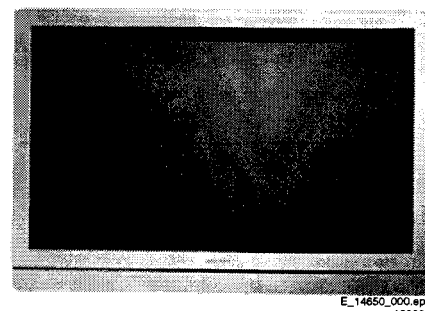


Service Service Service



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Service Manual

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1. Technical Specifications, Connections, and Chassis Overview

Index of this chapter:

- 1.1 Technical Specifications
- 1.2 Connections
- 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, VA
Screen size	: 32" (82 cm), 16:9
Resolution (HxV pixels)	: 1366(*3)x768 WXGA
Contrast ratio	: 800:1 (32-inch)
Light output (cd/m ²)	: 500 (32-inch)
LCD response time (ms)	: 12
Viewing angle (HxV degrees)	: 176 (32-inch)
Tuning system	: PLL
Colour systems	: PAL B/G, D/K, I
	: SECAM B/G, D/K, L/L'
Supported computer formats (60 Hz)	: VGA (640x480)
	: SVGA (800x600)
	: XGA (1024x768)
	: WXGA (1280x768)
Supported video formats	: 640x480i - 1fH
	: 720x576i - 1fH
	: 640x480p - 2fH
	: 720x576p - 2fH
	: 1920x1080i - 2fH
	: 1920x1152i - 2fH
	: 1280x720p - 3fH
AV (playback only)	: NTSC, PAL, SECAM
Tuner bands	: UHF, VHF, S, Hyper

1.1.2 Sound

Sound systems	: AV stereo,
	: FM/FM B/G
	: NICAM B/G, D/K, I
Maximum power (W_{RMS})	: 2 x 15 (int.)

1.1.3 Miscellaneous

Mains voltage (V_{AC})	: 220 - 240
Mains frequency	: 50 / 60 Hz
Ambient temperature (°C)	: +5 to +40
Maximum humidity (R.H>)	: 90%

Power consumption	
- Normal operation (W)	: 145 (32-inch)
- Stand-by (W)	: < 2

1.2 Connections

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, Ye= Yellow.

1.2.1 Side I/O

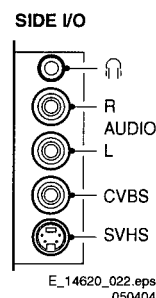


Figure 1-1 Side I/O connections

Headphone (Output)

- Headphone 32 - 600 ohm / 10 mW



Cinch: Video CVBS - In, Audio - In

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

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

Ye - Video CVBS 1 V_{PP} / 75 ohm



SVHS (Hosiden): Video Y/C - In

1 - Ground Y Gnd

2 - Ground C Gnd

3 - Video Y 1 V_{PP} / 75 ohm

4 - Video C 0.3 V_{PP} / 75 ohm



1.2.2 Rear Connections

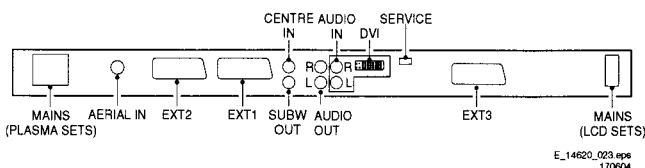
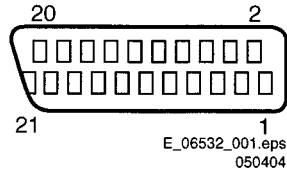


Figure 1-2 Rear connections

Aerial - In

- IEC-type Coax, 75 ohm



SCART2: Video RGB/YC - In, CVBS - In/Out, Audio - In/Out**Figure 1-3 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/C-out	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	- Easylink P50	0 - 5 V / 4.7 kohm	⊕→
11	- Video Green	0.7 V _{PP} / 75 ohm	⊕→
12	- n.c.		⊕
13	- Ground Red	Gnd	⊕
14	- Ground P50	Gnd	⊕
15	- Video Red/C	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 CVBS	1 V _{PP} / 75 ohm	⊕→
20	- Video CVBS/Y	1 V _{PP} / 75 ohm	⊕→
21	- Shield	Gnd	⊕

SCART1: Video RGB - In, CVBS - In/Out, Audio - In/Out

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	- Easylink P50	0 - 5 V / 4.7 kohm	⊕→
11	- Video Green	0.7 V _{PP} / 75 ohm	⊕→
12	- n.c.		⊕
13	- Ground Red	Gnd	⊕
14	- Ground P50	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 CVBS	1 V _{PP} / 75 ohm	⊕→
20	- Video CVBS	1 V _{PP} / 75 ohm	⊕→
21	- Shield	Gnd	⊕

Cinch: Sub woofer - Out, Centre - In

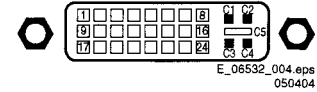
Bu	- Centre	0.5 V _{RMS} / 10 kohm	⊕→
Bk	- Sub woofer	0.5 V _{RMS} / 10 kohm	⊕→

Cinch: Audio - Out

Rd	- Audio - R	0.5 V _{RMS} / 10 kohm	⊕→
Wh	- Audio - L	0.5 V _{RMS} / 10 kohm	⊕→

Cinch: DVI Audio - In

Rd	- Audio - R	0.5 V _{RMS} / 10 kohm	⊕→
Wh	- Audio - L	0.5 V _{RMS} / 10 kohm	⊕→

DVI-I: Digital/Analogue Video - In**Figure 1-4 DVI-I connector**

1	- D2-		⊕→
2	- D2+		⊕→
3	- Shield	Gnd	⊕
4	- D4-		⊕→
5	- D4+		⊕→
6	- DDC_SCL	DDC clock	⊕→
7	- DDC_SDA	DDC data	⊕→
8	- V-sync	0 - 5 V	⊕→
9	- D1-		⊕→
10	- D1+		⊕→
11	- Shield	Gnd	⊕
12	- D3-		⊕→
13	- D3+		⊕→
14	- +5V		⊕→
15	- Ground	Gnd	⊕
16	- HPD	Hot Plug Detect	⊕→
17	- D0-		⊕→
18	- D0+		⊕→
19	- Shield	Gnd	⊕
20	- D5-		⊕→
21	- D5+		⊕→
22	- Shield	Gnd	⊕
23	- CLK+		⊕→
24	- CLK-		⊕→
C1	- Video Red	0.7 V _{PP} / 75 ohm	⊕→
C2	- Video Green	0.7 V _{PP} / 75 ohm	⊕→
C3	- Video Blue	0.7 V _{PP} / 75 ohm	⊕→
C4	- H-sync	0 - 5 V	⊕→
C5	- Ground	Gnd	⊕

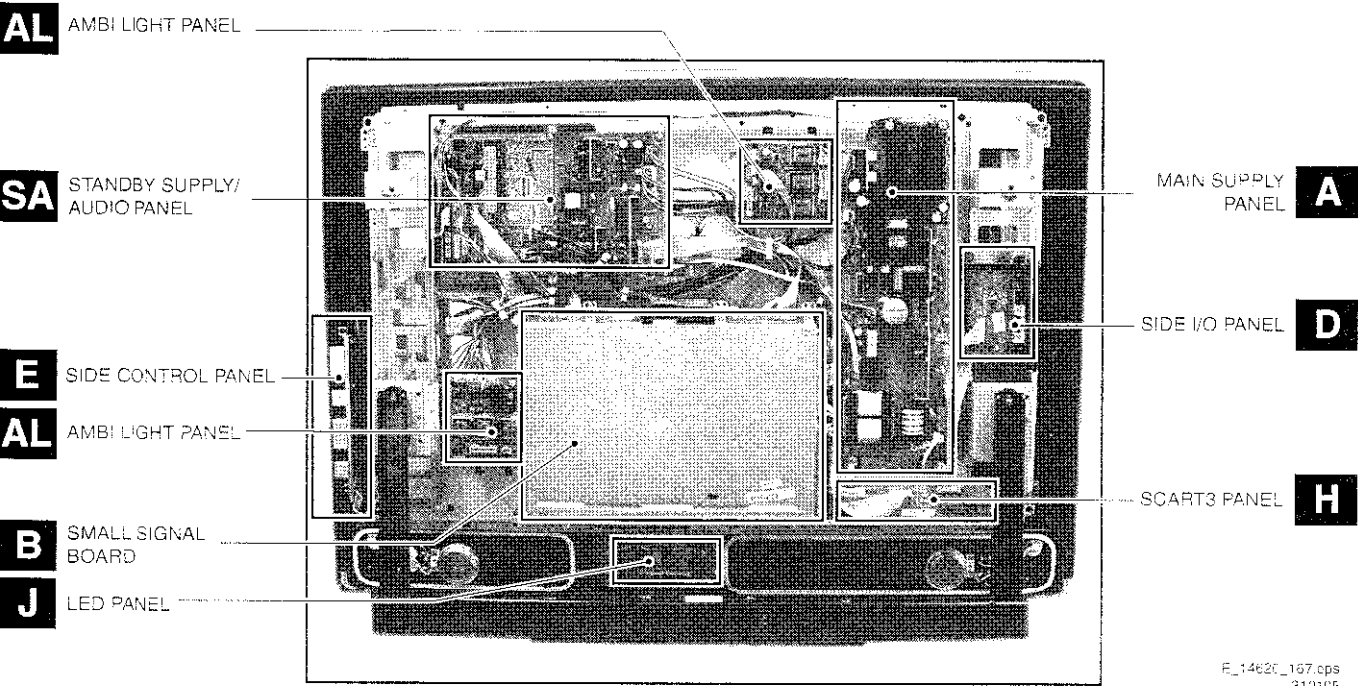
Service connector (ComPair)

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

SCART3: Video CVBS - In, Audio - In

1	- n.c.		⊕
2	- Audio R	0.5 V _{RMS} / 10 kohm	⊕→
3	- n.c.		⊕
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 Data	Gnd	⊕
15	- n.c.		⊕
16	- n.c.		⊕
17	- Ground Video	Gnd	⊕
18	- Ground FBL	Gnd	⊕
19	- n.c.		⊕
20	- Video CVBS	1 V _{PP} / 75 ohm	⊕→
21	- Shield	Gnd	⊕

1.3 Chassis Overview



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Figure 1-5 PWB locations

2. Safety Instructions, Warnings, and Notes

Index of this chapter:

- 2.1 Safety Instructions
- 2.2 Warnings
- 2.3 Notes

2.1 Safety Instructions

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

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

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

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

2.2 Warnings

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

2.3 Notes

2.3.1 General

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

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

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

2.3.2 Schematic Notes

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

2.3.3 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.

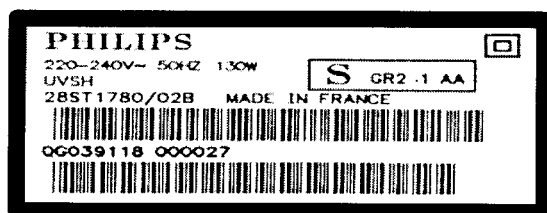
More Information

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 "Workshop Information". 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).



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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 "Workshop information". 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:

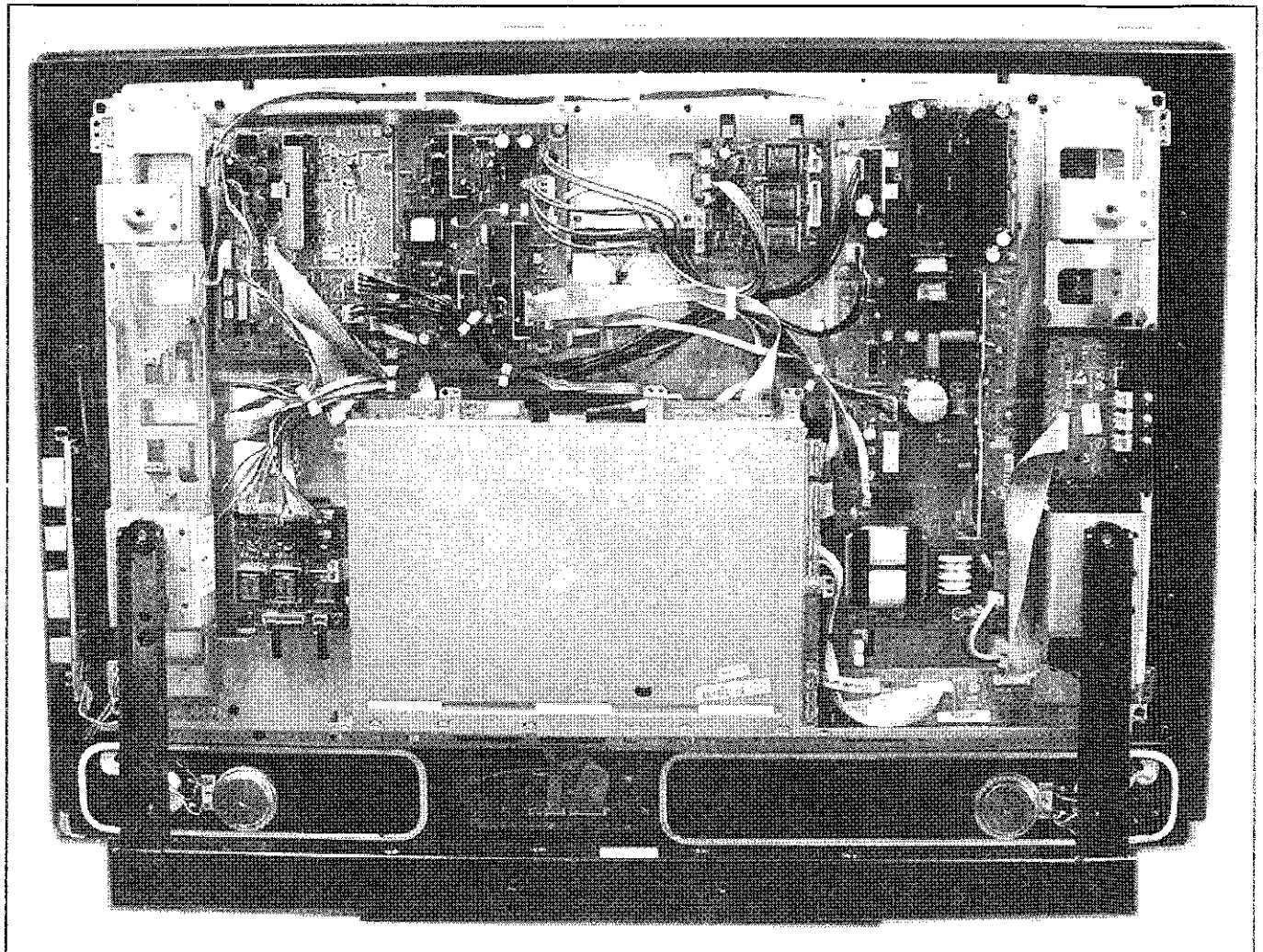
- 4.1 Cable Dressing
- 4.2 Service Position
- 4.3 Assy/PWB Removal
- 4.4 Display (Dis)Assembly
- 4.5 Set Re-assembly

Notes:

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

4.1 Cable Dressing

4.1.1 Chassis



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Figure 4-1 Chassis cable dressing

4.2 Service Position

For easy servicing of this set, there are a few possibilities created:

- The buffers from the packaging.
- Foam bars (created for Service).
- Aluminium service stands (created for Service).

4.2.1 Foam Bars

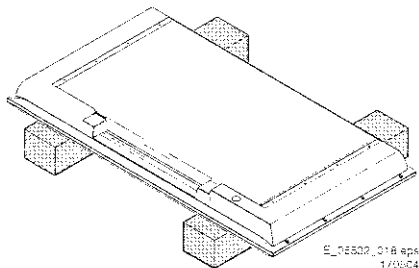


Figure 4-2 Foam bars

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

4.2.2 Aluminium Stands

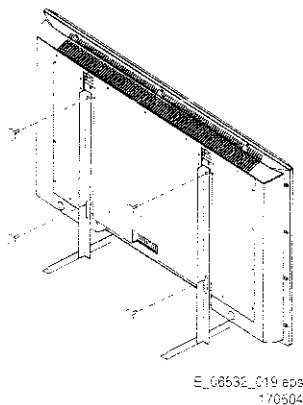


Figure 4-3 Aluminium stands (Mk1)

The new (Mk2) aluminium stands (order code 3122 785 90690) can also be used to do measurements, alignments, and duration tests. The stands can be (dis)mounted quick and easy by means of sliding them in/out the "mushrooms".

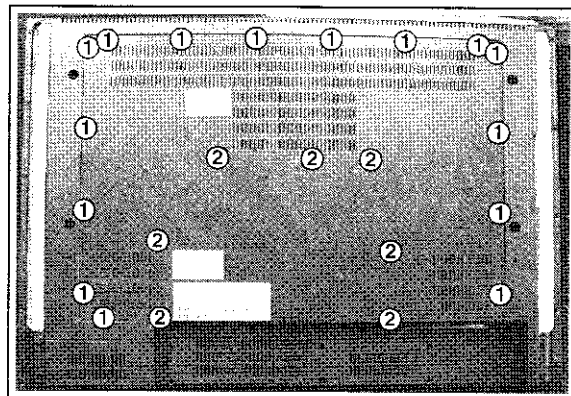
Important: For (older) FTV sets without these "mushrooms", it is obligatory to use the provided screws, otherwise it is possible to damage the monitor inside!

4.3 Assy/PWB Removal

4.3.1 Metal Back Plate

Caution: Disconnect the mains power cord before you remove the metal back plate.

1. Place the TV set upside down on a table top, using the foam bars (see part "Foam Bars").
Caution: do not put pressure on the display, but let the monitor lean on the speakers or the Front cover.
2. Remove all T10 parker screws [1] from the top, left, and right sides of the metal back plate.
3. Remove all T10 tapping screws [2] from the centre and bottom of the metal back plate.
4. Lift the back plate from the TV. Make sure that wires and flat foils are not damaged during the removal.

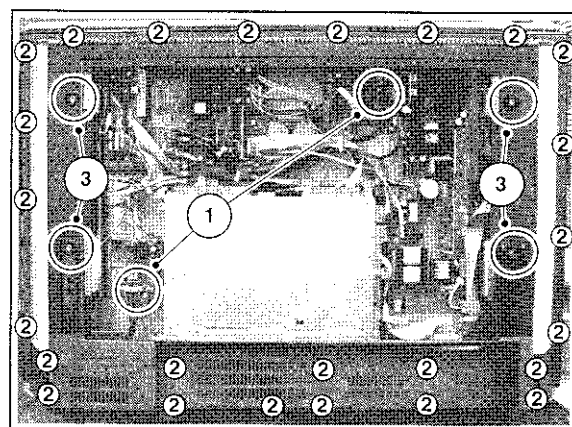


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Figure 4-4 Metal back plate

4.3.2 Rear Cover

1. Disconnect all connectors [1] at both AmbiLight Inverters.
2. Remove all T10 parker screws [2] around the edges of the rear cover.
3. Remove the four "mushrooms" [3] from the back plate.
4. Lift the rear cover from the TV.



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Figure 4-5 Rear cover

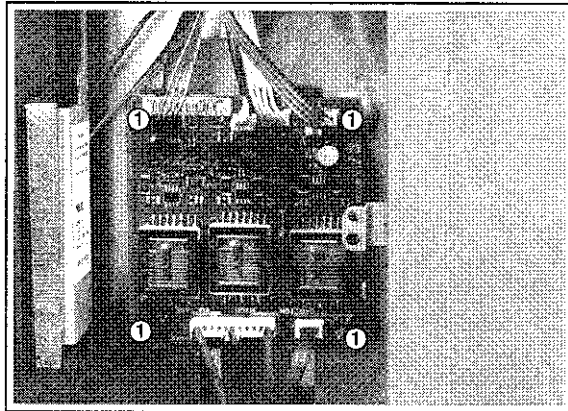
4.3.3 LCD Supply Panel

1. Disconnect all cables from the LCD supply panel.
2. Remove all mounting screws from the LCD supply panel.
3. Take out the panel.

These models are equipped with **two** AmbiLight Inverters.

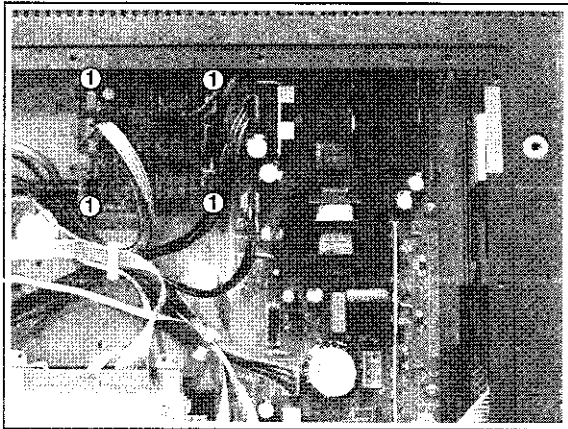
4.3.4 AmbiLight Inverter Panel

1. Disconnect all cables from the AmbiLight Inverter panel.
2. Remove all mounting screws [1] from the AmbiLight Inverter panel.
3. Take out the panel.



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Figure 4-6 AmbiLight inverter (left lower side)



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Figure 4-7 AmbiLight inverter (right upper side)

4.3.5 3th SCART Panel

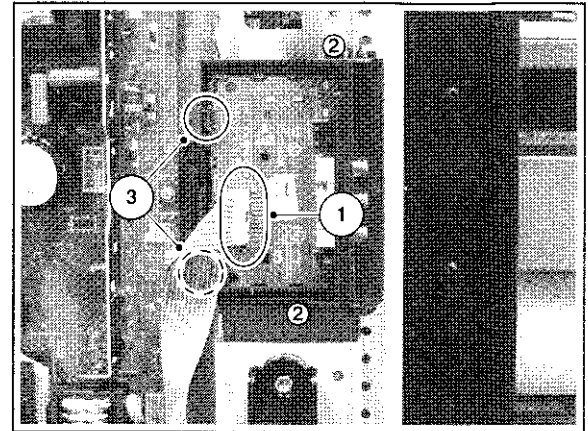
1. Disconnect all cables from the 3th SCART panel.
2. Remove the two mounting screws near the SCART connector at the connector plate (see [7] in figure "Connector plate" further on).
3. Take out the panel.

4.3.6 Stand-by Supply/Audio Panel

1. Disconnect all cables from the Stand-by Supply/Audio panel.
2. Remove all T10 mounting screws at the top of the Stand-by Supply/Audio panel.
3. Take out the panel (it hinges at the bottom side).

4.3.7 Side I/O Panel

1. Disconnect the cable [1] from the Side I/O panel.
2. Remove the assy mounting screws [2].
3. Take out the assy.
4. Release the clamps [3] and take out the panel.

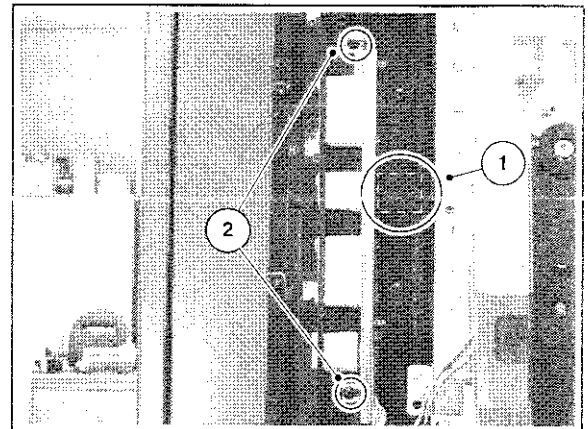


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Figure 4-8 Side I/O panel

4.3.8 (Top) Control Panel

1. Remove the glued foam block [1].
2. Remove the assy mounting screws [2].
3. Take out the assy.
4. Release the clamps and take out the panel.



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Figure 4-9 Local keyboard

4.3.9 LED Panel

1. Disconnect all cables from the LED panel.
2. Remove the mounting screws from the LED panel.
3. Take out the panel.

4.3.10 Speakers

1. After removal of the cover plate, you can access the speakers.
2. Be sure that the foam that makes the unit airtight is not damaged. Otherwise replace it.

4.3.11 SSB

1. Remove the LVDS connector locking bracket [1][2].
2. Remove all shielding fixing screws.
3. Slide, and lift the shielding at the top [3]. The panel hinges at the SCART side. At the same time, use a screwdriver to carefully prize the shielding at the bottom side [4], and remove the shielding. The SSB is now accessible.
4. To remove the whole SSB, unscrew all connector fixing screws from the connector plate [5][6]. Use a 5 mm socket screwdriver to remove both DVI connector distance bolts [6].
5. Disconnect the LVDS cable, and all other cables.
6. Remove the mounting screw [8] from the SSB.
7. Bend the brackets [9] away (may require some force), lift the SSB, and take it out.

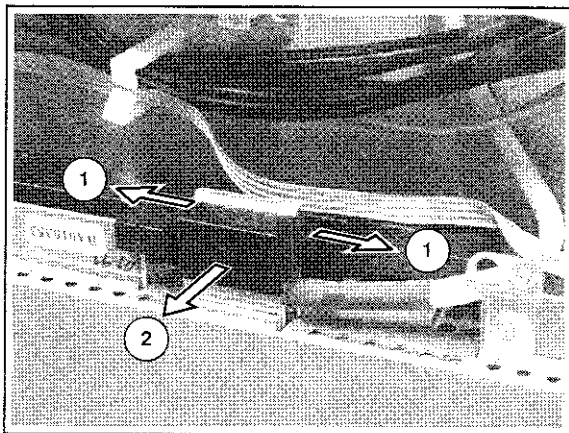
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Figure 4-10 LVDS connector locking bracket

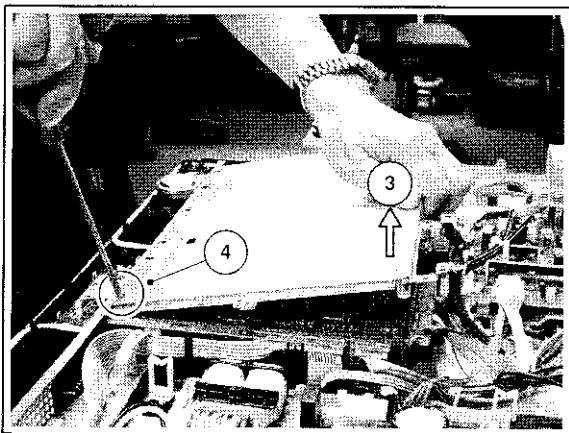
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Figure 4-11 SSB top shielding

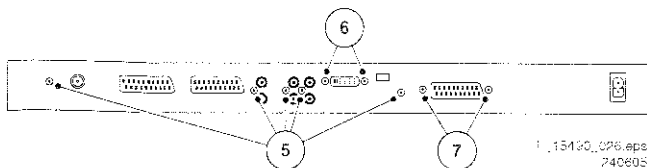
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Figure 4-12 Connector plate

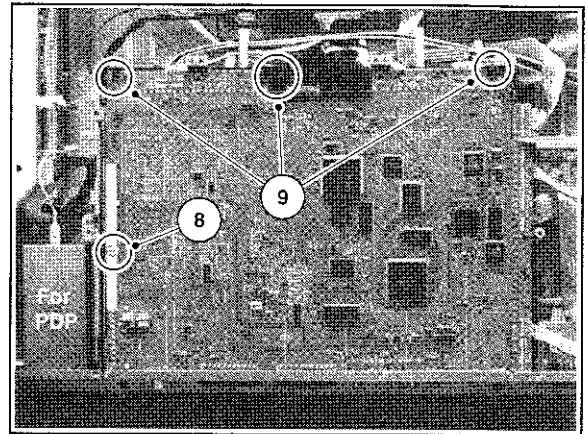
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Figure 4-13 SSB brackets

4.3.12 AmbiLight Lamp Unit

The AmbiLight lamp units are located in the TV's rear cover.

1. Remove the cable clamps.
2. Remove all mounting AmbiLight screws.
3. Slide the AmbiLight unit to the side and take out the unit.

4.4 Display (Dis)Assembly

important: Be sure to work in a dust free environment during the following activities. In addition, the use of (fabric) hand gloves is advised.

1. **Important:** Unplug the cables [1][2] at the LCD panel. **Be careful,** as the LVDS connector [1] is very fragile!
2. Unplug the backlight and loudspeaker connectors [3][4].
3. Remove all T10 screws [5] from the mounting frame.
4. Remove all mounting LCD panel screws [6]. One of them [7] is somewhat hidden underneath the SCART panel. The best way to remove this screw is to loosen the 3th SCART panel first via the 2 screws at the SCART connector (see [7] in figure "Connector plate" earlier).
5. Lift the metal frame (together with all PWBs) from the LCD panel. During lift, free the backlight and speaker cables.
6. After removal of the frame, you can lift the LCD display from the set.

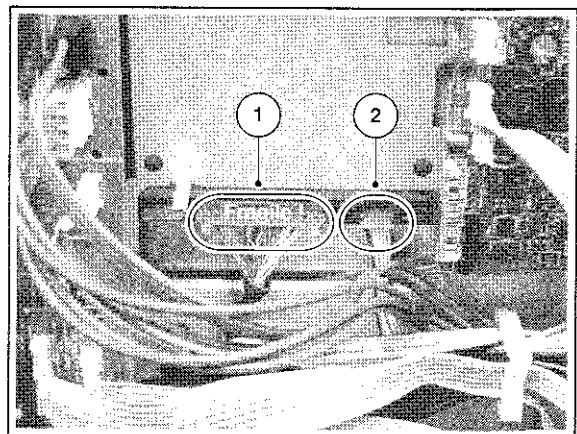
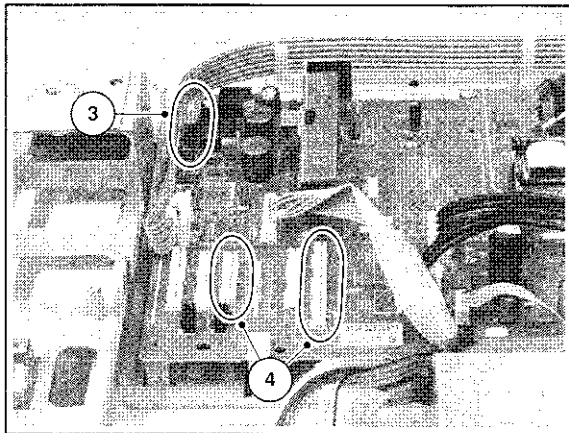
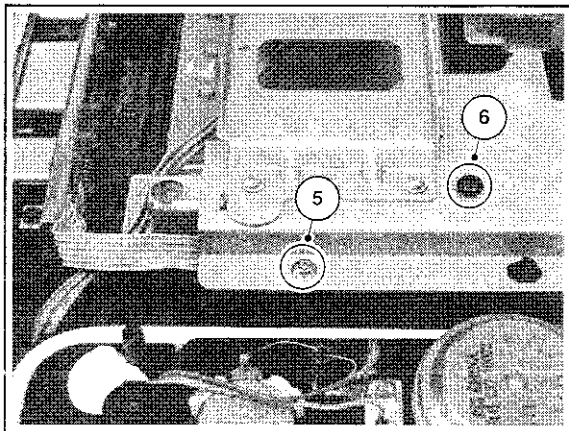
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Figure 4-14 LCD panel connectors



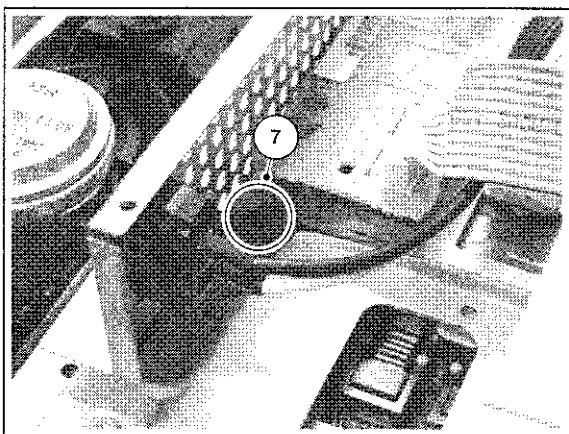
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Figure 4-15 Speaker and LCD backlight cables



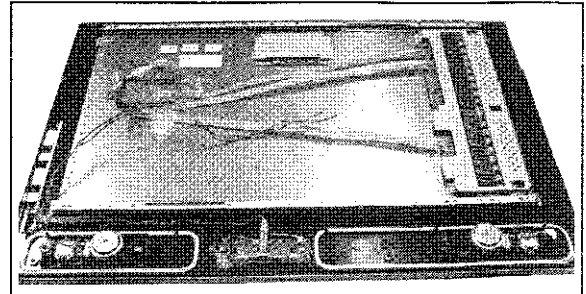
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Figure 4-16 LCD panel disassembly (part 1)



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Figure 4-17 LCD panel disassembly (part 2)



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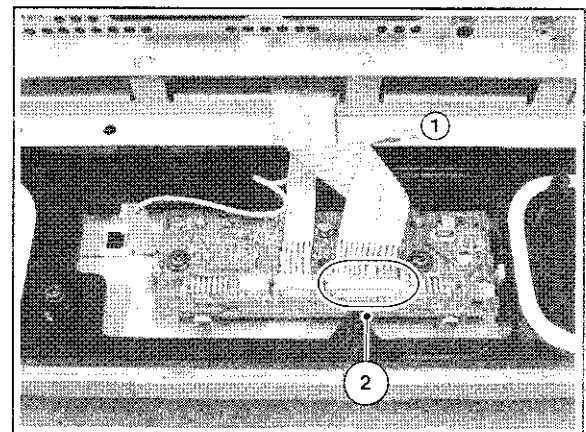
Figure 4-18 Bare LCD panel after frame removal

4.5 Set Re-assembly

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

Note: While re-assembling the TV, make sure that:

- All cables are placed and connected in their original position (see figure "Chassis cable dressing" in the beginning of this chapter and/or the "Wiring Diagram" in chapter 6).
- LVDS connector (SSB) is secured with plastic clamp.
- The "grounding" wire between metal speaker grid and frame [1] is reconnected.



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Figure 4-19 Metal speaker grid grounding wire

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 Protections
- 5.8 Repair tips
- 5.9 Software Downloading

5.1 Test Points

The chassis is equipped with test points printed on the circuit board assemblies.

Perform measurements under the following conditions:

- Service Default Mode.
- Video: colour bar signal.
- Audio: 3 kHz left, 1 kHz right.

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 a Philips Customer Care Centre (P3C) and a customer.

There is also the option of using ComPair, a hardware interface between a computer (see requirements below) and the TV chassis. It offers the ability of structured troubleshooting, test pattern generation, error code reading, software version read-out, and software upgrading.

Minimum requirements: a Pentium processor, Windows 95/98, and a CD-ROM drive (see also paragraph "ComPair").

Remark: The silk screen printing is not correct for the SAM: SDM indication. For the correct location of these pins, see figure "Service pads".

5.2.1 Service Default Mode (SDM)

Purpose

- To create a pre-defined setting, to get the same measurement results as given in this manual.
- To override SW protections.
- To start the blinking LED procedure.

Specifications

Table 5-1 SDM default settings

Region	Freq. (MHz)	Default system
Europe, AP-PAL/Multi	475.25	PAL B/G
NAFTA, AP-NTSC, LATAM	61.25 (ch. 3)	NTSC M

- All picture settings at 50% (brightness, colour, contrast).
- All sound settings at 50%, except volume at 25%.
- All service-unfriendly modes (if present) are disabled, like:
 - (Sleep) timer.
 - Child/parental lock.
 - Blue mute.
 - Automatic volume limiter (AVL).
 - Auto switch-off (when no video signal was received for 10 minutes).
 - Skip/blank of non-favourite pre-sets.

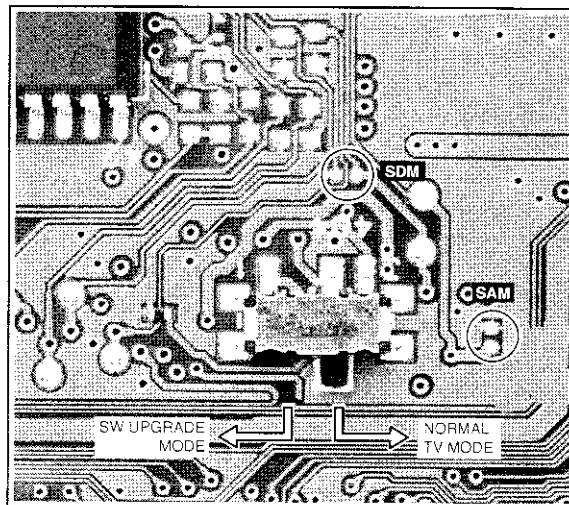
- Smart modes.
- Auto store of personal presets.
- Auto user menu time-out.

How to activate SDM

Use one of the following methods:

- Use the standard RC-transmitter and key in the code "062596", directly followed by the "MENU" button.

Note: It is possible that, together with the SDM, the main menu will appear. To switch it off, push the "MENU" button again.



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Figure 5-1 Service pads

- Short for a moment the two solder pads on the SSB, with the indication "SDM" (see figure "Service pads"). Activation can be performed in all modes, except when the TV has a problem with the main microprocessor.
- **Caution:** If the SDM is activated via the pins, all the software-controlled protections are de-activated.
- Use the DST-emulation feature of ComPair.
- Use the "DEFAULT" button on the Dealer Service Tool (RC7150).

How to navigate

When you press the "MENU" button on the RC transmitter, the TV will toggle between the SDM and the normal user menu (with the SDM mode still active in the background).

How to exit SDM

Use one of the following methods:

- Switch the TV to STANDBY via the RC-transmitter.
- Press the "EXIT" button on the DST.
- Via a standard customer RC-transmitter: key in "00"-sequence.

5.2.2 Service Alignment Mode (SAM)

Purpose

- To perform (software) alignments.
- To change option settings.
- To easily identify the used software version.
- To view operation hours.
- To display (or clear) the error code buffer.

Specifications

- Operation hours counter.
- Software version.

- Option settings.
- Error buffer reading and erasing.
- Software alignments.

How to activate SAM

Use one of the following methods:

- Via a standard RC transmitter: key in the code “062596” directly followed by the “OSD [i+]” button. After activating SAM with this method a service warning will appear on the screen, you can continue by pressing any digit key on the RC.
- Short for a moment the two solder pads on the SSB with the indication “SAM” (see figure “Service pads”). Depending on the software version, it is possible that a service warning will appear. You can continue by pressing any digit key on the RC.
- Use the DST-emulation feature of ComPair.
- Press the ALIGN button on the DST while the TV is in the normal operation

After activating this mode, “SAM” will appear in the upper right corner of the screen.

Contents of SAM:

- **Operation Hours.** Displays the accumulated total of operation hours (not the stand-by hours).
- **Hardware Info.**
 - **ROM Version.** Displays the date of the software and the software version of the ROM
Ex.: TX24EU_1.0_01234 = AAAABB_X.Y_NNNNN.
 - **AAAA=** the chassis name.
 - **BB=** the region: EU= Europe, AP= Asia Pacific PAL/Multi, AN= Asia Pacific NTSC, US= USA, LT= LATAM.
 - **X.Y=** the software version, where X is the main version number (different numbers are not compatible with one another) and Y is the sub version number (a higher number is always compatible with a lower number).
 - **NNNNN=** last five digits of 12nc code software.
 - **FBX Version.** Displays the software version of the FBX
 - **SW VERSION EPLD.** Displays the software version of the EPLD.
- **Errors.** (followed by maximal 10 errors). The most recent error is displayed at the upper left (for an error explanation see paragraph “Error Codes”).
- **Defective Module.** Here the module that generates the error is displayed. If there are multiple errors in the buffer, which are not all generated by a single module, there is probably another defect. It will then display the message “UNKNOWN” here.
- **Reset Error Buffer.** When you press the “OK” button, the error buffer is reset.
- **Alignments.** This will activate the “ALIGNMENTS” sub-menu.
- **Dealer Options.** Extra features for the dealers.
- **Service Options.** Extra features for Service.
- **Initialise NVM.** The moment the processor recognises a corrupted NVM, the “initialise NVM” line will be highlighted. Now, you can do two things (dependent of the service instructions at that moment):
 - Save the content of the NVM via ComPair for development analysis, **before** initialising. This will give the Philips Service department an extra possibility for diagnosis (e.g. when Development asks for this).
 - Initialise the NVM (same as in the past, however now it happens conscious).

Note: When you have a corrupted NVM, or you have replaced the NVM, there is a high possibility that you will not have picture any more because your display option is not correct. So, before you can initialize your NVM via the SAM, you need to have a picture and therefore you need the correct display option. This code can be found on the option code sticker inside the set.

- **Store.** All options and alignments are stored when pressing the “OK”-button
- **Functional Test.** All devices are tested via the “OK” button. Eventual errors are displayed in the error buffer. The error buffer is not erased, the content returns when this test is terminated.
- **Daily Menus.** With the “OK” button, you can go to the normal user menu. SAM is still active in the background. With the “MENU” button, you return from the user menu to SAM menu. This feature can be helpful to quickly change some settings in the user menu.
- **SW Maintenance.**
 - **Upgrade.** More info see paragraph Software downloading.
 - **Events.** Not useful for service purposes. In case of specific software problems, the development department can ask for this info.
 - **BDM Info.** Broadcast Debug Menu info. The purpose of this menu is to debug the broadcast, **not** the TV. The menu gives an overview of what is received on the current preset.

Following items are displayed:

Presetnr:	--	UTC:	----
Presetname:	----	LTO:	----
		Time:	----
		Date:	--/--/----
CNI NVM:	----		
CNI F1:	----		
CNI F2:	----	Time TXT:	----
CNI VPS:	----	Time 8/30 F1:	----
Morning Prog:	---	Date 8/30 F1:	--/--/----
Name 8/30 F1:	----	LTO 8/30 F1:	----
Name 8/30 F2:	----		
Name TXT:	----	WSS G1:	----
Signal Strength:	---	WSS G2:	----
		WSS G3:	---
EPG Service:	---	WSS G4:	---

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Figure 5-2 Broadcast debug menu overview

Table 5-2 Broadcast debug menu explanation

Item	Source	Description
Presetnr	Set	Preset number of the current selected preset.
Presetname	Set	Preset name of the current selected preset.
CNI NVM	Broadcaster	CNI number stored in NVM for the current preset.
CNI F1	Broadcaster	CNI number from transmitted Packet 8/30 Format 1.
CNI F2	Broadcaster	CNI number from transmitted Packet 8/30 Format 2.
CNI VPS	Broadcaster	CNI number from transmitted VPS line.
Morning Prog	Broadcaster	"ARD" or "ZDF" according to dedicated bit in 8/30 Format 1.
Name 8/30 F1	Broadcaster	Name extracted from status message of 8/30 Format 1.
Name 8/30 F2	Broadcaster	Name extracted from status message of 8/30 Format 2.
Name TXT	Broadcaster	Name extracted from TXT header.
Signal Strength	FBX	Noise figure measured for selected preset.
EPG Service	Set	EPG Service stored in NVM for current preset displayed as "TXT", "MCP", "SCP", "OCP".
UTC	Set	UTC (Universal Time Code formerly known as Greenwich Mean Time) used in the TV.
LTO	Set	LTO (Local Time Offset) used in the TV. Used by EPG for all NextView displays. (= Time TXT header - Time 8/30 F1)
Time	Set	Current time running in the TV. Was extracted at start-up, then maintained by software.
Date	Set	Current date running in the TV. Was extracted at start-up, then maintained by software.
Time TXT	Broadcaster	TXT header time from the selected preset.
Time 8/30 F1	Broadcaster	UTC time from 8/30 Format 1.
Date 8/30 F1	Broadcaster	Date from 8/30 Format 1.
LTO 8/30 F1	Broadcaster	LTO from 8/30 Format 1.
WSS G1	Broadcaster	WSS Group 1 (Aspect Ratio) bits 0 1 2 3
WSS G2	Broadcaster	WSS Group 2 (Enhanced Services) bits 4 5 6 7
WSS G3	Broadcaster	WSS Group 3 (Subtitles) bits 8 9 10
WSS G4	Broadcaster	WSS Group 4 (Reserved) bits 11 12 13

How to navigate

- In SAM, you can select the menu items with the "CURSOR UP/DOWN" key on the RC-transmitter. The selected item will be highlighted. When not all menu items fit on the screen, move the "CURSOR UP/DOWN" key to display the next/previous menu items.
- With the "CURSOR LEFT/RIGHT" keys, it is possible to:
 - (De) activate the selected menu item.
 - Change the value of the selected menu item.
 - Activate the selected sub-menu.

How to exit SAM

Use one of the following methods:

- Press the "MENU" button on the RC-transmitter, or
- Switch the TV to STANDBY via the RC-transmitter, or
- Press the "EXIT" button on the DST.

5.2.3 Customer Service Mode (CSM)**Purpose**

When a customer is having problems with his TV-set, he can call his dealer. The service technician can then ask the customer to activate the CSM, in order to identify the status of the TV. Now, the service technician can judge the severity of the complaint. In many cases, he can advise the customer how to solve the problem, or he can decide if it is necessary to visit the customer.

The CSM is a read only mode; therefore, modifications in this mode are not possible.

How to activate CSM

Use the following method:

Key in the code "123654" via the standard RC transmitter.

Note: Activation of the CSM is only possible if there is no (user) menu on the screen!

How to navigate

By means of the "CURSOR-DOWN/UP" knob on the RC-transmitter, you can navigate through the menus.

Contents of CSM**CUSTOMER SERVICE MENU 1**

- **Software Version (example: TX24EU_1.0_01234).** Displays the built-in software version. In case of field problems related to software, software can be upgraded (for more details, see paragraph Software downloading). You will find details of the software versions in the chapter "Software Survey" of the "Product Survey - Colour Television" publication. This publication is generated four times a year.
- **Feature Box.** The 12NC-number of the built-in Feature Box software.
- **Set Type.** This information is very helpful for a help desk/workshop as reference for further diagnosis. In this way, it is not necessary for the customer to look at the rear of the TV-set.
- **Code 1.** Gives the latest five errors of the error buffer. As soon as the built-in diagnose software has detected an error the buffer is adapted. The last occurred error is displayed on the left most position. Each error code is displayed as a 3-digit number. When less than 10 errors occur, the rest of the buffer is empty (000). See also paragraph Error Codes for a description.
- **Code 2.** Gives the first five errors of the error buffer. See also paragraph Error Codes for a description.
- **Volume.** Gives the last status of the volume as set by the customer. The value can vary from 0 (volume is minimum) to 100 (volume is maximum). Volume values can be changed via the volume key on the RC-transmitter.
- **Brightness.** Gives the last status of the brightness as set by the customer. The value can vary from 0 (brightness is

minimum) to 100 (brightness is maximum). Brightness values can be changed via the "CURSOR LEFT" and "CURSOR RIGHT" keys on the RC-transmitter after pressing the "MENU" button and selecting "PICTURE" and "BRIGHTNESS".

- **Contrast.** Gives the last status of the contrast as set by the customer. The value can vary from 0 (contrast is minimum) to 100 (contrast is maximum). Contrast values can be changed via "CURSOR LEFT" and "CURSOR RIGHT" keys on the RC-transmitter after pressing the "MENU" button and selecting "PICTURE" and "CONTRAST".
- **Colour.** Gives the last status of the colour saturation, as set by the customer. The value can vary from 0 (colour is minimum) to 100 (colour is maximum). Colour values can be changed via "CURSOR LEFT" and "CURSOR RIGHT" keys on the RC-transmitter after pressing the "MENU" button and selecting "PICTURE" and "COLOUR".
- **Hue.** Only relevant for NTSC-signals (e.g. some NTSC-DVD-discs).

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- **Sharpness.** Gives the sharpness value. The value can vary from 0 (sharpness is minimum) to 7 (sharpness is maximum). In case of bad antenna signals, a too high value of the sharpness can result in a noisy picture. Sharpness values can be changed via the "CURSOR LEFT" and "CURSOR RIGHT" keys on the RC-transmitter after pressing the "MENU" button and selecting "PICTURE" and "SHARPNESS".
- **Headphone Volume.** Gives the last status of the head phone volume, as set by the customer. The value can vary from 0 (volume is minimum) to 100 (volume is maximum). Head phone volume values can be changed via the "CURSOR LEFT" and "CURSOR RIGHT" keys on the RC-transmitter after pressing the "MENU" button and selecting "SOUND" and "HEADPHONE VOLUME".
- **Dolby.** Indicates whether the received transmitter transmits Dolby sound ("ON") or not ("OFF"). Attention: The presence of Dolby can only be tested by the software on the Dolby Signalling bit. If a Dolby transmission is received without a Dolby Signalling bit, this indicator will show "OFF" even though a Dolby transmission is received.
- **Surround Mode.** Indicates the by the customer selected surround mode (or automatically chosen mode). Possible values are "OFF", "INCREDIBLE SURROUND" OR "DOLBY VIRTUAL". These settings can be influenced after pressing the "MENU" button and selecting "SOUND" and "SURROUND MODE". It can also have been selected automatically by signalling bits (internal software).
- **Tuner Frequency.** Indicates the frequency the selected transmitter is tuned to. The tuner frequency can be changed via the "CURSOR LEFT" and "CURSOR RIGHT" keys for fine tune after opening the installation menu and selecting "INSTALL" and "MANUAL INSTALL".
- **Digital Option.** Gives the selected digital mode, "PROGRESSIVE SCAN", "MOVIE PLUS" or "PIXEL PLUS". Change via "MENU", "PICTURE", "DIGITAL OPTIONS".
- **Centre Trim.** Not applicable for this set.
- **TV System.** Gives information about the video system of the selected transmitter.
 - BG: PAL BG signal received.
 - DK: PAL DK signal received.
 - I: PAL I signal received.
 - L/La: SECAM L/La signals received.
 - M: NTSC M signal received with video carrier on 38.9 MHz.

CUSTOMER SERVICE MENU 3

- **Balance.** Indicates the balance settings, between "-50" and "+50". Change via "MENU", "SOUND", and "BALANCE". Not applicable for Dolby Pro Logic sets.
- **Centre Mode.** Not applicable for this TV.

- **DNR.** Gives the selected DNR setting (Dynamic Noise Reduction), "OFF", "MINIMUM", "MEDIUM", or "MAXIMUM". Change via "MENU", "PICTURE", "DNR".
- **Noise Figure.** Gives the noise ratio for the selected transmitter. This value can vary from 0 (good signal) to 127 (average signal) and to 255 (bad signal). For some software versions, the noise figure will only be valid when "Active Control" is set to "medium" or "maximum".
- **Source.** Indicates which source is used and the video/audio signal quality of the selected source.
Example: Tuner, Video/NICAM) Source: "TUNER", "EXT1", "EXT2", "EXT3", "EXT4", "SIDE", "AV1", "AV2", "AV3" or "AV4". Video signal quality: "VIDEO", "S-VIDEO", "RGB 1FH", "YPBPR 1FH 480P", "YPBPR 1FH 576P", "YPBPR 1FH 1080I", "YPBPR 2FH 480P", "YPBPR 2FH 576P", "YPBPR 2FH 1080I", "RGB 2FH 480P", "RGB 2FH 576P" or "RGB 2FH 1080I". Audio signal quality: "STEREO", "SPDIF 1", "SPDIF 2", or "SPDIF".
- **Audio System.** Gives information about the audio system of the selected transmitter: "ANALOGUE MONO", "ANALOGUE STEREO", "PCM 2/0", "DD 1/0", "DD 2/0 LrRl", "DD 2/0 LOR0", "DD 2/1", "DD 2/2", "DD 3/0", "DD 3/1", "DD 3/2", "DD 1+1", "MPEG 1/0", "MPEG 2/0", "MPEG 2/0 LrRl", "MPEG 2/1", "MPEG 2/2", "MPEG 3/0", "MPEG 3/1", "MPEG 3/2", "MPEG 1+1" or "MPEG 2+2".
- **Tuned Bit.** Gives information about the tuning method of the stored pre-set. If a channel is found via "automatic installation", you will see the value "YES". When you change this (automatically found) frequency via "fine tune" adjustment (installation menu - manual installation), the displayed value will change to "NO". Therefore, when you see the value "NO" in this line, it is an indication that the received channel is a non-standard signal (e.g. of a VCR).
- **Surround Speakers.** Not applicable in this set.
- **On Timer.** Indicates if the "On Timer" is set "ON" or "OFF" and if the timer is "ON" also displays start time, start day and program number. Change via "MENU", "TV", "FEATURES", and "ON TIMER".
- **Preset Lock.** Indicates if the selected preset has a child lock: "LOCKED" or "UNLOCKED". Change via "MENU", "TV", "FEATURES", "CHILD LOCK", and "CUSTOM LOCK".

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- **Child Lock.** Indicates the last status of the general child lock: "UNLOCK", "LOCK", or "CUSTOM LOCK". Change via "MENU", "TV", "FEATURES", "CHILD LOCK", and "LOCK".
- **Age Lock.** Indicates the last status of the EPG rating for child lock: "OFF", "4 YEARS", "6 YEARS", "8 YEARS", "10 YEARS", "12 YEARS", "14 YEARS" or "16 YEARS". This is only displayed if child lock is set to "CUSTOM LOCK".
- **Lock After.** Indicates at what time the child lock is set: "OFF" or e.g. "18:45" (lock time). This is only displayed if child lock is set to "CUSTOM LOCK".
- **Category Lock.** Indicates the last status of the EPG theme child lock: "MOVIES", "NEWS", "SHOWS", "SPORTS", "CHILDREN", "MUSIC", "CULTURE", or "SERIES". This is only displayed if child lock is set to "CUSTOM LOCK". It is possible that more than one value is shown.
- **Program Category.** Indicates the theme of the selected transmitter: "MOVIES", "NEWS", "SHOWS", "SPORTS", "CHILDREN", "MUSIC", "CULTURE", or "SERIES".
- **TV Ratings Lock.** Only applicable for US.
- **Movie Ratings Lock.** Only applicable for US.
- **V-Chip TV Status.** Only applicable for US.

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- **V-Chip Movie Status.** Only applicable for US.
- **Options 1.** Gives the option codes of option group 1 as set in SAM (Service Alignment Mode).
- **Options 2.** Gives the option codes of option group 2 as set in SAM (Service Alignment Mode).

- **AVL.** Indicates the last status of AVL (Automatic Volume Level): "ON" or "OFF". Change via "MENU", "TV", "SOUND", "AVL".
- **Delta Volume.** Indicates the last status of the delta volume for the selected preset as set by the customer: from "-12" to "+12". Change via "MENU", "TV", "SOUND", "DELTA VOLUME".
- **Front Spkr Dist.** Not applicable for this TV.
- **Front Spkr Dist.** Not applicable for this TV.

How to exit CSM

Use one of the following methods:

- After you press a key on the RC-transmitter (with exception of the "CHANNEL", "VOLUME" and digit (0-9) keys), or
- After you switch the TV-set "OFF" with the mains switch.

Note: When you de-activate CSM, it is possible (depending on the software version) that the size of the picture changes. This can be solved by pushing "P+" and then "P-".

5.3 Problems and Solving Tips (related to CSM)

Note: Below described problems are all related to the TV settings (visible in the CSM menu). The procedures to change the value (or status) of the different settings are described above. New value(s) are automatically stored.

5.3.1 Picture Problems

Snowy/noisy picture

1. Check in CSM line NOISE FIGURE. In case the value is "127" or higher, and the value is also high on other programs, check the aerial cable/aerial system. For some software versions, the noise figure will only be valid when "Active Control" is set to "medium" or "maximum".
2. Check in CSM lines SHARPNESS and NOISE FIGURE. In case the value of line SHARPNESS is "3" or "4" and the value of line NOISE FIGURE is high ("127" or higher), decrease the "Sharpness" value.

Picture too dark

1. Press "Menu", "TV", "Picture", "Smart Picture". In case the picture improves, increase the "Brightness" or the "Contrast" value. The new value(s) are automatically stored (in "personal" pre-set) for all TV channels.
2. Check in CSM line BRIGHTNESS and CONTRAST. If the value of these lines is low (< "10"), increase the "Brightness" or the "Contrast" value via the user menu.

Picture too bright

1. Press "Menu", "TV", "Picture", "Smart Picture". In case the picture improves, decrease the "Brightness" or the "Contrast" value. The new value(s) are automatically stored (in "personal" pre-set) for all TV channels.
2. Check in CSM lines BRIGHTNESS and CONTRAST. If the value of these line is high (> 50), decrease the "Brightness" value or increase the "Contrast" value via the user menu.

White line around picture elements and text

1. Press "Menu", "TV", "Picture", "Smart Picture". In case the picture improves, decrease the "Sharpness" value. The new value is automatically stored (in "personal" pre-set) for all TV channels.
2. Check in CSM line "Sharpness". If the value is high, decrease it. The new value is automatically stored for all TV channels.

No picture

Check in CSM line TUNED BIT. In case the value is "No", install the required program again. Open the installation menu and perform manual installation.

No picture or unstable picture

A scrambled or decoded signal is received.

Black and white picture

Check in CSM line COLOUR. In case the value is low (< "10"), increase the "Colour" value via the user menu. The new value is automatically stored for all TV channels.

No colours/colour lines around picture elements or colours not correct or unstable picture

1. Check in CSM line TV SYSTEM. If a "strange" system pops up, something has gone wrong during installation. Re-install the channel.
2. If in CSM line TV SYSTEM is "L", then the installed system for this pre-set is "France" (SECAM standard). If the country requires a PAL standard, "West Europe" is required. Install the required program again: open the installation menu and perform manual installation. Select system "West Europe".

Menu text not sharp enough

1. Press "MENU", "TV", "PICTURE", "SMART PICTURE". In case picture improves, decrease the contrast value. The new value(s) are automatically stored for all TV channels.
2. Check line "Contrast". If the value is high, decrease the contrast value.

5.3.2 Sound Problems**No sound from left and right speaker**

Check line 6 "Volume". The value is low. Increase the value of "Volume". The new value(s) are automatically stored (in "personal" pre-set) for all TV channels.

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 I²C level) and is therefore capable of accurately indicating problem areas. You do not have to know anything about I²C 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:

- Automatic (by communication with the television): ComPair can automatically read out the contents of the entire error

buffer. Diagnosis is done on I²C/UART level. ComPair can access the I²C/UART bus of the television. ComPair can send and receive I²C/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 I²C/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.

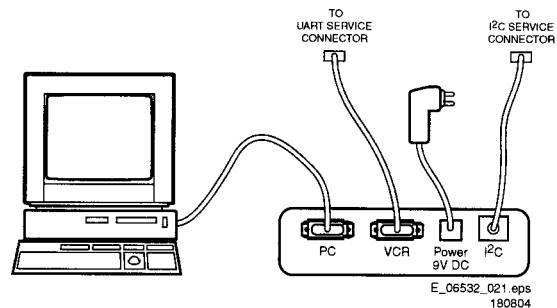


Figure 5-3 ComPair interface connection

How To Order

- 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.

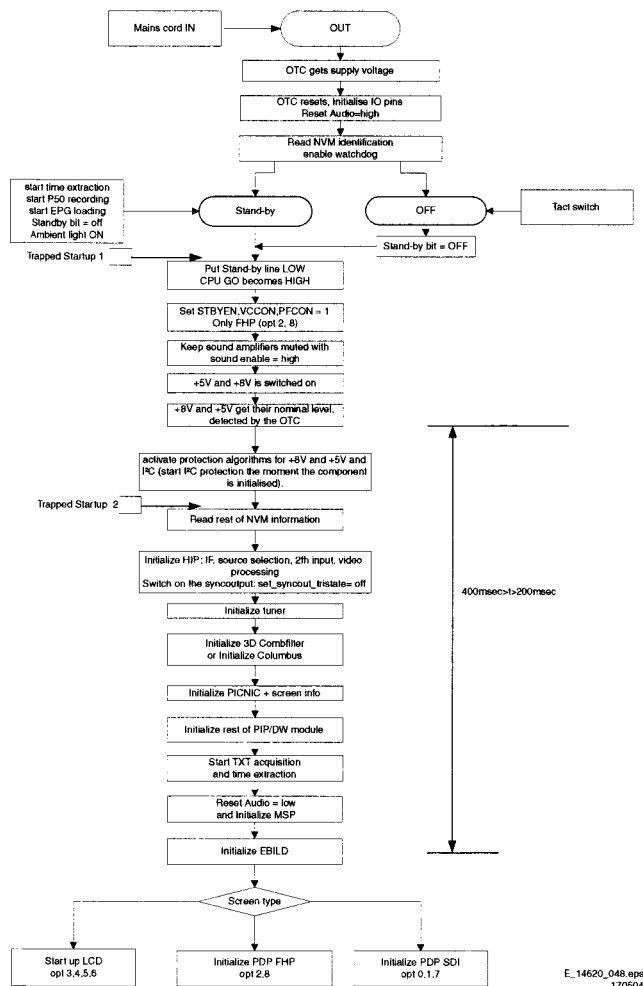
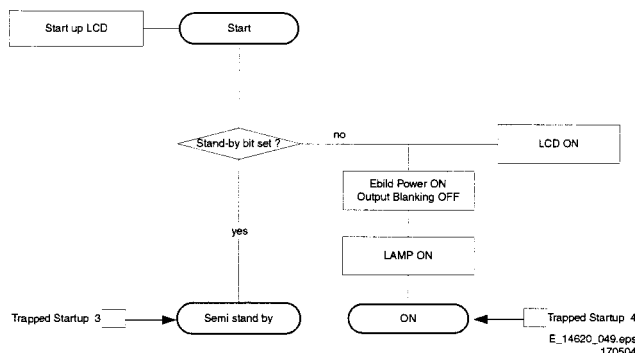
Note: If you encounter any problems, contact your local support desk.

Stepwise Start-up

Under normal circumstances, a fault in the power supply, or an error during start-up, will switch the television to protection mode. ComPair can take over the initialisation of the television. In this way, it is possible to distinguish which part of the start-up routine (hence which circuitry) is causing the problem. Take notice that the transition between two steps can take some time, so give the set some time to reach a stable state. During the transition time, the LED can blink strangely.

Stepwise start-up explanation

This is realised via ComPair and is very helpful when a protection is activated (see also chapter "Protections"). The following diagram shows the start-up procedure of the set. Every step of the stepwise start-up (also called trapped start-up) in the diagram corresponds with the number of times the led blinks.

**Figure 5-4 Stepwise start-up part 1****Figure 5-5 Stepwise start-up part 2**

Note: When the set is in stepwise mode and, due to stepping-up, a protection is activated, the set will really go into protection (blinking LED). The set will not leave the stepwise-mode however. If state X is the state where the set went to protection, stepwise start-up will return to state X-1. At state (X-1) diagnostic measurements can be performed. Also, in the short time the set is in state X but not yet in protection, you can also do some measurements.

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 (Byteblaster). 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 ($\geq 1280 \times 768$). 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 delivered with the tool.

Note: To use the LVDS tool, you must have ComPair release 2004-1 (or later) on your PC (engine version $\geq 2.2.05$). 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.
- Service Manual LVDS tool: 3122 785 00810.

5.5 Error Codes**5.5.1 Introduction**

The error code buffer contains all detected errors since the last time the buffer was erased. The buffer is written from left to right, new errors are logged at the left side, and all other errors shift one position to the right.

When an error has occurred, the error is added to the list of errors, provided the list is not full or the error is a protection error.

When an error occurs and the error buffer is full, then the new error is not added, and the error buffer stays intact (history is maintained), except when the error is a protection error.

To prevent that an occasional error stays in the list forever, the error is removed from the list after 50+ operation hours.

When multiple errors occur (errors occurred within a short time span), there is a high probability that there is some relation between them.

5.5.2 How to read the Error Buffer

Use one of the following methods:

- On screen via the SAM (only if you have a picture).
Examples:
 - 0 0 0 0 0: No errors detected
 - 6 0 0 0 0: Error code 6 is the last and only detected error
 - 9 6 0 0 0: Error code 6 was first detected and error code 9 is the last detected error
- Via the blinking LED procedure (when you have no picture). See next paragraph.
- Via ComPair.

5.5.3 How to clear the Error Buffer

Use one of the following methods:

- By activation of the "RESET ERROR BUFFER" command in the SAM menu.
- With a normal RC, key in sequence "MUTE" followed by "062599" and "OK".
- When you transmit the commands "DIAGNOSE" - "99" - "OK" with ComPair (or with a DST).
- If the content of the error buffer has not changed for 50+ hours, it resets automatically.

5.5.4 Error Codes

In case of non-intermittent faults, clear the error buffer before you begin the repair. This to ensure that old error codes are no

longer present. Before clearing the buffer, write down the content, as this history can give you significant information. If possible, check the entire contents of the error buffer. In some situations, an error code is only the result of another error code and not the actual cause (e.g., a fault in the protection detection circuitry can also lead to a protection).

There are various errors:

- I²C device errors.
- I²C bus errors.
- Protection errors.
- Errors not related to an I²C device, but of importance:
 - **FEM (Falconic with Embedded Memory) (Error 26):** at start-up, after initialisation of the PICNIC, the presence of the FEM can be checked.
 - **Eagle (Error 27):** at start-up, after initialisation of the PICNIC, the presence of the Eagle can be checked.

Table 5-3 Error Code Overview

Error	Device	Description	Def. item	Def. Module indication	Diagr.
1	M24Cxx	NVM, spontaneous blinking error 1	7011	-	B5a
3	SAA4978	PICNIC	7713	Feature Box	B3a
4	Supply 5 V	5V protection	-	+5V Supply	B5a
5	Supply 8 V	8V protection	-	+8V Supply	B5a
6	Slow I ² C bus blocked	Spontaneous blinking error 6	-	Slow I ² C Blocked	-
8	TDA932x	HIP High-end Input Processor	7323	Chroma IF IO	B2
13	UV1318/...	Tuner protection	1T01	Tuner	B13a
14	MSPxxxx	ITT sound processor	7A02	Audio module	B6a
18	Fast I ² C bus blocked	Spontaneous blinking error 18	-	Fast I ² C Blocked	-
21	M62320	I/O Expander	7P56	Video Dual Screen	B15b
26	SAA4998	FEM (Falconic with Embedded Memory)	7760	+3V (FBX) Supply	B3b
27	T6TX5	Eagle 1C	7720	+3V (FBX) Supply	B3c
32	M29W400xx	Flash Ram (EPG)	7012	EPG Memory	B5a
35	T6TU5	Columbus	7752	Video Control	B3d
55	DC/DC converter	One of the voltages is not ok + protection error	-	MSB	-
76	Audio supply	Audio supply protection	-	-	-
118	AD9883A	AD converter	7L01	HD	B19a
121	EPLD	EPLD error	7V01	Video control	B19d

Note: If error 3 or error 55 appears, sometimes error 16 is also logged. Error 16 is a non existing error.

Note:

- Error codes 1, 6, or 18 are protection codes and in this case, supplies of some circuits will be switched "off". Also, in protection, the LED will blink the number of times equivalent to the most recent error code.

5.6 The Blinking LED Procedure

5.6.1 Introduction

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

When the SDM is activated, the front LED will show (blink) the contents of the error-buffer. Error-codes > 10 are shown as follows:

- A long blink of 750 ms (which is an indication of the decimal digit),
- A pause of 1.5 s,
- “n” short blinks (where “n” = 1 - 9),
- When all the error-codes are displayed, the sequence finishes with a LED blink of 3 s,
- The sequence starts again.

Note: For error codes >100, the first two digits (hundred-and-ten) are considered as one digit (one long blink)

Example: Error 12 9 6 121 0.

After activation of the SDM, the front LED will show:

- 1 long blink of 750 ms (which is an indication of the decimal digit) followed by a pause of 1.5 s,
- 2 short blinks followed by a pause of 3 s,
- 9 short blinks followed by a pause of 3 s,
- 6 short blinks followed by a pause of 3 s,
- 12 long blinks of 750 ms (which is an indication of “120”) followed by a pause of 1.5 s,
- 1 short blink followed by a pause of 3 s,
- 1 long blink of 3 s to finish the sequence,
- The sequence starts again.

Note: If errors 1, 6, or 18 occur, the LED always gives the last occurred error even if the TV is NOT in service mode.

5.6.2 How to Activate

Use one of the following methods:

- Activate the SDM (only via soldering pads marked “SDM” on SSB, see figure “Service pads”). The blinking front LED will show the entire contents of the error buffer (this works in “normal operation” mode and in “protection” mode).
- Transmit the commands “MUTE” - “062500” - “OK” with a normal RC. The complete error buffer is shown. Take notice that it takes some seconds before the blinking LED starts.
- Transmit the commands “MUTE” - “06250x” - “OK” with a normal RC (where “x” is a number between 1 and 5). When x= 1 the last detected error is shown, x= 2 the second last error, etc.... Take notice that it takes some seconds before the blinking LED starts.
- “DIAGNOSE X” with the DST (where “x” is a number between 1 and 5). When x= 1 the last detected error is shown, x= 2 the second last error, etc.... When x = 0 all errors are shown.

5.7 Protections

5.7.1 Introduction

This chassis has only one microprocessor (OTC), which remains active during Stand-by. This because power of the microprocessor and the attached memory chip set is coming from the 3V3 supply, which is derived from the 5V Stand-by-circuitry. Therefore, in both Power-on as in Stand-by mode, the microprocessor is connected to this power supply.

If a fault situation is detected, an error code will be generated and if necessary, the TV is put in protection mode. The

protection mode is indicated by the blinking of the front LED at a frequency of 3 Hz (or by a coded blinking in special cases).

The content of the error buffer can be read via the service menu (SAM), the blinking LED procedure or via DST/ComPair.

To get a quick diagnosis, this chassis has three service-modes implemented:

- The **Customer Service Mode (CSM)**.
- The **Service Default Mode (SDM)**. Start-up of the TV in a predefined way.
- The **Service Alignment Mode (SAM)**. In this mode, items of the TV can be adjusted via a menu.

You can activate both SDM and SAM modes via the “service pads” on the SSB (see figure “Service pads”), via an RC-transmitter (DST or standard RC), or via ComPair. It is not possible to activate the SAM in “stand-by”; the TV has to be in “normal operation” mode.

The “Protection Diagram” shows the structure of the protection system. See diagram below.

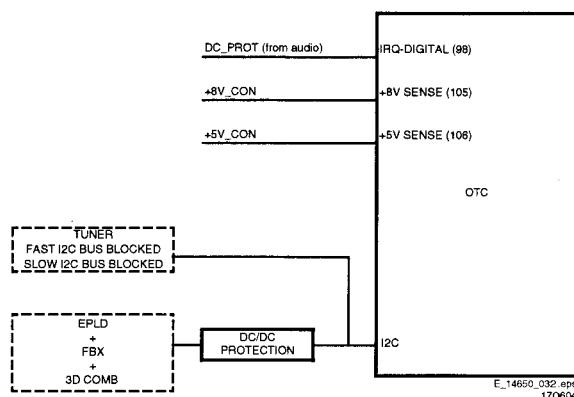


Figure 5-6 Protection diagram

There are several types of protections:

- I²C related protections.
- OTC related protections (via polling on I/O pins or via algorithms).
- Hardware protection

All protections are explained below.

5.7.2 I²C Related Protections

In normal operation, some registers of the I²C controlled ICs are refreshed every 200 ms. During this sequence, the I²C buses and the I²C ICs are checked.

An I²C protection will take place if the SDA and SCL lines are short-circuited to ground, or to each other. An I²C error will also occur, if the power supply of the IC is missing.

DC/DC protection: When a 3V3 supply is short-circuited, the DC/DC converter switches “off” and goes in protection. The FBX, EPLD IC, and 3D comb IC have no supply voltage and give no acknowledge. In this case, the TV should go into protection. An error code is written in the NVM: DC/DC error.

FBX protection: the FBX protection is not available any more. It is replaced by the DC/DC protection.

5.7.3 OTC Related Protections

If a protection is detected at an OTC input, the OTC will start to scan all protection inputs every 200 ms for 5 times. If the protection on one of the inputs is still active after 1 s, the microprocessor will put the TV in the protection mode. Before the scanning is started, a so-called “ESD refresh” is carried out.

This is done, because the interrupt on one of the inputs is possibly caused either by a flash or by ESD. As a flash or ESD can influence IC settings, the HIP, MSP, 3D Comb and wireless module (not used in this set) are initialised again, to ensure the normal picture and sound conditions of the TV.

8 V and 5 V protections: The microprocessor senses the presence of the 8 V and 5 V (via the "+5V_CON" and "+8V_CON" lines). If one (or both) of these voltages is (are) not present, an error code is stored in the error buffer of the NVM, and the TV is put in the protection mode.

Audio Supply protection: The OTC senses if the audio module is in protection via IRQ-DIGITAL (pin 98 of OTC). If this is the case, the OTC puts the TV in protection.

5.7.4 Hardware Protection

Short-circuiting the 3V3 supply from the DC/DC converter will shut down the DC/DC converter. The absence of the 3V3 supply line is also sensed via I²C (see description Audio Supply protection above), this is useful if there is something wrong in the detection circuit of the DC/DC converter.

Audio DC Protection: This protection occurs when there is a DC voltage on the speakers. In that case, the Main Supply is switched "off". The Stand-by Supply is still working.

Repair tip: If there is an audio DC protection (DC voltage on your speakers), you will probably see error 18 blink. To be sure this is an audio DC protection, disconnect the cable between the SSB and the audio PWB and also the cable between the Main Supply and the Audio PWB. If the TV starts up, it is very likely that there is DC on the speakers. Check, and replace if necessary, the audio amplifiers.

Note: It is also possible that you have an Audio DC Protection because of an interruption in one or both speakers (the DC voltage that is still on the circuit can not disappear through the speakers).

5.8 Repair tips

5.8.1 3V3 Supply (DC/DC converter on the SSB)

As mentioned above, the DC/DC converter is switched "off" when something goes wrong (detection of a missing 3V3 supply at one of the devices supplied by the 3V3). Because of this, the TV goes to protection (I²C protection). Error code "55" is logged.

For further diagnoses, you need to overrule the I²C protection: put the TV in Service Default Mode by means of the solder pads on the SSB (see figure "Service pads").

The DC/DC converter is still not working because it is switched "off" by the 3V3_FAULT line (schematic B12). Now you have some possibilities:

1. First, measure the impedance over diode 6U06. In normal conditions, you should measure approximately 120 ohm (if possible, verify this with another set). If the impedance is much too low, do not try to start up the converter as mentioned below. Remind that if FET 7U03 is short-circuited, this will also influence your measurement.
2. Desolder coils 5U05 and 5U06, connect an external 3V3 supply at capacitor 2U23 (current limitation to 500 mA) and a second external 3V3 supply at capacitor 2U31 (current limitation to 800 mA). The normal working current of the 3V3_SIM line is approximately 400 mA and the normal working current for the 3V3_DCDCFBX line is approximately 700 mA. Therefore, if one of the currents exceeds their nominal value you can determine in which circuit the overload is situated. If the TV would start up and you have normal picture, there is probably no overload but a problem in the detection circuits.

3. If you do not have two external power supplies, you can do the following: Desolder coils 5U02, 5U03, and 5U04 (you must desolder all three, otherwise the circuit could be damaged), connect an external power supply of 3V3 at the cathode of diode 6U06. Make sure to limit the current of this external supply to approximately 1200 mA. If the supplied current exceeds 1100 mA (approximately normal working current) you can conclude that one of the devices supplied by 3V3 is short-circuited.

4. Another possibility is to force the converter to start up by short-circuiting (and keep short-circuited) resistor 3U25 (B12).

Caution: Be aware that this can damage the TV. Even if you measure approximately 120 ohm over diode 6U06, there can still be something wrong in the converter itself. By short-circuiting resistor 3U25, the internal protection of the converter is disabled.

5.8.2 Protections

Activating SDM via the "service pads" will overrule the processor-controlled protections, but not the hardware protections. This means, that the A/D-input protections (5 and 8 V) and the I²C "not-acknowledging" info of FBX + EPLD + 3D Comb and of the tuner are overruled.

Caution: When doing this, the service technician must know what he is doing, as it could lead to damaging the TV.

Note: It can sometimes take up to half a minute before the TV goes to protection!

5.8.3 Repair tip table

Table 5-4 Repair tips

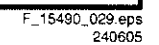
Phenomenon	Possible Cause	Repair tip
"F" in right corner of the screen and set is not reacting on remote control. The local keyboard is functioning.	TV is in factory mode.	Press MENU button on local keyboard for at least 3 seconds. Set will leave factory mode and function normally again.
No picture, LED blinking at 3 Hz.	Set is in protection due to various causes. For error codes see error-code list.	You have no picture, so: - Read the error buffer via ComPair (error buffer is accessible when set is in protection, ComPair-file will guide you to this). - Read the blinking LED information via standard remote command <mute>06250x<ok>. - Or you read the error code sequence via standard remote command <mute>062500<ok>. When you have found the error, check the circuitry related to the supply voltage and I ² C-communication or the circuitry that triggers the protection.
No picture, LED blinking with code 6-6-6 or 18-18-18.	No communication on slow I ² C- or fast I ² C-bus.	As processor cannot communicate with one of the 2 buses, the Stand-by-LED spontaneously starts blinking 6-6-6-etc. or 18-18-18-etc... If in the error buffer somewhere is an error 6 or 18, these will have the highest priority starting the mentioned blinking. Measure, dependent of the error on the I ² C-bus, which device is loading the bus (use I ² C-overview).
No picture, LED blinking with code 1-1-1.	No communication on NVM-I ² C bus to the uP.	As the uP cannot communicate with the NVM I ² C bus, it spontaneously starts blinking 1-1-1. Note: when there is no access to the NVM, a lot of picture setting can go wrong.
No RC-reception. Blue LED does not echo RC-commands.	uP circuitry or RC-receiver is defective.	In case the TV does react on a local keyboard operation, you must check the RC-receiver circuitry (diagram "J").
Picture is not synchronised.	The sync is derived in the HIP.	Check crystals in the HIP circuit on bad contacts.
Picture is distorted.	Check video-path in Service Default Mode.	Investigate whether there is an error code present in the error buffer. In case there is one, check the I ² C-bus and/or supply lines (see overview supply lines). Measure and check signal path Tuner-HIP-FBX-EPLD.
Picture with horizontal stripes.	Pixel Plus processing is malfunctioning	Check functionality on circuitry (B3a, B3b, B3c and B3d) of PICNIC; FEM, EAGLE, COLUMBUS and/or field memories. Tip: the whole Pixel Plus chipset can be diagnosed via ComPair.
No NextView (EPG).	IC7012 defective or not powered.	Check circuitry around IC7012 on diagram "B5a".
No Teletext.	IC7007 defective or not powered.	Check circuitry around IC7007 on diagram "B5a".
Problems caused by EPG (Electronic Program Guide). The TV set "hangs".	Problems with NextView EPG broadcasts.	To switch from EPG 2C3 to Teletext guide, press for 4 seconds, simultaneously the MENU button on the TV and digit 0 on the remote. The option settings for NextView type and FlashRAM will not change.
NextView EPG is not functioning only Teletext guide.	EPG version 2C3 is switched "off" during production.	To switch from Teletext guide to EPG 2C3, press for 4 seconds, simultaneously the MENU button on the TV and digit 1 on the remote. The option settings for NextView type and Flashram will not change.
Various symptoms, due to missing local supply voltage.	An interrupted fuse, NFR-resistor or connection.	When no symptom or error code leads you to a specific circuitry, use the supply lines overview (see supply lines overview), for a quick scan of all supply lines.
No sound at the speakers but sound at monitor out.	Possible problem with the class D amplifier	Check circuitry around IC7700 on diagram "SA3" (LCD) or "C" (PDP).
No sound at the speakers but sound at monitor out.	Sound enable from OTC is HIGH, speakers are muted	Check pin 95 of OTC on diagram "B5a".
No sound at the speakers not at monitor out, but sound at SCART 1 output.	POR line is low, anti plop circuit mutes the sound	Check pin 8 on connector 1739 on audio panel. Diagram "C" for PDP sets and diagram "SA3" for LCD sets
No sound from any output (except headphone)	Reset audio is high or MSP is not properly reset	Check pin 16 of MSP (diagram "B6a") and circuitry around MSP.
No sound from the tuner but sound from any other input.	Problem with the delay line (PDP sets only)	Check circuitry on diagram "B6d".

5.9 Software Downloading

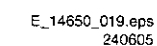
In this chassis, you can **upgrade** the main software via ComPair without removing the back cover of the TV (it is possible that early production sets don't have a hole in the back plate, in this case you have to remove the back plate). The switch, which is needed for the software downloading procedure, can be reached through a gap in the back cover or the SSB shielding. The switch can be operated with a toothpick or something like that. Make sure that you do not damage the PWB with sharp objects. You can find more information on how this procedure works in the ComPair file. It is possible that not all sets are equipped with the hardware, needed to make software upgrading possible. To speed up the programming process the firmware of the ComPair interface can be upgraded. See paragraph "How To Order" for the order number.

Personal Notes:

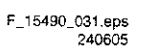
Wiring Diagram (32")



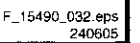
VIDEO



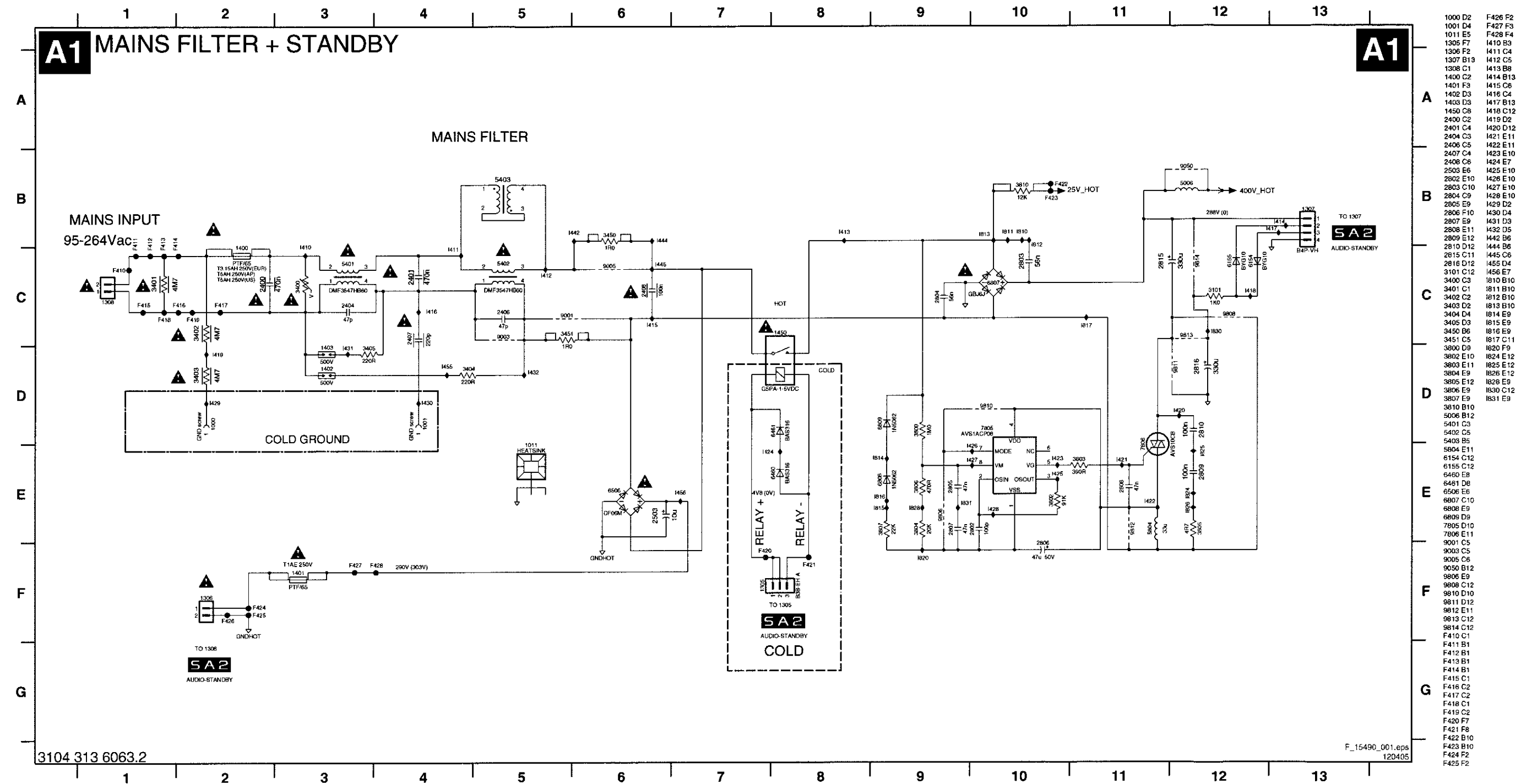
AUDIO



SUPPLY LINES OVERVIEW

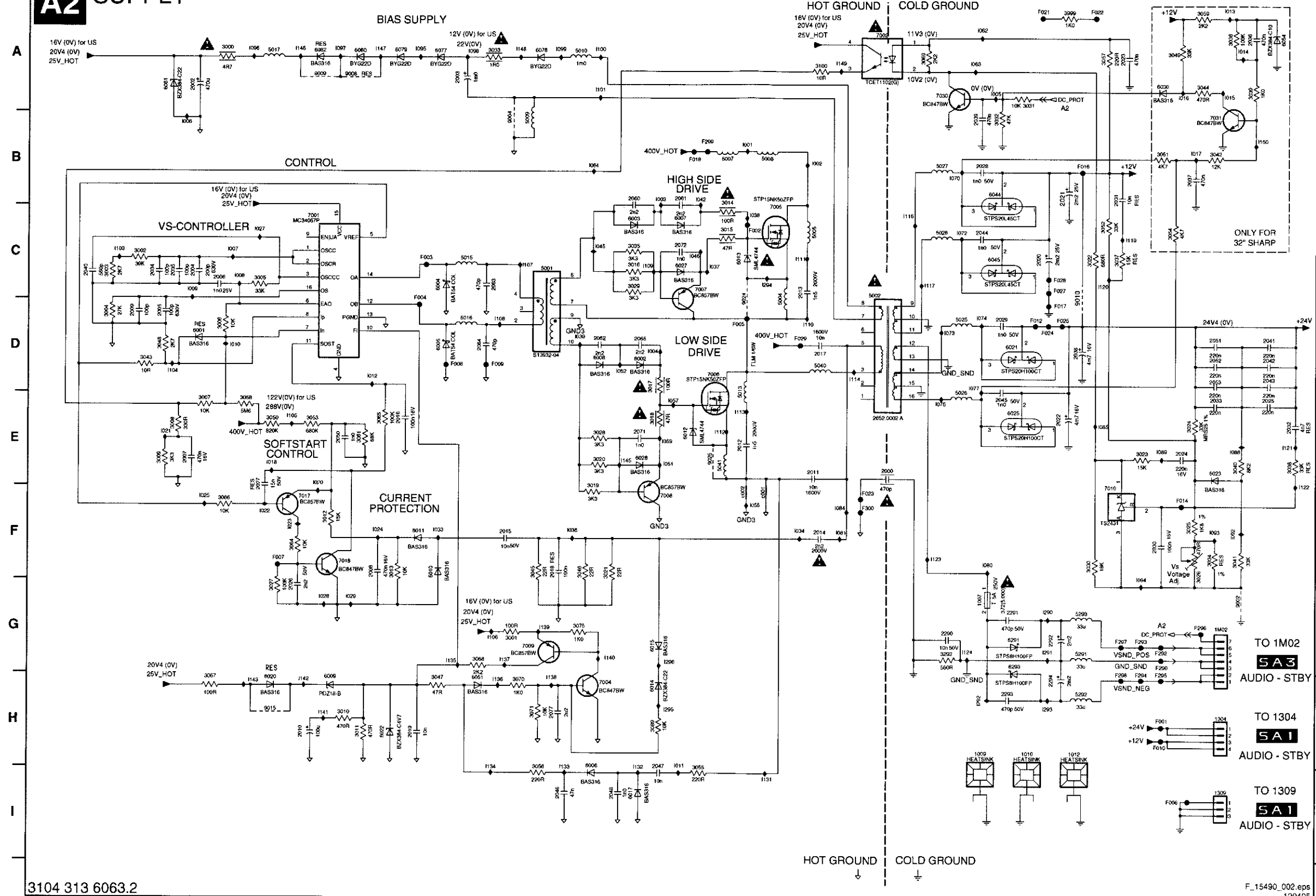


LCD Supply Panel: Mains Filter + Standby



LCD Supply Panel: Supply

A2 SUPPLY



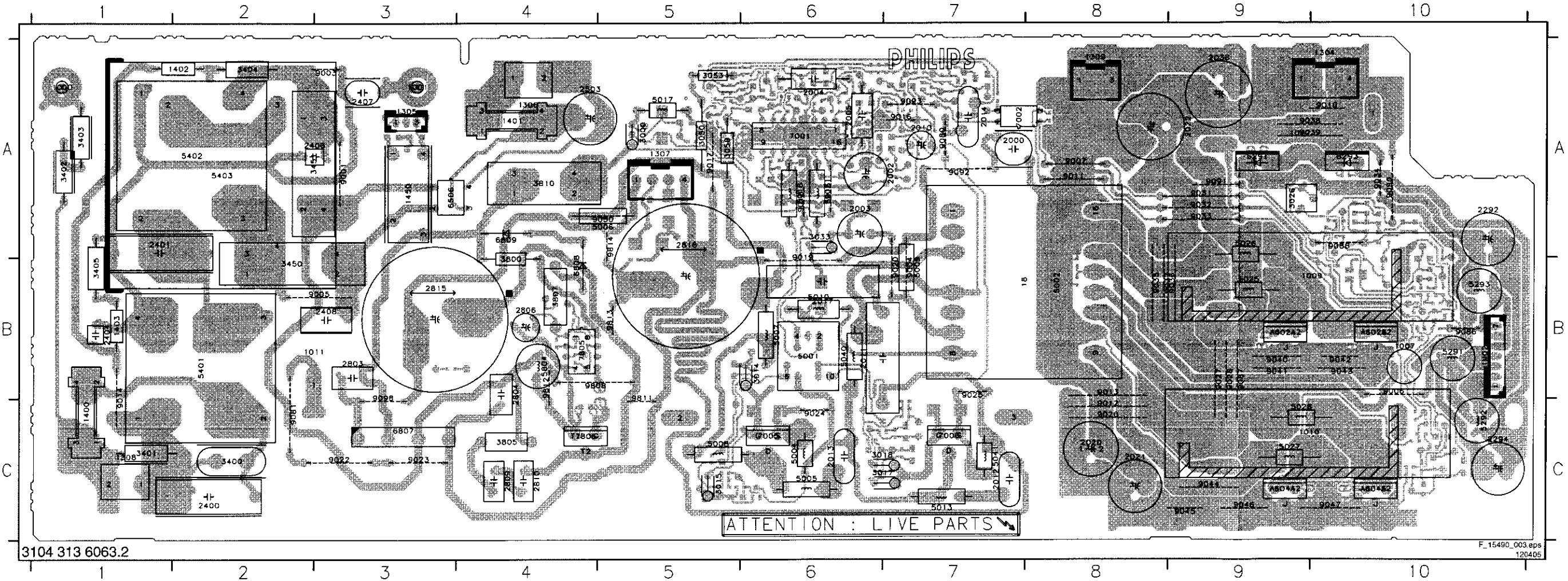
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1010 H11	3046 F6	F014 F12	I140 G6
1012 H11	3047 H5	F016 B11	I141 H3
1304 H13	3048 D2	F017 D11	I142 H3
1309 H13	3049 A12	F018 B7	I143 H3
1402 G13	3050 E3	F021 A11	I146 E7
2000 E9	3051 B12	F022 A12	I146 A3
2002 A2	3052 C12	F023 F9	I147 A4
2003 A5	3053 E7	F024 D11	I148 A5
2004 C2	3054 C12	F025 D11	I149 A9
2005 D2	3055 I7	F027 C11	I150 B13
2006 C2	3056 I6	F028 C11	I290 G11
2007 E2	3057 A12	F028 D8	I291 G11
2008 F4	3058 E2	F290 G12	I292 H10
2009 D1	3059 A13	F292 G12	I293 H11
2010 H3	3061 E4	F293 G12	I294 C8
2011 E9	3064 F3	F294 H12	I295 H7
2012 E8	3065 E4	F295 H12	I296 G7
2013 C8	3066 F2	F296 G13	I297 H7
2014 F9	3067 H2	F297 G12	I298 H12
2015 F5	3068 G5	F298 H12	I299 B7
2016 E4	3069 A10	F299 B7	I300 F9
2017 D9	3070 H5	F300 F9	I001 B8
2018 F6	3071 H6	I001 B8	I002 B9
2019 H4	3075 G6	I002 B9	I003 B6
2020 C11	3088 H7	I003 B6	I004 D7
2021 B11	3100 A9	I004 D7	I005 A10
2022 E11	3292 G10	I005 A10	I006 B2
2023 A12	3919 A11	I006 B2	I007 C2
2024 E12	5001 C6	I007 C2	I008 C2
2025 E13	5002 C9	I008 C2	I009 C2
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2031 B12	5010 A6	I014 A13	I015 A13
2032 E13	5013 D8	I015 A13	I016 A12
2033 E13	5015 C5	I016 A12	I017 B13
2034 C1	5016 D5	I017 B13	I018 E3
2035 C2	5017 A3	I018 E3	I019 E3
2036 A13	5025 D10	I019 E3	I020 E3
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2038 D11	5027 B10	I021 E2	I022 F9
2039 B10	5028 C10	I022 F9	I023 F3
2040 C1	5040 D9	I024 F4	I025 F2
2041 D13	5041 E8	I025 F2	I026 G3
2042 D13	5291 G11	I026 G3	I027 G4
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2044 C10	5293 G11	I028 G4	I029 G4
2045 E11	6001 D2	I029 G4	I030 F5
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2047 I7	6003 C5	I031 F6	I032 F6
2048 I6	6004 C5	I032 F6	I033 C7
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2063 C7	6018 H6	I046 C7	I047 H6
2064 D5	6019 G10	I047 H6	I048 B8
2065 D7	6020 D11	I048 B8	I049 B10
2066 D7	6021 D11	I049 B10	I050 B10
2067 G11	6022 H4	I050 B10	I051 E7
2068 H11	6023 E13	I051 E7	I052 D6
2069 H11	6024 E11	I052 D6	I053 F8
2070 A2	6025 E11	I053 F8	I054 F7
2071 E7	6026 C7	I054 F7	I055 F8
2072 C7	6027 C7	I055 F8	I056 E7
2073 H6	6028 E7	I056 E7	I057 E7
2074 H6	6029 A12	I057 E7	I058 A10
2075 G10	6030 A12	I058 A10	I059 E7
2076 G10	6031 H4	I059 E7	I060 A10
2077 G11	6032 H4	I060 A10	I061 A10
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2104 F4	6059 A5	I087 E12	I088 E12
2105 F4	6060 A5	I088 E12	I089 E12
2106 F4	6061 A5	I089 E12	I090 E12
2107 F4	6062 A5	I090 E12	I091 F3
2108 F4	6063 A5	I091 F3	I092 F3
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2110 F4	6065 A5	I093 F3	I094 F12
2111 F4	6066 A5	I094 F12	I095 A4
2112 F4	6067 A5	I095 A4	I096 A3
2113 F4	6068 A5	I096 A3	I097 A3
2114 F4	6069 A5	I097 A3	I098 A5
2115 F4	6070 A5	I098 A5	I099 A5
2116 F4	6071 A5	I099 A5	I100 A6
2117 F4	6072 A5	I100 A6	I101 A6
2118 F4	6073 A5	I101 A6	I102 C1
2119 F4	6074 A5	I102 C1	I103 C1
2120 F4	6075 A5	I103 C1	I104 D2
2121 F4	6076 A5	I104 D2	I105 E3
2122 F4	6077 A5	I105 E3	I106 G5
2123 F4	6078 A5	I106 G5	I107 C5
2124 F4	6079 A5	I107 C5	I108 D5
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2126 F4	6081 A5	I109 C7	I110 D8
2127 F4	6082 A5	I110 D8	I111 C8
2128 F4	6083 A5	I111 C8	I112 E8
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2130 F4	6085 A5	I113 E8	I114 D9
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2144 F4	6099 A5	I127 I6	I128 I6
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2148 F4	6103 A5	I131 I6	I132 I7
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2150 F4	6105 A5	I133 I6	I134 I5
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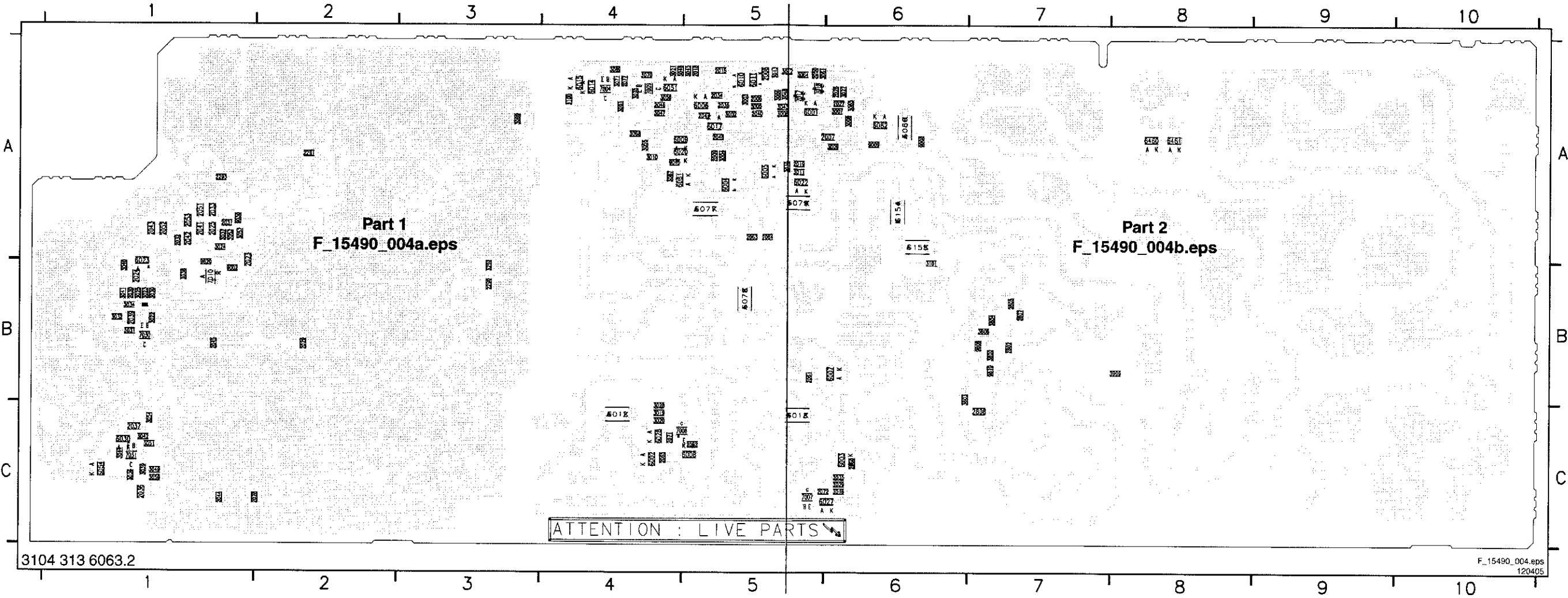
Layout LCD Supply Panel (Top Side)

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1007 B10	1307 A5	1M02 B10	2012 C7	2292 A10	2503 A4	3000 A5	3053 A5	3450 A2	5004 C6	5015 A6	5041 C7	6021 B9	6808 A4	9001 A3	9012 C8	9021 A6	9031 A9	9039 A9	9047 C10	9091 A9	9814 A5
1009 B9	1308 C1	2000 A7	2013 C6	2294 C10	2803 B3	3014 B6	3058 A5	3451 A2	5005 C6	5016 A6	5291 B10	6025 B10	6809 A4	9003 A3	9013 B8	9022 C3	9032 A9	9040 B9	9050 A5	9092 A7	
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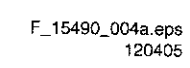


Layout LCD Supply Panel (Bottom Side)

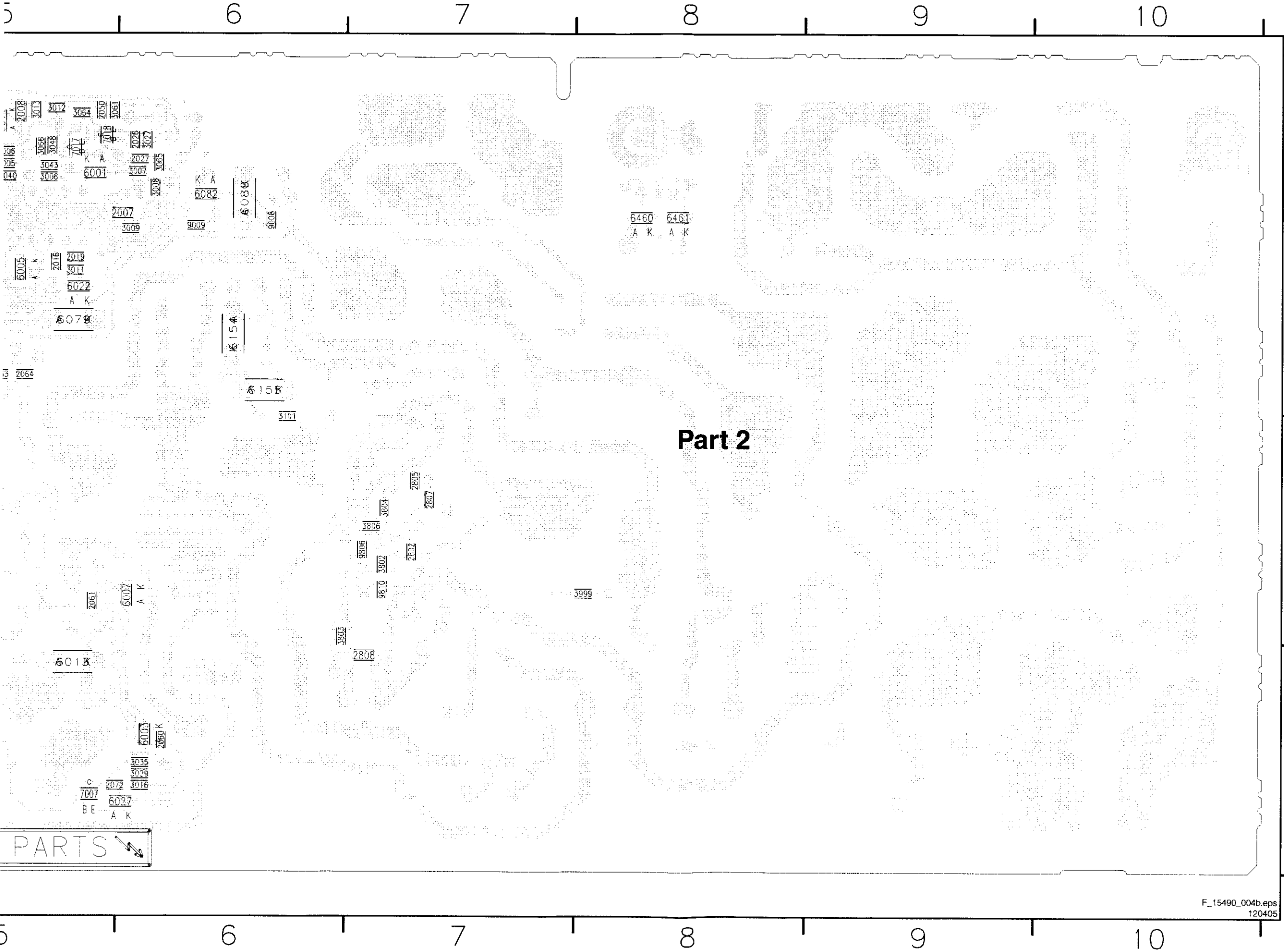
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2007 A6	2023 B1	2030 B1	2037 C1	2045 B1	2053 A1	2071 C4	2805 B7	3005 A5	3012 A5	3023 B1	3031 B1	3039 C1	3046 A4	3055 A4	3066 A5	3089 A4	3806 B7	6006 A5	6013 C5	6027 C6	6079 A5	6461 A8	7018 A5	9030 A1
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2009 A5	2025 A1	2032 A1	2040 A5	2047 A5	2061 B5	2077 A4	2808 C7	3007 A6	3016 C6	3025 B1	3034 B1	3041 B1	3048 A5	3057 A1	3068 A4	3101 B6	6001 A5	6008 C5	6015 A4	6030 C1	6081 A4	7007 C5	7031 C1	9806 B7
2015 A5	2026 A6	2033 A1	2041 A1	2048 A5	2062 C5	2290 B3	3001 A4	3008 A6	3019 C4	3027 A6	3035 C6	3042 C1	3049 C1	3059 C1	3069 A3	3292 B3	6002 C4	6009 A4	6017 A5	6051 A4	6082 A6	7008 C4	9002 B1	9810 B7
2016 A5	2027 A6	2034 A5	2042 A1	2050 A5	2063 A5	2291 A2	3002 A5	3009 A6	3020 C4	3028 C4	3036 C1	3043 A5	3051 C1	3061 A5	3070 A4	3802 B7	6003 C6	6010 A5	6020 A4	6054 C1	6154 A6	7009 A4	9008 A6	9820 B1
2018 A5	2028 C2	2035 A5	2043 A1	2051 A1	2064 A5	2293 A1	3003 A5	3010 A4	3021 A4	3029 C6	3037 A1	3044 C1	3052 A1	3064 A5	3071 A4	3803 B6	6004 A5	6011 A5	6022 A5	6077 A5	6155 B6	7010 B1	9009 A6	



1 2 3 4 5

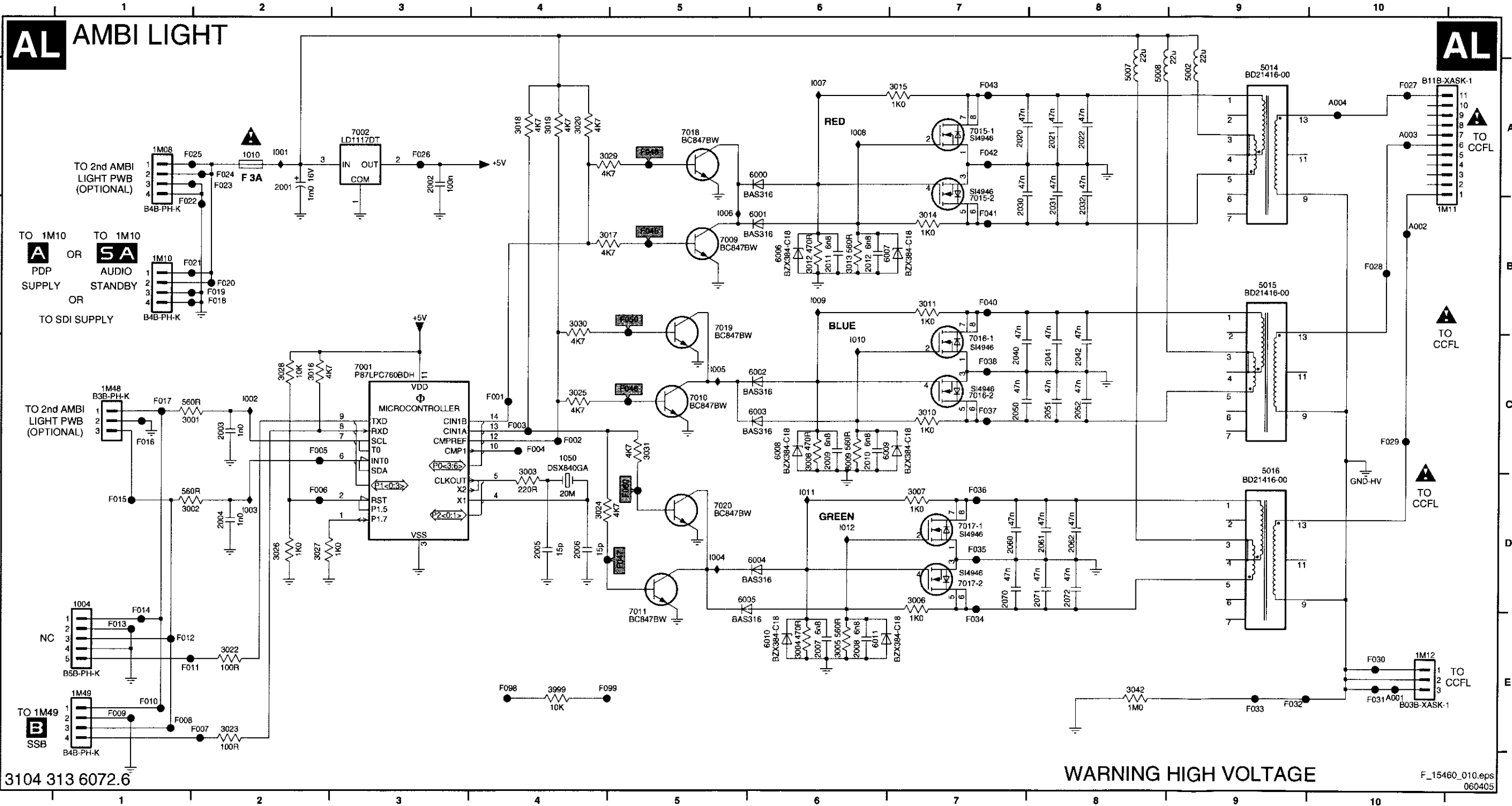


Layout LCD Supply Panel (Part 2 Bottom Side)



Ambi Light

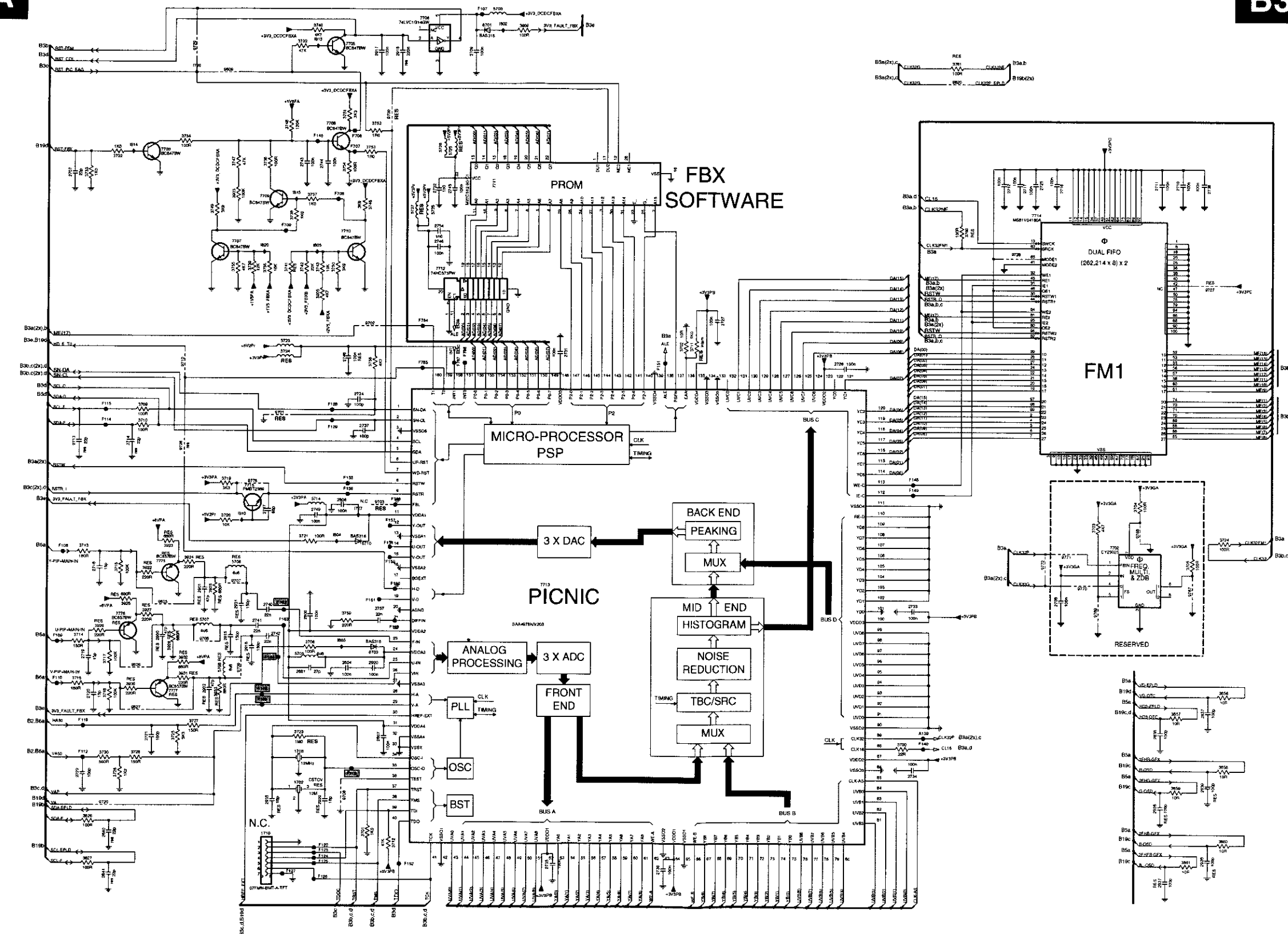
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1010 A2	2002 A3	2011 B6	2041 C8	2071 D8	3008 C6	3017 B4	3027 D2	5008 A8	6005 D5	7009 B5	7018 A5	F003 C4	F012 E1	F021 B1	F030 E10	F040 B7	F060 D5	I007 A6
1050 C4	2003 C2	2012 B6	2042 C8	2072 D8	3009 C6	3018 A4	3028 C2	5014 A9	6006 B6	7010 C5	7019 B5	F004 C4	F013 E1	F022 B1	F031 E10	F041 B7	F098 E4	I008 A6
1M08 A1	2004 D2	2020 A7	2050 C7	3001 C1	3010 C7	3019 A4	3029 A4	5015 B9	6007 B6	7011 E5	7020 D5	F005 C2	F014 E1	F023 A2	F032 E9	F042 A7	F099 E4	I009 B6
1M10 B1	2005 D4	2021 A8	2051 C8	3002 D1	3011 B7	3020 A4	3030 B4	5016 C9	6008 C6	7015-1 A7	A001 E10	F006 D2	F015 D1	F024 A2	F033 E9	F043 A7	I001 A2	I010 C6
1M11 B10	2006 D4	2022 A8	2052 C8	3003 D4	3012 B6	3022 E2	3031 C5	6000 A6	6009 C6	7015-2 A7	A002 B10	F007 E2	F016 C1	F025 A1	F034 E7	F045 B5	I002 C2	I011 D6
1M12 E10	2007 E6	2030 B7	2060 D7	3004 E6	3013 B6	3023 E2	3042 E8	6001 B6	6010 E6	7016-1 C7	A003 A10	F008 E1	F017 C1	F026 A3	F035 D7	F046 C5	I003 D2	I012 D6
1M48 C1	2008 E6	2031 B8	2061 D8	3005 E6	3014 B7	3024 D4	3999 E4	6002 C6	6011 E6	7016-2 C7	A004 A10	F009 E1	F018 B2	F027 A10	F036 D7	F047 D5	I004 D5	
1M49 E1	2009 C6	2032 B8	2062 D8	3006 D7	3015 A7	3025 C4	5002 A9	6003 C6	7001 C3	7017-1 D7	F001 C4	F010 E1	F019 B2	F028 B10	F037 C7	F048 A5	I005 C5	



SSB: PICNIC

B3A PICNIC

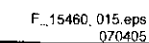
B3A



* SEE MAPPING I1 ON B3c

** SEE MAPPING G1 ON B3c

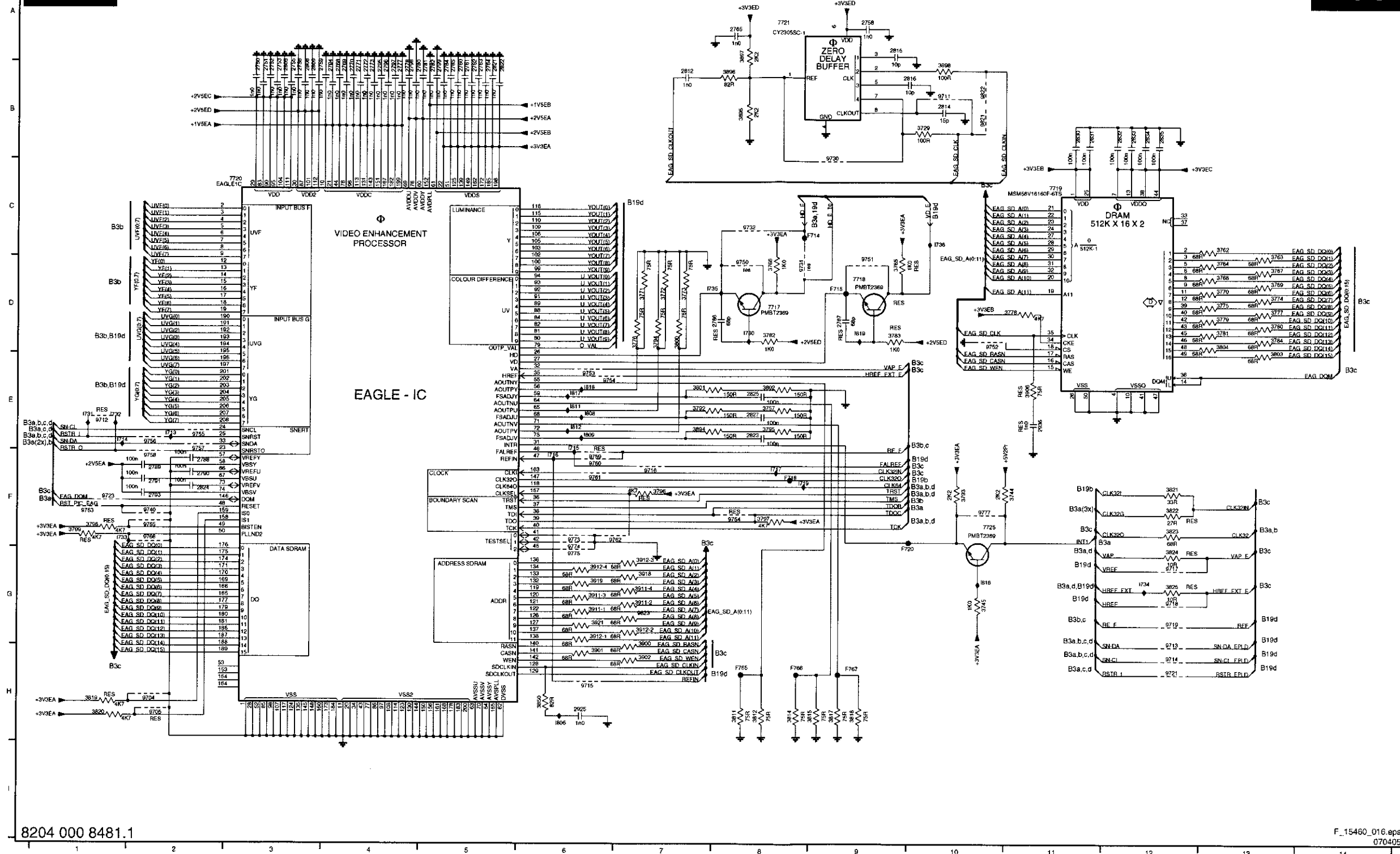
B3B FEM
FALCONIC EMBEDDED MEMORY



SSB: Eagle

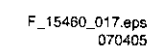
B3C EAGLE

B3C

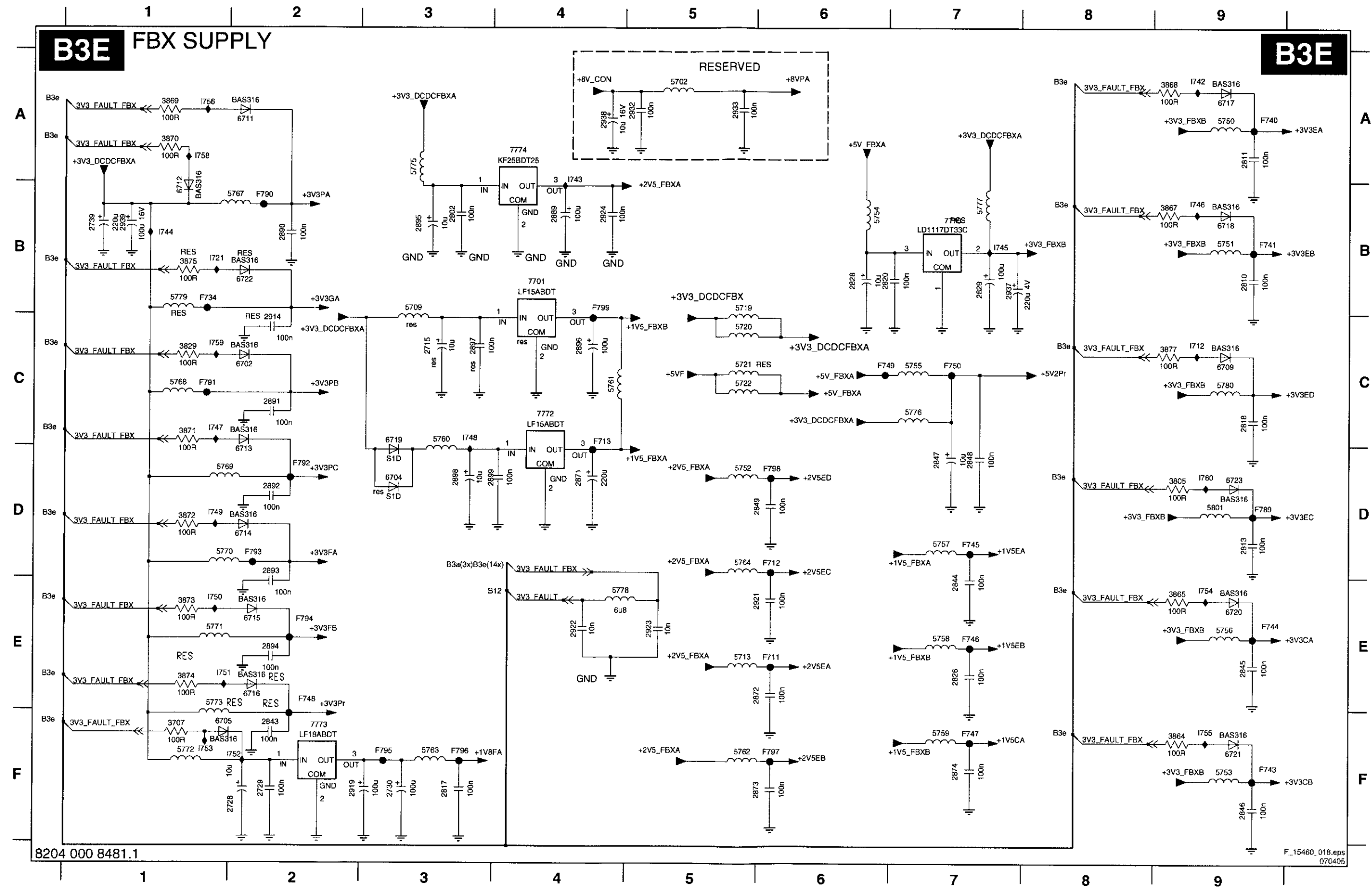


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B3D COLUMBUS

SSB: FBX Supply



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2730 F3 5780 C9
2739 B1 5801 D9
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2810 B9 6704 D3
2811 A9 6705 F1
2813 D9 6709 C9
2817 F3 6711 A2
2818 C9 6712 B1
2820 B6 6713 D2
2826 E7 6714 D2
2828 B6 6715 E2
2829 B7 6716 E2
2843 F2 6717 A9
2844 E7 6718 B9
2845 E9 6719 C3
2846 F9 6720 E9
2847 D7 6721 F9
2848 D7 6722 B2
2849 D6 6723 D9
2871 D4 6724 B4
2872 E6 6725 B7
2873 F6 6726 C4
2874 F7 6727 F2
2889 B4 6728 A4
2890 B2 6729 E6
2891 C2 6730 D6
2892 D2 6731 C4
2893 D2 6732 B1
2894 E2 6733 A9
2895 B3 6734 B9
2896 C4 6735 F9
2897 C3 6736 E9
2898 D3 6737 D7
2899 D4 6738 E7
2914 C2 6739 F7
2919 F2 6740 E2
2921 E6 6741 C6
2922 E4 6742 C7
2923 E5 6743 D9
2924 B4 6744 B2
2932 A5 6745 C1
2933 A5 6746 D2
2937 B7 6747 D2
2938 A4 6748 E2
2939 B1 6749 F3
3707 F1 6750 F3
3805 D9 6751 F6
3828 C1 6752 D6
3864 F9 6753 B4
3865 E9 6754 C9
3867 B9 6755 B1
3868 A9 6756 A9
3869 A1 6757 A4
3870 A1 6758 B1
3871 C1 6759 B7
3872 D1 6760 B9
3873 E1 6761 C1
3874 E1 6762 C3
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3877 C9 6764 E1
5702 A5 6765 E1
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5719 B5 6768 E9
5720 C5 6769 F9
5721 C5 6770 A1
5722 C5 6771 A1
5750 A9 6772 C1
5751 B9 6773 C1
5752 D5 6774 D9
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5760 C3 6781 F9
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5762 F5 6783 F9
5763 F3 6784 F9
5764 D5 6785 F9
5767 B2 6786 F9
5768 C1 6787 F9
5769 D1 6788 F9
5770 D1 6789 F9
5771 E1 6790 F9
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B4 HOP (NOT USED, UNLESS OTHERWISE INDICATED)



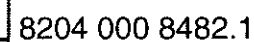
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2306 H9	3348 D10	7340 A6
2307 F4	3349 F2	7361 H7
2308 G9	3350 B10	7362 H7
2309 D3	3351 B9	7375 A8
2310 E3	3352 A10	9302 A3
2311 H6	3353 A10	9303 A4
2312 F9	3354 A11	9304 A4
2313 F9	3355 B8	9305 A4
2314 E2	3356 G12	9308 B5
2315 E3	3357 F12	9309 B5
2317 E3	3358 A11	9310 B5
2318 E3	3359 B10	9311 H1
2319 G10	3360 A8	9312 H1
2320 G3	3361 G7	9313 F13
2321 B3	3362 F11	9314 H1
2323 B4	3363 F3	9315 H1
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2325 G5	3364-2 F11	9421 B9
2326 E12	3364-3 G10	C001 H12
2328 B7	3364-4 G10	F309 D11
2329 A6	3365 F13	F311 C2
2330 A6	3366 H11	F312 E9
2331 A6	3367 F11	F329 H9
2332 E2	3368 B12	F347 D12
2333 D10	3369 B13	F348 G3
2334 D6	3384 C12	F349 G3
2335 F11	3386 F13	F350 G3
2336 D8	3387 G2	F351 H3
2337 B12	3388 B5	F352 H3
2338 B12	3389 C13	F353 H3
2340 I11	3390 D9	F362 H3
2341 C12	3391 F12	F364 F4
2342 A7	3394 D9	I302 E2
2343 A9	3395 C3	I303 E4
2344 H3	3396 D3	I304 B11
2345 H2	3397 D2	I305 G5
2346 H2	3398 D3	I306 G5
2347 H2	3399 B6	I307 G7
2348 H2	3442 E13	I308 A12
2349 H2	3443 E13	I309 B11
2363 F3	3453 C2	I310 B12
2366 F12	3454 B2	I311 D9
2393 E13	3455 C2	I312 E3
2395 D3	3459 B11	I313 C12
2396 D3	3465 A9	I314 C9
2397 D3	3467 A8	I315 D8
2398 A3	3470 A8	I316 D9
2429 A4	3471 A8	I317 C12
2431 B4	3472 I6	I319 A11
3302 C4	5301 E2	I320 A11
3304 I11	5302 E2	I321 F3
3305 C3	5303 G2	I326 B7
3306 E9	5304 G2	I330 B4
3307 E9	5305 G2	I331 B4
3308 E9	5306 H2	I332 B3
3310 E10	5307 H2	I333 C3
3311 G7	5308 H2	I338 E3
3312 E11	5313 A12	I339 E4
3313 E11	5314 B12	I357 E8
3314 G8	5315 C12	I358 D4
3315 H8	6301 E12	I359 F4
3316 H10	6303 H9	I363 H5
3317 G9	6304 H9	I365 E10
3318 F9	6306 I5	I366 B3
3319 E13	6307 I6	I367 D10
3320 D3	6308 C2	I368 A7
3321 D3	6309 D11	I369 A8
3322 D12	6310 D10	I370 A10
3323 H5	6311 D12	I371 I12
3324 I5	6312 H8	c200 F3
3325 A9	6313 H9	
3326 G5	6314 H9	
3327 G6	6316 C9	
3329 F9	6317 E12	
3329 E2	6319 D9	
3330 A7	6334 H5	
3331 G3	7301 B4	
3332 A7	7302 A1	
3333 F3	7303 H8	
3334 H5	7304 F2	
3335 A7	7305 B9	
3336 H6	7306 A9	
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B5A OTC-FLASH

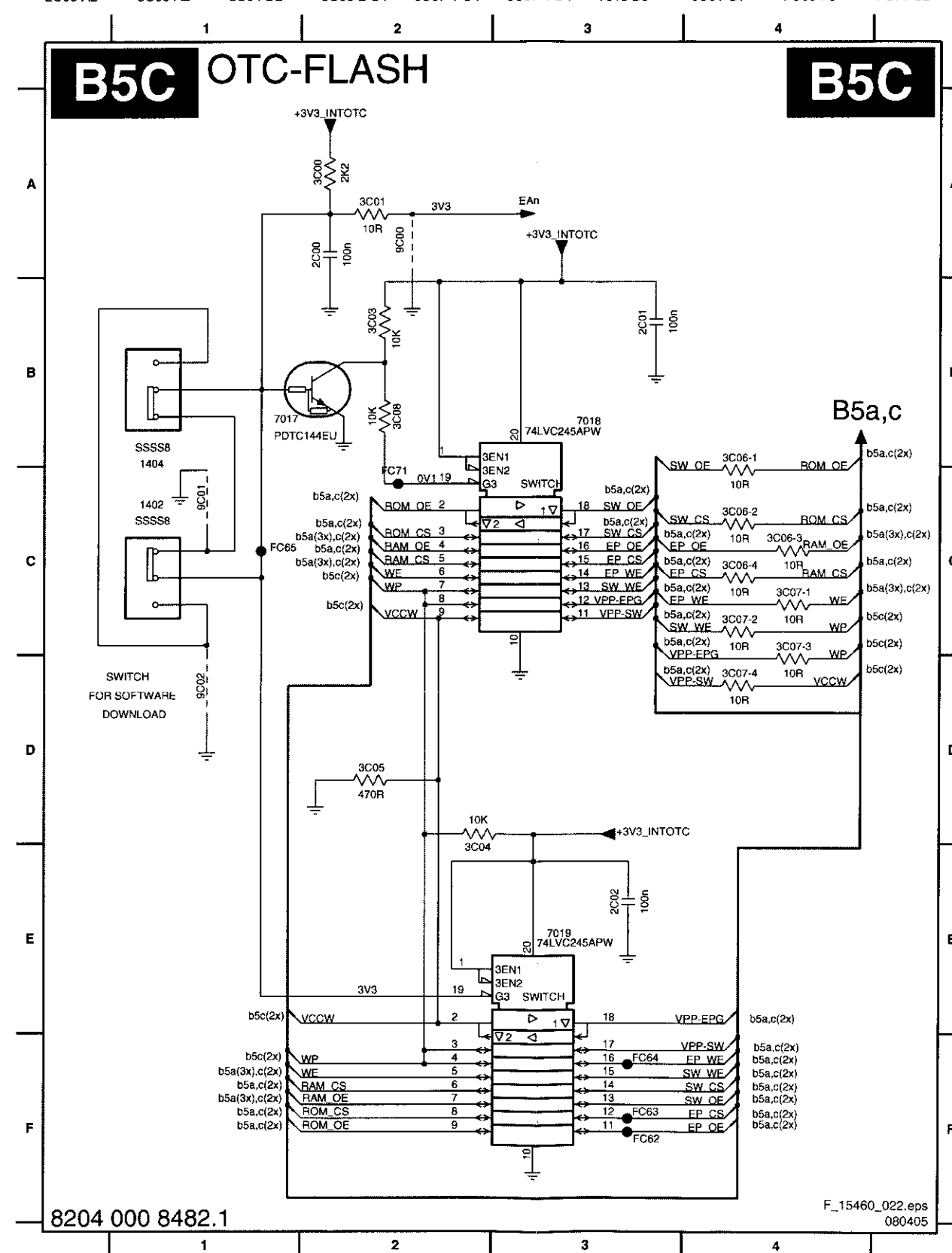


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	2002 J3	3031-4 C13	3079 E3	9022 B3	IC46 J2
	2003 J4	3033 C3	3080 A2	9023 B3	IC48 E3
A	2004 J4	3034-1 G7	3081 A4	9024 A1	
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	2007 J3	3034-4 H7	3082-3 B13	FC02 A7	
	2008 H4	3035-1 H7	3082-4 B13	FC03 C7	
	2009 I8	3035-2 H7	3083-1 B13	FC04 C8	
	2010 J9	3035-3 H7	3083-2 B13	FC05 C10	
	2011 J9	3035-4 H7	3083-3 B13	FC06 C7	
	2012 J9	3038 B1	3083-4 B13	FC07 C8	
	2013 F11	3039 B2	3084 D8	FC08 C7	
B	2014 I4	3040 I1	3085-1 B11	FC09 C7	
	2016 F13	3041 I1	3085-2 B11	FC10 C7	
	2017 G12	3042 J1	3085-3 B11	FC11 D8	
	2018 G3	3045 J11	3085-4 B11	FC12 D8	
	2019 F10	3046-1 J12	3086-1 C11	FC13 D10	
	2020 E1	3046-2 J12	3086-2 B11	FC15 D7	
	2022 E2	3046-3 I11	3086-3 B11	FC16 D8	
	2023 A5	3046-4 I11	3086-4 B11	FC17 D10	
	2024 A5	3047 C2	3087 A11	FC18 D8	
C	2025 A5	3049-1 B8	3088 E3	FC19 E8	
	2026 A6	3048-2 D8	3089 A8	FC20 F13	
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	2028 A6	3048-4 D8	3090-2 C4	FC22 A7	
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	2031 A8	3049-2 B8	3090-4 C4	FC24 B7	
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	2035 H6	3050-1 B8	3093 C11	FC27 F10	
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	2038 F9	3050-4 B8	3096 J2	FC30 B7	
	2039 H12	3051-1 B8	3097 A3	FC31 F10	
	2040 A12	3051-2 C8	3098 J10	FC32 G12	
	2041 H1	3051-3 C8	3099-1 B4	FC33 F9	
	2052 J12	3051-4 C8	3099-2 B4	FC34 C10	
	2053 J11	3052-1 C8	3099-3 A4	FC35 G9	
	2054 J11	3052-2 C8	3099-4 B4	FC36 F10	
E	2055 J13	3052-3 C8	3100 F4	FC37 G9	
	2056 I13	3052-4 C8	3101 F4	FC38 C10	
	2057 I12	3053 E2	3102-1 C13	FC39 G9	
	2058 C2	3054-1 D10	3102-2 B13	FC40 C10	
	2059 C2	3054-2 C10	3102-3 B13	FC41 C10	
	2060 A4	3054-3 D10	3102-4 B13	FC42 C10	
	2061 A3	3054-4 B10	3103 D3	FC43 G10	
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	2068 J2	3055-2 C10	3C10 I1	FC45 H8	
	2070 B2	3055-3 B10	3C11 J1	FC46 H8	
F	2071 B1	3055-4 C10	3C12 J7	FC47 J6	
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	2073 C3	3056-2 C10	5001 F7	FC49 G3	
	2074 D4	3056-3 B10	5003 F8	FC50 E8	
	2075 F6	3056-4 C10	6001 E2	FC51 D7	
	3001 F3	3057-1 B10	6002 F11	FC52 I12	
	3002 F3	3057-2 C10	6003 E3	FC53 I12	
	3003 J4	3057-3 B10	6004 D2	FC54 J12	
	3004 F12	3057-4 C10	6005 A3	FC55 J12	
G	3005 D13	3058 C1	6006 C4	FC56 J13	
	3006 J6	3059 C1	7002 F11	FC57 A3	
	3007-1 J6	3061-1 B11	7003 G12	FC58 J13	
	3007-2 J6	3061-2 B11	7004 G13	FC60 A4	
	3007-3 J6	3061-3 C11	7005 E12	FC61 E4	
	3007-4 J6	3061-4 C11	7006 A9	FC66 I7	
	3008-1 J7	3062 C11	7007 F10	FC67 H13	
	3008-2 J7	3064-1 F9	7008 E1	FC68 H12	
	3008-3 J7	3064-2 F4	7009 D3	FC69 J1	
H	3008-4 J7	3064-3 E3	7010 G3	FC70 J11	
	3009 A1	3064-4 E4	7011 F2	IC03 B2	
	3010 E8	3065 G12	7012 A12	IC05 D1	
	3011 E2	3066 G12	7013 H12	IC07 E2	
	3012-1 I8	3067 H11	7014 G13	IC09 F1	
	3012-2 I8	3068 A2	7015 I2	IC11 G13	
	3012-3 I8	3068 E3	7016 J2	IC13 G11	
	3012-4 I8	3072-1 B13	7022 B1	IC14 G8	
	3013 F12	3072-2 B13	7023 A4	IC15 H8	
I	3014 F12	3072-3 A13	9001 H2	IC17 H4	
	3015 G11	3072-4 B13	9002 J2	IC18 H8	
	3016 G12	3073-1 C4	9003 G1	IC20 H7	
	3017 F13	3073-2 C4	9004 A1	IC21 H3	
	3018 A2	3073-3 C4	9005 A4	IC22 H4	
	3019 B2	3073-4 B4	9006 A3	IC23 I9	
	3020 A2	3074-1 F2	9007 F12	IC24 I9	
	3021 B2	3074-2 F4	9008 J10	IC26 I3	
	3024 D3	3074-3 F3	9009 J11	IC27 I6	
	3025 E1	3074-4 A3	9010 I11	IC28 I8	
J	3026 E4	3075 C1	9011 H1	IC29 D8	
	3027 E2	3076-1 D4	9012 I11	IC37 F4	
	3029-1 B11	3076-2 D3	9013 J11	IC36 J12	
	3029-2 B11	3076-3 D3	9014 C2	IC40 E3	
	3029-3 B11	3076-4 D4	9015 C2	IC41 C3	
	3029-4 B11	3077 D3	9016 D2	IC42 F12	

2063 C3	3023 C1	3030 B2	3036 B4	3070 C3	7021-1 B4	9019 C4	IC50 B4	IC52 B2
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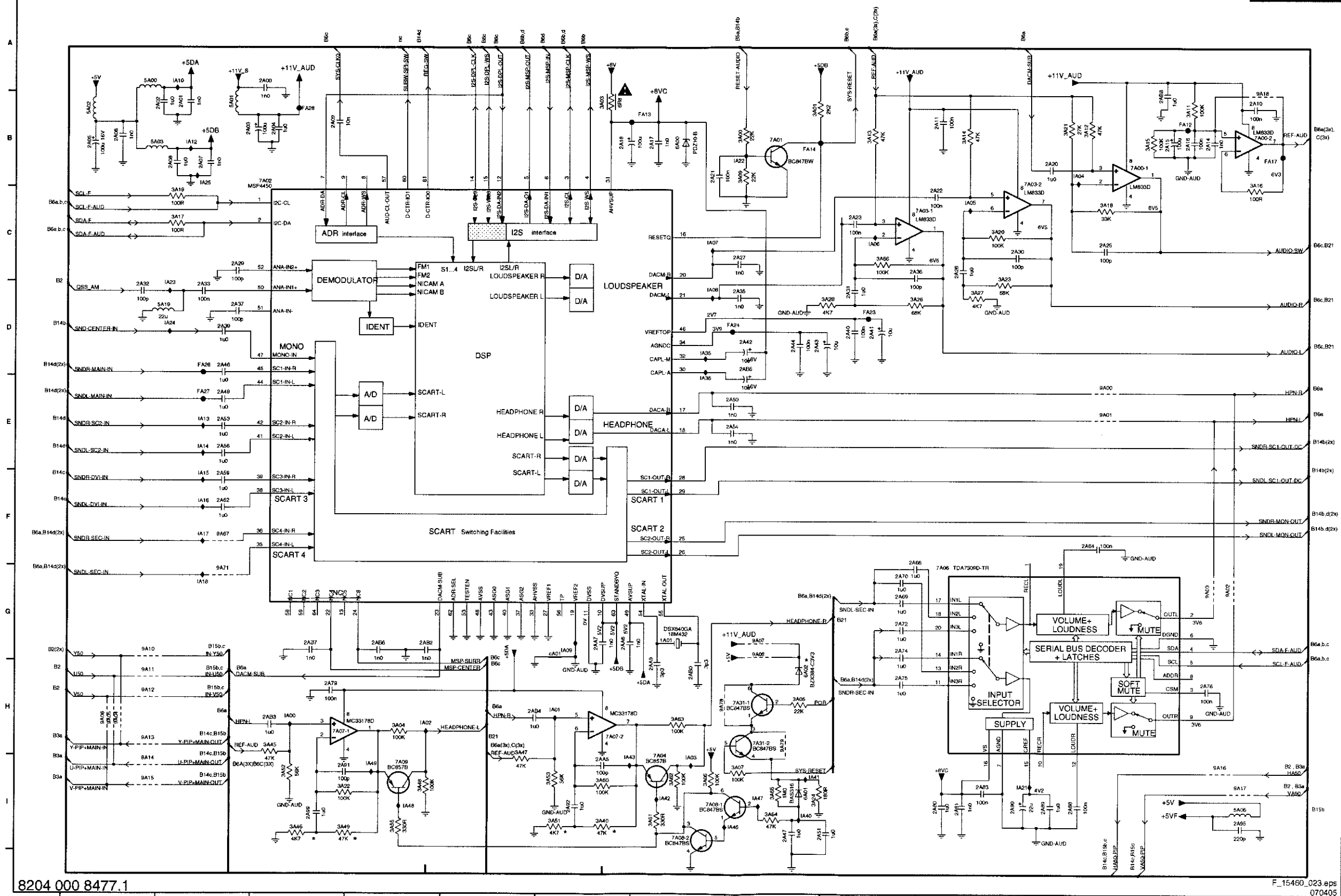
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2C00 A2	3C00 A2	3C04 D2	3C06-2 C4	3C07-1 C4	3C07-4 D4	7018 B3	9C01 C1	FC63 F3	FC71 C2



SSB: Audio Demodulator

B6A AUDIO DEMODULATOR

B6A



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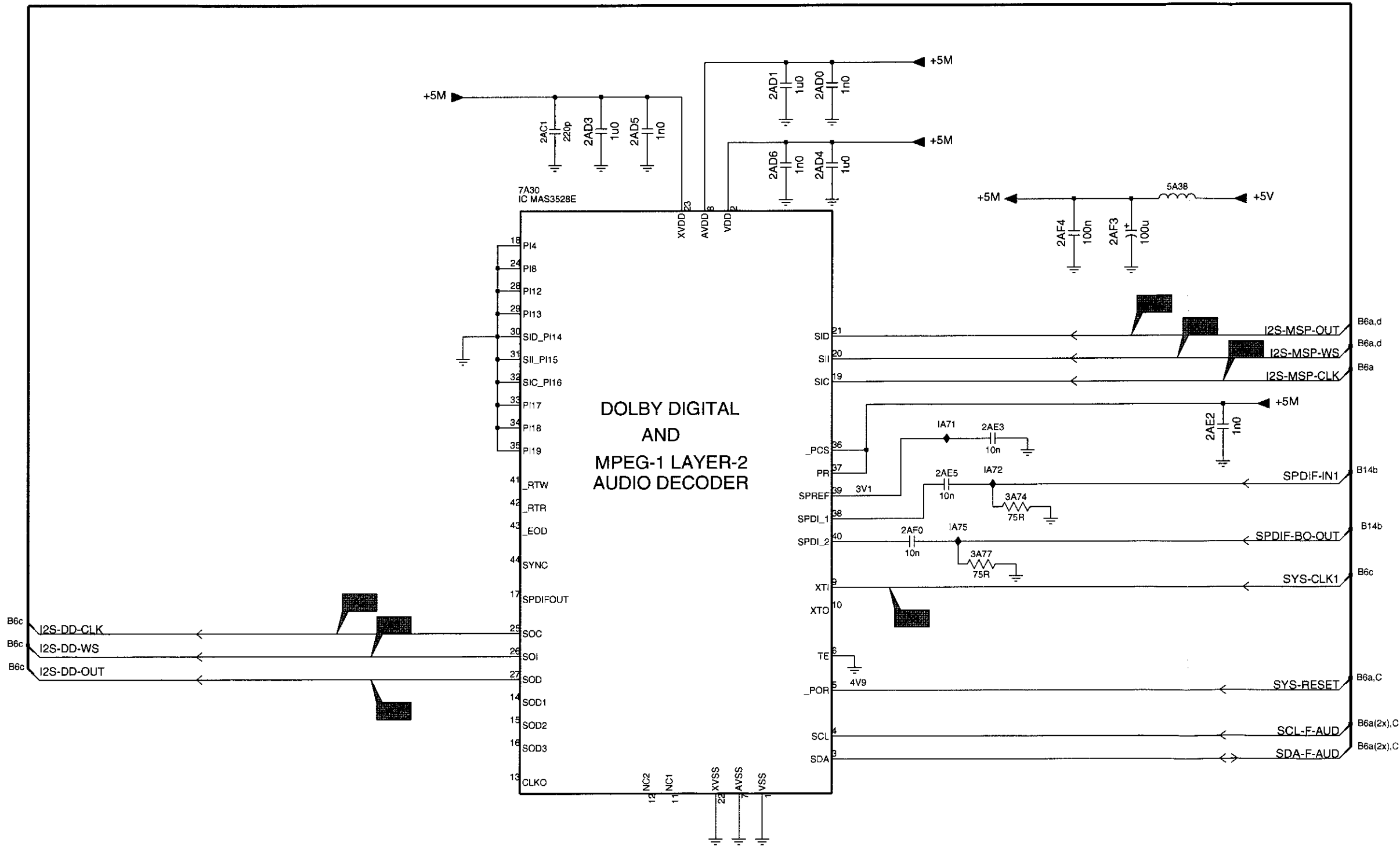
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2A02 B2	3A19 C2	IA13 E2
2A03 B2	3A20 C10	IA14 E2
2A04 B3	3A21 B11	IA15 F2
2A05 B1	3A22 I3	IA16 F2
2A06 B1	3A23 C10	IA17 F2
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2A17 B7	3A48 I4	IA40 I8
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2A26 C10	3A61 I7	IA49 I4
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2A31 D9	3A65 I8	
2A32 D1	3A66 C9	
2A33 D2	5A00 A1	
2A35 D8	5A01 B2	
2A36 C9	5A02 B1	
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2A39 D2	5A06 I13	
2A40 D9	5A19 D2	
2A41 D9	6A00 B7	
2A42 D8	6A01 I8	
2A43 D8	6A02 H8	
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2A46 D2	7A00-2 B13	
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2A54 E8	7A06 G10	
2A56 E2	7A07-1 H3	
2A59 F2	7A07-2 H6	
2A62 F2	7A08-1 I7	
2A64 F11	7A08-2 I7	
2A66 F9	7A09 I4	
2A69 G9	7A31-1 H8	
2A70 G9	7A31-2 H8	
2A72 G9	9A00 E11	
2A74 G9	9A01 E11	
2A75 H9	9A02 G13	
2A76 H13	9A03 G13	
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2A91 I3	9A12 H1	
2A92 I6	9A13 H1	
2A95 I13	9A14 I1	
2A99 I3	9A15 I1	
2AA5 I6	9A16 I13	
2AA6 G6	9A17 I13	
2AA7 G6	9A18 B13	
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2AB0 H7	9A71 G2	
2AB2 G4	9A78 H7	
2AB3 H3	9A79 H8	
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2AB5 D8	FA13 B7	
2AB6 G4	FA14 B8	
2AB7 G3	FA17 B13	
2AB8 B12	FA23 D9	
3A00 B8	FA24 D8	
3A01 B8	FA26 D2	
3A03 B6	FA27 E2	
3A04 H4	FA28 B3	
3A05 H8	IA00 H3	
3A06 I7	IA01 H6	
3A07 I8	IA02 H4	
3A09 B8	IA03 I7	
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SSB: Dolby Digital Decoder

B6B

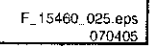
DOLBY DIGITAL DECODER

B6B

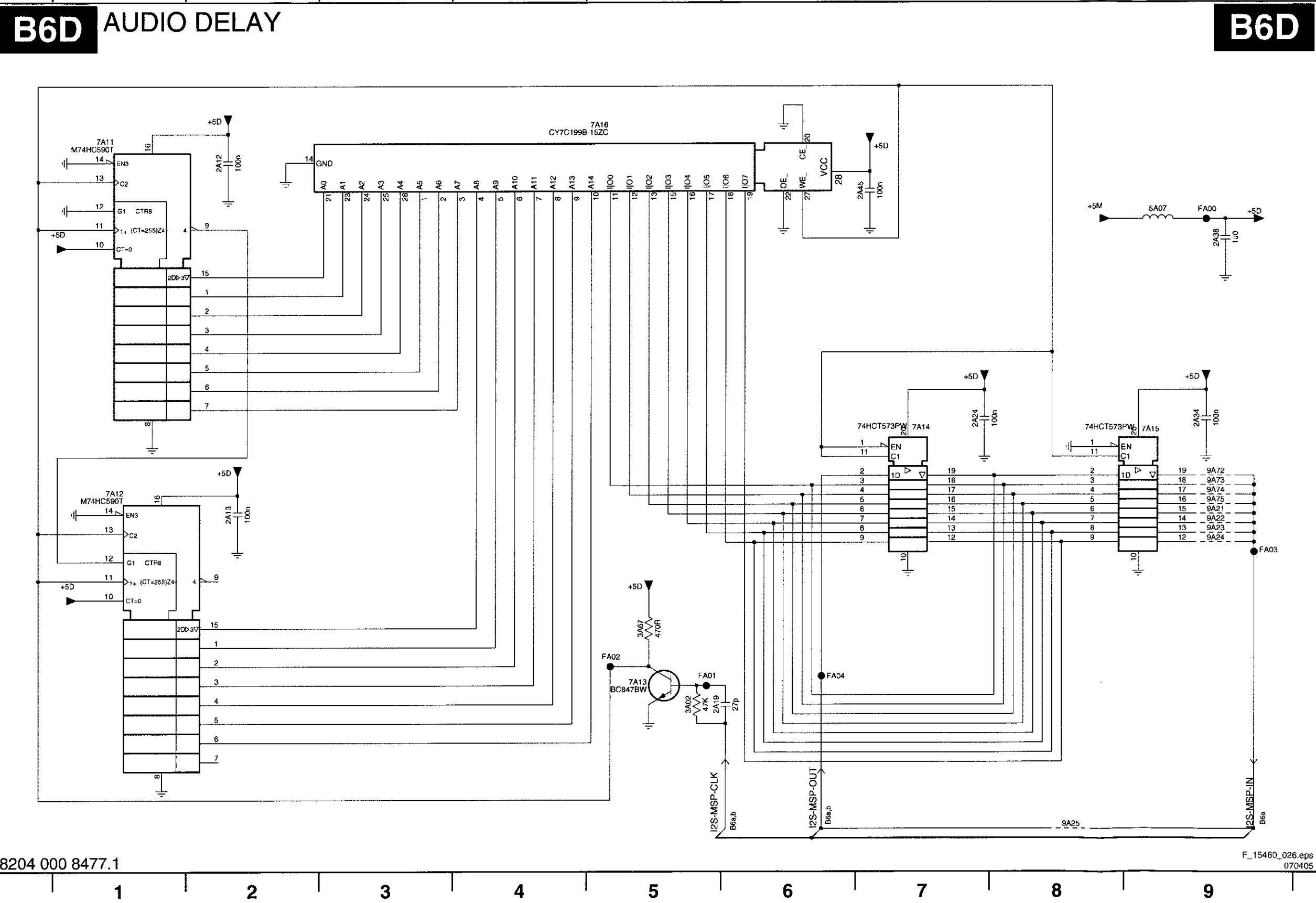


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- 2AD1 B6
- 2AD3 B4
- 2AD4 B6
- 2AD5 B5
- 2AD6 B6
- 2AE2 D8
- 2AE3 D7
- 2AE5 D7
- 2AF0 E6
- 2AF3 C8
- 2AF4 C7
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- 3A77 E7
- 5A38 B8
- 7A30 B4
- IA71 D7
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- IA75 D7

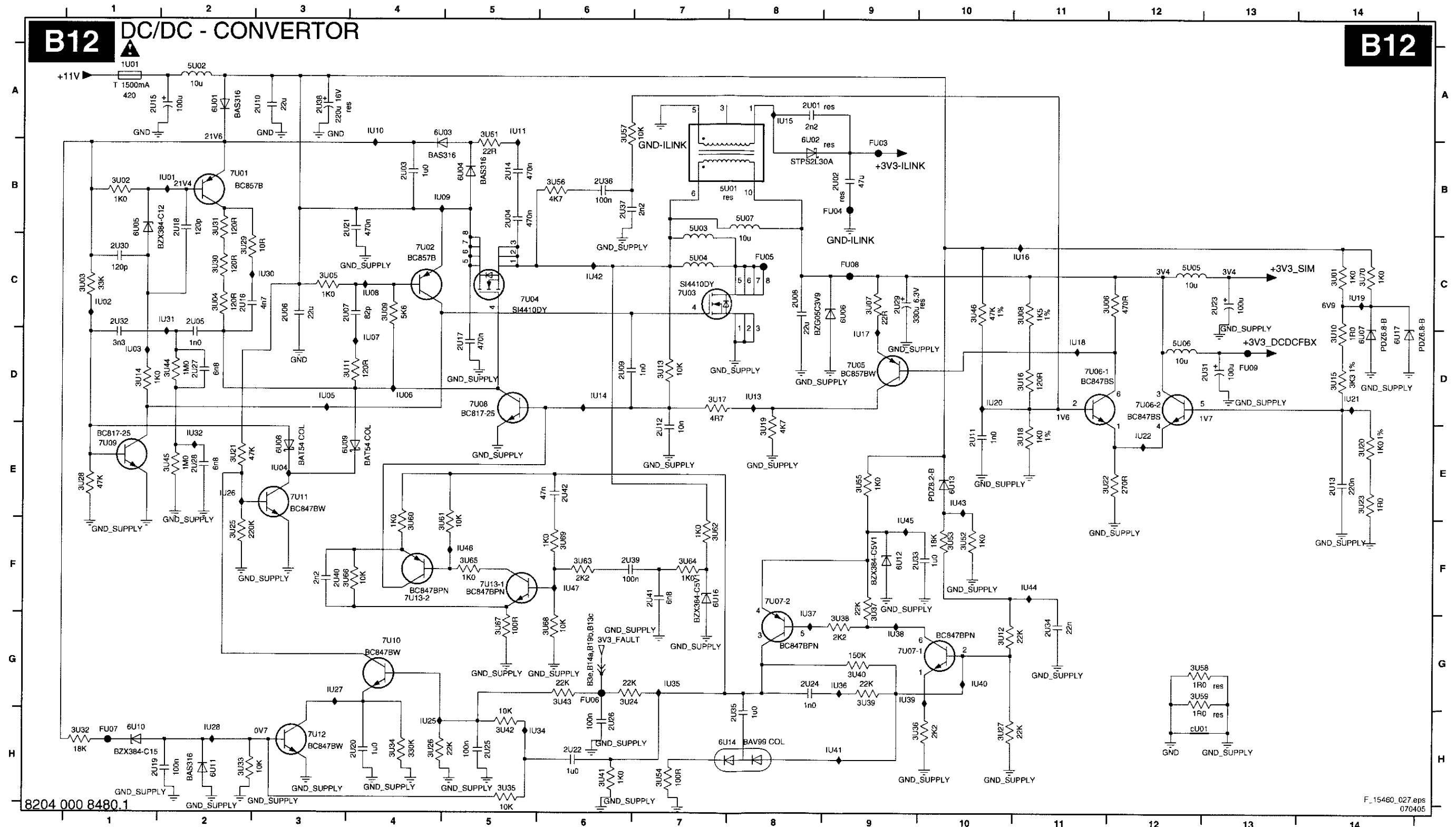
B6C DOLBY PRO LOGIC PROCESSOR



SSB: Audio Delay



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2U02 B9	2U10 A3	2U18 B2	2U26 H6	2U34 G11	2U42 E6	3U08 C11	3U16 D11	3U24 G6	3U32 H1	3U40 G9	3U52 F10	3U60 F4	3U68 G6	5U06 D12	6U07 D14	6U16 F7	7U06-B D12	7U13-1 F5	FU09 D13	IU08 C4	IU17 D9	IU27 G3	IU37 F8	IU45 F9
2U03 B4	2U11 E7	2U19 H1	2U27 D2	2U35 H8	3U01 C14	3U09 C4	3U17 D7	3U25 F2	3U33 H2	3U41 H6	3U53 F10	3U61 F5	3U69 F6	5U07 B8	6U08 C3	6U17 D14	7U07-1 G10	7U13-2 F4	IU01 B2	IU09 B4	IU18 D11	IU28 H2	IU38 G9	IU46 F5
2U04 B5	2U12 E7	2U20 H4	2U28 E2	2U36 B6	3U02 B1	3U10 D14	3U18 E11	3U26 H4	3U34 H4	3U42 H5	3U54 H7	3U62 F7	3U70 C14	6U01 A2	6U09 E3	7U01 B2	7U07-2 F8	FU03 B9	IU02 C1	IU10 A4	IU19 C14	IU30 C3	IU39 G9	IU47 F6
2U05 C2	2U13 E14	2U21 B3	2U29 C9	2U37 B6	3U03 C1	3U11 D4	3U19 E8	3U27 H10	3U35 H5	3U43 G6	3U55 E9	3U63 F6	5U01 B8	6U02 A8	6U10 H1	7U02 C4	7U08 D5	FU04 B9	IU03 D1	IU11 A5	IU20 D10	IU31 C2	IU40 G10	cU01 H12
2U06 C3	2U14 B5	2U22 H6	2U30 C1	2U38 A3	3U04 C2	3U12 G10	3U20 E14	3U28 E1	3U36 H10	3U44 D2	3U56 B6	3U64 F7	5U02 A2	6U03 A4	6U11 H2	7U03 C7	7U09 E1	FU05 C8	IU04 E3	IU13 D8	IU21 D14	IU32 E2	IU41 H9	
2U07 C3	2U15 A1	2U23 C13	2U31 D13	2U39 F6	3U05 C3	3U13 D7	3U21 E2	3U29 C2	3U37 F9	3U45 E2	3U57 A6	3U65 F5	5U03 B7	6U04 B5	6U12 F9	7U04 C5	7U10 G4	FU06 G6	IU05 D3	IU14 D6	IU22 E12	IU34 H6	IU42 C6	

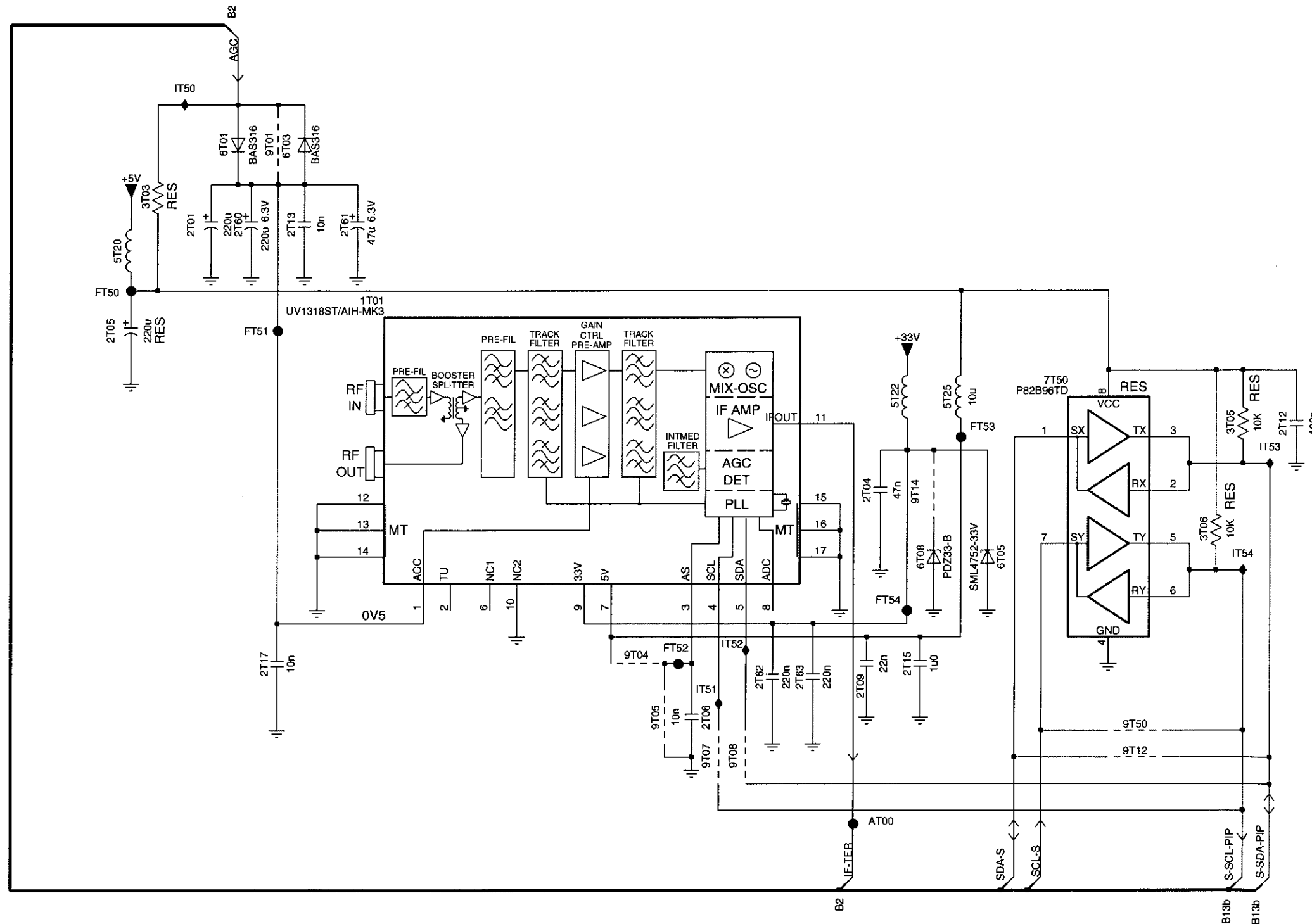


SSB: Main Tuner

1T01 B3	2T05 C1	2T12 C7	2T17 D2	2T62 D5	3T05 C7	5T22 C5	6T03 B2	7T50 C6	9T05 E4	9T12 E7	AT00 E5	FT52 D4	IT50 A1	IT53 C7
2T01 B2	2T06 E4	2T13 B2	2T60 B2	2T63 D5	3T06 D7	5T25 C6	6T05 D6	9T01 B2	9T07 E4	9T14 C5	FT50 B1	FT53 C6	IT51 D4	IT54 D7
2T04 C5	2T09 D5	2T15 D5	2T61 B2	3T03 B1	5T20 B1	6T01 B2	6T08 D5	9T04 D4	9T08 E4	9T50 E7	FT51 C2	FT54 D5	IT52 D4	

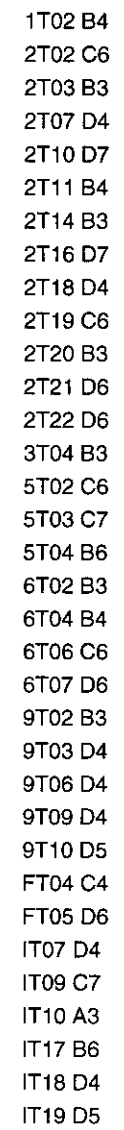
B13A MAIN TUNER

B13A



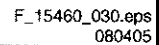
B13B SUB TUNER

B13B



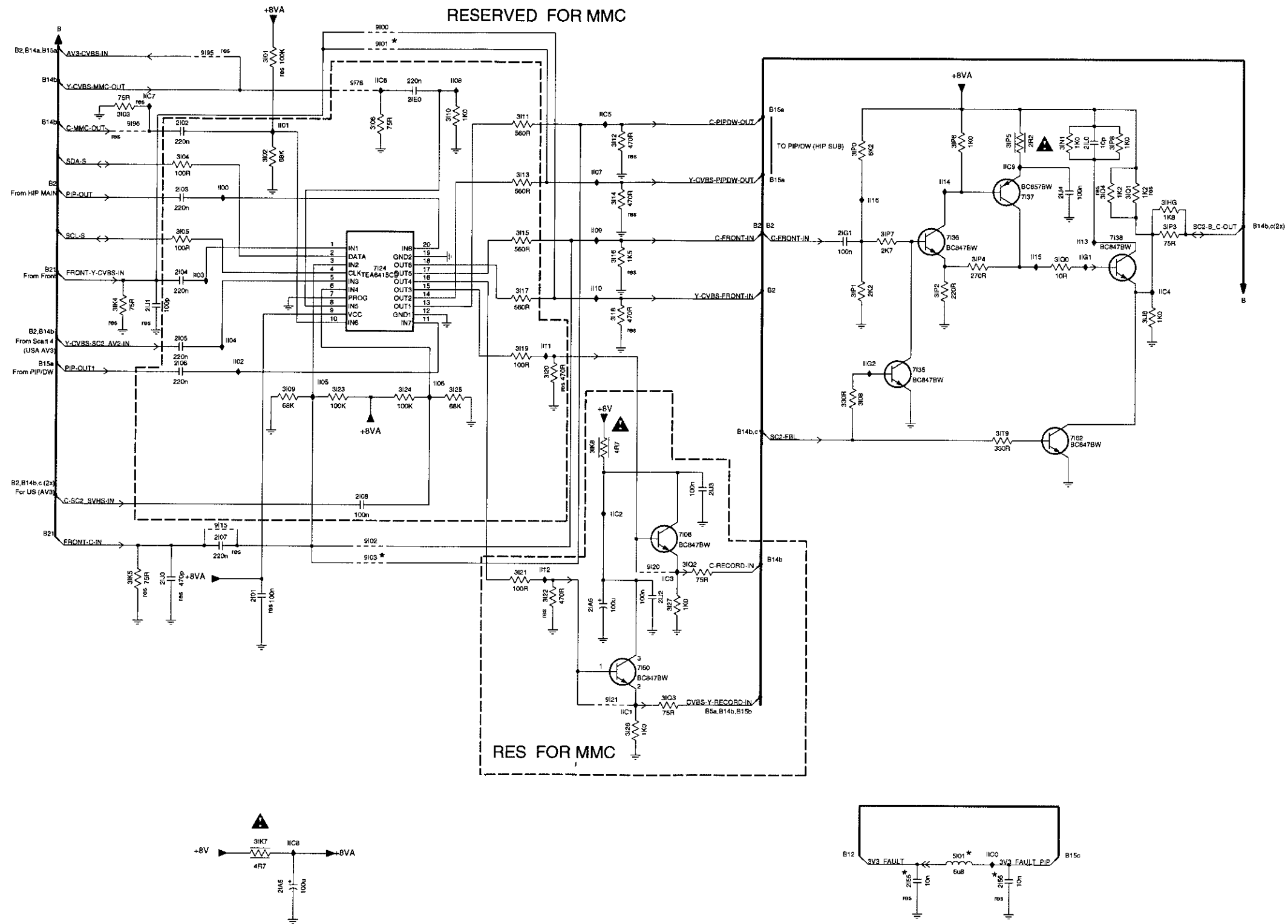
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B13C DC - DC CONVERTER



B14A I/O1: MMC

B14A



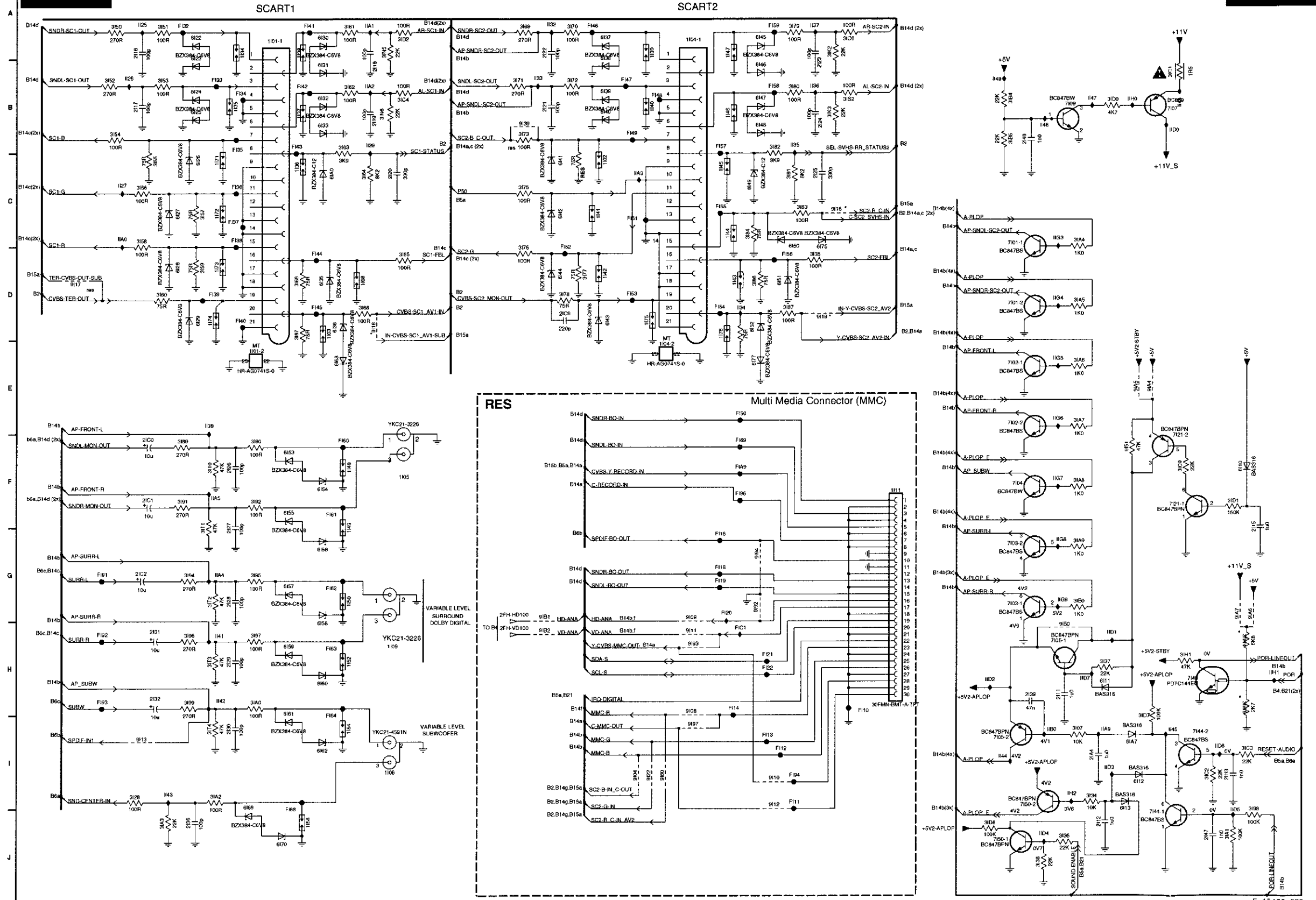
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2101 F4	9196 B3
2102 B3	1100 C4
2103 C3	1101 B4
2104 D3	1102 D4
2105 D3	1103 D3
2106 D3	1104 D4
2107 F4	1105 D5
2108 E5	1106 E6
2155 I10	1107 C7
2156 I10	1108 B6
21A5 I4	1109 C7
21A6 F7	1110 D7
21E0 B5	1111 D6
21G1 C9	1112 F6
21J0 F3	1113 C11
21J1 D3	1114 C10
21J2 F7	1115 C11
21J3 E8	1116 C9
21J4 C11	11C0 I10
21L0 B11	11C1 G7
3101 B4	11C2 F7
3102 C4	11C3 F8
3103 B3	11C4 D12
3104 C3	11C5 B7
3105 C3	11C6 B5
3106 B5	11C7 B3
3108 E9	11C8 H4
3109 E4	11C9 C10
3110 B6	11G1 C11
3111 B6	11G2 D9
3112 B7	
3113 C6	
3114 C7	
3115 C6	
3116 C7	
3117 D6	
3118 D7	
3119 D6	
3120 D6	
3121 F6	
3122 F6	
3123 E5	
3124 E5	
3125 E6	
3126 G7	
3127 F8	
31HG C12	
31J8 D12	
31K4 D3	
31K5 F3	
31K7 H4	
31K8 E7	
31N1 B11	
31P0 B9	
31P1 D9	
31P2 D10	
31P3 C12	
31P4 C10	
31P5 B10	
31P6 B10	
31P7 C9	
31P8 B11	
31Q0 C11	
31Q1 C11	
31Q2 F8	
31Q3 G8	
31Q4 C11	
31T9 E10	
5101 I10	
7106 F8	
7124 C1	
7124 D5	
7135 D10	
7136 C10	
7137 C11	
7138 C11	
7160 G7	
7162 E11	
9100 A5	
9101 B5	
9102 F5	
9103 F5	
9115 F4	
9120 F7	
9121 G7	
9178 B5	
9195 B4	

SSB: I/O2: Connections

B14B I/O 2: CONNECTIONS

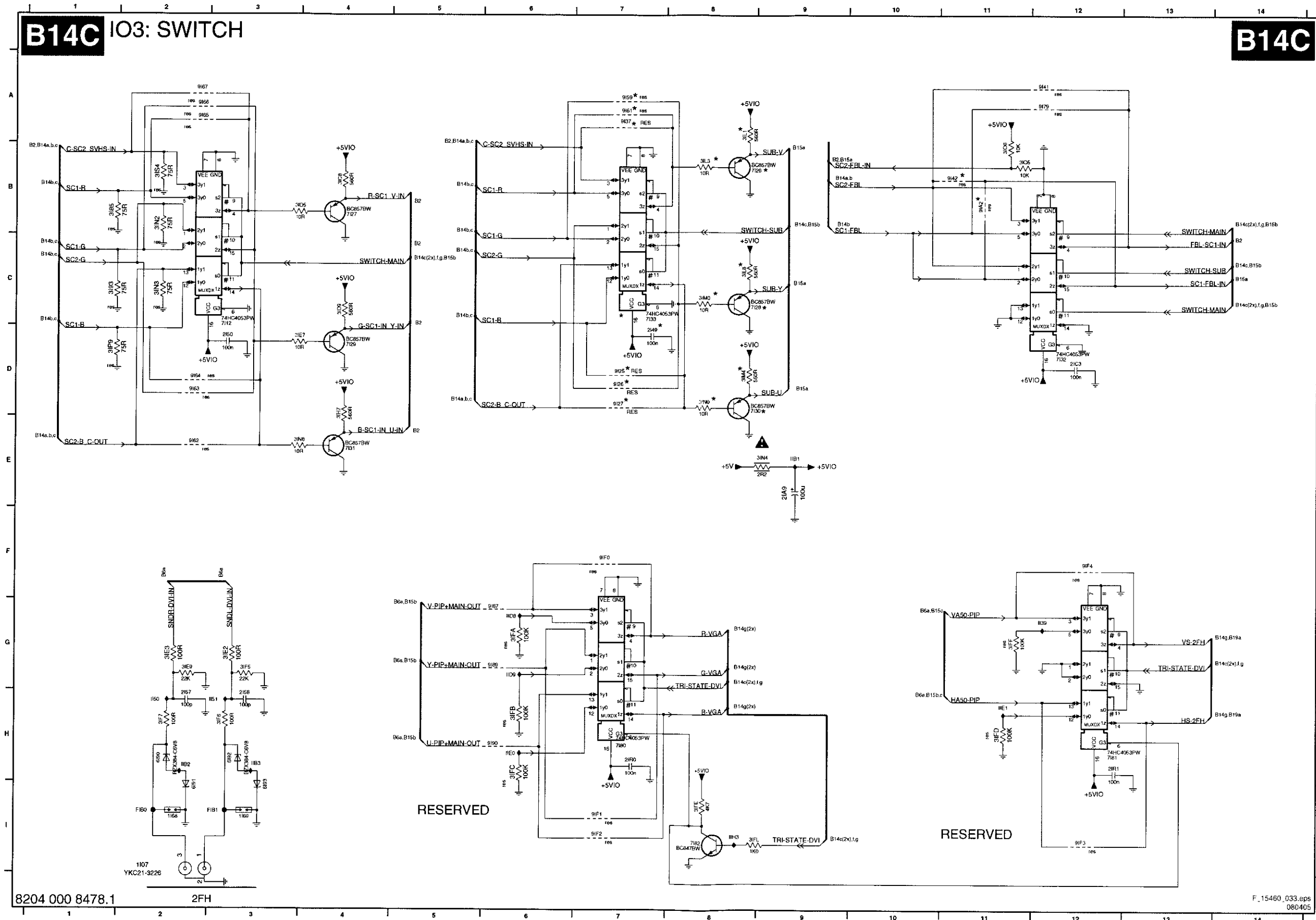
B14B



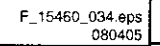
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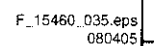
SSB: I/O3: Switch



B14D I/O4: AUDIO



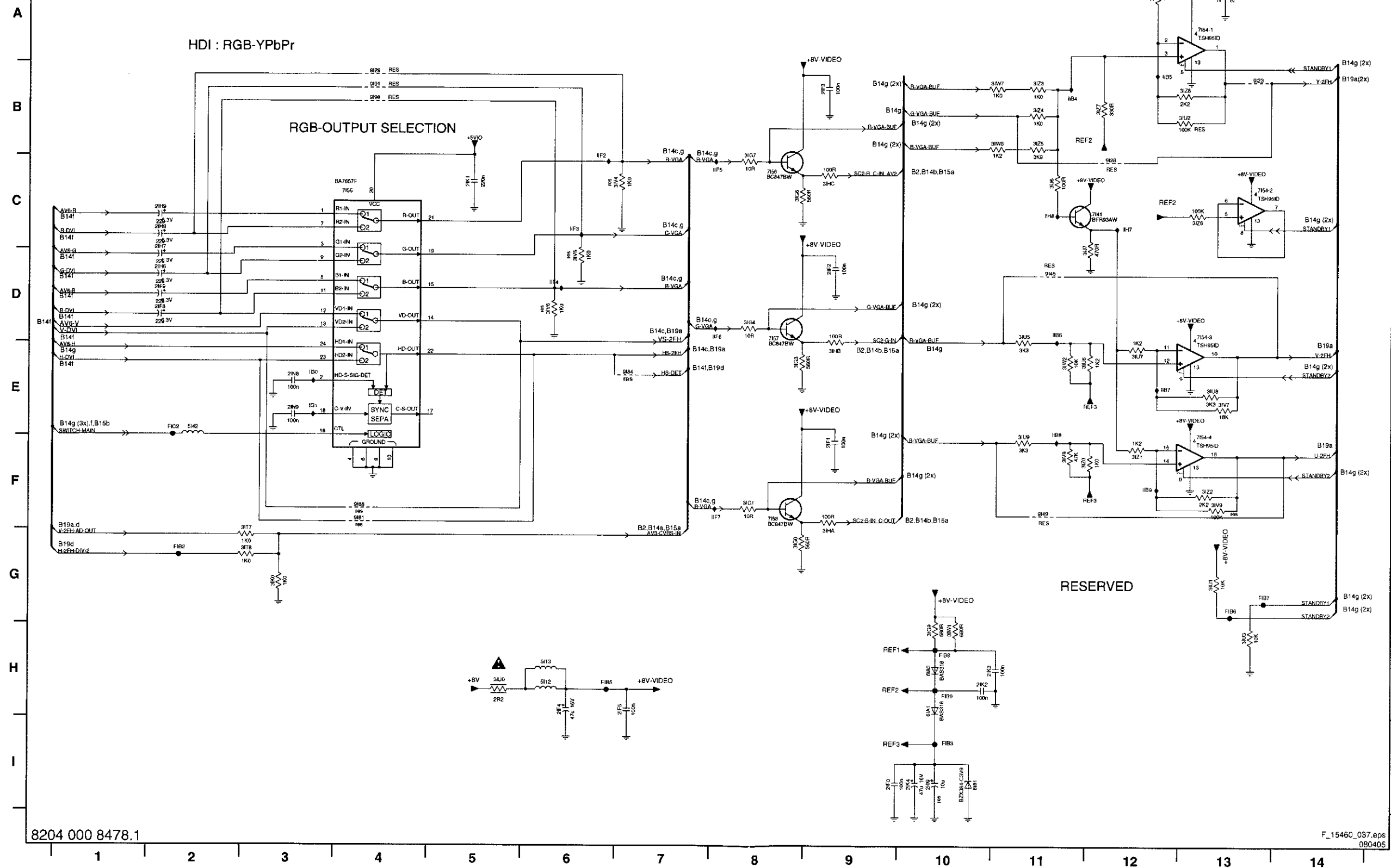
1110 G2	2100 H2	2138 G3	2160 E2	21B7 D4	21K6 G5	31B3 E11	31BA E9	31D2 C4	31F0 F8	31F8 D4	31GD B11	31H2 B11	31W9 B5	5110 C5	5147 G6	7108 B4	7115 E4	7146 C10	F115 G2	I177 C4	I182 B11	I187 C6	I1E8 H8
1112 G2	2110 A3	2140 C10	2162 H10	21J5 D6	21K7 G6	31B6 D8	31B8 E9	31D3 A12	31F1 D1	31F9 E3	31GE C11	31H4 C12	5102 E9	5121 G8	6103 F12	7110 E10	7116-1 E3	9105 F10	F1C4 G2	I178 E2	I183 E4	I188 C12	I1E9 G9
1179 H3	2133 D9	2148 E3	2164 G9	21J6 H9	21S6 H4	31C0 C9	31D4 C12	31F2 D2	31GA A12	31GF C11	31S3 H9	5104 D10	5122 H2	6104 E12	7111 G8	7116-2 E1	9106 F10	F1C5 F2	I179 B12	I184 E3	I189 E11	I1F1 C13	
1199 H2	2134 D10	2152 C6	2165 G3	21J7 I9	31D0 H8	31B8 G10	31C5 C9	31D6 D6	31F3 D2	31GB C12	31GH H8	31S6 I9	5105 F3	5145 G5	6105 D5	7113 E5	7140 C11	9199 C12	I175 D4	I180 E1	I185 E10	I195 E12	I1H4 B11
1M15 F2	2137 B10	2159 E11	21A3 G8	21K5 G5	31B1 E11	31B9 G9	31C7 C10	31E0 A11	31F4 D3	31GC B11	31H0 A12	31W3 B5	5106 G3	5146 G5	6199 F1	7114 B11	7145 C8	91D0 G8	I176 E3	I181 C11	I186 C5	I196 E9	I1H5 C11



SSB: I/O: 7

B14G I/O: 7

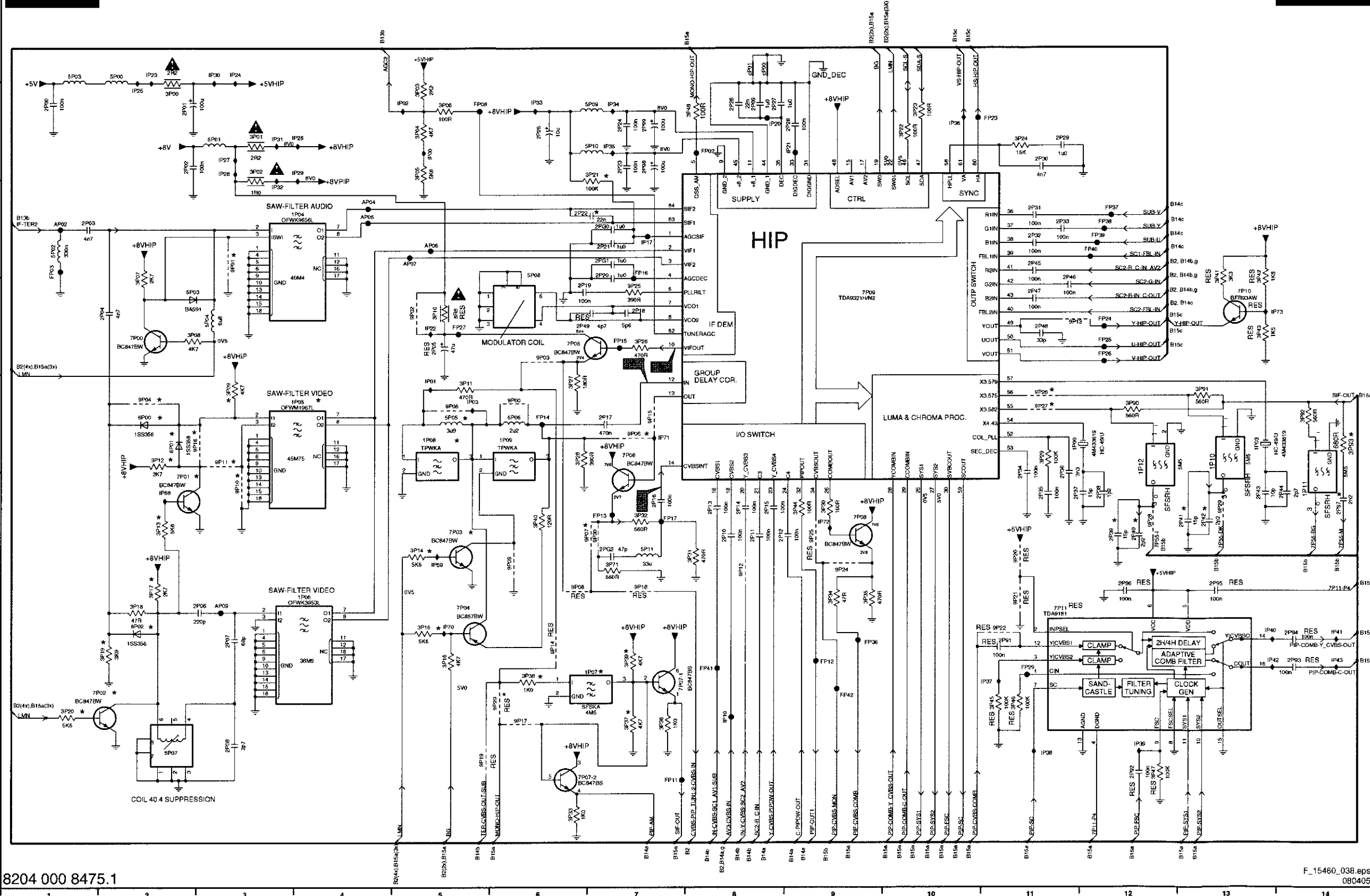
B14G



SSB: PIP HIP

B15A PIP HIP

B15A



8204 000 8475.1

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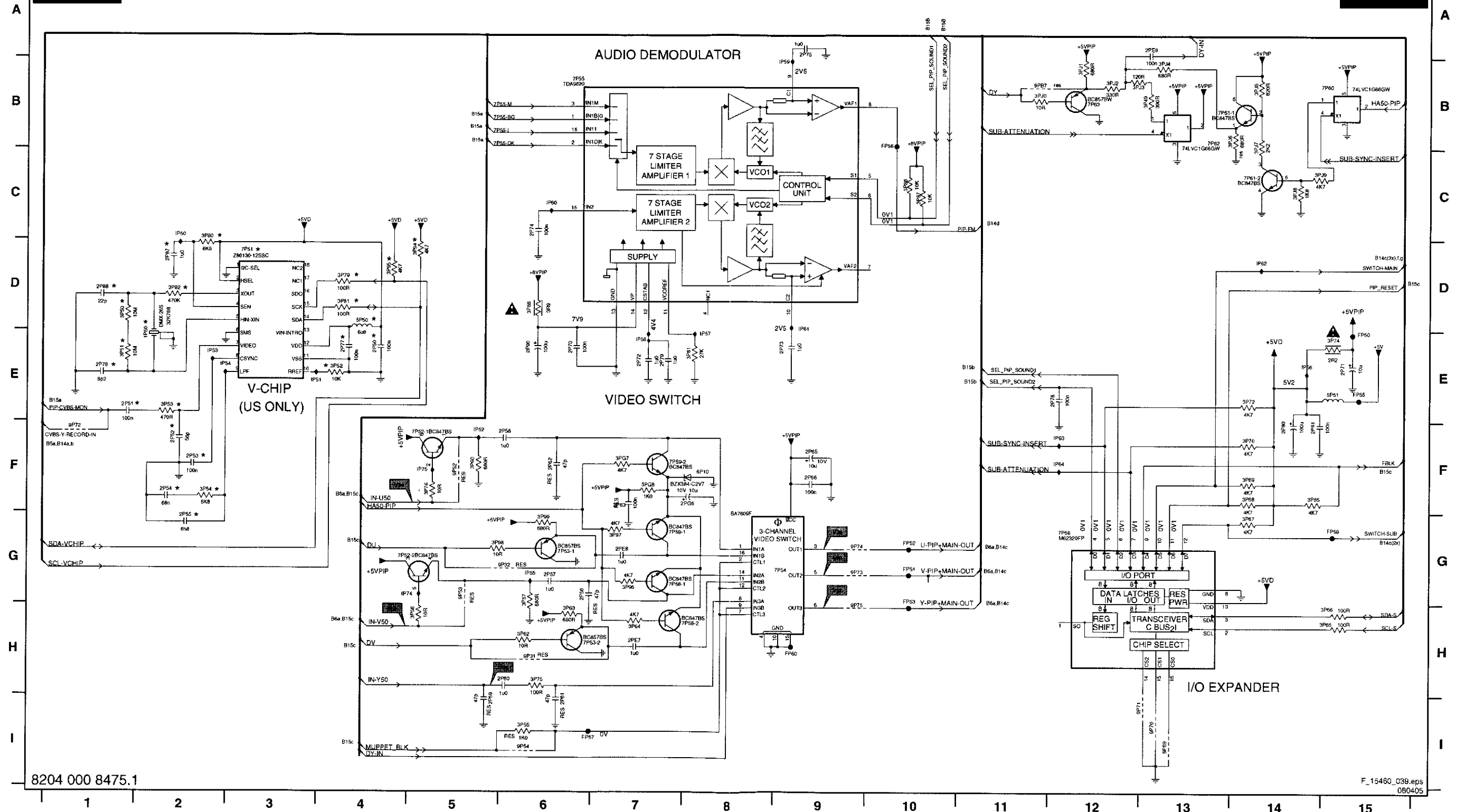
1P00 E11	3P16 G5	9P22 G11
1P03 E13	3P17 G2	9P23 H6
1P04 C4	3P18 G2	9P24 G9
1P05 E4	3P19 G2	9P25 F9
1P06 G4	3P20 H1	9P26 E11
1P07 H7	3P21 B7	9P27 E11
1P08 E5	3P22 B10	9P28 F12
1P09 E8	3P23 B10	9P29 F13
1P10 E13	3P24 B11	9P30 F7
1P11 F14	3P25 D7	AP02 C1
1P12 E12	3P26 D7	AP04 C4
2P00 B1	3P27 E6	AP05 C4
2P01 B2	3P28 E6	AP06 C5
2P02 B2	3P29 E11	AP07 C5
2P03 C1	3P30 F9	AP09 G3
2P04 D2	3P31 F8	FP02 B8
2P05 D5	3P32 F7	FP03 C1
2P06 G3	3P33 I6	FP08 B5
2P07 G3	3P34 G9	FP11 I7
2P08 H3	3P35 G9	FP12 G9
2P09 B8	3P36 H7	FP13 F7
2P10 F8	3P37 H7	FP14 E6
2P11 F8	3P38 H6	FP15 D7
2P12 F8	3P39 G7	FP16 C7
2P13 F8	3P40 D5	FP17 F7
2P14 F8	3P41 D13	FP23 B11
2P15 F8	3P42 D13	FP24 D12
2P16 F7	3P43 D13	FP25 D12
2P17 E7	3P44 F9	FP26 D12
2P18 D7	3P45 H11	FP27 D5
2P19 D6	3P46 H11	FP29 H11
2P20 C7	3P47 H12	FP38 G9
2P21 C7	3P48 B8	FP37 C12
2P22 C6	3P71 F7	FP38 C12
2P23 B7	3P90 E12	FP39 C12
2P24 B7	3P91 E13	FP40 C12
2P25 B6	3P92 E14	FP41 H6
2P26 B8	3P93 E14	FP42 H9
2P27 B8	5P00 A2	IP00 B5
2P28 B9	5P01 B3	IP01 E5
2P29 B11	5P02 C1	IP02 B5
2P30 B11	5P03 A1	IP03 E5
2P31 C11	5P04 D3	IP10 H8
2P32 C11	5P05 E5	IP17 C7
2P33 C11	5P06 E6	IP20 B8
2P34 F11	5P07 H2	IP21 B9
2P35 F11	5P08 C6	IP22 D5
2P36 F11	5P09 B7	IP23 A2
2P37 F11	5P10 B7	IP24 A3
2P38 F12	5P11 F7	IP25 B2
2P39 F12	6P00 E2	IP26 B4
2P40 F12	6P01 E2	IP27 B3
2P41 F13	6P02 G2	IP28 B3
2P42 F13	6P03 D2	IP29 B4
2P43 F13	7P00 D2	IP30 A3
2P44 F14	7P01 F2	IP31 B3
2P45 C11	7P02 H1	IP32 C3
2P46 D11	7P03 F5	IP33 B6
2P47 D11	7P04 G5	IP34 B7
2P48 D11	7P05 D6	IP35 B7
2P49 D6	7P06 E7	IP36 B10
2P91 G11	7P07-1 H7	IP37 H11
2P92 I12	7P07-2 I6	IP38 H11
2P93 G14	7P08 F9	IP39 H12
2P94 G14	7P09 D9	IP40 G13
2P95 G13	7P10 D13	IP41 G14
2P96 G12	7P11 G11	IP42 G13
2P97 F14	9P00 E6	IP43 G14
2P98 B7	9P01 C3	IP68 F2
2P99 B7	9P02 D5	IP69 F5
2P00 C7	9P03 D6	IP70 G5
2P01 C7	9P04 E2	IP71 E7
2P02 F7	9P05 E5	IP72 F9
3P00 B2	9P06 E7	IP73 D14
3P01 B3	9P07 F7	CP00 A8
3P02 B3	9P08 G6	CP01 A8
3P03 B5	9P09 F6	
3P04 B5	9P10 F3	
3P05 B5	9P11 E3	
3P06 B5	9P12 G8	
3P07 D2	9P13 D11	
3P08 D2	9P14 G6	
3P09 E3	9P15 E7	
3P10 D5	9P16 E3	
3P11 E5	9P17 H6	
3P12 E2	9P18 G7	
3P13 F2	9P19 H5	
3P14 F5	9P20 F11	
3P15 G5	9P21 G11	

SSB: PIP Switch

1P50 E2	2P54 F2	2P59 I5	2P65 F9	2P73 E9	2P78 E12	2P86 D1	2P96 F8	3P53 E2	3P60 F5	3P65 H15	3P70 F14	3P79 D4	3P86 C10	3P96 G7	3P98 F7	3P14 B13	3P19 C14	7P52-1 F5	7P55 B6	7P58-2 F7	7P63 B12	9P54 I6	9P73 G9	FP51 G10	FP57 I6	IP52 F5	IP57 E8	IP62 D14	
2P50 E4	2P55 G2	2P60 H6	2P66 F9	2P74 C6	2P76 E7	2P90 E6	3P49 B13	3P54 F2	3P61 E8	3P66 H15	3P72 E14	3P80 C2	3P87 C10	3P97 G7	3P98 F7	3P10 B11	3P15 D4	5P50 D4	7P52-2 G4	7P55 G12	7P58-1 G7	7P61-1 B14	9P59 I13	9P74 G9	FP52 G10	FP58 G15	IP53 E2	IP58 E7	IP63 F12
2P51 E1	2P56 G6	2P61 I6	2P70 E6	2P75 A9	2P80 F14	2P97 H7	3P50 D1	3P55 I6	3P62 H6	3P67 G14	3P74 E15	3P81 D4	3P88 D6	3P96 G5	3P98 F7	3P12 B12	3P16 B14	5P51 E15	7P53-1 G6	7P56-1 G7	7P61-2 C14	9P32 G6	9P70 I13	9P75 I16	FP53 G10	FP60 H6	IP54 E2	IP59 B9	IP64 F12
2P52 F2	2P57 G6	2P62 F6	2P71 E15	2P76 E1	2P81 F14	2P98 G7	3P51 E1	3P56 H5	3P63 H6	3P68 F14	3P75 H6	3P82 D2	3P94 D5	3P99 G6	3P98 F7	3P13 B12	3P17 B14	6P10 F6	7P53-2 H6	7P56-2 H7	7P61-2 C14	9P32 F5	9P71 I13	9P76 B11	FP55 E15	IP50 C2	IP55 G6	IP60 C6	IP74 G4
2P53 F2	2P58 F6	2P63 F7	2P72 E7	2P77 E4	2P87 D2	2P99 A13	3P52 E4	3P57 G6	3P64 H7	3P69 F14	3P76 F5	3P85 F14	3P95 D4	3P97 F7	3P98 F7	3P13 B12	3P18 C14	7P54 G9	7P59-1 G7	7P62 B13	9P53 G5	9P72 F1	FP50 E15	FP56 B10	IP51 E3	IP56 E14	IP61 D9	IP75 F5	

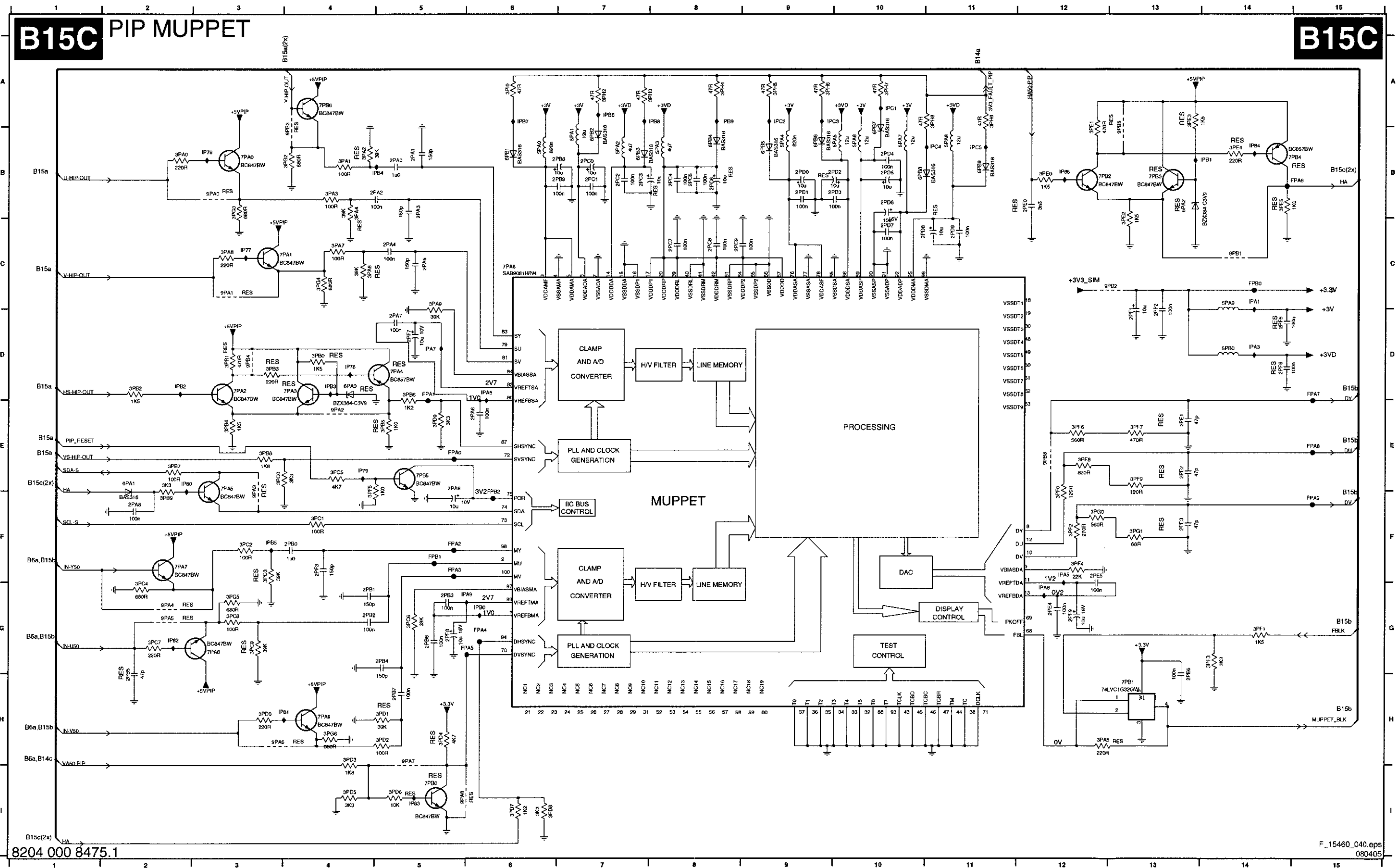
B15B PIP SWITCH

B15B

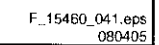


SSB: PIP Muppet

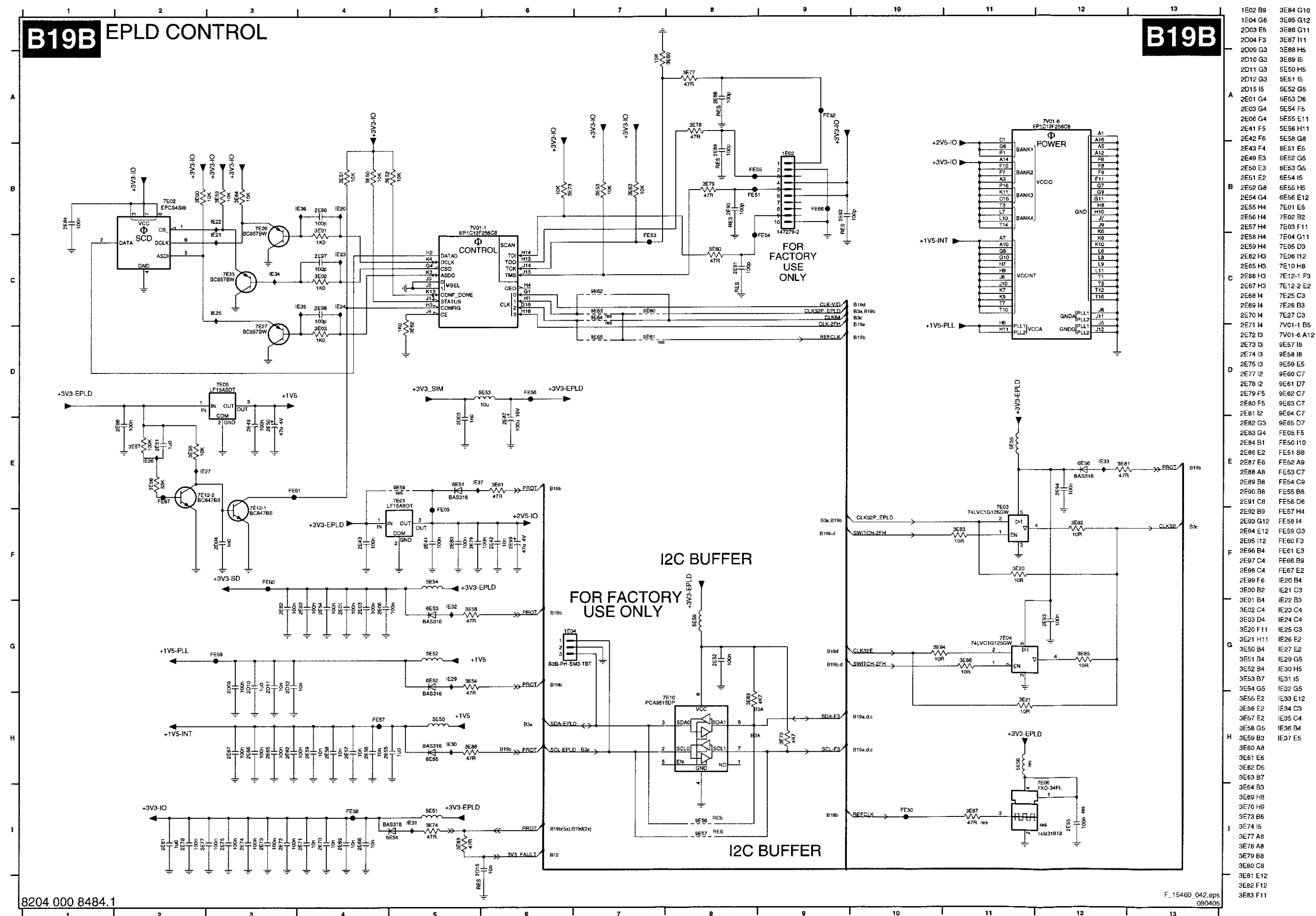
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2PA1 B5	2PA8 F2	2PB5 H2	2PC2 B7	2PC9 C8	2PD6 B10	2PE3 F13	2PF5 D14	3PA2 B4	3PA9 C5	3PB6 D5	3PC3 F3	3PD0 H3	3PD7 I6	3PE4 B14	3PF5 F4	3PG2 B4	3PH4 A8	3PI1 B7	5PA7 B10	6PB1 B6	6PB8 B10	7PA5 E3	7PB2 B12	9PA2 E4	9PB1 C14	FPA1 D5	FPA8 E15	IP78 D4	IP85 B12	IPA9 G6	IPB6 A7	IPC4 B11
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2PA4 C5	2PB1 G4	2PB8 B7	2PC5 B8	2PD2 B10	2PD9 C11	2PE6 H13	2PF8 G5	3PA5 H12	3PB2 D2	3PB9 F2	3PC6 E5	3PD3 H4	3PD0 B12	3PE7 G12	3PF8 E12	3PG5 G3	3PH7 A10	3PI4 B7	5PA0 D4	6PB4 B8	6PB1 B3	7PA8 G3	7PB5 E5	9PA5 G2	9PB4 D3	FPA4 G6	FPB1 F5	IP81 H4	IPA3 F12	IPB9 A8		
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B19A HDI A/D CONVERTER



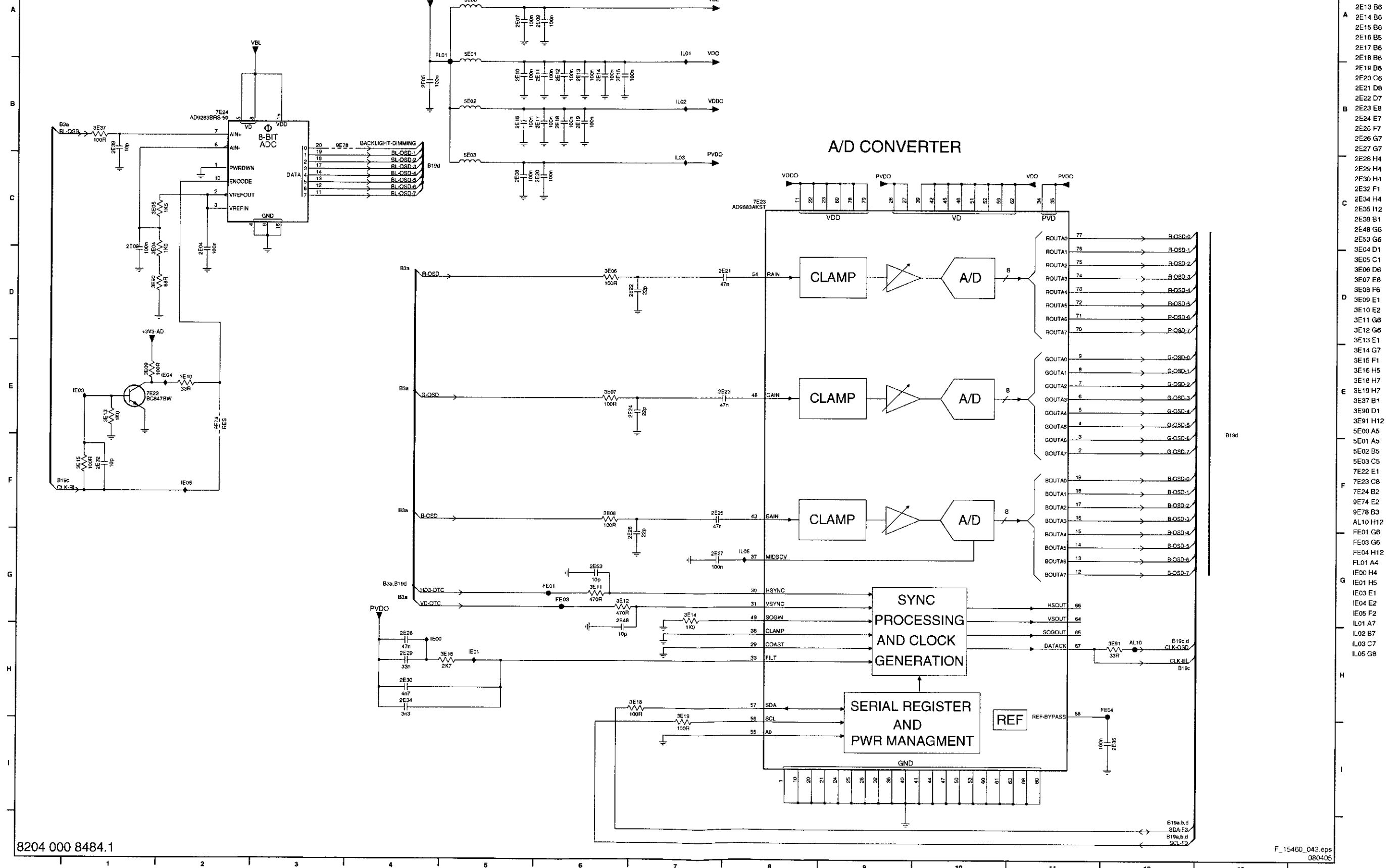
B19B EPLD CONTROL



SSB: EPLD OSD

B19C EPLD OSD

B19C



SSB: Backlight Control

2L22 B3
3L40 A1

3L41 A2
3L42 A3

3L43 B2
3L44 B2

3L45 B2
3L46 B1

3L47 B1
3L48 B3

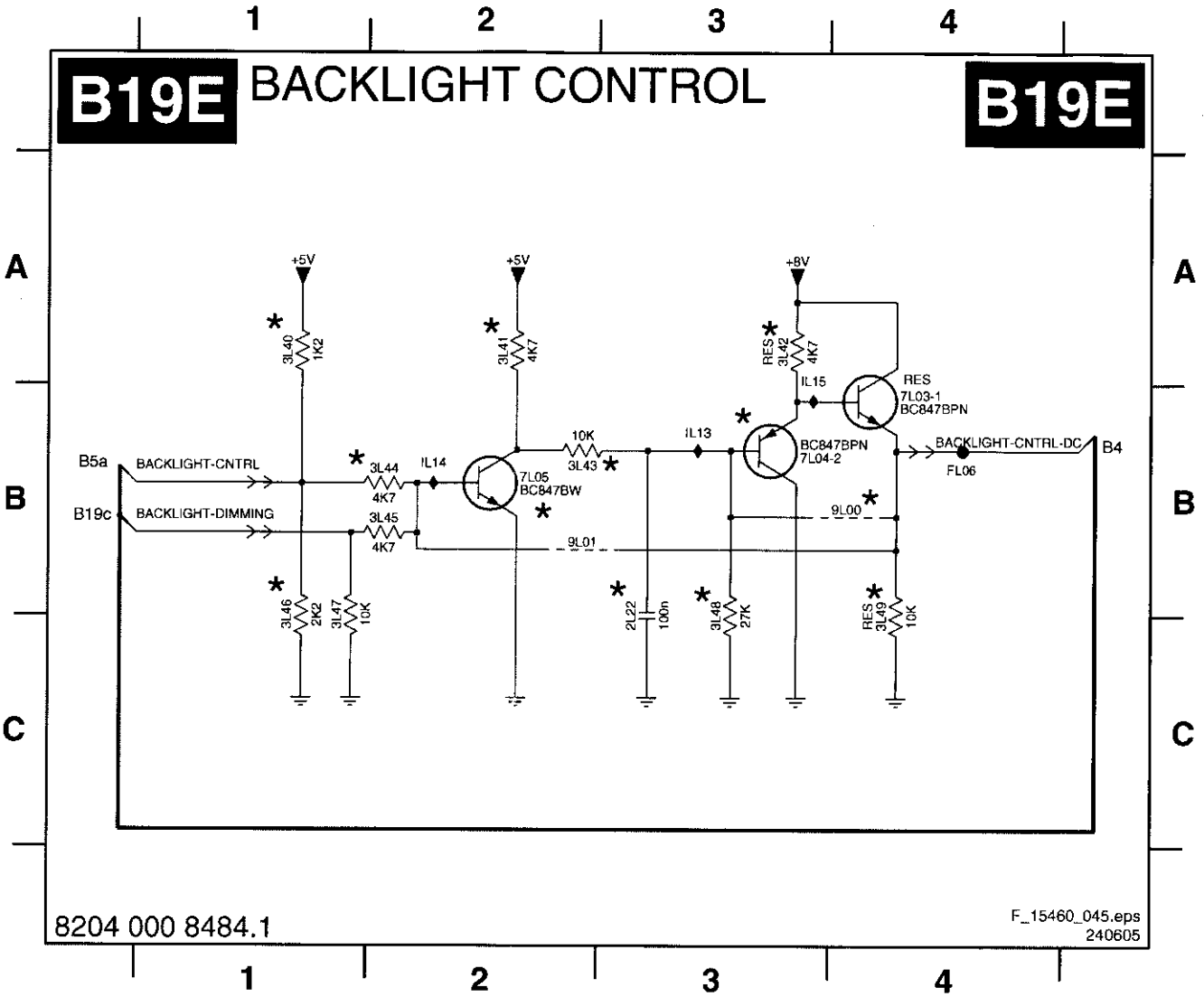
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7L03-1 B4

7L04-2 B3
7L05 B2

9L00 B4
9L01 B2

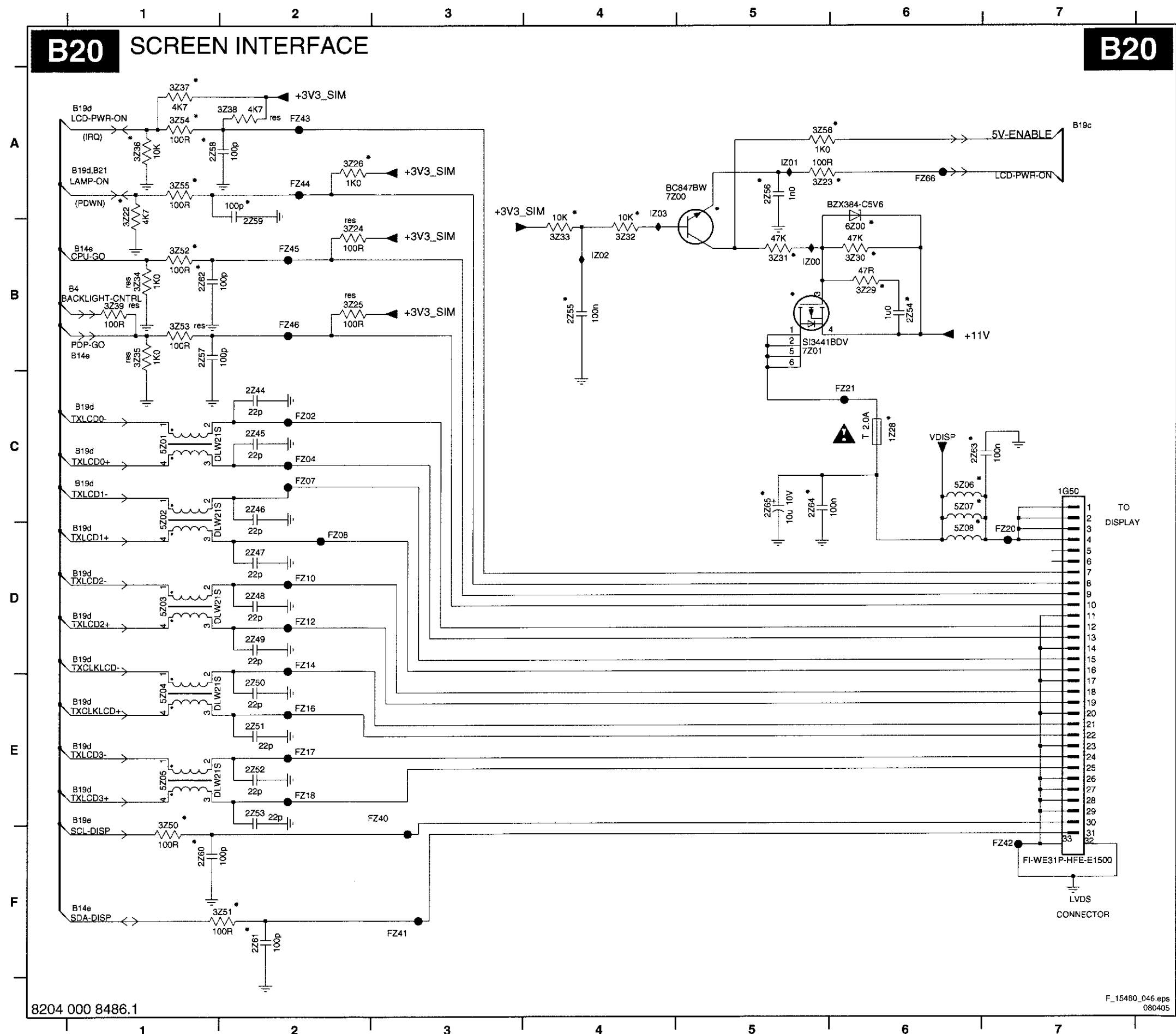
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IL13 B3

IL14 B2
IL15 A3



Personal Notes:

SSB: Screen Interface



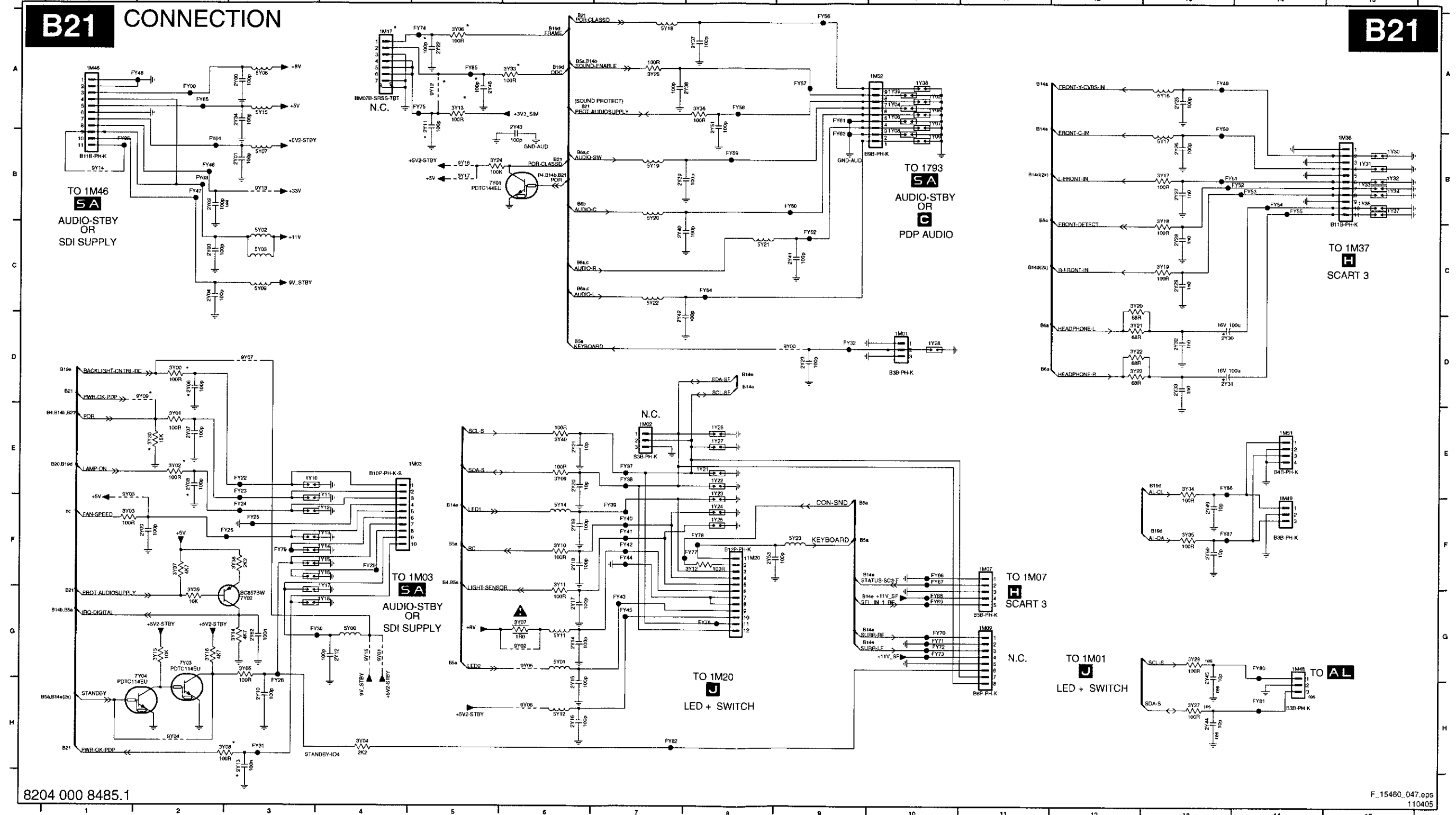
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2Z60 F1	FZ20 D7
2Z61 F2	FZ21 C6
2Z62 B1	FZ40 E3
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2Z64 C5	FZ42 F7
2Z65 C5	FZ43 A2
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3Z56 A5	
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5Z02 C1	
5Z03 D1	
5Z04 E1	

SSB: Connection

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1M02 E7	1M46 A1	1Y05 A10	1Y12 F4	1Y21 E8	1Y28 D10	1Y37 B15	2Y04 C3	2Y12 G4	2Y19 F6	2Y27 B13	2Y34 A3	2Y43 A6	2Y52 G3	3Y05 G3	3Y12 F8	3Y19 C13	3Y27 H13	3Y37 F2	5Y03 C3	5Y15 A3	5Y22 C7	9Y01 G4	9Y08 D2	FY00 A2	FY25 F3	FY37 E7	FY44 F7	FY51 B13	FY58 A8	FY65 A2	FY72 G9	FY79 F3	
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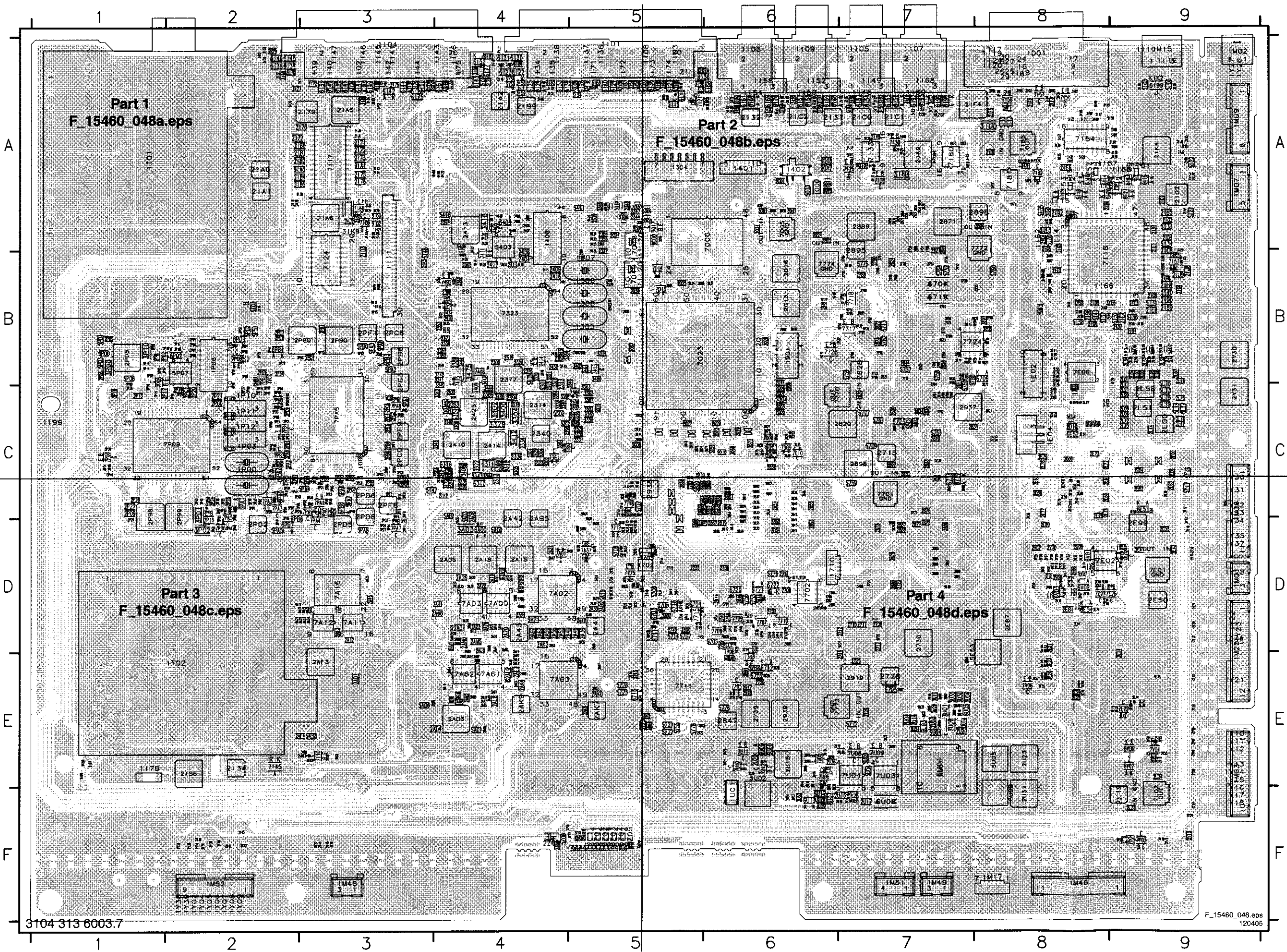
B21



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Layout SSB (Top Side Overview)

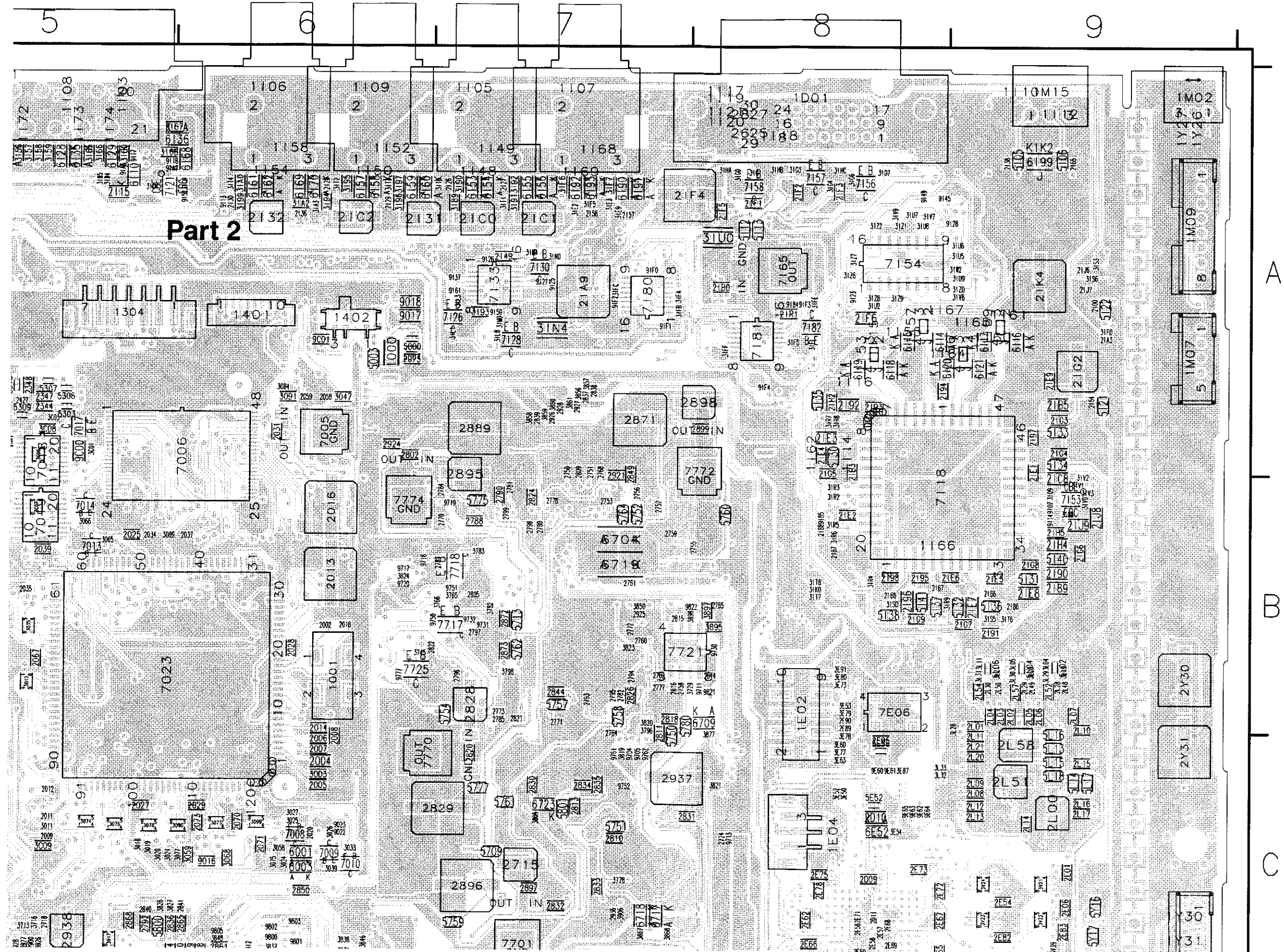


Layout SSB Mapping (Top Side)

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1001 B6	2358 B4	2781 B7	2926 A7	2E23 E8	2I99 A4	2P37 C2	2Y31 C9	3412 C4	3849 D5	3E37 E9	3I1A A8	3PA3 C3	3V23 C9	5I06 A9	6I29 A5	7725 B6	9428 A5	9I51 A7
1304 A5	2359 B5	2782 B7	2927 A7	2E24 E8	2I1A A2	2P38 C2	2Y32 D9	3413 B4	3850 B7	3E50 C8	3I1B A8	3PA4 C3	3V24 C9	5I12 A8	6I30 A4	7770 C6	9700 D6	9I59 A7
1305 B5	2360 B5	2784 B7	2928 A7	2E25 E8	2I1A A2	2P39 C2	2Y33 D9	3416 A4	3851 D5	3E52 C8	3I1C A8	3PA5 C2	3V25 D8	5I13 A8	6I31 A4	7772 B8	9703 D5	9I60 A3
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2011 C5	2441 D7	2854 D6																



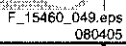
Layout SSB (Top Side Part 2)



F



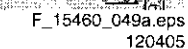
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Layout SSB Mapping (Bottom Side)

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2769 B3 2108 A8 2P93 C9 2Y27 C1 3351 C6 3884 D3 3149 A2 31V5 A2 3P16 C7 3Z30 E5 6E53 D1 7103 A4 9406 B6 9198 A2
2786 B4 2109 A1 2P94 C9 2Y28 D1 3352 C6 3894 A3 3185 A3 31V6 A2 3P17 C7 3Z31 E5 6E55 D2 7104 A4 9407 B6 9199 F6
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2791 A3 2111 A4 2P96 C8 2Y34 F2 3355 C6 3900 B3 31A1 A5 31W3 A6 3P19 C7 3Z33 E5 6101 A3 7107 A3 9413 B6 91A4 A5
2793 A3 2112 A5 2P97 C7 2Y48 F2 3356 C6 3901 C3 31A4 A8 31W7 A2 3T03 A9 3Z36 E5 6103 E8 7108 A6 9415 B6 91A5 A5

Personal Notes:

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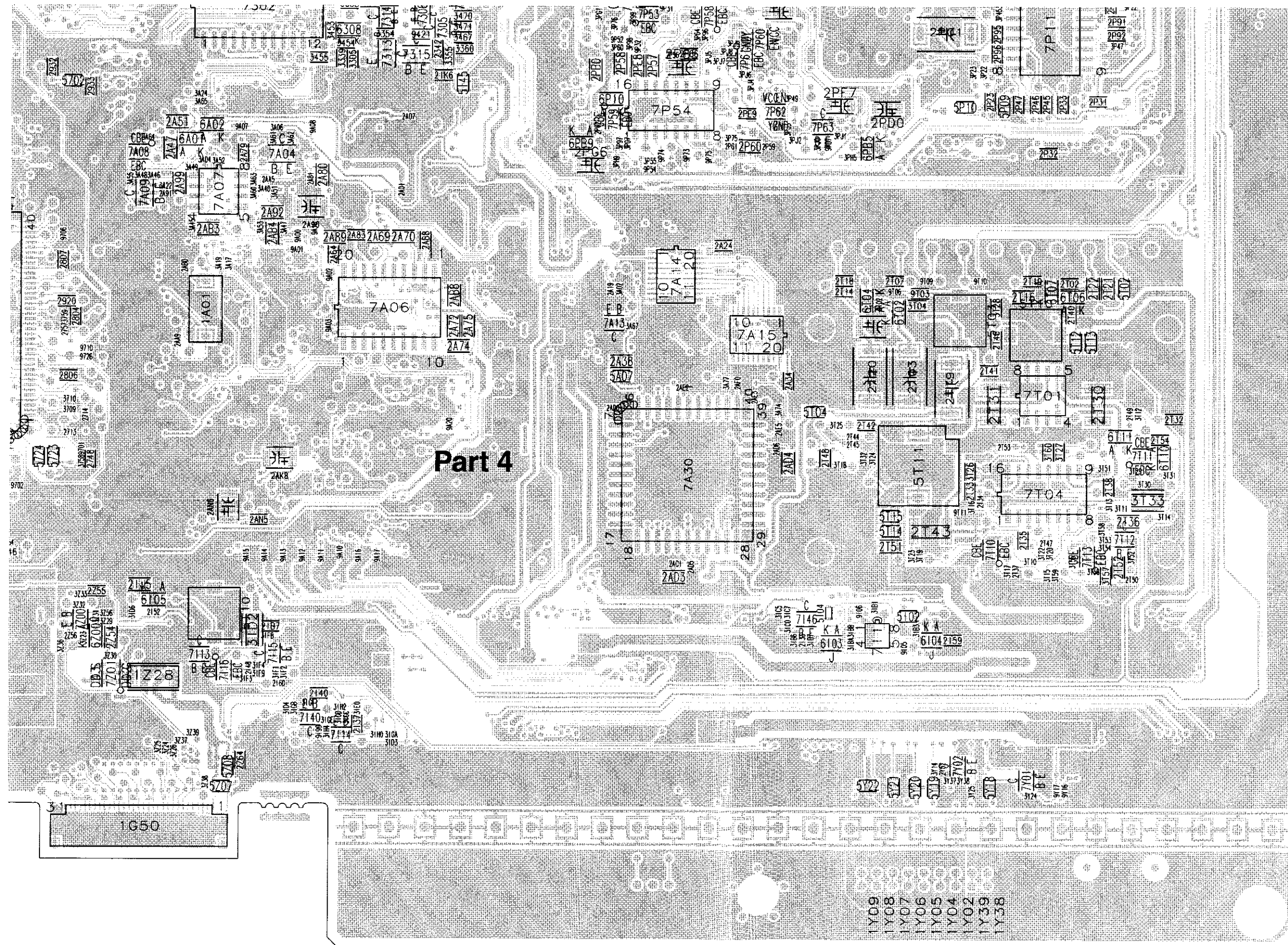
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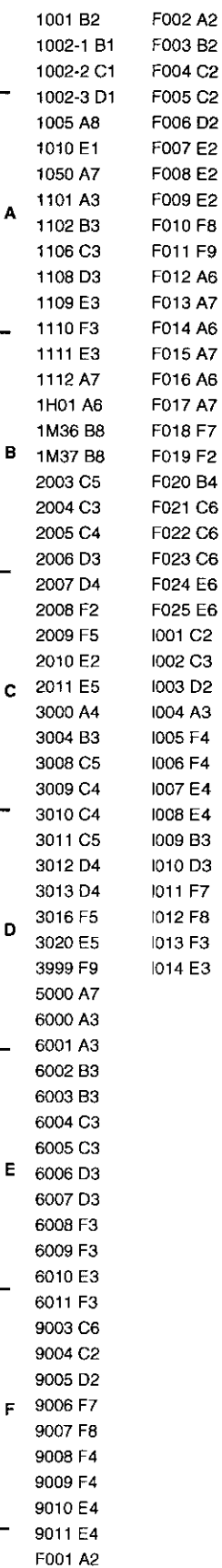
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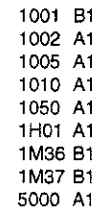
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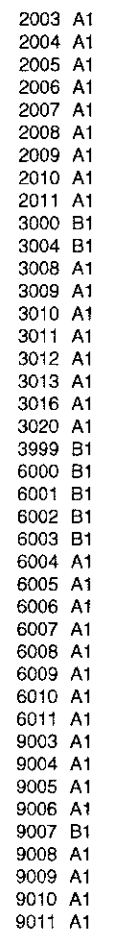
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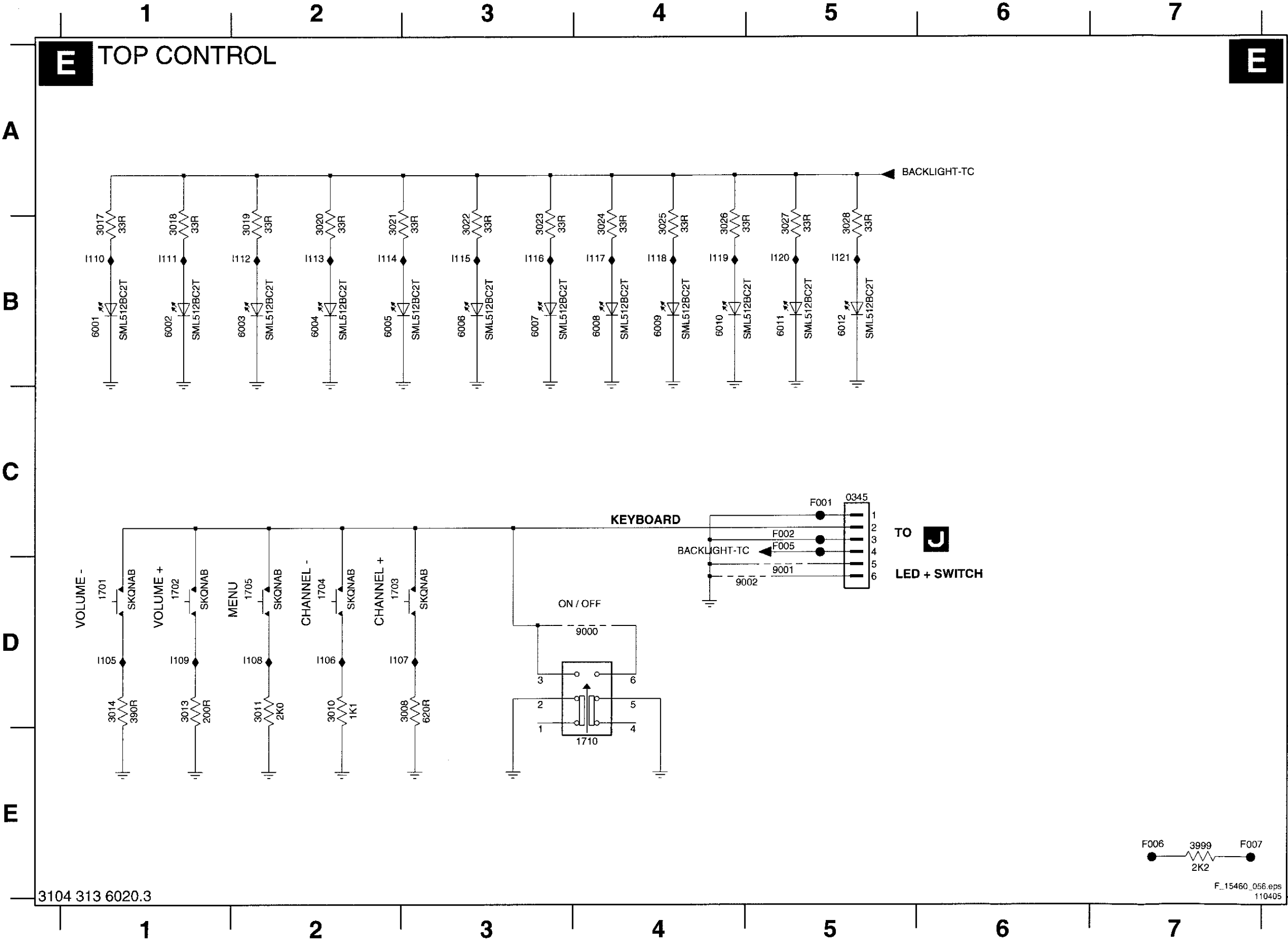
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1



Top Control Panel

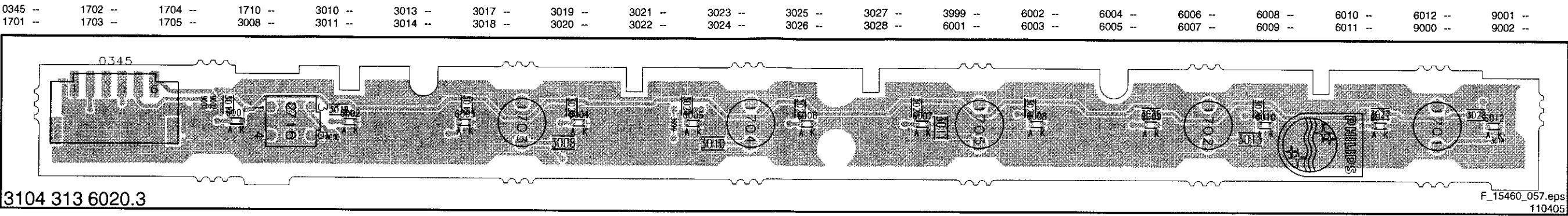


- 0345 C5
- 1701 D1
- 1702 D1
- 1703 D2
- 1704 D2
- 1705 D2
- 1710 E4
- 3008 D3
- 3010 D2
- 3011 D2
- 3013 D1
- 3014 D1
- 3017 B1
- 3018 B1
- 3019 B2
- 3020 B2
- 3021 B2
- 3022 B3
- 3023 B3
- 3024 B4
- 3025 B4
- 3026 B4
- 3027 B5
- 3028 B5
- 3999 E7
- 6001 B1
- 6002 B1
- 6003 B2
- 6004 B2
- 6005 B2
- 6006 B3
- 6007 B3
- 6008 B4
- 6009 B4
- 6010 B4
- 6011 B5
- 6012 B5
- 9000 D4
- 9001 D5
- 9002 D5
- F001 C5
- F002 C5
- F005 C5
- F006 E7
- F007 E7
- I105 D1
- I106 D2
- I107 D2
- I108 D2
- I109 D1
- I110 B1
- I111 B1
- I112 B2
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- I121 B5

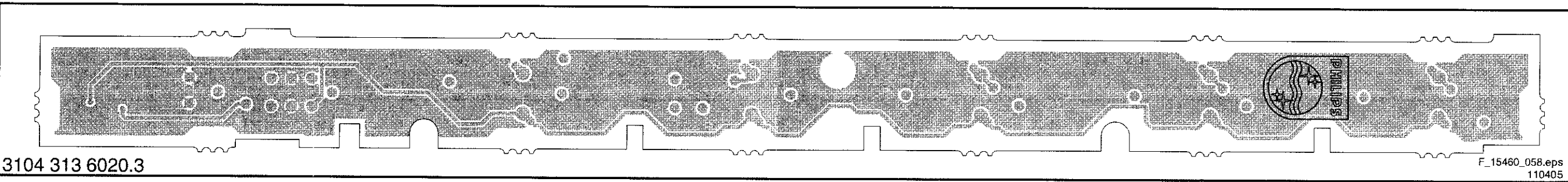
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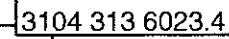
Layout Top Control Panel (Top Side)



Layout Top Control Panel (Bottom Side)



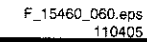
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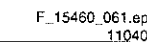
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0244	B316	9516 H8
1003 B1	9517 H7	
1005 C13	9521 G7	
1500 B3	F500 B2	
1501 C2	F501 C2	
1502 C3	F502 C2	
1504 F2	F503 E2	
1505 E2	F510 A12	
1506 E3	F512 B12	
1507 C2	F513 B13	
1508 C2	F514 B12	
1509 B2	F515 B13	
1510 E2	F516 B12	
1511 B2	F517 C13	
1512 C2	F518 C12	
1513 D2	F519 C12	
1514 F2	F520 E5	
1515 F12	F521 F1	
1M36 F1	F522 F1	
1M37 F12	F523 F12	
2500 A4	F524 F2	
2501 B3	F525 F12	
2502 C4	F526 F12	
2503 C3	F527 G1	
2504 E6	F528 G2	
2505 C5	F529 G1	
2506 D6	F530 G12	
2507 A9	F531 A12	
2508 A9	F532 A5	
2509 G6	F536 A9	
2510 D4	F538 D2	
2511 D9	F539 B5	
2512 E8	F540 C5	
2513 F9	F541 D7	
2515 E5	F542 E5	
2516 F9	F543 F5	
2517 B5	F544 B10	
2520 B12	F545 C10	
2521 C12	F546 D12	
2522 C12	F547 D12	
2523 D11	F548 D13	
2524 D12	F549 F12	
3500 A3	I503 A3	
3501 A3	I504 C2	
3502 B4	I505 A4	
3503 C3	I508 B3	
3504 C3	I516 C3	
3505 C4	I518 C4	
3506 C2	I519 C3	
3507 D2	I549 C2	
3508 E2	I550 D2	
3509 E3	I551 D2	
3510 F3	I552 E2	
3511 A8	I560 B5	
3512 A6	I562 C5	
3513 A7	I564 B7	
3514 A7	I565 C7	
3515 A7	I570 E5	
3516 A8	I571 E6	
3517 E8	I572 E7	
3522 D3	I573 F7	
3523 E8	I575 E7	
3524 E9	I576 B6	
3525 E9	I577 C6	
3526 D3	I578 E8	
3527 F8	I579 E7	
3528 B6	I580 E9	
3529 B9	I581 E8	
3530 B12	I582 F6	
3531 C12	I583 F9	
3532 D12		c001 F7
3533 D12		
3534 D12		
3535 F9		
3536 D6		
3543 E3		
3999 F1		
6500 B3		
6501 B3		
6502 C3		
6503 C3		
6504 E8		
6505 F2		
6506 F2		
6507 D2		
6508 A8		
7501 E9		
7502 F9		
7515 B6		
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9501 E7		
9502 D7		
9503 B12		
9504 D12		
9506 C12		
9506 A12		

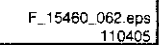
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2501	A4	2506	A1	2511	A1	2517	A1	2524	A3	3504	A4	3509	A3	3514	A4	3523	A1	3528	A1	3533	A3	3999	A1	6504	A1	7501	A1	9502	A2	9508	A3		
2502	A4	2507	A4	2512	A1	2520	A3	3500	A4	3505	A4	3510	A3	3515	A4	3524	A1	3529	A1	3534	A3	6500	A4	6505	A3	7502	A1	9503	A3	9516	A2		
2503	A4	2508	A4	2513	A1	2521	A3	3501	A4	3506	A4	3511	A4	3516	A4	3525	A1	3530	A3	3535	A1	6501	A4	6506	A3	7515	A2	9504	A3	9517	A2		
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LED & SWITCH PANEL



1

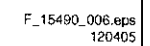


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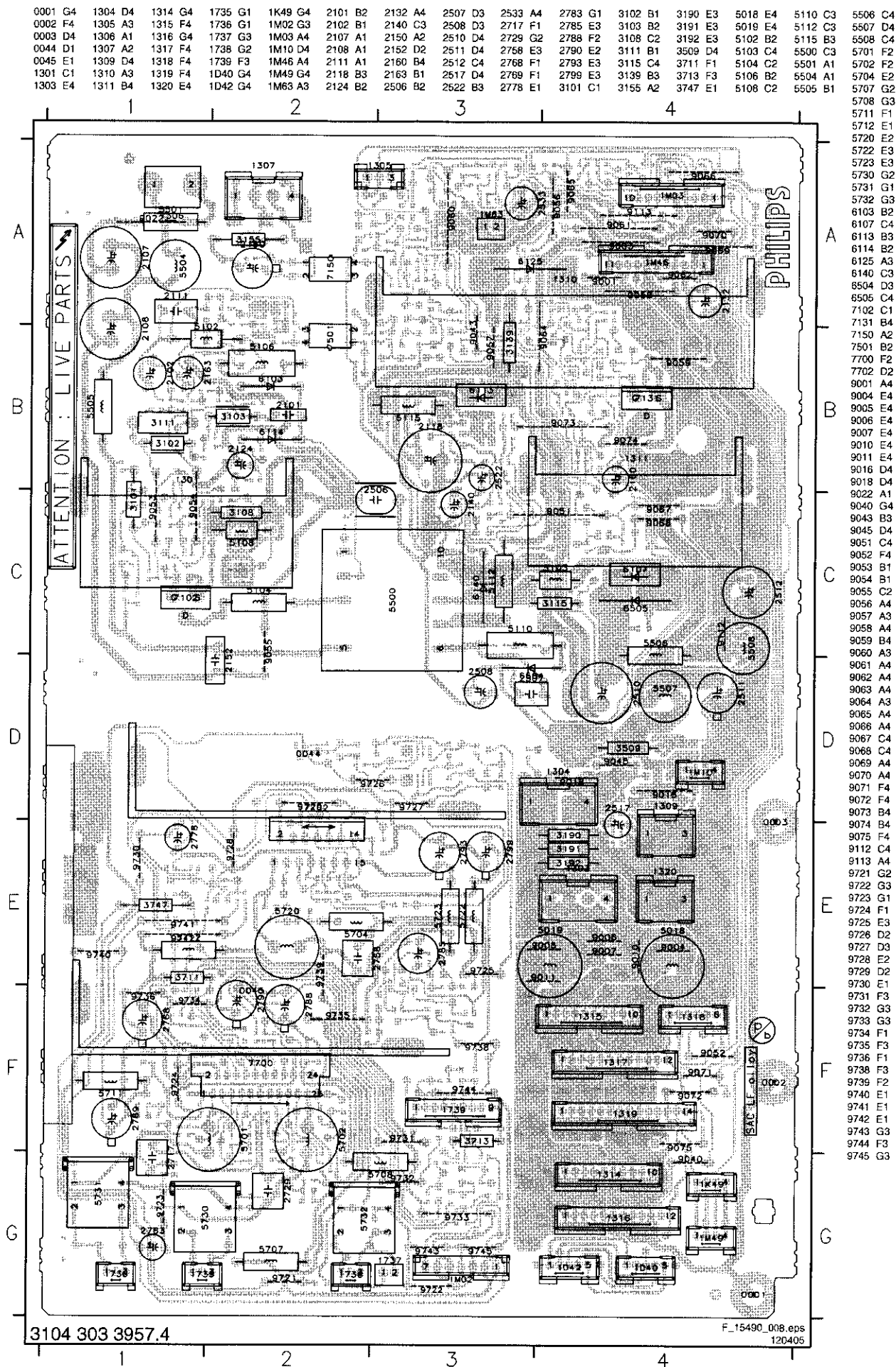
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SA2 STANDBY

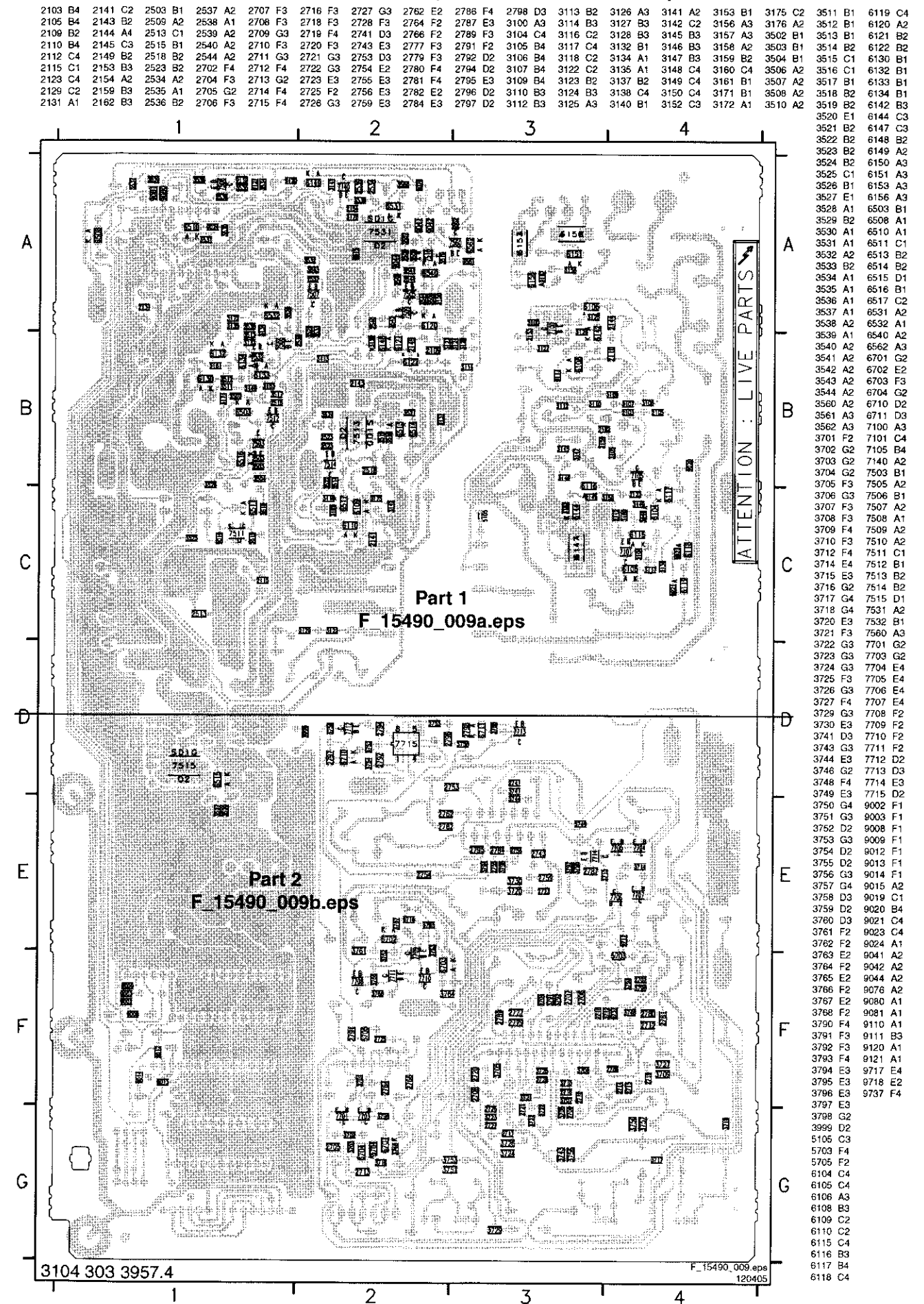


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1310 A13	3510 F12	7531 E10	1890 G1
1311 A12	3511 C8	7532 D9	1911 G4
1312 D1	3512 A9	7533 E12	1912 H9
1312 F1	3513 D9	9015 E11	1917 C9
1320 D2	3514 A7	9015 A7	1917 D7
1320 E2	3515 A8	9020 C3	1918 D4
1327 B4	3516 A9	9021 B3	1901 F6
1328 B4	3517 A1	9022 B3	1902 F6
1328 F7	3518 A7	9023 C2	1903 F6
1329 D1	3519 A8	9024 D13	1904 D13
1311 E2	3521 B7	9110 H6	1904 G12
1312 E3	3522 A9	9111 D1	1905 F12
1315 E6	3523 A9	9112 E9	1907 F13
1318 D7	3524 A10	9120 B11	1908 A8
1323 E4	3528 C11	9121 B12	1909 A9
1324 H2	3529 C11	9100 E4	1910 A9
1325 D1	3530 C12	9123 B8	1911 A10
1331 C10	3531 C13	F123 B3	1912 H9
1332 C10	3532 C12	F125 E2	1913 D1
1340 G8	3533 D12	F126 E12	1914 E6
1341 D7	3534 H9	F127 H3	1915 E9
1343 D7	3535 H9	F128 H4	1916 D9
1344 F2	3536 H10	F129 H4	1917 C13
1345 G3	3537 H9	F130 H4	1918 B7
1348 G1	3538 F9	F133 H7	1919 B6
1350 H5	3539 H10	F134 H8	1920 A8
1352 B4	3540 G12	1100 B4	1921 A8
1353 F5	3541 G12	1101 B6	1922 A9
1354 G9	3542 H12	1102 B6	1923 A9
1358 E2	3543 D12	1103 C9	
1359 D2	3544 G12	1104 C9	
1362 D2	3560 E12	1105 B6	
1363 G1	3561 F12	1105 C10	
2503 D10	3562 E12	1107 C8	
2506 D5	3999 H7	1108 C8	
2507 C6	5102 E1	1109 C11	
2508 C6	5103 E6	1110 C2	
2508 E12	5104 C5	1111 C3	
2510 E7	5105 E12	1112 C9	
2511 B9	5106 D1	1113 C4	
2512 E9	5108 D4	1114 C6	
2513 E7	5110 B6	1115 C11	
2515 A10	5112 D6	1116 C10	
2518 A8	5115 B8	1117 C12	
2522 A9	5500 C5	1118 C5	
2523 A9	5501 B3	1119 C4	
2533 F11	5504 B3	1220 C6	
2534 E8	5506 B4	1221 C12	
2535 D9	5506 E8	1222 C1	
2536 D11	5507 B10	1223 C6	
2537 D13	5508 E9	1224 C5	
2538 H8	6103 B1	1225 B6	
2539 E8	6104 C2	1226 D9	
2540 H12	6105 D3	1227 C4	
2544 G12	6106 F2	1228 D7	
3100 G3	6107 E7	1229 D7	
3101 D2	6108 E2	1320 G3	
3102 E2	6108 A8	1331 C2	
3103 D2	6110 D2	1332 D4	
3104 D3	6113 C7	1333 D4	
3105 D2	6114 G1	1334 D2	
3106 E1	6115 D3	1335 D3	
3107 F1	6116 F4	1336 D2	
3108 D4	6117 C2	1337 E7	
3108 F1	6118 C2	1338 E7	
3110 G1	6118 G3	1339 E12	
3111 D1	6120 G7	1340 C1	
3112 G1	6121 G7	1341 D2	
3113 E7	6122 F7	1342 D2	
3114 F8	6125 B8	1343 D2	
3115 E6	6130 C9	1344 D2	
3116 A7	6132 C9	1345 D3	
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3118 A7	6134 C9	1347 E1	
3122 B6	6140 D6	1348 E10	
3123 F7	6142 F2	1349 E7	
3124 F7	6144 E12	1350 E12	
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3126 F3	6148 F8	1352 F12	
3127 F3	6149 F9	1353 E1	
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3132 D9	6151 G4	1355 E3	
3134 C10	6153 H5	1356 E4	
3135 C9	6156 G5	1357 F6	
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3138 E2	6504 B6	1359 F8	
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3141 F9	6510 C13	1362 E1	
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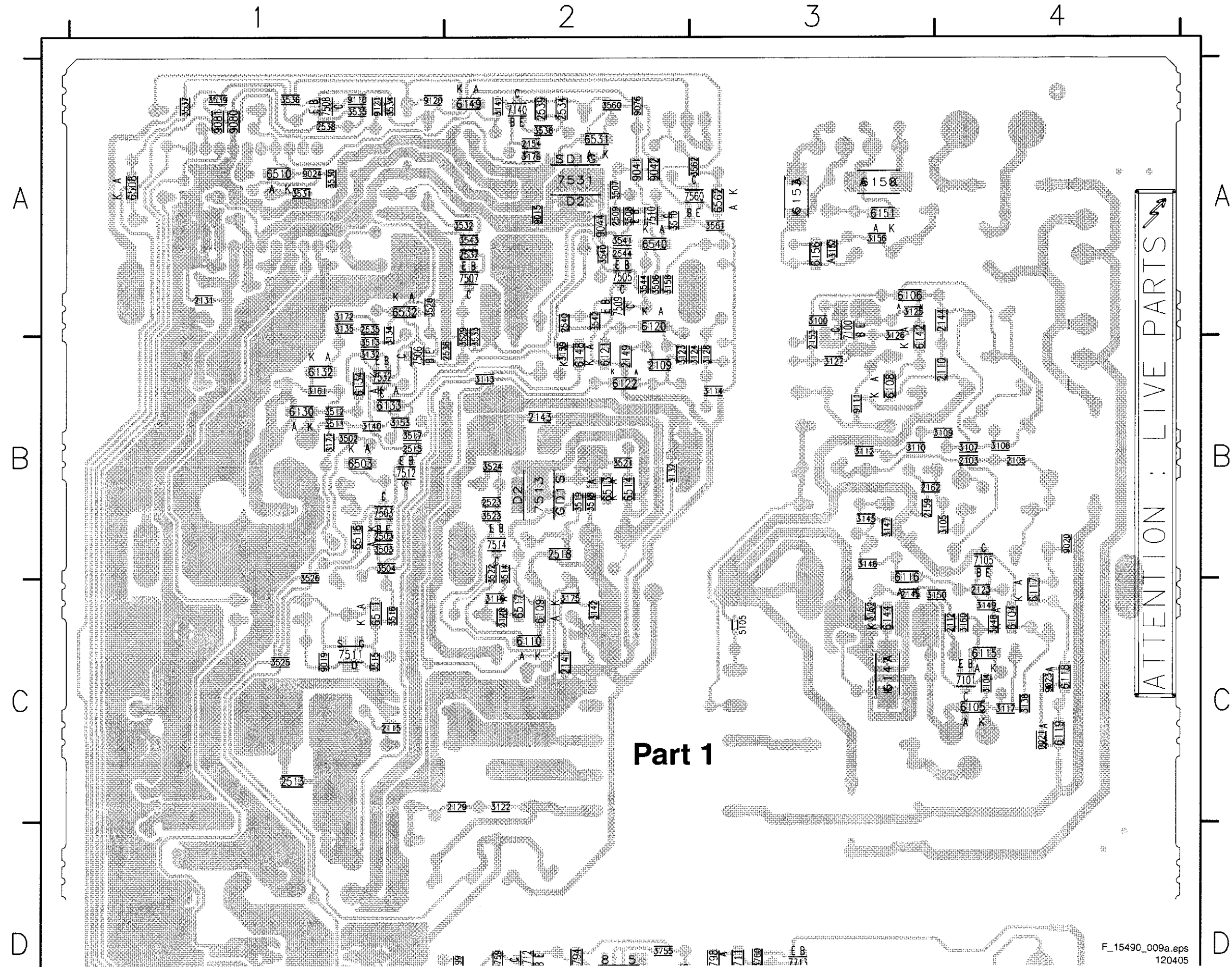
Layout LCD Standby & Audio Panel (Top Side)



Layout LCD Standby & Audio Panel (Overview Bottom Side)

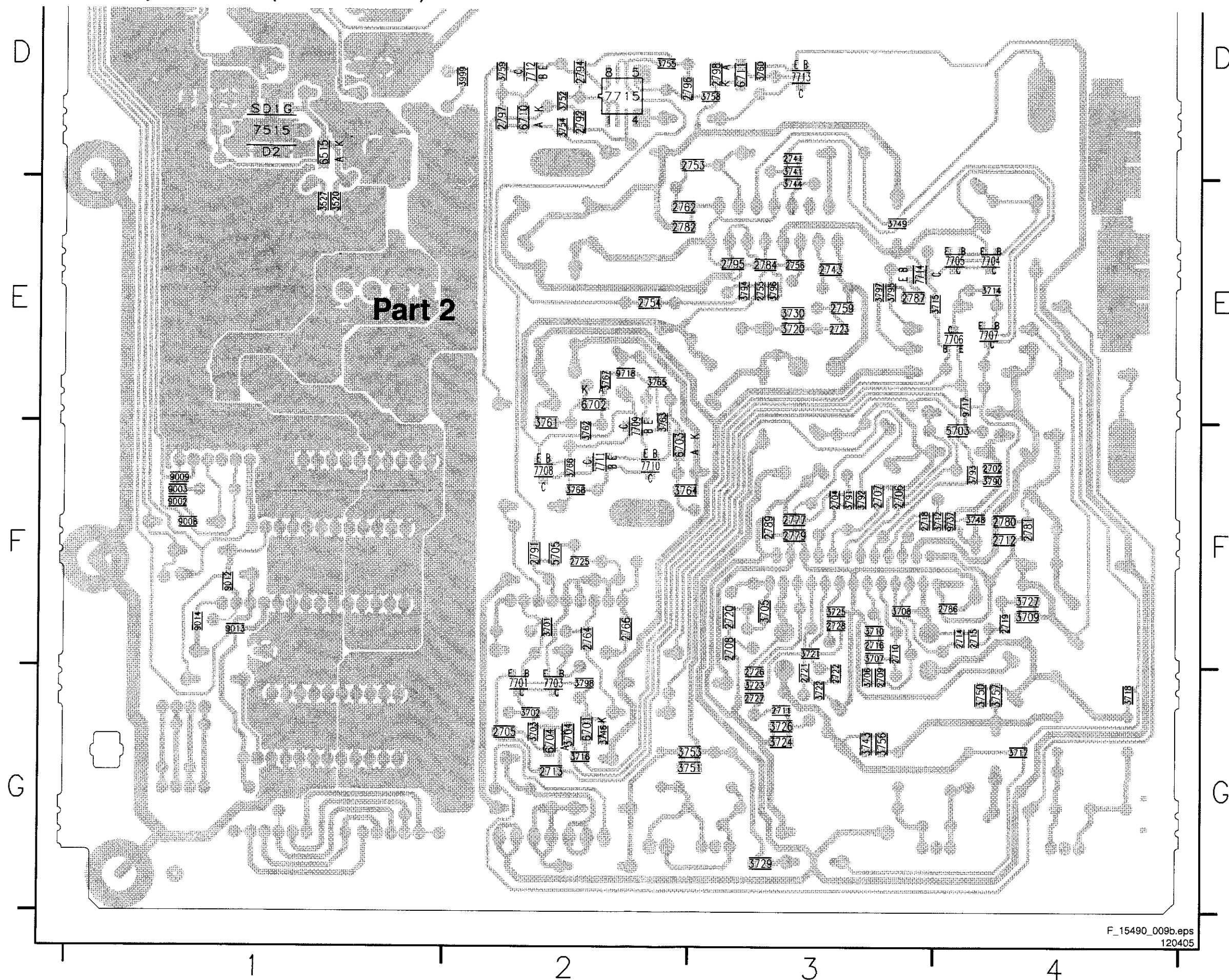


Layout LCD Standby & Audio Panel (Part 1 Bottom Side)



Part 1

Layout LCD Standby & Audio Panel (Part 2 Bottom Side)



8. Alignments

Index of this chapter:

- 8.1 General Alignment Conditions
- 8.2 Hardware Alignments
- 8.3 Software Alignments
- 8.4 Option Settings

Note: 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

8.1.1 Start Conditions

Perform all electrical adjustments under the following conditions:

- Power supply voltage (depends on region):
 - **AP-NTSC:** 120 V_{AC} or 230 V_{AC} / 50 Hz (± 10%).
 - **AP-PAL-multi:** 120 - 230 V_{AC} / 50 Hz (± 10%).
 - **EU:** 230 V_{AC} / 50 Hz (± 10%).
 - **LATAM-NTSC:** 120 - 230 V_{AC} / 50 Hz (± 10%).
 - **US:** 120 V_{AC} / 60 Hz (± 10%).
 - Connect the set to the mains via an isolation transformer with low internal resistance.
 - Allow the set to warm up for approximately 15 minutes.
 - Measure voltages and waveforms in relation to chassis ground (with the exception of the voltages on the primary side of the power supply).
- Caution:** never use heatsinks as ground.
- Test probe: R_i > 10 Mohm, C_i < 20 pF.
 - Use an isolated trimmer/screwdriver to perform alignments.

8.1.2 Initial Settings

Perform all electrical adjustments with the following initial settings (via the "Active Control" button on the RC):

1. To avoid the working of the lightsensor, set "Active Control" to "Off".
2. Set "Smart Picture" to "Natural".
3. Set "Active Display" to "Off"

8.1.3 Alignment Sequence

- First, set the correct options:
 - In SAM, select SERVICE OPTIONS -> OPT. NO,
 - Fill in the option settings according to the set sticker (see also paragraph "Option Settings"),
 - Select STORE OPTIONS and push "OK" on the remote control,
 - After storing, the set must be restarted!
- Warming up (>10 minutes).
- White-D alignment.

8.2 Hardware Alignments

8.2.1 Backlight Voltage Alignment

Switch the set "on" and measure the voltage between pin 1 of connector 1304 and pin 1 of connector 1309 (ground). Align potmeter R3026 until this voltage is 12 V_{DC} +/- 0.1 V.

Caution: This voltage must be aligned very precisely. When it is too high, it can destroy the inverters, but when it is too low, the backlight will not start up.

8.3 Software Alignments

Put the set in SAM mode (see the "Service Modes, Error Codes and Fault Finding" section). The SAM menu will now appear on the screen. Select ALIGNMENTS and go to one of the sub menus. The alignments are explained below.

Notes:

- All changes must be stored manually.
- If an empty EAROM (permanent memory) is detected, all settings are set to pre-programmed default values.

8.3.1 General

For the next alignments, supply the following test signals via a video generator to the RF input:

- **EU/AP-PAL** models: a PAL B/G TV-signal with a signal strength of at least 1 mV and a frequency of 475.25 MHz
- **US/AP-NTSC** models: an NTSC M/N TV-signal with a signal strength of at least 1 mV and a frequency of 61.25 MHz (channel 3).
- **LATAM** models: an NTSC M or PAL M TV-signal with a signal strength of at least 1 mV and a frequency of 61.25 MHz (channel 3).

Luma Gain

Fixed setting of "1".

IF AFC

Alignment procedure:

1. During the IF AFC-parameter adjustment, one can see OSD feedback on the screen.
2. The OSD feedback can give 4 kinds of messages:
3. The first item ("IN/OUT") informs you whether you are in or out of the AFC-window.
4. The second item ("HIGH/LOW") informs you whether the AFC-frequency is too high or too low.

Table 8-1 AFC

AFC-window	AFC-frequency vs. reference
Out	High
In	High
[In]	[Low]
Out	Low

1. Adjust the IF AFC parameter until the **first** value is within the AFC window (= IN).
2. Next, adjust the IF AFC parameter until the **second** value is LOW.

IF Lprime AFC

Same procedure as described above, but with SECAM L/L' signal source.

Tuner AGC

Measure the DC voltage on pin 1 of the (main) Tuner. You can adjust this voltage by adjusting the TUNER AGC item in the SAM menu. Alignment is correct when the DC voltage is just below 3.5 V.

Blend Intensity

Use this alignment when you replace the microcontroller, NVMM, or the EBILD. It aligns the level of transparency of the menu-picture blended into the main-picture. Fixed setting of "16".

8.3.2 2fh ADC Alignment

Only necessary to set, when the A/D convertor or NVM is replaced. Use the default values as mentioned in the table.

Table 8-2 "2fh ADC alignment"

Menu item	Value
Red Gain RGB	106
Blue Gain RGB	112
Green Gain RGB	133
Red Offset RGB	40
Blue Offset RGB	41
Green Offset RGB	43
Red Gain YPbPr *	115
Blue Gain YPbPr *	118
Green Gain YPbPr *	102
Red Offset YPbPr *	59
Blue Offset YPbPr *	56
Green Offset YPbPr *	35
* = only for sets with YPbPr input	

8.3.3 White D Alignment

- Set ACTIVE CONTROL to "Off" (via RC).
- In the TV -> PICTURE user menu set:
 - DYNAMIC CONTRAST to "Off".
 - COLOUR ENHANCEMENT to "Off".
 - COLOUR to "0".
 - CONTRAST to "100".
 - BRIGHTNESS to "43".
- Go to the SAM and select ALIGNMENTS -> WHITE POINT.

Method 1 (with colour analyser):

- Use a 100% white screen as input signal and set the following values:
 - COLOR TEMPERATURE: "Tint to be aligned".
 - WHITEPOINTRED: "127".
 - WHITEPOINTGREEN: "127".
 - WHITEPOINTBLUE: "127".
 - RED BL OFFSET: "7".
 - GREEN BL OFFSET: "7".
- Measure with a calibrated (phosphor- independent) colour analyser in the centre of the screen. Use a contactless analyser (e.g. Minolta CA-210) to align an LCD TV. The colour analyser may not touch the screen surface. Consequently, the measurement needs to be done in a dark environment.

Note: The colour analyser needs to be calibrated for LCD!
- Adjust, by means of decreasing the value of one or two whitepoints, the correct x,y coordinates (see table "White D alignment values"). Tolerance: dx,dy: ± 0.004 .
- Repeat this step for the other Colour Temperatures that need to be aligned.
- When finished press "Store" to store the aligned values to the NVM.

Table 8-3 White D alignment values

Coordinates	Cool	Normal	Warm
X	0.276	0.287	0.314
Y	0.281	0.292	0.320

Method 2 (without colour analyser):

If you do not have a colour analyser, you can use the default values. This is the next best solution. The default values are average values coming from production (statistics).

- Select a COLOUR TEMPERATURE (e.g. COOL, NORMAL, or WARM).
- Set the RED, GREEN and BLUE default values according to the values in the "Tint settings" table.
- When finished press "Store" to store the aligned values to the NVM.

Table 8-4 Tint settings

	Cool	Normal	Warm
White Point R	127	127	127
White Point G	126	123	116
White Point B	112	104	86

8.3.4 Lum. Del.

With this Luminance Delay alignment, you place the luminance information exactly on the chrominance information (brightness is pushed onto the colour). Use a colour bar / grey scale pattern as test signal.

- Lum. Delay PAL BG:** Apply a PAL BG colour bar / grey scale pattern as a test signal. Adjust this parameter until the transients of the colour part and black and white part of the test pattern are at the same position. Default value is "7".
- Lum. Delay PAL I:** Apply a PAL I colour bar/grey scale pattern as a test signal. Adjust this parameter until the transients of the colour part and black and white part of the test pattern are at the same position. Default value is "9".
- Lum. Delay SECAM:** Apply a SECAM colour bar/grey scale pattern as a test signal. Adjust this parameter until the transients of the colour part and black and white part of the test pattern are at the same position. Default value is "9".
- Lum. Delay Bypass:** apply a NTSC colour bar/greyscale pattern as a test signal. Adjust this value until the transients of the colour and black and white part of the test area are at the same position. Default value is "6".

8.4 Option Settings

8.4.1 Introduction

The microprocessor communicates with a large number of I²C ICs in the set. To ensure good communication and to make digital diagnosis possible, the microprocessor has to know which ICs to address. The presence / absence of these specific ICs (or functions) is made known by the option codes.

Notes:

- After changing the option(s), save them with the STORE command.
- The new option setting is only active after the TV is switched "off" and "on" again with the Mains switch (the EAROM is then read again).

8.4.2 Dealer Options

Table 8-5 Dealer option overview

Menu name	Subjects	Options	Description
Personal Options	Picture Mute	Yes	Picture (blue) mute active in case no picture detected
		No	Noise in case of no picture detected
	Virgin Mode	Yes	TV starts up (once) with language selection menu after mains switch "on" for the first time (virgin mode)
		No	TV does not starts up (once) with language selection menu after mains switch "on" for the first time (virgin mode)
	Auto Store Mode (only for EU and AP-PAL/M sets)	None	Autostore mode disabled (not in installation menu)
		PDC-VPS	Autostore mode via ATS (PDC/VPS) enabled
		TXT page	Autostore mode via ACI enabled
		PDC-VPS-TXT	Autostore mode via ACI or ATS enabled
	TXT Preference (only for EU and AP-PAL sets)	TOP	Preference to TOP Teletext
		FLOF	Preference to FLOF Teletext
	DVD door lock (only for sets with integrated DVD)	Yes	To disable the DVD tray opening function
		No	To enable the DVD tray opening function
	AmbiLight Demo (only when AmbiLight option is "on")	Yes	Activation of AmbiLight demo via local "MENU" button possible
		No	Activation of AmbiLight demo via local "MENU" button not possible

8.4.3 Service Options

Select the sub menu's to set the initialisation codes (options) of the set via text menus.

Table 8-6 Service option overview

Menu-item	Subjects	Options	Description
Dual Screen	PIP/Dual Screen	Yes / No	Feature present / not present
	Text/EPG	Yes / No	Feature present / not present
	DS/PIP Tuner	Yes / No	Feature present / not present (only selectable if PIP/Dual Screen option is "on")
Teletext	NexTView type	None	Feature not present
		Textguide only	Feature present, but only as text guide
		Nextview 2c3	Feature present, for countries that support NexTView
Display	Screen (the used display code is also printed on the option code sticker inside the set)	Value "000"	42 inch PDP SDI
		Value "001"	50 inch PDP SDI
		Value "002"	42 inch PDP FHP
		Value "003"	30 inch LCD LPL
		Value "004"	37 inch LCD LPL
		Value "005"	42 inch LCD LPL
		Value "006"	32 inch LCD Sharp
		Value "007"	42 inch PDP SDI VGA
		Value "008"	37 inch PDP FHP
Video Repro	Feature box type	1050i/1250i	HD input
		Eagle 1B	"Eagle version 1B" present (Pixel Plus 1)
		Eagle 1C	"Eagle version 1C" present (Pixel Plus 2)
	Lightsensor	Yes / No	Feature present / not present
	3D Comb filter	Yes / No	Only selectable when Columbus is present
	Improved Noise Reduction	Yes / No	Only selectable when Columbus is present
	PixelPlus Version	1	Standard PP: only selectable with Eagle 1C
		2	Improved PP: only selectable with Eagle 1C
Source Selection	720p	Yes / No	Enable for high resolution displays
	EXT3 1Fh (2003)	Yes / No	Not selectable

Menu-item	Subjects	Options	Description
Audio Repro	Acoustic System	FTV Top	Cabinet design (xxPF9986 and xxPF9996 with NXT). See styling 499 in Product Survey.
		Soft Wrap	Cabinet design (xxPF9956 and xxPF9966 standard). See styling 496 in Product Survey.
		Wrap	Cabinet design (xxPF9956 and xxPF9966 standard). See styling 500 in Product Survey.
		FTV2.3	Cabinet design (for future)
	AVL	Yes / No	Enable / disable Automatic Volume Limiter
Miscellaneous	Home Cinema	Yes / No	Model with / without Home Cinema Link (EU only)
	Integrated RC	Yes / No	Control peripheral equipment via TV IR receiver (EU only)
	Tuner type	UV1316 / TEDE9	Model with Philips tuner / Alps tuner
	P50 DVD menu line	Yes / No	Enable / disable DVD control via user menu with TV RC (EU only)
	Hotel Mode	Yes / No	Enable / disable Hotel Mode
Option no.	Group 1		Group 1 option code overview (see set sticker)
	Group 2		Group 2 option code overview (see set sticker)
	Store Options	<OK>	Store options when changed

8.4.4 Opt. No. (Option numbers)

Select this sub menu to set all options at once (expressed in two long strings of numbers).

An option number (or "option byte") represents a number of different options. When you change these numbers directly, you can set all options very quickly. All options are controlled via eight option numbers.

When the EARAM is replaced, all options will require resetting. To be certain that the factory settings are reproduced exactly, you must set both option number lines. You can find the correct option numbers on a sticker inside the TV set.

Example: The options sticker gives the following option numbers:

- 04368 00005 01066 08707
- 00000 00032 00512 00000

The first line (group 1) indicates hardware options 1 to 4, the second line (group 2) indicates software options 5 to 8. Every 5-digit number represents 16 bits (so the maximum value will be 65536 if all options are set).

When all the correct options are set, the sum of the decimal values of each Option Byte (OB) will give the option number. See next table for the option overview.

Table 8-7 Option overview

Byte	Bit (dec. value)	Subject	Options	Settings (in decimal values)	Remarks
1	0 (1)	Video Repro	Feature Box Type	3= Eagle 1B, 4= Eagle 1C, 5= 1050/1250i	
	1 (2)				
	2 (4)				
	3 (8)	Personal	Ambi Light Demo	0= Off, 8= On	
	4 (16)	Video Repro	Auto Scavem	0= No, 16= Yes	Only selectable for CRT sets.
	5 (32)		Improv. Noise Reduction	0= No, 32= Yes	Fixed to "Yes" in case Columbus is present
	6 (64)		Light Sensor	0= No, 64= Yes	
	7 (128)	n.a.	n.a.		
	8 (256)	Video Repro	Digital Option	0 (No)= Dig. Natural Motion (for PP1) or PixelPlus (for PP2), 256 (Yes)= PixelPlus (for PP1) or PixelPlus2 (for PP2)	This depends on the "Pixel Plus Version" option (see also Byte 1 - bit 14), and gives the info that is visible in the user menu.
	9 (512)		n.a.		
	10 (1024)	Source Selection	1152i	0= Off, 1024= On	
	11 (2048)	Video Repro	n.a.		
	12 (4096)		Signalling Bits	0= No, 4096= Yes	Fixed to: "Yes" in EU and AP-P, "No" for other versions.
	13 (8192)		3D Comb Filter	0= No (2D Comb), 8192= Yes (3D Comb)	
	14 (16384)		PP (Pixel Plus) Version	0= "1", 16384= "2"	Only selectable when "Feature Box" option is "Eagle 1C". See also Byte 1- bit 8 "Digital Option".
	15 (32768)		720p	0= No, 32768= Yes	
2	0 (1)	Audio Repro	n.a.		
	1 (2)		Dolby Pro Logic	0= No, 2= Yes	
	2 (4)		Virtual Rear Speakers	0= No, 4= Yes	Fixed to: "Yes" for sets with Dolby Pro Logic.
	3 (8)		Cordless Rear Speakers	0= No, 8= Yes	Fixed to: "No" for all versions, except for EU.
	4 (16)		Dolby Digital	0= No, 16= Yes	When Dolby Digital is "Yes", the AVL (Byte 8 - bit 6) option must be "No".
	5 (32)		Virtual Dolby	0= No, 32= Yes	Fixed to: "No" in case the "Dolby Pro Logic" option (Byte 2 - Bit 1) unequals "none".
	6 (64)		Sub woofer	0= No Sub woofer present, 64= Sub woofer present.	
	7 (128)	Chassis/Region	Chassis	0= EM6, 256= EM5, 512= EM3	FTx2.x= EM6
	8 (256)				
	9 (512)				
	10 (1024)				
	11 (2048)	Teletext	n.a.		
	12 (4096)		Flash RAM	0= No, 8192= Yes	NexTVView type 2C3 and 2 need a Flash RAM.
	13 (8192)		NexTVView type	0= None, 16384= Textguide only, 32768= NexTVView 2C3, 49152= NexTVView 2	Only available for EU.
	14 (16384)				
	15 (32768)				
3	0 (1)	n.a.	n.a.		
	1 (2)	n.a.	n.a.		
	2 (4)	n.a.	n.a.		
	3 (8)	n.a.	n.a.		
	4 (16)	Dual Screen	PIP/Dual Screen	0= No, 16= Yes	
	5 (32)		n.a.		
	6 (64)		TXT/EPG Dual Screen	0= No, 64= Yes.	Fixed to: "Off" for AP-N, US, and LA versions.
	7 (128)		n.a.		
	8 (256)	Display	CRT type (Aspect Ratio)	0= 4:3, 256= 16:9	
	9 (512)		Picture Rotation	0= No, 512= Yes	Only selectable for CRT sets.
	10 (1024)		Monitor	0= No, 1024= Yes	Reserved for Flat TV monitor.
	11 (2048)	Miscellaneous	Integrated Radio	0= No, 2048= Yes	
	12 (4096)		Stand Alone	0= No, 4096= Yes	Reserved for Flat TV monitor.
	13 (8192)		Integrated DVD	0= No, 8192= Yes	
	14 (16384)		Home Cinema	0= No, 16384= Yes	Fixed to: "No" in all versions except for EU.
	15 (32768)		Integrated RC	0= No, 32768= Yes	Fixed to: "No" in all versions except for EU.
4	0 (1)	Dual Screen	DS/PIP (Aux) Tuner	0= Aux Tuner not present, 1= Aux Tuner present	Only selectable in the EU version, provided the "PIP/Dual Screen" option is "Yes".
	1 (2)		DS/PIP (Aux) Tuner Type	0= UV1316, 2= TEDE9	
	2 (4)	Miscellaneous	38.0 (or China) IF	0= No, 4= Yes	Fixed to: "No" in all versions except for AP-P.
	3 (8)		Tuner Type	0= UV1316, 8= TEDE9	
	4 (16)	Teletext	n.a.		
	5 (32)		n.a.		
	6 (64)		n.a.		
	7 (128)		n.a.		
	8 (256)	Miscellaneous	Integrated Dig. Module	0= No, 256= Yes	
	9 (512)		Integrated HDD	0= No, 512= Yes	
	10 (1024)		n.a.		
	11 (2048)		n.a.		
	12 (4096)	Personal	Anti Aging	0= No, 4096= Yes	Fixed to: "Yes" for FTV.
	13 (8192)		DVD Door Lock	0= No, 8192= Yes	
	14 (16384)		n.a.		
	15 (32768)		n.a.		

Byte	Bit (dec. value)	Subject	Options	Settings (in decimal values)	Remarks
5	0 (1)	Personal	n.a.		
	1 (2)		Auto Store Mode	0= None, 2= PDC/VPS, 4= TXT Page, 6= PDC/VPS/TXT Page	Fixed to: "None" in the AP-N and US versions.
	2 (4)				
	3 (8)		2CS Korea	0= BTSC, 8= Korean Stereo	As the MSP can not automatically detect if Korean stereo (2CS) or BTSC is transmitted, this option is needed to tell the MSP what detection should be done.
	4 (16)		Blue (or Picture) Mute	0= No, 16= Yes	
	5 (32)		n.a.		
	6 (64)	Miscellaneous	Virgin Mode	0= No, 64= Yes	
	7 (128)		Hotel Mode	0= No, 128= Yes	
	8 (256)		Flex TV Demo	0= No, 256= Yes	
	9 (512)		n.a.		
	10 (1024)		Dimming Backlight	0= No, 1024= Yes	
	11 (2048)		n.a.		
	12 (4096)		TXT Preference	0= Top, 4096= FLOF	Only available in the EU version.
	13 (8192)		n.a.		
	14 (16384)		n.a.		
	15 (32768)		n.a.		
6	0 (1)	Miscellaneous	P50 DVD Menu Line	0= No, 1= Yes	Fixed to: "No" in all versions except for EU.
	1 (2)		n.a.		
	2 (4)		n.a.		
	3 (8)		n.a.		
	4 (16)	Chassis/Region	Region	0= EU, 16= AP-P, 32= AP-N, 48= US, 64= Latam, 80= Australia	
	5 (32)				
	6 (64)				
	7 (128)				
	8 (256)	Display	Screen	"000" (0)= 42-inch PDP (SDI), "001" (256)= 50-inch PDP (SDI), "002" (512)= 42-inch PDP (FHP), "003" (768)= 30-inch LCD (LPL), "004" (1024)= 37-inch LCD (LPL), "005" (1280)= 42-inch LCD (LPL), "006" (1536)= 32-inch LCD (Sharp), "007" (1792)= 42-inch PDP (SDI) VGA, "008" (2048)= 37-inch PDP (FHP).	Fixed to "0" in case of CRT.
	9 (512)				
	10 (1024)				
	11 (2048)				
	12 (4096)				
	13 (8192)				
	14 (16384)				
	15 (32768)				
7	0 (1)	Source Selection	EXT4 1fH	0= No, 1= Yes	
	1 (2)		EXT1 2fH	0= No, 2= Yes	
	2 (4)		n.a.		
	3 (8)		n.a.		
	4 (16)		n.a.		
	5 (32)		EXT3 1fH	0= No, 32= Yes	
	6 (64)		DVI/VGA	0= No, 64= Yes	
	7 (128)		HDMI (Europe)	0= No, 128= Yes	
	8 (256)		AV3 1fH	0= No, 256= Yes	
	9 (512)		AV1 2fH	0= No, 512= Yes	
	10 (1024)		AV2 2fH	0= No, 1024= Yes	
	11 (2048)		n.a.		
	12 (4096)		n.a.		
	13 (8192)		n.a.		
	14 (16384)		n.a.		
8	0 (1)	Audio Repro	Acoustic System	0= FTV-Top (499), 1= Soft Wrap (496, 498), 2= Wrap (496, 498), 3= FTV2.3 (505), 4= FL9 Monitor (n.a.), 5= FL10 (n.a.), 6= FL11 or FL11-upgr. (380, 382, 406, 425, 426, 534), 7= FL12 (296, 305, 395, 408, 428, 444), 8= FL14 (n.a.), 9= PV02 (462), 10= FL13A (456), 11= Soft Design Line (336, 383), 12= Tech Design Line (419), 14= FL13B (456), 15= Others	Used for setting dynamic audio parameters. Between brackets the styling numbers are mentioned as listed in the quarterly Product Survey.
	1 (2)				
	2 (4)				
	3 (8)				
	4 (16)	n.a.	n.a.		
	5 (32)	n.a.	n.a.		
	6 (64)	Audio Repro	AVL	0= No, 64= Yes	Switch to "No" when Dolby Digital is present.
	7 (128)		1080i Screen	0= 2fH path, 128= 3fH path	
	8 (256)	Display	CRT Size	0= 28", 256= 32", 512= 36" MEC, 768= 29", 1024= 34", 1280= 38", 1536= 28" Mk2, 1792= 36" PH, 2048= 32" MEC, 2304= 32" PH, 2560= 30", 2816= 37", 3072= 42", 3328= 50", 3840= Others	
	9 (512)				
	10 (1024)				
	11 (2048)				
	12 (4096)		Anti Moire Filter	0= No, 4096= Yes	Only for CRT
	13 (8192)		Display Type	0= LCD (LPL), 8192= PDP, 16384= CRT, 24576= LCoS, 32768= PTV, 40960= LCD (AUO), 49152= LCD (Sharp)	
	14 (16384)				
	15 (32768)				

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

Index of this chapter:

- 9.1 Introduction
- 9.2 Abbreviation List

Note:

Only **new** (not recently published) circuits are described here. As this chassis does not contain any really new circuits, use the FTL2.2x manual for the circuit descriptions.

9.1 Introduction

This chassis contains, compared to its predecessor, the following **new/changed** features/components:

- **Small Signal Board (SSB)**. Small layout changes and new software to support the 720p feature.
- **Dual Ambient Light inverter panels**: To reduce the heat dissipation and improve the efficiency, two separate CCFL inverter panels are introduced in some models.
- **Dimming Backlight**: Feature to improve the contrast of LCD displays. When there is no (or little) white content in the picture, the LCD backlight will be dimmed to make the black look darker. The picture content is measured by the EPLD, which will adapt the PWM signal to the backlight (see also diagrams B19E and B20).

The chassis consists of a full sized SSB, two Power Supplies (Main and Stand-by), and some smaller panels for Audio, I/O, and Control functions. The main functionalities are:

- **LCD power supply**: same as used in the FTL2.2x.
- **SSB**: Core TV functionalities, being TXT/control, video and audio decoding, feature box, video featuring, and sync/geometry control. The SSB is a high tech module (four layer, 2 sides reflow technology, full SMC) with very high component density and full shielding for EMC-reasons. Despite this, it is designed in such a way, that repair on component level is possible. To achieve this, attention was paid to:
 - Clearance around surface mounted ICs (for replacing).
 - Detailed diagnostics and fault finding is possible via ComPair.
 - Software upgrading (only for main software) is possible via ComPair.

9.2 Abbreviation List

1080i	1080 visible lines, interlaced
1080p	1080 visible lines, progressive scan
2DNR	Spatial (2D) Noise Reduction
3DNR	Temporal (3D) Noise Reduction
AARA	Automatic Aspect Ratio Adaptation: algorithm that adapts aspect ratio to remove horizontal black bars; keeping up the original aspect ratio
ACI	Automatic Channel Installation: algorithm that installs TV sets directly from cable network by means of a predefined TXT page
ADC	Analogue to Digital Converter
AFC	Automatic Frequency Control: control signal used to tune to the correct frequency
AGC	Automatic Gain Control: algorithm that controls the video input of the feature-box
AM	Amplitude Modulation
ANR	Automatic Noise Reduction: one of the algorithms of Auto TV
AR	Aspect Ratio: 4 by 3 or 16 by 9
Artistic	See OTC 2.5: main processor
ASF	Auto Screen Fit: algorithm that adapts aspect ratio to remove horizontal black bars but without throwing away video information
ATV	See Auto TV
AUDIO_C	Audio Centre
AUDIO_L	Audio Left
AUDIO_R	Audio Right
AUDIO_SL	Audio Surround Left
AUDIO-SR	Audio surround right
AUDIO_SW	Audio Sub woofer
Auto TV	A hardware and software control system that measures picture content, and adapts image parameters in a dynamic way
B/G	Monochrome TV system. Sound carrier distance is 5.5 MHz. B= VHF-band, G= UHF-band
B-SC1-IN	Blue SCART1 in
B-SC2-IN	Blue SCART2 in
B-TXT	Blue teletext
CL	Constant Level: audio output to connect with an external amplifier
ComPair	Computer aided rePair
CSM	Customer Service Mode
CTI	Colour Transient Improvement: manipulates steepness of chroma transients
CVBS	Composite Video Blanking and Synchronisation
CVBS-TER	CVBS terrestrial
COLUMBUS	COLOUR LUMinance Baseband Universal Subsystem. IC performing noise reduction and 2D/3D comb filtering
DAC	Digital to Analogue Converter
DBE	Dynamic Bass Enhancement: extra low frequency amplification
DDC	Display Data Channel; is a part of the "Plug and Play" feature
DFU	Direction For Use: description for the end user
D/K	Monochrome TV system. Sound carrier distance is 6.5 MHz. D= VHF-band, K= UHF-band

DNR	Digital Noise Reduction: noise reduction feature of the box	Last Status	The settings last chosen by the customer, read, and stored in RAM or in the NVM. They are called at start-up of the set to configure it according the customers wishes
DPL	Dolby ProLogic		
DSP	Digital Signal Processing		
DST	Dealer Service Tool: special remote control designed for dealers to enter e.g. service mode	LCD	Liquid Crystal Display
DVD	Digital Versatile Disc	LPL	LG-Philips LCD (supplier)
DVI(-d)(-i)	Digital Visual Interface (d= digital only) (i= integrated); a digital video interface to a display, designed to replace the analogue YPbPr or RGB interface	LED	Light Emitting Diode
		L/L'	Monochrome TV system. Sound carrier distance is 6.5 MHz. L' is Band I, L is all bands except for Band I
Eagle	Feature box IC performing peaking, zooming and sub pixel LTI in both horizontal and vertical direction, CTI and other colour features	LNA	Low Noise Adapter
		LORE	LOcal REgression based noise reduction
EDID	Extended Display Identification Data (VESA standard)	LSP	Large signal panel
EEPROM	Electrically Erasable and Programmable Read Only Memory	LVDS	Low Voltage Differential Signalling; Data transmission system for high speed and low EMI communication
EHT	Extra High Tension	M/N	Monochrome TV system. Sound carrier distance is 4.5 MHz. M= 525 lines @ 60 Hz, N= 625 lines @ 50 Hz
EPG	Electronic Program Guide: system used by broadcasters to transmit TV guide information (= NexTVView)	MUTE	Mute-Line
		NC	Not Connected
EPLD	Erasable Programmable Logic Device	NICAM	Near Instantaneously Companded Audio Multiplexing; This is a digital sound system, mainly used in Europe
EU	EUrope		
EXT	External (source), entering the set via SCART or via cinches	NTSC	National Television Standard Committee; Colour system mainly used in North America and Japan. Colour carrier NTSC M/N= 3.579545 MHz, NTSC 4.43= 4.433619 MHz (this is a VCR norm, it is not transmitted off-air)
FALCONIC	SAA4992H, Feature Box IC performing Digital Natural Motion, 3DNR, and vertical zoom and vertical peaking		
FBL	Fast Blanking: DC signal accompanying RGB signals	NVM	Non Volatile Memory: IC containing TV related data e.g. alignments
FBL-PIP	The fast blanking signal for PIP		
FBL-TXT	The fast blanking signal for TXT. It has a higher priority than FBL-PIP	O/C	Open Circuit
FBX	Feature Box: part of small signal / separate module which contains 100 Hz processing, extra featuring and AutoTV algorithms (FBX6= based on PICNIC, FBX7= based on PICNIC and Eagle)	OSD	On Screen Display
		OTC	On screen display Teletext and Control; also named Artistic (SAA5800)
		P50	Project 50 communication: protocol between TV and peripherals
FDS	Full Dual Screen	PAL	Phase Alternating Line; Colour system mainly used in West Europe (colour carrier= 4.433619 MHz) and South America (colour carrier PAL M= 3.575612 MHz and PAL N= 3.582056 MHz)
FEM	Falconic Embedded Memory; IC (SAA4998H) that is the successor of the SAA4993H with jagged line removal and embedded memory		
FHP	Fujitsu Hitachi Plasma display Ltd.	PCB	Printed Circuit Board
FLOF	Full Level One Features, TXT standard	PDP	Plasma Display Panel
		PFC	Power Factor Corrector (or Pre-conditioner)
FLASH	Flash memory		
FM	Field Memory or Frequency Modulation	PICNIC	Peripheral Integrated Combined Network IC (SAA4978): main IC for 100 Hz featuring and feature processing
G-TXT	Green teletext		
HA	Horizontal Acquisition: horizontal sync pulse coming out of the HIP	PIP	Picture In Picture
HD at HOME	A signal from the OTC, to switch the HOP to the Pixel Plus standard (75 Hz frame)	PLL	Phase Locked Loop; Used for e.g. FST tuning systems. The customer can directly provide the desired frequency
HIP	High-end video Input Processor (TDA9320): video and chroma decoder of EM5E	POR	Power On Reset; Signal to reset the μ P
HP	Head phone	Progressive Scan	Scan mode where all scan lines are displayed in one frame at the same time, creating a double vertical resolution.
I	Monochrome TV system. Sound carrier distance is 6.0 MHz. VHF- and UHF-band		
I/O	Input/Output	PSU	Power Supply Unit
I ² C	Inter IC bus (also called IIC)	PWB	Printed Wiring Board
IF	Intermediate Frequency	RAM	Random Access Memory
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	R-TXT	Red teletext
		RC	Remote Control
		RC5 / RC6	Signal protocol from the remote control receiver
		RESET	Reset signal

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
SCL-F	Clock signal on fast I ² C bus
SD	Standard Definition
SDA-F	Data signal on fast I ² C bus
SDI	Samsung Display Industry (supplier)
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 sequential. Colour carriers= 4.406250 MHz and 4.250000 MHz
SIF	Sound Intermediate Frequency
SMD	Surface Mounted Device
SMPS	Switched Mode Power Supply
SNERT	Synchronous No parity Eight bit Reception and Transmit
SSB	Small Signal Board
STBY	Stand-by
SW	Sub woofer
SVGA	800x600 (4:3)
SVHS	Super Video Home System
TMDS	Transition Minimised Differential Signalling
TOP	Table Of Pages; TXT standard
TXT	Teletext
uP	Microprocessor
UV	Colour difference signals
UVSH	UHF, VHF, S-, and Hyper-band
VA	Vertical Acquisition
V-a	Addressing voltage for the plasma display
VDS	Virtual Dolby Surround
VESA	Video Electronics Standards Association
VFB	Vertical Flyback Pulse: vertical sync pulse coming from the Feature Box
VGA	Video Graphics Array; 640x480 (4:3)
VL	Variable Level out: processed audio output towards external amplifier
V-ra	Setting voltage for V_a
V-rs	Setting voltage for V_s
V-s	Sustain voltage for the plasma display
WSS	Wide Screen Signalling; used by broadcasters to transmit e.g. PALPLUS and 16:9 Aspect Ratio
WXGA	Wide eXtended Graphics Array; 1280x768 (15:9) or 1366x768 (16:9)
WYSIWYR	What You See Is What You Record: record selection that follows main picture and sound
XGA	Extended Graphics Array; 1024x768 (4:3)
XTAL	Quartz crystal
Y	Luminance signal
Y100	Y from Feature Box
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
Y-OUT	Luminance-signal to HOP IC
YUV	Colour space used by the NTSC and PAL video systems. Y is the luminance and U/V are the colour difference signals

9.3 IC Data Sheets

See FTL2.2 manual.

10. Spare Parts List

Set Level

Various

1004▲	8204 000 78291	LCD LQ315T3LZ2X
1088	3104 328 39552	Ambilight Inverter assy
1089	3104 328 39552	Ambilight Inverter assy
1112	3104 328 32471	Mains Switch / LED assy
1114	3104 328 35721	Control assy
1116	3104 328 32461	Side I/O assy
1175	2722 171 00251	Ambilight assy
1176	2722 171 00252	Ambilight assy
8250	3104 311 08901	Cable 31P/230/30P
8302	3104 311 04721	Cable 7P/680/7P
8310	3104 311 07061	Cable 4P/280/4P
8314	3104 311 08531	Cable 10P/820/10P
8315	3104 311 08531	Cable 10P/820/10P
8318	3104 311 06841	Cable 6P/820/6P
8504	3104 311 08281	Cable 4P/480/4P
8505	3104 311 08431	Cable 3P/480/3P
8506	3104 311 08361	Cable 2P3/400/2P3
8507▲	3104 311 08381	Cable 4P/400/4P
8508	3104 311 08471	Cable 4p/680/4p
8509	3104 311 08311	Cable 3P/480/4P
8548	3104 311 10351	Cable 3P/680/3P
8735	3104 311 08601	Cable 2P3/820/2xPosi
8736	3104 311 09471	Cable 2P/1600/2P
8737	3104 311 08251	Wire ring/180/POSI 4.8

LCD Supply [A]

Various

1007▲	4822 071 55002	Fuse T5A 250V
1304	2422 025 10647	Connector 4p m
1305	4822 267 10735	Connector 3p
1306▲	2422 025 16374	Connector 2p m
1307	2422 025 10647	Connector 4p m
1308▲	4822 265 20723	Connector 2p
1309	2422 025 11143	Connector 3p m
1400▲	4822 253 50145	Fuse 3.15A T
1402	4822 252 60151	Surge protect
1410	4822 265 11253	Fuse holder
1411	4822 265 11253	Fuse holder
1450▲	2422 132 07411	Relay 1p 5V 5A
1M02	2422 025 11244	Connector 7p m

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2000▲	2252 811 95022	1.5nF 20% 250V
2002	4822 124 11767	470μF 20% 25V
2003	4822 124 80061	1000μF 20% 25V
2007	4822 126 14583	470nF 10% 16V 0805
2008	4822 126 14583	470nF 10% 16V 0805
2009	2238 867 18101	100pF 1% 50V 0603
2010	4822 124 40207	100μF 20% 25V
2012	4822 126 14138	680pF 10% 2kV
2013	4822 126 14138	680pF 10% 2kV
2014▲	4822 126 13451	2.2nF 10% 2kV
2015	5322 126 11578	1nF 10% 50V 0603
2016	2238 586 59812	100nF 20% 50V 0603
2019	5322 126 11583	10nF 10% 50V 0603
2020	4822 124 12285	2200μF 20% 16V
2021	4822 124 12285	2200μF 20% 16V
2022	2020 021 00039	1800μF 20% 35V
2023	4822 126 14583	470nF 10% 16V 0805
2024	2020 552 96326	220nF 10% 16V
2025	2020 552 96683	220nF 10% 50V
2026	4822 126 14238	2.2nF 50V 0603
2028	5322 126 11578	1nF 10% 50V 0603
2029	5322 126 11578	1nF 10% 50V 0603
2031	5322 126 11583	10nF 10% 50V 0603
2033	2020 552 96683	220nF 10% 50V
2034	2238 867 18101	100pF 1% 50V 0603
2035	2238 867 18101	100pF 1% 50V 0603
2038	2020 021 00039	1800μF 20% 35V
2039	4822 126 14583	470nF 10% 16V 0805
2040	4822 126 14249	560pF 10% 50V 0603
2041	2020 552 96683	220nF 10% 50V
2042	2020 552 96683	220nF 10% 50V
2043	2020 552 96683	220nF 10% 50V
2044	5322 126 11578	1nF 10% 50V 0603
2045	5322 126 11578	1nF 10% 50V 0603
2046	3198 017 34730	47nF 16V 0603
2047	5322 126 11583	10nF 10% 50V 0603
2048	5322 126 11578	1nF 10% 50V 0603

2050	5322 126 11578	1nF 10% 50V 0603
2051	2020 552 96683	220nF 10% 50V
2052	2020 552 96683	220nF 10% 50V
2053	2020 552 96683	220nF 10% 50V
2060	4822 126 14238	2.2nF 50V 0603
2061	4822 126 14238	2.2nF 50V 0603
2062	4822 126 14238	2.2nF 50V 0603
2063	4822 126 13881	470pF 5% 50V
2064	4822 126 13881	470pF 5% 50V
2065	4822 126 14238	2.2nF 50V 0603
2071	5322 126 11578	1nF 10% 50V 0603
2072	5322 126 11578	1nF 10% 50V 0603
2077	4822 126 14238	2.2nF 50V 0603
2290	5322 126 11583	10nF 10% 50V 0603
2291	4822 126 13881	470pF 5% 50V
2292	4822 124 12417	2200μF 20% 25V
2293	4822 126 13881	470pF 5% 50V
2294	4822 124 12417	2200μF 20% 25V
2400▲	2222 338 22474	470nF 20% 275V
2407▲	2252 811 95017	470pF 10% 250V
2816	2020 024 00001	330μF 20% 400V
2816	2020 024 90749	330μF 20% 400V

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3000▲	4822 052 10478	4.7Ω 5% 0.33W
3001	4822 051 30101	100Ω 5% 0.062W
3002	4822 117 12925	47kΩ 1% 0.063W 0603
3003	4822 117 13632	100kΩ 1% 0.063 0.62W
3004	4822 051 30273	27kΩ 5% 0.062W
3005	4822 051 30333	33kΩ 5% 0.062W
3006	4822 051 30103	10kΩ 5% 0.062W
3007	4822 051 30103	10kΩ 5% 0.062W
3008	4822 051 30331	330Ω 5% 0.062W
3009	4822 051 30332	3.3Ω 5% 0.062W
3010	4822 051 30471	47Ω 5% 0.062W
3011	4822 051 30471	47Ω 5% 0.062W
3012	4822 051 30153	15kΩ 5% 0.062W
3013	4822 051 30103	10kΩ 5% 0.062W
3014▲	4822 052 10101	100Ω 5% 0.33W
3015▲	4822 052 10479	47Ω 5% 0.33W
3016	4822 051 30332	3.3Ω 5% 0.062W
3017▲	4822 052 10101	100Ω 5% 0.33W
3018▲	4822 052 10479	47Ω 5% 0.33W
3019	4822 051 30332	3.3Ω 5% 0.062W
3020	4822 051 30332	3.3Ω 5% 0.062W
3021	4822 117 12971	15Ω 5% 0.0603 0.62W
3022	4822 051 30681	680Ω 5% 0.062W
3023	4822 051 30153	15kΩ 5% 0.062W
3025	3198 021 31820	1.8kΩ 5% 0.062W 0603
3026	2120 368 90118	Potm. lin. 470Ω hor.
3027	4822 117 13632	100kΩ 1% 0.0603 0.62W
3028	4822 051 30332	3.3Ω 5% 0.062W
3029	4822 051 30332	3.3Ω 5% 0.062W
3030	4822 051 30183	18kΩ 5% 0.062W
3031	4822 051 30103	10kΩ 5% 0.062W
3032	4822 051 30103	10kΩ 5% 0.062W
3032	4822 051 30223	22kΩ 5% 0.062W
3033▲	4822 052 11108	1Ω 5% 0.5W
3034	4822 051 30102	1kΩ 5% 0.062W
3035	4822 051 30332	3.3Ω 5% 0.062W
3037	4822 051 30153	15kΩ 5% 0.062W
3040	3198 021 38220	8.2kΩ 5% 0.062W 0603
3041	4822 051 30333	33kΩ 5% 0.062W
3043	4822 051 30109	10Ω 5% 0.062W
3045	4822 117 12971	15Ω 5% 0.0603 0.62W
3046	4822 117 12971	15Ω 5% 0.0603 0.62W
3047	4822 051 30479	47Ω 5% 0.062W
3048	4822 051 30272	2.7kΩ 5% 0.062W
3050	4822 050 28204	820kΩ 1% 0.6W
3052	2322 704 67502	7.5kΩ 1% 0.5W
3053	4822 050 26804	680kΩ 1% 0.6W
3055	4822 051 30221	220Ω 5% 0.062W
3056	4822 117 12968	820Ω 5% 0.62W
3057	4822 051 30221	220Ω 5% 0.062W
3058	4822 053 20565	5.6MΩ 5% 0.25W
3061	4822 051 30683	68kΩ 5% 0.062W
3064	4822 051 30103	10kΩ 5% 0.062W
3065	4822 117 13632	100kΩ 1% 0.0603 0.62W
3066	4822 051 30103	10kΩ 5% 0.062W
3067	4822 051 30101	100Ω 5% 0.062W
3068	4822 051 30222	2.2kΩ 5% 0.062W
3070	4822 051 30102	1kΩ 5% 0.062W
3071	4822 051 30103	10kΩ 5% 0.062W
3075	4822 051 30102	1kΩ 5% 0.062W
3089	4822 051 30103	10kΩ 5% 0.062W
3100	4822 051 30109	10Ω 5% 0.062W
3292	4822 051 30561	560Ω 5% 0.062W
3400▲	2122 550 00158	VDR 1mA 612V

3401▲	4822 053 21475	4.7MΩ 5% 0.5W
3402▲	4822 053 21475	4.7MΩ 5% 0.5W
3403▲	4822 053 21475	4.7MΩ 5% 0.5W
3404	4822 116 83872	220Ω 5% 0.5W
3999	4822 051 30682	6.8Ω 5% 0.062W

5001	2422 531 02444	Transf. S13932-04Y
5002▲	3104 308 21231	Transf. 2652.0001A
5005	4822 526 10704	Bead 50 Ω at 100MHz
5007	4822 526 10704	Bead 50 Ω at 100MHz
5008	4822 526 10704	Bead 50 Ω at 100MHz
5009	4822 157 11411	Bead 80Ω at 100MHz
5010	4822 157 11411	Bead 80Ω at 100MHz
5013	4822 526 10704	Bead 50 Ω at 100MHz
5015	4822 157 11411	Bead 80Ω at 100MHz
5016	4822 157 11411	Bead 80Ω at 100MHz
5017	4822 526 10704	Bead 50 Ω at 100MHz
5025	4822 526 10704	Bead 50 Ω at 100MHz
5026	4822 526 10704	Bead 50 Ω at 100MHz
5027	4822 526 10704	Bead 50 Ω at 100MHz
5028	4822 526 10704	Bead 50 Ω at 100MHz
5040	4822 157 11411	Bead 80Ω at 100MHz
5291	2422 536 00776	33μH 10%
5292	2422 536 00776	33μH 10%
5293	2422 536 00776	33μH 10%
5403	3104 308 21201	Line filter DTH40383H65

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6002	4822 130 11397	BAS316
6003	4822 130 11397	BAS316
6004	4822 130 80622	BAT54
6005	4822 130 80622	BAT54
6006	4822 130 11397	BAS316
6007	4822 130 11397	BAS316
6008	4822 130 11397	BAS316
6009	4822 130 11152	UDZ18B
6010	4822 130 11397	BAS316
6011	4822 130 11397	BAS316
6012	9322 208 80685	BZG05C15
6013	9322 208 80685	BZG05C15
6014	9340 548 67115	PDZ22B
6015	4822 130 11397	BAS316
6017	4822 130 11397	BAS316
6020	4822 130 11397	BAS316
6021	9322 206 26687	STPS20H100CT
6022	4822 130 11148	UDZ4.7B
6023	4822 130 11397	BAS316
6025	9322 206 26687	STPS20H100CT
6027	4822 130 11397	BAS316
6028	4822 130 11397	BAS316
6044	9322 207 11687	STPS20L45CT
6045	9322 207 11687	STPS20L45CT
6051	4822 130 11397	BAS316
6077	9322 202 55685	BYG22D
6078	9322 202 55685	BYG22D
6079	9322 202 55685	BYG22D
6080	9322 202 55685	BYG22D
6081	9340 548 67115	PDZ22B
6291	4822 130 11572	STPS8H100F
6293	4822 130 11572	STPS8H100F
6460	4822 130 11397	BAS316
6461	4822 130 11397	BAS316
6506▲	4822 130 83147	DF06M
6807▲	9322 199 74682	GBJ6J-B15



7001	9322 108 21682	MC34067P
7002▲	9322 149 04682	TCET1102
7004	3198 010 42310	BC847BW
7005	9322 192 18687	STP15NK50ZFP
7005	9322 205 26687	FQPF18N50V2
7006	9322 192 18687	STP15NK50ZFP
7006	9322 205 26687	FQPF18N50V2
7007	3198 010 42320	BC857BW
7008	3198 010 42320	BC857BW
7009	3198 010 42320	BC857BW
7010	9322 192 16685	TS2431AI
7017	3198 010 42320	BC857BW
7018	3198 010 42310	BC847BW
7030	3198 010 42310	BC847BW

Ambi Light [AL]**Various**

0615	3104 317 09401	SW (see Prod. Survey)
1010	2422 086 00657	Fuse 3A 125V F SMD
1050	2422 543 01431	Xtal 20MHz 16pF
1M08	2422 025 09406	Connector 4p m
1M10	2422 025 09406	Connector 4p m
1M11	2422 025 19068	Connector 11p m
1M12	2422 025 19069	Connector 3p m
1M48	2422 025 10768	Connector 3p m
1M49	2422 025 18884	Connector 4p m

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2001	2020 012 00018	1000µF 20% 16V
2002	2238 586 59812	100nF 20% 50V 0603
2003	2020 552 96618	1nF 10% 50V 0402
2004	2020 552 96618	1nF 10% 50V 0402
2005	3198 034 01590	15pF 1% 50V 0402
2006	3198 034 01590	15pF 1% 50V 0402

—WW—

3003	4822 117 13596	220Ω 5% 0.01W 0402
3004	4822 051 20471	470Ω 5% 0.1W
3005	4822 051 20561	560Ω 5% 0.1W
3006	2322 762 60102	1kΩ 5% 2512
3007	2322 762 60102	1kΩ 5% 2512
3008	4822 051 20471	470Ω 5% 0.1W
3009	4822 051 20561	560Ω 5% 0.1W
3010	2322 762 60102	1kΩ 5% 2512
3011	2322 762 60102	1kΩ 5% 2512
3012	4822 051 20471	470Ω 5% 0.1W
3013	4822 051 20561	560Ω 5% 0.1W
3014	2322 762 60102	1kΩ 5% 2512
3015	2322 762 60102	1kΩ 5% 2512
3016	3198 031 04720	4.7kΩ 5% 0402
3017	3198 031 04720	4.7kΩ 5% 0402
3018	3198 031 04720	4.7kΩ 5% 0402
3019	3198 031 04720	4.7kΩ 5% 0402
3020	3198 031 04720	4.7kΩ 5% 0402
3022	4822 117 13545	100Ω 1% 0402
3023	4822 117 13545	100Ω 1% 0402
3024	3198 031 04720	4.7kΩ 5% 0402
3025	3198 031 04720	4.7kΩ 5% 0402
3028	4822 117 13606	10kΩ 5% 0.01W 0402
3029	3198 031 04720	4.7kΩ 5% 0402
3030	3198 031 04720	4.7kΩ 5% 0402
3031	3198 031 04720	4.7kΩ 5% 0402
3042	4822 053 20105	1MΩ 5% 0.25W
3999	4822 051 30103	10kΩ 5% 0.062W

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5002	2422 536 00923	22µH 10% LHL10
5007	2422 536 00923	22µH 10% LHL10
5008	2422 536 00923	22µH 10% LHL10
5014	3104 308 21271	Transf. BD21416-00
5015	3104 308 21271	Transf. BD21416-00
5016	3104 308 21271	Transf. BD21416-00

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6000	4822 130 11397	BAS316
6001	4822 130 11397	BAS316
6002	4822 130 11397	BAS316
6003	4822 130 11397	BAS316
6004	4822 130 11397	BAS316
6005	4822 130 11397	BAS316
6006	4822 130 11152	UDZ18B
6007	4822 130 11152	UDZ18B
6008	4822 130 11152	UDZ18B
6009	4822 130 11152	UDZ18B
6010	4822 130 11152	UDZ18B
6011	4822 130 11152	UDZ18B



7001	9352 711 46118	P87LPC760BDH
7002	9322 202 58668	LD1117DT50
7009	3198 010 42310	BC847BW
7010	3198 010 42310	BC847BW
7011	3198 010 42310	BC847BW
7015	9322 214 20668	SI4946EY
7016	9322 214 20668	SI4946EY
7017	9322 214 20668	SI4946EY
7018	3198 010 42310	BC847BW

7019	3198 010 42310	BC847BW
7020	3198 010 42310	BC847BW

Small Signal Board [B]**Various**

0601	3104 317 09961	SW (see Prod. Survey)
0602	3104 337 00141	SW (see Prod. Survey)
0603	3104 317 06592	SW (see Prod. Survey)
0605	3104 317 47621	SW (see Prod. Survey)
1000	2422 086 11092	Fuse 500mA 50V F SMD
1001	2422 543 01497	Xtal 6Mhz 20pF
1003	2422 025 14911	Socket Euro 21p f
1026	3104 328 29591	SCART 3 assy
1305	2422 543 01488	Xtal 4.433619Mhz 20pF
1308	2422 543 01486	Xtal 3.579545Mhz 16pF
1404	2422 127 00543	Switch 1p 2pos
1407	2422 549 00458	Filter 5M5/5M74
1408	2422 549 44372	SAW 38.9MHz K3953L
1409	2422 549 44369	SAW 38.9MHz K9656L
1703	2422 540 00002	Resonator CSTCE*G52
1A01	2422 543 01059	Resonator 18MHz 12p
1D01	2422 033 00515	Socket DVI-I 29p f
1E02	2422 025 17274	Connector 10p m
1E04	2422 025 18738	Connector 3p m
1G50	2422 025 18427	Connector 31p f
1I01	2422 025 18133	Socket SCART
1I04	2422 025 18133	Socket SCART
1I05	2422 026 05539	Socket Cinch 2p f WhRd
1I06	2422 026 05527	Socket Cinch 2p f
1I07	2422 026 05054	Socket Cinch 2p f WhRd
1I53	2422 549 45325	Bead 67Ω at 100MHz
1I56	2422 549 45325	Bead 67Ω at 100MHz
1I57	2422 549 45325	Bead 67Ω at 100MHz
1I59	2422 549 45325	Bead 67Ω at 100MHz
1I79▲	2422 086 00623	Fuse 3A T 125V
1M01	2422 025 10768	Connector 3p m
1M03	2422 025 10771	Connector 10p m
1M07	4822 267 10637	Connector 5p
1M15	4822 267 10748	Connector 3p
1M17	2422 025 17765	Connector 7p m
1M20	2422 025 10772	Connector 12p m
1M36	2422 025 10655	Connector 11p m
1M37	2422 025 10655	Connector 11p m
1M46	2422 025 10655	Connector 11p m
1M51	2422 025 18884	Connector 4p m
1M52	2422 025 10769	Connector 9p m
1T01	3139 147 22161	Tuner UV1318S/A I H N-3
1U01▲	2422 086 11112	Fuse 1A T 125V
8220	3104 311 08631	Cable12P/480/12P
8303	3104 311 06511	Cable 10p/280/10p
8307	3104 311 05691	Cable 5p/100/5p
8308	3104 311 06951	Cable 2P3/180/2P
8317	3104 311 07871	Cable 7P/180/7P
8336▲	3104 311 07451	Cable 11P/220/11P
8337	3104 311 07451	Cable 11P/220/11P
8346	3104 311 06991	Cable 11P/280/11P
8349	3104 311 10341	Cable 4P/400/4P
8352	3104 311 07381	Cable 9P/220/9P

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2002	3198 034 02790	47pF 1% 50V 0402
2003	2238 780 15654	220nF 10% 16V 0805
2004	2238 780 15654	220nF 10% 16V 0805
2005	2238 586 59812	100nF 20% 50V 0603
2006	2238 586 59812	100nF 20% 50V 0603
2007	2238 586 59812	100nF 20% 50V 0603
2008	2238 586 59812	100nF 20% 50V 0603
2013	2020 021 91557	100µF 20% 16V
2016	4822 124 12095	100µF 20% 16V
2017	2238 586 59812	100nF 20% 50V 0603
2018	4822 126 14324	33pF 5% 50V 0402
2019	2238 586 59812	100nF 20% 50V 0603
2020	3198 035 02210	220pF 5% 50V 0402
2022	2238 586 59812	100nF 20% 50V 0603
2023	2238 586 59812	100nF 20% 50V 0603
2024	2238 586 59812	100nF 20% 50V 0603
2025	2238 586 59812	100nF 20% 50V 0603
2026	2238 586 59812	100nF 20% 50V 0603
2027	2238 586 59812	100nF 20% 50V 0603
2028	2238 586 59812	100nF 20% 50V 0603
2029	2238 586 59812	100nF 20% 50V 0603
2031	2238 586 59812	100nF 20% 50V 0603
2033	2238 869 15829	82pF 5% 50V 0402
2034	2238 869 15829	82pF 5% 50V 0402
2035	2238 869 15829	82pF 5% 50V 0402
2036	2238 869 15829	82pF 5% 50V 0402
2037	2238 869 15829	82pF 5% 50V 0402
2038	2238 586 59812	100nF 20% 50V 0603

2039	2238 586 59812	100nF 20% 50V 0603
2040	2238 586 59812	100nF 20% 50V 0603
2063	2238 586 59812	100nF 20% 50V 0603
2067	2238 586 59812	100nF 20% 50V 0603
2072	2238 586 59812	100nF 20% 50V 0603
2073	3198 017 44740	470nF 10V 0603
2074	2238 586 59812	100nF 20% 50V 0603
2075	2238 586 59812	100nF 20% 50V 0603
2305	2238 586 59812	100nF 20% 50V 0603
2316	2238 586 59812	100nF 20% 50V 0603
2322	2238 586 59812	100nF 20% 50V 0603
2324	5322 126 11583	10nF 10% 50V 0603
2350	2238 586 59812	100nF 20% 50V 0603
2351	2238 586 59812	100nF 20% 50V 0603
2352	2238 586 59812	100nF 20% 50V 0603
2356	2238 586 59812	100nF 20% 50V 0603
2357	2238 586 59812	100nF 20% 50V 0603
2358	3198 035 03320	3.3nF 5% 50V 0402
2359	3198 034 01590	15pF 1% 50V 0402
2360	3198 034 01580	1.5pF 1% 50V 0402
2361	3198 034 01280	1.2pF 1% 50V 0402
2362	2238 869 15109	10pF 5% 50V 0402
2365	2238 586 59812	100nF 20% 50V 0603
2366	2238 586 59812	100nF 20% 50V 0603
2367	2238 586 59812	100nF 20% 50V 0603
2368	2238 586 59812	100nF 20% 50V 0603
2369	2238 586 59812	100nF 20% 50V 0603
2370	2238 586 59812	100nF 20% 50V 0603
2371	3198 035 14720	4.7nF 5% 25V 0402
2372	2022 552 05679	1µF 10% 16V 0805
2373	2238 586 59812	100nF 20% 50V 0603
2374	2022 552 05679	1µF 10% 16V 0805
2375	2238 787 15641	22nF 5% 16V 0402
2376	2238 586 59812	100nF 20% 50V 0603
2377	2020 021 91557	100µF 20% 16V
2378	2238 586 59812	100nF 20% 50V 0603
2384	2238 586 59812	100nF 20% 50V 0603
2387	2022 552 05679	1µF 10% 16V 0805
2391	2238 586 59812	100nF 20% 50V 0603
2392	2022 552 05679	1µF 10% 16V 0805
2394	2022 552 05679	1µF 10% 16V 0805
2403	2238 586 59812	100nF 20% 50V 0603
2404	2022 552 05679	1µF 10% 16V 0805
2405	3198 035 14720	4.7nF 5% 25V 0402
2406	4822 117 13605	Jumper 0402
2409	2022 552 05679	1µF 10% 16V 0805
2410	2020 021 91557	100µF 20% 16V
2411	2238 586 59812	100nF 20% 50V 0603
2412	3198 035 14720	4.7nF 5% 25V 0402
2414	2020 021 91557	100µF 20% 16V
2415	2238 586 59812	100nF 20% 50V 0603
2416	2022 552 05679	1µF 10% 16V 0805
2417	4822 126 14583	470nF 10% 16V 0805
2418	3198 034 05680	5.6pF 1% 50V 0402
2425	2020 021 91557	100µF 20% 16V
2430	4822 126 14324	33pF 5% 50V 0402
2432	2238 586 59812	100nF 20% 50V 0603
2433	2238 586 59812	100nF 20% 50V 0603
2434	2238 586 59812	100nF 20% 50V 0603
2435	2020 552 96618	1nF 10% 50V 0402
2436	2022 552 05679	1µF 10% 16V 0805
2500	2022 552 05679	1µF 10% 16V 0805
2501	2020 552 94427	100pF 5% 50V
2502	2022 552 05679	1µF 10% 16V 0805
2503	2020 552 94427	100pF 5% 50V
2504	2022 552 05679	1µF 10% 16V 0805
2505	2022 552 05679	1µF 10% 16V 0805
2506	2238 586 59812	100nF 20% 50V 0603
2507	5322 126 11578	1nF 10% 50V 0603
2508	2022 552 05679	1µF 10% 16V 0805
2509	2238 586 59812	100nF 20% 50V 0603
2510	4822 126 14241	330pF 0603 50V
2511	2238 586 59812	100nF 20% 50V 0603
2512	2238 586 59812	100nF 20% 50V 0603
2513	2238 586 59812	100nF 20% 50V 0603
2515	2022 552 05679	1µF 10% 16V 0805
2516	2022 552 05679	1µF 10% 16V 0805
2517	2022 552 05679	1µF 10% 16V 0805
2707	3198 034 02790	47pF 1% 50V 0402

2731	2238 586 59812	100nF 20% 50V 0603	2852	2238 586 59812	100nF 20% 50V 0603	2A32	2238 869 15101	100pF 5% 50V 0402
2732	2020 552 96618	1nF 10% 50V 0402	2853	2238 586 59812	100nF 20% 50V 0603	2A33	2238 586 59812	100nF 20% 50V 0603
2733	2238 586 59812	100nF 20% 50V 0603	2854	2238 586 59812	100nF 20% 50V 0603	2A34	2238 586 59812	100nF 20% 50V 0603
2734	2238 586 59812	100nF 20% 50V 0603	2855	2238 586 59812	100nF 20% 50V 0603	2A35	2020 552 96618	1nF 10% 50V 0402
2735	2238 586 59812	100nF 20% 50V 0603	2856	2238 586 59812	100nF 20% 50V 0603	2A36	2238 869 15101	100pF 5% 50V 0402
2736	2238 586 59812	100nF 20% 50V 0603	2857	2238 586 59812	100nF 20% 50V 0603	2A37	2238 869 15101	100pF 5% 50V 0402
2738	2238 586 59812	100nF 20% 50V 0603	2858	2238 586 59812	100nF 20% 50V 0603	2A38	2022 552 05679	1μF 10% 16V 0805
2739	2020 021 91557	100μF 20% 16V	2859	2238 586 59812	100nF 20% 50V 0603	2A39	2022 552 05679	1μF 10% 16V 0805
2740	2238 787 15641	22nF 5% 16V 0402	2860	2238 586 59812	100nF 20% 50V 0603	2A40	2238 586 59812	100nF 20% 50V 0603
2741	2238 787 15641	22nF 5% 16V 0402	2861	2238 586 59812	100nF 20% 50V 0603	2A41	2020 021 91854	10μF 20% 16V
2742	2238 787 15641	22nF 5% 16V 0402	2862	2238 586 59812	100nF 20% 50V 0603	2A42	2020 021 91854	10μF 20% 16V
2743	2238 586 59812	100nF 20% 50V 0603	2863	2238 586 59812	100nF 20% 50V 0603	2A43	2020 021 91854	10μF 20% 16V
2744	2238 586 59812	100nF 20% 50V 0603	2864	2238 586 59812	100nF 20% 50V 0603	2A44	2238 586 59812	100nF 20% 50V 0603
2745	2238 586 59812	100nF 20% 50V 0603	2865	2238 586 59812	100nF 20% 50V 0603	2A45	2238 586 59812	100nF 20% 50V 0603
2746	2238 586 59812	100nF 20% 50V 0603	2866	2238 586 59812	100nF 20% 50V 0603	2A46	2022 552 05679	1μF 10% 16V 0805
2748	2238 586 59812	100nF 20% 50V 0603	2867	2238 586 59812	100nF 20% 50V 0603	2A47	2022 552 05679	1μF 10% 16V 0805
2749	2238 586 59812	100nF 20% 50V 0603	2868	2238 586 59812	100nF 20% 50V 0603	2A49	2022 552 05679	1μF 10% 16V 0805
2750	2020 552 96618	1nF 10% 50V 0402	2869	2238 586 59812	100nF 20% 50V 0603	2A50	2020 552 96618	1nF 10% 50V 0402
2751	2020 552 96618	1nF 10% 50V 0402	2870	2238 586 59812	100nF 20% 50V 0603	2A53	2022 552 05679	1μF 10% 16V 0805
2752	2020 552 96618	1nF 10% 50V 0402	2871	2020 021 91557	100μF 20% 16V	2A54	2020 552 96618	1nF 10% 50V 0402
2753	2020 552 96618	1nF 10% 50V 0402	2872	2238 586 59812	100nF 20% 50V 0603	2A56	2022 552 05679	1μF 10% 16V 0805
2754	2020 552 96618	1nF 10% 50V 0402	2873	2238 586 59812	100nF 20% 50V 0603	2A59	2022 552 05679	1μF 10% 16V 0805
2755	2020 552 96618	1nF 10% 50V 0402	2874	2238 586 59812	100nF 20% 50V 0603	2A62	2022 552 05679	1μF 10% 16V 0805
2756	2020 552 96618	1nF 10% 50V 0402	2875	2238 586 59812	100nF 20% 50V 0603	2A79	2238 586 59812	100nF 20% 50V 0603
2757	2238 787 15641	22nF 5% 16V 0402	2876	2238 586 59812	100nF 20% 50V 0603	2A91	2238 869 15101	100pF 5% 50V 0402
2759	2020 552 96618	1nF 10% 50V 0402	2877	2238 586 59812	100nF 20% 50V 0603	2A92	2022 552 05679	1μF 10% 16V 0805
2760	2238 787 15641	22nF 5% 16V 0402	2878	2238 586 59812	100nF 20% 50V 0603	2A95	3198 035 02210	220pF 5% 50V 0402
2761	2238 787 15641	22nF 5% 16V 0402	2879	2238 586 59812	100nF 20% 50V 0603	2A99	2022 552 05679	1μF 10% 16V 0805
2762	2238 787 15641	22nF 5% 16V 0402	2880	2238 586 59812	100nF 20% 50V 0603	2AA5	2238 869 15101	100pF 5% 50V 0402
2763	2238 787 15641	22nF 5% 16V 0402	2881	3198 034 02790	47pF 1% 50V 0402	2AA6	2020 552 96618	1nF 10% 50V 0402
2764	2238 787 15641	22nF 5% 16V 0402	2882	2238 586 59812	100nF 20% 50V 0603	2AA7	2020 552 96618	1nF 10% 50V 0402
2768	2238 787 15641	22nF 5% 16V 0402	2883	2238 586 59812	100nF 20% 50V 0603	2AA9	3198 034 05680	5.6pF 1% 50V 0402
2769	2020 552 96618	1nF 10% 50V 0402	2884	2238 586 59812	100nF 20% 50V 0603	2AB0	3198 034 05680	5.6pF 1% 50V 0402
2770	2020 552 96618	1nF 10% 50V 0402	2885	2238 586 59812	100nF 20% 50V 0603	2AB2	2020 552 96618	1nF 10% 50V 0402
2771	2020 552 96618	1nF 10% 50V 0402	2886	2238 586 59812	100nF 20% 50V 0603	2AB3	2022 552 05679	1μF 10% 16V 0805
2772	2238 787 15641	22nF 5% 16V 0402	2887	2238 586 59812	100nF 20% 50V 0603	2AB4	2022 552 05679	1μF 10% 16V 0805
2773	2020 552 96618	1nF 10% 50V 0402	2888	2238 586 59812	100nF 20% 50V 0603	2AB5	2020 021 91854	10μF 20% 16V
2777	2020 552 96618	1nF 10% 50V 0402	2889	2020 021 91557	100μF 20% 16V	2AB6	2020 552 96618	1nF 10% 50V 0402
2778	2020 552 96618	1nF 10% 50V 0402	2890	2238 586 59812	100nF 20% 50V 0603	2AB7	2020 552 96618	1nF 10% 50V 0402
2780	2020 552 96618	1nF 10% 50V 0402	2891	2238 586 59812	100nF 20% 50V 0603	2AB8	2022 552 05679	1μF 10% 16V 0805
2781	2020 552 96618	1nF 10% 50V 0402	2892	2238 586 59812	100nF 20% 50V 0603	2AF3	4822 124 10295	100μF 20% 16V
2782	2020 552 96618	1nF 10% 50V 0402	2893	2238 586 59812	100nF 20% 50V 0603	2AF4	2238 586 59812	100nF 20% 50V 0603
2784	2238 787 15641	22nF 5% 16V 0402	2894	2238 586 59812	100nF 20% 50V 0603	2C00	2238 586 59812	100nF 20% 50V 0603
2785	2238 787 15641	22nF 5% 16V 0402	2895	2020 021 91854	10μF 20% 16V	2C01	2238 586 59812	100nF 20% 50V 0603
2788	2238 586 59812	100nF 20% 50V 0603	2898	2020 021 91854	10μF 20% 16V	2C02	2238 586 59812	100nF 20% 50V 0603
2789	2238 586 59812	100nF 20% 50V 0603	2899	2238 586 59812	100nF 20% 50V 0603	2D04	2020 552 96618	1nF 10% 50V 0402
2790	2238 586 59812	100nF 20% 50V 0603	2900	3198 034 04790	27pF 1% 50V 0402	2D09	2238 586 59812	100nF 20% 50V 0603
2791	2238 586 59812	100nF 20% 50V 0603	2901	3198 034 04790	27pF 1% 50V 0402	2D10	2022 552 05679	1μF 10% 16V 0805
2792	2238 586 59812	100nF 20% 50V 0603	2902	3198 034 04790	27pF 1% 50V 0402	2D11	2020 552 96628	10nF 10% 16V 0402
2793	2238 586 59812	100nF 20% 50V 0603	2915	3198 034 01510	150pF 1% 50V 0402	2D12	2020 552 96628	10nF 10% 16V 0402
2794	2020 552 96618	1nF 10% 50V 0402	2916	3198 034 01510	150pF 1% 50V 0402	2E01	2238 586 59812	100nF 20% 50V 0603
2795	2020 552 96618	1nF 10% 50V 0402	2917	2238 586 59812	100nF 20% 50V 0603	2E02	2238 586 59812	100nF 20% 50V 0603
2796	2020 552 96618	1nF 10% 50V 0402	2919	2020 021 91557	100μF 20% 16V	2E03	2238 586 59812	100nF 20% 50V 0603
2797	2020 552 96618	1nF 10% 50V 0402	2920	2238 586 59812	100nF 20% 50V 0603	2E04	2238 586 59812	100nF 20% 50V 0603
2798	2020 552 96618	1nF 10% 50V 0402	2921	2238 586 59812	100nF 20% 50V 0603	2E06	2238 586 59812	100nF 20% 50V 0603
2799	2020 552 96618	1nF 10% 50V 0402	2922	2020 552 96628	10nF 10% 16V 0402	2E07	2238 586 59812	100nF 20% 50V 0603
2800	2238 586 59812	100nF 20% 50V 0603	2923	2020 552 96628	10nF 10% 16V 0402	2E08	2238 586 59812	100nF 20% 50V 0603
2802	2238 586 59812	100nF 20% 50V 0603	2924	2238 586 59812	100nF 20% 50V 0603	2E09	2238 586 59812	100nF 20% 50V 0603
2804	2238 586 59812	100nF 20% 50V 0603	2931	3198 034 01510	150pF 1% 50V 0402	2E10	2238 586 59812	100nF 20% 50V 0603
2805	2020 552 96618	1nF 10% 50V 0402	2932	2238 586 59812	100nF 20% 50V 0603	2E11	2238 586 59812	100nF 20% 50V 0603
2806	2238 586 59812	100nF 20% 50V 0603	2933	2238 586 59812	100nF 20% 50V 0603	2E12	2238 586 59812	100nF 20% 50V 0603
2807	2238 586 59812	100nF 20% 50V 0603	2937	2020 021 91557	100μF 20% 16V	2E13	2238 586 59812	100nF 20% 50V 0603
2808	2020 552 96618	1nF 10% 50V 0402	2938	2020 021 91854	10μF 20% 16V	2E14	2238 586 59812	100nF 20% 50V 0603
2809	2020 552 96618	1nF 10% 50V 0402	2939	2020 021 91557	100μF 20% 16V	2E15	2238 586 59812	100nF 20% 50V 0603
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2812	3198 031 02290	22Ω 5% 0.1W 0402	2A02	2022 552 05679	1μF 10% 16V 0805	2E18	2238 586 59812	100nF 20% 50V 0603
2813	2238 586 59812	100nF 20% 50V 0603	2A03	2020 021 91557	100μF 20% 16V	2E19	2238 586 59812	100nF 20% 50V 0603
2817	2238 586 59812	100nF 20% 50V 0603	2A04	2022 552 05679	1μF 10% 16V 0805	2E20	2238 586 59812	100nF 20% 50V 0603
2819	2238 586 59812	100nF 20% 50V 0603	2A05	2020 021 91557	10μF 20% 16V	2E21	3198 017 34730	47nF 16V 0603
2821	2238 787 15641	22nF 5% 16V 0402	2A06	2020 552 96618	1nF 10% 50V 0402	2E22	4822 126 14519	22pF 5% 50V 0402
2822	2238 787 15641	22nF 5% 16V 0402	2A07	2020 552 96618	1nF 10% 50V 0402	2E23	3198 017 34730	47nF 16V 0603
2823	2238 586 59812	100nF 20% 50V 0603	2A08	2022 552 05679	1μF 10% 16V 0805	2E24	4822 126 14519	22pF 5% 50V 0402
2824	2238 586 59812	100nF 20% 50V 0603	2A10	2238 586 59812	100nF 20% 50V 0603	2E25	3198 017 34730	47nF 16V 0603
2825	2238 586 59812	100nF 20% 50V 0603	2A11	2238 586 59812	100nF 20% 50V 0603	2E26	4822 126 14519	22pF 5% 50V 0402
2826	2238 586 59812	100nF 20% 50V 0603	2A12	2238 586 59812	100nF 20% 50V 0603	2E27	2238 586 59812	100nF 20% 50V 0603
2827	2238 586 59812	100nF 20% 50V 0603	2A13	2238 586 59812	100nF 20% 50V 0603	2E28	3198 017 34730	47nF 16V 0603
2829	2020 021 91557	100μF 20% 16V	2A14	2020 552 96618	1nF 10% 50V 0402	2E29	3198 017 33330	33nF 20% 16V 0603
2830	2238 586 59812	100nF 20% 50V 0603	2A15	2020 021 91557	100μF 20% 16V	2E34	3198 035 03320	3.3nF 5% 50V 0402
2831	2238 586 59812	100nF 20% 50V 0603						

2E62	2238 586 59812	100nF 20% 50V 0603	2IE4	2238 586 59812	100nF 20% 50V 0603	2T31	2022 552 05635	22µF 10% 16V
2E65	2238 586 59812	100nF 20% 50V 0603	2IE5	2238 586 59812	100nF 20% 50V 0603	2T32	2238 586 59812	100nF 20% 50V 0603
2E66	2238 586 59812	100nF 20% 50V 0603	2IE6	2238 586 59812	100nF 20% 50V 0603	2T33	2238 586 59812	100nF 20% 50V 0603
2E67	2238 586 59812	100nF 20% 50V 0603	2IE7	2022 552 05679	1µF 10% 16V 0805	2T34	2020 552 96618	1nF 10% 50V 0402
2E68	2020 552 96628	10nF 10% 16V 0402	2IE8	2022 552 05679	1µF 10% 16V 0805	2T35	2238 586 59812	100nF 20% 50V 0603
2E69	2020 552 96628	10nF 10% 16V 0402	2IE9	2238 586 59812	100nF 20% 50V 0603	2T36	2022 552 05679	1µF 10% 16V 0805
2E70	2238 586 59812	10nF 10% 16V 0402	2IF1	2238 586 59812	100nF 20% 50V 0603	2T37	2020 552 96628	10nF 10% 16V 0402
2E71	2020 552 96628	10nF 10% 16V 0402	2IF2	2238 586 59812	100nF 20% 50V 0603	2T38	2238 586 59812	100nF 20% 50V 0603
2E72	2238 586 59812	100nF 20% 50V 0603	2IF3	2238 586 59812	100nF 20% 50V 0603	2T40	2238 586 59812	100nF 20% 50V 0603
2E73	2238 586 59812	100nF 20% 50V 0603	2IF4	4822 124 80151	47µF 16V	2T41	5322 126 11578	1nF 10% 50V 0603
2E74	2238 586 59812	100nF 20% 50V 0603	2IF5	2238 586 59812	100nF 20% 50V 0603	2T42	2238 916 15641	22nF 10% 25V 0603
2E75	2238 586 59812	100nF 20% 50V 0603	2IF8	4822 124 11946	22µF 20% 16V	2T43	2022 552 05635	22µF 10% 16V
2E77	2238 586 59812	100nF 20% 50V 0603	2IF9	4822 124 11946	22µF 20% 16V	2T44	2020 552 96628	10nF 10% 16V 0402
2E78	2238 586 59812	100nF 20% 50V 0603	2IG1	2238 586 59812	100nF 20% 50V 0603	2T45	2020 552 96628	10nF 10% 16V 0402
2E79	2238 586 59812	100nF 20% 50V 0603	2IG2	5322 124 41945	22µF 20% 35V	2T46	5322 126 11578	1nF 10% 50V 0603
2E80	2238 586 59812	100nF 20% 50V 0603	2IG3	2238 586 59812	100nF 20% 50V 0603	2T47	3198 035 04710	470pF 50V 0402
2E81	2022 552 05679	1µF 10% 16V 0805	2IG4	2238 586 59812	100nF 20% 50V 0603	2T48	2238 586 59812	100nF 20% 50V 0603
2E82	2238 586 59812	100nF 20% 50V 0603	2IG5	2238 586 59812	100nF 20% 50V 0603	2T49	2020 552 96618	1nF 10% 50V 0402
2E83	2238 586 59812	100nF 20% 50V 0603	2IG6	2238 586 59812	100nF 20% 50V 0603	2T50	2020 552 96628	10nF 10% 16V 0402
2E84	2238 586 59812	100nF 20% 50V 0603	2IG7	2238 586 59812	100nF 20% 50V 0603	2T51	2022 552 05679	1µF 10% 16V 0805
2E86	2238 586 59812	100nF 20% 50V 0603	2IG8	2238 586 59812	100nF 20% 50V 0603	2T52	2022 552 05679	1µF 10% 16V 0805
2E87	4822 124 12095	100µF 20% 16V	2IG9	2238 586 59812	100nF 20% 50V 0603	2T53	3198 035 03320	3.3nF 5% 50V 0402
2E93	2238 586 59812	100nF 20% 50V 0603	2IH1	2238 586 59812	100nF 20% 50V 0603	2T54	2238 586 59812	100nF 20% 50V 0603
2E94	2238 586 59812	100nF 20% 50V 0603	2IH2	2238 586 59812	100nF 20% 50V 0603	2T60	3198 032 28210	220µF 20% 6.3V
2E96	2238 869 15101	100pF 5% 50V 0402	2IH3	2020 552 96618	1nF 10% 50V 0402	2T62	2020 552 96683	220nF 10% 50V
2E97	2238 869 15101	100pF 5% 50V 0402	2IH4	2022 552 05679	1µF 10% 16V 0805	2T63	2020 552 96683	220nF 10% 50V
2E98	2238 869 15101	100pF 5% 50V 0402	2IH5	2238 586 59812	100nF 20% 50V 0603	2U03	2022 552 05679	1µF 10% 16V 0805
2E99	4822 124 81058	47µF 20% 4V	2IH6	4822 124 11946	22µF 20% 16V	2U04	4822 126 14583	470nF 10% 16V 0805
2I00	2238 869 15101	100pF 5% 50V 0402	2IH7	4822 124 11946	22µF 20% 16V	2U05	2020 552 96618	1nF 10% 50V 0402
2I11	2022 552 05679	1µF 10% 16V 0805	2IH8	4822 124 11946	22µF 20% 16V	2U06	2022 552 05635	22µF 10% 16V
2I12	4822 126 14585	100nF 10% 0805 50V	2IH9	4822 124 11946	22µF 20% 16V	2U07	2238 869 15829	82pF 5% 50V 0402
2I15	2022 552 05679	1µF 10% 16V 0805	2IJ4	2238 586 59812	100nF 20% 50V 0603	2U08	2022 552 05635	22µF 10% 16V
2I16	2238 869 15101	100pF 5% 50V 0402	2IJ8	2022 552 05679	1µF 10% 16V 0805	2U09	2020 552 96618	1nF 10% 50V 0402
2I17	2238 869 15101	100pF 5% 50V 0402	2IJ9	2022 552 05679	1µF 10% 16V 0805	2U10	2022 552 05635	22µF 10% 16V
2I18	2238 869 15101	100pF 5% 50V 0402	2IK1	2238 780 15654	220nF 10% 16V 0805	2U11	2020 552 96618	1nF 10% 50V 0402
2I19	2238 869 15101	100pF 5% 50V 0402	2IK5	2238 586 59812	100nF 20% 50V 0603	2U12	2020 552 96628	10nF 10% 16V 0402
2I20	3198 035 03310	330pF 5% 50V 0402	2IK6	2238 586 59812	100nF 20% 50V 0603	2U13	2238 780 15654	220nF 10% 16V 0805
2I21	2238 869 15101	100pF 5% 50V 0402	2IK7	2238 586 59812	100nF 20% 50V 0603	2U14	4822 126 14583	470nF 10% 16V 0805
2I22	2238 869 15101	100pF 5% 50V 0402	2IL0	2238 869 15109	10pF 5% 50V 0402	2U15	4822 124 12095	100µF 20% 16V
2I23	2238 869 15101	100pF 5% 50V 0402	2IN8	2238 586 59812	100nF 20% 50V 0603	2U16	3198 035 14720	4.7nF 5% 25V 0402
2I24	2238 869 15101	100pF 5% 50V 0402	2IN9	2238 586 59812	100nF 20% 50V 0603	2U17	4822 126 14583	470nF 10% 16V 0805
2I25	3198 035 03310	330pF 5% 50V 0402	2IS6	4822 124 12095	100µF 20% 16V	2U18	3198 034 01210	120pF 1% 50V 0402
2I26	2238 869 15101	100pF 5% 50V 0402	2L00	4822 124 23237	22µF 6.3V	2U19	2238 586 59812	100nF 20% 50V 0603
2I27	2238 869 15101	100pF 5% 50V 0402	2L01	2238 586 59812	100nF 20% 50V 0603	2U20	2022 552 05679	1µF 10% 16V 0805
2I30	2238 869 15101	100pF 5% 50V 0402	2L02	2238 586 59812	100nF 20% 50V 0603	2U21	4822 126 14583	470nF 10% 16V 0805
2I32	4822 124 23002	10µF 16V	2L03	2238 586 59812	100nF 20% 50V 0603	2U22	2022 552 05679	1µF 10% 16V 0805
2I36	2238 869 15101	100pF 5% 50V 0402	2L04	2238 586 59812	100nF 20% 50V 0603	2U23	4822 124 12095	100µF 20% 16V
2I38	2238 869 15101	100pF 5% 50V 0402	2L05	2238 586 59812	100nF 20% 50V 0603	2U24	2020 552 96618	1nF 10% 50V 0402
2I46	2020 552 96618	1nF 10% 50V 0402	2L06	2238 586 59812	100nF 20% 50V 0603	2U25	2238 586 59812	100nF 20% 50V 0603
2I47	2020 552 96618	1nF 10% 50V 0402	2L07	2238 586 59812	100nF 20% 50V 0603	2U26	2238 586 59812	100nF 20% 50V 0603
2I50	2238 586 59812	100nF 20% 50V 0603	2L08	2238 586 59812	100nF 20% 50V 0603	2U27	3198 035 26820	6.8nF 10% 16V 0402
2I57	2238 869 15101	100pF 5% 50V 0402	2L09	2238 586 59812	100nF 20% 50V 0603	2U28	3198 035 26820	6.8nF 10% 16V 0402
2I58	2238 869 15101	100pF 5% 50V 0402	2L10	2238 586 59812	100nF 20% 50V 0603	2U30	3198 034 01210	120pF 1% 50V 0402
2I64	2238 869 15101	100pF 5% 50V 0402	2L11	2238 586 59812	100nF 20% 50V 0603	2U31	4822 124 12095	100µF 20% 16V
2I65	2238 869 15101	100pF 5% 50V 0402	2L12	2238 586 59812	100nF 20% 50V 0603	2U32	3198 035 03320	3.3nF 5% 50V 0402
2I69	4822 126 14324	33pF 5% 50V 0402	2L13	2238 586 59812	100nF 20% 50V 0603	2U33	2022 552 05679	1µF 10% 16V 0805
2I70	4822 126 14324	33pF 5% 50V 0402	2L14	2238 586 59812	100nF 20% 50V 0603	2U34	2238 787 15641	22nF 5% 16V 0402
2I86	4822 126 14324	33pF 5% 50V 0402	2L15	2238 586 59812	100nF 20% 50V 0603	2U35	2022 552 05679	1µF 10% 16V 0805
2I87	2238 869 15101	100pF 5% 50V 0402	2L16	2238 586 59812	100nF 20% 50V 0603	2U36	2238 586 59812	100nF 20% 50V 0603
2I88	2238 869 15101	100pF 5% 50V 0402	2L17	2238 586 59812	100nF 20% 50V 0603	2U37	2020 552 96623	2.2nF 10% 50V 0402
2I89	4822 124 23002	10µF 16V	2L19	4822 124 23237	22µF 6.3V	2U39	2238 586 59812	100nF 20% 50V 0603
2I90	2022 552 05679	1µF 10% 16V 0805	2L20	2238 586 59812	100nF 20% 50V 0603	2U40	2020 552 96623	2.2nF 10% 50V 0402
2I91	2238 586 59812	100nF 20% 50V 0603	2L21	2238 586 59812	100nF 20% 50V 0603	2U41	3198 035 26820	6.8nF 10% 16V 0402
2I92	2022 552 05679	1µF 10% 16V 0805	2L22	2238 586 59812	100nF 20% 50V 0603	2U42	3198 017 34730	47nF 16V 0603
2I93	2238 586 59812	100nF 20% 50V 0603	2L25	2238 586 59812	100nF 20% 50V 0603	2V11	3198 035 04710	470pF 50V 0402
2I94	2238 586 59812	100nF 20% 50V 0603	2L26	3198 017 33330	33nF 20% 16V 0603	2V12	3198 035 04710	470pF 50V 0402
2I95	2238 586 59812	100nF 20% 50V 0603	2L27	3198 035 14720	4.7nF 5% 25V 0402	2Y00	2238 869 15101	100pF 5% 50V 0402
2I96	2022 552 05679	1µF 10% 16V 0805	2L28	3198 034 03990	39pF 1% 50V 0402	2Y01	2238 869 15101	100pF 5% 50V 0402
2I97	2238 586 59812	100nF 20% 50V 0603	2L29	3198 034 03990	39pF 1% 50V 0402	2Y02	2238 869 15101	100pF 5% 50V 0402
2I98	2238 586 59812	100nF 20% 50V 0603	2L30	3198 034 03990	39pF 1% 50V 0402	2Y03	2238 869 15101	100pF 5% 50V 0402
2I99	4822 124 23002	10µF 16V	2L31	3198 017 34730	47nF 16V 0603	2Y06	2020 552 96618	1nF 10% 50V 0402
2IA0	4822 124 23002	10µF 16V	2L32	3198 035 03320	3.3nF 5% 50V 0402	2Y07	2238 869 15101	100pF 5% 50V 0402
2IA1	4822 124 23002	10µF 16V	2L33	2238 586 59812	100nF 20% 50V 0603	2Y08	2020 552 96618	1nF 10% 50V 0402
2IA2	4822 124 23002	10µF 16V	2L34	2238 586 59812	100nF 20% 50V 0603	2Y09	2238 869 15101	100pF 5% 50V 0402
2IA3	2020 552 96618	1nF 10% 50V 0402	2L51	4822 124 23237	22µF 6.3V	2Y10	2238 869 15101	100pF 5% 50V 0402
2IA4	4822 126 14585	100nF 10% 0805 50V	2L52	3198 017 34730	47nF 16V 0603	2Y11	2020 552 96618	1nF 10% 50V 0402
2IA5	2020 021 91557	100µF 20% 16V	2L54	3198 017 34730	47nF 16V 0603	2Y12	2238 869 15101	100pF 5% 50V 0402
2IA9	2020 021 91557	100µF 20% 16V	2L56	2020 552 96618	1nF 10% 50V 0402	2Y14	2238 869 15101	100pF 5% 50V 0402
2IB0	2238 586 59812	100nF 20% 50V 0603	2L57	3198 017 34730	47nF 16V 0603	2Y15	2238 869 15101	100pF 5% 50V 0402
2IB3	2238 586 59812	100nF 20% 50V 0603	2L58	4822 124 23237	22µF 6.3V	2Y16	2238 869 15101	100pF 5% 50V 0402
2IB5	2022 552 05679	1µF 10% 16						

2Y34	2238 869 15101	100pF 5% 50V 0402	3080	4822 117 13606	10kΩ 5% 0.01W 0402	3722	4822 117 13548	1kΩ 5% 0402
2Y37	2238 869 15101	100pF 5% 50V 0402	3081	4822 117 13543	470Ω 5% 0402	3724	4822 117 13545	100Ω 1% 0402
2Y38	2238 869 15101	100pF 5% 50V 0402	3082	2350 033 10101	4 x 100Ω 5%	3725	3198 031 03320	3.3kΩ 5% 0402
2Y39	2238 869 15101	100pF 5% 50V 0402	3083	2350 033 10101	4 x 100Ω 5%	3726	3198 031 01220	1.2kΩ 5% 0.01W 0402
2Y40	2238 869 15101	100pF 5% 50V 0402	3084	4822 117 13606	10kΩ 5% 0.01W 0402	3727	3198 031 01510	150Ω 5% 0.01W 0402
2Y41	2238 869 15101	100pF 5% 50V 0402	3085	2350 033 10101	4 x 100Ω 5%	3728	3198 031 01510	150Ω 5% 0.01W 0402
2Y42	2238 869 15101	100pF 5% 50V 0402	3086	2350 033 10101	4 x 100Ω 5%	3729	4822 117 13605	Jumper 0402
2Y43	2238 869 15101	100pF 5% 50V 0402	3087	4822 117 13545	100Ω 1% 0402	3732	3198 031 04730	47Ω 5% 0402
2Y49	2238 869 15101	100pF 5% 50V 0402	3088	3198 031 01820	1.8kΩ 5% 0.01W 0402	3733	4822 117 13548	1kΩ 5% 0402
2Y50	2238 869 15101	100pF 5% 50V 0402	3089	4822 117 13545	100Ω 1% 0402	3734	4822 117 13545	100Ω 1% 0402
2Y51	2238 869 15101	100pF 5% 50V 0402	3090	2350 033 10471	4 x 470Ω 5%	3736	4822 117 13545	100Ω 1% 0402
2Y52	2238 787 15641	22nF 5% 16V 0402	3092	3198 031 01820	1.8kΩ 5% 0.01W 0402	3737	4822 117 13548	1kΩ 5% 0402
2Y53	2238 869 15101	100pF 5% 50V 0402	3093	4822 117 13606	10kΩ 5% 0.01W 0402	3738	4822 117 13548	1kΩ 5% 0402
2Z44	4822 126 14519	22pF 5% 50V 0402	3097	4822 117 13543	470Ω 5% 0402	3739	3198 031 01230	12kΩ 5% 0402
2Z45	4822 126 14519	22pF 5% 50V 0402	3099	2350 033 10471	4 x 470Ω 5%	3740	3198 031 04720	4.7kΩ 5% 0402
2Z46	4822 126 14519	22pF 5% 50V 0402	3100	4822 117 13596	220Ω 5% 0.01W 0402	3742	4822 117 13601	22kΩ 5% 0402
2Z47	4822 126 14519	22pF 5% 50V 0402	3101	4822 117 13596	220Ω 5% 0.01W 0402	3743	4822 117 13606	10kΩ 5% 0.01W 0402
2Z48	4822 126 14519	22pF 5% 50V 0402	3102	2350 033 10101	4 x 100Ω 5%	3746	3198 031 03920	3.9kΩ 5% 0402
2Z49	4822 126 14519	22pF 5% 50V 0402	3103	4822 117 13543	470Ω 5% 0402	3747	3198 031 04730	47Ω 5% 0402
2Z50	4822 126 14519	22pF 5% 50V 0402	3304▲	2322 750 63908	3.9Ω 5% Fuse 1206	3748	2322 705 70124	120kΩ 5% 0402
2Z51	4822 126 14519	22pF 5% 50V 0402	3370	4822 117 13545	100Ω 1% 0402	3749	3198 031 03920	3.9kΩ 5% 0402
2Z52	4822 126 14519	22pF 5% 50V 0402	3371	4822 117 13546	47Ω 5% 0402	3750	3198 031 03920	3.9kΩ 5% 0402
2Z53	4822 126 14519	22pF 5% 50V 0402	3372	4822 117 13543	470Ω 5% 0402	3751	3198 031 03320	3.3kΩ 5% 0402
2Z55	2238 586 59812	100nF 20% 50V 0603	3376	4822 117 13545	100Ω 1% 0402	3752	4822 117 13605	Jumper 0402
2Z56	2020 552 96618	1nF 10% 50V 0402	3377	4822 117 13545	100Ω 1% 0402	3753	4822 117 13605	Jumper 0402
2Z63	2238 586 59812	100nF 20% 50V 0603	3378	3198 031 01530	15kΩ 5% 0.01W 0402	3754	4822 117 13545	100Ω 1% 0402
2Z64	2238 586 59812	100nF 20% 50V 0603	3380	4822 117 13545	100Ω 1% 0402	3755	3198 031 04720	4.7kΩ 5% 0402
			3382	4822 117 13543	470Ω 5% 0402	3756	4822 117 13606	10kΩ 5% 0.01W 0402
			3385	4822 117 13543	470Ω 5% 0402	3757	3198 031 01510	150Ω 5% 0.01W 0402
			3393	4822 117 11297	100kΩ 5% 0.1W	3758	3198 031 04720	4.7kΩ 5% 0402
			3400▲	4822 117 11152	4.7Ω 5%	3759	4822 117 13596	220Ω 5% 0.01W 0402
			3402▲	2322 750 63908	3.9Ω 5% Fuse 1206	3762	3198 031 06890	68Ω 5% 0402
			3405	4822 117 13548	1kΩ 5% 0402	3763	3198 031 06890	68Ω 5% 0402
			3408	4822 117 13545	100Ω 1% 0402	3764	3198 031 06890	68Ω 5% 0402
			3411	3198 031 02720	2.7kΩ 5% 0.01W 0402	3766	4822 117 13548	1kΩ 5% 0402
			3412▲	4822 117 11152	4.7Ω 5%	3767	3198 031 06890	68Ω 5% 0402
			3413	3198 031 02710	270Ω 5% 0.1W 0402	3768	3198 031 06890	68Ω 5% 0402
			3414	3198 031 04720	4.7kΩ 5% 0402	3769	3198 031 06890	68Ω 5% 0402
			3415	4822 117 13602	2.2kΩ 5% 0.01W 0402	3770	3198 031 06890	68Ω 5% 0402
			3418	3198 031 03910	390Ω 1% 0402	3771	3198 031 07590	75Ω 5% 0402
			3419	3198 031 03390	33Ω 1% 0402	3772	3198 031 07590	75Ω 5% 0402
			3422	4822 117 13548	1kΩ 5% 0402	3773	3198 031 07590	75Ω 5% 0402
			3435	3198 031 04720	4.7kΩ 5% 0402	3774	3198 031 06890	68Ω 5% 0402
			3436	3198 031 01810	180Ω 5% 0402	3775	3198 031 06890	68Ω 5% 0402
			3437	4822 117 13543	470Ω 5% 0402	3776	3198 031 07590	75Ω 5% 0402
			3439	4822 117 13597	330Ω 5% 0402 0.01W	3777	3198 031 06890	68Ω 5% 0402
			3441	3198 031 05620	5.6kΩ 5% 0.01W 0402	3778	3198 031 04720	4.7kΩ 5% 0402
			3445	4822 117 13543	470Ω 5% 0402	3779	3198 031 06890	68Ω 5% 0402
			3463	3198 031 04720	4.7kΩ 5% 0402	3780	3198 031 06890	68Ω 5% 0402
			3473	4822 117 13548	1kΩ 5% 0402	3781	3198 031 06890	68Ω 5% 0402
			3474	3198 031 01090	10Ω 5% 0.01W 0402	3782	4822 117 13548	1kΩ 5% 0402
			3475▲	5322 117 11726	10Ω 5%	3784	3198 031 06890	68Ω 5% 0402
			3500	4822 051 30101	100Ω 5% 0.062W	3792	3198 031 01510	150Ω 5% 0.01W 0402
			3501	4822 051 30101	100Ω 5% 0.062W	3793	4822 117 13602	2.2kΩ 5% 0.01W 0402
			3502	4822 051 30223	22kΩ 5% 0.062W	3794	3198 031 07590	75Ω 5% 0402
			3503	4822 051 30101	100Ω 5% 0.062W	3795	3198 031 01510	150Ω 5% 0.01W 0402
			3504	4822 051 30101	100Ω 5% 0.062W	3797	3198 031 04720	4.7kΩ 5% 0402
			3505	4822 051 30223	22kΩ 5% 0.062W	3800	3198 031 07590	75Ω 5% 0402
			3506	4822 051 30759	75Ω 5% 0.062W	3801	3198 031 01510	150Ω 5% 0.01W 0402
			3507	4822 051 30759	75Ω 5% 0.062W	3802	3198 031 01510	150Ω 5% 0.01W 0402
			3508	4822 051 30759	75Ω 5% 0.062W	3803	3198 031 06890	68Ω 5% 0402
			3509	4822 051 30101	100Ω 5% 0.062W	3804	3198 031 06890	68Ω 5% 0402
			3510	4822 051 30759	75Ω 5% 0.062W	3805	4822 117 13545	100Ω 1% 0402
			3511	4822 051 30479	47Ω 5% 0.062W	3811	3198 031 07590	75Ω 5% 0402
			3512	4822 051 30479	47Ω 5% 0.062W	3812	3198 031 07590	75Ω 5% 0402
			3513	4822 051 30479	47Ω 5% 0.062W	3814	3198 031 07590	75Ω 5% 0402
			3514	4822 051 30479	47Ω 5% 0.062W	3815	3198 031 07590	75Ω 5% 0402
			3515	4822 051 30479	47Ω 5% 0.062W	3817	3198 031 07590	75Ω 5% 0402
			3516	4822 051 30479	47Ω 5% 0.062W	3818	3198 031 07590	75Ω 5% 0402
			3517	4822 117 12925	47kΩ 1% 0.063W 0603	3820	3198 031 04720	4.7kΩ 5% 0402
			3522	4822 051 30272	2.7kΩ 5% 0.062W	3821	3198 031 03390	33Ω 1% 0402
			3523	4822 051 30223	22kΩ 5% 0.062W	3823	3198 031 06890	68Ω 5% 0402
			3524	4822 051 30479	47Ω 5% 0.062W	3826	4822 117 13545	100Ω 1% 0402
			3525	4822 051 30102	1kΩ 5% 0.062W	3827	4822 117 13545	100Ω 1% 0402
			3526	5322 117 13056	8.2kΩ 1% 0.063W 0603	3829	4822 117 13545	100Ω 1% 0402
			3527	4822 051 30683	68kΩ 5% 0.062W	3830	3198 031 06890	68Ω 5% 0402
			3528	4822 051 30223	22kΩ 5% 0.062W	3831	3198 031 06890	68Ω 5% 0402
			3529	4822 051 30102	1kΩ 5% 0.062W	3832	3198 031 06890	68Ω 5% 0402
			3535	4822 051 30479	47Ω 5% 0.062W	3833	3198 031 06890	68Ω 5% 0402
			3536	4822 051 30103	10kΩ 5% 0.062W	3834	3198 031 06890	68Ω 5% 0402
			3543	4822 051 30759	75Ω 5% 0.062W	3835	3198 031 06890	68Ω 5% 0402
			3599	4822 051 30102	1kΩ 5% 0.062W	3836	3198 031 06890	68Ω 5% 0402
			3700	3198 031 02290	22Ω 5% 0.1W 0402	3837	3198 031 06890	68Ω 5% 0402
			3701	4822 117 13548	1kΩ 5% 0402	3838	3198 031 06890	68Ω 5% 0402
			3702	3198 031 01090	10Ω 5% 0.01W 0402	3839	3198 031 06890	68Ω 5% 0402
			3706	4822 117 13545	100Ω 1% 0402	3840	3198 031 06890	68Ω 5% 0402
			3707	4822 117 13545	100Ω 1% 0402	3841	3198 031 06890	68Ω 5% 0402
			3709	4822 117 13545	100Ω 1% 0402	3842	3198 031 06890	68Ω 5% 0402
			3710	4822 117 13545	100Ω 1% 0402	3843	3198 031 06890	68Ω 5% 0402
			3712	3198 031 04730	47Ω 5% 0402	3844	3198 031 06890	68Ω 5% 0402
			3713	4822 117 13605	Jumper 0402	3845	3198 031 06890	68Ω 5% 0402
			3714	4822 117 13605	Jumper 0402	3846	3198 031 04720	4.7kΩ 5% 0402
			3715	4822 117 13605	Jumper 0402	3853	3198 031 04730	47Ω 5% 0402
			3721	4822 117 13545	100Ω 1% 0402	3855	3198 031 04720	4.7kΩ 5% 0402

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3856	3198 031 01090	10Ω 5% 0.01W 0402	3A64	3198 031 04730	47Ω 5% 0402	3I62	4822 051 30101	100Ω 5% 0.062W
3857	3198 031 01090	10Ω 5% 0.01W 0402	3A65	4822 117 11297	100kΩ 5% 0.1W	3I63	4822 051 30392	3.9Ω 5% 0.063W 0603
3858	3198 031 01090	10Ω 5% 0.01W 0402	3A66	4822 117 11297	100kΩ 5% 0.1W	3I64	3198 031 08220	8.2kΩ 5% 0.5W
3859	3198 031 01090	10Ω 5% 0.01W 0402	3A67	4822 117 13543	470Ω 5% 0402	3I65	4822 051 30101	100Ω 5% 0.062W
3860	3198 031 01090	10Ω 5% 0.01W 0402	3C00	4822 117 13602	2.2kΩ 5% 0.01W 0402	3I66	4822 051 30759	75Ω 5% 0.062W
3861	3198 031 01090	10Ω 5% 0.01W 0402	3C01	3198 031 01090	10Ω 5% 0.01W 0402	3I67	4822 051 30759	75Ω 5% 0.062W
3864	4822 117 13545	100Ω 1% 0402	3C03	4822 117 13606	10kΩ 5% 0.01W 0402	3I68	4822 051 30101	100Ω 5% 0.062W
3865	4822 117 13545	100Ω 1% 0402	3C04	4822 117 13606	10kΩ 5% 0.01W 0402	3I69	4822 051 30271	270Ω 5% 0.062W
3867	4822 117 13545	100Ω 1% 0402	3C05	4822 117 13543	470Ω 5% 0402	3I70	4822 051 30101	100Ω 5% 0.062W
3868	4822 117 13545	100Ω 1% 0402	3C08	4822 051 30103	10kΩ 5% 0.062W	3I71	4822 051 30271	270Ω 5% 0.062W
3869	4822 117 13545	100Ω 1% 0402	3C10	4822 117 13545	100Ω 1% 0402	3I72	4822 051 30101	100Ω 5% 0.062W
3870	4822 117 13545	100Ω 1% 0402	3C11	4822 117 13545	100Ω 1% 0402	3I75	4822 051 30101	100Ω 5% 0.062W
3871	4822 117 13545	100Ω 1% 0402	3C12	3198 031 06890	68Ω 5% 0402	3I76	4822 051 30101	100Ω 5% 0.062W
3872	4822 117 13545	100Ω 1% 0402	3E00	4822 117 13606	10kΩ 5% 0.01W 0402	3I77	4822 051 30759	75Ω 5% 0.062W
3873	4822 117 13545	100Ω 1% 0402	3E01	4822 117 13548	1kΩ 5% 0402	3I78	4822 051 30759	75Ω 5% 0.062W
3874	4822 117 13545	100Ω 1% 0402	3E02	4822 117 13548	1kΩ 5% 0402	3I79	4822 051 30101	100Ω 5% 0.062W
3880	3198 031 04730	47Ω 5% 0402	3E03	4822 117 13548	1kΩ 5% 0402	3I80	4822 051 30101	100Ω 5% 0.062W
3881	3198 031 04730	47Ω 5% 0402	3E04	4822 117 13548	1kΩ 5% 0402	3I81	3198 031 08220	8.2kΩ 5% 0.5W
3882	3198 031 04730	47Ω 5% 0402	3E05	3198 031 01520	1.2kΩ 5% 0.01W 0402	3I82	4822 051 30392	3.9Ω 5% 0.063W 0603
3883	3198 031 04730	47Ω 5% 0402	3E06	4822 117 13545	100Ω 1% 0402	3I83	4822 051 30101	100Ω 5% 0.062W
3884	3198 031 04730	47Ω 5% 0402	3E07	4822 117 13545	100Ω 1% 0402	3I84	4822 051 30759	75Ω 5% 0.062W
3885	4822 117 13548	1kΩ 5% 0402	3E08	4822 117 13545	100Ω 1% 0402	3I86	4822 051 30759	75Ω 5% 0.062W
3886	4822 117 13548	1kΩ 5% 0402	3E11	4822 117 13543	470Ω 5% 0402	3I87	4822 051 30101	100Ω 5% 0.062W
3887	4822 117 13548	1kΩ 5% 0402	3E12	4822 117 13543	470Ω 5% 0402	3I88	4822 051 30759	75Ω 5% 0.062W
3888	4822 117 13548	1kΩ 5% 0402	3E14	4822 117 13548	1kΩ 5% 0402	3I89	4822 051 30271	270Ω 5% 0.062W
3889	4822 117 13548	1kΩ 5% 0402	3E16	3198 031 02720	2.7kΩ 5% 0.01W 0402	3I90	4822 051 30101	100Ω 5% 0.062W
3890	4822 117 13548	1kΩ 5% 0402	3E18	4822 117 13545	100Ω 1% 0402	3I91	4822 051 30271	270Ω 5% 0.062W
3891	4822 117 13548	1kΩ 5% 0402	3E19	4822 117 13545	100Ω 1% 0402	3I92	4822 051 30101	100Ω 5% 0.062W
3894	3198 031 01510	150Ω 5% 0.01W 0402	3E37	4822 117 13545	100Ω 1% 0402	3I98	4822 117 13605	Jumper 0402
3896	4822 117 13605	Jumper 0402	3E50	4822 117 13606	10kΩ 5% 0.01W 0402	3I99	4822 051 30271	270Ω 5% 0.062W
3900	3198 031 06890	68Ω 5% 0402	3E51	4822 117 13606	10kΩ 5% 0.01W 0402	3IA0	4822 051 30101	100Ω 5% 0.062W
3901	3198 031 06890	68Ω 5% 0402	3E52	4822 117 13606	10kΩ 5% 0.01W 0402	3IA2	4822 051 30101	100Ω 5% 0.062W
3902	3198 031 06890	68Ω 5% 0402	3E53	4822 117 13606	10kΩ 5% 0.01W 0402	3IA3	4822 117 13601	22kΩ 5% 0402
3903	4822 117 11297	100kΩ 5% 0.1W	3E54	4822 117 13546	47Ω 5% 0402	3IA4	4822 117 13548	1kΩ 5% 0402
3905	3198 031 04720	4.7kΩ 5% 0402	3E55	4822 117 13606	10kΩ 5% 0.01W 0402	3IA5	4822 117 13548	1kΩ 5% 0402
3909	4822 117 13545	100Ω 1% 0402	3E56	4822 117 13603	33kΩ 5% 0402	3IA6	4822 117 13548	1kΩ 5% 0402
3911	2350 033 11689	4x 68Ω 5% Netw.	3E57	4822 117 11297	100kΩ 5% 0.1W	3IA7	4822 117 13548	1kΩ 5% 0402
3912	2350 033 11689	4x 68Ω 5% Netw.	3E58	4822 117 13546	47Ω 5% 0402	3IA8	4822 117 13548	1kΩ 5% 0402
3913	2350 033 11229	4x 22Ω 5% Netw.	3E59	4822 117 13606	10kΩ 5% 0.01W 0402	3IB2	4822 117 13548	100Ω 1% 0402
3914	2350 033 11229	4x 22Ω 5% Netw.	3E61	4822 117 13546	47Ω 5% 0402	3IB4	4822 117 13601	22kΩ 5% 0402
3915	2350 033 11229	4x 22Ω 5% Netw.	3E62	4822 117 13548	1kΩ 5% 0402	3IB5	4822 117 13601	22kΩ 5% 0402
3916	2350 033 11229	4x 22Ω 5% Netw.	3E63	4822 117 13606	10kΩ 5% 0.01W 0402	3IC1▲	4822 117 13574	1.5Ω 5% 1206
3917	2350 033 11229	4x 22Ω 5% Netw.	3E64	4822 117 13606	10kΩ 5% 0.01W 0402	3IC2	4822 117 13601	22kΩ 5% 0402
3918	3198 031 06890	68Ω 5% 0402	3E69	3198 031 04720	4.7kΩ 5% 0402	3IC3	4822 117 13601	22kΩ 5% 0402
3919	3198 031 06890	68Ω 5% 0402	3E70	3198 031 04720	4.7kΩ 5% 0402	3IC4	4822 117 13545	100Ω 1% 0402
3921	3198 031 06890	68Ω 5% 0402	3E73	4822 117 13606	10kΩ 5% 0.01W 0402	3IC6	4822 117 13545	100Ω 1% 0402
3922	4822 117 13596	220Ω 5% 0.01W 0402	3E74	4822 117 13546	47Ω 5% 0402	3IC9	4822 117 13601	22kΩ 5% 0402
3923	3198 031 06810	680Ω 5% 0.01W 0402	3E77	4822 117 13546	47Ω 5% 0402	3ID0	3198 031 04720	4.7kΩ 5% 0402
3924	4822 117 13596	220Ω 5% 0.01W 0402	3E78	4822 117 13546	47Ω 5% 0402	3ID1	3198 031 01540	150kΩ 5% 0402
3927	4822 117 13596	220Ω 5% 0.01W 0402	3E79	4822 117 13546	47Ω 5% 0402	3ID5	3198 031 01090	10Ω 5% 0.01W 0402
3928	3198 031 06810	680Ω 5% 0.01W 0402	3E80	4822 117 13546	47Ω 5% 0402	3ID7	4822 117 11297	100kΩ 5% 0.1W
3929	4822 117 13596	220Ω 5% 0.01W 0402	3E81	4822 117 13546	47Ω 5% 0402	3ID8	4822 117 11297	100kΩ 5% 0.1W
3930	4822 117 13596	220Ω 5% 0.01W 0402	3E82	3198 031 01090	10Ω 5% 0.01W 0402	3IE2	4822 117 13545	100Ω 1% 0402
3931	4822 117 13596	220Ω 5% 0.01W 0402	3E83	3198 031 01090	10Ω 5% 0.01W 0402	3IE3	4822 117 13545	100Ω 1% 0402
3932	3198 031 06810	680Ω 5% 0.01W 0402	3E84	3198 031 01090	10Ω 5% 0.01W 0402	3IE7	3198 031 01090	10Ω 5% 0.01W 0402
3999	4822 051 30102	1kΩ 5% 0.062W	3E85	3198 031 01090	10Ω 5% 0.01W 0402	3IE9	4822 117 13601	22kΩ 5% 0402
3A00	4822 117 13601	22kΩ 5% 0402	3E86	3198 031 01090	10Ω 5% 0.01W 0402	3IF0	4822 117 13545	100Ω 1% 0402
3A01	4822 117 13606	10kΩ 5% 0.01W 0402	3E88	4822 117 13546	47Ω 5% 0402	3IF5	4822 117 13601	22kΩ 5% 0402
3A02	3198 031 04730	47Ω 5% 0402	3E89	4822 117 13546	47Ω 5% 0402	3IF6	4822 051 30101	100Ω 5% 0.062W
3A03▲	4822 117 13568	6.8Ω 5% 1206	3E90	3198 031 06890	68Ω 5% 0402	3IF7	4822 051 30101	100Ω 5% 0.062W
3A04	4822 117 13601	22kΩ 5% 0402	3E91	3198 031 03390	33Ω 1% 0402	3IG1	3198 031 01090	10Ω 5% 0.01W 0402
3A05	4822 117 13601	22kΩ 5% 0402	3I07	4822 117 13606	10kΩ 5% 0.01W 0402	3IG4	3198 031 01090	10Ω 5% 0.01W 0402
3A06	4822 117 11297	100kΩ 5% 0.1W	3I08	4822 117 13597	330Ω 5% 0402 0.01W	3IG7	3198 031 01090	10Ω 5% 0.01W 0402
3A07	4822 117 11297	100kΩ 5% 0.1W	3I28	4822 117 13545	100Ω 1% 0402	3IH1	3198 031 04730	47Ω 5% 0402
3A09	4822 117 13601	22kΩ 5% 0402	3I29	4822 051 30759	75Ω 5% 0.062W	3IH8	3198 031 04730	47Ω 5% 0402
3A11	4822 117 11297	100kΩ 5% 0.1W	3I30	4822 051 30759	75Ω 5% 0.062W	3IH9	3198 031 04730	47Ω 5% 0402
3A12	3198 031 04730	47Ω 5% 0402	3I31	4822 051 30759	75Ω 5% 0.062W	3IHA	4822 117 13545	100Ω 1% 0402
3A13	3198 031 04730	47Ω 5% 0402	3I32	4822 117 13548	1kΩ 5% 0402	3IHB	4822 117 13545	100Ω 1% 0402
3A14	3198 031 04730	47Ω 5% 0402	3I33	4822 051 30101	100Ω 5% 0.062W	3IHC	4822 117 13545	100Ω 1% 0402
3A15	4822 117 11297	100kΩ 5% 0.1W	3I34	4822 117 13606	10kΩ 5% 0.01W 0402	3IHG	3198 021 31820	1.8kΩ 5% 0.062W 0603
3A16	4822 117 13545	100Ω 1% 0402	3I35	4822 051 30101	100Ω 5% 0.062W	3II0	4822 117 13606	10kΩ 5% 0.01W 0402
3A17	4822 117 13545	100Ω 1% 0402	3I36	4822 117 13601	22kΩ 5% 0402	3II1	4822 117 13601	22kΩ 5% 0402
3A18	3198 031 06830	68kΩ 5% 0.01W 0402	3I37	4822 117 13601	22kΩ 5% 0402	3II2	4822 117 13601	22kΩ 5% 0402
3A19	4822 117 13545	100Ω 1% 0402	3I38	4822 117 13601	22kΩ 5% 0402	3II3	3198 031 04730	47Ω 5% 0402
3A20	4822 117 11297	100kΩ 5% 0.1W	3I40	4822 051 30101	100Ω 5% 0.062W	3II4	3198 031 04730	47Ω 5% 0402
3A21	3198 031 06830	68kΩ 5% 0.01W 0402	3I41	4822 117 13548	1kΩ 5% 0402	3II6	4822 117 13601	22kΩ 5% 0402
3A22	4822 117 11297	100kΩ 5% 0.1W	3I42	4822 117 13548	1kΩ 5% 0402	3II7	4822 117 13601	22kΩ 5% 0402
3A23	3198 031 06830	68kΩ 5% 0.01W 0402	3I44	4822 117 13606	10kΩ 5% 0.01W 0402	3II9	4822 117 13548	1kΩ 5% 0402
3A24	3198 031 06810	680Ω 5% 0.01W 0402	3I45	3198 031 04730	47Ω 5% 0402	3IJ8	4822 117 13548	1kΩ 5% 0402
3A26	3198 031 06830	68kΩ 5% 0.01W 0402	3I46	4822 117 13545	100Ω 1% 0402	3IK0	4822 117 13548	1kΩ 5% 0402
3A27	3198 031 06820	6.8kΩ 5% 0.01W 0402	3I47	4822 117 13602	2.2kΩ 5% 0.01W 0402	3IK2	4822 117 13601	22kΩ 5% 0402
3A28	3198 031 06820	6.8kΩ 5% 0.01W 0402	3I49	4822 117 13545	100Ω 1% 0402	3IK3	4822 117 13601	22kΩ 5% 0402
3A40	3198 031 01830	18kΩ 5% 0.01W 0402	3I50	4822 051 30271	270Ω 5% 0.062W	3IK7▲	4822 117 11152	4.7Ω 5%
3A45	3198 031 04730	47Ω 5% 0402	3I51	4822 051 30101	100Ω 5% 0.062W	3IN1	4822 117 13548	1kΩ 5% 0402
3A46	3198 031 01530	15kΩ 5% 0.01W 0402	3I52	4822 051 30271	270Ω 5% 0.062W	3IN4▲	4822 117 11748	Fuse 2.2Ω 5% 1206
3A								

3IP4	3198 031 02710	270Ω 5% 0.1W 0402	3U01	4822 051 30102	1kΩ 5% 0.062W	3Y00	4822 117 13545	100Ω 1% 0402
3IP5▲	4822 117 11748	Fuse 2.2Ω 5% 1206	3U02	4822 117 13548	1kΩ 5% 0402	3Y02	4822 117 13545	100Ω 1% 0402
3IP6	4822 117 13548	1kΩ 5% 0402	3U03	4822 117 13603	33kΩ 5% 0402	3Y04	4822 117 13602	2.2kΩ 5% 0.01W 0402
3IP7	3198 031 02720	2.7kΩ 5% 0.01W 0402	3U04	4822 051 20121	120Ω 5% 0.1W	3Y05	4822 117 13545	100Ω 1% 0402
3IP8	4822 117 13548	1kΩ 5% 0402	3U05	4822 117 13548	1kΩ 5% 0402	3Y06	4822 117 13543	470Ω 5% 0402
3IQ0	3198 031 01090	10Ω 5% 0.01W 0402	3U06	4822 117 13543	470Ω 5% 0402	3Y07▲	4822 117 11151	1Ω 5%
3IQ5	3198 031 04730	47Ω 5% 0402	3U07	3198 031 02290	22Ω 5% 0.1W 0402	3Y09	4822 117 13545	100Ω 1% 0402
3IQ6	4822 117 13545	100Ω 1% 0402	3U08	2322 706 71502	1.5kΩ 1% 0402	3Y10	4822 117 13545	100Ω 1% 0402
3IQ7	4822 117 13545	100Ω 1% 0402	3U09	3198 031 05620	5.6kΩ 5% 0.01W 0402	3Y11	4822 117 13545	100Ω 1% 0402
3IQ8	3198 031 03320	3.3kΩ 5% 0402	3U10	4822 117 13596	220Ω 5% 0.01W 0402	3Y12	4822 117 13545	100Ω 1% 0402
3IQ9	4822 117 13548	1kΩ 5% 0402	3U11	4822 051 30121	120Ω 5% 0.062W	3Y13	4822 117 13543	470Ω 5% 0402
3IR1	3198 031 02710	270Ω 5% 0.1W 0402	3U12	4822 117 13601	22kΩ 5% 0402	3Y14	3198 031 04720	4.7kΩ 5% 0402
3IR2	3198 031 04720	4.7kΩ 5% 0402	3U13	4822 117 13606	10kΩ 5% 0.01W 0402	3Y15	4822 117 13606	10kΩ 5% 0.01W 0402
3IR3	3198 031 04720	4.7kΩ 5% 0402	3U14	4822 051 30102	1kΩ 5% 0.062W	3Y16	3198 031 04720	4.7kΩ 5% 0402
3IR4	4822 117 13545	100Ω 1% 0402	3U15	2322 706 73302	3.3kΩ 1% 0402	3Y17	4822 117 13545	100Ω 1% 0402
3IR5	4822 117 13546	47Ω 5% 0402	3U17	3198 031 04780	4.7Ω 5% 0402	3Y19	4822 117 13545	100Ω 1% 0402
3IR6	4822 117 13546	47Ω 5% 0402	3U18	2322 706 71002	1kΩ 1% 0402	3Y20	3198 031 06890	68Ω 5% 0402
3IR7	4822 117 13543	47Ω 5% 0402	3U19	3198 031 04720	4.7kΩ 5% 0402	3Y21	3198 031 06890	68Ω 5% 0402
3IR8	3198 031 03320	3.3kΩ 5% 0402	3U20	2322 706 71002	1kΩ 1% 0402	3Y22	3198 031 06890	68Ω 5% 0402
3IR9	2322 706 71201	120Ω 1% 0402	3U21	3198 031 04730	47Ω 5% 0402	3Y23	3198 031 06890	68Ω 5% 0402
3IS0	2322 706 71201	120Ω 1% 0402	3U22	3198 031 02710	270Ω 5% 0.1W 0402	3Y24	4822 117 11297	100kΩ 5% 0.1W
3IS1	2322 706 71201	120Ω 1% 0402	3U23	3198 031 01090	10Ω 5% 0.01W 0402	3Y25	4822 117 13545	100Ω 1% 0402
3IS2	4822 117 13545	100Ω 1% 0402	3U24	4822 117 13601	22kΩ 5% 0402	3Y34	4822 117 13545	100Ω 1% 0402
3IS5	2322 706 71201	120Ω 1% 0402	3U25	3198 031 02240	220kΩ 5% 0.1W 0402	3Y35	4822 117 13545	100Ω 1% 0402
3IT0	3198 031 04730	47Ω 5% 0402	3U26	4822 117 13601	22kΩ 5% 0402	3Y36	4822 117 13545	100Ω 1% 0402
3IT1	3198 031 04730	47Ω 5% 0402	3U27	4822 117 13601	22kΩ 5% 0402	3Y37	3198 031 04720	4.7kΩ 5% 0402
3IT4	3198 031 04730	47Ω 5% 0402	3U28	3198 031 04730	47Ω 5% 0402	3Y38	4822 117 13602	2.2kΩ 5% 0.01W 0402
3IT5	2322 706 71201	120Ω 1% 0402	3U29	4822 051 30109	10Ω 5% 0.062W	3Y39	4822 117 13606	10kΩ 5% 0.01W 0402
3IT6	2322 706 71201	120Ω 1% 0402	3U30	4822 051 20121	120Ω 5% 0.1W	3Y40	4822 117 13545	100Ω 1% 0402
3IT7	4822 117 13548	1kΩ 5% 0402	3U31	4822 051 20121	120Ω 5% 0.1W	3Z22	3198 031 04720	4.7kΩ 5% 0402
3IT8	4822 117 13548	1kΩ 5% 0402	3U32	3198 031 01830	18kΩ 5% 0.01W 0402	3Z23	4822 117 13545	100Ω 1% 0402
3IT9	4822 117 13597	330Ω 5% 0402 0.01W	3U33	4822 117 13606	10kΩ 5% 0.01W 0402	3Z30	4822 117 13606	10kΩ 5% 0.01W 0402
3IU0▲	4822 117 11748	Fuse 2.2Ω 5% 1206	3U35	4822 117 13606	10kΩ 5% 0.01W 0402	3Z31	4822 117 13606	10kΩ 5% 0.01W 0402
3IV0	3198 031 08220	8.2kΩ 5% 0.5W	3U36	4822 117 13602	2.2kΩ 5% 0.01W 0402	3Z32	4822 117 13606	10kΩ 5% 0.01W 0402
3IV1	4822 117 13548	1kΩ 5% 0402	3U37	4822 117 13601	22kΩ 5% 0402	3Z33	4822 117 13606	10kΩ 5% 0.01W 0402
3IV2	4822 117 13543	470Ω 5% 0402	3U38	4822 117 13602	2.2kΩ 5% 0.01W 0402	3Z37	3198 031 04720	4.7kΩ 5% 0402
3IV3	4822 117 13548	1kΩ 5% 0402	3U39	4822 117 13601	22kΩ 5% 0402	3Z56	4822 117 13548	1kΩ 5% 0402
3IW4	3198 031 06820	6.8kΩ 5% 0.01W 0402	3U40	3198 031 01540	150kΩ 5% 0402	9001	4822 117 13605	Jumper 0402
3IW5	3198 031 02720	2.7kΩ 5% 0.01W 0402	3U41	4822 117 13548	1kΩ 5% 0402	9002	4822 117 13605	Jumper 0402
3L03	4822 117 13545	100Ω 1% 0402	3U42	4822 117 13606	10kΩ 5% 0.01W 0402	9007	4822 117 13605	Jumper 0402
3L04	4822 117 13545	100Ω 1% 0402	3U43	4822 117 13601	22kΩ 5% 0402	9010	4822 117 13605	Jumper 0402
3L05	4822 117 13545	100Ω 1% 0402	3U44	3198 031 01050	1MΩ 5% 0402	9011▲	4822 117 13605	Jumper 0402
3L06	4822 117 13545	100Ω 1% 0402	3U45	3198 031 01050	1MΩ 5% 0402	9012	4822 117 13605	Jumper 0402
3L08	3198 031 02720	2.7kΩ 5% 0.01W 0402	3U46	2322 706 74703	47kΩ 1% 0402	9013	4822 117 13605	Jumper 0402
3L11	4822 117 13545	100Ω 1% 0402	3U51	9965 000 23109	22Ω 5% 0603	9023	4822 117 13605	Jumper 0402
3L12	4822 117 13543	470Ω 5% 0402	3U52	4822 051 30102	1kΩ 5% 0.062W	9024	4822 117 13605	Jumper 0402
3L28	4822 117 13543	470Ω 5% 0402	3U53	3198 031 01830	18kΩ 5% 0.01W 0402	9322	4822 117 13605	Jumper 0402
3L29	3198 031 01510	150Ω 5% 0.01W 0402	3U54	4822 117 13545	100Ω 1% 0402	9410	4822 117 13605	Jumper 0402
3L30	3198 031 01510	150Ω 5% 0.01W 0402	3U55	4822 051 30102	1kΩ 5% 0.062W	9413	4822 117 13605	Jumper 0402
3L31	3198 031 01510	150Ω 5% 0.01W 0402	3U56	3198 031 04720	4.7kΩ 5% 0402	9416	4822 117 13605	Jumper 0402
3L32	4822 117 13543	470Ω 5% 0402	3U57	4822 117 13606	10kΩ 5% 0.01W 0402	9417	4822 117 13605	Jumper 0402
3L33	4822 117 13543	470Ω 5% 0402	3U60	4822 117 13548	1kΩ 5% 0402	9418	4822 117 13605	Jumper 0402
3L41	3198 031 04720	4.7kΩ 5% 0402	3U61	4822 117 13606	10kΩ 5% 0.01W 0402	9419	4822 117 13605	Jumper 0402
3L42	3198 031 04730	47Ω 5% 0402	3U62	4822 117 13548	1kΩ 5% 0402	9420	4822 117 13605	Jumper 0402
3L43	4822 117 13606	10kΩ 5% 0.01W 0402	3U63	4822 117 13602	2.2kΩ 5% 0.01W 0402	9423	4822 117 13605	Jumper 0402
3L44	4822 117 13605	Jumper 0402	3U64	4822 117 13548	1kΩ 5% 0402	9424	4822 117 13605	Jumper 0402
3P65	4822 117 13545	100Ω 1% 0402	3U65	4822 117 13548	1kΩ 5% 0402	9425	4822 117 13605	Jumper 0402
3P66	4822 117 13545	100Ω 1% 0402	3U66	4822 117 13606	10kΩ 5% 0.01W 0402	9426	4822 117 13605	Jumper 0402
3P67	3198 031 04720	4.7kΩ 5% 0402	3U67	4822 117 13545	100Ω 1% 0402	9427	4822 117 13545	100Ω 1% 0402
3P69	3198 031 04720	4.7kΩ 5% 0402	3U68	4822 117 13606	10kΩ 5% 0.01W 0402	9428	4822 117 13605	Jumper 0402
3P70	3198 031 04720	4.7kΩ 5% 0402	3U69	4822 117 13548	1kΩ 5% 0402	9502	4822 051 30008	Jumper 0603
3P72	3198 031 04720	4.7kΩ 5% 0402	3U70	4822 051 30102	1kΩ 5% 0.062W	9508	4822 051 30008	Jumper 0603
3T10	4822 117 13606	10kΩ 5% 0.01W 0402	3V01	3198 031 01810	180Ω 5% 0402	9509	3198 036 90010	Wire 0.58mm
3T11	4822 117 13606	10kΩ 5% 0.01W 0402	3V02	3198 031 01810	180Ω 5% 0402	9510	3198 036 90010	Wire 0.58mm
3T12	4822 117 13548	1kΩ 5% 0402	3V17	3198 031 01810	180Ω 5% 0402	9511	3198 036 90010	Wire 0.58mm
3T13	4822 117 13606	10kΩ 5% 0.01W 0402	3V19	3198 031 01810	180Ω 5% 0402	9512	3198 036 90010	Wire 0.58mm
3T14	3198 031 04730	47Ω 5% 0402	3V20	3198 031 01810	180Ω 5% 0402	9513	3198 036 90010	Wire 0.58mm
3T15	4822 117 13606	10kΩ 5% 0.01W 0402	3V21	2350 033 11689	4x 68Ω 5% Netw.	9514	3198 036 90010	Wire 0.58mm
3T16	4822 117 11297	100kΩ 5% 0.1W	3V22	2350 033 11689	4x 68Ω 5% Netw.	9515	3198 036 90010	Wire 0.58mm
3T17	4822 117 13606	10kΩ 5% 0.01W 0402	3V23	2350 033 11689	4x 68Ω 5% Netw.	9521	4822 051 30008	Jumper 0603
3T18	3198 031 02720	2.7kΩ 5% 0.01W 0402	3V24	2350 033 11689	4x 68Ω 5% Netw.	9523	3198 036 90010	Wire 0.58mm
3T19	4822 117 13596	220Ω 5% 0.01W 0402	3V25	3198 031 01810	180Ω 5% 0402	9524	4822 051 30008	Jumper 0603
3T20	2322 706 71002	1kΩ 1% 0402	3V26	3198 031 01810	180Ω 5% 0402	9525	3198 036 90010	Wire 0.58mm
3T22	3198 031 04720	4.7kΩ 5% 0402	3V27	3198 031 01810	180Ω 5% 0402	9526	3198 036 90010	Wire 0.58mm
3T23	4822 117 13548	1kΩ 5% 0402	3V28	3198 031 01810	180Ω 5% 0402	9702	4822 117 13605	Jumper 0402
3T24	2322 706 73902	3.9kΩ 1% 0402	3V29	3198 031 01810	180Ω 5% 0402	9704	4822 117 13605	Jumper 0402
3T25	3198 031 06820	6.8kΩ 5% 0.01W 0402	3V30	3198 031 01810	180Ω 5% 0402	9706	4822 117 13605	Jumper 0402
3T26	4822 117 13613	2.2Ω 5% 0603	3V31	3198 031 01810	180Ω 5% 0402	9707	2238 869 15189	18pF 5% 50V 0402
3T27	4822 051 30109	10Ω 5% 0.062W	3V32	3198 031 01810	180Ω 5% 0402	9708	2238 869 15189	18pF 5% 50V 0402
3T28	4822 051 30109	10Ω 5% 0.062W	3V33	3198 031 01810	180Ω 5% 0402	9709	2238 869 15189	18pF 5% 50V 0402
3T29	4822 117 13606	10kΩ 5% 0.01W 0402	3V34	3198 031 01810	180Ω 5% 0402	9710	4822 117 13605	Jumper 0402
3T30	4822 117 13606	10kΩ 5% 0.01W 0402	3V35	4822 117 13545	100Ω 1% 0402	9713	4822 117 13605	Jumper 0402
3T31	4822 117 13545	100Ω 1% 0402	3V36	4822 117 13545	100Ω 1% 0402	9714	4822 117 13605	Jumper 0402
3T32	4822 117 13548	1kΩ 5% 0402	3V37	4822 117 13545	100Ω 1% 0402	9715	4822 117 13605	Jumper 0402
3T33▲	5322 117 11726	10Ω 5%	3V38	4822 117 13545	100Ω 1% 0402	9716	4822 117 13605	Jumper 0402
3T51	4822 117 13548	1kΩ 5% 0402	3V39	3198 031 04720	4.7kΩ 5% 0402	9717	4822 117 13605	Jumper 0402
3T52	4822 117 13606	10kΩ 5% 0.01W 0402	3V40	4822 117 13545	100Ω 1% 0402	9718	4822 117 13605	Jumper 0402
3T54	4822 117 13606	10kΩ 5% 0.01W 040						

9732	4822 117 13605	Jumper 0402
9751	4822 117 13605	Jumper 0402
9752	4822 117 13605	Jumper 0402
9753	4822 117 13605	Jumper 0402
9754	4822 117 13605	Jumper 0402
9755	4822 117 13605	Jumper 0402
9756	4822 117 13605	Jumper 0402
9757	4822 117 13605	Jumper 0402
9758	4822 117 13605	Jumper 0402
9760	4822 117 13605	Jumper 0402
9761	4822 117 13605	Jumper 0402
9762	4822 117 13605	Jumper 0402
9763	4822 117 13605	Jumper 0402
9765	4822 117 13605	Jumper 0402
9766	4822 117 13605	Jumper 0402
9772	4822 117 13605	Jumper 0402
9773	4822 117 13605	Jumper 0402
9774	4822 117 13605	Jumper 0402
9775	4822 117 13605	Jumper 0402
9776	4822 117 13605	Jumper 0402
9777	4822 117 13605	Jumper 0402
9800	4822 117 13605	Jumper 0402
9801	4822 117 13605	Jumper 0402
9802	4822 117 13605	Jumper 0402
9803	4822 117 13605	Jumper 0402
9804	4822 117 13605	Jumper 0402
9805	4822 117 13605	Jumper 0402
9806	4822 117 13605	Jumper 0402
9808	4822 117 13605	Jumper 0402
9809	4822 117 13605	Jumper 0402
9811	4822 117 13605	Jumper 0402
9812	4822 117 13605	Jumper 0402
9815	4822 117 13605	Jumper 0402
9816	4822 117 13605	Jumper 0402
9817	4822 117 13605	Jumper 0402
9818	4822 117 13605	Jumper 0402
9820	4822 117 13605	Jumper 0402
9821	4822 117 13605	Jumper 0402
9822	4822 117 13605	Jumper 0402
9823	3198 031 06890	68Ω 5% 0402
9A00	4822 117 13605	Jumper 0402
9A01	4822 117 13605	Jumper 0402
9A04	4822 117 13605	Jumper 0402
9A05	4822 117 13605	Jumper 0402
9A06	4822 117 13605	Jumper 0402
9A07	4822 117 13605	Jumper 0402
9A22	4822 117 13605	Jumper 0402
9A65	4822 117 13605	Jumper 0402
9A67	4822 051 20008	Jumper 0805
9A71	4822 051 20008	Jumper 0805
9C02	4822 117 13605	Jumper 0402
9E60	4822 117 13605	Jumper 0402
9E62	4822 117 13605	Jumper 0402
9E65	4822 117 13605	Jumper 0402
9E66	4822 117 13605	Jumper 0402
9E67	4822 117 13605	Jumper 0402
9E68	4822 117 13605	Jumper 0402
9E69	4822 117 13605	Jumper 0402
9E70	4822 117 13605	Jumper 0402
9E71	4822 117 13605	Jumper 0402
9E72	4822 117 13605	Jumper 0402
9E73	4822 117 13605	Jumper 0402
9E74	4822 117 13605	Jumper 0402
9E76	4822 117 13605	Jumper 0402
9E77	4822 117 13605	Jumper 0402
9I00	4822 117 13605	Jumper 0402
9I02	4822 117 13605	Jumper 0402
9I07	4822 117 13605	Jumper 0402
9I15	4822 117 13605	Jumper 0402
9I28	4822 117 13605	Jumper 0402
9I30	4822 117 13605	Jumper 0402
9I31	4822 117 13605	Jumper 0402
9I32	4822 117 13605	Jumper 0402
9I33	4822 117 13605	Jumper 0402
9I34	4822 117 13605	Jumper 0402
9I35	4822 117 13605	Jumper 0402
9I39	4822 117 13605	Jumper 0402
9I45	4822 117 13605	Jumper 0402
9I49	4822 117 13605	Jumper 0402
9I68	4822 117 13605	Jumper 0402
9I85	4822 117 13605	Jumper 0402
9IA5	4822 117 13605	Jumper 0402
9IA7	4822 117 13605	Jumper 0402
9ID0	4822 117 13605	Jumper 0402
9ID1	4822 117 13605	Jumper 0402
9ID3	4822 117 13605	Jumper 0402
9ID5	4822 117 13605	Jumper 0402
9ID8	4822 117 13605	Jumper 0402
9ID9	4822 117 13605	Jumper 0402
9LO1	4822 117 13605	Jumper 0402
9P69	4822 117 13605	Jumper 0402
9P70	4822 117 13605	Jumper 0402
9P71	4822 117 13605	Jumper 0402
9T01	4822 117 13601	22kΩ 5% 0402

9T04	4822 117 13605	Jumper 0402
9T07	4822 117 13605	Jumper 0402
9T08	4822 117 13605	Jumper 0402
9T11	4822 117 13605	Jumper 0402
9T12	4822 117 13605	Jumper 0402
9T14	4822 117 13605	Jumper 0402
9T50	4822 117 13605	Jumper 0402
9Y00	3198 031 01090	10Ω 5% 0.01W 0402
9Y01	4822 117 13605	Jumper 0402
9Y03	4822 117 13605	Jumper 0402
9Y05	4822 117 13605	Jumper 0402
9Y06	4822 117 13605	Jumper 0402
9Y12	4822 117 13605	Jumper 0402
9Y13	4822 117 13605	Jumper 0402
9Y14	4822 117 13605	Jumper 0402
9Y16	4822 117 13605	Jumper 0402

5003	2422 549 43769	Bead 30Ω at 100MHz
5401	3198 018 56880	6.8μH 10% 0603
5404	4822 157 11506	Bead 120Ω at 100MHz
5405	4822 157 11506	Bead 120Ω at 100MHz
5406	3198 018 52280	2.2μF 10% 1008
5408	2422 549 00232	Trimmer 78MHz 5JKH
5411	4822 157 11892	0.22μH 10% 0805
5416	4822 157 11716	Bead 30Ω at 100MHz
5702	4822 157 11716	Bead 30Ω at 100MHz
5703	4822 157 11716	Bead 30Ω at 100MHz
5705	4822 157 11876	6.8μH 10% 0805
5706	4822 157 11876	6.8μH 10% 0805
5707	4822 157 11876	6.8μH 10% 0805
5708	4822 157 11876	6.8μH 10% 0805
5713	4822 157 11716	Bead 30Ω at 100MHz
5714	4822 157 11716	Bead 30Ω at 100MHz
5719	4822 157 11716	Bead 30Ω at 100MHz
5720	4822 157 11716	Bead 30Ω at 100MHz
5724	4822 157 11716	Bead 30Ω at 100MHz
5725	4822 157 11716	Bead 30Ω at 100MHz
5727	4822 157 11716	Bead 30Ω at 100MHz
5750	4822 157 11716	Bead 30Ω at 100MHz
5751	4822 157 11716	Bead 30Ω at 100MHz
5752	4822 157 11716	Bead 30Ω at 100MHz
5753	4822 157 11716	Bead 30Ω at 100MHz
5756	4822 157 11716	Bead 30Ω at 100MHz
5757	4822 157 11716	Bead 30Ω at 100MHz
5758	4822 157 11716	Bead 30Ω at 100MHz
5759	4822 157 11716	Bead 30Ω at 100MHz
5760	4822 157 11716	Bead 30Ω at 100MHz
5761	4822 157 11716	Bead 30Ω at 100MHz
5762	4822 157 11716	Bead 30Ω at 100MHz
5763	4822 157 11716	Bead 30Ω at 100MHz
5764	4822 157 11716	Bead 30Ω at 100MHz
5767	4822 157 11716	Bead 30Ω at 100MHz
5768	4822 157 11716	Bead 30Ω at 100MHz
5769	4822 157 11716	Bead 30Ω at 100MHz
5770	4822 157 11716	Bead 30Ω at 100MHz
5771	4822 157 11716	Bead 30Ω at 100MHz
5772	4822 157 11716	Bead 30Ω at 100MHz
5773	4822 157 11716	Bead 30Ω at 100MHz
5775	4822 157 11716	Bead 30Ω at 100MHz
5777	4822 157 11716	Bead 30Ω at 100MHz
5778	4822 157 11876	6.8μH 10% 0805
5800	4822 157 11716	Bead 30Ω at 100MHz
5801	4822 157 11716	Bead 30Ω at 100MHz
5A00	2422 549 44197	Bead 220Ω at 100MHz
5A01	2422 549 44197	Bead 220Ω at 100MHz
5A02	2422 549 44197	Bead 220Ω at 100MHz
5A03	2422 549 44197	Bead 220Ω at 100MHz
5A06	2422 549 44197	Bead 220Ω at 100MHz
5A07	2422 549 44197	Bead 220Ω at 100MHz
5A19	4822 157 11828	22μH 20% 0805
5A38	2422 549 44197	Bead 220Ω at 100MHz
5E00	4822 156 21729	Bead 1kΩ 100MHz 0805
5E01	2422 549 42896	Bead 120Ω 100MHz
5E02	4822 156 21729	Bead 1kΩ 100MHz 0805
5E03	4822 156 21729	Bead 1kΩ 100MHz 0805
5E50	4822 157 11499	Bead 60Ω at 100MHz
5E51	2422 549 42896	Bead 120Ω 100MHz
5E52	2422 549 43062	Bead 600Ω at 100MHz
5E53	2422 536 00779	10μH 20%
5E54	4822 157 11499	Bead 60Ω at 100MHz
5E55	2422 549 43062	Bead 600Ω at 100MHz
5E58	2422 549 43062	Bead 600Ω at 100MHz
5I05	4822 157 11716	Bead 30Ω at 100MHz
5I06	4822 157 11716	Bead 30Ω at 100MHz
5I12	4822 157 11716	Bead 30Ω at 100MHz
5I13	4822 157 11716	Bead 30Ω at 100MHz
5I21	4822 157 11716	Bead 30Ω at 100MHz
5I22	4822 157 11716	Bead 30Ω at 100MHz
5I30	4822 157 11716	Bead 30Ω at 100MHz
5I31	4822 157 11716	Bead 30Ω at 100MHz
5I32	4822 157 11716	Bead 30Ω at 100MHz

5I33	4822 157 11716	Bead 30Ω at 100MHz
5I34	4822 157 11716	Bead 30Ω at 100MHz
5I35	4822 157 11716	Bead 30Ω at 100MHz
5I36	4822 157 11892	0.22μH 10% 0805
5I37	4822 157 11892	0.22μH 10% 0805
5I38	4822 157 11892	0.22μH 10% 0805
5I39	4822 157 11716	Bead 30Ω at 100MHz
5I40	4822 157 11716	Bead 30Ω at 100MHz
5I41	4822 157 11716	Bead 30Ω at 100MHz
5I42	4822 156 21729	Bead 1kΩ 100MHz 0805
5I45	4822 157 11716	Bead 30Ω at 100MHz
5I46	4822 157 11716	Bead 30Ω at 100MHz
5I47	4822 157 11716	Bead 30Ω at 100MHz
5L02	3198 018 54770	0.47μF 10% 0603
5L04	3198 018 54770	0.47μF 10% 0603
5L06	3198 018 54770	0.47μF 10% 0603
5L13	4822 156 21729	Bead 1kΩ 100MHz 0805
5L14	4822 156 21729	Bead 1kΩ 100MHz 0805
5L15	4822 156 21729	Bead 1kΩ 100MHz 0805
5L16	4822 157 11716	Bead 30Ω at 100MHz
5L17	4822 157 11716	Bead 30Ω at 100MHz
5L18	4822 157 11716	Bead 30Ω at 100MHz
5P51	4822 157 11716	Bead 30Ω at 100MHz
5T10	2422 536 00779	10μH 20%
5T11	2422 535 94995	10μF 20% 10145
5T14	2422 549 44197	Bead 220Ω at 100MHz
5T15	2422 549 44197	Bead 220Ω at 100MHz
5T20	4822 157 11716	Bead 30Ω at 100MHz
5T22	4822 157 11716	Bead 30Ω at 100MHz
5T25	2422 535 94134	10μH 20% 0805
5U01	3104 308 20661	Transf. BD13118-02
5U02	2422 536 00779	10μH 20%
5U03	2422 549 44197	Bead 220Ω at 100MHz
5U04	2422 549 44197	Bead 220Ω at 100MHz
5U05	2422 536 00779	10μH 20%
5U06	2422 536 00779	10μH 20%
5Y00	2422 549 44197	Bead 220Ω at 100MHz
5Y01	2422 549 44197	Bead 220Ω at 100MHz
5Y02	2422 549 44197	Bead 220Ω at 100MHz
5Y03	2422 549 44197	Bead 220Ω at 100MHz
5Y06	2422 549 44197	Bead 220Ω at 100MHz
5Y07	2422 549 44197	Bead 220Ω at 100MHz
5Y11	2422 549 44197	Bead 220Ω at 100MHz
5Y12	2422 549 44197	Bead 220Ω at 100MHz
5Y14	2422 549 44197	Bead 220Ω at 100MHz
5Y15	2422 549 44197	Bead 220Ω at 100MHz
5Y16	2422 549 44197	Bead 220Ω at 100MHz
5Y17	2422 549 44197	Bead 220Ω at 100MHz
5Y18	2422 549 44197	Bead 220Ω at 100MHz
5Y19	4822 157 11716	Bead 30Ω at 100MHz
5Y20	2422 549 44197	Bead 220Ω at 100MHz
5Y21	4822 117 10353	150Ω 1% 0.1W
5Y22	4822 117 10353	150Ω 1% 0.1W
5Y23	2422 549 44197	Bead 220Ω at 100MHz
5Z01	2422 549 45325	Bead 67Ω at 100MHz
5Z02	2422 549 45325	Bead 67Ω at 100MHz
5Z03	2422 549 45325	Bead 67Ω at 100MHz
5Z04	2422 549 45325	Bead 67Ω at 100MHz
5Z05	2422 549 45325	Bead 67Ω at 100MHz
5Z06	2422 549 44197	Bead 220Ω at 100MHz
5Z07	2422 549 44197	Bead 220Ω at 100MHz
5Z08	2422 549 44197	Bead 220Ω at 100MHz



6001	4822 130 80622	BAT54
6003	4822 130 80622	BAT54
6004	4822 130 80622	BAT54
6005	4822 130 11422	PLVA2650A
6006	4822 130 11564	UDZ3.9B
6403	9340 552 30115	BA591
6500	4822 130 11416	PDZ6.8B
6501	4822 130 11416	PDZ6.8B
6502	4822 130 11416	PDZ6.8B
6503	4822 130 11416	PDZ6.8B
6504	4822 130 11397	BAS316
6505	4822 130 11416	PDZ6.8B
6506	4822 130 11416	PDZ6.8B
6507	9322 129 41685	BZM55-C12
6508	4822 130 11551	UDZS10B
6701	4822 130 11397	BAS316
6702	4822 130 11397	BAS316
6703	4822 130 11397	BAS316
6705	4822 130 11397	BAS316
6710	4822 130 11397	BAS316
6711	4822 130 11397	BAS316
6712	4822 130 11397	BAS316
6713	4822 130 11397	BAS316
6714	4822 130 11397	BAS316
6715	4822 130 11397	BAS316
6716	4822 130 11397	BAS316
6717	4822 130 11397	BAS316
6718	4822 130 11397	BAS316

6719	9322 128 69685	S1D	6U09	4822 130 80622	BAT54	7E24	9322 205 36668	AD9283BR5Z-50
6720	4822 130 11397	BAS316	6U10	4822 130 11522	UDZ15B	7E25	3198 010 42320	BC857BW
6721	4822 130 11397	BAS316	6U11	4822 130 11397	BAS316	7E26	3198 010 42320	BC857BW
6723	4822 130 11397	BAS316	6U12	9340 548 52115	PDZ5.1B	7E27	3198 010 42320	BC857BW
6A00	4822 130 11551	UDZS10B	6U13	9340 548 58115	PDZ9.1B	7I01	9340 425 20115	BC847BS
6A01	4822 130 11397	BAS316	6U14	4822 130 10328	BAV99W	7I02	9340 425 20115	BC847BS
6A02	9322 159 70685	MM3Z9V1	6U16	9340 548 52115	PDZ5.1B	7I03	9340 425 20115	BC847BS
6E51	4822 130 11397	BAS316	6U17	4822 130 11416	PDZ6.8B	7I04	3198 010 42310	BC847BW
6E52	4822 130 11397	BAS316	6V06	4822 130 10328	BAV99W	7I05	9340 425 30115	BC847BPN
6E53	4822 130 11397	BAS316	6V07	4822 130 10328	BAV99W	7I07	4822 130 60142	BC869
6E54	4822 130 11397	BAS316				7I09	3198 010 42310	BC847BW
6E55	4822 130 11397	BAS316				7I12	9351 869 40118	74HC4053PW
6E56	4822 130 11397	BAS316				7I18	9322 183 61682	SI907BCQ52
6I01	4822 130 10328	BAV99W				7I19	For SW see item 0603	
6I06	4822 130 10328	BAV99W	7001	9352 684 81557	SAA5801H/015	7I20	9351 869 40118	74HC4053PW
6I07	4822 130 10328	BAV99W	7002	3198 010 42320	BC857BW	7I21	9340 425 30115	BC847BPN
6I08	4822 130 11423	PLVA2656A	7003	3198 010 42310	BC847BW	7I22	3198 010 42310	BC847BW
6I09	4822 130 11423	PLVA2656A	7004	3198 010 42310	BC847BW	7I23	9340 425 20115	BC847BS
6I10	4822 130 11397	BAS316	7005	9322 172 45668	LF33ABDT	7I27	3198 010 42320	BC857BW
6I11	4822 130 11397	BAS316	7006	For SW see item 0601		7I29	3198 010 42320	BC857BW
6I12	4822 130 11397	BAS316	7007	9322 200 55668	IS41LV16100-50K	7I31	3198 010 42320	BC857BW
6I13	4822 130 11397	BAS316	7008	3198 010 42310	BC847BW	7I32	9351 869 40118	74HC4053PW
6I14	4822 130 10328	BAV99W	7009	3198 010 42310	BC847BW	7I35	3198 010 42310	BC847BW
6I15	4822 130 10328	BAV99W	7010	3198 010 42320	BC857BW	7I36	3198 010 42310	BC847BW
6I16	4822 130 10328	BAV99W	7011	9322 130 41668	M24C64-WMN6	7I37	3198 010 42320	BC857BW
6I17	4822 130 10328	BAV99W	7012	9322 199 93668	M29W400DT-55N6	7I38	3198 010 42310	BC847BW
6I18	4822 130 10328	BAV99W	7013	3198 010 42310	BC847BW	7I44	9340 425 20115	BC847BS
6I19	4822 130 10328	BAV99W	7014	3198 010 42320	BC857BW	7I49	9340 310 30215	PDTCT144ET
6I20	4822 130 10328	BAV99W	7017	9340 310 30215	PDTCT144ET	7I51	9340 560 35235	BSH112
6I21	4822 130 10328	BAV99W	7018	9352 115 40118	74LVC245APW	7I52	9340 560 35235	BSH112
6I22	4822 130 11416	PDZ6.8B	7019	9352 115 40118	74LVC245APW	7I53	9340 425 30115	BC847BPN
6I23	4822 130 11416	PDZ6.8B	7020	3198 010 42310	BC847BW	7I55	4822 209 16095	BA7657F
6I24	4822 130 11416	PDZ6.8B	7021	9340 425 30115	BC847BPN	7I56	3198 010 42310	BC847BW
6I25	4822 130 11416	PDZ6.8B	7022	3198 010 42320	BC857BW	7I57	3198 010 42310	BC847BW
6I26	4822 130 11416	PDZ6.8B	7320	3198 010 42310	BC847BW	7I58	3198 010 42310	BC847BW
6I27	4822 130 11416	PDZ6.8B	7322	3198 010 42310	BC847BW	7I62	3198 010 42310	BC847BW
6I28	4822 130 11416	PDZ6.8B	7323	9352 625 24518	TDA9321H/N2	7I65	4822 209 17398	LD1117DT33
6I29	4822 130 11416	PDZ6.8B	7402	3198 010 42310	BC847BW	7L01	9322 181 72671	AD9883AKST-110
6I30	4822 130 11416	PDZ6.8B	7403	3198 010 42310	BC847BW	7L02	4822 209 17398	LD1117DT33
6I31	4822 130 11416	PDZ6.8B	7407	3198 010 42320	BC857BW	7P56	4822 209 17345	M62320FP
6I32	4822 130 11416	PDZ6.8B	7410	3198 010 42310	BC847BW	7T01	9322 160 70668	SI4936ADY
6I33	4822 130 11416	PDZ6.8B	7411	3198 010 42310	BC847BW	7T04	9322 182 77668	L6910
6I35	4822 130 11416	PDZ6.8B	7414	3198 010 42310	BC847BW	7T10	9340 425 20115	BC847BS
6I36	4822 130 11416	PDZ6.8B	7415	3198 010 42310	BC847BW	7T11	9340 425 30115	BC847BPN
6I37	4822 130 11416	PDZ6.8B	7501	3198 010 42310	BC847BW	7T12	3198 010 42310	BC847BW
6I38	4822 130 11416	PDZ6.8B	7502	3198 010 42310	BC847BW	7T13	9340 425 30115	BC847BPN
6I39	4822 130 11416	PDZ6.8B	7515	9351 869 40118	74HC4053PW	7U01	4822 130 60373	BC856B
6I40	4822 130 11416	PDZ6.8B	7516	9351 869 40118	74HC4053PW	7U02	4822 130 60373	BC856B
6I41	4822 130 11416	PDZ6.8B	7703	3198 010 42310	BC847BW	7U03	9340 563 82518	SI4410DY
6I42	4822 130 11416	PDZ6.8B	7705	3198 010 42310	BC847BW	7U04	9340 563 82518	SI4410DY
6I43	4822 130 11416	PDZ6.8B	7706	3198 010 70400	74LVC1G14GW	7U05	3198 010 42320	BC857BW
6I44	4822 130 11416	PDZ6.8B	7707	3198 010 42310	BC847BW	7U06	9340 425 20115	BC847BS
6I45	4822 130 11416	PDZ6.8B	7708	3198 010 42310	BC847BW	7U07	9340 425 30115	BC847BPN
6I46	4822 130 11416	PDZ6.8B	7709	3198 010 42310	BC847BW	7U08	4822 130 42804	BC817-25
6I47	4822 130 11416	PDZ6.8B	7710	3198 010 42310	BC847BW	7U09	4822 130 42804	BC817-25
6I48	4822 130 11416	PDZ6.8B	7711	For SW see item 0605		7U10	3198 010 42310	BC847BW
6I49	9322 129 41685	BZM55-C12	7712	9352 190 20118	74LVC573APW	7U11	3198 010 42310	BC847BW
6I50	4822 130 11416	PDZ6.8B	7713	9352 688 09557	SAA4978H/V204	7U12	3198 010 42310	BC847BW
6I51	4822 130 11416	PDZ6.8B	7714	9965 000 02179	MS81V04160-25TB	7U13	9340 425 30115	BC847BPN
6I52	4822 130 11416	PDZ6.8B	7717	4822 209 73852	PM8T2369	7V01	9322 217 35671	EP1C12F256C8N
6I53	4822 130 11416	PDZ6.8B	7719	9322 206 19672	MSM56V16160F-7T3-FG	7V03	9322 206 19672	MSM56V16160F-7T3-FG
6I54	4822 130 11416	PDZ6.8B	7720	9322 211 71702	T6TX5AFG-0001	7V04	9340 425 20115	BC847BS
6I55	4822 130 11416	PDZ6.8B	7752	9322 204 76671	T6TU5XBG-0001	7Y01	9340 310 30215	PDTCT144ET
6I56	4822 130 11416	PDZ6.8B	7753	9322 206 19672	MSM56V16160F-7T3-FG	7Y02	3198 010 42320	BC857BW
6I61	4822 130 11416	PDZ6.8B	7760	9352 730 86557	SAA4998H/V1	7Y03	9340 310 30215	PDTCT144ET
6I62	4822 130 11416	PDZ6.8B	7772	9322 170 14668	LF15ABDT	7Y04	9340 310 30215	PDTCT144ET
6I63	4822 130 11397	BAS316	7773	9322 179 78668	LF18ABDT	7Z00	3198 010 42310	BC847BW
6I64	4822 130 11397	BAS316	7774	9322 142 88668	LF25CDT			
6I65	4822 130 11397	BAS316	7775	3198 010 42320	BC857BW			
6I66	4822 130 11397	BAS316	7776	3198 010 42320	BC857BW			
6I68	4822 130 11416	PDZ6.8B	7777	3198 010 42320	BC857BW			
6I69	4822 130 11416	PDZ6.8B	7A00	4822 209 30095	LM833D			
6I70	4822 130 11416	PDZ6.8B	7A01	3198 010 42310	BC847BW			
6I75	4822 130 11416	PDZ6.8B	7A02	9322 196 03702	MSP3411G-QI-B8V3			
6I77	4822 130 11416	PDZ6.8B	7A03	4822 209 30095	LM833D			
6I90	4822 130 11416	PDZ6.8B	7A04	4822 130 60373	BC856B			
6I91	4822 130 11416	PDZ6.8B	7A07	9322 183 05668	TS482ID			
6I92	4822 130 11416	PDZ6.8B	7A08	9340 425 20115	BC847BS			
6I93	4822 130 11416	PDZ6.8B	7A09	4822 130 60373	BC856B			
6I99	4822 130 11423	PLVA2656A	7A11	9322 199 16668	M74HC590T			
6IA0	9322 129 41685	BZM55-C12	7A12	9322 199 16668	M74HC590T			
6IA7	4822 130 11397	BAS316	7A13	3198 010 42310	BC847BW			
6T01	4822 130 11397	BAS316	7A14	9351 869 90118	74HCT573PW			
6T03	4822 130 11397	BAS316	7A15	9351 869 90118	74HCT573PW			
6T08	9340 548 71115	PDZ33B	7A16	9322 208 98668	M68AF031AM70N6			
6T10	4822 130 11397	BAS316	7A31	9340 425 20115	BC847BS			
6T11	9340 548 58115	PDZ9.1B	7E01	9322 142 88668	LF25CDT			
6U01	4822 130 11397	BAS316	7E02	For SW see item 0602				
6U03	4822 130 11397	BAS316	7E03	9352 687 21165	74LVC1G126GW			
6U04	4822 130 11397	BAS316	7E04	9352 687 20125	74LVC1G125GW			
6U05	9322 129 41685	BZM55-C12	7E05	9322 170 14668	LF15ABDT			
6U06	9322 203 37685	BZG05C3V9	7E10	9352 759 98118	PCA9515ADP			
6U07	4822 130 11416	PDZ6.8B	7E12	9340 425 20115	BC847BS			
6U08	4822 130 80622	BAT54	7E23	9322 181 72671	AD9883AKST-110			

Side I/O Panel [D]

Various

0206	3104 308 12561	Side I/O bracket
1001	2422 026 05133	Connector SVHS 4p f
1002	4822 267 10975	Connector 3p
1010	4822 267 31014	Socket head phone
1016	3104 328 28881	Side I/O assy
1M36	2422 025 17179	Connector 11p m

—II—

2003	2022 552 05679	1µF 10% 16V 0805
2004	3198 016 36810	680pF 25V 0603
2005	2020 552 94427	100pF 5% 50V
2006	3198 016 36810	680pF 25V 0603
2007	2020 552 94427	100pF 5% 50V
2008	2238 916 15641	22nF 10% 25V 0603
2009	5322 126 11583	10nF 10% 50V 0603
2010	2238 916 15641	22nF 10% 25V 0603
2011	5322 126 11583	10nF 10% 50V 0603

-WW-

3000	4822 051 30759	75Ω 5% 0.062W
3004	4822 051 30759	75Ω 5% 0.062W
3008	4822 051 30222	2.2kΩ 5% 0.062W
3009	4822 051 30102	1kΩ 5% 0.062W
3010	4822 051 30333	33kΩ 5% 0.062W
3011	4822 051 30392	3.9Ω 5% 0.063W 0603
3012	4822 051 30102	1kΩ 5% 0.062W
3013	4822 051 30333	33kΩ 5% 0.062W
3016	4822 051 30103	10kΩ 5% 0.062W
3020	4822 051 30103	10kΩ 5% 0.062W
9004	4822 051 30008	Jumper 0603
9005	4822 051 30008	Jumper 0603
9006	4822 051 30008	Jumper 0603
9007	4822 051 30008	Jumper 0603
9008	4822 051 30008	Jumper 0603
9009	4822 051 30008	Jumper 0603
9010	4822 051 30008	Jumper 0603
9011	4822 051 30008	Jumper 0603

-DI-

6000	4822 130 11416	PDZ6.8B
6001	4822 130 11416	PDZ6.8B
6002	4822 130 11416	PDZ6.8B
6003	4822 130 11416	PDZ6.8B
6004	4822 130 11416	PDZ6.8B
6005	4822 130 11416	PDZ6.8B
6006	4822 130 11416	PDZ6.8B
6007	4822 130 11416	PDZ6.8B
6008	4822 130 11416	PDZ6.8B
6009	4822 130 11416	PDZ6.8B
6010	4822 130 11416	PDZ6.8B
6011	4822 130 11416	PDZ6.8B

Top Control Assy [E]

Various

0049	3104 308 11601	Mains knob
0054	3104 308 11591	Mains knob frame
0345	2422 025 16544	Connector 6p m
1701	4822 276 13775	Switch
1702	4822 276 13775	Switch
1703	4822 276 13775	Switch
1704	4822 276 13775	Switch
1705	4822 276 13775	Switch
1710	4822 276 14007	Switch 2P 0.1A 12V
8345	3104 311 06941	Cable 6P/680/6P

-WW-

3008	4822 117 10845	620Ω 1% 0.1W
3010	4822 117 11534	1.1kΩ 1% 0.1W
3011	4822 117 11951	2kΩ 1% 0.1W
3013	4822 117 13528	200Ω 1% 0.125W 0805
3014	3198 031 03910	390Ω 1% 0.402
3017	4822 051 30339	33Ω 5% 0.062W
3018	4822 051 30339	33Ω 5% 0.062W
3019	4822 051 30339	33Ω 5% 0.062W
3020	4822 051 30339	33Ω 5% 0.062W
3021	4822 051 30339	33Ω 5% 0.062W
3022	4822 051 30339	33Ω 5% 0.062W
3023	4822 051 30339	33Ω 5% 0.062W
3024	4822 051 30339	33Ω 5% 0.062W
3025	4822 051 30339	33Ω 5% 0.062W
3026	4822 051 30339	33Ω 5% 0.062W
3027	4822 051 30339	33Ω 5% 0.062W
3028	4822 051 30339	33Ω 5% 0.062W
3999	4822 117 13602	2.2kΩ 5% 0.01W 0402
9000	4822 117 13605	Jumper 0402

-DI-

6001	9322 198 19685	SML512BC2T
6002	9322 198 19685	SML512BC2T
6003	9322 198 19685	SML512BC2T
6004	9322 198 19685	SML512BC2T
6005	9322 198 19685	SML512BC2T
6006	9322 198 19685	SML512BC2T
6007	9322 198 19685	SML512BC2T
6008	9322 198 19685	SML512BC2T
6009	9322 198 19685	SML512BC2T
6010	9322 198 19685	SML512BC2T
6011	9322 198 19685	SML512BC2T
6012	9322 198 19685	SML512BC2T

SCART 3 [H]

Various

1003	2422 025 14911	Socket Euro 21p f
1M07	4822 267 10637	Connector 5p

-II-

2500	2022 552 05679	1μF 10% 16V 0805
2501	2020 552 94427	100pF 5% 50V
2502	2022 552 05679	1μF 10% 16V 0805
2503	2020 552 94427	100pF 5% 50V
2504	2022 552 05679	1μF 10% 16V 0805
2505	2022 552 05679	1μF 10% 16V 0805
2506	2238 586 59812	100nF 20% 50V 0603
2507	5322 126 11578	1nF 10% 50V 0603
2508	2022 552 05679	1μF 10% 16V 0805
2509	2238 586 59812	100nF 20% 50V 0603
2510	4822 126 14241	330pF 0603 50V
2511	2238 586 59812	100nF 20% 50V 0603
2512	2238 586 59812	100nF 20% 50V 0603
2513	2238 586 59812	100nF 20% 50V 0603
2515	2022 552 05679	1μF 10% 16V 0805
2516	2022 552 05679	1μF 10% 16V 0805
2517	2022 552 05679	1μF 10% 16V 0805

-WW-

3500	4822 051 30101	100Ω 5% 0.062W
3501	4822 051 30101	100Ω 5% 0.062W
3502	4822 051 30223	22kΩ 5% 0.062W
3503	4822 051 30101	100Ω 5% 0.062W
3504	4822 051 30101	100Ω 5% 0.062W
3505	4822 051 30223	22kΩ 5% 0.062W
3506	4822 051 30759	75Ω 5% 0.062W
3507	4822 051 30759	75Ω 5% 0.062W
3508	4822 051 30759	75Ω 5% 0.062W
3509	4822 051 30101	100Ω 5% 0.062W
3510	4822 051 30759	75Ω 5% 0.062W
3511	4822 051 30479	47Ω 5% 0.062W
3512	4822 051 30479	47Ω 5% 0.062W
3513	4822 051 30479	47Ω 5% 0.062W
3514	4822 051 30479	47Ω 5% 0.062W
3515	4822 051 30479	47Ω 5% 0.062W
3516	4822 051 30479	47Ω 5% 0.062W
3517	4822 117 12925	47kΩ 1% 0.063W 0603
3522	4822 051 30272	2.7kΩ 5% 0.062W
3523	4822 051 30223	22kΩ 5% 0.062W
3524	4822 051 30479	47Ω 5% 0.062W
3525	4822 051 30102	1kΩ 5% 0.062W
3526	5322 117 13056	8.2kΩ 1% 0.063W 0603
3527	4822 051 30683	68kΩ 5% 0.062W
3528	4822 051 30223	22kΩ 5% 0.062W
3529	4822 051 30102	1kΩ 5% 0.062W
3535	4822 051 30479	47Ω 5% 0.062W
3536	4822 051 30103	10kΩ 5% 0.062W
3543	4822 051 30759	75Ω 5% 0.062W
3599	4822 051 30102	1kΩ 5% 0.062W
3999	4822 051 30102	1kΩ 5% 0.062W
9502	4822 051 30008	Jumper 0603
9508	4822 051 30008	Jumper 0603
9509	3198 036 90010	Wire 0.58mm
9510	3198 036 90010	Wire 0.58mm
9511	3198 036 90010	Wire 0.58mm
9512	3198 036 90010	Wire 0.58mm
9513	3198 036 90010	Wire 0.58mm
9514	3198 036 90010	Wire 0.58mm
9515	3198 036 90010	Wire 0.58mm
9521	4822 051 30008	Jumper 0603
9523	3198 036 90010	Wire 0.58mm
9524	4822 051 30008	Jumper 0603
9525	3198 036 90010	Wire 0.58mm
9526	3198 036 90010	Wire 0.58mm

-DI-

6500	4822 130 11416	PDZ6.8B
6501	4822 130 11416	PDZ6.8B
6502	4822 130 11416	PDZ6.8B
6503	4822 130 11416	PDZ6.8B
6504	4822 130 11397	BAS316
6505	4822 130 11416	PDZ6.8B
6506	4822 130 11416	PDZ6.8B
6507	9340 548 61115	PDZ12B
6508	4822 130 11551	UDZS10B



7501	3198 010 42310	BC847BW
7502	3198 010 42310	BC847BW
7515	9351 869 40118	74HC4053PW
7516	9351 869 40118	74HC4053PW

LED Panel [J]

Various

0163	3122 124 36081	Day light filter
0345	2422 025 16961	Connector 6p m SMD
0345	2422 025 18741	Connector 6p m
1040	9322 206 81667	TSOP34836YA1
1M01	2422 025 17103	Connector 3p m SMD
1M01	2422 025 18738	Connector 3p m
1M20	2422 025 17441	Connector 12p m
1M20	2422 025 18736	Connector 12p m

-II-

2030	4822 124 23002	10μF 16V
2040	4822 124 12095	100μF 20% 16V
2060	5322 124 41945	22μF 20% 35V
2070	4822 126 14583	470nF 10% 16V 0805
2071	4822 124 23002	10μF 16V

-WW-

3011	4822 117 13545	100Ω 1% 0.402
3020	4822 117 13606	10kΩ 5% 0.01W 0402
3030	3198 031 04720	4.7kΩ 5% 0.402
3031	4822 117 11297	100kΩ 5% 0.1W
3031	4822 117 12889	270kΩ 1% 0.063W 0603
3031	4822 117 13632	100kΩ 1% 0.063W 0.62W
3032	2322 705 70184	180Ω 5% 0.402
3033	4822 051 30102	1kΩ 5% 0.062W
3033	4822 117 13548	1kΩ 5% 0.402
3034	4822 117 13548	1kΩ 5% 0.402
3035	3198 031 04720	4.7kΩ 5% 0.402
3036	3198 031 02280	2.2Ω 5% 0.1W 0402
3037	3198 031 02280	2.2Ω 5% 0.1W 0402
3040	4822 117 13597	330Ω 5% 0.402 0.01W
3041	4822 117 13606	10kΩ 5% 0.01W 0402
3042	3198 031 06820	6.8kΩ 5% 0.01W 0402
3051	4822 117 13597	330Ω 5% 0.402 0.01W
3060	4822 117 13606	10kΩ 5% 0.01W 0402
3061	4822 051 30331	330Ω 5% 0.062W
3062	4822 117 11373	100Ω 1% 0.805
3063	4822 117 13606	10kΩ 5% 0.01W 0402
3064	4822 117 11373	100Ω 1% 0.805
3070	2322 705 70475	4.7MΩ 5% 0.402
3071	2322 705 70475	4.7MΩ 5% 0.402
3072	4822 117 13548	1kΩ 5% 0.402
3073	3198 031 03320	3.3kΩ 5% 0.402
3074	4822 117 13606	10kΩ 5% 0.01W 0402
3075	3198 031 04720	4.7kΩ 5% 0.402
3076	3198 031 03320	3.3kΩ 5% 0.402
3077	3198 031 03320	3.3kΩ 5% 0.402
3078	3198 031 03320	3.3kΩ 5% 0.402
3079	3198 031 03320	3.3kΩ 5% 0.402
3091	4822 117 13606	10kΩ 5% 0.01W 0402
3093	4822 117 13606	10kΩ 5% 0.01W 0402
3096	4822 117 13606	10kΩ 5% 0.01W 0402
3999	3198 031 04720	4.7kΩ 5% 0.402
9010	4822 117 13605	Jumper 0402
9012	4822 117 13605	Jumper 0402
9013	4822 117 13605	Jumper 0402
9014	4822 117 13605	Jumper 0402
9015	4822 117 13605	Jumper 0402
9016	4822 117 13605	Jumper 0402
9017	4822 117 13605	Jumper 0402
9019	4822 117 13605	Jumper 0402
9022	4822 051 30008	Jumper 0603
9024	4822 051 30008	Jumper 0603
9026	4822 117 13605	Jumper 0402
9027	4822 117 13605	Jumper 0402
9040	4822 117 13605	Jumper 0402
9041	4822 117 13605	Jumper 0402
9042	4822 117 13605	Jumper 0402
9043	4822 117 13605	Jumper 0402
9044	4822 117 13605	Jumper 0402
9050	4822 117 13605	Jumper 0402
9060	4822 117 13605	Jumper 0402
9081	4822 117 13605	Jumper 0402
9082	4822 117 13605	Jumper 0402



6030	4822 130 11397	BAS316
6031	4822 130 11397	BAS316
6051	4822 130 11395	TLMH3100
6051	4822 130 83915	TLMV3100
6060	9322 208 45685	SML512BC4TL
6061	4822 130 11397	BAS316
6070	9322 140 63685	TEMD5000



7030	3198 010 42320	BC857BW
7031	5322 130 62804	BCP53
7032	3198 010 42310	BC847BW
7060	3198 010 42310	BC847BW
7061	3198 010 42310	BC847BW
7070	9322 192 63668	LM358P

LCD Standby / Audio [SA]

Various

1304	2422 025 10647	Connector 4p m
1305	4822 267 10735	Connector 3p
1306▲	2422 025 16374	Connector 2p m
1307	2422 025 10647	Connector 4p m
1309	2422 025 11143	Connector 3p m
1314	2422 025 10771	Connector 10p m
1315	2422 025 10771	Connector 10p m
1316	2422 025 10772	Connector 12p m
1317	2422 025 10772	Connector 12p m
1318	2422 025 08149	Connector 6p m
1735	4822 267 10918	Connector 3p
1736	2422 025 10768	Connector 3p m
1739	2422 025 10769	Connector 9p m
1D40	4822 267 10637	Connector 5p
1D42	4822 267 10637	Connector 5p
1K49	2422 025 18884	Connector 4p m
1M02	2422 025 11244	Connector 7p m
1M03	2422 025 10771	Connector 10p m
1M10	2422 025 09406	Connector 4p m
1M46	2422 025 10655	Connector 11p m
1M49	2422 025 18884	Connector 4p m
1M63	2422 025 09405	Connector 2p m



2101	4822 121 51598	2.2nF 5% 400V
2102	4822 124 40207	100µF 20% 25V
2103	2020 552 94427	100pF 5% 50V
2105	2020 552 94427	100pF 5% 50V
2109	4822 126 14583	470nF 10% 16V 0805
2110	2022 552 05679	1µF 10% 16V 0805
2111	4822 121 43526	47nF 5% 250V
2112	5322 126 11583	10nF 10% 50V 0603
2123	2238 586 59812	100nF 20% 50V 0603
2124	4822 124 40248	10µF 20% 63V
2129	5322 126 11578	1nF 10% 50V 0603
2131	2238 586 15641	22nF 10% 50V 0603
2132	4822 124 40207	100µF 20% 25V
2140	4822 124 40248	10µF 20% 63V
2141	4822 126 14583	470nF 10% 16V 0805
2144	2022 552 05679	1µF 10% 16V 0805
2145	4822 126 13881	470pF 5% 50V
2149	4822 126 14583	470nF 10% 16V 0805
2150	4822 124 12379	220µF 25V
2152	4822 121 70162	10nF 5% 400V
2153	5322 126 11582	6.8nF 10% 63V
2154	3198 017 31530	15nF 20% 50V 0603
2160	4822 124 21913	1µF 20% 63V
2163	4822 124 40207	100µF 20% 25V
2506▲	22552 811 95017	470pF 10% 250V
2507	4822 126 13682	100pF 5% 1kV
2508	4822 124 40764	22µF 100V
2510	2020 021 91668	2200µF 20% 10V
2511	4822 124 12379	220µF 25V
2512	4822 124 80061	1000µF 20% 25V
2513	2222 930 56627	2.2nF 10% 200V 0805
2515	4822 126 14238	2.2nF 50V 0603
2533	4822 124 40207	100µF 20% 25V
2534	2022 552 05679	1µF 10% 16V 0805
2535	5322 126 11583	10nF 10% 50V 0603
2536	5322 126 11583	10nF 10% 50V 0603
2537	4822 126 14238	2.2nF 50V 0603
2538	5322 126 11583	10nF 10% 50V 0603
2539	2022 552 05679	1µF 10% 16V 0805
2540	5322 126 11583	10nF 10% 50V 0603
2544	5322 126 11583	10nF 10% 50V 0603
2702	5322 126 11578	1nF 10% 50V 0603

2704	5322 126 11578	1nF 10% 50V 0603
2705	2020 552 96684	470nF 10% 25V 0805
2706	2222 580 15649	100nF 10% 50V 0805
2707	4822 126 14585	100nF 10% 0805 50V
2708	2020 552 96326	220nF 10% 16V
2709	4822 126 13881	470pF 5% 50V
2710	4822 126 13881	470pF 5% 50V
2711	5322 126 11578	1nF 10% 50V 0603
2712	2020 552 96683	220nF 10% 50V
2713	2020 552 96684	470nF 10% 25V 0805
2714	3198 017 33330	33nF 20% 16V 0603
2715	5322 126 11578	1nF 10% 50V 0603
2716	4822 126 14241	330pF 0603 50V
2717	5322 121 42498	680nF 5% 63V
2718	4822 122 33761	22pF 5% 50V
2719	5322 126 11578	1nF 10% 50V 0603
2720	2020 552 96326	220nF 10% 16V
2721	4822 126 13881	470pF 5% 50V
2722	4822 126 13881	470pF 5% 50V
2725	2020 552 94427	100pF 5% 50V
2726	3198 017 33330	33nF 20% 16V 0603
2727	5322 126 11578	1nF 10% 50V 0603
2728	4822 126 14241	330pF 0603 50V
2729	5322 121 42498	680nF 5% 63V
2764	4822 126 14491	2.2µF 10V 0805
2766	4822 126 14491	2.2µF 10V 0805
2768	4822 124 40255	100µF 20% 63V
2769	4822 124 40255	100µF 20% 63V
2777	2020 552 96683	220nF 10% 50V
2778	4822 124 40769	4.7µF 20% 100V
2779	2020 552 96683	220nF 10% 50V
2780	2020 552 96683	220nF 10% 50V
2781	2020 552 96683	220nF 10% 50V
2783	4822 124 41751	47µF 20% 50V
2786	2238 586 15641	22nF 10% 50V 0603
2788	4822 124 40255	100µF 20% 63V
2789	2020 552 96683	220nF 10% 50V
2790	4822 124 40255	100µF 20% 63V



3100	4822 051 30101	100Ω 5% 0.062W
3101	4822 053 20475	4.7MΩ 5% 0.25W
3102	2312 915 11002	1kΩ 1% 0.5W
3103	2312 915 11002	1kΩ 1% 0.5W
3104	9965 000 23109	22Ω 5% 0603
3105	4822 051 30221	220Ω 5% 0.062W
3106	4822 051 30391	390Ω 5% 0.062W
3107	4822 051 30391	390Ω 5% 0.062W
3108	4822 053 10478	4.7Ω 5% 1W
3109	4822 051 30391	390Ω 5% 0.062W
3110	4822 051 30391	390Ω 5% 0.062W
3111	4822 053 10152	1.5kΩ 5% 1W
3112	4822 051 30391	390Ω 5% 0.062W
3113	9965 000 23109	22Ω 5% 0603
3114	4822 051 30221	220Ω 5% 0.062W
3117	4822 051 30479	47Ω 5% 0.062W
3122	4822 051 30471	47Ω 5% 0.062W
3123	4822 051 30109	10Ω 5% 0.062W
3124	4822 051 30339	33Ω 5% 0.062W
3125	4822 117 12971	15Ω 5% 0603 0.62W
3126	4822 051 30103	10kΩ 5% 0.062W
3127	4822 051 30562	5.6kΩ 5% 0.063W 0603
3128	4822 117 13608	4.7Ω 5% 0603 0.62W
3132	4822 051 30333	33kΩ 5% 0.062W
3134	4822 051 30102	1kΩ 5% 0.062W
3135	4822 051 30331	330Ω 5% 0.062W
3138	4822 051 30105	1MΩ 5% 0.062W
3140	4822 051 30223	22kΩ 5% 0.062W
3141	4822 051 30471	47Ω 5% 0.062W
3145	4822 051 30472	4.7Ω 5% 0.062W
3146	4822 051 30479	47Ω 5% 0.062W
3147	4822 051 30223	22kΩ 5% 0.062W
3148	4822 051 30479	47Ω 5% 0.062W
3149	4822 051 30103	10kΩ 5% 0.062W
3150	4822 051 30101	100Ω 5% 0.062W
3152	4822 051 30102	1kΩ 5% 0.062W
3153	4822 051 30223	22kΩ 5% 0.062W
3155	4822 050 21003	10kΩ 1% 0.6W
3156	4822 051 30102	1kΩ 5% 0.062W
3157	4822 051 30223	22kΩ 5% 0.062W
3158	4822 051 30479	47Ω 5% 0.062W
3159	4822 051 30479	47Ω 5% 0.062W
3160	4822 051 30102	1kΩ 5% 0.062W
3161	4822 051 30123	12kΩ 5% 0.1W
3171	4822 051 30101	100Ω 5% 0.062W
3172	4822 051 30333	33kΩ 5% 0.062W
3175	4822 051 30103	10kΩ 5% 0.062W
3176	4822 051 30103	10kΩ 5% 0.062W
3190	4822 053 10122	1.2kΩ 5% 1W
3191	4822 053 10122	1.2kΩ 5% 1W
3192	4822 053 10122	1.2kΩ 5% 1W
3509	4822 053 10222	2.2kΩ 5% 1W

3511	4822 051 30683	68kΩ 5% 0.062W
3512	4822 051 30471	47Ω 5% 0.062W
3513	4822 051 30333	33kΩ 5% 0.062W
3515	4822 117 13632	100kΩ 1% 0603 0.62W
3516	4822 051 30472	4.7Ω 5% 0.062W
3517	4822 051 30223	22kΩ 5% 0.062W
3528	4822 051 30472	4.7Ω 5% 0.062W
3529	4822 051 30101	100Ω 5% 0.062W
3531	4822 051 30153	15kΩ 5% 0.062W
3532	4822 051 30472	4.7Ω 5% 0.062W
3533	4822 051 30152	1.5Ω 5% 0.062W
3534	4822 051 30103	10kΩ 5% 0.062W
3538	4822 051 30101	100Ω 5% 0.062W
3539	4822 051 30471	47Ω 5% 0.062W
3540	4822 051 30222	2.2kΩ 5% 0.062W
3541	4822 051 30222	2.2kΩ 5% 0.062W
3542	4822 051 30103	10kΩ 5% 0.062W
3543	4822 051 30223	22kΩ 5% 0.062W
3544	4822 051 30221	220Ω 5% 0.062W
3560	4822 051 30682	6.8Ω 5% 0.062W
3561	4822 051 30392	3.9Ω 5% 0.063W 0603
3562	4822 117 13608	4.7Ω 5% 0603 0.62W
3701	4822 051 30103	10kΩ 5% 0.062W
3702	4822 051 30682	6.8Ω 5% 0.062W
3703	4822 051 30333	33kΩ 5% 0.062W
3704	4822 117 10833	10kΩ 1% 0.1W
3705	4822 051 20828	8.2Ω 5% 0.1W
3706	4822 051 30472	4.7Ω 5% 0.062W
3707	4822 051 30683	68kΩ 5% 0.062W
3708	4822 051 30563	56kΩ 5% 0.062W
3709	4822 117 11503	220Ω 1% 0.1W
3710	4822 051 30223	22kΩ 5% 0.062W
3711	4822 050 21204	120kΩ 1% 0.6W
3712	4822 051 30103	10kΩ 5% 0.062W
3713	2312 915 11202	1.2kΩ 1% 0.5W
3714	4822 117 12925	47kΩ 1% 0.063W 0603
3715	4822 117 12925	47kΩ 1% 0.063W 0603
3716	4822 117 12925	47kΩ 1% 0.063W 0603
3717	4822 117 13632	100kΩ 1% 0603 0.62W
3718	4822 117 13632	100kΩ 1% 0603 0.62W
3721	4822 051 30472	4.7Ω 5% 0.062W
3722	4822 051 30683	68kΩ 5% 0.062W
3723	4822 051 30563	56kΩ 5% 0.062W
3724	4822 117 11503	220Ω 1% 0.1W
3725	4822 051 30223	22kΩ 5% 0.062W
3726	4822 117 11503	220Ω 1% 0.1W
3727	4822 117 11503	220Ω 1% 0.1W
3743	4822 117 11449	2.2kΩ 5% 0.1W 0805
3746	4822 051 30223	22kΩ 5% 0.062W
3747	4822 050 21004	100kΩ 1% 0.6W
3748	4822 051 30471	47Ω 5% 0.062W
3750	4822 117 11449	2.2kΩ 5% 0.1W 0805
3756	4822 117 11449	2.2kΩ 5% 0.1W 0805
3757	4822 117 11449	2.2kΩ 5% 0.1W 0805
3759	4822 051 30332	3.3Ω 5% 0.062W
3760	4822 051 30332	3.3Ω 5% 0.062W
3761	4822 051 20109	10Ω 5% 0.1W
3762	4822 051 30222	2.2kΩ 5% 0.062W
3763	4822 051 30222	2.2kΩ 5% 0.062W
3764	4822 051 20109	10Ω 5% 0.1W
3765	4822 051 30103	10k

5705	4822 157 11716	Bead 30Ω at 100MHz
5707	4822 157 11411	Bead 80Ω at 100MHz
5708	4822 157 11411	Bead 80Ω at 100MHz
5711	4822 157 11411	Bead 80Ω at 100MHz
5712	4822 157 11411	Bead 80Ω at 100MHz
5730	2422 549 00112	Line filt. 50V 3A
5731	2422 549 00112	Line filt. 50V 3A



6103	4822 130 10871	SBYV27-200
6104	9340 548 69115	PDZ27B
6105	4822 130 11522	UDZ15B
6106	9340 548 67115	PDZ22B
6107	4822 130 11572	STPS8H100F
6108	4822 130 80622	BAT54
6114	4822 130 10871	SBYV27-200
6115	4822 130 80622	BAT54
6116	3198 020 55680	BZX384-C5V6
6120	4822 130 11397	BAS316
6121	4822 130 11397	BAS316
6122	9322 129 34685	BZM55-C3V9
6130	9322 129 41685	BZM55-C12
6132	4822 130 11416	PDZ6.8B
6133	4822 130 11397	BAS316
6134	4822 130 11397	BAS316
6140	4822 130 83755	BYW36
6142	4822 130 80622	BAT54
6144	4822 130 11397	BAS316
6147	9322 208 44685	BZG05C6V8
6148	4822 130 11397	BAS316
6149	3198 020 55680	BZX384-C5V6
6150	9340 292 50135	BZG03-C200
6151	9340 548 71115	PDZ33B
6153	9340 292 50135	BZG03-C200
6156	4822 130 11397	BAS316
6504	9340 418 70133	BYV27-600
6511	9322 129 41685	BZM55-C12
6531	4822 130 11522	UDZ15B
6532	4822 130 11397	BAS316
6540	4822 130 80622	BAT54
6562	9340 548 67115	PDZ22B
6701	4822 130 11397	BAS316
6702	4822 130 11551	UDZS10B
6703	4822 130 11551	UDZS10B



7100	3198 010 42320	BC857BW
7101	9340 219 30115	BC817-25W
7102	9322 160 34687	FQPF3N60
7105	3198 010 42320	BC857BW
7131	9340 557 69127	PHX9NQ20T
7140	3198 010 42310	BC847BW
7150▲	9322 149 04682	TCET1102
7501▲	9322 149 04682	TCET1102
7505	3198 010 42320	BC857BW
7506	3198 010 42310	BC847BW
7507	3198 010 42310	BC847BW
7509	3198 010 42310	BC847BW
7511	9337 331 10215	BST82
7512	9340 422 80115	PMSTA42
7531	9340 436 50115	BSP030
7532	3198 010 42310	BC847BW
7560	9340 219 30115	BC817-25W
7700	9322 163 86682	TDA7490L
7701	3198 010 42310	BC847BW
7703	3198 010 42310	BC847BW
7704	3198 010 42310	BC847BW
7705	3198 010 42310	BC847BW
7706	3198 010 42320	BC857BW
7707	3198 010 42310	BC847BW
7708	3198 010 42310	BC847BW
7709	3198 010 42310	BC847BW
7710	3198 010 42310	BC847BW
7711	3198 010 42310	BC847BW