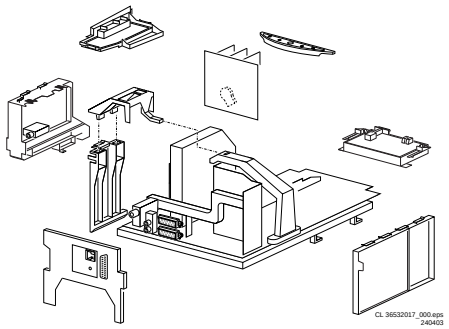
Colour Television 28PW9528/12 Chassis

EM5.1E

AA

Service
Service
Service



Service Manual

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Published by WO 0364 Service PaCE | Printed in the Netherlands | Subject to modification | EN 3122 785 13420

PHILIPS

1. Technical Specifications, Connections and Chassis Overview

1.1 Technical Specifications

1.1.1 Vision

Display type	:	CRT, Real Flat WS
Screen size	:	28" (70 cm)
	:	32" (82 cm)
	:	36" (92 cm)
Tuning system	:	PLL
Colour systems	:	PAL B/G, D/K, I
	:	SECAM B/G, D/K, L/L'
	:	NTSC playback only
Channel selections	:	100 presets
	:	UVSH
Aerial input	:	75 ohm, IEC-type

1.1.2 Sound

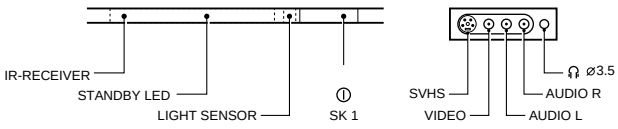
Sound systems	:	FM-mono
	:	AM-mono
	:	FM-stereo B/G, Czech
	:	NICAM B/G, D/K, I, L
Maximum power	:	4 x 15 W rms (int.)

1.1.3 Miscellaneous

Mains voltage	:	220 - 240 V
Mains frequency	:	50 / 60 Hz
Ambient temperature	:	+5 to +45 deg. C
Maximum humidity	:	90 % R.H.
Power consumption	:	?
- Normal operation	:	≈ 130 W
- Standby	:	< 1 W

1.2 Connections

1.2.1 Front View / Side Connections



CL 26532041_070.eps
110402

Figure 1-1 Front View and Side I/O

Hosiden: SVHS - In

1 - Y	Ground	⏚
2 - C	Ground	⏚
3 - Y	1 Vpp / 75 ohm	⊖→
4 - C	0.3 Vpp / 75 ohm	⊖→

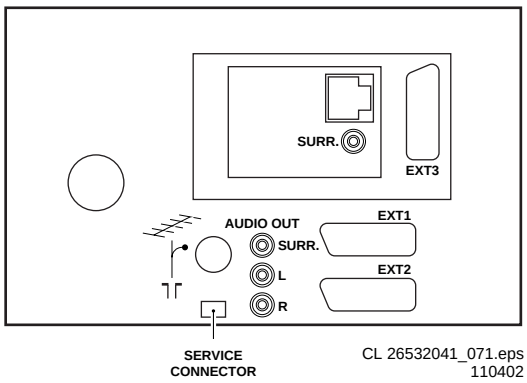
Cinch: In

1 - CVBS	1 Vpp / 75 ohm	⊖→◎
2 - Audio - L	0.5 Vrms / 10 kohm	⊖→◎
3 - Audio - R	0.5 Vrms / 10 kohm	⊖→◎

Mini Jack: Headphone - Out

- Headphone	32 - 600 ohm / 10 mW	3.5mm

1.2.2 Rear Connections



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Figure 1-2 Rear View

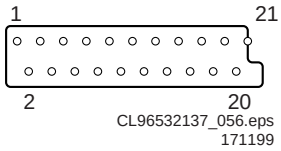
Aerial - In

- IEC-type	Coax, 75 ohm	⊤⊤

Cinch: Audio - Out

- Audio - R	0.5 Vrms / 1 kohm	⊖→◎
- Audio - L	0.5 Vrms / 1 kohm	⊖→◎

External 1: RGB/YUV and CVBS - In/Out



CL96532137_056.eps
171199

Figure 1-3 SCART connector

1	- Audio - R	0.5 Vrms / 1 kohm	⊖→
2	- Audio - R	0.5 Vrms / 10 kohm	⊖→
3	- Audio - L	0.5 Vrms / 1 kohm	⊖→
4	- Audio	Ground	⏚
5	- Audio	Ground	⏚
6	- Audio - L	0.5 Vrms / 10 kohm	⊖→
7	- Blue / U	0.7 Vpp / 75 ohm	⊖→
8	- CVBS-status	0 - 1.3 V: INT 4.5 - 7 V: EXT 16:9 9.5 - 12 V: EXT 4:3	
9	- Video	Ground	⏚
10	- n.c.		
11	- Green / Y	0.7 Vpp / 75 ohm	⊖→
12	- n.c.		
13	- Video	Ground	⏚
14	- Video	Ground	⏚
15	- Red / V	0.7 Vpp / 75 ohm	⊖→
16	- Status / FBL	0 - 0.4 V: INT 1 - 3 V: EXT / 75 ohm	⊖→
17	- Video	Ground	⏚
18	- Video	Ground	⏚
19	- CVBS-out	1 Vpp / 75 ohm	⊖→
20	- CVBS-in	1 Vpp / 75 ohm	⊖→
21	- Shielding	Ground	⏚

External 2: CVBS and SVHS - In (for VCR)

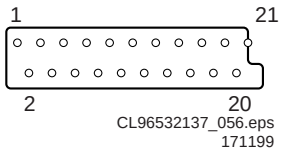


Figure 1-4 SCART connector

1 - Audio - R	0.5 Vrms / 1 kohm	
2 - Audio - R	0.5 Vrms / 10 kohm	
3 - Audio - L	0.5 Vrms / 1 kohm	
4 - Audio	Ground	
5 - Audio	Ground	
6 - Audio - L	0.5 Vrms / 10 kohm	
7 - C-out	0.7 Vpp / 75 ohm	
8 - CVBS-status	0 - 1.3 V: INT	
	4.5 - 7 V: EXT 16:9	
	9.5 - 12 V: EXT 4:3	
9 - Video	Ground	
10 - Easylink	(P50)	
11 - n.c.		
12 - n.c.		
13 - Video	Ground	
14 - Video	Ground	
15 - C-in	0.7 Vpp / 75 ohm	
16 - n.c.		
17 - Video	Ground	
18 - Video	Ground	
19 - CVBS-out	1 Vpp / 75 ohm	
20 - Y / CVBS-in	1 Vpp / 75 ohm	
21 - Shielding	Ground	

External 3: RGB and CVBS - In

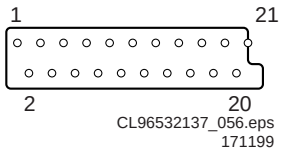


Figure 1-5 SCART connector

1 - n.c.		
2 - Audio - R	0.5 Vrms / 10 kohm	
3 - n.c.		
4 - Audio	Ground	
5 - Audio	Ground	
6 - Audio - L	0.5 Vrms / 10 kohm	
7 - Blue-in	0.7 Vpp / 75 ohm	
8 - CVBS-status	0 - 1.3 V: INT	
	4.5 - 7 V: EXT 16:9	
	9.5 - 12 V: EXT 4:3	
9 - Video	Ground	
10 - n.c.		
11 - Green-in	0.7 Vpp / 75 ohm	
12 - n.c.		
13 - Video	Ground	
14 - Video	Ground	
15 - Red-in	0.7 Vpp / 75 ohm	
16 - Status / FBL	0 - 0.4 V: INT	
	1 - 3 V: EXT / 75 ohm	
17 - Video	Ground	
18 - Video	Ground	
19 - n.c.		
20 - CVBS-in	1 Vpp / 75 ohm	
21 - Shielding	Ground	

RJ45: Wireless Surround Transmitter - Out

1 - SDA2_TM	Signal	
2 - SCL2_TM	Signal	
3 - GND	Ground	
4 - I2C_MUTE	Signal	
5 - 15V	Supply	
6 - AUDIO_ SL_S_TM	Signal	
7 - GND_AUD	Ground	
8 - PILOT_MUTE	Signal	

Jack: Surround - Out

1 - Audio	0.2 - 2 Vrms / 10 kohm	

1.3 Chassis Overview

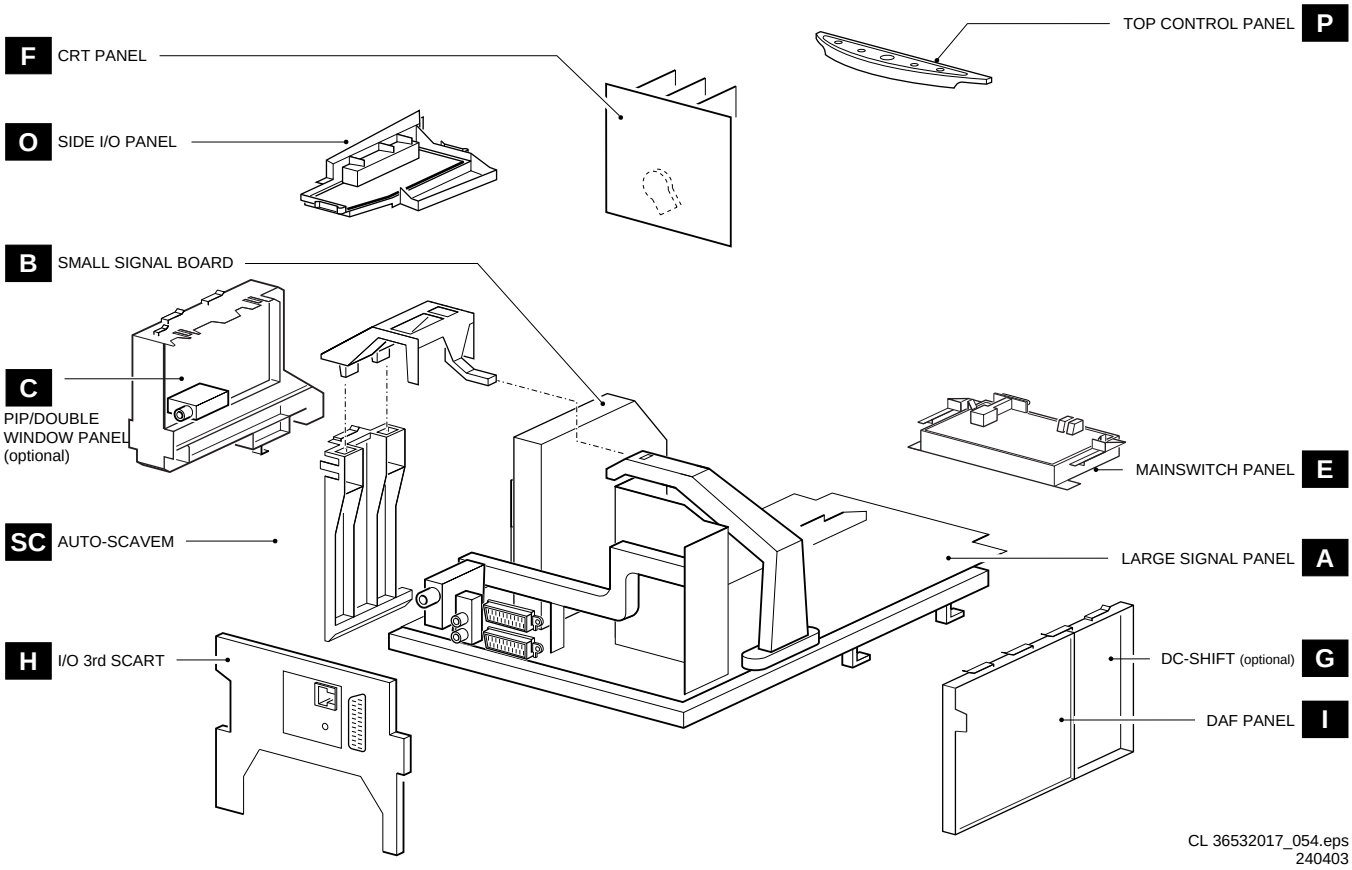


Figure 1-6 PWB location

2. Safety Instructions, Warnings, and Notes

2.1 Safety Instructions

Safety regulations require that **during** a repair:
- Connect the Receiver box to the Mains via an isolation transformer.
- When you use the Receiver box in combination with a plasma monitor, do not operate the monitor without the front glass plate. One function of this glass plate is to absorb IR radiation. Without this glass plate, the level of radiation could damage your eyes.
- Safety components, indicated by the symbol ⚠, must be replaced with original components.

Safety regulations require that **after** a repair, you must return the set in its original condition. Pay particular attention to the following points:
- Route the wire trees in their original positions and fix them in place with the mounted cable clamps.
- Check the insulation of the Mains cord for external damage.
- Check the electrical DC resistance between the Mains plug and the secondary side (only for sets which have a Mains isolated power supply):
  - Unplug the Mains cord and connect a wire between the two pins of the Mains plug;
  - Set the Mains switch to the "on" position (keep the Mains cord unplugged!).
  - Measure the resistance value between the pins of the Mains 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.
  - Set the Mains switch to the "off" position, and remove the wire between the two pins of the Mains plug.
- Check the cabinet for defects, to prevent the customer from touching any inner parts of the television set.

2.2 Warnings

- All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD symbol ⚠). Careless handling during repair can reduce life drastically. Make sure that, during repair, you are connected with the same electrical potential as the set by a wristband with resistance. Keep components and tools at this same potential. Available ESD protection equipment:
  - Complete ESD3 kit (small tablemat, wristband, connection box, extension cable and earth cable): 4822 310 10671.
  - Wristband tester: 4822 344 13999.
- Be careful while taking measurements in the live voltage section.
- Never replace modules, or other components, with the television set "'ON."
- Use plastic tools, instead of metal tools, when performing alignments on the television set. This will help prevent short circuits and reduce the danger of a circuit becoming unstable.

2.3 Notes

2.3.1 General

- Measure the direct voltages and oscillograms with regard to the chassis ground (symbol ⏚), or hot ground (symbol ⏚).
- The direct voltages and oscillograms 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 61.25 MHz (NTSC).
- Where necessary, measure the oscillograms and direct voltages with (symbol ⊓) and without (symbol ⊼) aerial signal. Measure the voltages in the power supply section both in normal operation (symbol ⏼) and in standby (symbol ⏻). These values are indicated by means of the appropriate symbols.
- The semiconductors indicated in the circuit diagram and in the parts lists, are interchangeable position with the semiconductors in the unit, irrespective of the type indication on these semiconductors.

2.3.2 Schematic Notes

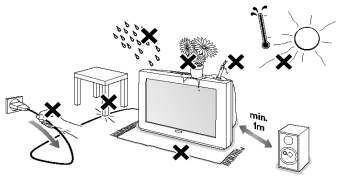
- All resistor values are in ohms and the value multiplier is often used to indicate the decimal point location (e.g. 2K2 indicates 2.2 kohm).
- Resistor values with no multiplier may be indicated with either an 'E' or an 'R' (e.g. 220E or 220R indicates 220 ohm).
- All Capacitor values are expressed in Micro-Farads ($\mu = x10^{-6}$), Nano-Farads ($n = x10^{-9}$), or Pico-Farads ($p = x10^{-12}$).
- Capacitor values may also use the value multiplier as the decimal point indication (e.g. 2p2 indicates 2.2 pF).
- An 'asterisk' (*) indicates component usage varies. Refer to the diversity tables for the correct values.
- The correct component values are listed in the Electrical Replacement Parts List. Therefore, always check this list when there is any doubt.

2.3.3 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 - 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.
- **Before powering up the TV set with the rear cover off** (or on a test fixture), attach a clip lead to the CRT DAG ground and to a screwdriver blade that has a well insulated handle. After the TV is powered on and high voltage has developed, probe the anode lead with the blade, starting at the case of the High Voltage Transformer (flyback - IFT). Move the blade to within two inches of the connector of the CRT. **If there is an arc, you found it the easy way, without getting a shock!** If there is an arc to the screwdriver blade, replace the part that is causing the problem: the High Voltage Transformer or the lead (if it is removable).

Preparation

❶ Place the TV on a solid surface.
! 28PW9528: 41 kg; 32PW9528: 59 kg; 36PW9528: 79 kg !

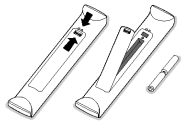


For ventilation, leave at least 5 cm free all around the TV. Do not place the TV on a carpet. To prevent any unsafe situations, do not place any objects on top of the TV. Avoid heat, direct sunlight and exposure to rain or water.

❷ Insert the aerial plug firmly into the aerial socket at the back of the TV. For best picture quality use the suppressor-aerial cable supplied.

❸ Insert the mains plug of the TV in the wall socket having a mains voltage of 220V-240V.

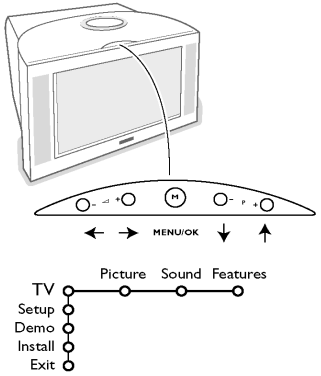
❹ **Remote control**: Insert the 2 batteries supplied (Type R6-1,5V).



The batteries supplied do not contain the heavy metals mercury and cadmium. Please check on how to dispose of exhausted batteries according to local regulations.

❺ **Switch the TV on** : Press the power switch ⏻ on the front of your TV.
An indicator on the front of the TV lights up and the screen comes on.
If the TV is in standby mode (red indicator), press the **-P+** keys on the remote control.

Keys on top of the TV



Should your remote be lost or broken you can still change some of the basic settings with the keys on top of your TV.

Press:
• the ◿ - or + key to adjust the volume;
• the **-P+** keys to select the TV channels or sources.

The **M** key can be used to summon the main menu without the remote control.

Use:
• the ◿ - and + keys and the **P-** and **P+** keys to select menu items in the directions as shown;
• the **M** key to confirm your selection.

Note:
*When activated via the **M** key on top of the TV, only **Exit** lets you dismiss the menu.*
*Navigate to **Exit** and press the **M** key.*

Use of the remote control RC4301

Note: For most keys pressing a key once will activate the function. Pressing a second time will de-activate it.
When a key enables multiple options, a small list will be shown. Press repeatedly to select the next item in the list.
*The list will be removed automatically after 4 seconds or press **OK** to remove immediately.*

VCR DVD SAT AMP CD
Audio- and Video equipment keys, (p. 22)

Select peripherals (p. 21)

● ◀◀ ■ ▶ ▶▶
Audio- and Video equipment keys (p. 22)

● Instant record
See Record with your recorder with EasyLink, p. 22.

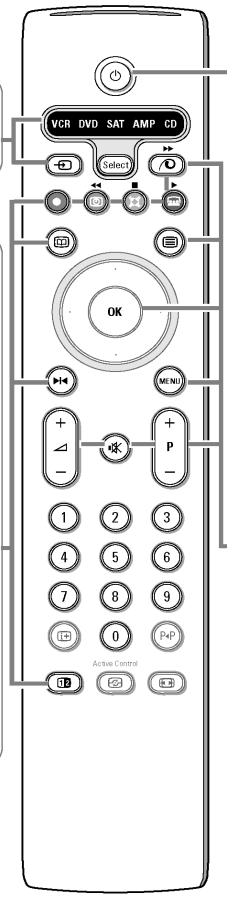
Time display
The time is displayed on the screen.

Surround mode
Press this key repeatedly to select another available surround mode.

Cinema Go
See separate Cinema Link booklet supplied.

NEXTVIEW on/off p. 16
Press 1 2 to show NEXTVIEW/ Teletext Guide on the right half of the screen.

Freeze/Replay/Photo finish
To freeze the picture.
See also p. 9.



Standby
Press to switch the TV on or off. When switched off, a red indicator on the TV lights up.

Pixel Plus demo on/off
In the right part Pixel Plus and Digital Natural Motion are switched on.

Teletext on/off see p. 18
Press the 1 2 key to show teletext on the right half of the screen.

OK Press this key
• to activate your choice, when in the menus.
• to display the programme list.

MENU Main menu on/off see p. 5

◿ To adjust the volume.

Interrupt the sound or restore it.

P Programme selection
To browse through the TV channels and sources stored in the favourite list.

0/9 Digit keys
To select a TV channel.
For a two digit programme number, enter the second digit before the dash disappears. To switch immediately to a selected one digit TV channel, keep the digit key pressed a bit longer.



On Screen information

Press to display information about the selected TV channel and programme.

Menu/Remote control info

When a menu is on screen, press to display info on the selected menu item. For information on the remote control functions, while the menu info is displayed, press any key on the remote control.
The normal function of the key is not executed.

Smart surf / NEXTVIEW themes

With this key you can easily switch between 2 up to 9 different TV channels or sources or quickly select TV programmes if NEXTVIEW with defined themes is broadcast. See General, Smart surf, p. 9.
Press the **OK** key or wait for the time out to dismiss the Smart surf display.

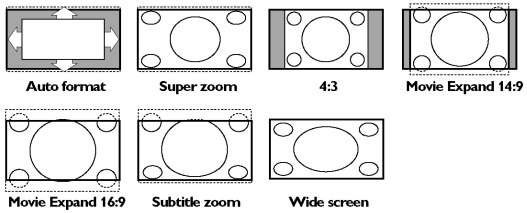
Dual screen / PIP / Multipip

See p. 9 and p. 14.

Active control see p. 11.

Picture format

Press this key repeatedly or press the cursor up/down to select another picture format: Auto format, Super zoom, 4:3, Movie Expand 14:9, Movie Expand 16:9, Subtitle zoom or Wide screen.

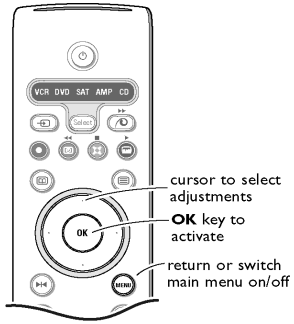


Auto format makes the picture fill the screen as much as possible.
In case of subtitles in the bottom black bar, Auto format makes the subtitles visible. If subtitles are only partly visible, press cursor up.
In case of a broadcaster logo in the corner of the top black bar, the logo disappears from the screen.

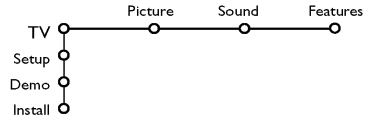
Super zoom removes the black bars on the sides of 4:3 programs with minimal distortion.

When in Movie Expand 14:9, 16:9, Super zoom or Subtitle zoom picture format, you can make subtitles visible with the cursor up/down.

To use the menus



1. Press the **MENU** key on the remote control to summon the main menu. At any moment you can exit the menu by pressing the menu key again.
   Note: If you have connected equipment with Cinema Link, more menu items are present.

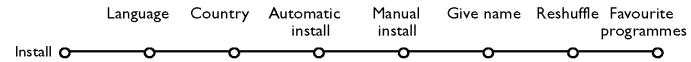


2. Use the cursor in the up/down direction to select the **TV**, **Setup**, **Demo** or **Install** menu.
   Use the cursor left/right to select **Picture**, **Sound** or **Features**.
   Note: Sometimes not all the menu items are visible on the screen (indicated by a cluster of blue balls). Use the cursor down or right to reveal all items.
3. Use the cursor in the left/right direction to select the menu item.
4. Use the cursor up/down again to select the control you want to select or to adjust.

   Note: Items temporary not available or not relevant are displayed in a light grey colour and cannot be selected.

Installation

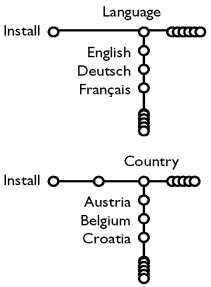
The installation menu contains the following items:



EasyLink

If your video recorder has an EasyLink function, during installation, the language, country and available channels are automatically transmitted to the video recorder.

Select the menu language and country

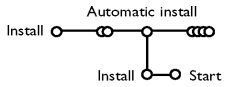


1. Press the **MENU** key on the remote control.
2. Use the cursor down to select **Install**.
3. Use the cursor right to select **Language**.
   Follow the instructions on screen.
4. Use the cursor up/down to select your preferred language and press the **OK** key to confirm your selection.
5. Use the cursor right to select **Country**.
6. Select the country where you are now located and press the **OK** key.
   Select **Other** when none of the countries applies.
7. Proceed with the Install menu.

Store TV channels

After language and country are set correctly, you can now search for and store the TV channels in two different ways: using Automatic Installation or Manual Installation (tuning-in channel by channel).
Select your choice with the cursor right.

Automatic installation

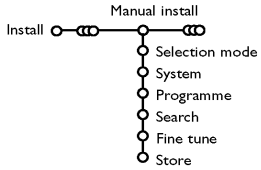


1. Select **Automatic install** in the Install menu.
   Note: All channels must be unlocked in order to autoprogram. If requested, enter your code to unlock all channels. (See TV, Features menu, Childlock, p. 13.)
2. Press the cursor down.
   The autoprogramming option label **Start** appears.
3. Press the cursor right.
4. The message **Searching** appears and the progress of autoprogramming is displayed.

If a cable system or a TV channel which broadcasts ACI (Automatic Channel Installation) is detected, a programme list appears. Without ACI broadcast, the channels are numbered according your language and country selection. You can use Reshuffle to renumber them. See p. 7.

It is possible that the cable company or the TV channel displays a broadcast selection menu. Layout and items are defined by the cable company or the TV channel. Make your choice with the cursor and press the **OK** *key.*

Manual installation



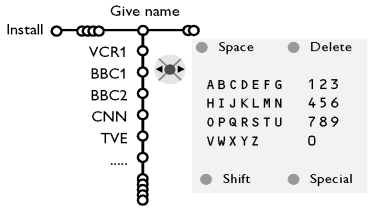
Searching for and storing TV channels is done channel by channel. You must go through every step of the Manual Installation menu.

1. Select **Manual install** in the Install menu.
2. Press the cursor down.
   Follow the instructions on screen.

   Note: Search or direct selection of a TV channel.
   If you know the frequency, the C- or S-channel number, enter the 3 or 2 digits of the frequency or the channel number directly with the digit keys 0 to 9 (e.g. 048). Press the cursor down to proceed.

   Repeat to search for another TV channel.

Give name



It is possible to change the name stored in the memory or to assign a name to a TV channel for which a name has not yet been entered. A name with up to 5 letters or numbers can be given to the programme numbers 0 to 99.

1. Select **Give Name** in the Install menu and press the cursor down.
2. Select the programme number.
   Note: keep the cursor up/down pressed to scroll through the programme list quickly.
3. Press the cursor right.
   A keyboard appears on the screen.
   Press the cursor right to enter the keyboard.
   Press the cursor up/down, left/right to select the first character and press **OK**. Repeat for every character you want to enter.
   Select **Space** to enter a space; **Delete** to erase the highlighted character in the name entered; **Shift** to display upper- or lowercase characters on the keyboard; **Special** to display special characters on the keyboard. Press **OK** to confirm.
4. Press the cursor left repeatedly when you have finished the name giving.
5. Select another programme number and repeat steps 3 to 4.

Reshuffle the programme list

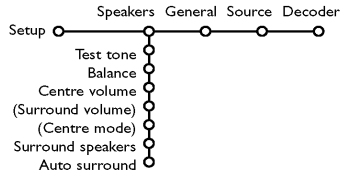
You can change the order of the stored TV channels.

1. Select **Reshuffle** in the Installation menu.
2. Follow the instructions on screen.

Select Favourite TV channels

1. Select **Favourite programmes** in the Install menu.
2. Select your programme number with the cursor up/down.
3. Select **Yes** or **No** with the cursor right.
4. Repeat 2 and 3 for every TV channel or external you want to make a favourite or a non-favourite TV channel or external.

TV Setup



The Setup menu contains items that control the settings of the TV's functions, features, services and peripherals you may have connected.

The **Speakers** menu reflects the speaker-related controls.
The **General** menu allows you to change settings that will typically be accessed only occasionally.
The **Source** menu allows you to select a source.
The **Decoder** menu allows you to define one or more programme numbers as decoder programme numbers.

Speakers

Your TV is equipped with integrated front left, right and centre loudspeakers, capable of reproducing Stereo, Dolby 3 stereo and 3D Surround modes. For full Dolby Pro Logic Surround sound you should use two amplified rear surround speakers connected to the back of the TV.
See Extra loudspeakers/Amplifier, p. 21.

Depending on the output and Surround mode (see Main menu, TV, Sound, Sound modes, p. 12) selected, some menu items may be greyed out and are not selectable.

Test tone controls

The menu item Test tone enables you to balance the volume levels of the speakers.

1. Select **Test tone** and press the cursor right.
2. Once turned on, the Test Tone will circulate through the left, centre, right speakers and both rear surround speakers (if present).
3. Press the cursor up/down to select the desired speaker for individual volume level adjustment.
4. Press the cursor left/right to adjust the volume level.

Centre Mode

To enhance the sound reproduction of your TV you may connect two extra front loudspeakers via an external amplifier. See Connect extra loudspeakers/Amplifier, p. 21.
If no External Front Speakers are connected, do not change the predefined factory settings which is **Centre mode Off**. Only if an external amplifier with Front Speakers is connected, select **Centre mode On**.
In this setting, the centre channel in surround mode is directed to all three internal TV speakers (left, centre and right).

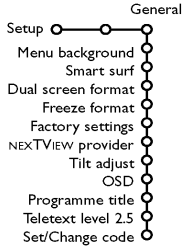
Surround Speakers

See Connect Peripheral Equipment, Connect extra loudspeakers/amplifier, p. 21.
If no Surround Speakers are connected do not change the predefined factory settings which is **Off**. If Surround Speakers are connected select **On**.
(Dolby Pro Logic and Hall are not available if Off is selected.)

Auto Surround

Sometimes the broadcaster transmits special signals for Surround Sound encoded programmes.
The TV automatically switches to the best surround sound mode when **Auto Surround** is switched **On**.
However it is possible to overwrite this setting.

General



This menu allows you to change various settings that are presumably adjusted less frequently than most other settings.

Press the i+ key on the remote control to get information about the selected menu item.

Smart surf

1. Select **Smart surf**.
2. With the cursor left/right, select
   - **2 programmes** if you want the P◂P key to toggle between the current and the previously selected channel,
   - **9 programmes** if you want the P◂P key to summon a list of up to 9 channels which can be selected,
   - **Themes** if you want the P◂P key to quickly select TV programmes if NEXTVIEW with defined themes is broadcast.

To add/remove a channel or source:

Tune to the channel or source you wish to add or remove. Press the P◂P key and press the cursor right to add or remove.
Note: if there are already 9 channels/sources in the list, the one at the bottom of the list will be removed.

Dual screen format

This menu allows you to select the preferred format which can then be displayed toggling the 1 2 key on and off.
See Dual screen/PIP/ Multipip, p. 14.

Select **Dual screen**, **PIP**, **PIP 3** or **PIP 12** with the cursor down.
When Dual screen mode is activated with the remote control 1 2 key, and when:
- **Dual screen** is selected, the TV splits the screen into two equally sized screens.
- **PIP** is selected, the TV shows a full screen of video with a pip window of video on top if it;
- **PIP3** or **12** is selected, the TV will display 3 or 12 pip screens.

Freeze format

Freeze format allows you to select among three options: Freeze, Replay or Photo finish, to be activated when you press the ▶I◀ key on the remote control. See p. 3.
Note: Continuing to hold the ▶I◀ key down will also cycle the TV through the various formats. Changing the format this way does not store the selected format.

Factory settings

This resets the picture and sound settings to their predefined factory values, but maintains the channel installation settings.

NEXTVIEW provider

Select a TV broadcaster that provides NEXTVIEW data. How to make use of NEXTVIEW, see p. 15.

OSD (On Screen Display)

See Use of the remote control, p. 4, i+ On screen information.

1. Select **OSD**.
2. Select **Normal** to activate the continuous display of the programme number. Also TV channel and programme information are extended. **Minimum** will display reduced channel information.
   Note: When subtitles is switched on, see Features, p.13, continuous display of the programme number is not possible.

Teletext level 2.5

Some broadcasters offer the opportunity to see more colours, other background colours and nicer pictures in the teletext pages.

1. Select **Teletext level 2.5**.
2. Press the cursor right to select **Teletext level 2.5 On** to take advantage of this feature.
3. Press the cursor right again to select **Teletext level 2.5 Off** if you like the more neutral teletext layout.
   The selection made is valid for all channels which broadcast teletext level 2.5.
   Note: It may take a few seconds before teletext broadcast switches over to Teletext level 2.5.

Set/Change code

The Child lock feature (see TV, Features, p. 13) allows you to lock channels to prevent others from watching certain programmes. To watch locked channels, a 4-digit code must be entered. The Set/Change code menu item allows you to create or change a Personal Identification Number (PIN).

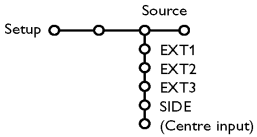
1. Select **Set/Change code**.
2. If no code exists yet, the menu item is set to Set code.

If a code has previously been entered, the menu item is set to **Change code**. Follow the instructions on screen.

Important: You have forgotten your code !

1. Select **Change code** in the General menu and press **OK**.
2. Press the cursor right and enter the overriding code 8-8-8-8.
3. Press the cursor again and enter a new personal 4-digit code. The previous code is erased and the new code is stored.

Source



This menu allows you to indicate the peripheral you connected to one of the external inputs.

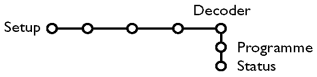
1. Press the cursor right to enter the list of types of peripherals attached to the selected input.
2. Select the peripheral device with the cursor up/down.

Once you have selected the source type, e.g. DVD, this source will automatically be selected when your remote control is in DVD mode, see p. 3, and when you press the key on the remote control.

Centre input

When you have connected a Philips Cinema Link surround receiver to the TV (See separate Cinema Link instruction manual supplied) and you have selected one of the external inputs as centre input, the loudspeakers of the TV will act as centre speaker, making a separate centre speaker unnecessary.

Decoder

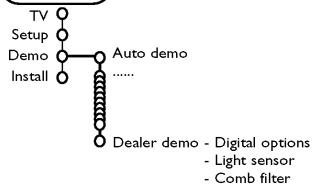


If a decoder or a descrambler is connected, see p. 20, you can define one or more programme numbers as decoder programme numbers.

1. Select **Decoder** with the cursor right.
2. Select **Programme**.
3. Select the programme number under which you have stored the programme coming from your decoder.
4. Select **Status**.
   - Select the input used to connect your decoder: **None**, **EXT1** or **EXT2**.
   - Select **None** if you do not want the selected programme number being activated as a decoder programme number.

*Note: Select **EXT2** when the decoder is connected to your EasyLink video recorder.*

Demo



The Demo menu allows to demonstrate the TV features separately or in a continuous loop.

If **Auto demo** has been selected the demo will automatically present the features sequentially in a loop. Press one of the cursor keys to stop the Auto demo.
If one of the features has been selected, this particular feature demo will run only once, and the Demo menu will reappear.

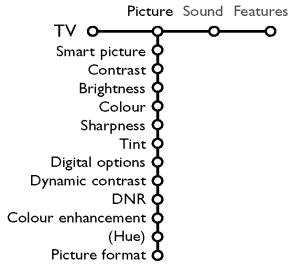
Note: The Dealer demo is not part of the automatic sequence and can only be activated separately.

TV menu

Press the **MENU** key on the remote control to summon the main menu.

Press the key on the remote control to get information about the selected menu item.

Picture



1. Press the cursor right to select **Picture**.
2. Select the menu items in the Picture menu with the cursor up/down.
3. Adjust the settings with the cursor left/right or enter the list of submenu items with the cursor right. Select a submenu item with the cursor up/down.
   Note: To remove the menu background before adjusting the picture settings, see Select TV setup, General, p. 9.

Smart picture

Select **Smart picture** to display a list of predefined picture settings, each corresponding with specific factory settings. Personal refers to the personal preference settings of picture in the picture menu.

Digital options

Pixel Plus is the most ideal setting, doubles the horizontal resolution and increases the number of lines with 33%. You may consider to select Movie Plus in case a halo effect should disturb you. Dependent on your own preference, select Double lines, or 100 Hz Digital Scan.

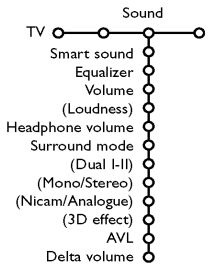
Note: When 60 Hz NTSC material is used, the options are changed to Pixel Plus, Movie Plus or Progressive, progressive scan without motion compensation.

Active Control

The TV continuously measures and corrects all incoming signals in order to provide the best picture possible.

1. Press the key on the remote control.
2. The Active Control menu appears.
3. Press the cursor up/down to select the Active Control values **Off**, **Minimum**, **Medium** (recommended) or **Maximum**.
   The picture settings are being optimised continuously and automatically which is displayed by bars. The menu items can not be selected.
4. Press the cursor right to select **Smart picture**.
5. Press the cursor up/down to select one of the predefined picture settings.
6. Press the cursor right to select **Active Display**.
7. Press the cursor up/down to select **Bars**, one of the Dual screen demos or **Off**.
   When you select Dynamic contrast, Pixel Plus, Digital Noise Reduction or Digital Natural Motion, the TV screen is divided into two parts: in the left part the selected picture quality setting is switched off; in the right part it is switched on.
8. Press the key again to switch off the Active Control menu.

Sound



1. Press the cursor right to select **Sound**.
2. Select the menu items in the Sound menu with the cursor up/down and adjust the settings with the cursor left/right. Remember, control settings are at normal mid-range levels when the bar scale is centred.

Smart sound

Select **Smart sound** to display a list of predefined sound settings, each corresponding with specific factory settings of Treble and Bass. **Personal** refers to the personal preference settings of sound in the sound menu.

Notes:
- *Some menu items are only available in case of a Cinema Link configuration and when the Cinema Link is activated. Others are steered by the audio receiver instead of by the TV. See the separate Cinema Link booklet supplied.*
- *Dual I-II is only available with dual sound transmission.*
- *Mono/Stereo is only selectable in case of analogue stereo transmission.*
- *Nicam/Analogue is only selectable in case of Nicam transmission.*

Surround Modes

Dependent on your personal preference and the sound signal broadcasted, select one of the Surround modes. Only the speakers indicated in the drawings can reproduce sound.

Stereo



This mode reproduces only the left and right front sound signals.

Dolby 3 Stereo

(optimal with Dolby Surround broadcasting)



The Dolby Pro Logic* sounds are distributed over the front left, the front right and the centre TV loudspeakers.

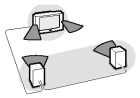
3D Surround

(optimal with Dolby Surround broadcasting)



3D Surround enables you to experience the 3D effect of Dolby Surround Pro Logic* without the need of having rear speakers connected or activated.
The graphical representation of the rear loudspeakers is replaced by the symbol))) (((.
Select the level of 3D effect with the cursor left/right.

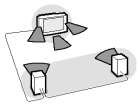
Hall



The sound signal is distributed over the rear loudspeakers which creates a hall effect from the rear.
The centre loudspeaker does not reproduce any signal.

Dolby Pro Logic

(optimal with Dolby Surround broadcasting)



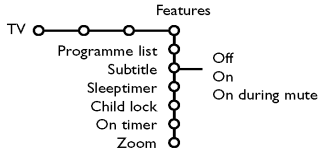
All front and rear loudspeakers reproduce the Dolby Surround Pro Logic sounds.
This sound is always present in the movie or programme marked with DD Dolby Surround.

Note:
- *Normal stereo broadcast is not always encoded to produce a rear surround sound effect.*
- *In case of a Cinema Link receiver configuration connected, only the surround modes of the external receiver can be selected.*
- *Pro Logic and Hall can only be reproduced if Surround speakers is set to Yes in the Setup, Speakers menu, p. 8, and rear speakers are connected.*
- *When a headphone is connected, only the Surround mode **Stereo-headphone** is available.*

DOLBY SURROUND PRO • LOGIC

* Dolby' 'Pro Logic' and the double-D symbol DD are trademarks of Dolby Laboratories Licensing Corporation. Manufactured under license from Dolby Laboratories Licensing Corporation.

Features menu



Press the cursor right to select Features.
Select the menu items with the cursor up/down and adjust the settings with the cursor left/right.

Use the on-screen Menu-Info (i+) for more information about the menu items.

Programme list

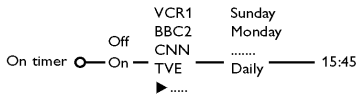
Press the **OK** key to switch over to the selected TV channel or external.

Select subtitles

The subtitle page must be stored for each TV channel:
Switch on teletext and select the proper subtitle page from the index. Switch off teletext.
Subtitle On will automatically display them on the selected TV channels if subtitles are in the transmission. A symbol will indicate that the mode is on.
Select **On during mute** when you want to have the subtitles automatically displayed only when the sound has been muted with the 🔇 key on the remote control.

On timer

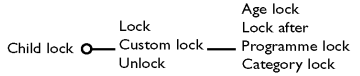
1. Select **On timer** with the cursor down.



2. Select **On** with the cursor right.
3. Press the cursor right again to enter the programme list.
4. Select the TV channel or external you want your TV to switch to on a selected time and day.
5. Press the cursor right again to select a day of the week or to select **Daily**.
6. Press the cursor right once again to enter the time with the digit keys or with the cursor up/down and press the **OK** key to activate.
7. Press the **MENU** key to turn off the menu.
Note: To check your timer settings, press the (i+) key.

Child lock

1. Select **Child lock**.



2. Press the cursor right to enter the Child lock menu. You're summoned to enter your code.
Note: You have to re-enter your code each time you enter the child lock menu.
Important: You have forgotten your code ! See p. 10.
3. Select one of the menu items of the child lock menu:
   - **Lock** if you want to lock all channels and externals.
   - **Custom lock** and press the cursor right. The items Age lock and Category lock are only available when NEXTVIEW broadcast is available. Select:
     - **Age lock** if you want to lock programmes related to a certain age: off, 2, 4 ... 18;
     - **Lock after** if you want to lock all programmes from a certain time onwards. Press the cursor right and enter the time with the cursor up/down and right. Press the **OK** key to validate.
     - **Programme lock** if you want to lock a certain TV channel or external;
     - **Category lock** if you want to lock programmes related to a certain theme: Movies, Sports, Shows.... See NEXTVIEW, p. 15.
   - Select **Unlock** to disable all locks you have set.

Zoom

1. Select **Zoom** with the cursor down and press the **OK** key.
2. Press the **OK** key to select one of the zoom magnifications (x1, x4, x9, x16).
3. Additionally you can shift the selected zoom window over the screen with the cursor keys up/down, left/right.
4. Press the **MENU** key to switch off the zoom function.

Dual screen / PIP / Multipip



Remark: Normally only pictures from external equipment connected can be displayed in the auxiliary screen.
Full functionality is only available when having connected and activated an EasyLink recorder (of the generation P50.2 or successive). PIP3 or PIP 12 is not available without an EasyLink recorder connected.

Press the 12 key to switch on Dual screen or one of the PIP modes.
Press the 12 key again. The screen that has a yellow border will become the full main screen picture.

Notes:
- *Continuing to hold the 12 key down will cycle the TV through the various formats launching a new format after each second the key is held down. After standby of the TV, the preference as set in the Setup, General menu is used.*
- *When Dual screen mode is selected, two picture formats are supported: Full screen or 4:3 letterbox picture format (vertical squeeze).*
- *Audio from the right screen or the PIP plays to the headphones.*

Display options

• With external equipment (non EasyLink) connected and activated:

Dual screen PIP

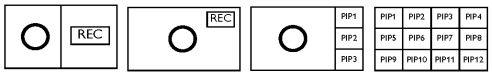


No PIP 3 or PIP 12 available

Press the cursor right to highlight the right screen.
Press the cursor down to highlight the single PIP screen.

• With an EasyLink recorder connected and activated:

Dual screen PIP PIP 3 PIP 12



The tuner of the recorder is used for the right screen or for one of the PIP modes.
For PIP 3 or PIP 12: press the cursor right to enter the Multipip screen and then use the cursor keys to navigate through the PIP screens and to highlight a PIP screen.

Changing TV channels or external sources in left, right, PIP or Multipip screen

- Press the **-P+** key or the P↔P key in order to change the TV channels or external sources in the highlighted screen.
- Press the **OK** key to swap the left and the right screen or the highlighted pip screen.

Scan PIP3 or PIP 12

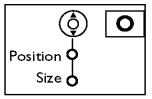
Navigate to the lowest PIP and press the cursor down to display a following series of PIP screens.

On-Screen information

The highlighted On-Screen information,which appears when changing channels, always refers to the active screen.

Define the position and the size of the single PIP screen

1. Select a Dual screen mode with a single PIP screen.
2. Press the cursor down to highlight the PIP screen. A PIP menu appears with which you can define the position and the size of the PIP screen.



Note: When the PIP menu times out, press the ok key to make it reappear.

3. Press the cursor down again to select **Position** or **Size**.
4. Press the **OK** key or the cursor right to activate.
5. Use the cursor keys to define the position of the PIP screen. Use the cursor left/right to define the size of the PIP screen.
6. Press the **OK** key. The PIP menu reappears.
7. Press the cursor up to the top of the menu to highlight the main screen again.
8. Press the **OK** key to switch off the menu or wait until it is timed out.

NEXTVIEW / Teletext guide

NEXTVIEW is an electronic guide that allows you to look up programmes as you would in a newspaper or a TV magazine. You can sort the programmes by subject (films, sport...), obtain detailed information and programme your video recorder if it comes with the NEXTVIEWLink function.

*Important note: **The NEXTVIEW service is only available on certain programmes and in certain countries**. When no NEXTVIEW information is broadcast, the teletext programme guide appears in its place. This is based on teletext programme information (if available) and offers most functions of NEXTVIEW.*
Note: The broadcaster is responsible for the content of the information.

Call NEXTVIEW / Teletext guide

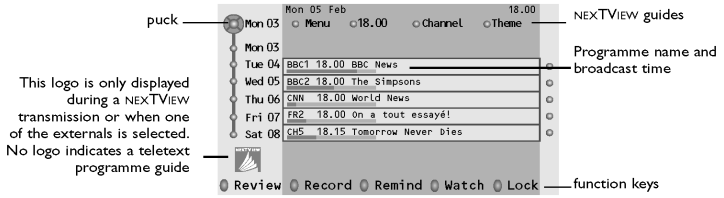
Press the key on the remote control to call the NEXTVIEW/Teletext guide.
A menu appears with the message **One moment please**. After a while you obtain:
- a NEXTVIEW page, if the selected channel broadcasts this service (the NEXTVIEW logo is displayed),
- a teletext page, if the selected channel does not broadcast NEXTVIEW,
- **No information available** is displayed if neither NEXTVIEW nor teletext are transmitted. In this case, select another channel.

Select TV channels by theme

If NEXTVIEW with defined themes is broadcast, it is possible to quickly select TV programmes with the P↔P key. See Setup, General menu, Smart surf, p. 9.

Display of a NEXTVIEW page

The information is set by the channel that transmits the NEXTVIEW service. See also Setup menu, General, NEXTVIEW provider, p. 9.



Picture/NEXTVIEW - Teletext Guide

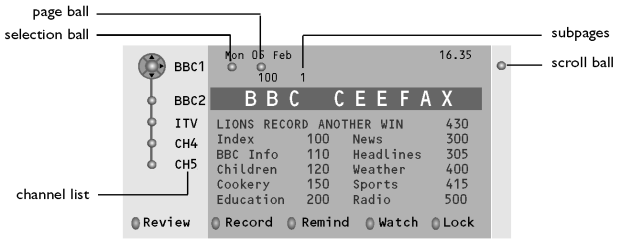
1. Press the key. Press the 12 key to show NEXTVIEW-Teletext Guide on the right of the screen.
2. Use the cursor keys to select a TV channel or to move the puck to the blue ball in the left screen.
3. Press the 12 key to switch off dual screen.

NEXTVIEW guides

1. Use the cursor key left/right to select **Time**, **Channel**, **Theme**, the **Date** guide.
   The **Time guide** provides an overview of all programme titles active in the selected time block. The **Channel guide** provides an overview of all programmes that are broadcast by a single channel during one day. With the **Date guide** you can choose a specific date. The **Theme guide** displays a list of all programmes at the selected date, that matches with the selected category.
   Going through the menu guide, the TV is collecting the sorting criteria to finally display a list of programme events.
2. Press the **OK** key to select the guide type.
3. Move the puck down and to the right to select the programmes.
   If available a summary or commentary on the programme is displayed at the bottom of the screen.
4. Use the cursor up/down to scroll through the programmes.

Teletext Guide

1. Enter with the digit keys, the teletext page number that contains the programme information for the current channel.
2. Press the cursor right to move the puck over the selection ball.
3. Use the cursor up/down to scroll through the different programmes.



- If the selected programme contains a page number with an optional subcode referring to a page with more info about the programme, press the **OK** key to display the information. Press the **OK** key again to return to the programme guide page.
- If the selected programme guide page satisfies the VPT requirements,
  - it will be possible to record, remind, watch or lock programmes:
  - the TV will remember the last selected teletext page number of that channel that contains programme guide information and indicates which programme starts at what time. Every time you press the key, the teletext programme guide page of the selected TV channel will be available.
- When necessary you can select the subpage number by moving the cursor to the pageball and pressing right.

Note: You must enter the teletext pagenumber for each channel. You can change the channels also by moving the cursor up/down in the list in the left of the page.

Basic functions

Press one of the grey, red ●, green, yellow or blue keys to activate a NEXTVIEW or Teletext Guide function. The keys appear in grey if the function is not available.

Review: this menu provides a list of programmes that are marked as reminders, those that have to be recorded and those that are locked. This menu can be used to change or remove marked programmes.

Record: to programme the recording of the video recorder (if it has a NEXTVIEWLink function and is connected to **EXT. 2**).

Remind: automatically switch on the TV if it is in standby or by displaying a message if the TV is on.

Lock: to lock certain programmes to prevent recording or watching.
For the functions Record, Remind or Lock, a small menu pops up in which you can choose the interval: once, daily or weekly, or clear an earlier made record, remind or lock setting. The default interval is set to **Once**. To confirm the frequency, press the **OK** key.

Watch: to watch the selected and currently broadcast programme.

Acquisition and updating of NEXTVIEW information

Acquisition and updating of NEXTVIEW is done when you are watching the TV channel of the selected NEXTVIEW provider, see Setup menu, p. 9, or when the TV is switched to standby;
Acquisition of fresh data will happen once during the night.
Note: it may be necessary to put the TV in standby mode when all NEXTVIEW information is outdated, e.g. when returning from holiday.

Teletext

Most TV channels broadcast information via teletext. This TV has a 1200 pages memory that will store most broadcasted pages and subpages to reduce waiting time. After each programme change, the memory is refreshed.

Switch Teletext on and off

Press ☰ to switch the teletext on.



Select a Teletext page

- Enter the desired page number with the digit keys, the cursor keys up/down, left/right or with the **-P+** key.
- Select the options at the bottom of the screen with the colour keys.

Previously selected teletext page

(Only possible in case there is no list of favourite teletext pages available. See p. 19.)
Press the P◂P key.

Select the index teletext page

Press the grey colour key ▶▶ to display the main index (usually p.100).

Only for T.O.P teletext broadcasts :

Press i+. A T.O.P. overview of the teletext subjects available is displayed.
Select with the cursor up/down, left/right the desired subject and press the **OK** key.
Not all TV channels broadcast T.O.P. teletext.

Select subpages

When a selected teletext page consists of different subpages, a list of available subpages appears on the screen.
Press the cursor left or right to select the next or previous subpage.

Enlarge a Teletext page

Press ⇔ repeatedly to display the upper teletext part, the lower teletext part and then to return to the normal teletext page size.
When the teletext page is enlarged, you can scroll the text, line by line using the cursor up/down.

Active screen selection

When in dual screen picture/teletext, enter the desired page number with the **-P+** key, then press the **MENU** key, then select the left screen (with the blue ball at the top).
You can now select a compressed or full screen view of picture/teletext with the ⇔ key.

Hypertext

With hypertext you can quickly jump to a pagenumber or search for a specific word shown on the current teletext page.

1. Press the **OK** key to highlight the first word or a number on the page.
2. Use the cursor up/down, left/right to select any other word or number you want to search for.
3. Press the **OK** key to confirm. The search starts. A message appears at the bottom of the screen to indicate the searching, or that the word or page is not found.
4. Use the cursor up to exit hypertext.

Teletext menu

(only available in full screen teletext mode)

1. Press the **MENU** key to activate the menu.
2. Press the cursor up/down to select the menu items.
3. Press the cursor right to activate.

Reveal

Reveals/conceals hidden information on a page, such as solutions to riddles and puzzles.
Press the cursor right to activate.

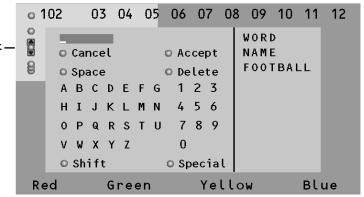
Favourite

This list contains up to eight favourite teletext pages. Only the pages of the current channel can be selected.

1. Press the cursor right to enter the list.
2. Press the cursor right again to add the current page or to select one of the favourite pages to the list.
3. Press the **MENU** key to watch the page.
4. Use the P◂P key to browse through the list of favourite pages.

Search

Selecting a word
On the keyboard on screen you can type in a random word you want to search for in the teletext pages. Whether upper- or lowercase is used has no influence.



1. Press the cursor right to enter the keyboard.
2. Press the cursor left/right, up/down to select the characters, words or functions.
3. Press the **OK** key to confirm each character selected.
4. Select **Cancel** to cancel the word; **Space** to enter a space; **Delete** to delete the last character selected; **Shift** to switch between lowercase or capital characters; **Special** to display special characters on the keyboard and press the **OK** key.
5. Press the cursor left repeatedly to return to the Teletext menu again.

Searching a word

1. Type in the word on screen or select a word from the history list on the right and press **OK**.
2. Select **Accept** and press **OK** again. The message Searching appears.
3. To cancel the searching or to search for a new word, select **Keyboard** and press **OK**.
4. When a word is not found, a message appears. When the word is found, it is highlighted in the teletext page. To continue the search, press the **OK** key.

Cycle subpages *(if available)*

Makes the subpages cycle automatically.
Press the cursor right to activate and to de-activate again.

Timed page

To display a specific page from a selected TV channel at a certain time.

1. Press the cursor right and select **Yes** or **No**.
2. Enter the time and pagenumber with the cursor keys or the digit keys.
   Note: Teletext does not have to remain switched on, but you should watch the TV channel you have selected the specific page from.
3. Press the cursor left to return to the TV menu again.

Language

If the displayed characters on screen do not correspond with the characters used by the teletext broadcaster, you can change the language group here.
Select **Group 1** or **Group 2** with the cursor right.

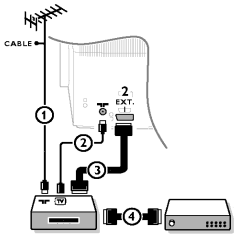
Press the **MENU** key to leave the Teletext menu.

Connect Peripheral Equipment

There is a wide range of audio and video equipment that can be connected to your TV.
The following connection diagrams show you how to connect them.

*Note: **EXT. 1** can handle CVBS and RGB, **EXT. 2** CVBS and Y/C, **EXT. 3** CVBS and RGB. It is preferred to connect peripherals with RGB output to **EXT. 1** or **3** as RGB provides a better picture quality.*
*If your recorder is provided with the EasyLink function, it should be connected to **EXT. 2** to benefit from the EasyLink functionality.*

Recorder (VCR-DVD+RW)

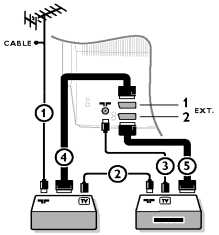


Connect the aerial cables ①, ② and, to obtain the optimum picture quality, eurocable ③ as shown.
If your recorder does not have a euroconnector, the only possible connection is via the aerial cable. You will therefore need to tune in your recorder's test signal and assign it programme number 0 or store the test signal under a programme number between 90 and 99, see Manual installation, p. 6.
See the handbook of your recorder.

Decoder and Recorder

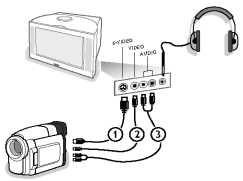
Connect a eurocable ④ to your decoder and to the special euroconnector of your recorder. See also the recorder handbook. See Decoder, p. 9 You can also connect your decoder directly to **EXT. 1** or **2** with a eurocable.

Other equipment (satellite receiver, decoder, DVD, games, etc.)



1. Connect the aerial cables ①, ② and ③ as shown (only if your peripheral has TV aerial in-/output).
   Connect your equipment with a eurocable ④ or ⑤ to one of the euroconnectors **EXT.1**, **2** or **3** to obtain a better picture quality.
2. Look for the test signal of your peripheral in the same way as you do for a recorder.
3. Make a selection in the Setup, Source menu, p. 10.

Side connections



Camera or Camcorder

1. Connect your camera or camcorder as shown.
2. Connect to **VIDEO** ② and **AUDIO L** ③ for mono equipment. For stereo equipment also connect **AUDIO R** ③. S-VHS quality with an S-VHS camcorder is obtained by connecting the S-VHS cables with the S-video input ① and audio inputs ③.
   Do not connect cable ① and ② at the same time. This may cause picture distortion !

Headphone

1. Insert the plug into the headphone socket 🎧 as shown.
2. Press 🔇 on the remote control to switch off the internal loudspeakers of the TV.
   The headphone impedance must be between 8 and 4000 Ohm. The headphone socket has a 3.5 mm jack.
   In the Sound menu select **Headphone volume** to adjust the headphone volume.

Connect extra loudspeakers/amplifier

REAR multimedia loudspeakers

1. Select **Surround speakers On** in the Setup menu, see p. 8.
2. Connect the audio cables to the rear loudspeakers and to the Dolby Surround output **S** at the back of your TV. There is only one output for both speakers.
3. Adjust the volume of the rear loudspeakers. Use the Test tone function in the Speakers menu, see p. 8.
   Note: Once you have adjusted the volume of the rear loudspeakers, do not change it while watching TV as the whole configuration operates with the volume adjustment of your TV.

Stereo amplifier and 2 extra front speakers

1. Select **Centre mode On** in the Setup, Speakers menu, see p. 8.
2. Connect the audio cables to the audio input of your amplifier and to **AUDIO L** and **R** at the back of your TV.
3. Adjust the volume of the audio amplifier. Use the Test tone function in the Setup, Speakers menu, p. 8.
   Note: Once you have adjusted the volume of the external amplifier, do not change it while watching TV as the whole configuration operates with the volume adjustment of your TV.

To select connected equipment

Press the ⇥ key on the remote control repeatedly to select **EXT1**, **EXT2**, **EXT3** or **SIDE** according to where you connected your equipment at the back or the right side of your TV.

Remark : Most equipment (decoder, recorder) carries out the switching itself, when it is switched on.

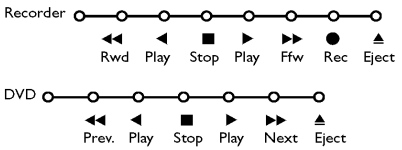
Cinema Link surround receiver

See the separate supplied Cinema Link instruction manual.

Attention: the sound info on screen will not correspond with the actual sound reproduction.

Recorder or DVD with EasyLink

The recorder (VCR or DVD+RW) or DVD can be operated with the remote control via the **Recorder** or **DVD** menu on screen.



1. Press the **MENU** key on the remote control.
2. Select the **Recorder** or **DVD** menu with the cursor up/down.
3. Press the cursor left/right, up/down to select one of the recorder or DVD functions.

The key ● for recording can be operated in the TV mode.
If your EasyLink recorder has the system standby function, when you press the ⏻ key for 3 seconds, both TV and the recorder are switched to standby.

Audio- and video equipment keys



Most of the audio and video equipment from the Philips range of products can be operated with the remote control of your TV.

Press the **Select** key to operate any of the equipment indicated in the display. Another device can be selected by pressing Select repeatedly within 2 seconds. The led will blink slowly to indicate the device.
Press one of the keys on the remote control to operate the peripheral equipment.
To return to TV mode press Select while the led is blinking.
When no action is taken within 60 seconds, the remote goes back to TV mode.

*Note: When the **Select** key is pressed and hold for more than 2 seconds, the RC5/RC6 system select command is transmitted.*

- ⏻ to switch to standby
- ⏯ for pause (**VCR**, **DVD**, **CD**)
- ● for record
- ◀◀ for rewind (**VCR**, **CD**); search down (**DVD**, **AMP**)
- ■ for stop
- ▶ for play
- ▶▶ for fast forward (**VCR**, **CD**); search up (**DVD/AMP**)
- to select your choice of subtitle language (**DVD**); RDS news/TA (**AMP**); to shuffle play (**CD**)
- to select a **DVD** title; RDS display (**AMP**); info on screen (**CD**)
- display information

- **MENU** to switch the menu on or off
- **- P +** for chapter, channel, track selection
- 0 to 9 digit entry
- P•P tape index (**VCR**), select a DVD chapter, select a frequency (**AMP**)
- VCR timer
- surround on/off (**AMP**, **CD**)
- cursor up/down to select the next or the previous disc (**CD**)
- cursor left/right to select the previous or following track (**CD**) search up/down (**AMP**)

Selecting submodes for DVD+RW, SAT, CDR

1. The remote control should be in TV mode.
2. Press the **OK** key together with

- digit 1: **DVD** mode is selected
- digit 2: **DVD+RW** mode is selected
- digit 3: **SAT (RC5)** mode is selected
- digit 4: **SAT (RC6)** mode is selected
- digit 5: **CD** mode is selected
- digit 6: **CD-R** mode is selected.

Record with your recorder with EasyLink

In TV mode, it is possible to start a direct recording of the programme which is being displayed on the TV screen.
Continue to press the ● record key on the remote control for more than 2 seconds.

Note:
Switching programme numbers on your TV does not disturb recording !
*When recording a programme from a peripheral connected to **EXT. 1**, **3** or **SIDE**, you can not select another TV programme on the screen.*

Tips

Care of the screen	Clean the TV with a slightly damp soft cloth. Do not use abrasive solvent as it can damage the TV screen.
Poor Picture	• Have you selected the correct TV system in the manual installation menu? • Is your TV or house aerial located too close to loudspeakers, non-earthed audio equipment or neon lights, etc.? • Mountains or high buildings can cause double pictures or ghost images. Sometimes you can improve the picture quality by changing the direction of the aerial. • Is the picture or teletext unrecognisable? Check if you have entered the correct frequency. See Installation, p. 6. • Are brightness, sharpness and contrast out of adjustment? Select Factory settings in the Setup, General menu, p. 9. • Sometimes poor picture quality is possible when having activated an S-VHS camera or camcorder connected to the right side of your TV and another peripheral is connected to one of the externals at the same time. In this case switch off one of the other peripherals.
Digital distortion	The low quality of some digital picture material may be the cause of digital image distortion. In this case select the Soft setting using the Picture menu, Smart Picture, without changing the picture settings manually.
No picture	• Is the aerial connected properly? • Are the plugs tightly connected in the aerial socket? • Is the aerial cable in good condition and does it have suitable plugs?
No sound	• No sound on any channel? Check the volume isn't at minimum. • Is the sound interrupted with the mute key 🔇? Check if your speaker configuration corresponds with the selections made in the Setup menu, Speakers, p. 8.
No Surround sound	• Perhaps the channel is not broadcasting good quality surround sound. • No sound from the rear speakers or the centre speakers? Select an appropriate surround mode, according to the broadcasted sound signal or adjust the volume. See Surround Modes, p. 12.
No solution found for your picture or sound problem ?	Switch your TV off and then on again once. Never attempt to repair a defective TV yourself. Check with your dealer or call a TV technician.
Menu	Have you selected the wrong menu? Press the **MENU** key again to exit from the menu.
NEXTVIEW	**No NEXTVIEW info:** See Acquisition and updating of NEXTVIEW information, p. 17. **Displayed time is wrong:** The broadcaster on programme number one does not transmit the correct local date and time. Use Reshuffle in the installation menu to place another broadcaster on programme number one.
Remote control	• If your TV no longer responds to the remote control, the batteries may be dead. • Check if the remote control is in the correct mode. • You can still use the **M** key and the -/+ keys at the top of your TV.
Standby	Your TV consumes energy in the standby mode. Energy consumption contributes to air and water pollution. Power consumption: 1 W

4. Mechanical Instructions

Index of this chapter:
1. Service Connector
2. Set Disassembly
3. Service Positions
4. Assy / Board Removal
5. Set Reassembly

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

4.1 Service Connector (for ComPair)

For service diagnostics with ComPair, it is not necessary to disassemble the set. You only have to connect the ComPair interface box, via the appropriate cable, to the service connector (on the rear of the set, see figure below), and start the program.

4.2 Set Disassembly

Follow the disassemble instructions in described order.

4.2.1 Wireless Surround Transmitter Removal (if attached)

1. Remove the cable of the Wireless Surround Transmitter box (at the side of this RJ45 plug you can find the release-hook of the lock-mechanism).
2. Pull the Wireless Surround Transmitter box backwards. It is clicked to the rear cover via three clamps.

4.2.2 Rear Cover Removal

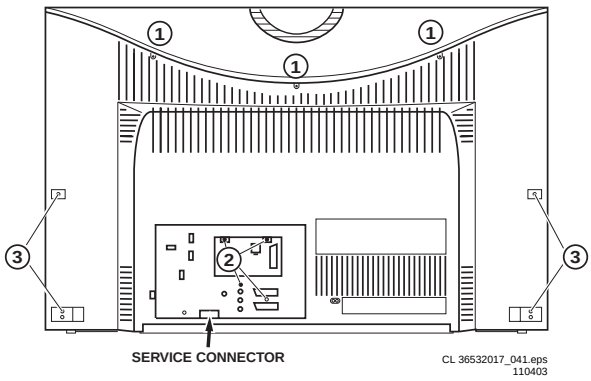


Figure 4-1 Rear view

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

First, remove the top cover (= plate with 'saucer'):
1. Remove the fixation screw(s) [1] that hold the cover plate.
2. Pull the cover (horizontally) backwards.

To be able to access the electronics of the set, you must remove the rear cover:
1. Remove the fixation screws [2] of the rear I/O cover plate.
2. Remove the remaining fixation screws [3] at the two sides, and at the top of the rear cover.
3. Release at bottom side the rear cover securing clips and remove the rear cover. Make sure that wires and cables will not be damaged during the cover remove action.

4.2.3 Sub-woofer Removal

Caution: Do not disconnect the loudspeaker cable from the subwoofer box when the set is operative, because the class-D amplifier cannot handle a change in load during operation. It is no problem when the subwoofer is disconnected **before operation**, but a change from connected to disconnected **during operation** can damage the amplifier.

1. Disconnect the loudspeaker cable connectors at the top of the sub-woofer box.
2. Unlock he subwoofer bracket and at the same time pull the unit backwards.
3. Take out the sub-woofer unit including the bracket.

4.3 Service Positions

This chassis has several predefined service positions, for better accessibility. They are explained below in more detail.

4.3.1 Solder Side '3rd SCART' panel

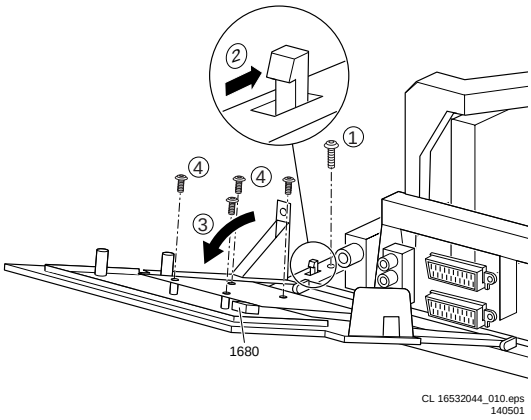


Figure 4-2 Service position 1

To remove or access the '3rd SCART' panel, do the following:
1. Remove fixation screw [1].
2. To release the fixation peg, push it towards the CRT [2].
3. At the same time, pull the complete module away from the LSP [3]. It hinges in the LSP-bracket. It is also possible to uncouple both hinges.
4. To remove the panel, disconnect the flat-cable from connector 1680 and remove the four panel screws [4].

4.3.2 Double Window PIP panel (If present)

1. Release the securing clamps and take out of the PWB to service the Double window PWB.

4.3.3 Component Side LSP

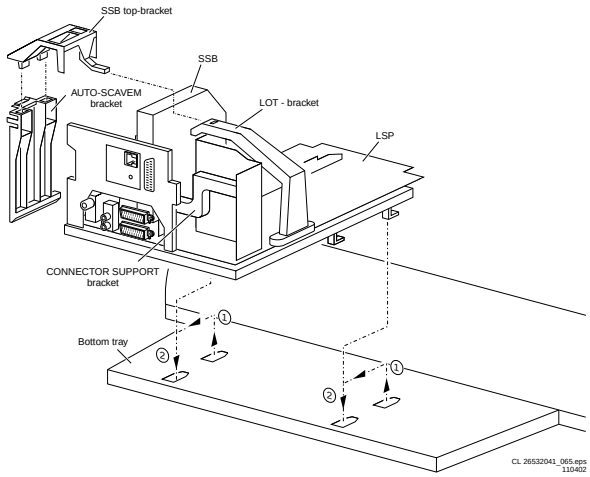


Figure 4-3 Service position 2

For better accessibility of the LSP, do the following (see figure above):

1. Remove the LSP-bracket from the bottom tray by pulling it backwards.
2. Hook the bracket in the first row of fixation holes of the bottom tray. In other words, reposition the bracket from [1] to [2].

4.3.4 Solder Side LSP

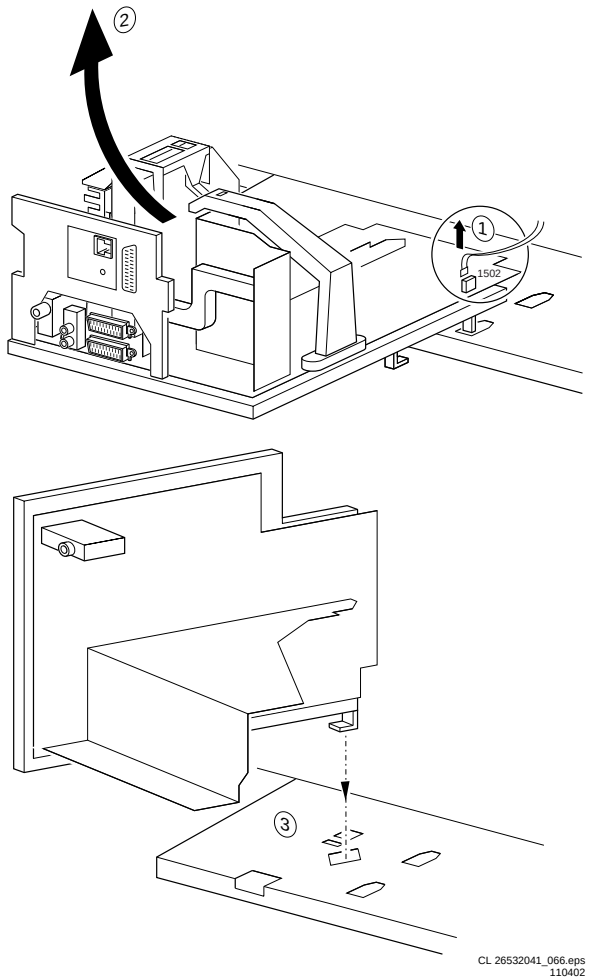


Figure 4-4 Service position 3

To get access to the bottom side (solder side) of the LSP, do the following (see figure above):

1. Unlock the DAF-module bracket (see paragraph 'DAF Assy/Panel' further down).
2. Unlock the Double Window, PIP module (if present), release the locking clip and pull the bracket out of the locking holes in the bottom plate.
3. Disconnect the degaussing coil connector 1502 [1] from the LSP.
4. Release the high voltage cable out of its guiding clamp.
5. Release the wiring from their fixation clamps, in order to position the LSP in the service position.
6. Some cables should be led underneath the CRT panel instead of above this panel.
7. Move the LSP to the left, at the same time rotate the panel 90 degrees clockwise [2] and next, place it upright at the left side of the bottom tray [3].
8. Put the panel with the right sided locking hook in the oblique accessed mounting hole in the bottom plate and pull it backwards to lock the panel in this position.

4.3.5 Small Signal Board (SSB)

Caution:
Always switch the set completely ‘OFF’ (disconnect the mains cord) before you remove or replace the SBB.
As the 5V2 standby voltage is always present (while the set is switched ‘On’, in ‘Standby’ or in ‘Protection’ mode) on the SIMM connector, it is very risky to remove the SSB in this situation, because the risk of short circuiting is very great.

In fact, there is no predefined service position for the SSB. Most test points are located on the A-side (side that is facing the tuner). If you have to replace ICs, you must take the complete SSB module out of the SIMM-connector.
Note: For good access to the A-side, it is necessary to remove the Auto-Scavem assy (at the left side of the SSB). See description in paragraph ‘Assy/Panel removal' to remove the Auto-Scavem panel/bracket.

To get access to the SSB test points, do the following:

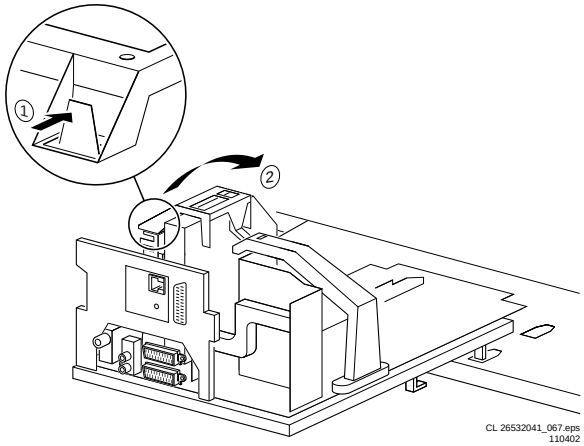


Figure 4-5 SSB removal (part 1)

1. Put the LSP in service position 2 (as described above).
2. Release the two clamps at the top of the SSB bracket [2] and pull the bracket upward (it hinges in the bracket at the LOT side).
3. Now you can remove the complete SSB bracket.

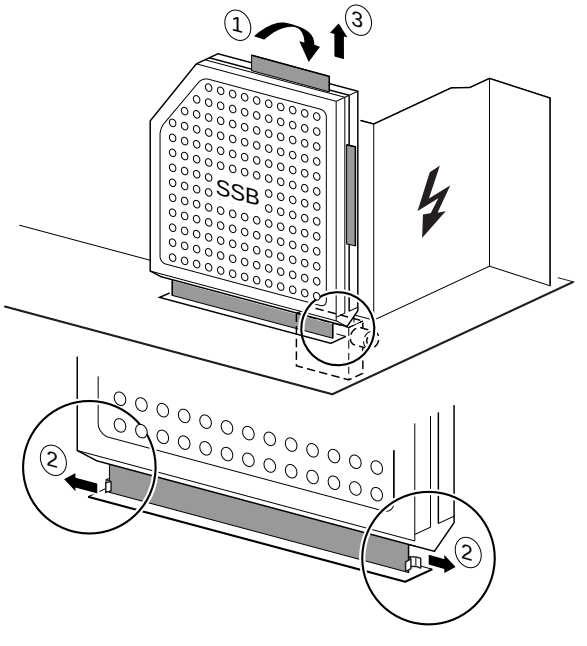


Figure 4-6 SSB removal (part 2)

1. Push the top of the SSB towards the LOT [1].
2. Due to the pressure, the two metal clamps at both sides of the SIMM-connector will release [2].
3. Take the complete SSB out [3].

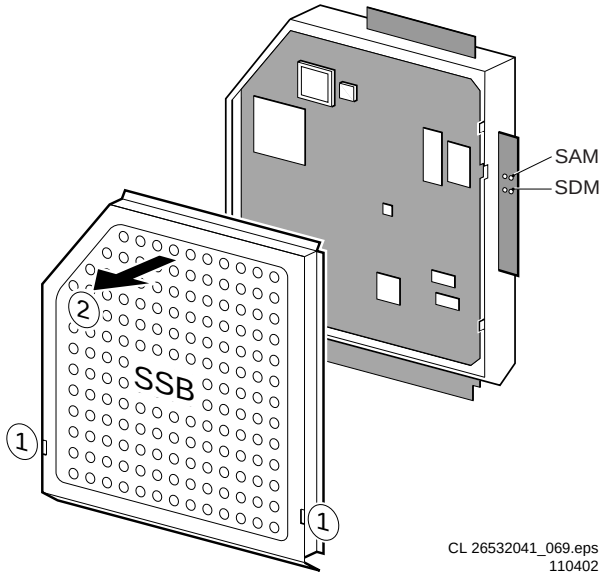


Figure 4-7 SSB removal (part 3)

1. Once you have taken out the SSB, remove the shieldings [2]. Sometimes it is necessary to unsolder some solder-tags first [1].
2. Now re-place the SSB module in the SIMM-connector in reverse order.

Notes:
For better access to the SSB, it is possible to order an 'extension tool' with cables. You can use this service extension tool to connect a Small Signal Board (SSB) of an A10 or EMG (EMx) chassis, via 2 “IDE” cables to the SIMM connector in the set. In this way, you can service the SSB more easily outside the TV set. You can order this tool under 12nc: 9965 000 14526.

4.4 Assy / Board Removal

Sometimes, it can be necessary to swap a complete assy or Printed Wiring Board (PWB). How that can be done is explained below.

4.4.1 Top Control Assy/Panel

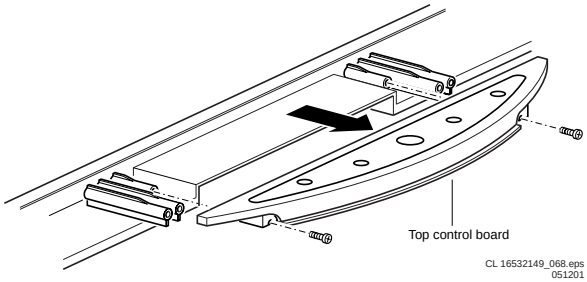


Figure 4-8 Top control assy

1. Release both fixation screws about 5 full turns.
2. Pull the complete assy back- and upwards (it hinges in the cabinet front).
3. Flip the assy, and you can access the board by releasing (carefully) the four fixation clamps.

4.4.2 Side-I/O Assy and Panel

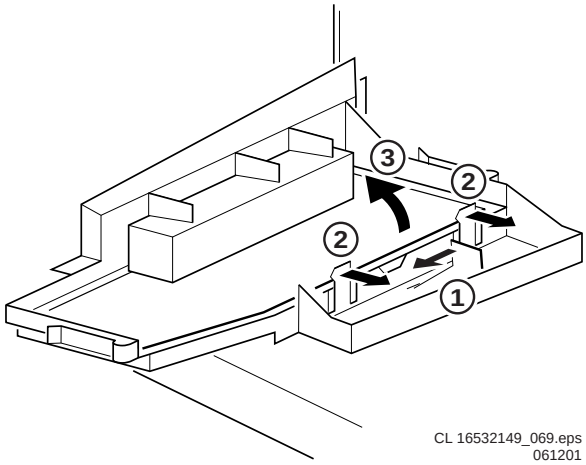


Figure 4-9 Side I/O assy

1. Release the snap-hook [1] with your finger.
2. At the same time, pull the assy backwards [2].
3. Release the two fixation clamps on the right side of the bracket (the I/O board hinges at the left side).
4. Remove the board from the bracket.

4.4.3 Mains Switch Assy/Panel

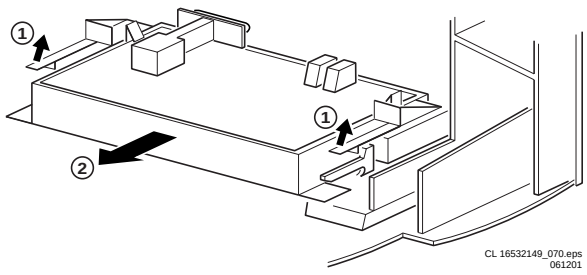


Figure 4-10 Mains Switch Assy

1. Release the two fixation clamps (rather difficult to reach), by pushing them upwards [1]. At the same time, pull the complete assy backwards [2].
   Note: be aware that the degaussing coil can hamper this.
2. Release the two fixation clamps on the two sides of the bracket (the board hinges at the connector side).
3. Remove the board from the bracket.
4. When the light guide (sitting in the cabinet, in front of the LEDs) is defective, you can replace it by pushing it forwards at the left side (it hinges at the right side, seen from the rear).

4.4.4 DAF Assy/Panel

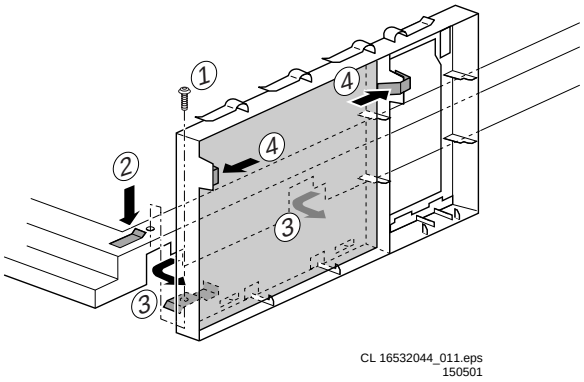


Figure 4-11 DAF-module

1. Remove the fixation screw [1] (if present).
2. Push down the fixation clamp [2], and pull the complete bracket at the same time away from the CRT [3]. The module is now free from the LSP-bracket.
3. Release the fixation clamps [4], in order to remove the print from its bracket.

4.4.5 Double window, PIP panel (If present)

1. It is not necessary to remove the Double window bracket.
2. To remove he Double window PWB, release both upper clamps and take out the PWB.

4.4.6 Auto-SCAVEM Assy/Panel

This panel is placed on the left side of the SSB (See figure 'Service Position 2'). Because most of its components are placed on the bottom side, you must lift the panel from its bracket before you can measure it.

1. Therefore, release the two fixation clamps at the top side.
2. Lift the panel from the bracket (it hinges at the bottom).

To remove the bracket:

1. First, remove the panel from the bracket, as described above.
2. Then, remove the two fixation screws at the bottom.
3. Lift the Auto-Scavem bracket slightly up, and at the same time bend the top a little away from the tuner.
4. Now, push the bracket into the direction of the CRT, and lift it out of the LSP-bracket.

4.4.7 Small Signal Board (SSB)

See paragraph 'Small Signal Board (SSB)' above.

4.4.8 Large Signal Panel (LSP)

1. Remove the SSB (see paragraph 'Small Signal Board,SSB' above).
2. Remove the Auto-Scavem assy (see paragraph 'Auto Scavem Assy/Panel' above).
3. Disconnect the necessary cables.
4. Release the fixation clamps on the left of the LSP-bracket (the board hinges at the right side).
5. Remove the board from the bracket.

4.5 Set Re-assembly

To reassemble the whole set, do all processes in reverse order.

Be sure that, before the rear cover is mounted:

- The mains cord is mounted correctly in its guiding brackets.
- All wires/cables are returned in their original positions. This is very important due to the large 'hot' area of the set

5. Service Modes, Error Codes, and Fault Finding

Index of this chapter:
1. Test points
2. Service Modes
3. Problems and solving tips (related to CSM)
4. ComPair
5. Error Codes
6. The blinking LED procedure
7. Protections
8. Repair tips

5.1 Test Points

The chassis is equipped with test points printed on the circuit board assemblies. They refer to the diagram letters.

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

Note: In this chassis, two LED configuration are possible: with bicoloured LED (red/green) or with separate blue and red LEDs. The bicoloured version is the one we know from EM5E. The version with blue LED works slightly different. The blue LED is controlled by software (via ON_OFF_LED). The red LED will light in anti-phase to the blue one, but with a time delay. This means that if the blue LED is blinking fast, the red LED will stay off. But after the blue LED is "OFF" long enough, the red LED will go "ON".
So take care: In certain service modes (e.g. blinking LED, stepwise start-up, etc.) you must observe the blue LED and ignore the red LED.

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
- Tuning frequency: 475.25 MHz for PAL/SECAM.
- Colour system: SECAM L for France or PAL B/G for the rest of Europe.
- 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 enter 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.
- When you shorten for a moment the two solder pads on the 'external part' of the SSB print, with the indication "SDM". Activation can be performed in all modes, except when the set has a problem with the main-processor.
  Caution: If the SDM is entered 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).

After entering this mode, "SDM" will appear in the upper right corner of the screen.

How to navigate
When you press the "MENU" button on the RC transmitter, the set 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 set 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 enter 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 'external part' of the SSB print, with the indication SAM. Depending on the software version it is possible that the 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 set is in the normal operation

After entering 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 standby hours).
- **HARDWARE INFO**
  - **ROM VERSION.** Displays the date of the software and the software version of the ROM (example: EM51EU1-1.0_01234 = AAABBC-X.Y_NNNNN).
    - **AAA**= the chassis name.
    - **BB**= the region: EU= Europe, AP= Asia Pacific PAL/Multi, AN= Asia Pacific NTSC, US= USA, LT= LATAM.
    - **C**= the language cluster number.
    - **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.
- **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.** When an NVM was corrupted (or replaced) in the former EM3 chassis, the microprocessor replaces the content with default data (to assure that the set can operate). However, all pre-sets and alignment values are gone now, and option numbers are not correct. Therefore, this was a very drastic way. In this chassis, the procedure is implemented in another way: 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).
- **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.** Not applicable for this chassis
  - **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:

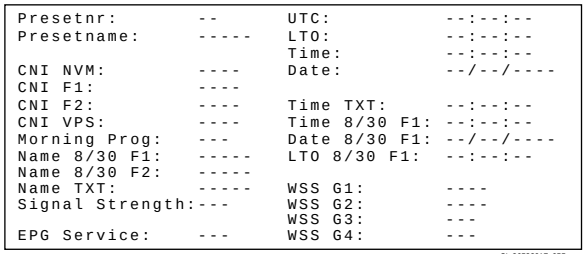


Figure 5-1 Broadcast debug menu overview

Table 5-1 Broadcast debug menu explanation

Item	Source	Description
Presetnr	Set	Presetnumber of the current selected preset.
Presetname	Set	Presetname 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 set.
LTO	Set	LTO (Local Time Offset) used in the set. Used by EPG for all Nextview displays. (= Time TXT header - Time 8/30 F1)
Time	Set	Current time running in the set. Was extracted at startup, then maintained by software.
Date	Set	Current date running in the set. Was extracted at startup, 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 submenu.

How to exit SAM

Use one of the following methods:

- Press the "MENU" button on the RC-transmitter, or
- Switch the set 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 than ask the customer to activate the CSM, in order to identify the status of the set. 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 enter CSM

Use one of the following methods:

- Press the "MUTE" button on the RC-transmitter simultaneously with the "MENU" button on the TV (top control) for at least 4 seconds.
- 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 five menus.

Contents of CSM

Customer Service Menu 1

- **SOFTWARE VERSION (example: EM51EU1-1.0_01234).** Displays the build in software version. In case of field problems related to software, software flash-RAM pos.7006 must be changed by a new one. Do this via soldering. 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 build in Feature Box software
- **SET TYPE.** This information is very helpful for a helpdesk/ 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 5 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 leftmost 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 5 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).

Customer Service Menu 2

- **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 headphone volume, as set by the customer. The value can vary from 0 (volume is minimum) to 100 (volume is maximum). Headphone 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). In case the set is a Non-Dolby set, there will be displayed "0". If it is a Dolby-set then is displayed: "STEREO", "3 STEREO", "HALL", "3DSURROUND", "DOLBY PRO LOGIC" or "DOLBY DIGITAL". 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, "100 HZ", "DIGITAL SCAN", "NATURAL MOTION", "DOUBLE LINES", or "PIXEL PLUS". Change via "MENU", "PICTURE", "DIGITAL OPTIONS".
- **CENTRE TRIM.** Indicates the difference between main volume and volume of centre speaker. Change via: "MENU", "SETUP", "SPEAKERS", and "CENTRE VOLUME" (not available when "Surround Mode" is set to "STEREO" or "HALL"). The value can vary from "-10" to "+10"
- **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.** Indicates if centre mode is set "ON" or "OFF". When centre mode is on, all TV speakers are used as one centre speaker. Change Centre mode via "MENU", "SETUP", "SPEAKERS", and "CENTRE MODE".
- **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 LtRt", "DD 2/0 L0R0", "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 LtRt", "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 "Off". When you change this (automatically found) frequency via "fine tune" adjustment (installation menu - manual installation), the displayed value will change to "On". Therefore, when you see the value "On" in this line, it is an indication that the received channel is a non-standard signal (e.g. of a VCR).
- **SURROUND SPEAKERS.** Indicates if the surround speakers are present, "YES" or "NO". Change via "MENU", "SETUP", "SPEAKERS", and "SURROUND SPEAKERS".
- **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".

Customer Service Menu 4

- **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 childlock: "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.

Customer Service Menu 5

- **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".
- **SURROUND TRIM L.** Indicates the last status of "SURROUND LEFT VOLUME" as set by the customer: from "-10" to "+10". Only available in Digital Dolby sets. Change via "MENU", "SETUP", "SPEAKERS", "SURROUND L VOLUME.
- **SURROUND TRIM R.** Indicates the last status of "Surround Right Volume" as set by the customer: from "-10" to "+10". Only available in Digital Dolby sets. Change via "MENU", "SETUP", "SPEAKERS", "SURROUND R VOLUME.
- **FRONT SPKR DIST.** Indicates the last status of the distance to the front speakers as set by the customer: "1m", "2m", or "3m",.... Change via "MENU", "SETUP", "SPEAKERS", "TO FRONT".
- **SURR. SPKR DIST.** Indicates the last status of the distance to the surround speakers as set by the customer: "1m", "2m", or "3m",.... Change via "MENU", "SETUP", "SPEAKERS", "TO SURROUND".

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.

5.3 Problems and Solving Tips (related to CSM)

Note: Below described problems are all related to the TV settings. 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 line 24 "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 lines 11 "Sharpness" and 24 "Noise Figure". In case the value of line 11 is 3 or 4 and the value of line 24 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 line 7 "Brightness" and 8 "Contrast". If the value of line 7 is low (< 10) or the value of line 8 is low (< 10), increase the "Brightness" or the "Contrast" value.

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 lines 7 "Brightness" and 8 "Contrast". If the value of line 7 is high (> 40) or the value of line 8 is high (> 50). Decrease the "Brightness" value or increase the "Contrast" value.

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 line 11 "Sharpness". Decrease the "Sharpness" value. The new value is automatically stored for all TV channels.

No picture
Check line 27 "Tuned bit". In case the value is "No", install the required program again. Open the installation menu and perform manual installation.

Blue picture
No proper signal is received. Check the aerial cable/aerial system.

Blue picture and/or unstable picture
A scrambled or decoded signal is received.

Black and white picture
Check line 9 "Colour". In case the value is low (< 10), increase the "Colour" value. 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 line 20 "TV System". If a "strange" system pops up, something has gone wrong during installation. Re-install the channel.
2. In case line 20 is "L", the installed system for this pre-set is "France", while "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 8 "Contrast". The value of line 8 is high (> 50). 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.

Sound too loud for left and right speaker
Check line 6 "Volume". The value is high. Decrease the value of " Volume". The new value(s) are automatically stored (in "personal" pre-set) for all TV channels.

5.4 ComPair

5.4.1 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:
- 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.
- 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.
- 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 SearchMan electronic manual of the defective chassis, schematics and PWBs are only a mouse click away.

5.4.2 Specifications

ComPair consists of a Windows based faultfinding program and an interface box between PC and the (defective) product. The ComPair interface box is connected to the PC via a serial or RS232 cable.
For this chassis, the ComPair interface box and the TV communicate via a bi-directional service cable via the service connector.

The ComPair faultfinding 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 level. ComPair can access the I2C bus of the television. ComPair can send and receive I2C 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 busses 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 extends. When this is not the case, ComPair will guide you through the faultfinding 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 faultfinding 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.

Beside fault finding, ComPair provides some **additional features** like:
- Up- or downloading of pre-sets.
- Managing of pre-set lists.
- Emulation of the Dealer Service Tool (DST).
- If both ComPair and SearchMan (Electronic Service Manual) are installed, all the schematics and the PWBs of the set are available by clicking on the appropriate hyperlink.
  Example: Measure the DC-voltage on capacitor C2568 (Schematic/Panel) at the Mono-carrier.
  – Click on the "Panel" hyperlink to automatically show the PWB with a highlighted capacitor C2568.
  – Click on the "Schematic" hyperlink to automatically show the position of the highlighted capacitor.

5.4.3 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").

Table 5-2 Stepwise start-up table

State	Description mode	Display LED	Enabled protection
0	Low power standby: 5V2/3V3 present, uP in standby-mode	On	None
1	High power Standby: TV-set in standby-mode	Wait 1s, flash 1 x	None
2	Main Power On : HOP in standby, 5V/8V present, I2C protections on, SSB is powered by standby-supply (5V/8V). De-gaussing (12 s) has been activated, MSP is reset.	Wait 1s, flash 2 x	4 & 5
3	Initialized (Semi stand-by): most IC's are initial-ized, HOP still in standby	Wait 1s, flash 3 x	Plus 1, 6 & 18
4	HOP : HOP fully pow-ered and working, EHT is present, rest of IC's ini-tialized, black current stabilisation is off, picture is still blanked	Wait 1s, flash 4 x	Plus 2 & 16
5	On: TV-set operates, black current stabilisa-tion is on, picture is un-blanked	Wait 1s, flash 5 x	

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.

5.4.4 How To Connect

1. First, install the ComPair Browser software (see the Quick Reference Card for installation instructions).
2. Connect the RS232 interface cable between a free serial (COM) port of your PC and the PC connector (marked with "PC") of the ComPair interface.
3. Connect the mains adapter to the supply connector (marked with "POWER 9V DC") of the ComPair interface.
4. Switch the ComPair interface "OFF".
5. Switch the television set "OFF" with the mains switch.
6. Connect the ComPair interface cable between the connector on the rear side of the ComPair interface (marked with "I2C") and the ComPair connector at the rear side of the TV (situated just below the tuner input, see also chapter 4).
7. Plug the mains adapter in a mains outlet, and switch the interface "ON". The green and red LEDs light up together. The red LED extinguishes after approx. 1 second while the green LED remains lit.
8. Start the ComPair program and read the "Introduction" chapter.

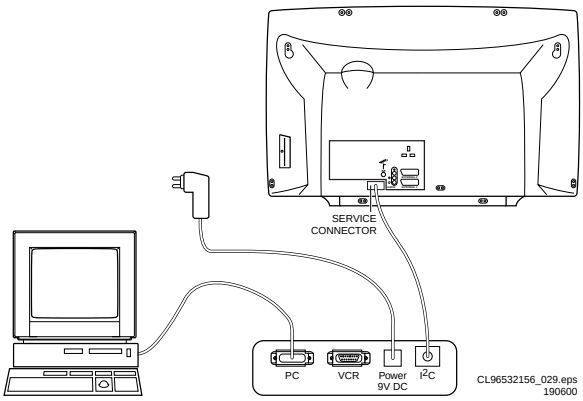


Figure 5-2 ComPair Interface connection

5.4.5 How To Order

ComPair order codes (EU/AP):
- Starter kit ComPair32/SearchMan32 software and ComPair interface (excl. transformer): 3122 785 90450.
- ComPair interface (excluding 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 60110.
- SearchMan32 CD (update): 3122 785 60120.
- ComPair interface cable: 3122 785 90004.

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:
  - **BLACK CURRENT LOOP (ERROR 28):** detection of a continuous fail of the black current stabilisation loop of the HOP.
  - **FALCONIC (ERROR 26):** at start-up, after initialisation of the PICNIC, the presence of the FALCONIC 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 codes

Error	Device	Description	Def. item	Defect. module indication	Diag
1	M24C32	NVM, spontaneous blinking error 1	7011	Control	B5a
2	Hfail Protection	Horizontal Flyback protection	/	Horizontal Flyback	/
3	SAA4978	PICNIC	7713	Feature Box	B3a
4	Supply 5V	5V protection	/	+5V Supply	B5a
5	Supply 8V	8V protection	/	+8V Supply	B5a
6	Slow I2C bus blocked	Spontaneous blinking error 6	/	Slow I2C Blocked	/
7	TDA9330	HOP High-end Output Processor	7301	Video Controller	B4
8	TDA932x	HIP High-end Input Processor	7323	Chroma IF IO	B2
9	PCF8574	Wireless expander	7501	Sound Output	H
13	UV1318/...	Tuner protection	1T01	Tuner	A8
14	MSPxxxx	ITT sound processor	7A02	Audio module	B6a
16	FBX	Feature Box Protection	/	+3V (Fbx) Supply	B3
18	Fast I2C bus blocked	Spontaneous blinking error 18	/	Fast I2C Blocked	/
19	TDA8444	Auto Scavem DAC	7500	Auto Scavem	SC1
21	M62320P	PIP I/O Expander	7403	Video Dual Screen	C3
22	TDA888X	PIP BOCMA	7301	Video Dual Screen	C4
23	TELE9	PIP Tuner	7201	Video Dual Screen	C2
24	SAB9081	PIP Muppet	7801	Video Dual Screen	C1
26	SAA4992	Falconic	7718	+3V (Fbx) Supply	B3b
27	T8F24EF	Eagle	7724	+3V (Fbx) Supply	B3c
28	Black current loop	Black current loop	/	Video Controller	/
32	M29W400BT	Flash Ram (EPG)	7012	EPG Memory	B5a

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 entered, 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.

Example: Error 12 9 6 0 0.
After activation of the SDM, the red 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,
- 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 set is NOT in service mode.

5.6.2 How to Enter

Use one of the following methods:
- Enter the SDM (only via soldering pads marked "SDM" on SSB). The blinking red 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 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 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 Standby. This because power of the microprocessor and the attached memory chip set is coming from the 3V3 supply, which is derived from the 5V Standby-circuitry. Therefore, in both Power-on as in Standby 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 set 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). In some error cases however, the microprocessor does not put the set in the protection mode (this is the case with the - hardware - loudspeaker protection of the audio amplifier).

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 set in a predefined way.
- The **Service Alignment Mode** (SAM). In this mode, items of the set can be adjusted via a menu.

You can enter both SDM and SAM modes via the 'service pads' on the SSB, via an RC-transmitter (DST or standard RC), or via ComPair. It is not possible to enter the SAM in "standby"; the TV has to be in "normal operation" mode.

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

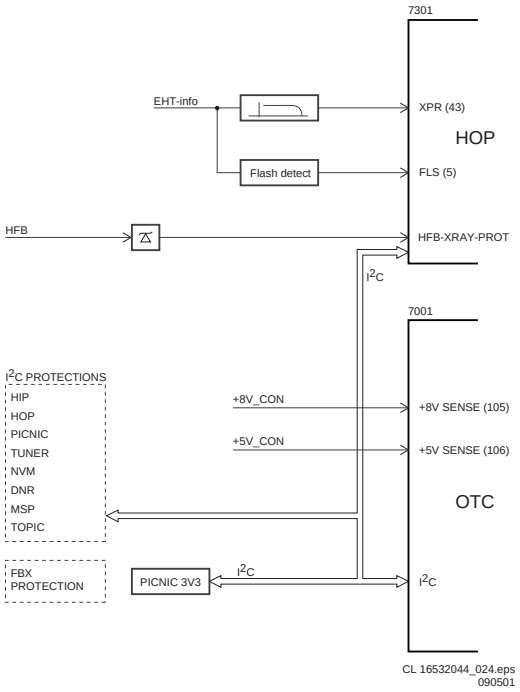


Figure 5-3 Protection diagram

There are several types of protections:
- I2C related protections.
- OTC related protections (via polling on I/O pins or via algorithms).
- HOP related protections (mainly for deflection items).
- Hardware errors that are not sensed by the OTC (e.g. vertical flyback protection, bridge coil protection, E/W protection, arcing 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 busses 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 (e.g. FBX_PROT (error 16)).

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 set 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 (US only) and wireless module are initialised again, to ensure the normal picture and sound conditions of the set.

8 V and 5 V protection: 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 set is put in the protection mode.

5.7.4 HOP Related Protections

Every 200 ms, the status register of the HOP is read by the OTC (via the I2C bus). If a protection signal is detected on one

of the inputs of the HOP, the relevant error bit in the HOP register is set to "high". If this error bit is still "high" after 1 s, the OTC will store the error code in the error buffer of the NVM and, depending on the relevancy of the error bit, the set will either go into the protection mode or not.

The following protections are implemented:

- **HFB (Horizontal Flyback):** If the horizontal flyback is not present, this is detected via the HOP (HFB_X-RAY_PROT). One status bit is set to "high". The error code is stored in the error buffer and the set will go into the protection mode.
- **XPR (X-ray protection):** If the HFB pulses are too low (level detection), the HOP will detect this via the XPR-bit. The error will be logged in the error buffer and the set will go into protection mode.

Note: Both errors will be logged as HFB-failure.

5.7.5 Hardware Related Protections

Due to the architecture ("hot" deflection), some protections cannot be sensed by the microprocessor. Three of these protections will lead to a protection on set level (Standby mode and blinking LED), while another will only lead to a circuit protection.

TV-set Protection

The following fault conditions will lead to a "complete" set protection:

- **BRIDGECOIL protection:** This is sensed via the "EW" signal going to the base of TS7652 (via R3495 and D6499). In a normal situation, the voltage on C2498 (diagram A4) is high and TS7652 is conducting. When bridge coil 5422 (diagram A3) is short circuited, the voltage on C2498 changes to low, which will block TS7652. In this case, also TS7641 will block and the voltage on 2642 will rise until TS7443 is forced in conduction. The "SUP-ENABLE" signal (in normal operating condition -20 V) is shorted now to ground level, which will force the Main Power Supply to Standby mode.
- **ARC protection:** If there are "open" connections (e.g. bad solder joints) in the high-energy deflection circuitry, this can lead to damaging effects (read: fire). For that reason, the E/W current is sensed (via 3479//3480). If this current becomes too high, the "thyristor" circuit (TS7653 and TS7654) is triggered. TS7442 is switched "on" and TS7443 is forced into conduction. . The "SUP-ENABLE" signal is shorted now to ground level, which will force the Main Power Supply to Standby mode.
- **NON_VFB (No vertical Flyback) protection:** If the frame stage generates no pulses, TS7641 will block. TS7443 is now switched "on", which will lead to Standby mode. Therefore, in normal operation condition, TS7641 and TS7652 are conducting, while TS7443 is blocked.

Circuit Protection

The following fault condition will lead to a "partly" set protection:

- **PROT1 (DC) protection:** When a DC-voltage (positive or negative) is sensed on one of the loudspeaker outputs, the protection circuit (TS7704, 7705, 7706 and 7707 in diagram A6) will put the IC7700 in Standby mode (via tri-state input pin 6). For more details, see chapter "Circuit Descriptions".

5.8 Repair tips

5.8.1 Miscellaneous

The relay you hear when you switch the set "on" (from Standby or via the mains switch), is from the degaussing circuitry. It is not used for switching the Power Supply (as done in the MG-chassis).

Take care not to touch the "hot" heatsink while disconnecting the SSB, despite the fact that the mains cord is out of the mains socket. There can still be an annoying rest-voltage on the heatsink for a short while. This, because the discharge resistors 3502 and 3503 (on the LSP between hot and cold part) are not stuffed for Europe. Instead, discharge resistors 3066 and 3057 on the Mains Switch panel are used, but because they are located before the Mains switch, they only discharge when this switch is "on".
Advice: when you remove the SSB, disconnect the Mains cord, but keep the Mains Switch "on".

Do not try to measure on the SSB side, which is facing the 'hot' heatsink. This is dangerous. Most service test points are guided to the 'tuner' side and are indicated by the 'service' printing.
Where the circuitry was too "crowded" for service printing, you can find the correct location on the "test point overviews" in this manual.
A very large part of the LSP is **"hot"**, such as:

- The primary part of the Standby Supply.
- The whole Main supply (except for the secondary Audio supply).
- And the complete deflection circuitry (so notice that the deflection coil is hot!).

5.8.2 Start-up Sequence

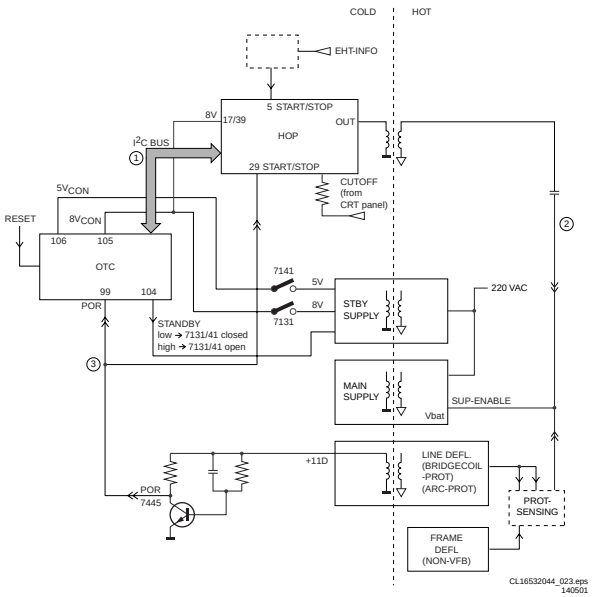


Figure 5-4 Start-up circuitry

The start up sequence differs from other sets (e.g. MG-sets or EM2E-sets, but is same as in EM3E-set):

1. When the set is switched "on", the 5 and 8 V lines ("+5V_CON" and "+8V_CON") of the standby power supply are activated.
2. After the OTC senses them, the P will address the HOP via the I2C-bus, to start the drive [1].
3. Via the "SUP-ENABLE" signal, the Main Supply is switched "on" and will deliver the V_BAT to the Line deflection stage [2].
4. EHT generation is now started.
5. The OTC will un-blank the picture.
6. When you switch "off" the set, this is done in a controlled way via the POR signal [3].

Note: Standby is not directly achieved via the Standby line of the microprocessor, but indirectly via the HOP circuitry.

5.8.3 ComPair

This chassis does not have an IR transmitting LED (as in MG-sets). Therefore, a "Service" (ComPair) connector is implemented at the rear side of the set, which is directly accessible (as in A10-, EM2E-, EM3E and EM5E-sets). In addition to this, there is also a blinking LED procedure to show the contents of the error buffer.

When you use ComPair, you have the possibility to activate a "stepwise start-up" mode. With this mode, you can initiate the start-up sequence step by step. This also means that in certain steps, some protections are not activated. This is sometimes very convenient during repair.

5.8.4 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 the feature box (FBX) 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 set.

The "ARC"- and/or "BRIDGECOIL" protection are hardly ever triggered, however:
- When you suspect the "ARC" protection, look for bad solder joints and smell. By interrupting resistor 3497, this protection is disabled (special attention needed!).
- When you suspect the "BRIDGECOIL" protection, which can also be due to a too wide picture amplitude, shorten G and S of the E/W MOSFET 7480. This will disable the protection. You will now have minimal horizontal amplitude. Re-align the horizontal amplitude in the SAM menu and remove the G/S short of TS7480.

5.8.5 Main Supply

The simplest way is, to replace the components of the Main Supply with repair kit 3122 785 90310.

More detailed way:
1. Replace FET 7504 and zener 6505.
2. Remove the SSB panel.
3. Short B and E of TS7529, in order to put the Main Supply in "on"-mode (TS7529 is blocking then).
   Caution: To prevent that R3403 and TS7443 will be damaged, **first disable the HW-protection of the deflection circuit.** Therefore short circuit C2642 on the LSP (diagram A4).
4. Attach a load of 500 O to V_BAT capacitor C2515 (the supply can not work without a minimum load).
5. Use a variac, and slowly increase the V_MAINS. Measure over sensing resistors R3514//15, if a nice sawtooth voltage becomes available.
6. Also measure the V_BAT. This may never exceed +141 V. If it does, there is something wrong in the feedback circuitry (e.g. regulator 7506).

Note: Be careful when measuring on the gate of FET TS7504. This circuitry is very high ohmic and can easily be damaged (first connect ground to measuring equipment, than measure the gate).

5.8.6 Standby Supply

The simplest way is to replace the components of the Standby Supply with repair kit 3122 785 90460.

5.8.7 Line Deflection

The simplest way is to replace the components of the Line Deflection circuitry with repair kit 3122 785 90330.

5.8.8 Frame Deflection

Caution: When the Frame Deflection circuitry is suspected, one must be careful. Because there is a DC-voltage on the frame deflection, **the beam current could damage the CRT neck, leading to a defective CRT.**

To prevent this from happening, you must:
1. Interrupt the resistors 3403 and 3404 on the CRT panel (diagram F1), in order to remove the "filament" voltage from the tube (no beam current, so no chance of destroying the CRT).
2. Interrupt resistor 3403 on the LSP (diagram A4) to disable the "SUP-ENABLE" line.
3. Measure with a multi-meter, or better with a oscilloscope, the functionality of the Frame stage.
4. After you have found the cause, exchange the defective component (e.g. TDA8177), and re-solder the interrupted resistors.

Phenomenon	Possible Cause	Repair tip
No picture, no LED.	Standby Supply defective.	Measure circuitry (see diagram A2). Start at test-point A19. When the Mains switch is 'on', this voltage must always be available
No picture, no LED.	Bad connection of SSB in SIMM-connector.	In case of a bad connection, it can happen that there is no picture, and that the Standby LED is not controllable. Re-place the SSB.
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, compare-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^2C-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^2C- or fast I^2C-bus.	As processor cannot communicate with one of the 2 busses it the standby-led spontaneously starts blinking 6-6-6... or 18-18-18... 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^2C-bus which device is loading the bus. (Use I^2C -overview)
No picture, LED blinking with code 1-1-1.	No communication on NVM-I^2C bus to the uP.	As the uP cannot communicate with the NVM I^2C 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 picture, no sound. Set is making audible squeaking sound	Supply is possibly in hiccup-mode, which is audible via a squeaking supply transformer.	Possible causes: - V_{BAT} is shorted (caused by short circuited line transistor 7421), or - Sound winding is shorted (amplifier is shortening the power supply lines), or - D6514 is shorted (due to a too high V_{BAT}). Remove excessive load, to see what causes the failure, or check feedback circuit. See repair tip 'Main Power Supply' (supply needs a minimal load).
No picture, no sound. Power LED works fine	Supply does not work correctly.	If e.g. V_{BAT} is only about 90 V, it is possible that the regulator IC (7506) is defective.
No RC-reception. LED does not echo RC-commands.	uP circuitry or RC-receiver is defective.	In case the set does react on a local keyboard operation, you must check the RC-receiver circuitry (diagram E).
Relay (degaussing) is not audible, when set is switched from 'off' or 'standby' to 'on'.	uP is not working correctly. When pin 115 is low, the degaussing must be activated.	Check RESET-circuitry on diagram B5. Check the level on pin 115 when you switch the set 'on'. Signal must be low initially and go to high after approx. 12 s.
Picture is rotated.	Rotation circuitry on diagram A5, or related supply to it, malfunctions.	Measure test points on diagram A5.
Picture is continuously switching 'off' and 'on', showing heavy 'switch' spots (set does not go into protection).	200 V is missing on CRT panel.	Probably a bad connection from LSP connector 1424 to CRT connector 1424 (diagram F1), or an interruption of the 200 V supply line (e.g. R3341 on circuit F1 is interrupted).
Picture is not sharp.	Focus is possibly mis-aligned or SCAVEM-circuitry does not work correctly.	Re-align the 'focus' potmeter on the Line Output Transformer, or check the SCAVEM circuitry on the CRT-panel (diagram F2). It is also possible that the DAF circuitry is defective (see diagram I). Check the Vdc values.
Picture is not synchronised.	The sync is derived in the HIP from x-tal 1305 and/or 1308.	Maybe the crystals 1305 and/or 1308 are making a bad contact.
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^2C -bus and/or supply lines (see overview supply lines). Measure and check signal path Tuner-HIP-PICNIC-HOP-RGB amplifier. In case it is a geometry issue, check on diagram A4 opto-coupler 7482, Opamps 7440/7450 and the Frame circuitry alignments or a possible corrupted NVM (7011) on diagram B5.
Picture with horizontal stripes.	Pixel Plus processing is malfunctioning	Check functionality on circuitry (B3a, B3b, and B3c) of PICNIC (7713), FALCONIC (7718, EAGLE (7724) and/or field memories (7714, 7717, 7719, 7722 and 7723. Tip the whole Pixel Plus chipset (3 ICs + 5 Field Memories can be diagnosed very good via ComPair.
No menu, no OSD.	Probably a defective uP.	Measure test points B61to B64 on diagram B5.
No NexTView (EPG).	IC7012 defective or not powered.	Check circuitry around IC7012 on diagram B5.
No Teletext.	IC7007 defective or not powered.	Check circuitry around IC7007 on diagram B5. Check also B61to B64 around uP on diagram B5.
Strange switch 'off' behaviour	TS7445 possibly defective.	Check, with a multi-meter, whether transistor TS7445 is well functioning. (diagram A3).
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 chapter 6), for a quick scan of all supply lines.

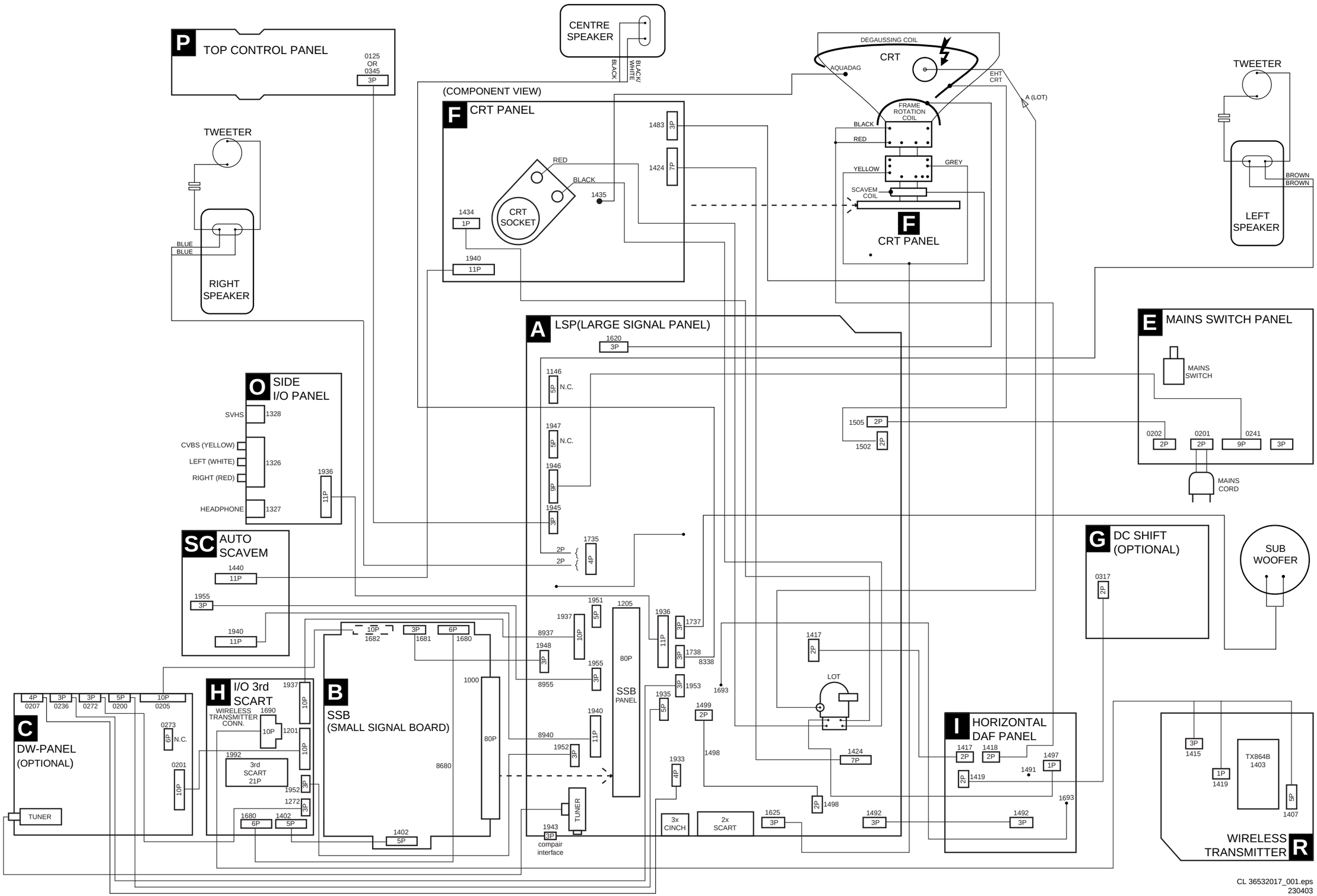
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Figure 5-5 Repair tips

Personal Notes:

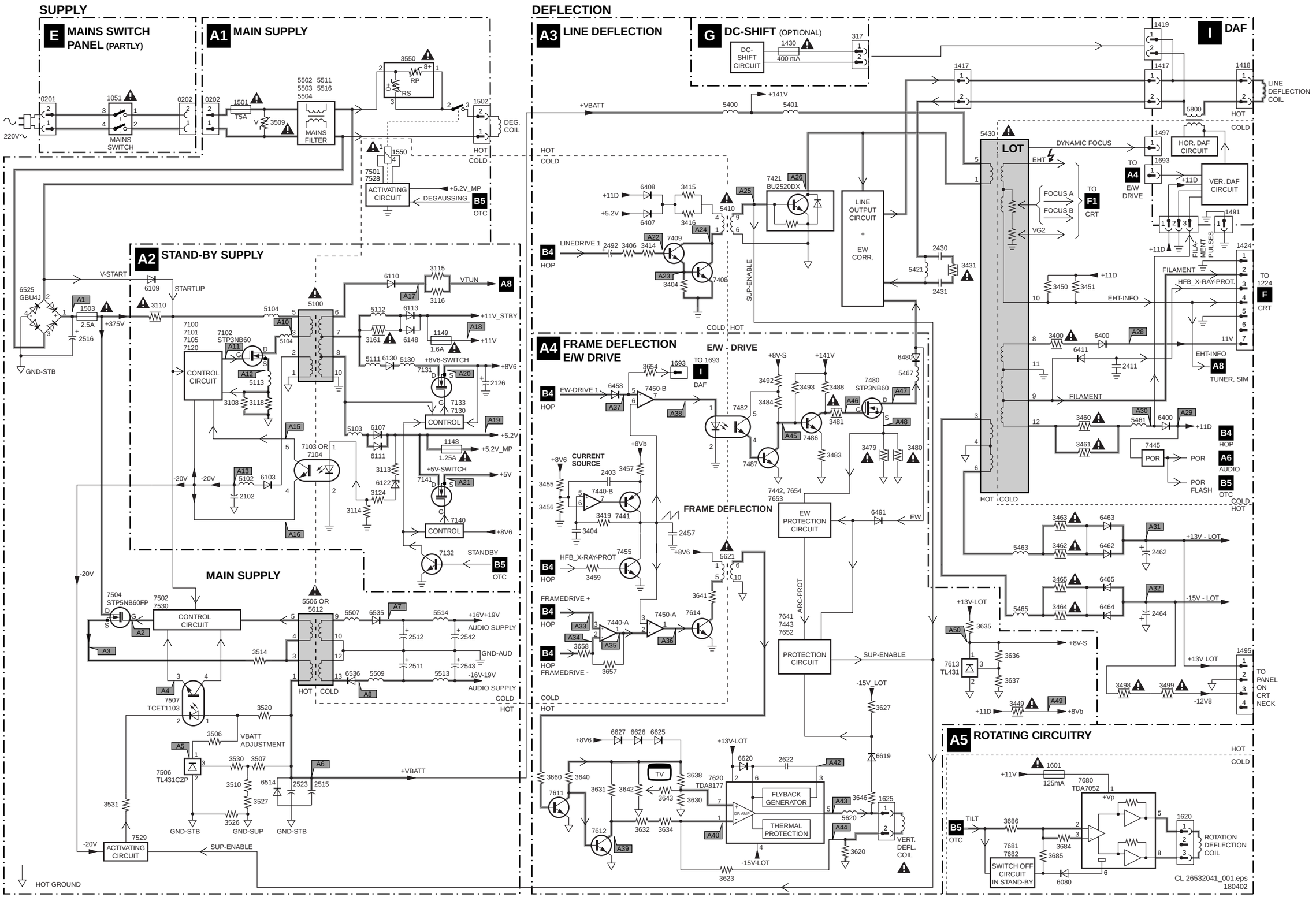
6. Wiring Diagram, Block Diagrams and Overviews

Wiring Diagram



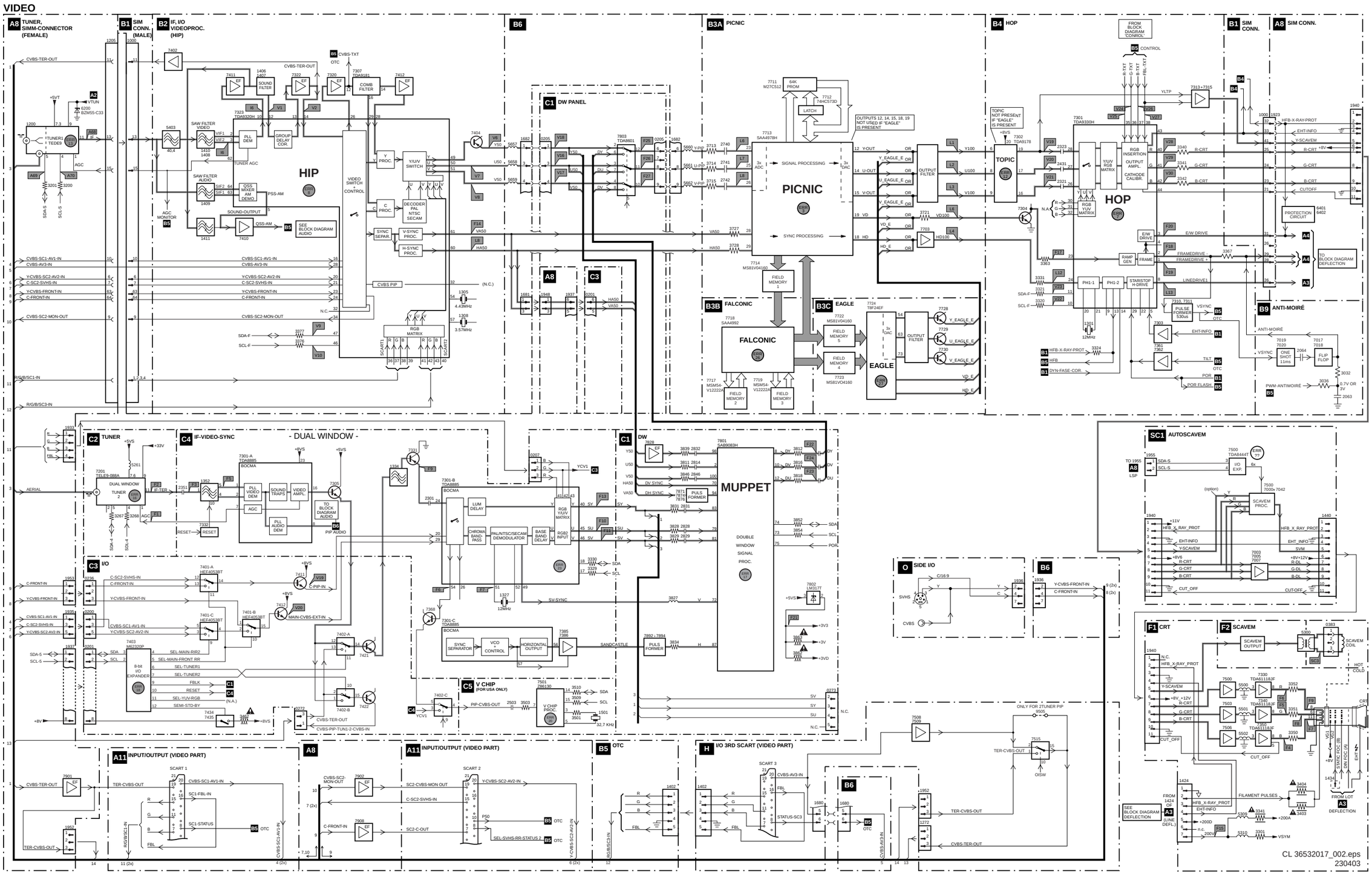
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Block Diagram Supply and Deflection



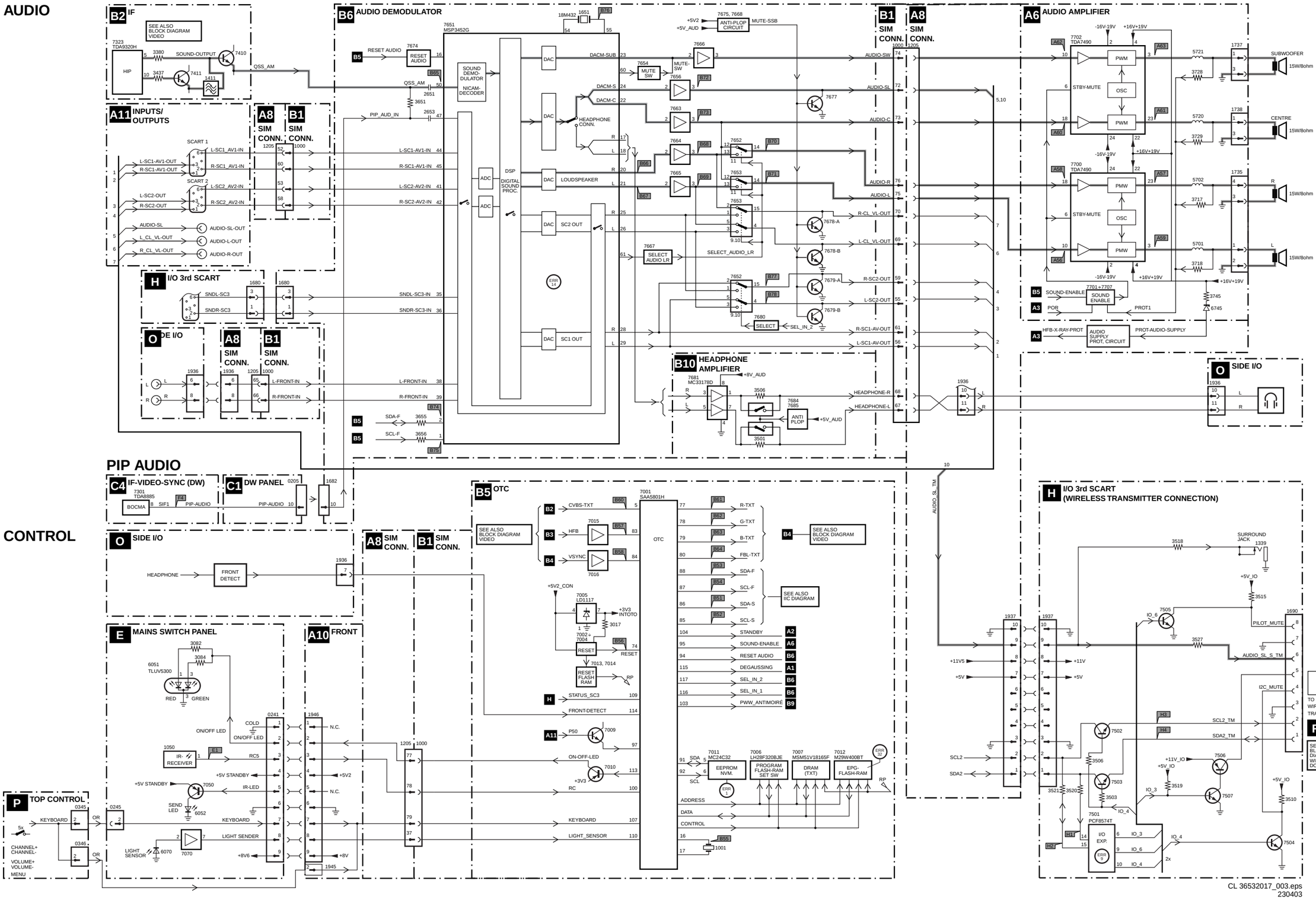
Block Diagram Video

VIDEO



Block Diagram Audio 1 (Exclusive Wireless Audio Details)

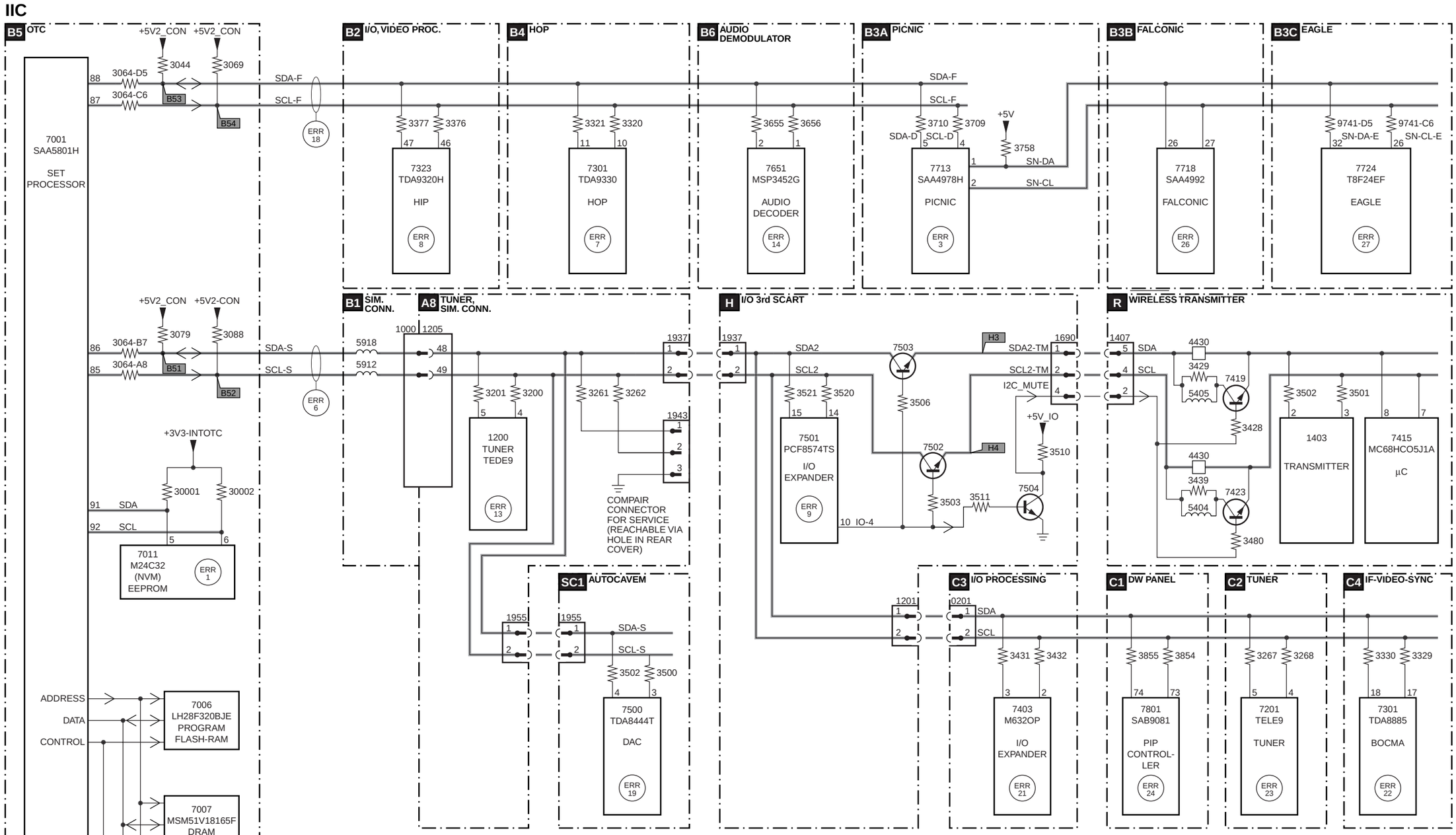
AUDIO



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I2C IC's overview

IIC



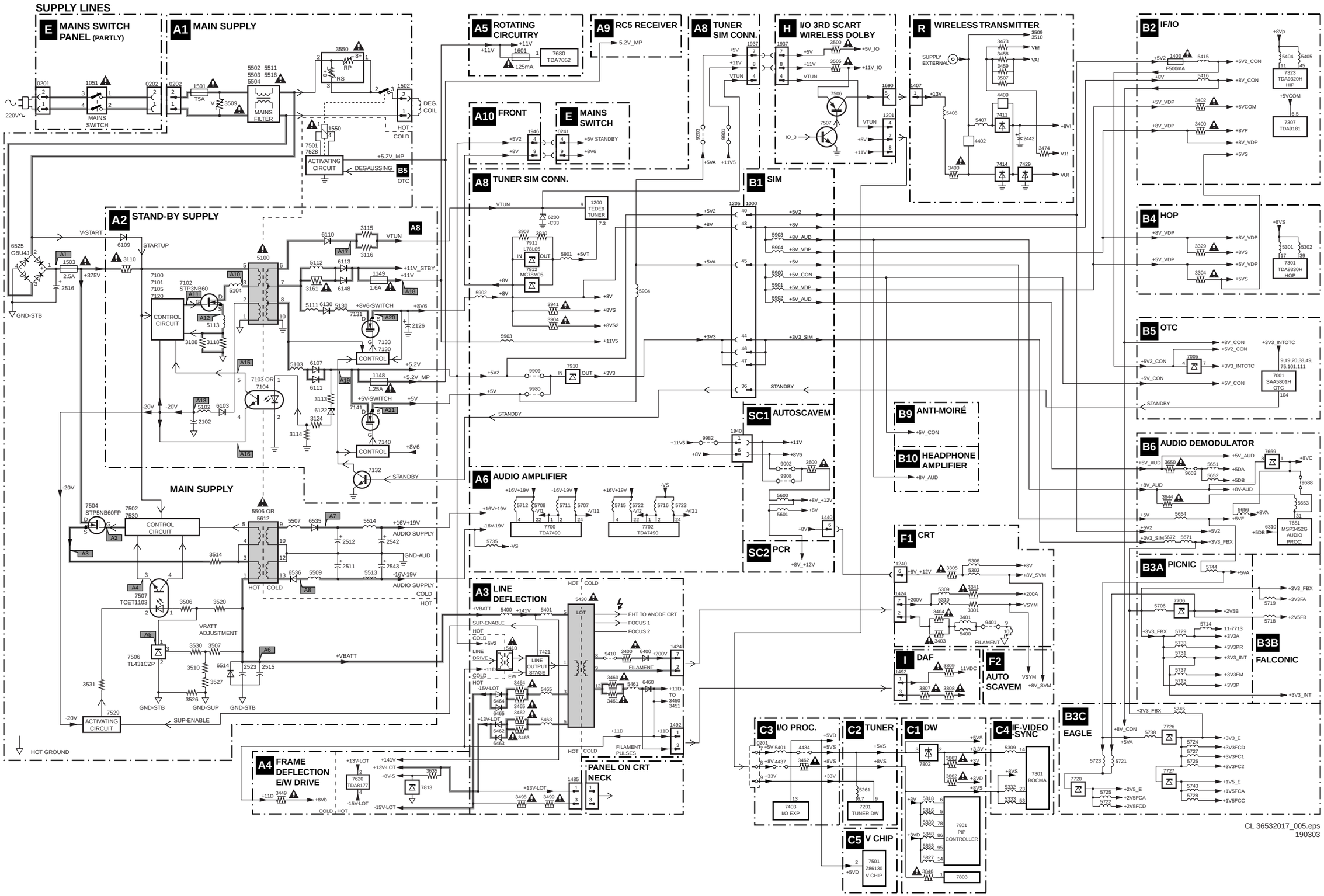
Error codes

Error	Device	Description	Def. item	Defect. module indication	Diag
1	M24C32	NVM, spontaneous blinking error 1	7011	Control	B5a
2	Hfail Protection	Horizontal Flyback protection	/	Horizontal Flyback	/
3	SAA4978	PICNIC	7713	Feature Box	B3a
4	Supply 5V	5V protection	/	+5V Supply	B5a
5	Supply 8V	8V protection	/	+8V Supply	B5a
6	Slow I2C bus blocked	Spontaneous blinking error 6	/	Slow I2C Blocked	/
7	TDA9330	HOP High-end Output Processor	7301	Video Controller	B4
8	TDA932x	HIP High-end Input Processor	7323	Chroma IF IO	B2
9	PCF8574	Wireless expander	7501	Sound Output	H
13	UV1318/...	Tuner protection	1T01	Tuner	A8
14	MSPxxxx	ITT sound processor	7A02	Audio module	B6a
16	FBX	Feature Box Protection	/	+3V (Fbx) Supply	B3
18	Fast I2C bus blocked	Spontaneous blinking error 18	/	Fast I2C Blocked	/
19	TDA8444	Auto Scavem DAC	7500	Auto Scavem	SC1
21	M62320P	PIP I/O Expander	7403	Video Dual Screen	C3

Error	Device	Description	Def. item	Defect. module indication	Diag
22	TDA888X	PIP BOCMA	7301	Video Dual Screen	C4
23	TELE9	PIP Tuner	7201	Video Dual Screen	C2
24	SAB9081	PIP Muppet	7801	Video Dual Screen	C1
26	SAA4992	Falconic	7718	+3V (Fbx) Supply	B3b
27	T8F24EF	Eagle	7724	+3V (Fbx) Supply	B3c
28	Black current loop	Black current loop	/	Video Controller	/
32	M29W400BT	Flash Ram (EPG)	7012	EPG Memory	B5a

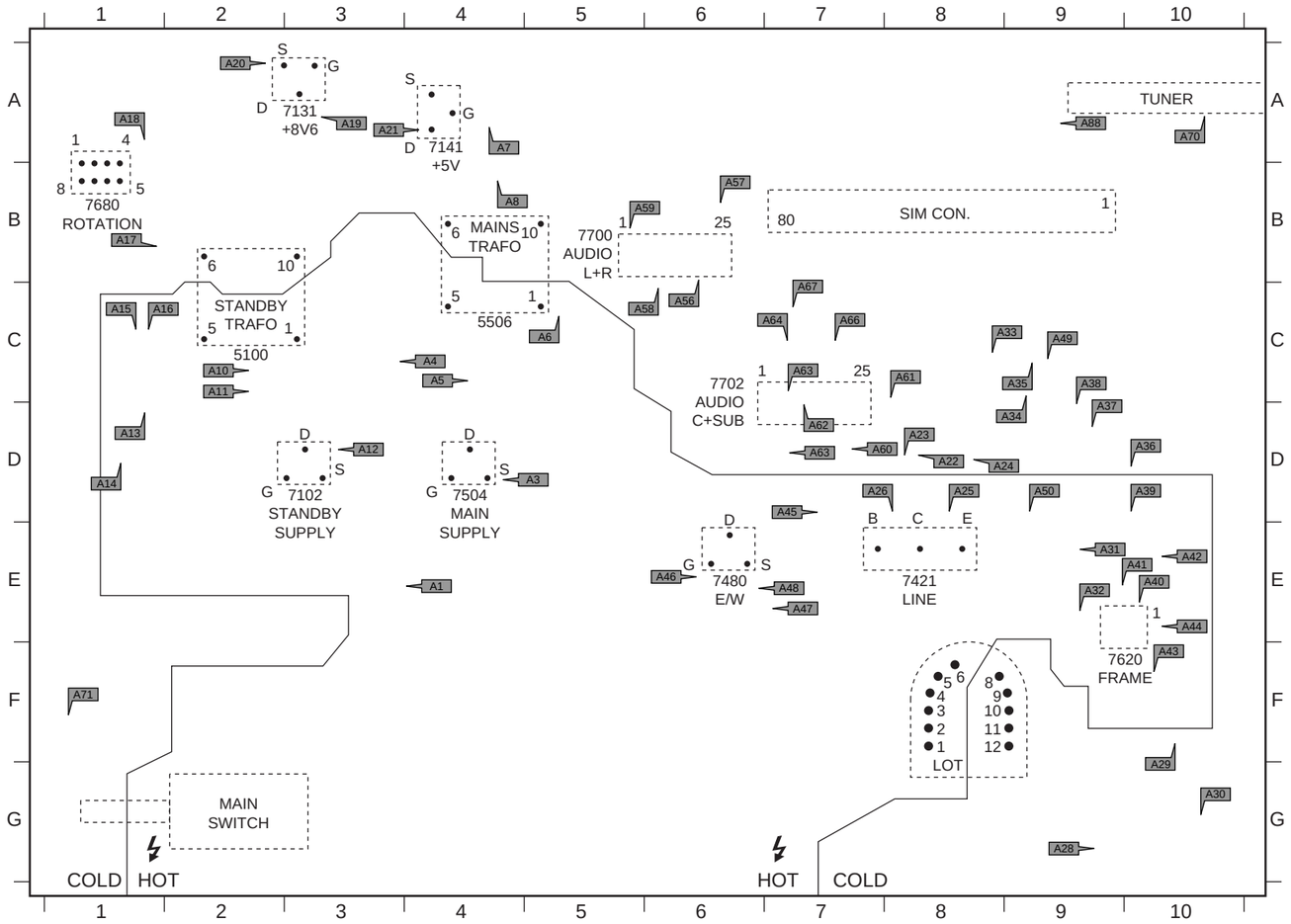
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Supply Lines Overview


SUPPLY LINES
E MAINS SWITCH PANEL (PARTLY)
A1 MAIN SUPPLY
A2 STAND-BY SUPPLY
MAIN SUPPLY
A5 ROTATING CIRCUITRY
A9 RC5 RECEIVER
A8 TUNER SIM CONN.
H I/O 3RD SCART WIRELESS DOLBY
R WIRELESS TRANSMITTER
A10 FRONT
E MAINS SWITCH
A8 TUNER SIM CONN.
B1 SIM
A6 AUDIO AMPLIFIER
A3 LINE DEFLECTION
A4 FRAME DEFLECTION E/W DRIVE
PANEL ON CRT NECK
SC1 AUTOSCAVEM
SC2 PCR
B9 ANTI-MOIRÉ
B10 HEADPHONE AMPLIFIER
F1 CRT
I DAF
F2 AUTO SCAVEM
C3 I/O PROC.
C2 TUNER
C1 DW
C4 IF-VIDEO SYNC
C5 V CHIP
B2 IF/IO
B4 HOP
B5 OTC
B6 AUDIO DEMODULATOR
B3A PICNIC
B3B FALCONIC
B3C EAGLE
220V~
MAINS SWITCH
MAINS FILTER
ACTIVATING CIRCUIT
DEGAUSSING
DEG. COIL
HOT
COLD
OTC
CONTROL CIRCUIT
STARTUP
V-START
GND-STB
VBATT ADJUSTMENT
AUDIO SUPPLY
GND-AUD
SUP-ENABLE
HOT GROUND
VTUN
+11V_STBY
+8V6-SWITCH
+5V-SWITCH
+5.2V_MP
+5V STANDBY
+8V6
+5VA
+11V5
+5V2
+8V
+3V3
+3V3_SIM
STANDBY
+VBATT
EHT TO ANODE CRT
FOCUS 1
FOCUS 2
FILAMENT
FILAMENT PULSES
LINE DRIVE
LINE OUTPUT STAGE
+13V-LOT
+141V
+8Vb
+8V-S
+11D
+200V
+200A
VSYM
+8V_SVM
11VDC
+8V_AUD
+5V_CON
+8V_+12V
+VBATT
+VS
-VS
-20V
+16V+19V
-16V-19V
AUDIO SUPPLY
+5V_IO
+11V_IO
VE!
VA!
V1!
VU!
+8V!
IO_3
SUPPLY EXTERNAL
+13V
+8Vp
+8VC
+8VS
+8VP
+8V_VDP
+8V_CON
+5V_VDP
+5V_CON
+5V2_CON
+5VCOM
+5VF
+5VA
+5V2
+3V3_FBX
+3V3FA
+3V3FB
+2V5B
+3V3A
+3V3PR
+3V3_INT
+3V3FM
+3V3P
+3V3_INTOTC
+3V3_INTOTC
+3V3_E
+3V3FCD
+3V3FC1
+3V3FC2
+1V5_E
+1V5FCA
+1V5FCC
+2V5_E
+2V5FCA
+2V5FCD
+5DA
+5DB
+8V-AUD
+8VA
+8VP
+8V_VDP
+8V_SVM
+200A
VSYM
FILAMENT
11VDC
+8V_AUD
+5V_AUD
+5V_CON
+5V_VDP
+8V_VDP
+8V_CON
+5V2_CON
+3V3_INTOTC
+3V3_FBX
+8V_CON
+5VA
+5V_CON
STANDBY
+2V5_E
+2V5FCA
+2V5FCD
+3V3_E
+3V3FCD
+3V3FC1
+3V3FC2
+1V5_E
+1V5FCA
+1V5FCC
+3V3_INT
+3V3FBX
+3V3FA
+3V3FB
+2V5B
+3V3A
+3V3PR
+3V3_INT
+3V3FM
+3V3P
+8V_+12V
+8V_SVM
+200A
VSYM
FILAMENT
11VDC
+8V_AUD
+5V_CON

Testpoint Overview LSP and CRT Panel

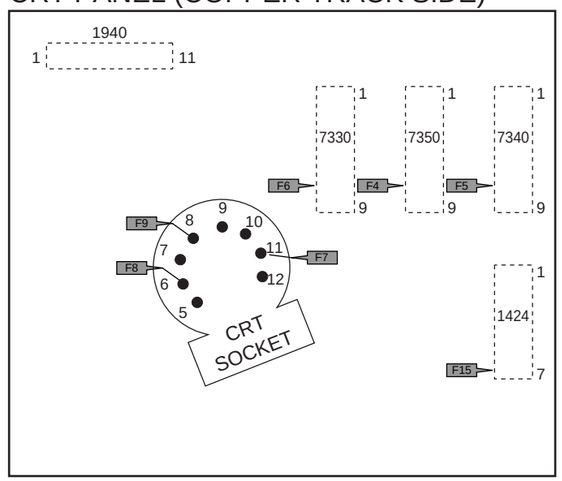
LSP COPPER TRACK SIDE



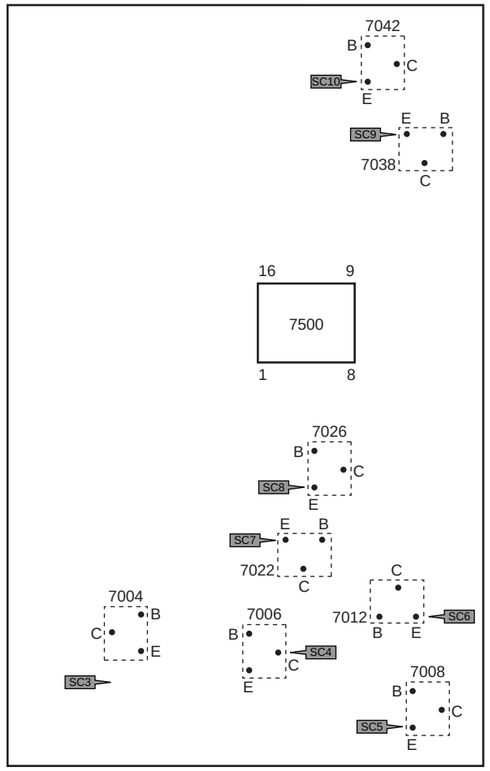
A1	E4	A58	C6
A3	D4	A59	B5
A4	C4	A60	D7
A5	C4	A61	C8
A6	C5	A62	D7
A7	A4	A63	D7
A8	B4	A64	C7
A10	C2	A66	C7
A11	C2	A67	C7
A12	D3	A70	A10
A13	D1	A71	F1
A14	D1	A88	A9
A15	C1		
A16	C1		
A17	B1		
A18	A1		
A19	A3		
A20	A2		
A21	A3		
A22	D8		
A23	D8		
A24	D8		
A25	D8		
A26	D7		
A28	G9		
A29	G10		
A30	G10		
A31	E9		
A32	E9		
A33	C8		
A34	D9		
A35	C9		
A36	D10		
A37	D9		
A38	C9		
A39	D10		
A40	E10		
A41	E10		
A42	E10		
A43	F10		
A44	E10		
A45	D7		
A46	E6		
A47	E7		
A48	E7		
A49	C9		
A50	D9		
A56	C6		
A57	B6		

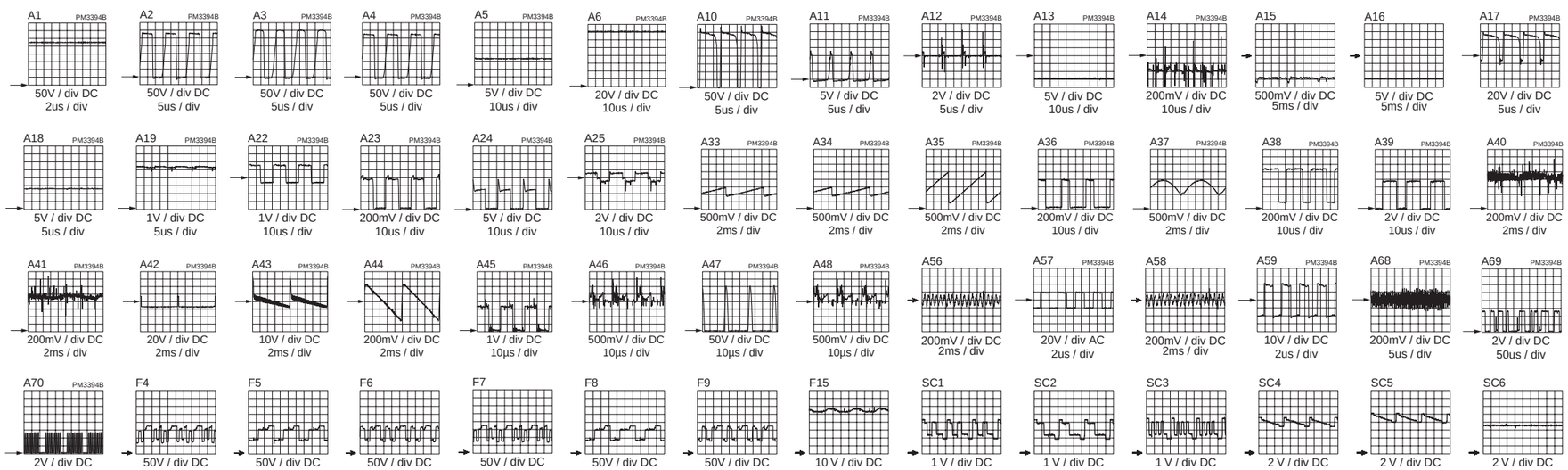
SC7: 2 V / div DC, 10µs / div
SC8: 2 V / div DC, 10µs / div
SC9: 2 V / div DC, 10µs / div
SC10: 1 V / div DC, 10µs / div
SC11: 200mV / div DC, 10µs / div
SC12: 1 V / div DC, 10µs / div
SC13: 50mV / div DC, 10µs / div
SC22: 2 V / div DC, 10µs / div
SC23: 2 V / div DC, 100µs / div
SC24: 2 V / div DC, 100µs / div

CRT PANEL (COPPER TRACK SIDE)



AUTO SCAVEM PANEL (COPPER TRACK SIDE)

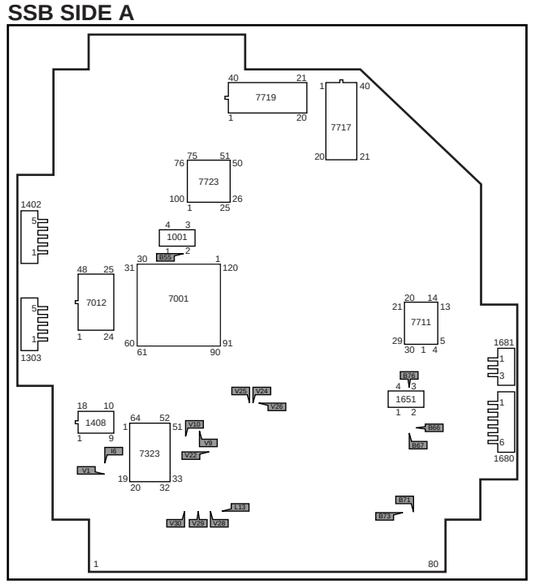




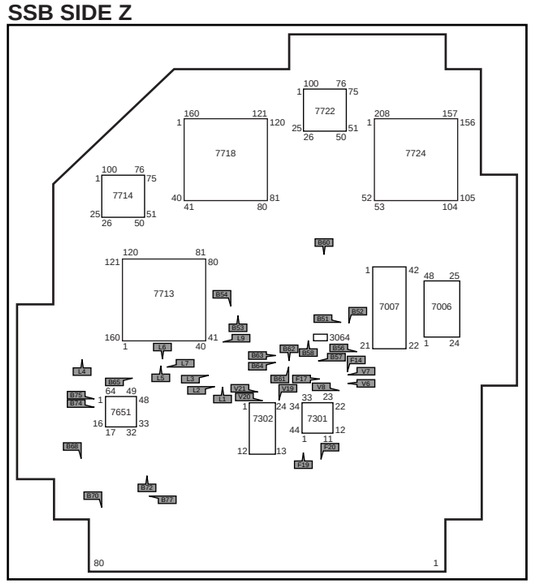
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Testpoint Overview Small Signal Board

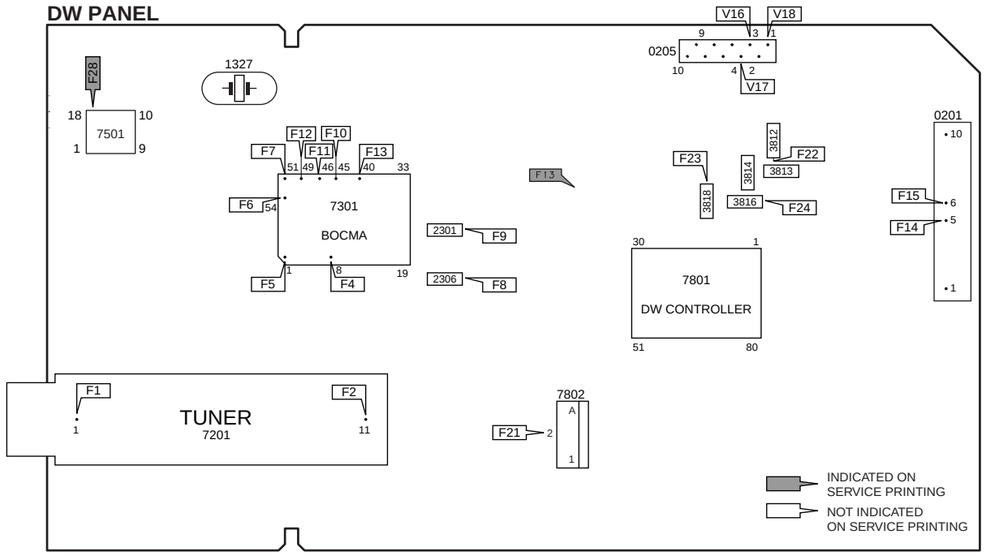
SSB SIDE A

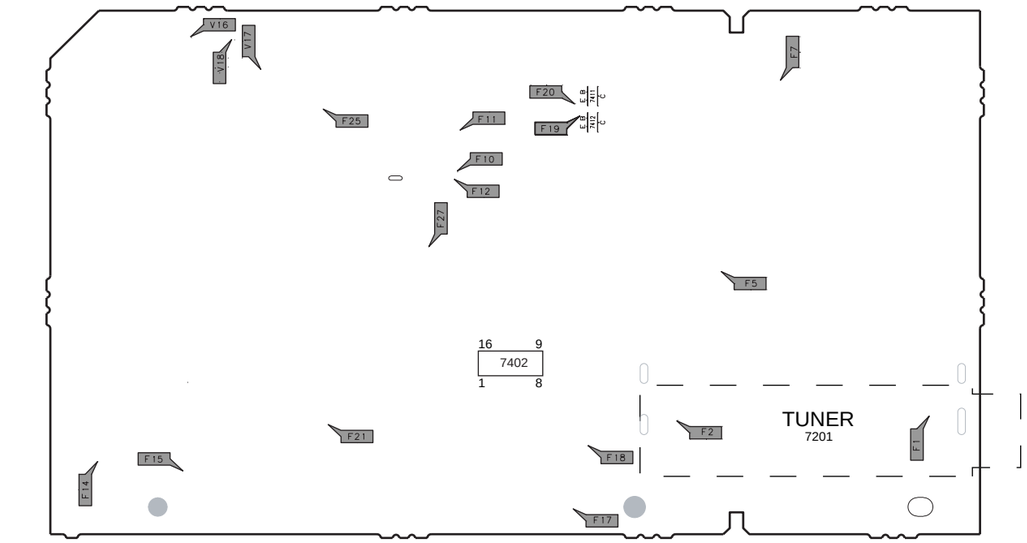


SSB SIDE Z



DW PANEL





F1
1V / div DC
20µs / div

F10
1V / div DC
20µs / div

F21
2V / div DC
20µs / div

V17
1V / div DC
20µs / div

F2
200mV / div DC
20µs / div

F11
1V / div DC
20µs / div

F22
200mV / div DC
20µs / div

V18
1V / div DC
20µs / div

F3
200mV / div AC
100ns / div

F12
2V / div DC
500ms / div

F23
200mV / div DC
20µs / div

V19
1V/div DC
10us/div

F4
50mV / div AC
200ns / div

F13
1V / div DC
20µs / div

F24
200mV / div DC
20µs / div

V20
1V/divDC
10us/div

F5
50mV / div AC
200ns / div

F14
2V / div DC
10ms / div

F25
500mV / div DC
20µs / div

F6
500mV / div DC
10µs / div

F15
1V / div DC
20µs / div

F26
500mV / div DC
20µs / div

F7
500mV / div DC
2ms / div

F16
50mV / div DC
5µs / div

F27
500mV / div DC
20µs / div

F8
1V / div DC
20µs / div

F17
500mV / div DC
20µs / div

V16
1V / div DC
20µs / div

F9
1V / div DC
10µs / div

F18
500mV / div DC
50µs / div

B28 PM3394B
1V / div DC
20µs / div

B29 PM3394B
1V / div DC
20µs / div

B46 PM3394B
500mV / div DC
5ms / div

B51 PM3394B
2V / div DC
100us / div

B52 PM3394B
2V / div DC
100us / div

B53 PM3394B
2V / div DC
5ms / div

B54 PM3394B
2V / div DC
5ms / div

B55 PM3394B
2V / div DC
250ns / div

B57 PM3394B
500mV / div AC
10us / div

B58 PM3394B
1V / div DC
5ms / div

B60 PM3394B
500mV / div DC
10us / div

B65 PM3394B
500mV / div DC
2us / div

B66 PM3394B
50mV / div DC
50us / div

B67 PM3394B
50mV / div DC
50us / div

B74 PM3394B
2V / div DC
20ms / div

B75 PM3394B
2V / div DC
20ms / div

B76 PM3394B
1V / div DC
250ns / div

F14
1V / div DC
5ms / div

F17
1V / div DC
5ms / div

F18 PM3394B
500mV / div DC
5ms / div

F19 PM3394B
500mV / div DC
5ms / div

F20 PM3394B
500mV / div DC
5ms / div

I5 PM3394B
20mV / div AC
10us / div

I6 PM3394B
1V / div DC
10us / div

L1
1 V / div DC
10µs / div

L2
1 V / div DC
10µs / div

L3
1 V / div DC
10µs / div

L4
1 V / div DC
10ms / div

L5
1 V / div DC
20µs / div

L6 PM3394B
500mV / div DC
10us / div

L7 PM3394B
500mV / div DC
10us / div

L9 PM3394B
1V / div DC
250ns / div

L10
1V / div DC
20us / div

L11
1V / div DC
5ms / div

L12
1V / div DC
10us / div

L23
1 V / div DC
20µs / div

L24
1 V / div DC
10µs / div

L25
1 V / div DC
10µs / div

L26
1 V / div DC
10µs / div

V1 PM3394B
1V / div DC
10us / div

V2 PM3394B
1V / div DC
10us / div

V5 PM3394B
1V / div DC
10us / div

V6 PM3394B
500mV / div DC
20us / div

V7 PM3394B
500mV / div DC
20us / div

V8 PM3394B
1V / div DC
20us / div

V9 PM3394B
2V / div DC
200us / div

V10 PM3394B
2V / div DC
200us / div

V19
1V / div DC
10us / div

V20
1V / div DC
10us / div

V21
1V / div DC
10us / div

V28 PM3394B
1V / div DC
10us / div

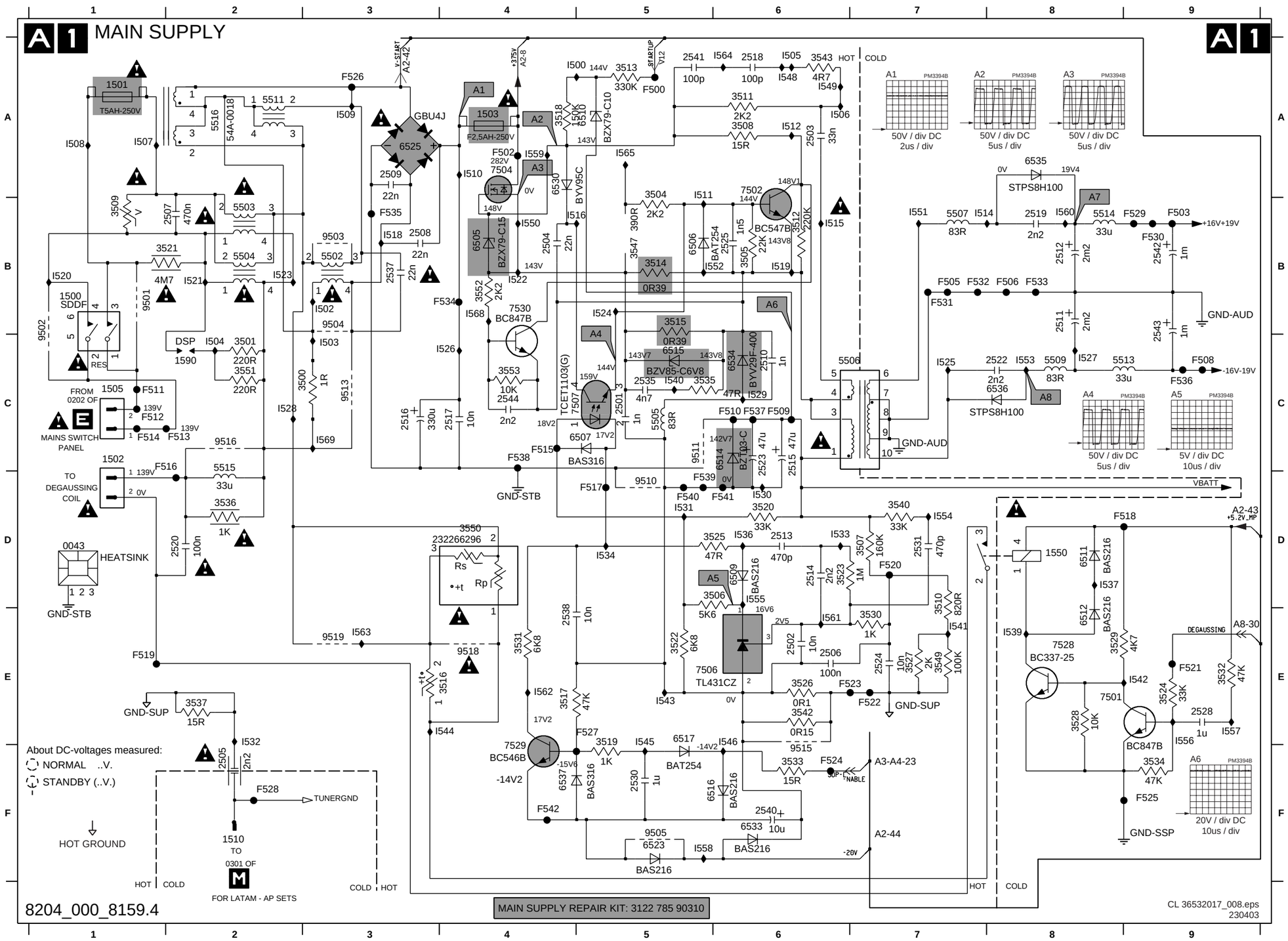
V29 PM3394B
1V / div DC
10us / div

V30 PM3394B
1V / div DC
10us / div

CL 36532017_007.eps
230403

7. Circuit Diagrams and PWB Layouts

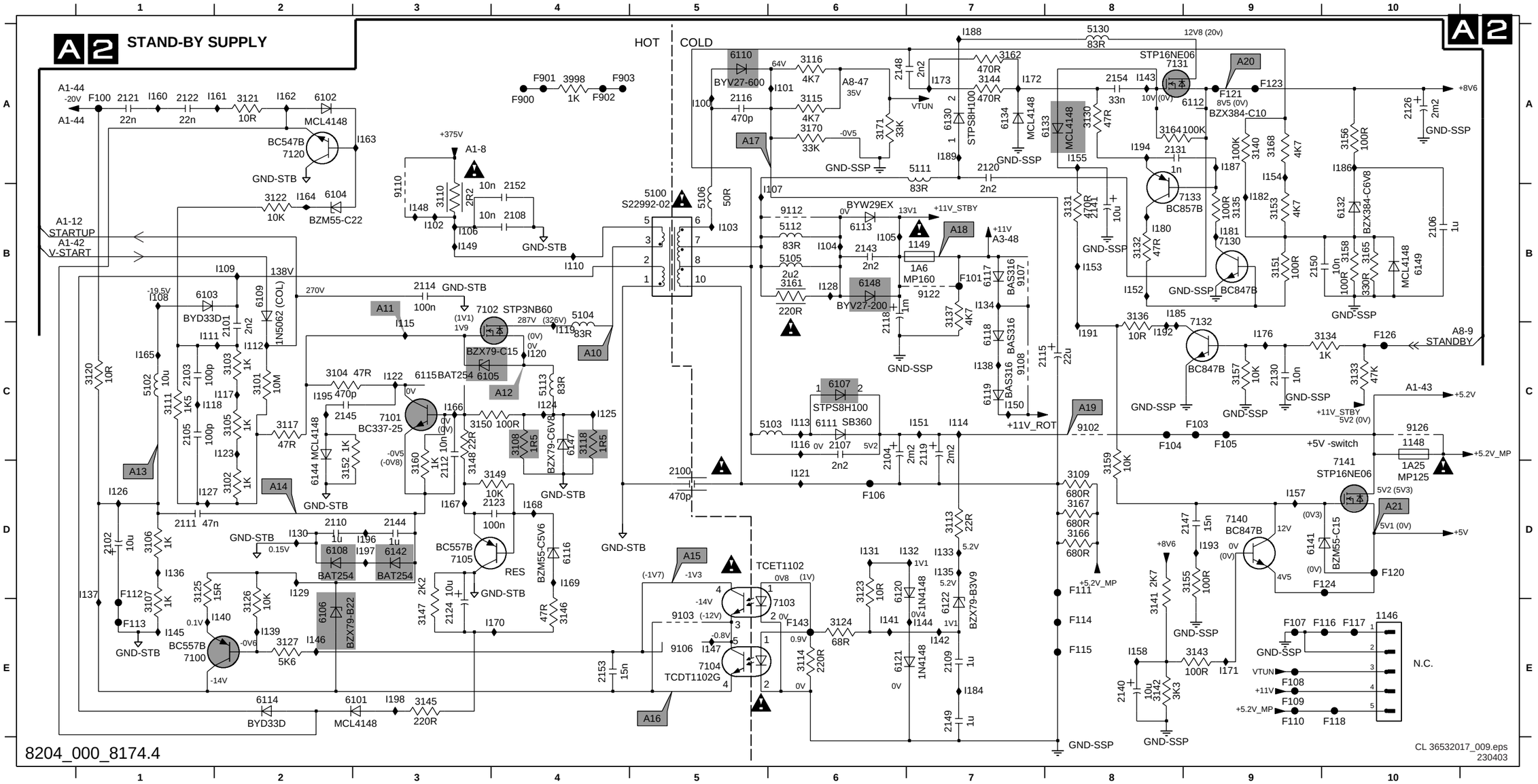
Large Signal Panel: Main Supply



0043 D1	3520 D6	7507 C5	I507 A1
1500 B1	3521 B2	7528 E8	I508 A1
1501 A1	3522 E5	7529 F4	I509 A3
1502 C1	3523 D6	7530 B4	I510 A4
1503 A4	3524 E9	9501 B1	I511 A5
1505 C1	3525 D6	9502 B1	I512 A6
1510 F2	3526 E6	9503 B3	I514 B7
1550 D8	3527 E7	9504 B3	I515 B6
1590 C2	3528 E8	9505 F5	I516 B5
2501 C5	3529 E8	9510 D5	I518 B3
2502 E6	3530 E7	9511 C5	I519 B6
2503 A6	3531 E4	9513 C3	I520 B1
2504 B4	3532 E9	9515 F6	I521 B2
2505 F2	3533 F6	9516 C2	I522 B4
2506 E6	3534 F9	9518 E4	I523 B2
2507 B2	3535 C5	9519 E3	I524 B5
2508 B3	3536 D2	F500 A5	I525 C7
2509 A3	3537 E2	F502 A4	I526 C4
2510 C6	3540 D7	F503 B9	I527 C8
2511 B8	3542 E6	F505 B7	I528 C2
2512 B8	3543 A6	F506 B8	I529 C6
2513 D6	3547 B5	F508 C9	I530 D6
2514 D6	3549 E7	F509 C6	I531 D5
2515 C6	3550 D4	F510 C6	I532 E2
2516 C3	3551 C2	F511 C1	I533 D6
2517 C4	3552 B4	F512 C1	I534 D5
2518 A6	3553 C4	F513 C2	I536 D6
2519 B8	5502 B3	F514 C1	I537 D8
2520 D2	5503 B2	F515 C4	I539 E8
2522 C8	5504 B2	F516 C2	I540 C5
2523 C6	5505 C5	F517 D5	I541 E7
2524 E7	5506 C6	F518 D9	I542 E9
2525 B6	5507 B7	F519 E1	I543 E5
2528 E9	5509 C8	F520 D7	I544 E4
2530 F5	5511 A2	F521 E9	I545 E5
2531 D7	5513 C9	F522 E7	I546 E6
2535 C5	5514 B8	F523 E7	I548 A6
2537 B3	5515 C2	F524 F6	I549 A6
2538 E4	5516 A2	F525 F9	I550 B4
2540 F6	6505 B4	F526 A3	I551 B7
2541 A5	6506 B5	F527 E5	I552 B6
2542 B9	6507 C5	F528 F2	I553 C8
2543 B9	6509 D6	F529 B9	I554 D7
2544 C4	6510 A5	F530 B9	I555 D6
3500 C3	6511 D8	F531 B7	I556 E9
3501 C2	6512 E8	F532 B7	I557 E9
3504 B5	6514 C6	F533 B8	I558 F5
3505 B6	6515 C5	F534 B4	I559 A4
3506 D6	6516 F6	F535 B3	I560 B8
3507 D7	6517 E5	F536 C9	I561 E6
3508 A6	6523 F5	F537 C6	I562 E4
3509 B1	6525 A3	F538 C4	I563 E3
3510 D7	6530 A4	F539 D5	I564 A6
3511 A6	6533 F6	F540 D5	I565 A5
3512 B6	6534 C6	F541 D6	I568 B4
3513 A5	6535 A8	F542 F4	I569 C3
3514 B5	6536 C8	I500 A5	
3515 B5	6537 F4	I502 B3	
3516 E4	7501 E8	I503 C3	
3517 E4	7502 A6	I504 C2	
3518 A4	7504 A4	I505 A6	
3519 F5	7506 E5	I506 A6	

Large Signal Panel: Stand-by Supply

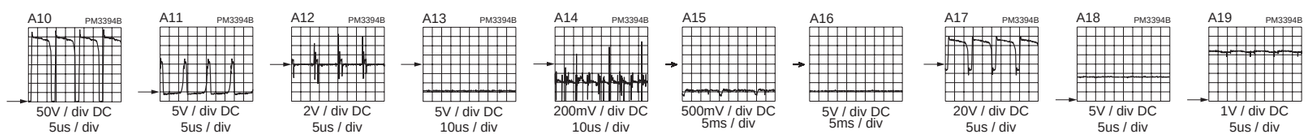
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1148 C10	2110 D2	2124 E3	2150 B9	3109 D8	3123 D6	3137 B7	3151 B9	3165 B10	5106 B5	6108 D2	6120 D6	6149 B10	7140 D9	F101 B7	F114 E8	F901 A4	I109 B2	I121 D6	I133 D7	I145 E1	I158 E8	I171 E9	I189 A7
1149 B7	2111 D1	2126 A10	2152 A4	3110 B3	3124 E6	3140 A9	3152 D2	3166 D8	5111 A7	6109 B2	6121 E6	7100 E1	7141 D10	F103 C9	F115 E8	F902 A4	I110 B4	I122 C3	I134 B7	I146 E2	I160 A1	I172 A7	I191 C8
2100 D5	2112 D3	2130 C9	2153 E4	3111 C1	3125 D1	3141 E8	3153 B9	3167 D8	5112 B6	6110 A5	6122 E7	7101 C3	9102 C8	F104 C8	F116 E10	F903 A4	I111 C1	I123 C2	I135 D7	I147 E5	I161 A2	I173 A7	I192 C8
2101 C2	2114 B3	2131 A8	2154 A8	3113 D7	3126 E2	3142 E8	3155 D9	3168 A9	5113 C4	6111 C6	6130 A7	7102 B3	9103 E5	F105 C9	F117 E10	I100 A5	I112 C2	I124 C4	I136 D1	I148 B3	I162 A2	I176 C9	I193 D9
2102 D1	2115 C8	2140 E8	3101 C2	3114 E6	3127 E2	3143 E9	3156 A10	3170 A6	5130 A8	6112 A9	6132 B10	7103 E6	9106 E5	F106 D6	F118 E10	I101 A6	I113 C6	I125 C4	I137 D1	I149 B3	I163 A3	I180 B8	I194 A8
2103 C1	2116 A5	2141 B8	3102 D2	3115 A6	3130 A8	3144 A7	3157 C9	3171 A6	6101 E3	6113 B6	6133 A7	7104 E5	9107 B7	F107 E9	F120 D10	I102 B3	I114 C7	I126 D1	I138 C7	I150 C7	I164 B2	I181 B9	I195 C2
2104 C6	2118 C6	2143 B6	3103 C2	3116 A6	3131 B8	3145 E3	3158 B10	3998 A4	6102 A2	6114 E2	6134 A7	7105 D3	9108 C7	F108 E9	F121 A9	I103 B5	I115 C3	I127 D1	I139 E2	I151 C7	I165 C1	I182 B9	I196 D3
2105 C1	2119 C7	2144 D3	3104 C2	3117 C2	3132 B8	3146 E4	3159 D8	5100 B5	6103 B1	6115 C3	6141 D9	7120 A2	9110 B3	F109 E9	F123 A9	I104 B6	I116 C6	I128 B6	I140 E2	I152 B8	I166 C2	I183 B9	I197 D3
2106 B10	2120 A7	2145 C2	3105 C2	3118 C4	3133 C10	3147 E3	3160 D3	5102 C1	6104 B2	6116 D4	6142 D3	7130 B9	9112 B6	F110 E9	F124 D10	I105 B6	I117 C2	I129 D2	I141 E6	I153 B8	I167 D3	I184 B8	I198 E3
2107 C6	2121 A1	2147 D9	3106 D1	3120 C1	3134 C10	3148 D3	3161 B6	5103 C6	6105 C3	6117 B7	6144 D2	7131 A8	9122 B7	F111 D8	F126 C10	I106 B3	I118 C1	I130 D2	I142 E7	I154 A9	I168 D4	I186 A10	
2108 B4	2122 A1	2148 A6	3107 E1	3121 A2	3135 B9	3149 D4	3162 A7	5104 B4	6106 E2	6118 C7	6147 C4	7132 C9	9126 C10	F112 D1	F143 E6	I107 B6	I119 C4	I131 D6	I143 A8	I155 A8	I169 D4	I187 A9	



About DC-voltages measured:

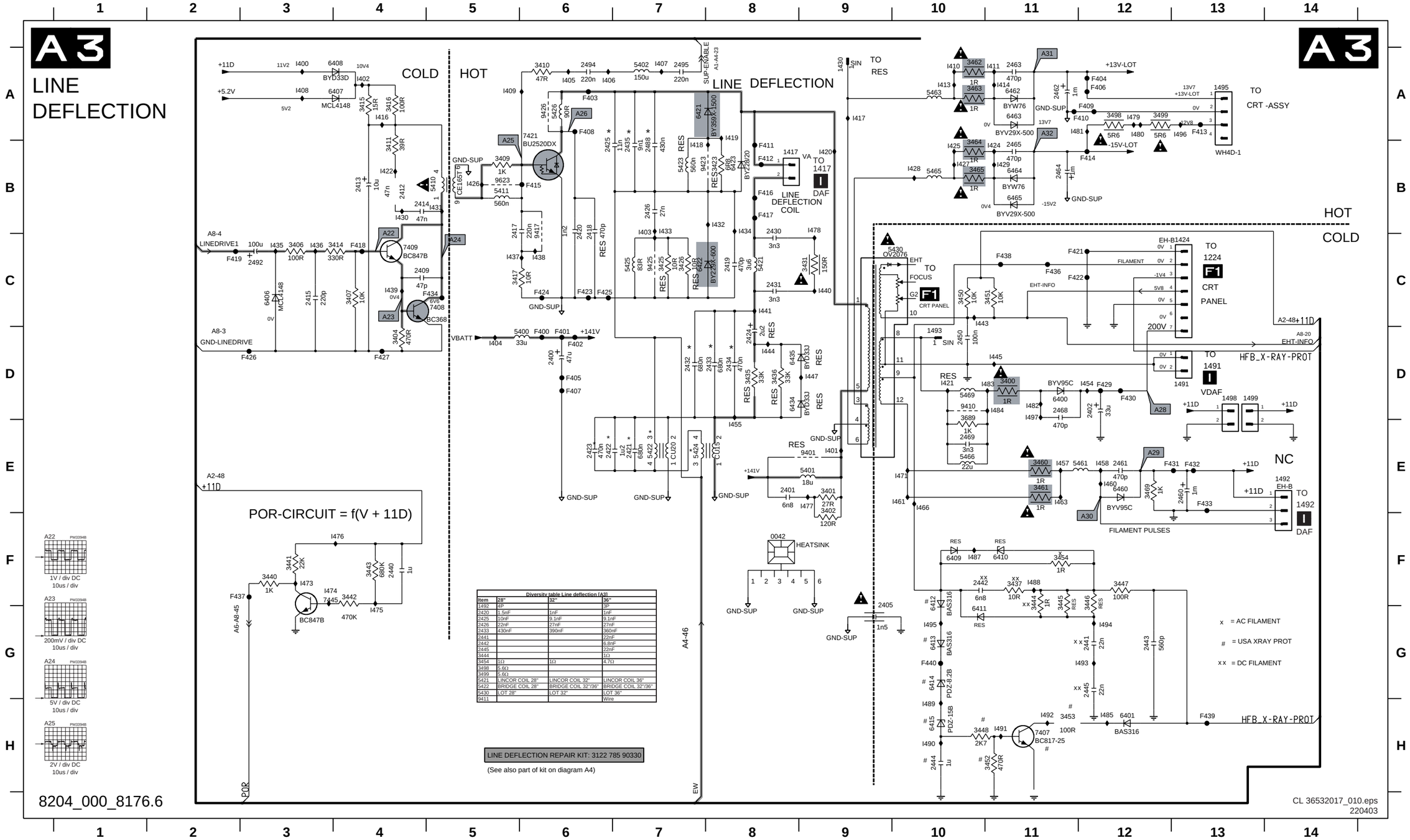
- NORMAL ..V.
- STANDBY (..V.)

STANDBY SUPPLY REPAIR KIT: 3122 785 90460



Large Signal Panel: Line Deflection

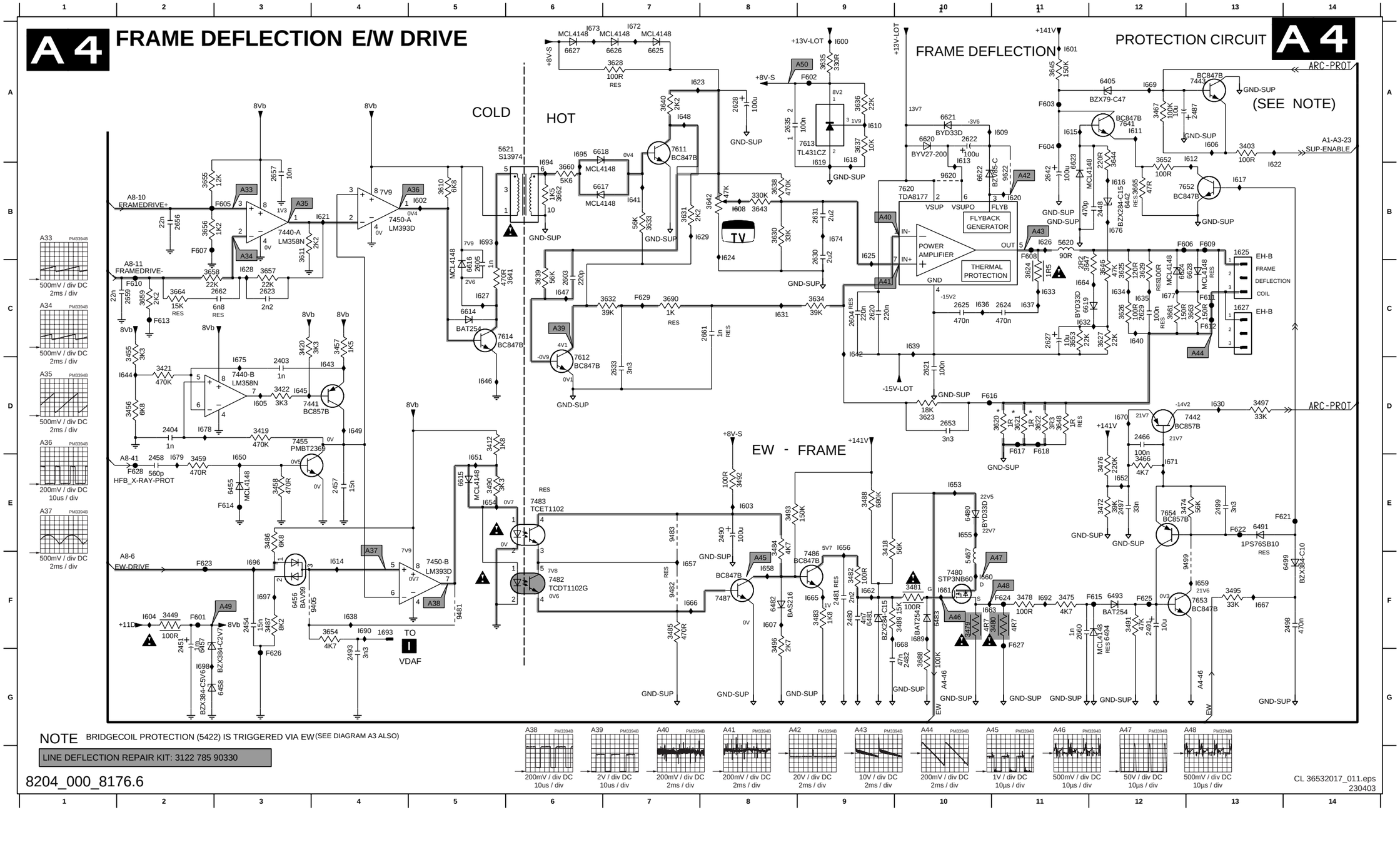
0042 F8 1498 D13 2413 B4 2422 E6 2433 D8 2445 G12 2468 D11 3402 F9 3415 A4 3436 D8 3446 F12 3460 E11 3499 A12 5422 E7 5465 B10 6409 F10 6422 C7 6465 B11 9417 B6 F403 A6 F411 B8 F419 C2 F429 D12 F438 C11 I405 A6 I414 A11 I424 B11 I432 B8 I440 C9 I457 E11 I474 F3 I482 D11 I491 H11
1417 B8 1499 D13 2414 B4 2423 E6 2434 D8 2450 D10 2469 E10 3404 D4 3416 A4 3437 F11 3447 F12 3461 E11 3689 E10 5423 B7 5466 E10 6410 F11 6423 B8 7407 H11 9423 B7 F404 A12 F412 B8 F421 C11 F430 D12 F439 H13 I406 A6 I416 A4 I425 B10 I433 B7 I441 C8 I458 E12 I475 G4 I483 D11 I492 H11
1424 C13 2400 D6 2415 C3 2424 D8 2435 B7 2460 E13 2488 B7 3406 C3 3417 C5 3440 F3 3448 H10 3462 A10 5400 D6 5424 E7 5469 D10 6411 G10 6434 D8 7408 C5 9425 C7 F405 D6 F413 A13 F422 C11 F431 E13 F440 G10 I407 A7 I417 A9 I426 B5 I434 B8 I443 C10 I460 E12 I476 F4 I484 D11 I493 G12
1430 A9 2401 E8 2417 B5 2425 B6 2440 F4 2461 E12 2492 C3 3407 C4 3423 B8 3441 F3 3450 C10 3463 A10 5401 E9 5425 C7 6400 D11 6412 F10 6435 D8 7409 C4 9426 A6 9623 B5 F407 D6 F414 B12 F423 C6 F432 E13 I400 A3 I408 A3 I418 B7 I427 B10 I435 C3 I444 D8 I461 E10 I477 E9 I485 H12 I494 G12
1491 D13 2402 D12 2418 B6 2426 B7 2441 G12 2462 A11 2494 A6 3409 B5 3425 C7 3442 F4 3451 C11 3464 A10 5402 A7 5426 A6 6401 H12 6413 G10 6460 E12 7421 A6 9623 B5 F407 D6 F415 B6 F424 C6 F433 E13 I401 E9 I409 A5 I419 A8 I428 B10 I436 C3 I445 D11 I463 E11 I478 B9 I487 F10 I495 G10
1492 E14 2405 G9 2419 C8 2430 B8 2442 F10 2463 A11 2495 A7 3410 A6 3426 C7 3443 F4 3452 H11 3465 B10 5410 B5 5430 C10 6406 C3 6414 G10 6462 A11 7445 F3 F400 D6 F408 A6 F416 B8 F425 C6 F434 C5 I402 A4 I410 A10 I420 B9 I429 B11 I437 C5 I447 D9 I466 E10 I479 A12 I488 F11 I496 A13
1493 D10 2409 C4 2420 B6 2431 C8 2443 G12 2464 B11 3400 D11 3411 B4 3427 C8 3444 F11 3453 H11 3469 E12 5411 B5 5461 E12 6407 A4 6415 H10 6421 A7 6464 B11 9401 E9 F401 D6 F409 A12 F417 B8 F426 D3 F436 C11 I403 B7 I411 A11 I421 D10 I430 B4 I438 C6 I454 D12 I471 E10 I480 A12 I489 H10 I497 D11
1495 A13 2412 B4 2421 E7 2432 D7 2444 H10 2465 B11 3401 E9 3414 C4 3435 D8 3445 F11 3454 F11 3498 A12 5421 C8 5463 A10 6408 A4 6421 A7 6464 B11 9410 D10 F402 D6 F410 A12 F418 C4 F427 D4 F437 F2 I404 D5 I413 A10 I422 B4 I431 B5 I439 C4 I455 E8 I473 F3 I481 A11 I490 H10



Large Signal Panel: Frame Deflection E/W Drive

2480	F9	2404	D2	2628	A8	3419	D3	3490	E5	3627	C12	3422	D3	3664	C2	3611	B3	6627	A6	7612	D6	6481	F9	F624	F11	7483	E6	I619	A9	F613	C2	I607	F8	I672	A7	I673	A6	I649	D4
2481	F9	2448	B12	2629	C12	3472	E12	3491	F12	3628	A7	3449	F2	7654	E12	3620	D11	6628	C13	7613	A9	6482	F8	F625	F12	7486	F9	I620	B11	I636	C10	I608	B8	I625	B9	I674	B9	I650	E3
2631	B9	3478	F11	2630	B9	3474	E13	3492	E8	6619	C11	3455	C2	9405	F4	3621	D11	7440-A	B3	7614	C5	6483	F10	F626	G3	7487	F8	I621	B4	I637	C11	I609	A11	I626	B11	I675	D3	I651	E5
2451	F2	3482	F9	3629	C12	3475	F11	2498	F14	3630	B8	3456	D2	9481	F5	3622	D11	7440-B	D3	I615	A11	6491	E13	F627	F11	I611	A12	I622	B13	I638	F4	I610	A9	I627	C5	I676	B12	I652	E12
2454	F3	3483	F9	2633	D7	3476	E12	2499	E13	3631	B7	3457	C4	9482	F7	3623	D10	3643	B8	7641	A12	6493	F12	F628	E2	I612	A13	I623	A7	I639	C10	I654	E5	I628	C3	I677	C12	I653	E10
2457	E4	3484	E8	2635	A8	3661	C12	2603	C6	3632	C7	3458	E3	5620	B11	3624	C11	3644	A12	7652	B13	6494	F12	F629	C7	I613	A10	I624	B8	I698	G2	I655	E10	I629	B8	I678	D2		
2458	E2	3485	F7	2642	B11	3479	F10	2604	C9	6623	A11	3459	E2	5621	A5	6615	E5	3645	A11	7653	F13	6499	F14	7441	D3	I614	F4	F603	A11	I641	B7	I656	E9	I630	D13	I679	E2		
2466	D12	3486	E3	3633	B7	3480	F11	2605	C5	6624	C12	3466	E12	6405	A12	6616	C5	3646	C12	9483	E7	6614	C5	7442	D13	7443	A13	I616	B12	F605	B3	I643	D4	I631	C11	I689	F10		
2653	D10	2482	G10	3634	C9	3481	F10	2620	C9	3637	A9	3467	A12	6442	B12	6617	B6	3647	C12	9499	F13	6614	E3	7450-A		I617	B13	F606	B12	I600	A9	I644	C12	I632	C11	I690	F4		
2656	B2	2487	A13	3635	A9	3665	B12	2621	D10	3638	B8	3657	C3	6455	E3	6618	A6	3648	D11	9620	B10	F615	F12	B4		I618	A9	F607	B2	I601	A11	I645	C9	I633	C11	I692	F11		
2657	B3	2490	E8	3636	A10	3688	G10	2622	A10	3639	C6	3658	C2	6456	F3	F618	D11	3652	A12	9622	B11	F616	D10	7450-B		I662	F9	F608	B11	I602	F5	I646	C12	I634	C12	I693	B5		
2659	C2	2491	F12	3637	C7	3623	C3	3640	A6	3659	C2	3493	E8	6620	A10	3653	C11	F601	F2	F617	D11	7450-B		I663	F10	F609	B13	I603	E8	I647	C13	I635	C12	I694	D2		
2660	F11	2493	G4	2662	C3	5467	F10	3641	C6	3660	B6	3495	F13	6621	A11	3654	F4	F602	A9	I640	C12	F5		7455	D3	I664	C11	F610	C2	I604	F2	I648	C13	I636	C10	I695	E2		
1627	C13	2497	E12	3403	A13	3487	F3	2625	C10	3642	B8	7620	B10	3496	F8	6622	A11	3655	B12	F621	E13	7480	F10	7456	F4	I665	F9	F611	C6	I605	D3	I649	C13	I637	C11	I696	F3		
1693	F4	1625	B13	3412	D5	3488	E9	3626	B12	3420	C3	3662	B6	3497	D13	6625	A7	3656	B2	F622	E13	7482	F6	7457	F5	I666	F7	F612	C13	I606	A13	I671	D12	I696	F3	I647	C6		
2403	D3	2627	C11	3418	E9	3489	F10	3626	C12	3421	D2	3663	C13	3610	B5	6626	A7	7611	A7	6480	E10	F623	F2	7482	F6	I667	F12	F613	C13	I606	A13	I671	D12	I696	F3	I648	A7		

Diversity table Frame deflection [A4]			
Item	28"	32"	36"
1693			1P
2493			3.3nF
3480		6.8Ω	
3488	1MΩ	680kΩ	1MΩ
3621	1Ω	1.5Ω	1Ω
3622	1.5Ω	1.8Ω	1Ω
3625	120Ω	220Ω	56Ω
3626	100Ω	220Ω	56Ω
3654			4.7kΩ
3661		470Ω	120Ω
6499	BZX384-C10	PDZ9.1B	BZX384-C10
6624		BAS316	BAS316



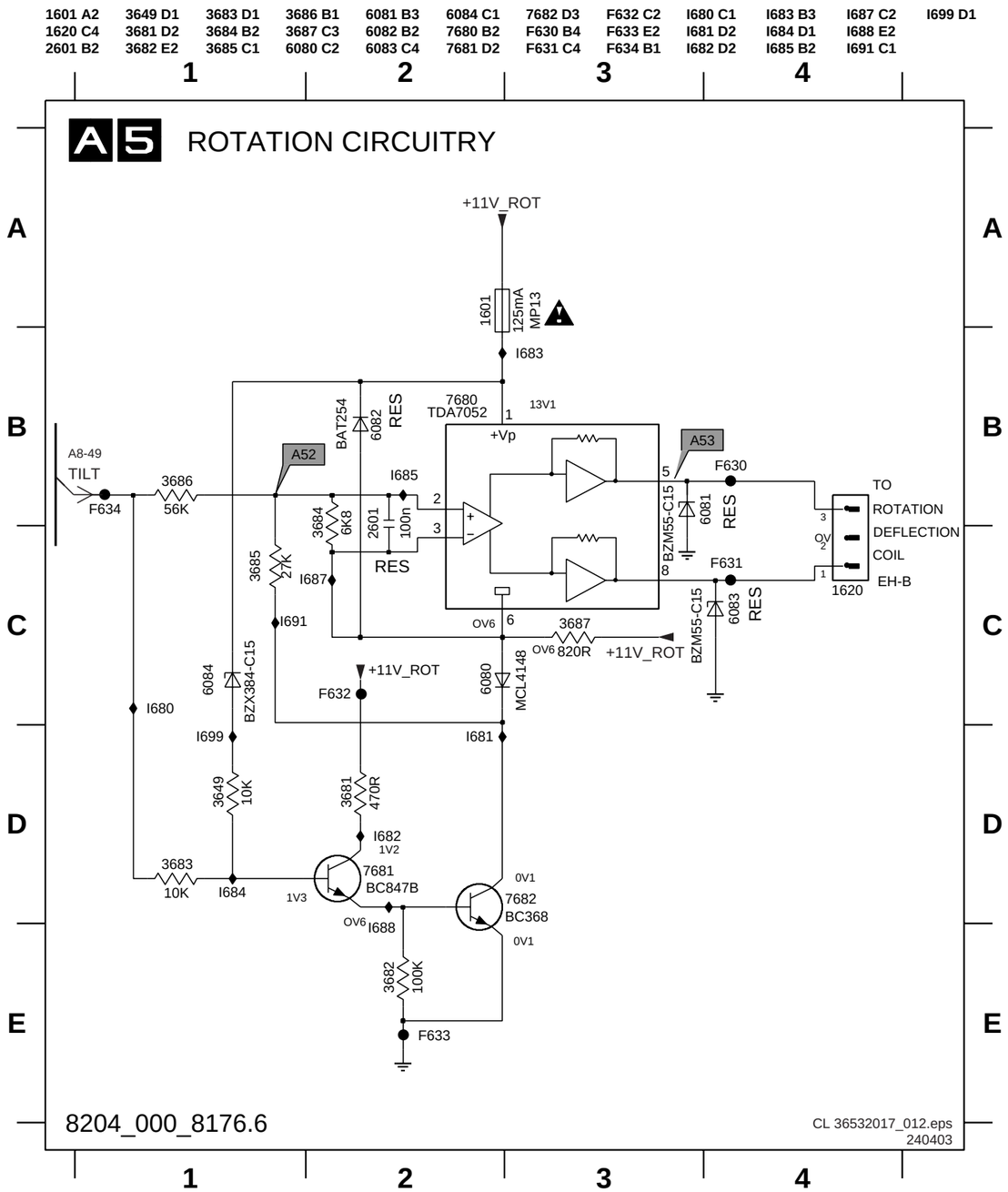
NOTE BRIDGECOIL PROTECTION (5422) IS TRIGGERED VIA EW (SEE DIAGRAM A3 ALSO)

LINE DEFLECTION REPAIR KIT: 3122 785 90330

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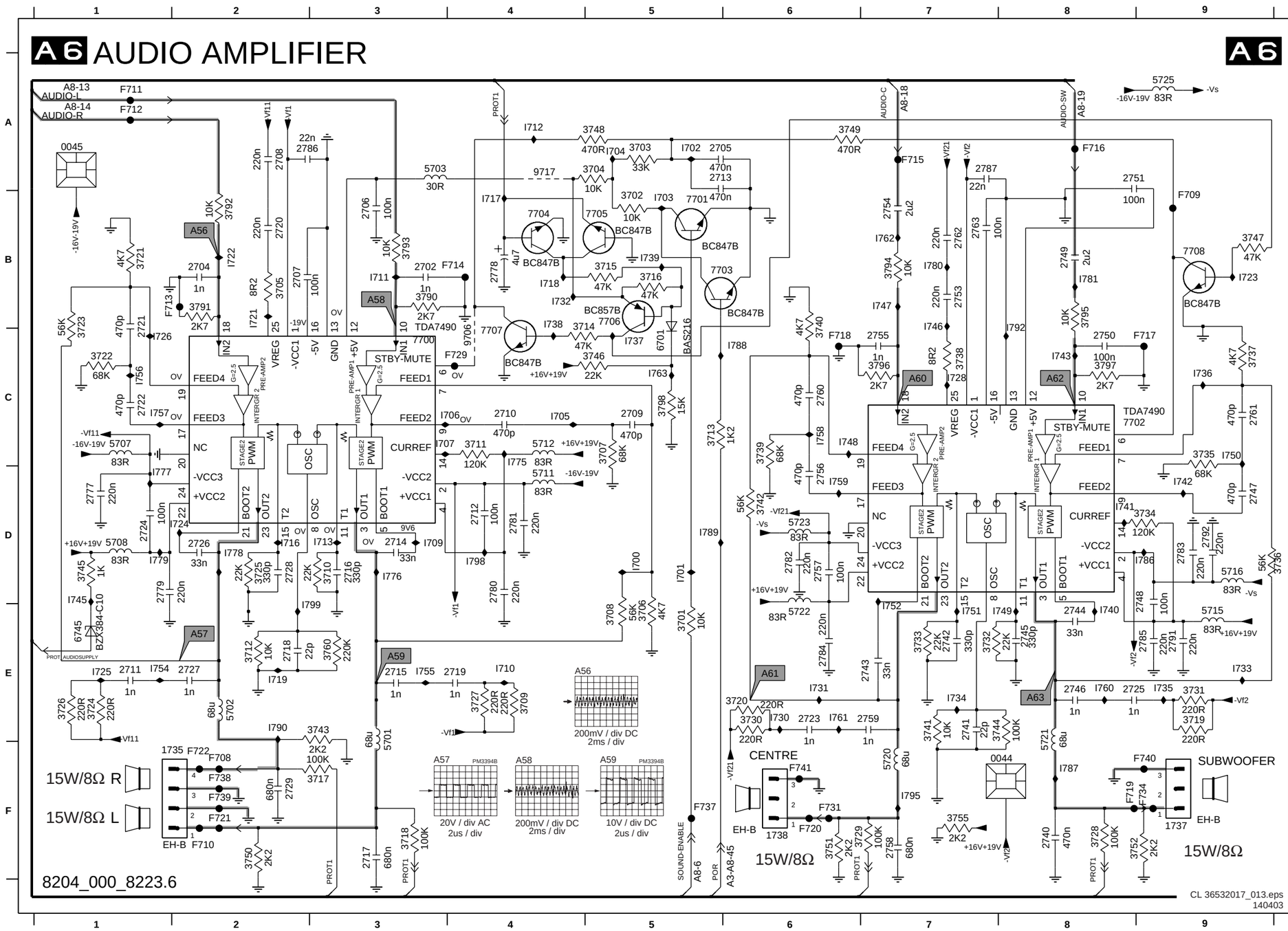
Large Signal Panel: Rotation Circuitry



Personal Notes:

Large Signal Panel: Audio Amplifier

A6 AUDIO AMPLIFIER



0044 F7	2783 D9	3790 B3	I702 A5	I786 D9
0045 A1	2784 E6	3791 B2	I703 B5	I787 F8
1735 F2	2785 E9	3792 B2	I704 A5	I788 C6
1737 F9	2786 A2	3793 B3	I705 C4	I789 D5
1738 F6	2787 A7	3794 B7	I706 C4	I790 E2
2702 B3	2791 E9	3795 B8	I707 C3	I792 B8
2704 B2	2792 D9	3796 C7	I709 D3	I795 F7
2705 A5	3701 E5	3797 C8	I710 E4	I798 D4
2706 B3	3702 B5	3798 C5	I711 B3	I799 E3
2707 B2	3703 A5	5701 E3	I712 A4	
2708 A2	3704 A5	5702 E2	I713 D3	
2709 C5	3705 B2	5703 A3	I716 D2	
2710 C4	3706 E5	5707 C1	I717 B4	
2711 E1	3707 C5	5708 D1	I718 B4	
2712 D4	3708 E5	5711 D4	I719 E2	
2713 A5	3709 E4	5712 C4	I721 B2	
2714 D3	3710 D3	5715 E9	I722 B2	
2715 E3	3711 C4	5716 D9	I723 B9	
2716 D3	3712 E2	5720 F7	I724 D2	
2717 F3	3713 C5	5721 E8	I725 E1	
2718 E2	3714 C4	5722 E6	I726 C1	
2719 E4	3715 B5	5723 D6	I728 C7	
2720 B2	3716 B5	5725 A9	I730 E6	
2721 B1	3717 F3	6701 C5	I731 E6	
2722 C1	3718 F3	6745 E1	I732 B4	
2723 E6	3719 E9	7700 C3	I733 E9	
2724 D1	3720 E6	7701 B5	I734 E7	
2725 E8	3721 B1	7702 C8	I735 E9	
2726 D2	3722 C1	7703 B5	I736 C9	
2727 E2	3723 B1	7704 B4	I737 C5	
2728 D2	3724 E1	7705 B5	I738 B4	
2729 F2	3725 D2	7706 B5	I739 B5	
2740 F8	3726 E1	7707 C4	I740 E8	
2741 E7	3727 E4	7708 B9	I741 D8	
2742 E7	3728 F8	9706 C4	I742 D9	
2743 E7	3729 F7	9717 A4	I743 C8	
2744 E8	3730 E6	F708 F2	I745 D1	
2745 E8	3731 E9	F709 B9	I746 B7	
2746 E8	3732 E7	F710 F2	I747 B7	
2747 D9	3733 E7	F711 A1	I748 C6	
2748 D8	3734 D9	F712 A1	I749 E8	
2749 B8	3735 C9	F713 B2	I750 C9	
2750 C8	3736 D9	F714 B4	I751 E7	
2751 A8	3737 C9	F715 A7	I752 E7	
2753 B7	3738 C7	F716 A8	I754 E1	
2754 B7	3739 C6	F717 C9	I755 E3	
2755 C7	3740 B6	F718 C6	I756 C1	
2756 D6	3741 E7	F719 F8	I757 C1	
2757 D6	3742 D6	F720 F6	I758 C6	
2758 F7	3743 E3	F721 F2	I759 D6	
2759 E7	3744 E8	F722 F2	I760 E8	
2760 C6	3745 D1	F729 C4	I761 E6	
2761 C9	3746 C5	F731 F6	I762 B7	
2762 B7	3747 B9	F734 F9	I763 C5	
2763 B7	3748 A5	F737 F5	I775 C4	
2777 D1	3749 A6	F738 F2	I776 D3	
2778 B4	3750 F2	F739 F2	I777 D1	
2779 D1	3751 F6	F740 F9	I778 D2	
2780 D4	3752 F9	F741 F6	I779 D1	
2781 D4	3755 F7	I700 D5	I780 B7	
2782 D6	3760 E3	I701 D5	I781 B8	

Large Signal Panel: Tuner SIM Connector (Female)

A8 TUNER SIM CONNECTOR (FEMALE)

A8

A68 PM3394B 200mV / div DC 5us / div

A69 PM3394B 2V / div DC 50us / div

A70 PM3394B 2V / div DC 50us / div

TUNER SPLITTER TEDE9 1200

TO PIP TUNER

TO 1510 A1 SUPPLY

TO COMPAIR CONNECTOR

FROM EXTERNAL FM

TO 1955 SC1 AUTO SCAVEM

TO 1940 SC1 AUTO SCAVEM

TO 0207 C1 PIP

TO 0236 C3 PIP

TO 1952 H

TO 1000 B1 SIM CONN MALE

TO O SIDE IO

TO 1937 H

TO 1681 B6

A11

RESERVED

NC

MULTI MEDIA

3D COMB

N.C.

ANTI MOIRE

CVBS-TER-OUT

TER-CVBS-OUT

A11-66 SC2-C-OUT

A11-68 SC2-CVBS_MON-OUT

EW-DRIVE

EHT-INFO

components with diversity

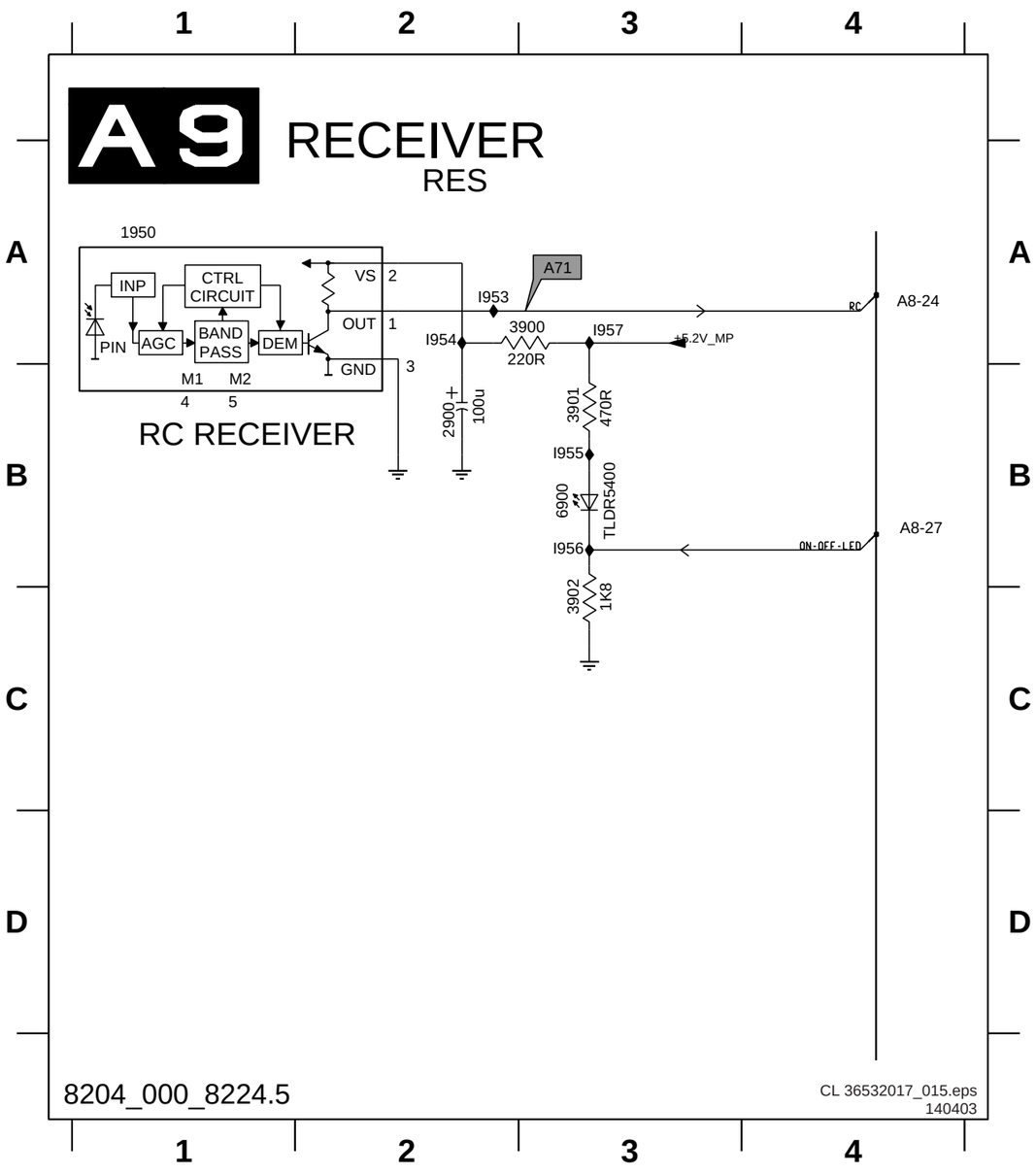
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1200 F2	9988 B6
1201 G1	9989 B6
1205 I2	9990 B5
1932 F9	9998 I13
1933 B6	F904 D6
1934 A6	F905 E6
1935 E9	F906 E6
1936 D6	F907 F6
1937 B13	F908 F6
1940 F6	F909 F6
1943 E5	F911 G5
1948 D13	F914 E4
1951 A13	F915 E4
1952 E9	F916 E4
1953 D9	F917 E2
1955 F5	F918 F1
1961 C9	F919 G3
1965 D6	F920 H2
1966 G9	F921 A2
1997 E3	F922 A3
2200 D2	F924 D6
2201 F1	F927 G2
2202 G2	F928 B3
2203 G3	F929 C2
2455 I7	F930 F12
2483 B9	F931 E1
2496 B8	I201 D6
2914 E2	I202 D6
2915 E1	I203 E6
2916 C4	I204 E6
2917 E12	I205 E6
2918 F11	I206 E6
2929 E10	I207 I9
2930 F8	I208 I3
2931 D9	I209 G5
2940 B3	I210 H4
2941 I8	I211 I4
2942 I8	I213 B12
2943 I8	I215 C12
2944 E12	I217 H4
2945 H13	I225 I13
2946 I13	I226 I13
2947 I7	I230 D10
2948 H12	I231 D11
2949 I12	I232 D11
2950 G3	I233 D10
2951 G2	I904 G4
3200 F3	I905 G4
3201 F3	I906 C3
3210 D10	I907 C4
3211 D10	I908 A6
3212 D11	I909 B6
3213 C11	I910 B6
3250 H3	I911 B6
3261 E4	I912 C6
3262 F4	I913 C6
3427 A7	I914 C6
3428 A8	I915 C6
3429 B8	I916 E8
3430 A9	I917 E9
3432 A8	I918 E9
3903 F11	I919 F9
3904 E1	I920 F9
3907 C1	I921 C2
3910 C1	I922 E11
3928 C4	I923 E11
3929 D4	I924 E11
3930 D3	I925 E12
3938 F10	I926 F11
3939 G11	I927 D2
3940 G11	I928 I9
3941 E2	I929 H7
3942 E11	I931 F1
3943 E11	I932 G1
3945 F11	I933 C1
3999 A3	I934 F3
5901 C2	I935 F3
5902 A1	I936 D12
5903 A1	I937 C1
5904 H8	I938 F8
6200 G2	I939 F11
6201 G3	I940 B12
6202 G3	I941 F11
6402 B9	I942 D12
6901 A8	I943 C11
7210 D10	I944 B13
7211 D11	I945 E8
7901 C3	I946 D12
7902 F11	I947 B2
7908 E11	I948 D2
7910 B2	I949 F8
7911 D1	I950 E12
7912 C1	I951 D1
9201 C12	I952 D1
9203 C12	I958 G5
9205 E8	I959 F6
9206 D8	I960 E2
9215 G2	I961 E3
9225 E8	I962 G5
9226 D9	c001 H2
9228 A4	c002 I2
9229 A4	
9250 E6	
9251 E6	
9901 C12	
9902 C12	
9903 D12	
9904 C12	
9905 F8	
9906 E3	
9907 C11	
9908 C3	
9909 B1	
9980 B1	
9982 F6	
9983 C11	
9987 B6	

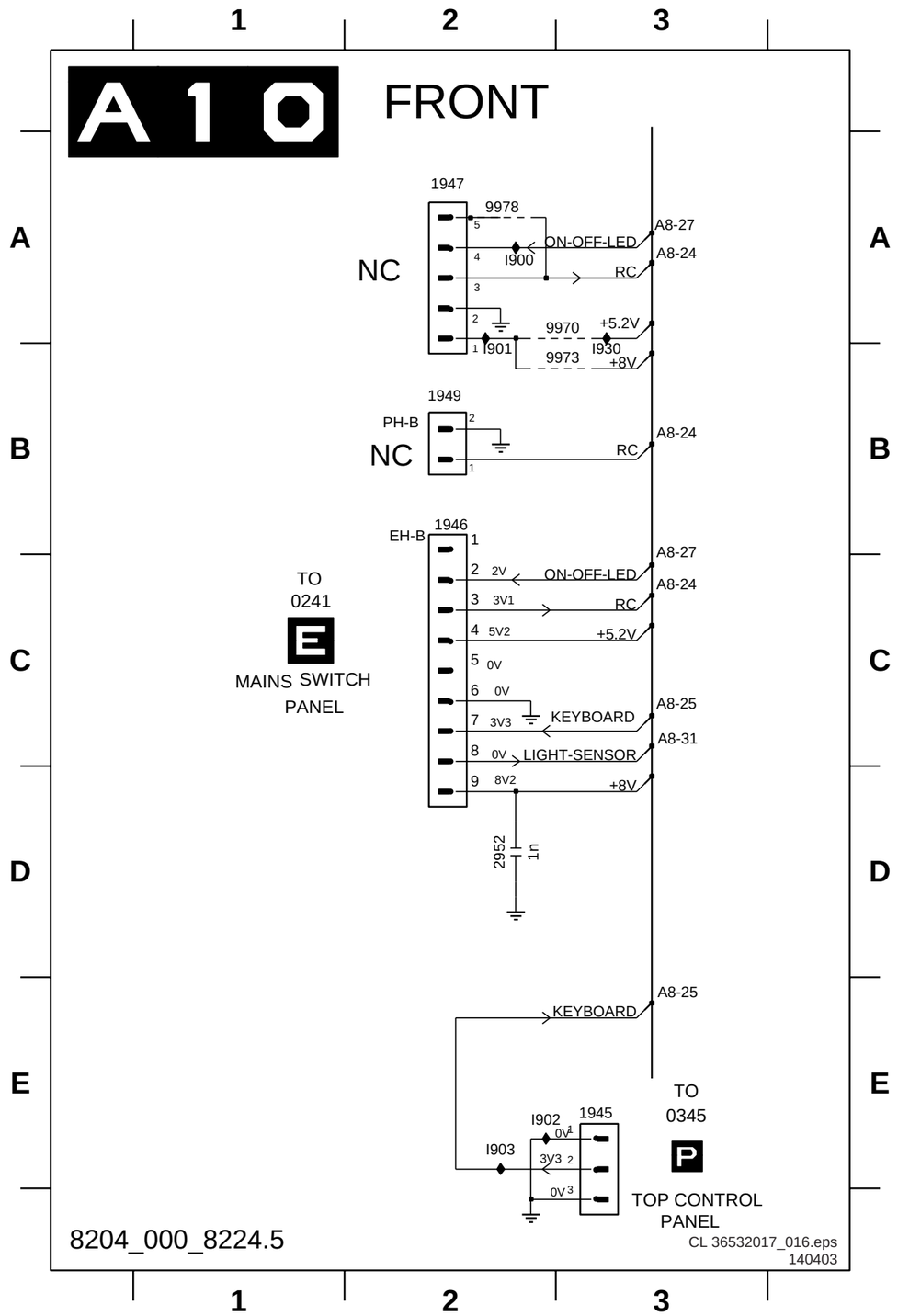
Large Signal Panel: Receiver

1950 A1 2900 B2 3900 A3 3901 B3 3902 C3 6900 B3 I953 A2 I954 A2 I955 B3 I956 B3 I957 A3



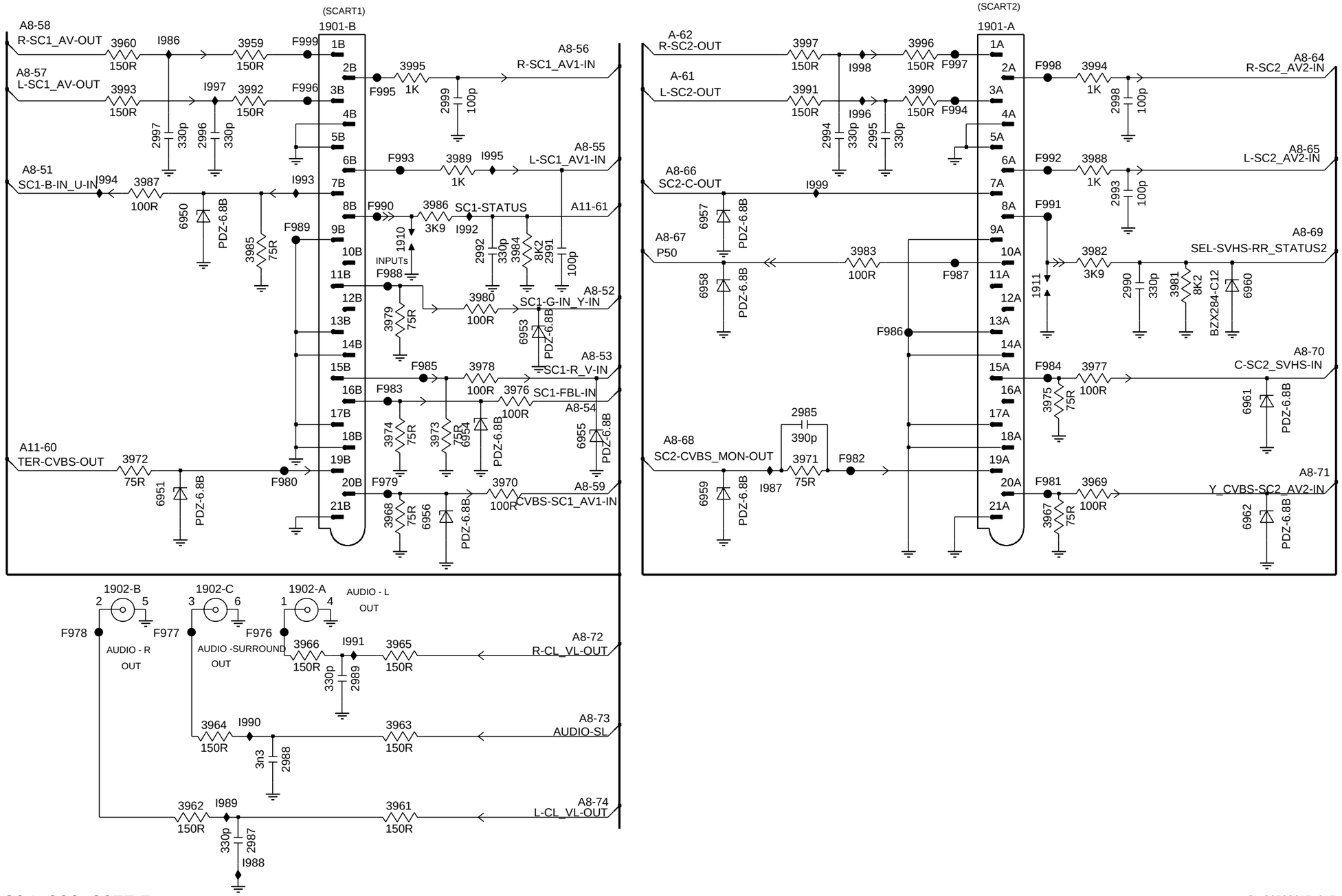
Large Signal Panel: Front

1945 E3
1946 B2
1947 A2
1949 B2
2952 D2
9970 A3
9973 B3
9978 A2
I900 A2
I901 B2
I902 E2
I903 E2
I930 B3



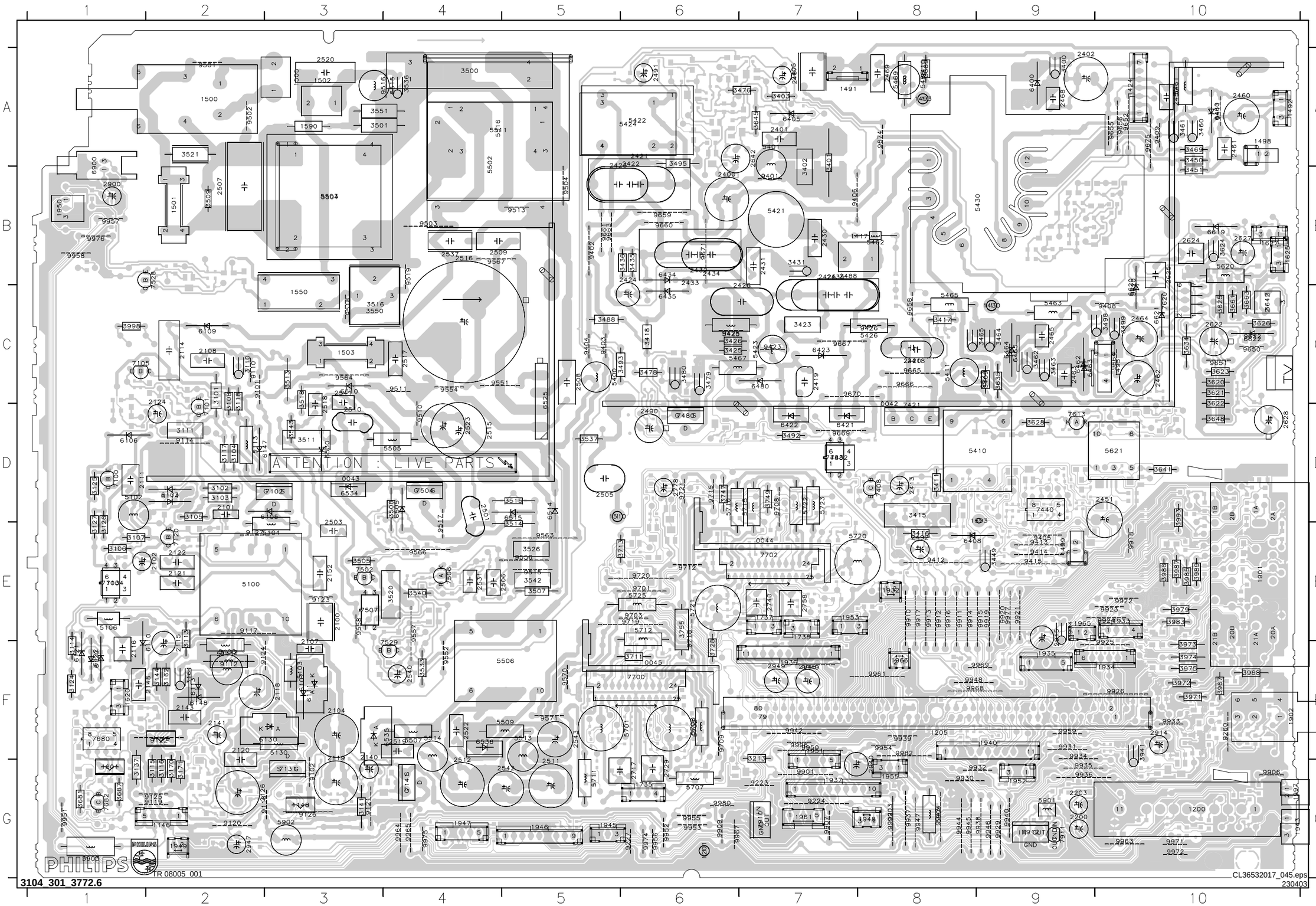
Large Signal Panel: Inputs/Outputs

A11 INPUTS/OUTPUTS



1901-A	A6	3997	A5
1901-B	A2	6950	A1
1902-A	D2	6951	C1
1902-B	D1	6953	B4
1902-C	D2	6954	C3
1910	B3	6955	C4
1911	B7	6956	C3
2985	C5	6957	A5
2987	E2	6958	B5
2988	E2	6959	C5
2989	D3	6960	B8
2990	B7	6961	C8
2991	B4	6962	C8
2992	B3	F976	D2
2993	A7	F977	D1
2994	A5	F978	D1
2995	A6	F979	C3
2996	A2	F980	C2
2997	A1	F981	C7
2998	A7	F982	C6
2999	A3	F983	C3
3959	A2	F984	B7
3960	A1	F985	B3
3961	E3	F986	B6
3962	E2	F987	B6
3963	E3	F988	B3
3964	E2	F989	B2
3965	D3	F990	A3
3966	D2	F991	A7
3967	C7	F992	A7
3968	C3	F993	A3
3969	C7	F994	A6
3970	C3	F995	A3
3971	C5	F996	A2
3972	C1	F997	A6
3973	C3	F998	A7
3974	C3	F999	A2
3975	C7	I986	A1
3976	C4	I987	C5
3977	B7	I988	E2
3978	B3	I989	E2
3979	B3	I990	E2
3980	B3	I991	D3
3981	B8	I992	B3
3982	B7	I993	A2
3983	B6	I994	A1
3984	B4	I995	A3
3985	B2	I996	A6
3986	A3	I997	A2
3987	A1	I998	A6
3988	A7	I999	A5
3989	A3		
3990	A6		
3992	A2		
3991	A5		
3993	A1		
3994	A7		
3995	A3		
3996	A6		

Layout Large Signal Panel (Top Side)



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Mapping Large Signal Panel (Top Side)

0042	C8	2420	C8	3137	G1	3749	D7	6130	F3	9411	A10	9932	G9						
0043	D3	2421	B6	3141	G3	3755	E6	6147	D3	9412	E8	9933	F10						
0044	E7	2422	A5	3144	F2	3904	E9	6148	F2	9413	E9	9934	F9						
0045	F5	2423	A6	3161	F2	3941	F10	6400	A9	9414	E9	9935	G9						
1146	G2	2424	C5	3162	F2	3967	F10	6405	A7	9415	E9	9936	G9						
1148	G3	2425	C7	3170	G2	3968	F10	6408	E8	9423	C7	9937	G8						
1149	F2	2426	C6	3171	G2	3971	F10	6421	D8	9425	C6	9938	G9						
1200	G10	2430	B7	3213	F7	3972	F10	6422	D7	9426	C8	9939	F8						
1201	G6	2431	B7	3400	A9	3973	F10	6423	C7	9501	A2	9940	G9						
1205	F8	2432	B6	3401	A7	3974	E10	6434	B6	9502	A2	9942	F7						
1417	B8	2433	B6	3402	A7	3975	F10	6435	C6	9503	B4	9943	G8						
1424	A10	2434	B6	3403	A7	3979	E10	6460	A10	9504	B5	9944	G8						
1430	C9	2435	C8	3409	C9	3983	E10	6462	C9	9510	D4	9945	G8						
1491	A7	2450	A10	3411	D8	3985	E10	6463	C9	9511	C4	9946	G9						
1492	A10	2451	D10	3415	D8	3986	E10	6464	C9	9513	B5	9947	G8						
1493	A8	2460	A10	3416	E8	3987	E10	6465	C9	9515	E5	9948	F8						
1495	C10	2461	A10	3417	C8	3989	E10	6480	C7	9516	A3	9949	F7						
1498	A10	2462	C10	3418	C6	3993	D10	6505	D4	9517	E4	9950	F7						
1499	D9	2463	C9	3423	C7	3998	C1	6510	C3	9518	C3	9951	G1						
1500	A2	2464	C10	3425	C6	5100	E2	6514	D5	9519	B4	9952	G6						
1501	B2	2465	C9	3426	C6	5102	D1	6515	D5	9551	C4	9953	G6						
1502	A3	2468	A9	3431	B7	5103	F3	6525	C5	9552	F4	9954	F8						
1503	C3	2469	A8	3435	B6	5104	E2	6530	D3	9554	C4	9955	G6						
1505	A2	2487	A7	3436	B5	5105	F2	6534	D3	9556	E5	9956	G6						
1510	E5	2488	C8	3449	E9	5106	E1	6535	F3	9557	E4	9957	B1						
1550	B3	2490	D6	3450	A10	5111	F2	6536	G4	9558	E3	9958	B1						
1590	A3	2491	A6	3451	B10	5112	F2	6619	B10	9563	E5	9959	F9						
1601	G1	2492	E8	3460	A10	5113	D2	6620	C10	9564	C3	9961	F8						
1620	F1	2501	D4	3461	A10	5130	F2	6621	C10	9566	E4	9963	G10						
1625	B10	2503	E3	3462	C9	5400	C5	6622	C10	9567	B4	9964	G4						
1627	B10	2505	D5	3463	C9	5401	A7	6900	B1	9570	F5	9965	G4						
1693	D9	2506	E5	3464	C9	5402	B8	7100	D1	9571	F5	9967	G6						
1735	G5	2507	A2	3465	C9	5410	D9	7101	C2	9620	C10	9968	F8						
1737	E7	2508	C5	3469	A10	5411	C8	7102	D3	9622	C10	9969	F9						
1738	E7	2509	B5	3476	A7	5421	B7	7103	E1	9623	C9	9971	G10						
1901	E10	2510	D3	3478	C6	5422	A6	7104	E1	9650	C10	9972	G10						
1902	F10	2511	G5	3479	C6	5423	C7	7105	C1	9651	C10	9974	G6						
1932	E8	2512	G4	3480	C6	5424	A6	7120	E2	9652	A10	9975	G4						
1933	E10	2515	D4	3488	C5	5425	C7	7131	F3	9655	A10	9976	B1						
1934	F10	2516	B4	3492	D7	5426	C8	7141	G4	9656	A10	9977	E9						
1935	F9	2517	C4	3493	C6	5430	B10	7408	D8	9658	C8	9980	G6						
1936	F7	2518	D3	3495	A6	5461	A10	7421	D8	9659	B6	9982	F8						
1937	G7	2519	F4	3498	C10	5463	C9	7440	D9	9660	B6	9996	F7						
1940	F9	2520	A3	3499	C10	5465	C8	7480	D6	9661	B5								
1943	G10	2522	F4	3500	A4	5466	A8	7482	D8	9663	B5								
1945	G5	2523	D4	3501	A4	5467	C6	7483	D8	9664	C10								
1946	G5	2531	E4	3505	E3	5469	A8	7502	E3	9665	C8								
1947	G4	2537	B4	3507	E5	5502	A5	7504	D4	9666	C8								
1948	G8	2540	F4	3508	D4	5503	A3	7506	E4	9667	C7								
1949	G2	2541	C3	3509	B2	5504	A3	7507	E4	9669	D7								
1950	B1	2542	G5	3511	D3	5505	D4	7528	B2	9670	C7								
1951	G7	2543	F5	3513	C3	5506	E5	7529	F4	9671	B6								
1952	G9	2622	C10	3514	E4	5507	F4	7613	D9	9674	A8								
1953	E7	2624	B10	3515	D5	5509	F5	7620	C10	9675	A10								
1955	G8	2625	B10	3516	C3	5511	A4	7680	F1	9701	E6								
1961	G7	2627	B10	3518	C3	5513	G5	7682	G1	9703	E6								
1965	E9	2628	D10	3520	E4	5514	G4	7700	F6	9708	D7								
1966	F8	2642	A6	3521	A2	5515	A3	7702	E6	9709	F6								
1997	G10	2717	G5	3526	E5	5516	A5	7910	G7	9712	E6								
2100	E3	2729	G6	3533	F4	5620	B10	7911	G9	9715	D6								
2101	D2	2740	E7	3536	A4	5621	D10	7912	G9	9718	E6								
2102	E2	2758	E7	3537	D5	5701	F6	9101	C2	9719	E6								
2104	F3	2778	D6	3540	E4	5702	F6	9102	F3	9720	E6								
2107	F3	2900	B1	3542	E5	5707	G6	9110	C2	9721	D6								
2108	C2	2914	F10	3543	D3	5708	F6	9112	F2	9901	G7								
2111	D1	2915	E9	3550	C4	5711	G5	9114	D2	9902	G8								
2114	C2	2940	F7	3551	A3	5712	F6	9117	E2	9903	G8								
2115	E2	2947	G2	3620	C10	5715	E7	9118	G2	9906	G10								
2116	F1	2948	F7	3621	C10	5716	E6	9119	G2	9907	G7								
2118	F2	2949	F7	3622	C10	5720	E7	9120	G2	9909	G6								
2119	F3	3101	C2	3623	C10	5721	E6	9121	G3	9910	E8								
2120	F2	3102	D2	3624	B10	5722	D7	9122	F1	9911	E8								
2121	E2	3103	D2	3625	C10	5723	D7	9123	E3	9912	E8								
2122	E2	3104	D2	3626	C10	5725	E5	9124	F2	9913	E8								
2124	C2	3105	E2	3628	D9	5901	G9	9125	G2	9914	E8								
2126	G2	3106	E1	3634	C10	5902	G3	9126	G3	9915	E9								
2140	G3	3107	E2	3635	C9	5903	G1	9127	E2	9916	E8								
2141	F2	3108	C2	3641	D10	5904	G8	9223	G7	9917	E8								
2143	F2	3110	C2	3642	B10	6103	D2	9224	G7	9918	E10								
2148	F1	3111	D2	3645	A7	6105	D2	9227	G6	9919	E9								
2152	E3	3113	E2	3648	D10	6106	D1	9260	F10	9920	E9								
2200	G9	3114	E1	3661	C10	6107	F3	9401	B7	9921	E9								
2203	G9	3115	G1	3663	C10	6109	C2	9402	B5	9922	E10								
2400	B6	3116	G2	3681	G1	6110	E2	9403	C5	9923	E10								
2401	A7	3117	D2	3687	G1	6111	F3	9404	C5	9924	E10								
2402	A10	3118	C2	3689	A8	6113	F2	9405	E9	9925	E10								
2405	A7	3124	F1	3711	F6	6114	D2	9406	B7	9926	F10								
2413	D8	3125	D1	3713	E6	6120	F1	9408	C10	9929	G9								
2418	C8	3126	E1	3728	F6	6121	E1	9409	A10	9930	G8								
2419	C7	3127	E1	3747	E6	6122	F1	9410	A8	9931	F9								

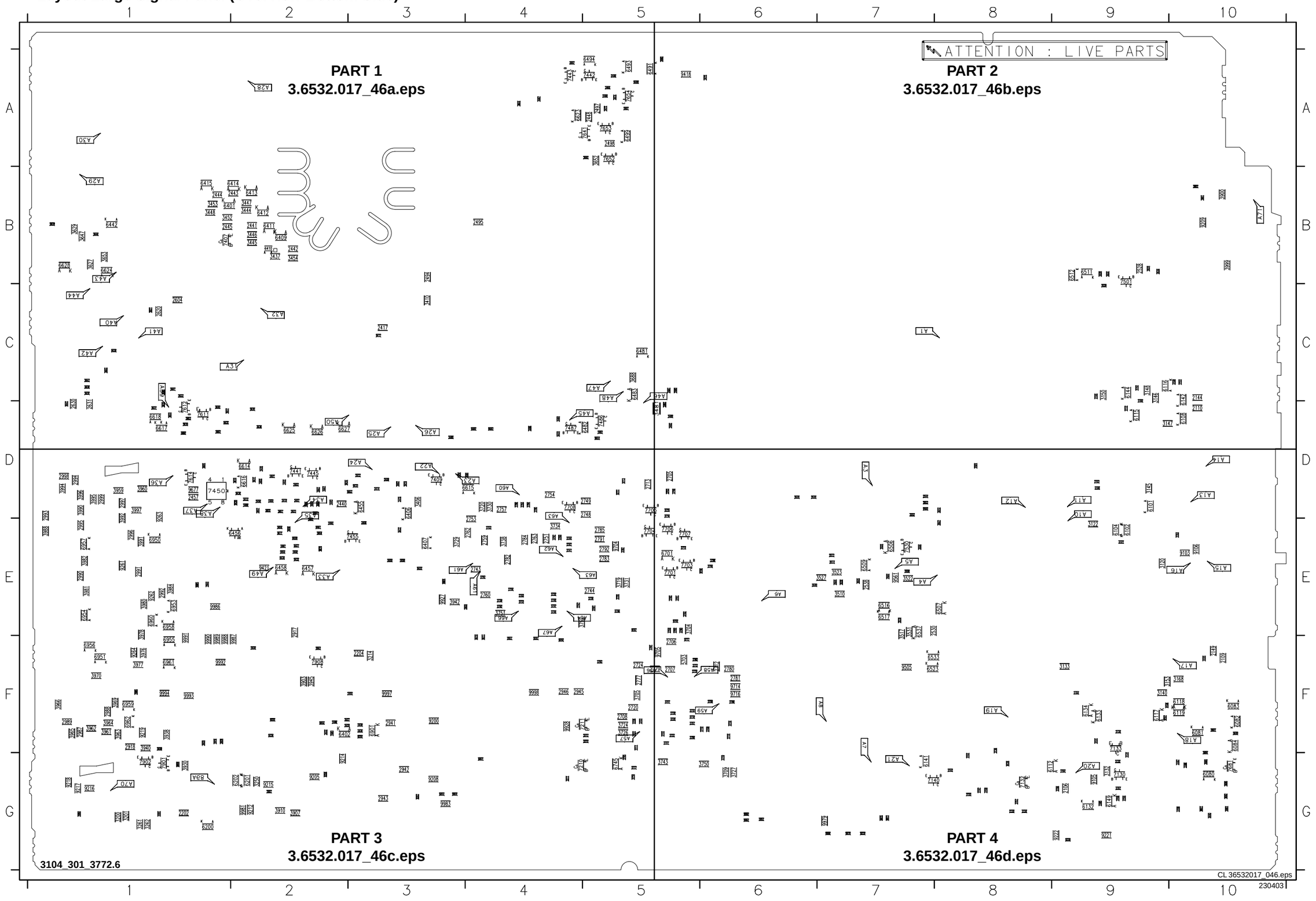
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Mapping Large Signal Panel (Bottom Side)

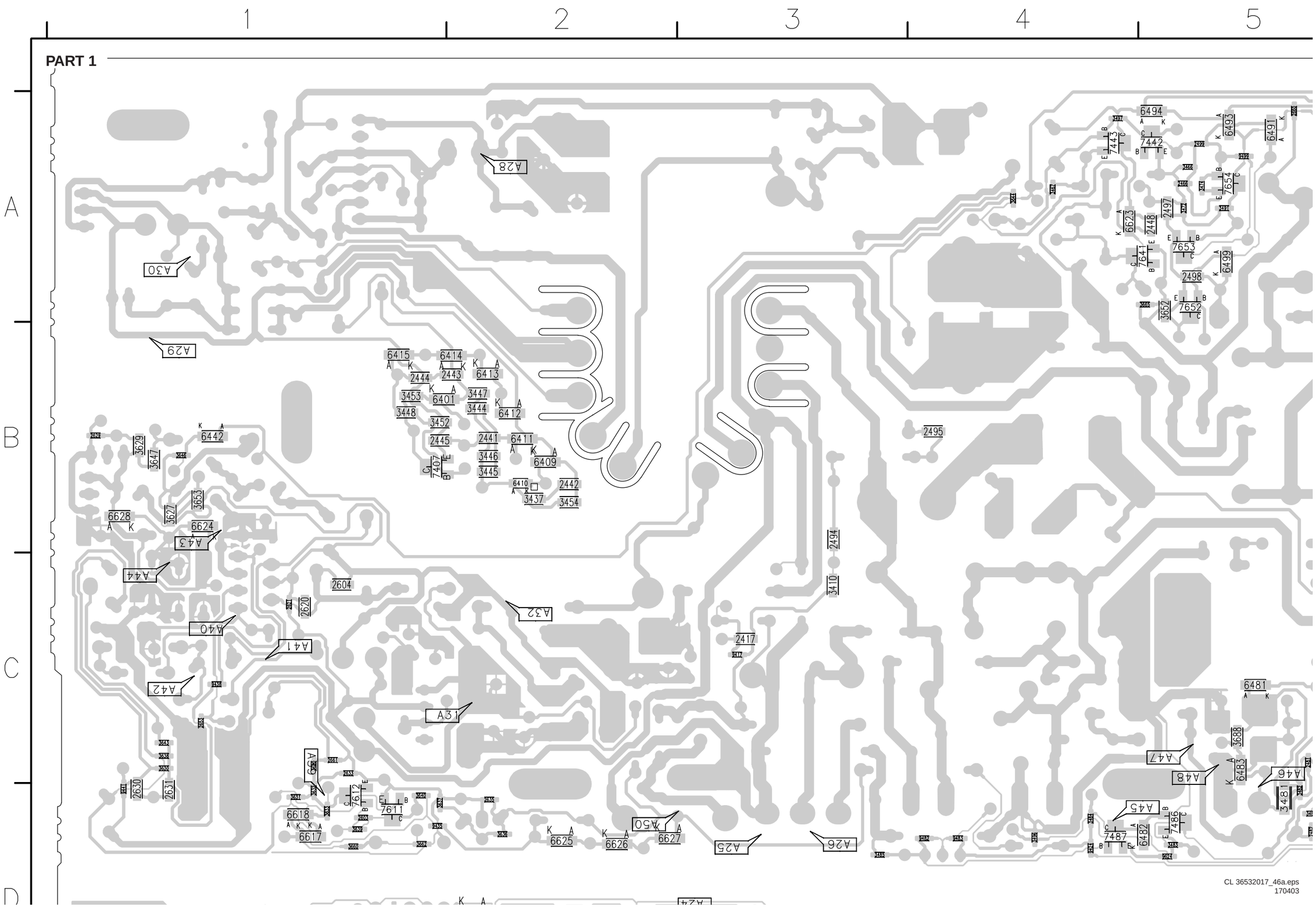
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1146	G9	2152	E8	2518	D8	2761	E5	3145	D9	3464	C2	3633	D1	3750	G6	5424	A5	6410	B2
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7132	G8	9211	F4	9570	F6	9944	G3												
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7211	F5	9217	G1	9623	C3	9949	F4												
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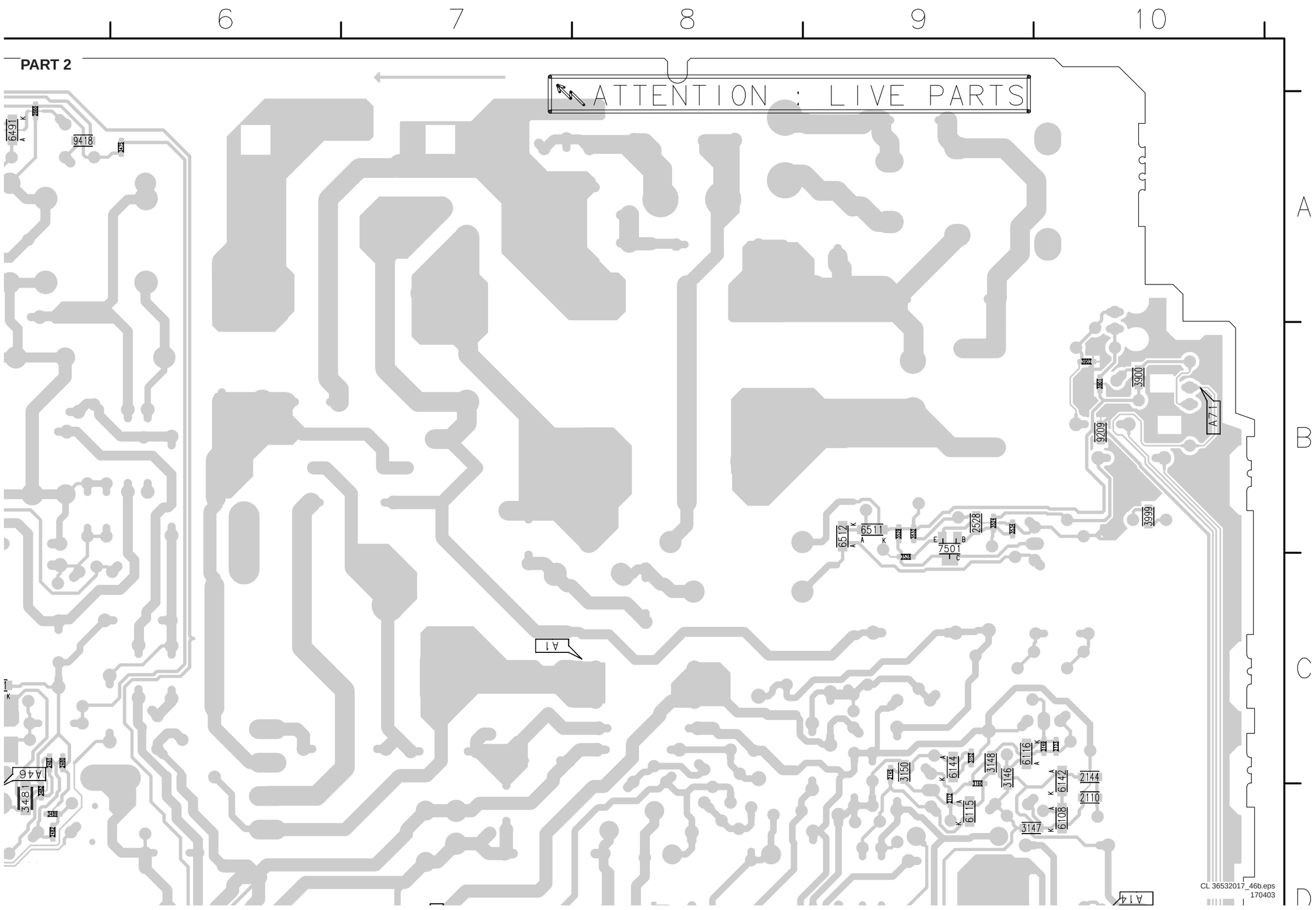
Layout Large Signal Panel (Overview Bottom Side)



Layout Large Signal Panel (Part 1 Bottom Side)



Layout Large Signal Panel (Part 2 Bottom Side)



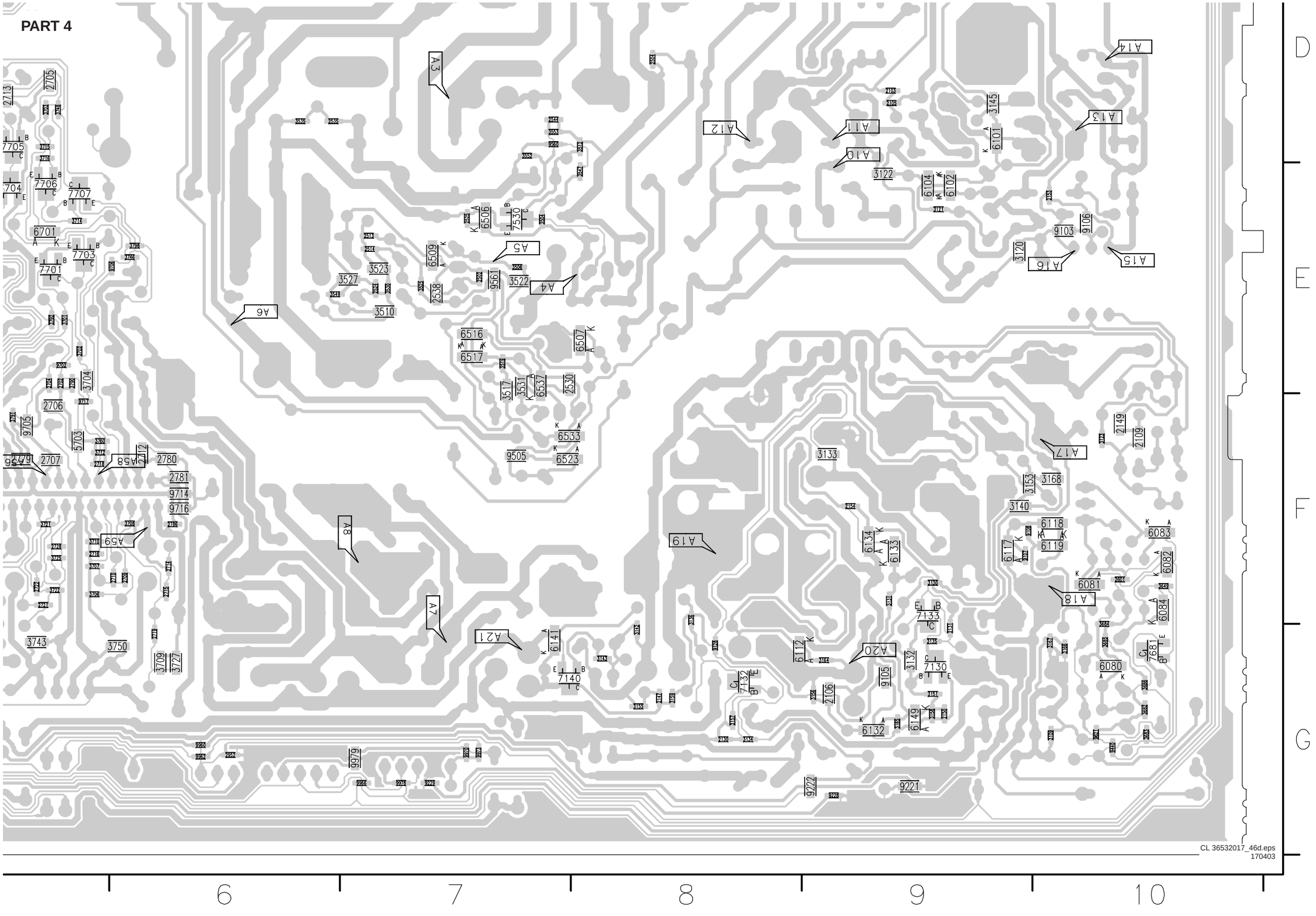
Layout Large Signal Panel (Part 3 Bottom Side)

PART 3


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Layout Large Signal Panel (Part 4 Bottom Side)

PART 4



Small Signal Board: SIM Connector (Male)

B 1 SIM CONNECTOR (MALE)

B 1

B6 AUDIO DEMODULATOR

B5 OTC

B4 VDP-HOP

B3a/b/c FEATURE-BOX

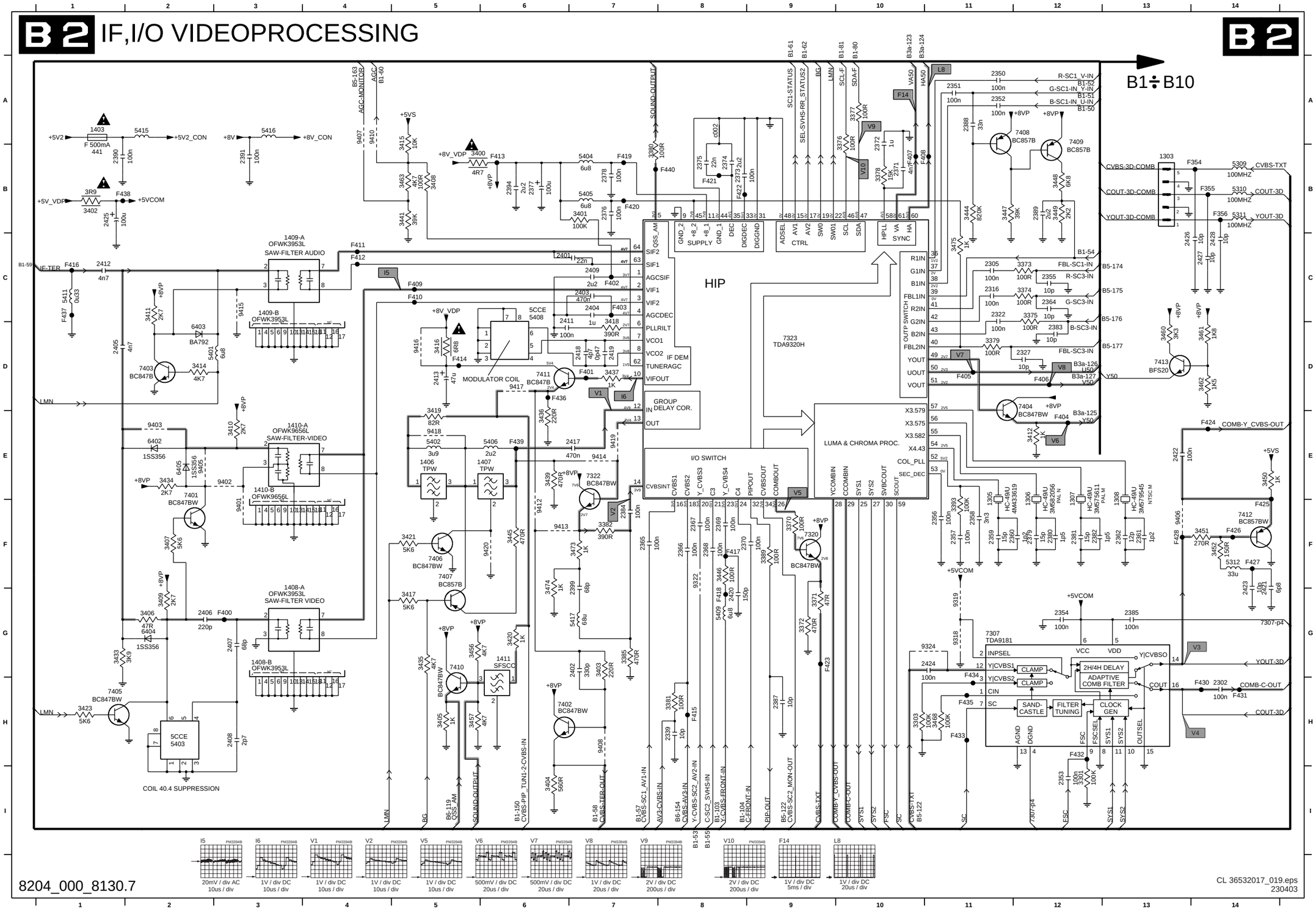
B2 VDP-HIP

TO 1205 A6 (SIM CON. FEMALE)

8204_000_8131.5

CL 36532017_018.eps 230403

Small Signal Board: IF. I/O Video Processing



Small Signal Board: PICNIC

B3A PICNIC

B3A

FBX SOFTWARE

7714 MS81V04160 FM1

7713 PICNIC SAA4978H

PROM

MICRO-PROCESSOR PSP

3 X DAC

3 X ADC

ANALOG PROCESSING

PLL

OSC

BST

FRONT END

BACK END

PEAKING

MUX

MID END

HISTOGRAM

NOISE REDUCTION

TBC/SRC

MUX

BUS A

BUS B

BUS C

BUS D

TO B3c*

TO B3c**

TO B3b

B1 ÷ B10

* SEE MAPPING I1 ON B3c

** SEE MAPPING G1 ON B3c

L6 PM3394B 500mV / div DC 10us / div

L7 PM3394B 500mV / div DC 10us / div

L9 PM3394B 1V / div DC 250ns / div

L10 1V / div DC 20us / div

L11 1V / div DC 5ms / div

L1 1 V / div DC 10µs / div

L2 1 V / div DC 10µs / div

L3 1 V / div DC 10µs / div

L4 1 V / div DC 10ms / div

L5 1 V / div DC 20µs / div

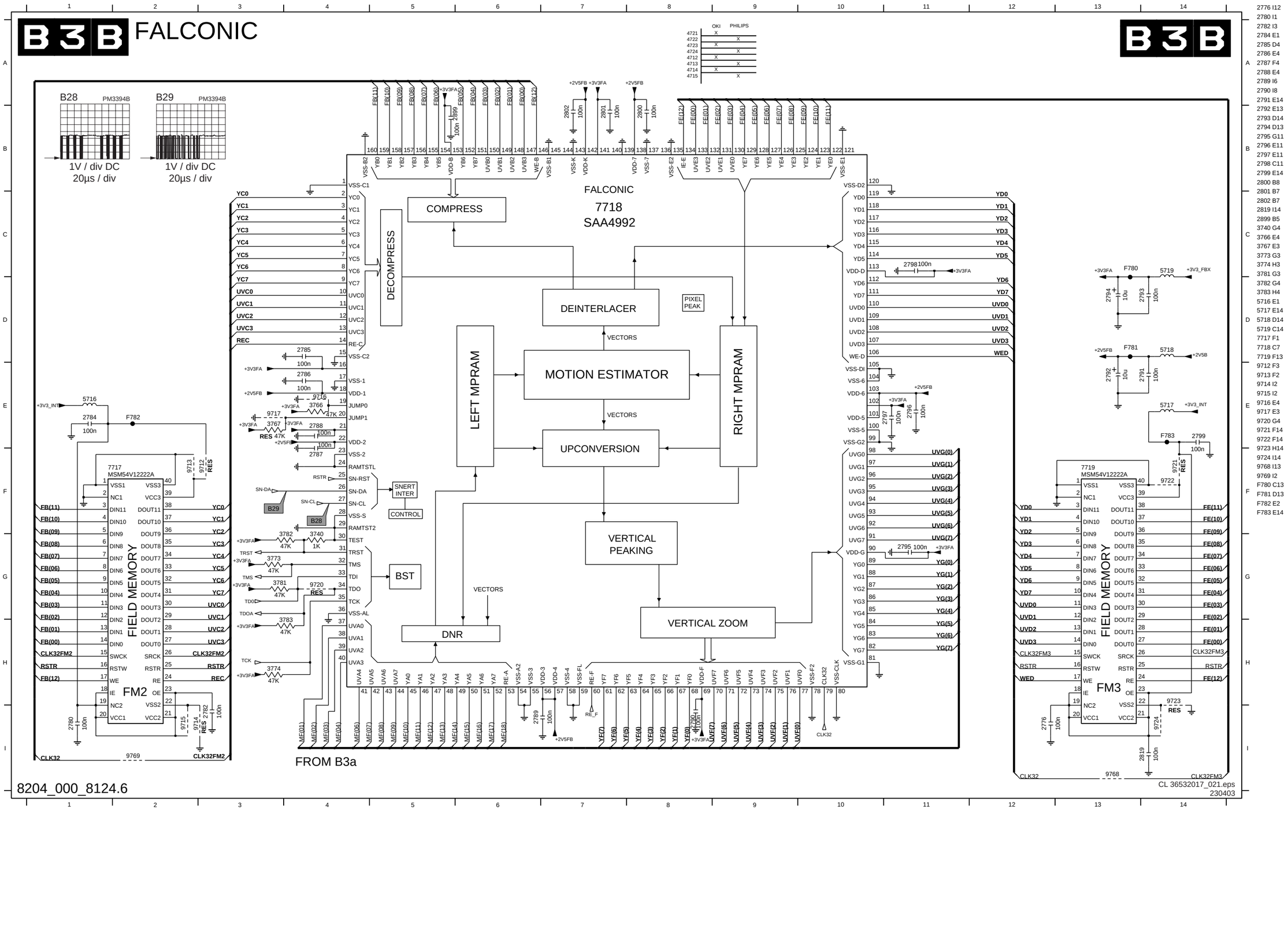
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0018 K15
0019 K15
1701 J5
1702 K5
1710 K4
2700 A2
2701 B2
2702 B2
2703 B2
2704 B2
2705 B2
2706 C2
2707 C2
2708 C2
2713 F1
2714 F2
2718 H2
2719 H2
2720 I2
2721 I2
2722 J1
2723 D1
2724 E1
2728 L2
2729 L2
2730 L3
2740 H4
2741 H4
2742 H4
2743 B4
2744 B5
2745 B6
2746 C6
2748 E5
2749 E5
2750 E5
2751 G4
2752 H4
2753 I5
2755 G5
2756 J5
2757 H5
2758 K4
2759 K5
2760 L8
2761 L9
2762 J13
2763 H13
2764 E12
2765 E10
2766 E8
2767 C11
2769 D13
2773 F15
2775 F16
2777 F17
2778 F17
2779 D17
2781 C15
2823 B6
2824 C6
2831 G2
2870 B11
2871 H15
2872 H16
2874 J15
2877 I15
2878 I16
2881 I5
3703 A2
3704 B2
3705 C2
3706 A3
3707 B3
3708 C3
3709 E2
3710 F2
3712 L6
3713 G1
3714 H1
3715 I1
3716 H2
3717 H2
3718 I2
3719 F2
3720 G2
3721 E2
3722 E2
3725 I3
3726 J2
3727 I3
3728 I2
3729 D2
3730 I2
3731 D2
3733 D2
3734 E2
3735 E2
3736 B4
3737 C4
3738 C4
3739 C4
3741 C4
3742 C4
3743 C5
3746 C5
3747 B4
3748 B4
3749 C3
3750 C5
3751 A5
3752 B5
3753 B5
3754 B5
3755 C3
3756 D4
3758 E6
3759 H5
3760 J5
3762 J12
3763 J12
3764 E9
3765 E10
3700 B2
3701 B2
3706 B5
3707 B5
3708 C5
3709 C4
3710 J5
5706 L1
5710 B6
5711 C6
5712 D4
5713 E4
5714 G4
5729 H15
5731 I15
5733 I15
5736 I5
5737 C11
5744 B11
7703 D2
7706 K2
7707 C3
7708 B5
7709 C4
7710 C5
7711 B7
7712 D6
7713 H8
7714 D15
7715 F2
9700 A6
9701 E5
9702 D5
9703 G5
9704 K5
9705 K3
9706 K3
9707-A I12
9707-B I13
9707-C I13
9707-D I13
9708-A H12
9708-B I13
9708-C I13
9708-D I13
9709-A H12
9709-B H13
9709-C H13
9709-D H13
9710-A G12
9710-B G13
9710-C G13
9710-D G13
9711 G13
9725 D3
9726 E3
9730 B6
9731 B6
9732 C6
9733 C6
9734 E4
9735 D4
9736 A1
9737 B1
9738 C1
9739 G17
9760 C15
9761 F15
F100 A1
F101 B1
F102 C1
F103 B2
F104 D1
F105 E1
F108 G1
F109 H1
F110 I1
F112 I1
F114 F2
F115 E2
F118 H6
F119 I1
F120 C2
F122 K5
F123 K5
F124 K5
F125 L5
F126 L5
F127 L5
F128 E5
F129 F5
F139 J13
F140 J13
F145 B5
F147 L3
F148 F13
F149 G13
F150 G13
F151 E9
F152 K6
F155 F5
F156 G5
F157 A3
F158 B3
F159 C3
F160 H6
F161 H5
F162 H4
F163 H4
F164 I4
F165 I4
F166 I4
F700 B11
F701 C11
F702 H15
F703 I15
F705 I15
F706 B5
F707 B5
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F709 C4
F710 J5
F784 D6
F785 E6
F786 E7
F787 E6
F788 G6

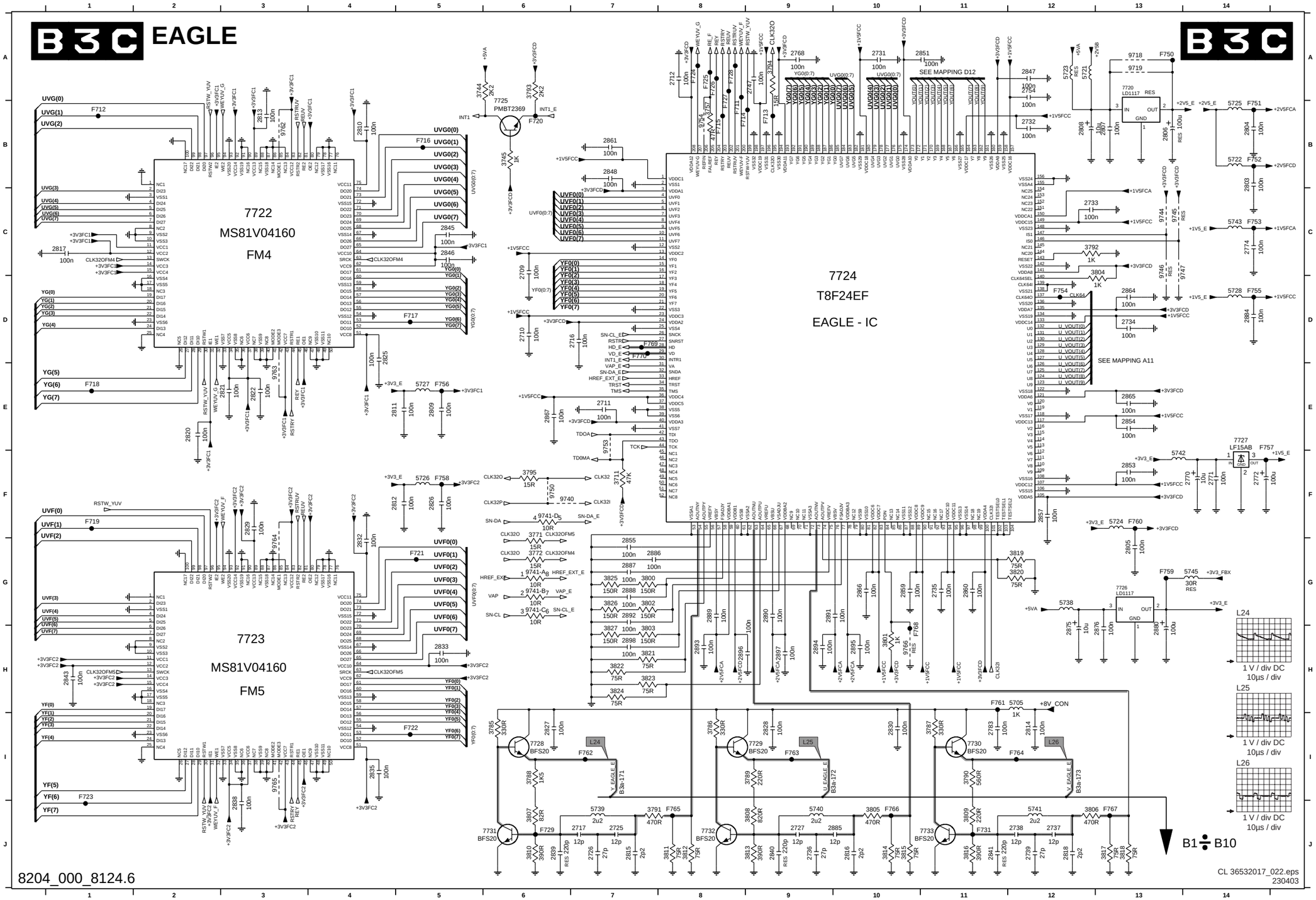
Small Signal Board: Diversity Tables

Small Signal Board: Falconic



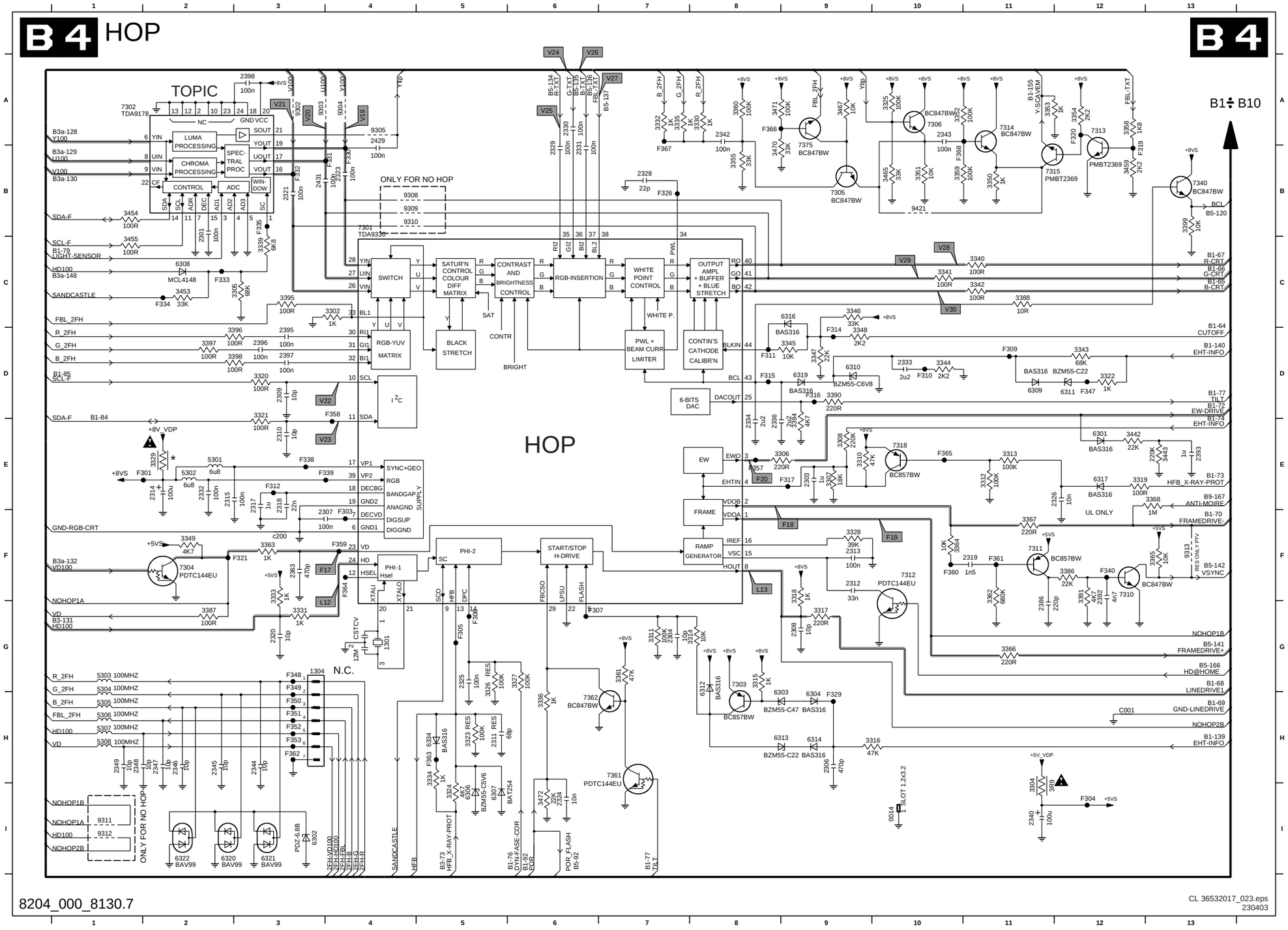
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2780 I1
2782 I3
2784 E1
2785 D4
2786 E4
2787 F4
2788 E4
2789 I6
2790 I8
2791 E14
2792 E13
2793 D14
2794 D13
2795 G11
2796 E11
2797 E11
2798 C11
2799 E14
2800 B8
2801 B7
2802 B7
2819 I14
2899 B5
3740 G4
3766 E4
3767 E3
3773 G3
3774 H3
3781 G3
3782 G4
3783 H4
5716 E1
5717 E14
5718 D14
5719 C14
7717 F1
7718 C7
7719 F13
9712 F3
9713 F2
9714 I2
9715 I2
9716 E4
9717 E3
9720 G4
9721 F14
9722 F14
9723 H14
9724 I14
9768 I13
9769 I2
F780 C13
F781 D13
F782 E2
F783 E14

Small Signal Board: Eagle



2709 C6 3795 F6 F762 I7
2710 D6 3800 G7 F763 I9
2711 E7 3801 H10 F764 I12
2712 A8 3802 G7 F765 J8
2716 D7 3803 H7 F766 J10
2717 J7 3804 C13 F767 J13
2725 J7 3805 J10 F768 H10
2726 J7 3806 J12 F769 D7
2727 J9 3807 J6 F770 D7
2731 A10 3808 J9
2732 B12 3809 J11
2733 C12 3810 J6
2734 D13 3811 J8
2735 G11 3812 J8
2736 J9 3813 J9
2737 J12 3814 J10
2738 J12 3815 J10
2739 J12 3816 J11
2747 A9 3817 J13
2754 A12 3818 J13
2768 A9 3819 G12
2770 F14 3820 G12
2771 F14 3821 H7
2772 F14 3822 H7
2774 C14 3823 H7
2783 I11 3824 H7
2803 B14 3825 G7
2804 B14 3826 G7
2805 G13 3827 H7
2806 B13 5705 H12
2807 B13 5721 A12
2808 B12 5722 B14
2809 E5 5723 A12
2810 B4 5724 F13
2811 E5 5725 B14
2812 F5 5726 F5
2813 B3 5727 E5
2814 I12 5728 D14
2815 J7 5738 G12
2816 J10 5739 J7
2817 C1 5740 J9
2818 J12 5741 J12
2820 E2 5742 F13
2821 E3 5743 C14
2822 E3 5745 G14
2825 D4 7720 A13
2826 F5 7722 C3
2827 I6 7723 H3
2828 I9 7724 D10
2829 F3 7725 B6
2830 I10 7726 G13
2832 G4 7727 E14
2833 H5 7728 I6
2835 I4 7729 I9
2838 J3 7730 I11
2839 J6 7731 J6
2840 J9 7732 J8
2841 J11 7733 J11
2843 H1 9718 A13
2845 C5 9719 A13
2846 C5 9740 F6
2847 A12 9741-A G6
2848 B7 9741-B G6
2851 A11 9741-C G6
2853 F13 9741-D F6
2854 E13 9744 C13
2855 G7 9745 C13
2857 F12 9746 C13
2859 G10 9747 C13
2860 G11 9750 F6
2861 B7 9753 E7
2864 D13 9754 B8
2865 E13 9762 B3
2866 G10 9763 E3
2867 E6 9764 G3
2875 H12 9765 I3
2876 H13 9766 H10
2880 H13 F711 B8
2884 D14 F712 B1
2885 J10 F713 B9
2886 G7 F714 B8
2887 G7 F715 B8
2888 G7 F716 B5
2889 G8 F717 D5
2890 G9 F718 E1
2891 G9 F719 F1
2892 G7 F720 B6
2893 H8 F721 G5
2894 H9 F722 I5
2895 H10 F723 I1
2896 H8 F724 A8
2897 H9 F725 A8
2898 H7 F726 A8
3711 F7 F727 B8
3744 A5 F728 A8
3745 B6 F729 J6
3757 B8 F731 J11
3771 F6 F750 A13
3772 G6 F751 B14
3785 I6 F752 B14
3786 I8 F753 C14
3787 I11 F754 D12
3788 I6 F755 D14
3789 I9 F756 E5
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3791 J7 F758 F5
3792 C12 F759 G13
3793 A6 F760 F13
3794 A9 F761 H11

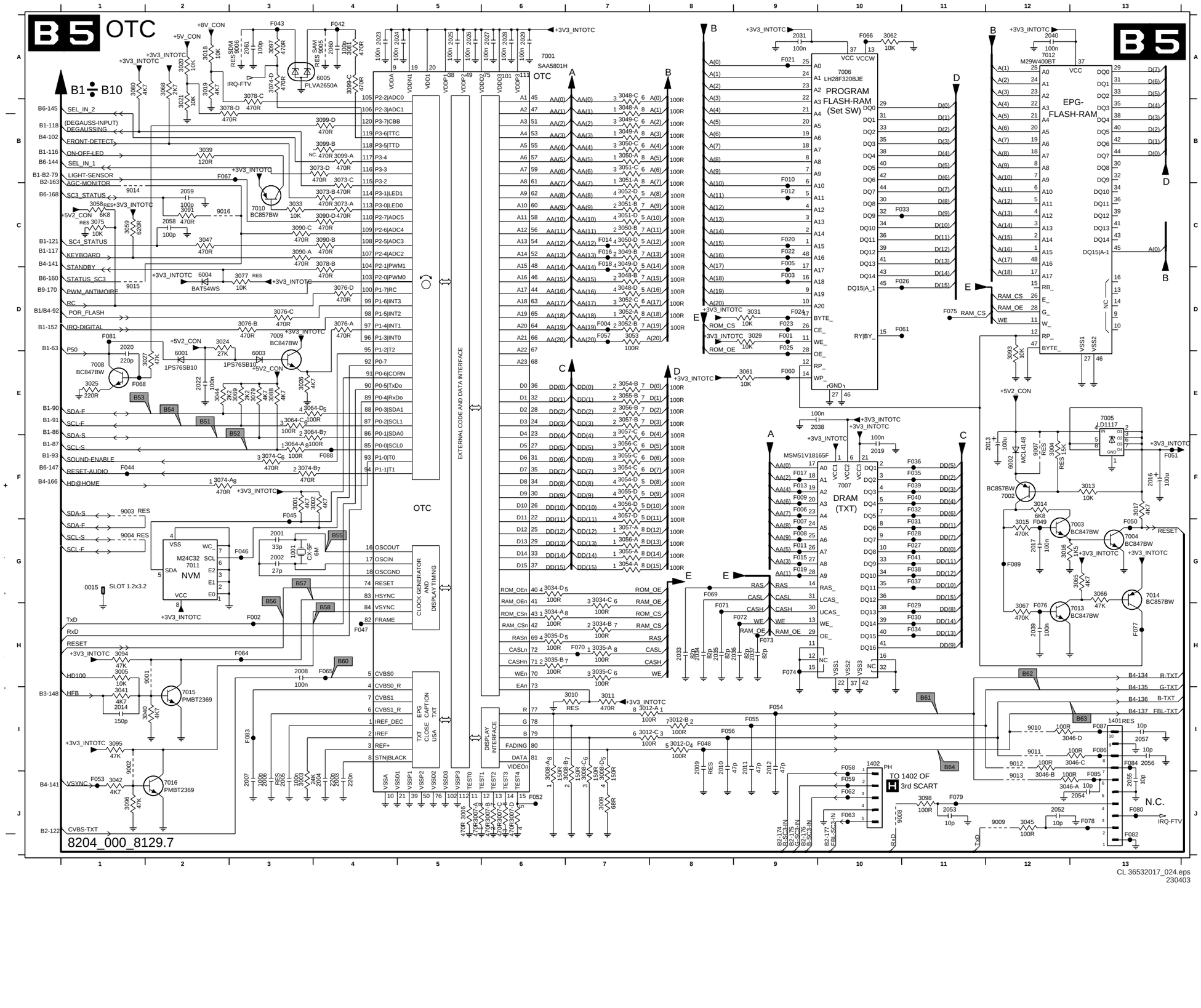
Small Signal Board: HOP



0014 I10	3347 D9	9310 B4	
1301 G4	3348 D9	9311 I1	
1304 G3	3349 F2	9312 I1	
2301 B2	3350 B11	9313 F13	
2303 E9	3351 B10	9421 B10	
2304 G7	3352 A10	C001 H12	
2306 H9	3353 A11	F301 E2	
2307 F4	3354 A12	F303 E4	
2308 G9	3355 B8	F304 I12	
2309 D3	3358 A12	F305 G5	
2310 E3	3359 B10	F306 G5	
2311 H5	3360 A8	F307 G6	
2312 F9	3361 G7	F309 D11	
2313 F9	3362 F11	F310 D10	
2314 E2	3363 F3	F311 D8	
2315 E2	3364 F10	F312 E3	
2317 E3	3365 F13	F314 C9	
2318 E3	3366 G11	F315 D8	
2319 F11	3367 F11	F316 D9	
2320 G3	3368 E13	F317 E9	
2321 B3	3386 F12	F319 B12	
2323 B4	3387 G2	F320 A12	
2324 I6	3388 C11	F321 F3	
2325 G5	3390 D9	F326 B7	
2326 E12	3391 F12	F329 H9	
2328 B7	3394 E9	F330 B4	
2329 B6	3395 C3	F331 B4	
2330 A6	3396 D3	F332 B3	
2331 B6	3397 D2	F333 C2	
2332 E2	3398 D3	F334 C2	
2333 D10	3399 B13	F335 B3	
2334 E8	3442 E12	F338 E3	
2336 E8	3443 E13	F339 E4	
2340 I11	3453 C2	F340 F12	
2342 A8	3454 B1	F347 D12	
2343 A10	3455 C1	F348 G3	
2344 H3	3459 B12	F349 G3	
2345 H2	3465 B10	F350 H3	
2346 H2	3467 A9	F351 H3	
2347 H2	3470 B8	F352 H3	
2348 H1	3471 A8	F353 H3	
2349 H1	3472 I6	F357 E8	
2363 F3	5301 E2	F358 D4	
2386 G11	5302 E2	F359 F4	
2392 F12	5303 G1	F360 F10	
2393 E13	5304 G1	F361 F11	
2395 D3	5305 H1	F362 H3	
2396 D3	5306 H1	F363 H5	
2397 D3	5307 H1	F364 F4	
2398 A3	5308 H1	F365 E10	
2429 A4	6301 E12	F366 A8	
2431 B3	6302 I3	F367 B7	
3302 C4	6303 H9	F368 B10	
3304 I11	6304 H9	c200 F3	
3305 C3	6306 I5		
3306 E9	6307 I5		
3307 E9	6308 C2		
3308 E9	6309 D11		
3310 E9	6310 D9		
3311 G7	6311 D12		
3312 E11	6312 G8		
3313 E11	6313 H9		
3314 G8	6314 H9		
3315 G8	6316 C9		
3316 H10	6317 E12		
3317 G9	6319 D9		
3318 F9	6320 I2		
3319 E12	6321 I3		
3320 D3	6322 I2		
3321 D3	6334 H5		
3322 D12	7301 B4		
3323 H5	7302 A1		
3324 I5	7303 G8		
3325 A10	7304 F2		
3326 G5	7305 B9		
3327 G6	7306 A10		
3328 F9	7310 F12		
3329 E2	7311 F11		
3330 A8	7312 F10		
3331 G3	7313 A12		
3332 A7	7314 A11		
3333 F3	7315 B12		
3334 H5	7318 E10		
3335 A7	7340 B13		
3336 H6	7361 H7		
3339 C3	7362 H6		
3340 C11	7375 B9		
3341 C10	9302 A3		
3342 C11	9303 A3		
3343 D12	9304 A4		
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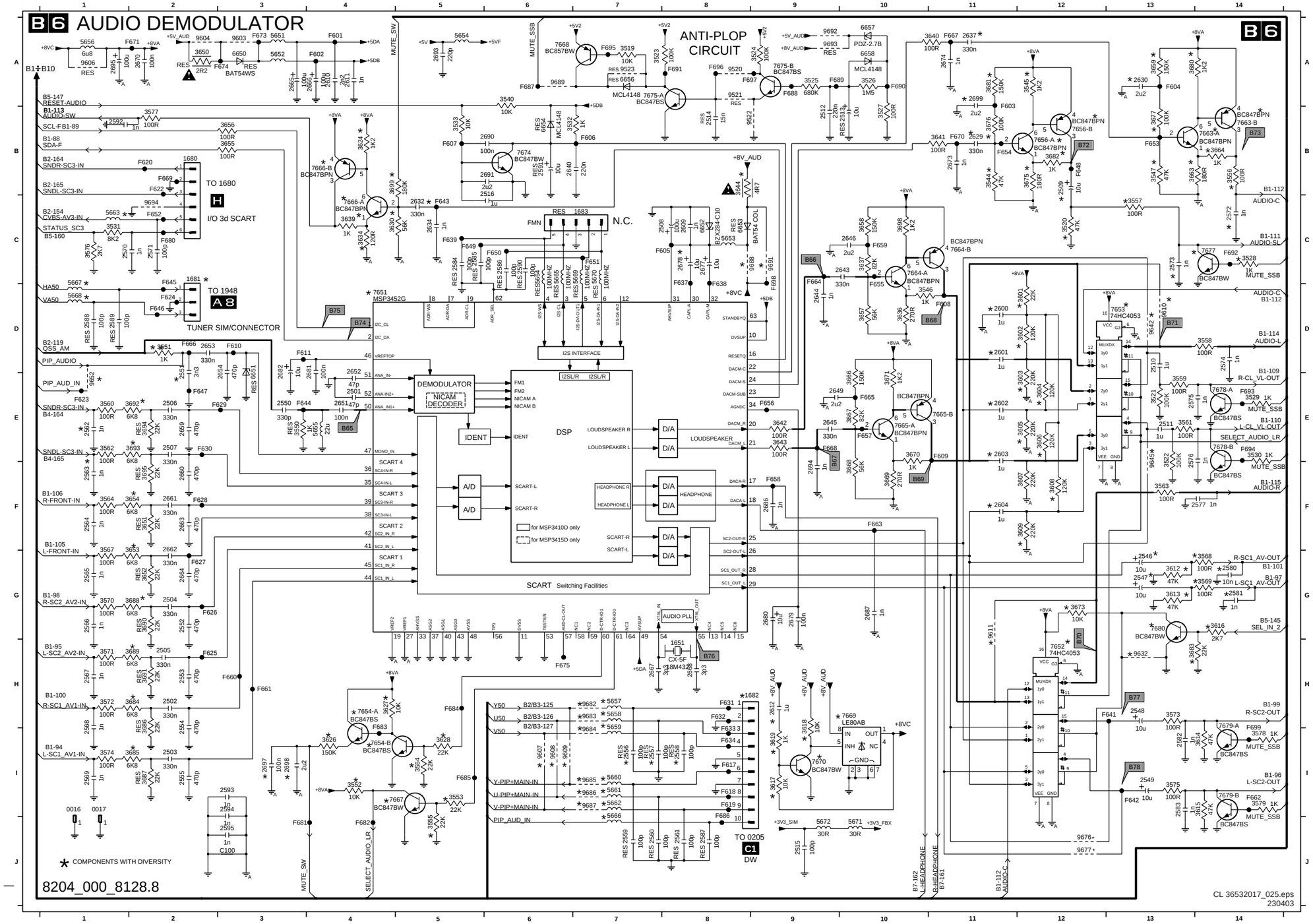
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F18 PM3394B — 500mV / div DC, 5ms / div
F19 PM3394B — 500mV / div DC, 5ms / div
F20 PM3394B — 500mV / div DC, 5ms / div
L12 — 1V / div DC, 10us / div
V19 — 1V / div DC, 10us / div
V20 — 1V / div DC, 10us / div
V21 — 1V / div DC, 10us / div
V28 PM3394B — 1V / div DC, 10us / div
V29 PM3394B — 1V / div DC, 10us / div
V30 PM3394B — 1V / div DC, 10us / div

Small Signal Board: OTC



0015 G1
1001 G3
1401 I13
1402 I10
2001 G3
2002 G3
2003 J4
2004 J4
2005 J3
2006 J3
2007 J3
2008 H3
2009 I8
2010 I8
2011 I9
2012 I9
2013 F12
2014 I1
2016 F13
2017 G12
2019 F10
2020 D1
2022 E2
2023 A4
2024 A5
2025 A5
2026 A5
2027 A6
2028 A6
2029 A6
2031 A9
2033 H8
2034 H8
2035 H8
2036 H9
2037 H9
2038 E9
2039 H12
2040 A12
2052 J12
2053 J11
2054 J13
2055 J13
2056 I13
2057 I13
2058 C2
2059 C2
2060 A4
2061 A3
3001 F3
3002 F4
3003 J3
3004 F12
3005 H1
3006 J5
3007-A J5
3007-B J6
3007-C J6
3007-D J6
3008-A I6
3008-B I7
3008-C I7
3008-D I7
3009 J7
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3011 I7
3012-A I7
3012-B I8
3012-C I7
3012-D I8
3013 F13
3014 F12
3015 G12
3016 G12
3017 F13
3018 A2
3019 A2
3020 A2
3021 B2
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3025 E1
3026 E3
3027 E2
3029 D9
3031 D9
3033 C3
3034-A H6
3034-B H7
3034-C G7
3034-D G6
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3035-B H6
3035-C H7
3035-D H6
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3107 I2
3108 I2
3109 I2
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3111 I2
3112 I2
3113 I2
3114 I2
3115 I2
3116 I2
3117 I2
3118 I2
3119 I2
3120 I2
3121 I2
3122 I2
3123 I2
3124 I2
3125 I2
3126 I2

Small Signal Board: Audio Demodulator



0016 I1	3527 B10	5672 J9	F675 H6
0017 I1	3528 C14	6650 A3	F680 C2
1651 H8	3529 E14	6651 D3	F681 J3
1680 B2	3530 E14	6652 C8	F682 J4
1681 C2	3531 C1	6653 C8	F683 I4
1682 H8	3532 B6	6654 B6	F684 H5
1683 C7	3533 B5	6656 A7	F685 I5
2501 E4	3540 A6	6657 A10	F686 J8
2502 H2	3544 B11	6658 A10	F687 A6
2503 I2	3545 A12	7651 D4	F688 A9
2504 G2	3546 D10	7652 H12	F689 A9
2505 H2	3547 B13	7653 D13	F690 A10
2506 E2	3550 E3	7654-A H4	F691 A8
2507 E2	3551 D2	7654-B I4	F692 C14
2508 C8	3552 I4	7656-A B12	F693 E14
2509 B12	3553 I5	7656-B B12	F694 E14
2510 D13	3554 I5	7663-A B14	F695 A7
2511 E13	3555 J5	7663-B B14	F696 A8
2512 B9	3556 B14	7664-A C10	F697 A8
2513 B10	3557 C13	7664-B C11	F698 C9
2514 B8	3558 D14	7665-A E10	F699 I14
2515 J9	3559 E13	7665-B E11	
2516 C6	3560 E1	7666-A C4	
2546 G13	3561 E13	7666-B B4	
2547 G13	3562 E1	7667 I5	
2548 H13	3563 F13	7668 A6	
2549 I13	3564 F1	7669 H10	
2550 E3	3567 G1	7670 I9	
2551 D2	3568 G14	7674 B6	
2552 G2	3569 G14	7675-A A8	
2553 H2	3570 G1	7675-B A9	
2554 H2	3571 H1	7677 C14	
2555 I2	3572 H1	7678-A E14	
2556 I7	3573 H13	7678-B E14	
2557 I7	3574 I1	7679-A H14	
2558 I8	3575 I13	7679-B I14	
2559 J7	3576 C1	7680 G13	
2560 J7	3577 B2	9520 A8	
2561 J8	3578 I14	9521 A8	
2562 E1	3579 I14	9522 B9	
2563 F1	3601 D12	9523 A7	
2564 F1	3602 D12	9603 A3	
2565 G1	3603 E12	9604 A2	
2566 G1	3604 E12	9606 A1	
2567 H1	3605 E12	9607 I6	
2568 H1	3606 E12	9608 I6	
2569 I1	3607 F12	9609 I6	
2570 C1	3608 F12	9610 D13	
2571 C2	3609 F12	9611 G11	
2572 C14	3612 G13	9632 H13	
2573 C13	3613 G13	9642 D13	
2574 D14	3614 I14	9645 E13	
2575 E13	3615 I14	9652 E1	
2576 E13	3616 G14	9676 J12	
2577 F14	3617 I9	9677 J12	
2580 G14	3618 H9	9682 H7	
2581 G14	3619 I9	9683 H7	
2582 I13	3624 B4	9684 I7	
2583 I13	3626 I4	9685 I7	
2584 C5	3627 H4	9686 I7	
2585 C5	3628 I5	9687 I7	
2586 C6	3630 C4	9688 C8	
2587 J8	3634 C4	9689 A6	
2588 D1	3636 D10	9691 C9	
2589 D1	3637 C10	9692 A9	
2590 C6	3639 C4	9693 A9	
2591 B6	3640 A11	9694 C2	
2592 B1	3641 B11	C100 J3	
2593 I3	3642 E9	F601 A4	
2594 I3	3643 E9	F602 A4	
2595 J3	3644 B8	F603 B11	
2600 D11	3650 A2	F604 A13	
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2629 B11	3659 A13	F618 I8	
2630 A13	3663 B13	F619 I8	
2632 C5	3664 B14	F620 B2	
2634 C5	3666 E10	F622 B2	
2637 A11	3667 E10	F623 E1	
2640 B6	3668 F10	F624 D2	
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2645 E9	3671 E10	F627 G2	
2646 C10	3673 G12	F628 F2	
2649 E9	3675 B12	F629 E3	
2651 E4	3676 B11	F630 E2	
2652 E4	3677 B13	F631 H8	
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2654 D3	3681 A11	F633 I8	
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2660 F2	3683 H13	F637 C8	
2661 F2	3684 H2	F638 C8	
2662 G2	3685 I2	F639 C5	
2663 F2	3686 H2	F641 H13	
2664 G2	3687 I2	F642 I13	
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2666 A4	3689 H2	F644 E3	
2667 H7	3690 G2	F645 D2	
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2670 A2	3692 E2	F647 E2	
2673 B11	3693 E2	F648 B12	
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2679 G9	3699 B4	F652 C2	
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2681 D4	5652 A3	F654 B11	
2682 D3	5653 C8	F655 D10	
2686 F9	5654 A5	F656 E9	
2687 G10	5655 E4	F657 E10	
2690 B6	5656 A1	F658 F9	
2691 B6	5657 H7	F659 C10	
2693 A5	5658 H7	F660 H3	
2694 F9	5659 I7	F661 H3	
2695 A1	5660 I7	F662 I14	
2697 I3	5661 I7	F663 F10	
2698 I3	5662 I7	F664 C9	
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3521 E13	5666 J7	F668 E9	
3522 E13	5667 D1	F669 B2	
3523 A7	5668 D1	F670 B11	
3524 A9	5669 C7	F671 A2	
3525 A9	5670 C7	F673 A3	
3526 A10	5671 J10	F674 A8	

B65 PM3394B
500mV / div DC
2us / div

B66 PM3394B
50mV / div DC
50us / div

B67 PM3394B
50mV / div DC
50us / div

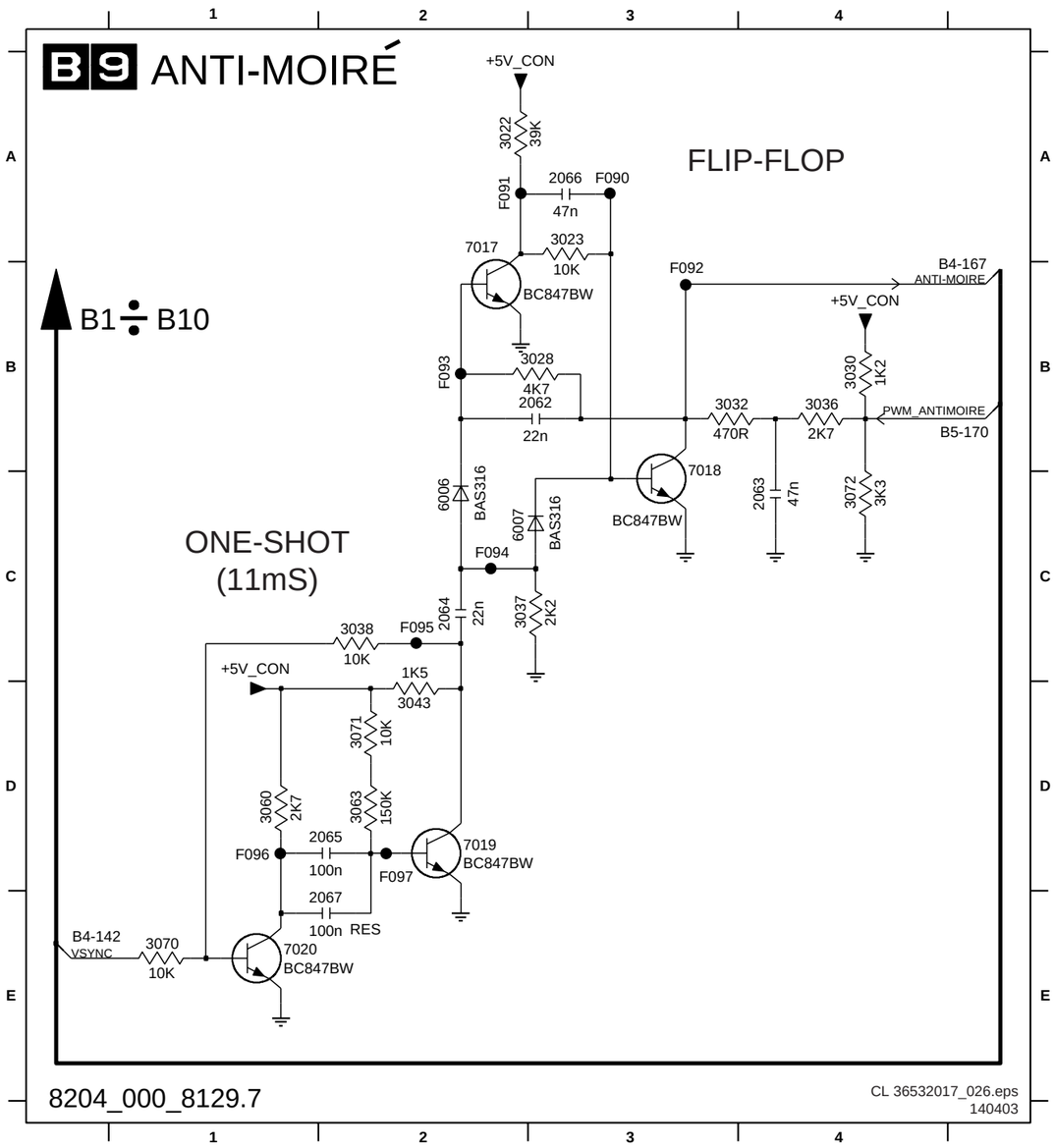
B74 PM3394B
2V / div DC
20ms / div

B75 PM3394B
2V / div DC
20ms / div

B76 PM3394B
1V / div DC
250ns / div

Small Signal Board: Anti-moiré

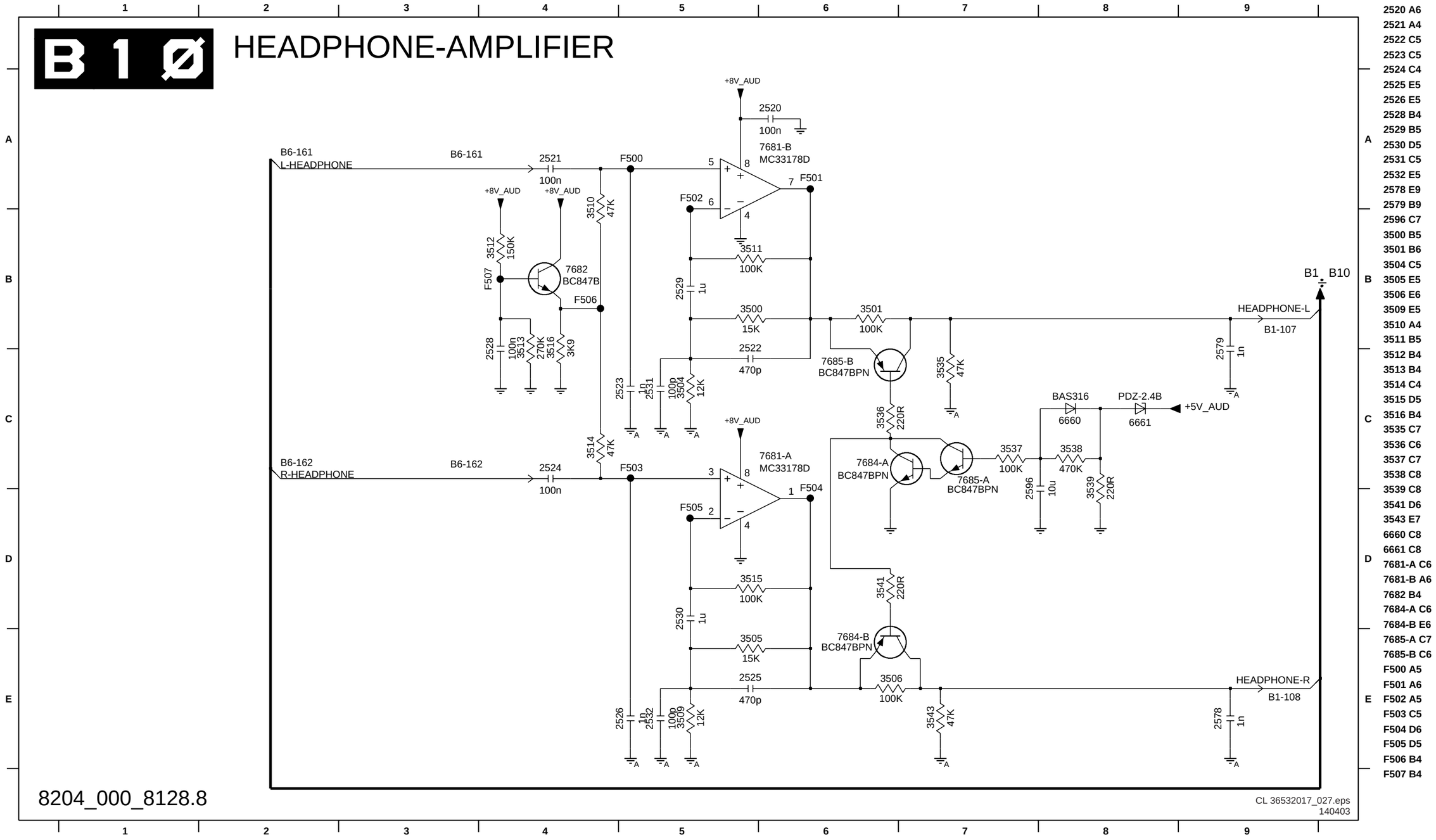
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2064 C2	2067 E2	3028 B3	3036 B4	3043 D2	3070 E1	6006 C2	7018 C3	F090 A3	F093 B2	F096 D1		



Personal Notes:

Small Signal Board: Headphone Amplifier

B10 HEADPHONE-AMPLIFIER

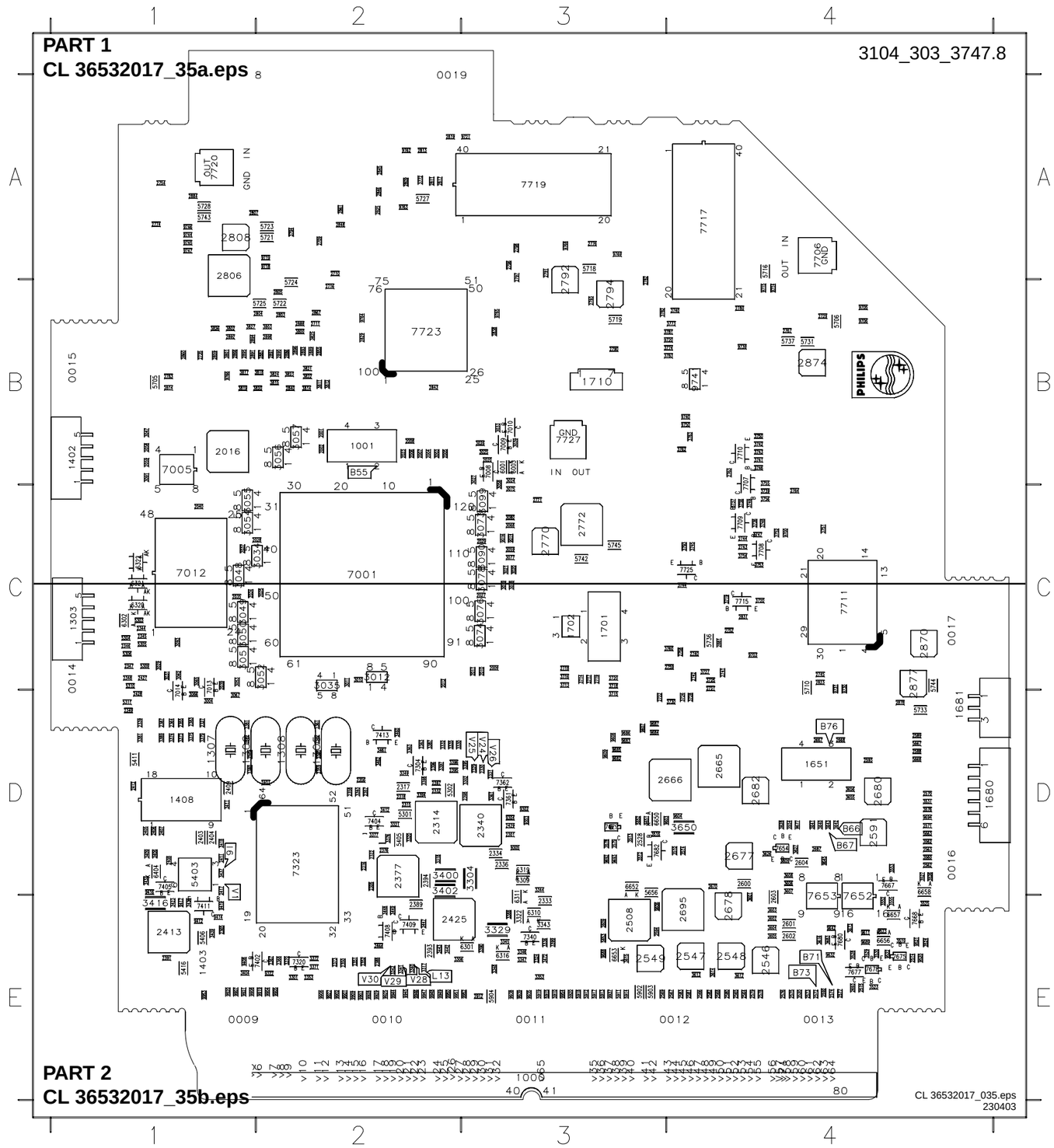


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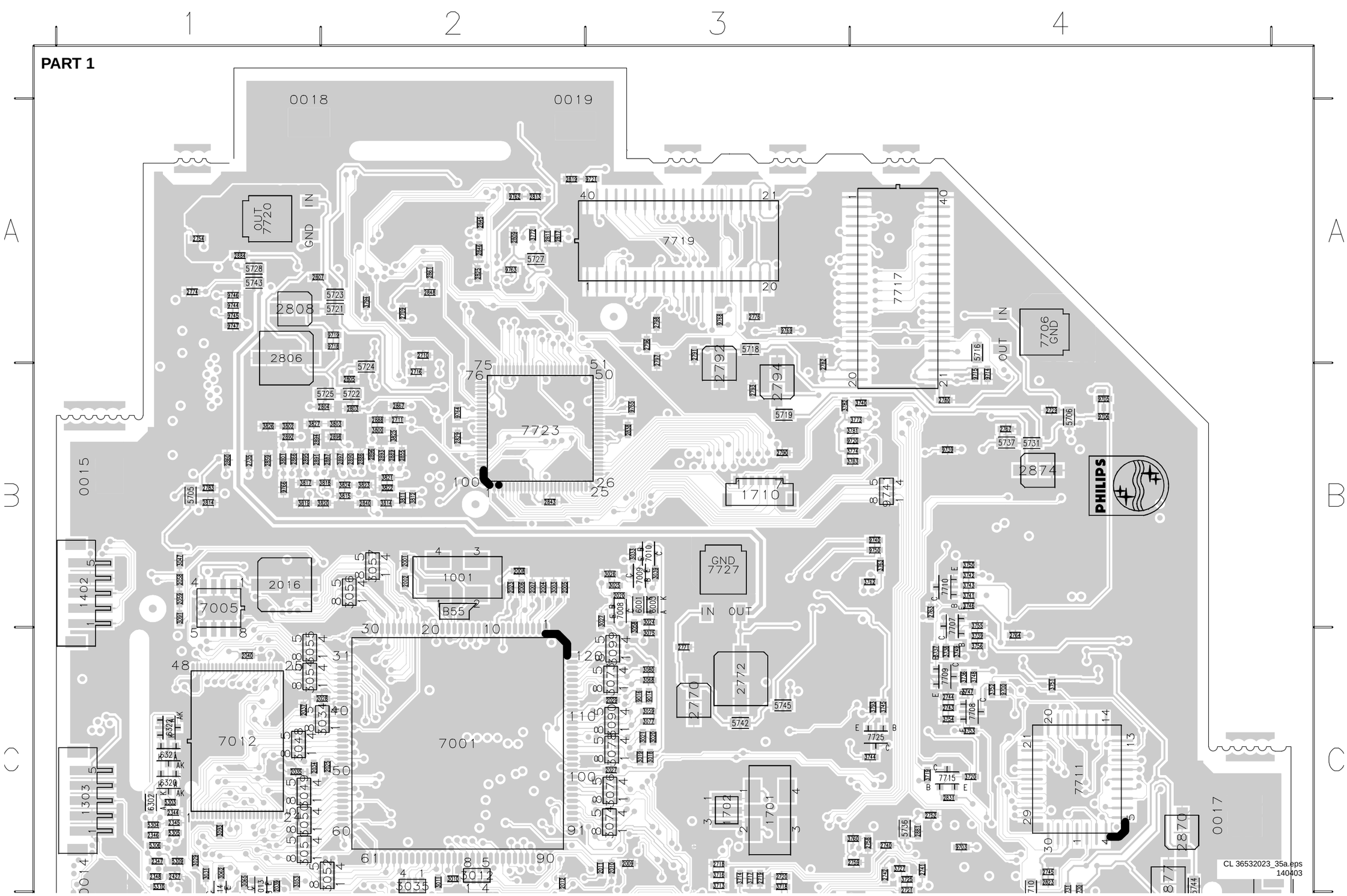
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2526 E5
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2529 B5
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2532 E5
2578 E9
2579 B9
2596 C7
3500 B5
3501 B6
3504 C5
3505 E5
3506 E6
3509 E5
3510 A4
3511 B5
3512 B4
3513 B4
3514 C4
3515 D5
3516 B4
3535 C7
3536 C6
3537 C7
3538 C8
3539 C8
3541 D6
3543 E7
6660 C8
6661 C8
7681-A C6
7681-B A6
7682 B4
7684-A C6
7684-B E6
7685-A C7
7685-B C6
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F501 A6
F502 A5
F503 C5
F504 D6
F505 D5
F506 B4
F507 B4

Layout Small Signal Board (Overview Top Side)

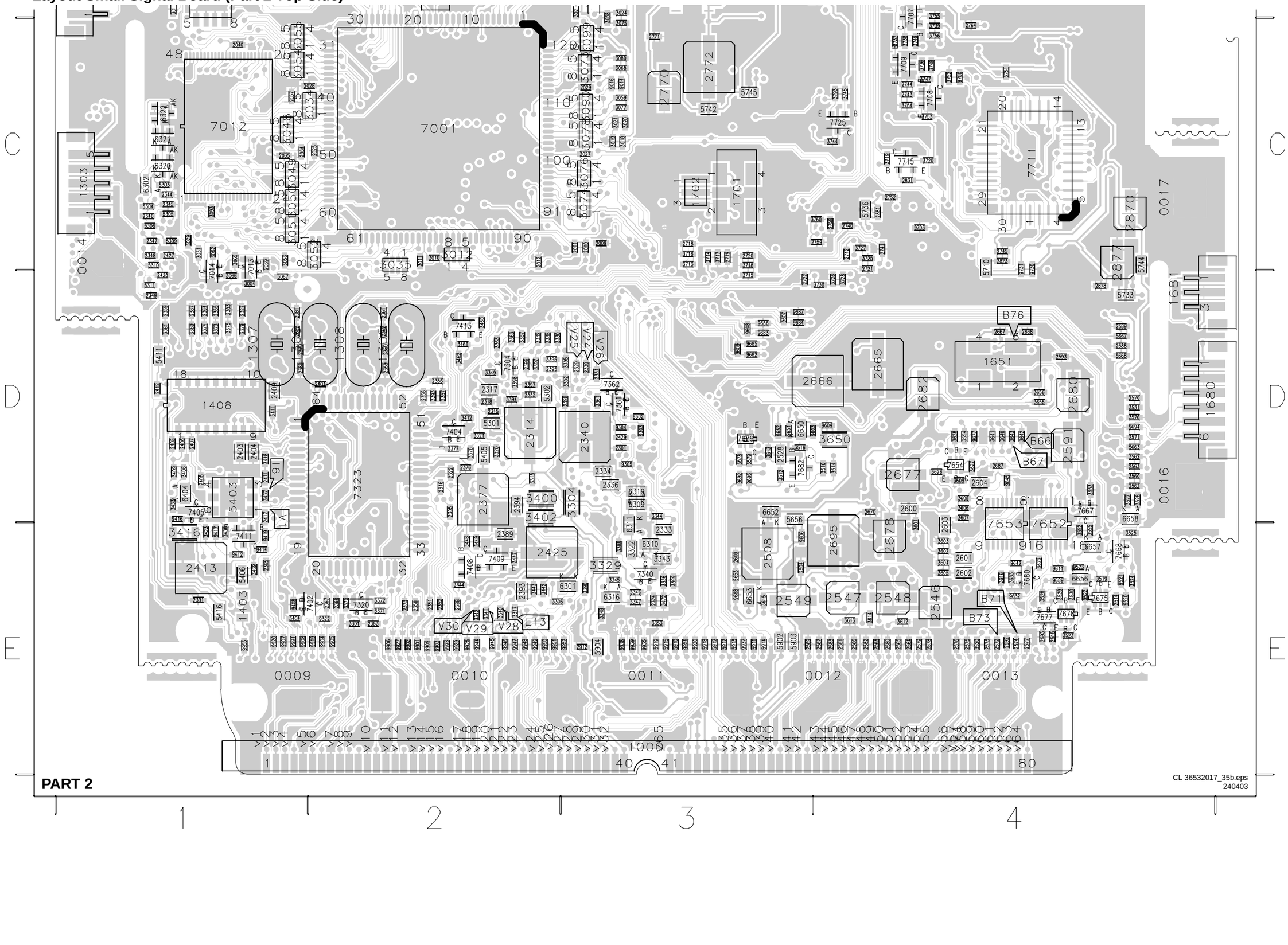


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0012 E4
0013 E4
0014 D1
0015 B1
0016 D4
0017 C4
0018 A1
0019 A2
1000 E3
1001 B2
1303 C1
1305 D2
1306 D2
1307 D1
1308 D2
1402 B1
1403 E1
1408 D1
1651 D4
1680 D4
1681 D4
1701 C3
1702 C3
1710 B3
2001 B2
2002 B2
2004 B2
2005 B2
2006 B2
2007 B2
2008 B2
2009 C3
2010 C3
2011 C3
2012 C2
2016 B1
2020 B3
2023 B2
2025 C2
2027 C3
2028 C2
2029 C3
2034 C1
2035 C1
2037 C1
2039 C1
2040 C1
2058 B1
2059 B1
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2305 D2
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2348 C1
2349 D1
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Layout Small Signal Board (Part 1 Top Side)

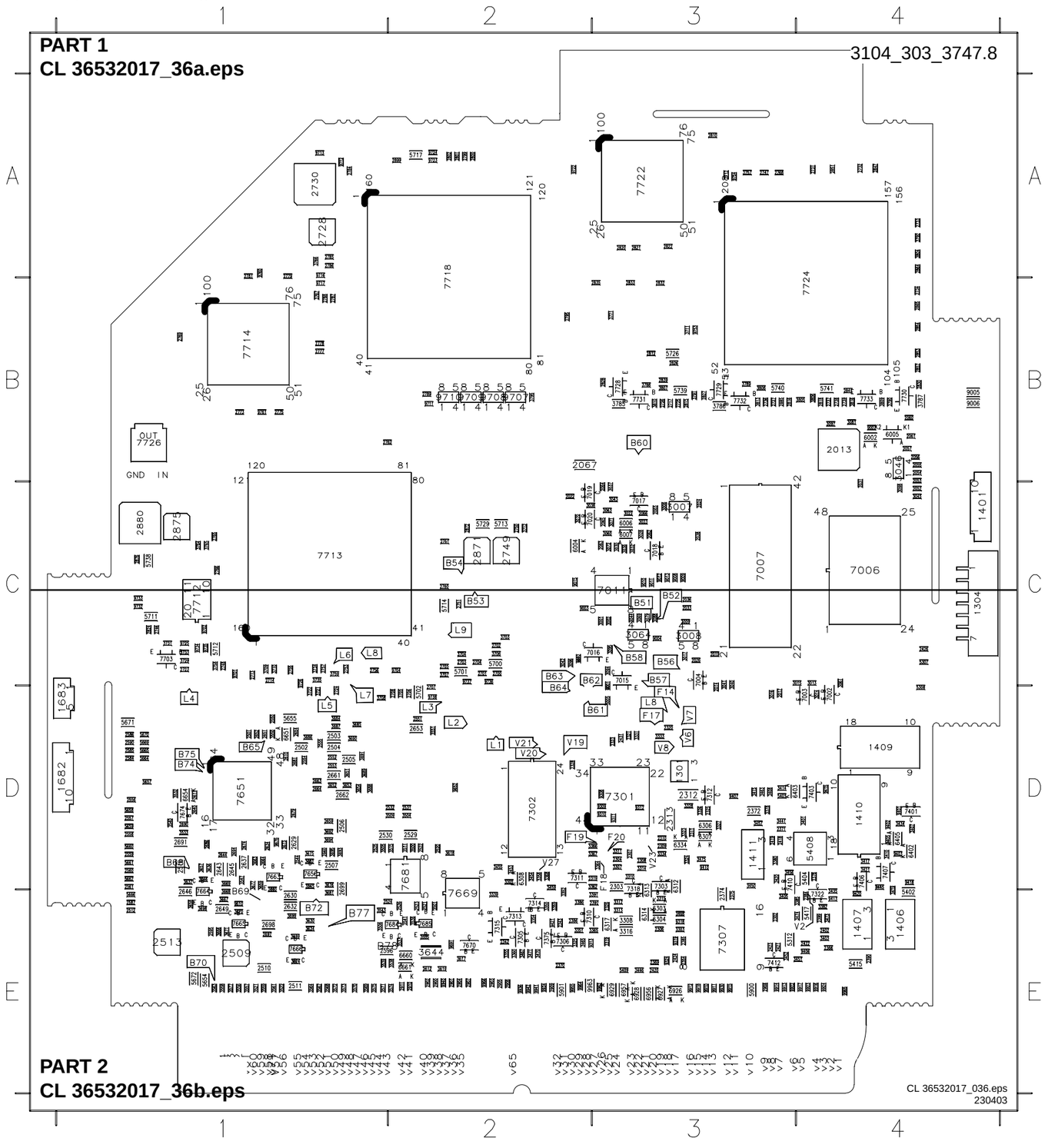


Layout Small Signal Board (Part 2 Top Side)



PART 2

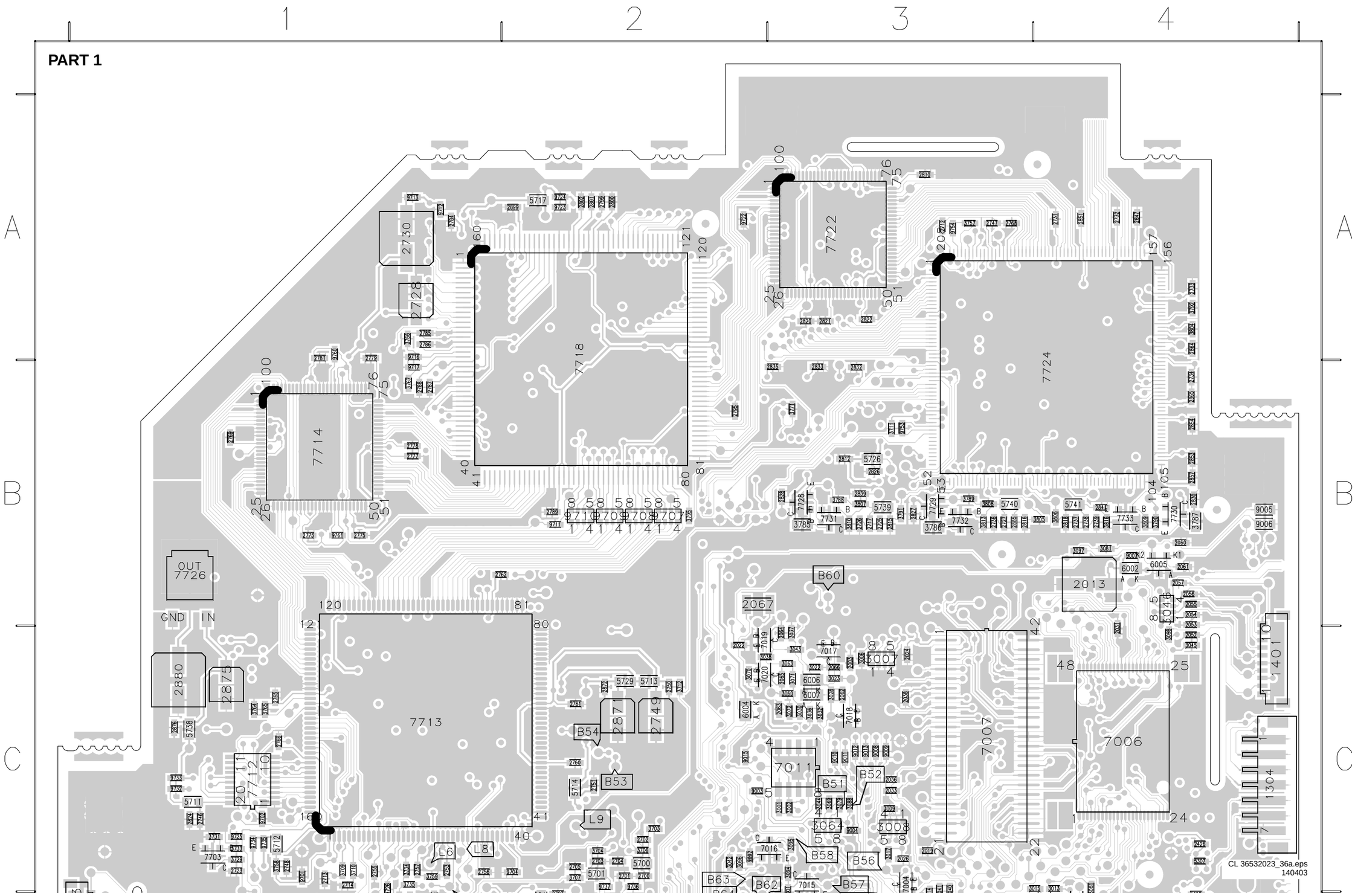
Layout Small Signal Board (Overview Bottom Side)



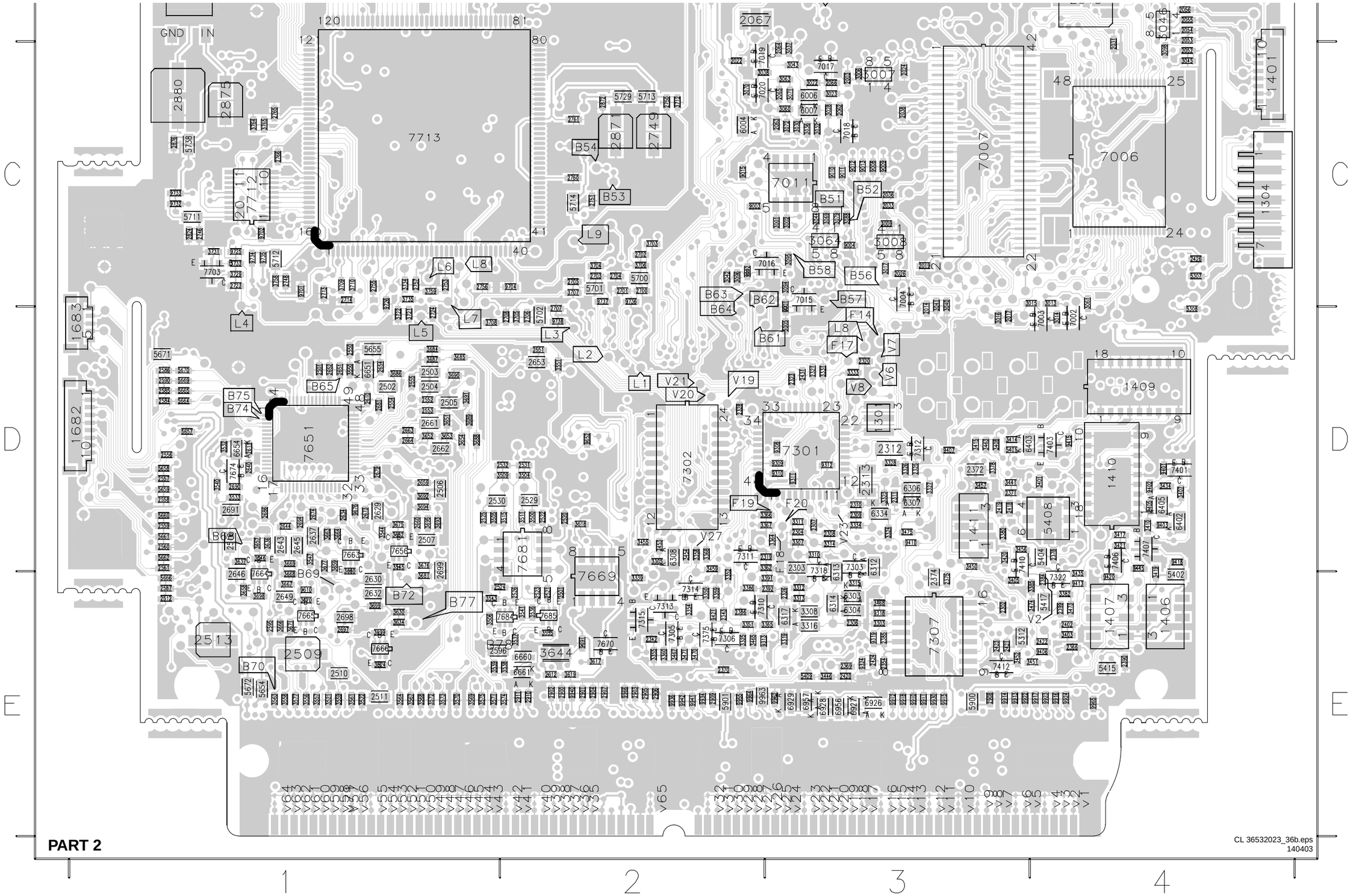
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0018	A4	2431	D3	2708	D2	2901	E2	3366	D3	3617	E2	3816	B4	7307	E3	9710	B2		
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1305	D3	2505	D1	2723	C1	2906	E2	3382	E4	3634	E1	5402	E4	7314	E2	9717	B1		
1306	D4	2506	D1	2724	D1	2907	E2	3385	E4	3636	D1	5404	D4	7315	E2	9722	A2		
1307	D4	2507	D1	2725	B3	2908	E3	3386	E2	3637	D1	5408	D4	7318	D3	9723	A2		
1308	D3	2509	E1	2726	B3	2909	E2	3391	E3	3639	E1	5409	E3	7322	E4	9724	A2		
1401	C4	2510	E1	2727	B3	2910	E2	3401	D4	3644	E2	5415	E4	7375	E2	9725	C1		
1406	E4	2511	E1	2728	A1	2911	E2	3403	E4	3651	D1	5417	E4	7401	D4	9726	C1		
1407	E4	2512	E1	2730	A1	3001	C3	3405	E3	3652	D1	5654	E1	7403	D4	9732	C1		
1409	D4	2513	E1	2731	A4	3002	C3	3407	D4	3653	D1	5655	D1	7406	D4	9733	C1		
1410	D4	2516	D1	2732	A4	3005	D3	3408	D3	3654	D1	5657	D1	7407	D4	9734	C1		
1411	D3	2520	D2	2733	A4	3006	C3	3410	D4	3657	D1	5658	D1	7410	D3	9735	C1		
1682	D1	2521	E2	2734	B4	3007	C3	3414	D3	3658	E1	5659	D1	7412	E3	9736	C2		
1683	D1	2522	D2	2736	B3	3008	C3	3415	D3	3659	D1	5660	D1	7651	D1	9737	C2		
2003	C3	2523	E2	2737	B4	3009	C3	3417	D4	3663	D1	5661	D1	7656	D1	9738	D2		
2013	B4	2524	E1	2738	B4	3013	C4	3419	E4	3664	D1	5662	D1	7663	D1	9753	B3		
2014	D3	2525	D1	2739	B4	3014	D4	3420	D3	3666	E1	5664	D1	7664	E1	9754	A3		
2017	D3	2526	E2	2746	C1	3015	C4	3421	D4	3667	E1	5665	D1	7665	E1	9760	A1		
2019	C3	2529	D2	2747	A3	3016	D3	3434	D4	3668	E1	5666	E1	7666	E1	9761	B1		
2022	C2	2530	D1	2748	C1	3017	C3	3435	E4	3669	D1	5669	D1	7669	D2	9910	E3		
2024	C3	2531	D2	2749	C2	3022	C3	3441	D3	3670	E1	5670	D1	7670	E2	9911	E3		
2026	C3	2532	D2	2750	C2	3023	C3	3445	D4	3671	E1	5671	D1	7674	D1	9912	E3		
2031	C4	2550	D1	2751	C2	3028	C3	3446	E3	3675	D1	5672	E1	7681	D1	9913	E3		
2033	C3	2551	D2	2753	C1	3030	C3	3450	D3	3676	D1	5700	C2	7684	E2	9914	E3		
2036	C3	2552	D1	2755	C1	3032	C3	3451	E4	3677	D1	5701	C2	7685	E2	9915	E3		
2038	C3	2553	D1	2756	C1	3036	C3	3452	E3	3680	D1	5702	D2	7703	C1	9916	E4		
2052	C4	2554	D1	2757	C1	3037	C3	3453	D2	3681	E1	5711	C1	7712	C1	9917	E4		
2053	B4	2555	D1	2760	C2	3038	C2	3454	D2	3682	D1	5712	C1	7713	C1	9918	E3		
2054	B4	2556	D1	2761	C2	3040	C3	3455	D2	3684	D1	5713	C2	7714	B1	9922	E3		
2055	B4	2557	D1	2762	B1	3041	C3	3456	D3	3685	D1	5714	C2	7718	A2	9923	E4		
2056	B4	2558	D1	2765	C1	3042	C2	3457	D3	3686	D1	5717	A2	7722	A3	9924	E4		
2057	B4	2559	D1	2766	C1	3043	C3	3459	D2	3687	D1	5726	B3	7724	B4	9930	E3		
2060	B4	2560	D1	2768	A3	3044	C3	3463	D3	3688	D1	5729	C2	7726	B1	9934	E2		
2061	B4	2561	D1	2769	B1	3045	C4	3465	E2	3689	D1	5738	C1	7728	B3	9936	E2		
2062	C3	2584	D1	2773	B1	3046	B4	3467	E2	3690	D1	5739	B3	7729	B3	9940	E2		
2063	C3	2585	D1	2775	B1	3060	C3	3468	E3	3691	D1	5740	B3	7730	B4	9941	E2		
2064	C3	2586	D1	2777	B1	3061	C4	3470	E2	3692	D1	5741	B4	7731	B3	9942	E2		
2065	C3	2587	E1	2778	B1	3063	C3	3471	E2	3693	D1	5900	E3	7732	B3	9955	E2		
2066	C3	2590	D1	2779	A1	3064	C3	3473	E4	3694	D1	5901	E2	7733	B4	9962	E3		
2067	B2	2595	E1	2781	A1	3069	C3	3474	E4	3695	D1	6002	B4	9001	D3	9963	E2		
2302	E3	2596	E1	2784	A1	3070	C2	3475	D3	3698	E1	6004	C2	9002	C2	9964	E2		
2303	D3	2610	D1	2785	A1	3071	C3	3500	D2	3699	E1	6005	B4	9003	C2	9965	E4		
2304	D3	2611	D1	2786	A1	3072	C3	3501	E2	3703	C2	6006	C3	9004	C3	9966	E2		
2306	E3	2612	E2	2787	B1	3079	C3	3504	D2	3704	C2	6007	C3	9005	B4				
2307	D3	2629	D1	2788	B1	3081	B4	3505	D1	3705	D2	6303	E3	9006	B4				
2308	D3	2630	E1	2789	B2	3088	C3	3506	E1	3706	C2	6304	E3	9007	B4				
2309	D3	2632	E1	2795	B2	3094	C3	3509	D2	3707	C2	6306	D3	9008	C3				
2310	D3	2634	D1	2799	A2	3095	C3	3511	D2	3708	D1	6307	D3	9009	C3				
2311	D3	2637	D1	2800	A2	3096	C2	3515	D2	3709	C1	6308	E2	9010	C3				
2312	D3	2640	D1	2801	A2	3097	B4	3521	E1	3710	C1	6312	D3	9011	C3				
2313	D3	2643	D1	2802	A2	3098	C4	3522	E1	3711	B3	6313	D3	9012	C3				
2319	D3	2644	D1	2810	A3	3303	E3	3532	D1	3712	C2	6314	E3	9013	C3				
2320	D3	2645	D1	2812	B3	3305	D2	3533	D1	3721	D1	6317	E3	9015	C2				
2321	D3	2646	E1	2815	B3	3307	D3	3535	E2	3722	D1	6334	D3	9308	D3				
2323	D3	2649	E1	2816	B3	3308	E3	3536	E2	3729	C1	6402	D4	9309	D3				
2325	D3	2651	D1	2818	B4	3310	D3	3537	E2	3731	C1	6403	D3	9310	D3				
2326	E3	2652	D1	2820	A3	3311	D3	3538	E2	3733	C1	6405	D4	9311	D3				
2328	D2	2653	D2	2821	A3	3312	E3	3539	E1	3734	C1	6651	D1	9312	D3				
2342	E2	2654	D1	2822	A3	3313	E3	3540	D1	3735	C1	6654	D1	9313	E2				
2343	E2	2659	D1	2824	C1	3314	D3	3541	E2	3757	A3	6660	E2	9318	E3				
2354	E3	2660	D1	2826	B3	3315	E3	3543	E1	3758	C1	6661	E2	9319	E3				
2366	E4	2661	D1	2827	B3	3316	E3	3544	D1	3759	C1	6926	E3	9324	E3				
2369	E3	2662	D1	2828	B3	3319	E3	3545	D1	3764	C1	6927	E3	9401	D4				
2370	E2	2663	D1	2830	B4	3323	D3	3546	D1	3765	C1	6928	E3	9402	D4				
2371	D3	2664	D1	2832	B3	3324	D3	3547	D1	3766	A1	6929	E3	9403	D4				
2372	D3	2673	D1	2833	B3	3325	E2	3550	D1	3767	B1	6956	E3	9405	D4				
2374	E3	2674	D1	2835	B3	3326	D3	3551	D2	3771	B3	6957	E3	9406	E4				
2375	E3	2679	D1	2839	B3	3327	D3	3556	E1	3785	B3	7002	D4	9407	D3				
2378	D4	2681	D1	2841	B4	3328	D3	3557	E1	3786	B3	7003	D4	9410	D3				
2384	E4	2686	D1	2847	A4	3331	D3	3558	E1	3787	B4	7004	D3	9413	E4				
2385	E3	2690	D1	2851	A4	3333	D3	3559	E1	3788	B3	7006	C4	9415	D4				
2386	E2	2691	D1	2853	B4	3334	D3	3561	E1	3789	B3	7007	C4	9418	D4				
2390	E4	2694	D1	2854	B4	3339	E2	3563	E1	3790	B4	7011	C3	9420	E4				
2392	E3	2697	E1	2857	B4	3350	E2	3564	E1	3791	B3	7015	D3	9421	E2				
2399	E4	2698	E1	2864	A4	3351	E2	3567	E1	3792	A4	7016	C2	9610	E1				

Layout Small Signal Board (Part 1 Bottom Side)

PART 1

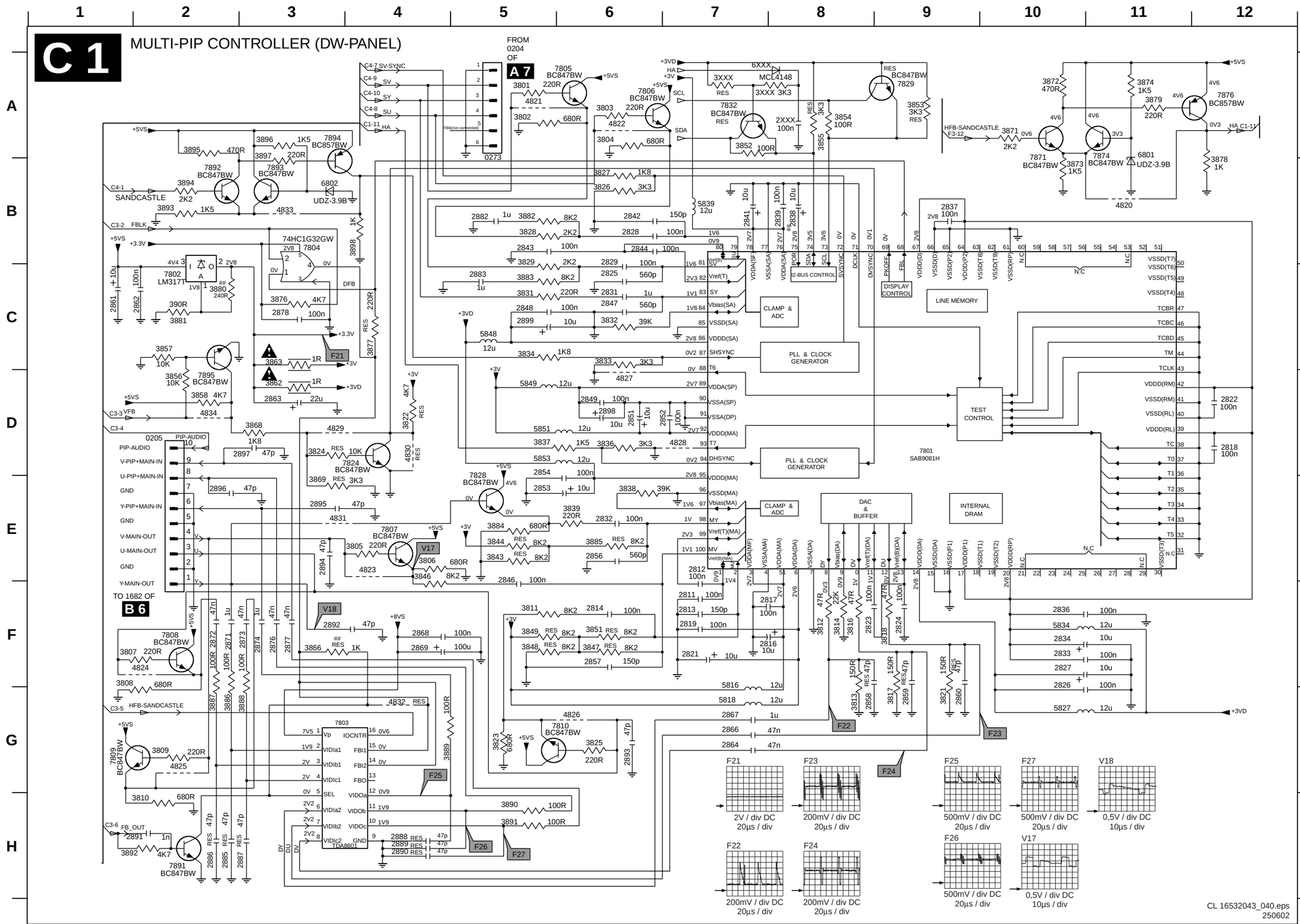


Layout Small Signal Board (Part 2 Bottom Side)



DW Panel: Multi PIP Controller

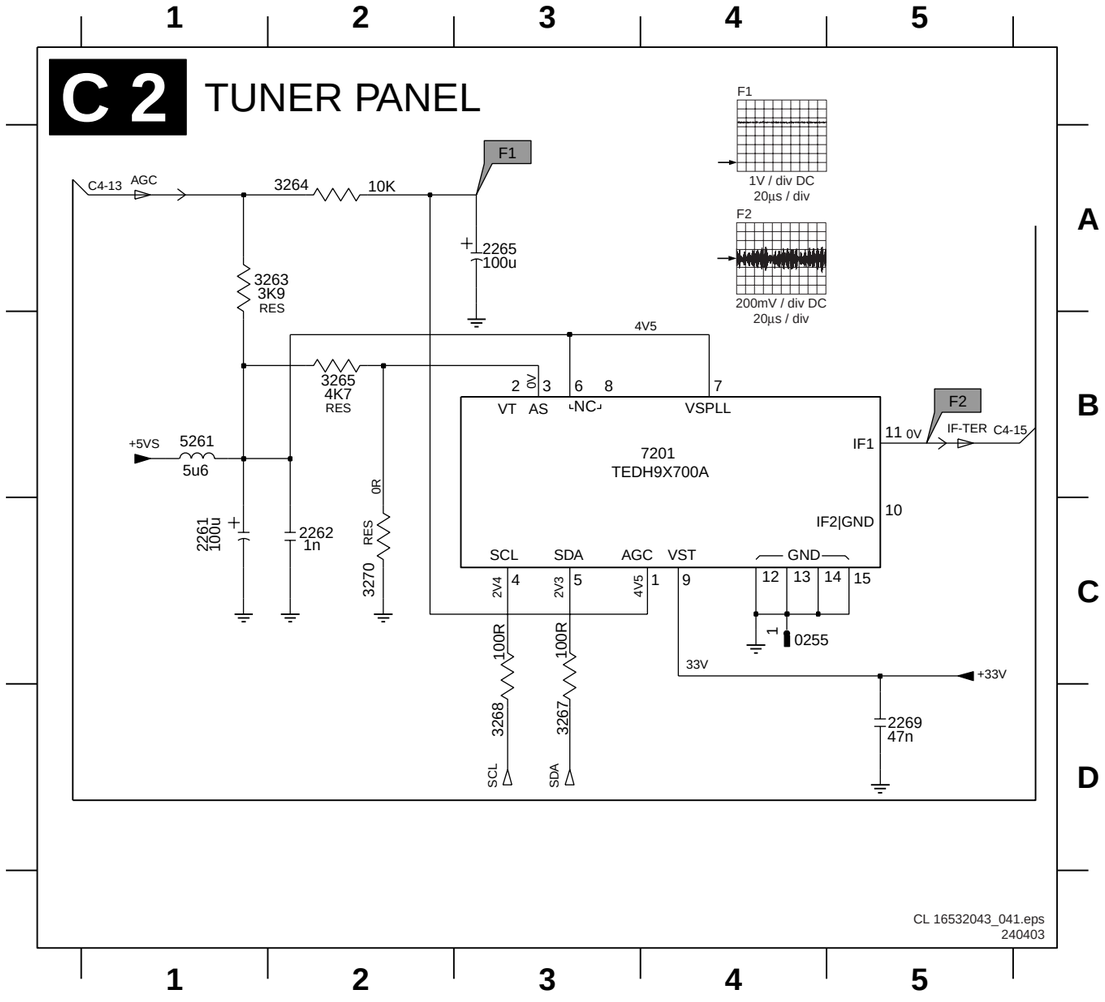
C 1 MULTI-PIP CONTROLLER (DW-PANEL)



0205 D2	3828 B5	78
0273 B5	3829 C5	78
2811 F7	3831 C5	78
2812 E7	3832 C6	78
2813 F7	3833 C6	78
2814 F6	3834 C5	78
2816 F7	3836 D6	
2817 F8	3837 D5	
2818 D12	3838 E6	
2819 F7	3839 E6	
2821 F7	3843 E5	
2822 D12	3844 E5	
2823 F8	3846 E4	
2824 F9	3847 F6	
2825 C6	3848 F5	
2826 G10	3849 F5	
2827 F10	3851 F6	
2828 B6	3852 A7	
2829 C6	3853 A9	
2831 C6	3854 A8	
2832 E6	3855 A8	
2833 F10	3856 D2	
2834 F10	3857 C2	
2836 F10	3858 D2	
2837 B9	3862 D3	
2838 B8	3863 C3	
2839 B8	3866 F3	
2841 B7	3868 D3	
2842 B6	3869 E3	
2843 B5	3871 A10	
2844 B6	3872 A10	
2846 F5	3873 B10	
2847 C6	3874 A11	
2848 C5	3876 C3	
2849 D6	3877 C4	
2851 D6	3878 B12	
2852 D7	3879 A11	
2853 E5	3880 C2	
2854 D5	3881 C2	
2856 E6	3882 B5	
2857 F6	3883 C5	
2858 G8	3884 E5	
2859 G9	3885 E6	
2860 G9	3886 G2	
2861 C1	3887 G2	
2862 C2	3888 G3	
2863 D3	3889 G4	
2864 G7	3890 H5	
2866 G7	3891 H5	
2867 G7	3892 H1	
2868 F4	3893 B2	
2869 F4	3894 B2	
2871 F2	3895 A2	
2872 F2	3896 A3	
2873 F3	3897 B3	
2874 F3	3898 B4	
2876 F3	3XXX A7	
2877 F3	3XXX A7	
2878 C3	4820 B11	
2882 B5	4821 A5	
2883 C5	4822 A6	
2885 H2	4823 E4	
2886 H2	4824 F2	
2887 H2	4825 G2	
2888 H4	4826 G6	
2889 H4	4827 D6	
2890 H4	4828 D7	
2891 H2	4829 D3	
2892 F3	4830 D4	
2893 G6	4831 E3	
2894 E3	4832 G4	
2895 E3	4833 B3	
2896 E2	4834 D2	
2897 D3	5816 G7	
2898 D6	5818 G7	
2899 C5	5827 G10	
2XXX A8	5834 F10	
3801 A5	5839 B7	
3802 A5	5848 C5	
3803 A6	5849 D5	
3804 A6	5851 D5	
3805 E4	5853 D5	
3806 E4	6801 A11	
3807 F1	6802 B3	
3808 F1	6XXX A7	
3809 G2	7801 D9	
3810 H2	7802 C2	
3811 F5	7803 G3	
3812 F8	7804 B3	
3813 G8	7805 A5	
3814 F8	7806 A6	
3816 F8	7807 E4	
3817 G9	7808 F2	
3818 F9	7809 G1	
3821 G9	7810 G5	
3822 D4	7824 D3	
3823 G5	7828 D5	
3824 D3	7829 A9	
3825 G6	7832 A7	
3826 B6	7871 B10	
3827 B6	7874 B11	

DW Panel: Tuner

0255 C5 2261 C1 2262 C2 2265 A3 2269 D5 3263 A2 3264 A2 3265 B2 3267 D3 3268 D3 3270 C2 5261 B1 7201 B4

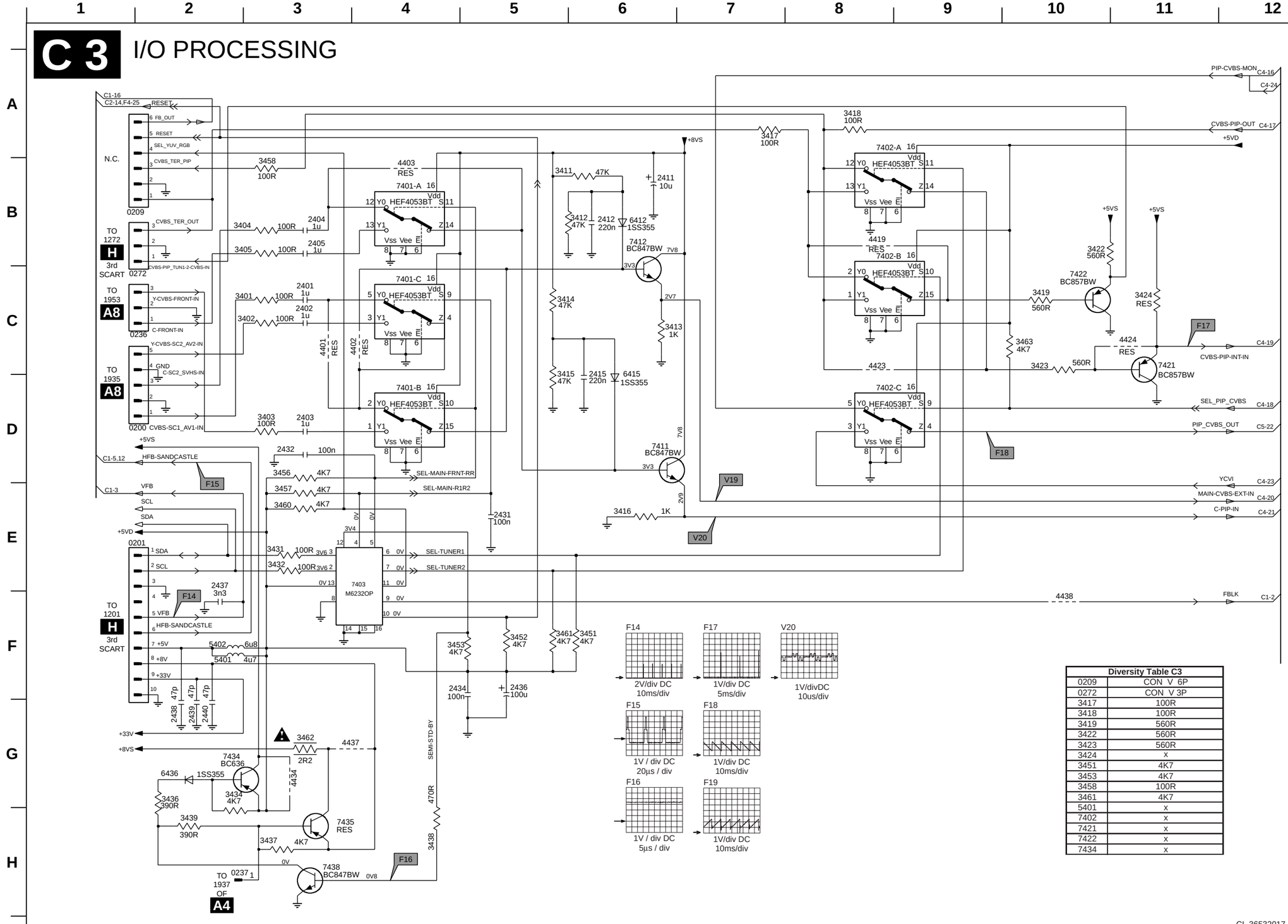


1 2 3 4 5

Personal Notes:

DW Panel: I/O Processing

C 3 I/O PROCESSING



Diversity Table C3	
0209	CON V 6P
0272	CON V 3P
3417	100R
3418	100R
3419	560R
3422	560R
3423	560R
3424	x
3451	4K7
3453	4K7
3458	100R
3461	4K7
5401	x
7402	x
7421	x
7422	x
7434	x

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0200 D2
0201 E2
0209 B2
0236 C2
0237 H2
0272 C1
2401 C3
2402 C3
2403 D3
2404 B3
2405 B3
2411 B6
2412 B6
2415 C6
2431 E5
2432 D3
2434 F4
2436 F5
2437 E2
2438 G2
2439 G2
2440 G2
3401 C3
3402 C3
3403 D3
3404 B2
3405 B2
3411 B5
3412 B6
3413 C6
3414 C5
3415 C5
3416 E6
3417 A7
3418 A8
3419 C10
3422 B10
3423 C10
3424 C11
3431 E3
3432 E3
3434 G2
3436 G2
3437 H3
3438 H4
3439 H2
3451 F6
3452 F5
3453 F4
3456 D3
3457 E3
3458 B3
3460 E3
3461 F5
3462 G3
3463 C10
4401 C3
4402 C4
4403 B4
4419 B8
4423 C8
4424 C11
4434 G3
4437 G3
4438 F10
5401 F2
5402 F2
6412 B6
6415 C6
6436 G2
7401-A B4
7401-B D4
7401-C C4
7402-A A8
7402-B B8
7402-C D8
7403 E4
7411 D6
7412 B6
7421 C11
7422 C10
7434 G2
7435 H3
7438 H3

DW Panel: IF Video Sync

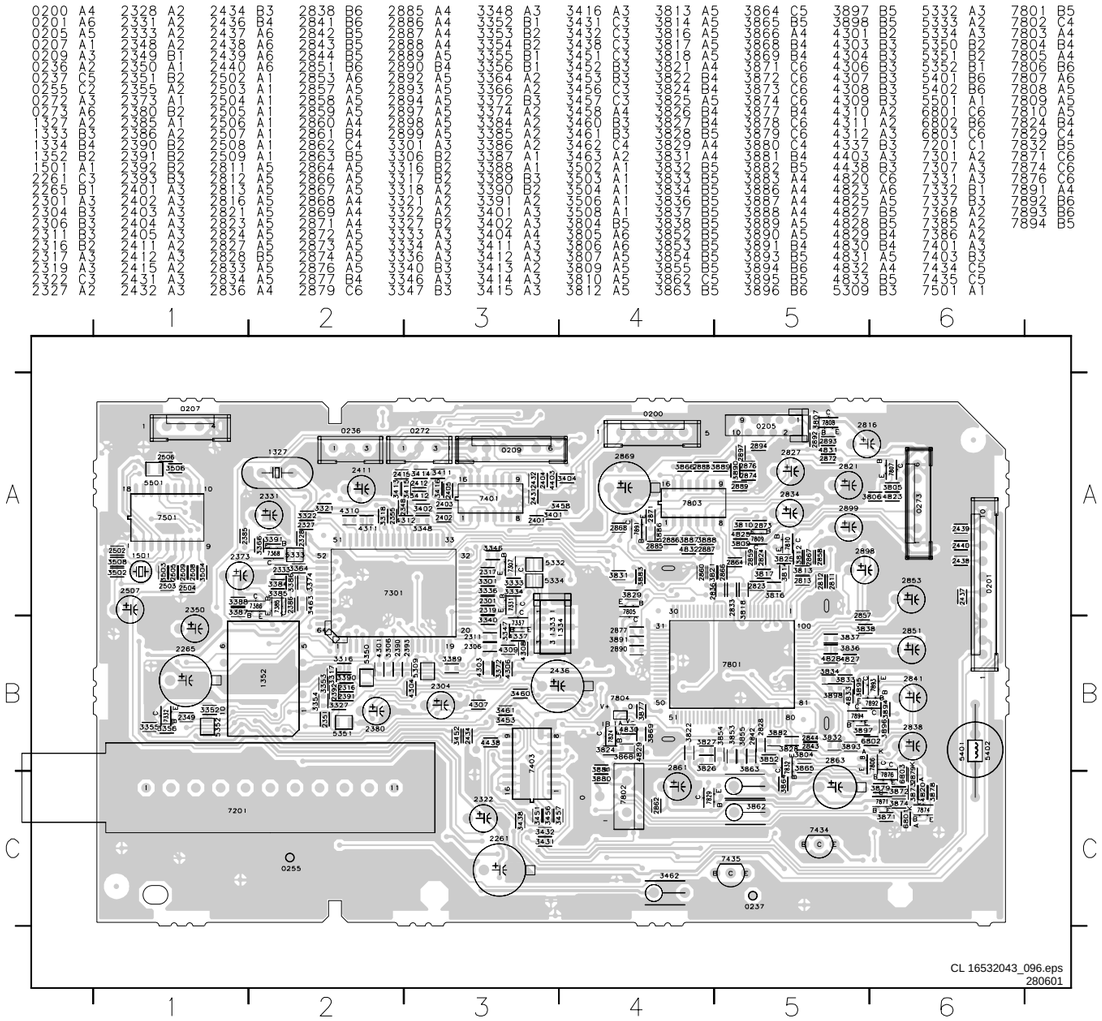
C 4 IF-VIDEO-SYNC

IF AMPLIFIER PLL VIDEO DEMOD AFC CALIBRATION
SWITCHABLE SOUND TRAPS 4.5 / 5.5 / 6 / 6.5 MHZ
VIDEO AMPLIFIER / MUTE
AGC
AGC + NARROW BAND AUDIO FM PLL DEMODULATOR DE-EMPHASIS
OUTPUT + VOLUME CONTROL
SYNC SEPARATOR
VCO + CONTROL
HORIZONTAL OUTPUT
VERTICAL SYNC SEPARATOR
VERTICAL OUTPUT
E / W OUTPUT
BOCMA
SW OUT
IIC BUS CONTROL
CVBS SWITCH
LUM-DELAY PEAKING CORING
CHROMA BAND-PASS +TRAP
PAL / NTSC / SECAM DEMODULATOR
BASE BAND DELAY LINE
VIDEO IDENT
RGB-2 INPUT / RGB / YUV MATRIX
CD MATRIX / SATURATION CONTROL
RGB MATRIX / WHITE / BLACK STRETCH + RGB1 INPUT + TINT
RGB OUTPUT
CATHODE CALIBRATION

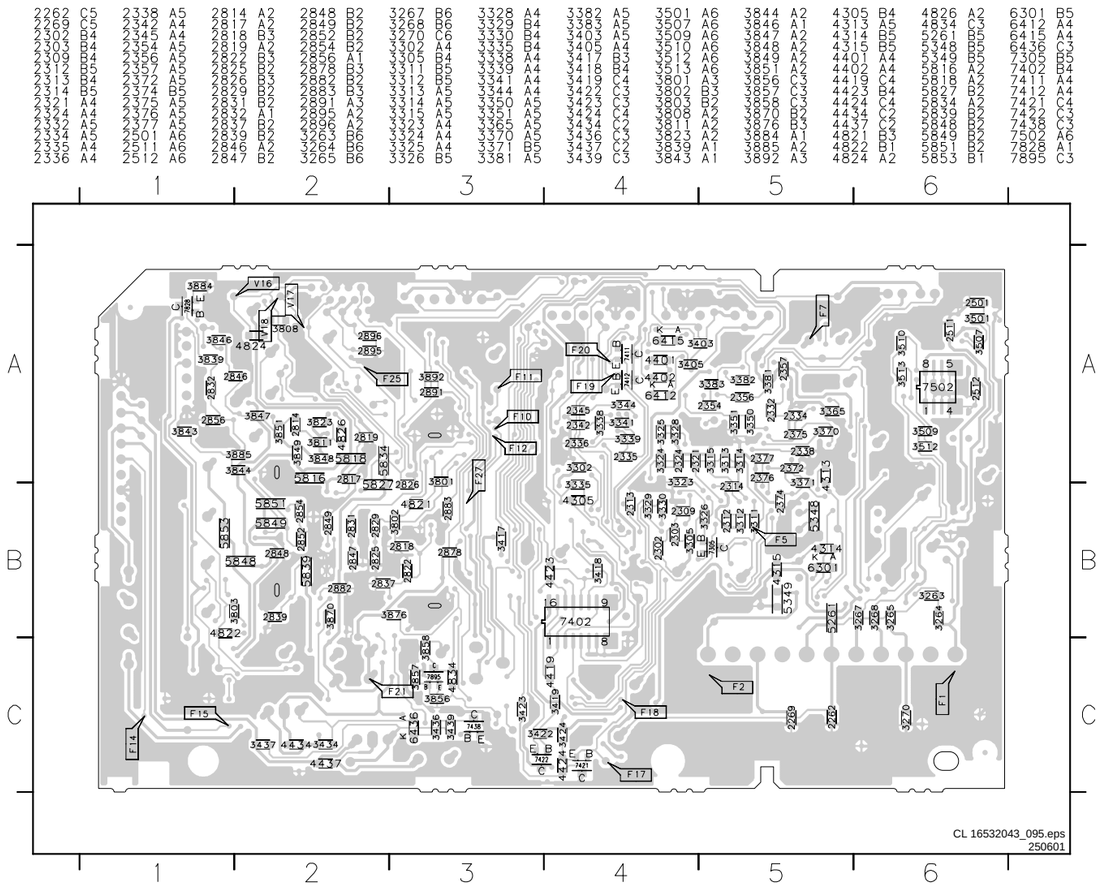
0207 G2	3301 C7	3386 D11
1327 G5	3302 A7	3387 D12
1333 F2	3305 C3	3388 D12
1334 F2	3306 D6	3389 G9
1352 B3	3311 D8	3390 A9
2301 E3	3312 D9	3391 F2
2302 C3	3313 D10	4301 D3
2303 C3	3314 D10	4303 D7
2304 D3	3315 D10	4304 D2
2306 F3	3316 B3	4305 D2
2309 B11	3317 C3	4306 E2
2311 F3	3318 H5	4307 D2
2312 C9	3321 H4	4308 E2
2313 G9	3322 H5	4309 E2
2314 D10	3323 A8	4310 G7
2316 C4	3324 A4	4311 G7
2317 D5	3325 A4	4312 G6
2319 A5	3326 C7	4313 A10
2321 C3	3327 D2	4314 B2
2322 C3	3328 A5	4315 B2
2324 A5	3329 E10	4337 A6
2327 G4	3330 E10	5309 A11
2328 G4	3333 A4	5332 A6
2331 D7	3334 E3	5333 A11
2332 D6	3335 E2	5334 E2
2333 F11	3336 A7	5348 B4
2334 D7	3338 E10	5349 B2
2335 F3	3339 G9	5350 A8
2336 G9	3340 A5	5351 A9
2338 A9	3341 F10	5352 A1
2342 F11	3344 F10	6301 B2
2345 F11	3346 E10	7301-A B4
2348 E11	3347 A6	7301-B D3
2349 B2	3348 E10	7301-C B9
2350 B2	3350 F10	7305 D2
2351 B2	3351 F10	7307 E10
2354 G5	3352 A2	7331 A5
2355 H5	3353 B2	7332 C2
2356 H5	3354 B2	7337 A6
2357 H5	3355 C2	7368 F3
2372 C8	3356 C2	7385 D10
2373 C8	3364 F3	7386 E11
2374 D11	3365 F2	
2375 B12	3366 F1	
2376 C12	3370 B12	
2377 B12	3371 C8	
2380 A5	3372 D2	
2385 E11	3374 D11	
2386 E11	3381 H4	
2390 B7	3382 H4	
2391 A9	3383 G4	
2392 A9	3384 D12	
2393 A8	3385 D11	

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Layout Double Window Panel (Top View)



Layout Double Window Panel (Bottom View)



Mains Switch Panel (FL11 Styling)

MAINS SWITCH PANEL

*BLUE LED FUNCTION

TO 1946 **A10**

0241 — 50Hz/60Hz, ON/OFF LED, RC5, 5V-STANDBY, IR-LED, GND KEYBOARD, KEYBOARD, LIGHT SENSOR, +8V6

EH-S 0245 — GND KEYBOARD, KEYBOARD, GND KEYBOARD

FROM/TO 0345 OF **P** TOP CONTROL

EH-S 0248 — GND KEYBOARD, KEYBOARD, GND KEYBOARD, BACKLIGHT TC

TO 1245 **L** LCD BOARD (ONLY FOR SETS WITH LCD DISPLAY)

9096

ON_OFF_LED, RC5, 5V-STANDBY, LIGHT_SENSOR, 8V6

3060* 10K, I011, 7060* BC847B

3061* 330R, I009, 3062* 100R, I010

6061* 1N4148, I013, 3063* 10K, I014, 7061* BC847B, I021

TLDR5400 BLUE, 6060*, 2060* 22u

100R 3064*, 9055, 9054, 3054 100R, 9053, 9052*, I020, I022, 9051*

3053 560R, 3052* 330R, 3051 330R

6050* TLDR5400, I012

3 1 6051 TLUV5300 GREEN 2 RED

I006, 3050 1K0, 9050*

BLUE_LED_KEYB, ON_OFF_LED

HOT MAINS SWITCH

MAINS AC IN — 0201 — F011 107V, F010 107V — SDDF 1051 — F013 107V, F012 107V — 0202 — FROM/TO 1505 OF **A 1** TO LSP Line deflection

OR **B** Top supply

3066 3M3, I002, 3M3 3057, I003

COLD

F014 3998 1K F015

9099, 9098, 9097

8V6, 8V6

BLUE_LED_KEYB, 3080 10K, 3081 10K, I004, 7081, I001, BC847B

3082 150R, 3083 150R, I005 7080, BC337-25, 2080 100n, I025

5V-STANDBY

I007, 3040 330R, 3042 6K8 ##, 3041 10K ##, 3043 470R, I008

1040 RC5-RECEIVER — INP, CTRL CIRCUIT, AGC, BAND PASS, DEM, PIN, VS, OUT, GND, M1, M2 — 4V8, 3V, 0V — I024, I023

9041 #, 9043 #, 9040 #, 9042 #

2040 100u, 0V

ROHM RECEIVER

MG

2070 470n, I015, 3071 4M7, 3074 10K

7070-A LM358N, I016, I017, 0V2

7070-B LM358N, 8V6, 1V9, 3075 4K7, I018, I019, 3073 3K3

6070 BPW46 LIGHT SENSOR 0V

3070 4M7, 2071 10u, 3079 3K3, 3072 1K, 3078 3K3

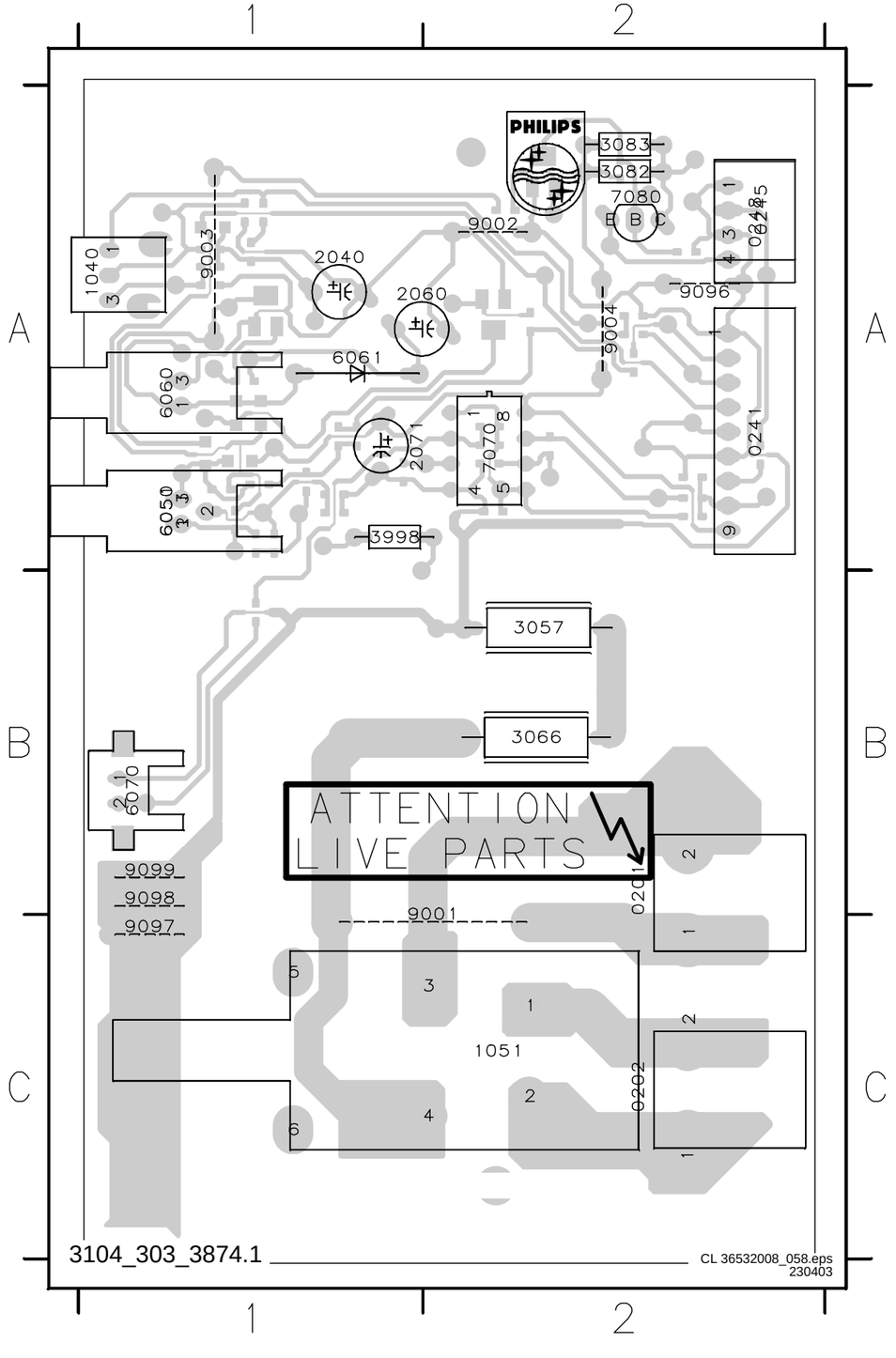
LIGHT_SENSOR

8204_000_6627.1

CL 36532008_061.eps 170403

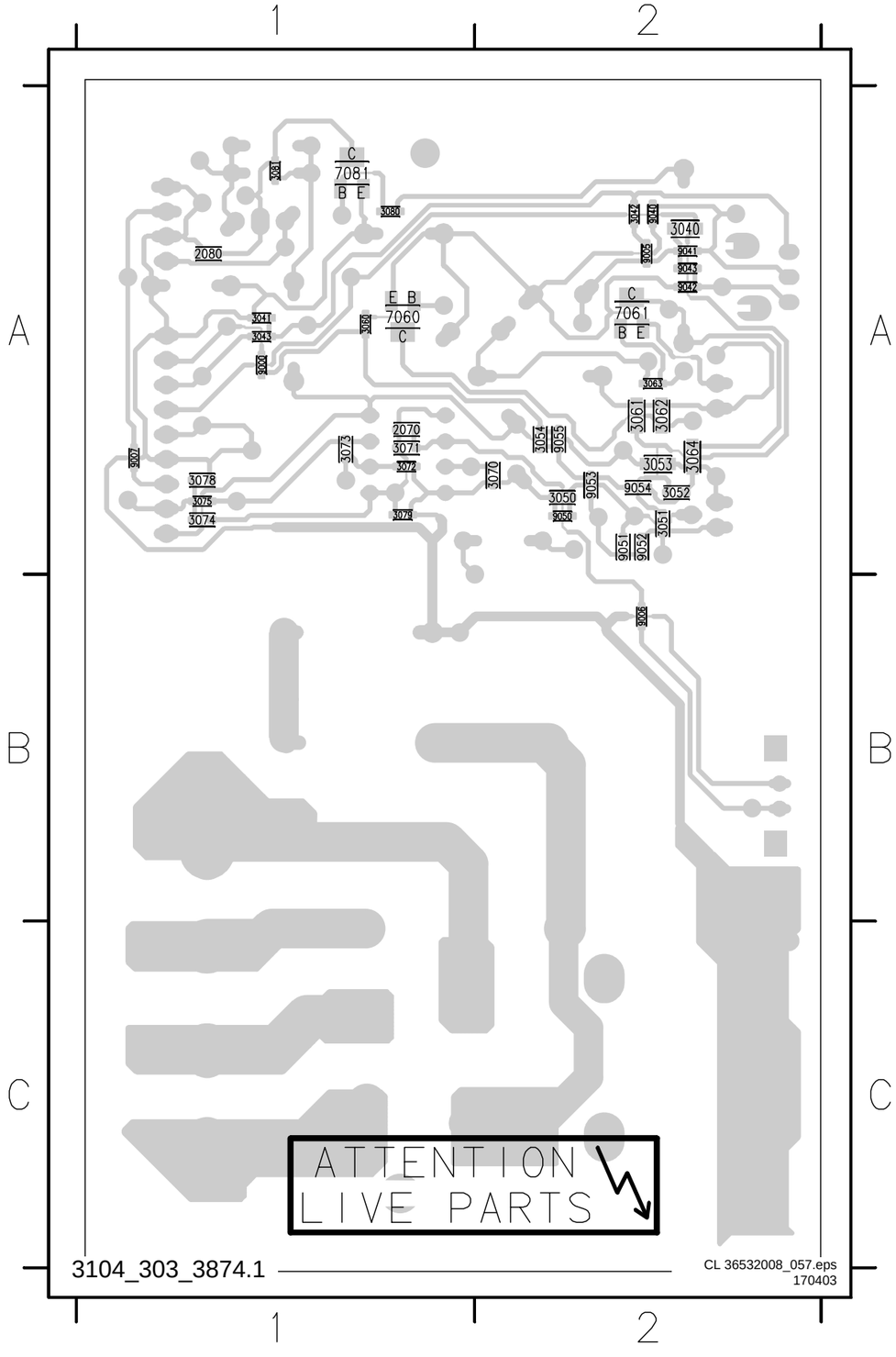
0201 B8
0202 A10
0241 A1
0245 C1
0248 D1
1040 E5
1051 A9
2040 F4
2060 B4
2070 D8
2071 F8
2080 E3
3040 D6
3041 F6
3042 E6
3043 F7
3050 C7
3051 B7
3052 B7
3053 B6
3054 B6
3057 B8
3060 B3
3061 A3
3062 B3
3063 B5
3064 A6
3066 B8
3070 F8
3071 E8
3072 F9
3073 F9
3074 E9
3075 E10
3078 F10
3079 F9
3080 D2
3081 D3
3082 D3
3083 D4
3998 C9
6050 B6
6051 C7
6060 B4
6061 B4
6070 F7
7060 B4
7061 A5
7070-A E8
7070-B E9
7080 E3
7081 E3
9040 F6
9041 E6
9042 F6
9043 E6
9050 C7
9051 C6
9052 B6
9053 B6
9054 B6
9055 B6
9096 E1
9097 C9
9098 C9
9099 C9
F001 A2
F002 A2
F003 B2
F004 B2
F005 B2
F006 B2
F007 B2
F008 B1
F009 B2
F010 A8
F011 A8
F012 A9
F013 A9
F014 C9
F015 C10
I001 E2
I002 B8
I003 B8
I004 E3
I005 D3
I006 C7
I007 E5
I008 F6
I009 B3
I010 B3
I011 B3
I012 B7
I013 B4
I014 B5
I015 E9
I016 E8
I017 E8
I018 F9
I019 F10
I020 B6
I021 A5
I022 B7
I023 E6
I024 E6
I025 E3

Layout Mains Switch Panel (FL11 Styling) (Top Side)



0201 B2
0202 C2
0241 A2
0245 A2
0248 A2
1040 A1
1051 C2
2040 A1
2060 A1
2071 A1
3057 B2
3066 B2
3082 A2
3083 A2
3998 A1
6050 A1
6051 A1
6060 A1
6061 A1
6070 B1
7070 A2
7080 A2
9001 B2
9002 A2
9003 A1
9004 A2
9096 A2
9097 C1
9098 B1
9099 B1

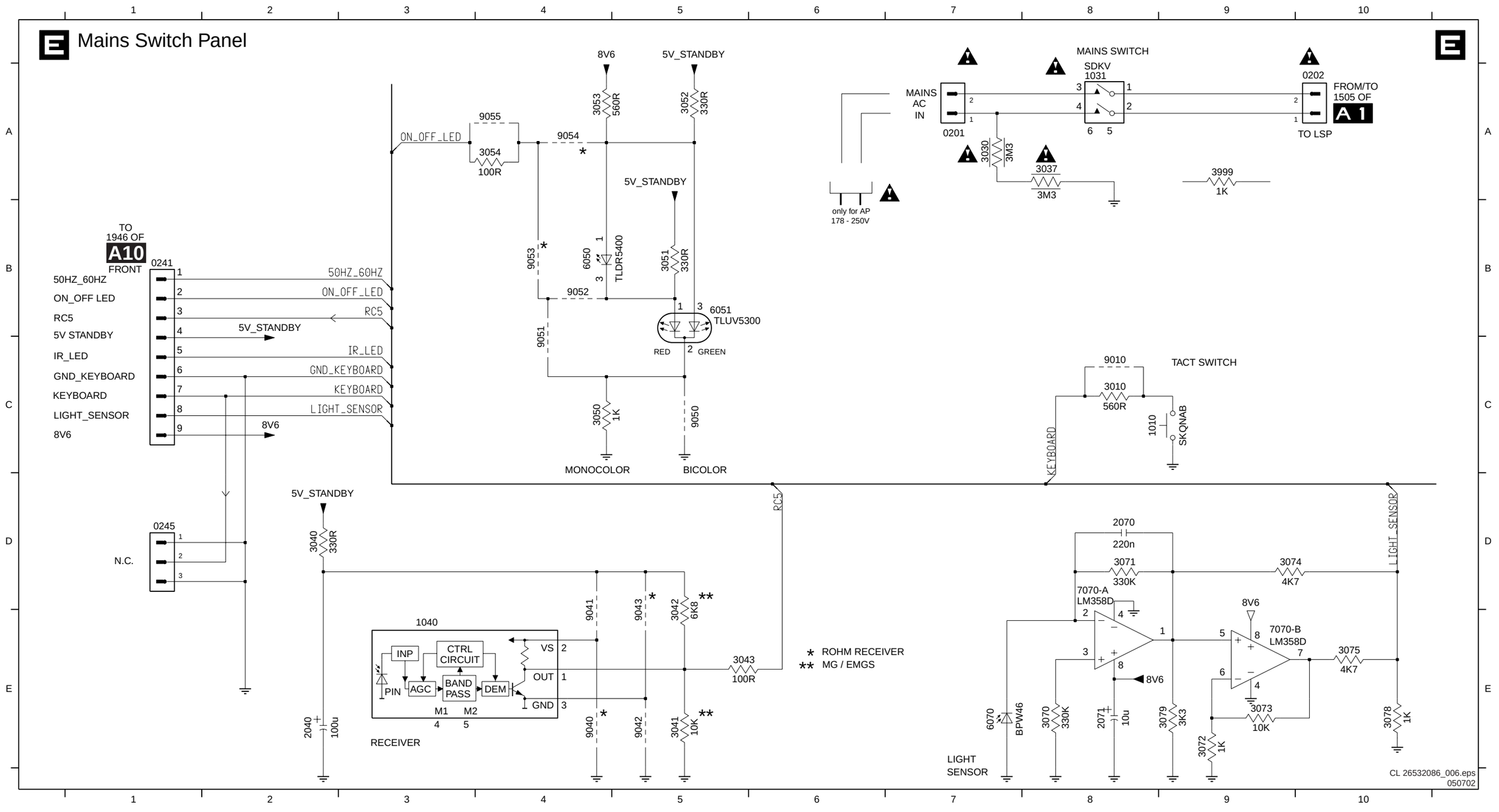
Layout Mains Switch Panel (FL11 Styling) (Bottom Side)



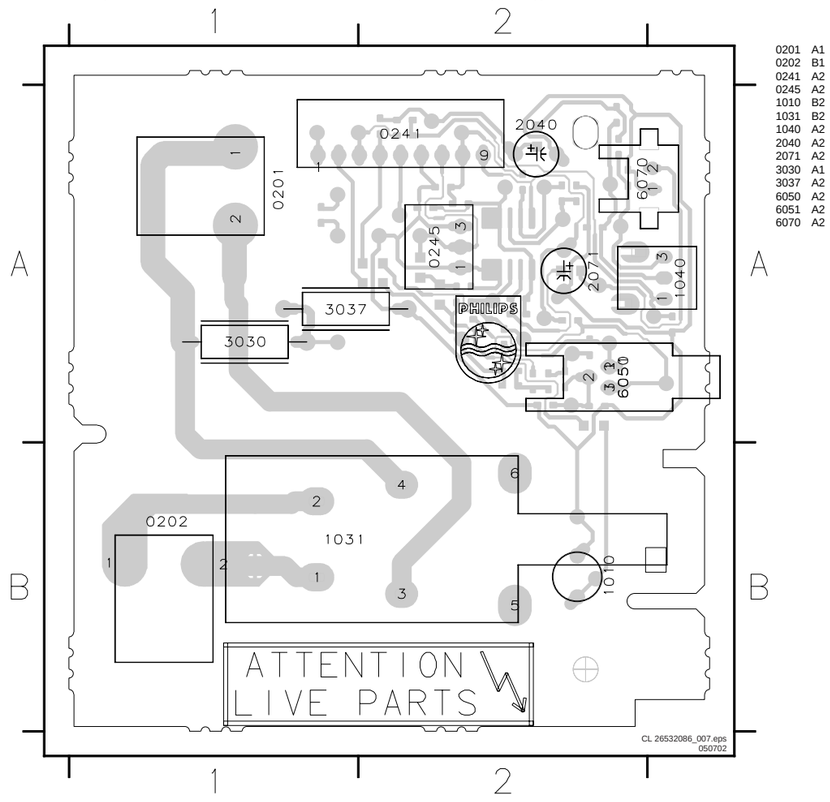
2070 A1
2080 A1
3040 A2
3041 A1
3042 A2
3043 A1
3050 A2
3051 A2
3052 A2
3053 A2
3054 A2
3060 A1
3061 A2
3062 A2
3063 A2
3064 A2
3070 A2
3071 A1
3072 A1
3073 A1
3074 A1
3075 A1
3078 A1
3079 A1
3080 A1
3081 A1
7060 A1
7061 A2
7081 A1
9000 A1
9005 A2
9006 B2
9007 A1
9040 A2
9041 A2
9042 A2
9043 A2
9050 A2
9051 A2
9052 A2
9053 A2
9054 A2
9055 A2

Main Switch Panel (PV2 Styling)

0201 A7 0245 D1 1040 E3 2071 E8 3037 A8 3042 E5 3051 B5 3054 A4 3072 E9 3075 E10 3999 A9 6070 E7 9010 C8 9042 E5 9051 C4 9054 A4
0202 A10 1010 C8 2040 E2 3010 C8 3040 D2 3043 E5 3052 A5 3070 E8 3073 E9 3078 E10 6050 B4 7070-A D8 9040 E4 9043 E5 9052 B4 9055 A4
0241 B1 1031 A8 2070 D8 3030 A7 3041 E5 3050 C4 3053 A4 3071 D8 3074 D9 3079 E9 6051 B5 7070-B E9 9041 E4 9050 C5 9053 B4

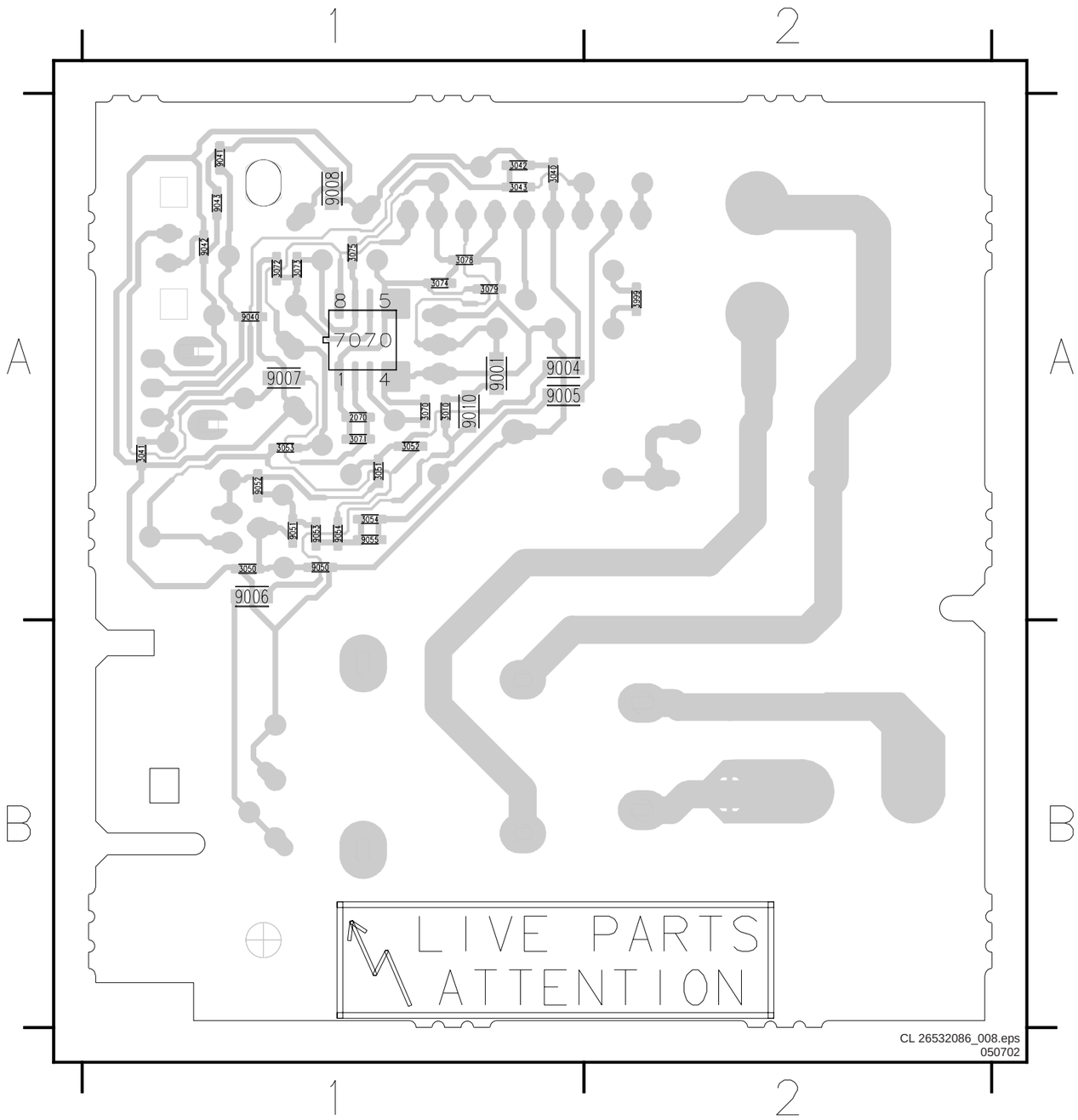


Layout Main Switch Panel (PV2 Styling) (Top Side)



0201 A1
0202 B1
0241 A2
0245 A2
1010 B2
1031 B2
1040 A2
2040 A2
2071 A2
3030 A1
3037 A2
6050 A2
6051 A2
6070 A2

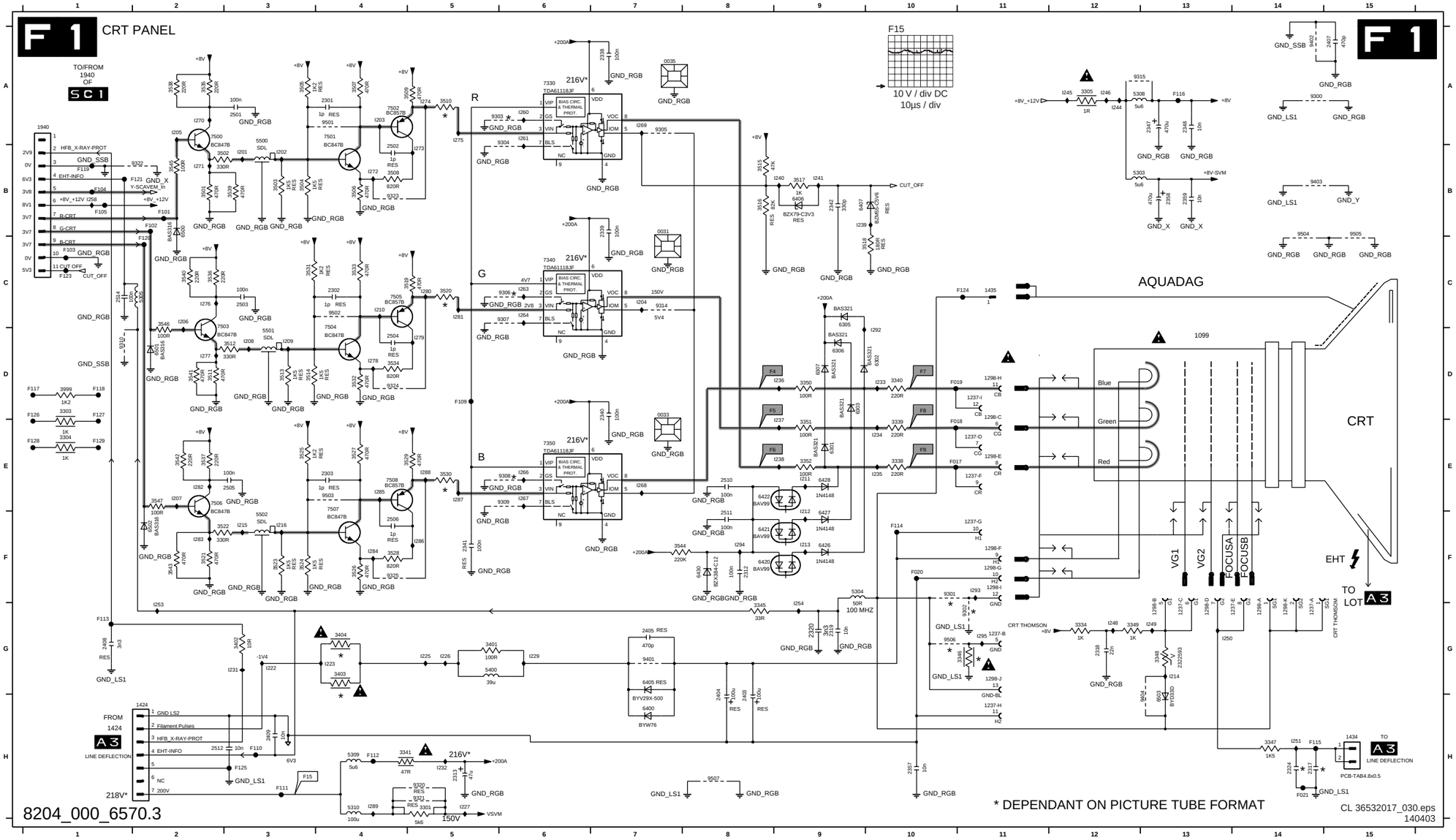
Layout Main Switch Panel (PV2 Styling) (Bottom Side)

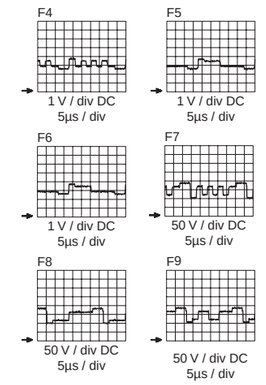


0201 A2
0202 B2
0241 A2
0245 A1
1010 B1
1031 B1
1040 A1
2040 A1
2070 A1
2071 A1
3010 A1
3030 A2
3037 A2
3040 A1
3041 A1
3042 A1
3043 A1
3050 A1
3051 A1
3052 A1
3053 A1
3054 A1
3070 A1
3071 A1
3072 A1
3073 A1
3074 A1
3075 A1
3078 A1
3079 A1
3999 A2
6050 A1
6051 A1
6070 A1
7070 A1
9001 A1
9004 A1
9005 A1
9006 A1
9007 A1
9008 A1
9010 A1
9040 A1
9041 A1
9042 A1
9043 A1
9050 A1
9051 A1
9052 A1
9053 A1
9054 A1
9055 A1

CRT Panel (FL11 Styling)

0031 B7	1237-I D11	1298-K F14	2318 G12	2357 H10	2503 C3	3305 A12	3350 D9	3505 A3	3516 B8	3527 E4	3538 A2	5303 B12	6302 D10	6422 E8	7350 E6	9301 F10	9315 A12	9501 A4	F021 H14	F114 F10	F126 D1	I208 D3	I225 G5	I238 E9	I253 G2	I270 A2	I281 C5	I292 D10
0033 D7	1298-A F14	1424 H2	2319 G9	2358 B13	2504 D4	3334 G12	3351 E9	3506 B4	3517 B9	3528 F4	3539 B3	5304 F9	6303 D9	6426 F9	7500 A2	9302 G11	9320 H5	9502 C4	F101 B2	F115 H14	F127 D1	I209 D3	I226 G5	I239 B9	I254 G9	I271 B2	I282 E2	I293 F11
0035 A7	1298-B F13	1434 H15	2320 G9	2359 B13	2505 E3	3338 E10	3352 E9	3507 A4	3518 C10	3529 E5	3540 C2	5305 C2	6305 C9	6427 F9	7501 A4	9303 A5	9321 H5	9503 E4	F102 B2	F116 A13	F128 E1	I210 C4	I227 H5	I240 B9	I258 B1	I272 B4	I283 F2	I294 F9
1237-A F14	1298-C D11	1435 C11	2324 H14	2403 H8	2506 F4	3339 E10	3401 G5	3508 B4	3519 C5	3530 E5	3541 D2	5308 A12	6306 D9	6428 E9	7502 A4	9304 A6	9322 B2	9504 B14	F103 C1	F117 D1	F129 E1	I211 E9	I229 G6	I241 B9	I260 A6	I273 B5	I284 F4	I295 G11
1237-B G11	1298-D F13	1940 A1	2338 A7	2404 H8	2510 E8	3340 D10	3402 G3	3509 A5	3520 C5	3531 C3	3542 E2	5309 H4	6307 D9	6430 F8	7503 D2	9305 A7	9323 B4	9505 B15	F104 B1	F118 D1	I201 B3	I212 F9	I231 G3	I244 A12	I261 A6	I274 B6	I285 F4		
1237-C F13	1298-E E11	2301 A4	2339 B7	2405 G7	2511 F8	3341 H4	3403 G4	3510 A5	3521 F2	3532 D4	3543 F2	5310 H4	6400 H7	6500 B2	7504 D4	9306 C6	9324 D4	9506 G10	F105 B1	F119 B1	I202 B3	I213 F9	I232 H5	I245 A12	I263 C6	I275 A5	I286 F5		
1237-D E11	1298-F F11	2302 C4	2340 D7	2407 A15	2512 H2	3345 G8	3404 G4	3511 D2	3522 F2	3533 C4	3544 F7	5400 G5	6405 G7	6501 D2	7505 C4	9307 C6	9325 F4	9507 H8	F109 D5	F120 C2	I203 A4	I214 G13	I233 D10	I246 A12	I264 C6	I276 B2	I287 F5		
1237-E F14	1298-G F11	2303 E4	2341 F5	2408 G1	2514 C1	3346 G11	3501 B2	3512 D3	3523 F3	3534 D4	3545 B2	5500 A3	6406 B9	6502 F2	7506 E2	9308 E6	9401 G7	F017 E10	F110 H3	F121 B2	I204 C7	I215 F3	I234 E10	I248 G12	I266 E6	I277 D2	I288 E5		
1237-F E11	1298-H D11	2312 F8	2342 B9	2409 H3	3301 H5	3347 H14	3502 B2	3513 D3	3524 F3	3535 A2	3546 C2	5501 D3	6407 B9	6503 H13	7507 E4	9309 E6	9402 A14	F018 E10	F111 H3	F123 C1	I205 A2	I216 F3	I235 E10	I249 G13	I267 E6	I278 D4	I289 H4		
1237-G F11	1298-I F11	2313 H5	2347 A13	2501 A3	3303 D1	3348 G13	3503 B3	3514 D3	3525 E3	3536 C2	3547 E2	5502 F3	6420 F8	7330 A6	7508 E4	9310 D1	9403 B14	F019 D10	F112 H4	F124 C11	I206 C2	I222 G3	I236 D9	I250 G13	I268 E7	I279 D5	I290 D9		
1237-H H11	1298-J G11	2317 H14	2348 A13	2502 B4	3304 E1	3349 G12	3504 B3	3515 B8	3526 F4	3537 E2	3999 D1	6301 E9	6421 F8	7340 C6	9300 A14	9314 C7	9404 H13	F020 F10	F113 G1	F125 H3	I207 E2	I223 G4	I237 E9	I251 H14	I269 A7	I280 C5	I291 D9		

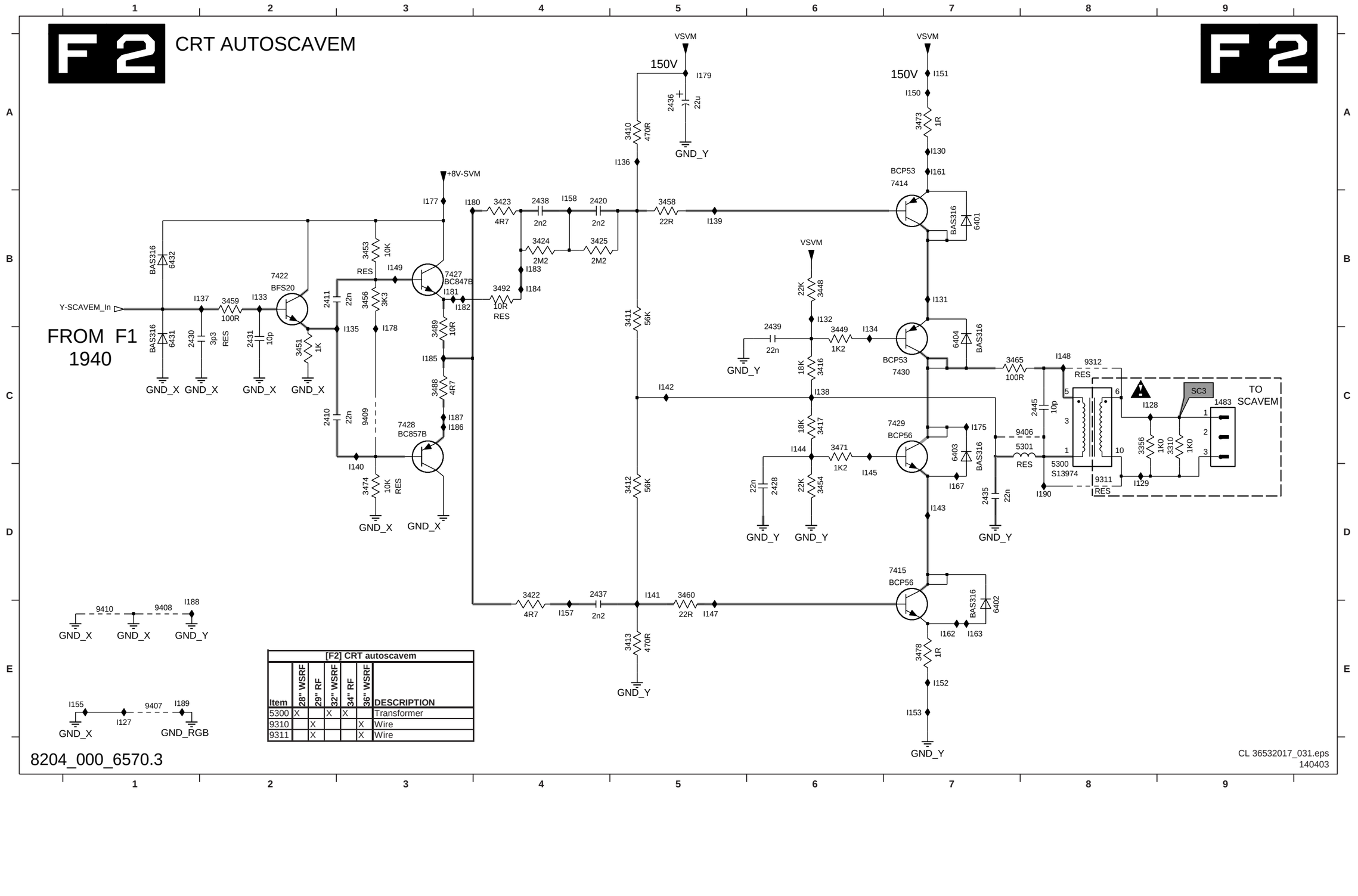




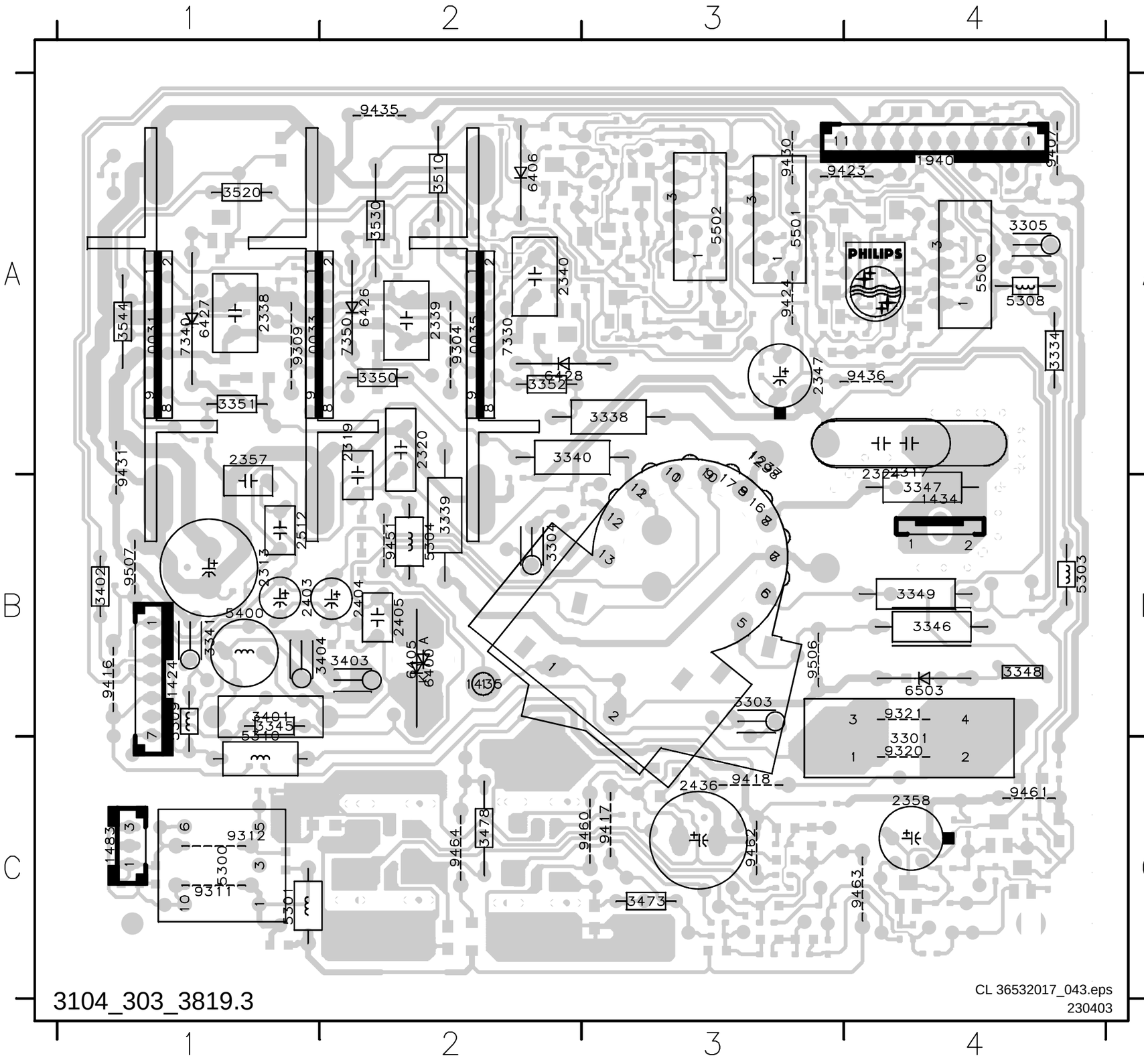
[F1] CRT panel						
Item	28" WSRF	29" RF	32" WSRF	34" RF	36" WSRF	DESCRIPTION
1237				X		CRT socket 9p female
1298	X	X			X	CRT socket 10p female
1298			X			CRT socket 11p female
2324	X					1N
2324			X			1N5
2324		X			X	4N7
2403		X		X	X	100U
2404		X		X	X	100U
2405		X		X	X	470P
3303				X		FUSE 1K
3304	X	X	X		X	FUSE 1K
3402	X		X		X	10R
3402		X		X		150R
3403		X			X	FUSE 1R
3403				X		FUSE 1R5
3403	X		X			FUSE 1R
3404		X			X	FUSE 1R
3404				X		FUSE 1R5
3510					X	100R
3510	X		X			150R
3510				X		220R
3510		X				560R
3520	X				X	150R
3520				X		220R
3520			X			390R
3520		X				560R
3530	X					150R
3530				X		220R
3530					X	270R
3530			X			390R
3530		X				560R
3999				X		1K5
3999	X					1K8
3999		X				2K2
3999					X	2K7
3999			X			3K9
5400	X		X			33U
5400				X		18U
5400		X				27U
5400					X	39U
6405		X		X	X	BYV29X-500
9301	X	X		X	X	Jumper
9302			X			Jumper
9303	X	X	X		X	Jumper
9306	X	X	X		X	Jumper
9308	X	X	X		X	Jumper
9401	X		X			Jumper

CRT/ Auto SCAVEM Panel (FL11 Styling)

1483 C9	2430 C1	2438 B4	3410 A5	3417 C6	3448 B6	3456 B3	3471 C6	3489 C3	6402 E7	7414 A7	7429 C7	9407 E1	I128 C8	I133 B2	I138 C6	I143 D7	I149 B3	I155 E1	I163 E7	I179 A5	I184 B4	I189 E1
2410 C2	2431 C2	2439 B6	3411 B5	3422 D4	3449 C6	3458 B5	3473 A7	3492 B4	6403 C7	7415 D7	7430 C7	9408 E1	I129 D8	I134 C6	I139 B5	I144 C6	I150 A7	I157 E4	I167 D7	I180 B3	I185 C3	I190 D8
2411 B2	2435 D7	2445 C8	3412 D5	3423 B4	3451 C2	3459 B2	3474 D3	5300 D8	6404 C7	7422 B2	9311 D8	9409 C3	I130 A7	I135 C3	I140 D3	I145 D6	I151 A7	I158 B4	I175 C7	I181 B3	I186 C3	
2420 B4	2436 A5	3310 C9	3413 E5	3424 B4	3453 B3	3460 D5	3478 E7	5301 C8	6431 C1	7427 B3	9312 C8	9410 E1	I131 B7	I136 A5	I141 D5	I147 E5	I152 E7	I161 A7	I177 B3	I182 B3	I187 C3	
2428 D6	2437 D4	3356 C8	3416 C6	3425 B4	3454 D6	3465 C7	3488 C3	6401 B7	6432 B1	7428 C3	9406 C8	I127 E1	I132 B6	I137 B1	I142 C5	I148 C8	I153 E7	I162 E7	I178 C3	I183 B4	I188 D1	

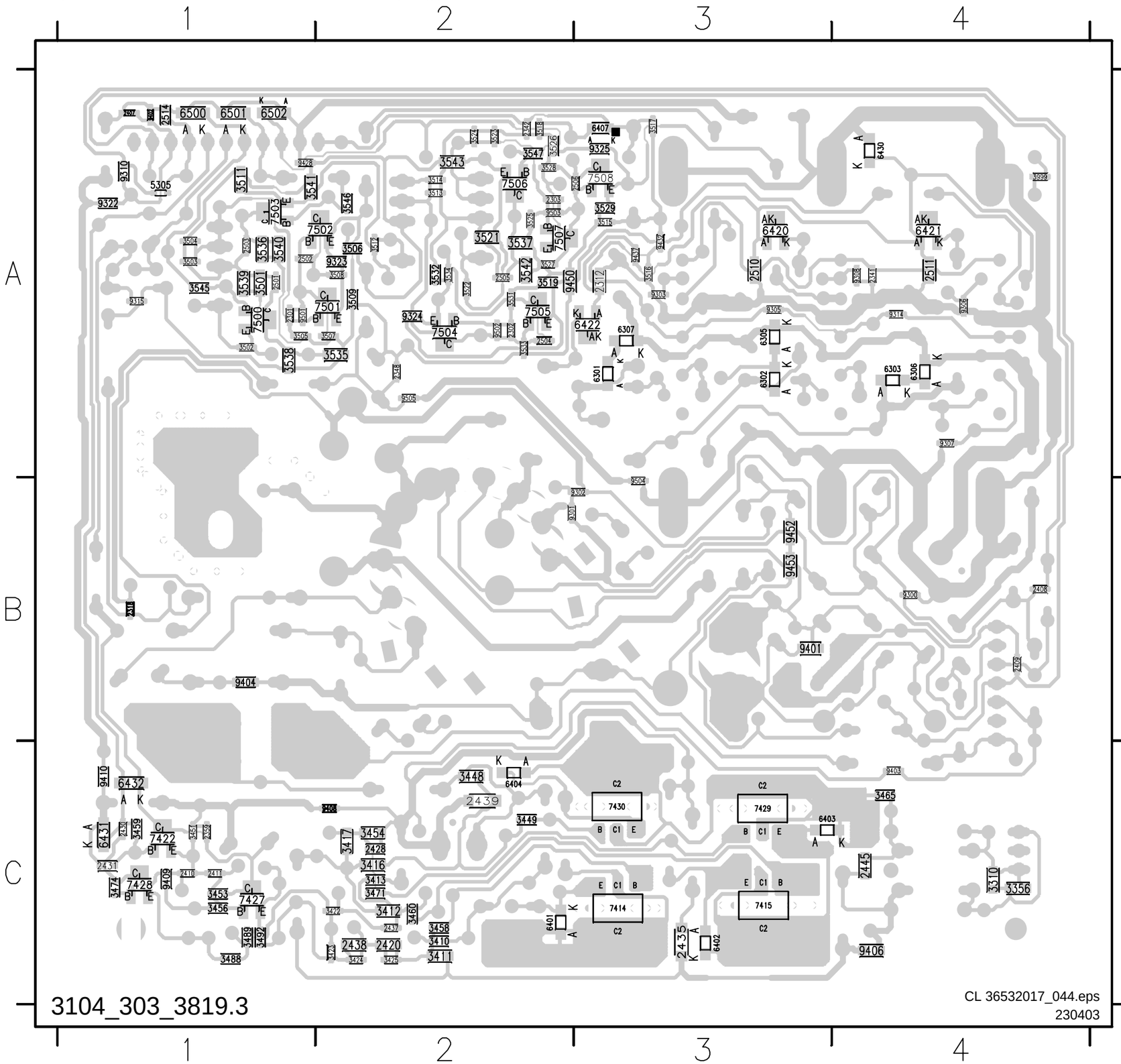


Layout CRT / Auto SCAVEM Panel (FL11 Styling) (Top Side)



0031	A1	5301	C2
0033	A1	5303	B4
0035	A2	5304	B2
1237	A3	5308	A4
1298	C3	5309	C1
1424	B1	5310	C1
1434	B4	5400	B1
1435	B2	5500	A4
1483	C1	5501	A3
1940	A4	5502	A3
2313	B1	6400	B2
2317	A4	6405	B2
2319	B2	6406	A2
2320	A2	6426	A2
2324	A4	6427	A1
2338	A1	6428	A2
2339	A2	6503	B4
2340	A2	7330	A2
2347	A3	7340	A1
2357	A1	7350	A2
2358	C4	9304	A2
2403	B1	9309	A1
2404	B2	9311	C1
2405	B2	9312	C1
2436	C3	9320	C4
2512	B1	9321	B4
3301	C4	9407	A4
3303	C3	9416	B1
3304	B2	9417	C3
3305	A4	9418	C3
3334	A4	9423	A4
3338	A3	9424	A3
3339	B2	9430	A3
3340	B2	9431	A1
3341	B1	9435	A2
3345	B1	9436	A4
3346	B4	9451	B2
3347	B4	9460	C2
3348	B4	9461	C4
3349	B4	9462	C3
3350	A2	9463	C4
3351	A1	9464	C2
3352	A2	9506	B3
3401	B2	9507	B1
3402	B1		
3403	B2		
3404	B1		
3473	C3		
3478	C2		
3510	A2		
3520	A1		
3530	A2		
3544	A1		
5300	C1		

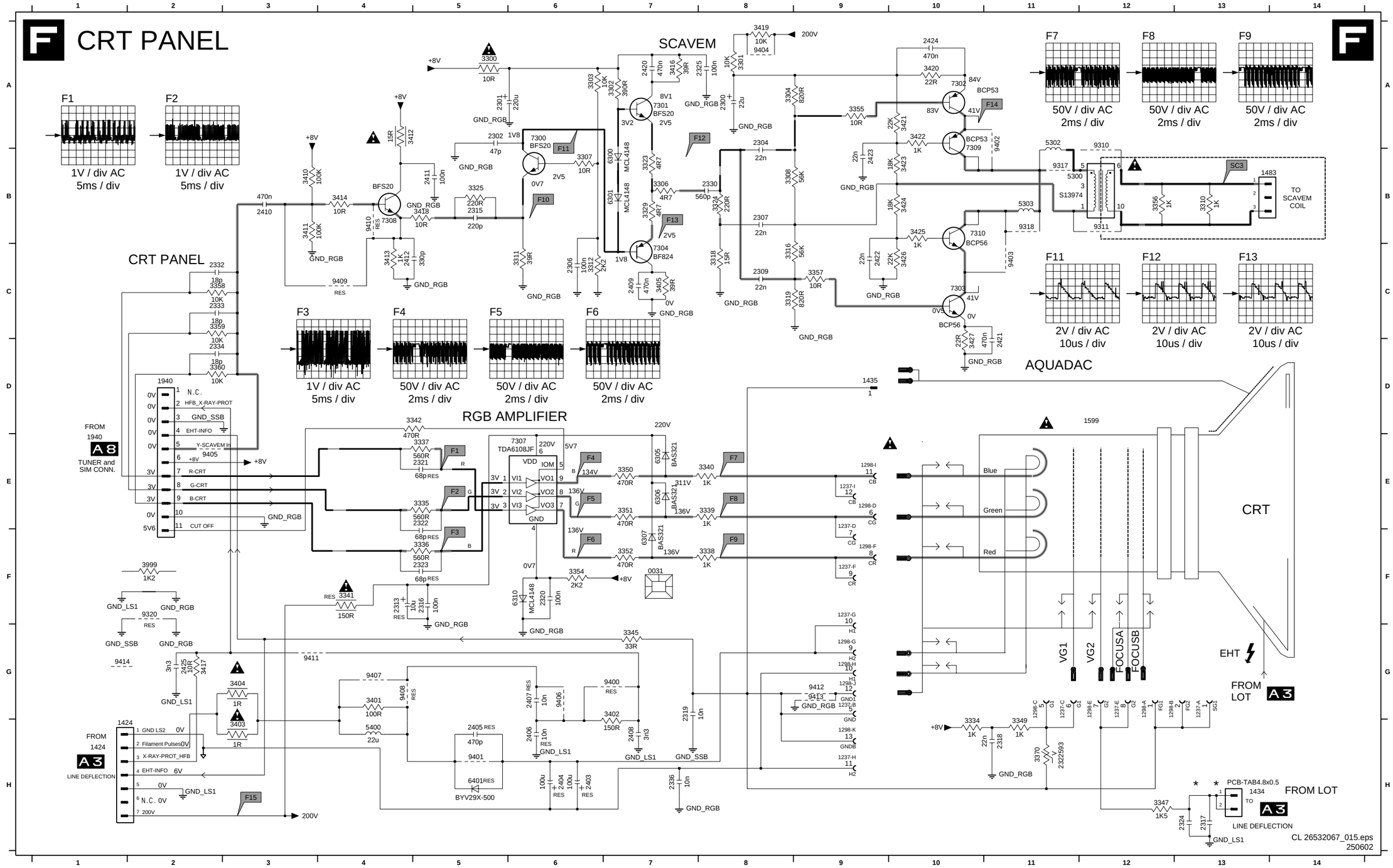
Layout CRT / Auto SCAVEM Panel (FL11 Styling) (Bottom Side)



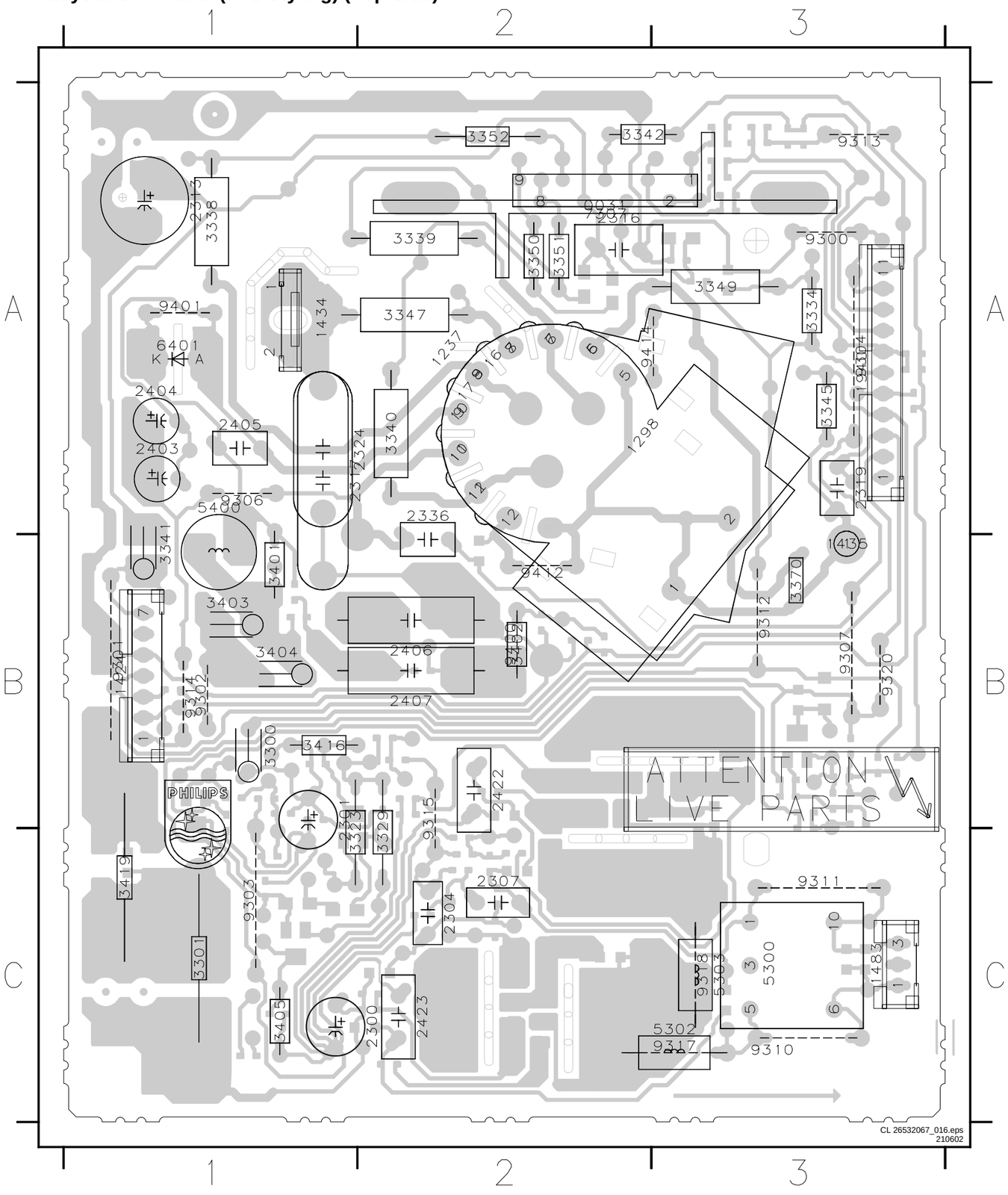
2301	A1	3501	A1	6430	A4
2302	A2	3502	A1	6431	C1
2303	A2	3503	A1	6432	C1
2312	A3	3504	A1	6500	A1
2318	B1	3505	A1	6501	A1
2341	A4	3506	A2	6502	A1
2342	A2	3507	A2	7414	C3
2348	A2	3508	A2	7415	C3
2359	C1	3509	A2	7422	C1
2407	A1	3511	A1	7427	C1
2408	B4	3512	A2	7428	C1
2409	B4	3513	A2	7429	C3
2410	C1	3514	A2	7430	C2
2411	C1	3515	A3	7500	A1
2420	C2	3516	A3	7501	A2
2428	C2	3517	A3	7502	A1
2430	C1	3518	A2	7503	A1
2431	C1	3519	A2	7504	A2
2435	C3	3521	A2	7505	A2
2437	C2	3522	A2	7506	A2
2438	C2	3523	A2	7507	A3
2439	C2	3524	A2	7508	A3
2445	C4	3525	A2	9300	B4
2501	A1	3526	A2	9301	B2
2502	A1	3527	A2	9302	B3
2503	A1	3528	A2	9303	A3
2504	A2	3529	A3	9305	A3
2505	A2	3531	A2	9306	A4
2506	A3	3532	A2	9307	A4
2510	A3	3533	A2	9308	A4
2511	A4	3534	A2	9310	A1
2514	A1	3535	A2	9314	A4
3310	C4	3536	A1	9315	A1
3356	C4	3537	A2	9322	A1
3410	C2	3538	A1	9323	A2
3411	C2	3539	A1	9324	A2
3412	C2	3540	A1	9325	A3
3413	C2	3541	A1	9401	B3
3416	C2	3542	A2	9402	A1
3417	C2	3543	A2	9403	C4
3422	C2	3545	A1	9404	B1
3423	C2	3546	A2	9406	C4
3424	C2	3547	A2	9408	C2
3425	C2	3999	A4	9409	C1
3448	C2	5305	A1	9410	C1
3449	C2	6301	A3	9428	A1
3451	C1	6302	A3	9432	A3
3453	C1	6303	A4	9437	A3
3454	C2	6305	A3	9450	A2
3456	C1	6306	A4	9452	B3
3458	C2	6307	A3	9453	B3
3459	C1	6401	C2	9501	A1
3460	C2	6402	C3	9502	A2
3465	C4	6403	C4	9503	A2
3471	C2	6404	C2	9504	B3
3474	C1	6407	A3	9505	A2
3488	C1	6420	A3		
3489	C1	6421	A4		
3492	C1	6422	A2		

CRT Panel (PV2 Styling)

0031 F7	1298-A G12	1298-K H9	2306 C6	2321 E5	2403 H6	2420 A7	3304 A8	3323 B7	3340 E8	3355 A9	3404 G3	3419 A8	5300 B11	6401 H5	9310 A12	9405 E2	9415 G1
1237-A G13	1298-B G12	1424 H2	2307 B8	2322 E5	2404 H6	2421 D11	3306 B7	3324 B8	3341 F4	3356 B12	3405 C7	3420 A10	5302 A11	7300 A6	9311 B12	9406 G6	
1237-B G9	1298-C G11	1434 H13	2309 C8	2323 F5	2405 H5	2422 C9	3307 B6	3325 B5	3342 D5	3357 C9	3410 B3	3421 A10	5303 B11	7301 A7	9317 B11	9407 G4	
1237-C G11	1298-D E9	1435 D9	2313 F4	2324 H13	2406 H6	2423 B9	3308 B8	3329 B7	3345 G7	3358 C2	3411 B3	3422 A10	5400 H4	7302 A10	9318 B11	9408 G4	
1237-D E9	1298-E G12	1483 B13	2315 B5	2325 A8	2407 G6	2424 A10	3310 B13	3334 H10	3347 H12	3359 C2	3412 A4	3423 B10	6300 B7	7303 C10	9320 F2	9409 C4	
1237-E G12	1298-F F9	1940 D2	2316 F5	2330 B8	2408 H7	2425 G2	3311 C6	3335 E5	3349 H11	3360 D2	3413 C4	3424 B10	6301 B7	7304 C7	9400 G7	9410 B4	
1237-F F9	1298-G G9	2300 A8	2317 H13	2332 C2	2409 C7	3300 A5	3312 C6	3336 F5	3350 E7	3370 H11	3414 B4	3425 B10	6305 E7	7307 E6	9401 H5	9411 G3	
1237-G F9	1298-H G9	2301 A5	2318 H11	2333 C2	2410 B3	3301 A8	3316 C8	3337 E5	3351 E7	3401 G4	3416 A7	3426 C10	6306 E7	7308 B4	9402 A11	9412 G9	
1237-H H9	1298-I E9	2302 A5	2319 G7	2334 D2	2411 B5	3302 A7	3318 C8	3338 F8	3352 F7	3402 G7	3417 G2	3427 D10	6307 F7	7309 A10	9403 C11	9413 G9	
1237-I E9	1298-J G9	2304 A8	2320 F6	2336 H7	2412 C4	3303 A6	3319 C8	3339 E8	3354 F6	3403 H3	3418 B5	3999 F2	6310 F6	7310 B10	9404 A8	9414 G1	

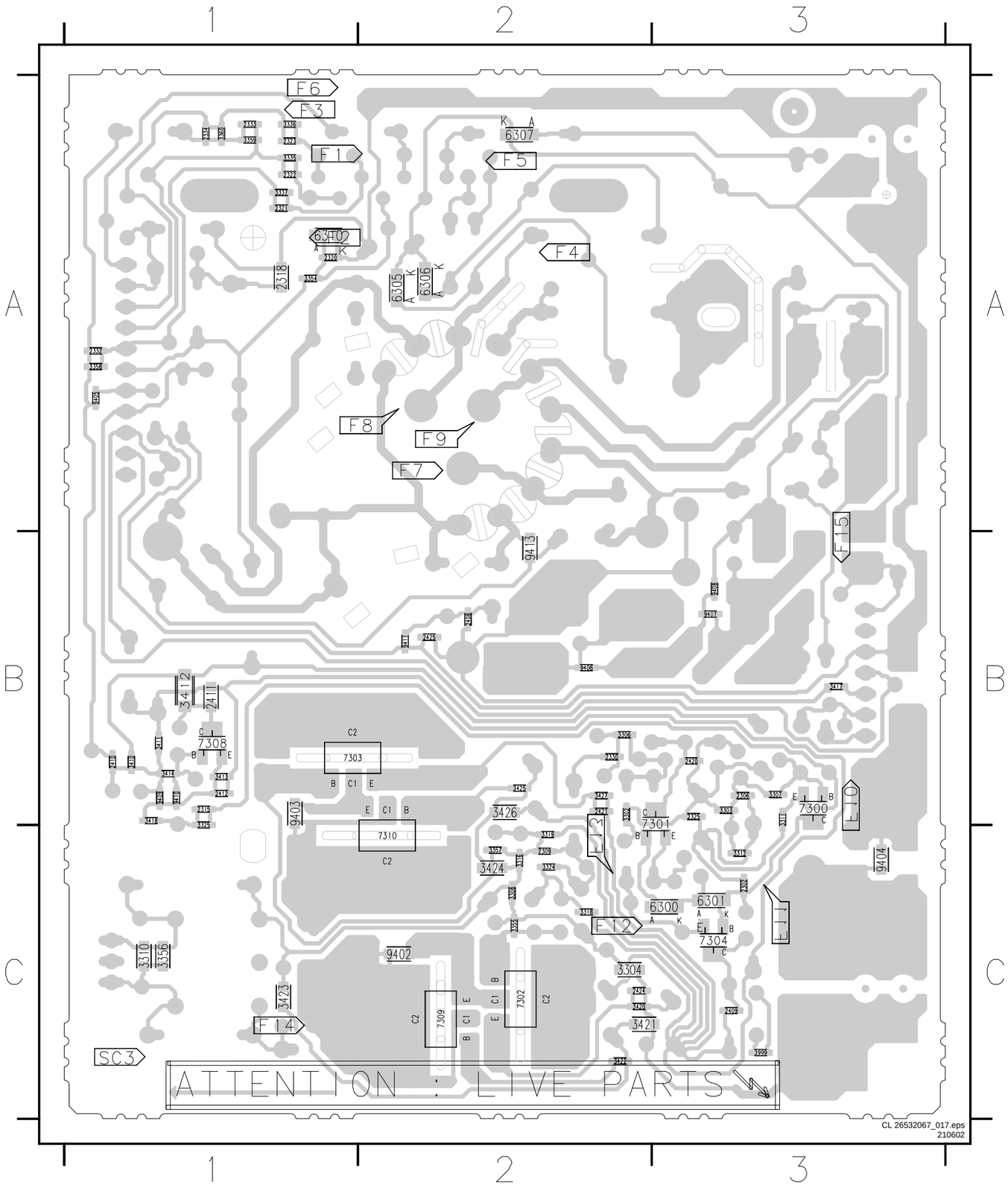


Layout CRT Panel (PV2 Styling) (Top Side)



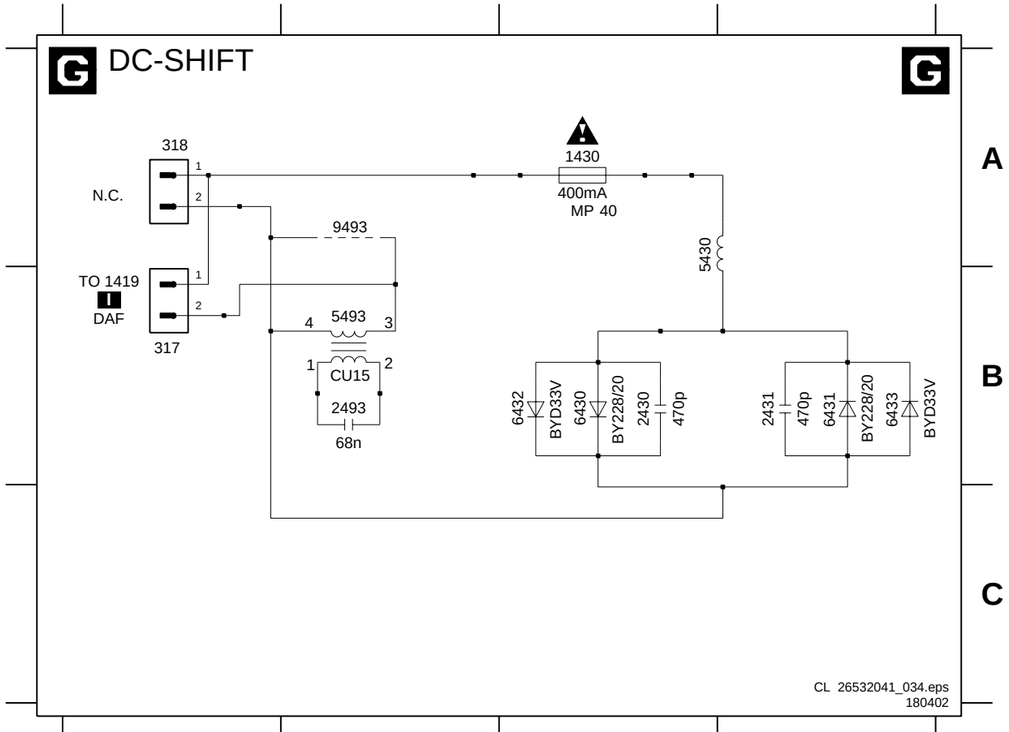
0031 A2
1237 A2
1298 A2
1424 B1
1434 A1
1435 A3
1483 C3
1940 A3
2300 C1
2301 B1
2304 C2
2307 C2
2313 A1
2316 A2
2317 B2
2319 A3
2324 A2
2336 A2
2403 A1
2404 A1
2405 A1
2406 B2
2407 B2
2422 B2
2423 C2
3300 B1
3301 C1
3323 C1
3329 C2
3334 A3
3338 A1
3339 A2
3340 A2
3341 A1
3342 A2
3345 A3
3347 A2
3349 A3
3350 A2
3351 A2
3352 A2
3370 B3
3401 B1
3402 B2
3403 B1
3404 B1
3405 C1
3416 B1
3419 C1
5300 C3
5302 C3
5303 C3
5400 A1
6401 A1
7307 A2
9300 A3
9301 B1
9302 B1
9303 C1
9304 A3
9306 A1
9307 B3
9310 C3
9311 C3
9312 B3
9313 A3
9314 B1
9315 B2
9317 C3
9318 C3
9320 B3
9400 B2
9401 A1
9412 B2
9414 A2

Layout CRT Panel (PV2 Styling) (Bottom Side)



2302	C3
2306	B3
2309	C2
2315	B1
2318	A1
2320	A1
2321	A1
2322	A1
2323	A1
2325	B3
2330	B2
2332	A1
2333	A1
2334	A1
2408	B2
2409	C3
2410	B1
2411	B1
2412	B1
2420	B3
2421	B2
2424	C2
2425	B2
3302	B2
3303	B3
3304	C2
3306	B2
3307	B3
3308	C2
3310	C1
3311	B3
3312	C3
3316	C2
3318	C2
3319	C2
3324	C2
3325	B1
3335	A1
3336	A1
3337	A1
3354	A1
3355	C2
3356	C1
3357	C2
3358	A1
3359	A1
3360	A1
3410	B1
3411	B1
3412	B1
3413	B1
3414	B1
3417	B3
3418	B1
3420	C2
3421	C2
3422	C2
3423	C1
3424	C2
3425	B2
3426	B2
3427	B2
3999	C3
6300	C3
6301	C3
6305	A2
6306	A2
6307	A2
6310	A1
7300	C3
7301	B3
7302	C2
7303	B1
7304	C3
7308	B1
7309	C2
7310	C1
9402	C2
9403	B1
9404	C3
9405	A1
9406	B2
9407	B3
9408	B3
9409	B1
9410	B1
9411	B2
9413	B2

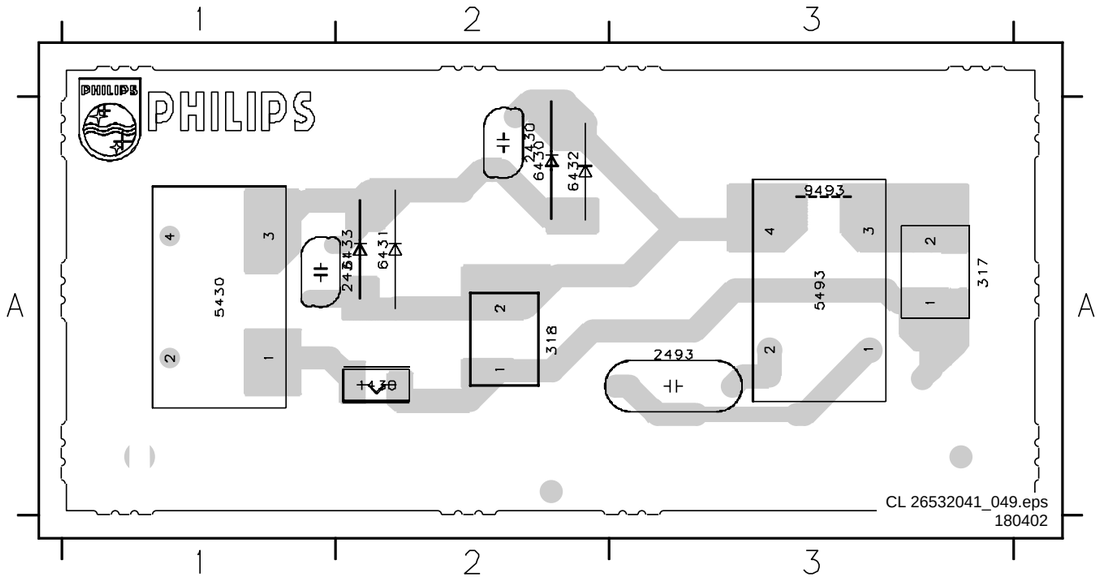
DC Shift Panel



317 B1
318 A1
1430 A3
2430 B3
2431 B4
2493 B2
5430 A3
5493 B2
6430 B3
6431 B4
6432 B3
6433 B4

Layout DC Shift Panel

317	A3	2430	A2	5430	A1	6431	A2	9493	A3
318	A2	2431	A1	5493	A3	6432	A2		
1430	A2	2493	A3	6430	A2	6433	A2		



Personal Notes:

I/O 3rd Scart

I/O 3rd SCART

3rd SCART

TO WIRELESS TRANSMITTER

TO 1402 OF B5

SURROUND JACK

TO 0272 C3 PIP

TO 1952 A8

TO 0201 C3 PIP

FROM 1937 A8 TUNER / SIM CONNECTOR

FROM / TO 1680 OF B6

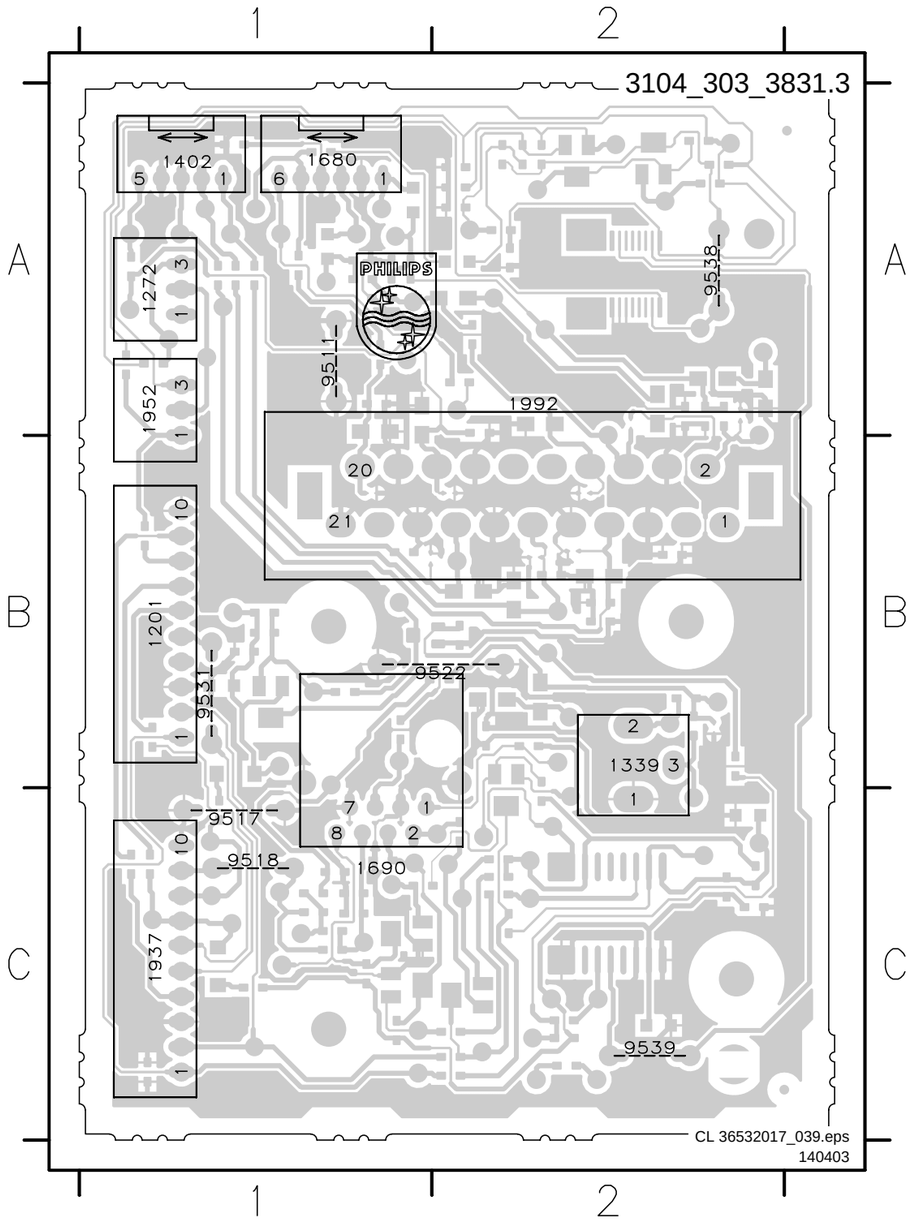
I/O EXPANDER

8204_000_6582.3

CL 36532017_032.eps 140403

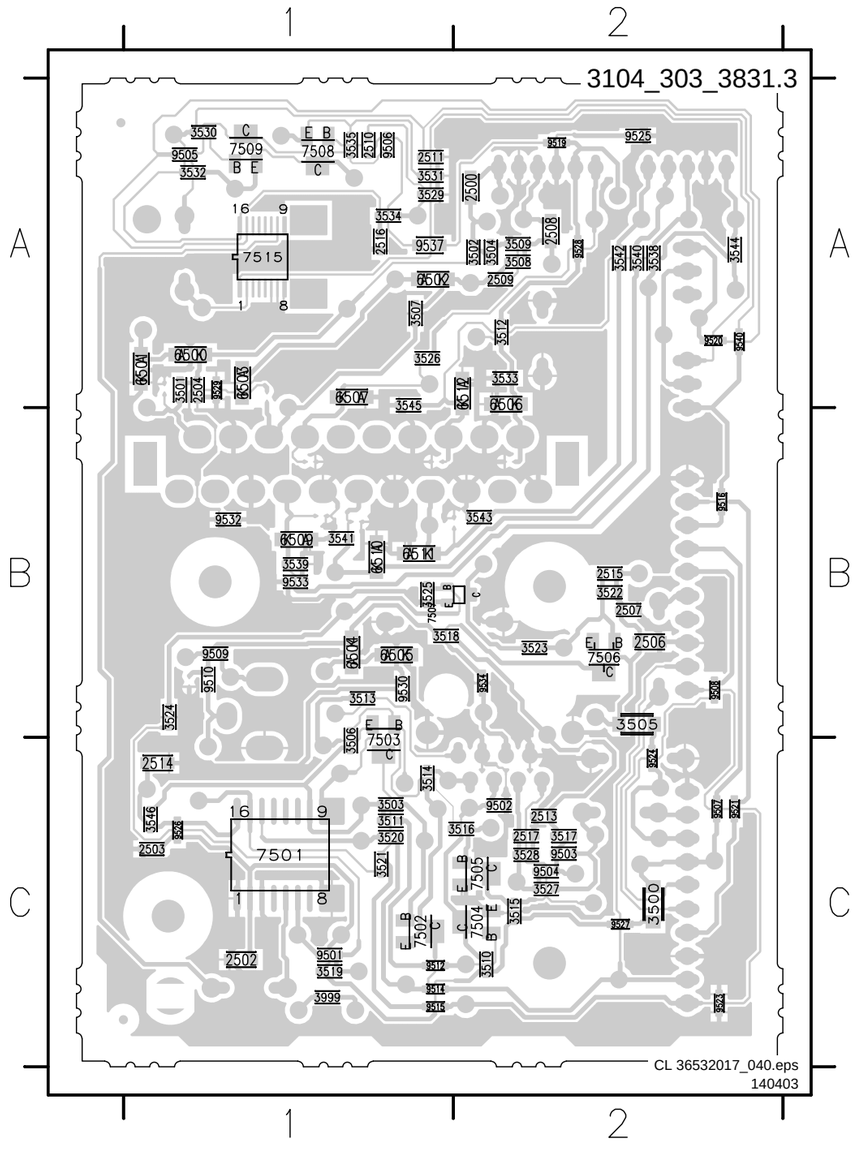
1201 F8
1272 F12
1339 E12
1402 C6
1500 A3
1501 B2
1502 B3
1503 E11
1504 G3
1505 F3
1506 E3
1507 D3
1508 C4
1680 H1
1690 A12
1937 H8
1952 F12
1992 A1
2500 A5
2502 H1
2503 H2
2504 A3
2506 G1
2507 G2
2508 B5
2509 B3
2510 H9
2511 G11
2513 E11
2514 I3
2515 C8
2516 E10
2517 B11
3500 G1
3501 A3
3502 A4
3503 A7
3504 A4
3505 G1
3506 A8
3507 B3
3508 B4
3509 B4
3510 B7
3511 B7
3512 F5
3513 A10
3514 A10
3515 D7
3516 E7
3517 D11
3518 D11
3519 C7
3520 H3
3521 I3
3522 C9
3523 C9
3524 D8
3525 D9
3526 D2
3527 A10
3528 B10
3529 H9
3530 G9
3531 H9
3532 G10
3533 G3
3534 H9
3535 H10
3538 C5
3539 C4
3540 D4
3541 D3
3542 E4
3543 E4
3544 E3
3545 F3
3546 I6
3999 H12
6500 A4
6501 A4
6502 B4
6503 C4
6504 E11
6505 E11
6506 G3
6507 C2
6509 C4
6510 D3
6511 E4
6512 F3
7502 A8
7503 A9
7504 B7
7505 E8
7506 B9
7507 D9
7508 H10
7509 H10
7515 E9
9501 D7
9502 B8
9503 D10
9504 D10
9505 F10
9506 I10
9509 D12
9510 E12
9525 G12
9530 H12
9532 H12
9533 I12
F500 A2
F501 B1
F502 B2
F504 A11
F511 D2
F512 H1
F514 H1
F516 I1
F518 I1
F525 I8
F531 C6
F532 C3
F533 C6
F534 C6
F535 E5
F536 D3
F537 D2
F539 G1
I500 G1
I501 G1
I502 H7
I503 A4
I504 B1
I505 A4
I506 G1
I507 A8
I508 A4
I509 A11
I510 G1
I511 G1
I512 G1
I513 A11
I514 A8
I515 A11
I516 B4
I517 A11
I518 B4
I519 B4
I520 A11
I521 B7
I522 A11
I523 D11
I524 I6
I525 E7
I526 I7
I527 D11
I528 E11
I529 H3
I530 H3
I531 I6
I532 C9
I533 C9
I534 H6
I535 C9
I536 H9
I537 H1
I538 H1
I539 G10
I540 H8
I541 A7
I542 C9
I543 A8
I544 C8
I545 C2
I546 H8
I547 H12
I548 H12
I549 B3
I552 D10
I553 D12
I554 E12
I561 A9
I562 A9
I563 G10
I564 H10
I565 H10
I566 G10
I567 F10
I568 F12

Layout I/O 3rd Scart (Top Side)



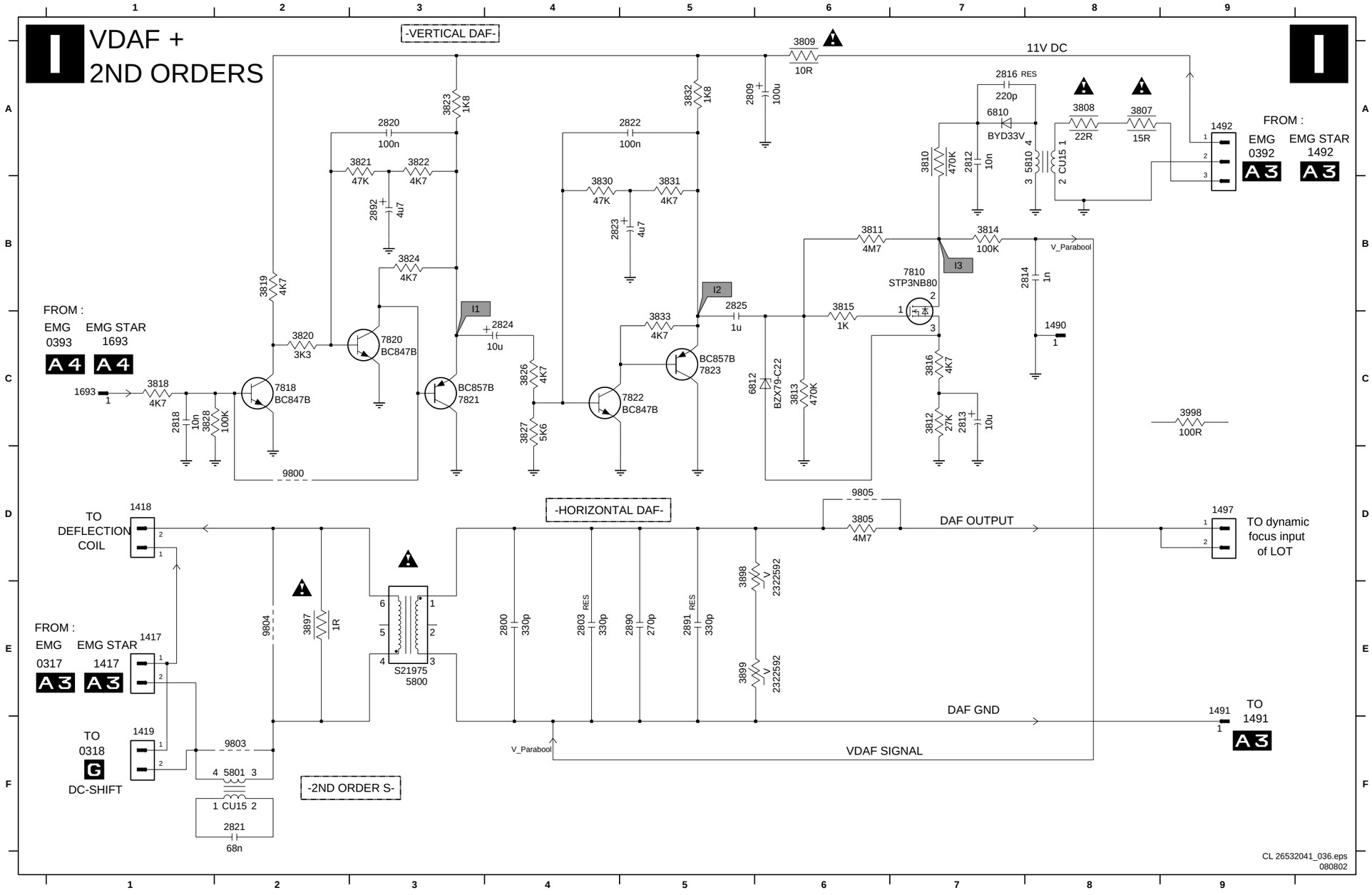
1201 B1
1272 A1
1339 B2
1402 A1
1680 A1
1690 B1
1937 C1
1952 A1
1992 A2
9511 A1
9517 C1
9518 C1
9522 B2
9531 B1
9538 A2
9539 C2

Layout I/O 3rd Scart (Bottom Side)



2500 A2
2502 C1
2503 C1
2504 A1
2506 B2
2507 B2
2508 A2
2509 A2
2510 A1
2511 A1
2513 C2
2514 C1
2515 B2
2516 A1
2517 C2
3500 C2
3501 A1
3502 A2
3503 C1
3504 A2
3505 B2
3506 C1
3507 A1
3508 A2
3509 A2
3510 C2
3511 C1
3512 A2
3513 B1
3514 C1
3515 C2
3516 C2
3517 C2
3518 B1
3519 C1
3520 C1
3521 C1
3522 B2
3523 B2
3524 B1
3525 B1
3526 A1
3527 C2
3528 C2
3529 A1
3530 A1
3531 A1
3532 A1
3533 A2
3534 A1
3535 A1
3538 A2
3539 B1
3540 A2
3541 B1
3542 A2
3543 B2
3544 A2
3545 A1
3546 C1
3999 C1
6500 A1
6501 A1
6502 A1
6503 A1
6504 B1
6505 B1
6506 A2
6507 B1
6509 B1
6510 B1
6511 B2
6512 A2
7501 C1
7502 C1
7503 C1
7504 C2
7505 C2
7506 B2
7507 B2
7508 A1
7509 A1
7515 A1
9501 C1
9502 C2
9503 C2
9504 C2
9505 A1
9506 A1
9507 C2
9508 B2
9509 B1
9510 B1
9512 C1
9514 C1
9515 C1
9516 B2
9519 A2
9520 A2
9521 C2
9523 C2
9524 C2
9525 A2
9526 C1
9527 C2
9528 A2
9529 A1
9530 B1
9532 B1
9533 B1
9534 B2
9537 A1
9540 A2

VDAF Panel + 2nd Orders

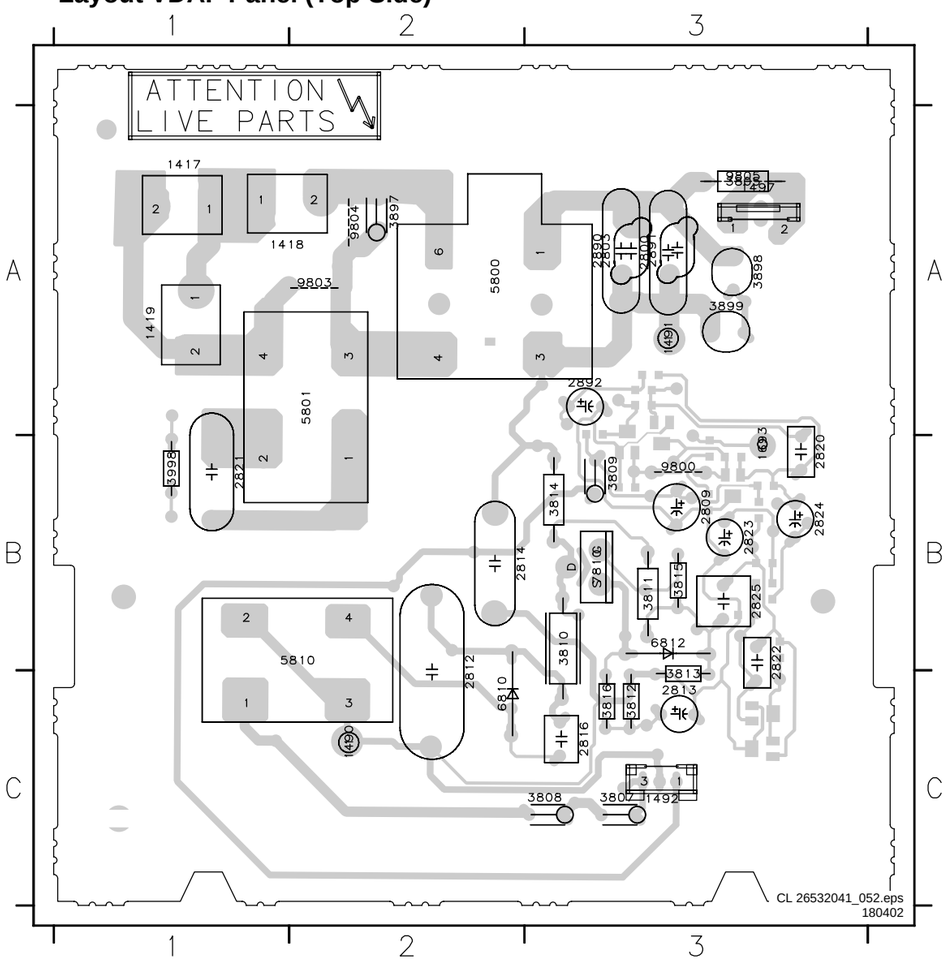


1417 E1	7818 C2
1418 D1	7820 C3
1419 F1	7821 C3
1490 C8	7822 C5
1491 E9	7823 C5
1492 A9	9800 D2
1497 D9	9803 F2
1693 C1	9804 E2
2800 E4	9805 D6
2803 E4	
2809 A5	
2812 A7	
2813 C7	
2814 B8	
2816 A7	
2818 C1	
2820 A3	
2821 F2	
2822 A5	
2823 B4	
2824 C4	
2825 B5	
2890 E5	
2891 E5	
2892 B3	
3805 D6	
3807 A8	
3808 A8	
3809 A6	
3810 A7	
3811 B6	
3812 C7	
3813 C6	
3814 B7	
3815 B6	
3816 C7	
3818 C1	
3819 B2	
3820 C2	
3821 A3	
3822 A3	
3823 A3	
3824 B3	
3826 C4	
3827 C4	
3828 C1	
3830 B4	
3831 B5	
3832 A5	
3833 C5	
3897 E2	
3898 D5	
3899 E5	
3998 C9	
5800 E3	
5801 F2	
5810 A8	
6810 A7	
6812 C6	
7810 B7	

[I] VDAF+2ND ORDER S

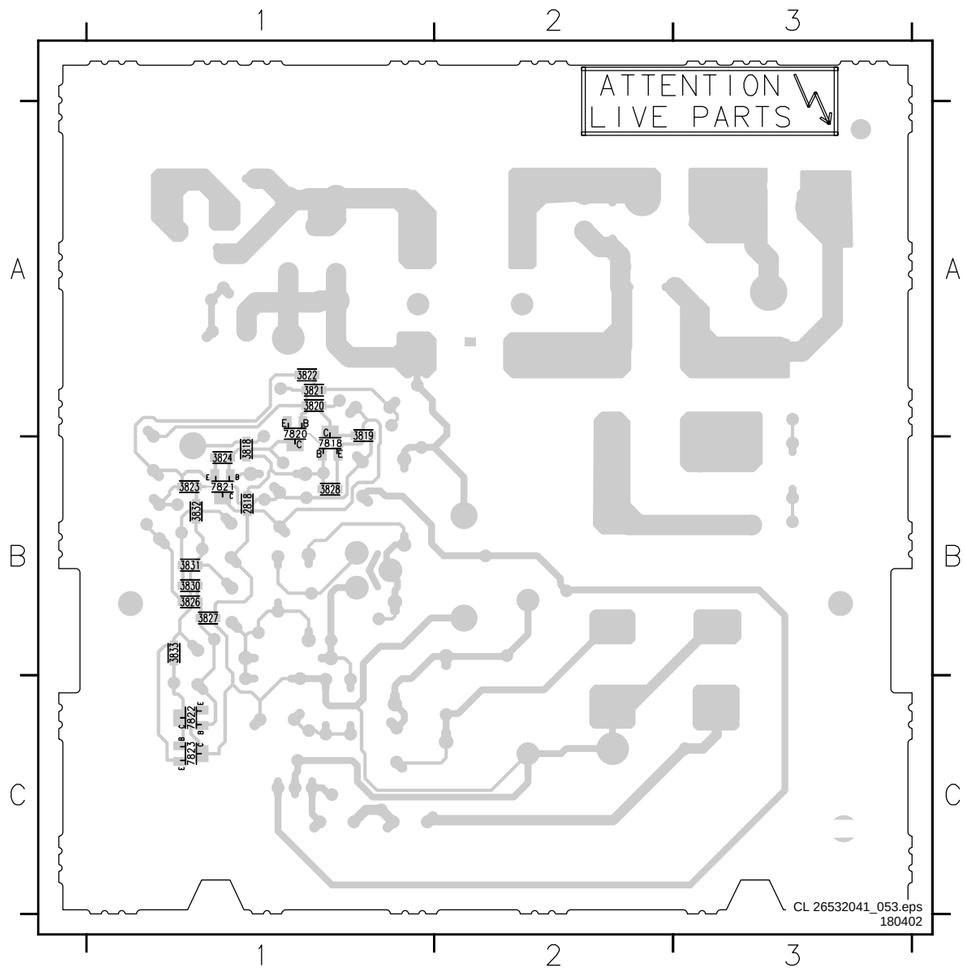
Item	29RF	28RF/32RF	34RF/38RF	36RF	Description
1492	X		X	X	3p
1693	X		X	X	1p
2800	X				330pF
2800		X	X		470pF
2800				X	390pF
2809	X		X	X	100uF
2812	X		X	X	10nF
2813	X		X	X	10uF
2814	X		X	X	1nF
2821	X	X			68nF
2822	X		X	X	4nF
2824	X		X	X	10uF
2825	X		X	X	1uF
2890	X				270pF
2890		X			220pF
2890			X		470pF
2890				X	390pF
3807	X		X	X	15R
3808	X		X	X	15R
3809	X		X	X	10R
3810	X		X	X	470kR
3811	X		X	X	4.7MR
3812	X		X	X	27kR
3813	X		X	X	470kR
3814	X		X	X	100kR
3815	X		X	X	1kR
3816	X		X		4.7kR
3816				X	2.2kR
3818	X		X	X	33kR
3820	X		X	X	Jumper
3821	X		X	X	Jumper
3822	X		X	X	Jumper
3823	X		X	X	1.5kR
3824	X		X	X	33kR
3826	X		X	X	3.3kR
3827	X		X	X	5.6kR
3828	X		X	X	100kR
3830	X		X	X	47kR
3831	X		X	X	4.7kR
3832	X		X	X	1.8kR
3833	X		X	X	4.7kR
5801	X	X			Transformer
5810	X		X	X	Bridge coil
6810	X		X	X	BYD33V
6812	X		X	X	BZX79-C22
7810	X		X	X	STP3NB80FP
7818	X		X	X	BC847B
7822	X		X	X	BC847B
7823	X		X	X	BC857B
9800	X		X	X	Wire
9803			X	X	Wire

Layout VDAF Panel (Top Side)



1417	A1
1418	A1
1419	A1
1490	C2
1491	A3
1492	C3
1497	A3
1693	B3
2800	A3
2803	A3
2809	B3
2812	C2
2813	C3
2814	B2
2816	C3
2820	B3
2821	B1
2822	B3
2823	B3
2824	B3
2825	B3
2890	A3
2891	A3
2892	A3
3805	A3
3807	C3
3808	C3
3809	B3
3810	B3
3811	B3
3812	C3
3813	C3
3814	B3
3815	B3
3816	C3
3897	A2
3898	A3
3899	A3
3998	B1
5800	A2
5801	A1
5810	B2
6810	C2
6812	B3
7810	B3
9800	B3
9803	A2
9804	A2
9805	A3

Layout VDAF Panel (Bottom Side)



2818	B1
3818	B1
3819	A1
3820	A1
3821	A1
3822	A1
3823	B1
3824	B1
3826	B1
3827	B1
3828	B1
3830	B1
3831	B1
3832	B1
3833	B1
7818	B1
7820	A1
7821	B1
7822	C1
7823	C1

Side I/O Panel (FL11 Styling)

SIDE I/O

SVHS

CVBS

HEADPHONE-OUT

c/ 16/9

1328 YKF51-5564

1326-A

1326-B L

1326-C R

YKB21-5101A

1327

1333 EH-B

1936 EH-B

1346 EH-B

1344 EH-B

FROM/TO 0333 OF K2

FROM/TO 1936 OF A8 (LSP SSP)

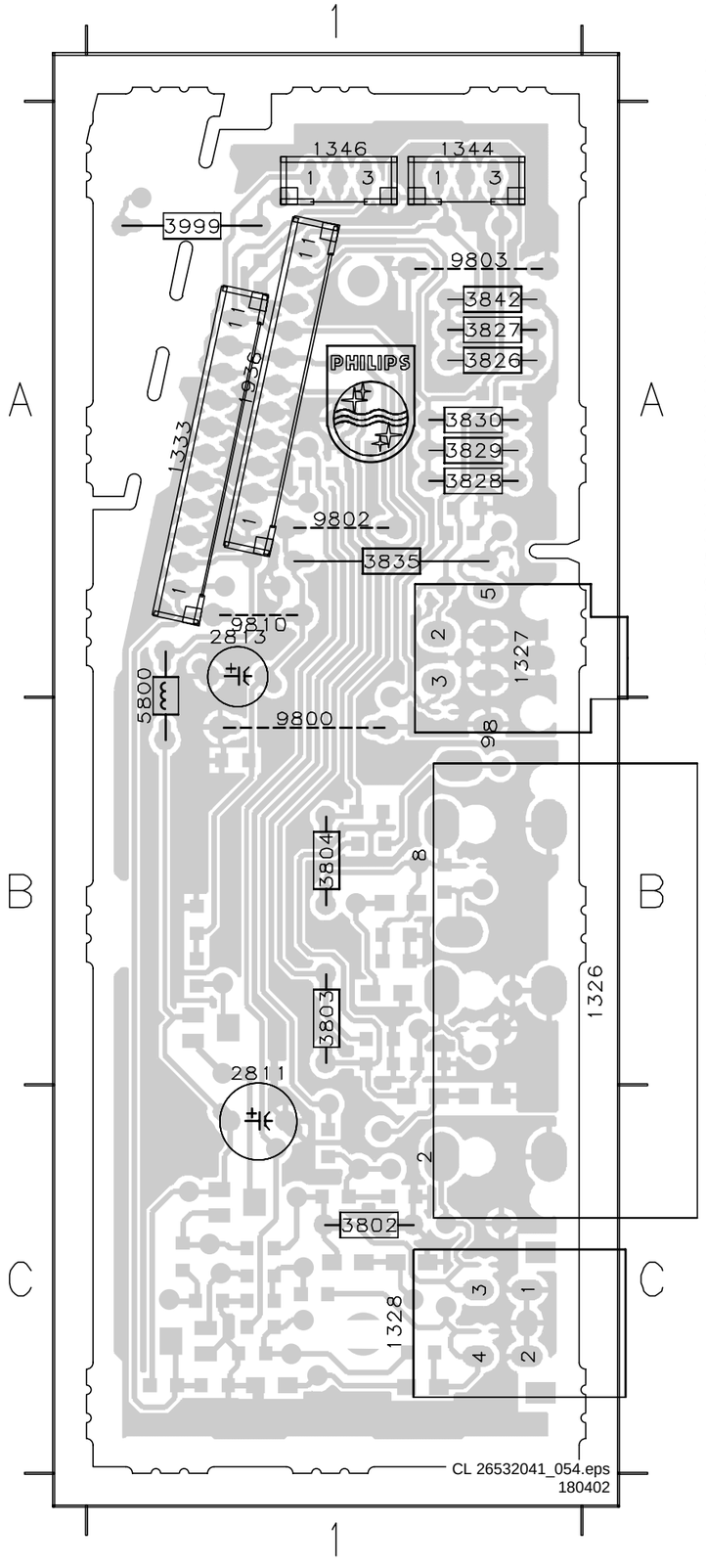
FROM/TO 0346 OF M (DOUBLE WINDOW)

FROM/TO 0344 OF K3

16/9 Y C L DETECT R GND GNDB GND_AUD +8V6 RES (SDM-EMG_S) SOUND L-HEADPHONE-OUT SOUND R-HEADPHONE-OUT

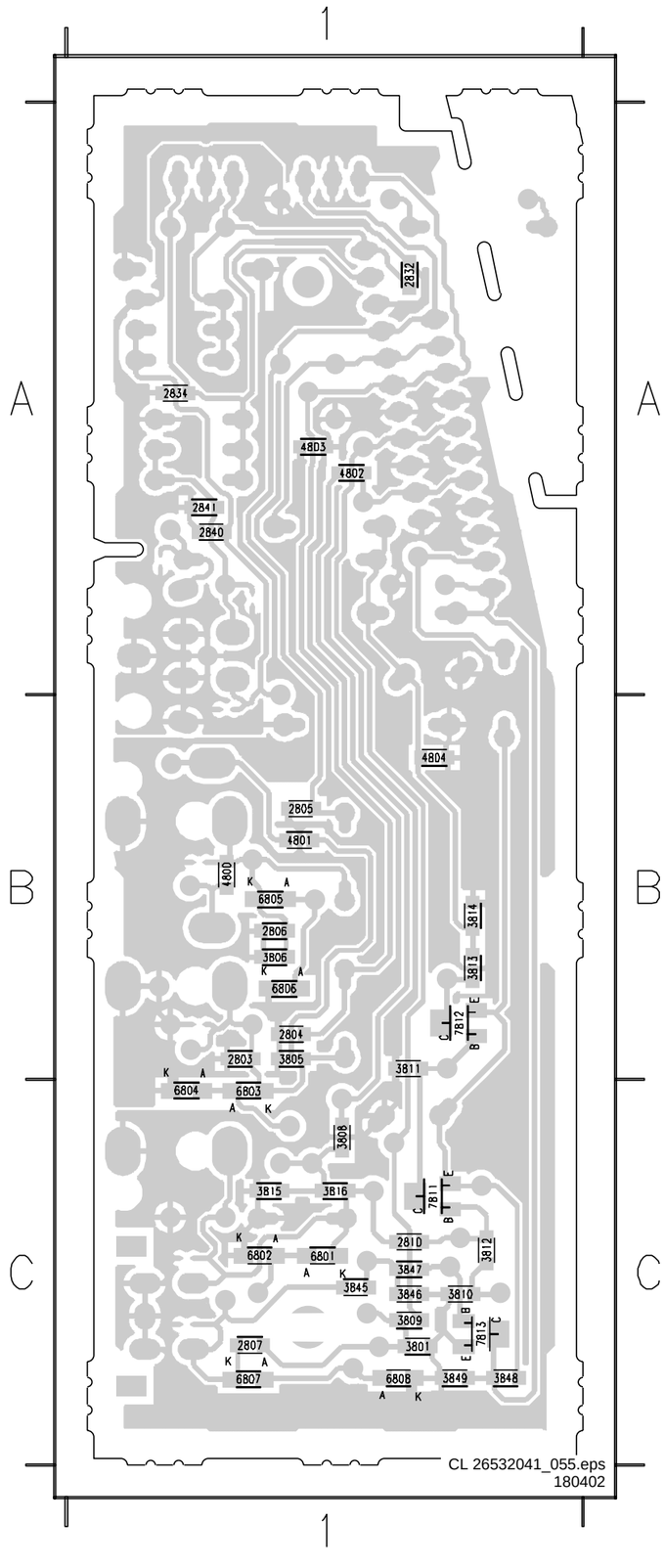
1806 1805 1801 1800 1802 1803 1804 1810 1936 1838 1839 1840 1841 1842 1843 1844 1845 1846 1847 1848 1849 1850 1851 1852 1853 1854 1855 1856 1857 1858 1859 1860 1861 1862 1863 1864 1865 1866 1867 1868 1869 1870 1871 1872 1873 1874 1875 1876 1877

Layout Side I/O Panel (FL11 Styling) (Top Side)



1326 B1
1327 A1
1328 C1
1333 A1
1344 A1
1346 A1
1936 A1
2811 B1
2813 A1
3802 C1
3803 B1
3804 B1
3826 A1
3827 A1
3828 A1
3829 A1
3830 A1
3835 A1
3842 A1
3999 A1
5800 A1
9800 B1
9802 A1
9803 A1
9810 A1

Layout Side I/O Panel (FL11 Styling) (Bottom Side)

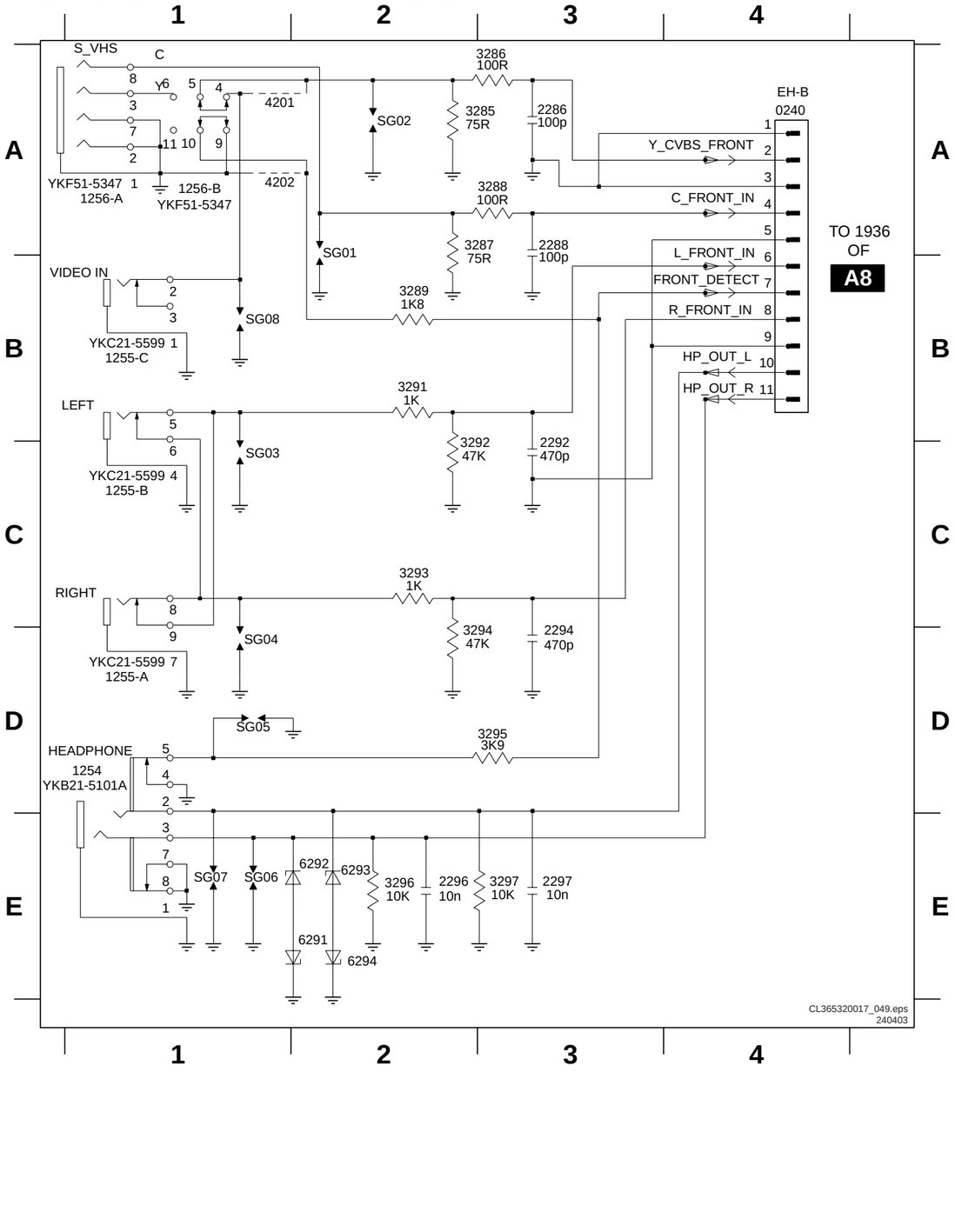


2803 B1
2804 B1
2805 B1
2806 B1
2807 C1
2810 C1
2832 A1
2834 A1
2840 A1
2841 A1
3801 C1
3805 B1
3806 B1
3808 C1
3809 C1
3810 C1
3811 B1
3812 C1
3813 B1
3814 B1
3815 C1
3816 C1
3845 C1
3846 C1
3847 C1
3848 C1
3849 C1
4800 B1
4801 B1
4802 A1
4803 A1
4804 B1
6801 C1
6802 C1
6803 B1
6804 C1
6805 B1
6806 B1
6807 C1
6808 C1
7811 C1
7812 B1
7813 C1

Side I/O Panel (PV2 Styling)

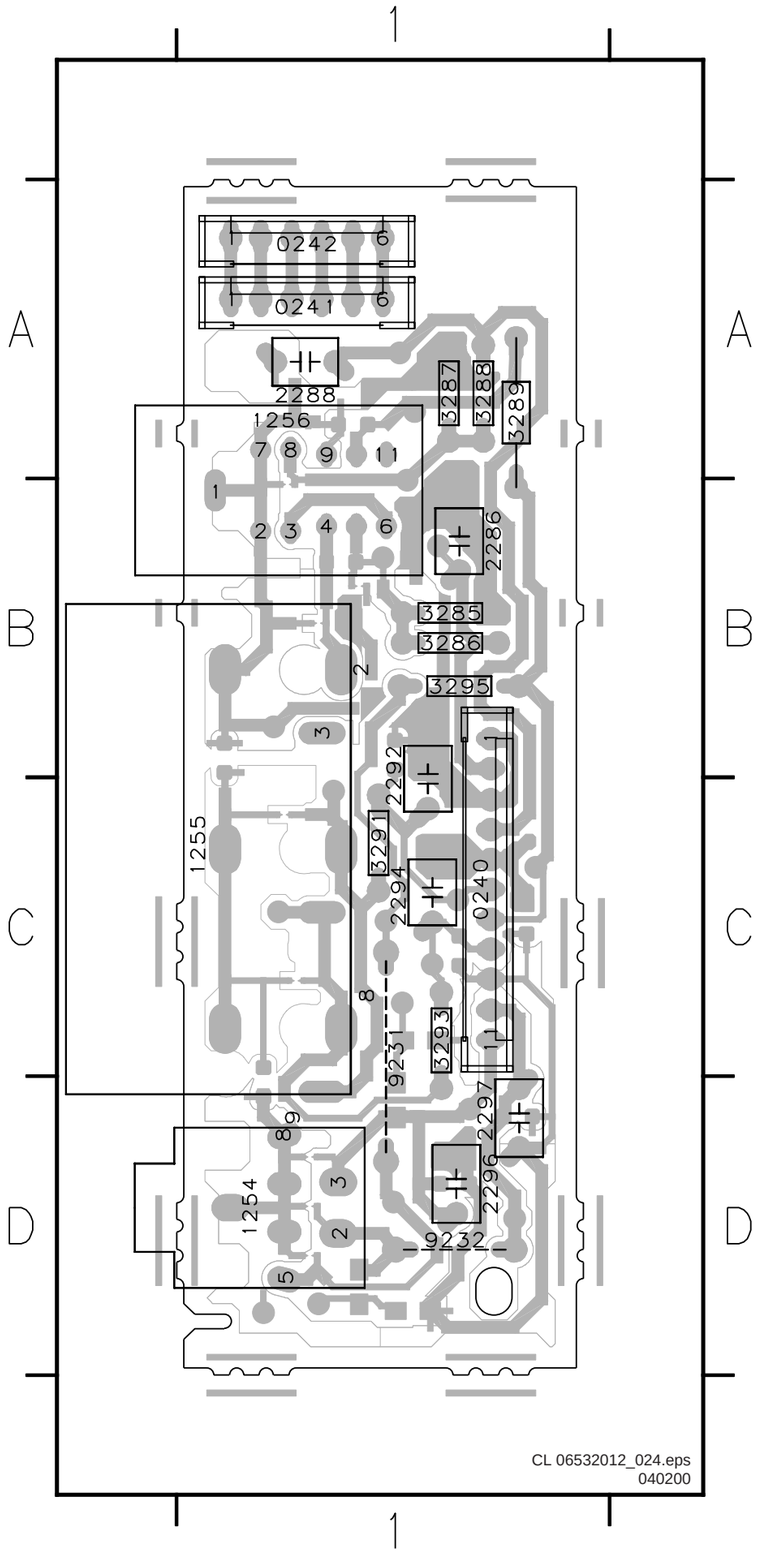
O SIDE IO PANEL

0240 A4
1254 D1
1255-A D1
1255-B C1
1255-C B1
1256-A A1
1256-B A1
2286 A3
2288 A3
2292 B3
2294 C3
2296 E2
2297 E3
3285 A3
3286 A3
3287 A3
3288 A3
3289 B2
3291 B2
3292 B2
3293 C2
3294 C3
3295 D3
3296 E2
3297 E3
4201 A1
4202 A1
6291 E2
6292 E2
6293 E2
6294 E2
SG01 B2
SG02 A2
SG03 C1
SG04 D1
SG05 D1
SG06 E1
SG07 E1
SG08 B1



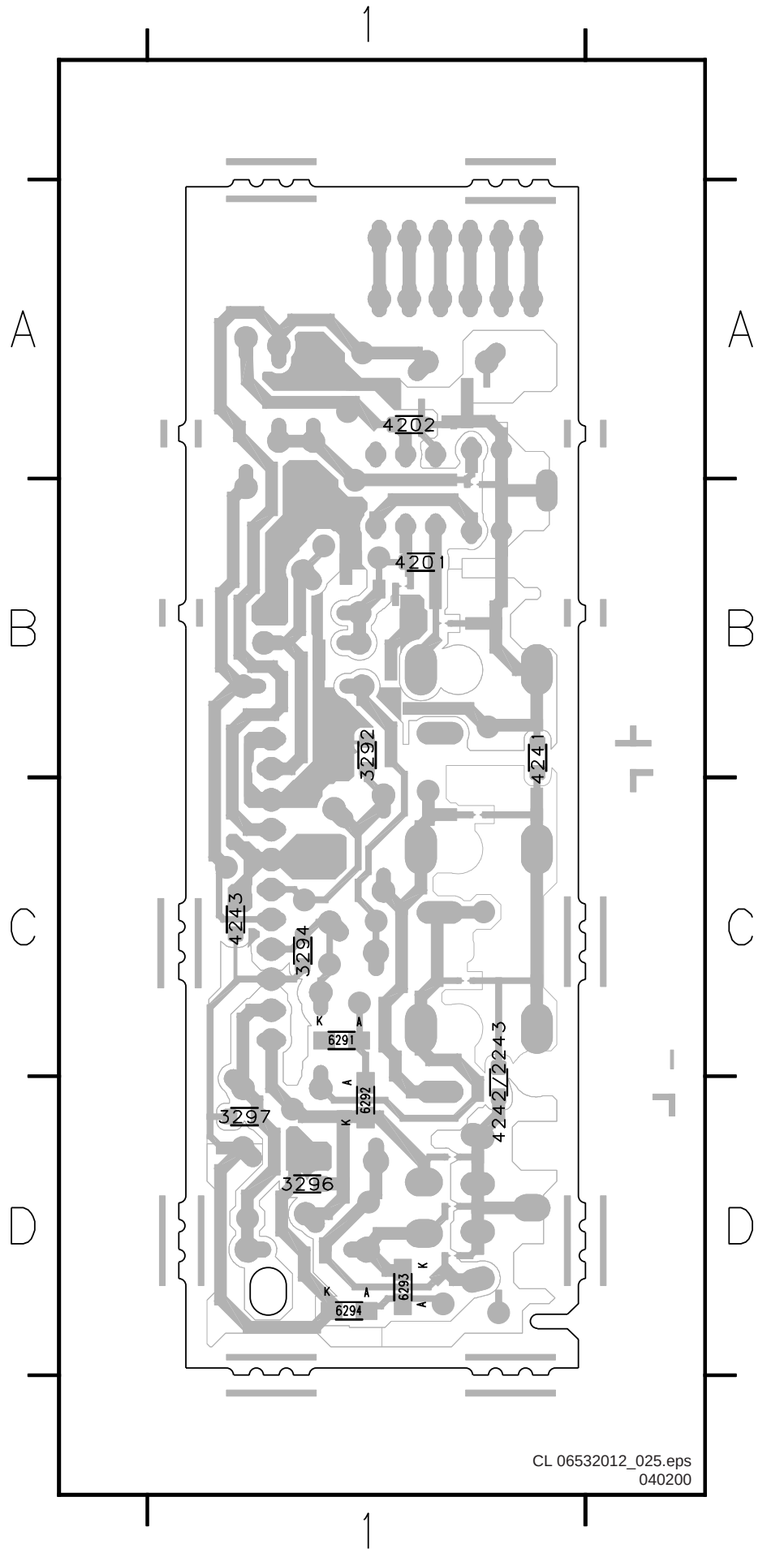
Personal Notes:

Layout Side I/O Panel (PV2 Styling) (Top Side)



0240 C1
0241 A1
0242 A1
1254 D1
1255 C1
1256 A1
2286 B1
2288 A1
2292 B1
2294 C1
2296 D1
2297 D1
3285 B1
3286 B1
3287 A1
3288 A1
3289 A1
3291 C1
3293 C1
3295 B1
9231 C1
9232 D1

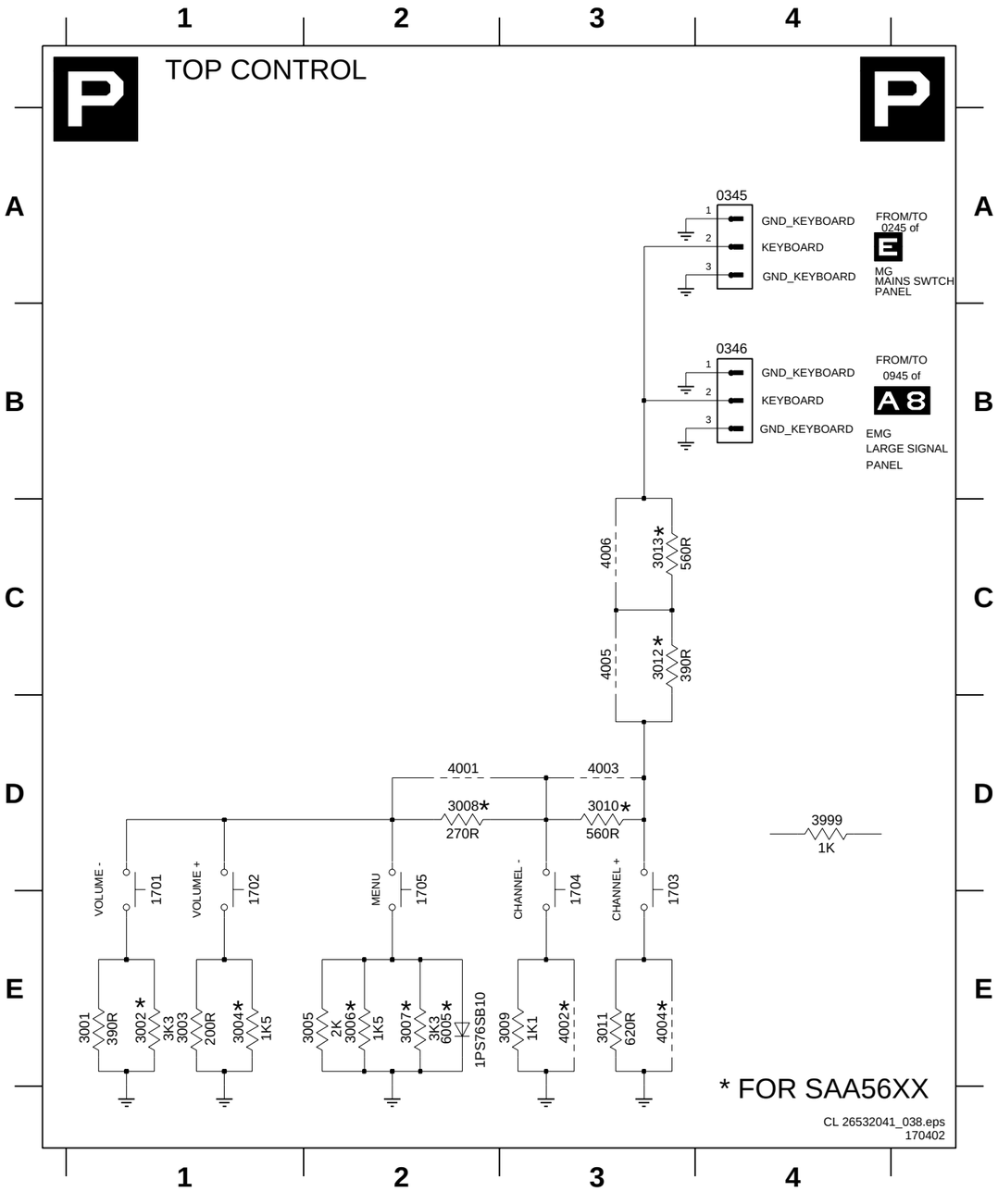
Layout Side I/O Panel (PV2 Styling) (Bottom Side)



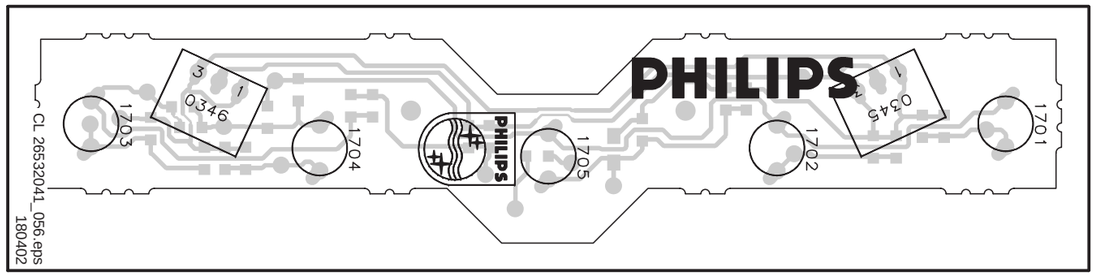
3292 B1
3294 C1
3296 D1
3297 D1
4201 B1
4202 A1
4241 B1
4242/2243 D1
4243 C1
6291 C1
6292 D1
6293 D1
6294 D1

Top Control Panel (FL11 Styling)

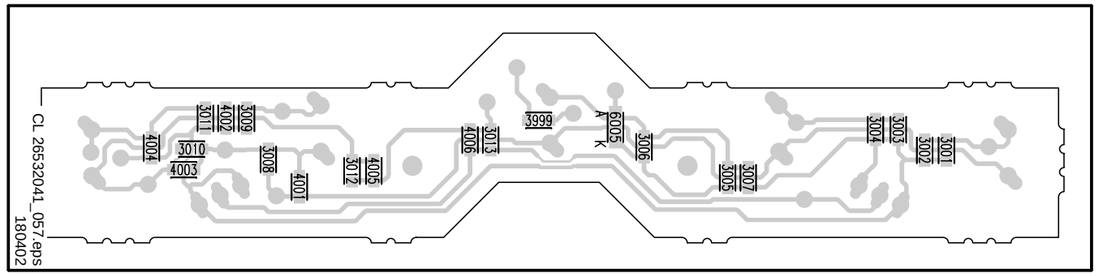
0345 A4	1703 D3	3002 E1	3006 E2	3010 D3	3999 D4	4004 E3
0346 B4	1704 D3	3003 E1	3007 E2	3011 E3	4001 D2	4005 C3
1701 D1	1705 D2	3004 E1	3008 D2	3012 C3	4002 E3	4006 C3
1702 D1	3001 E1	3005 E2	3009 E3	3013 C3	4003 D3	6005 E2



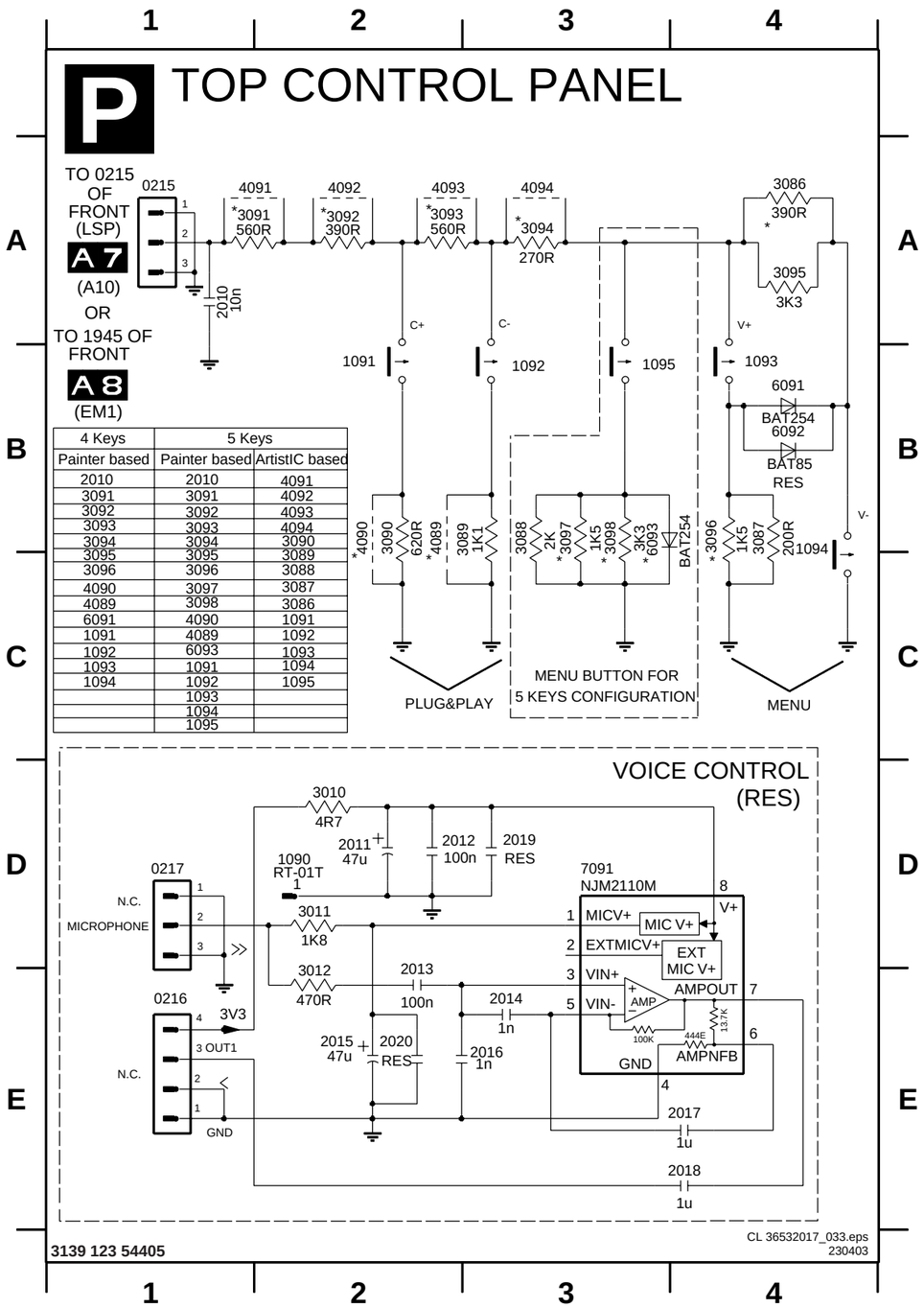
Top Control Panel (FL11 Styling) (Top Side)



Top Control Panel (FL11 Styling) (Bottom Side)



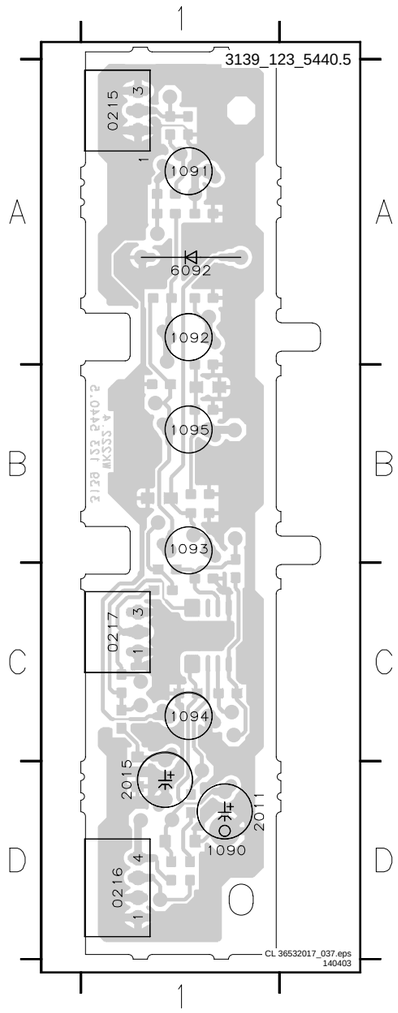
Top Control Panel (PV2 Styling)



4 Keys	5 Keys	
Painter based	Painter based	ArtistIC based
2010	2010	4091
3091	3091	4092
3092	3092	4093
3093	3093	4094
3094	3094	3090
3095	3095	3089
3096	3096	3088
4090	3097	3087
4089	3098	3086
6091	4090	1091
1091	4089	1092
1092	6093	1093
1093	1091	1094
1094	1092	1095
	1093	
	1094	
	1095	

0215 A1
0216 E1
0217 D1
1090 D2
1091 B2
1092 B3
1093 B4
1094 B4
1095 B3
2010 A1
2011 D2
2012 D2
2013 E2
2014 E3
2015 E2
2016 E3
2017 E4
2018 E4
2019 D3
2020 E2
3010 D2
3011 D2
3012 E2
3086 A4
3087 B4
3088 B3
3089 B3
3090 B2
3091 A1
3092 A2
3093 A2
3094 A3
3095 A4
3096 B4
3097 B3
3098 B3
4089 B2
4090 B2
4091 A2
4092 A2
4093 A2
4094 A3
6091 B4
6092 B4
6093 B3
7091 D3

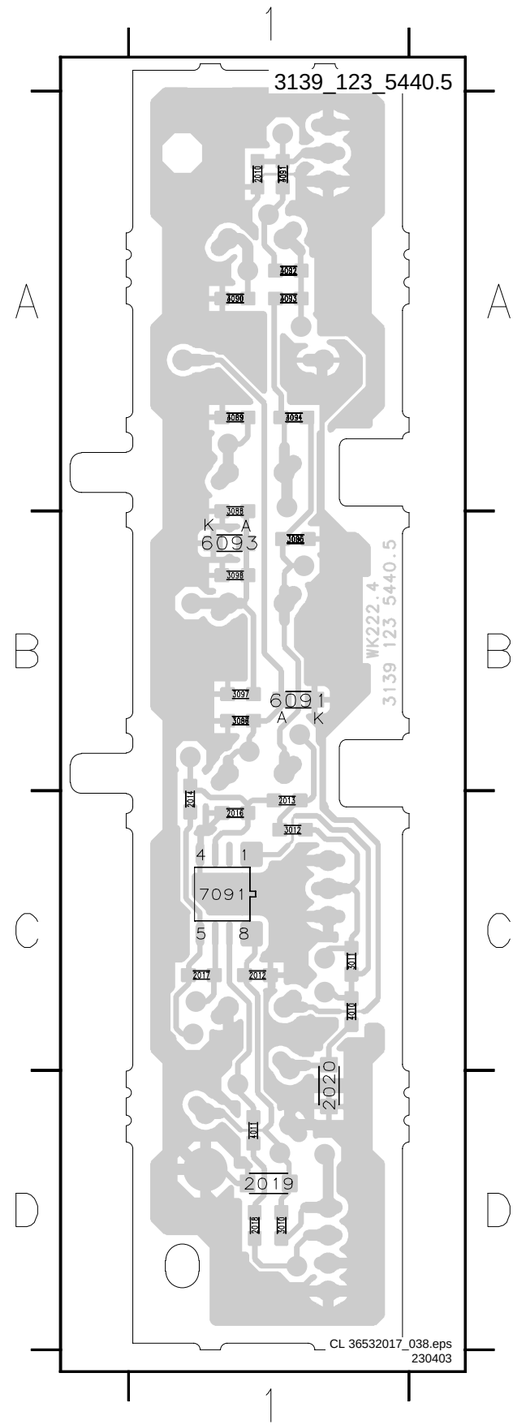
Layout Top Control Panel (PV2 Styling) (Top Side)



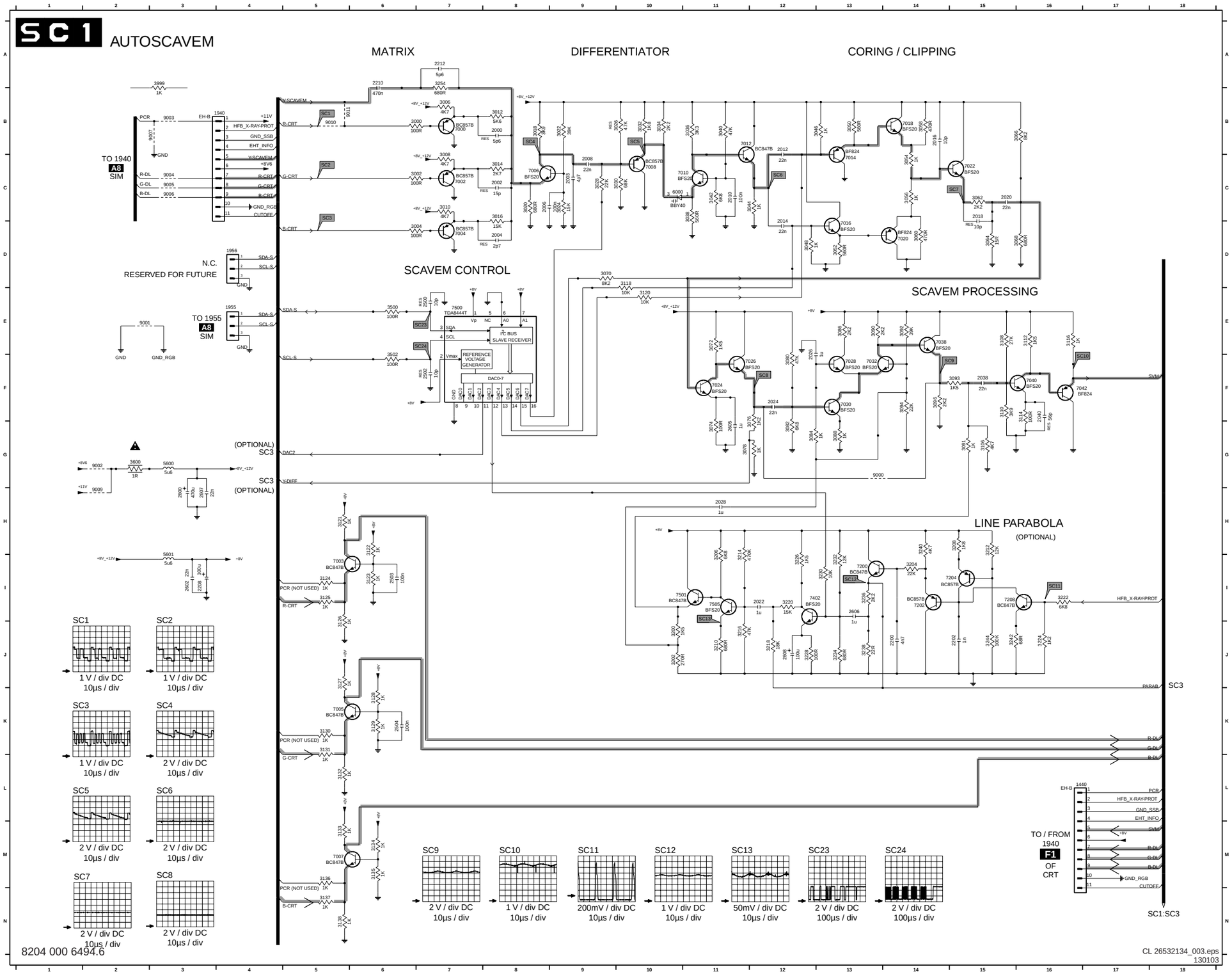
0215 A1
0216 D1
0217 C1
1090 D1
1091 A1
1092 A1
1093 B1
1094 C1
1095 B1
2011 D1
2015 D1
6092 A1

Layout Top Control Panel (PV2 Styling) (Bottom Side)

2010 A1	2018 D1	3086 B1	3092 A1	3098 B1	4092 A1
2012 C1	2019 D1	3087 B1	3093 A1	4010 C1	4093 A1
2013 C1	2020 D1	3088 A1	3094 A1	4011 D1	4094 A1
2014 C1	3010 D1	3089 A1	3095 B1	4089 A1	6091 B1
2016 C1	3011 C1	3090 A1	3096 B1	4090 A1	6093 B1
2017 C1	3012 C1	3091 A1	3097 B1	4091 A1	7091 C1



Auto SCAVEM Panel

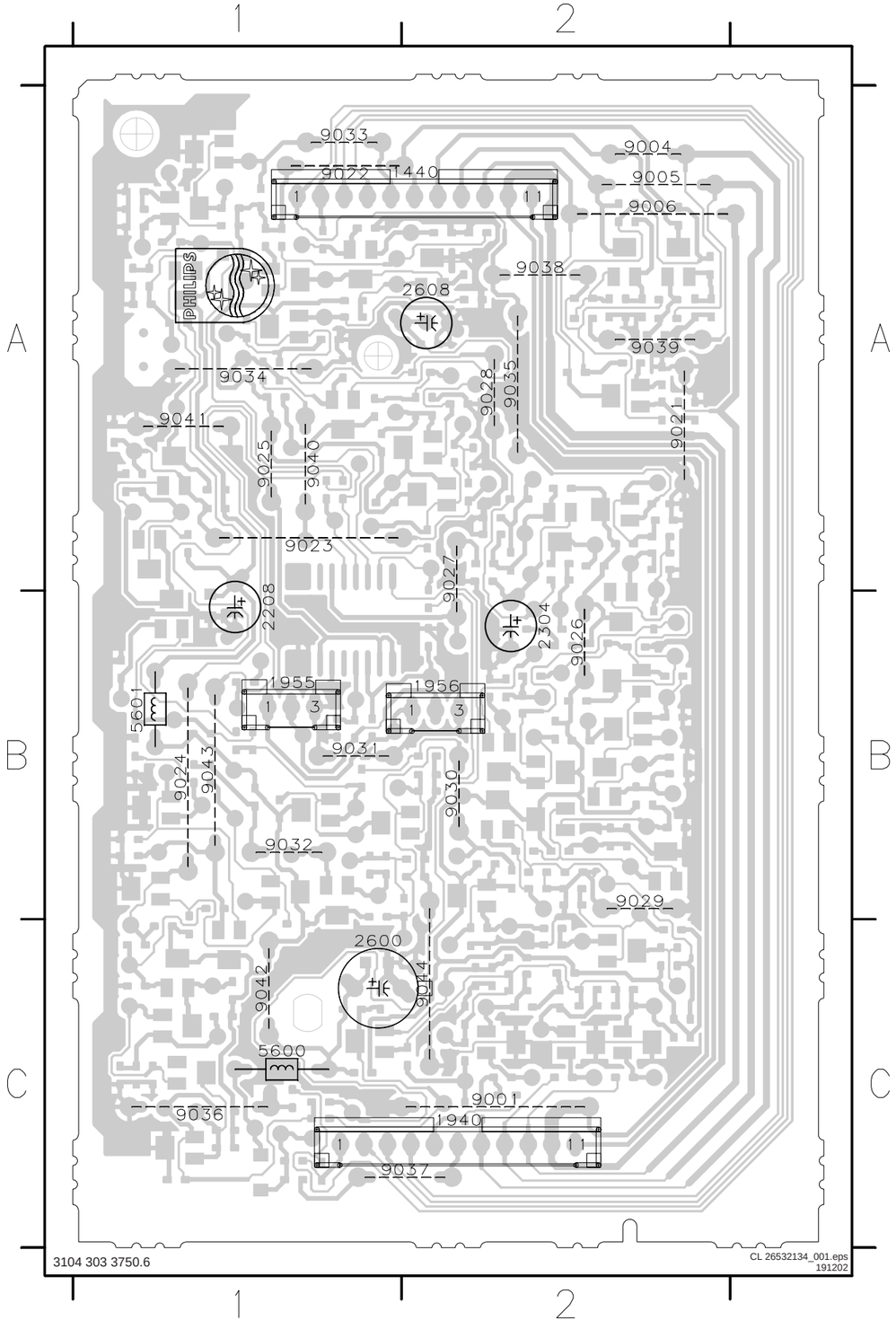


8204 000 6494.6

CL 26532134_003.eps
130103

1440 L17 6000 C10
1940 B4 7000 B7
1955 E4 7002 C7
1956 D4 7003 I5
2000 B8 7004 D7
2002 C8 7005 K5
2003 C9 7006 C8
2004 D8 7007 M5
2006 C8 7008 C10
2008 C9 7010 C10
2010 C11 7012 B11
2012 B12 7014 C13
2014 D12 7016 D13
2016 B14 7018 B14
2018 C15 7020 D14
2020 C15 7022 C15
2022 I12 7024 F11
2024 F12 7026 F11
2026 F12 7028 F13
2028 H11 7030 F13
2038 F15 7032 F13
2040 F16 7038 E14
2200 J14 7040 F16
2202 J15 7042 F16
2208 I3 7200 I13
2210 A6 7202 I14
2212 A7 7204 I15
2500 E7 7208 I15
2502 F7 7402 I13
2503 I6 7500 E7
2504 K6 7501 I11
2600 H3 7505 I11
2602 I3 9000 G13
2605 G11 9001 E2
2606 I13 9002 G2
2607 H3 9003 B3
2608 J12 9004 C3
3000 B7 9005 C3
3002 C7 9006 C3
3004 D7 9007 B3
3006 B7 9009 H2
3008 C7 9010 B5
3010 C7 9011 B5
3012 B8 I690 B11
3014 C8
3016 C8
3018 B8
3020 C8
3022 B9
3024 C9
3026 B10
3028 C9
3030 C10
3032 B10
3034 B10
3036 B11
3038 C11
F 3040 B11
3042 C11
3044 C12
3046 B13
3048 D12
3050 B13
3052 D13
3054 C14
3056 C14
3058 B14
3060 D14
3062 C15
3064 D15
3066 B16
3068 D16
3070 D9
3072 E11
3074 G11
3076 G12
3078 G12
H 3080 F12
3082 G12
3084 G12
3086 E13
3088 G13
3090 E13
3091 G15
3092 E14
3093 F15
3094 F14
3096 F14
3106 G15
3108 E15
3110 F15
3112 E16
3114 F16
3116 E16
3118 D10
3120 E10
3121 H5
3122 H6
3123 I6
3124 I5
3125 I5
3126 J5
3127 J5
3128 K6
3129 K6
3130 K5
3131 K5
K 3132 L5
3133 M5
3134 M6
3135 M6
3136 M5
3137 N5
3138 N5
3200 J10
3202 J10
3204 I14
L 3206 I11
3208 H15
3210 J11
3212 H15
3214 I11
3216 J11
3218 J12
3220 I12
3222 I16
3224 J16
M 3228 I12
3228 J12
3230 I13
3232 I13
3234 J13
3236 I13
3238 J13
3240 H14
3242 J15
3244 J15
N 3254 A7
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3502 F6
3600 G2
3999 A3
5600 G3
5601 I3

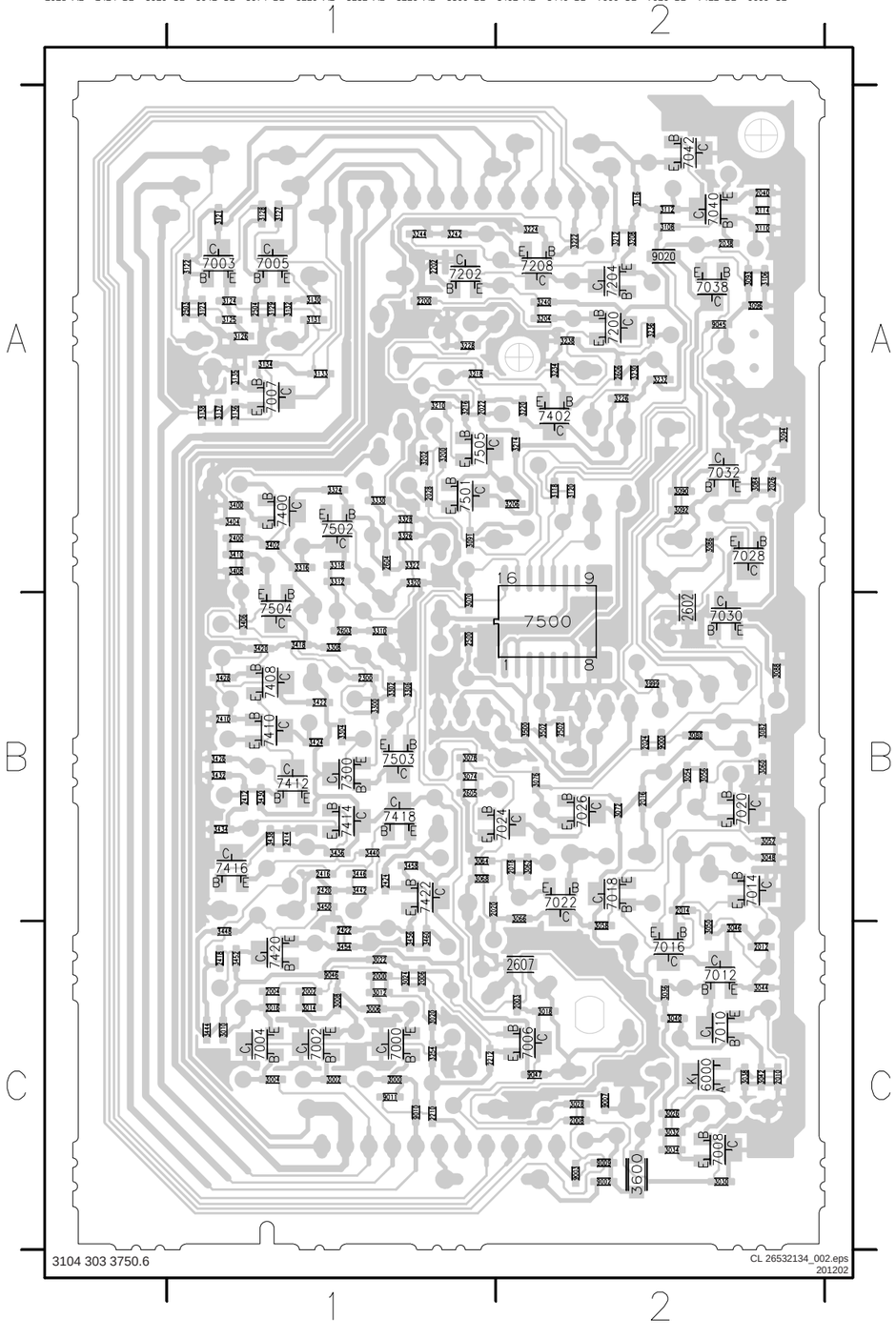
Layout Auto SCAVEM Panel (Top Side)



1440 A2
1940 C2
1955 B1
1956 B2
2208 B1
2304 B2
2600 C1
2608 A2
5600 C1
5601 B1
9001 C2
9004 A2
9005 A2
9006 A2
9021 A2
9022 A1
9023 A1
9024 B1
9025 A1
9026 B2
9027 A2
9028 A2
9029 B2
9030 B2
9031 B1
9032 B1
9033 A1
9034 A1
9035 A2
9036 C1
9037 C1
9038 A2
9039 A2
9040 A1
9041 A1
9042 C1
9043 B1
9044 C2

Layout Auto SCAVEM Panel (Bottom Side)

2000 C1 2038 A2 2500 B1 3012 C1 3044 C2 3076 B2 3112 A2 3132 A1 3218 A1 3302 B1 3404 A1 3442 B1 7002 C1 7028 A2 7414 B1 9010 C1
2002 C1 2040 A2 2502 B2 3014 C1 3046 C2 3078 B1 3114 A2 3133 A1 3220 A2 3304 B1 3406 B1 3444 C1 7003 A1 7030 B2 7416 B1 9011 C1
2003 C2 2200 A1 2503 A1 3016 C1 3048 B2 3080 B2 3116 A2 3134 A1 3222 A2 3306 B1 3408 A1 3446 B1 7004 C1 7032 A2 7418 B1 9020 A2
2004 C1 2202 A1 2504 A1 3018 C2 3050 C2 3082 B2 3118 A2 3135 A1 3224 A2 3308 B1 3410 A1 3448 C1 7005 A1 7038 A2 7420 C1 9045 A2
2006 C1 2210 C1 2602 B2 3020 C1 3052 B2 3084 A2 3120 A2 3136 A1 3226 A2 3310 B1 3418 B1 3450 B1 7006 C2 7040 A2 7422 B1 9046 C1
2008 C2 2212 C1 2603 B1 3022 C1 3054 B2 3086 A2 3121 A1 3137 A1 3228 A1 3312 A1 3420 B1 3452 C1 7007 A1 7042 A2 7500 A2 9047 C2
2010 C2 2300 B1 2604 A1 3024 C1 3056 B2 3088 B2 3122 A1 3138 A1 3230 A2 3316 A1 3422 B1 3454 C1 7008 C2 7200 A2 7501 A1
2012 C2 2400 A1 2605 B1 3026 C2 3058 C2 3090 A2 3123 A1 3200 A1 3232 A2 3318 A1 3424 B1 3456 C1 7010 C2 7202 A2 7502 A1
2014 B2 2410 B1 2606 A2 3028 C2 3060 B2 3091 A1 3124 A1 3202 A1 3234 A2 3320 A1 3426 B1 3458 B1 7012 C2 7204 A2 7503 B1
2016 B2 2412 B1 2607 C2 3030 C2 3062 B2 3092 A2 3125 A1 3204 A2 3236 A2 3322 A1 3428 B1 3460 C1 7014 B2 7208 A2 7504 A1
2018 B2 2414 B1 3000 C1 3032 C2 3064 B1 3093 A2 3126 A1 3206 A2 3238 A2 3324 A1 3430 B1 3500 B2 7016 C2 7300 B1 7505 A1
2020 B1 2416 B1 3002 C1 3034 C2 3066 B2 3094 A2 3127 A1 3208 A2 3240 A2 3326 A1 3432 B1 3502 B2 7018 B2 7400 A1 9000 B2
2022 A1 2418 C1 3004 C1 3036 C2 3068 B1 3096 A2 3128 A1 3210 A1 3242 A1 3328 A1 3434 B1 3600 C2 7020 B2 7402 A2 9002 C2
2024 B2 2420 B1 3006 C1 3038 C2 3070 B1 3106 A2 3129 A1 3212 A2 3244 A1 3330 A1 3436 B1 3999 B2 7022 C2 7408 B1 9003 C2
2026 A2 2422 C1 3008 C1 3040 C2 3072 B2 3108 A2 3130 A1 3214 A2 3254 C1 3400 A1 3438 B1 6000 C2 7024 B1 7410 B1 9007 C2
2028 A1 2424 B1 3010 C1 3042 C2 3074 B1 3110 A2 3131 A1 3216 A1 3300 B1 3402 A1 3440 B1 7000 C1 7026 B2 7412 B1 9009 C2



8. Electrical Alignments

Index of this chapter
1. General alignment conditions
2. Hardware alignments
3. Software alignments
4. Option settings

8.1 General Alignment Conditions

8.1.1 Start Conditions

Perform all electrical adjustments under the following conditions:
- Power supply voltage: 230 V_{AC}/50 Hz (± 10 %).
- Connect the set to the mains via an isolation transformer with low internal resistance.
- Allow the set to warm up for approximately 20 to 30 minutes.
- Measure the voltages and waveforms in relation to chassis ground (with the exception of the voltages on the primary side of the power supply).
  Caution: never use the cooling fins/plates as ground.
- Test probe: Ri > 10 MΩ, Ci < 20 pF.
- Use an isolated trimmer/screwdriver to perform the alignments.

Perform all electrical adjustments with the following start settings (for all CRTs):
- Set LIGHT SENSOR "off", by setting ACTIVE CONTROL to "off" with the remote control.
- Set CONTRAST to "75", BRIGHTNESS to "42" and COLOUR to "54" (via PICTURE menu).
- Set COLOUR ENHANCEMENT to "off" (via PICTURE menu).
- Set DIGITAL OPTIONS to "Pixel Plus" (via PICTURE menu), unless otherwise stated (for sets without "Pixel Plus" (= Eagle), set to "Natural Motion").
- Set DYNAMIC CONTRAST to "off" (via PICTURE menu).
- Set CATHODE DRIVE at "15" (via SAM - Alignments - General - Drive - Cathode).

8.1.2 Adjustment Sequence

Use the following adjustment sequence:
1. Set the correct TV-set "options" (after storing, restart the set!).
2. Rough adjustment of "Vg2" and "Focus".
3. Rough adjustment of "Geometry".
4. Allow the set to warm up.
5. Accurate adjustment of "Vg2" and "Focus".
6. Accurate adjustment of "Geometry".
7. Software alignments (cut-off, cathode drive, peak white, white drive, etc).

8.2 Hardware Alignments

Note: The Service Alignment Mode (SAM) is described in chapter 5 of the Service Manual. Menu navigation is done with the "CURSOR UP, DOWN, LEFT or RIGHT" keys of the remote control (RC) transmitter.

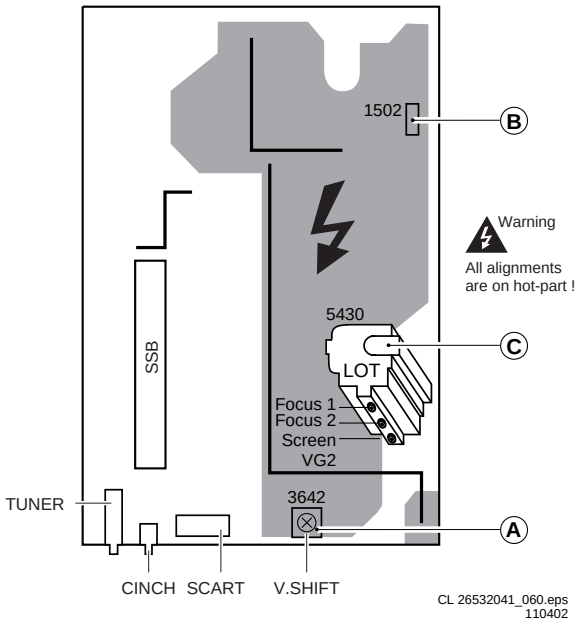


Figure 8-1 Top-view LSP

8.2.1 Vg2 Adjustment

In the frame-blanking period of the R, G, and B signals applied to the CRT, the "HOP" video processor inserts a measuring pulse with different DC levels. Measure the black level pulse during the vertical flyback at the RGB cathodes of the CRT.
1. Go, via the MENU key, to the normal user menu, select "PICTURE", and set "CONTRAST" and "BRIGHTNESS" to "0".
2. Activate the SAM.
3. Connect the RF output of a pattern generator to the antenna input. Test pattern is a "black" picture (blank screen on CRT without any OSD info).
4. Set the channel of the oscilloscope to 20 V/div and the time base to 20 us/div. Use external triggering on the vertical pulse
   (**caution**: use a trigger point at the "**cold"** side!).
5. Ground the scope at the CRT panel ("**cold"** side) and connect a 10:1 probe to one of the cathodes of the picture tube socket (see diagram F).
6. Measure the cut-off pulse during first full line after the frame blanking. You will see two pulses, one being the cut-off pulse and the other being the white drive pulse. Choose the one with the lowest value; this is the cut-off pulse.
7. Select the cathode with the highest V_dc value for the alignment. Adjust the V_CUTOFF of this gun with the SCREEN (lower) potentiometer on the LOT to the correct DC-value (tolerance is +/- 3 V_dc):
   – 28 inch: 160 V.
   – 29 inch: 160 V.
   – 32 inch (LPD - Philips): 160 V.
   – 32 inch (MEC - Panasonic): 170 V.
   – 36 inch: 170 V.
8. Restore "CONTRAST" to "75" and "BRIGHTNESS" to "42".

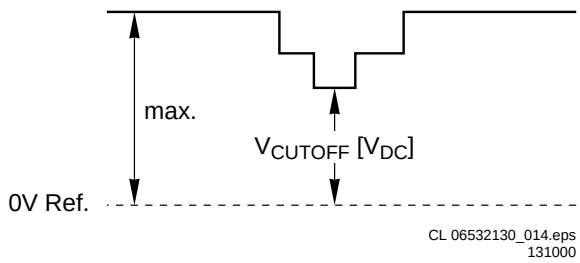


Figure 8-2 Waveform Vg2 alignment

8.2.2 Focus alignment

Notes:
- Tune the set to a "circle with crosshatch" test pattern (use an external video pattern generator).
- Choose picture mode "NATURAL" with the "SMART PICTURE" button on the remote control transmitter.
- **ELDOR** LOT outline:
  - Focus 1 (F1) = Static alignment (black wire).
  - Focus 2 (F2) = Dynamic alignment (red wire).

Focus method for Philips 32 inch tube with bleeder gun
You can recognize a CRT with bleeder gun by its type number:
- W76ERF**052**X044= with bleeder gun
- W76ERF**042**X044= with standard gun.

You can also recognize it by the **ceramic** rectangular plate (this is the bleeder resistance) you will see inside the gun (viewed from above).

1. Start the alignment with the STATIC focus (upper potmeter) turned to the **left** and the DYNAMIC focus (middle potmeter) to the **right**.
2. Adjust the DYNAMIC focus until the horizontal lines at the centre of the screen have minimum width, without introducing a visible haze.
3. Adjust the STATIC focus until the vertical lines at the sides of the screen have minimum width, without introducing a visible haze.
4. Adjust the DYNAMIC focus until the horizontal lines at the centre of the screen have minimum width, without introducing a visible haze.
5. Check overall spot performance and repeat steps 3 and 4 to achieve the best result.

Focus method for all other tubes
1. Start with the STATIC and DYNAMIC focus potentiometers on the LOT at **midway**.
2. Adjust the STATIC focus until the vertical lines at the sides of the screen have minimum width, without introducing a visible haze.
3. Adjust the DYNAMIC focus until the horizontal lines at the centre of the screen have minimum width, without introducing a visible haze.
4. Check overall spot performance and repeat steps 2 and 3 to achieve the best result: a compromise between minimal visible haze at the middle of the screen and sharp lines at the edges of the screen.

8.3 Software Alignments

8.3.1 Introduction

With the software alignments, it is possible to align the Geometry, White Tone, and Tuner IF settings.
Put the set in the SAM (see chapter 5). The SAM menu will now appear on the screen. Select, via **ALIGNMENTS**, one of the sub-menus. They are explained below in the sequence of the sub-menus.

Notes:
- All changes to menu items and alignments are stored automatically, except the option codes. They must be stored manually.
- If the OPTION CODES have been changed **and stored**, the set has to be switched "OFF" and "ON" using the mains switch to activate the new settings (when switching via Standby, the option code settings are NOT read by the microprocessor).
- If an empty EAROM (permanent memory) is detected, all settings are set to pre-programmed default values.

8.3.2 GENERAL

VG2 TEST PATTERN
In this sub-menu, you can turn "On" the OSD feedback for the Vg2 alignment (see chapter 8.2.1).

ADJUST PEAK WHITE LIMITER
Fixed setting: "9".

EHT COMPENSATION
Enter value "9" for the 28, 29 and 32 inch picture tubes
Enter value "10" for the 36 inch picture tubes.

SOFT CLIPPER
Fixed setting: Pwl + 0%

LUMA GAIN
Fixed setting: 2.

IF AFC
Supply, via an external video generator (e.g. PM5518), a TV signal with strength of at least 1 mV and a frequency of 475.25 MHz. Use system BG if possible, otherwise match the system of your generator with the received signal in the set.

Alignment procedure:
1. Go to the user "Installation" menu.
2. Select "Manual Installation".
3. Tune the TV-set to the system and frequency described above via "Search" - "475" - "OK".
4. If the frequency, showed in the line "Fine tune", is between 475.18 MHz and 475.31 MHz, you **do not** need to re-adjust the "IF AFC".
5. If not, adjust the frequency in the "Fine tune" line to 475.25 MHz and "Store" the program (this is **very important** because this will disable the AFC algorithm).
6. Now go to the SAM and select ALIGNMENTS - GENERAL - IF AFC.
7. During the IF AFC parameter adjustment, one can see OSD feedback in the top of the screen.
8. This OSD feedback can give 4 kind of messages:

Table 8-1 OSD feedback of AFC alignment

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

1. The first item (IN or OUT) informs you whether you are in or out the AFC-window.
2. The second item (HIGH or LOW) informs you about whether the AFC-frequency is too high or too low.
3. First, you must align the IF AFC parameter such that you come into the AFC-window (= IN).
4. Then you must look for the point where the IF AFC parameter changes from HIGH to LOW. This level is the value you are looking for.

5. After adjustment, STORE the value.
6. Now return to the user "Installation" menu.
7. Select "Manual Installation" - "Search" - "475" - "OK" and "Store". This will set the AFC "ON" again.

Service tip: If you do not trust the frequency accuracy of your service generator, connect it to a "good" TV set and check it with the "Fine tune"-line.

IF LPRIME AFC
Use the same procedure as for the IF AFC alignment, but set the video generator to SECAM L/L' (only necessary for countries that have or can receive this system).

TUNER AGC
1. Set the external pattern generator to a colour bar video signal and connect the RF output to the aerial input. Set the amplitude to 10 mV and set the frequency to 475.25 MHz.
2. Connect a DC multimeter between pin 1 and the shielding of the Tuner (item 1200 on the LSP).
3. Adjust the TUNER AGC value (default value is 25) with the LEFT/RIGHT cursor keys until the voltage at pin 1 of the tuner lies between 3.8 and 2.3 V.
4. STORE the alignment.

TUNER AGC TUNER 2
Use the same procedure as described above (under TUNER AGC) with the set switched to the DW source. Measure on pin 1 of the DW Tuner (this is only applicable for sets with 2-tuner DW execution).

BLEND INTENSITY
Use this alignment when you replace the microcontroller or the HOP. It aligns the level of transparency of the menu-picture blended into the main-picture.
Position the "BRIGHTNESS", "CONTRAST", and "COLOUR" setting in the middle position (picture-menu).
1. Apply a signal with a 100 % white video-pattern.
2. Connect an oscilloscope to pin 8 of connector 1298 of the CRT panel and measure the Red output level.
3. Align the BLEND INTENSITY parameter such, that the blended signal is 65 % of the black-white amplitude. In practice, this is about 1.3 V (blended signal) versus 2 V (full white signal).
4. The parameter can be adjusted in between "0" and "31".

8.3.3 DRIVE

Method 1 (with colour analyser):
1. Select TEST PATTERN and turn it ON. During the following alignments, you will get a white block in middle of the screen.
2. Select CATHODE and adjust the set to the correct light output. This setting depends on the picture tube size and brand. See table "Cathode parameter" for the colour analyser readings.
3. Select a COLOUR TEMPERATURE (COOL, NORMAL, or WARM).
4. Adjust the white level (via RED, GREEN, and BLUE) according to the values in table "White levels".

Table 8-2 Cathode parameter

CRT	Light output (cd/m^2)
28" RF WS	400 (Mk1), 450 (Mk2)
29" RF 4:3	400
32" RF WS	380 (LPD), 370 (MEC)
36" RF WS	330

Table 8-3 White levels

ColourTemp. (K)	Cool (10200)	Normal (8700)	Warm (6500)
X	280	289	313
Y	287	299	329

Method 2 (without colour analyser):
Without having a colour-analyser, one can set some parameters. This is the next best solution. The setting-parameters are average values coming from production (statistics).
1. Select CATHODE and enter the value "15" (for all picture tubes).
2. Select a COLOUR TEMPERATURE (COOL, NORMAL, or WARM).
3. Set the RED, GREEN, and BLUE parameters according to the (delta) values in table "Tint settings".
4. RED BL OFFSET: herewith the black level can be aligned very precise (default value is "7").
5. GREEN BL OFFSET: herewith the black level can be aligned very precise (default value is "7").

Table 8-4 Tint settings

	Δ Cool	Normal	Δ Warm
R	-1	37	+3
G	0	30	0
B	+4	31	-10

8.3.4 LUM. DEL. (Luminance Delay)

With this 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 = 9.
- **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 = 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 = 11.
- **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 & white part of the test area are at the same position. Default value = 10.

8.3.5 GEO-NOR (Normal Geometry)

Note: Use for all geometry alignments an **external** pattern generator with a geometry pattern (e.g. crosshatch).

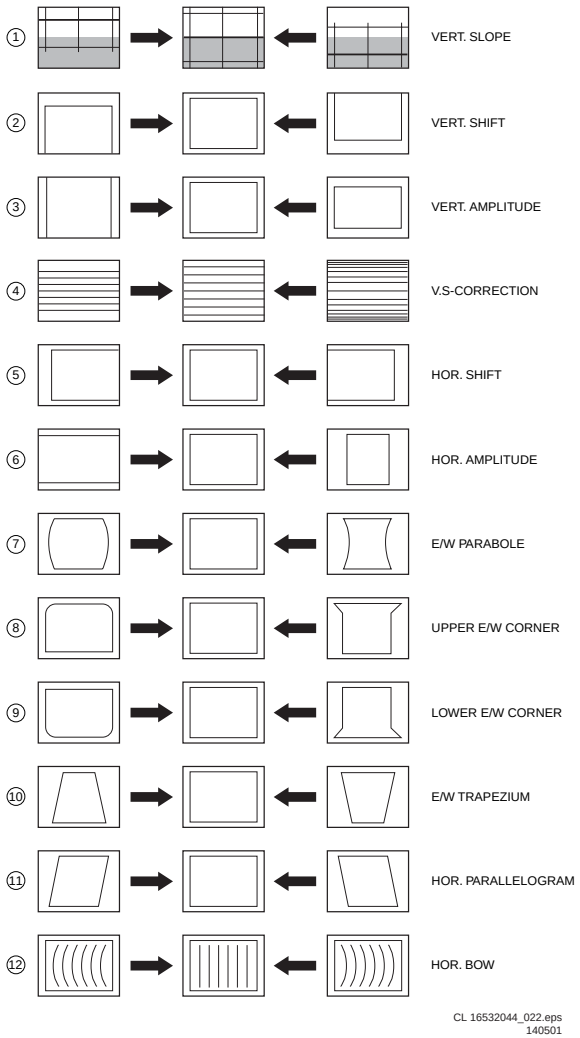


Figure 8-3 Geometry Alignments

Service tip: When the set is equipped with a rotation coil, use this menu item to check its correct alignment. If alignment is not correct, go to the INSTALLATION menu, choose SETUP, press OK, and choose PICTURE TILT. With the use of a crosshatch test pattern, align it to a correct horizontal picture.

V. SLOPE

Align the zero crossing of the frame deflection to the mechanical middle of the picture tube.

1. First set the start conditions for 16:9 sets: V. S-CORRECTION value on "16" for the 28 inch, "32" for the 29 inch, "16" for the 32 inch (LPD - Philips tube), "27" for the 32 inch (MEC - Panasonic tube), or "20" for the 36 inch sets. Position the boundary-stripes of the test pattern on the edges of the picture tube.
2. Align V. SLOPE (during alignment, the lower half of the picture is blanked) such, that the middle line of the test pattern is matched with the edge of the pattern transient in the middle of the picture.
3. Repeat the alignment if necessary.

V. SHIFT AND V. AMPLITUDE (vertical alignment)

Align the vertical centre and height of the picture.

1. Use V. AMPLITUDE to align the vertical amplitude so that the entire test pattern is visible.
2. Set V. SHIFT to value "32".
3. Connect a voltmeter (V_dc) between R3624 and "hot" ground.
4. Adjust the DC voltage to "0" with potmeter R3642 (see figure 8-1).
5. Use V. SHIFT again to align the test pattern roughly vertically in the middle.
6. Repeat the alignment if necessary.

V. S-CORRECTION

Align for equal blocks on top, middle, and bottom of the picture tube.

Align V. S-CORRECTION such that a block at the top (or bottom) of the picture has the same height as a block in the middle of the picture.

H. SHIFT AND H. AMPLITUDE (horizontal alignment)

1. Use H. AMPLITUDE to align the horizontal amplitude so that the entire test pattern is visible.
2. Use H. SHIFT to align the picture horizontally in the middle.
3. Repeat the H. AMPLITUDE alignment if necessary.

Note: In case the horizontal linearity in wide-screen mode is out of tolerance, add a "DC-shift correction" panel (3104 328 06230) to connector 1419 of the DAF-panel [diagram I]. On the DC-shift panel, cut diode **6433** for correction to the right or diode **6432** for correction to the left.

Caution: Be sure to switch "OFF" the set first. *Never* plug in a not pre-aligned module in a playing set!

EAST/WEST ALIGNMENT

1. Use EAST/WEST PARABOLA to align the vertical lines until straight.
2. Use UPPER EAST/WEST CORNER to align the vertical lines in the upper corners until straight.
3. Use LOWER EAST/WEST CORNER to align the vertical lines in the lower corners until straight.
4. Use EAST/WEST TRAPEZIUM to align for a rectangular.
5. Use HORIZONTAL BOW to correct the E/W parabola such, that it becomes symmetrical.
6. Use HORIZONTAL PARALLELOGRAM to align for straight vertical lines if necessary.

Repeat steps 1 to 6 if necessary.

8.3.6 GEO-4:3 (4:3 geometry alignment in 16:9 sets)

1. Use EAST/WEST PARABOLA to align the vertical lines until straight.
2. Use UPPER EAST/WEST CORNER to align the vertical lines in the upper corners until straight.
3. Use LOWER EAST/WEST CORNER to align the vertical lines in the lower corners until straight.

8.3.7 GEO-SW (Super Wide geometry alignment in 16:9 sets)

You only need to set the following values (if the normal geometry alignment has been performed correctly):

1. V. S-CORRECTION: enter value of the NORMAL GEOMETRY alignment.
2. H. AMPLITUDE: enter value of the NORMAL GEOMETRY alignment subtracted by "1".
3. EAST/WEST PARABOLA: enter value of the NORMAL GEOMETRY alignment.

8.3.8 GEO-100HZ (Digital Scan geometry alignment)

As all alignments are done in Pixel Plus mode (at 75 Hz), the 100 Hz mode needs an extra alignment:

- Select GEO-100HZ. The set automatically switches to 100 Hz mode.
- V. SLOPE: match the middle line of the test pattern with the upper edge of this blanking picture.
- After the alignment, return to the previous menu. The set automatically returns to "Pixel Plus" mode.

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.

- You can set the "hardware related" options via the SAM - ALIGNMENTS - OPTIONS or OPTION NUMBERS menu.
- You can set the "software related" options via the SAM - DEALER OPTIONS menu.

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 AC power switch (the EAROM is then read again).

8.4.2 DEALER OPTIONS

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

Menu name	Subjects	Options	Physically in set
Personal Options	Picture Mute	Yes	Video mute active when there is no signal detected
		No	Noise when there is no signal detected
	Virgin Mode	Yes	TV starts up with language selection menu
		No	TV does not start up with language selection menu
	Auto Store Mode (for EU)	None	Auto Store mode disabled (not in installation menu)
		PDC-VPS	Auto Store mode via ATS (Automatic Tuning System) enabled
		TXT page	Auto Store mode via ACI (Automatic Channel Installation) enabled
		PDC-VPS-TXT	Auto Store mode via ATS or ACI enabled
	Txt Preference (for EU)	FLOF	Preference to FLOF (Full Level One Features) teletext
		TOP	Preference to TOP (Table Of Pages) teletext
Note: Above overview gives the menu items for all regions (EU/AP/US). The correct settings differs per region (see Option Numbers).			

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Figure 8-4 Dealer options overview

8.4.3 SERVICE OPTIONS

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

Menu-item	Subjects	Options	Description
Chassis/Region	Chassis	EMGS 2001	Service name = EM3
		EMGS 2002	Service name = EM5
		EMGS TOP 2003	Service name = EM6
	Region	AP NTSC	Only for AP
		US	Only for US
Dual screen	PIP/Dual Screen	Yes	Feature present.
		No	Feature not present.
	Text/EPG	Yes	Feature present.
		No	Feature not present.
	DS/PIP Tuner	Yes	Only selectable if Dual Screen option is "on"
		No	Feature not present.
Teletext	Flash RAM	Yes	Feature present.
		No	Feature not present.
	NexTView	None	Feature not present.
		Textguide only	Feature present, but only as text guide.
		Nextview 2c3	Feature present, for countries that support this.
Picture Tube	CRT Type	4 by 3	4:3 picture tube.
		16 by 9	16:9 picture tube.
	Picture Rotation	Yes	Frame rotation circuitry present.
		No	Frame rotation circuitry not present .
	CRT size	28 / 32 / 36 29 / 34 / 38	CRT size (in inches). MEC= Panasonic, II= Mark 2
	Anti MoirÈ filter	Yes	Feature present.
		No	Feature not present.
Video repro	Featurebox type	1050i/1250i	HD input
		Eagle	Eagle present (Pixel Plus).
	Lightsensor	Yes	Feature present.
		No	Feature not present.
	2D Combfilter	Yes	Feature present.
		No	Feature not present.
	Picture improvement	Yes	LTP (TOPIC) present.
		No	LTP (TOPIC) not present.
	Auto Scavem	Yes	Feature present.
		No	Feature not present.
	Signalling bits	Yes	For 16:9 sets
		No	For 4:3 sets
Audio Repro	Dolby	None	Set without Dolby.
		Pro Logic	Set with Dolby ProLogic.
		Virtual	Sets with Virtual Dolby
	Rear speakers	Speakerless	Virtual Dolby (without rear speakers).
		Cordless	Wireless active surroundbox present.
	Subwoofer present	Yes	Feature present.
		No	Feature not present.
	Acoustic system	None, FL9-DAS, FL11, FL12, PV02, FL13, Soft Designline, Tech Designline.	
	AVL	On	Automatic Volume Limiter 'on'.
		Off	Automatic Volume Limiter 'off'.
Source Selection	AV3 2fH (2002)	Yes	Not selectable yet
		No	Feature not present.
	AV4 2fH (2002)	Yes	Not selectable yet
		No	Feature not present.
	EXT3 2fH (2003)	Yes	Feature present.
		No	Feature not present.
	EXT4 2fH (2003)	Yes	Not selectable for this chassis
		No	Feature not present.
Miscellaneous	Home Cinema	Yes	Set with Home Cinema Link (EU only)
		No	Set without Home Cinema Link
	Integrated RC	Yes	Feature present.
		No	Feature not present.
	Tuner type	UV1316	Set with Philips tuner.
		TEDE9	Set with Alps tuner.
	Integrated Radio	Yes	Feature present.
		No	Feature not present.
	P50 DVD menu line	Yes	Feature present (only in sets with Home Cinema).
		No	Feature not present.
Option no.	Group 1		Group 1 option code overview (see CRT sticker).
	Group 2		Group 2 option code overview (see CRT sticker).

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Figure 8-5 Option overview

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 fast. All options are controlled via eight option numbers.
When the EAROM is replaced, all options will require a re-setting. 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 CRT sticker inside the TV set.

Example: The CRT sticker gives the following option numbers:
04187 08526 50001 00000
04182 00001 00000 00070
The first line (group 1) indicates options 1 to 4, the second line (group 2) options 5 to 8 (see tables below).
Every 5-digit number represents 16 bits (so maximum number can 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.

OB	Bit	Option name	Settings (in decimal values) for EM5.1E chassis		Option number
1	0 1 2	Featurebox	0= None	2= Prozonic 3= Eagle 4= Falconic 5= Falconic 1050i 1250i	Sum OB1 (decimal)
	3	2D Comb Filter	0= Off	8= On	
	4	Auto-Scavem	0= Off	16= On	
	5	n.a. *	0		
	6	Light Sensor	0= Off	64= On	
	7	Luma Trans. Proc.	0= Off	128= On (for non-Eagle sets)	
	8	n.a. *	0		
	9	n.a. *	0		
	10	n.a. *	0		
	11	n.a. *	0		
	12	WSS	0= Off	4096= On	
	13	3D Comb Filter	0= Off	8192= On	
	14	Pixel Plus	0= Off	16384= On	
	15	n.a. *	0		
2	0	n.a. *	0		Sum OB2 (decimal)
	1	Dolby ProLogic	0= Off	2= On	
	2	Virtual Rear Spkrs	0= Off	4= On	
	3	Cordless Rear Spkrs	0= Off	8= On	
	4	Dolby Digital	0= Off	16= On	
	5	Virtual Dolby	0= Off	32= On	
	6 7	Subwoofer	0= No subwoofer present	64= Subwoofer present	
	8 9 10 11	Chassis	0= EM6	256= EM5 512= EM3 3840= Others	
	12	EPG Type	0= Off (US)	8192= On (EU)	
	13	Flash RAM	0= Off (US)	8192= On (EU)	
	14 15	EPG Version	0= Off (US)	16384= Text guide only 32768= NexTView 2C3 (EU) 49152= NexTView 2	
3	0	n.a. *	0		Sum OB3 (decimal)
	1	n.a. *	0		
	2	AV4 (2fH)	0= Off	4= On (not selectable)	
	3	AV3 (2fH)	0= Off	8= On (not selectable)	
	4	Dual Screen	0= Off	16= On	
	5	n.a. *	0		
	6	TXT/EPG/DS	0= Off	64= On	
	7	n.a. *	0		
	8	Aspect Ratio	0= 4:3	256= 16:9	
	9	Tilt	0= Off	512= On	
	10	Monitor	0= Off	1024= Reserved for FTV	
	11	Integrated Radio	0= Off	2048= On	
	12	Stand Alone	0= Off	4096= Reserved for FTV	
	13	Integrated DVD	0= Off	8192= On (not appl. for FTV)	
	14	Home Cinema	0= Off	16384= On	
	15	Integrated RC (P50)	0= Off	32768= On	
4	0	PIP/Aux. Tuner	0= Off	1= On	Sum OB4 (decimal)
	1	n.a. *	0		
	2	China IF	0= Off	4= On	
	3	Tuner	0= Philips	8= Alps	
	4	Teletext	0= Off	16= On	
	5	n.a. *	0		
	6	n.a. *	0		
	7	n.a. *	0		
	8	Digital Module (MILO)	0= Off	256= On	
	9	Integrated Harddisk	0= Off	512= On	
	10	n.a. *	0		
	11	n.a. *	0		
	12	Anti Aging	0= Off	4096= Reserved for FTV	
	13	DVD-door lock	0= Off	8192= On	
	14	n.a. *	0		
	15	n.a. *	0		

Note: Bits that are not used have a fixed value of "0", and are not mentioned in above overview.

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Figure 8-6 Option bytes Group 1

OB	Bit	Option name	Settings (in decimal values) for F22Rx_AA chassis		Option Number
5	0	n.a. *	0		Sum OB5 (decimal)
	1	Auto Store Mode	0= None	2= PDC/VPS 4= TXT Page 6= PDC/VPS/TXT Page	
	2				
	3	Korean Stereo	0= Off	8= On	
	4	Picture Mute	0= Off	16= On	
	5	n.a. *	0		
	6	Virgin	0= Off	64= On	
	7	n.a. *	0		
	8	n.a. *	0		
	9	n.a. *	0		
	10	n.a. *	0		
	11	n.a. *	0		
	12	TXT Preference	0= TOP	4096= FLOF	
	13	n.a. *	0		
	14	n.a. *	0		
	15	n.a. *	0		
6	0	P50 DVD menu-line	0= Off	1= On	Sum OB6 (decimal)
	1	n.a. *	0		
	2	n.a. *	0		
	3	n.a. *	0		
	4	Region	0= EU	16= AP PAL-multi 32= AP NTSC 48= US 64= LATAM 80= Australia	
	5				
	6				
	7				
	8	n.a. *	0		
	9	n.a. *	0		
	10	n.a. *	0		
	11	n.a. *	0		
	12	n.a. *	0		
	13	n.a. *	0		
	14	n.a. *	0		
	15	n.a. *	0		
7	0	EXT4 1fH (EU)	0= Off (EM5)	1= On	Sum OB7 (decimal)
	1	EXT 2fH 1 (EU)	0= Off (EM5)	2= On	
	2	EXT 2fH 2 (EU)	0= Off	4= On	
	3	EXT VGA (EU)	0= Off	8= On	
	4	EXT DVI (EU)	0= Off	16= On	
	5	EXT3 (EU)	0= Off	32= On	
	6	n.a. *	0		
	7	n.a. *	0		
	8	n.a. *	0		
	9	AV 2fH 1 (non-EU)	0= Off	512= On	
	10	AV 2fH 2 (non-EU)	0= Off	1024= On	
	11	AV VGA (non-EU)	0= Off	2048= On	
	12	AV DVI (non-EU)	0= Off	4096= On	
	13	n.a. *	0		
	14	n.a. *	0		
	15	n.a. *	0		
8	0	Cabinet	0= FL6	1= FL7 2= FL8 3= FL9 DAS 4= FL9 Monitor 5= FL10 6= FL11 7= FL12 8= FL14 (n.a.) 9= PV02 10= FL13 11= Soft Design Line 12= Tech Design Line	Sum OB8 (decimal)
	1				
	2				
	3				
	4	n.a. *	0		
	5	n.a. *	0		
	6	AVL	0= Off	64= On	
	7	n.a. *	0		
	8	Picture tube size	0= 28 inch	256= 32 inch 512= 36 inch 768= 29 inch 1024= 34 inch 1280= 38 inch 1536= 32 inch MEC 1792= 28 inch Mk2 2048= 36 inch FP 3840= Other	
	9				
	10				
	11				
	12	Anti MoirÈ	0= Off	4096= On	
	13	n.a. *	0		
	14	n.a. *	0		
	15	n.a. *	0		

Note: Bits that are not used have a fixed value of "0", and are not mentioned in above overview.

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Figure 8-7 Option bytes Group 2

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

Index of this chapter
1. Introduction
2. Block diagram
3. Double Window
4. Abbreviation list
5. IC Data Sheets

Note:
- Only **new** circuits (compared to the EM5E) are described. For the other circuit descriptions, see the manual of the EM5E. This manual is available in different languages:
  - 3122 785 12560 = English.
  - 3122 785 12571 = German.
  - 3122 785 12581 = French.
- Figures can deviate slightly from the actual situation, due to different set executions.
- For a good understanding of the following circuit descriptions, please use the diagrams in chapter 6 and 7. Where necessary, you will find a separate drawing for clarification.

9.1 Introduction

For the EM5.1E chassis, there are three ranges foreseen, with the following delta's (compared to the EM5E):
- 93xx: No NexTView level 3, No 3rd SCART, No PIP, Eco Scavem, Virtual Dolby Surround.
- 94xx: New RC, 2-tuner PIP/DW, 3rd SCART with PIP/DW input, Auto Scavem, Virtual Dolby Surround.
- 95xx: New RC, 1-tuner PIP/DW, 3rd SCART with PIP/DW input, Auto Scavem, Dolby ProLogic.

The chassis consists of a full sized LSP/SSP combination and a smaller double sided four layer SSB, which is mounted on the SSP using a SIMM connector. The main functionalities are:
- LSP: supply, deflection, and sound amplification.
- SSP: tuner input, SIMM interface, I/O, and interface provisions for extended functions such as PIP.
- SSB: core TV functionalities, being TXT/control, video and audio decoding, feature box, video featuring, and sync/ geometry control.

The LSP (single sided) is built up very conventional, with hardly any surface mounted components on the copper side. Similar with the EM3 (but different as with the MG-chassis), the EM5 LSP has a very large 'hot' part, including both deflection coils.

The SSB is a high tech module (four layer, 2 sides reflow technology, full SMC) with very high component density and complete 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:
- The position of service test lands: most of them are at the Tuner side.
- Accessibility (Tuner side). If there are still problems with the accessibility, one can order an extension board (see parts list).
- Clearance around surface mounted ICs (for replacing).
- Detailed diagnostics and fault finding is possible via ComPair.

In the architecture, provisions are made for more features/ extensions like:
- Wireless surround sound.
- Integrated DVD-player.

The availability of Double Window (DW) or Picture In Picture (PIP) depends on the model range. There are 2 different executions, depending on the number of tuners:
- One Tuner: The TV has only one tuner (on the LSP), so the PIP-picture can be either from this tuner or from an external AV-source.
- Two Tuners: In this case there are 2 separate tuners, so the main picture and the DW picture are independently selectable. The IF signal from the main tuner is processed on the SSB, while the IF signal from the 2nd tuner is processed by a 2nd BOCMA video processor on the DW-panel. The source selection is done via an I/O expander.

9.2 Block Diagram

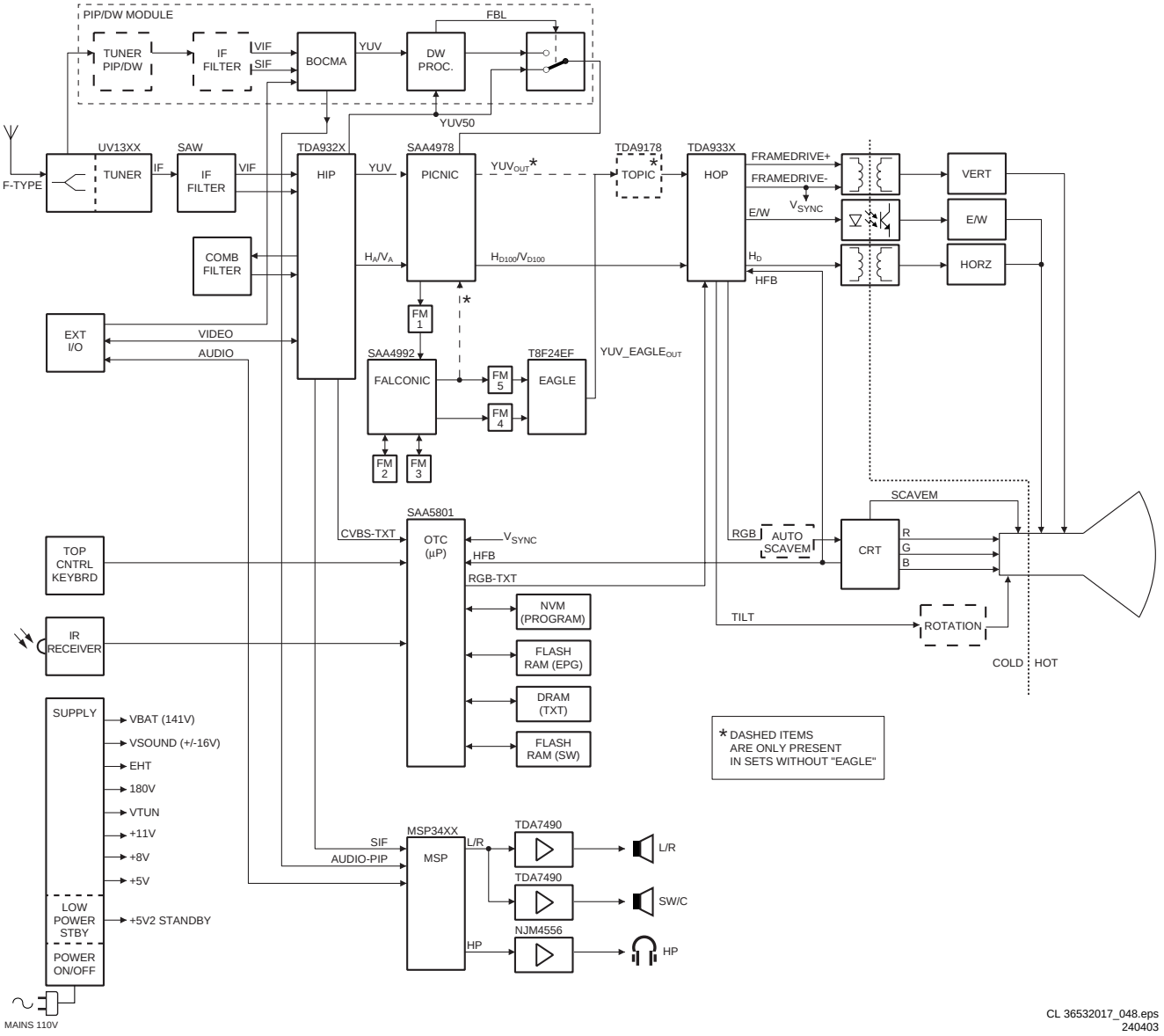


Figure 9-1 Block diagram

The Tuner (item 1200) is a PLL tuner and delivers the IF-signal, via audio & video SAW-filters, to the HIP (High-end Input Processor). The HIP has the following functions:
- IF modulation.
- Video source- and record select.
- Colour decoder.
- Synchronisation.

Three SCART-connectors can be used:
- SCART1 is fully equipped,
- SCART2 is meant for VCR. Pin 10 is used for Easylink (P50) and there is a possibility for Y/C in. The CVBS-out on pin 19 is meant for WYSIWYR (What You See Is What You Record).
- SCART3 is a RGB/CVBS and audio L/R input. It can be used as 2nd tuner input, in case of a 1-Tuner DW/PIP set.

The HIP delivers YUV and sync signals to the PICNIC. This IC takes care of:
- Analogue to Digital conversion and vice versa.
- 50 to 100 Hz conversion.
- Panorama mode.
- Noise reduction.
- Dynamic contrast.

The '2fH features'-block in the diagram gives several options:
- For Digital Scan, the PICNIC is required.
- For Natural Motion, the FALCONIC is required.
- For Pixel Plus, the EAGLE is required.

After the PICNIC the, now 100 Hz, YUV-signals are fed to the FALCONIC for 'Natural Motion', followed by the Eagle for 'Pixel Plus' enhancement (if present). The processed YUV signals (from Eagle or PICNIC) are, together with the sync-signals from the PICNIC, then fed to the HOP (High-end Output Processor). This IC handles the video control and geometry part. The RGB-signals for TXT/OSD (from the microprocessor) are also inserted via the HOP. The video part delivers the RGB signals to the CRT-panel and the geometry part delivers the H-drive, V-drive, and a drive-signal for rotation.

Both deflection circuits are 'hot' and located on the LSP. They are driven by the HOP. To make a galvanic separation, the Line Drive is driven via transformer 5410 and the Frame Drive via transformer 5621.The horizontal output stage generates some supply voltages and the EHT-, focus- and Vg2-voltages.

The RGB amplifiers on the CRT-panel are supplied with 200 V from the LOT.

The Scavem circuit modulates transitions of the Luminance (Y) signal on the horizontal deflection current, giving a sharper picture.

The sound part is built around the MSP34xx (Multi-channel Sound Processor) for IF sound detection, sound control and source selection. Dolby decoding is also done by the MSP. Amplification is done via a 'class D' integrated power amplifier IC, the TDA7490.

The microprocessor, called OTC (OSD, Teletext and Control) takes care of the analogue TXT input- and output processing. The OTC, ROM, and RAM are supplied with 3.3 V, which is derived from the +5V2.
The NVM (Non Volatile Memory) is used to store the settings, one Flash-RAM contains the set software, the other Flash-RAM (7012) is for EPG, and the DRAM is used for storing the Teletext pages.

There is a separate Standby Supply, in order to reduce the Standby power consumption. During Standby, the Main Supply is switched 'off' (via TS7529).
A relay (1550) is used to switch the degaussing circuit. It is switched 'on' after set start-up and switched 'off' by the P after 12 s.
The Main Supply, an SMPS based on the 'down-converter' principle, generates the 141 V (V_BAT) and the +/- 16 V for the audio part.
Note: Voltage V_BAT is not mains isolated ('hot'), but is alignment free.

9.3 Double Window

9.3.1 Introduction

The Double Window (DW) panel provides the option for viewer to see two pictures or programs on the displayed area of a TV screen. The displayed pictures can be in PIP or DW mode. The viewer can also select the size and position of the "second" picture.
There are basically two types of configurations. One with one (main) tuner and one with an additional tuner on the DW panel.

9.3.2 Block Diagram

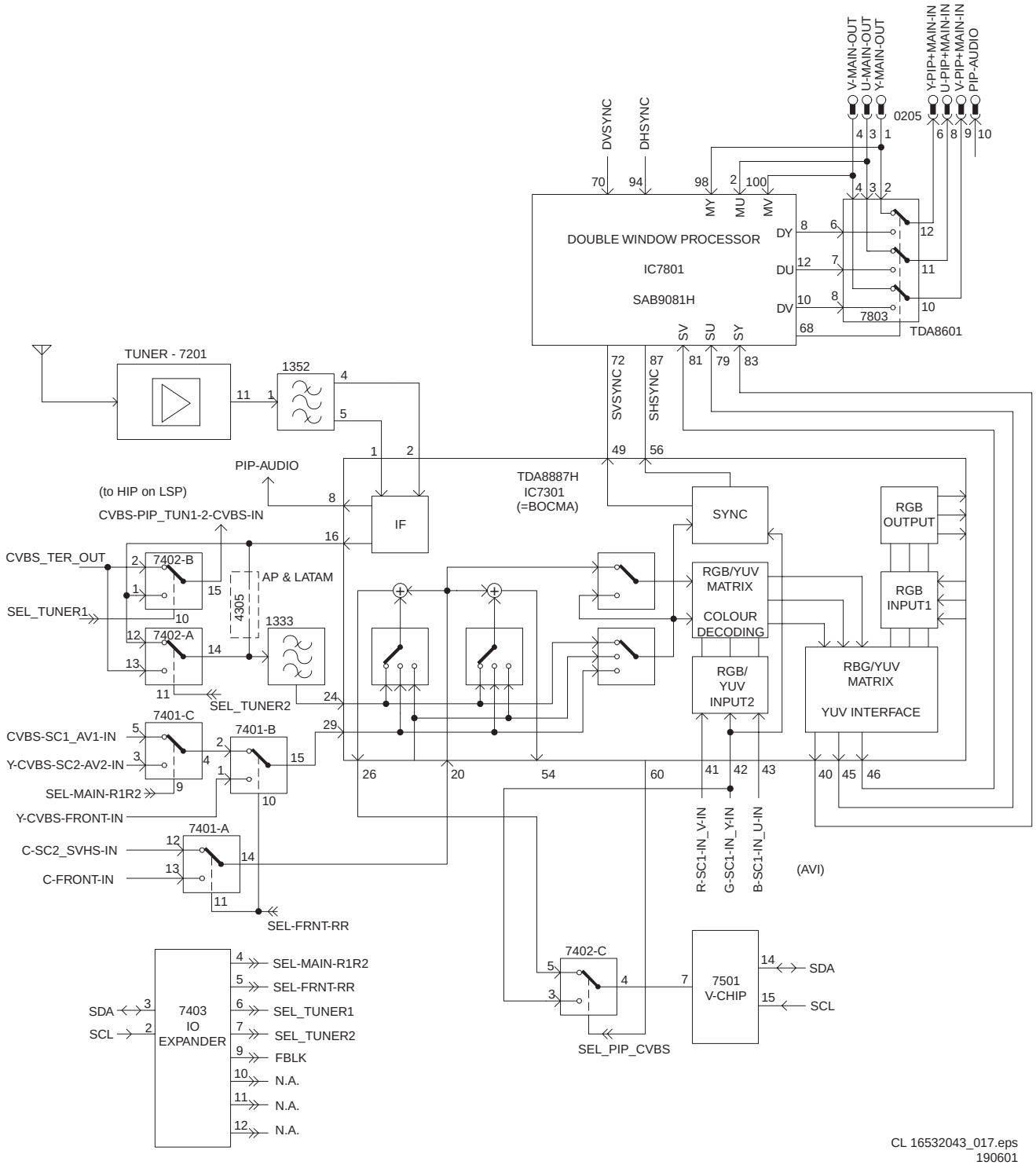


Figure 9-2 Double Window circuitry

9.3.3 IF and Video section

Basically the "IF and video" processing part is quite similar to the circuits used on the main board, except that it has a multi standard PIP processor. The processing in the DW module is performed by the TDA8887H BOCMA IC (in the set by the HIP IC).

One tuner versions

In order to display the external AV sources by the DW panel, a source selection circuit is incorporated on the panel. Three external AV sources are possible. The selection between the sources is performed by IC7401 (HEF4053).

Two tuner versions

The TV uses one RF input to the DWs tuner via a splitter. The tuner on the main board receives RF from the splitter. Due to this configuration, the main board tuner always processes the Main picture while the DW tuner always processes the Sub picture. If the picture between the two tuners needs to be swapped, then the tuners' RF frequencies are swapped.

Signal IF-TER from the tuner is fed to pin 1 and 2, IF circuits of TDA8887H IC7301 via SAW filter 1352. The AGC voltage for the tuner can be adjusted in the SAM tuner menu (2nd AGC).

Source selection
After IF demodulation, the CVBS-PIP-OUT is fed back to TDA888x pin 24 with or without video switching circuit comprises of 7402 (HEF4053). Due to this construction, two independent RF signal pictures can be selectively displayed on the CRTs screen. See table.

Table 9-1 Switching logic for Main and DW Picture

SEL-TUNER1(Pin 6 IC7403)	SEL TUNER2 (Pin 7 IC7403)	Selected CVBS signals
0	0	Main = Tuner 1 DW/PIP = Tuner 2
0	1	Main = Tuner 1 DW/PIP = Tuner 1
1	0	Main = Tuner 2 DW/PIP = Tuner 2
1	1	Main = Tuner 2 DW/PIP = Tuner 1

The source signals are fed directly to video processor IC7301. The IC performs the source selection internally.
The video processor IC7301 decodes the CVBS at pin 24 or pin 29 into YC signals and further process it into YUV signal. Output is at pins 40, 45, and 46.
The PIP-AUDIO signal is fed to pin 47 of the audio demodulator MSP34xx on the SSB.

Note: When S-VHS is inserted from the rear, the AV2 source will be disabled. Likewise, when S-VHS is inserted from the side-AV.

9.3.4 DW/PIP processing

The SAB908x (IC7801) is a multi-standard PIP controller, which can be used in double window or PIP applications. The YUV signals from the video processor IC7301 are fed to pin 79, 81, and 83. The PIP controller will insert the YUV signals from IC7301 with reduced size into the main picture. The main picture YUV signals (50 Hz) are fed to pins 100, 2, and 98, respectively. These signals are used during the DW mode.

Inside IC7801, the conversion to the digital environment is done with ADCs. Processing and storage (1 MB DRAM) of the video data is done entirely in the digital domain. The conversion back to the analogue domain is done by DACs. Internal clocks are generated by PLLs, which lock on to the applied horizontal and vertical syncs from the main and sub pictures. The main picture syncs are applied to pin 70 (V) and pin 94 (H) and the sub picture syncs are applied to pin 72 (V) and pin 87 (H).
For DW mode, the main picture is compressed horizontally by a factor of two and fed directly to the output. After compression, a horizontal expansion of two is possible for the main picture. The sub picture is also compressed horizontally by a factor two, but is stored in memory before it is fed to the outputs.

Post-processed YUV signals are fed to the "fast switching" IC7803 (TDA8601 pins 6, 7, and 8). In normal operation (without DW), the main picture YUV signals (at pins 2, 3 and 4) are bypassed by IC7803, and returned back to the main video processor. When DW mode is active, the compressed YUV signals (main and sub pictures) are used and fed to the main video processor. During the PIP mode, only sub-picture YUV signals are used. The insertion control is made possible by a fast blanking signal from pin 68 of IC7801.

9.3.5 Power supplies

The power supplies used by the DW panel are from the main board 5 V, 8 V, and 33 V (for tuner only). IC7802 LM317T regulates the 5V to +3.3V, +3V, and +3VD. These voltages are mainly used by the DW processor circuitry. The 8V is mainly supplied to the IF + video processing circuitry (IC7301 TDA888x), and to fast switching IC7803.

9.4 Abbreviation list

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 Subwoofer
Auto TV	A hardware and software control system that measures picture content, and adapts image parameters in a dynamic way
BC-PROT	Protection signal to the uP for a too high Beam Current.
BG	System B and G
BLC-INFO	Black Current Info
B-SC1-IN	Blue SCART1 in
B-SC2-IN	Blue SCART2 in
B-TXT	Blue teletext
BOCMA	BiMOS One Chip Mid-end Architecture: integrated video and chroma decoder
CL	Constant Level: audio output to connect with an external amplifier
ComPair	Computer aided rePair
CRT	Cathode Ray Tube or picture tube
CSM	Customer Service Mode
CTI	Colour Transient Improvement: manipulates steepness of chroma transients
CVBS	Composite Video Blanking and Synchronisation
CVBS-TER	CVBS terrestrial
DAC	Digital to Analogue Converter
DBE	Dynamic Bass Enhancement: extra low frequency amplification
DC-filament	Filament supply voltage

DFU	Direction For Use: description for the end user
DNR	Digital Noise Reduction: noise reduction feature of the box
DPL	Dolby ProLogic
DSP	Digital Signal Processing
DST	Dealer Service Tool: special remote control designed for dealers to enter e.g. service mode
DVD	Digital Versatile Disc
DYN-FASE-COR	Dynamic phase correction, to correct the phase of the H-drive
Eagle	Feature box IC performing peaking, zooming and sub pixel LTI in both horizontal and vertical direction, CTI and other colour features
EHT	Extra High Tension
EHT-INFO	Extra High Tension information, used for contrast reduction, vertical and horizontal amplitude correction, beam current protection, and flash detection.
EPG	Electronic Program Guide: system used by broadcasters to transmit TV guide information (= NexTView)
EW	East West, related to horizontal deflection of the set
EW-DRIVE	The drive signal for the EW-transistor
EXT	External (source), entering the set via SCART or via cinches
FALCONIC	Feature box IC performing Digital Natural Motion, 3DNR, and vertical zoom and vertical peaking
FBL	Fast Blanking: DC signal accompanying RGB signals
FBL-PIP	The fast blanking signal for PIP
FBL-TXT	The fast blanking signal for TXT. It has a higher priority than FBL-PIP
FBSCO	Fixed Beam Current Switch Off, a 140 V dip detection to activate the black switch off 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)
FDS	Full Dual Screen
FILAMENT	Filament of CRT
FLASH	Flash memory
FM	Field Memory or Frequency Modulation
G-TXT	Green teletext
GND-DRIVE	A separate ground for the line drive towards the line driver
HA50	Horizontal Acquisition 1fH: horizontal sync pulse coming out of the HIP
HD100	Horizontal Drive 2fH: horizontal sync pulse coming out of the feature-box
HD at HOME	A signal from the OTC, to switch the HOP to the Pixel Plus standard (75 Hz frame)
HFB	Horizontal Flyback Pulse: horizontal sync pulse from large signal deflection
HIP	High-end video Input Processor: video and chroma decoder of EM5E
HOP	High-end video Output Processor: video, sync, and geometry controller of
HP	Headphone
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
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
LDP	Line Deflection Protection signal, derived from the EW-current and voltage
LED	Light Emitting Diode
LINE DRIVE	Line drive signal (for the Line transistor)
LNA	Low Noise Adapter
LSP	Large signal panel
MSP	Multi-standard Sound Processor: ITT sound decoder of EM5E
MUTE	Mute-Line
NC	Not Connected
NVM	Non Volatile Memory: IC containing TV related data e.g. alignments
O/C	Open Circuit
ON/OFF LED	On/Off control signal for the LED
OSD	On Screen Display
OTC	On screen display Teletext and Control; also named Artistic
P50	Project 50 communication: protocol between TV and peripherals
PCB	Printed Circuit Board
PICNIC	Peripheral Integrated Combined Network IC: main IC for 100 Hz featuring and feature processing
PIP	Picture In Picture
Progressive Scan	Scan mode where all scan lines are displayed in one frame at the same time, creating a double vertical resolution.
PTP	Picture Tube Panel
RAM	Random Access Memory
R-TXT	Red teletext
RC	Remote Control
RC5 / RC6	Signal protocol from the remote control receiver
RESET	Reset signal
RGB-PIP	RGB-input for PIP
RGB-TXT	RGB-input for Teletext and OSD
RGB-VC	RGB-input to the Picture Tube Panel
ROM	Read Only Memory
SAM	Service Alignment Mode
SC	Sandcastle: two-level pulse derived from sync signals
S/C	Short Circuit
SCAVEM	Scan Velocity Modulation
SCL-F	Clock signal on fast I2C bus
SD	Standard Definition
SDA-F	Data signal on fast I2C bus
SIF	Sound Intermediate Frequency
SIMM	80-fold connector between LSP and SSB
SNERT	Synchronous No parity Eight bit Reception and Transmit
SSB	Small Signal Board
STBY	Standby
SW	Subwoofer
TXT	Teletext
TXT-DS	Teletext Dual Screen
TXT-KILL	To kill the TXT picture to insert a PIP. It has a higher priority than FBL-TXT.
uP	Microprocessor
U100	U from Feature Box
V100	V from Feature Box
VA50	Vertical Acquisition 1Fh
VBAT	Main supply for deflection (mostly 141 V)
VD100	Vertical Drive 2fh: vertical sync pulse from deflection
VDPOS	One of the symmetrical drive signals for the DC frame output stage.

VDNEG	One of the symmetrical drive signals for the DC frame output stage.
VDS	Virtual Dolby Surround
VFB	Vertical Flyback Pulse: vertical sync pulse coming from the feature box
VL	Variable Level out: processed audio output towards external amplifier
WYSIWYR	What You See Is What You Record: record selection that follows main picture and sound
X-RAY-PROT	A protection signal for too high X-ray radiation
XTAL	Quartz crystal
Y100	Y from Feature Box
Y-OUT	Luminance-signal to HOP IC
YUV-Feat	The YUV input for the main picture, coming from the Feature box or the HIP

9.5 IC Data Sheets

In this paragraph, the internal block diagrams and pinning are given of ICs that are drawn as a 'black box' in the electrical diagrams (with the exception of 'memory' and 'logic' ICs).

9.5.1 Diagram B3c, T8F24EF (IC7724)

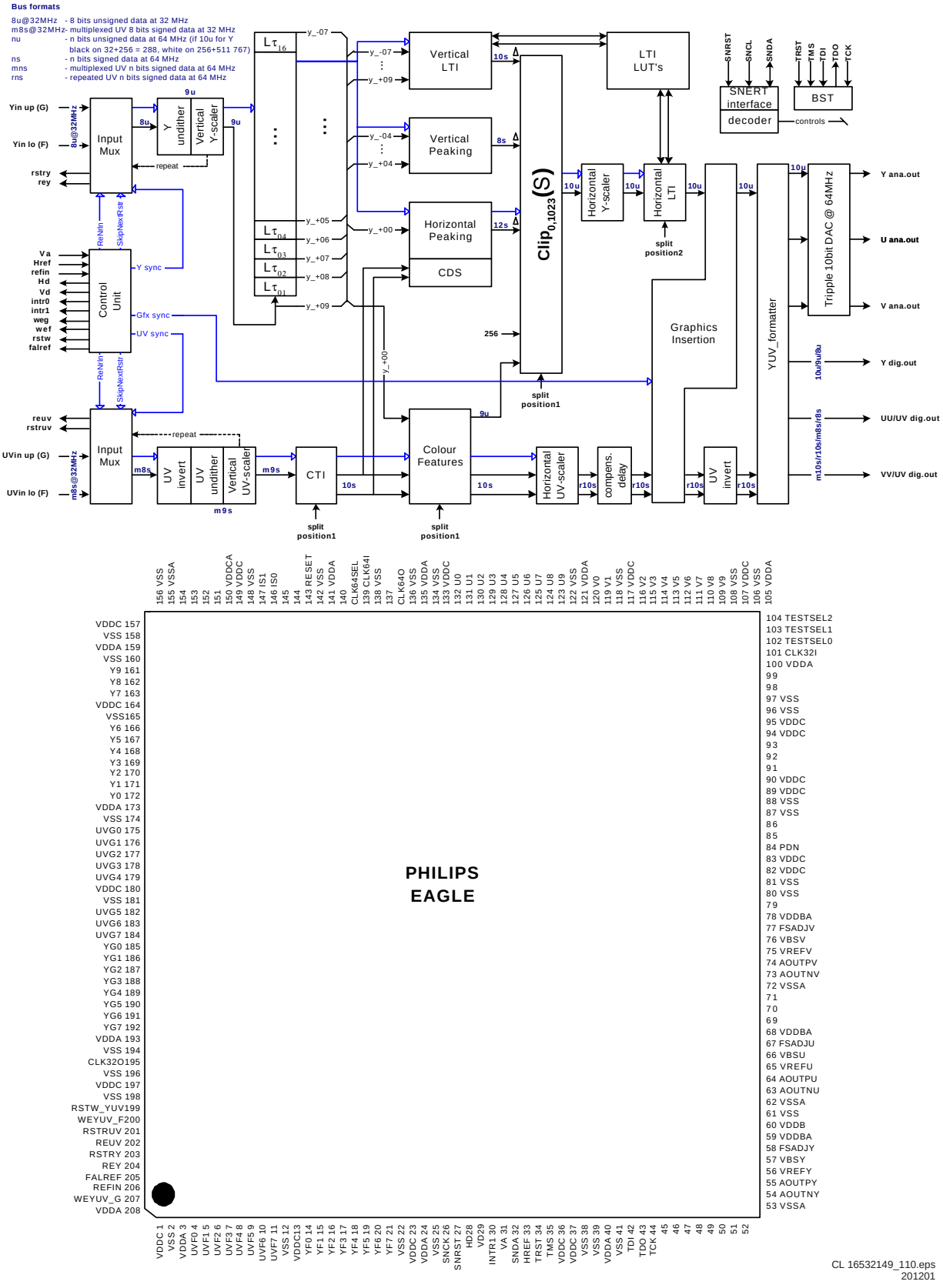


Figure 9-3 Internal Block Diagram and Pin Layout.

10. Spare Parts List

Large Signal Panel [A]

Various

0011	3104 308 78231	Transistor cooling clip
0020	4822 492 70789	Transistor clamp
0030	3104 304 23001	LSP chassisframe
0037	3104 304 24131	LOT bracket
0050	4822 466 93461	Insulating plate 20 X 25
0065	3104 304 22031	LOT spacer
0066	3104 304 23051	Conn. support EMGS
0067	3104 304 23061	Conn. part EMGS
0072	3104 304 24141	SSB bracket bottom
0080	4822 492 70789	Transistor clamp
0085	4822 701 13088	Transistor clamp
0086	4822 256 91879	Plastic holder
0090	4822 256 91879	Plastic holder
0091	4822 701 13088	Transistor clamp
0092	4822 256 91879	Plastic holder
0124	3104 300 40441	PT screw K40 X 30
0125	3104 304 90361	Insulating plate
0320	4822 255 41371	Transistor clamp
0341	4822 492 63524	Transistor clamp
0342	4822 492 63524	Transistor clamp
0395	4822 492 70789	Transistor clamp
0396	4822 492 70789	Transistor clamp
0505	4822 492 62076	Transistor clamp
1158	3104 328 13391	DAF + DC-shift assy
1158	3104 328 19401	DAF+DC-Shift assy 36”
1200⚠	3139 147 18141	Tuner UV1316T/A I X-3
1200	3139 147 19341	Tuner UV1318S/A I-3
1205	2422 025 17242	Connector SIMM 80p f
1417	4822 265 20723	Connector 2p m
1424	2422 025 11244	Connector 7p m
1491	4822 267 10973	Connector 1P m
1492	4822 267 10735	Connector 3p m
1498	2422 025 04849	Connector 2p m
1499	2422 025 04849	Connector 2p m
1501⚠	4822 070 35002	218005.(5A)
1502	4822 267 10774	2P male red
1503⚠	4822 070 12502	21702.5(2.5A)
1505	2422 025 16374	Connector 2p m
1511	4822 265 11253	Fuse holder 2p
1512	4822 265 11253	Fuse holder 2p
1520	3104 301 24181	Spring for Bracket
1521	3104 301 24181	Spring for Bracket
1522	4822 255 41371	Transistor clamp
1550⚠	4822 132 07411	Relay 1P 5V 5A
1590	4822 252 60151	Sparkgap DSP-501N-A21F
1601⚠	4822 086 10919	Fuse 65V 125mA
1620	4822 267 10735	Connector 3p m
1625	2422 025 16382	Connector 3p m
1693	4822 267 10676	Connector 1P
1735	4822 267 10565	Connector 4p
1737	2422 025 16382	Connector 3p m
1738	2422 025 16383	Connector 3p m
1901	4822 267 10771	Socket 2 x SCART
1902	4822 267 10982	Connector 2p
1933	4822 267 10565	Connector 4p
1935	4822 267 10734	Connector 5p m
1936	2422 025 12485	Connector 11p m
1937	4822 267 10557	Connector 10p
1940	2422 025 12485	Connector 11p m
1943	4822 267 10748	Connector 3p m
1945	4822 267 10735	Connector 3p m
1946	4822 265 41391	Connector 9p m
1948	2422 025 10768	Connector 3p m
1952	4822 267 10735	Connector 3p m
1953	4822 267 10735	Connector 3p m
1955	4822 267 10735	Connector 3p m
8000	3104 311 03272	Eht cable 640 mm
8000	3104 311 03721	Eht cable 820 mm
8192	3104 301 08351	Cable phono-phono 120mm
8193⚠	4822 320 20216	Focus cable 364 mm
8194⚠	4822 320 20189	Cable HT-focus 44cm Rd
8400	2422 025 16691	3P male
8417	3104 311 04561	Cable 2P3/400/2P3
8424	3104 311 02991	Cable 7P/560/7P Wh
8492	3104 311 05291	Cable 3P/400/3P
8498	3104 311 04531	Cable 2P/400/2P
8625	3104 311 03101	Cable 3P/560/3P Bk
8625	3104 311 03331	Cable 2P/560/3P
8625	3104 311 04741	Cable 3P/180/3P
8693	3104 311 03791	Wire 1P/480/4P
8737	3104 311 04682	Cable 2P3/680/2XPOSI
8933	3104 311 05091	Cable tree 09572 + ferrite
8936	3104 311 05271	Cable 11P/820/11P UL
8937	3104 301 09841	Cable 10P/340/10P Wh
8940	3104 311 04651	Cable 11P/140/11P
8940	3104 311 04761	Cable 11P/400/11P
8940	3104 311 05131	Cable 11P/480/11P
8948	3104 311 05021	Cable 3P/220/3P
8952	3104 311 05291	Cable 3P/400/3P
8955	3104 311 01211	Cable 3P/140/3P Wh UL

⊣⊢

2100	2252 811 95021	1nF 20% 250V
2100	4822 126 13841	1nF 20% 250V
2101	4822 121 51598	2.2nF 5% 400V
2102	4822 124 40248	10µF 20% 63V
2103	2020 552 94427	100pF 5% 50v 0603
2104	4822 123 14025	2200µF 20% 16V
2105	2020 552 94427	100pF 5% 50v 0603
2106	4822 126 13751	47nF 10% 63V
2107	4822 121 43855	3.3nF 5% 400V
2108	4822 121 70162	10nF 5% 400V
2109	4822 126 14472	1µF 10% 10V 0805
2110	4822 126 14472	1µF 10% 10V 0805
2111	4822 121 43526	47nF 5% 250V
2112	5322 126 11583	10nF 10% 50V 0603
2114	2222 338 23104	100nF 20% 275V
2114	4822 121 10711	100nF 20% 275V
2115	4822 124 40764	22µF 100 V
2116	4822 126 13682	100pF 5% 1kV
2118	4822 124 80061	1000µF 20% 25V
2119	4822 123 14025	2200µF 20% 16V
2120	4822 126 11524	1.5 nF 10% 1KV
2126	4822 123 14025	2200µF 20% 16V
2130	5322 126 11583	10nF 10% 50V 0603
2131	4822 126 13881	470pF 5% 50V
2140	4822 124 40248	10µF 20% 63V
2141	4822 124 40248	10µF 20% 63V
2144	4822 126 14472	1µF 10% 10V 0805
2145	4822 126 13881	470pF 5% 50V
2147	3198 017 31530	15nF 50V 0603
2148	4822 126 10206	2.2nF 10% 500V
2149	4822 126 14472	1µF 10% 10V 0805
2150	5322 126 11583	10nF 10% 50V 0603
2152	4822 121 70162	10nF 5% 400V
2154	4822 126 14549	33nF 16V 0603
2200	4822 124 40248	10µF 20% 63V
2201	4822 126 13879	220nF 20% 16V
2202	4822 126 13473	220nF 80-20% 50V
2203	4822 124 80195	470µF 20% 10V
2400	4822 124 11575	47µF 20% 160V
2401	4822 121 42077	6.8nF 10% 400V
2402	2020 012 93596	22µF 20% 250V
2402	2020 012 93771	33µF 20% 250V
2402	4822 124 12373	47µF 20% 250V
2403	2238 916 15641	22nF 10% 25V 0603
2403	4822 126 14494	22nF 10% 25V 0603
2404	2238 916 15641	22nF 10% 25V 0603
2404	4822 126 14494	22nF 10% 25V 0603
2412	3198 024 44730	47nF 50V 0603
2413	4822 124 12255	10µF 20% 50V
2414	3198 024 44730	47nF 50V 0603
2415	4822 126 13883	220pF 5% 50V
2417	4822 126 14076	220nF 25V. 20%
2419	4822 126 14237	470pF 10% R 2kV
2420	4822 121 70581	1.5nF 5% 2kV
2420	4822 121 70584	1,8nF 5% 2KV
2420	4822 121 70595	1.2nF 5% 2kV
2421	2022 333 00091	680nF 10% 250V
2421	2038 301 00312	1.2µF 5% 250V
2425	4822 121 10526	9.1nF 5% 2kV
2425	4822 121 70435	10nF 5% 2kV
2426	2222 375 90345	20nF 5% 630V
2426	4822 121 10653	22nF 5% 630V
2426	4822 121 10658	24nF 5% 630V
2430	4822 126 10206	2.2nF 10% 500V
2431	4822 126 10206	2.2nF 10% 500V
2433	2022 333 00163	360nF 5% 250V
2433	2222 479 90022	430nF 5% 250V
2433	4822 121 10518	390nF 5% 250V
2433	4822 121 42634	560nF 5% 250V
2440	2020 552 96448	1µF 10% 16V
2441	5322 122 32654	22nF 10% 63V
2442	5322 122 31866	6.8nF 10% 63V
2443	9965 000 09661	470pF 50V 10%
2445	5322 122 32654	22nF 10% 63V
2448	5322 122 32268	470pF 5% 63V
2450	5322 121 42578	100nF 5% 250V
2451	2020 012 93757	1000µF 20% 10V
2454	3198 017 31530	15nF 50V 0603
2455	5322 126 11578	1nF 10% 50V 0603
2457	2020 552 96699	15nF 5% 25V
2457	2020 552 96804	15nF 10% 50V 0805
2458	4822 126 14241	330pF 50V 0603
2460	4822 124 81144	1000µF 16V
2461	4822 122 31169	1.5nF 10% 500V
2462	4822 124 80061	1000µF 20% 25V
2463	4822 122 31177	470pF 10% 500V
2464	4822 124 80061	1000µF 20% 25V
2465	4822 122 31177	470pF 10% 500V
2466	2238 586 59812	100nF 20-80% 50V 0603
2468	4822 122 31177	470pF 10% 500V
2469	4822 126 13599	3.3nF 10% 500V
2480	5322 126 11582	6.8nF 10% 63V
2482	3198 017 34730	47nF 16V 0603
2483	4822 126 14238	2.2nF 50V 0603
2483	5322 126 11579	3.3nF 10% 63V
2490	2020 021 91773	100µF 20% 10V
2491	4822 124 81151	22µF 50V
2492	4822 124 23432	100µF 20% 10V
2493	5322 126 11579	3.3nF 10% 63V
2494	2238 780 15654	220nF 10% 16V
2495	2238 780 15654	220nF 10% 16V
2497	4822 126 12105	33nF 5% 50V
2499	5322 126 11579	3.3nF 10% 63V
2501	4822 126 14053	1nF 10% 2kV
2503	5322 121 42489	33nF 5% 250V
2504	2238 916 15641	22nF 10% 25V 0603
2504	4822 126 14494	22nF 10% 25V 0603
2505	2020 554 90173	2.2nF 20% 250V
2505	2252 811 95018	2.2nF 20% 250V
2506	5322 121 42386	100nF 5% 63V
2507	2222 338 22474	470nF 20% 275V
2507	4822 126 13589	470nF 275V
2508	4822 124 11913	22nF 20% 275V
2509	4822 124 11913	22nF 20% 275V
2510	4822 126 14053	1nF 10% 2kV
2511	4822 124 12417	2200µF 20% 25V
2512	4822 124 12417	2200µF 20% 25V
2513	4822 126 13881	470pF 5% 50V
2514	4822 126 14238	2.2nF 50V 0603
2515	4822 124 80096	47µF 200V
2516	2020 024 90743	220µF 20% 400V
2516	4822 124 12415	220µF 20% 400V
2517	4822 121 70162	10nF 5% 400V
2518	4822 122 31211	100pF 10% 500V
2519	4822 126 10206	2.2nF 10% 500V
2520	2222 338 23104	100nF 20% 275V
2520	4822 121 10711	100nF 20% 275V
2522	4822 126 10206	2.2nF 10% 500V
2525	4822 126 14247	1.5nF 50V 0603
2528	4822 126 14472	1µF 10% 10V 0805
2530	4822 126 14472	1µF 10% 10V 0805
2531	4822 122 31177	470pF 10% 500V
2535	4822 126 13193	4.7nF 10% 63V
2537	4822 124 11913	22nF 20% 275V
2538	4822 122 33177	10nF 20% 50V
2540	4822 124 40248	10µF 20% 63V
2541	4822 122 31211	100pF 10% 500V
2542	4822 124 80061	1000µF 20% 25V
2543	4822 124 80061	1000µF 20% 25V
2544	4822 126 14238	2.2nF 50V 0603
2601	2238 586 59812	100nF 20-80% 50V 0603
2603	4822 126 13883	220pF 5% 50V
2604	4822 126 13473	220nF 80-20% 50V
2605	4822 126 13883	220pF 5% 50V
2620	4822 126 13473	220nF 80-20% 50V
2621	2238 586 59812	100nF 20-80% 50V 0603
2622	4822 124 40255	100µF 20% 63V
2623	4822 126 14238	2.2nF 50V 0603
2624	4822 121 51319	1µF 10% 63V
2625	4822 121 51319	1µF 10% 63V
2627	5322 124 40641	10µF 20% 100V
2628	4822 124 40255	100µF 20% 63V
2630	4822 126 14491	2.2µF -20+80% 10V 0805
2631	4822 126 14491	2.2µF -20+80% 10V 0805
2633	5322 126 11579	3.3nF 10% 63V
2635	2238 586 59812	100nF 20-80% 50V 0603
2642	4822 124 40255	100µF 20% 63V
2653	2238 586 15628	2.7nF 10% 50V 0603
2653	5322 126 11579	3.3nF 10% 63V
2656	2238 916 15641	22nF 10% 25V 0603
2656	4822 126 14494	22nF 10% 25V 0603
2657	2238 916 15641	22nF 10% 25V 0603
2657	4822 126 14494	22nF 10% 25V 0603
2659	2238 916 15641	22nF 10% 25V 0603
2659	4822 126 14494	22nF 10% 25V 0603
2660	5322 126 11578	1nF 10% 50V 0603
2702	3198 016 31020	1nF 25V 0603
2704	3198 016 31020	1nF 25V 0603
2705	4822 126 13482	470nF 80/20% 16V
2706	4822 126 14585	100nF 10% 50V

2707	4822 126 14076	220nF 25V. 20%
2708	4822 126 14076	220nF 25V. 20%
2709	4822 126 13881	470pF 5% 50V
2710	4822 126 13881	470pF 5% 50V
2711	3198 016 31020	1nF 25V 0603
2712	2020 552 96683	220nF 10% 50V
2713	4822 126 14076	220nF 25V. 20%
2714	4822 126 14549	33nF 16V 0603
2715	3198 016 31020	1nF 25V 0603
2716	4822 126 14241	330pF 50V 0603
2717	5322 121 42498	680nF 5% 63V
2718	2222 867 15339	33pF 5% 50V 0603
2719	3198 016 31020	1nF 25V 0603
2720	4822 126 14076	220nF 25V. 20%
2721	4822 126 13881	470pF 5% 50V
2722	4822 126 13881	470pF 5% 50V
2723	3198 016 31020	1nF 25V 0603
2724	2020 552 96683	220nF 10% 50V
2725	3198 016 31020	1nF 25V 0603
2726	4822 126 14549	33nF 16V 0603
2727	3198 016 31020	1nF 25V 0603
2728	4822 126 14241	330pF 50V 0603
2729	5322 121 42498	680nF 5% 63V
2740	4822 121 51252	470nF 5% 63V
2741	2222 867 15339	33pF 5% 50V 0603
2742	4822 126 14241	330pF 50V 0603
2743	4822 126 12105	33nF 5% 50V
2744	4822 126 12105	33nF 5% 50V
2745	4822 126 14241	330pF 50V 0603
2746	3198 016 31020	1nF 25V 0603
2747	4822 126 13881	470pF 5% 50V
2748	2020 552 96683	220nF 10% 50V
2749	2020 552 95447	2.2µF 20% 16V
2750	2238 586 59812	100nF 20-80% 50V 0603
2751	4822 126 14585	100nF 10% 50V
2753	4822 126 14076	220nF 25V. 20%
2754	2020 552 95447	2.2µF 20% 16V
2755	3198 016 31020	1nF 25V 0603
2756	4822 126 13881	470pF 5% 50V
2757	2020 552 96683	220nF 10% 50V
2758	5322 121 42498	680nF 5% 63V
2759	5322 126 10511	1nF 5% 50V
2760	5322 122 32268	470pF 5% 63V
2761	4822 126 13881	470pF 5% 50V
2762	4822 126 14076	220nF 25V. 20%
2763	4822 126 14076	220nF 25V. 20%
2777	2020 552 96684	470nF 10% 25V
2778	4822 124 41751	47µF 20% 50V
2779	2020 552 96684	470nF 10% 25V
2780	2020 552 96684	470nF 10% 25V
2781	2020 552 96684	470nF 10% 25V
2782	2020 552 96684	470nF 10% 25V
2783	2020 552 96684	470nF 10% 25V
2784	2020 552 96684	470nF 10% 25V
2785	2020 552 96684	470nF 10% 25V
2786	2238 916 15641	22nF 10% 25V 0603
2786	4822 126 14494	22nF 10% 25V 0603
2787	2238 916 15641	22nF 10% 25V 0603
2791	2020 552 96684	470nF 10% 25V
2792	2020 552 96684	470nF 10% 25V
2914	4822 124 40248	10µF 20% 63V
2915	4822 124 12255	10µF 20% 50V
2917	4822 126 14585	100nF 10% 50V
2929	4822 126 13879	220nF 20% 16V
2930	2020 552 93683	1.2nF 10% 50V 0603
2931	2020 552 93683	1.2nF 10% 50V 0603
2940	4822 124 23432	100µF 20% 10V
2941	4822 126 14585	100nF 10% 50V
2942	4822 126 14585	100nF 10% 50V
2943	4822 126 14585	100nF 10% 50V
2944	4822 126 13879	220nF 20% 16V
2945	4822 126 14491	2.2µF -20+80% 10V 0805
2946	4822 126 14491	2.2µF -20+80% 10V 0805
2947	2020 021 90141	4.7µF 20% 50V
2948	4822 124 23432	100µF 20% 10V
2949	4822 124 23432	100µF 20% 10V
2950	5322 126 11583	10nF 10% 50V 0603
2951	5322 126 11583	10nF 10% 50V 0603
2952	5322 126 11578	1nF 10% 50V 0603
2985	4822 126 14315	390pF 5% 50V 0603
2987	5322 122 31863	330pF 5% 63V
2989	5322 122 31863	330pF 5% 63V
2990	5322 122 31863	330pF 5% 63V
2991	5322 122 32531	100pF 5% 50V
2992	5322 122 31863	330pF 5% 63V
2993	5322 122 32531	100pF 5% 50V
2994	5322 122 31863	330pF 5% 63V
2995	5322 122 31863	330pF 5% 63V
2996	5322 122 31863	330pF 5% 63V
2997	5322 122 31863	330pF 5% 63V
2998	5322 122 32531	100pF 5% 50V
2999	5322 122 32531	100pF 5% 50V

–WW–

3101	4822 053 20106	10M 5% 0,25W
3102	4822 050 21002	1kΩ 1% 0.6W
3103	4822 050 21002	1kΩ 1% 0.6W
3104	4822 116 52195	47Ω 5% 0.5W
3105	4822 050 11002	1k 1% 0.4W
3106	4822 116 52249	1k8 5% 0.5W
3106	4822 116 52256	2k2 5% 0.5W
3107	4822 116 52249	1k8 5% 0.5W
3107	4822 116 52256	2k2 5% 0.5W
3108	2122 101 02083	1.5Ω 5% 0,5W
3108	4822 116 80676	1Ω5 5% 0.5W
3111	4822 053 10152	1k5 5% 1W
3113	4822 116 52186	22Ω 5% 0.5W
3114	4822 116 83872	220Ω 5% 0.5W
3115	4822 116 52257	22kΩ 5% 0.5W
3116	4822 116 52251	18kΩ 5% 0.5W
3116	4822 116 52257	22kΩ 5% 0.5W
3117	4822 116 52195	47Ω 5% 0.5W
3118	2122 101 02083	1.5Ω 5% 0,5W
3118	4822 116 80676	1Ω5 5% 0.5W
3120	4822 051 20109	10Ω 5% 0.1W
3123	4822 051 30109	10Ω 5% 0.062W
3124	4822 116 52199	68Ω 5% 0.5W
3125	4822 116 52182	15Ω 5% 0.5W
3126	4822 050 21003	10kΩ 1% 0.6W
3127	4822 116 52289	5k6 5% 0.5W
3130	4822 051 30479	47Ω 5% 0.062W
3131	4822 051 30471	470Ω 5% 0.062W
3132	4822 051 20479	47Ω 5% 0.1W
3133	4822 117 10834	47kΩ 1% 0.1W
3134	4822 051 30102	1kΩ 5% 0.062W
3135	4822 051 30101	100Ω 5% 0.062W
3136	4822 051 30109	10Ω 5% 0.062W
3137	4822 050 24702	4k7 1% 0.6W
3140	4822 051 20223	22kΩ 5% 0.1W
3140	4822 117 10837	100kΩ 1% 0.1W
3141	4822 116 52263	2k7 5% 0.5W
3142	4822 051 30332	3.3kΩ 5% 0.062W
3143	4822 051 30101	100Ω 5% 0.062W
3144	4822 116 83883	470Ω 5% 0.5W
3150	4822 117 11373	100Ω 1% 0805
3151	4822 051 30109	10Ω 5% 0.062W
3152	4822 051 30102	1kΩ 5% 0.062W
3153	4822 051 20472	4.7kΩ 5% 0.1W
3155	4822 051 30101	100Ω 5% 0.062W
3156	5322 117 13017	100Ω 1% 0.063W 0603
3157	4822 051 30103	10kΩ 5% 0.062W
3158	5322 117 13021	47Ω 1% 0.063W 0603
3159	4822 051 30103	10kΩ 5% 0.062W
3160	4822 051 30102	1kΩ 5% 0.062W
3161	4822 052 10221	220Ω 5% 0.33W
3162	4822 116 83883	470Ω 5% 0.5W
3164	4822 117 13632	100kΩ 1% 0603 0.62W
3165	4822 051 30331	330Ω 5% 0.062W
3168	4822 051 20472	4.7kΩ 5% 0.1W
3170	4822 116 52291	56kΩ 5% 0.5W
3200	4822 117 11373	100Ω 1% 0805
3201	4822 117 11373	100Ω 1% 0805
3210	4822 051 30102	1kΩ 5% 0.062W
3211	4822 051 30222	2.2kΩ 5% 0.062W
3212	4822 051 30101	100Ω 5% 0.062W
3213	4822 116 52182	15Ω 5% 0.5W
3250	4822 051 20223	22kΩ 5% 0.1W
3261	4822 117 11373	100Ω 1% 0805
3262	4822 117 11373	100Ω 1% 0805
3400	4822 052 11108	1Ω 5% 0.5W
3401	2120 105 93473	27Ω 5% 3W
3402	4822 053 10121	120Ω 5% 1W
3403	4822 116 52175	100Ω 5% 0.5W
3404	4822 051 30471	470Ω 5% 0.062W
3406	4822 117 11373	100Ω 1% 0805
3407	4822 051 30103	10kΩ 5% 0.062W
3409	4822 050 11002	1k 1% 0.4W
3410	4822 051 20479	47Ω 5% 0.1W
3411	2122 101 02111	39Ω 5% 0,5W
3411	4822 116 52193	39Ω 5% 0.5W
3412	4822 117 11817	1.2kΩ 1% 1/16W
3414	4822 051 30331	330Ω 5% 0.062W
3415	3198 012 31590	15Ω 5% 3W
3417	4822 116 52176	10Ω 5% 0.5W
3418	2312 915 16803	68K 1% 0,5W
3418	4822 050 25603	56k 1% 0.6W
3419	4822 051 30474	470kΩ 5% 0.062W
3420	4822 051 30332	3.3kΩ 5% 0.062W
3421	4822 051 30474	470kΩ 5% 0.062W
3422	4822 051 30332	3.3kΩ 5% 0.062W
3423	4822 053 10688	6Ω8 5% 1W
3425	4822 116 52176	10Ω 5% 0.5W
3426	4822 116 52176	10Ω 5% 0.5W
3427	4822 051 30105	1MΩ 5% 0.062W

3427	4822 051 30334	330kΩ 5% 0.062W
3427	4822 051 30684	680kΩ 5% 0.062W
3429	3198 021 32250	2M2 5% 0603
3429	4822 051 30105	1MΩ 5% 0.062W
3431	2306 207 03151	150Ω 5% 0.5W
3437	4822 051 20109	10Ω 5% 0.1W
3440	4822 051 30102	1kΩ 5% 0.062W
3441	4822 051 30223	22kΩ 5% 0.062W
3442	4822 051 30474	470kΩ 5% 0.062W
3443	4822 051 30684	680kΩ 5% 0.062W
3444	4822 051 20108	1Ω 5% 0.1W
3447	4822 117 11373	100Ω 1% 0805
3449	4822 052 10101	100Ω 5% 0.33W
3450	4822 050 21003	10kΩ 1% 0.6W
3450	4822 116 52238	12kΩ 5% 0.5W
3451	4822 050 21003	10kΩ 1% 0.6W
3454	4822 051 20108	1Ω 5% 0.1W
3455	4822 117 12902	8.2kΩ 1% 0.063W 0603
3456	4822 117 12903	1.8kΩ 1% 0.063W 0603
3457	4822 051 30152	1.5kΩ 5% 0.062W
3458	4822 051 30471	470Ω 5% 0.062W
3459	4822 051 30272	2.7kΩ 5% 0.062W
3460	4822 052 10108	1Ω 5% 0.33W
3461	4822 052 10108	1Ω 5% 0.33W
3462	4822 052 11108	1Ω 5% 0.5W
3463	4822 052 11108	1Ω 5% 0.5W
3464	4822 052 11108	1Ω 5% 0.5W
3465	4822 052 11108	1Ω 5% 0.5W
3466	4822 051 30472	4.7kΩ 5% 0.062W
3467	4822 117 13632	100kΩ 1% 0603 0.62W
3472	4822 051 30393	39kΩ 5% 0.062W
3474	4822 051 30563	56kΩ 5% 0.062W
3475	4822 051 30472	4.7kΩ 5% 0.062W
3476	4822 116 83874	220k 5% 0.5W
3478	4822 116 52175	100Ω 5% 0.5W
3479	4822 052 10478	4Ω7 5% 0.33W
3480	4822 052 10478	4Ω7 5% 0.33W
3480	4822 052 10688	6Ω8 5% 0.33W
3481	2322 750 61001	100Ω 5% 1206
3482	4822 051 30221	220Ω 5% 0.062W
3483	4822 117 12903	1.8kΩ 1% 0.063W 0603
3485	4822 051 30471	470Ω 5% 0.062W
3486	2120 108 94004	7k5 1% 0603
3486	2322 704 67502	7.5K 1% 0,5W
3487	4822 117 12902	8.2kΩ 1% 0.063W 0603
3487	5322 117 13056	8.2K 1% 0.063W 0603
3488	4822 050 21005	1MΩ 1% 0.6W
3488	4822 050 26804	680k 1% 0.6W
3489	4822 051 30103	10kΩ 5% 0.062W
3490	4822 051 30332	3.3kΩ 5% 0.062W
3491	4822 117 12925	47kΩ 1% 0.063W 0603
3492	4822 116 52175	100Ω 5% 0.5W
3493	4822 050 21504	150kΩ 1% 0.6W
3496	4822 051 30272	2.7kΩ 5% 0.062W
3497	4822 051 30333	33kΩ 5% 0.062W
3501	4822 116 83872	220Ω 5% 0.5W
3504	4822 051 30222	2.2kΩ 5% 0.062W
3505	4822 116 52257	22kΩ 5% 0.5W
3506	4822 051 30562	5.6kΩ 5% 0.063W 0603
3507	4822 050 21604	160kΩ 1% 0.6W
3508	4822 116 52182	15Ω 5% 0.5W
3509▲	2122 550 00158	VDR 1mA 612V
3510	4822 117 11454	820Ω 1% 0,1W
3511	4822 053 11222	2k2 5% 2W
3512	4822 117 12891	220kΩ 1% 0.063W 0603
3513	4822 116 52272	330k 5% 0.5W
3514	2322 193 53397	0.39Ω 5% 0.6W
3515	2322 193 53397	0.39Ω 5% 0.6W
3517	4822 117 10834	47kΩ 1% 0.1W
3518	4822 116 52245	150kΩ 5% 0.5W
3519	4822 051 30102	1kΩ 5% 0.062W
3520	4822 053 11333	33k 5% 2W
3521	4822 053 21475	4M7 5% 0,5W
3522	4822 117 11507	6.8kΩ 1% 0.1W
3523	4822 051 20105	1MΩ 5% 0.1W
3524	4822 051 30333	33kΩ 5% 0.062W
3525	4822 051 30479	47Ω 5% 0.062W
3526	4822 116 83303	0.1Ω 2W
3527	4822 117 11951	2kΩ 1% 0.1W
3528	4822 051 30103	10kΩ 5% 0.062W
3529	4822 051 30472	4.7kΩ 5% 0.062W
3530	4822 051 30102	1kΩ 5% 0.062W
3531	4822 117 11507	6.8kΩ 1% 0.1W
3532	4822 117 12925	47kΩ 1% 0.063W 0603
3533	4822 116 52182	15Ω 5% 0.5W
3534	4822 117 12925	47kΩ 1% 0.063W 0603
3535	4822 051 30479	47Ω 5% 0.062W
3536	4822 052 10102	1k 5% 0.33W
3537	4822 116 52182	15Ω 5% 0.5W
3540	4822 050 23303	33k 1% 0.6W
3543	4822 050 24708	4Ω7 1% 0.6W
3547	4822 051 30008	Jumper 0603
3549	5322 117 13039	220K 1% 0.063W 0603
3550▲	2122 663 00018	PTC 4.7Ω 20%

3550▲	2322 662 96858	PTC 276V 4.5Ω 20%
3551	4822 116 83872	220Ω 5% 0.5W
3552	4822 051 30222	2.2kΩ 5% 0.062W
3553	4822 051 30103	10kΩ 5% 0.062W
3610	4822 051 30223	22kΩ 5% 0.062W
3611	4822 051 30222	2.2kΩ 5% 0.062W
3620	4822 050 21808	1.8Ω 1% 0,6W
3620	4822 116 80176	1Ω 5% 0.5W
3620	4822 116 80676	1Ω5 5% 0.5W
3621	4822 116 80176	1Ω 5% 0.5W
3621	4822 116 80676	1Ω5 5% 0.5W
3622	2122 101 02083	1.5Ω 5% 0,5W
3622	4822 116 80176	1Ω 5% 0.5W
3622	4822 116 81039	1.8Ω 5% 0.5W
3623	4822 116 52251	18kΩ 5% 0.5W
3623	4822 116 52257	22kΩ 5% 0.5W
3624	4822 052 10158	1Ω5 5% 0.33W
3625	4822 050 15609	56Ω 1% 0.4W
3625	4822 053 10121	120Ω 5% 1W
3625	4822 116 52219	330Ω 5% 0.5W
3625	4822 116 83872	220Ω 5% 0.5W
3626	4822 050 15609	56Ω 1% 0.4W
3626	4822 116 52199	68Ω 5% 0.5W
3626	4822 116 52219	330Ω 5% 0.5W
3626	4822 116 80176	1Ω 5% 0.5W
3626	4822 116 83872	220Ω 5% 0.5W
3627	4822 051 20223	22kΩ 5% 0.1W
3630	4822 051 30333	33kΩ 5% 0.062W
3631	4822 051 30222	2.2kΩ 5% 0.062W
3632	4822 051 30393	39kΩ 5% 0.062W
3633	4822 051 30563	56kΩ 5% 0.062W
3634	4822 116 83882	39k 5% 0.5W
3635	4822 116 52219	330Ω 5% 0.5W
3636	4822 051 30223	22kΩ 5% 0.062W
3637	4822 051 30103	10kΩ 5% 0.062W
3638	4822 051 30474	470kΩ 5% 0.062W
3639	4822 051 30563	56kΩ 5% 0.062W
3640	4822 051 30222	2.2kΩ 5% 0.062W
3641	4822 116 83883	470Ω 5% 0.5W
3642	4822 101 11193	47k 30% 0.1W
3643	4822 051 30334	330kΩ 5% 0.062W
3644	4822 051 30221	220Ω 5% 0.062W
3645	4822 116 52245	150kΩ 5% 0.5W
3646	4822 117 12925	47kΩ 1% 0.063W 0603
3647	4822 051 20228	2.2Ω 5% 0.1W
3649	4822 051 30103	10kΩ 5% 0.062W
3653	4822 051 20223	22kΩ 5% 0.1W
3654	4822 051 30472	4.7kΩ 5% 0.062W
3655	4822 051 30123	12kΩ 5% 0.062W
3656	4822 117 11817	1.2kΩ 1% 1/16W
3657	4822 051 30223	22kΩ 5% 0.062W
3658	4822 051 30223	22kΩ 5% 0.062W
3659	4822 051 30222	2.2kΩ 5% 0.062W
3660	4822 051 30562	5.6kΩ 5% 0.063W 0603
3661	4822 116 52206	120Ω 5% 0.5W
3661	4822 116 52219	330Ω 5% 0.5W
3661	4822 116 83883	470Ω 5% 0.5W
3662	4822 051 30152	1.5kΩ 5% 0.062W
3665	4822 051 30479	47Ω 5% 0.062W
3681	4822 116 52207	1k2 5% 0.5W
3682	4822 117 13632	100kΩ 1% 0603 0.62W
3683	4822 051 30103	10kΩ 5% 0.062W
3684	4822 051 30682	6.8kΩ 5% 0.062W
3685	4822 051 30273	27kΩ 5% 0.062W
3686	4822 051 30563	56kΩ 5% 0.062W
3687	4822 116 52207	1k2 5% 0.5W
3688	4822 051 20684	680kΩ 5% 0.1W
3689	4822 050 11002	1k 1% 0.4W
3690	4822 051 30109	10Ω 5% 0.062W
3701	4822 051 30103	10kΩ 5% 0.062W
3702	4822 051 30682	6.8kΩ 5% 0.062W
3703	4822 051 30333	33kΩ 5% 0.062W
3703	4822 051 30472	4.7kΩ 5% 0.062W
3704	4822 117 10833	10kΩ 1% 0.1W
3705	4822 051 20828	8.2Ω 5% 0.1W
3706	2322 704 65102	5.1kΩ 1% 0603
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 11204	120k 1% 0.4W
3711	4822 050 21204	120KΩ 1% 0,6W
3712	4822 117 12706	10kΩ 1% 0.063W 0603
3713	4822 116 83884	47k 5% 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
3719	4822 117 11503	220Ω 1% 0.1W
3720	4822 117 11503	220Ω 1% 0.1W
3721	2322 704 65102	5.1kΩ 1% 0603
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
3728	4822 116 52234	100kΩ 5% 0,5W
3729	4822 117 10837	100kΩ 1% 0.1W
3730	4822 117 11503	220Ω 1% 0.1W
3731	4822 117 11503	220Ω 1% 0.1W
3732	4822 051 30223	22kΩ 5% 0.062W
3733	4822 051 30223	22kΩ 5% 0.062W
3734	4822 051 20124	120kΩ 5% 0.1W
3735	4822 051 30683	68kΩ 5% 0.062W
3736	4822 051 30563	56kΩ 5% 0.062W
3737	2322 704 65102	5.1kΩ 1% 0603
3738	4822 051 20828	8.2Ω 5% 0.1W
3739	4822 051 30683	68kΩ 5% 0.062W
3740	2322 704 65102	5.1kΩ 1% 0603
3741	2322 704 61243	12k4 1% 0603
3742	4822 051 30563	56kΩ 5% 0.062W
3743	4822 117 11449	2.2kΩ 5% 0.1W 0805
3744	4822 117 12891	220kΩ 1% 0.063W 0603
3745	4822 051 30102	1kΩ 5% 0.062W
3746	4822 051 30223	22kΩ 5% 0.062W
3748	4822 051 30008	Jumper 0603
3749	4822 116 83883	470Ω 5% 0.5W
3750	4822 117 11449	2.2kΩ 5% 0.1W 0805
3751	4822 117 11449	2.2kΩ 5% 0.1W 0805
3752	4822 117 11449	2.2kΩ 5% 0.1W 0805
3760	4822 117 12891	220kΩ 1% 0.063W 0603
3790	4822 051 30272	2.7kΩ 5% 0.062W
3791	4822 051 30272	2.7kΩ 5% 0.062W
3792	4822 051 30103	10kΩ 5% 0.062W
3793	4822 051 30103	10kΩ 5% 0.062W
3794	4822 051 30103	10kΩ 5% 0.062W
3795	4822 051 30103	10kΩ 5% 0.062W
3796	4822 051 30272	2.7kΩ 5% 0.062W
3797	4822 051 30272	2.7kΩ 5% 0.062W
3798	4822 051 30153	15kΩ 5% 0.062W
3903	4822 051 20561	560Ω 5% 0.1W
3904	4822 052 10688	6Ω8 5% 0.33W
3907	4822 051 20479	47Ω 5% 0.1W
3910	4822 117 12521	68Ω 1% 0.1W
3928	4822 051 30008	Jumper 0603
3938	4822 117 11373	100Ω 1% 0805
3939	4822 051 30103	10kΩ 5% 0.062W
3940	4822 051 20561	560Ω 5% 0.1W
3941	4822 052 10688	6Ω8 5% 0.33W
3942	4822 117 11373	100Ω 1% 0805
3943	4822 051 30103	10kΩ 5% 0.062W
3945	4822 117 12955	2.7kΩ 1% 0.1W 0805
3959	4822 117 10353	150Ω 1% 0.1W
3960	4822 117 10353	150Ω 1% 0.1W
3961	4822 117 10353	150Ω 1% 0.1W
3962	4822 117 10353	150Ω 1% 0.1W
3965	4822 117 10353	150Ω 1% 0.1W
3966	4822 117 10353	150Ω 1% 0.1W
3967	4822 116 52201	75Ω 5% 0.5W
3968	4822 116 52201	75Ω 5% 0.5W
3969	4822 051 20008	Jumper 0805
3970	4822 051 20008	Jumper 0805
3971	4822 116 52201	75Ω 5% 0.5W
3972	2122 101 02073	82Ω 5% 0,5W
3972	4822 116 52202	82Ω 5% 500mW
3973	4822 116 52201	75Ω 5% 0.5W
3974	4822 116 52201	75Ω 5% 0.5W
3975	4822 116 52201	75Ω 5% 0.5W
3976	4822 117 11373	100Ω 1% 0805
3977	4822 117 11373	100Ω 1% 0805
3978	4822 117 11373	100Ω 1% 0805
3979	4822 116 52201	75Ω 5% 0.5W
3980	4822 117 11373	100Ω 1% 0805
3981	4822 051 20822	8.2kΩ 5% 0,1W
3982	4822 051 20392	3.9kΩ 5% 0.1W
3983	4822 116 52175	100Ω 5% 0.5W
3984	4822 051 20822	8.2kΩ 5% 0,1W
3985	4822 116 52201	75Ω 5% 0.5W
3986	4822 116 52276	3.9kΩ 5% 0.5W
3987	4822 116 52175	100Ω 5% 0.5W
3988	4822 051 10102	1kΩ 2% 0.25W
3989	4822 050 11002	1k 1% 0.4W
3990	4822 117 10353	150Ω 1% 0.1W
3991	4822 117 10353	150Ω 1% 0.1W
3992	4822 117 10353	150Ω 1% 0.1W
3993	4822 116 83868	150Ω 5% 0.5W
3994	4822 051 10102	1kΩ 2% 0.25W
3995	4822 051 10102	1kΩ 2% 0.25W
3996	4822 117 10353	150Ω 1% 0.1W
3997	4822 117 10353	150Ω 1% 0.1W
9103	4822 051 20008	Jumper 0805
9105	4822 051 20008	Jumper 0805
9107	4822 051 30008	Jumper 0603
9108	4822 051 30008	Jumper 0603
9128	4822 051 30008	Jumper 0603
9200	4822 051 20008	Jumper 0805
9202	4822 051 30008	Jumper 0603
9203	4822 051 30008	Jumper 0603
9204	4822 051 30008	Jumper 0603
9205	4822 051 20008	Jumper 0805
9207	4822 051 30008	Jumper 0603
9208	4822 051 20008	Jumper 0805
9209	4822 051 20008	Jumper 0805
9210	4822 051 30008	Jumper 0603
9211	4822 051 30008	Jumper 0603
9212	4822 051 20008	Jumper 0805
9214	4822 051 20008	Jumper 0805
9215	4822 051 20008	Jumper 0805
9216	4822 051 20008	Jumper 0805
9217	4822 051 20008	Jumper 0805
9218	4822 051 20008	Jumper 0805
9219	4822 051 20008	Jumper 0805
9221	4822 051 20008	Jumper 0805
9222	4822 051 20008	Jumper 0805
9226	4822 051 30008	Jumper 0603
9251	4822 051 30008	Jumper 0603
9261	4822 051 20008	Jumper 0805
9262	4822 051 20008	Jumper 0805
9263	4822 051 20008	Jumper 0805
9264	4822 051 20008	Jumper 0805
9418	4822 051 20008	Jumper 0805
9421	4822 051 20008	Jumper 0805
9422	4822 051 30008	Jumper 0603
9424	4822 051 30008	Jumper 0603
9427	4822 051 30008	Jumper 0603
9428	4822 051 30008	Jumper 0603
9429	4822 051 30008	Jumper 0603
9430	4822 051 30008	Jumper 0603
9431	4822 051 30008	Jumper 0603
9432	4822 051 30008	Jumper 0603
9433	4822 051 30008	Jumper 0603
9434	4822 051 30008	Jumper 0603
9435	4822 051 30008	Jumper 0603
9436	4822 051 30008	Jumper 0603
9437	4822 051 30008	Jumper 0603
9438	4822 051 30008	Jumper 0603
9440	4822 051 30008	Jumper 0603
9441	4822 051 30008	Jumper 0603
9443	4822 051 30008	Jumper 0603
9481	4822 051 30008	Jumper 0603
9483	4822 051 30008	Jumper 0603
9499	4822 051 30008	Jumper 0603
9505	4822 051 20008	Jumper 0805
9560	4822 051 30008	Jumper 0603
9561	4822 051 20008	Jumper 0805
9621	4822 051 30008	Jumper 0603
9624	4822 051 30008	Jumper 0603
9676	4822 051 30008	Jumper 0603
9677	4822 051 20008	Jumper 0805
9702	4822 051 30008	Jumper 0603
9704	4822 051 20008	Jumper 0805
9705	4822 051 20008	Jumper 0805
9706	4822 051 30471	470Ω 5% 0.062W
9707	4822 051 30008	Jumper 0603
9711	4822 051 30008	Jumper 0603
9713	4822 051 30008	Jumper 0603
9714	4822 051 20008	Jumper 0805
9716	4822 051 20008	Jumper 0805
9717	4822 051 30008	Jumper 0603
9908	4822 051 30008	Jumper 0603
9927	4822 051 20008	Jumper 0805
9928	4822 051 20008	Jumper 0805
9960	4822 051 30008	Jumper 0603
9962	4822 051 30008	Jumper 0603
9966	4822 051 30008	Jumper 0603
9979	4822 051 20008	Jumper 0805
9981	4822 051 20008	Jumper 0805
9985	4822 051 30008	Jumper 0603
9986	4822 051 20008	Jumper 0805
9987	4822 051 20008	Jumper 0805
9988	4822 051 20008	Jumper 0805
9989	4822 051 20008	Jumper 0805
9990	4822 051 20008	Jumper 0805
9991	4822 051 20008	Jumper 0805
9992	4822 051 20008	Jumper 0805
9993	4822 051 20008	Jumper 0805
9994	4822 051 20008	Jumper 0805
9997	4822 051 20008	Jumper 0805

⏦

5100▲	3104 308 20431	Transformer BS25126-03
5100▲	3104 308 20561	TFM BS25125-04 B
5102	2422 535 94639	10µH 20%
5103	4822 526 10704	Bead 45Ω at 50MHz
5104	4822 157 11411	Bead 83Ω at 100MHz
5105	2422 535 94632	1µH 30%
5106	4822 526 10704	Bead 45Ω at 50MHz
5111	4822 157 11411	Bead 83Ω at 100MHz

5113	4822 157 11411	Bead 83Ω at 100MHz
5130	4822 157 11411	Bead 83Ω at 100MHz
5400	4822 157 11869	33µH 10% LHL08
5401	2422 536 00059	12µH 10%
5402	3198 018 21510	150µH 10%
5410⚠	3128 138 39091	Transformer CE165T
5411	4822 157 71097	0.56µH 10%
5421	3104 308 20471	Coil BL15131-00 Y
5421	3104 308 20591	Linearity coil 5µH
5421	3104 308 20611	Linearity coil 5µH 30"
5421	3104 308 20691	Linearity coil 5µH 34"
5422	3104 308 20671	Bridge coil BC21215-01
5422⚠	3104 308 20752	Bridge coil BC21237-01 Y
5423	4822 157 71097	0.56µH 10%
5425	4822 157 11411	Bead 83Ω at 100MHz
5426	4822 157 70826	2.4µH
5430⚠	3104 308 20491	LOT 1392.9014A
5430⚠	3104 308 20521	LOT 1392.9005C 30"
5430⚠	3104 308 20741	Trans. 1392.9010B Y
5461	4822 157 11411	Bead 83Ω at 100MHz
5463	4822 157 11411	Bead 83Ω at 100MHz
5465	4822 157 11411	Bead 83Ω at 100MHz
5466	2422 535 94996	18µH 10%
5467	4822 157 11411	Bead 83Ω at 100MHz
5469	4822 157 11411	Bead 83Ω at 100MHz
5503⚠	2422 549 44877	Filter 45mH DMF2845H
5505	4822 157 11411	Bead 83Ω at 100MHz
5506⚠	2422 531 02501	Transformer S30940-04
5507	4822 157 11411	Bead 83Ω at 100MHz
5509	4822 157 11411	Bead 83Ω at 100MHz
5511	3104 308 20511	FIL MAINS HARM 40MH Y
5513	4822 157 11869	33µH 10% LHL08
5514	4822 157 11869	33µH 10% LHL08
5515	4822 157 11869	33µH 10% LHL08
5620	4822 157 11771	0.09µH 10%
5621⚠	3104 308 20571	Transformer S13974-03 34'
5701	2422 536 00385	68µH 10%
5702	2422 536 00385	68µH 10%
5703	4822 157 11716	Bead 30Ω at 100MHz
5707	4822 157 11411	Bead 83Ω at 100MHz
5708	4822 157 11411	Bead 83Ω at 100MHz
5711	4822 157 11411	Bead 83Ω at 100MHz
5712	4822 157 11411	Bead 83Ω at 100MHz
5715	4822 157 11411	Bead 83Ω at 100MHz
5716	4822 157 11411	Bead 83Ω at 100MHz
5720	2422 536 00385	68µH 10%
5721	2422 536 00385	68µH 10%
5722	4822 157 11411	Bead 83Ω at 100MHz
5723	4822 157 11411	Bead 83Ω at 100MHz
5725	4822 157 11411	Bead 83Ω at 100MHz
5901	4822 157 11299	10µH 5%
5902	4822 157 11869	33µH 10% LHL08
5903	4822 157 10359	33µH 10%
5904	4822 157 11411	Bead 83Ω at 100MHz

6080	4822 130 11397	BAS316
6082	4822 130 11528	1PS76SB10
6084	4822 130 11522	UDZ15B
6103	4822 130 41601	BYV95A
6103	4822 130 42488	BYD33D
6103	5322 130 31938	BYV27-200
6105	4822 130 34281	BZX79-B15
6106	3198 010 52290	BZX79-B22
6107	4822 130 11572	STPS8H100F
6108	4822 130 11528	1PS76SB10
6109	4822 130 31083	BYW55
6110	9340 418 70133	BYV27-600
6111	9322 161 78682	SB360L-7024
6112	4822 130 11551	UDZS10B
6115	4822 130 11528	1PS76SB10
6118	4822 130 11397	BAS316
6119	4822 130 11397	BAS316
6120	4822 130 30621	1N4148
6121	4822 130 30621	1N4148
6122	3198 010 53980	BZX79-B3V9
6130	4822 130 11596	BYW29EX-200
6132	9322 171 80685	BZX384-B6V8
6133	4822 130 11397	BAS316
6134	4822 130 11397	BAS316
6141	9322 129 42685	BZM55-C15
6142	4822 130 11528	1PS76SB10
6144	4822 130 11397	BAS316
6147	4822 130 34278	BZX79-B6V8
6148	5322 130 31938	BYV27-200
6149	4822 130 11397	BAS316
6200	9340 548 71115	SM PDZ33B
6201	4822 130 11397	BAS316
6202	4822 130 11397	BAS316
6400	4822 130 70055	BYV27-400
6405	4822 130 34383	BZX79-B47
6406	4822 130 11397	BAS316
6407	4822 130 11397	BAS316
6408	4822 130 41601	BYV95A
6408	4822 130 42488	BYD33D
6421	4822 130 10753	BY359X-1500
6422	4822 130 10218	BY229X-800
6442	4822 130 11522	UDZ15B
6455	4822 130 11397	BAS316
6456	5322 130 34337	BAV99
6457	9322 102 64685	UDZ2.7B
6458	3198 020 55680	BZX384-C5V6
6460	4822 130 41487	BYV95C
6462	9322 127 32682	BYW76-RAS15/10
6464	9322 127 32682	BYW76-RAS15/10
6465	3139 120 52021	BYV29X-500
6480	4822 130 41601	BYV95A
6480	4822 130 42488	BYD33D
6481	4822 130 11522	UDZ15B
6482	4822 130 11397	BAS316
6483	4822 130 11528	1PS76SB10
6493	4822 130 11528	1PS76SB10
6505	4822 130 34281	BZX79-B15
6506	4822 130 10654	BAT254
6506	4822 130 80622	BAT54
6509	4822 130 11397	BAS316
6510	4822 130 61219	BZX79-B10
6511	4822 130 11397	BAS316
6512	4822 130 11397	BAS316
6514	5322 130 31932	BZT03-C200
6515	4822 130 33657	BZV85-C6V8
6516	4822 130 11397	BAS316
6517	4822 130 11528	1PS76SB10
6525⚠	3198 010 10640	Bridge cell GBU4K
6530	4822 130 41487	BYV95C
6534	9322 165 72687	DTV1500MFP
6535	4822 130 11572	STPS8H100F
6536	4822 130 11572	STPS8H100F
6537	4822 130 11397	BAS316
6614	4822 130 11528	1PS76SB10
6615	4822 130 11397	BAS316
6616	4822 130 11397	BAS316
6617	4822 130 11397	BAS316
6618	4822 130 11397	BAS316
6619	4822 130 41601	BYV95A
6619	4822 130 42488	BYD33D
6620	5322 130 31938	BYV27-200
6621	4822 130 41601	BYV95A
6621	4822 130 42488	BYD33D
6622	5322 130 32296	BZV85-C10
6622	5322 130 33635	BZV85-C8V2
6623	4822 130 11397	BAS316
6624	4822 130 11397	BAS316
6625	4822 130 11397	BAS316
6626	4822 130 11397	BAS316
6627	4822 130 11397	BAS316
6701	4822 130 11397	BAS316
6745	4822 130 11551	UDZS10B
6950	4822 130 11416	PDZ6.8B
6951	4822 130 11416	PDZ6.8B
6953	4822 130 11416	PDZ6.8B
6954	4822 130 11416	PDZ6.8B
6955	4822 130 11416	PDZ6.8B
6956	4822 130 11416	PDZ6.8B
6957	4822 130 11416	PDZ6.8B
6958	4822 130 11416	PDZ6.8B
6959	4822 130 11416	PDZ6.8B
6960	9340 548 61115	PDZ12B
6961	4822 130 11416	PDZ6.8B
6962	4822 130 11416	PDZ6.8B



7100	4822 130 44568	BC557B
7101	4822 130 40981	BC337-25
7102	4822 130 11417	STP3NB60FP
7103⚠	9322 149 04682	TCET1102
7130	5322 130 60159	BC846B
7131	4822 130 11336	STP16NE06FP
7132	5322 130 60159	BC846B
7133	4822 130 60373	BC856B
7140	5322 130 60159	BC846B
7141	4822 130 11336	STP16NE06FP
7210	5322 130 60159	BC846B
7211	4822 130 42804	BC817-25
7408	5322 130 44647	BC368
7409	5322 130 60159	BC846B
7421	9340 210 30127	BU2520DX
7440	4822 209 70672	LM358N SEL.
7441	4822 130 60373	BC856B
7442	4822 130 60373	BC856B
7443	5322 130 60159	BC846B
7445	5322 130 60159	BC846B
7450	5322 209 61472	LM393M
7455	4822 209 73852	PMBT2369
7480	4822 130 11417	STP3NB60FP
7482⚠	4822 130 11418	TCDT1102G
7486	5322 130 60159	BC846B
7487	5322 130 60159	BC846B
7501	5322 130 60159	BC846B
7502	4822 130 40959	BC547B
7504	9322 126 65687	STP5NB60FP
7506	4822 209 14933	TL431IZ
7507	9322 149 04682	TCET1102
7528	4822 130 40981	BC337-25
7529	4822 130 44461	BC546B
7530	5322 130 60159	BC846B
7611	5322 130 60159	BC846B
7612	5322 130 60159	BC846B
7613	4822 209 81397	TL431CLPST
7614	5322 130 60159	BC846B
7620	4822 209 90009	TDA8177
7641	5322 130 60159	BC846B
7653	5322 130 60159	BC846B
7654	4822 130 60373	BC856B
7680	4822 209 60956	TDA7052/N2
7681	5322 130 60159	BC846B
7682	5322 130 44647	BC368
7700	9322 163 86682	TDA7490L
7701	5322 130 60159	BC846B
7702	9322 163 86682	TDA7490L
7703	5322 130 60159	BC846B
7704	5322 130 60159	BC846B
7705	5322 130 60159	BC846B
7706	4822 130 60373	BC856B
7707	5322 130 60159	BC846B
7902	5322 130 60159	BC846B
7908	5322 130 60159	BC846B
7910	9322 166 03682	LD1085V36
7911	4822 209 72042	L78L05ACZ

Small Signal Panel [B]

Various

0072	3104 301 24191	Frame SSB A-side
0073	3104 301 24211	Cover SSB A-side
0074	3104 301 24221	Cover SSB Z-side
0075	3104 301 24201	Frame SSB Z-side
0265	3104 304 22841	FFC relieve
1001	2422 543 89022	Crystal 6MHz 20pF CX5F
1301	2422 540 98456	Resonator 12MHz CSTCV
1305	2422 543 01184	Crystal 4.433619MHz 20pF
1308	2422 543 01183	Crystal 3.579545MHz 16pF
1402	2422 025 16966	Connector 5P m v 2.00 SMD
1403⚠	2422 086 11031	Fuse SMD 500mA 63V
1403⚠	2422 086 11092	Fuse F0.5A 50V 1206
1407	2422 549 44324	Filt.5M5/5M74TPWCC04BS
1408	2422 549 44372	Filt. SAW 38.9MHz K3953L
1409	2422 549 44369	Filt. SAW 38.9MHz K9656L
1651	2422 543 89019	Crystal 18.432MHz 12pF
1680	2422 025 16961	Connector 6p m
1681	2422 025 17103	Connector 3p m
1682	2422 025 16729	Connector FFC 10p m
1702	2422 540 98456	Resonator 12MHz CSTCV
8402	3104 311 04711	Cable 5P/180/5P
8680	3104 311 04991	Cable 6P/400/6P
8682	3104 311 02951	Cable foil 10P/280/10P

2001	2222 867 15339	33pF 5% 50V 0603
2002	4822 126 11669	27pF 5% 50V 0603
2003	4822 126 13879	220nF 20% 16V
2004	4822 126 13879	220nF 20% 16V
2005	2238 586 59812	100nF 20-80% 50V 0603
2006	2238 586 59812	100nF 20-80% 50V 0603
2007	2238 586 59812	100nF 20-80% 50V 0603
2008	2238 586 59812	100nF 20-80% 50V 0603
2010	4822 126 11785	47pF 5% 50V 0603
2011	4822 126 11785	47pF 5% 50V 0603
2012	4822 126 11785	47pF 5% 50V 0603
2013	4822 124 12095	100µF 20% 16V
2016	4822 124 12095	100µF 20% 16V
2017	2238 586 59812	100nF 20-80% 50V 0603
2019	2238 586 59812	100nF 20-80% 50V 0603
2020	4822 126 13883	220pF 5% 50V
2022	2238 586 59812	100nF 20-80% 50V 0603
2023	2238 586 59812	100nF 20-80% 50V 0603
2024	2238 586 59812	100nF 20-80% 50V 0603
2025	2238 586 59812	100nF 20-80% 50V 0603
2026	2238 586 59812	100nF 20-80% 50V 0603
2027	2238 586 59812	100nF 20-80% 50V 0603
2028	2238 586 59812	100nF 20-80% 50V 0603
2029	2238 586 59812	100nF 20-80% 50V 0603
2031	2238 586 59812	100nF 20-80% 50V 0603

2033	4822 126 14226	82pF 5% 50V 0603
2034	4822 126 14226	82pF 5% 50V 0603
2035	4822 126 14226	82pF 5% 50V 0603
2036	4822 126 14226	82pF 5% 50V 0603
2037	4822 126 14226	82pF 5% 50V 0603
2038	2238 586 59812	100nF 20-80% 50V 0603
2039	2238 586 59812	100nF 20-80% 50V 0603
2040	2238 586 59812	100nF 20-80% 50V 0603
2302	2238 586 59812	100nF 20-80% 50V 0603
2303	2020 552 96448	1µF 10% 16V
2304	4822 122 33741	10pF 10% 50V
2305	2238 586 59812	100nF 20-80% 50V 0603
2306	4822 126 13881	470pF 5% 50V
2307	2238 586 59812	100nF 20-80% 50V 0603
2308	4822 122 33741	10pF 10% 50V
2312	2020 552 96659	33nF 5% 50V 1206
2313	2020 552 96685	100nF 5% 25V 1206
2314	4822 124 12095	100µF 20% 16V
2315	2238 586 59812	100nF 20-80% 50V 0603
2316	2238 586 59812	100nF 20-80% 50V 0603
2317	2020 552 96448	1µF 10% 16V
2318	2238 916 15641	22nF 10% 25V 0603
2318	4822 126 14494	22nF 10% 25V 0603
2319	4822 126 14247	1.5nF 50V 0603
2320	4822 122 33741	10pF 10% 50V
2321	2238 586 59812	100nF 20-80% 50V 0603
2322	2238 586 59812	100nF 20-80% 50V 0603
2323	2238 586 59812	100nF 20-80% 50V 0603
2324	5322 126 11583	10nF 10% 50V 0603
2325	2238 586 59812	100nF 20-80% 50V 0603
2326	5322 126 11583	10nF 10% 50V 0603
2327	4822 051 30759	75Ω 5% 0.062W
2328	4822 122 33761	22pF 5% 50V
2329	2238 586 59812	100nF 20-80% 50V 0603
2330	2238 586 59812	100nF 20-80% 50V 0603
2331	2238 586 59812	100nF 20-80% 50V 0603
2332	2238 586 59812	100nF 20-80% 50V 0603
2333	4822 126 14491	2.2µF -20+80% 10V 0805
2334	4822 126 14491	2.2µF -20+80% 10V 0805
2336	4822 126 14491	2.2µF -20+80% 10V 0805
2340	4822 124 12095	100µF 20% 16V
2350	2238 586 59812	100nF 20-80% 50V 0603
2351	2238 586 59812	100nF 20-80% 50V 0603
2352	2238 586 59812	100nF 20-80% 50V 0603
2353	2238 586 59812	100nF 20-80% 50V 0603
2354	2238 586 59812	100nF 20-80% 50V 0603
2355	4822 051 30759	75Ω 5% 0.062W
2356	2238 586 59812	100nF 20-80% 50V 0603
2357	2238 586 59812	100nF 20-80% 50V 0603
2358	5322 126 11579	3.3nF 10% 63V
2359	4822 122 33752	15pF 5% 50V
2360	3198 016 31280	1.2pF 50V 0603
2361	3198 016 31280	1.2pF 50V 0603
2362	4822 126 11663	12pF 5% 50V 0603
2363	4822 126 13881	470pF 5% 50V
2364	4822 051 30759	75Ω 5% 0.062W
2365	2238 586 59812	100nF 20-80% 50V 0603
2366	2238 586 59812	100nF 20-80% 50V 0603
2367	2238 586 59812	100nF 20-80% 50V 0603
2368	2238 586 59812	100nF 20-80% 50V 0603
2369	2238 586 59812	100nF 20-80% 50V 0603
2370	2238 586 59812	100nF 20-80% 50V 0603
2371	4822 126 13193	4.7nF 10% 63V
2372	4822 126 14043	1µF 20% 16V
2373	2238 586 59812	100nF 20-80% 50V 0603
2374	4822 126 14491	2.2µF -20+80% 10V 0805
2375	2238 916 15641	22nF 10% 25V 0603
2375	4822 126 14494	22nF 10% 25V 0603
2376	2238 586 59812	100nF 20-80% 50V 0603
2377	4822 124 12095	100µF 20% 16V
2378	2238 586 59812	100nF 20-80% 50V 0603
2383	4822 051 30759	75Ω 5% 0.062W
2384	2238 586 59812	100nF 20-80% 50V 0603
2385	2238 586 59812	100nF 20-80% 50V 0603
2386	4822 126 13883	220pF 5% 50V
2390	2238 586 59812	100nF 20-80% 50V 0603
2391	2238 586 59812	100nF 20-80% 50V 0603
2392	4822 126 13193	4.7nF 10% 63V
2394	4822 126 14491	2.2µF -20+80% 10V 0805
2404	2020 552 96448	1µF 10% 16V
2405	4822 126 13193	4.7nF 10% 63V
2406	4822 126 13883	220pF 5% 50V
2407	4822 126 13956	68pF 5% 63V 0603
2408	3198 016 32780	2.7pF 50V 0603 NP0
2409	4822 126 14491	2.2µF -20+80% 10V 0805
2411	2238 586 59812	100nF 20-80% 50V 0603
2412	4822 126 13193	4.7nF 10% 63V
2417	3198 017 44740	470nF 10V 0603
2418	4822 126 13956	68pF 5% 63V 0603
2420	4822 122 33753	150pF 5% 50V
2422	2238 586 59812	100nF 20-80% 50V 0603
2424	2238 586 59812	100nF 20-80% 50V 0603
2425	4822 124 12095	100µF 20% 16V
2431	2238 586 59812	100nF 20-80% 50V 0603
2501	4822 126 11785	47pF 5% 50V 0603
2502	4822 126 14107	330nF +-80/20% 25V
2503	4822 126 14107	330nF +-80/20% 25V
2504	4822 126 14107	330nF +-80/20% 25V
2505	4822 126 14107	330nF +-80/20% 25V
2506	4822 126 14107	330nF +-80/20% 25V
2507	4822 126 14107	330nF +-80/20% 25V
2508	4822 124 12095	100µF 20% 16V
2509	4822 124 23002	10µF 20% 16V
2510	2020 552 96448	1µF 10% 16V
2511	2020 552 96448	1µF 10% 16V
2512	4822 126 13879	220nF 20% 16V
2513	3198 030 74780	4u7 20% 35V
2513	4822 124 12084	1µF 20% 50V SMD
2515	2020 552 94427	100pF 5% 50v 0603
2516	2020 552 96221	10µF 20% 6.3V 0805
2516	2020 552 96448	1µF 10% 16V
2516	4822 126 14491	2.2µF -20+80% 10V 0805
2520	2238 586 59812	100nF 20-80% 50V 0603
2521	2238 586 59812	100nF 20-80% 50V 0603
2522	4822 126 13881	470pF 5% 50V
2523	3198 016 31020	1nF 25V 0603
2524	2238 586 59812	100nF 20-80% 50V 0603
2525	4822 126 13881	470pF 5% 50V
2526	3198 016 31020	1nF 25V 0603
2528	4822 126 14585	100nF 10% 50V
2529	4822 126 14472	1µF 10% 10V 0805
2530	4822 126 14472	1µF 10% 10V 0805
2546	4822 124 23002	10µF 20% 16V
2547	4822 124 23002	10µF 20% 16V
2548	4822 124 23002	10µF 20% 16V
2549	4822 124 23002	10µF 20% 16V
2550	4822 126 14241	330pF 50V 0603
2552	4822 126 13881	470pF 5% 50V
2553	4822 126 13881	470pF 5% 50V
2554	4822 126 13881	470pF 5% 50V
2555	4822 126 13881	470pF 5% 50V
2562	3198 016 31020	1nF 25V 0603
2563	3198 016 31020	1nF 25V 0603
2564	3198 016 31020	1nF 25V 0603
2565	3198 016 31020	1nF 25V 0603
2566	3198 016 31020	1nF 25V 0603
2567	3198 016 31020	1nF 25V 0603
2568	3198 016 31020	1nF 25V 0603
2569	3198 016 31020	1nF 25V 0603
2570	3198 016 31020	1nF 25V 0603
2571	2020 552 94427	100pF 5% 50v 0603
2571	4822 051 30759	75Ω 5% 0.062W
2572	3198 016 31020	1nF 25V 0603
2573	3198 016 31020	1nF 25V 0603
2574	3198 016 31020	1nF 25V 0603
2575	3198 016 31020	1nF 25V 0603
2576	3198 016 31020	1nF 25V 0603
2577	3198 016 31020	1nF 25V 0603
2578	2020 552 94427	100pF 5% 50v 0603
2579	2020 552 94427	100pF 5% 50v 0603
2580	3198 016 31020	1nF 25V 0603
2581	3198 016 31020	1nF 25V 0603
2582	3198 016 31020	1nF 25V 0603
2583	3198 016 31020	1nF 25V 0603
2592	5322 126 11578	1nF 10% 50V 0603
2593	3198 016 31020	1nF 25V 0603
2594	3198 016 31020	1nF 25V 0603
2595	3198 016 31020	1nF 25V 0603
2600	2020 552 96448	1µF 10% 16V
2601	2020 552 96448	1µF 10% 16V
2602	2020 552 96448	1µF 10% 16V
2603	2020 552 96448	1µF 10% 16V
2604	2020 552 96448	1µF 10% 16V
2609	3198 016 31020	1nF 25V 0603
2610	4822 126 14238	2.2nF 50V 0603
2611	3198 016 31020	1nF 25V 0603
2629	4822 126 14107	330nF +-80/20% 25V
2630	4822 126 14491	2.2µF -20+80% 10V 0805
2632	4822 126 14107	330nF +-80/20% 25V
2634	3198 016 31020	1nF 25V 0603
2637	4822 126 14107	330nF +-80/20% 25V
2640	4822 126 13879	220nF 20% 16V
2643	4822 126 14107	330nF +-80/20% 25V
2644	3198 016 31020	1nF 25V 0603
2645	4822 126 14107	330nF +-80/20% 25V
2646	4822 126 14491	2.2µF -20+80% 10V 0805
2649	4822 126 14491	2.2µF -20+80% 10V 0805
2651	2238 586 59812	100nF 20-80% 50V 0603
2652	4822 126 11785	47pF 5% 50V 0603
2653	4822 126 14107	330nF +-80/20% 25V
2654	4822 126 13881	470pF 5% 50V
2659	4822 126 13881	470pF 5% 50V
2660	4822 126 13881	470pF 5% 50V
2661	4822 126 14107	330nF +-80/20% 25V
2662	4822 126 14107	330nF +-80/20% 25V
2663	4822 126 13881	470pF 5% 50V
2664	4822 126 13881	470pF 5% 50V
2665	4822 124 12095	100µF 20% 16V
2666	4822 124 12095	100µF 20% 16V
2667	3198 016 33380	3.3pF 50V 0603
2668	3198 016 33380	3.3pF 50V 0603
2670	2238 586 59812	100nF 20-80% 50V 0603
2673	3198 016 31020	1nF 25V 0603
2674	3198 016 31020	1nF 25V 0603
2677	4822 124 23002	10µF 20% 16V
2678	4822 124 23002	10µF 20% 16V
2679	2238 586 59812	100nF 20-80% 50V 0603
2680	4822 124 23002	10µF 20% 16V
2681	2238 586 59812	100nF 20-80% 50V 0603
2682	4822 124 23002	10µF 20% 16V
2686	3198 016 31020	1nF 25V 0603
2687	3198 016 31020	1nF 25V 0603
2690	2238 586 59812	100nF 20-80% 50V 0603
2691	4822 126 14491	2.2µF -20+80% 10V 0805
2693	4822 126 13883	220pF 5% 50V
2694	3198 016 31020	1nF 25V 0603
2695	4822 124 12095	100µF 20% 16V
2697	2238 586 59812	100nF 20-80% 50V 0603
2698	4822 126 14491	2.2µF -20+80% 10V 0805
2699	4822 126 14491	2.2µF -20+80% 10V 0805
2701	4822 122 33752	15pF 5% 50V
2704	4822 126 14507	18pF 5% 50V 0603
2707	4822 126 14507	18pF 5% 50V 0603
2709	2238 586 59812	100nF 20-80% 50V 0603
2710	2238 586 59812	100nF 20-80% 50V 0603
2711	2238 586 59812	100nF 20-80% 50V 0603
2712	2238 586 59812	100nF 20-80% 50V 0603
2713	4822 122 33761	22pF 5% 50V
2714	4822 122 33761	22pF 5% 50V
2716	2238 586 59812	100nF 20-80% 50V 0603
2717	4822 126 11663	12pF 5% 50V 0603
2718	4822 122 33752	15pF 5% 50V
2719	4822 122 33752	15pF 5% 50V
2720	4822 122 33752	15pF 5% 50V
2721	2020 552 94427	100pF 5% 50v 0603
2722	2020 552 94427	100pF 5% 50v 0603
2723	4822 126 14225	56pF 5% 50V 0603
2724	2020 552 94427	100pF 5% 50v 0603
2725	4822 126 11663	12pF 5% 50V 0603
2726	4822 126 11669	27pF 5% 50V 0603
2727	4822 126 11663	12pF 5% 50V 0603
2728	2020 021 91554	10µF 20% 16V
2729	2238 586 59812	100nF 20-80% 50V 0603
2730	2020 021 91557	100µF 20% 16V
2731	2238 586 59812	100nF 20-80% 50V 0603
2732	2238 586 59812	100nF 20-80% 50V 0603
2733	2238 586 59812	100nF 20-80% 50V 0603
2734	2238 586 59812	100nF 20-80% 50V 0603
2735	2238 586 59812	100nF 20-80% 50V 0603
2736	4822 126 11669	27pF 5% 50V 0603
2737	4822 126 11663	12pF 5% 50V 0603
2738	4822 126 11663	12pF 5% 50V 0603
2739	4822 126 11669	27pF 5% 50V 0603
2740	2238 916 15641	22nF 10% 25V 0603
2740	4822 126 14494	22nF 10% 25V 0603
2741	2238 916 15641	22nF 10% 25V 0603
2741	4822 126 14494	22nF 10% 25V 0603
2742	2238 916 15641	22nF 10% 25V 0603
2742	4822 126 14494	22nF 10% 25V 0603
2743	2238 586 59812	100nF 20-80% 50V 0603
2744	2238 586 59812	100nF 20-80% 50V 0603
2745	2238 586 59812	100nF 20-80% 50V 0603
2746	2238 586 59812	100nF 20-80% 50V 0603
2747	2238 586 59812	100nF 20-80% 50V 0603
2748	2238 586 59812	100nF 20-80% 50V 0603
2749	2020 021 91554	10µF 20% 16V
2750	2238 586 59812	100nF 20-80% 50V 0603
2751	2238 586 59812	100nF 20-80% 50V 0603
2752	2238 586 59812	100nF 20-80% 50V 0603
2753	2238 586 59812	100nF 20-80% 50V 0603
2754	2238 586 59812	100nF 20-80% 50V 0603
2755	2238 586 59812	100nF 20-80% 50V 0603
2756	2238 586 59812	100nF 20-80% 50V 0603
2757	2238 916 15641	22nF 10% 25V 0603
2757	4822 126 14494	22nF 10% 25V 0603
2760	2238 586 59812	100nF 20-80% 50V 0603
2761	2238 586 59812	100nF 20-80% 50V 0603
2762	2238 586 59812	100nF 20-80% 50V 0603
2763	2238 586 59812	100nF 20-80% 50V 0603
2764	2238 586 59812	100nF 20-80% 50V 0603
2765	2238 586 59812	100nF 20-80% 50V 0603
2766	2238 586 59812	100nF 20-80% 50V 0603
2767	2238 586 59812	100nF 20-80% 50V 0603
2768	2238 586 59812	100nF 20-80% 50V 0603
2769	2238 586 59812	100nF 20-80% 50V 0603
2770	2020 021 91554	10µF 20% 16V
2771	2238 586 59812	100nF 20-80% 50V 0603
2772	2020 021 91557	100µF 20% 16V
2773	2238 586 59812	100nF 20-80% 50V 0603
2774	2238 586 59812	100nF 20-80% 50V 0603
2774	3198 017 44740	470nF 10V 0603
2775	2238 586 59812	100nF 20-80% 50V 0603

2776	2238 586 59812	100nF 20-80% 50V 0603
2777	2238 586 59812	100nF 20-80% 50V 0603
2778	2238 586 59812	100nF 20-80% 50V 0603
2779	2238 586 59812	100nF 20-80% 50V 0603
2780	2238 586 59812	100nF 20-80% 50V 0603
2781	2238 586 59812	100nF 20-80% 50V 0603
2782	2238 586 59812	100nF 20-80% 50V 0603
2783	2238 586 59812	100nF 20-80% 50V 0603
2784	2238 586 59812	100nF 20-80% 50V 0603
2785	2238 586 59812	100nF 20-80% 50V 0603
2786	2238 586 59812	100nF 20-80% 50V 0603
2787	2238 586 59812	100nF 20-80% 50V 0603
2788	2238 586 59812	100nF 20-80% 50V 0603
2789	2238 586 59812	100nF 20-80% 50V 0603
2790	2238 586 59812	100nF 20-80% 50V 0603
2791	2238 586 59812	100nF 20-80% 50V 0603
2792	2020 021 91554	10µF 20% 16V
2793	2238 586 59812	100nF 20-80% 50V 0603
2794	2020 021 91554	10µF 20% 16V
2795	2238 586 59812	100nF 20-80% 50V 0603
2796	2238 586 59812	100nF 20-80% 50V 0603
2797	2238 586 59812	100nF 20-80% 50V 0603
2798	2238 586 59812	100nF 20-80% 50V 0603
2799	2238 586 59812	100nF 20-80% 50V 0603
2800	2238 586 59812	100nF 20-80% 50V 0603
2801	2238 586 59812	100nF 20-80% 50V 0603
2802	2238 586 59812	100nF 20-80% 50V 0603
2803	2238 586 59812	100nF 20-80% 50V 0603
2804	2238 586 59812	100nF 20-80% 50V 0603
2805	2238 586 59812	100nF 20-80% 50V 0603
2807	2238 586 59812	100nF 20-80% 50V 0603
2808	2020 021 91554	10µF 20% 16V
2809	2238 586 59812	100nF 20-80% 50V 0603
2810	2238 586 59812	100nF 20-80% 50V 0603
2811	2238 586 59812	100nF 20-80% 50V 0603
2812	2238 586 59812	100nF 20-80% 50V 0603
2813	2238 586 59812	100nF 20-80% 50V 0603
2814	2238 586 59812	100nF 20-80% 50V 0603
2815	4822 126 14223	2.2pF +-0.25pF 50V 0603
2816	4822 126 14223	2.2pF +-0.25pF 50V 0603
2817	2238 586 59812	100nF 20-80% 50V 0603
2818	4822 126 14223	2.2pF +-0.25pF 50V 0603
2819	2238 586 59812	100nF 20-80% 50V 0603
2820	2238 586 59812	100nF 20-80% 50V 0603
2821	2238 586 59812	100nF 20-80% 50V 0603
2822	2238 586 59812	100nF 20-80% 50V 0603
2823	5322 126 11578	1nF 10% 50V 0603
2824	5322 126 11578	1nF 10% 50V 0603
2825	2238 586 59812	100nF 20-80% 50V 0603
2826	2238 586 59812	100nF 20-80% 50V 0603
2827	2238 586 59812	100nF 20-80% 50V 0603
2828	2238 586 59812	100nF 20-80% 50V 0603
2829	2238 586 59812	100nF 20-80% 50V 0603
2830	2238 586 59812	100nF 20-80% 50V 0603
2831	4822 126 13956	68pF 5% 63V 0603
2832	2238 586 59812	100nF 20-80% 50V 0603
2833	2238 586 59812	100nF 20-80% 50V 0603
2835	2238 586 59812	100nF 20-80% 50V 0603
2838	2238 586 59812	100nF 20-80% 50V 0603
2843	2238 586 59812	100nF 20-80% 50V 0603
2845	2238 586 59812	100nF 20-80% 50V 0603
2846	2238 586 59812	100nF 20-80% 50V 0603
2847	2238 586 59812	100nF 20-80% 50V 0603
2848	2238 586 59812	100nF 20-80% 50V 0603
2851	2238 586 59812	100nF 20-80% 50V 0603
2853	2238 586 59812	100nF 20-80% 50V 0603
2854	2238 586 59812	100nF 20-80% 50V 0603
2855	2238 586 59812	100nF 20-80% 50V 0603
2857	2238 586 59812	100nF 20-80% 50V 0603
2859	2238 586 59812	100nF 20-80% 50V 0603
2860	2238 586 59812	100nF 20-80% 50V 0603
2861	2238 586 59812	100nF 20-80% 50V 0603
2864	2238 586 59812	100nF 20-80% 50V 0603
2865	2238 586 59812	100nF 20-80% 50V 0603
2866	2238 586 59812	100nF 20-80% 50V 0603
2867	2238 586 59812	100nF 20-80% 50V 0603
2870	2020 021 91554	10µF 20% 16V
2871	2020 021 91554	10µF 20% 16V
2872	2238 586 59812	100nF 20-80% 50V 0603
2874	2020 021 91554	10µF 20% 16V
2875	2020 021 91554	10µF 20% 16V
2876	2238 586 59812	100nF 20-80% 50V 0603
2878	2020 552 94427	100pF 5% 50v 0603
2880	2020 021 91557	100µF 20% 16V
2881	4822 126 11669	27pF 5% 50V 0603
2884	2238 586 59812	100nF 20-80% 50V 0603
2885	4822 126 11663	12pF 5% 50V 0603
2886	2238 586 59812	100nF 20-80% 50V 0603
2887	2238 586 59812	100nF 20-80% 50V 0603
2888	2238 586 59812	100nF 20-80% 50V 0603
2889	2238 586 59812	100nF 20-80% 50V 0603
2890	2238 586 59812	100nF 20-80% 50V 0603
2891	2238 586 59812	100nF 20-80% 50V 0603
2892	2238 586 59812	100nF 20-80% 50V 0603
2893	2238 586 59812	100nF 20-80% 50V 0603
2894	2238 586 59812	100nF 20-80% 50V 0603
2895	2238 586 59812	100nF 20-80% 50V 0603
2896	2238 586 59812	100nF 20-80% 50V 0603
2897	2238 586 59812	100nF 20-80% 50V 0603
2898	2238 586 59812	100nF 20-80% 50V 0603
2899	2238 586 59812	100nF 20-80% 50V 0603
2908	2238 586 59812	100nF 20-80% 50V 0603
2909	2238 586 59812	100nF 20-80% 50V 0603
2910	2238 586 59812	100nF 20-80% 50V 0603
2911	2238 586 59812	100nF 20-80% 50V 0603
2912	2238 586 59812	100nF 20-80% 50V 0603
2912	3198 017 44740	470nF 10V 0603

-WW-

3001	4822 051 30472	4.7kΩ 5% 0.062W
3002	4822 051 30472	4.7kΩ 5% 0.062W
3003	4822 117 13525	24kΩ 1% 0.62W 0603
3005	4822 051 30103	10kΩ 5% 0.062W
3006	4822 051 30471	470Ω 5% 0.062W
3007	3198 031 14710	4 x 470Ω 5% 1206
3008	4822 117 13526	150Ω 5% 0.63W
3009	4822 117 13501	82Ω 5% 0.62W 0603
3011	4822 051 30471	470Ω 5% 0.062W
3012	3198 031 11010	4 x 100Ω 5% 1206
3013	4822 051 30103	10kΩ 5% 0.062W
3014	4822 051 30682	6.8kΩ 5% 0.062W
3015	4822 051 30474	470kΩ 5% 0.062W
3016	4822 051 30152	1.5kΩ 5% 0.062W
3017	4822 051 30472	4.7kΩ 5% 0.062W
3018	4822 051 30103	10kΩ 5% 0.062W
3019	4822 051 30472	4.7kΩ 5% 0.062W
3020	4822 051 30103	10kΩ 5% 0.062W
3021	4822 051 30103	10kΩ 5% 0.062W
3024	4822 051 30273	27kΩ 5% 0.062W
3025	4822 051 30221	220Ω 5% 0.062W
3026	4822 051 30472	4.7kΩ 5% 0.062W
3027	4822 117 12925	47kΩ 1% 0.063W 0603
3029	4822 051 30103	10kΩ 5% 0.062W
3031	4822 051 30103	10kΩ 5% 0.062W
3033	4822 051 30103	10kΩ 5% 0.062W
3034	3198 031 11010	4 x 100Ω 5% 1206
3035	3198 031 11010	4 x 100Ω 5% 1206
3039	4822 051 30181	180Ω 5% 0.062W
3040	4822 051 30472	4.7kΩ 5% 0.062W
3042	4822 051 30472	4.7kΩ 5% 0.062W
3044	4822 051 30272	2.7kΩ 5% 0.062W
3048	3198 031 11010	4 x 100Ω 5% 1206
3049	3198 031 11010	4 x 100Ω 5% 1206
3050	3198 031 11010	4 x 100Ω 5% 1206
3051	3198 031 11010	4 x 100Ω 5% 1206
3052	3198 031 11010	4 x 100Ω 5% 1206
3053	4822 051 30101	100Ω 5% 0.062W
3054	3198 031 11010	4 x 100Ω 5% 1206
3055	3198 031 11010	4 x 100Ω 5% 1206
3056	3198 031 11010	4 x 100Ω 5% 1206
3057	3198 031 11010	4 x 100Ω 5% 1206
3059	2322 704 66201	620Ω 1% 0603
3061	4822 051 30103	10kΩ 5% 0.062W
3062	4822 051 30103	10kΩ 5% 0.062W
3064	3198 031 11010	4 x 100Ω 5% 1206
3065	4822 051 30472	4.7kΩ 5% 0.062W
3066	4822 117 12925	47kΩ 1% 0.063W 0603
3067	4822 051 30474	470kΩ 5% 0.062W
3068	4822 051 30272	2.7kΩ 5% 0.062W
3069	4822 051 30272	2.7kΩ 5% 0.062W
3073	3198 031 14710	4 x 470Ω 5% 1206
3074	3198 031 14710	4 x 470Ω 5% 1206
3076	3198 031 14710	4 x 470Ω 5% 1206
3078	3198 031 14710	4 x 470Ω 5% 1206
3079	4822 051 30472	4.7kΩ 5% 0.062W
3080	4822 051 30472	4.7kΩ 5% 0.062W
3081	4822 051 30008	Jumper 0603
3088	4822 051 30472	4.7kΩ 5% 0.062W
3090	3198 031 14710	4 x 470Ω 5% 1206
3093	4822 051 30103	10kΩ 5% 0.062W
3094	4822 117 12925	47kΩ 1% 0.063W 0603
3095	4822 117 12925	47kΩ 1% 0.063W 0603
3096	4822 117 12925	47kΩ 1% 0.063W 0603
3097	4822 051 30008	Jumper 0603
3099	3198 031 14710	4 x 470Ω 5% 1206
3301	4822 117 13632	100kΩ 1% 0603 0.62W
3302	4822 051 30102	1kΩ 5% 0.062W
3303	4822 117 13632	100kΩ 1% 0603 0.62W
3304▲	2322 750 63908	3.9Ω 5% Fuse 1206
3306	4822 051 30221	220Ω 5% 0.062W
3307	4822 051 30183	18kΩ 5% 0.062W
3308	4822 051 20154	150kΩ 5% 0.1W
3310	4822 051 30563	56kΩ 5% 0.062W
3311	4822 117 13632	100kΩ 1% 0603 0.62W
3312	4822 117 13632	100kΩ 1% 0603 0.62W
3313	4822 117 13632	100kΩ 1% 0603 0.62W
3314	4822 051 30103	10kΩ 5% 0.062W
3315	4822 051 30102	1kΩ 5% 0.062W
3316	4822 117 10834	47kΩ 1% 0.1W
3317	4822 051 30221	220Ω 5% 0.062W
3318	4822 051 30102	1kΩ 5% 0.062W
3319	4822 051 30102	1kΩ 5% 0.062W
3320	4822 051 30101	100Ω 5% 0.062W
3321	4822 051 30101	100Ω 5% 0.062W
3322	4822 051 10102	1kΩ 2% 0.25W
3323	4822 117 12925	47kΩ 1% 0.063W 0603
3324	4822 051 30472	4.7kΩ 5% 0.062W
3327	4822 117 13632	100kΩ 1% 0603 0.62W
3328	4822 051 30393	39kΩ 5% 0.062W
3329	4822 117 13568	6.8Ω 5% 1206
3331	4822 051 30102	1kΩ 5% 0.062W
3333	4822 051 30102	1kΩ 5% 0.062W
3334	4822 051 30102	1kΩ 5% 0.062W
3336	4822 051 30102	1kΩ 5% 0.062W
3340	4822 051 30101	100Ω 5% 0.062W
3341	4822 051 30101	100Ω 5% 0.062W
3342	4822 051 30101	100Ω 5% 0.062W
3343	4822 051 20683	68kΩ 5% 0.1W
3344	4822 051 30222	2.2kΩ 5% 0.062W
3345	4822 051 30103	10kΩ 5% 0.062W
3346	4822 051 30333	33kΩ 5% 0.062W
3347	4822 051 30223	22kΩ 5% 0.062W
3348	4822 051 30222	2.2kΩ 5% 0.062W
3349	4822 051 30472	4.7kΩ 5% 0.062W
3362	4822 051 30684	680kΩ 5% 0.062W
3363	4822 051 30102	1kΩ 5% 0.062W
3364	4822 051 30103	10kΩ 5% 0.062W
3365	4822 051 30103	10kΩ 5% 0.062W
3366	4822 051 30221	220Ω 5% 0.062W
3367	4822 051 30221	220Ω 5% 0.062W
3368	3198 021 32250	2M2 5% 0603
3370	4822 051 30101	100Ω 5% 0.062W
3371	4822 051 30479	47Ω 5% 0.062W
3372	4822 051 30471	470Ω 5% 0.062W
3373	4822 051 30008	Jumper 0603
3374	4822 051 30008	Jumper 0603
3375	4822 051 30008	Jumper 0603
3376	4822 051 30101	100Ω 5% 0.062W
3377	4822 051 30101	100Ω 5% 0.062W
3378	4822 051 30153	15kΩ 5% 0.062W
3379	4822 051 30008	Jumper 0603
3380	4822 051 30101	100Ω 5% 0.062W
3382	4822 051 30561	560Ω 5% 0.062W
3385	4822 051 30471	470Ω 5% 0.062W
3386	4822 051 30223	22kΩ 5% 0.062W
3390	4822 051 30221	220Ω 5% 0.062W
3391	4822 051 30472	4.7kΩ 5% 0.062W
3393	4822 117 13632	100kΩ 1% 0603 0.62W
3394	4822 051 30472	4.7kΩ 5% 0.062W
3400	4822 117 11152	4.7Ω 5% 0.062W
3402▲	2322 750 63908	3.9Ω 5% Fuse 1206
3403	4822 051 30101	100Ω 5% 0.062W
3404	4822 051 30561	560Ω 5% 0.062W
3405	4822 051 30102	1kΩ 5% 0.062W
3406	2322 702 60279	27Ω 5% 0.1W 0603
3408	4822 051 30101	100Ω 5% 0.062W
3411	4822 051 30272	2.7kΩ 5% 0.062W
3412	4822 051 30102	1kΩ 5% 0.062W
3414	4822 051 30472	4.7kΩ 5% 0.062W
3415	4822 051 30222	2.2kΩ 5% 0.062W
3418	4822 051 30391	390Ω 5% 0.062W
3419	4822 051 30339	33Ω 5% 0.062W
3435	4822 051 30472	4.7kΩ 5% 0.062W
3436	4822 051 30181	180Ω 5% 0.062W
3437	4822 051 30471	470Ω 5% 0.062W
3439	4822 051 30471	470Ω 5% 0.062W
3441	4822 051 30562	5.6kΩ 5% 0.063W 0603
3445	4822 051 30271	270Ω 5% 0.062W
3446	4822 051 30101	100Ω 5% 0.062W
3463	4822 051 30472	4.7kΩ 5% 0.062W
3468	4822 117 13632	100kΩ 1% 0603 0.62W
3472	4822 051 30223	22kΩ 5% 0.062W
3500	4822 051 30153	15kΩ 5% 0.062W
3501	4822 051 20479	47Ω 5% 0.1W
3501	4822 157 11716	Bead 30Ω at 100MHz
3504	4822 051 30123	12kΩ 5% 0.062W
3505	4822 051 30153	15kΩ 5% 0.062W
3506	4822 051 20479	47Ω 5% 0.1W
3506	4822 157 11716	Bead 30Ω at 100MHz
3509	4822 051 30123	12kΩ 5% 0.062W
3510	4822 117 12925	47kΩ 1% 0.063W 0603
3511	4822 117 13632	100kΩ 1% 0603 0.62W
3512	4822 051 30154	150k 5% 0.062W
3513	4822 117 12889	270kΩ 1% 0.063W 0603
3514	4822 117 12925	47kΩ 1% 0.063W 0603
3515	4822 117 13632	100kΩ 1% 0603 0.62W
3516	4822 051 30392	3.9kΩ 5% 0.063W 0603
3517	4822 051 30472	4.7kΩ 5% 0.062W
3519	4822 051 30103	10kΩ 5% 0.062W
3520	4822 117 12925	47kΩ 1% 0.063W 0603

3521	4822 117 13632	100kΩ 1% 0603 0.62W
3522	4822 117 13632	100kΩ 1% 0603 0.62W
3523	4822 117 13632	100kΩ 1% 0603 0.62W
3524	4822 117 13632	100kΩ 1% 0603 0.62W
3525	4822 051 30684	680kΩ 5% 0.062W
3526	4822 051 30105	1MΩ 5% 0.062W
3527	4822 051 30101	100Ω 5% 0.062W
3528	4822 051 30103	10kΩ 5% 0.062W
3529	4822 051 30103	10kΩ 5% 0.062W
3530	4822 051 30103	10kΩ 5% 0.062W
3531	4822 117 12902	8.2kΩ 1% 0.063W 0603
3532	4822 051 30102	1kΩ 5% 0.062W
3533	4822 051 30103	10kΩ 5% 0.062W
3540	4822 051 30103	10kΩ 5% 0.062W
3544	4822 117 12925	47kΩ 1% 0.063W 0603
3545	4822 117 11817	1.2kΩ 1% 1/16W
3546	4822 051 30102	1kΩ 5% 0.062W
3547	4822 117 12925	47kΩ 1% 0.063W 0603
3552	4822 051 30103	10kΩ 5% 0.062W
3553	4822 051 30223	22kΩ 5% 0.062W
3554	4822 051 30223	22kΩ 5% 0.062W
3555	4822 051 30223	22kΩ 5% 0.062W
3556	4822 051 30101	100Ω 5% 0.062W
3557	4822 051 30101	100Ω 5% 0.062W
3558	4822 051 30101	100Ω 5% 0.062W
3559	4822 051 30101	100Ω 5% 0.062W
3560	4822 051 30101	100Ω 5% 0.062W
3561	4822 051 30101	100Ω 5% 0.062W
3562	4822 051 30101	100Ω 5% 0.062W
3563	4822 051 30101	100Ω 5% 0.062W
3564	4822 051 30101	100Ω 5% 0.062W
3567	4822 051 30101	100Ω 5% 0.062W
3568	4822 051 30101	100Ω 5% 0.062W
3569	4822 051 30101	100Ω 5% 0.062W
3570	4822 051 30101	100Ω 5% 0.062W
3571	4822 051 30101	100Ω 5% 0.062W
3572	4822 051 30101	100Ω 5% 0.062W
3573	4822 051 30101	100Ω 5% 0.062W
3574	4822 051 30101	100Ω 5% 0.062W
3575	4822 051 30101	100Ω 5% 0.062W
3576	4822 051 30272	2.7kΩ 5% 0.062W
3577	4822 051 30101	100Ω 5% 0.062W
3578	4822 051 30103	10kΩ 5% 0.062W
3579	4822 051 30103	10kΩ 5% 0.062W
3601	4822 051 30223	22kΩ 5% 0.062W
3602	4822 051 30124	120kΩ 5% 0.062W
3603	4822 117 12891	220kΩ 1% 0.063W 0603
3604	4822 051 30124	120kΩ 5% 0.062W
3605	4822 117 12891	220kΩ 1% 0.063W 0603
3606	4822 051 30124	120kΩ 5% 0.062W
3607	4822 117 12891	220kΩ 1% 0.063W 0603
3608	4822 051 30124	120kΩ 5% 0.062W
3609	4822 117 12891	220kΩ 1% 0.063W 0603
3612	4822 117 12925	47kΩ 1% 0.063W 0603
3613	4822 117 12925	47kΩ 1% 0.063W 0603
3614	4822 117 12925	47kΩ 1% 0.063W 0603
3615	4822 117 12925	47kΩ 1% 0.063W 0603
3616	4822 051 30272	2.7kΩ 5% 0.062W
3624	4822 117 11817	1.2kΩ 1% 1/16W
3626	4822 051 30154	150k 5% 0.062W
3627	4822 051 30103	10kΩ 5% 0.062W
3628	4822 051 30223	22kΩ 5% 0.062W
3630	4822 051 30563	56kΩ 5% 0.062W
3634	4822 051 30121	120Ω 5% 0.062W
3636	4822 051 30271	270Ω 5% 0.062W
3637	4822 117 12864	82kΩ 5% 0.6W
3639	4822 051 30102	1kΩ 5% 0.062W
3640	4822 051 30101	100Ω 5% 0.062W
3641	4822 051 30101	100Ω 5% 0.062W
3642	4822 051 30101	100Ω 5% 0.062W
3643	4822 051 30101	100Ω 5% 0.062W
3644	4822 117 11152	4.7Ω 5% 0.062W
3653	4822 051 30008	Jumper 0603
3654	4822 051 30008	Jumper 0603
3655	4822 051 30101	100Ω 5% 0.062W
3656	4822 051 30101	100Ω 5% 0.062W
3657	4822 051 30563	56kΩ 5% 0.062W
3658	4822 051 30154	150k 5% 0.062W
3659	4822 051 30154	150k 5% 0.062W
3663	4822 051 30181	180Ω 5% 0.062W
3664	4822 051 30102	1kΩ 5% 0.062W
3666	4822 051 30154	150k 5% 0.062W
3667	4822 117 12864	82kΩ 5% 0.6W
3668	4822 051 30563	56kΩ 5% 0.062W
3669	4822 051 30271	270Ω 5% 0.062W
3670	4822 051 30102	1kΩ 5% 0.062W
3671	4822 117 11817	1.2kΩ 1% 1/16W
3673	4822 051 30103	10kΩ 5% 0.062W
3675	4822 051 30181	180Ω 5% 0.062W
3676	4822 117 13632	100kΩ 1% 0603 0.62W
3677	4822 117 13632	100kΩ 1% 0603 0.62W
3680	4822 117 11817	1.2kΩ 1% 1/16W
3681	4822 051 30154	150k 5% 0.062W
3682	4822 051 30102	1kΩ 5% 0.062W
3683	4822 051 30223	22kΩ 5% 0.062W
3684	4822 051 30008	Jumper 0603
3685	4822 051 30008	Jumper 0603
3688	4822 051 30008	Jumper 0603
3689	4822 051 30008	Jumper 0603
3692	4822 051 30008	Jumper 0603
3693	4822 051 30008	Jumper 0603
3698	4822 117 11817	1.2kΩ 1% 1/16W
3699	2322 702 60184	180k 5% 0603
3703	5322 117 13062	390R 1% 0.063W 0603
3704	5322 117 13047	330Ω 1% 0.063W 0603
3705	5322 117 13047	330Ω 1% 0.063W 0603
3709	4822 051 30101	100Ω 5% 0.062W
3710	4822 051 30101	100Ω 5% 0.062W
3711	4822 117 12925	47kΩ 1% 0.063W 0603
3712	4822 117 12925	47kΩ 1% 0.063W 0603
3713	4822 051 30181	180Ω 5% 0.062W
3714	4822 051 30181	180Ω 5% 0.062W
3715	4822 051 30181	180Ω 5% 0.062W
3716	4822 117 13632	100kΩ 1% 0603 0.62W
3717	4822 117 13632	100kΩ 1% 0603 0.62W
3718	4822 117 13632	100kΩ 1% 0603 0.62W
3719	4822 051 30332	3.3kΩ 5% 0.062W
3720	4822 051 30103	10kΩ 5% 0.062W
3721	4822 117 12917	1Ω 5% 0.062W 0603
3725	4822 051 30332	3.3kΩ 5% 0.062W
3726	4822 117 11817	1.2kΩ 1% 1/16W
3727	4822 051 30151	150Ω 5% 0.062W
3728	4822 051 30151	150Ω 5% 0.062W
3729	4822 051 30689	68Ω 5% 0.063W 0603
3730	4822 051 30681	680Ω 5% 0.062W
3731	4822 051 30472	4.7kΩ 5% 0.062W
3733	4822 051 30472	4.7kΩ 5% 0.062W
3735	4822 117 12917	1Ω 5% 0.062W 0603
3736	4822 051 30101	100Ω 5% 0.062W
3737	4822 051 30102	1kΩ 5% 0.062W
3738	4822 051 30102	1kΩ 5% 0.062W
3739	4822 051 30153	15kΩ 5% 0.062W
3740	4822 051 30102	1kΩ 5% 0.062W
3741	4822 051 30183	18kΩ 5% 0.062W
3742	4822 051 30183	18kΩ 5% 0.062W
3744	4822 051 30222	2.2kΩ 5% 0.062W
3745	4822 051 30102	1kΩ 5% 0.062W
3746	4822 051 30392	3.9kΩ 5% 0.063W 0603
3747	4822 051 30154	150k 5% 0.062W
3748	4822 117 12891	220kΩ 1% 0.063W 0603
3749	4822 051 30392	3.9kΩ 5% 0.063W 0603
3750	4822 051 30332	3.3kΩ 5% 0.062W
3751	4822 051 30472	4.7kΩ 5% 0.062W
3752	4822 117 12917	1Ω 5% 0.062W 0603
3753	4822 117 12917	1Ω 5% 0.062W 0603
3754	4822 051 30101	100Ω 5% 0.062W
3755	4822 051 30472	4.7kΩ 5% 0.062W
3756	4822 117 12902	8.2kΩ 1% 0.063W 0603
3757	4822 051 30479	47Ω 5% 0.062W
3758	4822 051 30472	4.7kΩ 5% 0.062W
3759	4822 051 30221	220Ω 5% 0.062W
3762	4822 051 30101	100Ω 5% 0.062W
3763	4822 051 30221	220Ω 5% 0.062W
3763	4822 117 12139	22Ω 5% 0.062W
3764	4822 051 30109	10Ω 5% 0.062W
3771	4822 117 12971	15Ω 5% 0.62W 0603
3772	4822 117 12971	15Ω 5% 0.62W 0603
3773	4822 117 12925	47kΩ 1% 0.063W 0603
3774	4822 117 12925	47kΩ 1% 0.063W 0603
3781	4822 117 12925	47kΩ 1% 0.063W 0603
3782	4822 117 12925	47kΩ 1% 0.063W 0603
3783	4822 117 12925	47kΩ 1% 0.063W 0603
3785	4822 117 13577	330Ω 1% 0805 1.25W
3786	4822 117 13577	330Ω 1% 0805 1.25W
3787	4822 117 13577	330Ω 1% 0805 1.25W
3788	5322 117 13034	1k5 1% 0.063W 0603
3789	5322 117 13043	220Ω 1% 0.063W 0603
3790	5322 117 13059	560Ω 1% 0.063W 0603
3791	5322 117 13049	470Ω 1% 0.063W 0603
3792	4822 051 30102	1kΩ 5% 0.062W
3793	4822 051 30222	2.2kΩ 5% 0.062W
3794	4822 117 12971	15Ω 5% 0.62W 0603
3795	4822 051 30339	33Ω 5% 0.062W
3800	5322 117 13058	150Ω 1% 0.063W 0603
3801	4822 051 30102	1kΩ 5% 0.062W
3802	5322 117 13058	150Ω 1% 0.063W 0603
3803	5322 117 13058	150Ω 1% 0.063W 0603
3804	4822 051 30102	1kΩ 5% 0.062W
3805	5322 117 13049	470Ω 1% 0.063W 0603
3806	5322 117 13049	470Ω 1% 0.063W 0603
3807	5322 117 13068	82Ω 1% 0.063W 0603
3808	5322 117 13057	820Ω 1% 0.063W 0603
3809	5322 117 13043	220Ω 1% 0.063W 0603
3810	4822 051 30391	390Ω 5% 0.062W
3811	4822 051 30759	75Ω 5% 0.062W
3812	4822 051 30759	75Ω 5% 0.062W
3813	4822 051 30391	390Ω 5% 0.062W
3814	4822 051 30759	75Ω 5% 0.062W
3815	4822 051 30759	75Ω 5% 0.062W
3816	4822 051 30391	390Ω 5% 0.062W
3817	4822 051 30759	75Ω 5% 0.062W
3818	4822 051 30759	75Ω 5% 0.062W
3819	4822 051 30759	75Ω 5% 0.062W
3820	4822 051 30759	75Ω 5% 0.062W
3821	4822 051 30759	75Ω 5% 0.062W
3822	4822 051 30759	75Ω 5% 0.062W
3823	4822 051 30759	75Ω 5% 0.062W
3824	4822 051 30759	75Ω 5% 0.062W
3825	5322 117 13058	150Ω 1% 0.063W 0603
3826	5322 117 13058	150Ω 1% 0.063W 0603
3827	5322 117 13058	150Ω 1% 0.063W 0603
9015	4822 051 30008	Jumper 0603
9302	4822 051 30008	Jumper 0603
9303	4822 051 30008	Jumper 0603
9304	4822 051 30008	Jumper 0603
9318	4822 051 30008	Jumper 0603
9322	4822 051 30008	Jumper 0603
9406	4822 051 30008	Jumper 0603
9407	4822 051 30008	Jumper 0603
9410	4822 051 30008	Jumper 0603
9413	4822 051 30008	Jumper 0603
9416	4822 051 30008	Jumper 0603
9417	4822 051 30008	Jumper 0603
9418	4822 051 30008	Jumper 0603
9419	4822 051 30008	Jumper 0603
9420	4822 051 30008	Jumper 0603
9520	4822 051 30008	Jumper 0603
9522	4822 051 30008	Jumper 0603
9603	4822 051 30008	Jumper 0603
9604	4822 051 30008	Jumper 0603
9607	4822 051 30008	Jumper 0603
9608	4822 051 30008	Jumper 0603
9609	4822 051 30008	Jumper 0603
9610	4822 051 30008	Jumper 0603
9642	4822 051 30008	Jumper 0603
9645	4822 051 30008	Jumper 0603
9652	4822 051 30008	Jumper 0603
9682	4822 051 30008	Jumper 0603
9683	4822 051 30008	Jumper 0603
9684	4822 051 30008	Jumper 0603
9685	4822 051 30008	Jumper 0603
9686	4822 051 30008	Jumper 0603
9687	4822 051 30008	Jumper 0603
9688	4822 051 30008	Jumper 0603
9689	4822 051 30008	Jumper 0603
9691	4822 051 30008	Jumper 0603
9692	4822 051 30008	Jumper 0603
9694	4822 051 30008	Jumper 0603
9702	4822 051 30008	Jumper 0603
9704	4822 051 30008	Jumper 0603
9713	4822 051 30008	Jumper 0603
9715	4822 051 30008	Jumper 0603
9716	4822 051 30008	Jumper 0603
9717	4822 051 30008	Jumper 0603
9718	4822 051 30008	Jumper 0603
9719	4822 051 30008	Jumper 0603
9722	4822 051 30008	Jumper 0603
9724	4822 051 30008	Jumper 0603
9725	4822 051 30008	Jumper 0603
9731	4822 051 30008	Jumper 0603
9733	4822 051 30008	Jumper 0603
9735	4822 051 30008	Jumper 0603
9736	4822 051 30008	Jumper 0603
9737	4822 051 30008	Jumper 0603
9738	4822 051 30008	Jumper 0603
9739	4822 051 30008	Jumper 0603
9740	4822 051 30008	Jumper 0603
9741	4822 117 12662	4 x 10Ω 5%
9744	4822 051 30008	Jumper 0603
9747	4822 051 30008	Jumper 0603
9754	4822 051 30008	Jumper 0603
9760	4822 051 30008	Jumper 0603
9761	4822 051 30008	Jumper 0603
9762	4822 051 30008	Jumper 0603
9763	4822 051 30008	Jumper 0603
9764	4822 051 30008	Jumper 0603
9765	4822 051 30008	Jumper 0603
9768	4822 051 30008	Jumper 0603
9769	4822 051 30008	Jumper 0603
9901	4822 051 30008	Jumper 0603
9902	4822 051 30008	Jumper 0603
9903	4822 051 30008	Jumper 0603
9904	4822 051 30008	Jumper 0603
9905	4822 051 30008	Jumper 0603
9906	4822 051 30008	Jumper 0603
9907	4822 051 30008	Jumper 0603
9908	4822 051 30008	Jumper 0603
9909	4822 051 30008	Jumper 0603
9919	4822 051 30008	Jumper 0603
9920	4822 051 30008	Jumper 0603
9921	4822 051 30008	Jumper 0603
9925	4822 051 30008	Jumper 0603

9927	4822 051 30008	Jumper 0603
9928	4822 051 30008	Jumper 0603
9929	4822 051 30008	Jumper 0603
9935	4822 051 30008	Jumper 0603
9937	4822 051 30008	Jumper 0603
9938	4822 051 30008	Jumper 0603
9939	4822 051 30008	Jumper 0603
9944	4822 051 30008	Jumper 0603
9945	4822 051 30008	Jumper 0603
9946	4822 051 30008	Jumper 0603
9947	4822 051 30008	Jumper 0603
9948	4822 051 30008	Jumper 0603
9949	4822 051 30008	Jumper 0603
9950	4822 051 30008	Jumper 0603
9951	4822 051 30008	Jumper 0603
9952	4822 051 30008	Jumper 0603
9953	4822 051 30008	Jumper 0603
9954	4822 051 30008	Jumper 0603

5301	4822 157 11876	6.8µH 10% 0805
5302	4822 157 11876	6.8µH 10% 0805
5401	3198 018 56880	6.8µH 10% 0603
5403	2422 549 44461	Coil trim. 40.4MHz 5CCE
5404	2422 535 95427	Bead 120Ω at 100MHz
5405	2422 535 95427	Bead 120Ω at 100MHz
5406	4822 157 10586	2.2µH 10% 0805
5408	2422 549 44983	Coil trim. 78MHz 5CCB SMD
5409	2422 549 42896	Bead 120Ω at 100MHz
5411	4822 157 11892	0.22µH 10% 0805
5415	4822 157 11716	Bead 30Ω at 100MHz
5416	4822 157 11716	Bead 30Ω at 100MHz
5651	2422 549 43769	Bead 30Ω at 100MHz
5652	2422 549 43769	Bead 30Ω at 100MHz
5653	2422 549 43769	Bead 30Ω at 100MHz
5654	4822 157 11716	Bead 30Ω at 100MHz
5655	4822 157 11828	22µH 20% 0805
5656	4822 157 11876	6.8µH 10% 0805
5657	4822 051 30008	Jumper 0603
5658	4822 051 30008	Jumper 0603
5659	4822 051 30008	Jumper 0603
5660	4822 051 30008	Jumper 0603
5661	4822 051 30008	Jumper 0603
5662	4822 051 30008	Jumper 0603
5663	4822 051 30008	Jumper 0603
5666	4822 051 30008	Jumper 0603
5667	4822 051 30008	Jumper 0603
5668	4822 051 30008	Jumper 0603
5671	4822 157 11716	Bead 30Ω at 100MHz
5672	4822 157 11716	Bead 30Ω at 100MHz
5700	4822 157 10586	2.2µH 10% 0805
5701	3198 018 31580	1.5µH 10% 0805
5702	3198 018 31580	1.5µH 10% 0805
5705	4822 156 21729	Bead 1kΩ at 100MHz
5706	4822 157 11716	Bead 30Ω at 100MHz
5710	4822 156 21729	Bead 1kΩ at 100MHz
5711	4822 156 21729	Bead 1kΩ at 100MHz
5712	4822 156 21729	Bead 1kΩ at 100MHz
5713	4822 157 11716	Bead 30Ω at 100MHz
5714	4822 157 71206	Bead 600Ω at 100MHz
5716	4822 156 21729	Bead 1kΩ at 100MHz
5717	4822 156 21729	Bead 1kΩ at 100MHz
5718	4822 157 11716	Bead 30Ω at 100MHz
5719	4822 156 21729	Bead 1kΩ at 100MHz
5721	4822 157 71206	Bead 600Ω at 100MHz
5722	4822 156 21729	Bead 1kΩ at 100MHz
5724	4822 156 21729	Bead 1kΩ at 100MHz
5725	4822 157 71206	Bead 600Ω at 100MHz
5726	4822 156 21729	Bead 1kΩ at 100MHz
5727	4822 156 21729	Bead 1kΩ at 100MHz
5728	4822 157 11716	Bead 30Ω at 100MHz
5729	4822 157 11716	Bead 30Ω at 100MHz
5731	4822 156 21729	Bead 1kΩ at 100MHz
5736	4822 157 11876	6.8µH 10% 0805
5737	4822 156 21729	Bead 1kΩ at 100MHz
5738	4822 157 11716	Bead 30Ω at 100MHz
5739	4822 157 10586	2.2µH 10% 0805
5740	4822 157 10586	2.2µH 10% 0805
5741	4822 157 10586	2.2µH 10% 0805
5742	4822 157 11716	Bead 30Ω at 100MHz
5743	4822 051 20229	22Ω 5% 0.1W
5743	4822 156 21729	Bead 1kΩ at 100MHz
5744	4822 157 11716	Bead 30Ω at 100MHz
5900	4822 157 11716	Bead 30Ω at 100MHz
5901	4822 157 11716	Bead 30Ω at 100MHz
5902	4822 157 11716	Bead 30Ω at 100MHz
5903	4822 157 11716	Bead 30Ω at 100MHz
5904	4822 157 11716	Bead 30Ω at 100MHz
5910	2422 549 43062	Bead 600Ω at 100MHz 0603
5911	2422 549 43062	Bead 600Ω at 100MHz 0603
5912	2422 549 43062	Bead 600Ω at 100MHz 0603
5913	2422 549 43062	Bead 600Ω at 100MHz 0603
5914	2422 549 43062	Bead 600Ω at 100MHz 0603
5915	2422 549 43062	Bead 600Ω at 100MHz 0603
5917	2422 549 43062	Bead 600Ω at 100MHz 0603
5918	2422 549 43062	Bead 600Ω at 100MHz 0603
5919	2422 549 43062	Bead 600Ω at 100MHz 0603
5920	2422 549 43062	Bead 600Ω at 100MHz 0603



6001	4822 130 80622	BAT54
6002	4822 130 11397	BAS316
6003	4822 130 80622	BAT54
6004	4822 130 80622	BAT54
6005	4822 130 11422	PLVA2650A
6303	4822 130 11594	BZX284-C47
6304	4822 130 11397	BAS316
6306	3198 020 55680	BZX384-C5V6
6307	4822 130 11528	1PS76SB10
6309	4822 130 11397	BAS316
6310	4822 130 11416	PDZ6.8B
6311	9340 548 67115	PDZ22B
6312	4822 130 11397	BAS316
6313	9322 149 08685	BZM55-C22
6314	4822 130 11397	BAS316
6317	4822 130 11397	BAS316
6319	4822 130 11397	BAS316
6334	4822 130 11397	BAS316
6403	9340 552 30115	BA591
6652	9322 129 40685	BZM55-C10
6657	4822 130 10838	UDZ3.3B
6657	4822 130 11564	UDZ3.9B
6658	4822 130 11397	BAS316
6659	4822 130 80622	BAT54
6926	4822 130 10837	UDZS8.2B
6926	4822 130 11397	BAS316
6927	4822 130 11397	BAS316
6928	4822 130 11397	BAS316
6929	4822 130 11397	BAS316
6956	4822 130 10837	UDZS8.2B
6956	4822 130 11397	BAS316
6957	4822 130 10837	UDZS8.2B
6957	4822 130 11397	BAS316



7001	9352 684 81557	SAA5801H/015
7002	3198 010 42320	BC857BW
7003	3198 010 42310	BC847BW
7004	3198 010 42310	BC847BW
7005	9322 116 74668	LD1117D33
7006	3104 300 50441	MR27V3202F-NETN-9
7007	9322 157 20668	MSM51V18165F-60J
7008	3198 010 42310	BC847BW
7009	3198 010 42310	BC847BW
7010	3198 010 42320	BC857BW
7011	9322 156 81668	M24C32-WMN6TNKSA
7012	9322 156 72668	M29W400BT-90N1
7013	3198 010 42310	BC847BW
7014	3198 010 42320	BC857BW
7015	4822 209 73852	PMBT2369
7016	4822 209 73852	PMBT2369
7301	9352 681 65518	TDA9330N3
7303	3198 010 42320	BC857BW
7304	9340 310 30215	PDTC144ET
7307	9352 630 99118	TDA9181T
7310	3198 010 42310	BC847BW
7311	3198 010 42320	BC857BW
7312	9340 310 30215	PDTC144ET
7318	3198 010 42320	BC857BW
7320	3198 010 42310	BC847BW
7322	3198 010 42310	BC847BW
7323	9352 625 24518	TDA9321H/N2
7402	3198 010 42310	BC847BW
7403	5322 130 60159	BC846B
7404	3198 010 42310	BC847BW
7407	4822 130 60373	BC856B
7410	3198 010 42310	BC847BW
7411	5322 130 60159	BC846B
7651	9322 180 61702	MSP3411G-FH-B8-V3
7651	9322 183 28702	MSP3412G-FH-B3
7652	9351 869 40118	74HC4053PW
7653	9351 869 40118	74HC4053PW
7654	9340 425 20115	BC847BS
7656	9340 425 30115	BC847BPN
7663	9340 425 30115	BC847BPN
7664	9340 425 30115	BC847BPN
7665	9340 425 30115	BC847BPN
7666	9340 425 30115	BC847BPN
7667	3198 010 42310	BC847BW
7668	3198 010 42320	BC857BW
7674	3198 010 42310	BC847BW
7675	9340 425 20115	BC847BS
7677	3198 010 42310	BC847BW
7678	9340 425 20115	BC847BS
7679	9340 425 20115	BC847BS
7680	3198 010 42310	BC847BW
7681	9322 060 73668	MC33178DR2
7682	5322 130 60159	BC846B
7703	4822 209 73852	PMBT2369
7706	9322 142 88668	LF25CDT
7707	5322 130 60159	BC846B
7708	5322 130 60159	BC846B
7709	5322 130 60159	BC846B
7710	5322 130 60159	BC846B
7711	2422 486 80938	Socket 32p f
7712	9351 870 00118	74HC573PW
7713	9352 688 09557	SAA4978H/V204 Y
7714	9965 000 02179	MS81V04160-25TB
7715	4822 209 73852	PMBT2369
7717	9352 498 00518	SAA4955TJ/V1
7718	9352 695 58557	SAA4993H/V1
7719	9352 498 00518	SAA4955TJ/V1
7722	9965 000 02179	MS81V04160-25TB
7723	9965 000 02179	MS81V04160-25TB
7724	9322 188 08702	T8F24EF-0002 EAGLE
7725	4822 209 73852	PMBT2369
7726	4822 209 17398	LD1117DT33
7727	9322 170 14668	LF15ABDT
7728	5322 130 42718	BFS20
7729	5322 130 42718	BFS20
7730	5322 130 42718	BFS20
7731	5322 130 42718	BFS20
7732	5322 130 42718	BFS20
7733	5322 130 42718	BFS20
7999	3104 317 43881	Software (check Prod.Surv.)

DW Panel [C]

Various

0200	4822 267 10734	Connector 5p m
0201	4822 267 10557	Connector 10p
0205	2422 025 16587	Connector FFC 10p f
0207	4822 267 10565	Connector 4p
0236	4822 267 10735	Connector 3p m
0237	4822 267 10676	Connector 1P
0272	2422 025 16382	Connector 3p m
1002	3139 188 01661	VIF/DEMOD. EUROPE1
1327	4822 242 10694	Resonator 12MHz
1333	2422 549 44311	Filter 5M8/6M5 TPWCC16B
1352	2422 549 44223	Filter SAW OFWK7260M

2261	4822 124 40207	100µF 20% 25V
2265	4822 124 40207	100µF 20% 25V
2269	4822 126 13751	47nF 10% 63V
2270	4822 126 13751	47nF 10% 63V
2271	4822 126 13751	47nF 10% 63V
2272	5322 126 11583	10nF 10% 50V 0603
2301	3198 017 41050	1µF 10V 0603
2302	5322 126 10184	820pF 5% 50V 3
2303	5322 126 10223	4.7nF 10% 63V
2306	5322 126 11583	10nF 10% 50V 0603
2309	4822 126 14585	100nF 10% 50V
2312	4822 122 33177	10nF 20% 50V
2313	4822 126 14585	100nF 10% 50V
2314	4822 126 14585	100nF 10% 50V
2316	2238 916 15641	22nF 10% 25V 0603
2317	4822 126 13879	220nF 20% 16V
2319	2238 586 59812	100nF 20-80% 50V 0603
2321	5322 126 10465	3.9nF 10% 50V
2322	4822 124 40248	10µF 20% 63V
2324	4822 126 14585	100nF 10% 50V
2327	2222 867 15339	33pF 5% 50V 0603
2328	2222 867 15339	33pF 5% 50V 0603
2331	4822 124 22652	2.2µF 20% 50V
2332	4822 126 14076	220nF 25V. 20%
2333	2238 586 59812	100nF 20-80% 50V 0603
2334	5322 122 32654	22nF 10% 63V
2335	4822 126 14043	1µF 20% 16V
2336	5322 126 10184	820pF 5% 50V 3
2338	4822 122 33127	2.2nF 10% 63V
2342	4822 126 13692	47pF 1% 63V
2345	4822 126 13692	47pF 1% 63V
2348	4822 126 11785	47pF 5% 50V 0603
2349	4822 122 33177	10nF 20% 50V
2350	4822 124 40248	10µF 20% 63V
2351	4822 122 33177	10nF 20% 50V
2354	4822 126 13482	470nF 80/20% 16V
2355	3198 017 41050	1µF 10V 0603
2356	4822 126 13482	470nF 80/20% 16V
2357	2238 861 18109	10pF 1% 50V

2372	5322 126 10223	4.7nF 10% 63V
2373	4822 124 21913	1µF 20% 63V
2374	5322 122 32654	22nF 10% 63V
2375	5322 126 10511	1nF 5% 50V
2376	5322 126 10511	1nF 5% 50V
2377	5322 126 10511	1nF 5% 50V
2380	4822 124 40248	10µF 20% 63V
2385	4822 126 13881	470pF 5% 50V
2386	4822 126 13881	470pF 5% 50V
2390	4822 126 11785	47pF 5% 50V 0603
2391	2020 552 94427	100pF 5% 50v 0603
2392	4822 126 14225	56pF 5% 50V 0603
2393	2020 552 94427	100pF 5% 50v 0603
2401	3198 017 41050	1µF 10V 0603
2402	3198 017 41050	1µF 10V 0603
2403	3198 017 41050	1µF 10V 0603
2404	3198 017 41050	1µF 10V 0603
2405	3198 017 41050	1µF 10V 0603
2411	4822 124 40248	10µF 20% 63V
2412	4822 126 13879	220nF 20% 16V
2415	4822 126 13879	220nF 20% 16V
2431	2238 586 59812	100nF 20-80% 50V 0603
2432	2238 586 59812	100nF 20-80% 50V 0603
2434	2238 586 59812	100nF 20-80% 50V 0603
2436	4822 124 40207	100µF 20% 25V
2438	3198 017 34730	47nF 16V 0603
2439	3198 017 34730	47nF 16V 0603
2440	3198 017 34730	47nF 16V 0603
2811	2238 586 59812	100nF 20-80% 50V 0603
2811	3198 023 41040	100nF 10% 100V 0603
2812	2238 586 59812	100nF 20-80% 50V 0603
2812	3198 023 41040	100nF 10% 100V 0603
2813	3198 016 31510	150pF 10% 50V 0603
2813	4822 122 33753	150pF 5% 50V
2814	3198 023 21040	100nF 10% 25V 0805
2814	4822 126 14585	100nF 10% 50V
2816	3198 025 51090	10µF 20% 50V
2816	4822 124 40248	10µF 20% 63V
2817	3198 023 21040	100nF 10% 25V 0805
2817	4822 126 14585	100nF 10% 50V
2818	3198 023 21040	100nF 10% 25V 0805
2818	4822 126 14585	100nF 10% 50V
2819	3198 023 21040	100nF 10% 25V 0805
2819	4822 126 14585	100nF 10% 50V
2821	3198 025 51090	10µF 20% 50V
2821	4822 124 40248	10µF 20% 63V
2822	3198 023 21040	100nF 10% 25V 0805
2822	4822 126 14585	100nF 10% 50V
2823	2238 586 59812	100nF 20-80% 50V 0603
2823	3198 023 41040	100nF 10% 100V 0603
2824	2238 586 59812	100nF 20-80% 50V 0603
2824	3198 023 41040	100nF 10% 100V 0603
2825	3198 016 01510	150pF 10% 50V 0805
2825	5322 122 33538	150pF 2% 63V
2826	3198 023 21040	100nF 10% 25V 0805
2826	4822 126 14585	100nF 10% 50V
2827	3198 025 31010	100µF 20% 25V
2827	4822 124 40207	100µF 20% 25V
2828	2238 586 59812	100nF 20-80% 50V 0603
2828	3198 023 41040	100nF 10% 100V 0603
2829	3198 023 21040	100nF 10% 25V 0805
2829	4822 126 14585	100nF 10% 50V
2831	3198 017 21050	1uF 5% 16V 0805
2831	4822 126 14043	1µF 20% 16V
2832	3198 017 21050	1uF 5% 16V 0805
2832	4822 126 14043	1µF 20% 16V
2833	2238 586 59812	100nF 20-80% 50V 0603
2833	3198 023 41040	100nF 10% 100V 0603
2834	3198 025 51090	10µF 20% 50V
2834	4822 124 40248	10µF 20% 63V
2836	2238 586 59812	100nF 20-80% 50V 0603
2836	3198 023 41040	100nF 10% 100V 0603
2837	3198 023 21040	100nF 10% 25V 0805
2837	4822 126 14585	100nF 10% 50V
2838	3198 025 02210	220µF 20% 6.3V
2838	4822 124 11912	220µF 20% 6.3V
2839	3198 023 21040	100nF 10% 25V 0805
2839	4822 126 14585	100nF 10% 50V
2841	3198 025 51090	10µF 20% 50V
2841	4822 124 40248	10µF 20% 63V
2842	3198 016 31510	150pF 10% 50V 0603
2842	4822 122 33753	150pF 5% 50V
2843	2238 586 59812	100nF 20-80% 50V 0603
2843	3198 023 41040	100nF 10% 100V 0603
2844	2238 586 59812	100nF 20-80% 50V 0603
2844	3198 023 41040	100nF 10% 100V 0603
2846	3198 023 21040	100nF 10% 25V 0805
2846	4822 126 14585	100nF 10% 50V
2847	3198 016 01510	150pF 10% 50V 0805
2847	5322 122 33538	150pF 2% 63V
2848	3198 023 21040	100nF 10% 25V 0805
2848	4822 126 14585	100nF 10% 50V
2849	3198 023 21040	100nF 10% 25V 0805
2849	4822 126 14585	100nF 10% 50V
2851	3198 025 51090	10µF 20% 50V
2851	4822 124 40248	10µF 20% 63V
2852	3198 017 01040	100nF 10% 16V 0805
2852	4822 126 14585	100nF 10% 50V
2853	3198 025 51090	10µF 20% 50V
2853	4822 124 40248	10µF 20% 63V
2854	3198 023 21040	100nF 10% 25V 0805
2854	4822 126 14585	100nF 10% 50V
2856	3198 016 01510	150pF 10% 50V 0805
2856	5322 122 33538	150pF 2% 63V
2857	3198 016 31510	150pF 10% 50V 0603
2857	4822 122 33753	150pF 5% 50V
2861	3198 025 51090	10µF 20% 50V
2861	4822 124 40248	10µF 20% 63V
2862	2238 586 59812	100nF 20-80% 50V 0603
2862	3198 023 41040	100nF 10% 100V 0603
2863	3198 025 52290	22µF 20% 50V
2863	4822 124 81151	22µF 50V
2864	3198 017 34730	47nF 16V 0603
2866	3198 017 34730	47nF 16V 0603
2867	3198 017 41050	1µF 10V 0603
2868	2238 586 59812	100nF 20-80% 50V 0603
2868	3198 023 41040	100nF 10% 100V 0603
2869	3198 025 31010	100µF 20% 25V
2869	4822 124 40207	100µF 20% 25V
2871	3198 017 41050	1µF 10V 0603
2872	3198 017 34730	47nF 16V 0603
2873	3198 017 34730	47nF 16V 0603
2874	3198 021 90030	Jumper 0603
2874	4822 051 30008	Jumper 0603
2876	3198 021 90030	Jumper 0603
2876	4822 051 30008	Jumper 0603
2877	3198 021 90030	Jumper 0603
2877	4822 051 30008	Jumper 0603
2878	3198 023 21040	100nF 10% 25V 0805
2878	4822 126 14585	100nF 10% 50V
2879	2238 586 59812	100nF 20-80% 50V 0603
2879	3198 023 41040	100nF 10% 100V 0603
2891	3198 017 01020	1nF 10% 50V 0805
2891	5322 122 31647	1nF 10% 63V
2892	3198 016 34790	47pF 10% 50V 0603
2892	4822 126 11785	47pF 5% 50V 0603
2893	3198 016 34790	47pF 10% 50V 0603
2893	4822 126 11785	47pF 5% 50V 0603
2894	3198 016 34790	47pF 10% 50V 0603
2894	4822 126 11785	47pF 5% 50V 0603
2895	3198 016 04790	47pf 10% 50V 0805
2895	4822 126 13692	47pF 1% 63V
2896	3198 016 04790	47pf 10% 50V 0805
2896	4822 126 13692	47pF 1% 63V
2897	3198 016 34790	47pF 10% 50V 0603
2897	4822 126 11785	47pF 5% 50V 0603
2898	3198 025 31010	100µF 20% 25V
2898	4822 124 40207	100µF 20% 25V
2899	3198 025 31010	100µF 20% 25V
2899	4822 124 40207	100µF 20% 25V

–WW–

3263	4822 117 11449	2.2kΩ 5% 0.1W 0805
3264	4822 117 10833	10kΩ 1% 0.1W
3267	4822 051 20109	10Ω 5% 0.1W
3268	4822 051 20109	10Ω 5% 0.1W
3270	4822 051 20008	Jumper 0805
3301	4822 051 30102	1kΩ 5% 0.062W
3305	4822 117 12955	2.7kΩ 1% 0.1W 0805
3311	4822 051 20273	27kΩ 5% 0.1W
3312	4822 117 10833	10kΩ 1% 0.1W
3315	4822 117 12708	39kΩ 1% 0.1W 0805 RC12G
3316	4822 051 30681	680Ω 5% 0.062W
3318	4822 051 30101	100Ω 5% 0.062W
3321	4822 051 30103	10kΩ 5% 0.062W
3322	4822 117 12902	8.2kΩ 1% 0.063W 0603
3324	4822 051 20391	390Ω 5% 0.1W
3326	5322 117 12487	1k 1% 0.125W
3327	4822 051 30561	560Ω 5% 0.062W
3329	4822 117 11373	100Ω 1% 0805
3330	4822 117 11373	100Ω 1% 0805
3333	4822 051 30681	680Ω 5% 0.062W
3334	4822 051 30471	470Ω 5% 0.062W
3335	4822 051 20121	120Ω 5% 0,1W
3338	4822 051 20008	Jumper 0805
3339	4822 117 10833	10kΩ 1% 0.1W
3340	4822 051 30222	2.2kΩ 5% 0.062W
3341	4822 051 20479	47Ω 5% 0.1W
3344	4822 051 20479	47Ω 5% 0.1W
3346	4822 051 30561	560Ω 5% 0.062W
3348	4822 051 30008	Jumper 0603
3352	4822 051 30222	2.2kΩ 5% 0.062W
3353	4822 051 30682	6.8kΩ 5% 0.062W
3354	4822 051 30222	2.2kΩ 5% 0.062W
3355	4822 051 30273	27kΩ 5% 0.062W
3356	4822 051 30183	18kΩ 5% 0.062W
3370	4822 117 11373	100Ω 1% 0805
3371	4822 116 83933	15k 1% 0.1W
3372	4822 051 30008	Jumper 0603
3374	4822 051 30472	4.7kΩ 5% 0.062W
3381	4822 117 11373	100Ω 1% 0805
3382	4822 117 11373	100Ω 1% 0805
3383	4822 117 11373	100Ω 1% 0805
3384	4822 051 30103	10kΩ 5% 0.062W
3385	4822 051 30472	4.7kΩ 5% 0.062W
3386	4822 051 30103	10kΩ 5% 0.062W
3387	4822 051 30393	39kΩ 5% 0.062W
3388	4822 051 30103	10kΩ 5% 0.062W
3389	4822 051 30472	4.7kΩ 5% 0.062W
3390	4822 051 30471	470Ω 5% 0.062W
3401	4822 051 30101	100Ω 5% 0.062W
3402	4822 051 30101	100Ω 5% 0.062W
3403	4822 117 11373	100Ω 1% 0805
3404	4822 051 30101	100Ω 5% 0.062W
3405	4822 117 11373	100Ω 1% 0805
3411	4822 117 12925	47kΩ 1% 0.063W 0603
3412	4822 117 12925	47kΩ 1% 0.063W 0603
3413	4822 051 30102	1kΩ 5% 0.062W
3414	4822 117 12925	47kΩ 1% 0.063W 0603
3415	4822 117 12925	47kΩ 1% 0.063W 0603
3416	4822 051 30102	1kΩ 5% 0.062W
3417	4822 117 11373	100Ω 1% 0805
3418	4822 117 11373	100Ω 1% 0805
3423	4822 051 20561	560Ω 5% 0.1W
3424	4822 117 11448	180Ω 1% 0.1W
3431	4822 051 30101	100Ω 5% 0.062W
3432	4822 051 30101	100Ω 5% 0.062W
3437	4822 051 20472	4.7kΩ 5% 0.1W
3438	4822 051 30471	470Ω 5% 0.062W
3439	4822 051 20008	Jumper 0805
3453	4822 051 30472	4.7kΩ 5% 0.062W
3456	4822 051 30472	4.7kΩ 5% 0.062W
3457	4822 051 30472	4.7kΩ 5% 0.062W
3460	4822 051 30472	4.7kΩ 5% 0.062W
3461	4822 051 30472	4.7kΩ 5% 0.062W
3462	4822 052 10228	2Ω2 5% 0.33W
3801	3198 021 52210	220Ω 5% 0805
3801	4822 117 11503	220Ω 1% 0.1W
3802	3198 021 56810	680K 5% 0805
3802	4822 117 10361	680Ω 1% 0.1W
3803	3198 021 52210	220Ω 5% 0805
3803	4822 117 11503	220Ω 1% 0.1W
3804	3198 021 36810	680Ω 5% 0.062W
3804	4822 051 30681	680Ω 5% 0.062W
3805	3198 021 32210	220Ω 5% 0603
3805	4822 051 30221	220Ω 5% 0.062W
3806	3198 021 36810	680Ω 5% 0.062W
3806	4822 051 30681	680Ω 5% 0.062W
3807	3198 021 32210	220Ω 5% 0603
3807	4822 051 30221	220Ω 5% 0.062W
3808	3198 021 56810	680K 5% 0805
3808	4822 117 10361	680Ω 1% 0.1W
3809	3198 021 32210	220Ω 5% 0603
3809	4822 051 30221	220Ω 5% 0.062W
3810	3198 021 36810	680Ω 5% 0.062W
3810	4822 051 30681	680Ω 5% 0.062W
3811	3198 021 52210	220Ω 5% 0805
3811	4822 117 11503	220Ω 1% 0.1W
3812	3198 021 34790	47Ω 5% 0603
3812	4822 051 30479	47Ω 5% 0.062W
3813	3198 021 31510	150Ω 5% 0603
3813	4822 051 30151	150Ω 5% 0.062W
3814	3198 021 32230	22K 5% 0603
3814	4822 051 30223	22kΩ 5% 0.062W
3816	3198 021 34790	47Ω 5% 0603
3816	4822 051 30479	47Ω 5% 0.062W
3817	3198 021 31510	150Ω 5% 0603
3817	4822 051 30151	150Ω 5% 0.062W
3818	3198 021 34790	47Ω 5% 0603
3818	4822 051 30479	47Ω 5% 0.062W
3821	3198 021 31510	150Ω 5% 0603
3821	4822 051 30151	150Ω 5% 0.062W
3822	3198 021 34720	4.7kΩ 5% 0603
3822	4822 051 30472	4.7kΩ 5% 0.062W
3823	3198 021 56810	680K 5% 0805
3823	4822 117 10361	680Ω 1% 0.1W
3824	3198 021 90030	Jumper 0603
3824	4822 051 30008	Jumper 0603
3825	3198 021 32210	220Ω 5% 0603
3825	4822 051 30221	220Ω 5% 0.062W
3826	3198 021 33320	3.3kΩ 5% 0603
3826	4822 051 30332	3.3kΩ 5% 0.062W
3827	3198 021 31820	1.8kΩ 5% 0603
3827	4822 117 12903	1.8kΩ 1% 0.063W 0603
3828	3198 021 32210	220Ω 5% 0603
3828	4822 051 30221	220Ω 5% 0.062W
3829	3198 021 32210	220Ω 5% 0603
3829	4822 051 30221	220Ω 5% 0.062W
3831	3198 021 32210	220Ω 5% 0603
3831	4822 051 30221	220Ω 5% 0.062W

3832	3198 021 33930	39KΩ 5% 0605
3832	4822 051 30393	39kΩ 5% 0.062W
3833	3198 021 33320	3.3kΩ 5% 0603
3833	4822 051 30332	3.3kΩ 5% 0.062W
3834	3198 021 31820	1.8kΩ 5% 0603
3834	4822 117 12903	1.8kΩ 1% 0.063W 0603
3836	3198 021 33320	3.3kΩ 5% 0603
3836	4822 051 30332	3.3kΩ 5% 0.062W
3837	3198 021 31820	1.8kΩ 5% 0603
3837	4822 117 12903	1.8kΩ 1% 0.063W 0603
3838	3198 021 33930	39KΩ 5% 0605
3838	4822 051 30393	39kΩ 5% 0.062W
3839	3198 021 52210	220Ω 5% 0805
3839	4822 117 11503	220Ω 1% 0.1W
3846	3198 021 52210	220Ω 5% 0805
3846	4822 117 11503	220Ω 1% 0.1W
3854	3198 021 31010	100Ω 5% 0603
3854	4822 051 30101	100Ω 5% 0.062W
3856	3198 021 55620	5.6KΩ 5% 0805
3856	4822 051 20562	5.6kΩ 5% 0.1W 0805
3857	3198 021 51030	10K 5% 0805
3857	4822 117 10833	10kΩ 1% 0.1W
3858	3198 021 55620	5.6KΩ 5% 0805
3858	4822 051 20562	5.6kΩ 5% 0.1W 0805
3862	2306 204 03108	1R Fuse NFR25
3862	4822 052 10108	1Ω 5% 0.33W
3863	2306 204 03108	1R Fuse NFR25
3863	4822 052 10108	1Ω 5% 0.33W
3865	3198 021 33320	3.3kΩ 5% 0603
3865	4822 051 30332	3.3kΩ 5% 0.062W
3866	3198 021 31020	1kΩ 5% 0603
3866	4822 051 30102	1kΩ 5% 0.062W
3868	3198 021 31820	1.8kΩ 5% 0603
3868	4822 117 12903	1.8kΩ 1% 0.063W 0603
3869	3198 021 33320	3.3kΩ 5% 0603
3869	4822 051 30332	3.3kΩ 5% 0.062W
3871	3198 021 32220	2.2k 5% 0603
3871	4822 051 30222	2.2kΩ 5% 0.062W
3872	3198 021 34710	470Ω 5% 0603
3872	4822 051 30471	470Ω 5% 0.062W
3873	3198 021 31520	1.5KΩ 5% 0603
3873	4822 051 30152	1.5kΩ 5% 0.062W
3874	3198 021 31520	1.5KΩ 5% 0603
3874	4822 051 30152	1.5kΩ 5% 0.062W
3876	3198 021 54720	4.7K 5% 0805
3876	4822 051 20472	4.7kΩ 5% 0.1W
3878	3198 021 31020	1kΩ 5% 0603
3878	4822 051 30102	1kΩ 5% 0.062W
3879	3198 021 32210	220Ω 5% 0603
3879	4822 051 30221	220Ω 5% 0.062W
3881	3198 021 90030	Jumper 0603
3881	4822 051 30008	Jumper 0603
3884	3198 021 56810	680K 5% 0805
3884	4822 117 10361	680Ω 1% 0.1W
3886	3198 021 90030	Jumper 0603
3886	4822 051 30008	Jumper 0603
3887	3198 021 90030	Jumper 0603
3887	4822 051 30008	Jumper 0603
3888	3198 021 90030	Jumper 0603
3888	4822 051 30008	Jumper 0603
3889	3198 021 33390	33Ω 5% 0603
3889	4822 051 30339	33Ω 5% 0.062W
3890	3198 021 33390	33Ω 5% 0603
3890	4822 051 30339	33Ω 5% 0.062W
3891	3198 021 33390	33Ω 5% 0603
3891	4822 051 30339	33Ω 5% 0.062W
3892	3198 021 54720	4.7K 5% 0805
3892	4822 051 20472	4.7kΩ 5% 0.1W
3893	3198 021 31520	1.5KΩ 5% 0603
3893	4822 051 30152	1.5kΩ 5% 0.062W
3894	3198 021 32220	2.2k 5% 0603
3894	4822 051 30222	2.2kΩ 5% 0.062W
3895	3198 021 34710	470Ω 5% 0603
3895	4822 051 30471	470Ω 5% 0.062W
3896	3198 021 31520	1.5KΩ 5% 0603
3896	4822 051 30152	1.5kΩ 5% 0.062W
3897	3198 021 32210	220Ω 5% 0603
3897	4822 051 30221	220Ω 5% 0.062W
3898	3198 021 31020	1kΩ 5% 0603
3898	4822 051 30102	1kΩ 5% 0.062W
4304	4822 051 30008	Jumper 0603
4309	4822 051 30008	Jumper 0603
4310	4822 051 30008	Jumper 0603
4311	4822 051 30008	Jumper 0603
4312	4822 051 30008	Jumper 0603
4313	4822 051 20008	Jumper 0805
4314	4822 051 20008	Jumper 0805
4434	4822 051 20008	Jumper 0805
4437	4822 051 20008	Jumper 0805
4438	4822 051 20008	Jumper 0805
4827	3198 021 90030	Jumper 0603
4827	4822 051 30008	Jumper 0603
4828	3198 021 90030	Jumper 0603
4828	4822 051 30008	Jumper 0603
4831	3198 021 32210	220Ω 5% 0603
4831	4822 051 30221	220Ω 5% 0.062W

5261	4822 157 11299	10µH 5%
5309	4822 157 71334	0.68µH
5332	4822 157 71334	0.68µH
5333	4822 157 71334	0.68µH
5334	4822 157 71334	0.68µH
5349	4822 157 71694	0.82µH 10%
5350	3198 018 61590	15µH 5% 1008
5351	3198 018 61590	15µH 5% 1008
5352	4822 157 71334	0.68µH
5401	2422 535 94637	4.7µH 20% LHL08
5816	3198 018 90070	Bead 120Ω 100MHz
5816	4822 157 11506	Bead 120Ω at 100MHz
5818	3198 018 90070	Bead 120Ω 100MHz
5818	4822 157 11506	Bead 120Ω at 100MHz
5827	3198 018 90070	Bead 120Ω 100MHz
5827	4822 157 11506	Bead 120Ω at 100MHz
5834	3198 018 90070	Bead 120Ω 100MHz
5834	4822 157 11506	Bead 120Ω at 100MHz
5839	3198 018 90070	Bead 120Ω 100MHz
5839	4822 157 11506	Bead 120Ω at 100MHz
5848	3198 018 90070	Bead 120Ω 100MHz
5848	4822 157 11506	Bead 120Ω at 100MHz
5849	3198 018 90070	Bead 120Ω 100MHz
5849	4822 157 11506	Bead 120Ω at 100MHz
5851	3198 018 90070	Bead 120Ω 100MHz
5851	4822 157 11506	Bead 120Ω at 100MHz
5853	3198 018 90070	Bead 120Ω 100MHz
5853	4822 157 11506	Bead 120Ω at 100MHz

6301	4822 130 11525	1SS356
6412	4822 130 11397	BAS316
6415	4822 130 11397	BAS316
6801	3198 020 53980	BZX384-C2V9
6801	4822 130 11564	UDZ3.9B
6802	3198 020 53980	BZX384-C2V9
6802	4822 130 11564	UDZ3.9B
6803	3198 010 10630	BAS316
6803	4822 130 11397	BAS316

7201	2422 542 90104	TUNERTEDE9X217AALPS
7301	9352 638 73557	TDA8889H/N1
7305	3198 010 42310	BC847BW
7307	3198 010 42310	BC847BW
7331	3198 010 42320	BC857BW
7332	3198 010 42310	BC847BW
7385	3198 010 42310	BC847BW
7386	3198 010 42310	BC847BW
7401	5322 209 14481	HEF4053BT
7402	5322 209 14481	HEF4053BT
7403	4822 209 17345	M62320FP
7411	3198 010 42310	BC847BW
7412	3198 010 42310	BC847BW
7421	3198 010 42320	BC857BW
7438	3198 010 42310	BC847BW
7801	9352 639 83557	SAB9083H/N4
7802	9322 123 54687	LD1117V33
7803	4822 209 12776	TDA8601T/C1
7803	9351 538 90518	TDA8601T/C1
7804	9352 457 50115	74HC1G32GW
7805	3198 010 42310	BC847BW
7806	3198 010 42310	BC847BW
7807	3198 010 42310	BC847BW
7808	3198 010 42310	BC847BW
7809	3198 010 42310	BC847BW
7810	3198 010 42310	BC847BW
7824	3198 010 42310	BC847BW
7828	3198 010 42310	BC847BW
7832	3198 010 42310	BC847BW
7871	3198 010 42310	BC847BW
7874	3198 010 42310	BC847BW
7876	3198 010 42320	BC857BW
7891	3198 010 42310	BC847BW
7892	3198 010 42310	BC847BW
7893	3198 010 42310	BC847BW
7894	3198 010 42320	BC857BW
7895	3198 010 42310	BC847BW

Mainsswitch Panel [E]

Various

0040	3104 307 97621	Mainsknob FL11
0040	3139 177 55091	Knob Frost Silver
0046	3104 304 23471	Bracket mains unit FL11
0046	3139 124 32521	Front Interface
0151	4822 256 91766	LED holder
0160	4822 256 91766	LED holder
0170	4822 256 10562	Photo diode holder
0201	2422 025 16268	Connector 2p m
0202	2422 025 16268	Connector 2p m
0241	2422 025 06354	Connector 9p m
0248	4822 267 10567	Connector 4P
1031	2422 128 02972	Mains switch
1040	9322 155 82667	IR receiver TSOP2236
1050	9322 155 82667	IR receiver TSOP2236
1051	2422 128 02972	Mains switch
1060	3104 328 18291	MS assy PV2 mains
1060	3104 328 27321	MS Panel
8202	3104 311 02571	Cable 2p3/680/2p3
8202	4822 320 12513	Wiring VH 2P480VH
8946	3104 311 02911	Cable 9P/680/9P
8946	3104 311 04981	Cable 9p/820/9p

2040	4822 124 41584	100µF 20% 10V
2051	4822 124 41584	100µF 20% 10V
2060	4822 124 81151	22µF 50V
2070	3198 017 44740	470nF 10V 0603
2070	4822 126 13879	220nF 20% 16V
2071	4822 124 40248	10µF 20% 63V
2080	2238 586 59812	100nF 20-80% 50V 0603

3030	4822 053 21335	3M3 5% 0.5W
3037	4822 053 21335	3M3 5% 0.5W
3040	4822 051 30331	330Ω 5% 0.062W
3040	4822 117 13577	330Ω 1% 0805 1.25W
3041	4822 051 30103	10kΩ 5% 0.062W
3042	4822 051 30682	6.8kΩ 5% 0.062W
3043	4822 051 30101	100Ω 5% 0.062W
3043	4822 051 30471	470Ω 5% 0.062W
3050	4822 117 13577	330Ω 1% 0805 1.25W
3051	4822 051 30471	470Ω 5% 0.062W
3052	4822 051 30331	330Ω 5% 0.062W
3053	4822 051 30561	560Ω 5% 0.062W
3054	4822 051 20471	470Ω 5% 0.1W
3057	4822 053 21335	3M3 5% 0.5W
3060	4822 051 30103	10kΩ 5% 0.062W
3061	4822 117 13577	330Ω 1% 0805 1.25W
3062	4822 117 11373	100Ω 1% 0805
3063	4822 051 30103	10kΩ 5% 0.062W
3064	4822 117 11373	100Ω 1% 0805
3066	4822 053 21335	3M3 5% 0.5W
3070	4822 051 30155	1M50 5% 0,062W
3070	4822 051 30334	330kΩ 5% 0.062W
3070	4822 051 30475	4.7MΩ 5% 0,062W 0603
3071	4822 051 30155	1M50 5% 0,062W
3071	4822 051 30334	330kΩ 5% 0.062W
3071	4822 051 30475	4.7MΩ 5% 0,062W 0603
3072	4822 051 30102	1kΩ 5% 0.062W
3073	4822 051 30103	10kΩ 5% 0.062W
3073	4822 051 30332	3.3kΩ 5% 0.062W
3074	4822 051 30103	10kΩ 5% 0.062W
3074	4822 051 30472	4.7kΩ 5% 0.062W
3075	4822 051 30472	4.7kΩ 5% 0.062W
3076	4822 051 30682	6.8kΩ 5% 0.062W
3077	4822 051 30103	10kΩ 5% 0.062W
3078	4822 051 30102	1kΩ 5% 0.062W
3078	4822 051 30332	3.3kΩ 5% 0.062W
3079	4822 051 30332	3.3kΩ 5% 0.062W
3080	4822 051 30103	10kΩ 5% 0.062W
3081	4822 051 30222	2.2kΩ 5% 0.062W
3082	4822 051 30008	Jumper 0603
3998	4822 050 11002	1k 1% 0.4W
3998	4822 116 52213	180Ω 5% 0.5W
3999	4822 051 30222	2.2kΩ 5% 0.062W
4000	4822 051 30008	Jumper 0603
4002	4822 051 30008	Jumper 0603
4007	4822 051 30008	Jumper 0603
4008	4822 051 30008	Jumper 0603
4009	4822 051 30008	Jumper 0603
4010	4822 051 30008	Jumper 0603
4011	4822 051 30008	Jumper 0603
9000	4822 051 30008	Jumper 0603
9001	4822 051 20008	Jumper 0805
9004	4822 051 20008	Jumper 0805

9005	4822 051 20008	Jumper 0805
9005	4822 051 30008	Jumper 0603
9006	4822 051 20008	Jumper 0805
9006	4822 051 30008	Jumper 0603
9007	4822 051 20008	Jumper 0805
9007	4822 051 30008	Jumper 0603
9008	4822 051 20008	Jumper 0805
9041	4822 051 30008	Jumper 0603
9042	4822 051 30008	Jumper 0603
9050	4822 051 30008	Jumper 0603
9051	4822 051 30008	Jumper 0603
9052	4822 051 30008	Jumper 0603
9053	4822 051 30008	Jumper 0603
9055	4822 051 30008	Jumper 0603



6050	5322 130 83903	TLRC114
6051	4822 209 72895	TLUV5320
6060	9322 191 72682	VS LTL353UBJ
6061	4822 130 30621	1N4148
6070	4822 130 11595	BPW46



7060	5322 130 60159	BC846B
7061	5322 130 60159	BC846B
7070	4822 209 70672	LM358N SEL.
7070	5322 209 82941	LM358D
7080	4822 130 40981	BC337-25
7081	5322 130 60159	BC846B

CRT Panel [F]

Various

0032	4822 492 70788	IC clamp
0034	4822 492 70788	IC clamp
0036	4822 492 70788	IC clamp
1298	2422 500 80063	Connector CRT 10p f
1298	2422 500 80078	Socket CRT 11P f v
1424	2422 025 11244	Connector 7p m
1434	4822 267 10973	Connector 1P m
1483	2422 025 16382	Connector 3p m
1483	4822 267 10735	Connector 3p m
1940	2422 025 12485	Connector 11p m
8483	3104 311 03111	Cable 3P/340/3P ferrite



2300	2020 012 93596	22µF 20% 250V
2301	4822 124 40196	220µF 20% 16V
2302	4822 126 13956	68pF 5% 63V 0603
2304	4822 121 41856	22nF 5% 250V
2306	2238 586 59812	100nF 20-80% 50V 0603
2307	4822 121 41856	22nF 5% 250V
2309	3198 017 42230	22nF 50V
2312	4822 126 14585	100nF 10% 50V
2313	4822 124 11565	10?F 20% 250V
2313	4822 124 12373	47µF 20% 250V
2315	4822 126 13883	220pF 5% 50V
2316	4822 121 40518	100nF 10% 250V
2318	2238 916 15641	22nF 10% 25V 0603
2318	5322 122 32654	22nF 10% 63V
2319	4822 121 43693	10NF 100V
2319	4822 122 30043	10nF 80% 63V
2320	2238 586 59812	100nF 20-80% 50V 0603
2320	2252 648 08032	10nf 20% 500V
2324	4822 121 70581	1.5nF 5% 2kV
2324	4822 121 70594	1nF 5% 2kV
2324	5322 121 44356	4.7nF 5% 2kV
2325	2238 586 59812	100nF 20-80% 50V 0603
2330	4822 157 11499	BLM11P600SPT
2332	4822 126 14507	18pF 5% 50V 0603
2333	4822 126 14507	18pF 5% 50V 0603
2334	4822 126 14507	18pF 5% 50V 0603
2338	4822 121 40518	100nF 10% 250V
2339	4822 121 40518	100nF 10% 250V
2340	4822 121 40518	100nF 10% 250V
2341	2238 586 59812	100nF 20-80% 50V 0603
2342	4822 126 14241	330pF 50V 0603
2347	4822 124 80791	470µF 20% 16V
2348	5322 126 11583	10nF 10% 50V 0603
2358	4822 124 80791	470µF 20% 16V
2359	5322 126 11583	10nF 10% 50V 0603
2403	4822 124 41584	100µF 20% 10V
2404	4822 124 41584	100µF 20% 10V
2405	4822 122 31177	470pF 10% 500V
2408	4822 126 13883	220pF 5% 50V
2409	3198 017 44740	470nF 10V 0603
2410	2238 916 15641	22nF 10% 25V 0603
2410	3198 017 44740	470nF 10V 0603
2411	2238 916 15641	22nF 10% 25V 0603
2411	4822 126 14585	100nF 10% 50V
2412	2222 867 15339	33pF 5% 50V 0603
2420	2222 930 56627	2.2nF 10% 200V 0805
2420	3198 017 44740	470nF 10V 0603
2421	2322 702 60688	6R8 5% 0.062W RC21 0603
2422	4822 121 41856	22nF 5% 250V
2423	4822 121 41856	22nF 5% 250V
2424	2322 702 60688	6R8 5% 0.062W RC21 0603
2425	4822 126 13883	220pF 5% 50V
2428	3198 017 42230	22nF 50V
2435	2020 557 90734	22nF 10% 250V
2436	2020 012 93596	22µF 20% 250V
2437	5322 126 11578	1nF 10% 50V 0603
2438	2222 930 56627	2.2nF 10% 200V 0805
2439	2020 557 90734	22nF 10% 250V
2501	2238 586 59812	100nF 20-80% 50V 0603
2503	2238 586 59812	100nF 20-80% 50V 0603
2505	2238 586 59812	100nF 20-80% 50V 0603
2510	4822 126 14585	100nF 10% 50V
2511	4822 126 14585	100nF 10% 50V

3300	4822 052 10109	10Ω 5% 0.33W
3301	4822 053 12272	2.7kΩ 5% 3W
3301	4822 117 12517	5.6kΩ 5% 5W
3302	4822 051 30102	1kΩ 5% 0.062W
3303	4822 051 30153	15kΩ 5% 0.062W
3304	4822 052 10102	1k 5% 0.33W
3304	4822 117 11454	820Ω 1% 0,1W
3305	4822 052 10108	1Ω 5% 0.33W
3306	4822 117 13608	4,7R 5% 0603 0,0016W
3307	4822 051 30109	10Ω 5% 0.062W
3308	4822 117 10837	100kΩ 1% 0.1W
3310	4822 051 10102	1kΩ 2% 0.25W
3311	4822 051 30569	56R00 5% 0,062W
3312	4822 051 30222	2.2kΩ 5% 0.062W
3316	4822 117 10837	100kΩ 1% 0.1W
3318	4822 051 30008	Jumper 0603
3318	4822 051 30109	10Ω 5% 0.062W
3319	4822 117 12968	820Ω 5% 0.62W
3323	4822 050 24708	4Ω7 1% 0.6W
3329	4822 050 24708	4Ω7 1% 0.6W
3334	4822 050 11002	1k 1% 0.4W
3335	4822 051 30102	1kΩ 5% 0.062W
3335	4822 051 30471	470Ω 5% 0.062W
3335	4822 117 12968	820Ω 5% 0.62W
3336	4822 051 30102	1kΩ 5% 0.062W
3336	4822 051 30471	470Ω 5% 0.062W
3336	4822 117 12968	820Ω 5% 0.62W
3337	4822 051 30221	220Ω 5% 0.062W
3337	4822 117 12968	820Ω 5% 0.62W
3338	3198 013 01020	1k 2% 0.5W
3338	3198 013 04710	470Ω 20% 0.5W
3339	3198 013 01020	1k 2% 0.5W
3339	3198 013 04710	470Ω 20% 0.5W
3340	3198 013 01020	1k 2% 0.5W
3340	3198 013 04710	470Ω 20% 0.5W
3341	4822 052 10151	150Ω 5% 0.33W
3341	4822 052 11479	47Ω 5% 0.5W
3342	4822 116 83883	470Ω 5% 0.5W
3345	4822 116 52191	33Ω 5% 0.5W
3347	3198 013 01520	1k5 2% 0.5W
3348	4822 117 13016	VDR 1mA/50V
3349	3198 013 01020	1k 2% 0.5W
3350	4822 116 52175	100Ω 5% 0.5W
3350	4822 116 83883	470Ω 5% 0.5W
3351	4822 116 52175	100Ω 5% 0.5W
3351	4822 116 83883	470Ω 5% 0.5W
3352	4822 116 52175	100Ω 5% 0.5W
3352	4822 116 83883	470Ω 5% 0.5W
3354	4822 051 30222	2.2kΩ 5% 0.062W
3355	4822 117 13608	4,7R 5% 0603 0,0016W
3356	4822 051 10102	1kΩ 2% 0.25W
3357	4822 117 13608	4,7R 5% 0603 0,0016W
3358	4822 051 30103	10kΩ 5% 0.062W
3359	4822 051 30103	10kΩ 5% 0.062W
3360	4822 051 30103	10kΩ 5% 0.062W
3370	4822 117 13016	VDR 1mA/50V
3401	4822 053 11101	100Ω 5% 2W
3401	4822 116 52175	100Ω 5% 0.5W
3402	4822 116 52176	10Ω 5% 0.5W
3403	4822 052 10108	1Ω 5% 0.33W
3403	4822 052 11108	1Ω 5% 0.5W
3404	4822 052 10108	1Ω 5% 0.33W
3405	4822 116 52193	39Ω 5% 0.5W
3410	4822 051 30471	470Ω 5% 0.062W
3410	4822 117 13632	100kΩ 1% 0603 0.62W
3411	4822 117 11148	56kΩ 1% 0.1W
3411	4822 117 13632	100kΩ 1% 0603 0.62W
3412	2322 750 61509	Fuse 15Ω 1206 5%
3412	4822 117 11148	56kΩ 1% 0.1W
3413	4822 051 30471	470Ω 5% 0.062W
3413	4822 051 30681	680Ω 5% 0.062W
3414	4822 051 30109	10Ω 5% 0.062W
3416	4822 051 20333	33kΩ 5% 0.1W
3416	4822 116 52193	39Ω 5% 0.5W
3417	4822 051 20333	33kΩ 5% 0.1W
3417	4822 051 30109	10Ω 5% 0.062W
3418	4822 051 30008	Jumper 0603
3419	4822 053 12272	2.7kΩ 5% 3W
3420	2322 702 60688	6R8 5% 0.062W RC21 0603
3420	4822 051 30109	10Ω 5% 0.062W
3421	4822 051 20333	33kΩ 5% 0.1W
3422	4822 051 30008	Jumper 0603
3422	4822 051 30152	1.5kΩ 5% 0.062W
3422	4822 051 30392	3.9kΩ 5% 0.063W 0603
3423	4822 051 20333	33kΩ 5% 0.1W
3424	4822 051 20333	33kΩ 5% 0.1W
3425	4822 051 30152	1.5kΩ 5% 0.062W
3425	4822 051 30392	3.9kΩ 5% 0.063W 0603
3426	4822 051 20333	33kΩ 5% 0.1W
3427	2322 702 60688	6R8 5% 0.062W RC21 0603
3427	4822 051 30109	10Ω 5% 0.062W
3448	4822 051 20333	33kΩ 5% 0.1W
3449	4822 117 11817	1.2kΩ 1% 1/16W
3451	4822 051 30102	1kΩ 5% 0.062W
3453	4822 051 30103	10kΩ 5% 0.062W
3454	4822 051 20333	33kΩ 5% 0.1W
3456	4822 051 30332	3.3kΩ 5% 0.062W
3458	4822 117 12139	22Ω 5% 0.062W
3459	4822 051 30101	100Ω 5% 0.062W
3460	4822 117 12139	22Ω 5% 0.062W
3465	4822 051 30008	Jumper 0603
3471	4822 117 11817	1.2kΩ 1% 1/16W
3473	4822 116 80176	1Ω 5% 0.5W
3474	4822 051 30103	10kΩ 5% 0.062W
3478	4822 116 80176	1Ω 5% 0.5W
3488	4822 051 30008	Jumper 0603
3489	4822 051 30109	10Ω 5% 0.062W
3492	4822 051 30008	Jumper 0603
3501	4822 051 20471	470Ω 5% 0.1W
3502	4822 051 30331	330Ω 5% 0.062W
3506	4822 051 30008	Jumper 0603
3508	4822 051 30008	Jumper 0603
3509	4822 051 30471	470Ω 5% 0.062W
3510	4822 116 52175	100Ω 5% 0.5W
3511	4822 051 20471	470Ω 5% 0.1W
3512	4822 051 30331	330Ω 5% 0.062W
3516	4822 117 13632	100kΩ 1% 0603 0.62W
3517	4822 051 30102	1kΩ 5% 0.062W
3518	4822 051 30008	Jumper 0603
3519	4822 051 30471	470Ω 5% 0.062W
3520	4822 116 52226	560Ω 5% 0.5W
3521	4822 051 20471	470Ω 5% 0.1W
3522	4822 051 30331	330Ω 5% 0.062W
3526	4822 051 30008	Jumper 0603
3528	4822 051 30008	Jumper 0603
3529	4822 051 30471	470Ω 5% 0.062W
3530	4822 116 52226	560Ω 5% 0.5W
3532	4822 051 30008	Jumper 0603
3534	4822 051 30008	Jumper 0603
3535	4822 051 20008	Jumper 0805
3536	4822 051 20008	Jumper 0805
3537	4822 051 20008	Jumper 0805
3539	4822 051 20471	470Ω 5% 0.1W
3541	4822 051 20471	470Ω 5% 0.1W
3543	4822 051 20471	470Ω 5% 0.1W
3544	4822 116 52285	470kΩ 5% 0.5W
3545	4822 051 30109	10Ω 5% 0.062W
3546	4822 051 30109	10Ω 5% 0.062W
3547	4822 051 30109	10Ω 5% 0.062W
3999	4822 051 30392	3.9kΩ 5% 0.063W 0603
3999	4822 051 30472	4.7kΩ 5% 0.062W
3999	4822 051 30562	5.6kΩ 5% 0.063W 0603
3999	4822 051 30682	6.8kΩ 5% 0.062W
3999	4822 117 12902	8.2kΩ 1% 0.063W 0603
9301	4822 051 30008	Jumper 0603
9303	4822 051 30008	Jumper 0603
9305	4822 051 30008	Jumper 0603
9306	4822 051 30008	Jumper 0603
9308	4822 051 30008	Jumper 0603
9314	4822 051 30008	Jumper 0603
9402	2238 930 11523	10pF 5% 200V 0805
9402	4822 051 30008	Jumper 0603
9403	2238 930 11523	10pF 5% 200V 0805
9403	4822 051 30008	Jumper 0603
9404	4822 051 30008	Jumper 0603
9406	4822 051 20008	Jumper 0805
9408	4822 051 30008	Jumper 0603
9409	4822 051 30008	Jumper 0603
9413	4822 051 20008	Jumper 0805
9428	4822 051 30008	Jumper 0603
9432	4822 051 30008	Jumper 0603

9437	4822 051 30008	Jumper 0603
9450	4822 051 20008	Jumper 0805
9452	4822 051 20008	Jumper 0805
9453	4822 051 20008	Jumper 0805
9501	4822 051 30008	Jumper 0603
9502	4822 051 30008	Jumper 0603
9503	4822 051 30008	Jumper 0603

5300▲	3104 308 20571	Transformer S13974-03 34'
5304	4822 526 10704	Bead 45Ω at 50MHz
5305	2422 549 42896	Bead 120Ω at 100MHz
5308	4822 157 11867	5.6µH 5%
5309	4822 157 11867	5.6µH 5%
5310	4822 157 50964	100µH 20%
5400	4822 157 11869	33µH 10% LHL08
5400	4822 157 71467	39µH 10%
5500	2722 122 00337	Del. Line 70NS SDL-5135
5501	2722 122 00337	Del. Line 70NS SDL-5135
5502	2722 122 00337	Del. Line 70NS SDL-5135

6300	4822 130 83757	BAS216
6301	4822 051 20479	47Ω 5% 0.1W
6301	9340 553 52115	BAS321
6302	9340 553 52115	BAS321
6303	9340 553 52115	BAS321
6305	9340 553 52115	BAS321
6306	9340 553 52115	BAS321
6307	9340 553 52115	BAS321
6310	4822 130 11397	BAS316
6401	3139 120 52021	BYV29X-500
6401	4822 130 11397	BAS316
6402	4822 130 11397	BAS316
6403	4822 130 11397	BAS316
6404	4822 130 11397	BAS316
6405	3139 120 52021	BYV29X-500
6407	4822 130 11397	BAS316
6420	5322 130 34337	BAV99
6421	5322 130 34337	BAV99
6422	5322 130 34337	BAV99
6426	4822 130 30613	BAW62
6427	4822 130 30613	BAW62
6428	4822 130 30613	BAW62
6430	9340 548 61115	PDZ12B
6431	4822 130 11397	BAS316
6432	9340 553 52115	BAS321
6500	4822 130 11397	BAS316
6501	4822 130 11397	BAS316
6502	4822 130 11397	BAS316

7300	5322 130 42718	BFS20
7301	5322 130 42718	BFS20
7302	5322 130 62804	BCP53
7303	5322 130 63033	BCP56
7304	4822 130 60383	BF824
7307	9352 561 40112	TDA6108
7308	5322 130 42718	BFS20
7309	5322 130 62804	BCP53
7310	5322 130 63033	BCP56
7330	9352 694 46112	TDA6118JF/N1
7340	9352 694 46112	TDA6118JF/N1
7350	9352 694 46112	TDA6118JF/N1
7414	5322 130 62804	BCP53
7415	5322 130 63033	BCP56
7422	5322 130 42718	BFS20
7427	5322 130 60159	BC846B
7428	4822 130 60373	BC856B
7429	5322 130 63033	BCP56
7430	5322 130 62804	BCP53
7500	5322 130 42718	BFS20
7502	4822 130 60373	BC856B
7503	5322 130 42718	BFS20
7505	4822 130 60373	BC856B
7506	5322 130 42718	BFS20
7508	4822 130 60373	BC856B

DC Shift Panel [G]

Various

0317	4822 265 20723	Connector 2p m
0318	4822 265 20723	Connector 2p m
1430	2422 086 10581	Fuse 400mA 65V
8317	3104 311 01421	Cable 2p3/220/2p3

2430	4822 122 31177	470pF 10% 500V
2431	4822 122 31177	470pF 10% 500V

5430	3128 138 38911	DC-shift coil CU15

6432	9340 317 00133	BYD33V
6433	9340 317 00133	BYD33V

I/O 3rd SCART Panel [H]

Various

0043	3104 304 21311	Coverplate SCART
1201	2422 025 12493	Connector 10P m h 2.50
1272	2422 025 16601	3p male
1339	4822 265 10838	Socket phono 1P f v 3.5mm
1402	4822 267 10596	Connector 5P
1680	4822 265 31067	Connector 7p m
1937	2422 025 12493	Connector 10P m h 2.50
1952	4822 267 10748	Connector 3p m
1992	2422 025 16725	Connector SCART f m Bk
8201	3104 301 09841	Cable 10P/340/10P Wh
8272	3104 311 03101	Cable 3P/560/3P Bk
8340	3104 311 03101	Cable 3P/560/3P Bk

2500	2020 552 95344	680nF 20-80% 16V 0805
2502	4822 126 14585	100nF 10% 50V
2503	3198 016 31020	1nF 25V 0603
2504	2020 552 94427	100pF 5% 50v 0603
2508	2020 552 95344	680nF 20-80% 16V 0805
2509	2020 552 94427	100pF 5% 50v 0603
2510	3198 017 41050	1µF 10V 0603
2511	2238 586 59812	100nF 20-80% 50V 0603
2513	4822 126 13883	220pF 5% 50V
2514	4822 126 14585	100nF 10% 50V
2516	2238 586 59812	100nF 20-80% 50V 0603

3500	4822 117 13574	1.5Ω 5% 1206
3501	4822 051 30102	1kΩ 5% 0.062W
3502	4822 051 30008	Jumper 0603
3507	4822 051 30102	1kΩ 5% 0.062W
3508	4822 051 30008	Jumper 0603
3512	4822 051 30008	Jumper 0603
3512	4822 051 30101	100Ω 5% 0.062W
3517	4822 051 30151	150Ω 5% 0.062W
3518	4822 051 30151	150Ω 5% 0.062W
3520	4822 051 30101	100Ω 5% 0.062W
3521	4822 051 30101	100Ω 5% 0.062W
3526	4822 051 30101	100Ω 5% 0.062W
3529	4822 051 30333	33kΩ 5% 0.062W
3530	4822 051 30102	1kΩ 5% 0.062W
3531	4822 051 30471	470Ω 5% 0.062W
3532	4822 051 30102	1kΩ 5% 0.062W
3532	4822 051 30479	47Ω 5% 0.062W
3533	4822 051 30759	75Ω 5% 0.062W
3534	4822 117 12864	82kΩ 5% 0.6W
3535	4822 051 30102	1kΩ 5% 0.062W
3535	4822 051 30471	470Ω 5% 0.062W
3538	4822 051 30008	Jumper 0603
3540	4822 051 30008	Jumper 0603
3542	4822 051 30008	Jumper 0603
3544	4822 051 30008	Jumper 0603
3546	4822 051 30102	1kΩ 5% 0.062W
3999	4822 051 30222	2.2kΩ 5% 0.062W
3999	4822 051 30272	2.7kΩ 5% 0.062W
9503	4822 051 30008	Jumper 0603
9505	4822 051 20008	Jumper 0805
9507	4822 051 30008	Jumper 0603
9508	4822 051 30008	Jumper 0603
9509	4822 051 30008	Jumper 0603
9510	4822 051 30008	Jumper 0603
9514	4822 051 30008	Jumper 0603
9515	4822 051 30008	Jumper 0603
9516	4822 051 30008	Jumper 0603
9519	4822 051 30008	Jumper 0603
9520	4822 051 30008	Jumper 0603
9521	4822 051 30008	Jumper 0603
9523	4822 051 30008	Jumper 0603
9525	4822 051 30008	Jumper 0603
9526	4822 051 30008	Jumper 0603
9527	4822 051 30008	Jumper 0603
9528	4822 051 30008	Jumper 0603
9529	4822 051 30008	Jumper 0603
9537	4822 051 20008	Jumper 0805
9540	4822 051 30008	Jumper 0603

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 11416	PDZ6.8B
6505	4822 130 11416	PDZ6.8B
6506	4822 130 11416	PDZ6.8B
6507	9340 548 61115	PDZ12B
6509	4822 130 11416	PDZ6.8B
6510	4822 130 11416	PDZ6.8B
6511	4822 130 11416	PDZ6.8B
6512	4822 130 11416	PDZ6.8B

7501	5322 209 11578	PCF8574T
7508	5322 130 60159	BC846B
7509	4822 130 60373	BC856B
7515	9351 869 40118	74HC4053PW

Horizontal DAF Panel [I]

Various

0034	3104 304 23041	DAF bracket EMGS
1417	4822 265 20723	Connector 2p m
1418	2422 025 16374	Connector 2p m
1419	4822 265 20723	Connector 2p m
1491	3104 311 02452	Cable 1P/340/1P
1492	4822 267 10735	Connector 3p m
1497	4822 267 10973	Connector 1P m
1693	4822 267 10676	Connector 1P
8418	3104 311 01951	CableH 2P3/560mm/2P4

2800	2222 375 90188	390pF 5% 2kV
2800	2222 375 90498	470pF 5% 2kV
2809	4822 124 40207	100µF 20% 25V
2812	4822 121 70435	10nF 5% 2kV
2813	4822 124 40248	10µF 20% 63V
2814	4822 121 70594	1nF 5% 2kV
2821	2222 479 90166	68nF 5% 400V
2822	4822 121 43856	4.7nF 5% 250V
2824	4822 124 40248	10µF 20% 63V
2825	4822 121 51319	1µF 10% 63V
2890	2222 375 90188	390pF 5% 2kV
2890	2222 375 90276	220pF 5% 2kV

3807	4822 052 10159	15Ω 5% 0.33W
3808	4822 052 10159	15Ω 5% 0.33W
3809	4822 052 10109	10Ω 5% 0.33W
3810	4822 053 21474	470k 5% 0.5W
3811	4822 053 20475	4M7 5% 0.25W
3812	4822 116 52264	27kΩ 5% 0.5W
3813	4822 116 52285	470kΩ 5% 0.5W
3814	4822 050 21004	100kΩ 1% 0.6W
3815	4822 050 11002	1k 1% 0.4W
3816	4822 116 52256	2k2 5% 0.5W
3818	4822 051 20333	33kΩ 5% 0.1W
3820	4822 051 20008	Jumper 0805
3821	4822 051 20008	Jumper 0805
3822	4822 051 20008	Jumper 0805
3823	4822 117 11139	1.5kΩ 1% 0.1W
3824	4822 051 20333	33kΩ 5% 0.1W
3826	4822 051 20332	3.3kΩ 5% 0.1W
3827	4822 051 20562	5.6kΩ 5% 0.1W 0805
3828	4822 117 10837	100kΩ 1% 0.1W
3830	4822 117 10834	47kΩ 1% 0.1W
3831	4822 051 20472	4.7kΩ 5% 0.1W
3832	4822 051 20182	1.8kΩ 5% 0.1W
3833	4822 051 20472	4.7kΩ 5% 0.1W
3898	4822 116 21211	VDR 420V
3898	4822 116 21239	VDR 1mA/612V
3899	4822 116 21211	VDR 420V
3899	4822 116 21239	VDR 1mA/612V
3998	4822 050 11002	1k 1% 0.4W
3998	4822 116 52207	1k2 5% 0.5W

5800	2422 531 02437	Transformer S21975-03
5801	2422 531 02435	Transformer C948-02
5801	8228 001 34391	Driver Transformer CU15
5810	3128 138 40041	Transformer CU15B

6810	9340 317 00133	BYD33V
6812	4822 130 34441	BZX79-B22

7810	9322 136 03687	STP3NB80FP
7818	5322 130 60159	BC846B
7822	5322 130 60159	BC846B
7823	4822 130 60373	BC856B

Side I/O Panel [O]

Various

0077	3104 304 23481	Bracket side I/O FL11
0240	2422 025 12485	Connector 11p m
0306	3139 124 31651	Side I/O Bracket PV2
1016	3104 328 17361	SIDE I/O EMGS FL11 HD
1254	4822 267 31014	Socket headphone
1255	4822 265 11606	3p
1256	2422 026 04926	Socket 4P
1326	4822 267 10975	Connector 3p
1327	4822 267 31014	Socket headphone
1328	2422 026 05133	Connector SVHS 4p f
1936	2422 025 12485	Connector 11p m
8936	3104 311 05271	Cable 11P/820/11P UL

2286	4822 122 33642	150pF 5% 50V
2288	4822 122 33642	150pF 5% 50V
2292	5322 122 32311	470pF 10% 100V
2294	5322 122 32311	470pF 10% 100V
2296	4822 122 31125	4.7nF 20% 63V
2297	4822 122 31125	4.7nF 20% 63V
2803	5322 126 10733	680pF 5% 50V
2804	5322 122 32531	100pF 5% 50V
2805	5322 122 32531	100pF 5% 50V
2806	5322 126 10733	680pF 5% 50V
2807	4822 126 14076	220nF 25V. 20%
2813	4822 124 22652	2.2µF 20% 50V
2832	4822 122 33177	10nF 20% 50V
2832	5322 122 31863	330pF 5% 63V
2834	4822 122 33177	10nF 20% 50V
2834	5322 122 31863	330pF 5% 63V
2840	4822 122 33177	10nF 20% 50V
2840	5322 126 10733	680pF 5% 50V
2841	4822 122 33177	10nF 20% 50V
2841	5322 126 10733	680pF 5% 50V

3285	4822 116 52201	75Ω 5% 0.5W
3286	4822 116 52176	10Ω 5% 0.5W
3287	4822 116 52201	75Ω 5% 0.5W
3288	4822 116 52176	10Ω 5% 0.5W
3291	4822 050 11002	1k 1% 0.4W
3292	4822 117 10834	47kΩ 1% 0.1W
3293	4822 050 11002	1k 1% 0.4W
3294	4822 117 10834	47kΩ 1% 0.1W
3295	4822 116 52175	100Ω 5% 0.5W
3296	4822 117 10833	10kΩ 1% 0.1W
3297	4822 117 10833	10kΩ 1% 0.1W
3801	4822 117 11927	75Ω 1% 0.1W
3802	4822 116 52201	75Ω 5% 0.5W
3803	4822 050 11002	1k 1% 0.4W
3804	4822 050 11002	1k 1% 0.4W
3808	4822 051 20008	Jumper 0805
3809	4822 051 20008	Jumper 0805
3814	4822 117 10833	10kΩ 1% 0.1W
3816	4822 051 20008	Jumper 0805
3826	4822 116 52199	68Ω 5% 0.5W
3826	4822 116 52206	120Ω 5% 0.5W
3827	4822 116 52199	68Ω 5% 0.5W
3827	4822 116 52206	120Ω 5% 0.5W
3828	4822 116 52199	68Ω 5% 0.5W
3828	4822 116 52206	120Ω 5% 0.5W
3829	4822 116 52199	68Ω 5% 0.5W
3829	4822 116 52206	120Ω 5% 0.5W
3830	4822 050 21003	10kΩ 1% 0.6W
3835	4822 116 52175	100Ω 5% 0.5W
3842	4822 050 21003	10kΩ 1% 0.6W
4201	4822 051 20008	Jumper 0805
4241	4822 051 20008	Jumper 0805
4243	4822 051 20008	Jumper 0805
4800	4822 051 20008	Jumper 0805
4801	4822 051 20008	Jumper 0805
4802	4822 051 20008	Jumper 0805
4803	4822 051 20008	Jumper 0805

6291	9340 548 61115	PDZ12B
6292	9340 548 61115	PDZ12B
6293	9340 548 61115	PDZ12B
6294	9340 548 61115	PDZ12B
6296	9340 548 61115	PDZ12B
6297	9340 548 61115	PDZ12B
6801	9322 129 38685	BZM55-C6V8
6802	9322 129 38685	BZM55-C6V8
6803	9322 129 40685	BZM55-C10
6804	9322 129 40685	BZM55-C10
6805	9322 129 40685	BZM55-C10
6806	9322 129 40685	BZM55-C10
6807	9322 129 38685	BZM55-C6V8
6808	9322 129 38685	BZM55-C6V8

Top Control Panel [P]

Various

0055	3104 307 98241	Top control keypad FL11
0056	3104 307 97611	Top control FL11
0057	3104 304 23431	Topcontrol bottom FL11
0135	3104 311 01401	Cable 3p/1500/3p
0215	4822 267 10748	Connector 3p m
0342	3139 124 39172	Top control bracket
0346	4822 267 10748	Connector 3p m
1091	4822 276 13775	Switch
1092	4822 276 13775	Switch
1093	4822 276 13775	Switch
1094	4822 276 13775	Switch
1095	4822 276 13775	Switch
1701	2422 128 02778	Tact switch
1702	2422 128 02778	Tact switch
1703	2422 128 02778	Tact switch
1704	2422 128 02778	Tact switch
1705	2422 128 02778	Tact switch
8346	3104 301 07771	Cable 3P 1200mm white
8346	3104 311 01401	Cable 3p/1500/3p

2010	4822 122 33177	10nF 20% 50V

3001	4822 051 20391	390Ω 5% 0.1W
3003	4822 117 13528	200Ω 1% 0.125W 0805
3005	4822 117 11951	2kΩ 1% 0.1W
3009	4822 117 11534	1.1kΩ 1% 0.1W
3011	4822 117 10845	620Ω 1% 0.1W
3088	4822 117 11951	2kΩ 1% 0.1W
3089	4822 117 11534	1.1kΩ 1% 0.1W
3090	4822 117 10845	620Ω 1% 0.1W
3091	4822 051 30008	Jumper 0603
3092	4822 051 30008	Jumper 0603
3093	4822 051 30008	Jumper 0603
3094	4822 051 30008	Jumper 0603
3095	4822 051 30391	390Ω 5% 0.062W
3096	4822 117 13528	200Ω 1% 0.125W 0805
3999	4822 051 20471	470Ω 5% 0.1W
4001	4822 051 20008	Jumper 0805
4003	4822 051 20008	Jumper 0805
4005	4822 051 20008	Jumper 0805
4006	4822 051 20008	Jumper 0805

Auto Scavem [SC]

Various

1440	2422 025 12485	Connector 11p m
1940	2422 025 12485	Connector 11p m
1955	4822 267 10735	Connector 3p m
8440	3104 311 05882	Cable 11P/400/11P ferr.

2000	4822 126 14223	2.2pF +-0.25pF 50V 0603
2002	4822 126 13887	4.7pF 50V
2003	4822 126 13887	4.7pF 50V
2004	3198 016 31080	1pF 25% 50V 0603
2006	2238 586 59812	100nF 20-80% 50V 0603
2008	2238 916 15641	22nF 10% 25V 0603
2010	2238 586 59812	100nF 20-80% 50V 0603
2012	2238 916 15641	22nF 10% 25V 0603
2014	2238 916 15641	22nF 10% 25V 0603
2016	4822 122 33741	10pF 10% 50V
2020	2238 916 15641	22nF 10% 25V 0603
2038	2238 916 15641	22nF 10% 25V 0603
2040	4822 126 14225	56pF 5% 50V 0603
2041	5322 122 32163	5,6PF0,25PF 100V
2208	4822 124 41584	100µF 20% 10V
2600	4822 124 80791	470µF 20% 16V
2602	5322 122 32654	22nF 10% 63V
2605	3198 017 41050	1µF 10V 0603
2607	5322 122 32654	22nF 10% 63V

3000	4822 051 30101	100Ω 5% 0.062W
3002	4822 051 30101	100Ω 5% 0.062W
3004	4822 051 30101	100Ω 5% 0.062W
3006	4822 051 30102	1kΩ 5% 0.062W
3008	4822 051 30102	1kΩ 5% 0.062W
3010	4822 051 30102	1kΩ 5% 0.062W
3012	4822 051 30332	3.3kΩ 5% 0.062W
3014	4822 117 12903	1.8kΩ 1% 0.063W 0603
3016	4822 117 12902	8.2kΩ 1% 0.063W 0603
3018	4822 051 30681	680Ω 5% 0.062W
3020	4822 051 30471	470Ω 5% 0.062W
3022	4822 051 30393	39kΩ 5% 0.062W
3024	4822 051 30273	27kΩ 5% 0.062W
3028	4822 051 30223	22kΩ 5% 0.062W
3030	4822 051 30683	68kΩ 5% 0.062W
3032	4822 117 12903	1.8kΩ 1% 0.063W 0603
3034	4822 051 30222	2.2kΩ 5% 0.062W
3036	4822 051 30332	3.3kΩ 5% 0.062W
3038	4822 051 30561	560Ω 5% 0.062W
3040	4822 117 12925	47kΩ 1% 0.063W 0603
3042	4822 051 30682	6.8kΩ 5% 0.062W
3044	4822 051 30102	1kΩ 5% 0.062W
3046	4822 051 30102	1kΩ 5% 0.062W
3048	4822 051 30102	1kΩ 5% 0.062W
3050	4822 051 30561	560Ω 5% 0.062W
3052	4822 051 30561	560Ω 5% 0.062W
3054	4822 051 30102	1kΩ 5% 0.062W
3056	4822 051 30102	1kΩ 5% 0.062W
3058	4822 051 30471	470Ω 5% 0.062W
3060	4822 051 30471	470Ω 5% 0.062W
3062	4822 051 30222	2.2kΩ 5% 0.062W
3064	4822 117 12971	15Ω 5% 0.62W 0603
3066	4822 117 12902	8.2kΩ 1% 0.063W 0603
3068	4822 051 30681	680Ω 5% 0.062W
3070	4822 117 12902	8.2kΩ 1% 0.063W 0603
3072	4822 051 30152	1.5kΩ 5% 0.062W
3074	4822 051 30101	100Ω 5% 0.062W
3076	4822 117 11817	1.2kΩ 1% 1/16W
3078	4822 051 30102	1kΩ 5% 0.062W
3093	4822 051 30152	1.5kΩ 5% 0.062W
3106	4822 051 30472	4.7kΩ 5% 0.062W
3108	4822 051 30273	27kΩ 5% 0.062W
3110	4822 051 30392	3.9kΩ 5% 0.063W 0603
3112	4822 051 30222	2.2kΩ 5% 0.062W
3114	4822 051 30101	100Ω 5% 0.062W
3116	4822 051 30102	1kΩ 5% 0.062W
3118	4822 051 30103	10kΩ 5% 0.062W
3120	4822 051 30103	10kΩ 5% 0.062W
3500	4822 051 30101	100Ω 5% 0.062W
3502	4822 051 30101	100Ω 5% 0.062W
3600	4822 117 13574	1.5Ω 5% 1206
3999	4822 051 30102	1kΩ 5% 0.062W
9000	4822 051 30008	Jumper 0603
9002	4822 051 30008	Jumper 0603
9010	4822 051 30008	Jumper 0603
9020	4822 051 30008	Jumper 0603
9033	4822 116 52175	100Ω 5% 0.5W
9045	4822 051 30008	Jumper 0603
9046	4822 051 30008	Jumper 0603
9047	4822 051 30008	Jumper 0603

5600	4822 157 11867	5.6µH 5%
5601	4822 157 11867	5.6µH 5%



6000	5322 130 80119	BBY40



7000	4822 130 60373	BC856B
7002	4822 130 60373	BC856B
7004	4822 130 60373	BC856B
7006	5322 130 42718	BFS20
7008	4822 130 60373	BC856B
7010	5322 130 42718	BFS20
7012	5322 130 42718	BFS20
7014	4822 130 60383	BF824
7016	5322 130 42718	BFS20
7018	5322 130 42718	BFS20
7020	4822 130 60383	BF824
7022	5322 130 42718	BFS20
7024	5322 130 42718	BFS20
7026	5322 130 42718	BFS20
7040	5322 130 42718	BFS20
7042	4822 130 60383	BF824
7500	5322 209 90559	TDA8444T/N4

11. Revision List

First release