to start aligning the TV set. This is no longer initiated automatically; to initiate the download the following action has to be performed:

1. Switch “off” the TV set by disconnecting the AC Power plug.
2. Short circuit an SDM jumper (keep short-circuited).
3. Press P+ or Ch+ on the local keyboard (and keep it pressed).
4. Switch on the TV set via the AC Power plug.
5. Keep pressing the P+/Ch+ button until the set has started up and the SDM is shown.

Alternative method:

1. Go to SAM.
2. Select NVM Editor (not SC NVM Editor).
3. Select ADR (address) to 1 (dec).
4. Change the VAL (value) to 170 (dec).
5. Store the value.
6. Disconnect the mains plug and wait for a few seconds.
7. Reconnect the mains plug and wait until the set goes into its standby mode (red LED lights up).
8. Restart the set.

5.7.3 Flash New Scaler Software

When you need to flash new scaler software, follow the instructions in ComPair. Make sure you put the set in one of the Service Modes, SDM/SAM/CSM, before you start flashing. This reduces the risk of the set hanging during the flashing procedure.

5.7.4 Tuner and IF

No Picture in RF Mode, but there is a Noise Raster

1. Check whether picture is present in AV. If not, go to Video processing troubleshooting section.
2. If present, check if the Option settings are correct.
3. Check if all the supply voltages are present (3.3/5/8/12/33 V).
4. Check if the I^2C lines are working correctly (3.3 V).
5. Manually store a known channel and check if there is IF output at Tuner pin 11.
6. Check the tuning DC voltage at pin 2 of the Tuner. The DC voltage should vary according to the frequency/channel being chosen.
7. If the tuning voltage is OK, check the tuner output, pin 11.
8. If it has no output, the Tuner may have a defect. Change the Tuner.

Sound in Picture Problem for L' System (rolling horizontal lines)

1. Check whether AGC L' in SAM mode is set to 0.
2. If yes, align the set to correct value.

Required System is not Selected Correctly

Check whether a Service jumper (#4204 & 4205, 0805 size) is present. If yes, remove it.

5.7.5 Video Processing

No Power

1. Check +12 V and 3V3 at position 1J02.
2. If no supply, first check the connector 1J02.
3. If the connector is correct, check the power supply board.

Power Supply is Correct, but no Green LED

1. Check if the connectors 1K00 are properly inserted.
2. If they are inserted correctly, check if the 3V3 is present.

No Picture Display (blank screen with correct sound output)

1. Check whether the user menu is visible.
2. If the user menu is OK, activate teletext mode.
3. If teletext is OK, the problem is in the ADC (B18) & Columbus 3D combfilter (B19), if present (depending on model, see also paragraph “Teletext Path” in chapter 9).
4. If the user menu is not visible, check if the LCD panel backlight is ON.
5. If the backlight is OFF, the problem is in the power supply board or LCD panel. Also check pin 12 (LAMP_ON_OFF) of 1J02. It should be HIGH during normal operation.

Note: For fault finding purposes, it is important to know the following: in Pixel Plus and Digital Crystal Clear models, which have an ADC (B18) and Columbus 3D combfilter (B19), the digital input of the scaler is used for the digital video path (Hercules output), whereas the analogue RGB input (analogue input of the scaler) is only used for teletext. This means that no

mixed mode (video plus teletext simultaneously) is possible. If there is sound and teletext, but no video and user menu (blank screen), the digital path (Hercules - ADC - Columbus - Scaler) is faulty. If there is sound but no teletext, the back-end part (Scaler - LCD panel) is faulty. In Crystal Clear models, which do not have an ADC and Columbus, the RGB path (analogue input of scaler) is used for both video and teletext.

No TV, but PC is Present

1. Check if Hsync_SDTV and Vsync_SDTV are present at pin 1 & pin13 of 7E03.
2. If they are present, check teletext output.
3. If there is no teletext output, the IC TDA150xx may be defect.

5.7.6 Power Supply

Check Fuse

The power supply (various models are used) contains one fuse near the AC input connector X002.

1. Check with power supply in “off” state by means of ohmic measurement.
2. Fuse X102 may open in case of severe lightning strikes and/or failures in the power supply.
3. Check the standby signal at pin 10 of X200. ON is HIGH, OFF is LOW. During standby mode only the 3V3 is present at pin 10.

Protections Concept on Power Supply Board (two models)

1. **12 V output (pin 8 of X200):** Short-circuit protected by 2.5 A fuse X610. Over-voltage protection when output voltage is more than 40% above nominal value.
2. **Vaudio output (+18 or +24 V, depending on power supply model used); (pin 1 of X200):** Short-circuit proof (+18 V version has 2.5 A fuse X660). Over voltage protection when output voltage is more than 40% above nominal value.
3. **3V3STBY output (pin 3&4 of X200):** Short-circuit proof with auto-restart. Over voltage protection when output voltage is more than 40% above nominal value.
4. **24 V output (for inverter X520 & X530):** Short-circuit proof with auto-restart. Over voltage protection when output voltage is more than 40% above nominal value.

Standby Mode

1. Apply a 12 ohm load resistor of sufficient power rating to all outputs mentioned above (+12 V, +18/ 24 V, +3V3 and +24 V). Connect the STBY pin (pin 10 of X200) to logical “L” (low), i.e. to GND.
2. Over an input voltage range of 90 V_{AC} to 276 V_{AC} only the +3V3 STBY output shall be up.

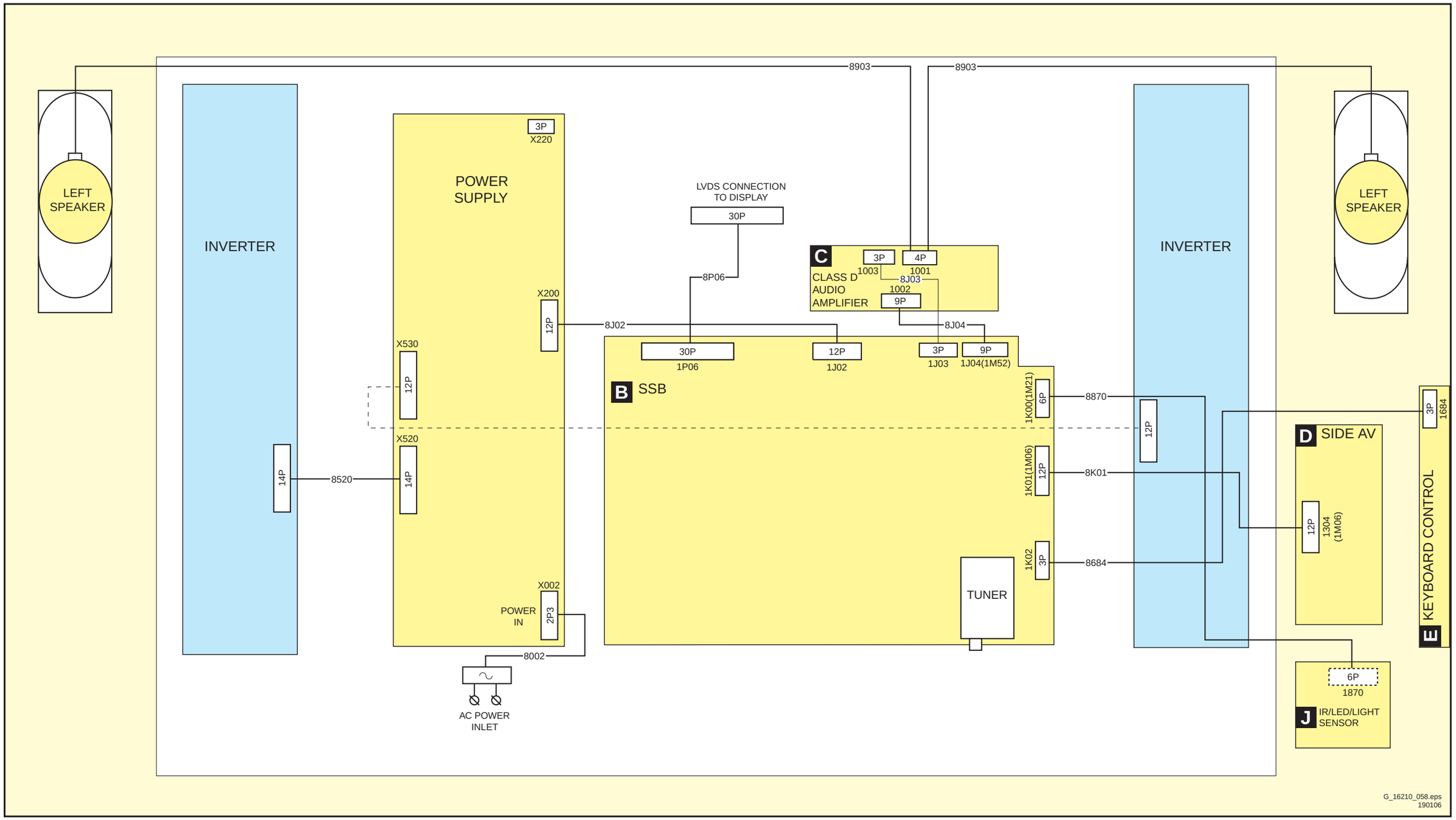
Normal Mode:

1. Apply a 12 ohm load resistor of sufficient power rating to all outputs mentioned above (+12 V, +18/ 24 V, +3V3 and +24 V). Connect the STBY pin (pin 10 of X200) to logical “H” (high), i.e. to the +3V3 STBY output via a 2,2 k pull up resistor.
2. Over an input voltage range of 90 V_{AC} to 276 V_{AC} all outputs shall be up. The voltage on the +3V3 STBY output shall be 3.3 V over the entire input voltage range. The voltage on the big 400 V capacitor on the power supply should also be 400 V $\pm$ 10%.

6. Block Diagrams, Test Point Overviews, and Waveforms

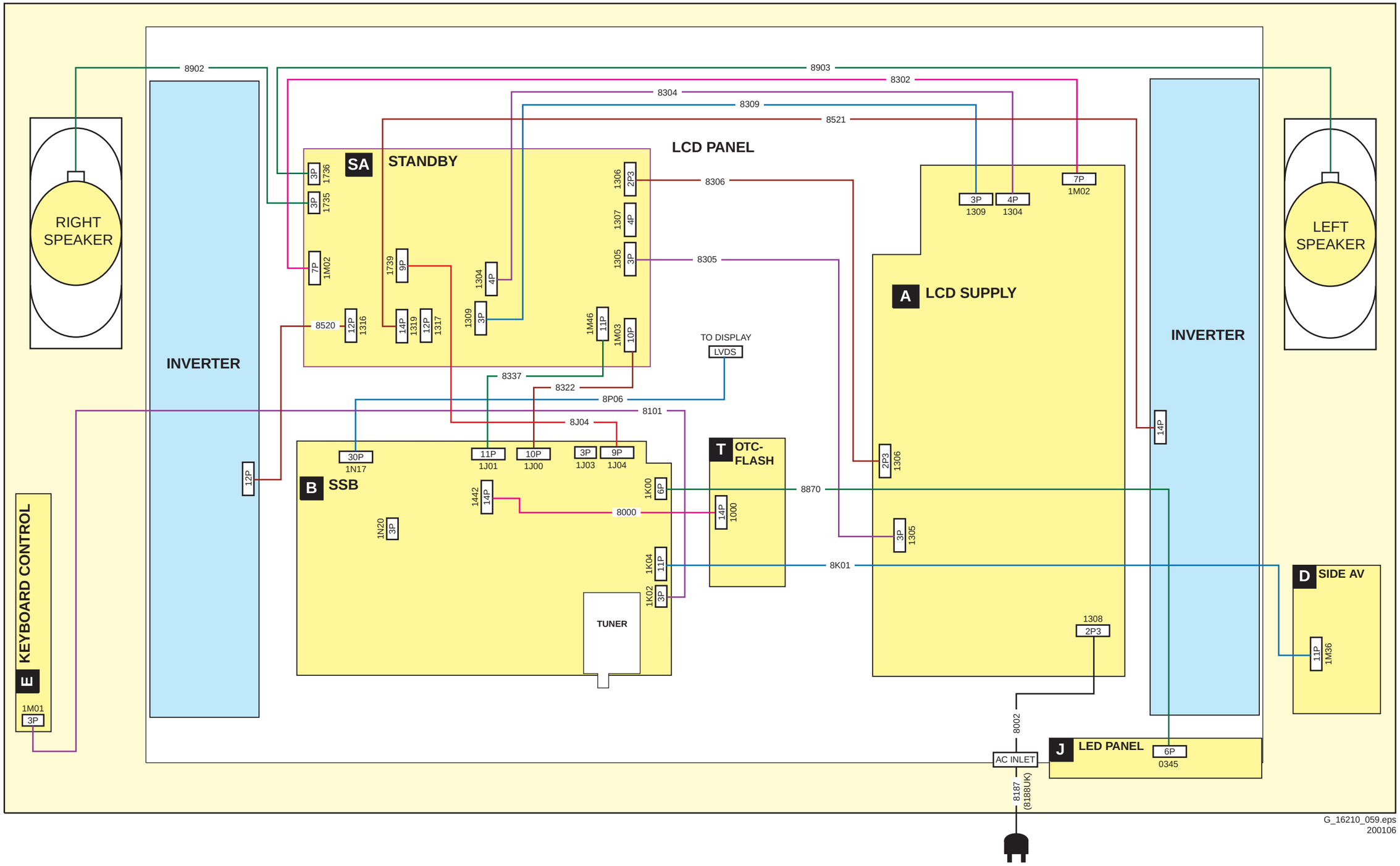
Wiring Diagram 26” & 32”

WIRING 26”- 32”



Wiring Diagram 37”

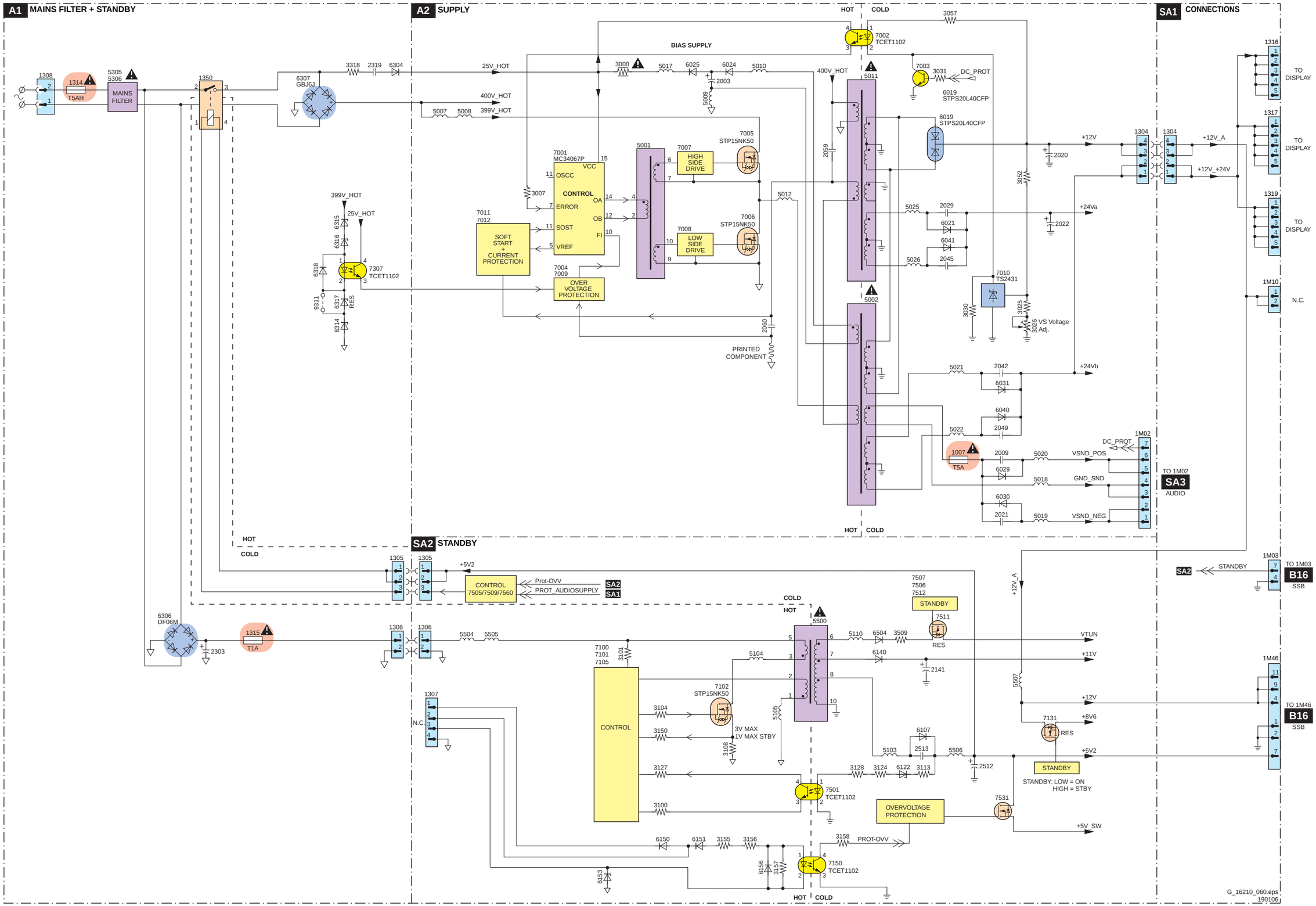
WIRING 37”



G_16210_059.eps
200106

Block Diagram Supply 37”

SUPPLY 37"



Block Diagram Video

VIDEO

B1 TUNER & VIF

B2 HERCULES

B13 MUX-SYNC INTERFACE

B7 SCALER

B20 PACIFIC3

B15A SCART ANALOG IO

B3 SYNC INTERFACE

B18 ADC

B10 SDRAM

B19 COLUMBUS

B9 SCALER

B15B DMMI

D SIDE AV

B17 SIDE CONNECTIONS

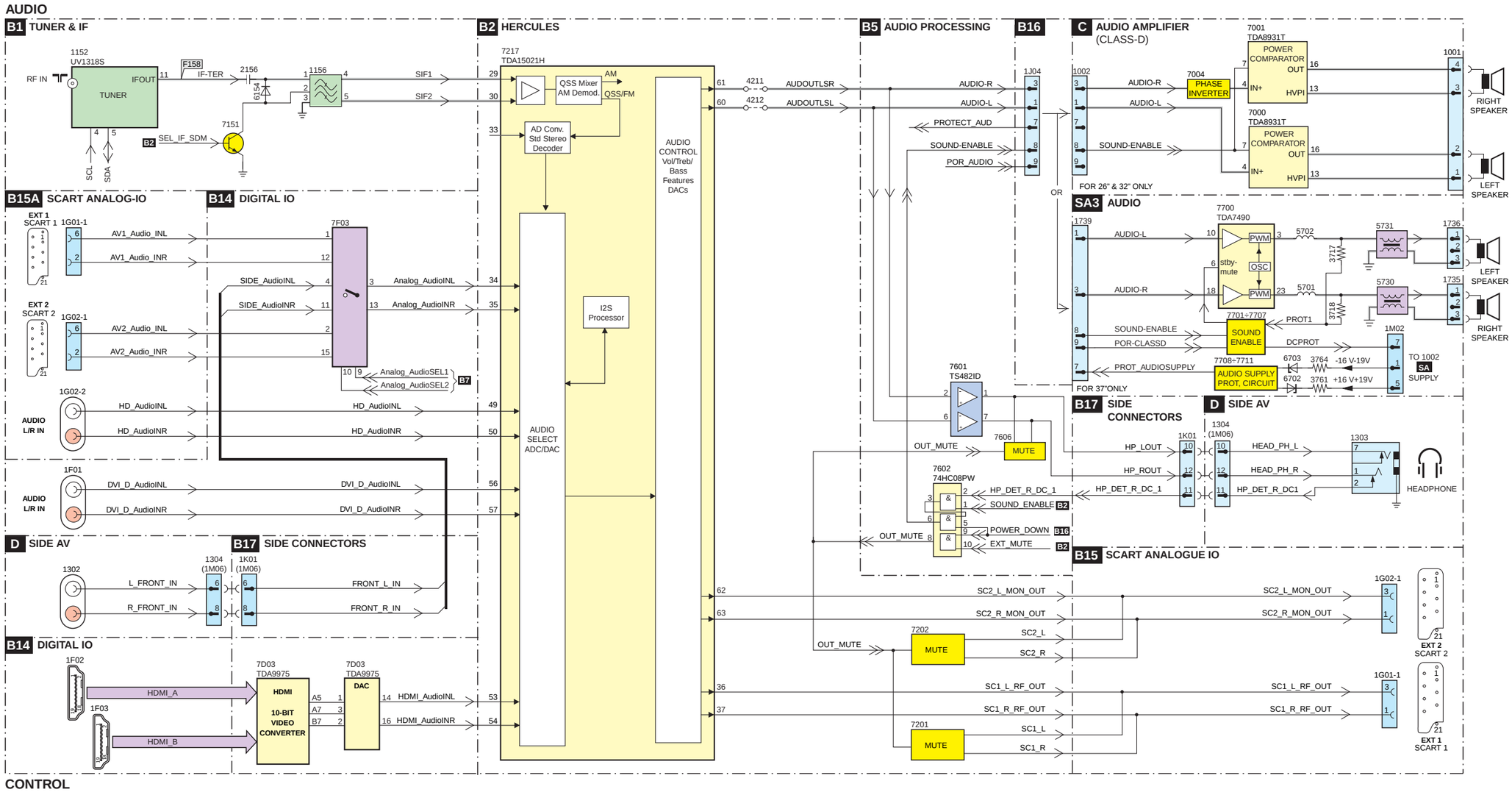
T OTC-FLASH (FOR 1000pg TXT)

B14 DIGITAL IO

B12 HDMI

B11 FLASH/CONTROL

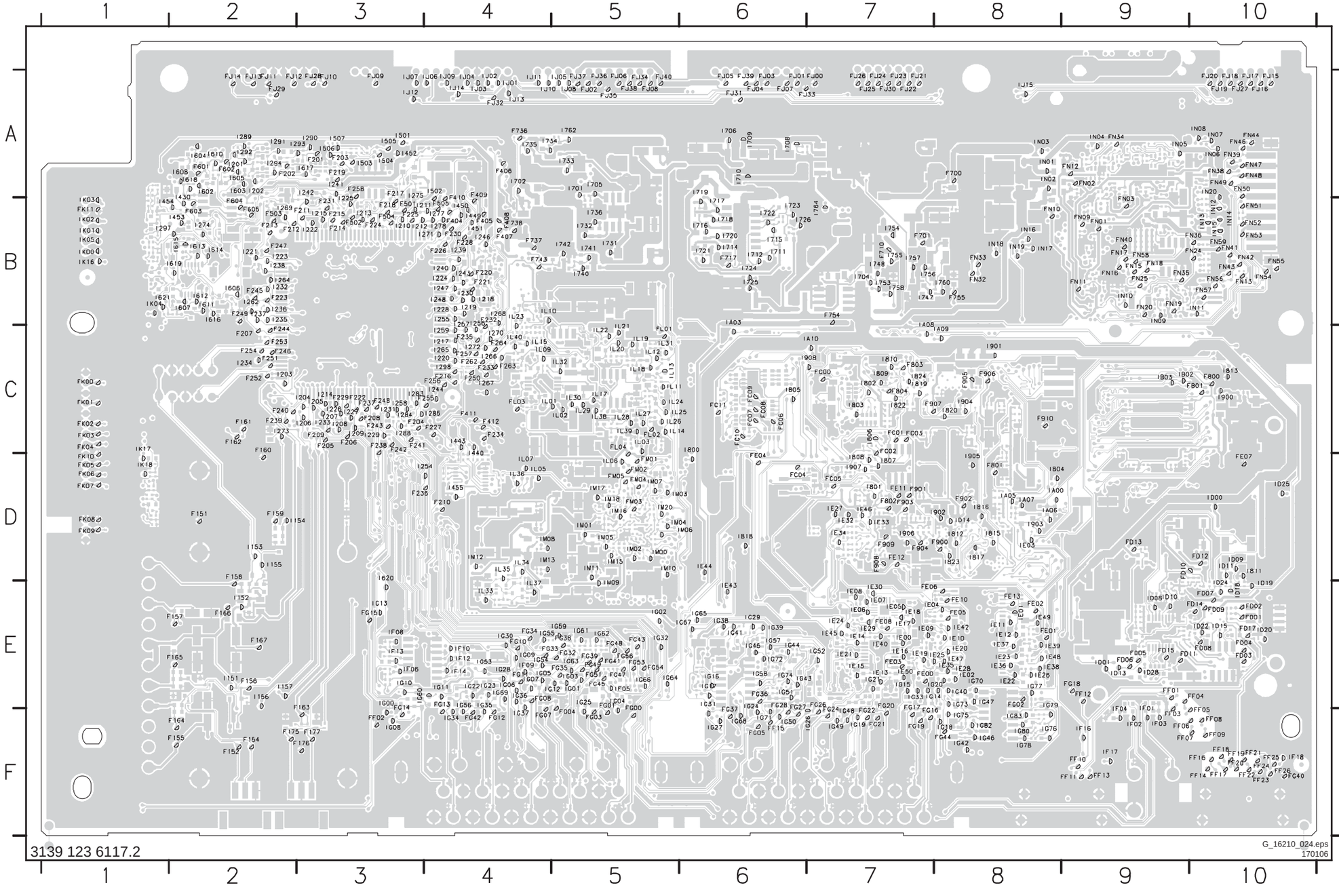
Block Diagram Audio



G_16210_062.eps
190106

Test Point Overview Small Signal Board

F151 D2 F166 E2 F210 D4 F224 B3 F238 C3 F252 C2 F408 B4 F605 B2 F803 C7 FC00 C7 FD03 E10 FE00 E7 FF02 F3 FF16 F10 FG03 F5 FG19 F7 FG38 E5 FG56 E5 FJ13 A2 FJ27 A10 FK00 C1 FL03 C4 FN13 B10 FN38 A10 FN53 B10 I201 A2 I215 B3 I230 B4 I244 C4 I267 C4 I288 C3 I451 B4 I907 D7 IG12 E5 IL12 C5
F152 F2 F167 E2 F211 B3 F225 B3 F239 C2 F253 C2 F409 A4 F700 A8 F804 C7 FC01 C7 FD04 E10 FE01 E8 FF03 F9 FF17 F10 FG04 F5 FG20 E7 FG39 E5 FJ00 A7 FJ14 A2 FJ28 A3 FK01 C1 FL04 C5 FN15 B9 FN39 A10 FN54 B10 I202 A2 I217 C4 I231 C3 I246 B4 I268 B4 I289 A2 I452 A3 I908 C7 IG13 E3 IL13 C5
F154 F2 F175 F2 F212 B2 F226 B4 F240 C2 F254 C2 F410 B4 F701 B7 F900 D8 FC02 C7 FD05 E9 FE02 E8 FF04 E10 FF18 F10 FG05 F6 FG21 F7 FG40 F10 FJ01 A6 FJ15 A10 FJ29 A2 FK02 C1 FM01 D5 FN16 B9 FN40 B9 FN55 B10 I203 C2 I218 B4 I232 B2 I247 B4 I269 B2 I290 A3 I453 B2 IA00 D8 IG14 E7 IL14 C5
F155 F2 F176 F3 F213 B2 F227 C4 F241 C3 F255 C4 F411 C4 F710 B7 F901 D7 FC03 C7 FD06 E9 FE03 E7 FF05 F10 FF19 F10 FG07 F4 FG22 F7 FG41 E5 FJ02 A5 FJ16 A10 FJ30 A7 FK03 C1 FM02 D5 FN17 B9 FN41 B10 FN56 B10 I204 C3 I219 B4 I233 C3 I248 B4 I270 C4 I291 A2 I454 B1 IA03 B6 IG15 E7 IL15 C4
F156 E2 F177 F3 F214 B3 F228 B4 F242 C3 F256 C4 F412 C4 F717 B6 F902 D8 FC04 D6 FD07 E10 FE04 D6 FF06 F9 FF20 F10 FG08 E4 FG24 F7 FG42 F4 FJ03 A6 FJ17 A10 FJ31 A6 FK04 C1 FM03 D5 FN18 B9 FN42 B10 FN57 B10 I205 C3 I220 C4 I234 C2 I254 D4 I271 B4 I292 A2 I455 D4 IA05 D8 IG16 E6 IL17 C5
F157 E2 F201 A3 F215 B3 F229 C3 F243 C3 F257 C4 F501 B3 F736 A4 F903 D7 FC05 D7 FD08 E10 FE05 E8 FF07 F9 FF21 F10 FG10 E4 FG26 E7 FG43 E5 FJ04 A6 FJ18 A10 FJ32 A4 FK05 D1 FM04 D5 FN19 B9 FN43 B10 FN58 B9 I206 C3 I221 B2 I235 B2 I255 B4 I272 C4 I293 A3 I501 A3 IA06 D8 IG17 E6 IL18 C5
F158 D2 F202 A2 F216 C4 F230 B4 F244 C2 F258 A3 F502 B3 F737 B4 F904 D7 FC06 C6 FD09 E10 FE06 E7 FF08 F10 FF22 F10 FG11 E4 FG27 E6 FG44 F8 FJ05 A6 FJ19 A10 FJ33 A7 FK06 D1 FM05 D5 FN20 B9 FN44 A10 FN59 B10 I207 C3 I222 B3 I236 B2 I256 B4 I273 C2 I294 A2 I502 A4 IA07 D8 IG18 F8 IL19 C5
F159 D2 F203 A3 F217 A3 F231 B3 F245 B2 F259 C2 F503 B2 F738 B4 F905 C8 FC07 C6 FD10 D9 FE07 D10 FF09 F10 FF23 F10 FG12 F4 FG28 E6 FG45 E5 FJ06 A5 FJ20 A10 FJ34 A5 FK07 D1 FN01 B9 FN24 B10 FN46 A10 I151 E2 I208 C3 I223 B2 I237 B2 I257 B4 I274 B2 I297 B1 IA08 B7 IG19 F7 IL20 C5
F160 C2 F204 C3 F218 B3 F232 B4 F246 C2 F263 C4 F504 B3 F743 B4 F906 C8 FC08 C6 FD11 E9 FE08 E7 FF10 F9 FF24 F10 FG13 E4 FG32 E5 FG47 E5 FJ07 A6 FJ21 A7 FJ35 A5 FK08 D1 FN02 A9 FN25 B9 FN47 A10 I152 E2 I209 C3 I224 B4 I238 B2 I258 C3 I275 A3 I298 C4 I504 A3 IA09 C8 IG20 E8 IL21 C5
F161 C2 F205 C3 F219 A3 F233 C4 F247 B2 F264 C4 F505 B4 F754 B7 F907 C7 FC09 C6 FD12 D10 FE10 E8 FF11 F9 FF25 F10 FG14 E3 FG33 E4 FG48 E5 FJ08 A5 FJ22 A7 FJ36 A5 FK09 D1 FN03 B9 FN32 B8 FN48 A10 I153 D2 I210 B3 I225 B3 I239 B4 I259 C4 I277 B4 I430 A2 I505 A3 IA10 C7 IG21 E7 IL22 C5
F162 C2 F206 C3 F220 B4 F234 C4 F248 C3 F404 B4 F601 A2 F755 B8 F908 D7 FC10 C6 FD13 D9 FE11 D7 FF12 E9 FF26 F10 FG15 E3 FG34 E4 FG49 E5 FJ09 A3 FJ23 A7 FJ37 A5 FK10 D1 FN09 B9 FN33 B8 FN49 A10 I154 D3 I211 B3 I226 C3 I240 B4 I262 B2 I278 B4 I440 D4 I506 A3 IB02 C9 IG22 E4 IL23 B4
F163 E3 F207 C2 F221 B4 F235 C4 F249 B2 F405 B4 F602 A2 F800 C10 F909 D7 FC11 C6 FD14 E10 FE12 D7 FF13 F9 FG00 E5 FG16 F7 FG35 E5 FJ10 A3 FJ24 A7 FJ38 A5 FK11 B1 FN10 B8 FN34 A9 FN50 A10 I155 D2 I212 B3 I227 C3 I241 A3 I264 B2 I283 C3 I443 C4 I507 A3 IB03 C9 IG23 E4 IL24 C5
F164 F2 F208 C3 F222 C3 F236 D3 F250 C4 F406 A4 F603 B2 F801 D8 F910 C8 FD01 E10 FD15 E9 FE13 E8 FF14 F10 FG01 E5 FG17 E7 FG36 E6 FG54 E5 FJ11 A2 FJ25 A7 FJ39 A6 FL01 C5 FN11 B9 FN35 B9 FN51 B10 I156 E2 I213 B3 I228 B4 I242 A3 I265 C4 I284 C3 I449 B4 I602 A2 ID00 D10 IG24 E6 IL25 C5
F165 E2 F209 C3 F223 B2 F237 C3 F251 C2 F407 B4 F604 B2 F802 D7 FB01 C10 FD02 E10 FD17 E10 FF01 E9 FF15 F6 FG02 E8 FG18 E9 FG37 F6 FG54 E5 FJ12 A2 FJ26 A7 FJ40 A5 FL02 C5 FN12 A9 FN36 B10 FN52 B10 I157 E2 I214 C3 I229 C3 I243 B4 I266 C4 I285 C4 I450 B4 I603 A2 ID01 E9 IG25 E5 IL26 C5
I604 A2 ID08 E9 IG26 F7 IL27 C5
I605 A2 ID09 D10 IG27 F6 IL28 C5
I606 B2 ID10 E9 IG28 E4 IL29 C5
I607 B2 ID11 D10 IG29 E6 IL30 C5
I608 A2 ID13 E9 IG30 E4 IL31 C5
I610 A2 ID14 D8 IG31 E6 IL32 C5
I611 B2 ID15 E10 IG32 E5 IL33 E4
I612 B2 ID18 E10 IG33 E7 IL34 D4
I613 B2 ID19 E10 IG34 F4 IL35 D4
I614 B2 ID20 E10 IG35 E4 IL36 D4
I615 B2 ID22 E10 IG36 E4 IL37 E4
I616 B2 ID24 E10 IG37 F4 IL38 C5
I617 A3 ID25 D10 IG38 E6 IL39 C5
I618 A2 ID28 E9 IG39 E6 IL40 C4
I619 B2 IE00 E7 IG40 E8 IM00 D5
I620 D3 IE01 E8 IG41 E6 IM01 D5
I621 B1 IE02 E8 IG42 F8 IM02 D5
I701 A5 IE03 D8 IG43 E6 IM03 D6
I702 A4 IE04 E7 IG44 E6 IM04 D5
I704 B7 IE05 E7 IG45 E6 IM05 D5
I705 A5 IE06 E7 IG46 F8 IM06 D6
I706 A6 IE07 E7 IG47 E8 IM07 D5
I708 A6 IE08 E7 IG48 F7 IM08 D4
I709 A6 IE09 E7 IG49 F7 IM09 E5
I710 A6 IE10 E8 IG50 F6 IM10 D5
I711 B6 IE11 E8 IG51 E6 IM11 D5
I712 B6 IE12 E8 IG52 E7 IM12 D4
I714 B6 IE13 E7 IG53 E4 IM13 D4
I715 B6 IE14 E7 IG54 E4 IM15 D5
I716 B6 IE15 E7 IG55 E4 IM16 D5
I717 B6 IE16 E7 IG56 E4 IM17 D5
I718 B6 IE17 E7 IG57 E6 IM18 D5
I719 A6 IE18 E7 IG58 E6 IM20 D5
I720 B6 IE19 E7 IG59 E5 IN01 A8
I721 B6 IE20 E8 IG60 E3 IN02 A8
I722 B6 IE21 E7 IG61 E5 IN03 A8
I723 B6 IE22 E8 IG62 E5 IN04 A9
I724 B6 IE23 E8 IG63 E5 IN05 A9
I725 B6 IE24 E7 IG64 E5 IN06 A10
I726 B6 IE25 E8 IG65 E6 IN07 A10
I731 B5 IE26 E8 IG66 E5 IN08 A10
I732 B5 IE27 D7 IG67 E6 IN09 B9
I733 A5 IE28 E8 IG68 F6 IN10 B9
I734 A4 IE29 E7 IG69 E4 IN11 B10
I735 A4 IE30 E7 IG70 E8 IN12 B10
I736 B5 IE32 D7 IG71 F6 IN13 B10
I740 B5 IE33 D7 IG72 E6 IN14 B10
I741 B5 IE34 D7 IG73 E8 IN15 B10
I742 B5 IE35 E8 IG74 E6 IN16 B8
I747 B7 IE36 E8 IG75 F8 IN17 B8
I748 B7 IE37 E8 IG76 F8 IN18 B8
I753 B7 IE38 E8 IG77 E8 IN19 B8
I754 B7 IE39 E8 IG78 F8 IN20 A10
I755 B7 IE40 E7 IG79 E8
I756 B7 IE42 E8 IG80 F8
I757 B7 IE43 E6 IG82 F8
I758 B7 IE44 D6 IG83 F8
I760 B8 IE45 E7 IJ01 A4
I762 A5 IE46 D7 IJ02 A4
I764 B7 IE47 E8 IJ03 A4
I800 C6 IE48 E8 IJ04 A4
I801 D7 IE49 E8 IJ05 A5
I802 C7 IE50 E7 IJ06 A4
I803 C7 IF01 E9 IJ07 A3
I804 D8 IF02 F9 IJ08 A5
I805 C6 IF03 F9 IJ09 A4
I806 C7 IF04 F9 IJ10 A4
I807 D7 IF05 E5 IJ11 A4
I808 D7 IF06 E3 IJ12 A3
I809 C7 IF08 E3 IJ13 A4
I810 C7 IF09 E4 IJ14 A4
I811 D10 IF10 E4 IJ15 A8
I812 D8 IF12 E4 IK00 B1
I813 C10 IF13 E3 IK01 B1
I815 D8 IF14 E4 IK02 B1
I816 D8 IF16 F9 IK03 B1
I817 D8 IF17 F9 IK04 B1
I818 D6 IF18 F10 IK05 B1
I819 C7 IG00 E3 IK16 B1
I820 C8 IG01 E5 IK17 C1
I822 C7 IG02 E5 IK18 D1
I823 D8 IG03 E5 IL01 C4
I824 C7 IG04 E5 IL02 C5
I900 C10 IG05 E4 IL03 C5
I901 C8 IG06 E4 IL05 D4
I902 D8 IG07 E4 IL06 D5
I903 D8 IG08 F3 IL07 D4
I904 C8 IG09 E4 IL09 C4
I905 D8 IG10 E3 IL10 B4
I906 D7 IG11 E4 IL11 C5



G_16210_024.eps
170106

3139 123 6117.2

I²C Overview

I²C

B2 HERCULES

7217 TDA15021H

HERCULES SET PROCESSOR

109 SDA

108 SCL

104 NVM_WP_HERC

+3V3STBY

+3V3SW

ERR 6

7207 M24C16 EEPROM NVM

ERR 9

7221

7220

B8 SCALER

7801 GM1501H SCALER

ERR 4

B1 TUNER & IF

1102 UV1318S TUNER

ERR 10

1151 SERVICE CONNECTOR COMPAIR

1177 SERVICE CONNECTOR UART

UART_TX

UART_RX

B19 COLUMBUS

7M00 T6TU5XBG COLUMBUS CTRL

ERR 11

B3 SYNC INTERFACE

1442

1000

T OTC-FLASH

B18 ADC

7L01 P3563M ADC

ERR 7

7001 SAA5801H/ TV CONTROL

ERR 15

B7 SCALER

M1

M2

B15B DMMI

112 SWHW_I2C_SDA

113 SWHW_I2C_SCL

1G03

Reserved for DMMI

ERR 17

B11 FLASH / CONTROL

P3 SDA_IO

P4 SCL_IO

AF5 NVM_WP_SCALER

7C01 M24C32 EEPROM

ERR 8

ADDRESS OCMADDR

DATA OCMDATA

7C03 M29W400D ERROM

B12 HDMI

7D03 SII9993CT HDMI PANELLINK RECEIVER

ERR 13

+5VHDMI_A

+5VHDMI_B

K16

K15

J16

J15

DOC_SDAA

DOC_SCLA

DOC_SDAB

DOC_SCLB

1F02

1F03

2x HDMI CONNECTOR

7D01 M24C02 EEPROM 256x8

7D00 M24C02 EEPROM 256x8

B14 DIGITAL I/O

7N00 T6TF4AFG PACIFIC3 MISC

ERR 16

B20 PACIFIC3

4N30 SDA_PF3

4N31 SCL_PF3

202 SSDA

204 SSCL

1N03

FOR PACIFIC3 PROGRAMMING

1N04

FOR DEVELOPMENT USE ONLY

B10 SDRAM

+3V3_IO

AF7 JTAG_TDI_SDA

AD6 JTAG_CLK_SCL

1802 JTAG I2C

ADDRESS FSADDR

DATA FSDATA

7B01 K4D263238F SDRAM

ERR 14

B9 SCALER INTERFACE

7A00 PCA9515ADP

RES

4A01

4A00

FOR PDP ONLY

SDA_DMA_BUS1_DISP

SDA_DMA_BUS1_DISP

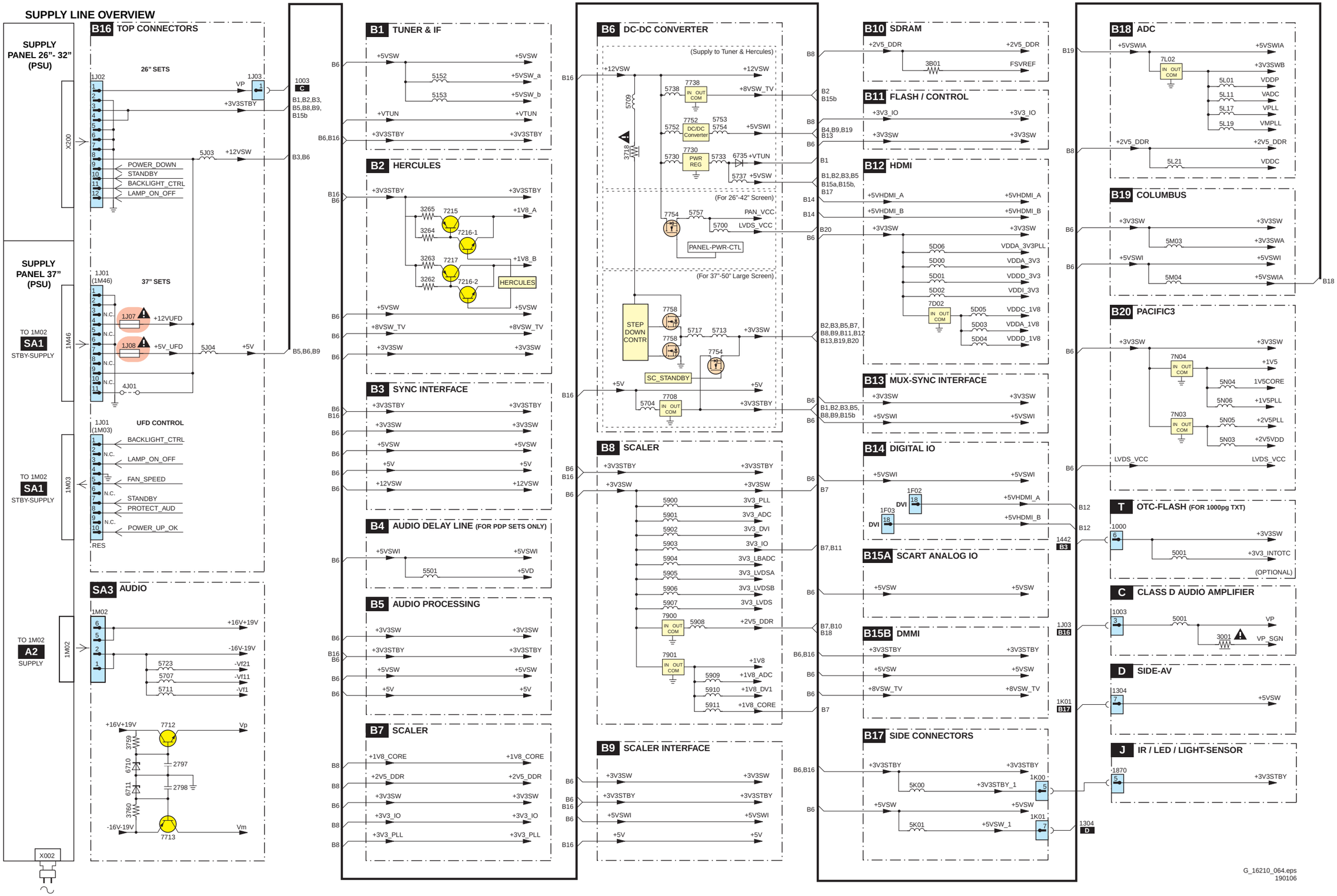
1N17 (1G50)

TO DISPLAY

(OPTIONAL)

G_16210_063.eps
190106

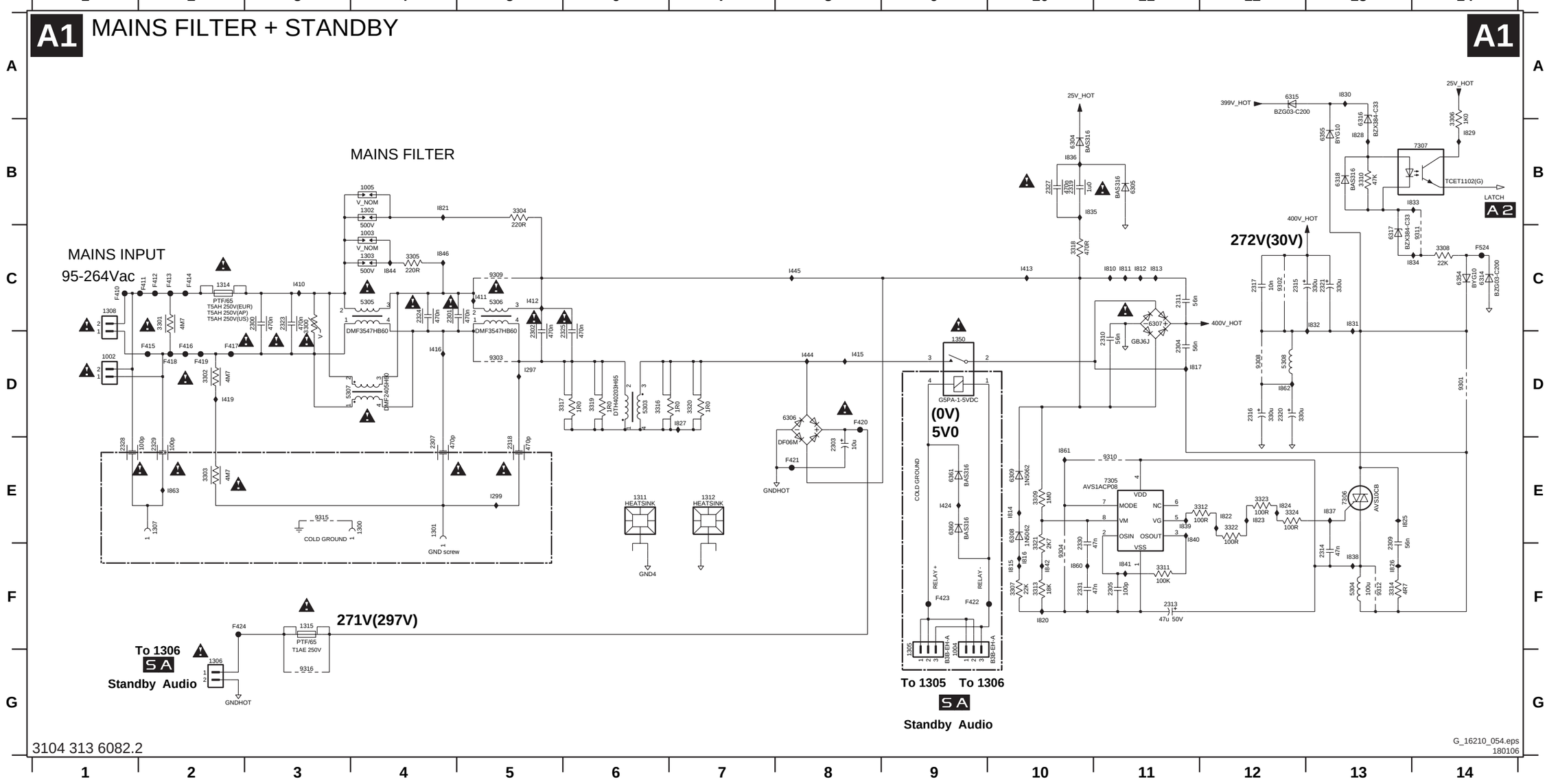
Supply Voltage Overview



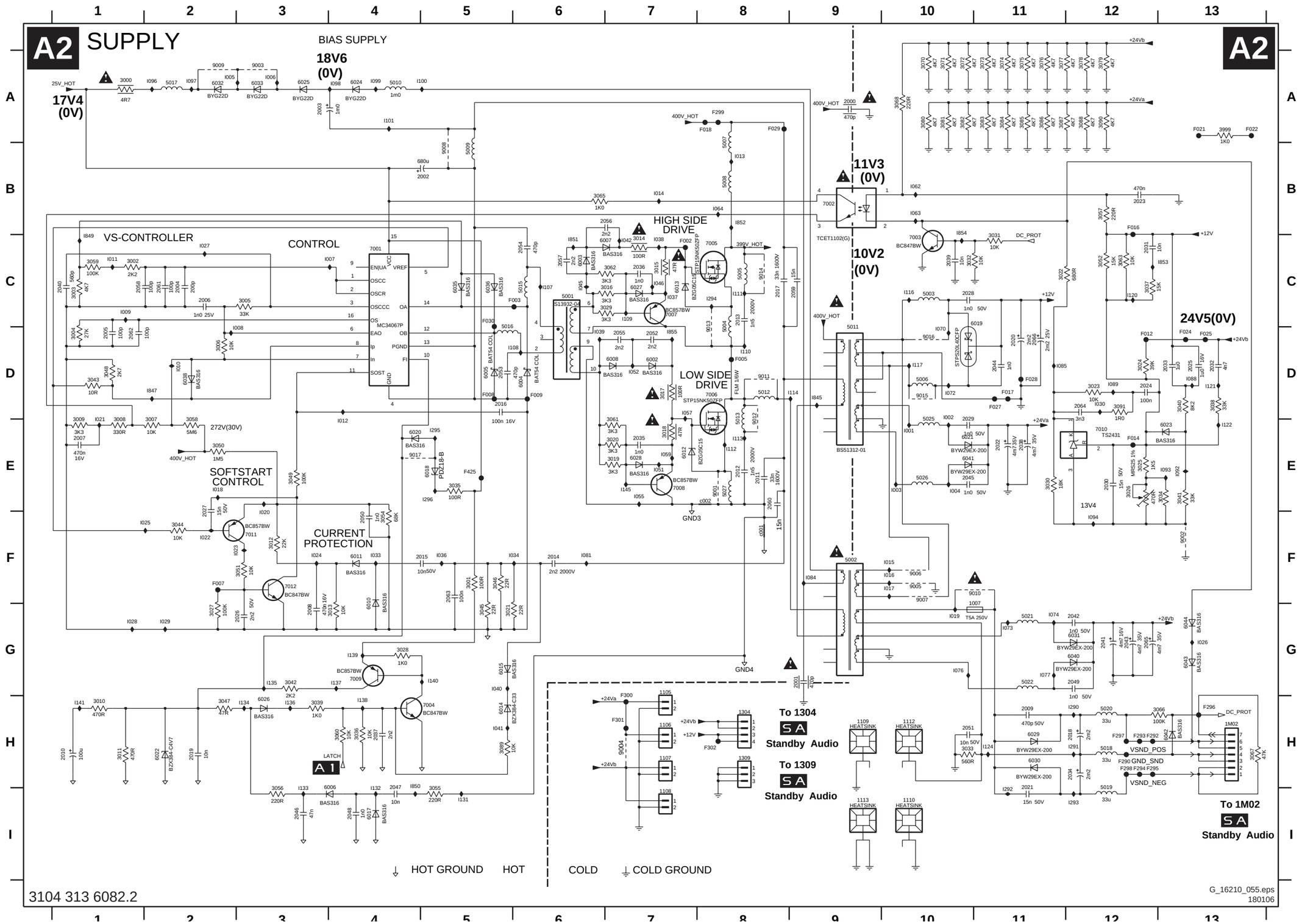
7. Circuit Diagrams and PWB Layouts

PSU (37”): Mains Filter & Standby

1002 D1 1302 B4 1311 E6 2301 C4 2309 F13 2316 D12 2323 C3 2330 F10 3304 B5 3310 B13 3317 D6 3323 E12 5307 D3 6308 E10 6318 B13 7306 E13 9308 D12 9316 G3 F415 D2 F421 E8 I299 E5 I416 D4 I811 C11 I817 D11 I825 E13 I831 C13 I837 E13 I844 C4
1003 C4 1303 C4 1312 E7 2302 D5 2310 D11 2317 C12 2324 C4 2331 F10 3305 C4 3311 F11 3318 C10 3324 E12 5308 D12 6309 E10 6354 C14 7307 B14 9309 C5 F410 C1 F416 D2 F422 F9 I410 C3 I419 D2 I812 C11 I820 F10 I826 F13 I832 C13 I838 F13 I846 C4
1004 G9 1305 G9 1314 C2 2303 E8 2311 C11 2318 E5 2325 D6 3300 C3 3306 B14 3312 E12 3319 D6 5303 D6 6304 B10 6314 C14 6355 B13 9301 D14 9310 E11 F411 C2 F417 D2 F423 F9 I411 C5 I424 E9 I813 C11 I821 B4 I827 D7 I833 B14 I839 E11 I847 F10
1005 B4 1306 G2 1315 F3 2304 D11 2312 F11 2319 B10 2327 B10 3301 C2 3307 F10 3313 F10 3320 D7 5304 F13 6305 B11 6315 A12 6360 E9 9302 C12 9311 C14 F412 C2 F418 D2 F424 F2 I412 C5 I444 D8 I814 E10 I822 E12 I828 B13 I834 C14 I840 E11 I861 E10
1300 E4 1307 E2 1350 D9 2305 F11 2314 F13 2320 D12 2328 E1 3302 D2 3308 C14 3314 F13 3321 F10 5305 C4 6306 D8 6316 B13 6361 E9 9303 D5 9312 F13 F413 C2 F419 D2 F524 C14 I413 C10 I445 C8 I815 F10 I823 E12 I829 B14 I835 B10 I841 F11 I862 D12
1301 E4 1308 C1 2300 C3 2307 E4 2315 C12 2321 C13 2329 E2 3303 E2 3309 E10 3316 D6 3322 E12 5306 C5 6307 C11 6317 C13 7305 E11 9304 F10 9315 E3 F414 C2 F420 D8 I297 D5 I415 D8 I810 C11 I816 F10 I824 E12 I830 A13 I836 B10 I842 F10 I863 E2



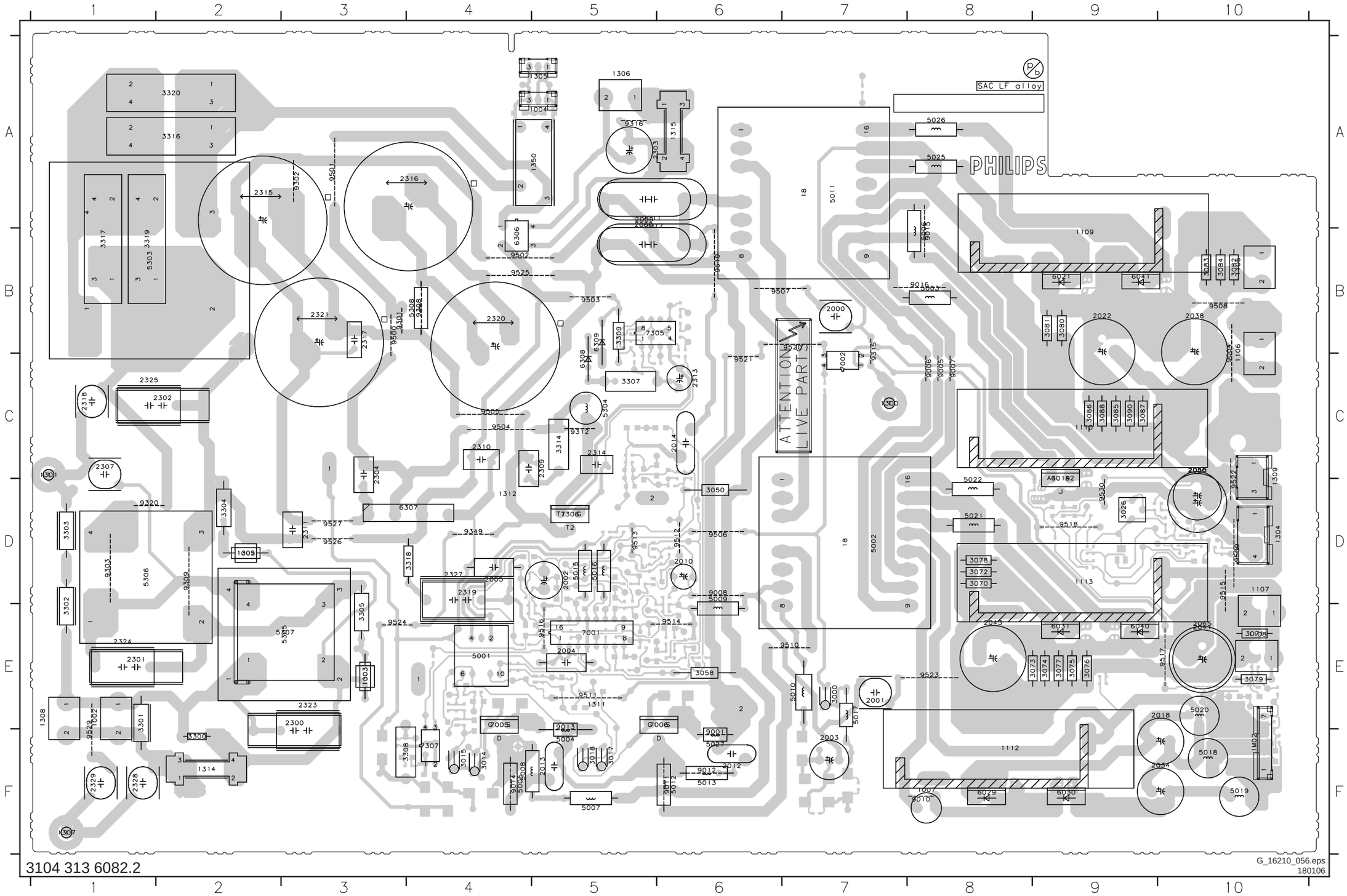
PSU (37"): Supply



1007 G11 3035 E5
1105 G7 3036 H4
1106 H7 3037 C12
1107 H7 3038 D13
1108 I7 3039 H3
1109 H9 3040 D13
1110 I10 3041 E13
1112 H10 3042 G3
1113 I9 3043 D1
1304 H8 3044 F2
1309 H8 3045 G5
1M02 H13 3046 F5
2000 A9 3047 H2
2001 G9 3048 D1
2002 B5 3049 E3
2003 A3 3050 E2
2004 C2 3051 F3
2005 D1 3052 C12
2006 C2 3054 F4
2007 E1 3055 I5
2008 G3 3056 I3
2009 H11 3057 B12
2010 H1 3058 E2
2011 E8 3059 C1
2012 E8 3060 H4
2013 C8 3061 E7
2014 F6 3062 C7
2015 F5 3063 C12
2016 D5 3065 B6
2017 C8 3066 H13
2018 H12 3067 H13
2019 H2 3068 A10
2020 D11 3070 A10
2021 I11 3071 A10
2022 E11 3072 A10
2023 B12 3073 A11
2024 D12 3074 A11
2025 D13 3075 A11
2026 G3 3076 A11
2027 E2 3077 A11
2028 C10 3078 A12
2029 E10 3079 A12
2030 E12 3080 A10
2031 C12 3081 A10
2032 D13 3082 A10
2033 D13 3083 A11
2034 H12 3084 A11
2035 E7 3085 A11
2036 C7 3086 A11
2037 H4 3087 A11
2038 E11 3088 A12
2039 C10 3089 H5
2040 C1 3090 A12
2041 G12 3091 D12
2042 G12 3999 A13
2043 G12 5001 C6
2044 D11 5002 F9
2045 E10 5003 C10
2046 I3 5004 C8
2047 I4 5005 C8
2048 I4 5006 D10
2049 G12 5007 A8
2050 F4 5008 B8
2051 H10 5009 B5
2052 D7 5010 A4
2053 D5 5011 D9
2054 C6 5012 D8
2055 D7 5013 D8
2056 B7 5015 C6
2057 C6 5016 D5
2058 C1 5017 A2
2059 C9 5018 H12
2060 E8 5019 I12
2061 C2 5020 H12
2062 D1 5021 G11
2063 F5 5022 G11
2064 D12 5025 E10
2065 G12 5026 E10
2066 D11 5027 E8
3000 A1 6002 D7
3001 F5 6003 C6
3002 C1 6004 D6
3003 C1 6005 D5
3004 D1 6006 I4
3005 C3 6007 C7
3006 D2 6008 D7
3007 E2 6010 G4
3008 E1 6011 F4
3009 E1 6012 E7
3010 H1 6013 C7
3011 H1 6014 H5
3012 F3 6015 G5
3013 G4 6017 I4
3014 C7 6018 E5
3015 C7 6019 C10
3016 C7 6020 E4
3017 D7 6021 E10
3018 E7 6022 H2
3019 E7 6023 E13
3020 E7 6024 A4
3021 G5 6025 A3
3022 C11 6026 H3
3023 D12 6027 C7
3024 D12 6028 E7
3025 E12 6029 H11
3026 E12 6030 H11
3027 G2 6031 G12
3028 G4 6032 A2
3029 C7 6033 A3
3030 E11 6035 C5
3031 C11 6036 C5
3032 C10 6038 D2
3033 H10 6040 G12
3034 E13 6041 E10

Layout PSU (37”) (Top Side)

1002	E1	1108	E10	1303	E3	1312	D3	2003	F7	2017	A5	2059	A5	2304	C3	2316	A3	2325	C2	3018	F5	3074	E9	3082	B10	3300	E2	3309	B5	5002	D8	5010	E7	5019	F10	5304	C5	6030	F9	7001	E5	9004	C10	9013	F5	9309	D2	9502	B5	9510	E7	9518	D9	9526	D3
1003	E3	1109	B8	1304	D10	1314	F2	2004	E5	2018	E10	2060	A5	2307	C1	2317	B3	2327	E4	3026	D9	3075	E9	3083	B10	3301	E2	3314	C5	5003	B8	5011	A7	5020	E10	5305	E2	6031	E9	7002	B7	9005	C8	9014	F4	9312	C5	9503	B5	9511	E5	9519	B6	9527	D3
1004	A5	1110	C8	1305	A5	1315	A6	2005	D4	2020	D10	2065	E10	2309	C4	2318	C1	2328	F1	3050	D6	3076	E9	3084	B10	3302	E1	3316	A1	5004	E5	5012	F5	5021	D8	5306	D1	6040	E9	7005	F4	9006	C8	9015	B8	9315	B7	9504	C4	9512	D6	9520	B6	9529	F1
1005	D2	1112	F8	1306	A5	1350	A5	2010	D6	2022	B9	2066	C10	2310	C4	2319	D4	2329	F1	3058	E6	3077	E9	3085	C9	3303	D1	3317	B1	5005	F4	5013	F6	5022	C8	5307	D3	6041	B9	7006	F5	9007	C8	9016	B8	9316	A5	9505	C4	9513	D5	9521	B6	9530	D9
1007	F8	1113	E8	1307	F1	1M02	F10	2011	A5	2034	F10	2300	E3	2311	D2	2320	B5	3000	E7	3070	D8	3078	D8	3086	C9	3304	D2	3318	D4	5006	B7	5015	D5	5025	A8	5308	B4	6306	B4	7305	B5	9008	D6	9301	B4	9320	D2	9506	D6	9514	E6	9522	C10		
1105	B10	1300	C7	1308	E1	2000	B7	2012	F6	2038	B10	2301	E2	2313	C6	2321	B3	3014	F4	3071	E10	3079	E10	3087	C9	3305	E3	3319	B2	5007	F5	5016	D5	5026	A8	6019	D9	6307	D3	7306	D5	9010	F7	9302	A3	9349	D4	9507	B6	9515	D10	9523	E8		
1106	B10	1301	C1	1309	C10	2001	E7	2013	F5	2041	E10	2302	C2	2314	C5	2323	E3	3015	F4	3072	D8	3080	B9	3088	C9	3307	C5	3320	A1	5008	F4	5017	E7	5027	E6	6021	B9	6308	B5	7307	F4	9011	F6	9303	D1	9500	B3	9508	B10	9516	E5	9524	E3		
1107	D10	1302	D2	1311	E4	2002	D5	2014	C6	2043	E8	2303	A5	2315	A2	2324	E2	3017	F5	3073	E8	3081	B9	3090	C9	3308	F3	5001	E4	5009	E6	5018	F10	5303	A1	6029	F8	6309	B5	9001	F6	9012	F6	9308	B4	9501	A3	9509	D10	9517	E10	9525	B4		



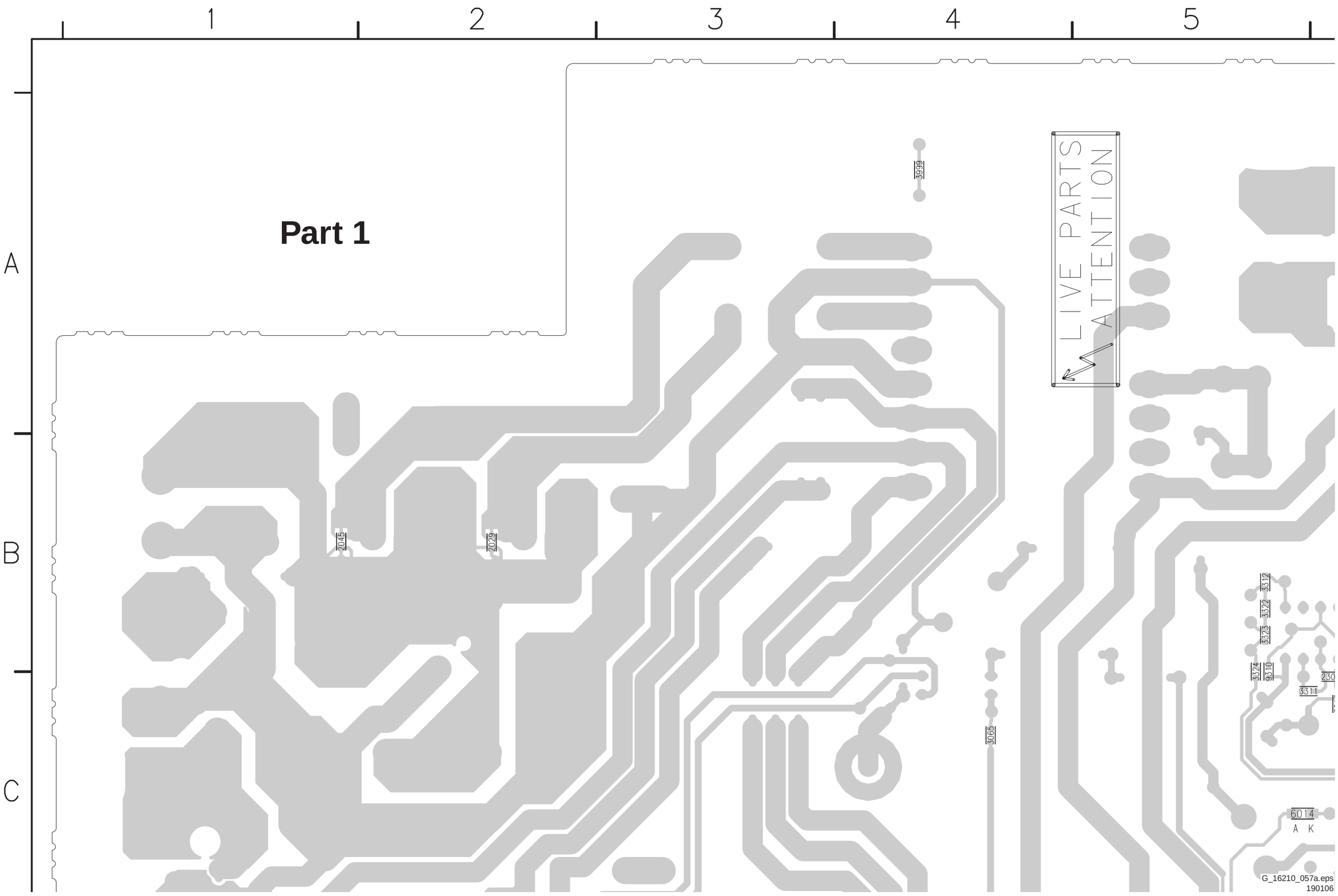
3104 313 6082.2

G_16210_056.eps
180106

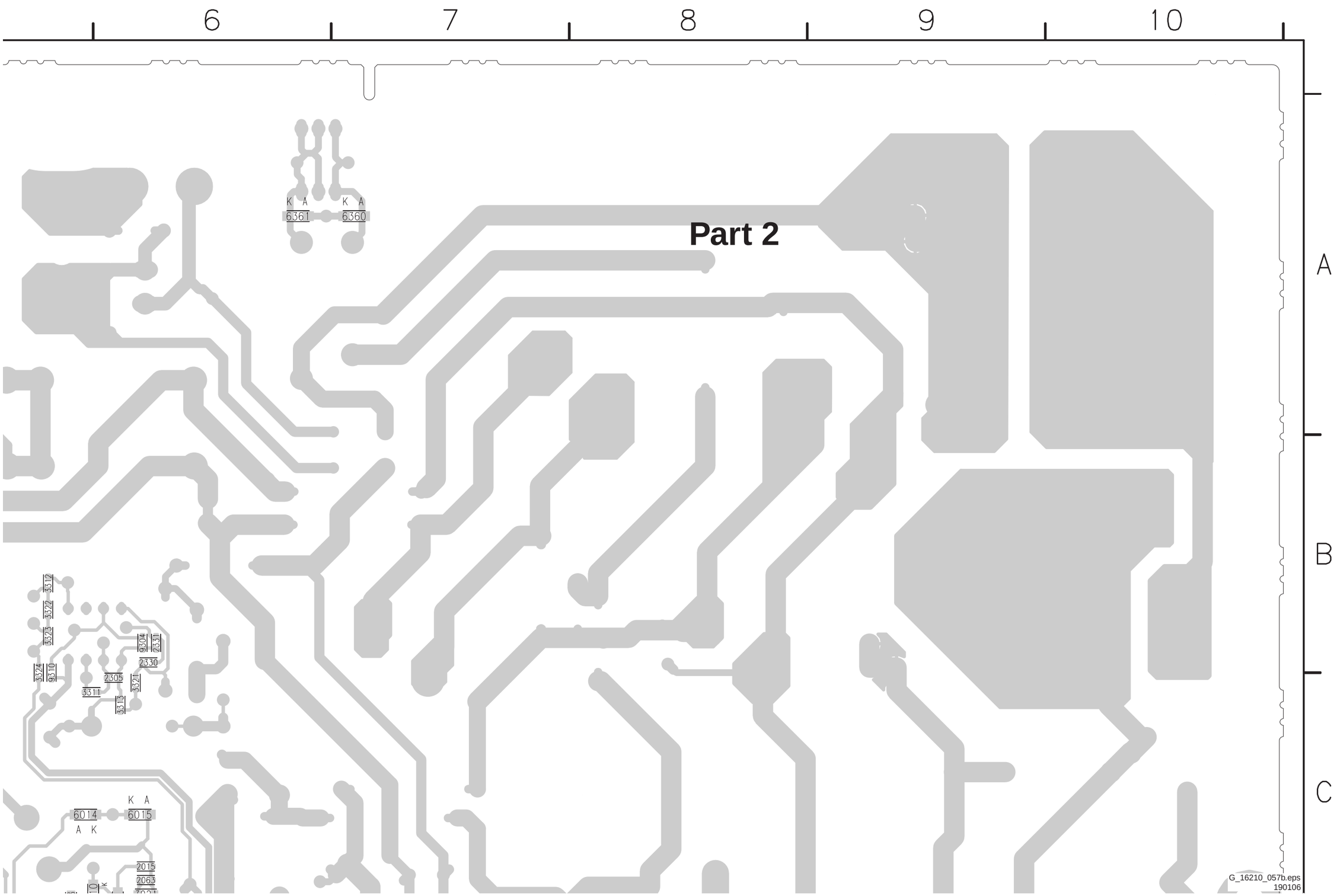
Layout PSU (37”) (Overview Bottom Side)

| | | |

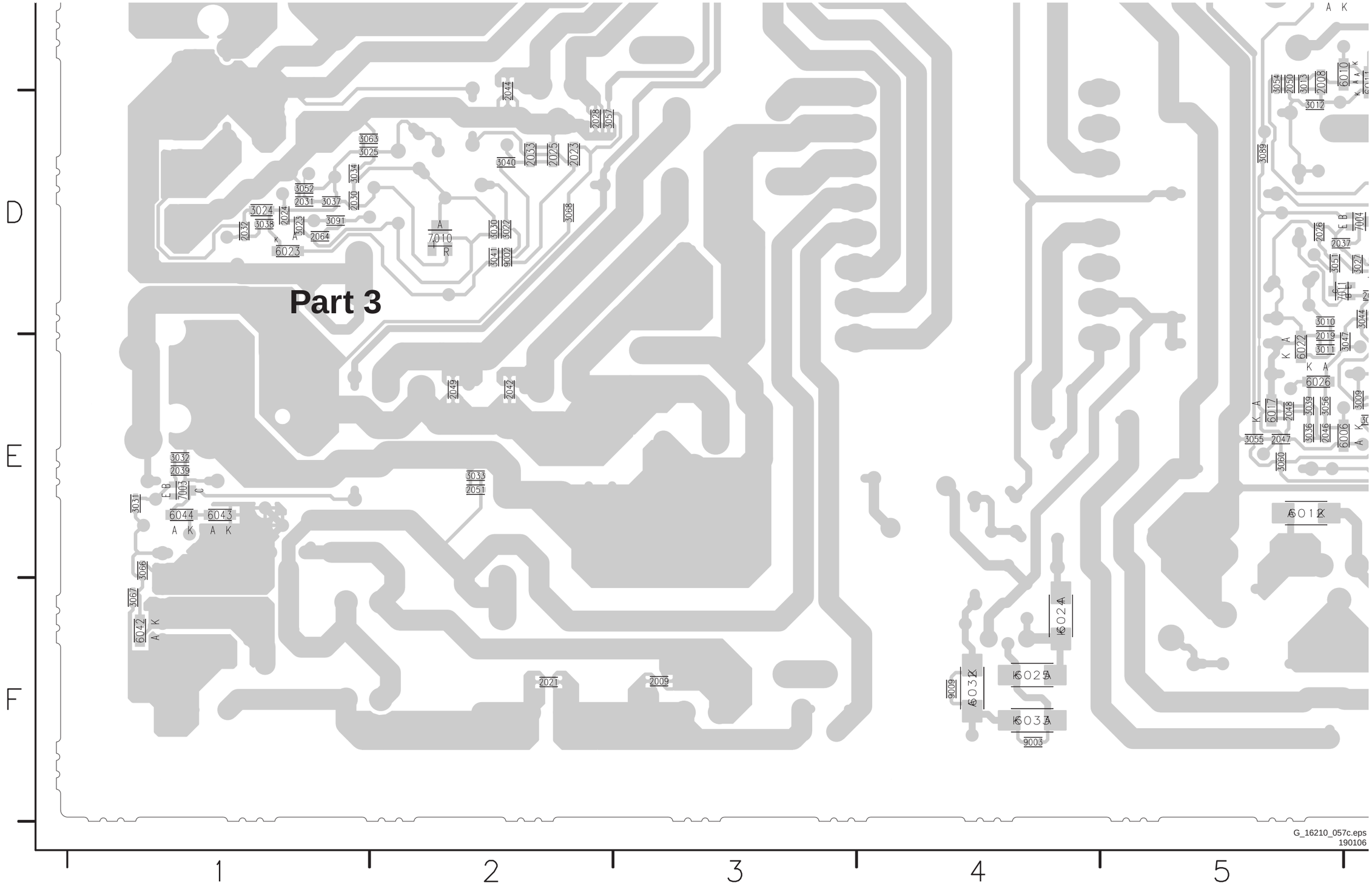
Layout PSU (37”) (Part 1 Bottom Side)



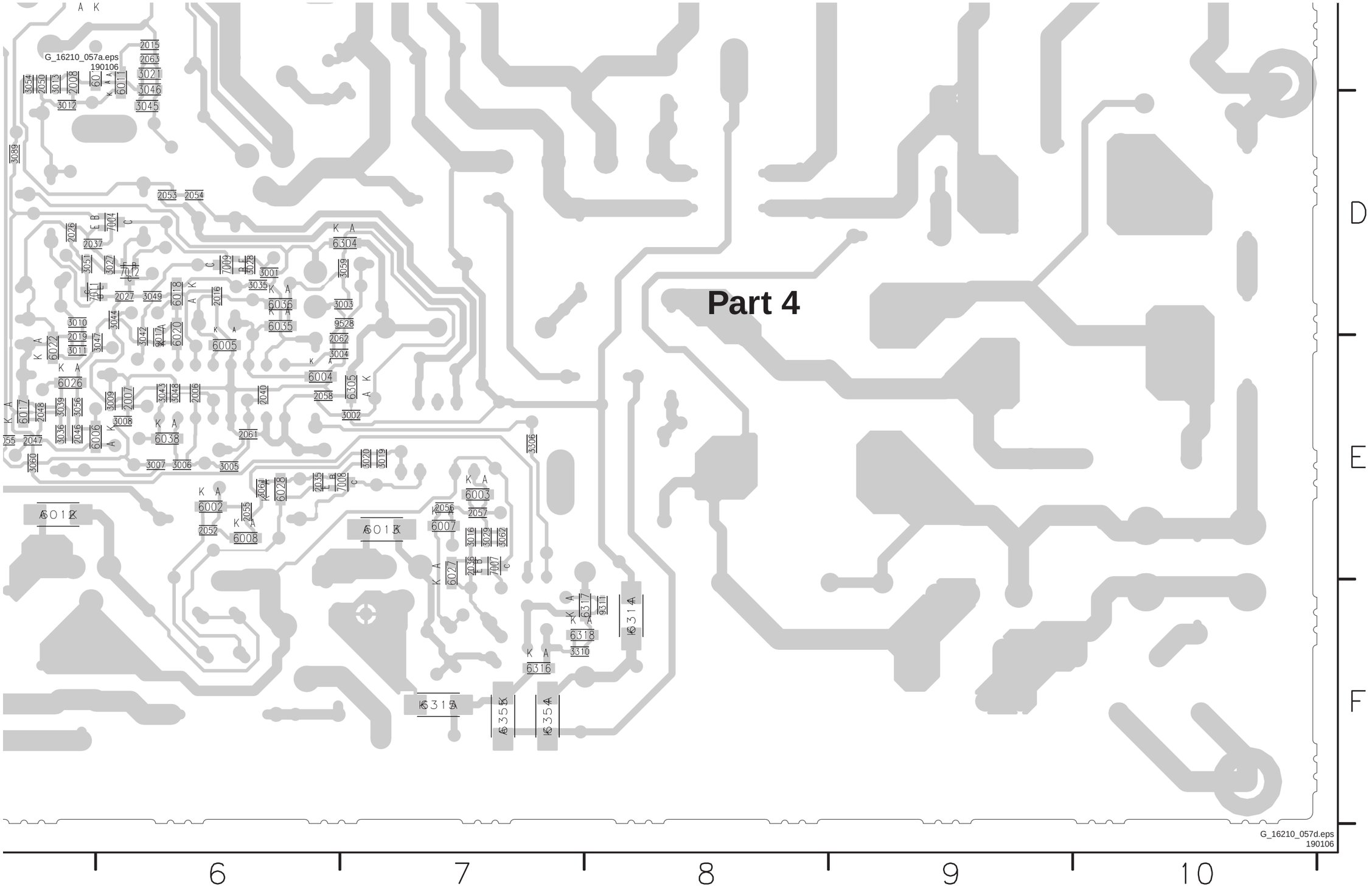
Layout PSU (37”) (Part 2 Bottom Side)



Layout PSU (37”) (Part 3 Bottom Side)

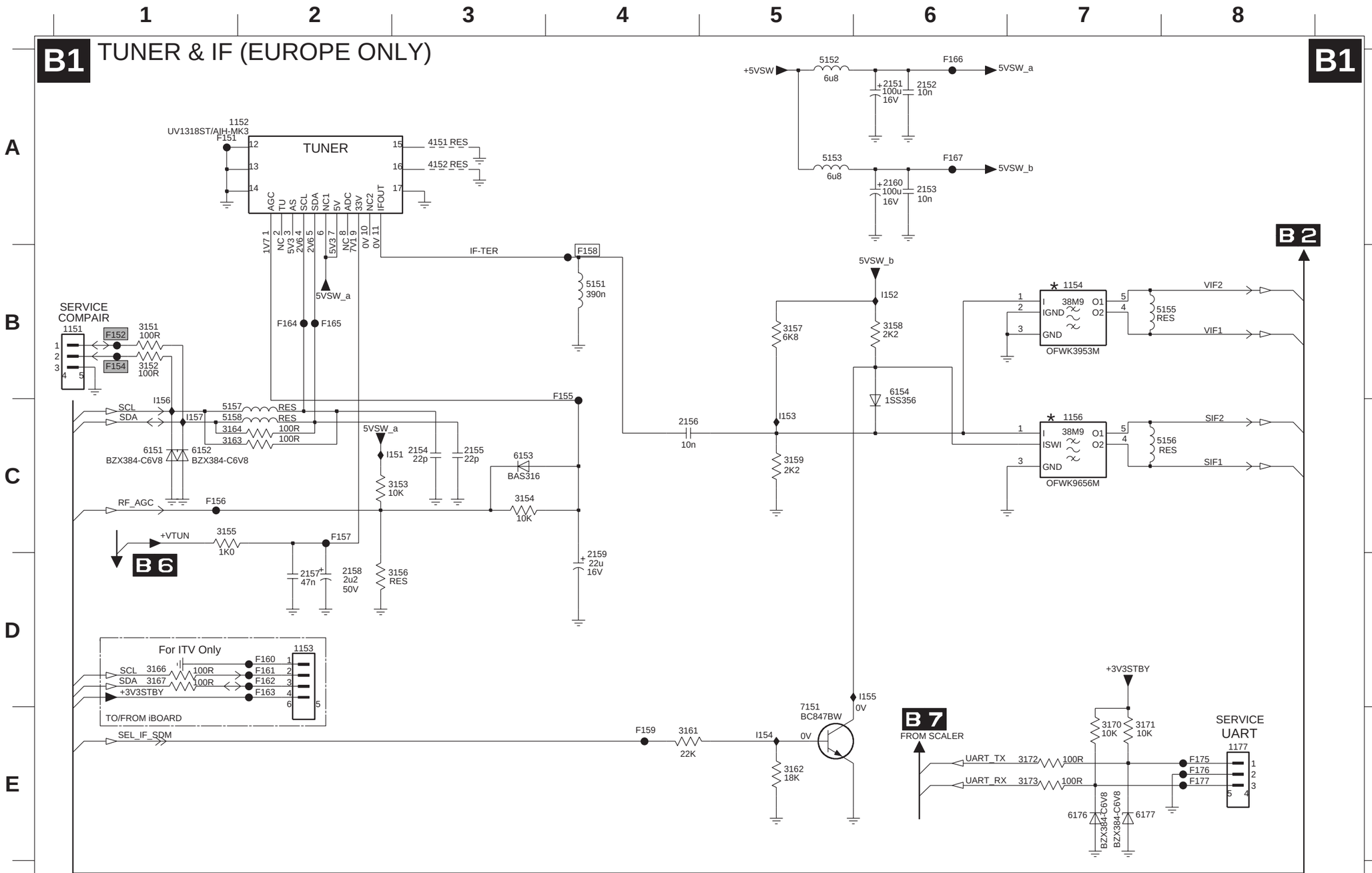


Layout PSU (37”) (Part 4 Bottom Side)



SSB: Tuner and VIF

B1 TUNER & IF (EUROPE ONLY)



3139 123 6117.2

G_16210_001.eps
160106

1151 B1
1152 A2
1153 D2
1154 B7
1156 C7
1177 E8
2151 A6
2152 A6
2153 A6
2154 C3
2155 C3
2156 C4
2157 D2
2158 D2
2159 C4
2160 A6
3151 B1
3152 B1
3153 C3
3154 C3
3155 C1
3156 D3
3157 B5
3158 B6
3159 C5
3161 E4
3162 E5
3163 C1
3164 C1
3166 D1
3167 D1
3170 E7
3171 E7
3172 E7
3173 E7
4151 A3
4152 A3
5151 B4
5152 A5
5153 A5
5155 B7
5156 C8
5157 C1
5158 C1
6151 C1
6152 C1
6153 C3
6154 B6
6176 E7
6177 E7
7151 E5
F151 A1
F152 B1
F154 B1
F155 C4
F156 C1
F157 C2
F158 B4
F159 E4
F160 D2
F161 D2
F162 D2
F163 D2
F164 B2
F165 B2
F166 A6
F167 A6
F175 E8
F176 E8
F177 E8

SSB: Hercules

B2 HERCULES

AUDIO PROCESSING

HERCULES
TDA15021H/N1A11

Φ VIDEO SIGNAL PROCESSOR

Φ (2Kx8) EEPROM

SECAM CIRCUIT (RESERVED)

ES10.3B RESET (RESERVED)

POWER_DOWN_BOLTON_P50

B3 / B13

3139 123 6117.2

G_16210_002.eps
160106

1201 B7	3211 B6	4221 A12	F254 G9
1202 G10	3212 B6	5201 B5	F255 C7
2201 A3	3213 B6	5202 B5	F256 B6
2202 B3	3214 B7	5203 B7	F257 E10
2203 D2	3215 B6	5204 D5	F258 C11
2204 C5	3216 A6	5205 D5	F262 F10
2205 G4	3217 B7	5206 D4	F263 F10
2206 G4	3218 B7	5207 D4	F264 F10
2207 F5	3219 B7	5208 D5	I201 A5
2208 G4	3220 B7	5209 D5	I202 B5
2209 G4	3221 A11	5210 D5	I203 B6
2210 B5	3222 B8	5211 E5	I204 B6
2211 B6	3223 B8	5212 E5	I205 B6
2212 B12	3224 B8	5213 E5	I206 A7
2213 B7	3225 B8	5214 G9	I207 C7
2214 B6	3226 B9	5215 F10	I208 B7
2216 B6	3227 C8	5216 F10	I209 C8
2218 A7	3228 D2	5217 H7	I210 C8
2219 A7	3229 C9	5218 F2	I211 B8
2220 B7	3230 B9	6201 E4	I212 B9
2221 A7	3231 B9	6204 C11	I213 C10
2222 E5	3232 B9	6205 C11	I214 C10
2223 B8	3233 B9	6206 C12	I215 C10
2224 C8	3234 B9	7201-1 B1	I217 C11
2225 B10	3235 B9	7201-2 C2	I218 D3
2226 C10	3236 B9	7202-1 C2	I219 C5
2227 B11	3237 C9	7202-2 C3	I220 D5
2228 C5	3238 B10	7203-1 C3	I221 D5
2229 C5	3239 C10	7203-2 C3	I222 D5
2230 D4	3240 B10	7204-1 A4	I223 D5
2231 D5	3241 B10	7204-2 A3	I224 E5
2232 D5	3242 C10	7205-1 B4	I225 C10
2233 D5	3243 C10	7205-2 B4	I226 F8
2234 D4	3244 D2	7206 B6	I227 F6
2235 D4	3245 C10	7207 B12	I228 F7
2236 D5	3246 C11	7208 D2	I229 F7
2237 D5	3247 B11	7209 D2	I230 F7
2238 E5	3248 C11	7210 D3	I231 F7
2239 E5	3249 B11	7211 F4	I232 F8
2240 E5	3250 D2	7214 G3	I233 F8
2241 E5	3251 D3	7215 G4	I234 F8
2242 E5	3252 D3	7216-1 G3	I235 F8
2243 E5	3253 D3	7216-2 G3	I236 F8
2244 E5	3254 F3	7217 C6	I237 F8
2245 E5	3255 E2	7218 F11	I238 F9
2246 F5	3256 E2	7219 F2	I239 F9
2247 F6	3257 E3	7220 A11	I240 F10
2248 G6	3258 E2	7221 A12	I241 B10
2249 G6	3259 E2	F201 B2	I242 F4
2250 F7	3260 E3	F202 B2	I243 C4
2251 F7	3261 A12	F203 B3	I244 B7
2252 F7	3262 F3	F204 B3	I246 D2
2253 F7	3263 F3	F205 B6	I247 D4
2254 F7	3264 F4	F206 B6	I248 D4
2255 F7	3265 F4	F207 C7	I254 F6
2256 F8	3266 F4	F208 C7	I255 F6
2257 F8	3267 F4	F209 B7	I256 E7
2258 G5	3268 F5	F210 F2	I257 E7
2259 G8	3270 F7	F211 C9	I258 E7
2260 F8	3271 F7	F212 C8	I259 F8
2262 G8	3272 F8	F213 C10	I262 F8
2263 F8	3273 F8	F214 B10	I264 F9
2264 G8	3274 F8	F215 B10	I265 F10
2265 G8	3275 F9	F216 C10	I266 F10
2266 G8	3276 F9	F217 B11	I267 F11
2267 F8	3277 F10	F218 B11	I268 G11
2268 G8	3278 F11	F219 C12	I269 C11
2269 F9	3279 G11	F220 D3	I270 B11
2270 F9	3280 E4	F221 D3	I271 B10
2271 F9	3281 F8	F222 D5	I272 B10
2272 F9	3282 F3	F223 D5	I273 C9
2273 F10	3283 B8	F224 D5	I274 A9
2274 F10	3284 B8	F225 D5	I275 A9
2275 G9	3285 G6	F226 D5	I277 C8
2276 G10	3286 H6	F227 D4	I278 C8
2277 F10	3287 B7	F228 E5	I283 B6
2278 F11	3288 B7	F229 E5	I284 B6
2279 F11	3289 D2	F230 G4	I285 B6
2280 A3	3290 B8	F231 G4	I288 B6
2281 B3	3291 F2	F232 F5	I289 A3
2282 F10	3292 F2	F233 F5	I290 A3
2283 F10	3293 G2	F234 F5	I291 A4
2284 F10	3294 G2	F235 F5	I292 B3
2285 F6	3295 F8	F236 F6	I293 B3
2286 F7	3296 B5	F237 F6	I294 B3
2287 H7	3297 A11	F238 F6	I297 B8
2288 H6	3298 A12	F239 F6	I298 C7
2290 F3	3299 B10	F240 F6	
2291 F2	4204 C9	F241 G7	
2292 E11	4205 C9	F242 G7	
2293 C10	4206 F3	F243 G7	
3201 A3	4207 E2	F244 F8	
3202 A4	4208 E2	F245 F9	
3203 A4	4209 E3	F246 F10	
3204 B3	4211 A4	F247 D11	
3205 B4	4212 B4	F248 F8	
3206 B4	4216 B9	F249 E11	
3207 B6	4217 B9	F250 A7	
3208 B6	4218 B9	F251 G9	
3209 B6	4219 B9	F252 G9	
3210 B6	4220 A11	F253 G9	

SSB: Sync Interface

B3 SYNC INTERFACE

B3

FOR ITV ONLY

+12VSW
5431
I451
+5V
I452
2447 10p
2448 10p
1441
B3B-PH-SM4-TBT(LF)

SC1_CVBS_RF_OUT
I449
I450
1440
BM05B-SRSS-TBT

B2 & B15

B17 TO SIDE CONNECTORS

+3V3STBY
+5VSW
3431 1K0
6430 BZX384-C2V7
I453
6431 1N4148
I430
LED_SEL
I454
0V
7430 PDTC114ET
3V1
3432 RES
P50_LINE_ITV_IR_SW_RST

B2

HOUT
I443
+3V3STBY
3451 4K7
4436 RES
+3V3SW
7436-1 74LVC14APW
3453 100R
3454 100R
Hsync_SDTV

B18 B15B B13

B13

VSYNC
I440
4437 RES
7436-2 74LVC14APW
3455 100R
3456 100R
Vsync_SDTV

B18

COL_HREF
4440
3458 100R
7436-3 74LVC14APW
3463 RES
7436-4 74LVC14APW
3459 100R
H_1FH

B7

COL_VA
4441
3461 100R
I455
7436-6 74LVC14APW
7436-5 74LVC14APW
2449 100n
3462 100R
V_1FH

Vsync_SDTV
4439 RES

B3

CVBS_COMB
INT_OTC
R_OTC_SDTV
G_OTC_SDTV
B_OTC_SDTV
RESET_FLASH
SCL
SDA

FOR OTC ONLY (1000pg TEXT)

1442
+3V3SW
F404
F405
F406
F407
F408
F409
F410
F411
F412
TO/FROM 1000 OF
BM14B-SRSS-TB

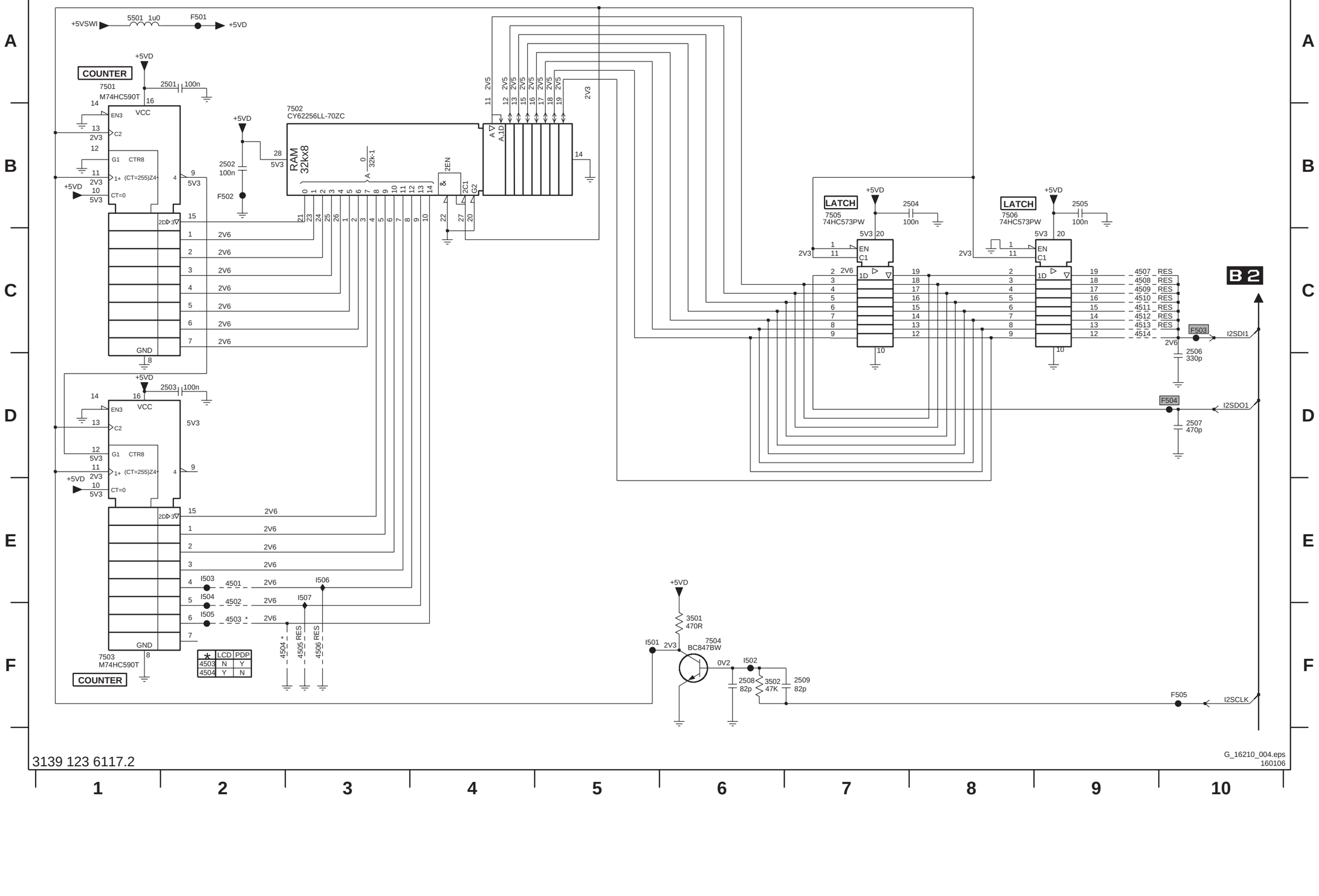
3139 123 6117.2

G_16210_003.eps
160106

1440 A9
1441 A9
1442 D9
2447 A8
2448 A8
2449 E4
3431 B2
3432 B3
3451 B5
3453 B6
3454 B7
3455 C6
3456 C7
3458 D2
3459 D4
3461 E2
3462 E4
3463 C3
4436 B6
4437 C6
4439 E1
4440 D2
4441 E2
5431 A8
6430 B3
6431 B3
7430 B2
7436-1 B6
7436-2 C6
7436-3 D2
7436-4 D3
7436-5 E3
7436-6 E3
F404 D8
F405 D8
F406 E8
F407 E8
F408 E8
F409 E8
F410 E8
F411 E8
F412 E8
I430 B3
I440 C5
I443 B5
I449 A8
I450 A8
I451 A8
I452 A8
I453 B3
I454 B2
I455 E2

SSB: Audio Delay Line (PDP Only)

B4 AUDIO DELAY LINE (LIPSYNC) (FOR PDP SETS ONLY)

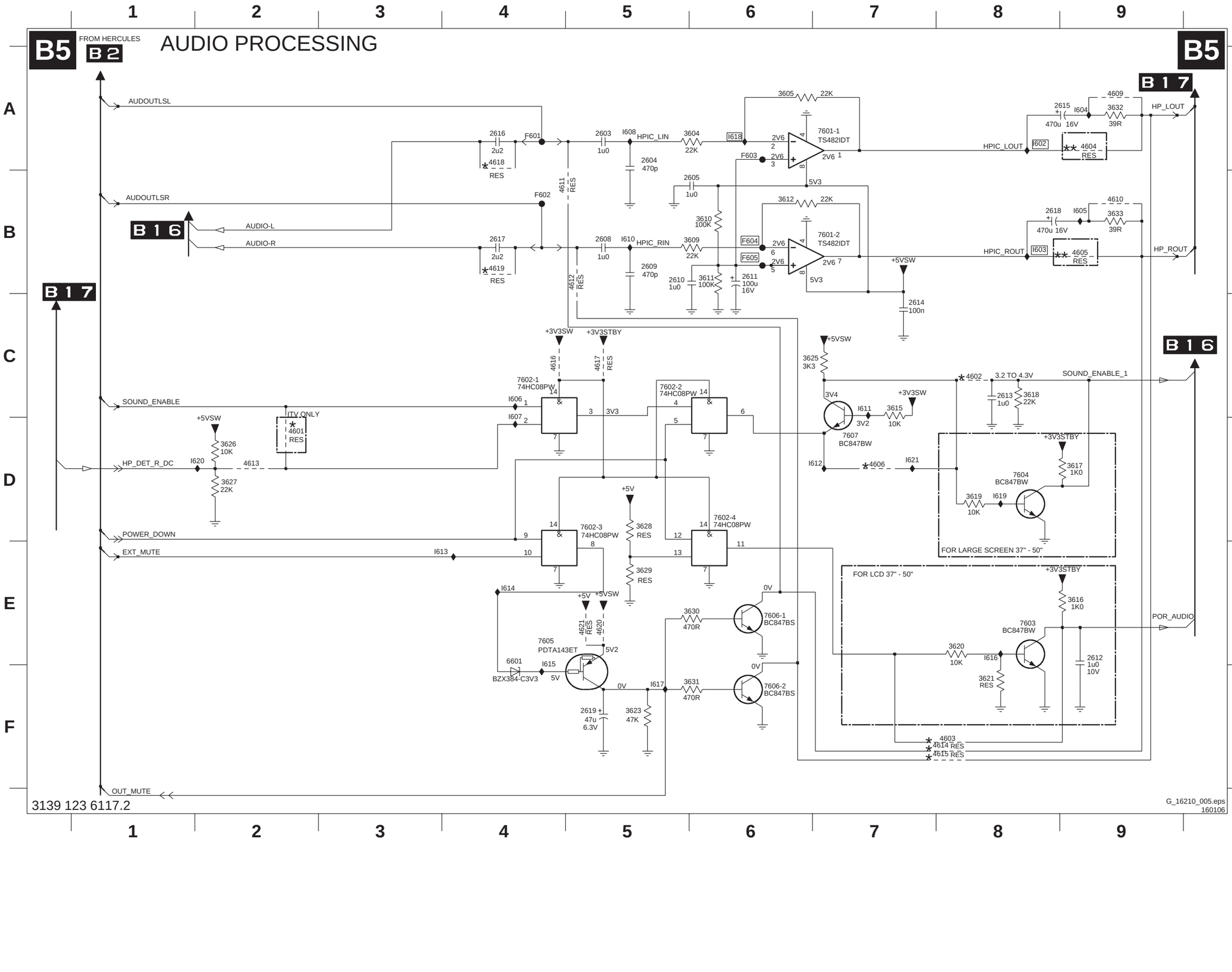


2501 A2
2502 B2
2503 D2
2504 B8
2505 B9
2506 C10
2507 D10
2508 F6
2509 F7
3501 F6
3502 F6
4501 E2
4502 F2
4503 F2
4504 F2
4505 F3
4506 F3
4507 C9
4508 C9
4509 C9
4510 C9
4511 C9
4512 C9
4513 C9
4514 C9
5501 A1
7501 A1
7502 B3
7503 F1
7504 F6
7505 B7
7506 B8
F501 A2
F502 B2
F503 C10
F504 D10
F505 F10
I501 F5
I502 F6
I503 E2
I504 E2
I505 F2
I506 E3
I507 E3

3139 123 6117.2

G_16210_004.eps
160106

SSB: Audio Processing



2603 A5		I602 A8	
2604 A5		I603 B8	
2605 B6		I604 A9	
2608 B5		I605 B9	
2609 B5		I606 C4	
2610 B5		I607 C4	
2611 B6		I608 A5	
2612 E9		I610 B5	
2613 C8		I611 C7	
2614 C7		I612 D7	
2615 A9		I613 E3	
2616 A4		I614 E4	
2617 B4		I615 E4	
2618 B8		I616 E8	
2619 F5		I617 F5	
3604 A6		I618 A6	
3605 A6		I619 D8	
3609 B6		I620 D2	
3610 B6		I621 D7	
3611 B6			
3612 B6			
3615 C7			
3616 E9			
3617 D9			
3618 C8			
3619 D8			
3620 E8			
3621 F8			
3623 F5			
3625 C6			
3626 D2			
3627 D2			
3628 D5			
3629 E5			
3630 E6			
3631 F6			
3632 A9			
3633 B9			
4601 D2			
4602 C8			
4603 F8			
4604 A9			
4605 B9			
4606 D7			
4609 A9			
4610 B9			
4611 B4			
4612 B5			
4613 D2			
4614 F8			
4615 F8			
4616 C4			
4617 C5			
4618 A4			
4619 B4			
4620 E5			
4621 E5			
6601 E4			
7601-1 A7			
7601-2 B7			
7602-1 C4			
7602-2 C5			
7602-3 D5			
7602-4 D6			
7603 E8			
7604 D8			
7605 E4			
7606-1 E6			
7606-2 F6			
7607 D7			
F601 A4			
F602 B4			
F603 A6			
F604 B6			
F605 B6			

SSB: DC-DC Converter

B6 DC-DC CONVERTER

B6

B16 FROM TOP CONNECTORS

+12VSW F701 +12VSW

2704 10u 16V

+5V I706 5704

2706 10u 16V

7708 LF33CPT

I709 I708

IN OUT CTRL NC COM

5 NC 4

F710 +3V3STBY

2716 470u 16V

3709 6K8 2708 RES 2709 47u 16V

+12VSW I710 5709 10u

2710 22u 16V SUP_GND2

2711 22u 16V SUP_GND2

7710 L6910

9 SIG_GND2 10 PGOOD 15 VCC 3 OCSET

Monitor Protection & Ref

VREF 1 SS 4 OSC 2 EAREF 8

2717 100n I711 2718 100n I712

2719 100n I714 3718 10R 3719 680R I715 2720 1n0

6717 BAS316

BOOT 12 HGATE 11 PHASE 10 LGATE 14 PGND 13 GND 7 VFB 6 COMP 5 NC 16

2721 100n I716 I717

3720 2R2 I718 I719

7711-1 SI4922DY 3701 10K

7711-2 SI4922DY 3702 10K

3721 2R2 I720 I721

F717 SIG_GND2

I722 I723

2722 1n0 3722 2K7

2723 47n

5717 I725 10u 5713 3u3

2724 1n0 SS24 I724 2725 1n0 6718 3723 10R SUP_GND2

2726 470u 16V 3724 15K 3725 3K3 1% 3726 1K2 I726 2727 10n

3727 1K0 1% SIG_GND2

2702 100n SIG_GND2

FOR 37"-50" LARGE SCREEN

SUPPLY TO TUNER & HERCULES

+12VSW 5730 10u I731 2730 22u 16V SUP_GND1

7730 L5973D VCC Φ VREF OUT FB INH SYNC COMP GND GND HS

I762 3734 100R 6734 BZX384-C6V8 I733

F736 32V9 +VTUN TO TUNER CELL B1

6735 BAV99 2736 22u 35V 6736 BZX384-C33

I705 2734 22n 2733 220p I701 3736 4K7

7735 2N7002 I735 I734 2735 680p

5733 33u 6733 SS14 3735 1K0 5735 100u

SUP_GND1

B2 TO HERCULES CELL

3732 1K0 1% 3733 3K3 1% I732

+12VSW 5738 120R I702 7738 L78M08CDT IN OUT COM 2738 47u 16V 2739 47u 16V

+3V3STBY 3743 22K 3742 15K I742 7742 BC847BW

+12VSW 6740 PDZ8.2-B I740 3740 1K5 I741 3741 1K5 2741 220n 7741 BC847BW

I736 5737 10u 5V2 F737 +5VSW 8V F738 +8VSW_TV F743 POWER_DOWN B5 B7 B16

2731 470u 16V 2737 470u 16V

FOR 37"-50" LARGE SCREEN

FOR 26"-42" SCREEN

+12VSW 5756 I756 7754 SI2301BDS-T1-E3 11V5 SS = 4V9 I757 5757 120R PAN_VCC 5700 120R F700 LVDS_VCC 11V5

B20 TO PACIFIC3

RES 2749 3755 10K 2751 4u7 I747 6V8

3758 15K 3760 100R

B8 FROM SCALER

7755 PDTC114ET I760 PANEL-PWR-CTL F755 (0V) 0V6

2760 1u0 25V RES

2752 47u 16V 2700 RES 2701 100p

SUPPLY TO SCALER

RES

+12VSW 5752 10u I764 2753 22u 16V GND SUP_GND3

7752 L5970D VCC OUT COMP FB INH SYNC GND VREF

I758 I755 5753 220u 6751 SS14

2763 22n 2756 220p 3737 4K7

B2 FROM HERCULES

3750 22K RES 2750 2762 22u 16V 7758 SI4423DY

3759 12K I748 SC_STANDBY 3V1 7756 PDTC114ET

3761 100R I704 2761 1u0 25V RES

+3V3STBY 3V2 +3V3SW 2759 100u 16V

5751 10u

3753 1K01% I753 1V2 3754 3K3 1% I754 5754 10u F754 +5VSWI 5V4

2757 470u 16V 2758 470u 16V

B7 TO SCALER CELL B4 TO LIPSYNC

3139 123 6117.2

G_16210_006.eps 160106

2700	B11	6736	F6
2701	B11	6740	H1
2702	D1	6751	E10
2704	B2	7708	A5
2706	A3	7710	C2
2708	B4	7711-1	C4
2709	B4	7711-2	D4
2710	B4	7730	F2
2711	B4	7735	F5
2716	B7	7738	G2
2717	D1	7741	H3
2718	D1	7742	H3
2719	C2	7752	D9
2720	C3	7754	B9
2721	D4	7755	C8
2722	E4	7756	G8
2723	E4	7758	G9
2724	C5	F700	B11
2725	C5	F701	B2
2726	C5	F710	B6
2727	D6	F717	D3
2730	F2	F736	F6
2731	H5	F737	G6
2733	F4	F738	G6
2734	F3	F743	G6
2735	F5	F754	F11
2736	F6	F755	C8
2737	H6	I701	F3
2738	G1	I702	G1
2739	G2	I704	G8
2741	H2	I705	F3
2749	B8	I706	A3
2750	F9	I708	B4
2751	B9	I709	B4
2752	B10	I710	B3
2753	D8	I711	D2
2756	E8	I712	D2
2757	F10	I714	C2
2758	F11	I715	C3
2759	G10	I716	D3
2760	C9	I717	D4
2761	G9	I718	D3
2762	G9	I719	D4
2763	E8	I720	D3
3701	D4	I721	D4
3702	D4	I722	E2
3709	B4	I723	E4
3718	C2	I724	C5
3719	C3	I725	C6
3720	D4	I726	C6
3721	D3	I731	E2
3722	E4	I732	G4
3723	D5	I733	F4
3724	C6	I734	F4
3725	C6	I735	F5
3726	C6	I736	G5
3727	E6	I740	H1
3732	G3	I741	H2
3733	G4	I742	H3
3734	E4	I747	B9
3735	G5	I748	G8
3736	G3	I753	F9
3737	E8	I754	F10
3740	H2	I755	D10
3741	H2	I756	B9
3742	H3	I757	B9
3743	G3	I758	E8
3750	G8	I760	C8
3753	F9	I762	E4
3754	F10	I764	D8
3755	B9		
3758	C8		
3759	G8		
3760	C9		
3761	G9		
5700	B11		
5704	A3		
5709	B3		
5713	C6		
5717	C5		
5730	E2		
5733	G4		
5735	G5		
5737	G5		
5738	G1		
5751	H10		
5752	D8		
5753	E10		
5754	F10		
5756	B9		
5757	B10		
6717	C3		
6718	C5		
6733	G4		
6734	F4		
6735	F5		

SSB: Diversity Tables B1-B6

B01

Item nr.	EU non DVB	EU DVB	Description
1152	☑	☐	TUN V+U PLL IEC BGHIL B
	☐	☑	TUNER UV1318SD/A CP H N-4
3163	☑	☐	RST SM 0603 100R PM5 COL
3164	☑	☐	RST SM 0603 100R PM5 COL
5152	☐	☑	FXDIND SM 1008 1U PM5 COL R
	☑	☐	FXDIND SM 1008 6U8 PM5 COL R
5157	☐	☑	FXDIND 0603 100MHZ 600R COL R
5158	☐	☑	FXDIND 0603 100MHZ 600R COL R

B02

Item Nr.		/93 China	AP 10pg TXT	EU 10pg TXT	EU 10pg TXT DVB	EU 1000pg TXT	EU 1000pg TXT DVB	Description
2203	319803041090	☑	☑	☑	☑	☐	☐	ELCAP SM 16V 10U PM20 COL R
2244	319803571040	☐	☐	☑	☑	☑	☑	CER2 0402 Y5V 16V 100N COL
2245	319803571040	☐	☐	☑	☑	☑	☑	CER2 0402 Y5V 16V 100N COL
2246	319803571040	☐	☐	☑	☑	☑	☑	CER2 0402 Y5V 16V 100N COL
2280	202055200005	☐	☑	☐	☑	☑	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2281	202055200005	☐	☑	☐	☑	☑	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2289	319802131510	☐	☐	☑	☑	☑	☑	RST SM 0603 150R PM5 COL
2290	222224059872	☐	☐	☑	☑	☑	☑	CER2 0805 Y5V 10V 4U7 P8020 R
2291	319803571040	☐	☐	☑	☑	☑	☑	CER2 0402 Y5V 16V 100N COL
3250	319803101010	☑	☑	☑	☑	☐	☐	RST SM 0402 100R PM5 COL
3251	319803101010	☑	☑	☑	☑	☐	☐	RST SM 0402 100R PM5 COL
3252	319803101010	☑	☑	☑	☑	☐	☐	RST SM 0402 100R PM5 COL
3253	319803101010	☑	☑	☑	☑	☐	☐	RST SM 0402 100R PM5 COL
3255	319803190010	☑	☑	☑	☑	☐	☐	RST SM 0402 JUMP. 0R05 COL
3256	319803190010	☑	☑	☑	☑	☐	☐	RST SM 0402 JUMP. 0R05 COL
3257	319803190010	☑	☑	☑	☑	☐	☐	RST SM 0402 JUMP. 0R05 COL
3258	319803101020	☑	☑	☑	☑	☐	☐	RST SM 0402 1K PM5 COL
3259	319803101020	☑	☑	☑	☑	☐	☐	RST SM 0402 1K PM5 COL
3260	319803101020	☑	☑	☑	☑	☐	☐	RST SM 0402 1K PM5 COL
3282	319802131510	☐	☐	☑	☑	☑	☑	RST SM 0603 150R PM5 COL
3294	319803104730	☐	☐	☑	☑	☑	☑	RST SM 0402 47K PM5 COL
3296	319803101010	☐	☐	☐	☑	☐	☑	RST SM 0402 100R PM5 COL
4206	319802190020	☑	☑	☐	☐	☐	☐	RST SM 0805 JUMP. 0R05 COL R
4218	319803190010	☐	☐	☑	☑	☑	☑	RST SM 0402 JUMP. 0R05 COL
4219	319803190010	☐	☐	☑	☑	☑	☑	RST SM 0402 JUMP. 0R05 COL
5218	242254945333	☐	☐	☑	☑	☑	☑	IND FXD 1206 EMI 100MHZ 120R R
6206	319801010660	☐	☐	☐	☑	☐	☑	DIO SIG SM BAT54 SOD323 COL R
7208	319801042310	☑	☑	☑	☑	☐	☐	TRA SIG SM BC847BW (COL) R
7209	319801042310	☑	☑	☑	☑	☐	☐	TRA SIG SM BC847BW (COL) R
7210	319801042310	☑	☑	☑	☑	☐	☐	TRA SIG SM BC847BW (COL) R
7217	935280215557	☐	☐	☑	☑	☐	☐	IC SM TDA15031H/N1C91 (PHSE)Y
	935280366557	☐	☑	☐	☐	☑	☑	IC SM TDA15021H/N1C91 (PHSE) Y
	935280367557	☑	☐	☐	☐	☐	☐	IC SM TDA15011H/N1CD0 (PHSE) Y
7219	319801071090	☐	☐	☑	☑	☑	☑	IC SM 74HC4053D (COL) R

B03

Item Nr.		10pg TXT (w/o OTC)	1000pg TXT (with OTC)	DVB 10pg TXT (w/o OTC)	DVB 1000pg TXT (with OTC	Description
1442	242202519085	☐	☑	☐	☑	CON V 14P M 1.00 SM SR R
3432	319803102720	☐	☐	☑	☑	RST SM 0402 2K7 PM5 COL
6430	934054842115	☑	☑	☐	☐	DIO REG SM PDZ2.4B (PHSE) R
6431	932220595685	☑	☑	☐	☐	DIO SIG SM 1N4148WS-V (VISH) R

B05

Item Nr.		LCD 37" - 50"	LCD 26" - 32"	PDP 42" - 50"	Decription
2612	319801741050	☑	☐	☑	CER2 0603 Y5V 10V 1U COL
2613	319801741050	☐	☑	☐	CER2 0603 Y5V 10V 1U COL
2616	202055200035	☐	☑	☐	CER2 0603 X5R 6V3 2U2 PM10 R
2617	202055200035	☐	☑	☐	CER2 0603 X5R 6V3 2U2 PM10 R
2619	319803024790	☐	☑	☐	ELCAP SM 6V3 47U PM20 COL R
3615	319803101030	☐	☑	☐	RST SM 0402 10K PM5 COL
3616	319803101020	☑	☐	☐	RST SM 0402 1K PM5 COL
	319803190010	☐	☐	☑	RST SM 0402 JUMP. 0R05 COL
3617	319803101020	☑	☐	☑	RST SM 0402 1K PM5 COL
3618	319803102230	☐	☑	☐	RST SM 0402 22K PM5 COL
3619	319803101030	☑	☐	☑	RST SM 0402 10K PM5 COL
3620	319803101030	☑	☐	☐	RST SM 0402 10K PM5 COL
3623	319803104730	☐	☑	☐	RST SM 0402 47K PM5 COL
3625	319803103320	☐	☑	☐	RST SM 0402 3K3 PM5 COL
3627	319803102230	☐	☑	☐	RST SM 0402 22K PM5 COL
3628	319803101030	☑	☐	☑	RST SM 0402 10K PM5 COL
3629	319803102230	☑	☐	☑	RST SM 0402 22K PM5 COL
3630	319803102220	☑	☐	☑	RST SM 0402 2K2 PM5 COL
	319803103310	☐	☑	☐	RST SM 0402 330R PM5 COL
3631	319803102220	☑	☐	☑	RST SM 0402 2K2 PM5 COL
	319803103310	☐	☑	☐	RST SM 0402 330R PM5 COL
3632	232270570569	☑	☐	☑	RST SM 0402 RC31 56R PM5 R
3633	232270570569	☑	☐	☑	RST SM 0402 RC31 56R PM5 R
4601	319802190030	☑	☐	☑	RST SM 0603 JUMP. 0R05 COL
4602	319802190030	☐	☑	☐	RST SM 0603 JUMP. 0R05 COL
4603	319802190030	☐	☑	☐	RST SM 0603 JUMP. 0R05 COL
4606	319802190030	☑	☐	☑	RST SM 0603 JUMP. 0R05 COL
4609	319802190030	☐	☑	☐	RST SM 0603 JUMP. 0R05 COL
4610	319802190030	☐	☑	☐	RST SM 0603 JUMP. 0R05 COL
4611	319802190030	☐	☑	☐	RST SM 0603 JUMP. 0R05 COL
4612	319802190030	☐	☑	☐	RST SM 0603 JUMP. 0R05 COL
4613	319802190030	☐	☑	☐	RST SM 0603 JUMP. 0R05 COL
4614	319802190030	☑	☐	☑	RST SM 0603 JUMP. 0R05 COL
4615	319802190030	☑	☐	☑	RST SM 0603 JUMP. 0R05 COL
4618	319802190030	☑	☐	☑	RST SM 0603 JUMP. 0R05 COL
4619	319802190030	☑	☐	☑	RST SM 0603 JUMP. 0R05 COL
7603	319801042310	☑	☐	☐	TRA SIG SM BC847BW (COL) R
7604	319801042310	☑	☐	☑	TRA SIG SM BC847BW (COL) R
7607	319801042310	☐	☑	☐	TRA SIG SM BC847BW (COL) R

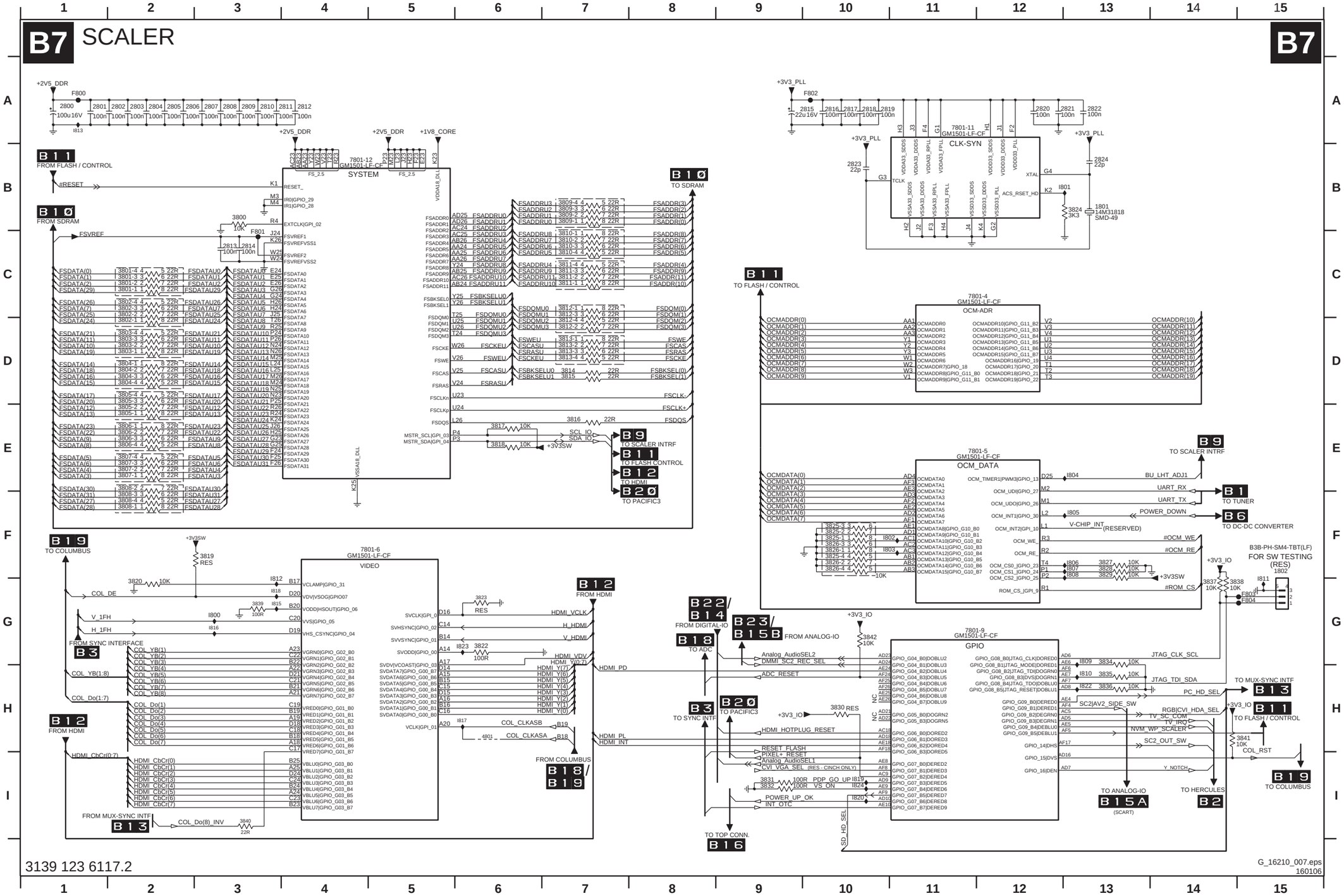
B06

Item Nr.		PDP - 42" - 50"	LCD 26" - 32"	LCD 37" - 42"	Description
2701	319803401010	☐	☑	☑	CER1 0402 NP0 50V 100P COL
2702	319803571040	☑	☐	☑	CER2 0402 Y5V 16V 100N COL
2706	319803041090	☑	☐	☑	ELCAP SM 16V 10U PM20 COL R
2709	319803044790	☑	☐	☑	ELCAP SM 16V 47U PM20 COL R
2710	202055200211	☑	☐	☑	CER2 1210 X5R 16V 22U PM10 R
2711	202055200211	☑	☐	☑	CER2 1210 X5R 16V 22U PM10 R
2717	319803571040	☑	☐	☑	CER2 0402 Y5V 16V 100N COL
2718	319803571040	☑	☐	☑	CER2 0402 Y5V 16V 100N COL
2719	319803571040	☑	☐	☑	CER2 0402 Y5V 16V 100N COL
2720	319803501020	☑	☐	☑	CER2 0402 X7R 50V 1N COL
2721	319803571040	☑	☐	☑	CER2 0402 Y5V 16V 100N COL
2722	319803501020	☑	☐	☑	CER2 0402 X7R 50V 1N COL
2723	319803574730	☑	☐	☑	CER2 0402 Y5V 16V 47N COL
2724	319801631020	☑	☐	☑	CER1 0603 NP0 25V 1N COL
2725	319801631020	☑	☐	☑	CER1 0603 NP0 25V 1N COL
2726	202002100097	☑	☐	☑	ELCAP SM SGV 16V 470U PM20 R
2727	319803521030	☑	☐	☑	CER2 0402 X7R 16V 10N COL
2741	319801732240	☑	☐	☐	CER2 0603 X7R 10V 220N COL
	222224059872	☐	☑	☑	CER2 0805 Y5V 10V 4U7 P8020 R
2752	319803044790	☐	☑	☑	ELCAP SM 16V 47U PM20 COL R
3701	319803101030	☑	☐	☑	RST SM 0402 10K PM5 COL
3702	319803101030	☑	☐	☑	RST SM 0402 10K PM5 COL
3709	319803106820	☑	☐	☑	RST SM 0402 6K8 PM5 COL
3718	232275061009	☑	☐	☑	RST SM FUSE 1206 10R PM5 R
3719	319803106810	☑	☐	☑	RST SM 0402 680R PM5 COL
3720	319802132280	☑	☐	☑	RST SM 0603 2R2 PM5 COL
3721	319802132280	☑	☐	☑	RST SM 0603 2R2 PM5 COL
3722	319803102720	☑	☐	☑	RST SM 0402 2K7 PM5 COL
3723	319802151090	☑	☐	☑	RST SM 0805 10R PM5 COL R
3724	319803101530	☑	☐	☑	RST SM 0402 15K PM5 COL
3725	232270463302	☑	☐	☑	RST SM 0603 RC22H 3K3 PM1 R
3726	319803101220	☑	☐	☑	RST SM 0402 1K2 PM5 COL
3727	232270461002	☑	☐	☑	RST SM 0603 RC22H 1K PM1 R
3740	319803101520	☑	☐	☑	RST SM 0402 1K5 PM5 COL
3741	319803101520	☑	☐	☑	RST SM 0402 1K5 PM5 COL
3742	319803101530	☑	☐	☑	RST SM 0402 15K PM5 COL
3743	319803102230	☑	☐	☑	RST SM 0402 22K PM5 COL
3750	319803102230	☐	☑	☐	RST SM 0402 22K PM5 COL
3755	319803101030	☐	☑	☑	RST SM 0402 10K PM5 COL
3758	319803101530	☐	☑	☑	RST SM 0402 15K PM5 COL
3759	319803101230	☐	☑	☐	RST SM 0402 12K PM5 COL
5700	242254945333	☐	☑	☑	IND FXD 1206 EMI 100MHZ 120R R
5704	242254945333	☑	☐	☑	IND FXD 1206 EMI 100MHZ 120R R
5709	242253594134	☑	☐	☑	IND FXD SM 7032 10U PM20 R
5713	242253601218	☑	☐	☑	IND FXD SM DRH104RNP 3U3 PM30
5717	242253600671	☑	☐	☑	IND FXD SM 12575 10U PM20 R
5754	242253594134	☐	☐	☐	IND FXD SM 7032 10U PM20 R
5756	242254945333	☐	☑	☑	IND FXD 1206 EMI 100MHZ 120R R
5757	242254945333	☐	☑	☑	IND FXD 1206 EMI 100MHZ 120R R
6717	319801010630	☑	☐	☑	DIO SIG SM BAS316 (COL) R
6718	319801010720	☑	☐	☑	DIO REC SS24 COL R
6740	934054857115	☑	☐	☑	DIO REG SM PDZ8.2B (PHSE) R
6751	319801010710	☐	☐	☐	DIO REC SS14 COL R
7708	932213916668	☑	☐	☑	IC SM LF33CPT (ST00) R
7710	932218277668	☑	☐	☑	IC SM L6910 (ST00) R
7711	932216070668	☑	☐	☑	FET POW SM SI4936ADY-E3(VISH)R
7741	319801042310	☑	☐	☑	TRA SIG SM BC847BW (COL) R
7742	319801042310	☑	☐	☑	TRA SIG SM BC847BW (COL) R
7754	932221400668	☐	☑	☑	FET POW SM SI2301BDS-E3(VISH)R
7755	319801044110	☐	☐	☑	TRA SIG SM PDTC114ET (COL) R
7756	319801044110	☐	☑	☐	TRA SIG SM PDTC114ET (COL) R
7758	932221214668				FET POW SM SI4423DY-E3 (VISH)R

G_16210_065.eps
190106

SSB: Scaler

B7 SCALER



1801 B13 7801-5 E12
1802 F15 7801-6 F5
2800 A1 7801-9 G11
2801 A1 F800 A1
2802 A2 F801 C3
2803 A2 F802 A10
2804 A2 F803 G15
2805 A2 F804 G15
2806 A2 I800 G3
2807 A3 I801 B13
2808 A3 I802 F10
2809 A3 I803 F10
2810 A3 I804 E13
2811 A4 I805 F13
2812 A4 I806 F13
2813 C3 I807 F13
2814 C3 I808 F13
2815 A10 I809 G13
2816 A10 I810 H13
2817 A10 I811 G15
2818 A10 I812 G3
2819 A10 I813 A1
2820 A12 I815 G3
2821 A13 I816 G3
2822 A13 I817 H6
2823 B10 I818 G3
2824 B13 I819 I10
3800 B3 I820 I10
3801-1 C2 I822 H13
3801-2 C2 I823 G6
3801-3 C2 I824 I10
3801-4 C2
3802-1 D2
3802-2 C2
3802-3 C2
3802-4 C2
3803-1 D2
3803-2 D2
3803-3 D2
3803-4 D2
3804-1 D2
3804-2 D2
3804-3 D2
3804-4 D2
3805-1 E2
3805-2 E2
3805-3 D2
3805-4 D2
3806-1 E2
3806-2 E2
3806-3 E2
3806-4 E2
3807-1 E2
3807-2 E2
3807-3 E2
3807-4 E2
3808-1 F2
3808-2 E2
3808-3 F2
3808-4 F2
3809-1 B7
3809-2 B7
3809-3 B7
3809-4 B7
3810-1 C7
3810-2 C7
3810-3 C7
3810-4 C7
3811-1 C7
3811-2 C7
3811-3 C7
3811-4 C7
3812-1 C7
3812-2 D7
3812-3 C7
3812-4 D7
3813-1 D7
3813-2 D7
3813-3 D7
3813-4 D7
3814 D7
3815 D7
3816 E7
3817 E6
3818 E6
3819 F3
3820 G2
3822 G6
3823 G6
3824 B13
3825-1 F10
3825-2 F10
3825-3 F10
3825-4 F10
3826-1 F10
3826-2 F10
3826-3 F10
3826-4 F10
3827 F13
3828 F13
3829 F13
3830 H10
3831 I9
3832 I9
3834 G13
3835 H13
3836 H13
3837 G14
3838 G14
3839 G3
3840 I3
3841 H15
3842 G10
4801 H6
7801-11 A11
7801-12 B4
7801-4 C12

SSB: Scaler

B8 SCALER

SUPPLY FOR SCALER

+3V3SW
5900 → +3V3_PLL
5901 → +3V3_ADC
5902 → +3V3_DVI
5903 → +3V3_IO
5904 F900 → +3V3_LBADC
5905 → +3V3_LVDSA
5906 → +3V3_LVDSB
5907 → +3V3_LVDS

+3V3SW — 7900 LF25CDT (IN, OUT, COM) — I900 — 5908 → +2V5_DDR
2900 100n; 2901 1n0; + 2902 100u 16V; + 2960 100u 16V

+3V3SW — 7901 LD1086D2T18 (IN, OUT, COM) — I901 — I902 +1V8
2903 100n; + 2904 47u 16V
5909 → +1V8_ADC
5910 → +1V8_DVI
5911 → +1V8_CORE

+3V3_IO — F901 — 2905 100u 16V; 2906–2916 100n
+1V8_CORE — F902 — 2917 100u 16V; 2918–2929 100n

7801-13 GM1501-LF-CF SUPPLY
+3V3_IO: AC10 AC8 AC6 AC4 AB4 AA4 Y4 W4 D23 D22 D17 (IO_3.3)
+1V8_CORE: U17 U16 U11 U10 T17 T16 T11 T10 L16 L11 K17 K16 K11 K10 (CORE_1.8)
D_GND; D_GND; D_GND
A13 B13 K12 K13 K14 K15 L10 L12 L13 L14 L15 L17 M10 M11 M12 M13 M14 M15 M16 M17 N10 N11 N12 N13 N14 N15 N16 N17 P10 P11 P12 P13 P14 P15 P16 P17 R10 R11 R12 R13 R14 R15 R16 R17 T10 T12 T13 T14 T15 U12 U13 U14 U15 AD15
I905

+1V8_DVI — F903 — 2930 2931 2932 2933 100n
+3V3_DVI — F904 — + 2934 47u 16V; 2935 2936 2937 2938 2939 100n
7801-2 GM1501-LF-CF: D6 D9 D10 C11 C10 C9 C8 C6

DVI (DVI_1.8 / DVI_3.3)
N4 DVI_SCL|GPI_07
N3 DVI_SDA|GPI_08
A6 RXCp
B6 RXCn
A8 RX0p
B8 RX0n
A9 RX1p
B9 RX1n
A10 RX2p
B10 RX2n
B11 REXT
NC
DVI_GND: A7 A11 B5 B7 C7 D7 D11
I906

7801-14 GM1501-LF-CF NC
NC A1; NC C5; NC D5; AC17 NC; K3 NC; F1 NC; NC NC

+3V3_LBADC — + 2940 47u 16V; 2941 100n
7801-3 GM1501-LF-CF ADC (LBADC_33)
KEYBOARD — 4900 RES — I908
C12 LBADC_IN1
B12 (RES) LBADC_IN2
A12 (RES) LBADC_IN3
D12 LBADC_RETURN
LBADC_GND D13
2942 100n

B2

7801-10 GM1501-LF-CF DISPLAY PWR
AD19 LVDSA_GND_1; AC19 LVDSA_GND_2; AC20 LVDSA_GND_3; AC13 LVDSB_GND_1; AC14 LVDSB_GND_2; AC15 LVDSB_GND_3; AD17 VSSD33_LVDS
VDDD33_LVDS AE17; LVDSA_3.3_3 AC22; LVDSA_3.3_2 AC21; LVDSA_3.3_1 AD20; LVDSB_3.3_3 AD13; LVDSB_3.3_2 AD12; LVDSB_3.3_1
+3V3_LVDS — F905 — 2949 100n
+3V3_LVDSA — F906 — + 2945 22u 16V; 2946 2947 2948 100n
+3V3_LVDSB — F907 — + 2950 22u 16V; 2951 2952 100n

B13 TO MUX-SYNC INTERFACE
B2 HERCULES
AVSYNC L3; AHSYNC L4; SCL N2; SDA N1; SOG C3; R_PR+ D2; R_PR- D1; G_Y+ C2; G_Y- C1; B_PB+ B2; B_PB- B1

+3V3STBY — 3901 RES; 3902 RES — 2953 2954 100n — F908 — +1V8_ADC
+3V3_ADC — F909 — 2955 22u 16V; 2956 2957 2958 2959 100n
7801-1 GM1501-LF-CF ANA-IN
ADC_1.8: A4 A3; ADC_3.3: B3 E3 D3 A2
I907 — 3903 100R; 3904 100R
VGA_SCL|GPI_05; VGA_SDA|GPI_06
SOG; REDp; REDn; GREENp; GREENn; BLUEp; BLUEn
ADC_AGND; ADC_DGND: C4 D4 E1 E2 E4 A5 B4
F910

B16 — 7801-7 GM1501-LF-CF CTRL
3900 3K3 I904 AC16 OEXTR
FAN_SPEED C26 PWM0|GPIO_10
HD_FILTER C25 PWM1|GPIO_11
PPWR|GPIO_08 A26 PANEL-PWR-CTL
PBIAS|GPIO_09 B26 LAMP_ON_OFF
DCLK|GPIO_17 AC7 NC
PWM2|GPIO_12 D26 I903 BU_LHT_ADJ2 (RES)
FROM DC-DC CONVERTER B6
B20 TO PACIFIC-3 & B16 TO TOP CONN.

3139 123 6117.2
G_16210_008.eps 160106

2900 D1 F903 C5
2901 D2 F904 C7
2902 D2 F905 D10
2903 E1 F906 D10
2904 E2 F907 D10
2905 A4 F908 E9
2906 A4 F909 E10
2907 A4 F910 G9
2908 A4 I900 C2
2909 A5 I901 E1
2910 A5 I902 E2
2911 A5 I903 G6
2912 A5 I904 F4
2913 A5 I905 C4
2914 A6 I906 E6
2915 A6 I907 F8
2916 A6 I908 B10
2917 A7
2918 A7
2919 A7
2920 A7
2921 A8
2922 A8
2923 A8
2924 A8
2925 A8
2926 A9
2927 A9
2928 A9
2929 A9
2930 C5
2931 C5
2932 C5
2933 C5
2934 C7
2935 C7
2936 C7
2937 C8
2938 C8
2939 C8
2940 B10
2941 B10
2942 C9
2945 D10
2946 D11
2947 D11
2948 D11
2949 D11
2950 D10
2951 D11
2952 D11
2953 E8
2954 E8
2955 E10
2956 E10
2957 E11
2958 E11
2959 E11
2960 D2
3900 F4
3901 E8
3902 E8
3903 F8
3904 F8
4900 B9
5900 A1
5901 B1
5902 B1
5903 B1
5904 B1
5905 C1
5906 C1
5907 C1
5908 C3
5909 D3
5910 E3
5911 E3
7801-1 F9
7801-10 C9
7801-13 B6
7801-14 A10
7801-2 C6
7801-3 B10
7801-7 F5
7900 C1
7901 D1
F900 B2
F901 A4
F902 A7

SSB: Scaler Interface

B9 SCALER INTERFACE

B9

7801-8
GM1501-LF-CF

ACp|GPIO_G06_B6|DORED8 AE20
ACn|GPIO_G06_B7|DORED9 AF20
A3p|GPIO_G06_B4|DORED6 AE19
A3n|GPIO_G06_B5|DORED7 AF19
A2p|GPIO_G05_B1|DOGRN3 AE21
A2n|GPIO_G05_B2|DOGRN4 AF21
A1p|GPIO_G05_B4|DOGRN6 AE22
A1n|GPIO_G05_B5|DOGRN7 AF22
A0p|GPIO_G05_B6|DOGRN8 AE23
A0n|GPIO_G05_B7|DOGRN9 AF23
NC
SHIELD5|DEBLU5 AD14
SHIELD4|DEBLU2 AE13
SHIELD3|DEGRN5 AE11
SHIELD2|DEGRN4 AD11
SHIELD1|DEGRN3 AC11
SHIELD0|DEGRN2 AF10
BCp|DEGRN8 AE12
BCn|DEGRN9 AF13
B3p|DEGRN6 AF11
B3n|DEGRN7 AF12
B2p|DEBLU3 AF14
B2n|DEBLU4 AE14
B1p|DEBLU6 AF15
B1n|DEBLU7 AE15
B0p|DEBLU8 AF16
B0n|DEBLU9 AE16
LVDS

TXBC+ TXBC-
TXB3+ TXB3-
TXB2+ TXB2-
TXB1+ TXB1-
TXB0+ TXB0-

B20 TO PACIFIC3

B7 TO SCALER

BU_LHT_ADJ1
3A02 1K0

RESERVED
IA07
4A02 RES
IA05
BACKLIGHT_DIM
B20 FROM PACIFIC3

BACKLIGHT CONTROL

	5V DC	5V PWM	3V3 DC	3V3 PWM
3A03	390R	390R	-	-
3A05	-	-	-	-
3A04	1K	1K	-	-
7A01	Y	Y	-	-
4A03	-	-	Y	Y
3A06	10K	0R	10K	0R
2A03	1u	-	1u	-

RES
+5VSWI
3A03 RES
3A05 RES
7A01 SI2301DS-T1
IA06 3A06 10K IA00
2A03 1u0
3A04 1K0
BACKLIGHT_CTRL
B16 TO TOP CONNECTORS
4A03

FOR LARGE SCREEN 37"~50"
+3V3STBY
3A11 4K7
+3V3STBY
2A13 100n
3A13 10K
+5V
3A14 4K7
7A02 BC847BW
7A03 BC847BW
6A01 BZX384-C3V9
STANDBY

FOR PDP ONLY
+3V3SW
3A07 10K
3A08 10K
+3V3SW
5A00
2A00 100n
7A00 PCA9515ADP
VCC
SDA_DMA_BUS1_DISP
SCL_DMA_BUS1_DISP
3A00 68R
3A01 68R
IA08
IA09
SDA1 SCL1 SDA0 SCL0 EN GND NC
SDA_IO
SCL_IO
2A01 100p
2A02 100p
4A00_RES
4A01_RES
4A04 (PDP)
BUF_ENABLE

B2 FROM HERCULES
SC_STANDBY
3A10 10K
IA03
2A12 10n
4A05
4A06

FOR PDP DVB ONLY
7A04 BC847BW
3A15 3K3
3A16 10K
IA10
2A14 10n
RESERVED

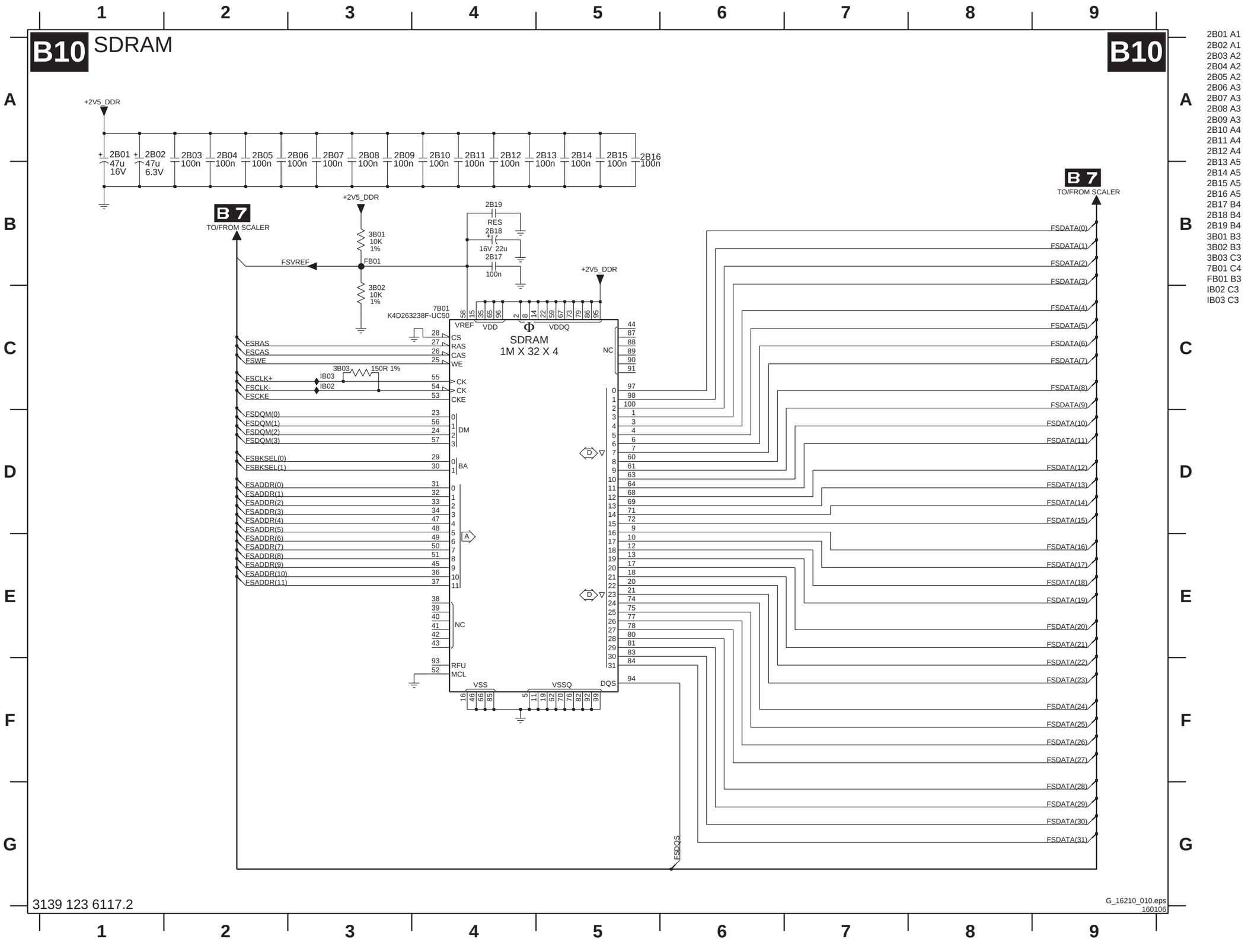
LS|PDP_DVB_SEMISTANDBY

3139 123 6117.2

G_16210_009.eps
160106

2A00 E3
2A01 F2
2A02 F2
2A03 C7
2A12 E6
2A13 D8
2A14 F8
3A00 E2
3A01 E2
3A02 C5
3A03 C6
3A04 C6
3A05 C6
3A06 C7
3A07 E2
3A08 E2
3A10 E6
3A11 D7
3A13 D8
3A14 D9
3A15 F9
3A16 F8
4A00 F3
4A01 F3
4A02 B6
4A03 D6
4A04 F4
4A05 F6
4A06 F8
5A00 E3
6A01 E9
7801-8 A2
7A00 E4
7A01 C6
7A02 E6
7A03 E8
7A04 F8
IA00 C7
IA03 E6
IA05 B8
IA06 C7
IA07 B6
IA08 E3
IA09 E3
IA10 F8

SSB: SDRAM



2B01 A1
2B02 A1
2B03 A2
2B04 A2
2B05 A2
2B06 A3
2B07 A3
2B08 A3
2B09 A3
2B10 A4
2B11 A4
2B12 A4
2B13 A5
2B14 A5
2B15 A5
2B16 A5
2B17 B4
2B18 B4
2B19 B4
3B01 B3
3B02 B3
3B03 C3
7B01 C4
FB01 B3
IB02 C3
IB03 C3

3139 123 6117.2

G_16210_010.eps
160106

SSB: Flash / Control

B11 FLASH / CONTROL

B11

+3V3_IO
5C00
FC00
2C00
100n
2C01
10u 16V
7C03
M29W400DT-55N6
EPROM
512Kx8/256Kx16
OCMADDR(1) 25
OCMADDR(2) 24
OCMADDR(3) 23
OCMADDR(4) 22
OCMADDR(5) 21
OCMADDR(6) 20
OCMADDR(7) 19
OCMADDR(8) 18
OCMADDR(9) 8
OCMADDR(10) 7
OCMADDR(11) 6
OCMADDR(12) 5
OCMADDR(13) 4
OCMADDR(14) 3
OCMADDR(15) 2
OCMADDR(16) 1
OCMADDR(17) 48
OCMADDR(18) 17
A 0 4M-1
D▽
A-1
OCMDATA(0) 29
OCMDATA(1) 31
OCMDATA(2) 33
OCMDATA(3) 35
OCMDATA(4) 38
OCMDATA(5) 40
OCMDATA(6) 42
OCMDATA(7) 44
OCMADDR(0) 45
3C22 1K0
3C23 220K
FC11
+3V3_IO
#OCM_WE 15 RB
#OCM_RE 12 RP
#ROM_CS 28 WE
26 OE
47 CE
BYTE
11
NC 9 10 13 14 16
27 46
2C04 10n
2C05 10n
B 7 TO SCALER
OCMDATA(0:7)
OCMADDR(0:19)
OCMADDR(0)
+3V3_IO
3C04-1 1 10K
3C04-2 2 10K
3C04-3 3 10K
3C04-4 4 10K
3C05 10K
3C06-1 1 8 10K OCMADDR(0)
3C06-2 2 7 10K OCMADDR(1)
3C06-3 3 6 10K OCMADDR(2)
3C06-4 4 5 10K OCMADDR(3)
3C07-1 1 8 10K OCMADDR(4)
3C07-2 2 7 10K OCMADDR(5)
3C07-3 3 6 10K OCMADDR(6)
3C07-4 4 5 10K OCMADDR(7)
3C08-1 1 8 10K OCMADDR(8)
3C08-2 2 7 10K OCMADDR(9)
3C08-3 3 6 10K OCMADDR(10)
3C08-4 4 5 10K OCMADDR(11)
3C09-1 1 8 10K OCMADDR(12)
3C09-2 2 7 10K OCMADDR(15)
3C09-3 3 6 10K OCMADDR(17)
3C09-4 4 5 10K OCMADDR(18)
3C10-1 1 8 10K OCMADDR(16)
3C10-3 3 6 10K OCMADDR(14)
3C10-4 4 5 10K OCMADDR(13)
3C10-2 2 7 10K OCMADDR(19)
FC09
FC08
FC07
FC06
+3V3_IO
3C16-4 5
3C17 10K
3C16-3 6 10K
3C16-1 8
3C16-2 7
3C18 10K
FC10
3C19 RES
3C20 RES
3C21 RES
+3V3SW
+3V3SW
3C00 10K
2C02 100n
3V2
7C01
M24C32-WMN6
Φ
(4Kx8)
EEPROM
NVM_WP_SCALER 0V FC01 7 WC
SCL_IO 3V2 FC02 6 SCL
SDA_IO 3V2 FC03 5 SDA
ADR 0 1 2
4
+3V3SW
3V2
2C03 100n
1C00 SKQR
For Software Development only - (RES)
FC04
0V
7C02 PST596J
MR SUB VCC GND VOUT
FC05
3V2
3C02 1K0
#RESET
3C01 0R
3C03 RES
B 7 & B 19
TO SCALER
TO COLUMBUS

1C00 E4
2C00 A3
2C01 B3
2C02 E2
2C03 E4
2C04 D1
2C05 D1
3C00 E2
3C01 F4
3C02 E6
3C03 F6
3C04-1 B6
3C04-2 B6
3C04-3 B6
3C04-4 B6
3C05 B6
3C06-1 B5
3C06-2 B5
3C06-3 B5
3C06-4 B5
3C07-1 C5
3C07-2 C5
3C07-3 C5
3C07-4 C5
3C08-1 C5
3C08-2 C5
3C08-3 C5
3C08-4 C5
3C09-1 C5
3C09-2 C5
3C09-3 C5
3C09-4 C5
3C10-1 D5
3C10-2 D5
3C10-3 D5
3C10-4 D5
3C16-1 C7
3C16-2 C7
3C16-3 C6
3C16-4 C6
3C17 C6
3C18 C7
3C19 D6
3C20 D7
3C21 D7
3C22 D1
3C23 D1
5C00 A2
7C01 E3
7C02 E5
7C03 B2
FC00 A2
FC01 E2
FC02 F2
FC03 F2
FC04 F4
FC05 F5
FC06 D6
FC07 D6
FC08 C7
FC09 C7
FC10 C7
FC11 D1

3139 123 6117.2

G_16210_011.eps
160106

SSB: HDMI

2D00 A10 2D01 B10 2D02 F2 2D08 B1 2D09 B1
2D10 B2 2D11 B2 2D12 B1 2D13 B1 2D14 B2
2D15 B2 2D16 B2 2D17 B2 2D18 B2 2D21 E2
2D22 E2 2D23 E2 2D24 E2 2D25 E2 2D29 C1
2D30 D1 2D31 D1 2D32 E1 2D34 E2 2D35 E2
2D36 E2 2D37 E2 2D38 E2 2D39 E2 2D42 G2
2D43 G2 2D44 G2 2D45 H1 2D46 H2 2D47 I2
2D48 I3 2D49 H5 2D50 G9 2D51 G9 2D52 G10
2D53 G10 2D54 G11 2D55 G11 2D56 H10 2D57 H10
2D58 I10 2D59 I11 3D00 A9 3D01 A10 3D02 B9
3D03 B10 3D05 I4 3D06 I4 3D07 E10 3D08 E10
3D09 A10 3D10 B10 3D11 E13 3D15-1 C14 3D15-2 C14
3D15-3 C14 3D15-4 C14 3D16-1 D14 3D16-2 D14 3D16-3 D14
3D16-4 C14 3D17-1 B14 3D17-2 B14 3D17-3 B14 3D17-4 A14
3D18 F10 3D19 F9 3D20-1 G8 3D20-2 H8 3D20-3 H8
3D20-4 G8 3D21-1 B14 3D21-2 B14 3D21-3 B14 3D21-4 B14
3D22 E14 3D23 D14 3D24 H11 3D26 H11 3D27 H4
4D02 G8 4D03 H8 4D04 I4 4D05 I4 4D06 I4
5D00 F1 5D01 G1 5D02 H2 5D03 H2 5D04 I2
5D05 F1 5D06 F1 7D00 A8 7D01 B8 7D02 H1
7D03-1 A11 7D03-2 G6 7D03-3 A5 7D04 G9 7D05 H4
FD01 B9 FD02 B9 FD03 C9 FD04 C9 FD05 E15
FD06 E15 FD07 G1 FD08 G1 FD09 G1 FD10 I2
FD11 I2 FD12 F1 FD13 G9 FD14 H2 FD15 G9
FD17 A9 ID00 H1 ID01 H2 ID08 H10 ID09 H11
ID10 G10 ID11 H11 ID13 E15 ID14 I5 ID15 D15
ID18 H14 ID19 I14 ID20 A9 ID22 E10 ID24 I5
ID25 I4 ID28 G8

B12 HDMI

7D03-3 TDA9975

SUPPLY

VDDA_3V3PLL, VDDA_1V8 — N7 VDDAPLL, M7 VDD18APLL
2D08 1n0, 2D09 1n0, 2D10 1n0, 2D11 1n0
M11 VDDR, N11 VDDR
M10 VDDG, N10 VDDG
VDDA_3V3 — M9 VDDB, N9 VDDB
2D12 1n0, 2D13 1n0, 2D14 1n0, 2D15 1n0, 2D16 1n0, 2D17 1n0, 2D18 1n0
P10 VDDBIAS
P11 VDDSOG
N12 VDDFRO
N13 VDDPLL, N14 VDD18PLL
VDDD_1V8 — E12, E13 VDD18HDMI, VDD18RRX
2D29 1n0
D8 VDDRX2A, D9 VDDRX2B, D10 VDDRX1A, D11 VDDRX1B, D12 VDDRX0A, D13 VDDRX0B, D14 VDDRXC
VDDC_1V8 — 2D30 1n0, 2D31 1n0
G13, E6 VDD18CORE
T4 OTP7V
VDDI_3V3 — F13 VDDIN
VDDD_3V3 — 2D32 1n0, 2D34 1n0, 2D35 1n0, 2D36 1n0, 2D37 1n0, 2D38 1n0, 2D39 1n0
D4 VDDQ0, E4 VDDQ1, F4 VDDQ3, G4 VDDQ4, H4 VDDQ5, J4 VDDQ6, K4 VDDQ7, L4 VDDQ8, M4 VDDQ9
2D21 1n0, 2D22 100n, 2D23 1n0, 2D24 1n0, 2D25 100n

GNDAVI: M5, N5, P5, R5, T5, M8, N8, P6, P7, P8, P9, R10, R11, M12, P12, P13, P14, P15, R15, T15
GNDAPLL: M6, N6
GNDHDMI: A8, B8, C8, B9, B10, B11, B12, B13, B14, B15, B16
GNDCORE: E7, E8, E9, E10, E11
GNDI2C: F12
GNDOUT: C7, D6, D7, E5, F5, D5, G5, J5, K5, L5, H5
THERMAL GROUNDS: F6, G6, H6, J6, K6, L6, F7, G7, H7, J7, K7, L7, F8, G8, H8, J8, K8, L8, F9, G9, H9, J9, K9, L9, F10, G10, H10, J10, K10, L10, F11, G11, H11, J11, K11, L11

FROM DIGITAL-IO B14 / B22

+5VHDMI_A — FD17
7D00 M24C02-WMN6 (256x8 EEPROM) — ADR, WC, SCL, SDA — ID20
3D00 4K7, 3D01 47K, 3D09 47K, 2D00 100n
DOC_SCLA, DOC_SDAA — FD01, FD02
+5VHDMI_B
7D01 M24C02-WMN6 (256x8 EEPROM) — ADR, WC, SCL, SDA — ID15
3D02 4K7, 3D03 47K, 3D10 47K, 2D01 100n
DOC_SCLB, DOC_SDAB — FD03, FD04

RX2+A, RX2-A, RX1+A, RX1-A, RX0+A, RX0-A, RXC+A, RXC-A
RX2+B, RX2-B, RX1+B, RX1-B, RX0+B, RX0-B, RXC+B, RXC-B

3D07 1K0 1%, 3D08 1K0 1% — ID22

7D03-1 TDA9975 IN/OUT

NC T10; RBIAS T16 R16 P16; HCSYNC; NC N16 M16 N15; VSYNC; SOG T12 R12 T11; R/Pr T14 R14 T13; G/Y T9 R9 T8; B/Pb T7 R7 T6; Rref, Gref, Bref R13 R8 R6
RX2+A A9, RX2-A A10, RX1+A A12, RX1-A A13, RX0+A A15, RX0-A A16, RXC+A F16, RXC-A G16, HSCL A K15, HSDA A K16
RX2+B C10, RX2-B C9, RX1+B C13, RX1-B C12, RX0+B C16, RX0-B C15, RXC+B G14, RXC-B F14, HSCL B J15, HSDA B J16
RRXB D15, RRXA D16
VPA0 E1, VPA1 E2, VPA2 F1, VPA3 F2, VPA4 G1, VPA5 G2, VPA6 H1, VPA7 H2, VPA8 J1, VPA9 J2, VPA10 K1, VPA11 K2
VPB0 L1, VPB1 L2, VPB2 M1, VPB3 M2, VPB4 N1, VPB5 N2, VPB6 P1, VPB7 P2, VPB8 R1, VPB9 R2, VPB10 T1, VPB11 T2
VPC0 E3, VPC1 F3, VPC2 G3, VPC3 H3, VPC4 J3, VPC5 K3, VPC6 L3, VPC7 M3, VPC8 N3, VPC9 P3, VPC10 R3, VPC11 T3
VCLK D1
HREF D2, VREF C1, FREF C2
CS B2, HS A2, VS A1
/VAI B1, DE A3, PL A4

HDMI_CbCr(0:7): 3D17-4 4, 3D17-3 3, 3D17-2 2, 3D17-1 1, 3D21-4 4, 3D21-3 3, 3D21-2 2, 3D21-1 1 — 5 33R, 6 33R, 7 33R, 8 33R — HDMI_CbCr(0) … HDMI_CbCr(7)
HDMI_Y(0:7): 3D15-4 4, 3D15-3 3, 3D15-2 2, 3D15-1 1, 3D16-4 4, 3D16-3 3, 3D16-2 2, 3D16-1 1 — 5 33R, 6 33R, 7 33R, 8 33R — HDMI_Y(0) … HDMI_Y(7)
3D23 33R — ID14 HDMI_VCLK
FD05 H_HDMI, FD06 V_HDMI
3D22 33R — ID13 HDMI_INT, HDMI_VDV, HDMI_PL
3D11 5K6

B7 TO SCALER

+3V3SW
5D06 FD12 — VDDA_3V3PLL
2D02 22u 6.3V
5D00 FD07 — VDDA_3V3
5D01 FD08 — VDDD_3V3
5D02 FD09 — VDDI_3V3
2D42 22u 6.3V, 2D43 22u 6.3V, 2D44 22u 6.3V

7D02 LD1086D2T18 (IN, OUT, COM)
ID00, 2D45 100n
ID01, 5D05 FD14 120R, 2D46 47u 6.3V — VDDC_1V8
5D03 FD10 120R — VDDA_1V8
5D04 FD11 120R — VDDD_1V8
2D47 22u 6.3V, 2D48 22u 6.3V

B18
HDMI_PD
ADC_XOUT — ID25
SCL_IO, SDA_IO — 3D06 100R, 3D05 100R

7D03-2 TDA9975 CTRL

TM0 C11, TM1 C14, TM2 A14, TM3 A11
AUX0 H12, AUX1 H13, AUX2 G12, AUX3 G15, AUX4 F15, AUX5 E14, AUX6 E15, AUX7 E16
CCLK L12, CKEXT M13, COAST M14, GCP H15, CLAMP H14, PD H16, MCLK M15, /OE J13, SCL L15, SDA L16
TDI K13, TDO L13, TRST L14, TMS K14, TCK J14
OR G/Y D3, OR B/U C3, OR R/V B3
X0 R4, X1 P4, X2 N4
CTL0 C6, CTL1 C5, CTL2 C4, CTL3 B4
AP0 A7, AP1 A6 NC, AP2 B6 NC, AP3 B5 NC
ACLK A5, WS B7
A0 K12, DIS J12

VDDI_3V3 — 3D27 3K3, 7D05 2560TK, 13M5
VDDA_3V3 — 2D49 1n0
4D04, 4D05, 4D06 — ID24

+3V3SW — 4D02, ID28, 4D03
3D20-1 1 8 33R, 3D20-4 4 5 33R, 3D20-3 3 6 33R, 3D20-2 2 7 33R — FD15

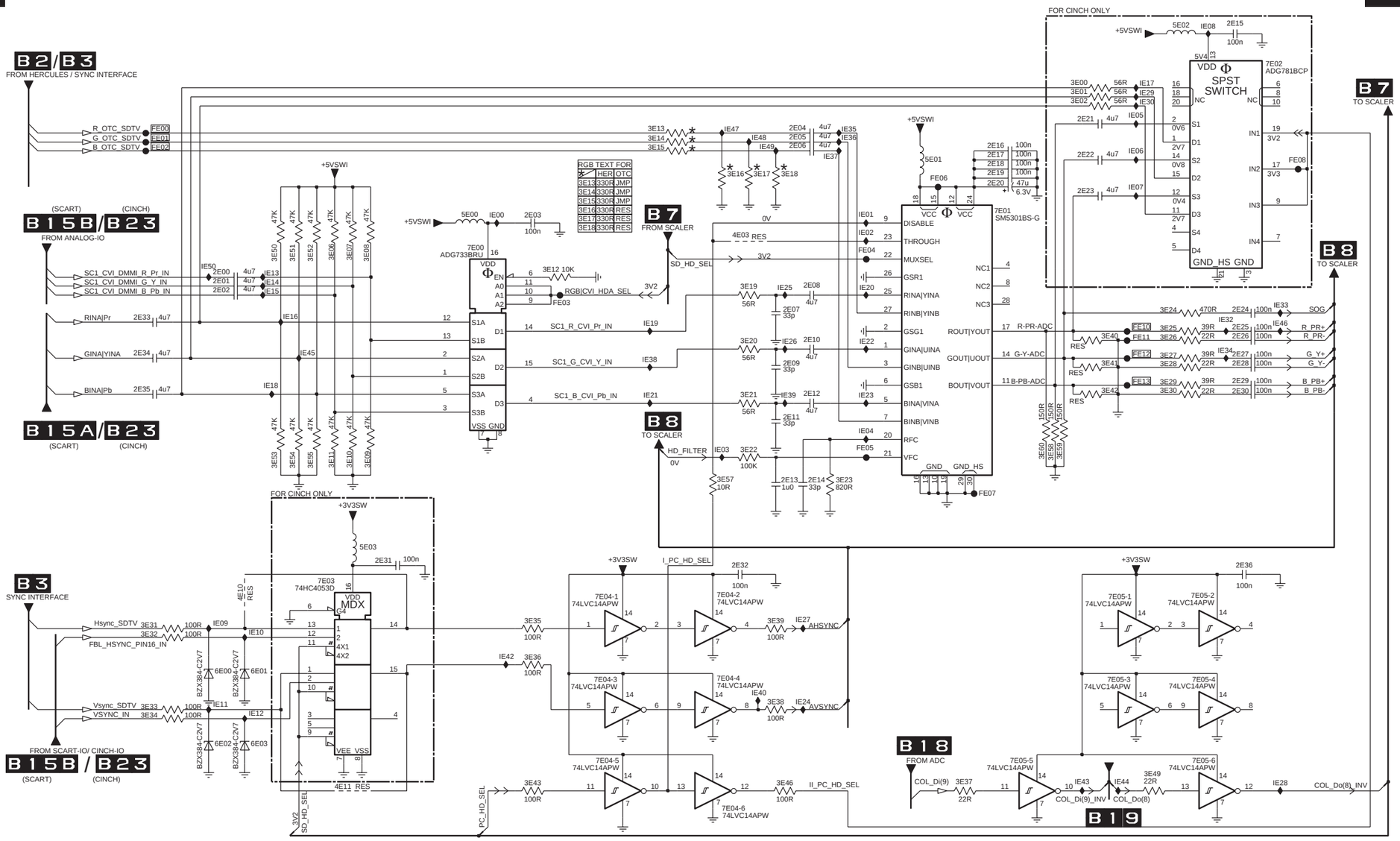
AUDIO DAC
+3V3SW +3V3SW
3D19 1R0, 3D18 1R0
2D50 47u 6.3V, 2D51 100n — FD13 — 2D52 47u 6.3V, 2D53 100n
7D04 UDA1334ATS
BCK, SYSCLK, PLL1, DATAI, PLL0, SFOR, WS, MUTE
VDDA, VDDD, VSSA, VSSD
VREF_DAC — ID10
VOUTL — ID08, 2D56 10u 16V
VOUTR — ID09, 2D57 10u 16V — ID11
DEEM, CLKOUT
2D54 47u 6.3V, 2D55 100n
3D26 220R, 3D24 220R
2D59 10n, 2D58 10n

B2 TO HERCULES
ID18 HDMI_AudioINR
ID19 HDMI_AudioINL

3139 123 6117.2
G_16210_012.eps 160106

SSB: MUX-Sync Interface

B13 MUX-SYNC INTERFACE



3139 123 6117.2

G_16210_013.eps
160106

2E00 C3	7E00 C5
2E01 C3	7E01 B9
2E02 C3	7E02 A11
2E03 B5	7E03 E4
2E04 B7	7E04-1 E6
2E05 B7	7E04-2 E7
2E06 B7	7E04-3 F6
2E07 C7	7E04-4 F7
2E08 C8	7E04-5 G6
2E09 D7	7E04-6 G7
2E10 C8	7E05-1 E10
2E11 D7	7E05-2 E11
2E12 D8	7E05-3 F10
2E13 D7	7E05-4 F11
2E14 D8	7E05-5 G9
2E15 A11	7E05-6 G11
2E16 B9	FE00 B2
2E17 B9	FE01 B2
2E18 B9	FE02 B2
2E19 B9	FE03 C6
2E20 B9	FE04 C8
2E21 B10	FE05 D8
2E22 B10	FE06 B9
2E23 B10	FE07 E9
2E24 C11	FE08 B11
2E25 C11	FE10 C10
2E26 C11	FE11 C10
2E27 C11	FE12 C10
2E28 D11	FE13 D10
2E29 D11	IE00 B5
2E30 D11	IE01 B8
2E31 E4	IE02 B8
2E32 E7	IE03 D7
2E33 C2	IE04 D8
2E34 C2	IE05 B10
2E35 D2	IE06 B10
2E36 E11	IE07 B10
3E00 A10	IE08 A11
3E01 A10	IE09 F3
3E02 A10	IE10 F3
3E06 C4	IE11 F3
3E07 C4	IE12 F3
3E08 C4	IE13 C3
3E09 D4	IE14 C3
3E10 D4	IE15 C3
3E11 D4	IE16 C3
3E12 C5	IE17 A10
3E13 B6	IE18 D3
3E14 B6	IE19 C6
3E15 B6	IE20 C8
3E16 B7	IE21 D6
3E17 B7	IE22 C8
3E18 B7	IE23 D8
3E19 C7	IE24 F7
3E20 C7	IE25 C7
3E21 D7	IE26 C7
3E22 D7	IE27 F7
3E23 D8	IE28 G11
3E24 C10	IE29 A10
3E25 C10	IE30 A10
3E26 C10	IE32 C11
3E27 C10	IE33 C11
3E28 D10	IE34 C11
3E29 D10	IE35 B8
3E30 D10	IE36 B8
3E31 F2	IE37 B8
3E32 F2	IE38 C6
3E33 F2	IE39 D7
3E34 F2	IE40 F7
3E35 F5	IE42 F5
3E36 F5	IE43 G10
3E37 G9	IE44 G10
3E38 F7	IE45 C4
3E39 F7	IE46 C11
3E40 C10	IE47 B7
3E41 D10	IE48 B7
3E42 D10	IE49 B7
3E43 G5	IE50 C3
3E46 G7	
3E49 G10	
3E50 C3	
3E51 C3	
3E52 C4	
3E53 D3	
3E54 D3	
3E55 D4	
3E57 D7	
3E58 D9	
3E59 D9	
3E60 D9	
4E03 B7	
4E10 E3	
4E11 G4	
5E00 B5	
5E01 B8	
5E02 A10	
5E03 E4	
6E00 F3	
6E01 F3	
6E02 G3	
6E03 G3	

SSB: Digital I/O

1F01 A5 2F01 C9 2F04 D9 2F15 A8 3F02 B2 3F05 C6 3F08 C7 3F11 C8 3F14 D6 3F17 D7 3F20 D8 3F26 A7 7F02 D2 FF02 A1 FF05 A1 FF08 A1 FF11 B1 FF14 C1 FF17 C1 FF20 C1 FF23 D1 FF26 D1 IF03 A7 IF06 C6 IF10 D6 IF14 D9 IF18 D2
1F02 A1 2F02 C9 2F13 A7 2F16 A8 3F03 D2 3F06 C6 3F09 C7 3F12 C8 3F15 D7 3F18 D7 3F24 A7 3F27 A7 7F03 C8 FF03 A1 FF06 A1 FF09 B1 FF12 B1 FF15 C1 FF18 C1 FF21 D1 FF24 D1 IF01 A6 IF04 A7 IF08 C6 IF12 D6 IF16 B3 S001 A6
1F03 C1 2F03 C9 2F14 A7 3F01 B2 3F04 D2 3F07 C7 3F10 C7 3F13 D6 3F16 D7 3F19 D8 3F25 A7 7F01 B2 FF01 A1 FF04 A1 FF07 A1 FF10 B1 FF13 B1 FF16 C1 FF19 C1 FF22 D1 FF25 D1 IF02 A6 IF05 C6 IF09 D6 IF13 C9 IF17 B2 S002 B6

B14 DIGITAL IO

B14

B12 TO HDMI

1F02 DC1R019JDA — HDMI CONNECTOR-1

FF01 RX2+A
FF02
FF03 RX2-A
FF04 RX1+A
FF05 RX1-A
FF06 RX0+A
FF07 RX0-A
FF08 RXC+A
FF09 RXC-A
CEC
FF10 DOC_SCLA
FF11 DOC_SDAA
FF12 +5VHDMI_A
FF13
3F01 1K0
7F01 BC847BW
IF17 3F02 2K2 IF16 HDMI_HOTPLUG_RESET

1F03 DC1R019JDA — HDMI CONNECTOR-2

FF14 RX2+B
FF15
FF16 RX2-B
FF17 RX1+B
FF18 RX1-B
FF19 RX0+B
FF20 RX0-B
FF21 RXC+B
FF22 RXC-B
CEC
FF23 DOC_SCLB
FF24 DOC_SDAB
FF25 +5VHDMI_B
FF26
3F03 1K0
7F02 BC847BW
IF18 3F04 2K2

B7 TO SCALER

AUDIO-IN (DVI-D)

1F01 MSD-242V-01 NIDIP
IF02 3F24 10K IF04 2F15 2u2 DVI_D_AudioINL
S002 2F14 180p 3F27 15K
IF01 3F25 10K IF03 2F16 2u2 DVI_D_AudioINR
S001 2F13 180p 3F26 15K

B2 To HERCULES

+5VSW
3F05 33K 3F06 33K 3F07 33K 3F08 33K 3F09 33K 3F10 33K 3F11 33K 3F12 33K
7F03 74HC4052D
2F01 10u 16V 2F02 100n
VDD VEE VSS

Analog_AudioSEL2
Analog_AudioSEL1

B17 FROM SIDE-IO
AV1_AudioINR B15A IF05
DMMI_AudioINR B15B IF06
AV2_AudioINR B15A
SIDE_AudioINR IF08
AV1_AudioINL B15A IF09
DMMI_AudioINL B15B IF10
AV2_AudioINL B15A
SIDE_AudioINL IF12
FROM/TO SCART-IO
B15A/B

3F13 33K 3F14 33K 3F15 33K 3F16 33K 3F17 33K 3F18 33K 3F19 33K 3F20 33K

MDX
IF13 2F03 4u7 Analog_AudioINR
IF14 2F04 4u7 Analog_AudioINL

3139 123 6117.2
G_16210_014.eps
160106

SSB: SCART Analog I/O

B15A SCART ANALOG-IO

B15A

SCART 1
CON_SCART 1G01-1

Audio-R_out, Audio-R_in, Audio-L_out, Audio-L_in, RGB-B_in, Function_Sw, RGB-G_in, RGB-R_in, RGB-BL_in, Terr_CVBS_out, Video_in

MRC-PJ08-01 NI

SC1_R, SC1_R_RF_OUT, SC1_L, SC1_L_RF_OUT, AV1_AudioINR, AV1_AudioINL, CVI_Pb_IN, CVI_Y_IN, CVI_Pr_IN, STATUS_1, SC1_FBL_IN, SC1_CVBS_RF_OUT, SC1_CVBS_IN, TO MUX-SYNC INTF

COMPONENT VIDEO-IN — RED-BLUE-GREEN MRC-PJ08-01 NI

GINA|YINA, BINA|Pb, RINA|Pr

SCART 2
CON_SCART 1G02-1

Audio-R_out, Audio-R_in, Audio-L_out, Audio-L_in, RGB-B_out, Function_Sw, RGB-G_out, RGB-R_out/YC-C_in, FBL_HSYNC_OUT, CVBS_out, Video/YC-Y_in

MRC-PJ08A-02 NI

SC2_R, SC2_R_MON_OUT, SC2_L, SC2_L_MON_OUT, AV2_AudioINR, AV2_AudioINL, STATUS_2_IN|OUT, RGB-B_IN, RGB-G_IN, RGB-R|YC-C_IN, SC2_C_IN, FBL_HSYNC_OUT, SC2_CVBS_MON_OUT1, SC2_CVBS_MON_OUT, FRONT_C_IN, SC2|AV2_SIDE_SW, FRONT_Y_CVBS_IN, SC2_Y_IN, DMMI_CVBS_IN|Y_IN, SC2_AV3_C_IN, SC2_AV3_Y_IN, AV2_DMMI_SW

COMPONENT AUDIO-IN — RED-WHITE MRC-PJ08A-02 NI

HD_AudioINL, HD_AudioINR

MDX, 74HC4053D

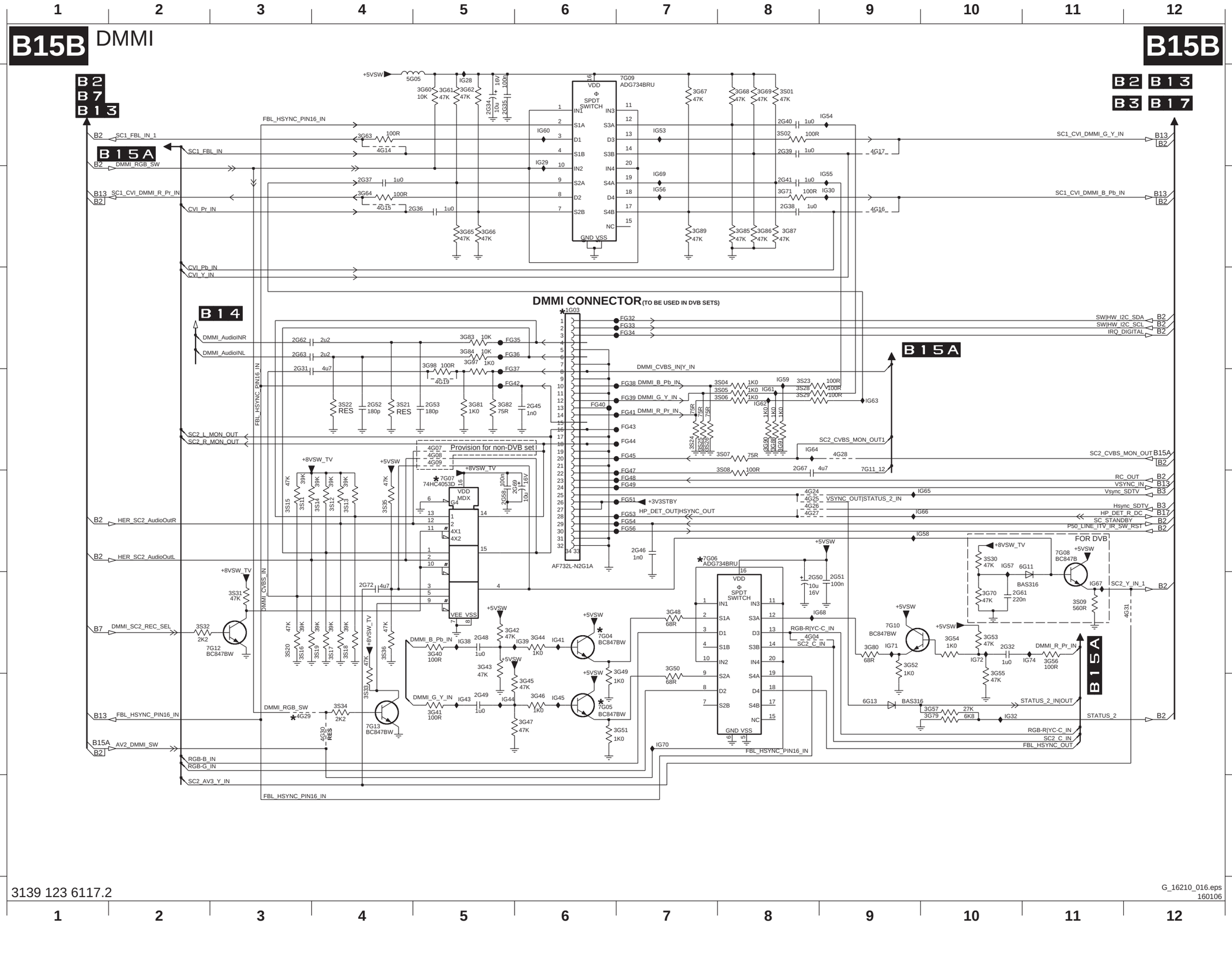
3139 123 6117.2

G_16210_015.eps 160106

1G01-1 B2	FG01 B2
1G01-2 E2	FG02 B2
1G01-3 F2	FG03 B2
1G02-1 G2	FG04 B2
1G02-2 K3	FG05 K3
1G02-3 J2	FG07 C2
2G01 A3	FG08 C2
2G02 B3	FG10 D2
2G03 A4	FG11 D3
2G04 B4	FG12 D3
2G05 A5	FG13 E3
2G06 B5	FG14 E3
2G07 C3	FG15 E6
2G08 C4	FG16 G2
2G09 B5	FG17 G2
2G10 B5	FG18 G2
2G11 B5	FG19 G3
2G12 B5	FG20 H3
2G13 D5	FG21 H2
2G14 D5	FG22 H2
2G15 E4	FG24 H2
2G16 K4	FG26 I2
2G17 K5	FG27 I2
2G18 G3	FG28 J2
2G19 G3	IG00 A4
2G20 G5	IG01 B4
2G21 G5	IG02 A6
2G22 G5	IG03 B6
2G23 G5	IG04 C3
2G24 G5	IG05 B5
2G25 H5	IG06 C6
2G26 H3	IG07 C6
2G27 H4	IG08 C6
2G28 H5	IG09 D4
2G29 E3	IG10 D4
2G30 F3	IG11 E4
2G42 K3	IG12 C4
2G43 K4	IG13 D6
2G44 F3	IG14 G5
2G47 I14	IG15 G5
2G54 K5	IG16 G6
2G55 J10	IG17 G6
2G56 J10	IG18 G6
2G57 J10	IG19 H6
2G60 K5	IG20 G5
2G65 J12	IG21 H5
2G66 J9	IG22 D5
2G68 H5	IG23 D5
2G70 D5	IG24 J4
2G71 J5	IG25 F5
3G01 A3	IG26 J6
3G02 A4	IG27 K4
3G03 B4	IG31 K7
3G04 B4	IG33 F5
3G05 B4	IG34 E5
3G06 C5	IG35 E6
3G07 C5	IG36 F5
3G08 C5	IG37 F5
3G09 D3	IG40 J10
3G10 D3	IG42 J13
3G11 D4	IG46 I14
3G12 E3	IG47 J13
3G13 D3	IG48 K4
3G14 E4	IG49 K4
3G15 D5	IG50 K4
3G16 E4	IG51 K4
3G17 E5	IG52 J7
3G18 K4	IG73 J10
3G19 K4	IG75 J13
3G20 K4	IG76 J9
3G21 K5	IG77 J13
3G22 G3	IG78 J13
3G23 G3	IG79 J12
3G24 G5	IG80 J13
3G25 G5	IG82 J14
3G26 G4	IG83 J14
3G27 H4	S000 A3
3G28 K4	S003 C4
3G29 J4	S004 C2
3G30 J3	S005 C2
3G31 J5	S006 D3
3G32 J5	S007 D3
3G33 J5	S008 D4
3G34 K4	S009 E3
3G35 J5	S010 E3
3G36 J6	S011 E3
3G37 K6	S012 E4
3G38 B3	S013 G3
3G39 D3	S014 G3
3G58 E3	S015 H3
3G59 D4	S016 H4
3G72 F3	S017 I3
3G73 E3	S018 I3
3G74 F3	S019 I3
3G75 I9	S020 I4
3G76 J9	S021 I4
3G77 K11	S022 J3
3G78 I11	S023 K3
3G92 I11	S024 B3
3G93 K11	S025 C3
3G94 I13	S026 H2
3G95 K13	S027 I2
3G96 I10	S028 F3
3G99 K11	S029 F3
3S00 I10	S030 F3
3S03 K11	S031 L4
3S10 J12	S032 L4
4G05 D5	
4G18 J6	
4G20 J13	
4G21 J9	
4G22 K9	
4G23 I5	
5G01 F5	
5G02 E5	
5G03 F5	
5G04 D5	
5G06 I14	
5G07 D5	
5G08 I5	
6G01 C3	
6G02 C3	
6G03 B4	
6G04 C4	
6G05 E4	
6G06 H3	
6G07 H3	
6G08 H4	
6G09 H4	
6G10 K3	
6G14 I3	
6G15 J3	
6G16 I3	
6G17 J3	
6G18 I4	
6G19 J4	
6G20 I4	
6G21 J4	
7G01 D5	
7G02 J5	
7G11 I14	
FG00 A2	

SSB: DMMI

B15B DMMI



1G03	C6	3S34	G4
2G31	D3	3S35	E4
2G32	F10	3S36	F4
2G34	A5	4G04	F8
2G35	A5	4G07	D5
2G36	B4	4G08	D5
2G37	B4	4G09	D5
2G38	B8	4G14	A4
2G39	A8	4G15	B4
2G40	A8	4G16	B9
2G41	B8	4G17	A9
2G45	D6	4G19	D5
2G46	E7	4G24	E8
2G48	F5	4G25	E8
2G49	G5	4G26	E8
2G50	F9	4G27	E8
2G51	F9	4G28	D9
2G52	D4	4G29	G3
2G53	D5	4G30	G4
2G58	E5	4G31	F12
2G61	F10	5G05	A4
2G62	C3	6G11	E10
2G63	C3	6G13	G9
2G67	E8	7G04	F6
2G69	E6	7G05	G6
2G72	F4	7G06	E7
3G40	F5	7G07	E5
3G41	G5	7G08	E11
3G42	F5	7G09	A7
3G43	F5	7G10	F9
3G44	F6	7G12	F2
3G45	G6	7G13	G4
3G46	G6	FG32	C7
3G47	G6	FG33	C7
3G48	F7	FG34	C7
3G49	G6	FG35	C5
3G50	F7	FG36	C5
3G51	G6	FG37	D5
3G52	F9	FG38	D7
3G53	F10	FG39	D7
3G54	F10	FG40	D6
3G55	G10	FG41	D7
3G56	F11	FG42	D5
3G57	G10	FG43	D7
3G60	A5	FG44	D7
3G61	A5	FG45	D7
3G62	A5	FG47	E7
3G63	A4	FG48	E7
3G64	B4	FG49	E7
3G65	B5	FG51	E7
3G66	B5	FG53	E7
3G67	A7	FG54	E7
3G68	A8	FG56	E7
3G69	A8	IG28	A5
3G70	F10	IG29	A6
3G71	B8	IG30	B9
3G79	G10	IG32	G10
3G80	F9	IG38	F5
3G81	D5	IG39	F6
3G82	D5	IG41	F6
3G83	C5	IG43	G5
3G84	C5	IG44	G5
3G85	B8	IG45	G6
3G86	B8	IG53	A7
3G87	B8	IG54	A9
3G88	D8	IG55	B9
3G89	B7	IG56	B7
3G90	D8	IG57	E10
3G91	D8	IG58	E10
3G97	C5	IG59	D8
3G98	C5	IG60	A6
3S01	A8	IG61	D8
3S02	A8	IG62	D8
3S04	D8	IG63	D9
3S05	D8	IG64	D8
3S06	D8	IG65	E10
3S07	D8	IG66	E10
3S08	E8	IG67	F11
3S09	F11	IG68	F9
3S11	E3	IG69	B7
3S12	E4	IG70	G7
3S13	E4	IG71	F9
3S14	E4	IG72	F10
3S15	E3	IG74	F11
3S16	F3		
3S17	F4		
3S18	F4		
3S19	F4		
3S20	F3		
3S21	D4		
3S22	D4		
3S23	D8		
3S24	D7		
3S25	D7		
3S26	D7		
3S28	D8		
3S29	D8		
3S30	E10		
3S31	F3		
3S32	F2		
3S33	G4		

G_16210_016.eps
160106

SSB: Top Connectors

B16 TOP CONNECTORS

B16

FOR LARGE SCREEN 37"-50"

(1M03) 1J00 — UFD CONTROL

FROM SCALER INTERFACE B6 — FROM SCALER B8

IJ01 POR (NC)
IJ02 LAMP_ON_OFF_1
IJ03
IJ04
TEMP_SENSOR (NC)
IJ05 STANDBY_1
IJ06 NC
IJ07 POWER_UP_OK_1

5J05 RES — FJ32 — FAN_SPEED
PROTECT_AUD
3J06 RES — POWER_UP_OK — IJ12

4J02 RES
2J16 RES
2J33 RES
2J20 RES
2J34 RES

FROM SCALER B7

PROTECT_AUD

FROM AUDIO B5

AUDIO-L — FJ28 — 5J01 — FJ10
AUDIO-R — FJ29 — 5J02 — FJ12
FJ11
AUDIO-SW (NC)
3V3 SOUND_ENABLE_1 — FJ13
3V3 POR_AUDIO — FJ14

(1M52) 1J04 — B9B-PH-K-S(LF)

2J26 100p — 2J27 100p — 2J28 100p — 2J29 100p — 2J36 1n0

TO/FROM 1002 OF CLASS-D AUDIO AMPLIFIER C

(1M46) 1J01 — UFD SUPPLY

FJ00
FJ33
FJ01 (NC)
FJ02
5V(NC)
FJ03
FJ04 — 1J08 +5V_UFD — 5J04 — FJ31 +5V
+33V_TUN(NC)
FJ05 NC
4J01
FJ39 — 4J03 RES — 2J31 1n0 — 1J07 3A T

TO DC-DC CONVERTER B6

1J02 — B12P-PH-K-S(LF) — TO/FROM PSU (SUPPLY FOR LCD) 26"-32"

FJ34 VP
GND_AUDIO
FJ06 — 3V2 +3V3STBY
FJ38
FJ35
FJ36
FJ37
FJ40 — FJ07
IJ08
IJ09 — 5J03 POWER_DOWN — 11V6 +12VSW
IJ10 — 3J05 68R — IJ14 STANDBY — 3V1
IJ11 — 3J03 68R — IJ15 BACKLIGHT_CTRL
3J04 68R — IJ13 LAMP_ON_OFF — 3V2

+12V_UFD

2J30 1n0
2J02 1n0
2J35 1n0
2J18 100p
2J19 100p
2J17 1n0
2J22 100p
2J23 100p
2J21 100p

FROM SCALER INTERFACE B9 — FROM SCALER B8

1J03 B3B-PH-K-S(LF) — TO/FROM 1003 OF CLASS-D AUDIO AMP (+18V / +24V) D

FJ08 VP
FJ09
GND_AUDIO
2J03 1n0
GND_AUDIO

RESERVED

FROM PACIFIC3 B20

B_LT_PWM — FJ15
G_LT_PWM — FJ16
R_LT_PWM — FJ17
FJ27
B_RT_PWM — FJ18
G_RT_PWM — FJ19
R_RT_PWM — FJ20

1J05 — B7B-PH-K-S(LF) — AMBIENT LIGHT (TOP)

2J04 100p — 2J05 100p — 2J06 100p — 2J07 100p — 2J08 100p — 2J09 100p

B_LB_PWM — FJ21
G_LB_PWM — FJ22
R_LB_PWM — FJ23
FJ30
B_RB_PWM — FJ24
G_RB_PWM — FJ25
R_RB_PWM — FJ26

1J06 — B7B-PH-K-S(LF) — AMBIENT LIGHT (BOTTOM)

2J10 100p — 2J11 100p — 2J12 100p — 2J13 100p — 2J14 100p — 2J15 100p

3139 123 6117.2

G_16210_017.eps 160106

1J00	A1	FJ23	E7
1J01	C1	FJ24	E7
1J02	D1	FJ25	E7
1J03	F1	FJ26	E7
1J04	B8	FJ27	D8
1J05	D8	FJ28	B6
1J06	E8	FJ29	B6
1J07	D2	FJ30	E8
1J08	C2	FJ31	C3
2J02	F2	FJ32	B3
2J03	F2	FJ33	C1
2J04	D6	FJ34	D1
2J05	D7	FJ35	E1
2J06	D7	FJ36	E1
2J07	D7	FJ37	E1
2J08	D7	FJ38	E1
2J09	D7	FJ39	D1
2J10	F6	FJ40	E1
2J11	F7	IJ01	B1
2J12	F7	IJ02	B1
2J13	F7	IJ03	B1
2J14	F7	IJ04	B1
2J15	F7	IJ05	B1
2J16	C2	IJ06	B1
2J17	F3	IJ07	B1
2J18	F2	IJ08	E2
2J19	F3	IJ09	E2
2J20	C3	IJ10	E2
2J21	F3	IJ11	E2
2J22	F3	IJ12	B4
2J23	F3	IJ13	E3
2J26	C6	IJ14	E3
2J27	C7	IJ15	E3
2J28	C7		
2J29	C7		
2J30	F2		
2J31	D2		
2J33	C2		
2J34	C3		
2J35	F2		
2J36	C7		
3J03	E3		
3J04	E3		
3J05	E3		
3J06	B3		
4J01	D2		
4J02	B2		
4J03	D2		
5J01	B7		
5J02	B7		
5J03	E2		
5J04	C2		
5J05	B3		
FJ00	C1		
FJ01	C1		
FJ02	C1		
FJ03	C1		
FJ04	C1		
FJ05	D1		
FJ06	E1		
FJ07	E2		
FJ08	F1		
FJ09	F2		
FJ10	B7		
FJ11	B7		
FJ12	B7		
FJ13	B7		
FJ14	B7		
FJ15	D7		
FJ16	D7		
FJ17	D7		
FJ18	D7		
FJ19	D7		
FJ20	D7		
FJ21	E7		
FJ22	E7		

SSB: Side Connectors

1K00 A10 1K01 C1 1K02 C10 | 1K04 C1 2K00 B9 2K01 B8 | 2K02 B3 2K03 B3 2K04 B3 | 2K05 B3 2K06 C3 2K07 C3 | 2K08 C4 2K10 D3 2K11 D3 | 2K12 C4 2K13 D3 2K14 D3 | 2K15 E3 2K16 E3 2K17 E3 | 2K18 C10 2K19 C3 2K20 C3 | 2K21 B8 2K22 B8 2K23 B8 | 2K24 B8 2K25 B9 2K26 B9 | 2K27 B9 2K28 B9 3K00 B3 | 3K01 B3 3K02 C3 3K03 C4 | 3K05 C3 3K06 D4 3K07 D3 | 3K08 D3 3K09 E3 3K11 A8 | 3K12 B8 3K13 B8 4K01 A9 | 4K02 E2 4K03 A9 4K04 A9 | 4K05 A9 4K06 A10 4K07 A9 | 5K00 A8 5K01 C3 5K02 A8 | FK00 C1 FK01 C1 FK02 D1 | FK03 D1 FK04 D1 FK05 D1 | FK06 D1 FK07 D1 FK08 C10 | FK09 C10 FK10 D1 FK11 B10 | IK00 A10 IK01 A10 IK02 A10 | IK03 B10 IK04 B3 IK05 A10 | IK16 A9 IK17 C3 IK18 D3

B17 SIDE CONNECTORS

B17

B15A/B23

B14/B22

B5

B15B/B23

B3 B6

B2

FOR LARGE SCREEN 37"-50"

TO/FROM 1304 OF SIDE I/O 1K01 (1M36) D

1K04

FK00 FRONT_Y_CVBS_IN_1
FK01 FRONT_C_IN_1
FK02 SIDE_AudioINL-1
FK03 +5VSW_1 3V3
FK04 SIDE_AudioINR-1
FK10
FK05 HP_LOUT_1
FK06 HP_DET_R_DC_1 3V3
FK07 HP_ROUT_1

FRONT_Y_CVBS_IN: 3K00 100R, IK04, 2K02 10p, 2K03 10p
FRONT_C_IN: 3K01 100R, 2K04 10p, 2K05 10p
SIDE_AudioINL: 3K02 10K, IK17, 2K08 2u2, 2K06 100p, 2K07 100p, 3K03 15K, 5K01 1u0, +5VSW, 2K19 1n0, 2K20 1n0
SIDE_AudioINR: 3K05 10K, IK18, 2K12 2u2, 2K10 100p, 2K11 100p, 3K06 15K
HP_LOUT: 3K07 39R, 2K13 100p, 2K14 100p
HP_DET_R_DC: 3K08 68R, 2K15 100p
HP_ROUT: 3K09 39R, *2K16 100p, *2K17 100p

FOR LARGE SCREEN 37"-50" 4K02

+3V3STBY_1 +5V

J TO/FROM 1540 OF IR/ LED 1K00 (1M20) B6B-PH-K

PC-TV-LED_1 IK00
+3V3STBY_1 +5V IK05
LED_SEL_1 IK01
IR_1 IK02
FK11
LIGHT_SENSOR_1 IK03

4K01 RES, 4K03 RES, 4K06 IK16, 4K04 4K07 4K05
3K11 68R, 5K00 1u0, 5K02 1u0, 3K12 68R, 3K13 RES
2K01 1n0, 2K00 1n0, 2K21 100p, 2K22 100p, 2K23 100p, 2K24 RES, 2K25 100p, 2K26 100p, 2K27 100p, 2K28 RES

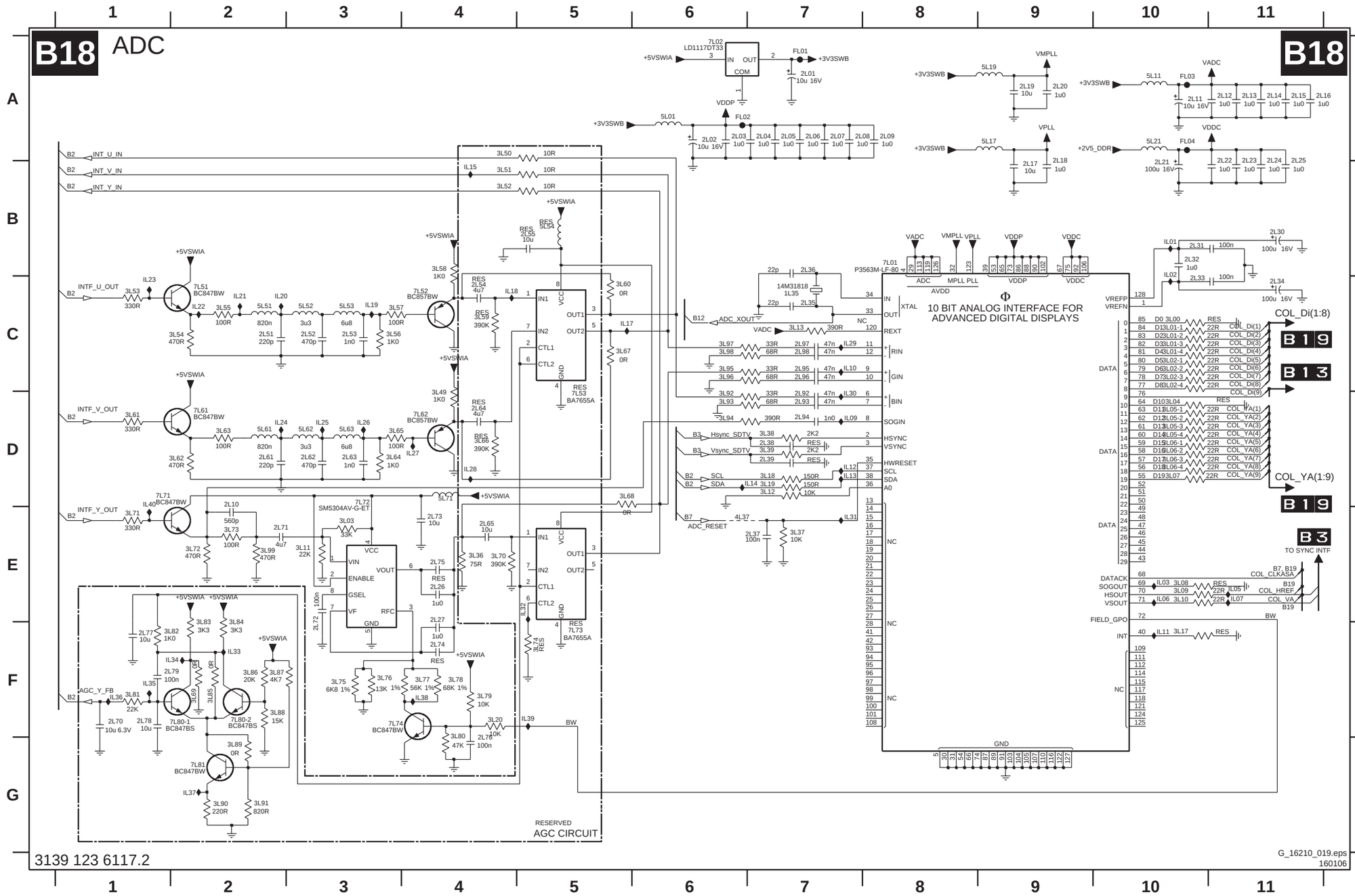
+3V3STBY
LED_SEL
PC-TV-LED
RC_OUT
LS|PDP_DVB_SEMISTANDBY

E TOP/SIDE KEYBOARD 1K02 (1M01) B3B-PH-K-S(LF)

KEYBOARD
FK08
FK09
2K18 100p

G_16210_018.eps 160106

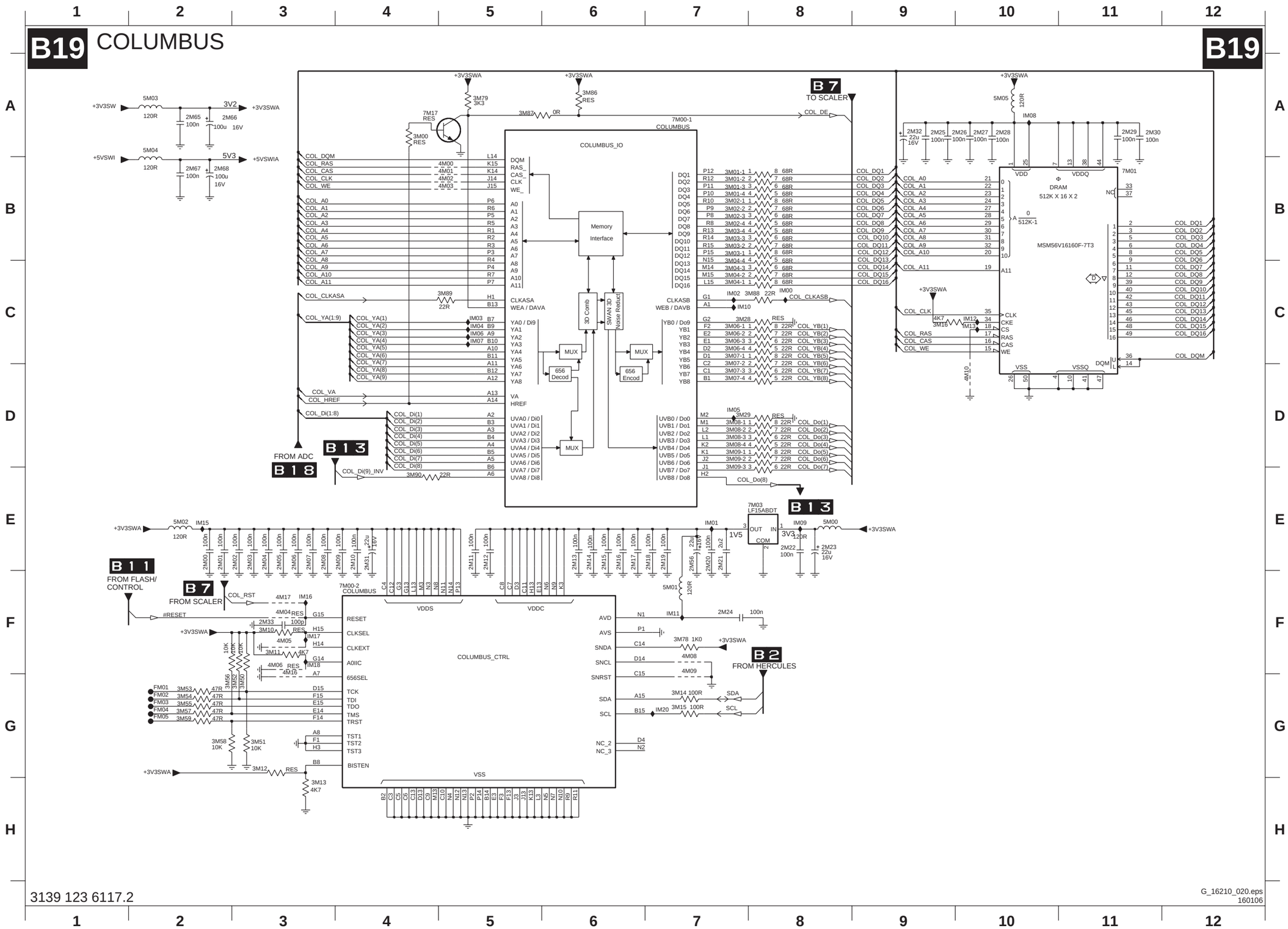
SSB: ADC



1L35 C7	3L10 E10	7L74 F4
2L01 A7	3L11 E3	7L80-1 F1
2L02 A6	3L12 D7	7L80-2 F2
2L03 A6	3L13 C7	7L81 G2
2L04 A7	3L17 F10	FL01 A7
2L05 A7	3L18 D7	FL02 A6
2L06 A7	3L19 D7	FL03 A10
2L07 A7	3L20 F4	FL04 A10
2L08 A7	3L36 E4	IL01 B10
2L09 A8	3L37 E7	IL02 B10
2L10 D2	3L38 D7	IL03 E10
2L11 A10	3L39 D7	IL05 E11
2L12 A11	3L49 C4	IL06 E10
2L13 A11	3L50 A4	IL07 E11
2L14 A11	3L51 B4	IL09 D7
2L15 A11	3L52 B4	IL10 C7
2L16 A11	3L53 C1	IL11 F10
2L17 B9	3L54 C2	IL12 D7
2L18 A9	3L55 C2	IL13 D7
2L19 A9	3L56 C3	IL14 D7
2L20 A9	3L57 C3	IL15 B4
2L21 A10	3L58 B4	IL17 C5
2L22 A11	3L59 C4	IL18 C4
2L23 A11	3L60 C5	IL19 C3
2L24 A11	3L61 D1	IL20 C2
2L25 A11	3L62 D2	IL21 C2
2L26 E4	3L63 D2	IL22 C2
2L27 E4	3L64 D3	IL23 C1
2L30 B11	3L65 D3	IL24 D2
2L31 B10	3L66 D4	IL25 D3
2L32 B10	3L67 C5	IL26 D3
2L33 C10	3L68 D5	IL27 D4
2L34 C11	3L69 F2	IL28 D4
2L35 C7	3L70 E4	IL29 C7
2L36 B7	3L71 E1	IL30 D7
2L37 E7	3L72 E2	IL31 E7
2L38 D7	3L73 E2	IL32 E5
2L39 D7	3L74 F5	IL33 F2
2L51 C2	3L75 F3	IL34 F2
2L52 C3	3L76 F3	IL35 F1
2L53 C3	3L77 F4	IL36 F1
2L54 C4	3L78 F4	IL37 G2
2L55 B5	3L79 F4	IL38 F4
2L61 D2	3L80 F4	IL39 F5
2L62 D3	3L81 F1	IL40 D1
2L63 D3	3L82 F2	
2L64 D4	3L83 E2	
2L65 E4	3L84 E2	
2L70 F1	3L85 F2	
2L71 E2	3L86 F2	
2L72 F3	3L87 F2	
2L73 E4	3L88 F2	
2L74 F4	3L89 G2	
2L75 E4	3L90 G2	
2L76 F4	3L91 G2	
2L77 F1	3L92 D6	
2L78 F1	3L93 D6	
2L79 F2	3L94 D6	
2L92 D7	3L95 C6	
2L93 D7	3L96 C6	
2L94 D7	3L97 C6	
2L95 C7	3L98 C6	
2L96 C7	3L99 E2	
2L97 C7	4L37 E6	
2L98 C7	5L01 A6	
3L00 C10	5L11 A10	
3L01-1 C10	5L17 A9	
3L01-2 C10	5L19 A9	
3L01-3 C10	5L21 A10	
3L01-4 C10	5L51 C2	
3L02-1 C10	5L52 C3	
3L02-2 C10	5L53 C3	
3L02-3 C10	5L54 B5	
3L02-4 C10	5L61 D2	
3L03 E3	5L62 D3	
3L04 D10	5L63 D3	
3L05-1 D10	5L71 D4	
3L05-2 D10	7L01 B8	
3L05-3 D10	7L02 A6	
3L05-4 D10	7L51 C2	
3L06-1 D10	7L52 C4	
3L06-2 D10	7L53 D5	
3L06-3 D10	7L61 D2	
3L06-4 D10	7L62 D4	
3L07 D10	7L71 D1	
3L08 E10	7L72 D3	
3L09 E10	7L73 F5	

SSB: Columbus

B19 COLUMBUS



3139 123 6117.2

G_16210_020.eps
160106

2M00 E2	4M04 F3
2M01 E2	4M05 F3
2M02 E3	4M06 F3
2M03 E3	4M08 F7
2M04 E3	4M09 F7
2M05 E3	4M10 D10
2M06 E3	4M16 F3
2M07 E3	4M17 F3
2M08 E3	5M00 E8
2M09 E4	5M01 F7
2M10 E4	5M02 E2
2M11 E5	5M03 A2
2M12 E5	5M04 A2
2M13 E6	5M05 A10
2M14 E6	7M00-1 A7
2M15 E6	7M00-2 F4
2M16 E6	7M01 B11
2M17 E6	7M03 E8
2M18 E7	7M17 A4
2M19 E7	FM01 G2
2M20 E7	FM02 G2
2M21 E7	FM03 G2
2M22 E8	FM04 G2
2M23 E8	FM05 G2
2M24 F7	IM00 C8
2M25 A9	IM01 E7
2M26 A10	IM02 C7
2M27 A10	IM03 C5
2M28 A10	IM04 C5
2M29 A11	IM05 D7
2M30 A11	IM06 C5
2M31 E4	IM07 C5
2M32 A9	IM08 A10
2M33 F3	IM09 E8
2M56 E7	IM10 C7
2M65 A2	IM11 F7
2M66 A2	IM12 C10
2M67 B2	IM13 C10
2M68 B2	IM15 E2
3M00 A4	IM16 F3
3M01-1 B7	IM17 F3
3M01-2 B7	IM18 F3
3M01-3 B7	IM20 G7
3M01-4 B7	
3M02-1 B7	
3M02-2 B7	
3M02-3 B7	
3M02-4 B7	
3M03-1 B7	
3M03-2 B7	
3M03-3 B7	
3M03-4 B7	
3M04-1 C7	
3M04-2 C7	
3M04-3 C7	
3M04-4 C7	
3M06-1 C7	
3M06-2 C7	
3M06-3 C7	
3M06-4 C7	
3M07-1 C7	
3M07-2 D7	
3M07-3 D7	
3M07-4 D7	
3M08-1 D7	
3M08-2 D7	
3M08-3 D7	
3M08-4 D7	
3M09-1 D7	
3M09-2 D7	
3M09-3 E7	
3M10 F3	
3M11 F3	
3M12 G3	
3M13 H3	
3M14 G7	
3M15 G7	
3M16 C9	
3M28 C7	
3M29 D7	
3M50 G3	
3M51 G3	
3M52 G3	
3M53 G2	
3M54 G2	
3M55 G2	
3M56 G2	
3M57 G2	
3M58 G2	
3M59 G2	
3M78 F7	
3M79 A5	
3M86 A6	
3M87 A5	
3M88 C8	
3M89 C5	
3M90 E4	
4M00 B5	
4M01 B5	
4M02 B5	
4M03 B5	

SSB: Pacific 3

B20 PACIFIC 3

B20

LVDS CONNECTOR MATRIX

LCD 26" & 32"

LCD 37" & 42"
PDP 42" & 50"
(1G50)

TO LCD PANEL (TIMING CONTROL)

TO PLASMA PANEL (TIMING CONTROL)

7N00-1
T6TF4AFG-0002

7N00-2
T6TF4AFG-0002

7N00-3
T6TF4AFG-0002

7N02
M25P05-AVMN6

FI-WE31P-HFE-E1500
FI-TWE31P-VF-E1400

0-1453230-3

TLMG3100

BC847BW

B10B-PH-SM3-TBT

BM03B-SRSS-TBT

FROM SCALER INTERFACE — B9

FROM SCALER — B8

FROM HERCULES — B2

FOR LCD ONLY — B6

FROM DC-DC CONVERTER

TO BACKLIGHT_DIM — B9

FOR DEBUGGING

DEBUGGER CONNECTION

FOR PACIFIC3 PROGRAMMING

RESET

FROM SCALER INTERFACE — B7

RESET BUTTON

FOR OTC ONLY

SUPPLY

LVDS

3139 123 6117.2

G_16210_021.eps
160106

1N02 A11 4N01 A3
1N03 H12 4N02 A3
1N04 G12 4N03 A3
1N05 J13 4N04 A3
1N11 D6 4N05 B3
1N12 E6 4N06 B3
1N13 F6 4N07 B3
1N14 F6 4N08 B3
1N15 G6 4N09 B3
1N16 A10 4N10 B3
1N17 D10 4N11 B12
1N18 D11 4N12 C12
1N19 G9 4N13 C12
1N20 J14 4N20 D8
2N01 J1 4N21 E8
2N02 J1 4N22 F8
2N03 J1 4N23 F8
2N04 J1 4N24 F8
2N05 J1 4N25 F8
2N06 J1 4N26 F8
2N07 J1 4N27 F8
2N08 J2 4N28 F9
2N09 J2 4N29 F9
2N10 J2 4N30 J12
2N11 J2 4N31 J12
2N12 J2 4N34 H10
2N13 J2 4N35 H10
2N14 J2 4N36 F9
2N15 J3 4N37 F10
2N16 J3 4N38 F8
2N17 I2 5N03 H5
2N19 I2 5N04 H2
2N20 I3 5N05 H6
2N21 I3 5N06 H6
2N22 I3 5N07 I10
2N23 I3 5N10 B2
2N24 I3 5N11 B4
2N25 I4 5N12 B3
2N26 I5 5N72 E13
2N27 I5 6N19 C11
2N28 H6 7N00-1 C3
2N29 H7 7N00-2 A13
2N30 H7 7N00-3 J8
2N31 I6 7N02 F13
2N32 I7 7N03 H4
2N33 I7 7N04 H2
2N35 I7 7N05 G9
2N36 I7 FN01 B2
2N37 I8 FN02 C3
2N38 I8 FN03 B3
2N39 I8 FN09 I4
2N40 I8 FN10 H5
2N41 I8 FN11 H7
2N42 I8 FN12 H7
2N43 I8 FN13 B12
2N44 I9 FN15 B12
2N45 I9 FN16 B12
2N46 I9 FN17 B12
2N47 I9 FN18 B12
2N48 I9 FN19 B12
2N49 I9 FN20 C12
2N50 I9 FN24 C12
2N51 I10 FN25 C12
2N54 C2 FN32 D10
2N55 C2 FN33 D10
2N56 C3 FN34 F10
2N57 C3 FN35 F12
2N58 C3 FN36 F12
2N59 C3 FN38 G12
2N60 C3 FN39 G12
2N61 C3 FN40 G12
2N62 C4 FN41 H12
2N63 C4 FN42 H12
2N64 C4 FN43 H12
2N65 C4 FN44 H12
2N66 C4 FN46 G10
2N67 C4 FN47 H10
2N68 I13 FN48 H10
2N69 B14 FN49 H10
2N75 E13 FN50 H10
2N76 E13 FN51 H10
2N80 E7 FN52 H10
2N81 E7 FN53 H10
2N82 E7 FN54 H10
2N83 E7 FN55 H10
2N84 F7 FN56 A12
2N85 F7 FN57 A12
2N86 F7 FN58 E13
2N87 F7 FN59 I9
2N88 G7 IN01 H2
2N89 G7 IN02 H5
2N90 G8 IN03 E10
3N01 E1 IN04 E10
3N02 E1 IN05 F9
3N03 F1 IN06 F9
3N04 F1 IN07 F9
3N05 F1 IN08 F9
3N10 A12 IN09 C12
3N11 A11 IN10 C11
3N12 C12 IN11 B13
3N13 B14 IN12 B13
3N14 B14 IN13 B13
3N15 B14 IN14 B13
3N16 B14 IN15 B13
3N17 B14 IN16 G13
3N19 C11 IN17 G13
3N20 G12 IN18 J12
3N21 G12 IN19 J12
3N22 H12
3N23 I13
3N26 I13
3N27 G10
3N28 G10
3N29 B13
3N30 F8
3N31 F8
3N71 E12
3N72 E12
3N73 E12
3N80 E8
3N81 E8

SSB: Diversity Tables B9-B20

B09

Item Nr.		PDP 42" - 50"	LCD 26" - 32"	LCD 37" - 42"	PDP DVB 42" - 50"	PDP DVB SDI	PDP SDI	Decription
2A00	319801731040	☑	☐	☐	☑	☑	☑	CER2 0603 X7R 16V 100N COL
2A01	319803401010	☑	☐	☐	☑	☑	☑	CER1 0402 NP0 50V 100P COL
2A02	319803401010	☑	☐	☐	☑	☑	☑	CER1 0402 NP0 50V 100P COL
2A12	319803521030	☑	☐	☑	☑	☑	☑	CER2 0402 X7R 16V 10N COL
2A13	319803571040	☑	☐	☑	☑	☑	☑	CER2 0402 Y5V 16V 100N COL
2A14	319803521030	☐	☐	☐	☑	☑	☐	CER2 0402 X7R 16V 10N COL
3A00	319803106890	☑	☐	☐	☑	☐	☐	RST SM 0402 68R PM5 COL
3A01	319803106890	☑	☐	☐	☑	☐	☐	RST SM 0402 68R PM5 COL
3A02	319803101020	☐	☑	☑	☐	☐	☐	RST SM 0402 1K PM5 COL
3A07	319803101030	☑	☐	☐	☑	☑	☑	RST SM 0402 10K PM5 COL
3A08	319803101030	☑	☑	☐	☑	☑	☑	RST SM 0402 10K PM5 COL
3A10	319803101030	☑	☐	☑	☑	☑	☑	RST SM 0402 10K PM5 COL
3A11	319803101030	☑	☐	☑	☑	☑	☑	RST SM 0402 10K PM5 COL
3A13	319803101030	☑	☐	☑	☑	☑	☑	RST SM 0402 10K PM5 COL
3A14	319803104720	☑	☐	☑	☑	☑	☑	RST SM 0402 4K7 PM5 COL
3A15	319803103320	☐	☐	☐	☑	☑	☐	RST SM 0402 3K3 PM5 COL
3A16	319803101030	☐	☐	☐	☑	☑	☐	RST SM 0402 10K PM5 COL
4A03	319802190030	☐	☑	☑	☐	☐	☐	RST SM 0603 JUMP. 0R05 COL
4A04	319803190010	☑	☐	☐	☑	☑	☑	RST SM 0402 JUMP. 0R05 COL
4A05	319803190010	☐	☑	☐	☐	☐	☐	RST SM 0402 JUMP. 0R05 COL
4A06	319803190010	☐	☑	☐	☐	☐	☐	RST SM 0402 JUMP. 0R05 COL
5A00	319801890060	☑	☐	☐	☑	☐	☐	FXDIND 0805 100MHZ 30R COL R
7A00	935275998118	☑	☐	☐	☑	☑	☑	IC SM PCA9515ADP (PHSE) R
7A02	319801042310	☑	☐	☑	☑	☑	☑	TRA SIG SM BC847BW (COL) R
7A03	319801042310	☑	☐	☑	☑	☑	☑	TRA SIG SM BC847BW (COL) R
7A04	319801042310	☐	☐	☐	☑	☑	☐	TRA SIG SM BC847BW (COL) R

B13

Item Nr.		EU 10pg TXT	EU 1000pg TXT	AP with TXT	AP non TXT	Description
2E04	202055200005	☑	☑	☑	☐	CER2 0603 X5R 6V3 4U7 PM10 R
	202055200027	☑	☑	☑	☐	CER2 0603 X5R 6V3 4U7 PM10 R
2E05	202055200005	☑	☑	☑	☐	CER2 0603 X5R 6V3 4U7 PM10 R
2E06	202055200005	☑	☑	☑	☐	CER2 0603 X5R 6V3 4U7 PM10 R
2E15	319803571040	☐	☐	☑	☑	CER2 0402 Y5V 16V 100N COL
2E21	202055200005	☐	☐	☑	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2E22	202055200005	☐	☐	☑	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2E23	202055200005	☐	☐	☑	☑	CER2 0603 X5R 6V3 4U7 PM10 R
3E00	232270570569	☐	☐	☑	☑	RST SM 0402 RC31 56R PM5 R
3E01	232270570569	☐	☐	☑	☑	RST SM 0402 RC31 56R PM5 R
3E02	232270570569	☐	☐	☑	☑	RST SM 0402 RC31 56R PM5 R
3E13	319803103310	☑	☐	☑	☐	RST SM 0402 330R PM5 COL
	319803190010	☐	☑	☐	☐	RST SM 0402 JUMP. 0R05 COL
3E14	319803103310	☑	☐	☑	☐	RST SM 0402 330R PM5 COL
	319803190010	☐	☑	☐	☐	RST SM 0402 JUMP. 0R05 COL
3E15	319803103310	☑	☐	☑	☐	RST SM 0402 330R PM5 COL
	319803190010	☐	☑	☐	☐	RST SM 0402 JUMP. 0R05 COL
3E16	319803103310	☑	☐	☑	☐	RST SM 0402 330R PM5 COL
3E17	319803103310	☑	☐	☑	☐	RST SM 0402 330R PM5 COL
3E18	319803103310	☑	☐	☑	☐	RST SM 0402 330R PM5 COL
3E32	319803101010	☐	☐	☑	☑	RST SM 0402 100R PM5 COL
3E34	319803101010	☐	☐	☑	☑	RST SM 0402 100R PM5 COL
3E46	319803101010	☐	☐	☑	☑	RST SM 0402 100R PM5 COL
	319803101090	☑	☑	☐	☐	RST SM 0402 10R PM5 COL
4E10	319803101090	☑	☑	☐	☐	RST SM 0402 10R PM5 COL
4E11	319803101090	☑	☑	☐	☐	RST SM 0402 10R PM5 COL
5E02	242254945333	☐	☐	☑	☑	IND FXD 1206 EMI 100MHZ 120R R
5E03	242254945333	☐	☐	☑	☑	IND FXD 1206 EMI 100MHZ 120R R
6E01	319802052780	☐	☐	☑	☑	DIO REG SM BZX384-C2V7 COL R
6E03	319802052780	☐	☐	☑	☑	DIO REG SM BZX384-C2V7 COL R
7E02	932219956668	☐	☐	☑	☑	IC SM ADG781BCPZ (ANA0) R
7E03	319801071090	☐	☐	☑	☑	IC SM 74HC4053D (COL) R
7E04	319801070740	☑	☑	☑	☐	IC SM 74LCX14T (COL) R
	935260739118	☐	☐	☐	☑	IC SM 74LVC14APW (PHSE) R
7E05	319801070740	☑	☑	☑	☐	IC SM 74LCX14T (COL) R
	935260739118	☐	☐	☐	☑	IC SM 74LVC14APW (PHSE) R

B15AB

Item Nr.		Non DVB	With DVB	Desciption
1G03	242202518872	☐	☑	CON H 32P F 0.50 SM FPC 0.3 R
2G31	202055200005	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
	202055200027	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2G32	319801741050	☐	☑	CER2 0603 Y5V 10V 1U COL
	319803041090	☐	☑	ELCAP SM 16V 10U PM20 COL R
2G35	319803571040	☐	☑	CER2 0402 Y5V 16V 100N COL
2G36	202055200027	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2G37	202055200027	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2G38	202055200027	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2G39	202055200027	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2G40	202055200027	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2G41	202055200027	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2G45	319801731020	☐	☑	CER2 0603 X7R 50V 1N COL
	319803501020	☐	☑	CER2 0402 X7R 50V 1N COL
2G48	319801741050	☐	☑	CER2 0603 Y5V 10V 1U COL
2G49	319801741050	☐	☑	CER2 0603 Y5V 10V 1U COL
2G50	319803041090	☐	☑	ELCAP SM 16V 10U PM20 COL R
2G51	319803571040	☐	☑	CER2 0402 Y5V 16V 100N COL
2G52	202055296703	☐	☑	CER1 0402 NP0 50V 180P PM5 R
2G53	202055296703	☐	☑	CER1 0402 NP0 50V 180P PM5 R
2G62	202055200035	☐	☑	CER2 0603 X5R 6V3 2U2 PM10 R
	202055200183	☐	☑	CER2 0603 X5R 6V3 2U2 PM10 R
2G63	202055200035	☐	☑	CER2 0603 X5R 6V3 2U2 PM10 R
	202055200183	☐	☑	CER2 0603 X5R 6V3 2U2 PM10 R
2G65	202055200005	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
	202055200027	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2G66	202055200005	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
	202055200027	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
2G72	202055200005	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
	202055200027	☐	☑	CER2 0603 X5R 6V3 4U7 PM10 R
3G40	319803101010	☐	☑	RST SM 0402 100R PM5 COL
3G41	319803101010	☐	☑	RST SM 0402 100R PM5 COL
3G42	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G43	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G44	319803101020	☐	☑	RST SM 0402 1K PM5 COL
3G45	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G46	319803101020	☐	☑	RST SM 0402 1K PM5 COL
3G47	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G48	319803106890	☐	☑	RST SM 0402 68R PM5 COL
3G49	319803101020	☐	☑	RST SM 0402 1K PM5 COL
3G50	319803106890	☐	☑	RST SM 0402 68R PM5 COL
3G51	319803101020	☐	☑	RST SM 0402 1K PM5 COL
3G52	319803101020	☐	☑	RST SM 0402 1K PM5 COL
3G53	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G54	319803101020	☐	☑	RST SM 0402 1K PM5 COL
3G55	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G56	319803101010	☐	☑	RST SM 0402 100R PM5 COL
3G60	319803104720	☐	☑	RST SM 0402 4K7 PM5 COL
3G61	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G62	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G63	319803101010	☐	☑	RST SM 0402 100R PM5 COL
3G64	319803101010	☐	☑	RST SM 0402 100R PM5 COL
3G65	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G66	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G67	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G68	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G69	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G70	319803104730	☐	☑	RST SM 0402 47K PM5 COL
3G71	319803101010	☐	☑	RST SM 0402 100R PM5 COL
3G80	319803106890	☐	☑	RST SM 0402 68R PM5 COL
3G81	319803101020	☐	☑	RST SM 0402 1K PM5 COL
3G83	319803101030	☐	☑	RST SM 0402 10K PM5 COL
3G84	319803101030	☐	☑	RST SM 0402 10K PM5 COL
3G85	319803104730			RST SM 0402 47K PM5 COL
3G86	319803104730			RST SM 0402 47K PM5 COL
3G87	319803104730			RST SM 0402 47K PM5 COL
3G88	319803101020			RST SM 0402 1K PM5 COL
3G89	319803104730			RST SM 0402 47K PM5 COL
3G90	319803101020			RST SM 0402 1K PM5 COL
3G91	319803101020			RST SM 0402 1K PM5 COL
3G92	319803102230			RST SM 0402 22K PM5 COL

B16

Item Nr.		LCD 37" - 42	LCD 26" - 32	PDP 42" - 50	Description
1J00	242202510771	☑	☐	☑	CON V 10P M 2.00 PH B
1J01	242202510655	☑	☐	☑	CON V 11P M 2.00 PH B
1J02	242202510772	☐	☑	☐	CON V 12P M 2.00 PH B
1J03	242202510768	☐	☑	☐	CON V 3P M 2.00 PH B
1J07	242208611081	☑	☐	☑	FUSE SM T 3A 125V UL R
1J08	242254945333	☑	☐	☑	IND FXD 1206 EMI 100MHZ 120R R
2J18	319803401010	☑	☑	☐	CER1 0402 NP0 50V 100P COL
2J19	319803401010	☑	☑	☐	CER1 0402 NP0 50V 100P COL
2J22	319803401010	☑	☑	☐	CER1 0402 NP0 50V 100P COL
2J23	319803401010	☑	☑	☐	CER1 0402 NP0 50V 100P COL
2J31	319803401010	☑	☐	☑	CER1 0402 NP0 50V 100P COL
3J03	319803106890	☑	☑	☐	RST SM 0402 68R PM5 COL
3J04	319803106890	☑	☑	☐	RST SM 0402 68R PM5 COL
4J01	319803190010	☑	☐	☑	RST SM 0402 JUMP. 0R05 COL
5J04	242254945333	☑	☐	☑	IND FXD 1206 EMI 100MHZ 120R R

B17

Item Nr.		26in - 32i	37in - 50i	Description
1K01	242202510772	☑	☐	CON V 12P M 2.00 PH B
1K04	242202510655	☐	☑	CON V 11P M 2.00 PH B
2K15	319803401010	☑	☐	CER1 0402 NP0 50V 100P COL
3K08	319803106890	☑	☐	RST SM 0402 68R PM5 COL
4K02	319802190030	☐	☑	RST SM 0603 JUMP. 0R05 COL

B20 LVDS Conn.

Item Nr.		PDP LG	LCD 37" - 42	LCD 26" - 32	PDP FHP	PDP SDI	Description
1N16	242202518772	☐	☐	☑	☐	☐	CON V 30P M 1.25 SM 1453230 R
1N17	242202518427	☑	☑	☐	☑	☑	CON H 31P F 1.25 SM FI-WE R
2N90	319803571030	☐	☐	☐	☐	☑	CER2 0402 Y5V 16V 10N COL
3N30	319803101030	☐	☐	☐	☐	☑	RST SM 0402 10K PM5 COL
3N31	319803104720	☐	☐	☐	☐	☑	RST SM 0402 4K7 PM5 COL
3N80	319803101010	☑	☑	☐	☐	☐	RST SM 0402 100R PM5 COL
3N81	319803101010	☑	☑	☐	☐	☐	RST SM 0402 100R PM5 COL
4N24	319803190010	☐	☐	☐	☑	☐	RST SM 0402 JUMP. 0R05 COL
4N26	319803190010	☑	☑	☐	☐	☐	RST SM 0402 JUMP. 0R05 COL
4N36	319803190010	☐	☐	☐	☑	☐	RST SM 0402 JUMP. 0R05 COL
4N37	319803190010	☐	☐	☐	☑	☐	RST SM 0402 JUMP. 0R05 COL
7N05	319801042310	☐	☐	☐	☐	☑	TRA SIG SM BC847BW (COL) R

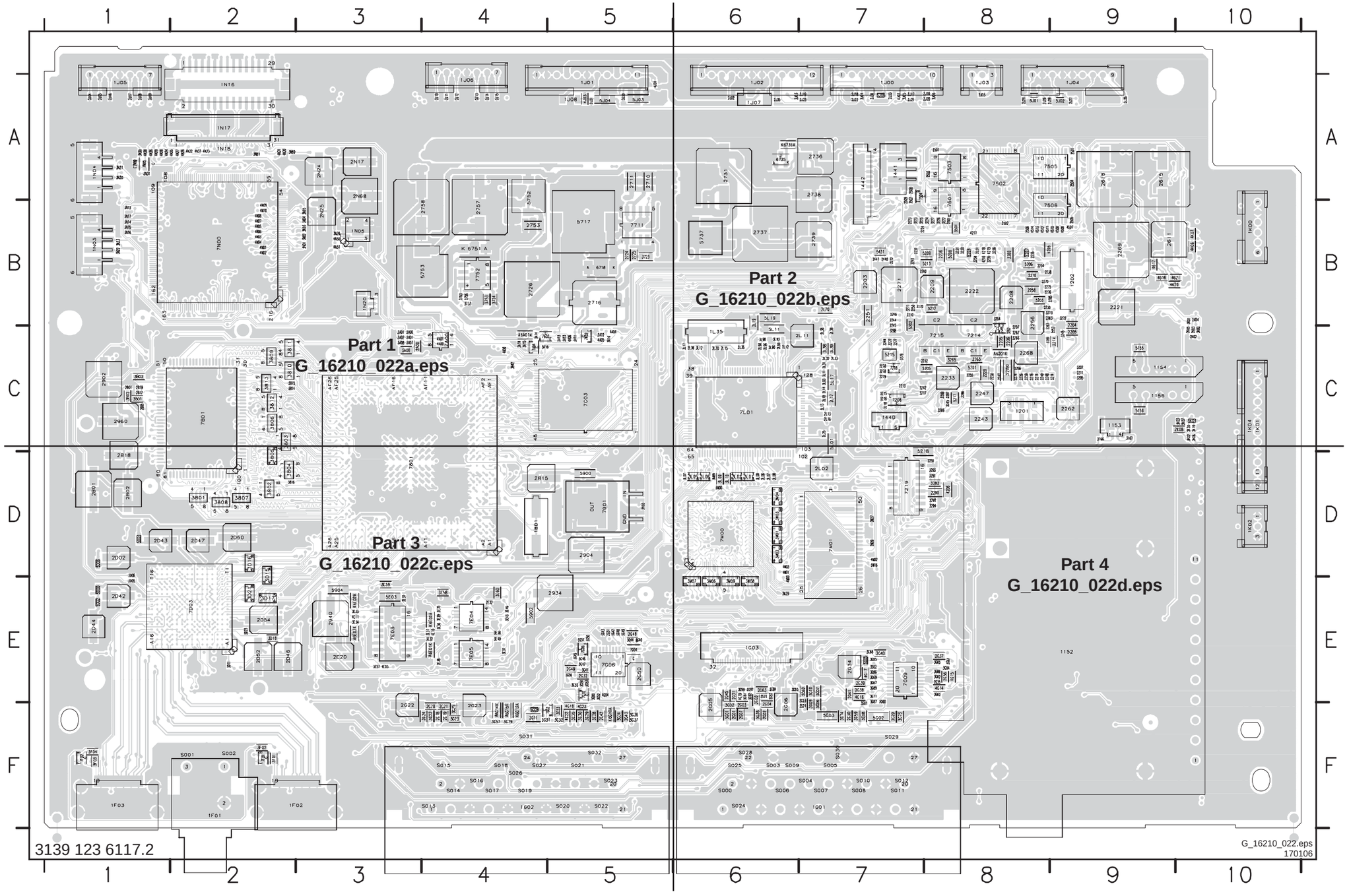
B20 Pac-3

Item Nr.		With Pixel Plus (Pac	Non Pixel Plus	Description
1N02	242254000017	☑	☐	R
1N03	242202518779	☑	☐	CON V 4P M 2.00 SM PH R
1N04	242202518196	☐	☐	CON V 4P M 2.00 SM PH R
	242202518779	☑	☐	CON V 4P M 2.00 SM PH R
1N05	242212802975	☑	☐	SWI TACT SM H=0.5 160G SKQR R
1N19	242202518734	☑	☐	CON V 10P M 2.00 SM PH R
2N01	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N02	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N03	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N04	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N05	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N06	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N07	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N08	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N09	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N10	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N11	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N12	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N13	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N14	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N15	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N16	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N17	319803024790	☑	☐	ELCAP SM 6V3 47U PM20 COL R
2N19	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N20	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N21	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N22	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N23	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N24	319803024790	☑	☐	ELCAP SM 6V3 47U PM20 COL R
2N25	319803024790	☑	☐	ELCAP SM 6V3 47U PM20 COL R
2N26	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N27	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N28	202055200005	☑	☐	CER2 0603 X5R 6V3 4U7 PM10 R
	202055200027	☑	☐	CER2 0603 X5R 6V3 4U7 PM10 R
2N29	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N30	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N31	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N32	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N33	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N35	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N36	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N37	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N38	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N39	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N40	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N41	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N42	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N43	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N44	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N45	319803571040	☑	☐	CER2 0402 Y5V 16V 100N COL
2N46	319803571040			CER2 0402 Y5V 16V 100N COL
2N47	319803571040			CER2 0402 Y5V 16V 100N COL
2N48	319803571040			CER2 0402 Y5V 16V 100N COL
2N49	319803571040			CER2 0402 Y5V 16V 100N COL
2N50	319803571040			CER2 0402 Y5V 16V 100N COL
2N51	319803024790			ELCAP SM 6V3 47U PM20 COL R
2N54	319803074780			ELCAP SM 35V 4U7 PM20 COL R

G_16210_066.eps
190106

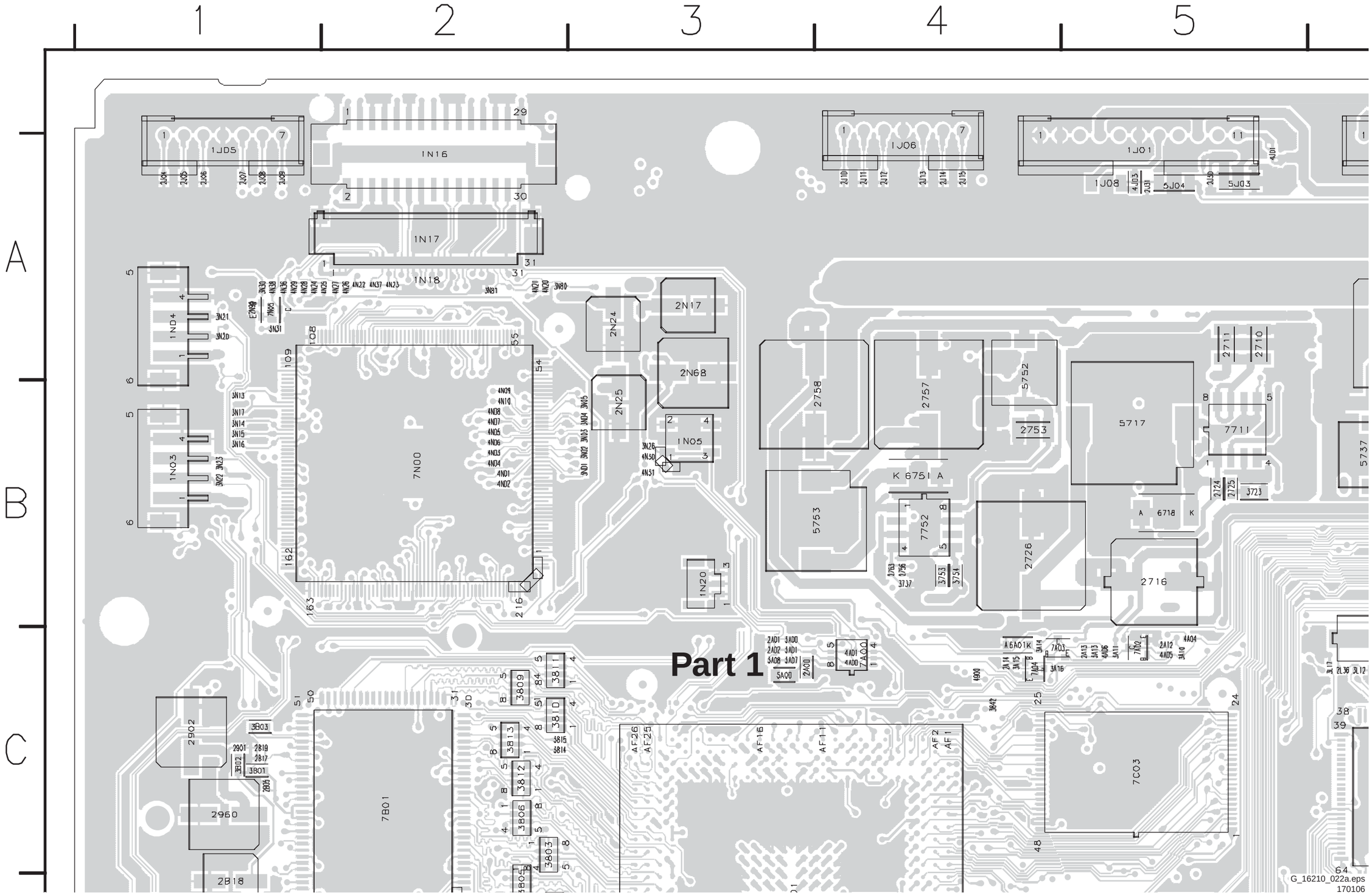
Layout Small Signal Board (Top Side Overview)

1152 E9 1G03 E6 1N03 B1 2213 C7 2234 B8 2250 B7 2269 B9 2291 D8 2710 A5 2763 B4 2B01 D1 2E20 E3 2G22 F3 2G43 F5 2J06 A1 2J21 A7 2K04 B10 2L15 C6 2L93 C6 3215 C7 3244 C7 3278 C7 3737 B4 3813 C2 3B01 C1 3E34 E3 3F03 F1 3G29 F5 3G45 E5 3G61 E8 3G82 E6 4G15 E8 6G13 F4
1153 C9 1J00 A7 1N04 A1 2214 C8 2235 B8 2251 B7 2270 B8 2447 B7 2711 A5 2815 D4 2B02 D1 2E31 E3 2G23 F4 2G45 E6 2J07 A1 2J22 A7 2K05 C10 2L16 C7 2L96 C6 3216 C7 3245 C9 3279 C7 3753 B4 3814 C2 3B02 C1 3E35 E4 3F04 F1 3G30 F5 3G46 E5 3G62 E8 3G83 E6 4G16 E7 6G14 F4
1154 C9 1J01 A5 1N05 B3 2216 C8 2236 B8 2255 C8 2271 B7 2448 B7 2716 B5 2901 C1 2B05 C1 2E32 E4 2G29 F7 2G48 E5 2J08 A1 2J23 A7 2K06 C10 2L17 C7 2L98 C6 3217 C7 3262 C8 3280 C8 3754 B4 3815 C2 3B03 C1 3E36 E4 3G01 F6 3G31 F4 3G47 E5 3G63 E8 3G84 E6 4G17 E7 6G15 F4
1156 C9 1J02 A6 1N16 A2 2218 C7 2237 B7 2256 B8 2272 B7 2501 B8 2724 B5 2902 C1 2B17 C1 2E36 E4 2G30 F7 2G49 E5 2J09 A1 2J26 A8 2K07 C10 2L18 C7 2M27 D7 3222 B8 3263 C8 3281 C8 3801 D2 3816 D2 3D05 E1 3E37 E4 3G02 F6 3G32 F5 3G48 E5 3G64 E8 3G85 E7 4G18 F5 7206 C7
1201 C8 1J03 A8 1N17 A2 2221 B9 2238 B8 2257 C9 2274 C9 2502 B8 2725 B5 2903 D5 2B18 D1 2G01 F6 2G31 E6 2G50 E5 2J10 A4 2J27 A9 2K08 C10 2L19 B6 2M28 D7 3223 B7 3264 B8 3282 D8 3802 D2 3842 C4 3D06 D1 3E38 E4 3G03 E6 3G33 F5 3G49 E5 3G65 E8 3G86 E7 4G19 E6 7214 C8
1202 B9 1J04 A9 1N18 A2 2222 B8 2240 B7 2258 B8 2275 B8 2503 A8 2726 B4 2904 D5 2B19 C1 2G02 F6 2G32 E5 2G51 E5 2J11 A4 2J28 A8 2K19 C10 2L20 C6 2M29 E6 3224 B8 3265 C8 3285 C8 3803 C2 3A00 C3 3D11 E2 3E39 E4 3G06 F7 3G34 F5 3G50 E5 3G66 E8 3G87 E7 4G22 F5 7215 C8
1440 C7 1J05 A1 1N20 B3 2223 B7 2241 B7 2259 C8 2276 B8 2504 A9 2731 A6 2934 E5 2D02 D1 2G03 F6 2G34 E7 2G52 E6 2J12 A4 2J29 A8 2K20 C10 2L25 C7 2N17 A3 3225 B7 3266 C8 3286 C8 3804 D2 3A01 C3 3D15 D2 3E43 E4 3G07 E7 3G35 F5 3G51 E5 3G67 E7 3G89 E7 4G23 F5 7216 C8
1441 A7 1J06 A4 2203 B7 2224 B7 2242 C8 2260 B8 2277 C7 2505 B9 2736 A7 2940 E3 2D42 E1 2G04 F6 2G35 E8 2G53 E7 2J13 A4 2J30 A5 2L02 D7 2L31 C7 2N24 A3 3226 B8 3267 C8 3291 D8 3805 D2 3A07 C3 3D16 D2 3E46 E4 3G08 F7 3G36 F5 3G52 E5 3G68 E7 3G97 E6 4J01 A5 7218 C7
1442 A7 1J07 A6 2205 C8 2226 C8 2243 C8 2262 C9 2278 C7 2506 B8 2737 B6 2960 C1 2D43 D1 2G05 F6 2G36 E8 2G62 E7 2J14 A4 2J31 A5 2L06 D6 2L32 C7 2N25 B3 3227 B8 3268 C7 3292 D8 3806 C2 3A08 C3 3D17 E2 3E49 E4 3G09 F7 3G37 F5 3G53 E5 3G69 E7 3G98 E6 4J02 A7 7219 D7
1801 D4 1J08 A5 2206 C8 2228 C8 2244 B7 2263 B8 2279 C7 2507 A9 2738 A7 2A00 C3 2D44 E1 2G06 F6 2G37 E8 2G63 E6 2J15 A4 2J33 A7 2L07 D6 2L33 C7 2N68 A3 3230 B8 3270 B7 3293 D8 3807 D2 3A10 C5 3D18 E2 3E57 E3 3G10 E7 3G38 F6 3G54 E5 3G71 E7 3J03 A6 4J03 A5 7501 B8
1F01 F2 1K00 B10 2207 C8 2229 C8 2245 B7 2264 B9 2285 B9 2508 A7 2739 B7 2A01 C3 2D46 E2 2G07 F6 2G38 E7 2G71 F4 2J16 A8 2J34 A7 2L08 D6 2L35 C6 2N90 A1 3231 B8 3271 B7 3294 D8 3808 D2 3A11 C5 3D21 E2 3E58 E4 3G22 F4 3G40 E5 3G55 E5 3G73 F7 3J04 A7 4K06 B10 7502 A8
1F02 F2 1K01 C10 2208 B8 2230 B8 2246 B7 2265 C9 2286 C8 2509 B7 2753 B4 2A02 C3 2D47 D2 2G18 F4 2G39 E7 2J02 A6 2J17 A7 2J35 A6 2L11 C7 2L36 C6 3166 C9 3234 B8 3272 B9 3295 C9 3809 C2 3A13 C5 3D23 E2 3E59 E3 3G23 F4 3G41 E5 3G56 E5 3G74 F7 3J05 A7 4K07 B10 7503 A8
1F03 F1 1K02 D10 2209 B8 2231 B8 2247 C8 2266 C8 2287 C8 2611 B9 2756 B4 2A12 C5 2D50 D2 2G19 F4 2G40 E7 2J03 A8 2J18 A7 2J36 A9 2L12 C6 2L38 C7 3167 C9 3235 B8 3273 B8 3501 A8 3810 C2 3A14 C4 3E31 E4 3E60 E4 3G24 F4 3G42 E5 3G57 F4 3G79 F4 3J06 A8 4M00 E6 7504 A7
1G01 F7 1K04 C10 2210 B7 2232 C8 2248 C8 2267 C8 2288 C8 2615 A9 2757 B4 2A13 C5 2D52 E2 2G20 F4 2G41 E7 2J04 A1 2J19 A7 2K02 C10 2L13 C7 2L39 C7 3207 C9 3236 B8 3274 C8 3502 B7 3811 C2 3A15 C4 3E32 E4 3F01 F2 3G25 F4 3G43 E5 3G59 F7 3G80 E5 3K00 C10 4M01 D6 7505 A9
1G02 F4 1L35 C6 2211 C9 2233 C8 2249 C8 2268 C8 2290 D8 2618 A9 2758 B4 2A14 C4 2D54 E2 2G21 F4 2G42 F5 2J05 A1 2J20 A8 2K03 C10 2L14 C7 2L70 B7 3214 C9 3242 C7 3277 C7 3723 B5 3812 C2 3A16 C4 3E33 E3 3F02 F2 3G28 F5 3G44 E5 3G60 E7 3G81 E6 3K01 B10 4M02 D7 7506 B9

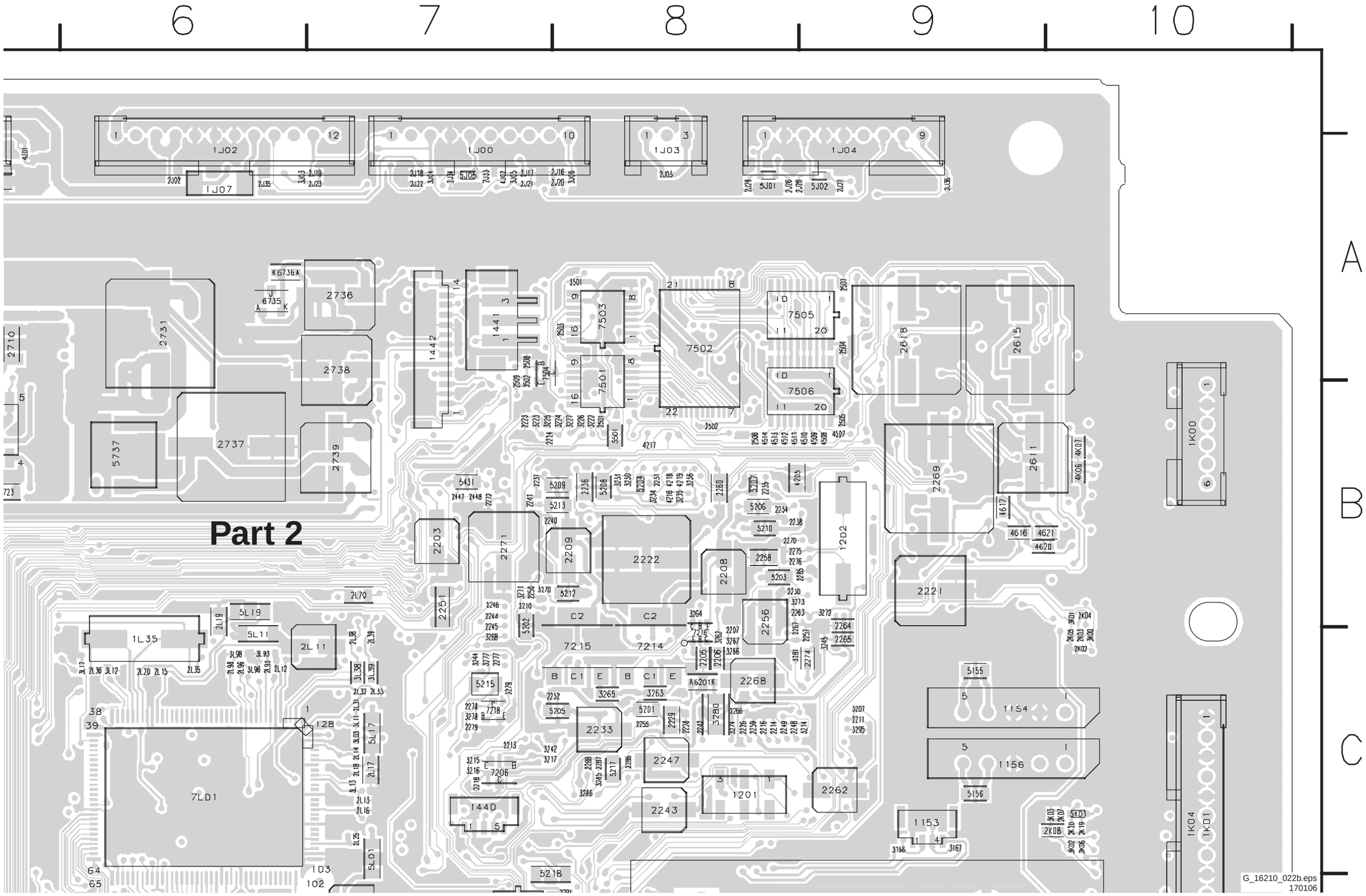


3K02 C10 4M03 D6 7711 B5
3K03 C10 4N01 B2 7752 B4
3L00 D6 4N02 B2 7801 D3
3L01 D6 4N03 B2 7901 D5
3L02 D6 4N04 B2 7A00 C4
3L03 C7 4N05 B2 7A02 C5
3L05 D6 4N06 B2 7A03 C4
3L06 D6 4N07 B2 7A04 C4
3L07 D6 4N08 B2 7B01 C2
3L09 D6 4N09 B2 7C03 C5
3L10 D6 4N10 B2 7D03 E2
3L11 C7 4N20 A2 7E03 E3
3L12 C6 4N21 A2 7E04 E4
3L13 C7 4N22 A2 7E05 E4
3L17 C6 4N23 A2 7F01 F2
3L38 C7 4N24 A1 7F02 F1
3L39 C7 4N25 A2 7G02 F5
3L93 C6 4N26 A2 7G04 E5
3L96 C6 4N27 A2 7G05 E5
3L98 C6 4N28 A1 7G06 E5
3M00D6 4N29 A1 7G09 E7
3M01D6 4N30 B3 7G10 E5
3M02D6 4N31 B3 7L01 C6
3M03D6 4N36 A1 7M00 D6
3M04D6 4N37 A2 7M01 D7
3M06E6 4N38 A1 7N00 B2
3M07E6 5155 C9 7N05 A1
3M08E6 5156 C9
3M09E6 5201 C8
3M16D7 5202 B7
3M89D6 5203 B8
3N01 B3 5204 B8
3N02 B3 5205 C8
3N03 B3 5206 B8
3N04 B3 5207 B8
3N05 B3 5208 B8
3N13 B1 5209 B8
3N14 B1 5210 B8
3N15 B1 5212 B8
3N16 B1 5213 B8
3N17 B1 5215 C7
3N20 A1 5217 C8
3N21 A1 5218 D7
3N22 B1 5431 B7
3N23 B1 5501 B8
3N26 B3 5717 B5
3N30 A1 5737 B6
3N31 A1 5752 A4
3N80 A2 5753 B4
3N81 A2 5900 D5
3S01 F7 5902 E4
3S02 E7 5904 E3
3S21 F7 5A00 C3
3S22 E6 5D00 E1
4205 B8 5D01 D1
4206 D8 5D02 E1
4216 B8 5D06 D1
4217 B8 5E03 E3
4218 B8 5G02 F7
4219 B8 5G03 F7
4507 B9 5G05 E7
4508 B9 5G08 F4
4509 B9 5J01 A8
4510 B9 5J02 A9
4511 B8 5J03 A5
4512 B8 5J04 A5
4513 B8 5J05 A7
4514 B8 5K01 C10
4616 B9 5L01 C7
4617 B9 5L11 C6
4620 B9 5L17 C7
4621 B10 5L19 B6
4900 C4 6201 C8
4A00 C4 6718 B5
4A01 C4 6735 A6
4A04 C5 6736 A6
4A05 C5 6751 B4
4A06 C5 6A01 C4
4E03 E3 6E00 E4
4E10 E4 6E01 E4
4E11 E3 6E02 E3
4G04 E5 6E03 E3
4G14 E8 6G10 F5

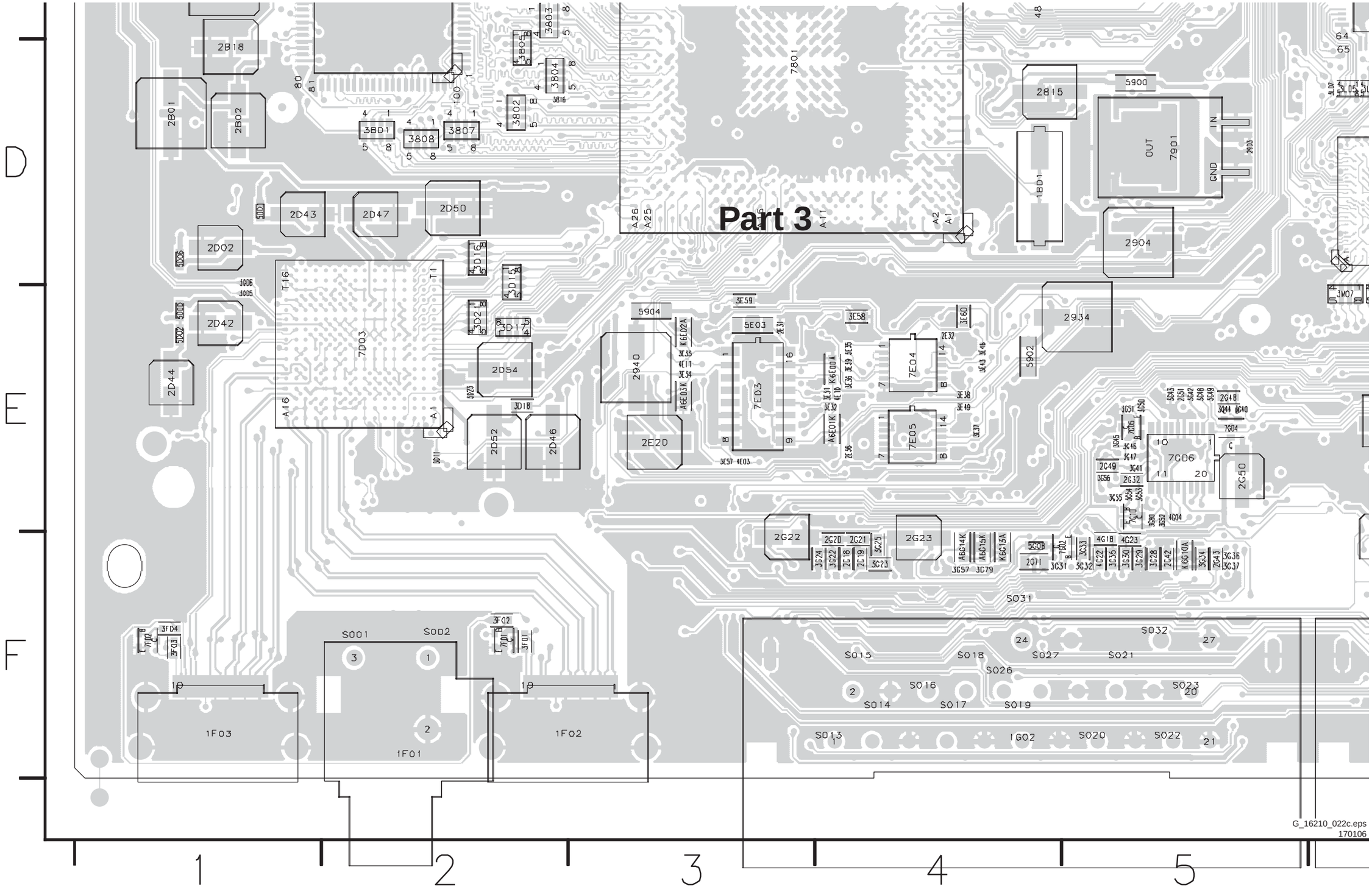
Layout Small Signal Board (Top Side Part 1)



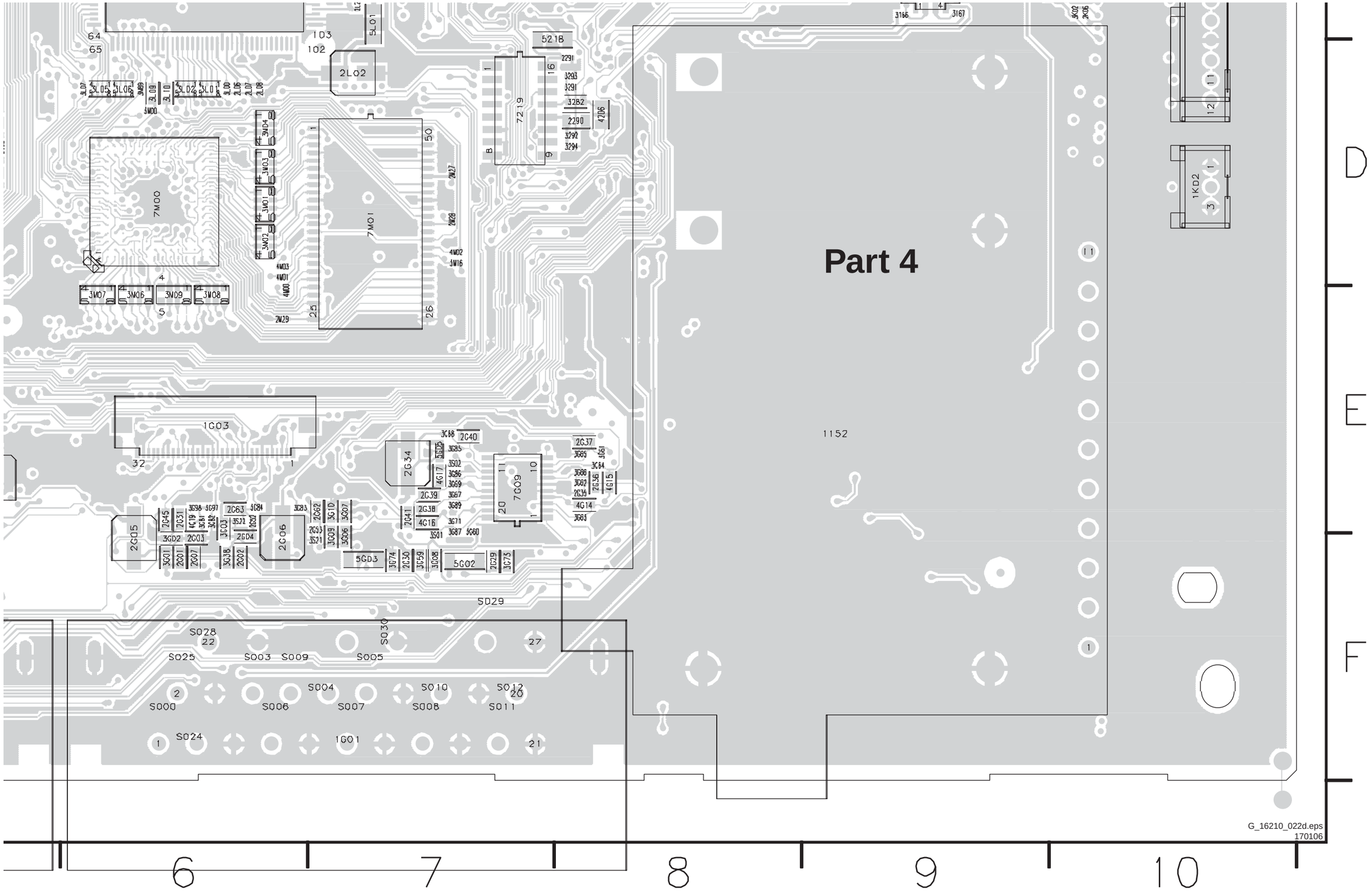
Layout Small Signal Board (Top Side Part 2)



Layout Small Signal Board (Top Side Part 3)

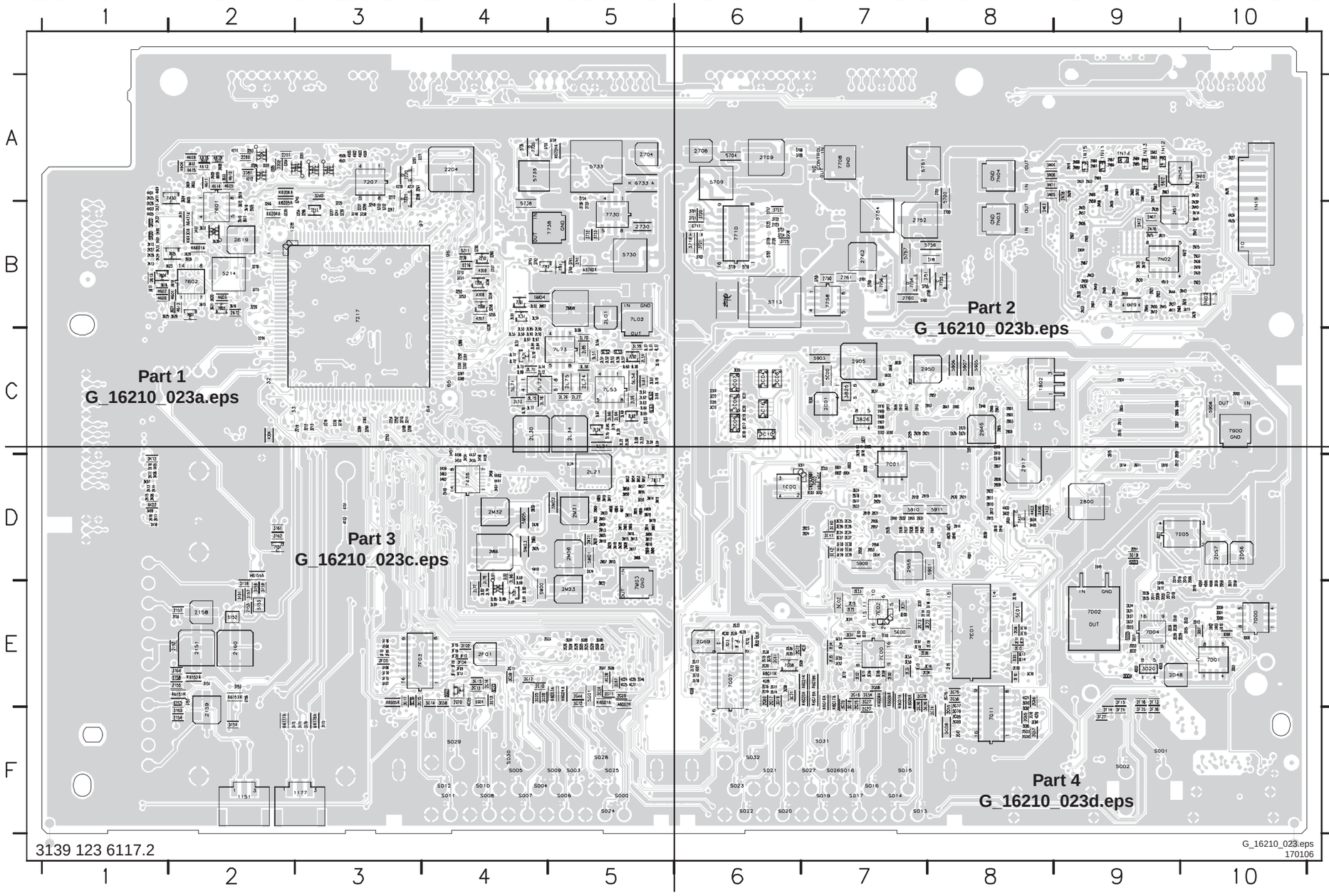


Layout Small Signal Board (Top Side Part 4)



Layout Small Signal Board (Bottom Side Overview)

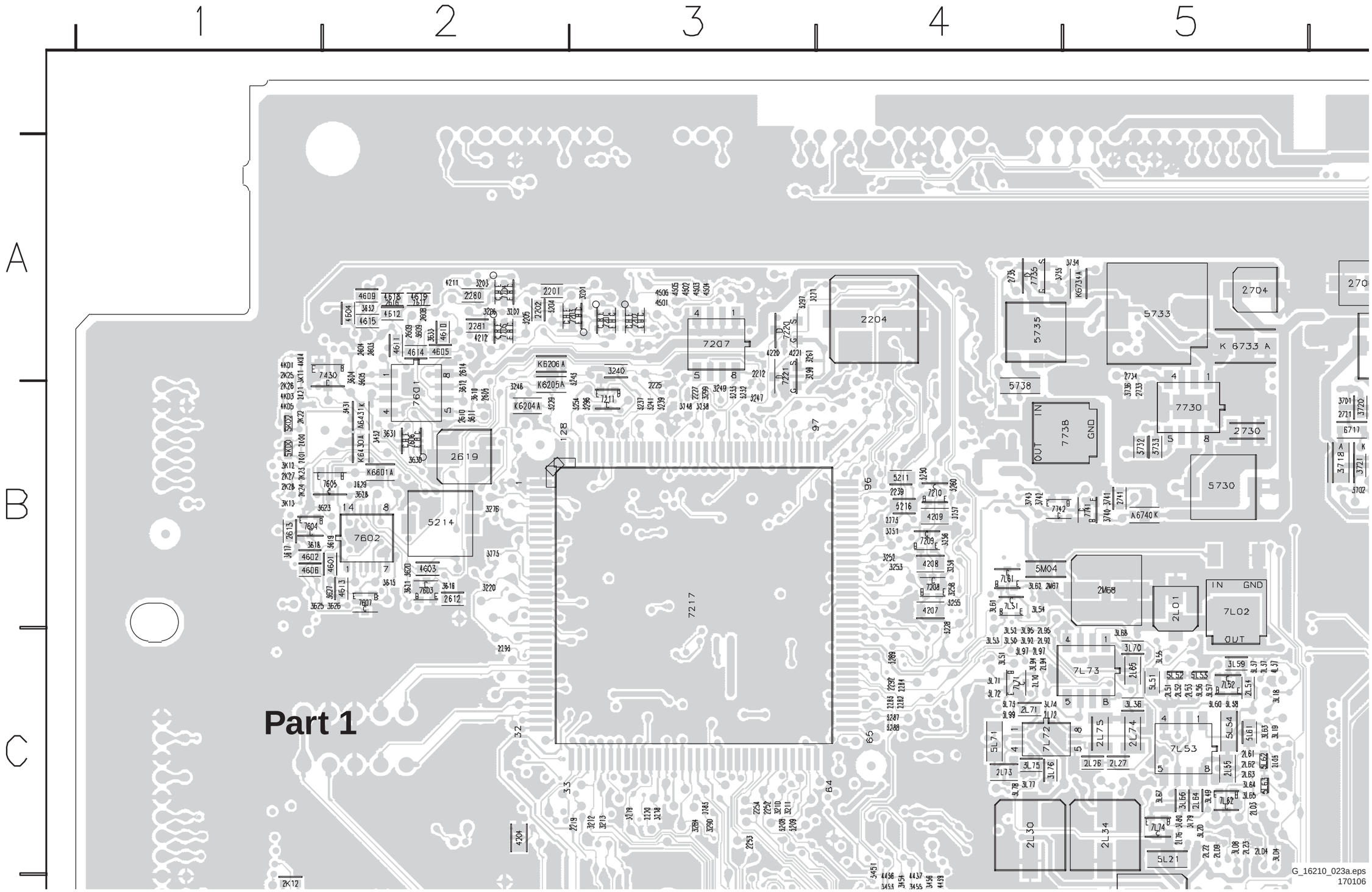
1151 F2 2204 A4 2609 A2 2730 B5 2810 D8 2913 C7 2937 D7 2B06 C9 2D12 E10 2D48 E9 2E14 E7 2F13 E9 2G55 F8 2K18 D1 2L37 C5 2L97 C4 2M22 E5 2N10 A9 2N38 B9 2N63 A9 3156 E2 3213 C3 3254 B3 3453 D4 3625 B1 3734 A5 3827 C7 3A06 D8 3D03 E10 3E15 E8 3E54 E7 3L86 D4 4611 A2 5N04 A8 7M03 E5
1177 F3 2212 A3 2610 B2 2733 B5 2811 D8 2914 D8 2938 D7 2B07 C9 2D13 E9 2D49 E9 2E15 E7 2F14 F9 2G56 E8 2K21 B1 2L51 C5 2M00 D5 2M23 E5 2N11 A9 2N39 B10 2N64 A9 3157 E2 3218 C3 3255 B4 3454 D4 3626 B2 3735 A4 3828 D7 3C00 C7 3D07 E10 3E16 E8 3E55 E7 3L87 E4 4612 A2 5N05 A8 7M17 D5
1802 C8 2219 C3 2612 B2 2734 A5 2812 D8 2915 D8 2939 D7 2B08 C9 2D14 D9 2D51 D9 2E16 E8 2F15 E9 2G57 F8 2K22 B1 2L52 C5 2M01 D5 2M24 D5 2N12 A10 2N40 B10 2N65 A9 3158 E2 3219 C3 3256 B4 3455 D4 3627 B2 3736 B5 3829 C7 3C01 D7 3D08 E10 3E17 E8 3F05 E3 3L88 E4 4613 B2 5N06 A8 7N02 B9
1C00 D6 2220 C3 2613 B1 2735 A4 2813 C8 2916 D8 2941 D8 2B09 D9 2D15 D10 2D53 E9 2E17 E8 2F16 E9 2G58 E6 2K23 B1 2L53 C5 2M02 D5 2M25 D4 2N13 A10 2N41 B10 2N66 A9 3159 E2 3220 B2 3257 B4 3456 D4 3628 B2 3740 B5 3830 C7 3C02 D7 3D09 E10 3E18 E8 3F06 E3 3L89 E4 4614 A2 5N07 B9 7N03 B8
1N02 B10 2225 B3 2614 A2 2741 B5 2814 D8 2917 D8 2942 D7 2B10 D9 2D16 D9 2D55 E9 2E18 E8 2G08 E4 2G60 E6 2K24 B1 2L54 C5 2M03 D5 2M26 D4 2N14 B10 2N42 B10 2N67 B9 3161 D2 3221 A3 3258 B4 3458 D4 3629 B2 3741 B5 3831 C7 3C03 D7 3D10 E10 3E19 E7 3F07 E3 3L90 E4 4615 A2 5N10 A10 7N04 A8
1N11 A9 2227 B3 2616 A2 2749 B8 2816 D7 2918 D7 2945 C8 2B11 D9 2D17 E9 2D56 D10 2E19 E8 2G09 E5 2G61 E6 2K25 A1 2L55 C5 2M04 D5 2M30 D4 2N15 B10 2N43 B10 2N69 B9 3162 D2 3228 C4 3259 B4 3459 D4 3630 B2 3742 B4 3832 C7 3C04 C6 3D19 D9 3E20 E8 3F08 E3 3L91 E4 4618 A2 5N11 A8
1N12 A9 2239 B4 2617 A2 2750 B7 2817 D7 2919 D7 2946 C8 2B12 D9 2D18 E9 2D57 D10 2E21 E7 2G10 E4 2G65 F8 2K26 B1 2L61 C5 2M05 D5 2M31 D5 2N16 B10 2N44 B9 2N75 B9 3163 F2 3229 B2 3260 B4 3461 D4 3631 B2 3743 B4 3834 C7 3C05 C6 3D20 E9 3E21 E8 3F09 E4 3L92 C4 4619 A2 5N12 A9
1N13 A9 2252 C3 2619 B2 2751 B7 2818 D7 2920 D8 2947 C8 2B13 C9 2D21 E9 2D58 E10 2E22 E7 2G11 E5 2G66 E8 2K27 B1 2L62 C5 2M06 D5 2M32 D4 2N19 A9 2N45 B9 2N76 B9 3164 E2 3232 B3 3261 A3 3462 D4 3632 A2 3750 B7 3835 C7 3C06 C6 3D22 E9 3E22 E7 3F10 E4 3L94 C4 4801 D8 5N72 B9
1N14 A9 2253 C3 2700 B8 2752 B7 2819 D7 2921 D8 2948 C8 2B14 D9 2D22 E9 2D59 E10 2E23 E7 2G12 E4 2G67 E5 2K28 B1 2L63 C5 2M07 D5 2M33 D5 2N20 B9 2N46 B9 2N80 A9 3170 F3 3233 B3 3275 B2 3463 D4 3633 A2 3755 B7 3836 C7 3C07 C6 3D24 E10 3E23 E8 3F11 E4 3L95 C4 4A02 D8 6151 E2
1N15 A9 2254 C3 2701 A8 2759 B6 2820 D7 2922 D8 2949 C8 2B15 C9 2D23 E9 2E00 E7 2E24 D7 2G13 E4 2G68 E7 2L01 B5 2L64 C5 2M08 D5 2M56 D5 2N21 B9 2N47 B9 2N81 A9 3171 F3 3237 B3 3276 B2 3604 A2 3701 B6 3758 B8 3837 C7 3C08 C6 3D26 E10 3E24 D7 3F12 E4 3L97 C4 4A03 D8 6152 E2
1N19 B10 2273 B4 2702 B6 2760 B7 2821 D7 2923 C8 2950 C8 2B16 C9 2D24 E9 2E01 E7 2E25 D7 2G14 E4 2G69 E6 2L03 C5 2L65 C5 2M09 D5 2M65 D4 2N22 B9 2N48 B9 2N82 A9 3172 F2 3238 B3 3283 C3 3605 A2 3702 B6 3759 B7 3838 C7 3C09 C6 3D27 D9 3E25 D7 3F13 E3 3L99 C4 4D02 E9 6153 E2
2151 E2 2280 A2 2704 A5 2761 B7 2822 D7 2924 C8 2951 C8 2C00 C7 2D25 E10 2E02 E7 2E26 D7 2G15 E3 2G70 E4 2L04 C5 2L71 C4 2M10 D5 2M66 D4 2N23 B10 2N49 B9 2N83 A9 3173 F3 3239 B3 3284 C3 3609 A2 3709 A6 3760 B7 3839 D8 3C10 C6 3E00 E7 3E26 D7 3F14 E3 3M10 D5 4D03 E9 6154 D2
2152 E2 2281 A2 2706 A6 2762 B7 2823 D7 2925 C8 2952 C8 2C01 C7 2D29 E10 2E03 E7 2E27 D7 2G16 E7 2G72 E6 2L05 C5 2L72 C4 2M11 D5 2M67 B4 2N26 B9 2N50 B9 2N84 A9 3201 A3 3240 A3 3287 C4 3610 B2 3718 B6 3761 B7 3840 D8 3C16 C6 3E01 E7 3E27 D7 3F15 E3 3M11 D5 4D04 E10 6176 F3
2153 E2 2282 C4 2708 A6 2800 D9 2824 D7 2926 C8 2953 D7 2C02 C7 2D30 E9 2E04 E7 2E28 D7 2G17 E6 2K00 B1 2L09 C5 2L73 C4 2M12 D5 2M68 B5 2N27 B9 2N51 B9 2N85 A9 3202 A2 3241 B3 3288 C4 3611 B2 3719 B6 3800 C7 3841 C8 3C17 C6 3E02 E7 3E28 D7 3F16 E3 3M12 D5 4D05 E10 6177 F2
2154 F2 2283 C4 2709 A6 2801 C8 2900 C10 2927 C7 2954 D7 2C03 D7 2D31 E9 2E05 E8 2E29 D7 2G24 F8 2K01 B1 2L10 C4 2L74 C5 2M13 D5 2N01 B9 2N28 A9 2N54 A9 2N86 A9 3203 A2 3243 A3 3289 C4 3612 B2 3720 B6 3817 C7 3900 C8 3C18 C6 3E06 E7 3E29 D7 3F17 E4 3M13 D5 4D06 E10 6204 B2
2155 E2 2284 C4 2717 B6 2802 C8 2905 C7 2928 C7 2955 D7 2C04 C6 2D32 E10 2E06 E8 2E30 D7 2G25 E7 2K10 D1 2L21 D5 2L75 C5 2M14 D5 2N02 B9 2N29 A9 2N55 B9 2N87 A9 3204 A2 3246 B2 3290 C3 3615 B2 3721 B6 3818 C7 3901 D7 3C19 C6 3E07 E7 3E30 D7 3F18 E4 3M14 D5 4G05 E4 6205 B2
2156 E2 2292 C4 2718 B6 2803 C8 2906 C7 2929 C7 2956 D7 2C05 C6 2D34 E9 2E07 E7 2E33 E7 2G26 E7 2K11 D1 2L22 C5 2L76 C5 2M15 D5 2N03 B9 2N30 B9 2N56 B9 2N88 A9 3205 A2 3247 B3 3296 B3 3616 B2 3722 B6 3819 D8 3902 D7 3C20 C6 3E08 E7 3E40 D7 3F19 E4 3M15 D5 4G07 E6 6206 A2
2157 E2 2293 C2 2719 B6 2804 C8 2907 C7 2930 D7 2957 D7 2D00 E10 2D35 E9 2E08 E7 2E34 E7 2G27 F7 2K12 D1 2L23 C5 2L77 E4 2M16 D5 2N04 B9 2N31 A9 2N57 B9 2N89 A9 3206 A2 3248 B3 3297 A3 3617 B1 3724 B6 3820 D8 3903 D7 3C21 C6 3E09 E7 3E41 D7 3F20 E4 3M28 D5 4G08 E6 6430 B2
2158 E2 2449 D4 2720 B6 2805 C8 2908 C7 2931 D7 2958 D7 2D01 E10 2D36 E9 2E09 E8 2E35 E7 2G28 E7 2K13 D1 2L24 D5 2L78 D4 2M17 D5 2N05 B9 2N32 A9 2N58 B9 3151 E2 3208 C3 3249 B3 3298 A3 3618 B1 3725 B6 3822 D8 3904 D7 3C22 C6 3E10 E7 3E42 D7 3F24 F9 3M29 D5 4G09 E6 6431 B2
2159 F2 2603 A2 2721 B6 2806 C8 2909 C7 2932 D7 2959 D7 2D08 D10 2D37 E9 2E10 E8 2F01 E4 2G44 E5 2K14 D1 2L26 C5 2L79 E4 2M18 D5 2N06 B9 2N33 B9 2N59 B9 3152 E2 3209 C3 3250 B4 3299 B3 3619 B2 3726 B6 3823 D8 3A02 D8 3C23 C6 3E11 E7 3E50 E7 3F25 F9 3M50 D5 4G20 F8 6601 B2
2160 E2 2604 A2 2722 B6 2807 D8 2910 C7 2933 D7 2A03 D8 2D09 E9 2D38 E9 2E11 E8 2F02 E4 2G46 E5 2K15 D1 2L27 C5 2L92 C4 2M19 D5 2N07 B9 2N35 B10 2N60 A9 3153 E2 3210 C3 3251 B4 3431 B2 3620 B2 3727 B6 3824 D7 3A03 D8 3D00 E10 3E12 E7 3E51 E7 3F26 F9 3M51 D5 4G21 E8 6717 B6
2201 A2 2605 B2 2723 B6 2808 D8 2911 C7 2935 D7 2B03 C9 2D10 E10 2D39 E9 2E12 E8 2F03 E3 2G47 F8 2K16 D1 2L30 C4 2L94 C4 2M20 D5 2N08 A9 2N36 B10 2N61 A9 3154 F2 3211 C3 3252 B4 3432 B2 3621 B2 3732 B5 3825 C7 3A04 D8 3D01 E10 3E13 E7 3E52 E7 3F27 F9 3M52 D5 4G24 E5 6733 A5
2202 A2 2608 A2 2727 B6 2809 D8 2912 C7 2936 D7 2B04 C9 2D11 E9 2D45 D9 2E13 E7 2F04 E4 2G54 E7 2K17 D1 2L34 C5 2L95 C4 2M21 D5 2N09 B9 2N37 B10 2N62 A9 3155 E2 3212 C3 3253 B4 3451 C4 3623 B2 3733 B5 3826 C7 3A05 D8 3D02 E10 3E14 E8 3E53 E7 3G04 E5 3M53 D5 4G25 E5 6734 A5
3G05 E4 3M54 D5 4G26 E5 6740 B5
3G11 E4 3M55 D5 4G27 E5 6G01 E5
3G12 E4 3M56 D5 4G28 E5 6G02 E5
3G13 E4 3M57 D5 4G29 E6 6G03 E5
3G14 E4 3M58 D5 4G30 E6 6G04 E5
3G15 E4 3M59 D5 4G31 E7 6G05 E3
3G16 E3 3M78 D5 4K01 A1 6G06 E7
3G17 E3 3M79 D5 4K02 D1 6G07 E7
3G18 E7 3M86 D5 4K03 B1 6G08 E7
3G19 E6 3M87 D5 4K04 A1 6G09 E7
3G20 E7 3M88 D5 4K05 B1 6G11 E6
3G21 E6 3M90 D5 4L37 C5 6G16 E7
3G26 E7 3N10 B10 4M04 D5 6G17 E7
3G27 E7 3N11 B10 4M05 D5 6G18 E7
3G39 E4 3N12 B9 4M06 D5 6G19 E7
3G58 E4 3N19 B9 4M08 D5 6G20 E7
3G70 E6 3N27 A10 4M09 D5 6G21 E7
3G72 E5 3N28 A10 4M10 D4 6N19 B9
3G75 E8 3N29 B10 4M16 D5 7151 D2
3G76 E8 3N71 B9 4M17 D5 7201 A3
3G77 E8 3N72 B9 4N11 B9 7202 A3
3G78 F8 3N73 B9 4N12 B10 7203 A3
3G88 E5 3S00 F8 4N13 B9 7204 A2
3G90 E5 3S03 F8 4N34 B10 7205 A2
3G91 E5 3S04 E5 4N35 B10 7207 A3
3G92 F8 3S05 E5 5151 E2 7208 B4
3G93 E8 3S06 E5 5152 E2 7209 B4
3G94 F8 3S07 E5 5153 E2 7210 B4
3G95 F8 3S08 E5 5157 E2 7211 B3
3G96 F8 3S09 E7 5158 E2 7217 B3
3G99 F8 3S10 F8 5211 B4 7220 A3
3K05 D1 3S11 E6 5214 B2 7221 A3
3K06 D1 3S12 E6 5216 B4 7430 A2
3K07 D1 3S13 E6 5700 A8 7436 D4
3K08 D1 3S14 E6 5704 A6 7601 B2
3K09 D1 3S15 E6 5709 A6 7602 B2
3K11 A1 3S16 E6 5713 B6 7603 B2
3K12 B1 3S17 E6 5730 B5 7604 B1
3K13 B1 3S18 E6 5733 A5 7605 B2
3L04 C5 3S19 E6 5735 A4 7606 B2
3L08 C5 3S20 E6 5738 B4 7607 B2
3L18 C5 3S23 E4 5751 A7 7708 A7
3L19 C5 3S24 E5 5754 B7 7710 B6
3L20 C5 3S25 E5 5756 B8 7730 B5
3L36 C5 3S26 E5 5757 B7 7735 A4
3L37 C5 3S28 E5 5901 D8 7738 B5
3L49 C5 3S29 E5 5903 C7 7741 B5
3L50 C4 3S30 E6 5905 C8 7742 B4
3L51 C4 3S31 E6 5906 C8 7754 B7
3L52 C4 3S32 E6 5907 C8 7755 B8
3L53 C4 3S33 E6 5908 C10 7756 B7
3L54 B4 3S34 E6 5909 D7 7758 B7
3L55 C5 3S35 E6 5910 D7 7900 C10
3L56 C5 3S36 E6 5911 D8 7A01 D8
3L57 C5 4151 D3 5C00 C7 7C01 D7
3L58 C5 4152 D3 5D03 D9 7C02 D7
3L59 C5 4204 C2 5D04 E9 7D00 E10
3L60 C5 4207 B4 5D05 E9 7D01 E10
3L61 B4 4208 B4 5E00 E7 7D02 E9
3L62 B4 4209 B4 5E01 E8 7D04 E9
3L63 C5 4211 A2 5E02 E7 7D05 D10
3L64 C5 4212 A2 5G01 E5 7E00 E7
3L65 C5 4220 A3 5G04 E4 7E01 E8
3L66 C5 4221 A3 5G06 F8 7E02 E7
3L67 C5 4436 D4 5G07 E4 7F03 E3
3L68 C5 4437 D4 5K00 B1 7G01 E4
3L69 D4 4439 D4 5K02 B1 7G07 E6
3L70 C5 4440 D4 5L21 C5 7G08 E6
3L71 C4 4441 D4 5L51 C5 7G11 F8
3L72 C4 4501 A3 5L52 C5 7G12 E6
3L73 C4 4502 A3 5L53 C5 7G13 E6
3L74 C4 4503 A3 5L54 C5 7L02 B5
3L75 C4 4504 A3 5L61 C5 7L51 B4
3L76 C4 4505 A3 5L62 C5 7L52 C5
3L77 C4 4506 A3 5L63 C5 7L53 C5
3L78 C4 4601 B2 5L71 C4 7L61 B4
3L79 C5 4602 B1 5M00 E4 7L62 C5
3L80 C5 4603 B2 5M01 D5 7L71 C4
3L81 D4 4604 A2 5M02 D5 7L72 C4
3L82 E4 4605 A2 5M03 D4 7L73 C5
3L83 D4 4606 B1 5M04 B4 7L74 C5
3L84 E4 4609 A2 5M05 D4 7L80 E4
3L85 E4 4610 A2 5N03 B8 7L81 E4



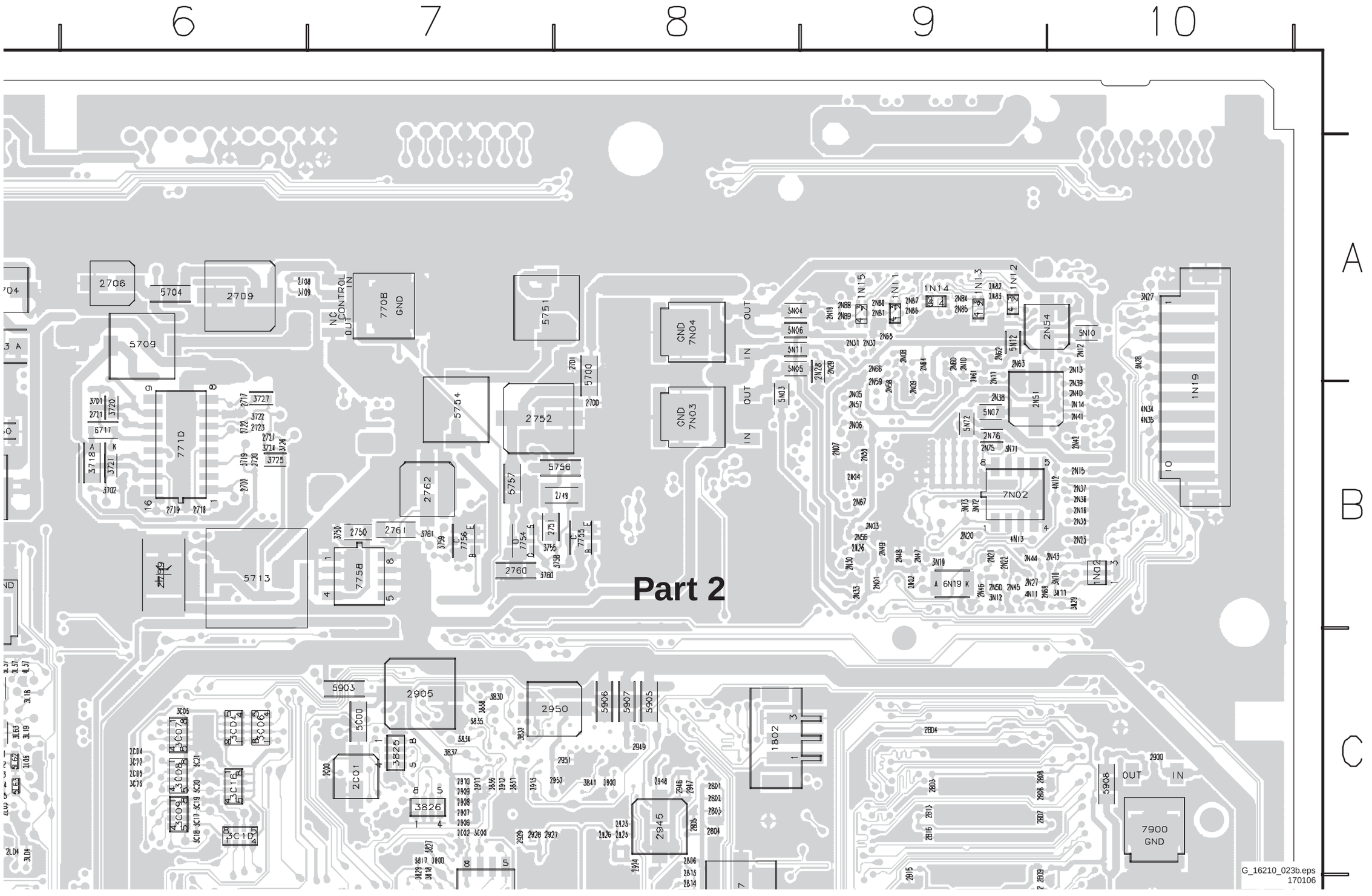
3139 123 6117.2

G_16210_023.eps
170106

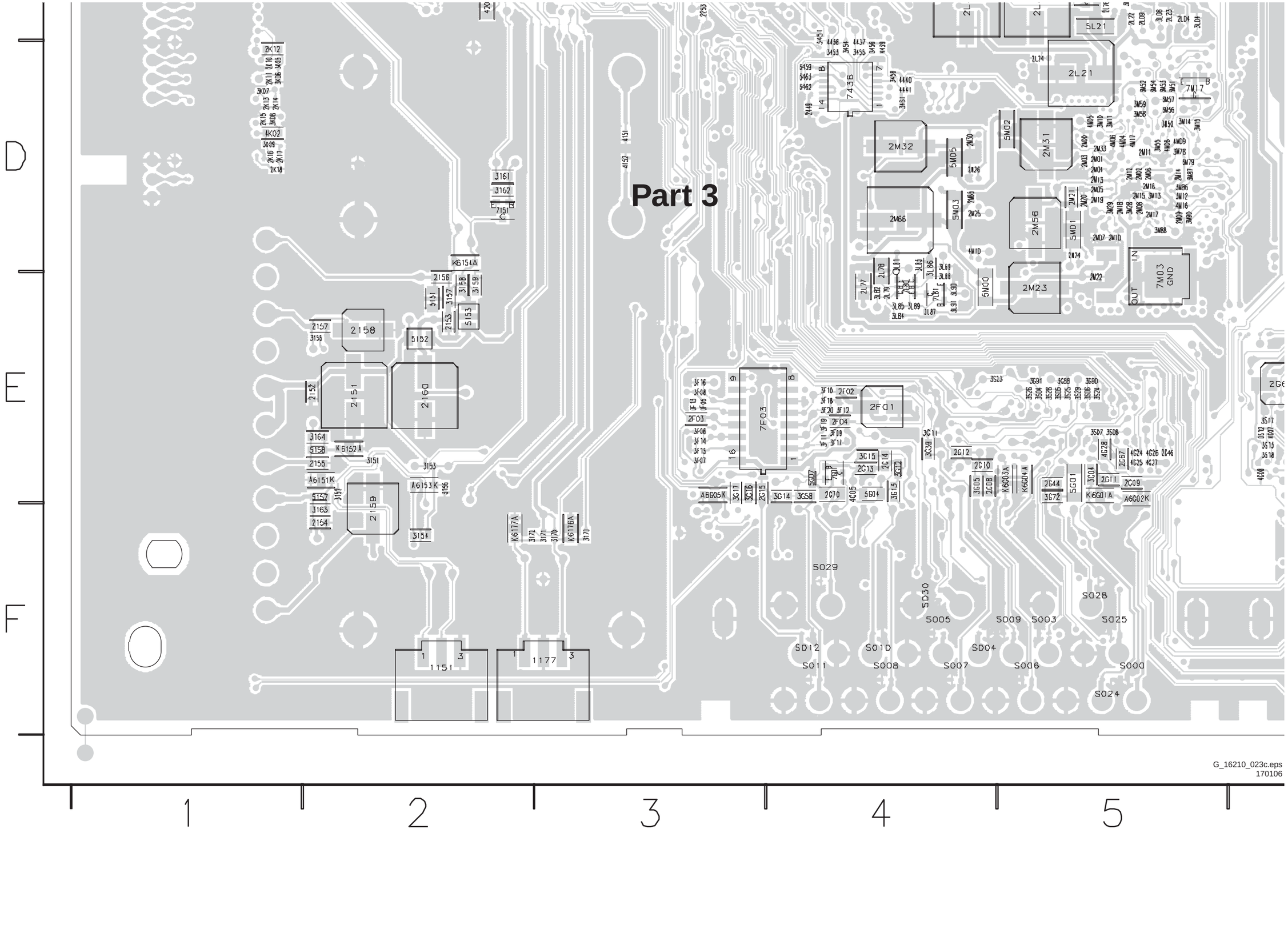
Layout Small Signal Board (Bottom Side Part 1)


1
2
3
4
5
A
B
C
Part 1
7217
7207
7601
7602
7430
7604
7605
7606
7607
7603
7211
7210
7209
7208
7730
7731
7742
7741
7740
7743
7732
7733
7734
7735
7736
7737
7738
7739
7730
7731

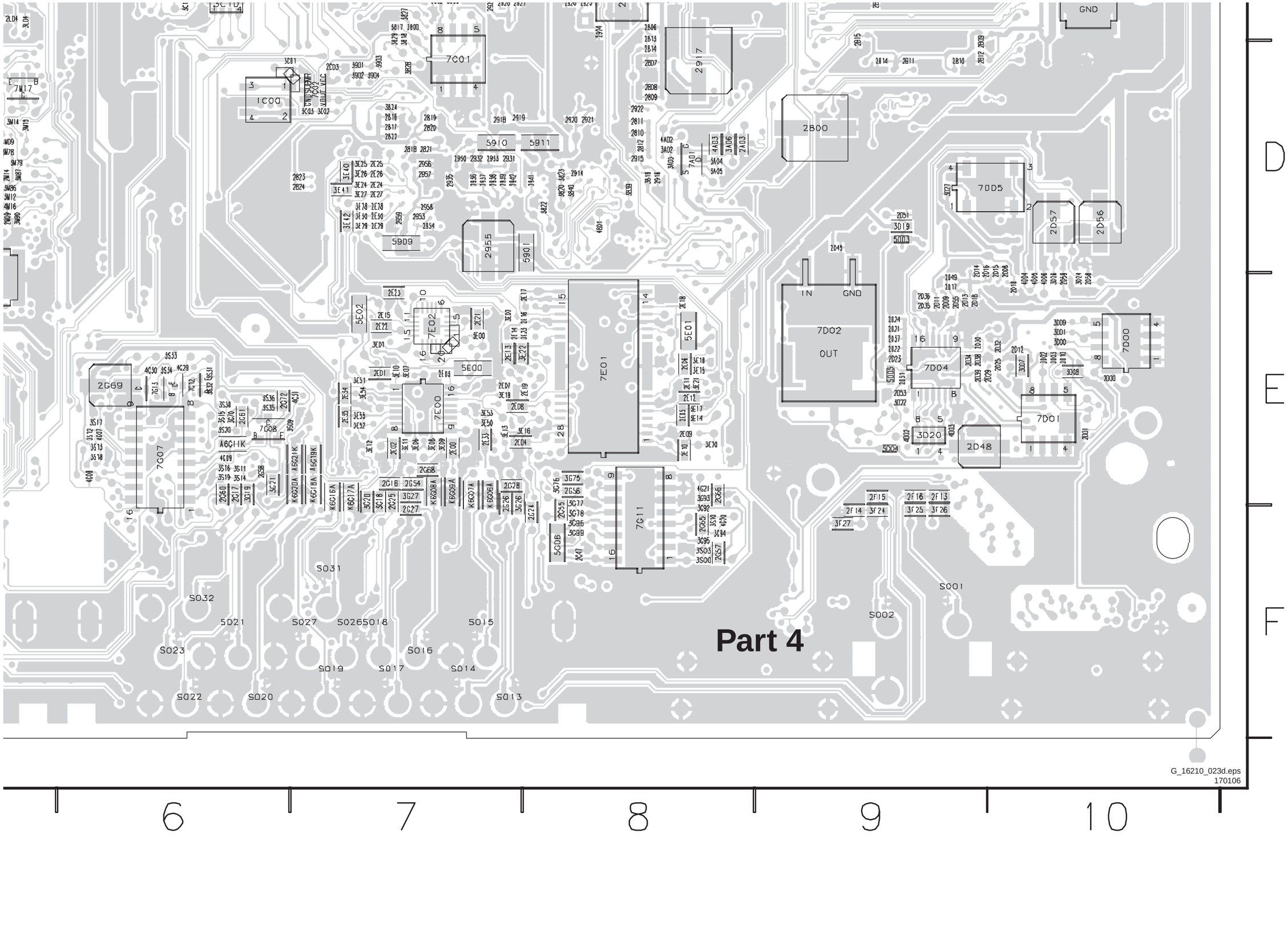
Layout Small Signal Board (Bottom Side Part 2)



Layout Small Signal Board (Bottom Side Part 3)



Layout Small Signal Board (Bottom Side Part 4)



Class D Audio Amplifier (26” & 32”)

CLASS D AUDIO AMPLIFIER (26” & 32” ONLY)

POWER LINE FILTER

FROM 1.103 OF SSB BOARD B16

1003 B3B-PH-K

F001 5001 F007 3001 10R F008 VP_SGN VP

2001 220u 35V 2002 100n 2003 100n 2048 100n 2004 220u 35V

F002 PGND PGND PGND PGND PGND PGND

FROM 1.104 OF SSB BOARD B16

1002 F003 F004 F005 F006

AUDIO-L 5004 2u2 EMC I001 2008 100p 2009 100p

AUDIO-R 5002 2u2 EMC I004 5003 2u2 EMC RES 2051 100p 2006 100p 2007 100p

SOUND-ENABLE 5005 2u2 EMC I008 2027 100n 2028 100n

SD2 ONLY 4003 I009

SD1 ONLY 3045 10K RES I010 7005 BC847BW RES 3044 33K RES

2064 RES 3004 10K I002 2013 220n I003 3008 2K2

VP_SGN 3013 10K 3003 22K

3002 5K6 6001 RES 3039 10K 3038 68K RES 2047 1u0

I005 I006 I007 9V 5V6 3V

6002 BAT54 COL I025 3046 1K0

HVPI-L 2012 220u 35V 3007 47K 2016 2n2

2015 2n2 3006 1K0 2014 2n2 I027 3005 0R

I028 3037 3K9 3010 6K8 I011

VP 2020 220p 3012 10R 2021 220p

2062 47n I029 3009 220K 2017 100n

7000 TDA8931 VDDA VDDP

POWER COMPARATOR

IN- IN+ POWERUP G OVP OUT BOOT STABI DIAC HVP HVPI CGND VSSA VSSP VSSD

I013 5006 33u / 2.7A 3011 2K2 2018 15n 2019 2u2 50V I030 3042 10K 3014 22R 2022 220n I017 2023 470n 3040 10K 2024 1m0 25V

I012 HVPI-L 2010 100n 2026 220n

Speaker Impedance	5006 & 5007	2023 & 2042
4 ohm	22uH	680n
6 ohm Selected	33uH	470n
8 ohm	47uH	330n

HVPI-R 2049 4u7 2031 2n2 3023 1K0 2030 2n2 3022 22R I033 3032 3K9 3026 6K8 I035 2035 220p 3030 10R 2036 220p

2063 47n I034 3027 220K 2034 100n

7001 TDA8931 VDDA VDDP

I023 5007 33u / 2.7A 3029 2K2 2038 15n 2037 2u2 50V I036 3043 10K 3031 22R 2045 220n I021 2042 470n 3041 10K 2043 1m0 25V

I016 HVPI-R 2044 100n 2040 220n

6003 BAT54 COL I026 3047 1K0

4001 RES I019 VP 3034 3K9 2039 10u I041 2041 10u I042 3028 10K 3019 10K I043 3021 4K7 I022 CGND

7004 TL431ACDBV 7V7 2V5

PHASE INVERTER (UNITY GAIN)

2029 220u 35V 3024 47K 2032 2n2 2065 RES 3020 10K 2033 220n 3025 2K2 I040 3033 10K

1001 F009 F010 F011 F012 L- L+ R- R+ L R

2052 2n2 2053 2n2 2054 2n2 2055 2n2

*Connection Inverted (R_CH)

RESERVED 2060 2n2 2061 2n2 (Mounting Hole) (Mounting Hole)

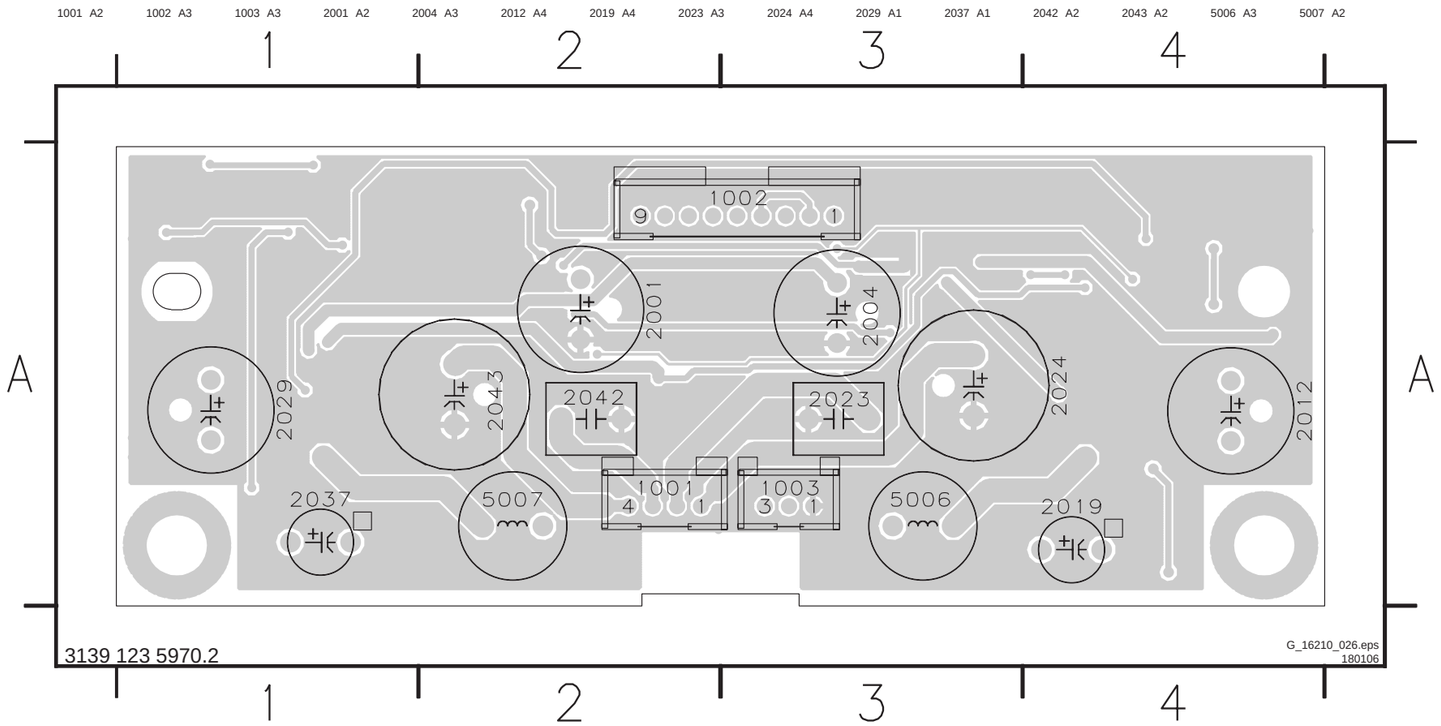
3139 123 5970.2

G_16210_025.eps 180106

1001 E12	4003 D4	2047 C5	I020 F6
1002 C2	5001 A3	2048 B4	I021 F9
1003 A2	5002 C3	2049 D6	I022 G4
2001 B2	5003 C2	2051 C3	I023 F8
2002 B3	5004 B3	2052 E10	I024 F8
2003 B3	5005 D3	2053 E10	I025 D6
2004 B4	5006 C8	2054 E11	I026 G6
2006 C3	5007 F9	2055 E11	IXXX F3
2007 C3	6001 C4	2060 F11	IXXX F4
2008 C3	6002 C6	2061 F11	IXXX F4
2009 C3	6003 F6	2062 B6	IXXX F5
2010 C8	7000 C6	2063 E6	IXXX B6
2012 A5	7001 F6	2064 B4	IXXX E6
2013 B5	7004 F4	2065 F5	IXXX E6
2014 A8	7005 D4	3001 A3	IXXX B7
2015 A7	F001 A2	3002 C4	IXXX A8
2016 A6	F002 B2	3003 C4	IXXX C8
2017 B7	F003 C2	3004 B4	IXXX C8
2018 C8	F004 C2	3005 B8	IXXX E8
2019 C8	F005 C2	3006 A7	IXXX F8
2020 A9	F006 C2	3007 B5	IXXX F8
2021 B9	F007 A3	3008 B5	IXXX F8
2022 C9	F008 A3	3009 B7	
2023 C9	F009 E11	3010 B8	
2024 C9	F010 E11	3011 C8	
2026 C8	F011 E11	3012 B8	
2027 D3	F012 E11	3013 C5	
2028 D3	I001 B3	3014 C9	
2029 F5	I002 B5	3019 F3	
2030 D7	I003 B5	3020 F5	
2031 E7	I004 C3	3021 G3	
2032 F5	I005 C6	3022 E7	
2033 F5	I006 C6	3023 E7	
2034 E7	I007 C6	3024 F5	
2035 E9	I008 D3	3025 F5	
2036 E9	I009 D4	3026 E8	
2037 F8	I010 D4	3027 E7	
2038 F8	I011 B8	3028 F4	
2039 F3	I012 C8	3029 F8	
2040 G8	I013 C8	3030 E8	
2041 F4	I014 C8	3031 F9	
2042 F9	I015 C8	3032 E7	
2043 F10	I016 F8	3033 F5	
2044 G8	I017 C9	3034 F4	
2045 F9	I019 E4	3037 B7	
2047 C5	I020 F6	3038 C5	
2048 B4	I021 F9	3039 C5	
2049 D6	I022 G4	3040 C9	
2051 C3	I023 F8	3041 F10	
2052 E10	I024 F8	3042 C8	
2053 E10	I025 D6	3043 F8	
2054 E11	I026 G6	3044 D4	
2055 E11	IXXX F3	3045 D4	
2060 F11	IXXX F4	3046 D6	
2061 F11	IXXX F4	3047 G6	
2062 B6	IXXX F5	4001 E4	
2063 E6	IXXX B6		
2064 B4	IXXX E6		
2065 F5	IXXX E6		
3001 A3	IXXX B7		
3002 C4	IXXX A8		
3003 C4	IXXX C8		
3004 B4	IXXX C8		
3005 B8	IXXX E8		
3006 A7	IXXX F8		
3007 B5	IXXX F8		
3008 B5	IXXX F8		
3009 B7			
3010 B8			
3011 C8			
3012 B8			
3013 C5			
3014 C9			
3019 F3			
3020 F5			
3021 G3			
3022 E7			
3023 E7			
3024 F5			
3025 F5			
3026 E8			
3027 E7			
3028 F4			
3029 F8			
3030 E8			
3031 F9			
3032 E7			
3033 F5			
3034 F4			
3037 B7			
3038 C5			
3039 C5			
3040 C9			
3041 F10			
3042 C8			
3043 F8			
3044 D4			
3045 D4			
3046 D6			
3047 G6			
4001 E4			

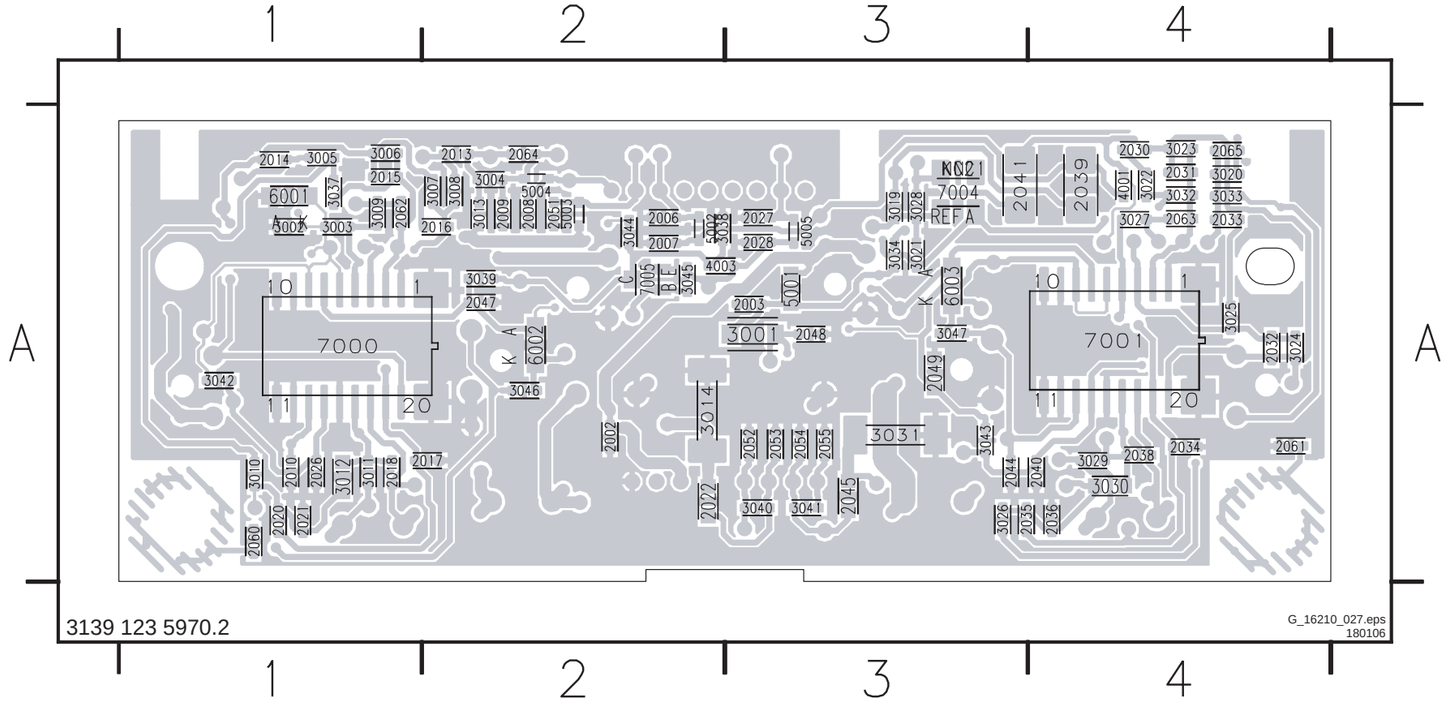
Layout Class D Audio Amplifier (26” & 32”) (Top Side)

1001 A2 1002 A3 1003 A3 2001 A2 2004 A3 2012 A4 2019 A4 2023 A3 2024 A4 2029 A1 2037 A1 2042 A2 2043 A2 5006 A3 5007 A2



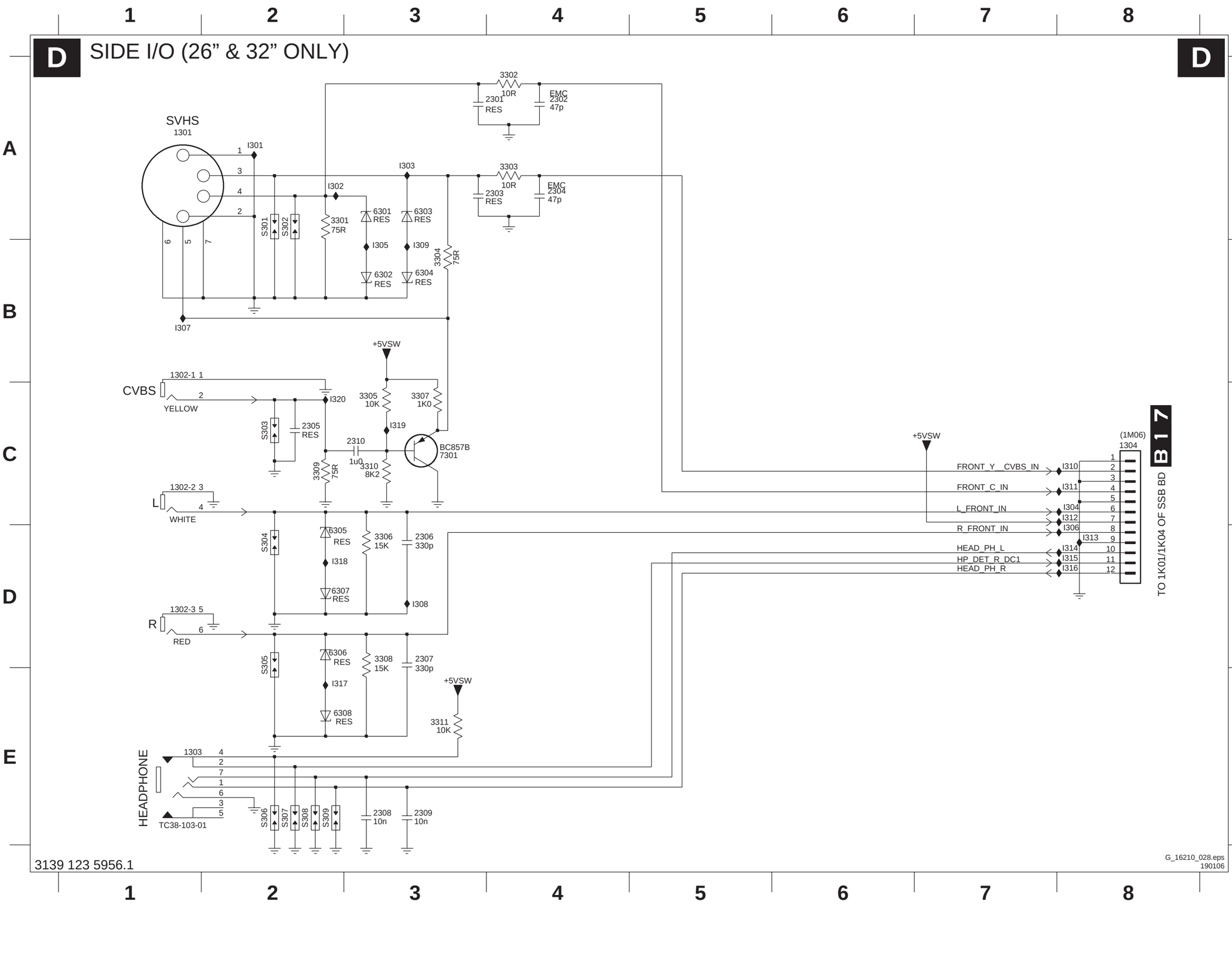
Layout Class D Audio Amplifier (26” & 32”) (Bottom Side)

2002 A2 2003 A3 2006 A2 2007 A2 2008 A2 2009 A2 2010 A1 2013 A2 2014 A1 2015 A1 2016 A2 2017 A2 2018 A1 2020 A1 2021 A1 2022 A2 2026 A1 2027 A3 2028 A3 2030 A4 2031 A4 2032 A4 2033 A4 2034 A4 2035 A3 2036 A4 2038 A4 2039 A4 2040 A4 2041 A3 2044 A3 2045 A3 2047 A2 2048 A3 2049 A3 2051 A2 2052 A3 2053 A3 2054 A3 2055 A3 2060 A1 2061 A4 2062 A1 2063 A4 2064 A2 2065 A4 3001 A3 3002 A1 3003 A1 3004 A2 3005 A1 3006 A1 3007 A2 3008 A2 3009 A1 3010 A1 3011 A1 3012 A1 3013 A2 3014 A2 3019 A3 3020 A4 3021 A3 3022 A4 3023 A4 3024 A4 3025 A4 3026 A3 3027 A4 3028 A3 3029 A4 3030 A2 3031 A3 3032 A4 3033 A4 3034 A3 3037 A1 3038 A2 3039 A2 3040 A3 3041 A4 3042 A4 3043 A4 3044 A2 3045 A2 3046 A2 3047 A3 4001 A4 4003 A2 5001 A3 5002 A2 5003 A2 5004 A2 5005 A3 6001 A1 6002 A2 6003 A3 7000 A1 7001 A4 7004 A3 7005 A2



Side I/O Panel (26” & 32”)

SIDE I/O (26” & 32” ONLY)



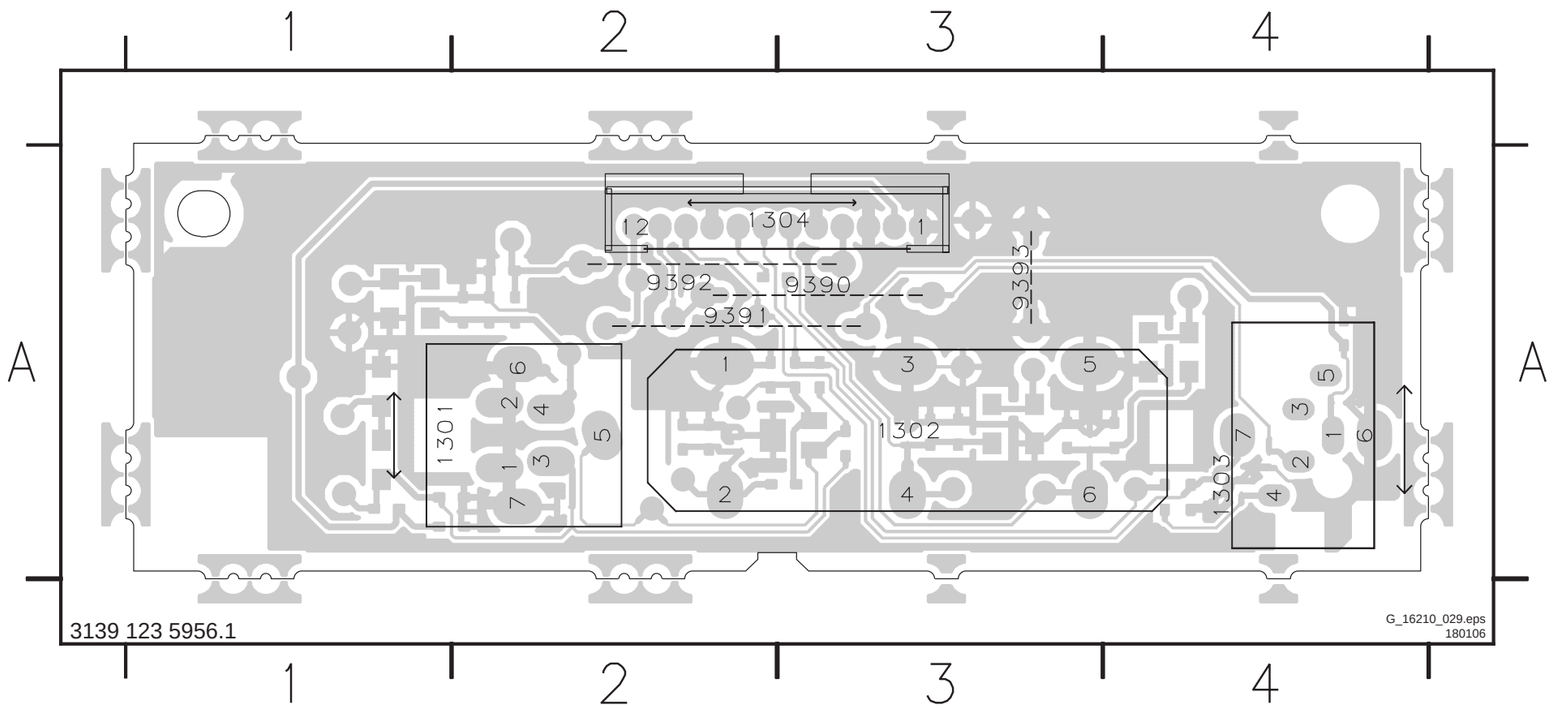
3139 123 5956.1

G_16210_028.eps
190106

1301 A1
1302-1 B1
1302-2 C1
1302-3 D1
1303 E1
1304 C8
2301 A4
2302 A4
2303 A4
2304 A4
2305 C2
2306 D3
2307 D3
2308 E3
2309 E3
2310 C3
3301 A2
3302 A4
3303 A4
3304 B3
3305 C3
3306 D3
3307 C3
3308 D3
3309 C2
3310 C3
3311 E3
6301 A3
6302 B3
6303 A3
6304 B3
6305 D2
6306 D2
6307 D2
6308 E2
7301 C3
I301 A2
I302 A2
I303 A3
I304 C8
I305 B3
I306 D8
I307 B1
I308 D3
I309 B3
I310 C8
I311 C8
I312 C8
I313 D8
I314 D8
I315 D8
I316 D8
I317 E2
I318 D2
I319 C3
I320 C2
S301 A2
S302 A2
S303 C2
S304 D2
S305 D2
S306 E2
S307 E2
S308 E2
S309 E2

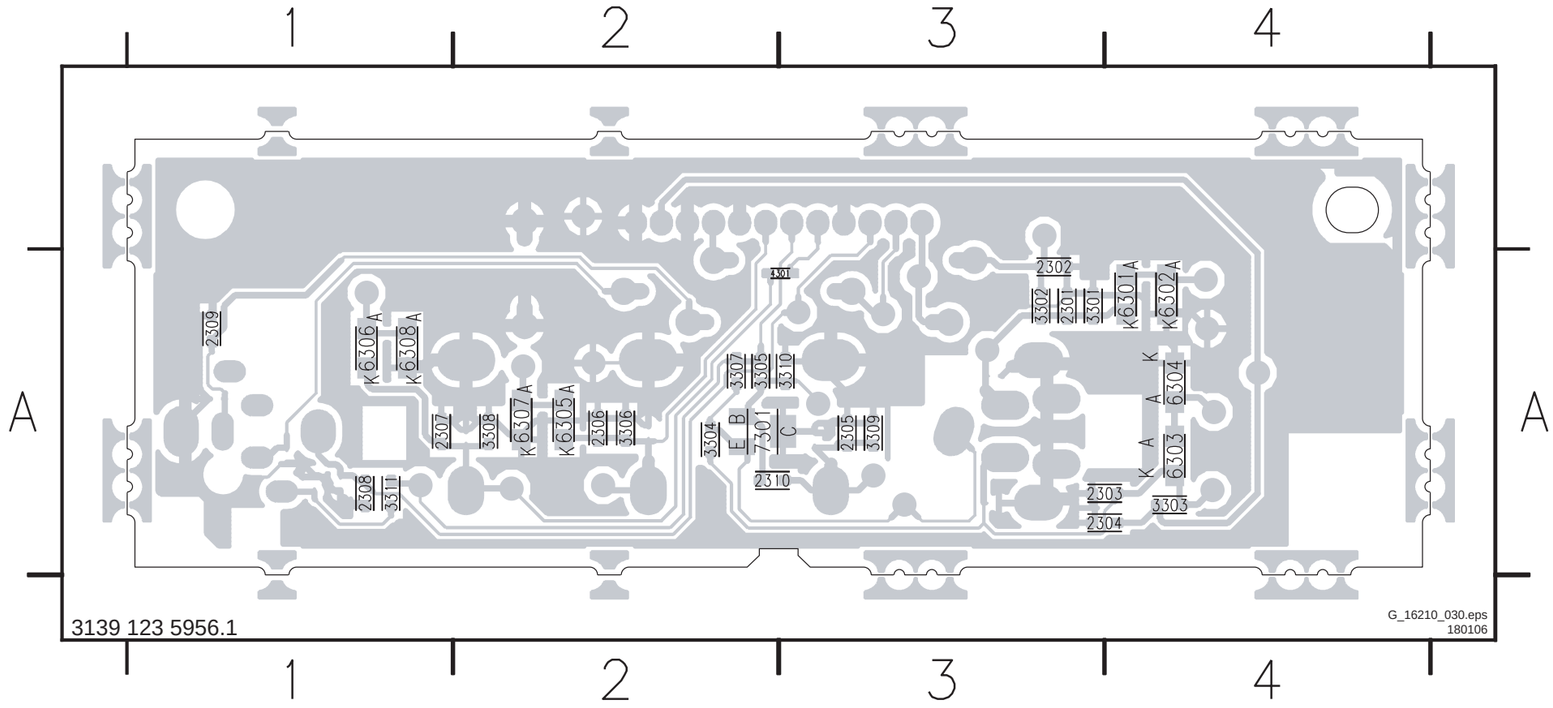
Layout Side I/O Panel (26” & 32”) (Top Side)

1301 A1 1302 A3 1303 A4 1304 A2 9390 A3 9391 A2 9392 A2 9393 A3



Layout Side I/O Panel (26” & 32”) (Bottom Side)

2301 A3 2302 A3 2303 A3 2304 A3 2305 A3 2306 A2 2307 A1 2308 A1 2309 A1 2310 A2 3301 A3 3302 A3 3303 A4 3304 A2 3305 A2 3306 A2 3307 A2 3308 A2 3309 A3 3310 A3 3311 A1 4301 A3 6301 A4 6302 A4 6303 A4 6304 A4 6305 A2 6306 A1 6307 A2 6308 A1 7301 A2



Side I/O Panel (37”)

SIDE I/O 37”

JAGUAR ONLY

TO 1H01 B6A VIPER

USB CONNECTOR

TO 1M36 B21 SSB EMGT OR TO 1M36 H SCART 3 EMGT OR TO 1M36 B10 SSB JAGUAR

SOUND L-HEADPHONE-OUT

SOUND R-HEADPHONE-OUT

HEADPHONE-OUT

SVHS

CVBS

L

R

DETECT

RES

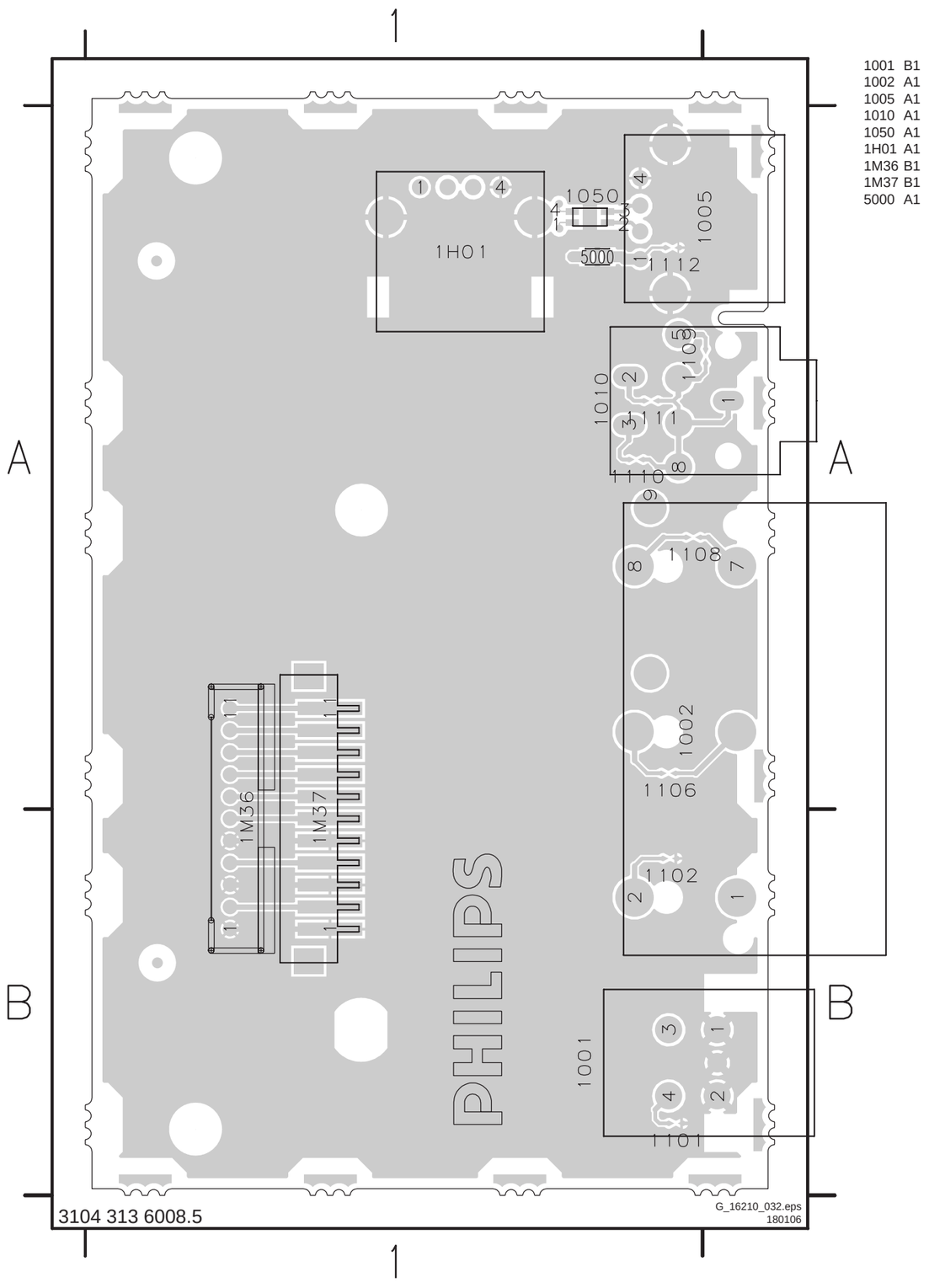
B11B-PH-SM3-TBT

3104 313 6008.5

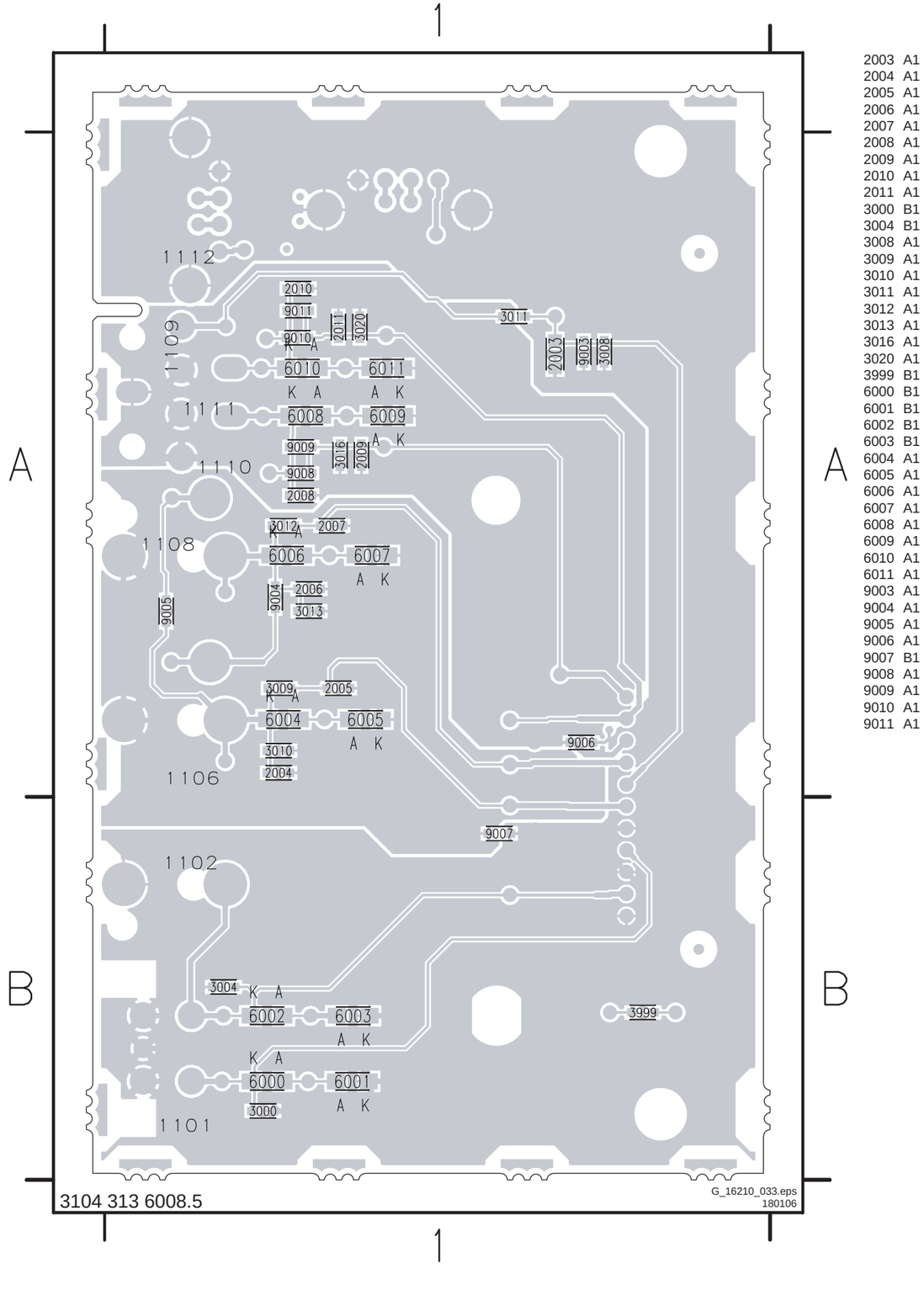
G_16210_031.eps
200106

1001 B2	F002 A2	
1002-1 B1	F003 B2	
1002-2 C1	F004 C2	
1002-3 D1	F005 C2	
1005 A8	F006 D2	
1010 E1	F007 E2	
1050 A7	F008 E2	
1101 A3	F009 E2	
1102 B3	F010 F8	
1106 C3	F011 F9	
1108 D3	F012 A6	
1109 E3	F013 A7	
1110 F3	F014 A6	
1111 E3	F015 A7	
1112 A7	F016 A6	
1H01 A6	F017 A7	
1M36 B8	F018 F7	
1M37 B8	F019 F2	
2003 C5	F020 B4	
2004 C3	F021 C6	
2005 C4	F022 C6	
2006 D3	F023 C6	
2007 D4	F024 E6	
2008 F2	F025 E6	
2009 F5	I001 C2	
2010 E2	I002 C3	
2011 E5	I003 D2	
3000 A4	I004 A3	
3004 B3	I005 F4	
3008 C5	I006 F4	
3009 C4	I007 E4	
3010 C4	I008 E4	
3011 C5	I009 B3	
3012 D4	I010 D3	
3013 D4	I011 F7	
3016 F5	I012 F8	
3020 E5	I013 F3	
3999 F9	I014 E3	
5000 A7		
6000 A3		
6001 A3		
6002 B3		
6003 B3		
6004 C3		
6005 C3		
6006 D3		
6007 D3		
6008 F3		
6009 F3		
6010 E3		
6011 F3		
9003 C6		
9004 C2		
9005 D2		
9006 F7		
9007 F8		
9008 F4		
9009 F4		
9010 E4		
9011 E4		
F001 A2		

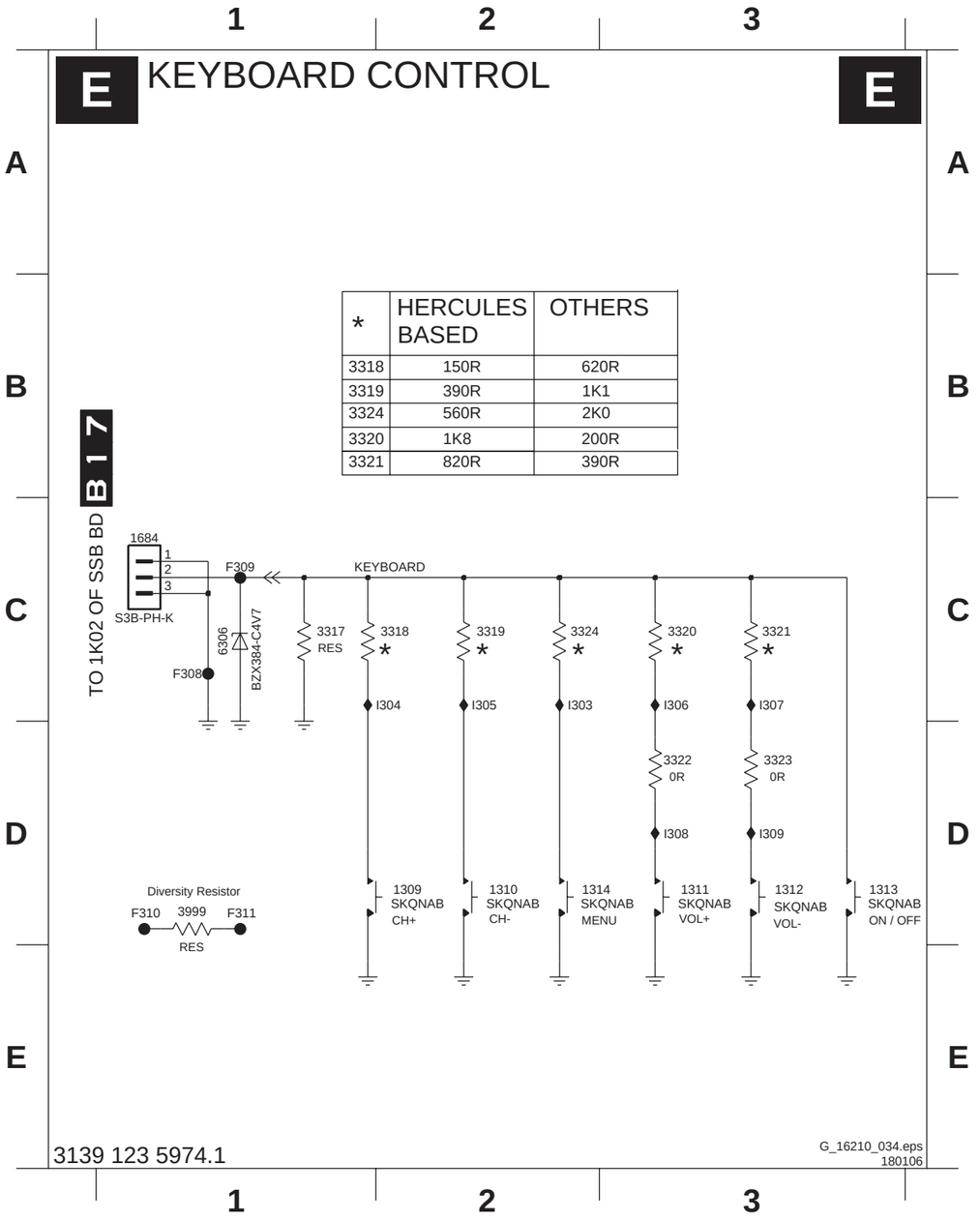
Layout Side I/O Panel (37”) (Top Side)



Layout Side I/O Panel (37”) (Bottom Side)



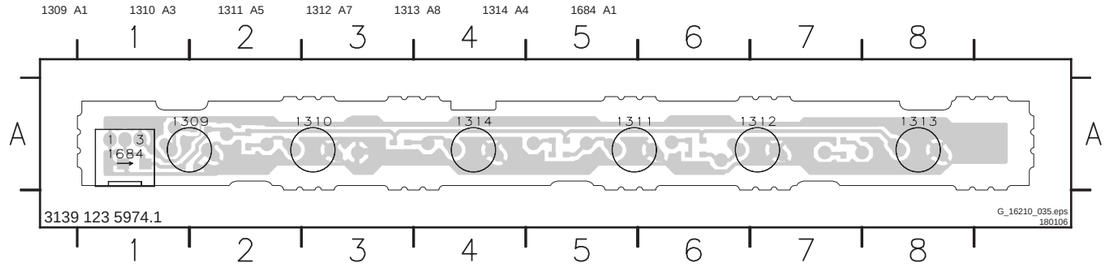
Keyboard Control Board (26” & 32”)



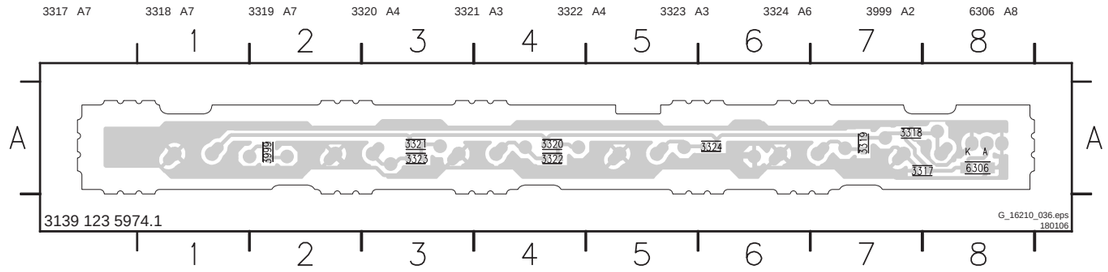
*	HERCULES BASED	OTHERS
3318	150R	620R
3319	390R	1K1
3324	560R	2K0
3320	1K8	200R
3321	820R	390R

1008 D1
1309 D2
1310 D2
1311 D3
1312 D3
1313 D3
1314 D2
1684 C1
3317 C1
3318 C2
3319 C2
3320 C3
3321 C3
3322 D3
3323 D3
3324 C2
3999 D1
6306 C1
F308 C1
F309 C1
F310 D1
F311 D1
I303 C2
I304 C2
I305 C2
I306 C3
I307 C3
I308 D3
I309 D3

Layout Keyboard Control Board (26” & 32”) (Top Side)

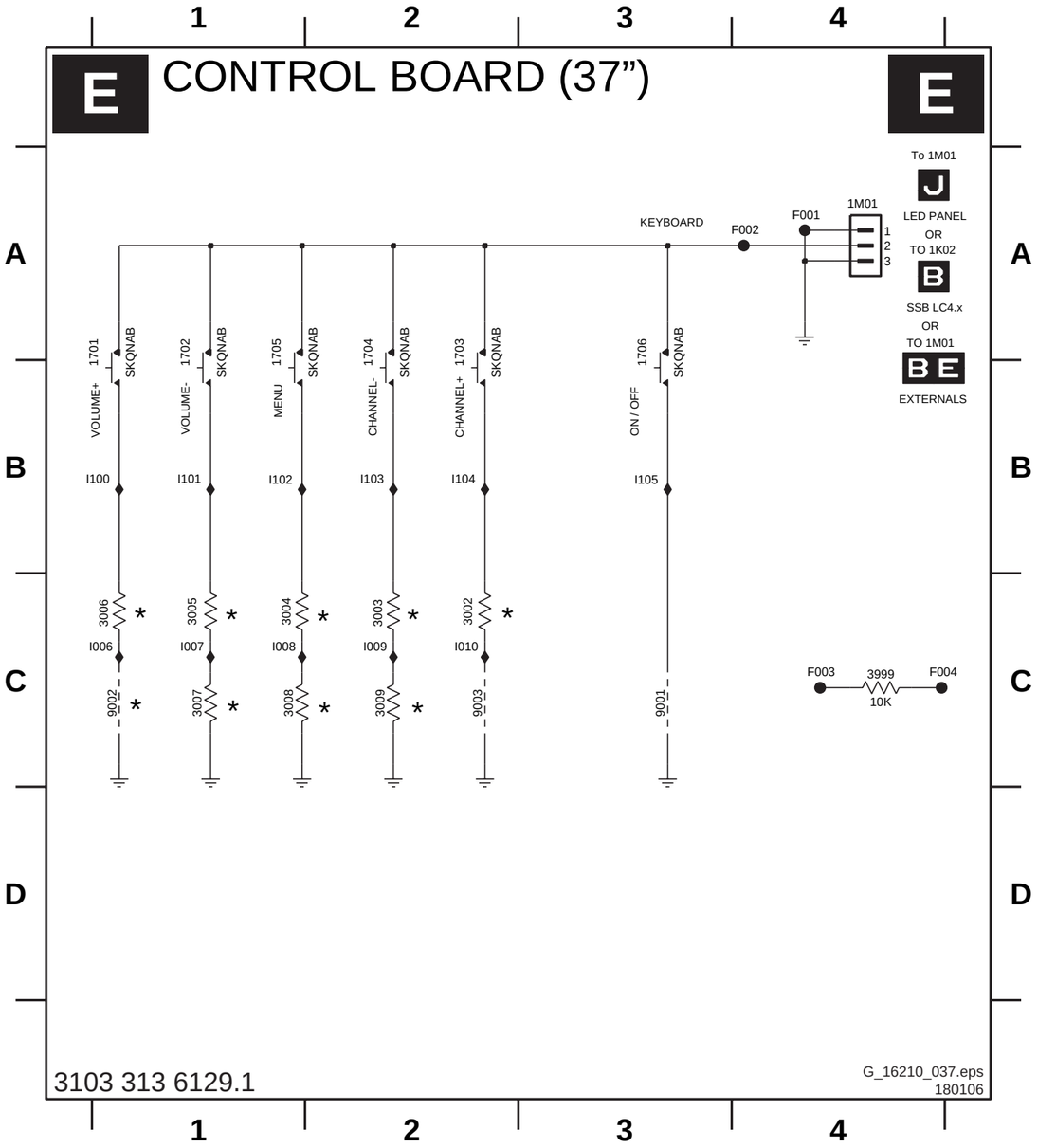


Layout Keyboard Control Board (26” & 32”) (Bottom Side)

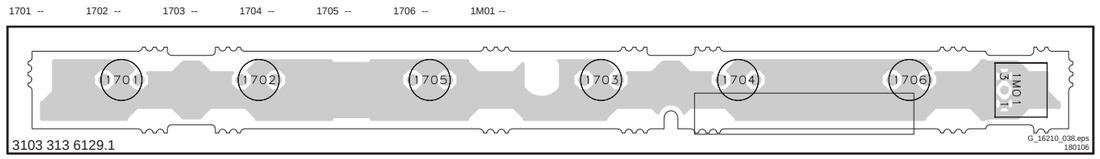


Keyboard Control Board (37”)

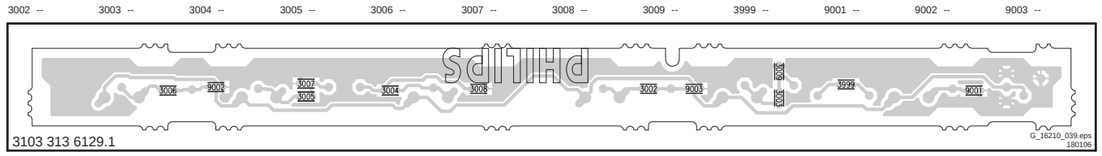
1701 A1	1704 A2	1M01 A4	3004 C1	3007 C1	3999 C4	9003 C2	F003 C4	I007 C1	I010 C2	I102 B1	I105 B3
1702 A1	1705 A1	3002 C2	3005 C1	3008 C1	9001 C3	F001 A4	F004 C4	I008 C1	I100 B1	I103 B2	
1703 A2	1706 A3	3003 C2	3006 C1	3009 C2	9002 C1	F002 A4	I006 C1	I009 C2	I101 B1	I104 B2	



Layout Keyboard Control Board (37”) (Top Side)

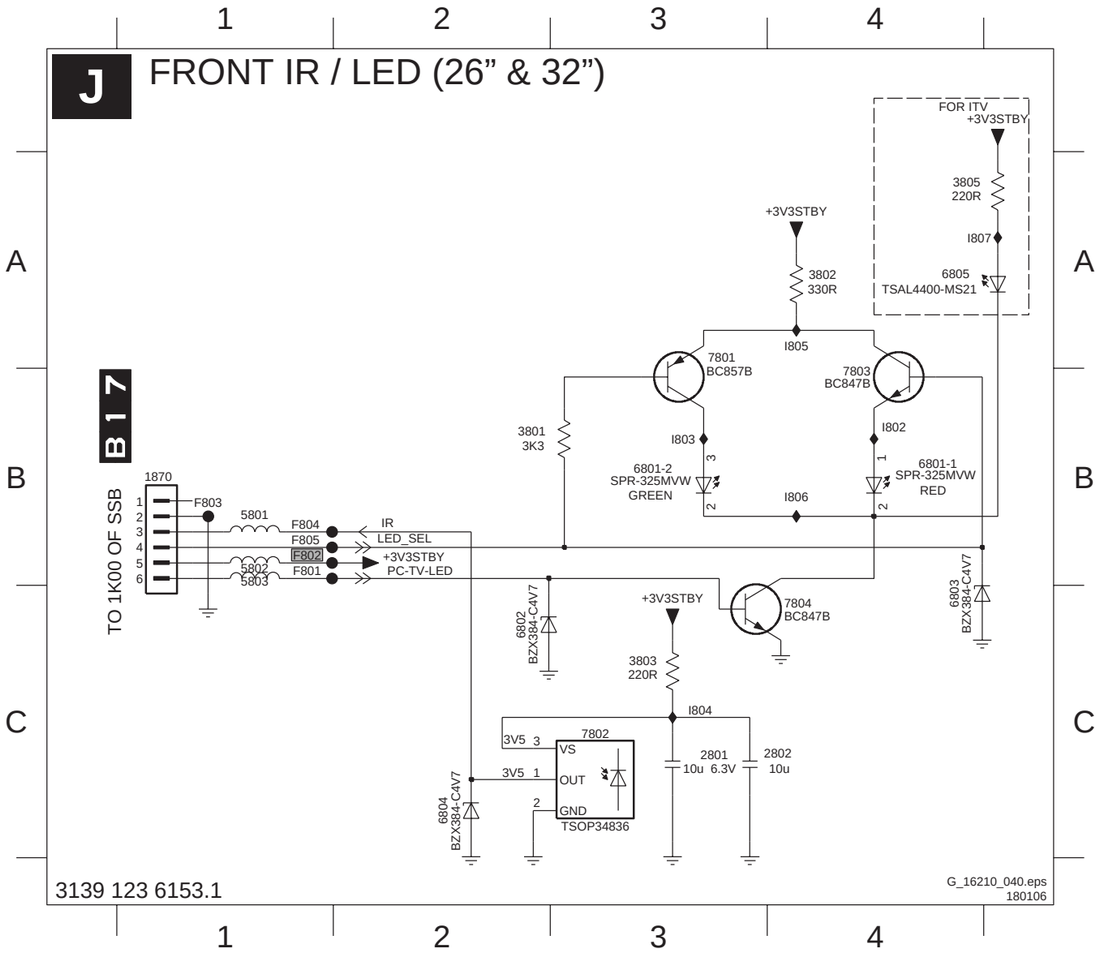


Layout Keyboard Control Board (37”) (Bottom Side)



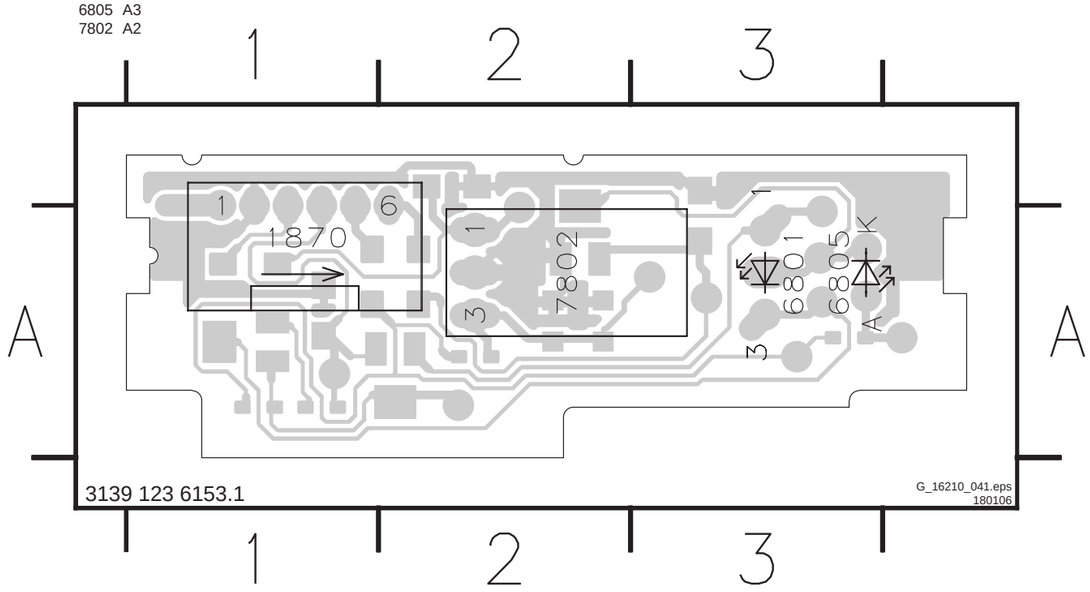
Front IR / LED Panel (26” & 32”) (ME5P)

1870 B1 3802 A4 5802 B1 6802 C2 7801 A3 F801 B1 F805 B1 I805 A4
2801 C3 3803 C3 5803 C1 6803 C4 7802 C3 F802 B1 I802 B4 I806 B4
2802 C4 3805 A4 6801-1 B4 6804 C2 7803 B4 F803 B1 I803 B3 I807 A4
3801 B2 5801 B1 6801-2 B3 6805 A4 7804 C4 F804 B1 I804 C3



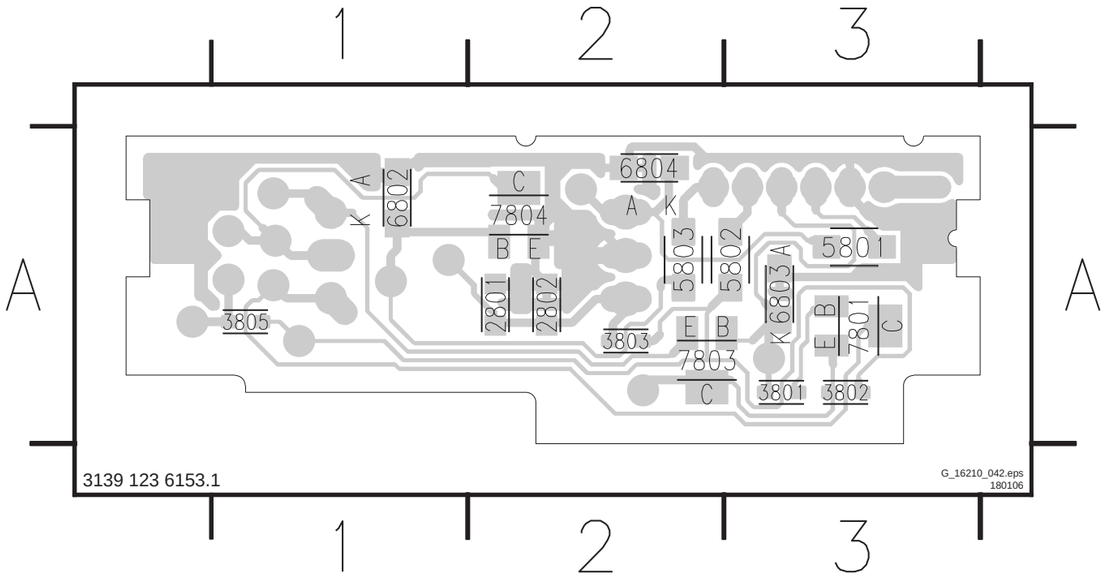
Layout Front IR / LED Panel (26” & 32”) (ME5P) (Top Side)

1870 A1
6801 A3
6805 A3
7802 A2



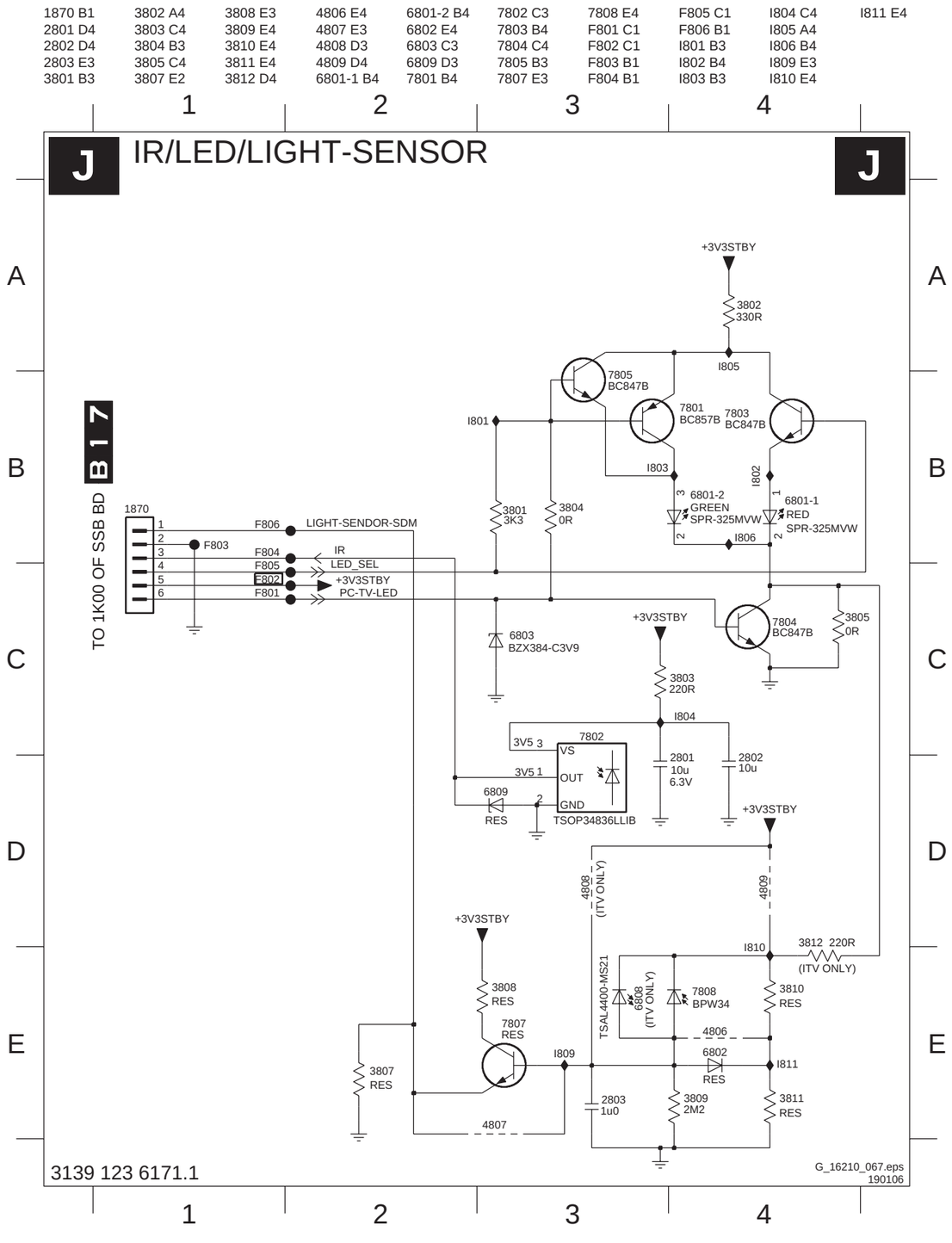
Layout Front IR / LED Panel (26” & 32”) (ME5P) (Bottom Side)

2801 A2 3801 A3 3803 A2 5801 A3 5803 A2 6803 A3 7801 A3 7804 A2
2802 A2 3802 A3 3805 A1 5802 A3 6802 A1 6804 A2 7803 A2



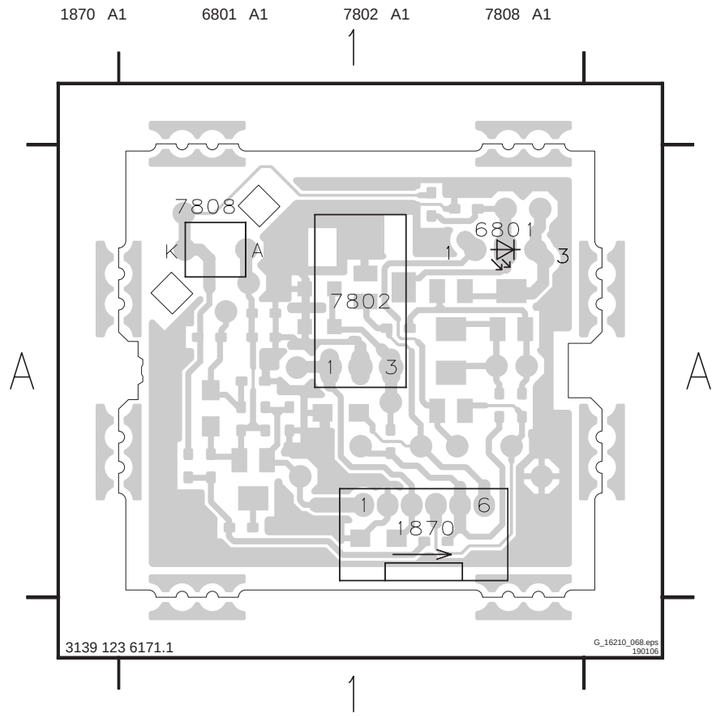
IR-LED and Light Sensor Panel (ME5FL)

1870 B1	3802 A4	3808 E3	4806 E4	6801-2 B4	7802 C3	7808 E4	F805 C1	I804 C4	I811 E4
2801 D4	3803 C4	3809 E4	4807 E3	6802 E4	7803 B4	F801 C1	F806 B1	I805 A4	
2802 D4	3804 B3	3810 E4	4808 D3	6803 C3	7804 C4	F802 C1	I801 B3	I806 B4	
2803 E3	3805 C4	3811 E4	4809 D4	6809 D3	7805 B3	F803 B1	I802 B4	I809 E3	
3801 B3	3807 E2	3812 D4	6801-1 B4	7801 B4	7807 E3	F804 B1	I803 B3	I810 E4	



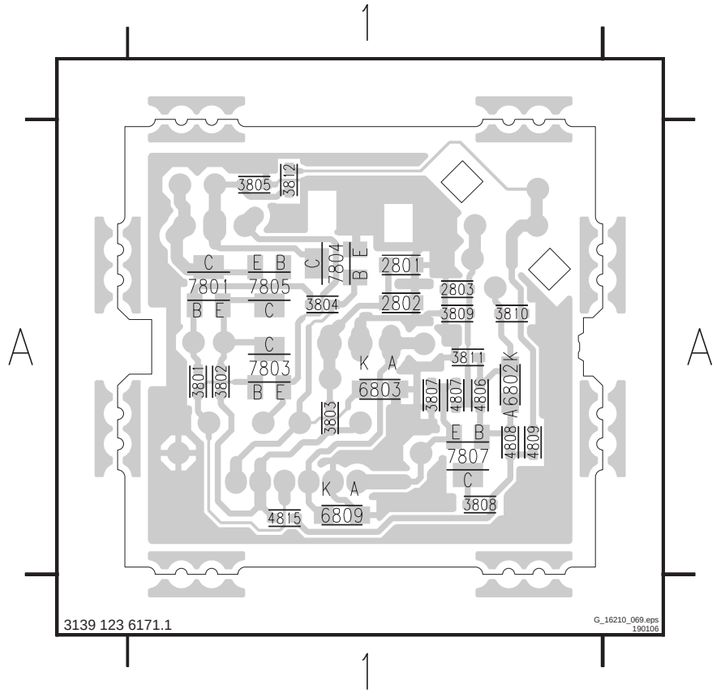
Layout IR-LED and Light Sensor Panel (ME5FL) (Top Side)

1870 A1	6801 A1	7802 A1	7808 A1	



Layout IR-LED and Light Sensor Panel (ME5FL) (Bottom Side)

2801	A1	3802	A1	3807	A1	3811	A1	4808	A1	6803	A1	7804	A1
2802	A1	3803	A1	3808	A1	3812	A1	4809	A1	6809	A1	7805	A1
2803	A1	3804	A1	3809	A1	4806	A1	4815	A1	7801	A1	7807	A1
3801	A1	3805	A1	3810	A1	4807	A1	6802	A1	7803	A1		



Front IR / LED Panel (37")

LED PANEL (37")

TO 1M20 B SSB JL2.x / LC4.x OR TO 1M20 B E EXTERNALS FTx2.x / Bx2.x

TO 1M01 E CONTROL BOARD

TO 0345 E TOP CONTROL

"BLUE" or "GREEN"

"RED"

"LED DIMMING"

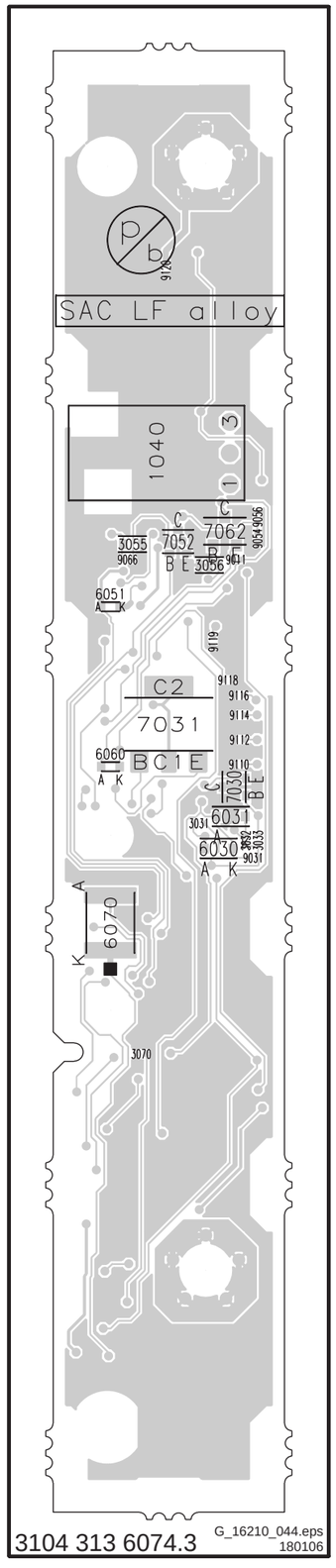
"IR RECEIVER"

"LIGHT SENSOR"

0001 A10	9119 E2
0002 A11	9120 B10
0345 D2	9121 B11
1040 F9	9122 F11
1M01 C2	F010 A3
1M20 A2	F011 A3
2014 C4	F012 A3
2030 G5	F013 B3
2040 F9	F014 B3
2070 F12	F015 A3
2071 G12	F016 B3
3011 A4	F017 B3
3030 G4	F018 B2
3031 G5	F021 C3
3032 G5	F038 B12
3033 G5	F039 B12
3034 G6	F083 D3
3035 G6	F084 D3
3036 G7	F086 E3
3037 G7	F089 E3
3040 F9	I010 F2
3041 G9	I011 G2
3042 F9	I012 E3
3051 B8	I013 E4
3052 B8	I026 F12
3053 C8	I033 G4
3054 C8	I037 G7
3055 C8	I038 G6
3056 D6	I039 G4
3061 B6	I040 G5
3062 B6	I041 G9
3063 D5	I042 G9
3064 D5	I043 F9
3070 G11	I044 F9
3071 F12	I045 F9
3072 G13	I046 E9
3073 G13	I047 G4
3074 F13	I048 G5
3075 F14	I049 G7
3076 G14	I051 D8
3077 G12	I052 C8
3078 G11	I053 B9
3091 G2	I054 D7
3092 F2	I061 D6
3093 F3	I062 C6
3094 F2	I063 D7
3096 G3	I064 D5
3999 B12	I065 C9
6030 G4	I071 F11
6031 G4	I072 F14
6051 C8	I073 G12
6060 C6	I074 G12
6070 G11	I075 F12
7030 G6	I076 F13
7031 G7	I093 F2
7032 G4	I094 F3
7051 C8	I095 C6
7052 D8	
7061 D6	
7062 C6	
7070-1 F12	
7070-2 G13	
7092 F2	
9011 C6	
9012 B4	
9015 A4	
9016 A4	
9017 A4	
9031 G4	
9040 G9	
9041 F9	
9042 G9	
9043 F9	
9052 C9	
9053 C8	
9054 D9	
9056 D7	
9062 D7	
9063 D6	
9064 B7	
9065 B7	
9066 D7	
9070 F11	
9071 F11	
9072 G11	
9081 E4	
9082 E3	
9083 D3	
9093 G2	
9110 D2	
9111 D4	
9112 D2	
9113 D4	
9114 E2	
9115 E4	
9116 E2	
9117 E4	
9118 E2	

G_16210_043.eps
180106

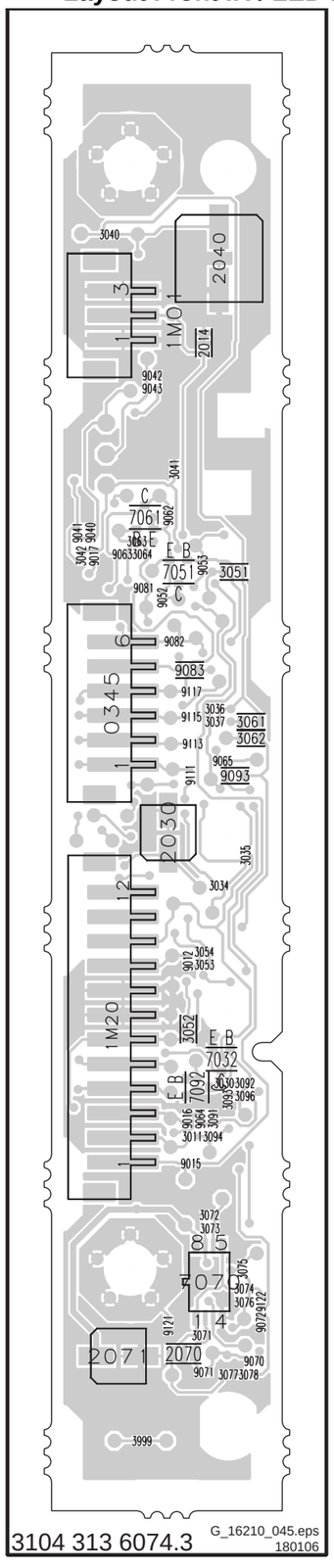
Layout Front IR / LED Panel (37”) (Top Side)



3104 313 6074.3 G_16210_044.eps 180106

1040 --
3031 --
3032 --
3033 --
3055 --
3056 --
3070 --
6030 --
6031 --
6051 --
6060 --
6070 --
7030 --
7031 --
7052 --
7062 --
9011 --
9031 --
9054 --
9056 --
9066 --
9110 --
9112 --
9114 --
9116 --
9118 --
9119 --
9120 --

Layout Front IR / LED Panel (37”) (Bottom Side)



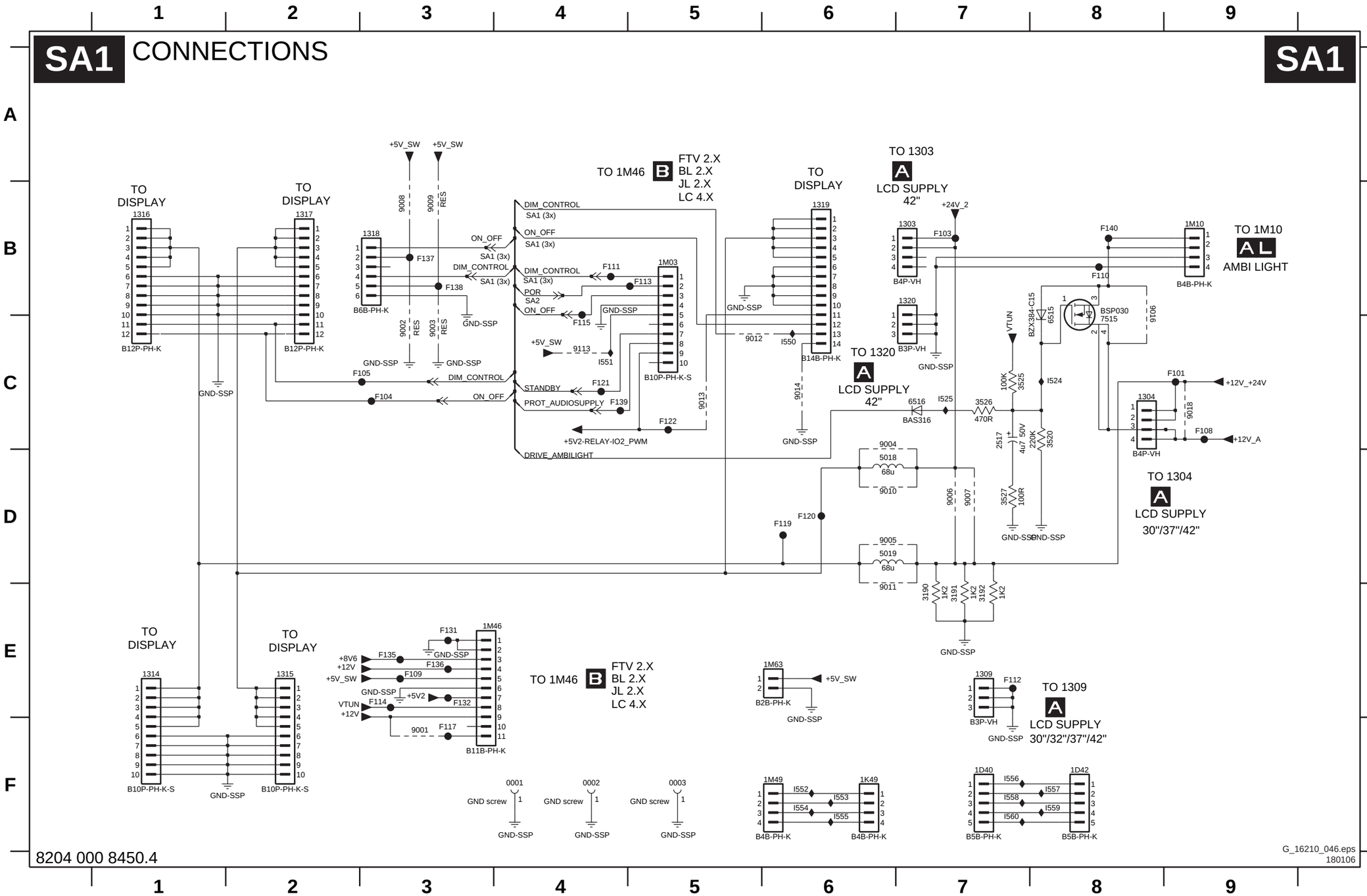
3104 313 6074.3 G_16210_045.eps 180106

0345 --
1M01 --
1M20 --
2014 --
2030 --
2040 --
2070 --
2071 --
3011 --
3030 --
3034 --
3035 --
3036 --
3037 --
3040 --
3041 --
3042 --
3051 --
3052 --
3053 --
3054 --
3061 --
3062 --
3063 --
3064 --
3071 --
3072 --
3073 --
3074 --
3075 --
3076 --
3077 --
3078 --
3091 --
3092 --
3093 --
3094 --
3096 --
3999 --
7032 --
7051 --
7061 --
7070 --
7092 --
9012 --
9015 --
9016 --
9017 --
9040 --
9041 --
9042 --
9043 --
9052 --
9053 --
9062 --
9063 --
9064 --
9065 --
9070 --
9071 --
9072 --
9081 --
9082 --
9083 --
9093 --
9111 --
9113 --
9115 --
9117 --
9121 --
9122 --

Standby & Audio Panel (37") : Connections

SA1 CONNECTIONS

SA1



8204 000 8450.4

G_16210_046.eps
180106

0001 F4
0002 F4
0003 F5
1303 B7
1304 C8
1309 E7
1314 E1
1315 E2
1316 B1
1317 B2
1318 B3
1319 B6
1320 B7
1D40 F7
1D42 F8
1K49 F6
1M03 B5
1M10 B9
1M46 E4
1M49 F6
1M63 E6
2517 C7
3190 E7
3191 E7
3192 E7
3520 C8
3525 C7
3526 C7
3527 D7
5018 D6
5019 D6
6515 B8
6516 C7
7515 C8
9001 F3
9002 C3
9003 C3
9004 C6
9005 D6
9006 D7
9007 D7
9008 B3
9009 B3
9010 D6
9011 E6
9012 C5
9013 C5
9014 C6
9016 B8
9018 C9
9113 C4
F101 C9
F103 B7
F104 C3
F105 C3
F108 C9
F109 E3
F110 B8
F111 B4
F112 E7
F113 B5
F114 E3
F115 C4
F117 F3
F119 D6
F120 D6
F121 C4
F122 C5
F131 E3
F132 E3
F135 E3
F136 E3
F137 B3
F138 B3
F139 C4
F140 B8
I524 C8
I525 C7
I550 C6
I551 C4
I552 F6
I553 F6
I554 F6
I555 F6
I556 F7
I557 F8
I558 F7
I559 F7
I560 F7

Standby & Audio Panel (37”): Standby

SA2 STANDBY

SA2

HOT GROUND

COLD GROUND

TO 1306 A LCD SUPPLY 30”/32”/37”/42”

TO 1307 A LCD SUPPLY 30”/32”/37”/42”

TO 1305 A1 LCD SUPPLY 30”/37”/42”

HOT GROUND

COLD GROUND

8204 000 8450.4

G_16210_047.eps 180106

1301 B1
1305 D13
1306 B3
1307 H3
1310 A13
1311 A12
2101 C1
2102 F1
2103 D2
2105 D2
2107 B4
2108 B4
2109 F7
2110 G2
2111 E2
2112 E3
2115 E6
2118 D7
2123 E4
2124 H2
2129 B6
2131 C10
2132 C10
2140 G8
2141 D7
2143 D7
2144 F2
2145 D3
2149 G7
2150 H5
2152 B4
2153 F5
2154 G9
2159 E2
2160 C9
2162 D2
2163 G1
2503 D10
2506 D5
2507 C6
2508 C6
2509 G13
2510 E7
2511 B9
2512 E9
2513 E7
2515 A10
2518 A8
2522 A9
2523 A9
2533 F11
2534 E8
2535 D9
2536 D11
2537 D13
2538 H9
2539 E8
2540 H12
2544 G12
3100 G3
3101 D2
3102 E2
3103 D2
3104 D3
3105 D2
3106 E1
3107 F1
3108 D4
3109 F1
3111 D1
3112 G1
3113 E7
3114 F6
3115 E6
3116 A7
3117 D3
3118 A7
3122 B6
3123 F7
3124 F7
3125 F3
3126 F3
3127 F3
3128 F6
3134 C10
3135 C9
3137 B8
3138 E2
3139 B8
3140 C8
3141 F9
3142 G8
3145 G2
3146 F4
3147 H2
3148 E4
3149 E4
3150 D4
3152 E3
3153 C8
3155 G4
3156 G5
3157 H5
3158 G6
3159 E8
3160 D3
3161 C9
3171 C9
3172 C10
3175 G8
3176 G9
3502 C9
3503 D11
3504 D11

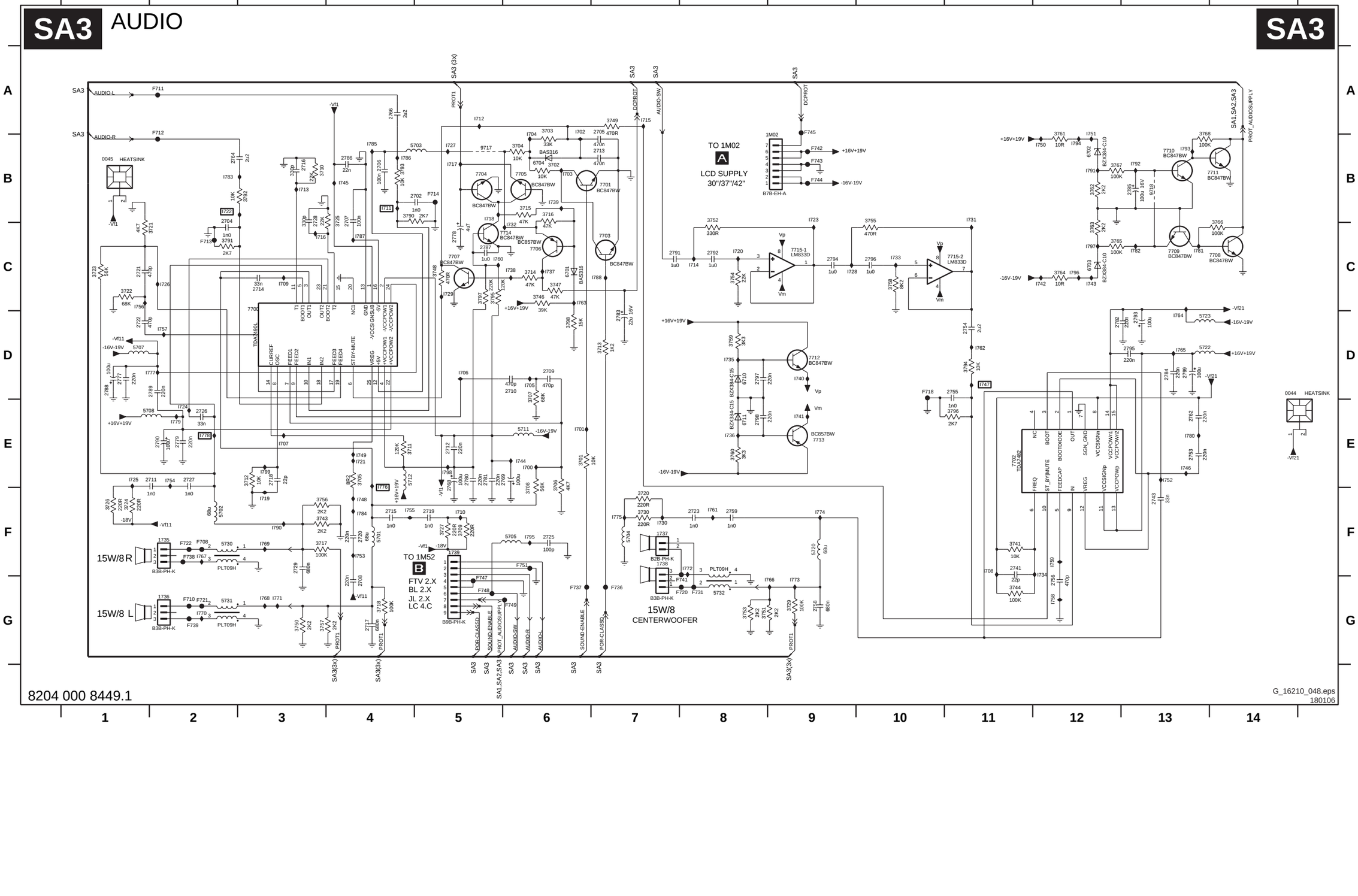
3506 H11
3507 F13
3508 G13
3509 A7
3510 F12
3511 C8
3512 C9
3513 D9
3514 A7
3515 A8
3516 A9
3517 A11
3518 A7
3519 A8
3521 B7
3522 A9
3523 A9
3524 A10
3528 C11
3529 C11
3530 D13
3531 D13
3532 C12
3533 D12
3534 H9
3535 H9
3536 H10
3537 H9
3538 F8
3539 H10
3540 G12
3541 G12
3542 H12
3543 D12
3544 G12
3560 E11
3561 F12
3562 E12
3903 H7
5102 E1
5103 E6
5104 C5
5105 D5
5106 D1
5108 D4
5110 B6
5112 D6
5115 B8
5500 C5
5501 B3
5504 B3
5505 B4
5506 E8
5507 B10
5508 E9
6103 C1
6104 E2
6105 D3
6106 F2
6107 E7
6108 G2
6109 A8
6110 A8
6113 C7
6114 G1
6115 D3
6116 F4
6117 C2
6118 C2
6120 G7
6121 G7
6122 F7
6125 B8
6130 C9
6132 C9
6133 D8
6134 C9
6140 D6
6142 F2
6144 E3
6147 D4
6148 F8
6149 F9
6150 G4
6153 H5
6156 G5
6503 D9
6504 B6
6505 E7
6508 H9
6510 C13
6511 A8
6513 A8
6514 B7
6517 A7
6531 F10
6532 C11
6540 F12
6562 F12
7100 F3
7101 D3
7102 C4
7105 F4
7131 B9
7140 G10
7150 G5
7501 F6
7503 D10
7505 G12
7506 C11
7507 C12
7508 H10
7509 H12
7510 F13

I186 G6
I187 D11
I188 D9
I189 H10
I190 G1
I191 G4
I192 H9
I197 C9
I198 D7
I199 D4
I501 F6
I502 F6
I503 F6
I504 G12
I505 F12
I506 F13
I507 F13
I508 A8
I509 A9
I510 A9
I511 A10
I512 H9
I513 D1
I514 E6
I515 E9
I516 D9
I517 C13
I518 B7
I519 B8
I520 A8
I521 A8
I522 A9
I523 A9

Standby & Audio Panel (37") : Audio

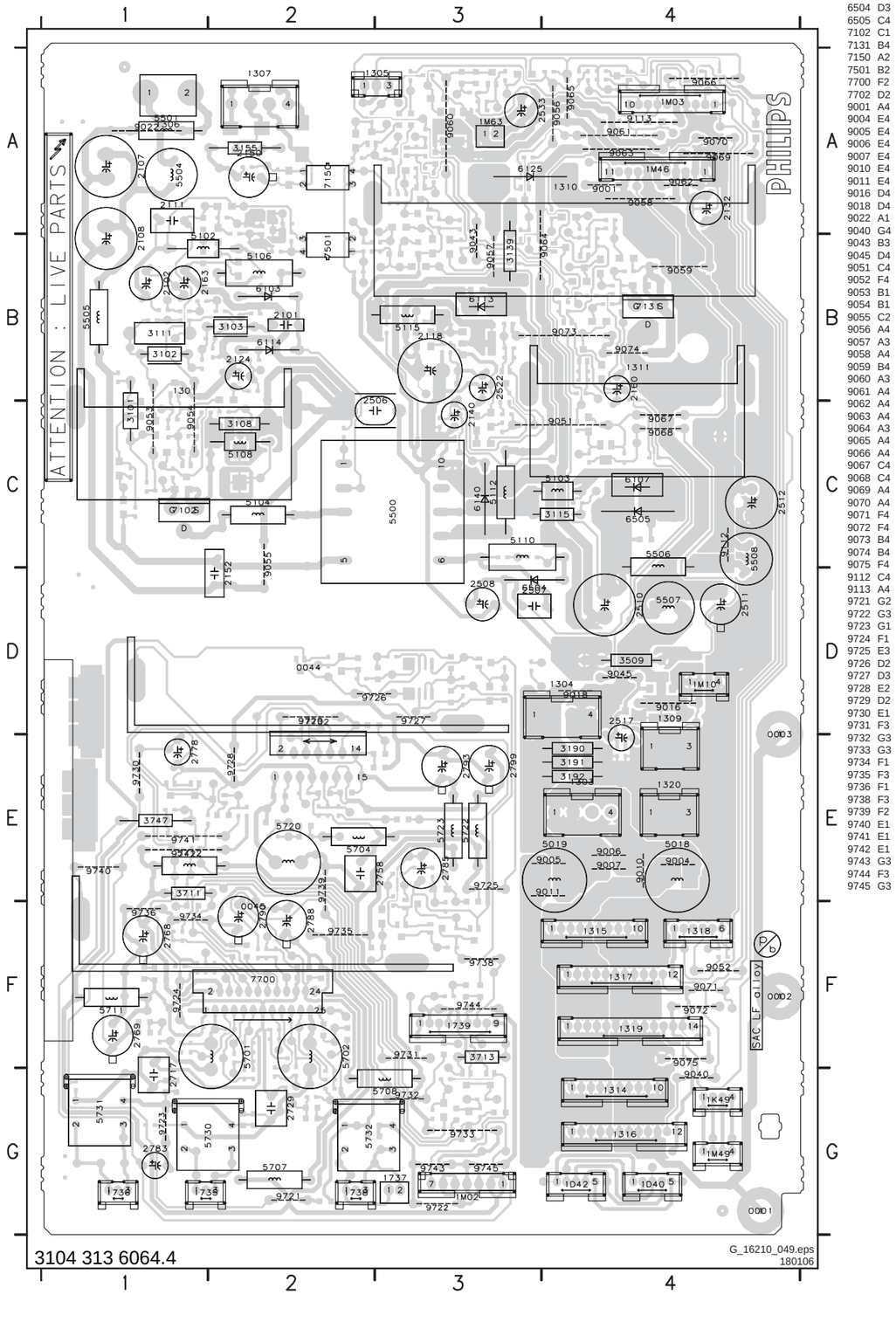
0044 D14 0045 B1 1735 F2 1736 G2 1737 F7 1738 F7 1739 F5 1M02 A9 2702 B5 2704 C2 2705 A7 2706 B4 2707 B4 2708 G4 2709 D6 2710 D6 2711 E2 2712 E5 2713 B7 2714 C3 2715 F4 2716 B3 2717 G4 2718 E3 2719 F5 2720 F4 2721 C1 2722 D1 2723 F8 2725 F6 2726 E2 2727 E2 2728 B3 2729 F3 2741 F11 2743 F13 2753 E13 2754 D11 2755 D11 2756 G12 2758 G9 2759 F8 2762 E13 2764 B2 2766 A4 2768 E5 2769 E5 2777 D1 2778 C5 2779 E2 2780 E5 2781 E5 2782 D12 2783 D7 2784 D13 2785 B13 2786 B4 2787 C5 2788 D1 2789 D2 2790 E8 2794 C9 2795 D13 2796 C10 2797 D8 2798 E8 2799 D13 3701 E6 3702 B6 3703 A6 3704 B6 3705 E4 3706 E6 3707 D6 3708 F6 3709 F5 3710 B3 3711 E4 3712 E3 3713 D7 3714 C6 3715 B6 3716 B6 3717 F3 3718 G4 3720 F7 3721 C1 3722 C1 3723 C1 3724 F1 3725 B4 3726 F1 3727 F5 3729 G9 3730 F7 3741 F11 3743 F3 3744 G11 3746 C6 3747 C6 3748 C5 3749 A7 3750 G3 3751 G8 3752 B8 3753 G8 3754 C8 3755 B10 3756 F3 3757 G3 3758 C10 3759 D8 3760 E8 3761 B12 3762 B12 3763 C12 3764 C12 3765 C12 3767 C14 3768 B12 3769 D6 3790 E11 3791 G2 3792 D4 3793 B4 3794 D11 3795 C5 3796 E11 5702 F2 5703 B5 5704 F7 5705 F6 5707 D1 5708 E1 5711 E6 5712 E4 5713 D7 5714 C5 5716 B6 5717 F3 5718 G4 5722 D13 5723 D13 5729 G9 5730 F2 5731 G2 5732 G8 5737 C6 5738 C6 5739 B6 5740 D9 5741 A2 5742 B2 5743 C7 5744 B5 5745 A6 5746 C6 6700 C12 6701 C6 6702 B12 6703 C12 6704 B6 6705 B6 6706 C6 6707 C5 6708 C13 6709 C13 6710 B13 6711 E8 6712 D9 6713 E9 6714 C5 7700 C3 7701 B7 7702 E11 7703 C7 7704 B5 7705 B6 7706 C6 7707 C5 7708 C13 7709 C13 7710 B13 7711 B13 7712 D8 7713 E9 7714 C5 7715-1 C9 7715-2 C11 9717 B5 9718 B13 F708 F2 F710 G2 F711 A2 F712 B2 F713 C2 F714 B5 F718 D10 F720 G8 F721 G2 F722 F2 F731 G8 F736 G7 F737 G6 F738 F2 F739 G2 F741 G8 F742 B9 F743 B9 F744 B9 F745 A9 F747 G5 F748 G5 F749 G6 F751 F6 I700 E6 I701 E6 I702 A6 I703 B6 I704 A6 I705 D6 I706 D5 I707 E3 I708 F11 I709 C3 I710 F5 I711 B4 I712 A5 I713 B3 I714 C8 I715 A7 I716 C3 I717 B5 I718 B5 I719 F3 I720 C8 I721 E4 I722 B2 I723 B9 I724 E2 I725 E1 I726 C2 I727 B5 I728 C9 I729 C5 I730 F7 I731 B11 I732 C6 I733 C10 I734 F12 I735 D8 I736 E8 I737 C6 I738 C6 I739 B6 I740 D9 I741 E9 I742 C12 I743 C12 I744 E6 I745 B4 I746 E13 I747 D11 I748 F4 I749 E4 I750 B12 I751 A12 I752 E13 I753 F4 I754 E2 I755 F4 I756 C1 I757 D2 I758 G12 I759 F12 I760 C5 I761 F8 I762 D11 I763 C6 I764 D13 I765 D13 I766 G9 I767 F2 I768 G3 I769 F3 I770 G2 I771 G3 I772 F8 I774 G9 I775 F9 I776 E2 I777 D2 I778 E2 I779 E2 I780 E13 I781 C13 I782 C13 I783 B2 I784 F4 I785 B4 I786 B4 I787 C4 I788 C7 I790 F3 I791 B12 I792 B13 I793 B13 I794 B12 I795 F6 I796 C12 I797 C12 I798 E5 I799 E3

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



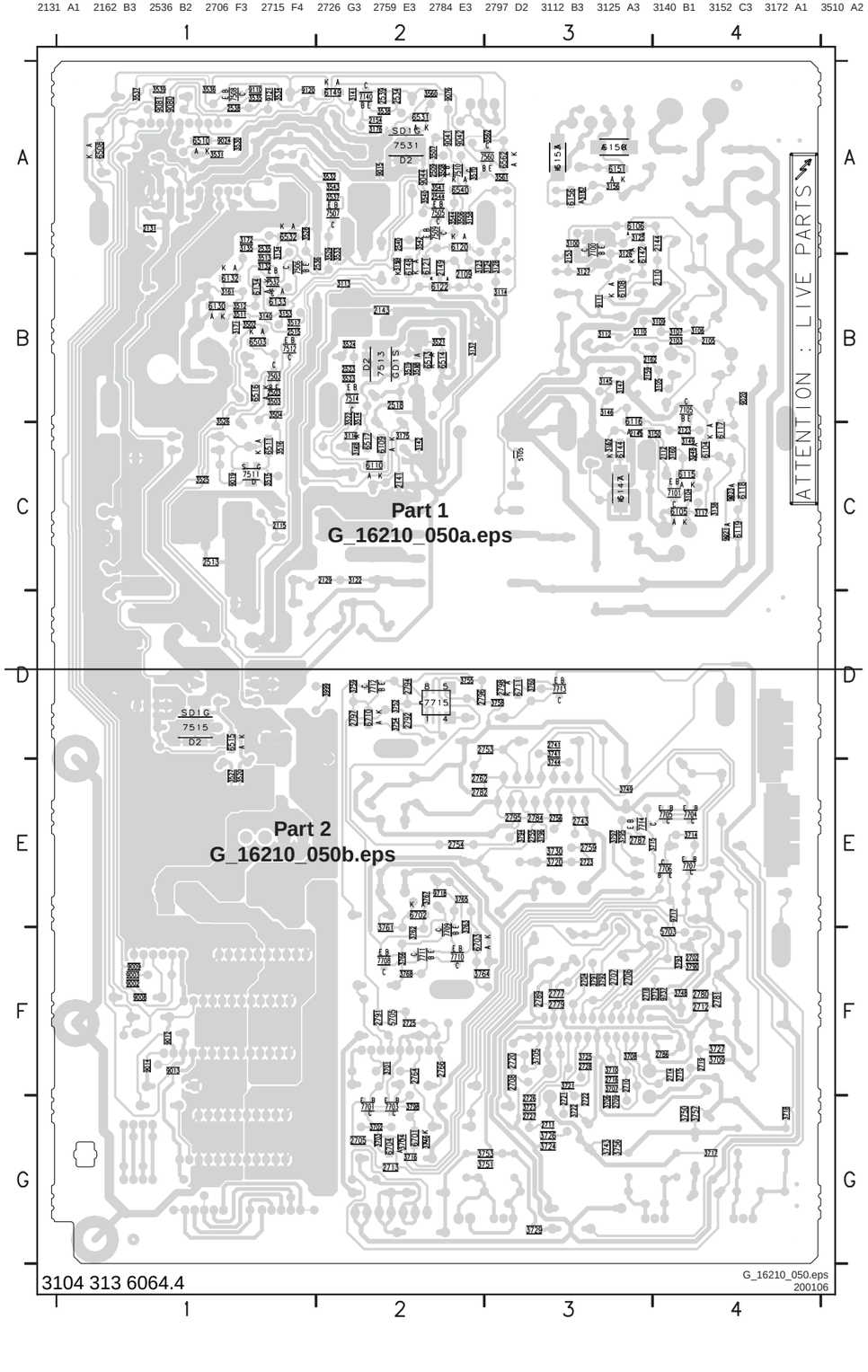
Layout Standby & Audio Panel (37”) (Top Side)

0001 G4 1305 A3 1316 G4 1738 G2 1M46 A4 2118 B3 2506 B2 2533 A4 2785 E3 3108 C2 3509 D4 5104 C2 5504 A1 5707 G2 5731 G1
0002 F4 1306 A1 1317 F4 1739 F3 1M49 G4 2124 B2 2507 D3 2717 F1 2788 F2 3111 B1 3711 F1 5106 B2 5505 B1 5708 G3 5732 G3
0003 D4 1307 A2 1318 F4 1D40 G4 1M63 A3 2124 B2 2508 D3 2729 G2 2790 E2 3115 C4 3713 F3 5108 C2 5506 C4 5711 F1 6103 B2
0044 D1 1309 D4 1319 F4 1D42 G4 2101 B2 2140 C3 2510 D4 2758 E3 2793 E3 3139 B3 3747 E1 5110 C3 5507 D4 5712 E1 6107 C4
0045 E1 1310 A3 1320 E4 1K49 G4 2102 B1 2150 A2 2511 D4 2768 F1 2799 E3 3155 A2 5018 E4 5112 C3 5508 C4 5720 E2 6113 B3
1301 C1 1311 B4 1735 G1 1M02 G3 2107 A1 2152 D2 2512 C4 2769 F1 3101 C1 3190 E3 5019 E4 5115 B3 5701 F2 5722 E3 6114 B2
1303 E4 1314 G4 1736 G1 1M03 A4 2108 A1 2160 B4 2517 D4 2778 E1 3102 B1 3191 E3 5102 B2 5500 C3 5702 F2 5723 E3 6125 A3
1304 D4 1315 F4 1737 G3 1M10 D4 2111 A1 2163 B1 2522 B3 2783 G1 3103 B2 3192 E3 5103 C4 5501 A1 5704 E2 5730 G2 6140 C3
6504 D3
6505 C4
7102 C1
7131 B4
7150 A2
7501 B2
7700 F2
7702 D2
9001 A4
9004 E4
9005 E4
9006 E4
9007 E4
9010 E4
9011 E4
9016 D4
9018 D4
9022 A1
9040 G4
9043 B3
9045 D4
9051 C4
9052 F4
9053 B1
9054 B1
9055 C2
9056 A4
9057 A3
9058 A4
9059 B4
9060 A3
9061 A4
9062 A4
9063 A4
9064 A3
9065 A4
9066 A4
9067 C4
9068 C4
9069 A4
9070 A4
9071 F4
9072 F4
9073 B4
9074 B4
9075 F4
9112 C4
9113 A4
9721 G2
9722 G3
9723 G1
9724 F1
9725 E3
9726 D2
9727 D3
9728 E2
9729 D2
9730 E1
9731 F3
9732 G3
9733 G3
9734 F1
9735 F3
9736 F1
9738 F3
9739 F2
9740 E1
9741 E1
9742 E1
9743 G3
9744 F3
9745 G3

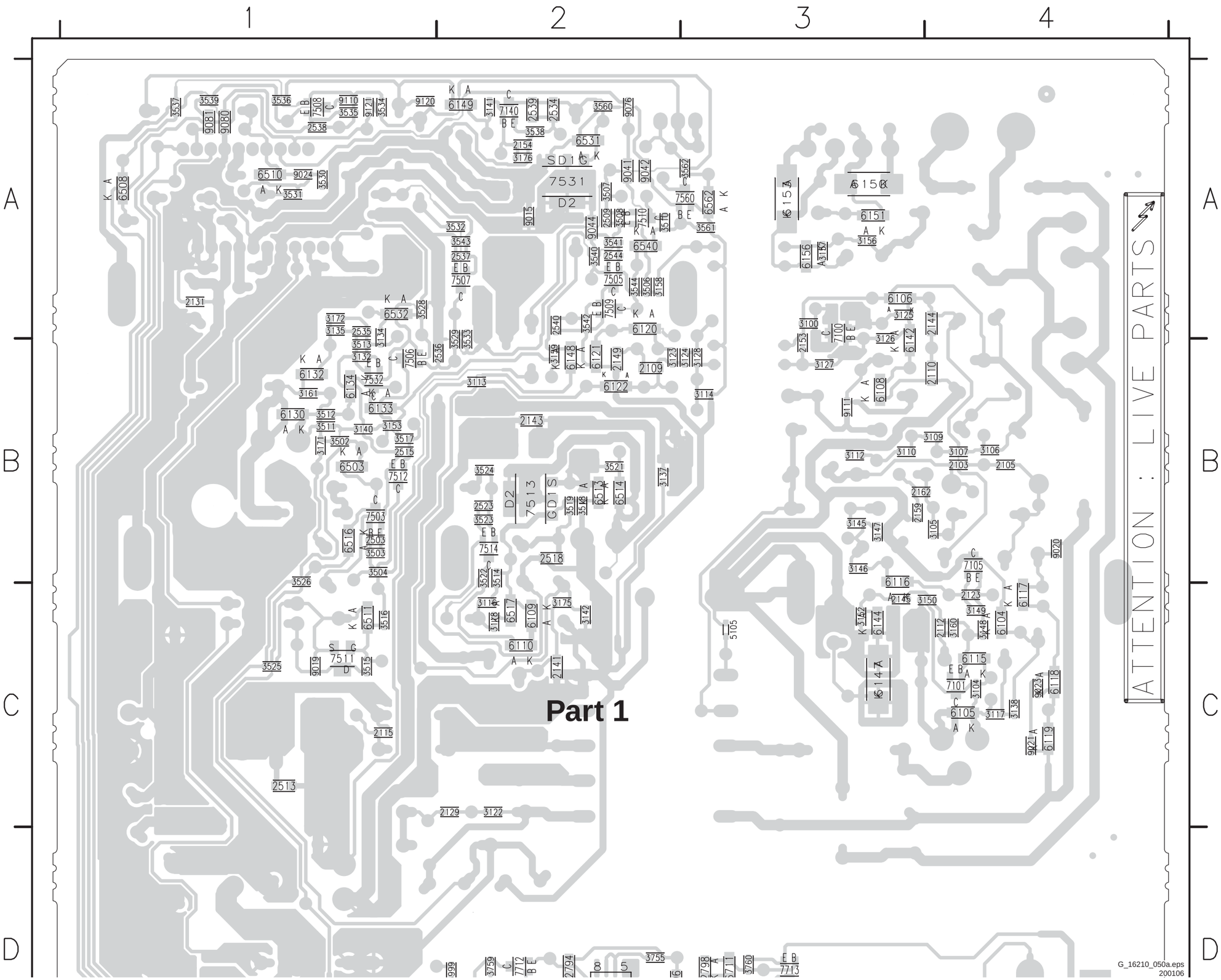


Layout Standby & Audio Panel (37”) (Overview Bottom Side)

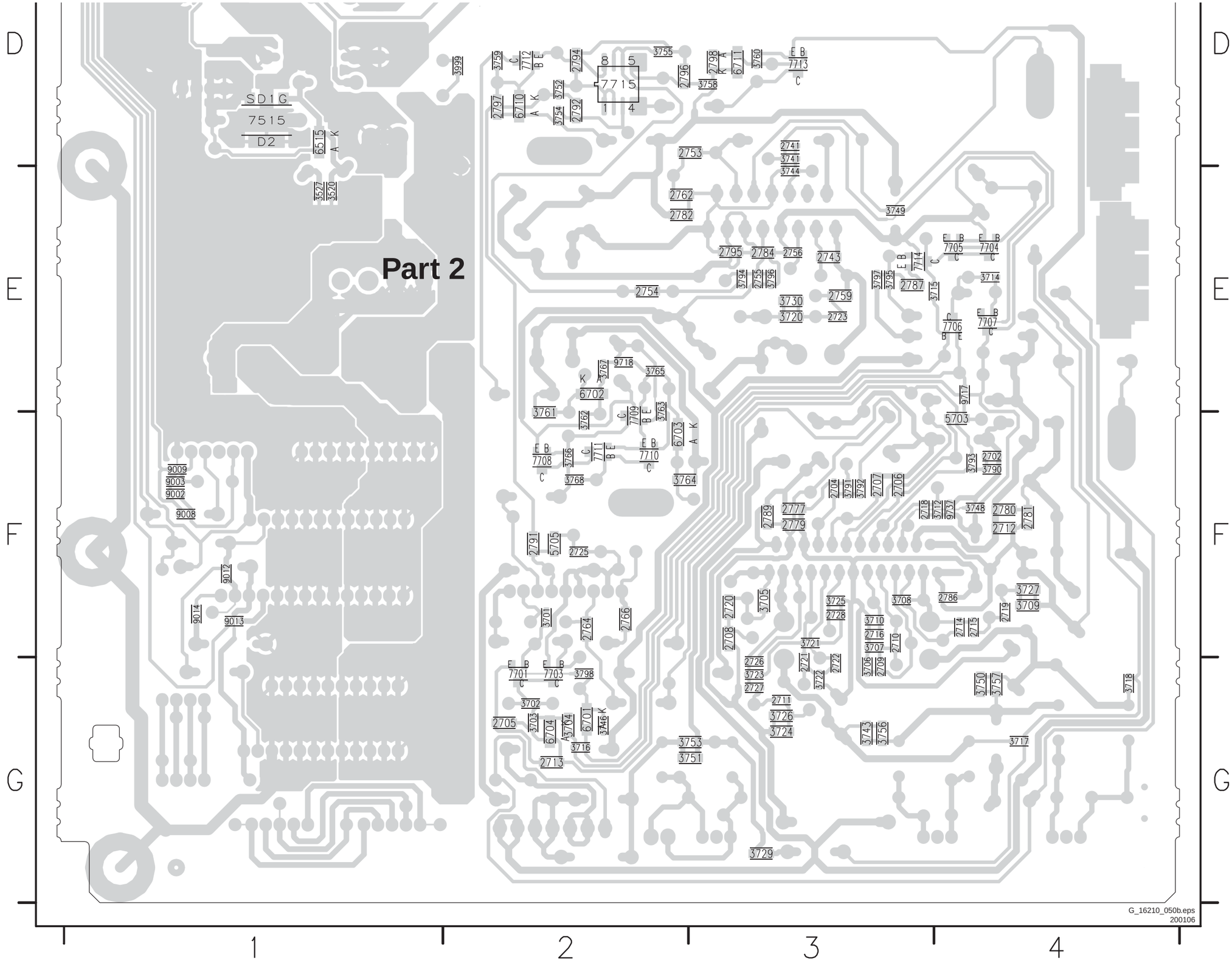
2103 B4 2141 C2 2503 B1 2537 A2 2707 F3 2716 F3 2727 G3 2762 E2 2786 F4 2798 D3 3113 B2 3126 A3 3141 A2 3153 B1 3175 C2 3511 B1 6119 C4
2105 B4 2143 B2 2509 A2 2538 A1 2708 F3 2718 F3 2728 F3 2764 F2 2787 E3 3100 A3 3114 B3 3127 B3 3142 C2 3156 A3 3176 A2 3512 B1 6120 A2
2109 B2 2144 A4 2513 C1 2539 A2 2709 G3 2719 F4 2741 D3 2766 F2 2789 F3 3104 C4 3116 C2 3128 B3 3145 B3 3157 A3 3502 B1 3513 B1 6121 B2
2110 B4 2145 C3 2515 B1 2540 A2 2710 F3 2720 F3 2743 E3 2777 F3 2791 F2 3105 B4 3117 C4 3132 B1 3146 B3 3158 A2 3503 B1 3514 B2 6122 B2
2112 C4 2149 B2 2518 B2 2544 A2 2711 G3 2721 G3 2753 D3 2779 F3 2792 D2 3106 B4 3118 C2 3134 A1 3147 B3 3159 B2 3504 B1 3515 C1 6130 B1
2115 C1 2153 B3 2523 B2 2702 F4 2712 F4 2722 G3 2754 E2 2780 F4 2794 D2 3107 B4 3122 C2 3135 A1 3148 C4 3160 C4 3506 A2 3516 C1 6132 B1
2123 C4 2154 A2 2534 A2 2704 F3 2713 G2 2723 E3 2755 E3 2781 F4 2795 E3 3109 B4 3123 B2 3137 B2 3149 C4 3161 B1 3507 A2 3517 B1 6133 B1
2129 C2 2159 B3 2535 A1 2705 G2 2714 F4 2725 F2 2756 E3 2782 E2 2796 D2 3110 B3 3124 B3 3138 C4 3150 C4 3171 B1 3508 A2 3518 B2 6134 B1
2131 A1 2162 B3 2536 B2 2706 F3 2715 F4 2726 G3 2759 E3 2784 E3 2797 D2 3112 B3 3125 A3 3140 B1 3152 C3 3172 A1 3510 A2 3519 B2 6142 B3
3520 E1 6144 C3
3521 B2 6147 C3
3522 B2 6148 B2
3523 B2 6149 A2
3524 B2 6150 A3
3525 C1 6151 A3
3526 B1 6153 A3
3527 E1 6156 A3
3528 A1 6503 B1
3529 B2 6508 A1
3530 A1 6510 A1
3531 A1 6511 C1
3532 A2 6513 B2
3533 B2 6514 B2
3534 A1 6515 D1
3535 A1 6516 B1
3536 A1 6517 C2
3537 A1 6531 A2
3538 A2 6532 A1
3539 A1 6540 A2
3540 A2 6562 A3
3541 A2 6701 G2
3542 A2 6702 E2
3543 A2 6703 F3
3544 A2 6704 G2
3560 A2 6710 D2
3561 A3 6711 D3
3562 A3 7100 A3
3701 F2 7101 C4
3702 G2 7105 B4
3703 G2 7140 A2
3704 G2 7503 B1
3705 F3 7505 A2
3706 G3 7506 B1
3707 F3 7507 A2
3708 F3 7508 A1
3709 F4 7509 A2
3710 F3 7510 A2
3712 F4 7511 C1
3714 E4 7512 B1
3715 E3 7513 B2
3716 G2 7514 B2
3717 G4 7515 D1
3718 G4 7531 A2
3720 E3 7532 B1
3721 F3 7560 A3
3722 G3 7701 G2
3723 G3 7703 G2
3724 G3 7704 E4
3725 F3 7705 E4
3726 G3 7706 E4
3727 F4 7707 E4
3729 G3 7708 F2
3730 E3 7709 F2
3741 D3 7710 F2
3743 G3 7711 F2
3744 E3 7712 D2
3746 G2 7713 D3
3748 F4 7714 E3
3749 E3 7715 D2
3750 G4 9002 F1
3751 G3 9003 F1
3752 D2 9008 F1
3753 G3 9009 F1
3754 D2 9012 F1
3755 D2 9013 F1
3756 G3 9014 F1
3757 G4 9015 A2
3758 D3 9019 C1
3759 D2 9020 B4
3760 D3 9021 C4
3761 F2 9023 C4
3762 F2 9024 A1
3763 E2 9041 A2
3764 F2 9042 A2
3765 E2 9044 A2
3766 F2 9076 A2
3767 E2 9080 A1
3768 F2 9081 A1
3790 F4 9110 A1
3791 F3 9111 B3
3792 F3 9120 A1
3793 F4 9121 A1
3794 E3 9717 E4
3795 E3 9718 E2
3796 E3 9737 F4
3797 E3
3798 G2
3999 D2
5105 C3
5703 F4
5705 F2
6104 C4
6105 C4
6106 A3
6108 B3
6109 C2
6110 C2
6115 C4
6116 B3
6117 B4
6118 C4



Layout Standby & Audio Panel (37”) (Part 1 Bottom Side)

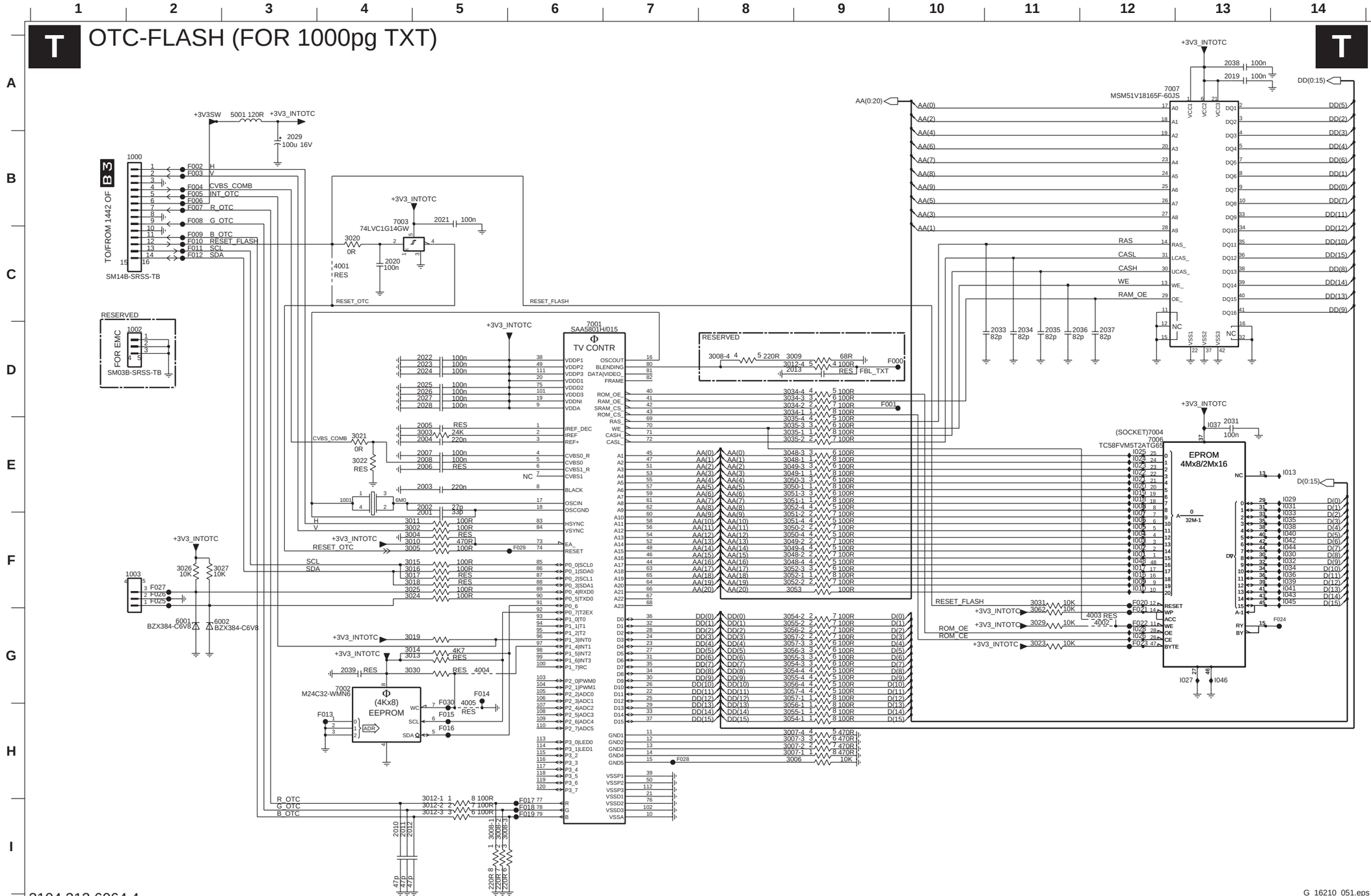


Layout Standby & Audio Panel (37”) (Part 2 Bottom Side)



OTC Flash (For 1000pg TXT) (37”)

T OTC-FLASH (FOR 1000pg TXT)

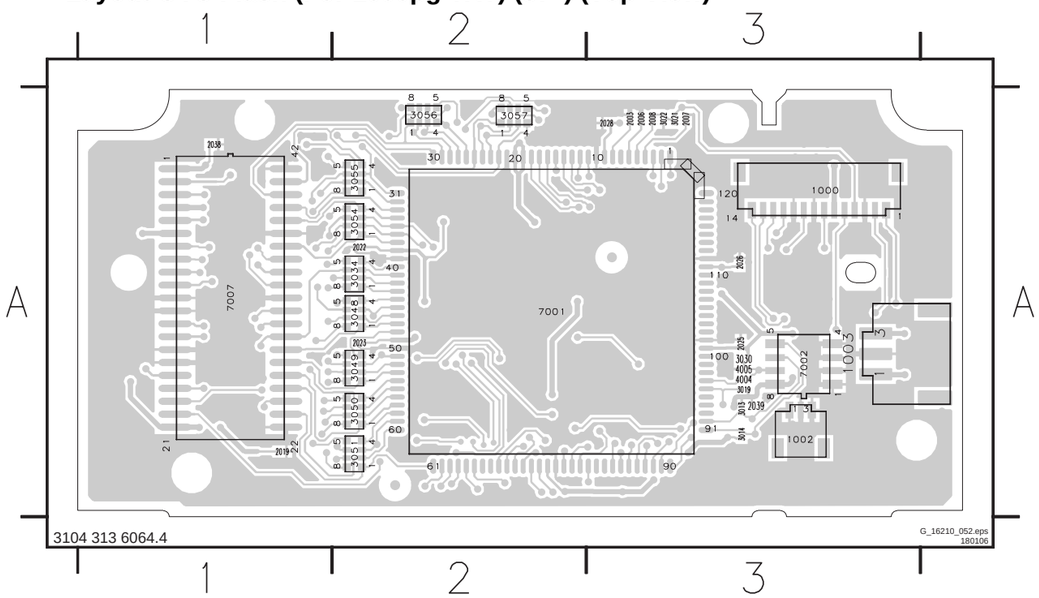


3104 313 6064.4

G_16210_051.eps
180106

1000 B2	3056-1 H9
1001 E4	3056-2 G9
1002 D2	3056-3 G9
1003 F2	3056-4 G9
2001 E5	3057-1 G9
2002 E5	3057-2 G9
2003 E5	3057-3 G9
2004 E5	3057-4 G9
2005 E5	3062 G11
2006 E5	4001 C4
2007 E5	4002 G12
2008 E5	4003 G12
2010 I4	4004 G5
2011 I4	4005 H5
2012 I4	5001 A3
2013 D9	6001 G2
2019 A13	6002 G3
2020 C4	7001 D6
2021 B5	7002 G4
2022 D5	7003 B4
2023 D5	7004 E12
2024 D5	7006 E12
2025 D5	7007 A13
2026 D5	F000 D10
2027 D5	F001 D9
2028 D5	F002 B2
2029 B3	F003 B2
2031 E13	F004 B2
2033 D11	F005 B2
2034 D11	F006 B2
2035 D11	F007 B2
2036 D12	F008 B2
2037 D12	F009 C2
2038 A13	F010 C2
2039 G4	F011 C2
3002 F5	F012 C2
3003 E5	F013 H4
3004 F5	F014 G5
3005 F5	F015 H5
3006 H9	F016 H5
3007-1 H9	F017 I6
3007-2 H9	F018 I6
3007-3 H9	F019 I6
3007-4 H9	F020 F12
3008-1 I5	F021 G12
3008-2 I5	F022 G12
3008-3 I5	F023 G12
3008-4 D8	F024 G14
3009 D9	F025 F2
3010 F5	F026 F2
3011 F5	F027 F2
3012-1 H5	F028 H7
3012-2 I5	F029 F6
3012-3 I5	F030 H5
3012-4 D9	I001 F12
3013 G5	I002 F12
3014 G5	I003 F12
3015 F5	I004 F12
3016 F5	I005 F12
3017 F5	I006 F12
3018 F5	I007 F12
3019 G5	I008 E12
3020 C4	I009 F12
3021 E4	I010 F12
3022 E4	I013 E14
3023 G11	I016 F12
3024 F5	I017 F12
3025 F5	I018 E12
3026 F2	I019 E12
3027 F2	I020 E12
3029 G11	I021 E12
3030 G5	I022 E12
3031 F11	I023 E12
3034-1 D9	I024 E12
3034-2 D9	I025 E12
3034-3 D9	I026 G12
3034-4 D9	I027 G13
3035-1 E9	I028 G12
3035-2 E9	I029 E14
3035-3 E9	I030 F14
3035-4 E9	I031 E14
3048-1 E9	I032 F14
3048-2 F9	I033 F14
3048-3 E9	I034 F14
3048-4 F9	I035 F14
3049-1 E9	I036 F14
3049-2 F9	I037 E13
3049-3 E9	I038 F14
3049-4 F9	I039 F14
3050-1 E9	I040 F14
3050-2 F9	I041 F14
3050-3 E9	I042 F14
3050-4 F9	I043 F14
3051-1 E9	I044 F14
3051-2 F9	I045 F14
3051-3 E9	I046 G13
3051-4 F9	I048 F12
3052-1 F9	
3052-2 F9	
3052-3 F9	
3052-4 E9	
3053 F9	
3054-1 H9	
3054-2 G9	
3054-3 G9	
3054-4 G9	
3055-1 H9	
3055-2 G9	
3055-3 G9	
3055-4 G9	

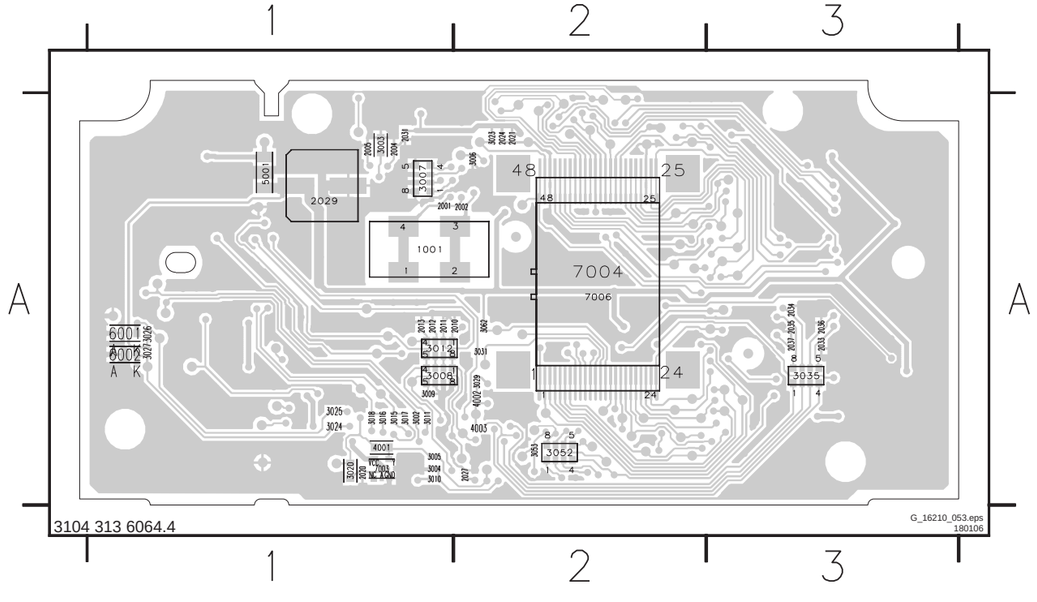
Layout OTC Flash (For 1000pg TXT) (37”) (Top View)



1000 A3
1002 A3
1003 A3
2003 A3
2006 A3
2007 A3
2008 A3
2019 A1
2022 A2
2023 A2
2025 A3
2026 A3
2028 A3
2038 A1
2039 A3
3013 A3
3014 A3
3019 A3
3021 A3
3022 A3
3030 A3
3034 A2
3048 A2
3049 A2
3050 A2
3051 A2
3054 A2
3055 A2
3056 A2
3057 A2
4004 A3
4005 A3
7001 A2
7002 A3
7007 A1

Layout OTC Flash (For 1000pg TXT) (37”) (Bottom View)

1001 A1
2001 A1
2002 A2
2004 A1
2005 A1
2010 A2
2011 A1
2012 A1
2013 A1
2020 A1
2021 A2
2024 A2
2027 A2
2029 A1
2031 A1
2033 A3
2034 A3
2035 A3
2036 A3
2037 A3
3002 A1
3003 A1
3004 A1
3005 A1
3006 A2
3007 A1
3008 A1
3009 A1
3010 A1
3011 A1
3012 A1
3015 A1
3016 A1
3017 A1
3018 A1
3020 A1
3023 A2
3024 A1
3025 A1
3026 A1
3027 A1
3029 A2
3031 A2
3035 A3
3052 A2
3053 A2
3062 A2
4001 A1
4002 A2
4003 A2
5001 A1
6001 A1
6002 A1
7003 A1
7004 A2
7006 A2



Personal Notes:

E_06532_012.eps
131004

Personal Notes:

E_06532_013.eps
131004

8. Alignments

Index of this chapter:
8.1 General Alignment Conditions
8.2 Hardware Alignments
8.3 Software Alignments

Note: Figures below can deviate slightly from the actual situation, due to the different set executions.

General: The Service Default Mode (SDM) and Service Alignment Mode (SAM) are described in chapter 5. Menu navigation is done with the Cursor Up, Down, Left or Right keys of the remote control transmitter.

8.1 General Alignment Conditions

Perform all electrical adjustments under the following conditions:
Mains voltage and frequency: 110-240 V / 50/60 Hz (26 and 32”), 220-240 V / 50/60 Hz (37”).
Allow the set to warm up for approximately 10 minutes.
Test probe: Ri > 10 MΩ; Ci < 2.5 pF.

8.2 Hardware Alignments

There are no hardware alignments foreseen for the LCD-TV.

8.3 Software Alignments

With the software alignments of the Service Alignment Mode (SAM) the geometry, white tone and tuner (IF) can be aligned.
To store the data: Use the RC button Menu to switch to the main menu and next, switch to ‘Stand-by’ mode.

8.3.1 SAM Menu

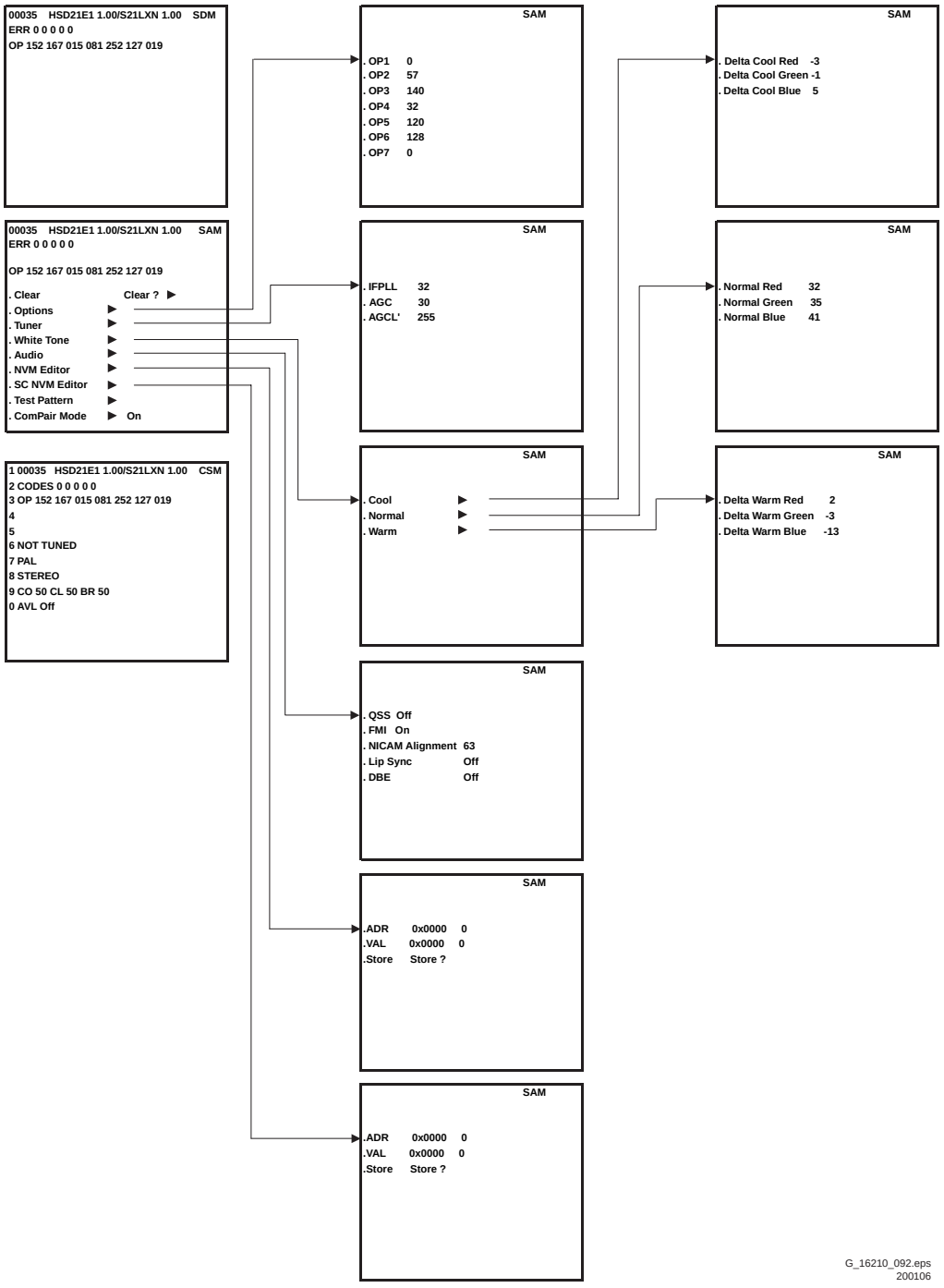


Figure 8-1 Overview SAM menu.

8.3.2 Tuner Adjustment

AGC (RF AGC Take Over Point)

- Activate the SAM menu.
- Go to the sub-menu Tuner.
- Select the AGC sub-menu.
- Adjust the AGC value to AGC = 27.
- Adjust the AGC L' value to AGC L' = 27 (Europe only).
- Adjust the IFPLL value to IFPLL = 32 (Europe only).
- Switch the set to standby to store the data.

8.3.3 DCXO (Digital Xtal Oscillator) Alignment (for NICAM sets only)

- Input a Colour bar signal with a colour subcarrier frequency of 4.43 MHz on SCART1 or SCART2.
- Select as a signal source EXT1 or AV1.
- Go to the SAM menu and select Audio.
- Activate DCXO Alignment and wait until this process has finished (DONE).
- Check if the NICAM audio reception is OK, if not: repeat the procedure.
- Switch the set to standby to store the data.

8.3.4 ADC Gain and Grey Scale Alignment

The table below shows a number of NVM settings used for each model of TV set. Be sure to use the correct editor in the SAM menu (NVM Editor or SC NVM Editor), because the first one is used for the Hercules NVM, and the second one for the SCALER (SC) part of the TV set. For further important NVM settings, see also the other NVM tables elsewhere in this manual.

Caution:

- **Do not change the NVM settings without understanding the function of each setting, because incorrect NVM settings may seriously hamper the correct functioning of the TV set!**
- **Do not change the Scaler NVM settings, as this will hamper the DVI functionality of the TV set!**
- Always note down the existing NVM settings, before changing the settings. This will enable you to return to the original settings, if the new settings turn out to be incorrect.

Table 8-1 ADC gain and grey scale alignment

SDTV ADC Gain settings: Use the NVM Editor in SAM to set these values in the Hercules NVM		
Setting	**Hercules NVM Address (decimal value)**	**26PF5321/10/12 32PF5321/10/12 37PF5321/10/12 26PF7321/12 32PF7321/12 37PF7321/10/12**
NVM_ADC_GAIN_R	006	135
NVM_ADC_GAIN_G	007	185
NVM_ADC_GAIN_B	008	165

SDTV Greyscale settings: Use the SC NVM Editor in SAM to set these values in the Scaler NVM		
Setting	**Scaler NVM Address (decimal value)**	**26PF5321/10/12 32PF5321/10/12 37PF5321/10/12 26PF7321/12 32PF7321/12 37PF7321/10/12**
ADC_RED_OFFSET2	338	070
ADC_GRN_OFFSET2	339	070
ADC_BLU_OFFSET2	340	070
ADC_RED_GAIN	341	240
ADC_GRN_GAIN	343	240
ADC_BLU_GAIN	345	240
PC Greyscale settings		
Setting	**Scaler NVM Address (decimal value)**	**26PF5321/10/12 32PF5321/10/12 37PF5321/10/12 26PF7321/12 32PF7321/12 37PF7321/10/12**
ADC_RED_OFFSET2	325	070
ADC_GRN_OFFSET2	326	070
ADC_BLU_OFFSET2	327	070
ADC_RED_GAIN	328	150
ADC_GRN_GAIN	330	150
ADC_BLU_GAIN	332	150
HD Greyscale settings		
Setting	**Scaler NVM Address (decimal value)**	**26PF5321/10/12 32PF5321/10/12 37PF5321/10/12 26PF7321/12 32PF7321/12 37PF7321/10/12**
ADC_RED_OFFSET2	351	064
ADC_GRN_OFFSET2	352	075
ADC_BLU_OFFSET2	353	064
ADC_RED_GAIN	354	180
ADC_GRN_GAIN	356	180
ADC_BLU_GAIN	358	180

8.3.5 Panel Size Settings

The table below shows the NVM settings for panel selection, based on panel size and manufacturer. Use the SC NVM editor in the SAM menu to change the panel code at decimal address 320.

Caution:

- **Make sure to choose the right panel, because incorrect NVM settings may seriously hamper the correct functioning of the TV set!**
- Always note down the existing NVM settings, before changing the settings. This will enable you to return to the original settings, if the new settings turn out to be incorrect.

Table 8-2 Panel size settings

Option table for panel size settings		
Manufacturer	**Size (inch)**	**Panel code (hex)**
LPL	26	1A
LPL	32	0F
LPL	37	0E
Sharp	26	11
Sharp	32	10

8.3.6 Sound

- For NICAM sets: see paragraph 8.3.3.
- For other sets: No adjustments needed for sound.

8.3.7 Options

Options OP1...OP7 in the SAM menu can be used for quickly restoring 64 features or settings of the HERCULES part of the TV set to their original default factory values (8 groups of 8 features/settings each). When the decimal value of one option byte OP1...OP7 is changed (see the first table below) then a group of 8 bits, representing 8 HERCULES options or features, is changed as well (see the second table below for a detailed description of the features or settings that are changed).
The second table shows which option byte (OP1...OP7) represents which group of 8 option bits. Each bit (0...7) switches a particular HERCULES feature or setting ON or OFF, depending on its value (1 or 0).
It is also possible to change the features or settings mentioned in the second table directly at bit level, by means of the NVM Editor in the SAM menu. In the NVM Editor, first the correct NVM address (ADR) has to be entered, then the correct value (VAL, 1 or 0) for each bit (see second table), and finally the settings have to be stored (STORE). For quickly restoring the HERCULES part of the TV set to its original factory settings, however, it is more convenient to simply enter the default factory settings OP1...OP7 that are given in the first table below. How to do this, is described in the next paragraph.

How to Change an Option Byte
As has been explained above, an Option byte (OP) represents a number of different HERCULES options. Changing these bytes directly makes it possible to set all HERCULES options very fast. All options are controlled via seven option bytes. Select the option byte (OP1.. OP7) with the Menu Up/ Down keys, and enter the new (decimal) value. For the correct Factory Default settings, see the first table below. For more detailed information, see the second table.

Leaving the Option submenu saves the changes in the Option Byte settings. Some changes will only take effect after the set has been switched “off” and “on” with the AC power switch (cold start).

Table 8-3 Option codes OP1...OP7

Option table for quickly restoring the HERCULES to its Factory Default settings			
Model number	**26PF5321/10/12 32PF5321/10/12**	**37PF5321/10/12**	**26PF7321/12 32PF7321/12 37PF7321/10/12**
OP1	152	152	152
OP2	167	167	167
OP3	47	47	111
OP4	81	113	113
OP5	252	252	252
OP6	27	27	27
OP7	19	19	19
Options (can be changed only via the SAM menu)	**Total decimal value for each option per model number**		

How to Change Options at Bit Level
If you wish to know which features or settings of the HERCULES are changed via OP1...OP7, or if you want to change each option or feature bit by bit, use the more detailed table below.
Note: the table below contains only part of the NVM settings that can be changed. A second range of settings and features can be found in Chapter 5 of this manual, in table **NVM Default values**. The settings mentioned there can only be changed via the NVM editor. For further settings, see also the table “ADC Gain and Grey scale alignment” elsewhere in this manual.

Table 8-4 Option codes in detail, at bit level

Option byte & bit table for restoring the TV set to its original Factory Default settings via the NVM Editor in the SAM menu				
	Model number	**26PF5321/10/12 32PF5321/10/12**	**37PF5321/10/12**	**26PF7321/12 32PF7321/12 37PF7321/10/12**
OP1	**Description of feature/option to be switched ON or OFF**			
bit 7 (msb)	OP_PHILIPS_TUNER	1	1	1
bit 6	OP_FM_RADIO	0	0	0
bit 5	OP_LNA	0	0	0
bit 4	OP_ATS // for EU	1	1	1
bit 3	OP_ACI	1	1	1
bit 2	OP_UK_PNP	0	0	0
bit 1	OP_VIRGIN_MODE	0	0	0
bit 0 (lsb)	OP_CHINA	0	0	0
	Total DEC Value	152	152	152
	Total HEX Value	98	98	98
OP2				
bit 7 (msb)	OP_HDMI-2X	1	1	1
bit 6	OP_IBEX (for DVB)	0	0	0
bit 5	OP_CHANNEL_NAMING	1	1	1
bit 4	OP_LTI (Lum Transcient Improvmt)	0	0	0
bit 3	OP_TILT	0	0	0
bit 2	OP_FINE_TUNING	1	1	1
bit 1	OP_BACKLIGHT_DIMMING (for Malibu only)	1	1	1
bit 0 (lsb)	OP_HUE	1	1	1
	Total DEC Value	167	167	167
	Total HEX Value	A7	A7	A7
OP3				
bit 7 (msb)	OP_EW_FUNCTION	0	0	0
bit 6	OP_PIXEL_PLUS (for Option A)	0	0	0
bit 5	OP_SCL_RECOVERY	1	1	1
bit 4	OP_SPLITTER // temp	0	0	0
bit 3	OP_VIRTUAL_DOLBY	1	1	1
bit 2	OP_WIDE_SCREEN	1	1	1
bit 1	OP_WSSB	1	1	1
bit 0 (lsb)	OP_OP_ME5 // OP_ME5 - 5/6 local buttons implementation	1	1	1
	Total DEC Value	47	47	111
	Total HEX Value	2F	2F	6F
OP4				
bit 7 (msb)	OP_LIP_SYNC (for PDP only)	0	0	0
bit 6	OP_HD	1	1	1
bit 5	OP_1000P_TEXT	0	1	1
bit 4	OP_DELTA_VOLUME	1	1	1
bit 3	OP_TAIWAN_KOREA	0	0	0
bit 2	OP_VOLUME_LIMITER	0	0	0
bit 1	OP_STEREO_DBX	0	0	0
bit 0 (lsb)	OP_STEREO_NICAM_2CS	1	1	1
	Total DEC Value	81	113	113
	Total HEX Value	51	71	71
OP5				
bit 7 (msb)	OP_AV1	1	1	1
bit 6	OP_AV2	1	1	1
bit 5	OP_AV3	1	1	1
bit 4	OP_CVI	1	1	1
bit 3	OP_SVHS2	1	1	1
bit 2	OP_SVHS3	1	1	1
bit 1	OP_HOTEL_MODE	0	0	0
bit 0 (lsb)	OP_SIMPLY_FACTORY=OP_BTSC_AVSTEREO	0	0	0
	Total DEC Value	252	252	252
	Total HEX Value	FC	FC	FC
OP6				
bit 7 (msb)	OP_PERSONAL_ZAPPING	0	0	0
bit 6	OP_SMART_SURF	0	0	0
bit 5	OP_FMTRAP	0	0	0
bit 4	OP_COMBFILTER	1	1	1
bit 3	OP_ACTIVE_CONTROL	1	1	1
bit 2	OP_VIDEO_TEXT	0	0	0
bit 1	OP_LIGHT_SENSOR	1	1	1
bit 0 (lsb)	OP_TWIN_TEXT	1	1	1
	Total DEC Value	27	27	27
	Total HEX Value	1B	1B	1B
OP7				
bit 7 (msb)	OP_TIME_WIN1	0	0	0
bit 6	OP_DVB_USB = OP_MALAY	0	0	0
bit 5	OP_AMBILIGHT	0	0	0
bit 4	OP_COLUMBUS	1	1	1
bit 3	OP_DUMMY6	0	0	0
bit 2	OP_DUMMY7	0	0	0
bit 1	OP_WEST_EU	1	1	1
bit 0 (lsb)	OP_MULTI_STANDARD_EUR	1	1	1
	Total DEC Value	19	19	19
	Total HEX Value	13	13	13

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

Index of this chapter:

9.1 Introduction
9.2 Block Diagram
9.3 Power Supply Unit
9.4 Abbreviation List
9.5 IC Data Sheets

9.1 Introduction

The LC4.31 chassis is a global chassis for the year 2006. It is the successor of the LC4.3 chassis and covers screen sizes of 26, 32 and 37 inch (in 16:9 ratio). It has two new stylings, called ME5FL and ME6. There are two different picture qualities available, depending on the model: Pixel Plus in the xxPF7321/10 and /12 models, and Digital Crystal Clear in the xxPF5321/10 and /12 models. The block diagram below (Figure “Block diagram”) shows the Pixel Plus architecture; the architectures of the Digital Crystal Clear models are shown in the block diagram on the next page (Figure “Block diagram of the internal building blocks“).

The architecture consists of a TV and Scaler panel, I/O panel, Side I/O and Local Keyboard panel and Power Supply panel. The functions for video/audio processing, microprocessor (P), and CC/Teletext (TXT) decoder are all combined in one IC (TDA150xx, item 7217), the so-called third generation Ultimate One Chip (UOC-III) or “Hercules”. This chip has the following features:

- Control, small signal, mono/stereo, and extensive Audio/Video switching in one IC.
- Upgrade with digital sound & video processing.
- Alignment free IF, including SECAM-L/L1 and AM.
- FM sound 4.5/5.5/6.0/6.5, no traps/bandpass filters.
- Full multi-standard colour decoder.
- One Xtal reference for all functions (microprocessor, RCP, TXT/CC, RDS, colour decoder, and stereo sound processor).

9.2 Block Diagram

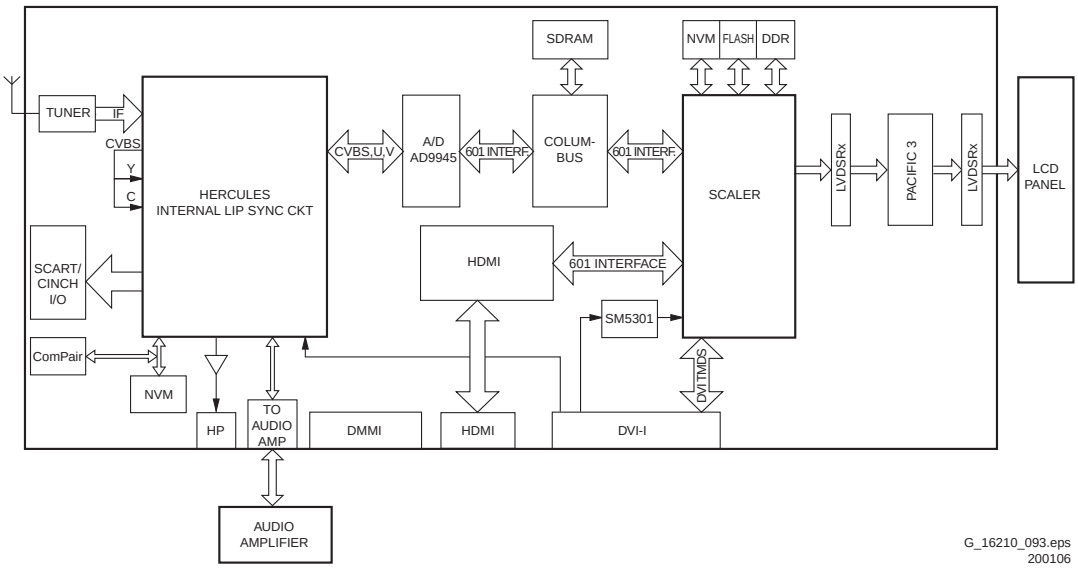


Figure 9-1 Block Diagram

The function is basically the same as in the LC4.3E AA, with the following differences:

- the model range only contains models with Digital Crystal Clear or Pixel Plus;
- Pixel Plus is performed by a new IC, called Pacific 3.

The Pacific 3 IC, which is present in Pixel Plus models, provides additional sharpening, and contrast and colour enhancements to the picture. For a general outline, see the table and the block diagrams below, in which the architectures of the two different models are given, together with their electronic building blocks.

Table 9-1 Models and picture quality

Model	Picture quality
xxPF5321/10/12	Digital Crystal Clear
xxPF7321/10/12	Pixel Plus

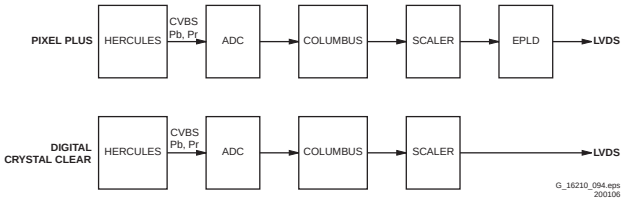


Figure 9-2 Block diagram of the internal building blocks

For more information, please refer to manual LC4.3E AA, 12NC 3122 785 15270

9.3 Power Supply Unit

9.3.1 Description

The power supply is a bought module, that consists of the following parts:

- the AC mains input with fuse;
- a separate stand-by supply;

- the mains harmonic circuit;
- the mains rectifier.

The power supply provides the following output voltages:
- 3.3V for the UOCIII, Scaler and other digital circuits;
- unregulated 12V, which is converted to regulated 5V, 8V, and 12V;
- a so-called bolt-on supply, which provides 12V for bolt-on devices (not covered in this manual).

9.3.2 States and Sub-states of the Power Supply

The power supply has three different states. Each of these states has a couple of sub-states:

1. POWER OFF:
   a. PASSIVE OFF:
      The set is switched off completely, the mains cable is disconnected. When the mains is re-connected, the set switches to the last STAND-BY status.
   b. ACTIVE OFF:
      The set is connected to the mains, and consuming a minimum amount of power. This sub-state is similar to NORMAL STAND-BY, but all LED indicators are off. Switch to the ON or STAND-BY mode with the POWER ON/OFF button (in the NAFTA region also with the STAND-BY KEY of the RC).
2. STAND-BY:
   a. NORMAL STAND-BY:
      Only Hercules and NVM are connected to the power (+3V3STBY), other circuits are disconnected. The LED lights red. The signal from a control port can switch the set OFF or ON.
   b. SEMI STAND-BY:
      Only on DVB sets. In this state the LED lights red. +3V3STBY, +12VUNREG, and +12V iBOZ remain ON for a certain time. After that time only +3V3STBY stays ON, only powering Hercules and NVM, so the set is in NORMAL STAND-BY.
3. POWER ON:
   This is the normal operating mode. All power supply lines are available. All circuits are active. From this mode the set can switch to NORMAL STAND-BY, SEMI STAND-BY, OFF, or PROTECTION.

9.4 Abbreviation List

0/6/12	SCART switch control signal on A/V board. 0 = loop through (AUX to TV), 6 = play 16:9 format, 12 = play 4:3 format
1080i	1080 visible lines, interlaced
1080p	1080 visible lines, progressive scan
2CS	2 Carrier Sound (or 2 Channel Stereo)
480i	480 visible lines, interlaced
480p	480 visible lines, progressive scan
ACI	Automatic Channel Installation: algorithm that installs TV channels directly from a cable network by means of a predefined TXT page
ADC	Analogue to Digital Converter
AFC	Automatic Frequency Control; Control signal used to tune and lock to the correct frequency
AGC	Automatic gain control (feedback) signal to the tuner. This circuit ensures a constant output amplitude regardless of the input amplitude
AM	Amplitude Modulation; A "data encoding to a carrier" method, such that the carrier amplitude is proportional to the data value
AP or A/P	Asia Pacific
AR	Aspect Ratio: 4 by 3 or 16 by 9
ASD	Automatic Standard Detection
AV	External Audio Video
B-SC1-IN	Blue SCART1/EXT1 in
B-SC2-IN	Blue SCART2/EXT2 in
B-TXT	Blue TeleteXT
B/G	Monochrome TV system. Sound carrier distance is 5.5 MHz. B= VHF-band, G= UHF-band
C-FRONT	Chrominance front input
CBA	Circuit Board Assembly (also called PCB or PWB)
CL	Constant Level: audio output to connect with an external amplifier
CLUT	Colour Look-Up Table
COLUMBUS	COLour LUMinance Baseband Universal Subsystem. IC performing noise reduction and 2D/3D comb filtering
ComPair	Computer aided rePair. A tool for diagnosing a TV through a PC controlled interface
CSM	Customer Service Mode
CVBS	Composite Video and Blanking Signal; A single video signal that contains luminance, colour, and timing information
DAC	Digital to Analogue Converter
DBE	Dynamic Bass Enhancement: extra low frequency amplification
DFU	Directions For Use: Owner's manual
DNR	Dynamic Noise Reduction / Digital Noise Reduction; Noise reduction feature of the set
DRAM	Dynamic RAM; dynamically refreshed RAM
DSP	Digital Signal Processing
DST	Dealer Service Tool; Special remote control designed for dealers to enter e.g. service mode (a DST-emulator is available in ComPair)
EEPROM	Electrically Erasable and Programmable Read Only Memory
EPG	Electronic Program Guide: system used by broadcasters to transmit TV guide information (= NexTView)

EU	Europe
EXT	EXTernal (source), entering the set by SCART or by cinches (jacks)
FBL	Fast BLanking; DC signal accompanying RGB signals. To blank the video signal when it is returning from the right side of the screen to the left side. The video level is brought down below the black video level
FM	Field Memory; A memory chip that is capable of storing one or more TV picture fields / Frequency Modulation; A technique that sends data as frequency variations of a carrier signal
FRC	Frame Rate Converter
H	H_sync to the module
HA	Horizontal Acquisition; horizontal sync pulse
HD	High Definition
HP	HeadPhone
I	Monochrome TV system. Sound carrier distance is 6.0 MHz. VHF- and UHF-band
I^2C	Integrated IC bus
I^2S	Integrated IC Sound bus
IC	Integrated Circuit
IF	Intermediate Frequency
Interlaced	Scan mode where two fields are used to form one frame. Each field contains half the number of the total amount of lines. The fields are written in "pairs", causing line flicker.
IR	Infra Red
IRQ	Interrupt ReQuest
Last Status	The settings last chosen by the customer and read and stored in RAM or in the NVM. They are called at start-up of the set to configure it according to the customer's preferences
LATAM	LATin AMerica
LC04	Philips chassis name for LCD TV 2004 project
LCD	Liquid Crystal Display
LED	Light Emitting Diode; A semiconductor diode that emits light when a current is passed through it
L/L'	Monochrome TV system. Sound carrier distance is 6.5 MHz. L' is Band I, L is all bands except for Band I
LS	LoudSpeaker
LVDS	Low Voltage Differential Signalling, data transmission system for high speed and low EMI communication.
M/N	Monochrome TV system. Sound carrier distance is 4.5 MHz. M= 525 lines @ 60 Hz, N= 625 lines @ 50 Hz
MOSFET	Metal Oxide Semiconductor Field Effect Transistor
MPEG	Motion Pictures Experts Group. An ISO/IEC body that has given its name to an image compressing scheme for moving video
MSP	Multi-standard Sound Processor: ITT sound decoder
MUTE	MUTE Line
NC	Not Connected
NICAM	Near Instantaneously Companded Audio Multiplexing; This is a digital sound system, mainly used in Europe
NTSC	National Television Standard Committee. Colour system used mainly 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 data such as alignment values, preset stations
O/C	Open Circuit
ON/OFF LED	On/Off control signal for the LED
OSD	On Screen Display
PAL	Phase Alternating Line. Colour system used mainly in Western Europe (colour carrier = 4.433619 MHz) and South America (colour carrier PAL M = 3.575612 MHz and PAL N = 3.582056 MHz)
PC	Personal Computer
PCB	Printed Circuit Board (or PWB)
PIP	Picture In Picture
PLL	Phase Locked Loop. Used, for example, in FST tuning systems. The customer can directly provide the desired frequency
Progressive Scan	Scan mode where all scan lines are displayed in one frame at the same time, creating a double vertical resolution.
PWB	Printed Wiring Board (also called PCB or CBA)
RAM	Random Access Memory
RC	Remote Control transmitter
RC5 or 6	Remote Control system 5 or 6, the signal from the remote control receiver
RGB	Red, Green, and Blue colour space; The primary colour signals for TV. By mixing levels of R, G, and B, all colours (Y/C) are reproduced
RGBHV	Red, Green, Blue, Horizontal sync, and Vertical sync
ROM	Read Only Memory
SAM	Service Alignment Mode
S/C	Short Circuit
SCART	Syndicat des Constructeurs d'Appareils Radiorécepteurs et Téléviseurs; This is a 21-pin connector used in EU, that carries various audio, video, and control signals (it is also called Péritel connector)
SCL	Serial CLock Signal on I^2C bus
SD	Standard Definition
SDA	Serial DAta Signal on I^2C bus
SDRAM	Synchronous DRAM
SECAM	SÉquence Couleur Avec Mémoire; Colour system mainly used in France and East Europe. The chroma is FM modulated and the R-Y and B-Y signals are transmitted line sequentially. Colour carriers= 4.406250 MHz and 4.250000 MHz
SIF	Sound Intermediate Frequency
SMPS	Switched Mode Power Supply
SND	SouND
SOPS	Self Oscillating Power Supply
SRAM	Static RAM
STBY	STandBY
SVHS	Super Video Home System
SW	Software or Subwoofer or Switch
THD	Total Harmonic Distortion
TXT	Teletext; TXT is a digital addition to analogue TV signals that contain textual and graphical information (25 rows x 40 columns). The information is transmitted within the first 25 lines during the Vertical Blank Interval (VBI)
uP	Microprocessor
VA	Vertical Acquisition

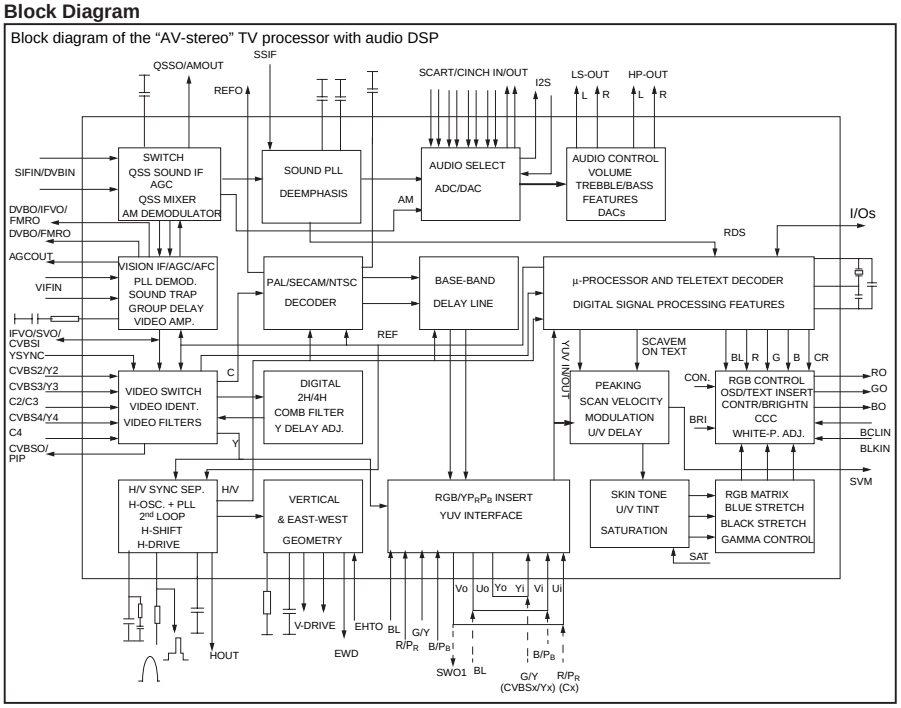
VL	Variable Level out: processed audio output towards external amplifier
VCR	Video Cassette Recorder
VGA	Video Graphics Array; 640x480 (4:3)
WD	Watch Dog
WYSIWYR	What You See Is What You Record: record selection that follows main picture and sound
XTAL	Quartz crystal
Y	Luminance signal
Y/C	Y consists of luminance signal, blanking level and sync; C consists of chroma (colour) signal
YPbPr	This is a scaled version of the YUV colour space. Y= Luminance, Pb/Pr= Colour difference signals B-Y and R-Y, other amplitudes w.r.t. to YUV
YUV	Colour space used by the NTSC and PAL video systems. Y is the luminance and U/V are the colour difference signals

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 Diagram B2, Type TDA15021H (IC7217, Hercules)

Block Diagram



Pin Configuration

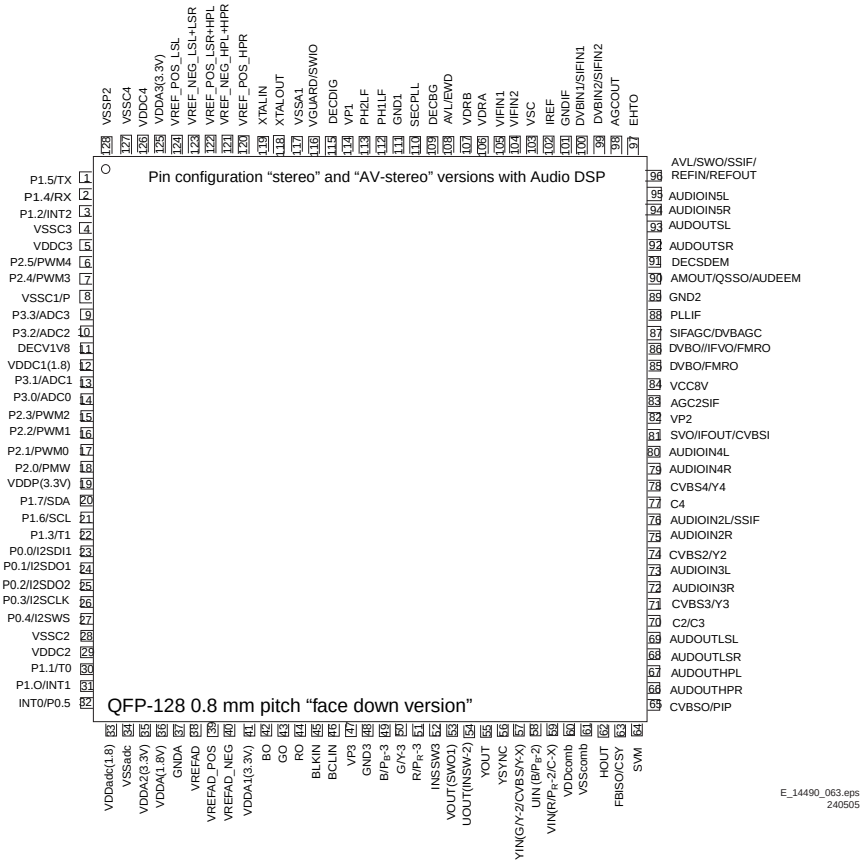


Figure 9-3 Internal block diagram and pin configuration

9.5.2 Diagram B19, Type T6TU5XB (IC7M00, Columbus)

Figure 1 Package outline (top view)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
A	WEB/ DAVB	UVA0 /Di0	UVA2 /Di2	UVA4 /Di4	UVA6 /Di6	UVA8 /Di8	SEL656	TST1	YA2	YA4	YA6	YA8	VA	HREF	SDA	A
B	YB8	VSS	UVA1 /Di1	UVA3 /Di3	UVA5 /Di5	UVA7 /Di7	YA0 /Di9	BISTEN	YA1	YA3	YA5	YA7	WEA/ DAVA	VSS	SCL	B
C	YB7	YB6	VSS	VDDS	VSS	VSS	VDDC	VDDC	VSS	VSS	VDDC	VDDS	VSS	SNDA	SNRST	C
D	YB5	YB4	VDDC	N.C.									VSS	SNCL	TCK	D
E	YB3	YB2	VSS										VDDC	TMS	TDO	E
F	TST2	YB1	VSS										VSS	TRST	TDI	F
G	CLKASB	YB0 /Do9	VDDS										VDDS	A0ICC	RESET	G
H	CLKASA	UVB8/ Do8	TST3										VDDC	CLK EXT	CLKSEL	H
J	UVB7 /Do7	UVB6/ Do6	VSS										VSS	CLK	WEN	J
K	UVB5 /Do5	UVB4/ Do4	VDDC										VSS	CASN	RASN	K
L	UVB3 /Do3	UVB2 /Do2	VSS										VDDS	DQM	DQ16	L
M	UVB1 /Do1	UVB0 /Do0	VDDS										VSS	DQ14	DQ15	M
N	AVD	N.C.	VDDS	VSS	VSS	VDDC	VSS	VDDS	VDDC	VSS	VDDS	VSS	VSS	VDDS	DQ13	N
P	AVS	VSS	A7	A9	A2	A0	A11	DQ7	DQ6	DQ4	DQ3	DQ1	VDDS	VSS	DQ12	P
R	A4	A5	A6	A8	A3	A1	A10	DQ8	VSS	DQ5	VSS	DQ2	DQ9	DQ10	DQ11	R
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	

COLUMBUS TOP-VIEW

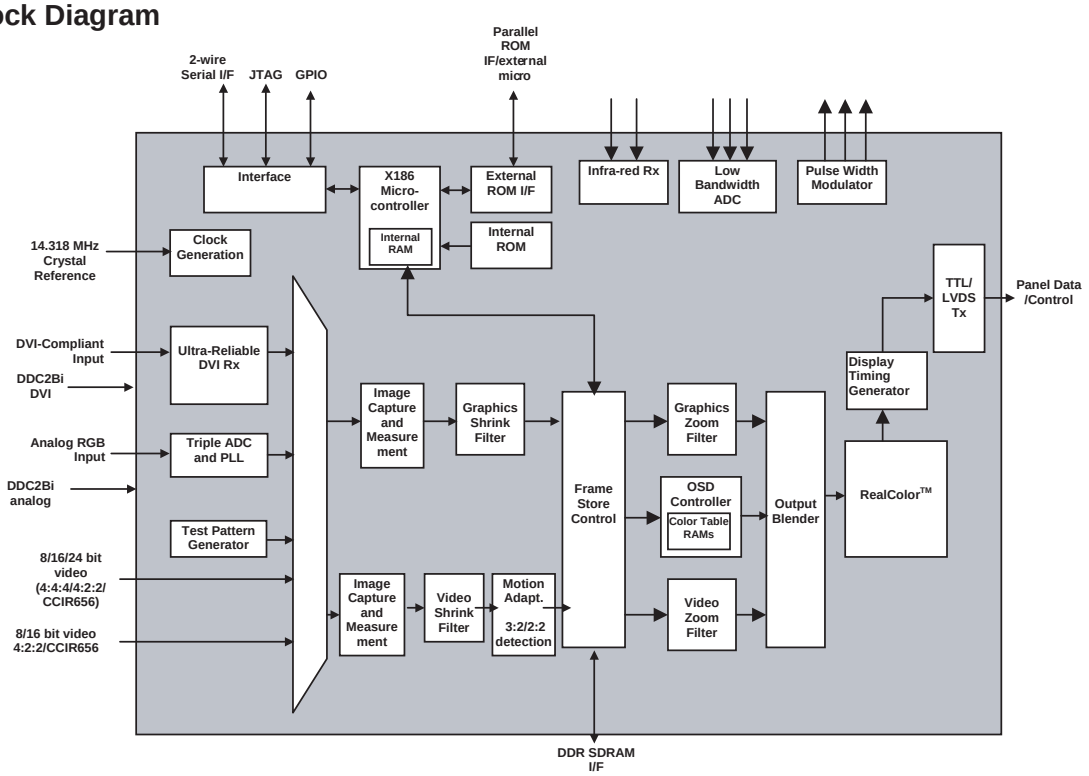
PPA Version 2.7

E_14600_059.eps
200804

Figure 9-4 Pin configuration

9.5.3 Diagram B7+B8+B9, Type GM1501 (IC7401, Genesis)

Block Diagram



Pin Configuration

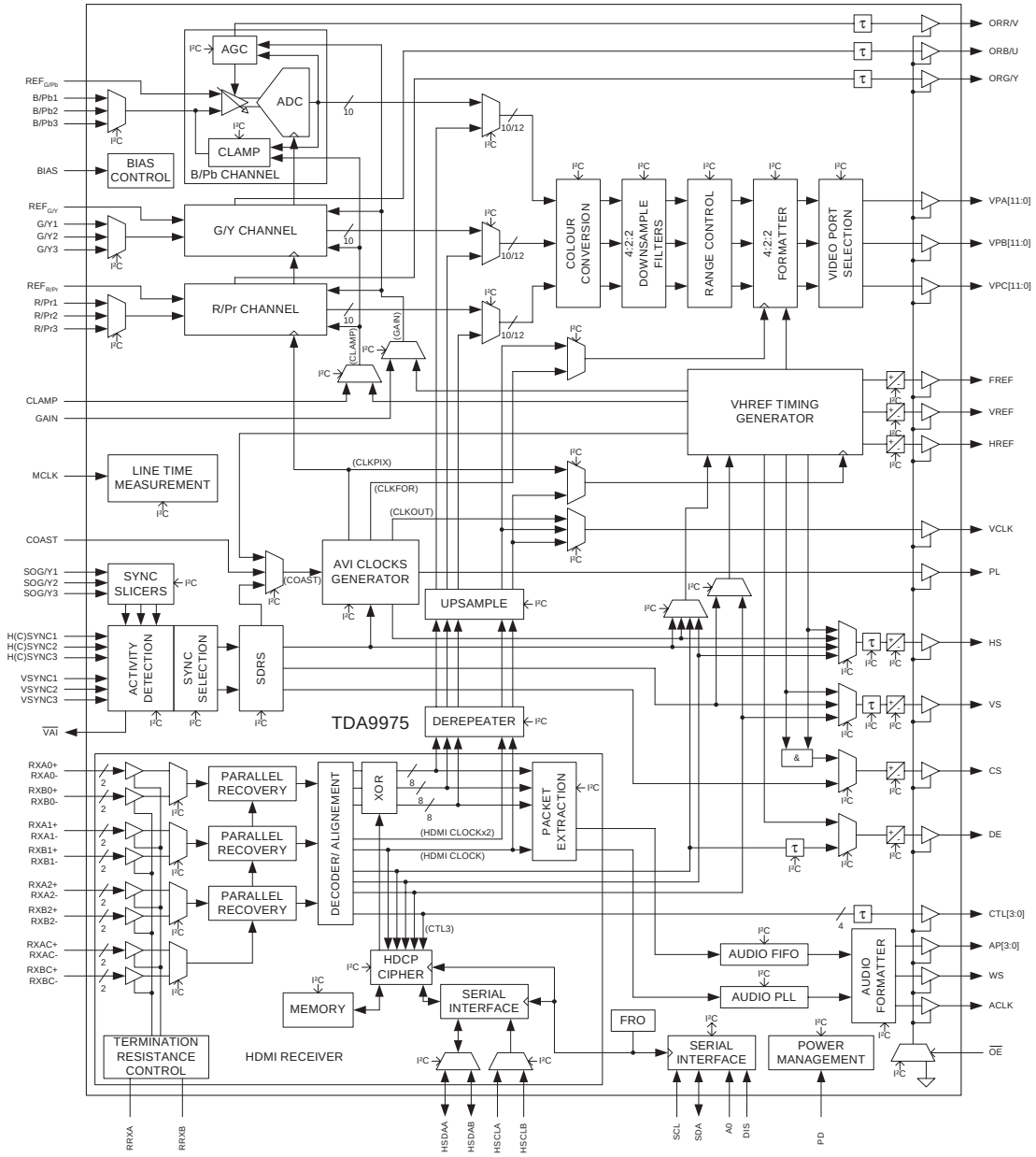
	1	2	3	4	5	6	7	8	9	10	11	12	13
A	NC	ADC_3.3	ADC_1.8	ADC_1.8	ADC_DGND	RXC+	DVI_GND	RX0+	RX1+	RX2+	DVI_GND	LBADC_IN3	D_GND
B	BLUE-	BLUE+	ADC_3.3	ADC_DGND	DVI_GND	RXC-	DVI_GND	RX0-	RX1-	RX2-	REXT	LBADC_IN2	D_GND
C	GREEN-	GREEN+	SOG	ADC_AGND	NC	DVI_3.3	DVI_GND	DVI_3.3	DVI_3.3	DVI_3.3	DVI_3.3	LBADC_IN1	LBADC_33
D	RED-	RED+	ADC_3.3	ADC_AGND	NC	DVI_1.8	DVI_GND	DVI_1.8	DVI_1.8	DVI_1.8	DVI_GND	LBADC_ RETURN	LBADC_GND
E	ADC_AGND	ADC_AGND	ADC_3.3	ADC_AGND									
F	NC	VDDD33_ PLL	VSSA33_ RPLL	VDDA33_ RPLL									
G	VDDA33_ FPLL	VSSD33_ PLL	TCLK	XTAL									
H	VDDD33_ SDDS	VSSA33_ SDDS	VDDA33_ SDDS	VSSA33_ FPLL									
J	VDDD33_ DDDS	VSSA33_ DDDS	VDDA33_ DDDS	VSSD33_ SDDS									
K	RESETn	ACS_ RSET_HD	NC	VSSD33_ DDDS						CORE_1.8	CORE_1.8	D_GND	D_GND
L	OCM_INT2	OCM_INT1	AVSYNC	AHSYNC						D_GND	CORE_1.8	D_GND	D_GND
M	OCM_UDO	OCM_UDI	IR0	IR1						D_GND	D_GND	D_GND	D_GND
N	VGA_SDA	VGA_SCL	DVI_SDA	DVI_SCL						D_GND	D_GND	D_GND	D_GND
P	OCM_CS1n	OCM_CS2n	MSTR_SDA	MSTR_SCL						D_GND	D_GND	D_GND	D_GND
R	ROM_CSn	OCM_REn	OCM_WEn	EXTCLK						D_GND	D_GND	D_GND	D_GND
T	OCMADDR 17	OCMADDR 18	OCMADDR 19	OCM_CS0n						D_GND	CORE_1.8	D_GND	D_GND
U	OCMADDR 13	OCMADDR 14	OCMADDR 15	OCMADDR 16						CORE_1.8	CORE_1.8	D_GND	D_GND
V	OCMADDR 9	OCMADDR 10	OCMADDR 11	OCMADDR 12									
W	OCMADDR 6	OCMADDR 7	OCMADDR 8	IO_3.3									
Y	OCMADDR 3	OCMADDR 4	OCMADDR 5	IO_3.3									
AA	OCMADDR 0	OCMADDR 1	OCMADDR 2	IO_3.3									
AB	OCMDATA13	OCMDATA14	OCMDATA15	IO_3.3									
AC	OCMDATA10	OCMDATA11	OCMDATA12	IO_3.3	GPIO_G09_ B2 (DEGRN0)	IO_3.3	DCLK	IO_3.3	GPIO_G07_ B2 (DERED4)	IO_3.3	SHIELD[1] (DEGRN3)	LVDSB_3.3	LVDSB_GND
AD	OCMDATA9	OCMDATA6	OCMDATA3	OCMDATA0	GPIO_G09_ B3 (DEGRN1)	GPIO_G08_ B0 (DORED0)	DEN	GPIO_G08_ B5 (DOBLU1)	GPIO_G07_ B3 (DERED5)	GPIO_G07_ B6 (DERED8)	SHIELD[2] (DEGRN4)	LVDSB_3.3	LVDSB_3.3
AE	OCMDATA8	OCMDATA5	OCMDATA2	GPIO_G09_ B0 (DERED0)	GPIO_G09_ B4 (DEBLU0)	GPIO_G08_ B1 (DORED1)	GPIO_G08_ B3 (DOGRN1)	GPIO_G07_ B0 (DERED2)	GPIO_G07_ B4 (DERED6)	GPIO_G07_ B7 (DERED9)	SHIELD[3] (DEGRN5)	BC+ (DEGRN8)	SHIELD[4] (DEBLU2)
AF	OCMDATA7	OCMDATA4	OCMDATA1	GPIO_G09_ B1 (DERED1)	GPIO_G09_ B5 (DEBLU1)	GPIO_G08_ B2 (DOGRN0)	GPIO_G08_ B4 (DOBLU0)	GPIO_G07_ B1 (DERED3)	GPIO_G07_ B5 (DERED7)	SHIELD[0] (DEGRN2)	B3+ (DEGRN6)	B3- (DEGRN7)	BC- (DEGRN9)

E_14490_099.eps
241204

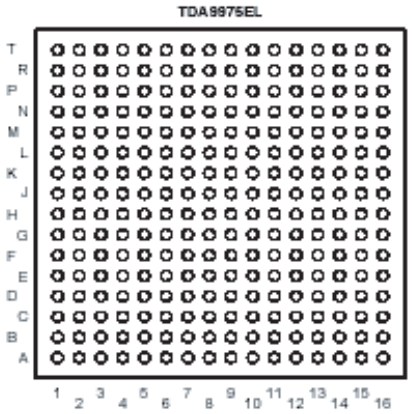
Figure 9-5 Internal block diagram and pin configuration

9.5.4 Diagram B12, Type TDA9975EL (IC7D03, HDMI Panellink), Reserved

Block Diagram



Pin Configuration



F_15400_135.eps
240505

Figure 9-6 Internal block diagram and pin configuration

10. Spare Parts List (Only for: 26PF5321/10 - /12, 32PF5321/10 - /12)

Set Level

Various

1099⚠	9322 221 01682	LCD LC260WX2-SL01
1099⚠	9322 230 03682	LCD LC320W01-SL06
1112	3139 267 24041	Assy LED/IR [J]
1114	3139 188 89031	Assy Control Board [E]
1116	3139 188 89021	Assy Side I/O [D]
1174	3139 267 26731	Assy Audio Amp [C]
1188	3122 137 23171	Power Supply Unit 32"
1188⚠	3122 137 23191	Power Supply Unit 26"
8002	3104 311 08061	Cable 2p3/120/Inlet
8520	3139 131 06081	Cable Inverter
8520	3139 131 07061	Cable 12p 14p/820 280/
8P06	3139 131 05471	Cable 30p/280/30p
8P06	3139 131 06001	Cable 30p/140/30p
8870	3104 311 09151	Cable 6p/400/6p
8903	3104 311 09141	Cable 4p/560
8903	3104 311 10071	Cable 4P/560 680/

⎓

5213	2422 264 00537	Loudsp. 4Ω 15W FR
5213	2422 264 00539	Loudsp. 8Ω 15W

Software (See Product Purvey)

0801	3139 127 07041	SW Hercules
0811	3139 127 07031	SW Genesis
0821	3139 127 07001	SW HDMI-1 DDC
0822	3139 127 06991	SW HDMI-2 DDC

Small Signal Board

Various

1151	2422 025 18749	Connector 3p m
1152	3139 147 19801	Tuner UV1318S/A IH -3
1154	4822 242 81436	Filter OFWK3953M
1156	2422 549 44341	Filter 38.9MHz
1177	2422 025 18749	Connector 3p m
1202	2422 543 01414	Xtal 24.576MHz
1801	2422 543 01133	Xtal 14.32MHz 20pF
1F01	2422 026 05647	Cinch 2P f
1F02	2422 033 00505	Socket HDMI 19p f
1F03	2422 033 00505	Socket HDMI 19p f
1G01	2422 025 19508	3 x Cinch/SCART
1G02	2422 025 19509	3 x Cinch/SCART
1J02	2422 025 10772	Connector 12p m
1J03	2422 025 10768	Connector 3p m
1J04	2422 025 10769	Connector 9p m
1K00	2422 025 08149	Connector 6p m
1K01	2422 025 10772	Connector 12p m
1K02	2422 025 10768	Connector 3p m
1L35	2422 543 01133	Xtal 14.32MHz 20pF
1N11	2422 549 45325	Bead 67Ω at 100MHz
1N12	2422 549 45325	Bead 67Ω at 100MHz
1N13	2422 549 45325	Bead 67Ω at 100MHz
1N14	2422 549 45325	Bead 67Ω at 100MHz
1N15	2422 549 45325	Bead 67Ω at 100MHz
1N16	2422 025 18772	Connector 30p m
8J02	3139 131 05901	Cable 12p/280/12p
8J03	3104 311 10051	Cable 3p/100/3p Wh
8J04	3104 311 09251	Cable 9p/140/9p
8K01	3139 131 05901	Cable 12p/280/12p

⊣⊢

2151	4822 124 12095	100µF 20% 16V
2152	5322 126 11583	10nF 10% 50V 0603
2153	5322 126 11583	10nF 10% 50V 0603
2154	4822 122 33761	22pF 5% 50V
2155	4822 122 33761	22pF 5% 50V
2156	5322 126 11583	10nF 10% 50V 0603
2157	3198 024 44730	47nF 50V 0603
2158	3198 030 82280	2.2µF 20% 50V
2159	5322 124 41945	22µF 20% 35V
2160	4822 124 12095	100µF 20% 16V
2203	4822 124 23002	10µF 16V
2206	2020 552 00183	2.2µF 10% 6.3V 0603
2207	2020 552 96718	220nF 10% 6.3V 0402
2208	4822 124 12084	1µF 20% 50V
2210	2020 552 96718	220nF 10% 6.3V 0402
2211	2020 552 96628	10nF 10% 16V 0402
2212	3198 035 71040	100nF 10% 16V 0402
2214	3198 035 03310	330pF 5% 50V 0402
2216	3198 035 03310	330pF 5% 50V 0402
2218	3198 035 71040	100nF 10% 16V 0402
2221	4822 124 12095	100µF 20% 16V
2223	2238 869 15101	100pF 5% 50V 0402
2225	2020 552 96618	1nF 10% 50V 0402
2226	3198 035 03320	3.3nF 5% 50V 0402
2227	2020 552 96618	1nF 10% 50V 0402
2228	3198 035 71040	100nF 10% 16V 0402
2230	3198 035 71040	100nF 10% 16V 0402
2231	2020 552 96718	220nF 10% 6.3V 0402
2232	3198 035 71040	100nF 10% 16V 0402
2233	4822 124 23002	10µF 16V
2234	2020 552 96718	220nF 10% 6.3V 0402
2235	2020 552 96718	220nF 10% 6.3V 0402
2236	4822 126 14076	220nF +80/-20% 25V
2237	2020 552 96718	220nF 10% 6.3V 0402
2238	2020 552 96718	220nF 10% 6.3V 0402
2239	3198 035 71040	100nF 10% 16V 0402
2240	2020 552 96718	220nF 10% 6.3V 0402
2241	2020 552 96718	220nF 10% 6.3V 0402
2242	3198 035 71040	100nF 10% 16V 0402
2243	4822 124 23002	10µF 16V
2244	3198 035 71040	100nF 10% 16V 0402
2245	3198 035 71040	100nF 10% 16V 0402
2246	3198 035 71040	100nF 10% 16V 0402
2247	3198 030 82280	2.2µF 20% 50V
2250	2020 552 96618	1nF 10% 50V 0402
2251	2020 552 96656	10µF 20% 25V 1210
2252	3198 035 71040	100nF 10% 16V 0402
2253	3198 035 71040	100nF 10% 16V 0402
2254	3198 035 71040	100nF 10% 16V 0402
2255	3198 035 71040	100nF 10% 16V 0402
2256	4822 124 23002	10µF 16V
2257	3198 035 71040	100nF 10% 16V 0402
2258	2020 552 96637	10µF 10% 6.3V 0805
2259	3198 035 71040	100nF 10% 16V 0402
2260	2020 552 96637	10µF 10% 6.3V 0805
2262	4822 124 23002	10µF 16V
2263	3198 035 26820	6.8nF 10% 16V 0402
2264	3198 017 44740	470nF 10V 0603
2265	3198 017 41050	1µF 10V 0603
2266	3198 035 71040	100nF 10% 16V 0402
2267	2020 552 96718	220nF 10% 6.3V 0402
2268	3198 030 82280	2.2µF 20% 50V
2269	2020 012 00003	470µF 16V 20% SMD
2270	3198 035 71040	100nF 10% 16V 0402
2271	4822 124 12095	100µF 20% 16V
2272	3198 035 71040	100nF 10% 16V 0402
2273	2020 552 96718	220nF 10% 6.3V 0402
2274	3198 017 31540	150nF 10V 0603
2277	3198 035 71040	100nF 10% 16V 0402
2280	2020 552 00027	4.7µF 2% 6.3V 0603
2281	2020 552 00027	4.7µF 2% 6.3V 0603
2285	3198 035 71040	100nF 10% 16V 0402
2286	3198 035 71040	100nF 10% 16V 0402
2289	4822 051 30151	150Ω 5% 0.062W
2290	2222 240 59872	4.7µF 5% 10V 0805
2291	3198 035 71040	100nF 10% 16V 0402
2449	3198 035 71040	100nF 10% 16V 0402
2603	2020 552 96834	1µF 20% 6.3V 0402
2604	3198 035 04710	470pF 50V 0402
2605	2020 552 96834	1µF 20% 6.3V 0402
2608	2020 552 96834	1µF 20% 6.3V 0402
2609	3198 035 04710	470pF 50V 0402
2610	2020 552 96834	1µF 20% 6.3V 0402
2611	4822 124 12095	100µF 20% 16V
2613	3198 017 41050	1µF 10V 0603
2614	3198 035 71040	100nF 10% 16V 0402
2615	2020 012 00003	470µF 16V 20% SMD
2616	2020 552 00183	2.2µF 10% 6.3V 0603
2617	2020 552 00183	2.2µF 10% 6.3V 0603
2618	2020 012 00003	470µF 16V 20% SMD
2619	4822 124 11131	47µF 6.3V
2701	2238 869 15101	100pF 5% 50V 0402
2704	4822 124 23002	10µF 16V
2716	2020 012 00028	470µF 20% 16V
2730	2020 552 00231	22µF 20% 16V X5R
2731	2020 012 00003	470µF 16V 20% SMD
2733	3198 035 02210	220pF 5% 50V 0402
2734	2238 787 16641	22nF 10% 16V 0402
2735	3198 035 06810	680pF 5% 50V 0402
2736	2022 031 00308	22µF 20% 35V
2737	2020 012 00003	470µF 16V 20% SMD
2738	4822 124 80151	47µF 16V
2739	4822 124 80151	47µF 16V
2751	2222 240 59872	4.7µF 5% 10V 0805
2752	4822 124 80151	47µF 16V
2758	2020 012 00003	470µF 16V 20% SMD
2762	5322 124 41945	22µF 20% 35V
2800	2020 021 91557	100µF 20% 16V
2801	3198 035 71040	100nF 10% 16V 0402
2802	3198 035 71040	100nF 10% 16V 0402
2803	3198 035 71040	100nF 10% 16V 0402
2804	3198 035 71040	100nF 10% 16V 0402
2805	3198 035 71040	100nF 10% 16V 0402
2806	3198 035 71040	100nF 10% 16V 0402
2807	3198 035 71040	100nF 10% 16V 0402
2808	3198 035 71040	100nF 10% 16V 0402
2809	3198 035 71040	100nF 10% 16V 0402
2810	3198 035 71040	100nF 10% 16V 0402
2811	3198 035 71040	100nF 10% 16V 0402
2812	3198 035 71040	100nF 10% 16V 0402
2813	3198 035 71040	100nF 10% 16V 0402
2814	3198 035 71040	100nF 10% 16V 0402
2815	5322 124 41945	22µF 20% 35V
2816	3198 035 71040	100nF 10% 16V 0402
2817	3198 035 71040	100nF 10% 16V 0402
2818	3198 035 71040	100nF 10% 16V 0402
2819	3198 035 71040	100nF 10% 16V 0402
2820	3198 035 71040	100nF 10% 16V 0402
2821	3198 035 71040	100nF 10% 16V 0402
2822	3198 035 71040	100nF 10% 16V 0402
2823	4822 126 14519	22pF 5% 50V 0402
2824	4822 126 14519	22pF 5% 50V 0402
2900	3198 035 71040	100nF 10% 16V 0402
2901	2020 552 96618	1nF 10% 50V 0402
2902	2020 021 91557	100µF 20% 16V
2903	3198 035 71040	100nF 10% 16V 0402
2904	4822 124 80151	47µF 16V
2905	2020 021 91557	100µF 20% 16V
2906	3198 035 71040	100nF 10% 16V 0402
2907	3198 035 71040	100nF 10% 16V 0402
2908	3198 035 71040	100nF 10% 16V 0402
2909	3198 035 71040	100nF 10% 16V 0402
2910	3198 035 71040	100nF 10% 16V 0402
2911	3198 035 71040	100nF 10% 16V 0402
2912	3198 035 71040	100nF 10% 16V 0402
2913	3198 035 71040	100nF 10% 16V 0402
2914	3198 035 71040	100nF 10% 16V 0402
2915	3198 035 71040	100nF 10% 16V 0402
2916	3198 035 71040	100nF 10% 16V 0402
2917	2020 021 91557	100µF 20% 16V
2918	3198 035 71040	100nF 10% 16V 0402
2919	3198 035 71040	100nF 10% 16V 0402
2920	3198 035 71040	100nF 10% 16V 0402
2921	3198 035 71040	100nF 10% 16V 0402
2922	3198 035 71040	100nF 10% 16V 0402
2923	3198 035 71040	100nF 10% 16V 0402
2924	3198 035 71040	100nF 10% 16V 0402
2925	3198 035 71040	100nF 10% 16V 0402
2926	3198 035 71040	100nF 10% 16V 0402
2927	3198 035 71040	100nF 10% 16V 0402
2928	3198 035 71040	100nF 10% 16V 0402
2929	3198 035 71040	100nF 10% 16V 0402
2930	3198 035 71040	100nF 10% 16V 0402
2931	3198 035 71040	100nF 10% 16V 0402
2932	3198 035 71040	100nF 10% 16V 0402
2933	3198 035 71040	100nF 10% 16V 0402
2934	4822 124 80151	47µF 16V
2935	3198 035 71040	100nF 10% 16V 0402
2936	3198 035 71040	100nF 10% 16V 0402
2937	3198 035 71040	100nF 10% 16V 0402
2938	3198 035 71040	100nF 10% 16V 0402
2939	3198 035 71040	100nF 10% 16V 0402
2940	4822 124 80151	47µF 16V
2941	3198 035 71040	100nF 10% 16V 0402
2942	3198 035 71040	100nF 10% 16V 0402
2945	5322 124 41945	22µF 20% 35V
2946	3198 035 71040	100nF 10% 16V 0402
2947	3198 035 71040	100nF 10% 16V 0402
2948	3198 035 71040	100nF 10% 16V 0402
2949	3198 035 71040	100nF 10% 16V 0402
2950	5322 124 41945	22µF 20% 35V
2951	3198 035 71040	100nF 10% 16V 0402
2952	3198 035 71040	100nF 10% 16V 0402
2953	3198 035 71040	100nF 10% 16V 0402
2954	3198 035 71040	100nF 10% 16V 0402
2955	5322 124 41945	22µF 20% 35V
2956	3198 035 71040	100nF 10% 16V 0402
2957	3198 035 71040	100nF 10% 16V 0402
2958	3198 035 71040	100nF 10% 16V 0402
2959	3198 035 71040	100nF 10% 16V 0402
2960	2020 021 91557	100µF 20% 16V
2B01	4822 124 80151	47µF 16V
2B02	4822 124 11131	47µF 6.3V
2B03	3198 035 71040	100nF 10% 16V 0402

2B04	3198 035 71040	100nF 10% 16V 0402
2B05	3198 035 71040	100nF 10% 16V 0402
2B06	3198 035 71040	100nF 10% 16V 0402
2B07	3198 035 71040	100nF 10% 16V 0402
2B08	3198 035 71040	100nF 10% 16V 0402
2B09	3198 035 71040	100nF 10% 16V 0402
2B10	3198 035 71040	100nF 10% 16V 0402
2B11	3198 035 71040	100nF 10% 16V 0402
2B12	3198 035 71040	100nF 10% 16V 0402
2B13	3198 035 71040	100nF 10% 16V 0402
2B14	3198 035 71040	100nF 10% 16V 0402
2B15	3198 035 71040	100nF 10% 16V 0402
2B16	3198 035 71040	100nF 10% 16V 0402
2B17	3198 035 71040	100nF 10% 16V 0402
2B18	5322 124 41945	22µF 20% 35V
2C00	3198 035 71040	100nF 10% 16V 0402
2C01	4822 124 23002	10µF 16V
2C02	3198 035 71040	100nF 10% 16V 0402
2C03	3198 035 71040	100nF 10% 16V 0402
2C04	2020 552 96628	10nF 10% 16V 0402
2C05	2020 552 96628	10nF 10% 16V 0402
2D00	3198 035 71040	100nF 10% 16V 0402
2D01	3198 035 71040	100nF 10% 16V 0402
2D02	4822 124 23237	22µF 6.3V
2D08	2020 552 96618	1nF 10% 50V 0402
2D09	2020 552 96618	1nF 10% 50V 0402
2D10	2020 552 96618	1nF 10% 50V 0402
2D11	2020 552 96618	1nF 10% 50V 0402
2D12	2020 552 96618	1nF 10% 50V 0402
2D13	2020 552 96618	1nF 10% 50V 0402
2D14	2020 552 96618	1nF 10% 50V 0402
2D15	2020 552 96618	1nF 10% 50V 0402
2D16	2020 552 96618	1nF 10% 50V 0402
2D17	2020 552 96618	1nF 10% 50V 0402
2D18	2020 552 96618	1nF 10% 50V 0402
2D21	2020 552 96618	1nF 10% 50V 0402
2D22	3198 035 71040	100nF 10% 16V 0402
2D23	2020 552 96618	1nF 10% 50V 0402
2D24	2020 552 96618	1nF 10% 50V 0402
2D25	3198 035 71040	100nF 10% 16V 0402
2D29	2020 552 96618	1nF 10% 50V 0402
2D30	2020 552 96618	1nF 10% 50V 0402
2D31	2020 552 96618	1nF 10% 50V 0402
2D32	2020 552 96618	1nF 10% 50V 0402
2D34	2020 552 96618	1nF 10% 50V 0402
2D35	2020 552 96618	1nF 10% 50V 0402
2D36	2020 552 96618	1nF 10% 50V 0402
2D37	2020 552 96618	1nF 10% 50V 0402
2D38	2020 552 96618	1nF 10% 50V 0402
2D39	2020 552 96618	1nF 10% 50V 0402
2D42	4822 124 23237	22µF 6.3V
2D43	4822 124 23237	22µF 6.3V
2D44	4822 124 23237	22µF 6.3V
2D45	3198 035 71040	100nF 10% 16V 0402
2D46	4822 124 11131	47µF 6.3V
2D47	4822 124 23237	22µF 6.3V
2D48	4822 124 23237	22µF 6.3V
2D49	2020 552 96618	1nF 10% 50V 0402
2D50	4822 124 11131	47µF 6.3V
2D51	3198 035 71040	100nF 10% 16V 0402
2D52	4822 124 11131	47µF 6.3V
2D53	3198 035 71040	100nF 10% 16V 0402
2D54	4822 124 11131	47µF 6.3V
2D55	3198 035 71040	100nF 10% 16V 0402
2D56	4822 124 23002	10µF 16V
2D57	4822 124 23002	10µF 16V
2D58	2020 552 96628	10nF 10% 16V 0402
2D59	2020 552 96628	10nF 10% 16V 0402
2E00	2020 552 00005	4.7µF 10% 6.3V 0603
2E01	2020 552 00005	4.7µF 10% 6.3V 0603
2E02	2020 552 00005	4.7µF 10% 6.3V 0603
2E03	3198 035 71040	100nF 10% 16V 0402
2E04	2020 552 00027	4.7µF 2% 6.3V 0603
2E05	2020 552 00027	4.7µF 2% 6.3V 0603
2E06	2020 552 00027	4.7µF 2% 6.3V 0603
2E07	4822 126 14324	33pF 5% 50V 0402
2E08	2020 552 00005	4.7µF 10% 6.3V 0603
2E09	4822 126 14324	33pF 5% 50V 0402
2E10	2020 552 00005	4.7µF 10% 6.3V 0603
2E11	4822 126 14324	33pF 5% 50V 0402
2E12	2020 552 00005	4.7µF 10% 6.3V 0603
2E13	3198 017 41050	1µF 10V 0603
2E14	4822 126 14324	33pF 5% 50V 0402
2E16	3198 035 71040	100nF 10% 16V 0402
2E17	3198 035 71040	100nF 10% 16V 0402
2E18	3198 035 71040	100nF 10% 16V 0402
2E19	3198 035 71040	100nF 10% 16V 0402
2E20	4822 124 11131	47µF 6.3V
2E24	3198 035 71040	100nF 10% 16V 0402
2E25	3198 035 71040	100nF 10% 16V 0402
2E26	3198 035 71040	100nF 10% 16V 0402
2E27	3198 035 71040	100nF 10% 16V 0402
2E28	3198 035 71040	100nF 10% 16V 0402
2E29	3198 035 71040	100nF 10% 16V 0402
2E30	3198 035 71040	100nF 10% 16V 0402
2E31	3198 035 71040	100nF 10% 16V 0402
2E32	3198 035 71040	100nF 10% 16V 0402
2E33	2020 552 00005	4.7µF 10% 6.3V 0603
2E34	2020 552 00005	4.7µF 10% 6.3V 0603
2E35	2020 552 00005	4.7µF 10% 6.3V 0603
2E36	3198 035 71040	100nF 10% 16V 0402
2F01	4822 124 23002	10µF 16V
2F02	2238 586 59812	100nF 20% 50V 0603
2F03	2020 552 00027	4.7µF 2% 6.3V 0603
2F04	2020 552 00027	4.7µF 2% 6.3V 0603
2F13	4822 126 14508	180pF 5% 50V 0603
2F14	4822 126 14508	180pF 5% 50V 0603
2F15	2020 552 00183	2.2µF 10% 6.3V 0603
2F16	2020 552 00183	2.2µF 10% 6.3V 0603
2G03	4822 126 14241	330pF 0603 50V
2G04	4822 126 14241	330pF 0603 50V
2G05	4822 124 23002	10µF 16V
2G06	4822 124 23002	10µF 16V
2G09	4822 126 14508	180pF 5% 50V 0603
2G10	4822 126 14508	180pF 5% 50V 0603
2G11	2020 552 00183	2.2µF 10% 6.3V 0603
2G12	2020 552 00183	2.2µF 10% 6.3V 0603
2G16	4822 126 14508	180pF 5% 50V 0603
2G17	4822 126 14508	180pF 5% 50V 0603
2G20	4822 126 14241	330pF 0603 50V
2G21	4822 126 14241	330pF 0603 50V
2G22	4822 124 23002	10µF 16V
2G23	4822 124 23002	10µF 16V
2G24	2020 552 00183	2.2µF 10% 6.3V 0603
2G25	2020 552 00183	2.2µF 10% 6.3V 0603
2G28	4822 126 14508	180pF 5% 50V 0603
2G43	2020 552 00027	4.7µF 2% 6.3V 0603
2G47	3198 035 71040	100nF 10% 16V 0402
2G54	2020 552 00183	2.2µF 10% 6.3V 0603
2G55	2020 552 00027	4.7µF 2% 6.3V 0603
2G56	2020 552 00027	4.7µF 2% 6.3V 0603
2G57	2020 552 00027	4.7µF 2% 6.3V 0603
2G58	3198 035 71040	100nF 10% 16V 0402
2G60	2020 552 00183	2.2µF 10% 6.3V 0603
2G61	3198 017 42240	220nF 16V Y5V 0603
2G68	4822 126 14508	180pF 5% 50V 0603
2G69	4822 124 23002	10µF 16V
2G70	2020 552 96637	10µF 10% 6.3V 0805
2G71	2020 552 96637	10µF 10% 6.3V 0805
2J02	2020 552 96618	1nF 10% 50V 0402
2J03	2020 552 96618	1nF 10% 50V 0402
2J17	2020 552 96618	1nF 10% 50V 0402
2J18	2238 869 15101	100pF 5% 50V 0402
2J19	2238 869 15101	100pF 5% 50V 0402
2J21	2238 869 15101	100pF 5% 50V 0402
2J22	2238 869 15101	100pF 5% 50V 0402
2J23	2238 869 15101	100pF 5% 50V 0402
2J26	2238 869 15101	100pF 5% 50V 0402
2J27	2238 869 15101	100pF 5% 50V 0402
2J28	2238 869 15101	100pF 5% 50V 0402
2J29	2238 869 15101	100pF 5% 50V 0402
2J30	2020 552 96618	1nF 10% 50V 0402
2J35	2020 552 96618	1nF 10% 50V 0402
2J36	2020 552 96618	1nF 10% 50V 0402
2K00	2020 552 96618	1nF 10% 50V 0402
2K01	2020 552 96618	1nF 10% 50V 0402
2K02	2238 869 15109	10pF 5% 50V 0402
2K03	2238 869 15109	10pF 5% 50V 0402
2K04	2238 869 15109	10pF 5% 50V 0402
2K05	2238 869 15109	10pF 5% 50V 0402
2K06	2238 869 15101	100pF 5% 50V 0402
2K07	2238 869 15101	100pF 5% 50V 0402
2K08	2020 552 00183	2.2µF 10% 6.3V 0603
2K10	2238 869 15101	100pF 5% 50V 0402
2K11	2238 869 15101	100pF 5% 50V 0402
2K12	2020 552 00183	2.2µF 10% 6.3V 0603
2K13	2238 869 15101	100pF 5% 50V 0402
2K14	2238 869 15101	100pF 5% 50V 0402
2K15	2238 869 15101	100pF 5% 50V 0402
2K16	2238 869 15101	100pF 5% 50V 0402
2K17	2238 869 15101	100pF 5% 50V 0402
2K18	2238 869 15101	100pF 5% 50V 0402
2K19	2020 552 96618	1nF 10% 50V 0402
2K20	2020 552 96618	1nF 10% 50V 0402
2K21	2238 869 15101	100pF 5% 50V 0402
2K22	2238 869 15101	100pF 5% 50V 0402
2K23	2238 869 15101	100pF 5% 50V 0402
2K24	2238 869 15101	100pF 5% 50V 0402
2K25	2238 869 15101	100pF 5% 50V 0402
2K26	2238 869 15101	100pF 5% 50V 0402
2K27	2238 869 15101	100pF 5% 50V 0402
2K28	2238 869 15101	100pF 5% 50V 0402
2L01	4822 124 23002	10µF 16V
2L02	4822 124 23002	10µF 16V
2L03	2020 552 96834	1µF 20% 6.3V 0402
2L04	2020 552 96834	1µF 20% 6.3V 0402
2L05	2020 552 96834	1µF 20% 6.3V 0402
2L06	2020 552 96834	1µF 20% 6.3V 0402
2L07	2020 552 96834	1µF 20% 6.3V 0402
2L08	2020 552 96834	1µF 20% 6.3V 0402
2L09	2020 552 96834	1µF 20% 6.3V 0402
2L10	2020 552 96668	560pF 10% 50V 0402
2L11	4822 124 23002	10µF 16V
2L12	2020 552 96834	1µF 20% 6.3V 0402
2L13	2020 552 96834	1µF 20% 6.3V 0402
2L14	2020 552 96834	1µF 20% 6.3V 0402
2L15	2020 552 96834	1µF 20% 6.3V 0402
2L16	2020 552 96834	1µF 20% 6.3V 0402
2L17	2020 552 96637	10µF 10% 6.3V 0805
2L18	2020 552 96834	1µF 20% 6.3V 0402
2L19	2020 552 96637	10µF 10% 6.3V 0805
2L20	2020 552 96834	1µF 20% 6.3V 0402
2L21	4822 124 12095	100µF 20% 16V
2L22	2020 552 96834	1µF 20% 6.3V 0402
2L23	2020 552 96834	1µF 20% 6.3V 0402
2L24	2020 552 96834	1µF 20% 6.3V 0402
2L25	2020 552 96834	1µF 20% 6.3V 0402
2L30	4822 124 12095	100µF 20% 16V
2L31	3198 035 71040	100nF 10% 16V 0402
2L32	2020 552 96834	1µF 20% 6.3V 0402
2L33	3198 035 71040	100nF 10% 16V 0402
2L34	4822 124 12095	100µF 20% 16V
2L35	4822 126 14519	22pF 5% 50V 0402
2L36	4822 126 14519	22pF 5% 50V 0402
2L37	3198 035 71040	100nF 10% 16V 0402
2L51	3198 035 02210	220pF 5% 50V 0402
2L52	3198 035 04710	470pF 50V 0402
2L53	2020 552 96618	1nF 10% 50V 0402
2L61	3198 035 02210	220pF 5% 50V 0402
2L62	3198 035 04710	470pF 50V 0402
2L63	2020 552 96618	1nF 10% 50V 0402
2L71	2020 552 00005	4.7µF 10% 6.3V 0603
2L72	3198 035 71040	100nF 10% 16V 0402
2L73	2020 552 96637	10µF 10% 6.3V 0805
2L74	2020 552 00231	22µF 20% 16V 1210
2L75	2020 552 00231	22µF 20% 16V 1210
2L92	3198 035 74730	47nF 5% 16V 0402
2L93	3198 035 74730	47nF 5% 16V 0402
2L94	2020 552 96618	1nF 10% 50V 0402
2L95	3198 035 74730	47nF 5% 16V 0402
2L96	3198 035 74730	47nF 5% 16V 0402
2L97	3198 035 74730	47nF 5% 16V 0402
2L98	3198 035 74730	47nF 5% 16V 0402
2M00	3198 035 71040	100nF 10% 16V 0402
2M01	3198 035 71040	100nF 10% 16V 0402
2M02	3198 035 71040	100nF 10% 16V 0402
2M03	3198 035 71040	100nF 10% 16V 0402
2M04	3198 035 71040	100nF 10% 16V 0402
2M05	3198 035 71040	100nF 10% 16V 0402
2M06	3198 035 71040	100nF 10% 16V 0402
2M07	3198 035 71040	100nF 10% 16V 0402
2M08	3198 035 71040	100nF 10% 16V 0402
2M09	3198 035 71040	100nF 10% 16V 0402
2M10	3198 035 71040	100nF 10% 16V 0402
2M11	3198 035 71040	100nF 10% 16V 0402
2M12	3198 035 71040	100nF 10% 16V 0402
2M13	3198 035 71040	100nF 10% 16V 0402
2M14	3198 035 71040	100nF 10% 16V 0402
2M15	3198 035 71040	100nF 10% 16V 0402
2M16	3198 035 71040	100nF 10% 16V 0402
2M17	3198 035 71040	100nF 10% 16V 0402
2M18	3198 035 71040	100nF 10% 16V 0402
2M19	3198 035 71040	100nF 10% 16V 0402
2M20	3198 035 71040	100nF 10% 16V 0402
2M21	2020 552 00183	2.2µF 10% 6.3V 0603
2M22	3198 035 71040	100nF 10% 16V 0402
2M23	5322 124 41945	22µF 20% 35V
2M24	3198 035 71040	100nF 10% 16V 0402
2M25	3198 035 71040	100nF 10% 16V 0402
2M26	3198 035 71040	100nF 10% 16V 0402
2M27	3198 035 71040	100nF 10% 16V 0402
2M28	3198 035 71040	100nF 10% 16V 0402
2M29	3198 035 71040	100nF 10% 16V 0402
2M30	3198 035 71040	100nF 10% 16V 0402
2M31	5322 124 41945	22µF 20% 35V
2M32	5322 124 41945	22µF 20% 35V
2M56	5322 124 41945	22µF 20% 35V
2M65	3198 035 71040	100nF 10% 16V 0402
2M66	4822 124 12095	100µF 20% 16V
2M67	3198 035 71040	100nF 10% 16V 0402
2M68	4822 124 12095	100µF 20% 16V
2N80	2238 869 15109	10pF 5% 50V 0402
2N81	2238 869 15109	10pF 5% 50V 0402
2N82	2238 869 15109	10pF 5% 50V 0402
2N83	2238 869 15109	10pF 5% 50V 0402
2N84	2238 869 15109	10pF 5% 50V 0402
2N85	2238 869 15109	10pF 5% 50V 0402
2N86	2238 869 15109	10pF 5% 50V 0402
2N87	2238 869 15109	10pF 5% 50V 0402
2N88	2238 869 15109	10pF 5% 50V 0402
2N89	2238 869 15109	10pF 5% 50V 0402

3151	4822 117 13545	100Ω 1% 0402
3152	4822 117 13545	100Ω 1% 0402
3153	4822 117 13606	10kΩ 5% 0.01W 0402
3154	4822 051 30103	10kΩ 5% 0.062W
3155	4822 117 13548	1kΩ 5% 0402
3157	4822 051 30682	6.8Ω 5% 0.062W
3158	4822 051 30222	2.2kΩ 5% 0.062W
3159	4822 051 30222	2.2kΩ 5% 0.062W
3161	4822 051 30223	22kΩ 5% 0.062W
3162	4822 051 30183	18kΩ 5% 0.062W
3163	4822 051 30101	100Ω 5% 0.062W
3164	4822 051 30101	100Ω 5% 0.062W
3170	4822 117 13606	10kΩ 5% 0.01W 0402
3171	4822 117 13606	10kΩ 5% 0.01W 0402
3172	4822 117 13545	100Ω 1% 0402
3173	4822 117 13545	100Ω 1% 0402
3207	3198 031 06810	680Ω 5% 0.01W 0402
3208	4822 117 13545	100Ω 1% 0402
3209	4822 117 13545	100Ω 1% 0402
3210	4822 117 13545	100Ω 1% 0402
3211	4822 117 13545	100Ω 1% 0402
3212	4822 117 13545	100Ω 1% 0402
3213	4822 117 13545	100Ω 1% 0402
3214	3198 031 06810	680Ω 5% 0.01W 0402
3215	3198 031 02710	270Ω 5% 0.1W 0402
3216	4822 117 13597	330Ω 5% 0.01W 0402
3217	4822 117 13548	1kΩ 5% 0402
3218	4822 117 11297	100kΩ 5% 0.1W
3219	4822 117 13545	100Ω 1% 0402
3220	3198 031 04730	47Ω 5% 0402
3222	4822 117 13545	100Ω 1% 0402
3223	3198 031 01090	10Ω 5% 0.01W 0402
3224	3198 031 04720	4.7kΩ 5% 0402
3225	3198 031 04720	4.7kΩ 5% 0402
3226	4822 117 13545	100Ω 1% 0402
3227	4822 117 13545	100Ω 1% 0402
3229	3198 031 04720	4.7kΩ 5% 0402
3230	4822 117 13606	10kΩ 5% 0.01W 0402
3231	4822 117 13602	2.2kΩ 5% 0.01W 0402
3232	3198 031 03320	3.3kΩ 5% 0402
3233	3198 031 03320	3.3kΩ 5% 0402
3234	3198 031 04720	4.7kΩ 5% 0402
3235	3198 031 04720	4.7kΩ 5% 0402
3236	3198 031 04720	4.7kΩ 5% 0402
3238	4822 117 13545	100Ω 1% 0402
3239	4822 117 13545	100Ω 1% 0402
3240	2322 704 61002	1kΩ 1%
3241	4822 117 13545	100Ω 1% 0402
3242	4822 117 13606	10kΩ 5% 0.01W 0402
3243	3198 031 04720	4.7kΩ 5% 0402
3245	3198 031 02240	220kΩ 5% 0.1W 0402
3246	3198 031 04720	4.7kΩ 5% 0402
3247	4822 117 13545	100Ω 1% 0402
3248	4822 117 13545	100Ω 1% 0402
3249	3198 031 04720	4.7kΩ 5% 0402
3250	4822 117 13545	100Ω 1% 0402
3251	4822 117 13545	100Ω 1% 0402
3252	4822 117 13545	100Ω 1% 0402
3253	4822 117 13545	100Ω 1% 0402
3255	4822 117 13605	Jumper 0402
3256	4822 117 13605	Jumper 0402
3257	4822 117 13605	Jumper 0402
3258	4822 117 13548	1kΩ 5% 0402
3259	4822 117 13548	1kΩ 5% 0402
3260	4822 117 13548	1kΩ 5% 0402
3262	4822 117 13601	22kΩ 5% 0402
3263	2322 702 70398	3.9Ω 5% 0603
3264	4822 117 13601	22kΩ 5% 0402
3265	2322 702 70398	3.9Ω 5% 0603
3266	3198 031 05620	5.6kΩ 5% 0.01W 0402
3267	3198 031 05620	5.6kΩ 5% 0.01W 0402
3268	4822 117 13545	100Ω 1% 0402
3272	3198 031 04720	4.7kΩ 5% 0402
3273	4822 117 13548	1kΩ 5% 0402
3274	3198 031 03910	390Ω 5% 0402
3275	4822 117 13545	100Ω 1% 0402
3276	3198 031 07590	75Ω 5% 0402
3277	3198 031 01520	1.2kΩ 5% 0.01W 0402
3280	4822 117 11151	1Ω 5%
3281	3198 031 03930	39kΩ 5% 0402
3282	4822 051 30151	150Ω 5% 0.062W
3285	4822 117 13605	Jumper 0402
3286	4822 117 13545	100Ω 1% 0402
3292	3198 031 01230	12kΩ 5% 0402
3294	3198 031 04730	47Ω 5% 0402
3295	4822 117 11297	100kΩ 5% 0.1W
3297	3198 031 03320	3.3kΩ 5% 0402
3298	3198 031 03320	3.3kΩ 5% 0402
3431	4822 117 13548	1kΩ 5% 0402
3451	3198 031 04720	4.7kΩ 5% 0402
3453	4822 117 13545	100Ω 1% 0402
3454	4822 117 13545	100Ω 1% 0402
3455	4822 117 13545	100Ω 1% 0402
3456	4822 117 13545	100Ω 1% 0402
3458	4822 117 13545	100Ω 1% 0402
3459	4822 117 13545	100Ω 1% 0402
3461	4822 117 13545	100Ω 1% 0402
3462	4822 117 13545	100Ω 1% 0402
3604	4822 117 13601	22kΩ 5% 0402
3605	4822 117 13601	22kΩ 5% 0402
3609	4822 117 13601	22kΩ 5% 0402
3610	4822 117 11297	100kΩ 5% 0.1W
3611	4822 117 11297	100kΩ 5% 0.1W
3612	4822 117 13601	22kΩ 5% 0402
3615	4822 117 13606	10kΩ 5% 0.01W 0402
3618	4822 117 13601	22kΩ 5% 0402
3623	3198 031 04730	47Ω 5% 0402
3625	3198 031 03320	3.3kΩ 5% 0402
3627	4822 117 13601	22kΩ 5% 0402
3630	4822 117 13597	330Ω 5% 0.01W 0402
3631	4822 117 13597	330Ω 5% 0.01W 0402
3732	2322 704 61002	1kΩ 1%
3733	2322 704 63302	3.3kΩ 1% 0603
3734	4822 117 13545	100Ω 1% 0402
3735	4822 117 13548	1kΩ 5% 0402
3736	3198 031 04720	4.7kΩ 5% 0402
3750	4822 117 13601	22kΩ 5% 0402
3755	4822 117 13606	10kΩ 5% 0.01W 0402
3758	3198 031 01530	15kΩ 5% 0.01W 0402
3759	3198 031 01230	12kΩ 5% 0402
3800	4822 117 13606	10kΩ 5% 0.01W 0402
3801	2350 035 10229	4 x 22Ω 5% 1206
3802	2350 035 10229	4 x 22Ω 5% 1206
3803	2350 035 10229	4 x 22Ω 5% 1206
3804	2350 035 10229	4 x 22Ω 5% 1206
3805	2350 035 10229	4 x 22Ω 5% 1206
3806	2350 035 10229	4 x 22Ω 5% 1206
3807	2350 035 10229	4 x 22Ω 5% 1206
3808	2350 035 10229	4 x 22Ω 5% 1206
3809	2350 035 10229	4 x 22Ω 5% 1206
3810	2350 035 10229	4 x 22Ω 5% 1206
3811	2350 035 10229	4 x 22Ω 5% 1206
3812	2350 035 10229	4 x 22Ω 5% 1206
3813	2350 035 10229	4 x 22Ω 5% 1206
3814	3198 031 02290	22Ω 5% 0.1W 0402
3815	3198 031 02290	22Ω 5% 0.1W 0402
3816	3198 031 02290	22Ω 5% 0.1W 0402
3817	4822 117 13606	10kΩ 5% 0.01W 0402
3818	4822 117 13606	10kΩ 5% 0.01W 0402
3820	4822 117 13606	10kΩ 5% 0.01W 0402
3822	4822 117 13545	100Ω 1% 0402
3824	3198 031 03320	3.3kΩ 5% 0402
3825	3198 031 11030	4 x 10kΩ 5% 1206
3826	3198 031 11030	4 x 10kΩ 5% 1206
3827	4822 117 13606	10kΩ 5% 0.01W 0402
3828	4822 117 13606	10kΩ 5% 0.01W 0402
3829	4822 117 13606	10kΩ 5% 0.01W 0402
3831	4822 117 13545	100Ω 1% 0402
3832	4822 117 13545	100Ω 1% 0402
3833	3198 031 01090	10Ω 5% 0.01W 0402
3834	4822 117 13606	10kΩ 5% 0.01W 0402
3835	4822 117 13606	10kΩ 5% 0.01W 0402
3836	4822 117 13606	10kΩ 5% 0.01W 0402
3837	4822 117 13606	10kΩ 5% 0.01W 0402
3838	4822 117 13606	10kΩ 5% 0.01W 0402
3839	4822 117 13545	100Ω 1% 0402
3840	3198 031 02290	22Ω 5% 0.1W 0402
3841	4822 117 13606	10kΩ 5% 0.01W 0402
3842	4822 117 13606	10kΩ 5% 0.01W 0402
3900	3198 031 03320	3.3kΩ 5% 0402
3901	4822 117 13606	10kΩ 5% 0.01W 0402
3902	4822 117 13606	10kΩ 5% 0.01W 0402
3903	4822 117 13545	100Ω 1% 0402
3904	4822 117 13545	100Ω 1% 0402
3A02	4822 117 13548	1kΩ 5% 0402
3B01	4822 117 12706	10kΩ 1% 0.063W 0603
3B02	4822 117 12706	10kΩ 1% 0.063W 0603
3B03	2322 704 61501	150Ω 1% 0603
3C00	4822 117 13606	10kΩ 5% 0.01W 0402
3C01	4822 117 13606	10kΩ 5% 0.01W 0402
3C02	4822 117 13548	1kΩ 5% 0402
3C04	3198 031 11030	4 x 10kΩ 5% 1206
3C05	4822 117 13606	10kΩ 5% 0.01W 0402
3C06	3198 031 11030	4 x 10kΩ 5% 1206
3C07	3198 031 11030	4 x 10kΩ 5% 1206
3C08	3198 031 11030	4 x 10kΩ 5% 1206
3C09	3198 031 11030	4 x 10kΩ 5% 1206
3C10	3198 031 11030	4 x 10kΩ 5% 1206
3C16	3198 031 11030	4 x 10kΩ 5% 1206
3C17	4822 117 13606	10kΩ 5% 0.01W 0402
3C18	4822 117 13606	10kΩ 5% 0.01W 0402
3C22	4822 117 13548	1kΩ 5% 0402
3C23	3198 031 02240	220kΩ 5% 0.1W 0402
3D00	3198 031 04720	4.7kΩ 5% 0402
3D01	3198 031 04720	4.7kΩ 5% 0402
3D02	3198 031 04720	4.7kΩ 5% 0402
3D03	3198 031 04720	4.7kΩ 5% 0402
3D05	4822 117 13545	100Ω 1% 0402
3D06	4822 117 13545	100Ω 1% 0402
3D07	4822 117 13548	1kΩ 5% 0402
3D08	4822 117 13548	1kΩ 5% 0402
3D09	3198 031 04720	4.7kΩ 5% 0402
3D10	3198 031 04720	4.7kΩ 5% 0402
3D15	3198 031 13390	4 x 33Ω 5% 1206
3D16	3198 031 13390	4 x 33Ω 5% 1206
3D17	3198 031 13390	4 x 33Ω 5% 1206
3D18	3198 021 31080	1Ω 5% 0603
3D19	3198 021 31080	1Ω 5% 0603
3D20	3198 031 13390	4 x 33Ω 5% 1206
3D21	3198 031 13390	4 x 33Ω 5% 1206
3D22	3198 031 03390	33Ω 1% 0402
3D23	3198 031 03390	33Ω 1% 0402
3D24	4822 117 13596	220Ω 5% 0.01W 0402
3D26	4822 117 13596	220Ω 5% 0.01W 0402
3D27	3198 031 03320	3.3kΩ 5% 0402
3E06	3198 031 04730	47Ω 5% 0402
3E07	3198 031 04730	47Ω 5% 0402
3E08	3198 031 04730	47Ω 5% 0402
3E09	3198 031 04730	47Ω 5% 0402
3E10	3198 031 04730	47Ω 5% 0402
3E11	3198 031 04730	47Ω 5% 0402
3E12	4822 117 13606	10kΩ 5% 0.01W 0402
3E13	4822 117 13597	330Ω 5% 0.01W 0402
3E14	4822 117 13597	330Ω 5% 0.01W 0402
3E15	4822 117 13597	330Ω 5% 0.01W 0402
3E16	4822 117 13597	330Ω 5% 0.01W 0402
3E17	4822 117 13597	330Ω 5% 0.01W 0402
3E18	4822 117 13597	330Ω 5% 0.01W 0402
3E19	2322 705 70569	56Ω 5% 0402
3E20	2322 705 70569	56Ω 5% 0402
3E21	2322 705 70569	56Ω 5% 0402
3E22	4822 117 13632	100kΩ 1% 0603 0.62W
3E23	3198 031 08210	820Ω 5% 0.5W
3E24	4822 117 13543	470Ω 5% 0402
3E25	2322 705 70399	39Ω 5% 0402
3E26	3198 031 02290	22Ω 5% 0.1W 0402
3E27	2322 705 70399	39Ω 5% 0402
3E28	3198 031 02290	22Ω 5% 0.1W 0402
3E29	2322 705 70399	39Ω 5% 0402
3E30	3198 031 02290	22Ω 5% 0.1W 0402
3E31	4822 117 13545	100Ω 1% 0402
3E33	4822 117 13545	100Ω 1% 0402
3E35	4822 117 13545	100Ω 1% 0402
3E36	4822 117 13545	100Ω 1% 0402
3E37	3198 031 02290	22Ω 5% 0.1W 0402
3E38	4822 117 13545	100Ω 1% 0402
3E39	4822 117 13545	100Ω 1% 0402
3E41	4822 117 13545	100Ω 1% 0402
3E42	4822 117 13545	100Ω 1% 0402
3E43	4822 117 13545	100Ω 1% 0402
3E44	4822 117 13545	100Ω 1% 0402
3E45	4822 117 13545	100Ω 1% 0402
3E46	3198 031 01090	10Ω 5% 0.01W 0402
3E49	3198 031 02290	22Ω 5% 0.1W 0402
3E50	3198 031 04730	47Ω 5% 0402
3E51	3198 031 04730	47Ω 5% 0402
3E52	3198 031 04730	47Ω 5% 0402
3E53	3198 031 04730	47Ω 5% 0402
3E54	3198 031 04730	47Ω 5% 0402
3E55	3198 031 04730	47Ω 5% 0402
3E57	3198 031 01090	10Ω 5% 0.01W 0402
3F01	4822 051 30102	1kΩ 5% 0.062W
3F02	4822 051 30222	2.2kΩ 5% 0.062W
3F03	4822 051 30102	1kΩ 5% 0.062W
3F04	4822 051 30222	2.2kΩ 5% 0.062W
3F05	4822 117 13603	33kΩ 5% 0402
3F06	4822 117 13603	33kΩ 5% 0402
3F07	4822 117 13603	33kΩ 5% 0402
3F08	4822 117 13603	33kΩ 5% 0402
3F09	4822 117 13603	33kΩ 5% 0402
3F10	4822 117 13603	33kΩ 5% 0402
3F11	4822 117 13603	33kΩ 5% 0402
3F12	4822 117 13603	33kΩ 5% 0402
3F13	4822 117 13603	33kΩ 5% 0402
3F14	4822 117 13603	33kΩ 5% 0402
3F15	4822 117 13603	33kΩ 5% 0402
3F16	4822 117 13603	33kΩ 5% 0402
3F17	4822 117 13603	33kΩ 5% 0402
3F18	4822 117 13603	33kΩ 5% 0402
3F19	4822 117 13603	33kΩ 5% 0402
3F20	4822 117 13603	33kΩ 5% 0402
3F24	4822 051 30103	10kΩ 5% 0.062W
3F25	4822 051 30103	10kΩ 5% 0.062W
3F26	4822 051 30153	15kΩ 5% 0.062W
3F27	4822 051 30153	15kΩ 5% 0.062W
3G01	4822 051 30151	150Ω 5% 0.062W
3G02	4822 117 12891	220kΩ 1%
3G03	4822 117 12891	220kΩ 1%

3G04	4822 051 30103	10kΩ 5% 0.062W
3G05	4822 051 30103	10kΩ 5% 0.062W
3G06	4822 051 30101	100Ω 5% 0.062W
3G07	4822 051 30101	100Ω 5% 0.062W
3G08	4822 051 30101	100Ω 5% 0.062W
3G09	2122 118 06408	91Ω 5% 0603
3G10	2122 118 06408	91Ω 5% 0603
3G11	3198 031 06820	6.8kΩ 5% 0.01W 0402
3G12	4822 051 30759	75Ω 5% 0.062W
3G13	4822 051 30331	330Ω 5% 0.062W
3G14	4822 051 30102	1kΩ 5% 0.062W
3G15	4822 051 30102	1kΩ 5% 0.062W
3G16	4822 051 30759	75Ω 5% 0.062W
3G17	4822 051 30101	100Ω 5% 0.062W
3G18	4822 051 30103	10kΩ 5% 0.062W
3G19	4822 051 30103	10kΩ 5% 0.062W
3G20	4822 051 30153	15kΩ 5% 0.062W
3G21	4822 051 30153	15kΩ 5% 0.062W
3G22	4822 051 30151	150Ω 5% 0.062W
3G23	4822 051 30151	150Ω 5% 0.062W
3G24	4822 117 12891	220kΩ 1%
3G25	4822 117 12891	220kΩ 1%
3G26	4822 051 30103	10kΩ 5% 0.062W
3G27	4822 051 30103	10kΩ 5% 0.062W
3G28	4822 051 30759	75Ω 5% 0.062W
3G29	4822 051 30102	1kΩ 5% 0.062W
3G30	4822 051 30689	68Ω 5% 0.063W 0603
3G33	4822 051 30102	1kΩ 5% 0.062W
3G34	4822 051 30101	100Ω 5% 0.062W
3G36	3198 031 04730	47Ω 5% 0402
3G37	3198 031 04730	47Ω 5% 0402
3G38	4822 051 30151	150Ω 5% 0.062W
3G39	4822 051 30273	27kΩ 5% 0.062W
3G57	3198 031 02730	27kΩ 5% 0402
3G58	4822 051 30689	68Ω 5% 0.063W 0603
3G59	2122 118 06408	91Ω 5% 0603
3G72	4822 051 30759	75Ω 5% 0.062W
3G73	4822 051 30759	75Ω 5% 0.062W
3G74	4822 051 30759	75Ω 5% 0.062W
3G75	4822 051 30759	75Ω 5% 0.062W
3G76	4822 117 13545	100Ω 1% 0402
3G77	3198 031 04730	47Ω 5% 0402
3G78	3198 031 04730	47Ω 5% 0402
3G79	3198 031 06820	6.8kΩ 5% 0.01W 0402
3G96	3198 031 04730	47Ω 5% 0402
3G99	3198 031 04730	47Ω 5% 0402
3J03	3198 031 06890	68Ω 5% 0402
3J04	3198 031 06890	68Ω 5% 0402
3J05	3198 031 06890	68Ω 5% 0402
3K00	4822 117 13545	100Ω 1% 0402
3K01	4822 117 13545	100Ω 1% 0402
3K02	4822 117 13606	10kΩ 5% 0.01W 0402
3K03	3198 031 01530	15kΩ 5% 0.01W 0402
3K05	4822 117 13606	10kΩ 5% 0.01W 0402
3K06	3198 031 01530	15kΩ 5% 0.01W 0402
3K07	2322 705 70399	39Ω 5% 0402
3K08	3198 031 06890	68Ω 5% 0402
3K09	2322 705 70399	39Ω 5% 0402
3K11	3198 031 06890	68Ω 5% 0402
3K12	3198 031 06890	68Ω 5% 0402
3K13	3198 031 06890	68Ω 5% 0402
3L01	2350 033 11229	4x 22Ω 5% Netw.
3L02	2350 033 11229	4x 22Ω 5% Netw.
3L05	2350 033 11229	4x 22Ω 5% Netw.
3L06	2350 033 11229	4x 22Ω 5% Netw.
3L07	3198 031 02290	22Ω 5% 0.1W 0402
3L09	3198 021 32290	22Ω 5% 0603
3L10	3198 021 32290	22Ω 5% 0603
3L12	4822 117 13606	10kΩ 5% 0.01W 0402
3L18	3198 031 01510	150Ω 5% 0.01W 0402
3L19	3198 031 01510	150Ω 5% 0.01W 0402
3L38	4822 051 30222	2.2kΩ 5% 0.062W
3L39	4822 051 30222	2.2kΩ 5% 0.062W
3L49	4822 117 13548	1kΩ 5% 0402
3L53	4822 117 13597	330Ω 5% 0.01W 0402
3L54	4822 117 13543	470Ω 5% 0402
3L55	4822 117 13545	100Ω 1% 0402
3L56	4822 117 13548	1kΩ 5% 0402
3L57	4822 117 13545	100Ω 1% 0402
3L58	4822 117 13548	1kΩ 5% 0402
3L60	4822 117 13605	Jumper 0402
3L61	4822 117 13597	330Ω 5% 0.01W 0402
3L62	4822 117 13543	470Ω 5% 0402
3L63	4822 117 13545	100Ω 1% 0402
3L64	4822 117 13548	1kΩ 5% 0402
3L65	4822 117 13545	100Ω 1% 0402
3L67	4822 117 13605	Jumper 0402
3L68	4822 117 13605	Jumper 0402
3L71	4822 117 13597	330Ω 5% 0.01W 0402
3L73	4822 117 13545	100Ω 1% 0402
3L75	4822 051 30153	15kΩ 5% 0.062W
3L76	4822 051 30153	15kΩ 5% 0.062W
3L92	3198 031 03390	33Ω 1% 0402
3L93	3198 031 06890	68Ω 5% 0402
3L94	3198 031 03910	390Ω 1% 0402
3L95	3198 031 03390	33Ω 1% 0402
3L96	3198 031 06890	68Ω 5% 0402
3L97	3198 031 03390	33Ω 1% 0402
3L98	3198 031 06890	68Ω 5% 0402
3L99	3198 031 03910	390Ω 1% 0402
3M01	2350 035 10689	4 x 68Ω 5%
3M02	2350 035 10689	4 x 68Ω 5%
3M03	2350 035 10689	4 x 68Ω 5%
3M04	2350 035 10689	4 x 68Ω 5%
3M06	2350 035 10229	4 x 22Ω 5% 1206
3M07	2350 035 10229	4 x 22Ω 5% 1206
3M08	2350 035 10229	4 x 22Ω 5% 1206
3M09	2350 035 10229	4 x 22Ω 5% 1206
3M11	3198 031 04720	4.7kΩ 5% 0402
3M13	3198 031 04720	4.7kΩ 5% 0402
3M14	4822 117 13545	100Ω 1% 0402
3M15	4822 117 13545	100Ω 1% 0402
3M16	3198 031 04720	4.7kΩ 5% 0402
3M50	4822 117 13606	10kΩ 5% 0.01W 0402
3M51	4822 117 13606	10kΩ 5% 0.01W 0402
3M52	4822 117 13606	10kΩ 5% 0.01W 0402
3M53	4822 117 13546	47Ω 5% 0402
3M54	4822 117 13546	47Ω 5% 0402
3M55	4822 117 13546	47Ω 5% 0402
3M56	4822 117 13606	10kΩ 5% 0.01W 0402
3M57	4822 117 13546	47Ω 5% 0402
3M58	4822 117 13606	10kΩ 5% 0.01W 0402
3M59	4822 117 13546	47Ω 5% 0402
3M78	4822 117 13548	1kΩ 5% 0402
3M79	3198 031 03320	3.3kΩ 5% 0402
3M87	4822 117 13605	Jumper 0402
3M89	3198 031 02290	22Ω 5% 0.1W 0402
3M90	3198 031 02290	22Ω 5% 0.1W 0402
3S00	3198 031 04730	47Ω 5% 0402
3S03	3198 031 04730	47Ω 5% 0402
4211	4822 117 13605	Jumper 0402
4212	4822 117 13605	Jumper 0402
4218	4822 117 13605	Jumper 0402
4219	4822 117 13605	Jumper 0402
4440	4822 117 13605	Jumper 0402
4441	4822 117 13605	Jumper 0402
4801	4822 117 13605	Jumper 0402
4A05	4822 117 13605	Jumper 0402
4A06	4822 117 13605	Jumper 0402
4D03	4822 117 13605	Jumper 0402
4D04	4822 117 13605	Jumper 0402
4E10	3198 031 01090	10Ω 5% 0.01W 0402
4E11	3198 031 01090	10Ω 5% 0.01W 0402
4G04	4822 117 13605	Jumper 0402
4G05	4822 117 13605	Jumper 0402
4G07	4822 117 13605	Jumper 0402
4G08	4822 117 13605	Jumper 0402
4G31	4822 117 13605	Jumper 0402
4K04	4822 117 13605	Jumper 0402
4K05	4822 117 13605	Jumper 0402
4L37	4822 117 13545	100Ω 1% 0402
4M00	4822 117 13605	Jumper 0402
4M01	4822 117 13605	Jumper 0402
4M02	4822 117 13605	Jumper 0402
4M03	4822 117 13605	Jumper 0402
4M05	4822 117 13605	Jumper 0402
4M08	4822 117 13605	Jumper 0402
4M09	4822 117 13605	Jumper 0402
4M10	4822 117 13605	Jumper 0402
4M16	4822 117 13605	Jumper 0402
4M17	4822 117 13605	Jumper 0402
4N01	4822 117 13605	Jumper 0402
4N02	4822 117 13605	Jumper 0402
4N03	4822 117 13605	Jumper 0402
4N04	4822 117 13605	Jumper 0402
4N05	4822 117 13605	Jumper 0402
4N06	4822 117 13605	Jumper 0402
4N07	4822 117 13605	Jumper 0402
4N08	4822 117 13605	Jumper 0402
4N09	4822 117 13605	Jumper 0402
4N10	4822 117 13605	Jumper 0402

5151	3198 018 33970	0.39µH 10% 0805
5152	4822 157 71334	0.68µH 5% 1008
5153	4822 157 71334	0.68µH 5% 1008
5201	4822 157 11716	Bead 30Ω at 100MHz
5202	4822 157 11716	Bead 30Ω at 100MHz
5203	4822 157 11716	Bead 30Ω at 100MHz
5204	2422 549 42896	Bead 120Ω 100MHz
5205	4822 157 11716	Bead 30Ω at 100MHz
5206	4822 157 11716	Bead 30Ω at 100MHz
5207	2422 549 42896	Bead 120Ω 100MHz
5208	4822 157 11716	Bead 30Ω at 100MHz
5209	4822 157 11716	Bead 30Ω at 100MHz
5210	4822 157 11716	Bead 30Ω at 100MHz
5211	4822 157 11716	Bead 30Ω at 100MHz
5212	4822 157 11716	Bead 30Ω at 100MHz
5213	4822 157 11716	Bead 30Ω at 100MHz
5214	2422 536 00667	1000µH 20% 7032
5216	4822 157 11716	Bead 30Ω at 100MHz
5218	2422 549 45333	Bead 120Ω at 100MHz
5700	2422 549 45333	Bead 120Ω at 100MHz
5730	2422 535 94134	10µH 20% 0805
5733	2422 536 00707	33µH 20%
5735	2422 536 00516	100µH 20%
5737	2422 535 94134	10µH 20% 0805
5738	2422 549 45333	Bead 120Ω at 100MHz
5751	2422 535 94134	10µH 20% 0805
5756	2422 549 45333	Bead 120Ω at 100MHz
5757	2422 549 45333	Bead 120Ω at 100MHz
5900	2422 549 45333	Bead 120Ω at 100MHz
5901	2422 549 45333	Bead 120Ω at 100MHz
5902	2422 549 45333	Bead 120Ω at 100MHz
5903	2422 549 45333	Bead 120Ω at 100MHz
5904	2422 549 45333	Bead 120Ω at 100MHz
5905	2422 549 45333	Bead 120Ω at 100MHz
5906	2422 549 45333	Bead 120Ω at 100MHz
5907	2422 549 45333	Bead 120Ω at 100MHz
5908	2422 549 45333	Bead 120Ω at 100MHz
5909	2422 549 45333	Bead 120Ω at 100MHz
5910	2422 549 45333	Bead 120Ω at 100MHz
5911	2422 549 45333	Bead 120Ω at 100MHz
5C00	2422 549 45333	Bead 120Ω at 100MHz
5D00	2422 549 42896	Bead 120Ω 100MHz
5D01	2422 549 42896	Bead 120Ω 100MHz
5D02	2422 549 42896	Bead 120Ω 100MHz
5D03	2422 549 42896	Bead 120Ω 100MHz
5D04	2422 549 42896	Bead 120Ω 100MHz
5D05	2422 549 42896	Bead 120Ω 100MHz
5D06	2422 549 42896	Bead 120Ω 100MHz
5E00	2422 549 45333	Bead 120Ω at 100MHz
5E01	2422 549 45333	Bead 120Ω at 100MHz
5G01	2422 549 45333	Bead 120Ω at 100MHz
5G02	2422 549 45333	Bead 120Ω at 100MHz
5G03	2422 549 45333	Bead 120Ω at 100MHz
5G06	2422 549 45333	Bead 120Ω at 100MHz
5G07	2422 549 42896	Bead 120Ω 100MHz
5G08	2422 549 42896	Bead 120Ω 100MHz
5J01	2422 549 42896	Bead 120Ω 100MHz
5J02	2422 549 42896	Bead 120Ω 100MHz
5J03	2422 549 45333	Bead 120Ω at 100MHz
5L01	2422 549 45333	Bead 120Ω at 100MHz
5L11	2422 549 45333	Bead 120Ω at 100MHz
5L17	2422 549 45333	Bead 120Ω at 100MHz
5L19	2422 549 45333	Bead 120Ω at 100MHz
5L21	2422 549 45333	Bead 120Ω at 100MHz
5L51	4822 157 71694	0.82µH 10%
5L52	3198 018 53380	3.3µH 10% 0603
5L53	3198 018 56880	6.8µH 10% 0603
5L61	4822 157 71694	0.82µH 10%
5L62	3198 018 53380	3.3µH 10% 0603
5L63	3198 018 56880	6.8µH 10% 0603
5L71	2422 549 45333	Bead 120Ω at 100MHz
5M00	2422 549 45333	Bead 120Ω at 100MHz
5M01	2422 549 45333	Bead 120Ω at 100MHz
5M02	2422 549 45333	Bead 120Ω at 100MHz
5M03	2422 549 45333	Bead 120Ω at 100MHz
5M04	2422 549 45333	Bead 120Ω at 100MHz
5M05	2422 549 45333	Bead 120Ω at 100MHz

6151	4822 130 11416	PDZ6.8B
6152	4822 130 11416	PDZ6.8B
6153	4822 130 11397	BAS316
6154	4822 130 11525	1SS356
6204	4822 130 80622	BAT54
6205	4822 130 80622	BAT54
6430	9340 548 42115	PDZ2.4B
6431	9965 000 20150	1N4148WS SOD-323
6601	4822 130 10838	UDZ3.3B
6733	9322 128 70685	SMSS14
6734	4822 130 11416	PDZ6.8B
6735	5322 130 34337	BAV99
6736	9340 548 71115	PDZ33B
6G01	4822 130 11564	UDZ3.9B
6G02	4822 130 11564	UDZ3.9B
6G03	4822 130 11564	UDZ3.9B
6G04	4822 130 11564	UDZ3.9B
6G06	4822 130 11564	UDZ3.9B
6G07	4822 130 11564	UDZ3.9B
6G08	4822 130 11564	UDZ3.9B
6G09	4822 130 11564	UDZ3.9B

7151	3198 010 42310	BC847BW

7201	9340 550 49115	PUMH7
7202	9340 550 49115	PUMH7
7206	4822 130 60373	BC856B
7207	9322 214 45668	M24C16-WMN6P
7208	3198 010 42310	BC847BW
7209	3198 010 42310	BC847BW
7210	3198 010 42310	BC847BW
7214	9339 693 90135	BCP69-25
7215	9339 693 90135	BCP69-25
7216	9340 425 20115	BC847BS
7217		SW (see 0801)
7219	9322 164 91668	CD74HC4053M
7220	9965 000 04199	BSN20
7221	9965 000 04199	BSN20
7430	4822 130 11155	PDTC114ET
7436	9322 221 97668	SN74LVC14APW
7601	9322 183 05668	TS482ID
7602	9351 742 70118	74HC08PW
7605	9340 310 50215	PDTA143ET
7606	9340 425 20115	BC847BS
7607	3198 010 42310	BC847BW
7730	9322 202 34668	L5973D
7735	4822 130 11057	2N7002
7738	9322 163 24668	L78M08CDT
7754	9322 214 00668	SI2301BDS-E3
7755	4822 130 11155	PDTC114ET
7756	4822 130 11155	PDTC114ET
7758	9322 212 14668	SI4423DY
7801	9322 230 32671	GM1501-LF-CF
7900	9322 142 88668	LF25CDT
7901	9322 189 19668	LD1086D2T18
7B01	9322 214 42671	K4D263238F-QC50
7C00		SW (see 0811)
7C01	9322 189 01668	AT24C32AN
7C02	9322 215 39685	PST596JN
7C03	9322 199 93668	M29W400DT-55N6
7D00		SW (see 0821)
7D01		SW (see 0822)
7D02	9322 189 19668	LD1086D2T18
7D03	9352 784 83551	TDA9974AEL/8/C1
7D04	9352 668 39118	UDA1334ATS/N2
7D05	2722 171 00038	Xtal SM 13M5 15p
7E00	9322 195 23668	ADG733BRU
7E01	9322 199 80668	SM5301BS-G
7E04	9322 221 97668	SN74LVC14APW
7E05	9322 221 97668	SN74LVC14APW
7F01	3198 010 42310	BC847BW
7F02	3198 010 42310	BC847BW
7F03	4822 209 15765	74HC4052D
7G01	3198 010 42310	BC847BW
7G02	3198 010 42310	BC847BW
7G11	9322 164 91668	CD74HC4053M
7L01	9322 226 40671	P3563M-LF-80
7L02	4822 209 17398	LD1117DT33
7L51	3198 010 42310	BC847BW
7L52	3198 010 42320	BC857BW
7L61	3198 010 42310	BC847BW
7L62	3198 010 42320	BC857BW
7L71	3198 010 42310	BC847BW
7L72	9322 226 94668	SM5304AV-G
7M00	9322 204 76671	T6TU5XBG-0001
7M01	9322 206 19672	MSM56V16160F-7T3-FG
7M03	9322 170 14668	LF15ABDT

Audio Amplifier Panel [C]

Various

1001	2422 025 09406	Connector 4p m
1002	2422 025 10769	Connector 9p m
1003	2422 025 10768	Connector 3p m

⊣⊢

2001	2020 024 00023	220µ 35V
2002	2238 586 59812	100nF 20% 50V 0603
2003	2238 586 59812	100nF 20% 50V 0603
2004	2020 024 00023	220µ 35V
2006	2020 552 94427	100pF 5% 50V
2007	2020 552 94427	100pF 5% 50V
2008	2020 552 94427	100pF 5% 50V
2009	2020 552 94427	100pF 5% 50V
2010	2238 586 59812	100nF 20% 50V 0603
2012	2020 024 00023	220µ 35V
2014	4822 126 14238	2.2nF 50V 0603
2015	4822 126 14238	2.2nF 50V 0603
2016	4822 126 14238	2.2nF 50V 0603
2017	2238 586 59812	100nF 20% 50V 0603
2018	3198 017 31530	15nF 20% 50V 0603
2019	3198 037 52280	2.2µ 50V
2020	4822 126 13883	220pF 5% 50V
2021	4822 126 13883	220pF 5% 50V
2022	4822 126 14076	220nF +80/-20% 25V
2023	4822 121 51252	470nF 5% 63V
2024	2020 012 00036	1000µ 25V
2026	3198 017 42240	220nF 16V Y5V 0603
2027	2238 586 59812	100nF 20% 50V 0603
2028	2238 586 59812	100nF 20% 50V 0603
2029	2020 024 00023	220µ 35V
2030	4822 126 14238	2.2nF 50V 0603
2031	4822 126 14238	2.2nF 50V 0603
2032	4822 126 14238	2.2nF 50V 0603
2034	2238 586 59812	100nF 20% 50V 0603
2035	4822 126 13883	220pF 5% 50V
2036	4822 126 13883	220pF 5% 50V
2037	3198 037 52280	2.2µ 50V
2038	3198 017 31530	15nF 20% 50V 0603
2039	2020 552 96656	10µF 20% 25V 1210
2040	3198 017 42240	220nF 16V Y5V 0603
2041	2020 552 96656	10µF 20% 25V 1210
2042	4822 121 51252	470nF 5% 63V
2043	2020 012 00036	1000µ 25V
2044	2238 586 59812	100nF 20% 50V 0603
2045	4822 126 14076	220nF +80/-20% 25V
2047	3198 017 41050	1µF 10V 0603
2048	2238 586 59812	100nF 20% 50V 0603
2049	2020 552 96305	4.7µF 20-80% 10V
2051	2020 552 94427	100pF 5% 50V
2052	4822 126 14238	2.2nF 50V 0603
2053	4822 126 14238	2.2nF 50V 0603
2054	4822 126 14238	2.2nF 50V 0603
2055	4822 126 14238	2.2nF 50V 0603
2060	4822 126 14238	2.2nF 50V 0603
2061	4822 126 14238	2.2nF 50V 0603
2062	3198 017 34730	47nF 16V 0603
2063	3198 017 34730	47nF 16V 0603
2064	5322 126 11579	3.3nF 10% 63V
2065	5322 126 11579	3.3nF 10% 63V

⊣W⊢

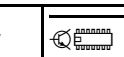
3001	5322 117 11726	10Ω 5%
3002	4822 051 30562	5.6kΩ 5% 0.063W 0603
3003	4822 051 30223	22kΩ 5% 0.062W
3004	4822 051 30332	3.3Ω 5% 0.062W
3006	4822 051 30102	1kΩ 5% 0.062W
3007	4822 117 12925	47kΩ 1% 0.063W 0603
3008	4822 051 30222	2.2kΩ 5% 0.062W
3009	4822 117 12891	220kΩ 1%
3010	4822 051 30272	2.7kΩ 5% 0.062W
3011	4822 051 30222	2.2kΩ 5% 0.062W
3012	4822 051 20109	10Ω 5% 0.1W
3013	4822 051 30123	12kΩ 5% 0.1W
3014	2322 762 60229	22Ω 5% 1005
3019	4822 051 30103	10kΩ 5% 0.062W
3020	4822 051 30332	3.3Ω 5% 0.062W
3021	4822 051 30472	4.7Ω 5% 0.062W
3022	3198 021 32290	22Ω 5% 0603
3023	4822 051 30102	1kΩ 5% 0.062W
3024	4822 117 12925	47kΩ 1% 0.063W 0603
3025	4822 051 30222	2.2kΩ 5% 0.062W
3026	4822 051 30272	2.7kΩ 5% 0.062W
3027	4822 117 12891	220kΩ 1%
3028	4822 051 30103	10kΩ 5% 0.062W
3029	4822 051 30222	2.2kΩ 5% 0.062W
3030	4822 051 20109	10Ω 5% 0.1W
3031	2322 762 60229	22Ω 5% 1005
3032	4822 051 30392	3.9Ω 5% 0.063W 0603
3033	4822 051 30123	12kΩ 5% 0.1W
3034	4822 051 30392	3.9Ω 5% 0.063W 0603
3037	4822 051 30392	3.9Ω 5% 0.063W 0603
3039	4822 051 30103	10kΩ 5% 0.062W
3040	4822 051 30103	10kΩ 5% 0.062W
3041	4822 051 30103	10kΩ 5% 0.062W
3042	4822 051 30103	10kΩ 5% 0.062W
3043	4822 051 30103	10kΩ 5% 0.062W
3046	4822 051 30102	1kΩ 5% 0.062W
3047	4822 051 30102	1kΩ 5% 0.062W

⌁

5001	2422 549 44197	Bead 220Ω at 100MHz
5002	3198 018 52280	2.2µH 10% 0603
5003	3198 018 52280	2.2µH 10% 0603
5004	3198 018 52280	2.2µH 10% 0603
5005	3198 018 52280	2.2µH 10% 0603
5006	2422 536 01034	33µH
5007	2422 536 01034	33µH

⊣▷⊢

6002	4822 130 80622	BAT54
6003	4822 130 80622	BAT54



7000	9352 760 45118	TDA8931T/N1
7001	9352 760 45118	TDA8931T/N1
7004	9322 209 56685	TL431ACDBV

Side I/O Panel [D]

Various

1301	4822 267 10484	YKF51-5359
1302	2422 026 05655	Cinch 3p f RdWhYe
1303	2422 026 05059	Connector Phone
1304	2422 025 10772	Connector 12p m

⊣⊢

2302	4822 126 11785	47pF 5% 50V 0603
2304	4822 126 11785	47pF 5% 50V 0603
2306	4822 126 14241	330pF 0603 50V
2307	4822 126 14241	330pF 0603 50V
2308	5322 126 11583	10nF 10% 50V 0603
2309	5322 126 11583	10nF 10% 50V 0603
2310▲	3198 017 41050	1µF 10V 0603

⊣W⊢

3301	4822 051 30759	75Ω 5% 0.062W
3302	4822 051 30109	10Ω 5% 0.062W
3303	4822 051 30109	10Ω 5% 0.062W
3304	4822 051 30759	75Ω 5% 0.062W
3305	4822 117 13632	100kΩ 1% 0603 0.62W
3306	4822 051 30153	15kΩ 5% 0.062W
3307	4822 051 30102	1kΩ 5% 0.062W
3308	4822 051 30153	15kΩ 5% 0.062W
3309▲	4822 051 30759	75Ω 5% 0.062W
3310▲	4822 051 30563	56kΩ 5% 0.062W
3311	4822 051 30103	10kΩ 5% 0.062W

⊣▷⊢

6301	9322 129 41685	BZM55-C12
6302	9322 129 41685	BZM55-C12
6303	9322 129 41685	BZM55-C12
6304	9322 129 41685	BZM55-C12
6305	9322 129 41685	BZM55-C12
6306	9322 129 41685	BZM55-C12
6307	9322 129 41685	BZM55-C12
6308	9322 129 41685	BZM55-C12

7301▲	4822 130 60373	BC856B

Control Board [E]

Various

1309	4822 276 13775	Switch 1p 0.1A 12V
1310	4822 276 13775	Switch 1p 0.1A 12V
1311	4822 276 13775	Switch 1p 0.1A 12V
1312	4822 276 13775	Switch 1p 0.1A 12V
1313	4822 276 13775	Switch 1p 0.1A 12V
1314	4822 276 13775	Switch 1p 0.1A 12V
1684	4822 267 10459	Connector 3p
8684	3139 131 04421	Cable 3p/340/3p

⊣W⊢

3318	4822 051 30151	150Ω 5% 0.062W
3319	4822 051 30391	390Ω 5% 0.062W
3320	3198 021 31820	1.8kΩ 5% 0.062W 0603
3321	4822 117 12968	820Ω 5% 0.62W
3322	4822 051 30008	Jumper 0603
3323	4822 051 30008	Jumper 0603
3324	4822 051 30561	560Ω 5% 0.062W

⊣▷⊢

6306	4822 130 11148	UDZ4.7B

LED & IR Panel [J]

2801	2020 552 96637	10µF 10% 6.3V 0805
2802	2020 552 96637	10µF 10% 6.3V 0805

3801	4822 051 30332	3.3Ω 5% 0.062W
3802	4822 051 30331	330Ω 5% 0.062W
3803	4822 051 30221	220Ω 5% 0.062W

6801	9322 192 35676	SPR-325MVW
6803	4822 130 11564	UDZ3.9B

7801	4822 130 60373	BC856B
7802	9322 207 16667	TSOP34836LL1B
7803	5322 130 60159	BC846B
7804	5322 130 60159	BC846B

11. Revision List

Manual xxxx xxx xxxx.0

- First release.