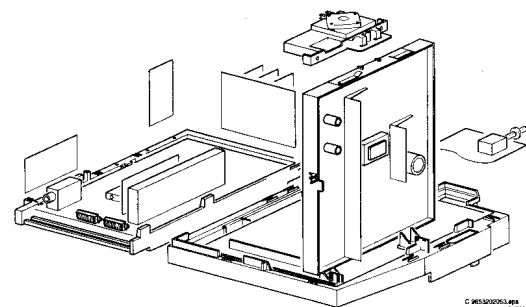


Service Service Service

MG3.1E AA



C. WESBOOD/ELWA 21009

Service Manual

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PHILIPS

1. Technical specifications

1.1 Specifications

1.1.1 Reception

Tuning system	: 100 fold PLL
Colour transmission systems	:
Off-air:	: /05, /19, /12, /58
	: PAL B/G/I/+
	: SECAM B/G/L/L'
	: SECAM D/K
A/V connections	: PAL B/G
	: PAL I (UK only)
	: SECAM B/G
	: NTSC video playback
Channel selections	: 120 channels VHF, UHF, S-Channels, Hyperband
Frequency range	: (47.25-855.25MHz)
Aerial input	: 75Ω (Coax)
VCR preselections	: 0; 90-99
frequency / Channel selection	: (Germany, Austria and Benelux only)

1.1.2 Miscellaneous

Mains voltage	: 220V-240V (10%); 50-60Hz (5%)
Ambient temperature	: +5 / +45 degrees Celsius
Standby Power Consumption	: 0.3W

1.2 Specification of the terminal sockets

1.2.1 Front connections

TOP CONTROL FL7/FL8 STYLING

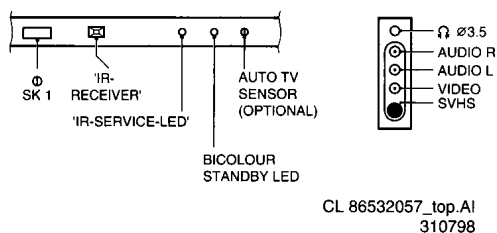


Figure 1-1

Audio / video

- Video	1Vpp/75Ω
- Audio	L(0.5Vrms ≥ 10κΩ)
- Audio	R(0.5Vrms ≥ 10κΩ)
- Headphone	(32-600Ω 10μΩ)

SVHS

1 -	gnd
2 -	gnd
3 - Y	(1Vpp; 75Ω)
4 - C	(0.3Vpp; 75Ω)



1.2.2 Rear connections

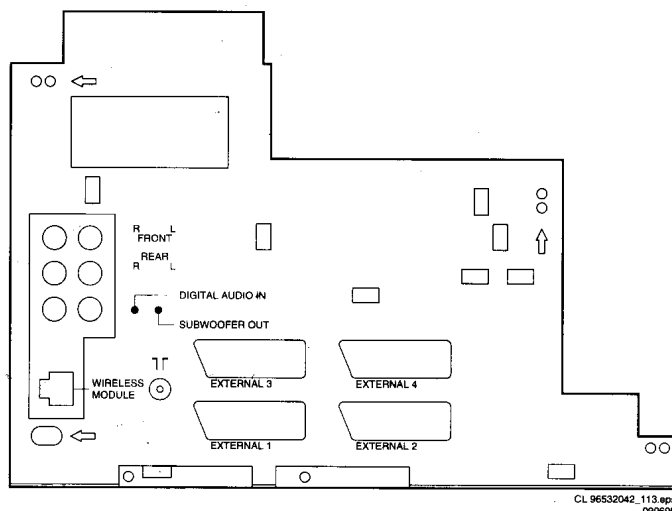
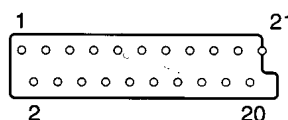


Figure 1-2

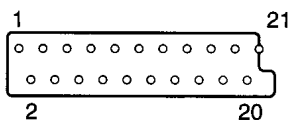
External 1 (in/out): RGB+CVBS



1 - Audio	R(0.5Vrm ≤ 1κΩ)
2 - Audio	R(0.5Vrm ≥ 10κΩ)
3 - Audio	L(0.5Vrm ≤ 1κΩ)
4 - Audio	gnd
5 - Blue	gnd
6 - Audio	L(0.5Vrm ≥ 10κΩ)
7 - Blue	(0.7Vpp/75Ω)
8 - CVBS-status	0-1.3V:INT 4.5-7V:EXT 16:9 9.5-12V:EXT 4:3
9 - Green	gnd
10 -	
11 - Green	(0.7Vpp/75Ω)
12 -	
13 - Red	gnd
14 - RGB-status	gnd
15 - Red	(0.7Vpp/75Ω)
16 - RGB-status	0-0.4V:INT 1-3V:EXT/75Ω
17 - CVBS	gnd
18 - CVBS	gnd
19 - CVBS	(1Vpp/75Ω)
20 - CVBS	(1Vpp/75Ω)
21 - Earth	gnd



External 2 (in/out): SVHS+RGB+CVBS (intended for VCR.)

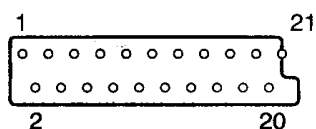


1 - Audio	R(0.5Vrm ≤ 1κΩ)
2 - Audio	R(0.5Vrm ≥ 10κΩ)
3 - Audio	L(0.5Vrms 1κΩ)



4 - Audio	gnd
5 - Blue	gnd
6 - Audio	L(0.5V _{rm} ≥10κΩ)
7 - Blue/Chroma out	(0.7V _{pp} /75Ω)
8 - CVBS-status	0-1.3V:INT 4.5-7V:EXT 16:9 9.5-12V:EXT 4:3
9 - Green	gnd
10-	Easy link
11- Green	(0.7V _{pp} /75Ω)
12-	
13- Red	gnd
14- RGB-status	gnd
15- Red/Chroma in	(0.7V _{pp} /75Ω)
16- RGB-status	0-0.4V:INT 1-3V:EXT/75Ω
17- CVBS	gnd
18- CVBS	gnd
19- Y/CVBS	(1V _{pp} /75Ω)
20- Y/CVBS	(1V _{pp} /75Ω)
21- Earth	gnd

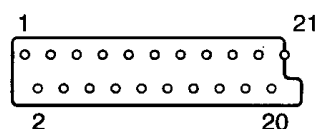
External 3 (in): CVBS+Audio



1 -	
2 - Audio	R(0.5V _{rm} ≥10κΩ)
3 -	
4 - Audio	gnd
5 -	
6 - Audio	L(0.5V _{rm} ≥10κΩ)
7 -	
8 - CVBS-status	0-1.3V:INT 4.5-7V:EXT 16:9 9.5-12V:EXT 4:3
9 -	
10-	
11-	

12-	
13-	
14-	
15-	
16-	
17-	
18- CVBS	gnd
19-	
20- Y/CVBS	(1V _{pp} /75Ω)
21- Earth	gnd

External 4 (in): CVBS+Audio



1 -	
2 - Audio	R(0.5V _{rms} ≥10κΩ)
3 -	
4 - Audio	gnd
5 -	
6 - Audio	L(0.5V _{rms} ≥10κΩ)
7 -	
8 - CVBS-status	0-1.3V:INT 4.5-7V:EXT 16:9 9.5-12V:EXT 4:3
9 -	
10-	
11-	
12-	
13-	
14-	
15-	
16-	
17-	
18- CVBS	gnd
19-	
20- Y/CVBS	(1V _{pp} /75Ω)
21- Earth	gnd

1.3 PWB-location drawing

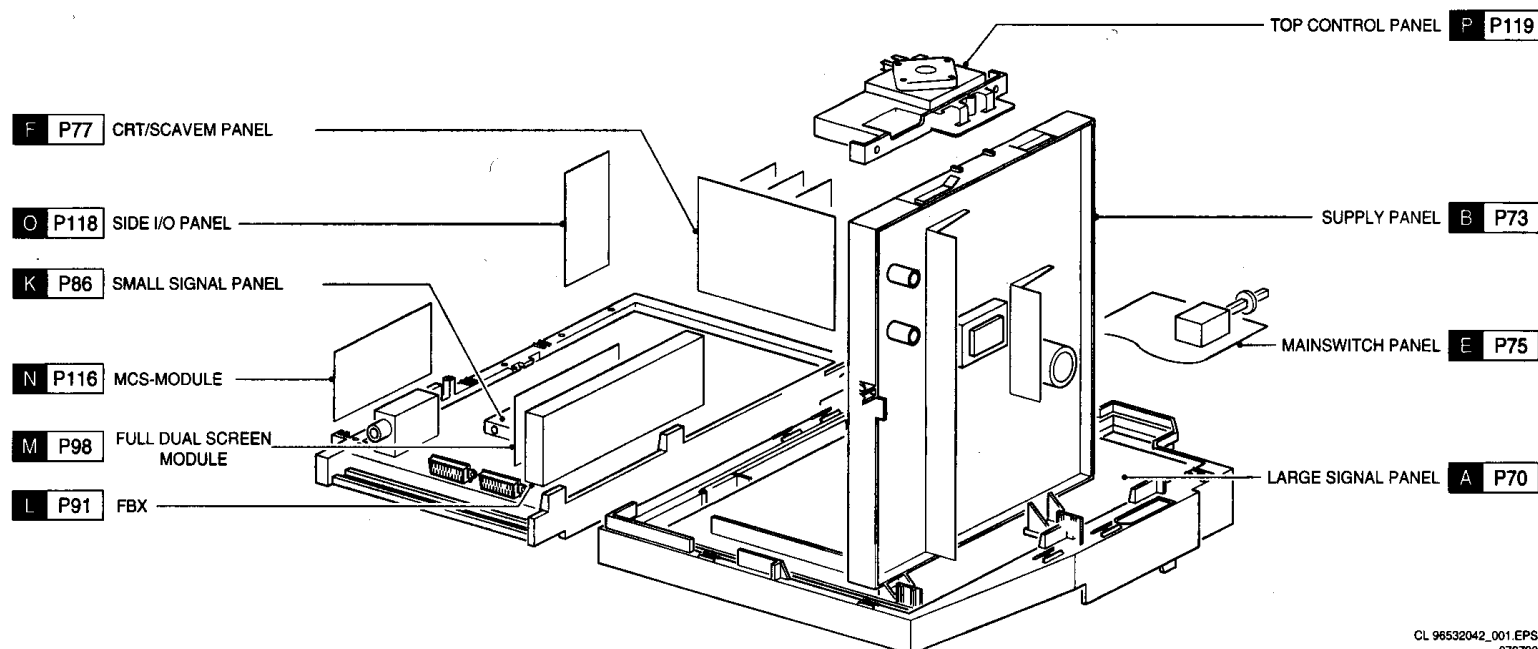


Figure 1-3

2. Safety instructions, Maintenance instruction, Warnings and Notes

2.1 Safety instructions for repairs ▲

1. Safety regulations require that during a repair:
 - The set should be connected to the mains via an isolating transformer;
 - Safety components, indicated by the symbol ▲, should be replaced by components identical to the original ones;
 - When replacing the CRT, safety goggles must be worn.
2. Safety regulations require that after a repair the set must be returned in its original condition. In particular attention should be paid to the following points:
 - As a strict precaution, we advise you to resolder the solder joints through which the horizontal deflection current is flowing, in particular ('general repair instruction'):
 - All pins of the line output transformer (LOT);
 - Fly-back capacitor(s);
 - S-correction capacitor(s);
 - Line output transistor;
 - Pins of the connector with wires to the deflection coil;
 - Other components through which the deflection current flows.
 - Note:
 - This resoldering is advised to prevent bad connections due to metal fatigue in solder joints and is therefore only necessary for television sets older than 2 years.
 - The wire trees and EHT cable should be routed correctly and fixed with the mounted cable clamps.
 - The insulation of the mains lead should be checked for external damage.
 - The mains lead strain relief should be checked for its function in order to avoid touching the CRT, hot components or heat sinks.
 - The electrical DC resistance between the mains plug and the secondary side should be checked (only for sets which have a mains isolated power supply). This check can be done as follows:
 - 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 Ω and 12 MΩ
 - Switch off the TV and remove the wire between the two pins of the mains plug.
 - The cabinet should be checked for defects to avoid touching of any inner parts by the customer.

- Clean the power supply and deflection circuitry on the chassis.
- Clean the picture tube panel and the neck of the picture tube.

2.3 Warnings

1. ESD ▲
2. All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, make sure that you are connected with the same potential as the mass of the set by a wristband with resistance. Keep components and tools also at this same potential.
3. Available ESD protection equipment:
 - Complete kit ESD3 (small table mat, Wristband, Connection box, Extension cable and Earth cable) 4822 310 10671
 - Wristband tester 4822 344 13999
4. In order to prevent damage to ICs and transistors, all high-voltage flashovers must be avoided. In order to prevent damage to the picture tube, the method shown in Fig. 2-4 should be used to discharge the picture tube. Use a high-voltage probe and a multimeter (position DC-V). Discharge until the meter reading is 0V (after approx. 30s).
5. Together with the deflection unit and any multipole unit, the flat square picture tubes used form an integrated unit. The deflection and the multipole units are set optimally at the factory. Adjustment of this unit during repair is therefore not recommended.
6. Be careful during measurements in the high-voltage section and on the picture tube.
7. Never replace modules or other components while the unit is switched on.
8. When making settings, use plastic rather than metal tools. This will prevent any short circuits and the danger of a circuit becoming unstable.
9. Wear safety goggles during replacement of the picture tube.

2.4 Notes

The direct voltages and oscillograms should be measured with regard to the tuner earth (⊥), or hot earth (⚡) as this is called. The direct voltages and oscillograms shown in the diagrams are indicative and should be measured in the Service Default Mode (see chapter 5) with a colour bar signal and stereo sound (L:3 kHz, R:1 kHz unless stated otherwise) and picture carrier at 475.25 MHz.

Where necessary, the oscillograms and direct voltages are measured with  and without aerial signal (). Voltages in the power supply section are measured both for normal operation (ⓐ) and in standby (ⓑ). These values are indicated by means of the appropriate symbols.

The picture tube PWB has printed spark gaps. Each spark gap is connected between an electrode of the picture tube and the Aquadag coating.

The semiconductors indicated in the circuit diagram and in the parts lists are completely interchangeable per position with the semiconductors in the unit, irrespective of the type indication on these semiconductors.

2.2 Maintenance instruction

It is recommended to have a maintenance inspection carried out by a qualified service employee. The interval depends on the usage conditions:

- When the set is used under normal circumstances, for example in a living room, the recommended interval is 3 to 5 years.
- When the set is used in circumstances with higher dust, grease or moisture levels, for example in a kitchen, the recommended interval is 1 year.
- The maintenance inspection contains the following actions:
 - Execute the above mentioned 'general repair instruction'.

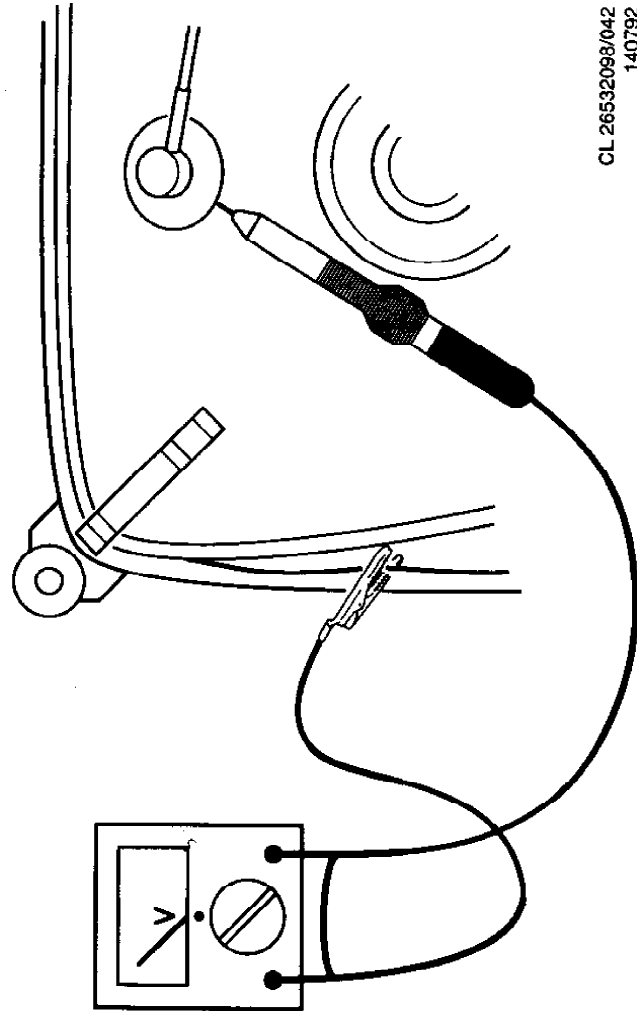


Figure 2-4

4. Mechanical instructions

4.1 Removing the attached Wireless Surround transmitter box at the rear of the set

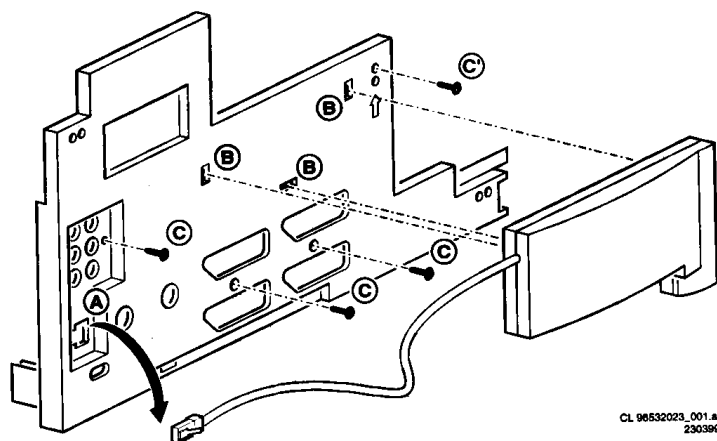


Figure 4-5

1. Remove the cable of the Wireless Surround Transmitter box at location A (see figure 4-5). At the left side of this plug there is the release-hook of the lock-mechanism.
2. Pull the Wireless Surround Transmitter box backwards. It will release from 3 clicks B.
3. Remove the 4 fixation screws (C and C') of the I/O-cover plate. Take care the screw C' is somewhat hidden. Therefore also a visible arrow is placed underneath the screw-hole to emphasise this.

4.2 Removing the rear cover & I/O-cover plate

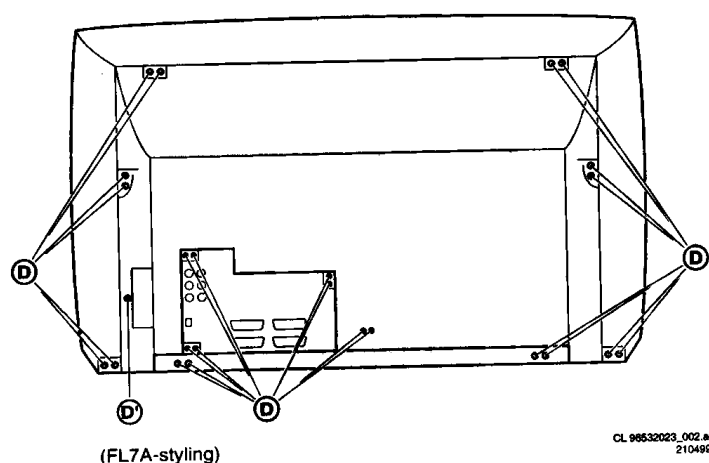


Figure 4-6

1. Remove the fixation screws (D) of the rear cover (see figure 4-6). Notice also the screw D' for the side-I/O.
2. Remove the rear cover
3. The I/O-cover plate can easily be removed. On the left side there is a release hook, at the right side there is a hinge-construction. (see figure 4-7).

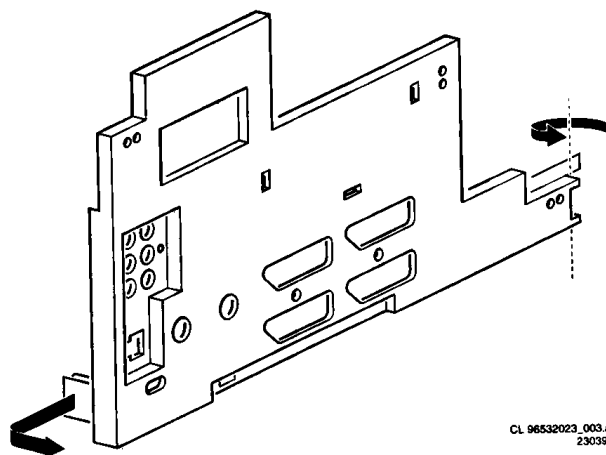


Figure 4-7

4.3 Removing the subwoofer box from the bottom plate

1. First disconnect the faston plugs at the top of the subwoofer.
2. The subwoofer has 2 rubber feet at the bottom side. Behind these feet there is a snap hook. This must be pulled backwards. Now the subwoofer can be moved upwards.

4.4 Removing module support bracket of the Small Signal Panel

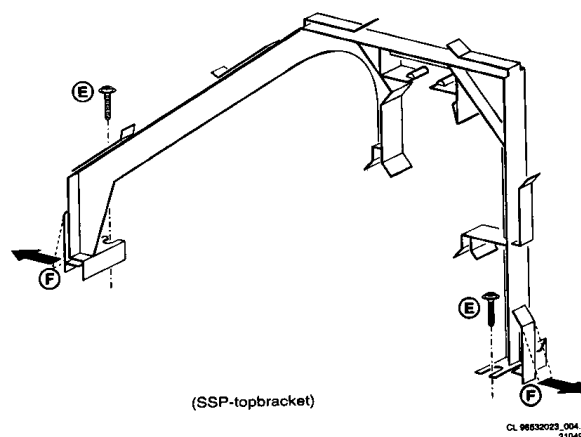


Figure 4-8

1. Remove the 2 fixation screws (E) (see figure 4-8).
2. Pull snap-hooks (F) to the outside direction and remove the bracket. The left snap-hook is somewhat difficult to release, but with some effort it is possible to release it by manipulating the hook with a finger underneath the MCS module at the left hand side.

4.5 Removing the top bracket of the Large Signal Panel

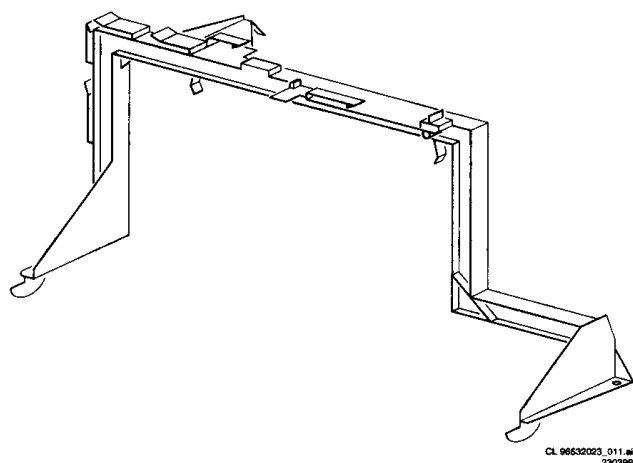


Figure 4-9

1. Remove the 2 fixation screws.
2. This bracket can only be removed, when the supply panel, besides the LSP, is removed.

4.6 Service positions

There are several predefined service positions:

- Service position 1 for both the chassis panels (component-side SSP, LSP, supply)
- Service position 2 for the MCS module
- Service position 3 for the Supply panel (copper-side)
- Service position 4 for the LSP and Supply panel (copper-sides)

4.6.1 Service position 1 for both the chassis panels component side

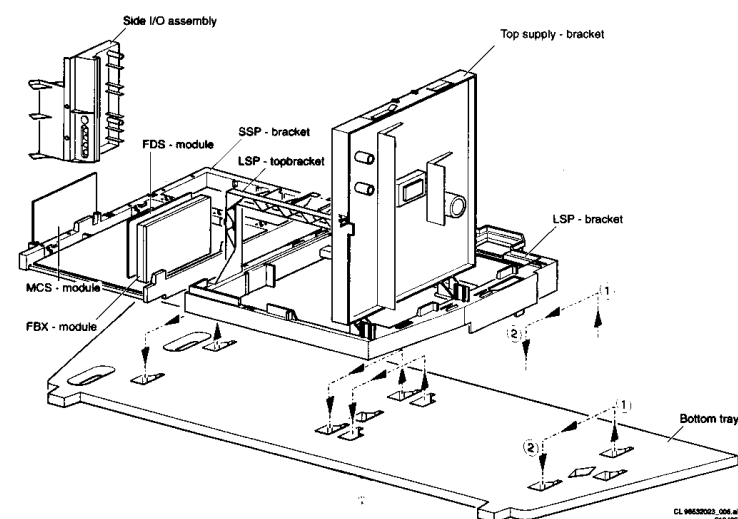


Figure 4-10

1. Pull the SSP- and LSP assembly backwards, about 8 cm (see figure 4-10). The brackets are not fixed to each other, but can be repositioned backwards, as if they were one bracket.
2. Hook the brackets in the first row of fixation-holes of the bottom tray. In other words re-position the fixation from (1) to (2).
3. This position is meant for servicing the SSP. All service test points are accessible at the top side of this panel.

4.6.2 Service position 2 for the MCS module

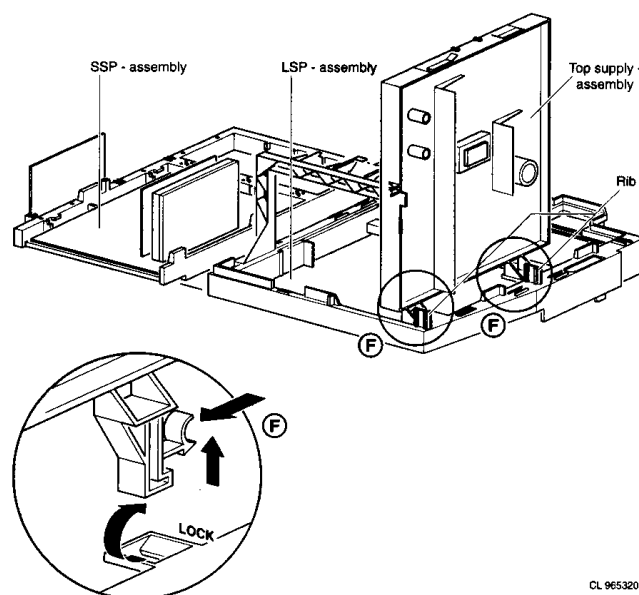


Figure 4-11

1. In this position the MCS module can be serviced from the copper side (left hand side) (see figure 4-11).
2. When one wants to have access to the other side of the board (reflow-side), one must first release the snap construction at the bottom side of the MCS module. This can be achieved the best, by releasing the hook with a screwdriver approaching it from the rear.
3. The board can be rotated now about 220 degrees clockwise (hinged by the connectors). The MCS module can support on the SSP bracket. It can even be shifted in a wire-cable hook. All reflow components and test points on this side are accessible now.

4.6.3 Service position 3 for the Supply panel (copper-side)

1. Release the Supply assembly out of the LSP assembly (see figure 4-11). This can be done by pulling both the release hooks (F) of the Supply bracket backwards. After a click (release), the Supply bracket can be lifted.
2. After lifting the Supply assembly, it must be rotated 90 degrees clockwise, in such a way that the copper-side will be on top (before doing this, release the wire cables from the wire-fixations, disconnect the wire cable 0390 coming from the rotation-coil (if valid)).
3. The 2 support-posts of the Supply assembly have 2 slots, that can be placed over 2 ribs that are available on the right side of the LSP bracket.
4. The copper side of the Supply panel with its service test points is available now. (see figure 4-12)

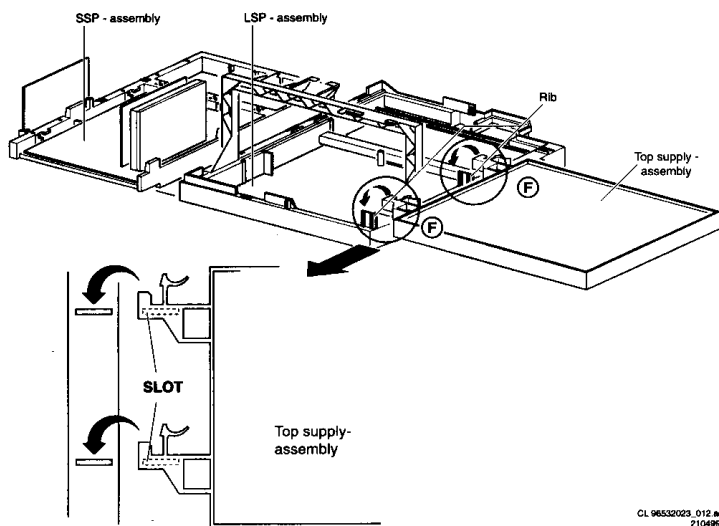


Figure 4-12

4.6.4 Service position 4 for the LSP and Supply panel (copper sides)

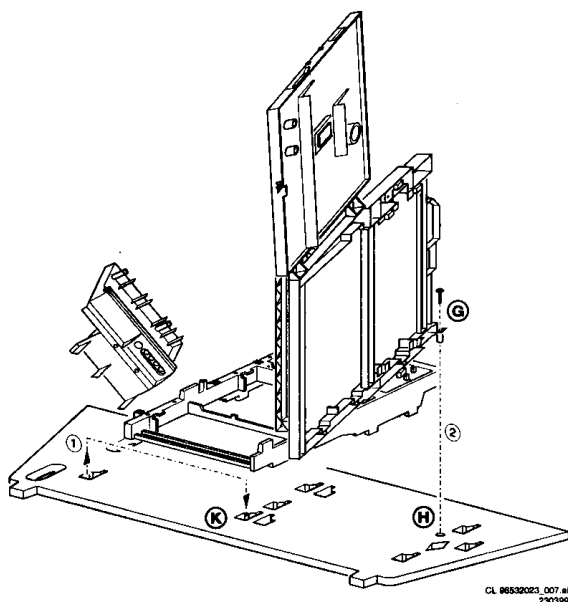


Figure 4-13

1. First reinforce the Supply assembly fixation with the LSP bracket with a screw. (see figure 4-13)
2. Now move as well the SSP bracket and LSP bracket about 25 cm to the right.
3. Rotate the complete LSP/Supply assembly 90 degrees, such that snaphook (G) is placed into hole (H). If needed this construction can be reinforced with a screw (see figure 4.13).
4. At this moment one can measure all the service test points of the LSP on the right hand side and of the Supply panel at the left hand side.
5. The left front hook of the SSP bracket can be shifted in the right SSP hole (see K; of service position 1) of the bottom plate

4.7 Removing the SSP from the SSP bracket

1. Release the 3 fixation clamps on the right hand side of the bracket.
2. Press the board upwards and remove the board from the bracket.

4.8 Removing the Supply panel from the Supply bracket

1. Remove the 4 fixation screws
2. Release the 2 top-corner snap-constructions by forcing them outwards
3. The panel hinges at the bottom. When the vertical sides of the bracket are forced somewhat outwards, the pcb can be removed.

4.9 Removing the LSP from the LSP-bracket

1. Remove the centre fixation screw on the top side of the panel
2. The panel is hinged at the left side. On the right side and the rear side the panel has release-hooks
3. The pcb can be removed now.

4.10 Removing the top control board

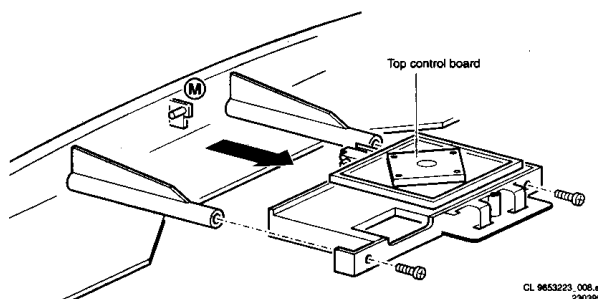


Figure 4-14

1. Remove the 2 screws (see figure 4-14)
2. Pull the top control assembly backwards with some force. It is caught by the front 'hinge' (see M).

4.11 Removing the side-I/O board

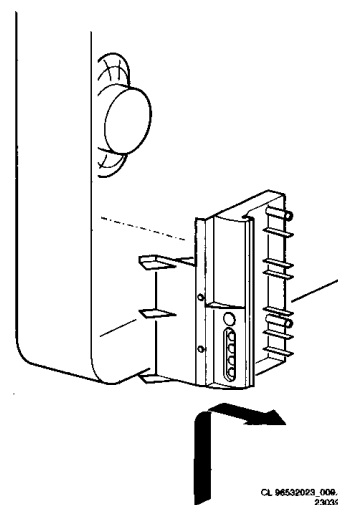


Figure 4-15

1. The complete Side-I/O assembly can be lifted out of the hinges and placed on the bottom plate of the set (see fig 4-15)
2. The board can easily be removed out of the bracket by releasing the fixation clamps.

4.12 Removing the mains switch/LED board

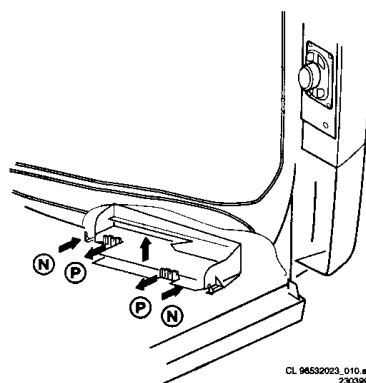


Figure 4-16

1. Release the two fixation clamps (N) by forcing them up (see figure 4-16). At the same time the complete assy (mains unit bracket + pcb) must be pulled backwards.
2. If the light guide was or has become defective this can be replaced now
3. The Mains switch/led board can be removed now by releasing the clamps (P) of the bracket.

4.13 Mounting the rear cover

Before mounting the rear cover, check whether the mains cord is mounted correctly in the guiding brackets.

5. Service modes, faultfinding and repair tips

In this chapter the following paragraphs are included:

- 5.1 Test points
- 5.2 Service modes and Dealer Service Tool and ComPair (including fault finding tips related to CSM-mode)
- 5.3 Error codes
- 5.4 Protections
- 5.5 Faultfinding trees

5.1 Test points

The MG3.1E chassis is equipped with test points in the service printing. These test points are referring to the functional blocks:

- A1-A2-A3, etc. on Small Signal Panel: Test points for the audio processing circuitry.
- A1-A2-A3, etc. on Large Signal Panel: Test points for the audio amplifiers.
- B1-B2-B3, etc: Test points for the power supply.
- C1-C2-C3, etc: Test points for the control circuitry.
- F1-F2-F3, etc. on Large Signal Panel: Test points for the frame output circuitry.
- F1F-F2F-F3F, etc. on CRT/Scavem Panel: Test points for the CRT-panel circuitry.
- F1K-F2K-F3K, etc on Small Signal Panel: Test points for the frame drive.
- I1-I2-I3, etc: Test points for the Tuner/IF part.
- L1-L2-L3, etc: Test points for the line drive and line output circuitry
- M1-M2-M3, etc: Test points on FDS-module
- N1-N2-N3, etc: Test points on MCS-module.
- R1-R2-R3, etc: Test points on Surround Transmitter module.
- S1-S2-S3, etc: Test points for the synchronisation circuitry.
- T1-T2-T3, etc: Testpoints for the teletext circuitry.
- U1-U2-U3, etc: Test points on Surround Receiver module.
- V1-V2-V3, etc: Test points for the video processing circuitry.
- W1-W2-W3, etc: Test points on Surround Amplifier, Supply..

The numbering is done in a for diagnostics logical sequence; always start diagnosing within a functional block in the sequence of the relevant test points for that functional block.

5.2 Service modes, Dealer Service Tool and ComPair

For easy installation and diagnosis the dealer remote control RC7150 is introduced. The RC7150 can be used for all new TV sets, including all set of the MG3.1E chassis. The RC7150 is also called Dealer Service Tool or DST. The ordering number of the DST (RC7150) is 4822 218 21232.

5.2.1 Installation features for the dealer

The dealer can use the RC7150 for programming the TV-set with presets. 10 Different program tables can be programmed into the DST via a TV-set (downloading from the GFL, MD2, MG2.1 or MG3.1 to the DST; see GFL, MD2, MG2.1 and MG3.1 service manuals) or by the DST-I (DST interface; ordering code 4822 218 21277).

For explanation of the installation features of the DST, the directions for use of the DST (4822 727 20073) are recommended (for the MG3.1E chassis, download code 4 should be used).

5.2.2 Diagnose features for the servicer

The MG3.1E sets can be put in the two service modes via the DST RC7150. These are the Service Default Mode (SDM) and the Service Alignment Mode (SAM). The SDM and SAM can also be entered by short circuiting the relevant pins on the SSP.

Service Default Mode (SDM)

Specification of the SDM:

- Tuning frequency 475.25 MHz.
- TV-system for BGLM sets set to BG, for BGLL'I sets to LL'.
- All picture settings at 50% (brightness, colour, contrast, HUE).
- All sound settings at 50% except volume at 25% (so bass, treble, balance at 50%, volume at 25%).
- All service-unfriendly modes are disabled (like sleep timer, child lock, blue mute).

Entering the SDM can be done in 3 ways:

- By the "DEFAULT" key on the DST while the set is in the normal operation mode.
- By ComPair (see the instruction book of ComPair).
- By short-circuiting for a moment the two pins (pin 2 and 3 of connector 0356) on the component side of the SSP with the indication "SDM" (activation can be performed in all

modes except when the set has a problem with the main-processor).

Note: If the SDM is entered via the pins, all the protections are de-activated.

Exiting the SDM can only be done via the STANDBY command. By switching off-on the set with the mains switch the MG3.1E will come up again in the SDM.

Service Alignment Mode (SAM)

Specification of the SAM:

- Software alignments (see chapter 8).
- Option settings (see chapter 8).
- Error buffer reading and erasing. The most recent error code is displayed on the left side.
- Operation counter.
- Software version.

Entering the SAM can be done in 3 ways:

- By the ALIGN-button on the DST while the set is in the normal operation mode (or SDM). Enter the password '3-1-4-0' and press OK.
- By ComPair (see the instruction book of ComPair).
- By short-circuiting for a moment the two pins (pin 1 and 2 of connector 0356) on the component side of the SSP with the indication "SAM" (activation can be performed in all modes except when the set has a problem with the microprocessor).

Note: If the SAM is entered via the pins, all protections are de-activated.

Exiting the SAM can be done via the MENU command or via switching off-on the set with the mains switch.

Customer Service Mode (CSM)

All MG3.1E sets are equipped with the 'Customer Service Mode' (CSM). This 'Customer Service Mode' is a special service mode which can be activated and deactivated by the customer upon request of the service technician/dealer during a telephone conversation in order to identify the status of the set. This CSM is a 'read only' mode, therefore modifications in this mode are not possible.

Switching-on of the Customer Service Mode

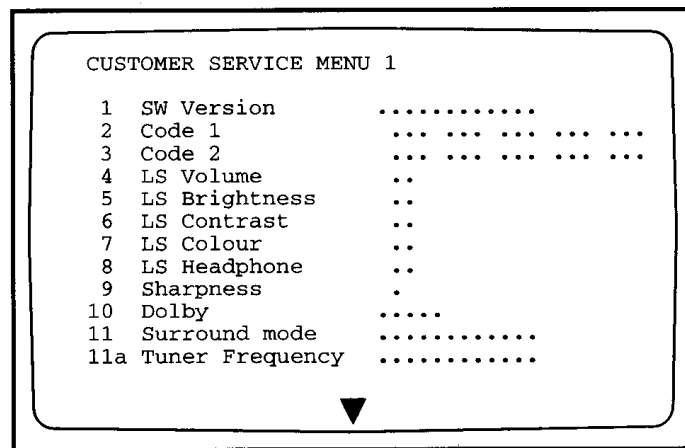
The Customer Service Mode will switch-on after pressing simultaneously the "MUTE" knob on the remote control handset and the "MENU" button on the TV for at least 4 seconds. This activation only works if there is no menu on the screen.

Switching-off the Customer Service Mode

The Customer Service Mode will switch-off after pressing any key of the remote control handset (with exception of the "cursor-up", "cursor-down", "P+" and "P-" keys), or the buttons on the TV or by switching off the TV set with the mains switch. By means of the "P+" and "P-" keys switching between different presets is possible.

Detailed explanation of the Customer service Mode

After switching on the Customer Service Menu the following screen will appear:

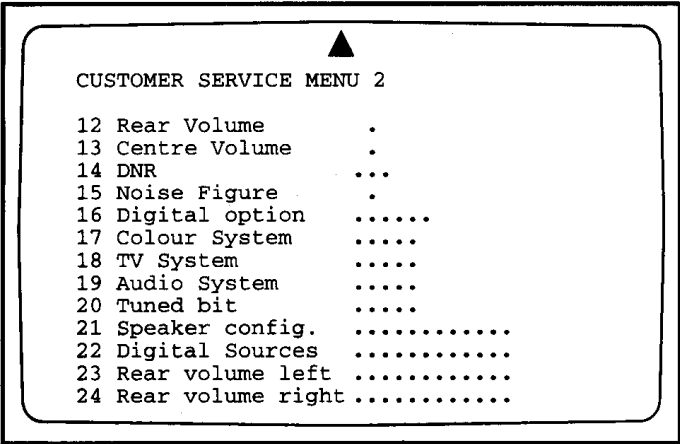


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Figure 5-17

- Line 1:
Software version; the build in software version (AAAABCX.Y)
 - AAAA= MG31(chassis name)
 - B = E (Europe)
 - C = 1 (language cluster)
 - X = main version number
 - Y = sub version number
 Details on the software version can be found in the chapter "Software Survey" of the publication "Product Survey - Colour Television".
- Line 2:
Code 1; gives the last 5 errors of the error buffer. As soon as the built-in diagnose software has detected an error the buffer is adapted.
- Line 3:
Code 2; gives the first 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 of code 2. Each error code is displayed as a 3 digit number. When less than 10 errors occur, the rest of the line(s) is(are) empty. In case of no errors the text "No Errors" is displayed. See paragraph 5.3 of this chapter for a description of the error codes.
- Line 4:
LS Volume; gives the Last Status of the volume as set by the customer for this selected transmitter. The value can vary from 0 (volume is minimum) to 24 (volume is maximum). Volume values can be changed via the volume key on the remote control handset.
- Line 5:
LS Brightness; gives the Last Status of the brightness as set by the customer for this selected transmitter. The value can vary from 0 (brightness is minimum) to 63 (brightness is maximum). Brightness values can be changed via the "cursor left" and "cursor right" keys on the remote control handset after pressing the "menu" button and selecting "picture" and "brightness".
- Line 6:
LS Contrast; gives the Last Status of the contrast as set by the customer. The value can vary from 0 (contrast is minimum) to 63 (contrast is maximum). Contrast values can be changed via "cursor left" and "cursor right" keys on the remote control handset after pressing the "menu" button and selecting "picture" and "contrast".
- Line 7:
LS Colour; gives the Last Status of the colour saturation, as set by the customer. The value can vary from 0 (colour is minimum) to 63 (colour is maximum). Colour values can be changed via "cursor left" and "cursor right" keys on the

- remote control handset after pressing the "menu" button and selecting "picture" and "colour".
- Line 8:
LS Headphone; gives the Last Status of the headphone volume, as set by the customer. The value can vary from 0 (volume is minimum) to 24 (volume is maximum). Headphone volume values can be changed via the "cursor left" and "cursor right" keys on the remote control handset after pressing the "menu" button and selecting "sound" and "headphone".
 - Line 9:
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 remote control handset after pressing the "menu" button and selecting "picture" and "sharpness".
 - Line 10:
Dolby; indicates whether the received transmitter transmits Analog Dolby, Digital Dolby or no Dolby. This is represented in the display by "Prologic", "Digital" or "None". Attention: The presence of Dolby can only be tested by the software on the Dolby signalling bit. If a Dolby transmission is therefore received without a Dolby signalling bit, then this indicator will show "None" even though such a Dolby transmission is received.
 - Line 11:
Surround Mode; indicates the by the customer selected surround 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", "3Dsurround", "Pro Logic", "DD (digital dolby)", "Front3Stereo", "Hall" or "Off". For Dolby-set surround mode can be changed via the "cursor left" and "cursor right" keys on the remote control handset after pressing the "menu" button and selecting "sound" and "Surround settings".
 - Line 11a:
Tuner frequency; indicates the frequency the selected transmitter is tuned to. The tuner frequency can be changed via the "cursur left" and "cursur right" keys for fine tune or by entering directly with the digit keys 0 to 9 on the remote control handset aftr opening the installation menu and selecting "manual installation". The installation menu can be opened by presssing "timer" and "enlarge" at the same time. By means of the "cursor-down" knob on the remote control handset the Customer Service Menu 2 will appear. By means of the "cursor-up" knob on the remote control handset the Customer Service Menu 1 will appear again. Customer Service Menu 2 represents following information:



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Figure 5-18

- Line 12:
Rear Volume; gives the volume value of the surround sound loudspeakers. This value can vary from 0 (minimum volume) to 63 (maximum volume). Rear volume can be changed via the "cursor left" and "cursor right" keys on the remote control handset after pressing the "menu" button and selecting "sound", "Surround settings" and selecting "Rear volume". This feature is only available when surround mode is in "Dolby Pro Logic" or "Hall".
- Line 13:
Centre Volume; gives the volume value of the centre loudspeakers. This value can vary from 0 (minimum volume) to 63 (maximum volume). Centre volume can be changed via the "cursor left" and "cursor right" keys on the remote control handset after pressing the "menu" button and selecting "sound", 'Dolby Pro Logic' and selecting "centre volume". This feature is only available when surround mode is in "Dolby Pro Logic", "Dolby 3 Stereo" or "3D surround".
- Line 14:
DNR (Dynamic Noise Reduction); gives the setting of the DNR for the selected transmitter. The following selections are possible:
 - "off", "min", "med" or "max"
 - "off" or "automatic" (MG3.1E with "Automatic Noise Reduction").The DNR can be changed via the "DNR" key on the remote control handset.
- Line 15:
Noise Figure; gives the selected noise ratio for this selected transmitter. This value can vary from 0 (good signal) to 127 (average signal) and to 255 (bad signal). This only works in case the DNR selection is "off/automatic".
- Line 16:
Digital Option; gives the selected digital mode, "100Hz", "Digital Scan" or "Natural Motion". Digital option can be changed via the "cursor left" and "cursor right" keys on the remote control handset after pressing the "menu" button and selecting "picture" and "digital options".
- Line 17:
Colour System; gives information about the colour system of the selected transmitter.
 - Black and white: No colour carrier received
 - PAL: PAL signal received
 - SECAM: SECAM signal received
 - NTSC: NTSC signal received
- Line 18:
TV System; gives information about the video system of the selected transmitter.
 - BG: BG signal received
 - DK: DK signal received
 - I: PAL I signal received
 - L: SECAM L signals received
 - M38.9: NTSC M signal received with video carrier on 38.9 MHz
 - MN: NTSC M signal received
- Line 19:
Audio System; gives information about the audio system of the selected transmitter.
 - Mono: Mono sound received
 - Stereo: Stereo sound received
 - Dual I: Language I received
 - Dual II: Language II received
 - Digital Mono: Digital mono sound is received
 - Digital Stereo: Digital stereo sound is received
 - Digital Dual I: Digital language I is received
 - Digital Dual II: Digital language II is received
- Line 20:

Tuned Bit; gives information about the tuning method of the stored preset. If the value is "On" the preset is stored via manual entry of the frequency when a transmitter was not present on that frequency. In that case the TV will attempt to perform a micro-search every time the preset number is selected. Once the micro-search has been successful the Tuned Bit will be set to "Off".

- Line 21:
Speaker configuration; gives the configuration setting for the speakers. In case the set is a Non-Dolby set there will be displayed "0". If it is a Dolby-set then is displayed: "Full internal", "L/R external", "Surround external" or "Full external". For the Dolby-set the speaker configuration can be changed via the "cursor left" and "cursor right" keys on the remote control handset after opening the installation menu and selecting "set-up". The installation menu can be opened by pressing "timer" and "enlarge" at the same time.
- Line 22:
Digital Source; gives the configuration setting for the digital source. This can be "Front", "Ext1", "Ext1+Dig.Audio", "Ext2", "Ext3", "Ext4" or "None". If one of these is selected the starting point is a top quality signal on that input and a number of settings are therefore changed automatically. The digital source can be changed via the "cursor left" and "cursor right" keys on the remote control handset after opening the installation menu and selecting "set-up". The installation menu can be opened by pressing "timer" and "enlarge" at the same time.
- Line 23:
Rear Volume Left (only valid when dolby digital option is 'on'); gives the volume value of the left surround sound loudspeaker. This value can vary from 0 (minimum volume) to 63 (maximum volume).
Rear volume left can be changed via the "cursor left" and "cursor right" keys on the remote control handset after pressing the "menu" button and selecting "sound", "Surround settings" and selecting "Rear volume left".
- Line 24:
Rear Volume Right (only valid when dolby digital option is 'on'); gives the volume value of the right surround sound loudspeaker. This value can vary from 0 (minimum volume) to 63 (maximum volume).
Rear volume right can be changed via the "cursor left" and "cursor right" keys on the remote control handset after pressing the menu button and selecting "sound", "Surround settings" and selecting "Rear volume right".

Problems and solving tips

The procedures to change the value or the status of the different settings is described in the paragraph 'Detailed explanation of the Customer Service Mode'.

Picture problems

Worse picture quality in case of pictures of digital sources. (e.g. DVD)

Check line 22 "Digital sources". Line 22 will give the indication "Front", "Ext1", "Ext1+dig.Audio", "Ext2", "Ext3", "Ext4" or "None". Check if the digital source is really connected to the indicated external input. If not change the setting into correct external input.

Snowy/noisy picture

1. Check line 15 "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.
2. Check lines 9 "Sharpness", 14 "DNR" and 15 "Noise Figure". In case the value of line 9 is 3 or 4 and the value of line 15 is high (127 or higher), lower the value of line 9 "sharpness" and switch DNR (line 14) to "automatic", "on" or to a higher value.

Picture too dark

1. Press "Smart Picture" button on the Remote Control handset. In case picture improves, raise the brightness value or raise the contrast value. The new value(s) are automatically stored for all TV channels.
2. After switching on the Customer Service Mode the picture is OK. Raise the brightness value or raise the contrast value. The new value(s) are automatically stored for all TV channels.
3. Check lines 6 "LS Brightness" and 7 "LS Contrast". The value of line 6 is low (<10) or the value of line 7 is low (<10). Raise the brightness value or raise the contrast value.

Picture too bright

1. Press "Smart Picture" button on the Remote Control handset. In case picture improves, reduce the brightness value or reduce the contrast value. The new value(s) are automatically stored for all TV channels.
2. After switching on the Customer Service Mode the picture is OK. Reduce the brightness value or reduce the contrast value. The new value(s) are automatically stored for all TV channels.
3. Check lines 6 "LS Brightness" and 7 "LS Contrast". The value of line 6 is high (>40) or the value of line 7 is high (>50). Reduce the brightness value or raise the contrast value.

Fading picture

Digital scan effect. Check line 14 "DNR". The status of "DNR" is 'med' or 'max'. Reduce "DNR" to 'min' or switch off the digital scan.

White line around picture elements and text

1. Press "Smart Picture" button on the Remote Control handset. In case picture improves, reduce the sharpness value. The new value(s) are automatically stored for all TV channels.
2. After switching on the Customer Service Mode the picture is OK. Reduce the sharpness value. The new value(s) are automatically stored for all TV channels.
3. Check line 8 "Sharpness". Reduce the sharpness value. The new value(s) are automatically stored for all TV channels

No picture.

Check line 20 "Tuned bit". In case the value is 'On', install the required program again. Open the installation menu by pressing "timer" and "enlarge" at the same time 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 5 "LS colour". In case the value is low (<10) raise the value of colour. The new value(s) are automatically stored for all TV channels.

No colours/colour lines around picture elements.

1. Check lines 17 "Colour System" and 18 "TV System". In case line 17 is 'PAL' and line 18 is 'M 38,9', the installed system for this preset is 'USA', while 'West Europe' is required. Install the required program again. Open the installation menu by pressing "timer" and "enlarge" at the same time and perform manual installation. Select 'System; West Europe'.

- In case line 17 is 'PAL' and line 18 is 'L', the installed system for this preset is 'France', while 'West Europe' is required. Install the required program again. Open the installation menu by pressing "timer" and "enlarge" at the same time and perform manual installation. Select 'System; West Europe'.

No colours/noise in picture

- Check lines 17 "Colour System" and 18 "TV System". In case line 17 is 'Black and White' and line 18 is 'BG', the installed system for this preset is 'West Europe', while 'USA' is required. Install the required program again. Open the installation menu by pressing "timer" and "enlarge" at the same time and perform manual installation. Select 'System; USA'.
- In case line 17 is 'Black and White' and line 18 is 'L', the installed system for this preset is 'France', while 'USA' is required. Install the required program again. Open the installation menu by pressing "timer" and "enlarge" at the same time and perform manual installation. Select 'System; USA'.

Colours not correct.

Check lines 17 "Colour System" and 18 "TV System". In case line 17 is 'PAL' and line 18 is 'L', the installed system for this preset is 'France', while 'West Europe' is required. Install the required program again. Open the installation menu by pressing "timer" and "enlarge" at the same time and perform manual installation. Select 'System; West Europe'.

Colours not correct/unstable picture.

Check lines 17 "Colour System" and 18 "TV System". In case line 17 is 'SECAM' and line 18 is 'BG', the installed system for this preset is 'USA', while 'France' is required. Install the required program again. Open the installation menu by pressing "timer" and "enlarge" at the same time and perform manual installation. Select 'System; France'.

Unstable picture.

Check lines 17 "Colour System" and 18 "TV System". In case line 17 is 'SECAM' and line 18 is 'M 38,9', the installed system for this preset is 'West Europe', while 'France' is required. Install the required program again. Open the installation menu by pressing "timer" and "enlarge" at the same time and perform manual installation. Select 'System; France'.

Menu text not sharp enough.

- Press "Smart Picture" button on the Remote Control handset. In case picture improves, reduce the contrast value. The new value(s) are automatically stored for all TV channels.
- After switching on the Customer Service Mode the picture is OK. Reduce the contrast value. The new value(s) are automatically stored for all TV channels.
- Check line 7 "LS Contrast". The value of line 7 is high (>50). Reduce the contrast value.

Sound problems

No sound from left and right speaker.

- Press "Smart Sound" button on the Remote Control handset. In case sound improves, raise the volume value. The new value(s) are automatically stored for all TV channels.
- After switching on the Customer Service Mode the volume is OK. Raise the volume value. The new value(s) are automatically stored for all TV channels.
- Check line 4 "LS Volume". The value is low. Raise the value of "Volume". The new value(s) are automatically stored for all TV channels.

Sound too loud for left and right speaker.

- Press "Smart Sound" button on the Remote Control handset. In case sound improves, reduce the volume value. The new value(s) are automatically stored for all TV channels.
- After switching on the Customer Service Mode the volume is OK. Reduce the volume value. The new value(s) are automatically stored for all TV channels.
- Check line 4 "LS Volume". The value is high. Reduce the value of "LS Volume". The new value(s) are automatically stored for all TV channels.

No sound from "centre" speaker.

Check line 12 "Centre Volume". The value is low. Raise the value of the "Centre Volume".

In case of a Dolby set check line 11 "Surround mode". The centre speaker is only active in the surround modes 3Dsurround, Prologic, Front3stereo and DD

Sound too loud from "centre" speaker.

Check line 12 "Centre Volume". The value is high. Reduce the value of the "Centre Volume"

No sound from "rear" speakers.

- Check line 11 "Surround mode". In case line 11 is "Off" or "Hall" change the surround mode into 3Dsurround, Prologic, Front3stereo or DD.
- Check line 12 "Rear volume". The value is low. Raise the value of "Rear volume". The new value(s) are automatically stored for all TV channels.
- Check lines 23 "Rear volume left" and 24 "Rear volume right". The values are low. Raise the values of "Rear volume left" and "Rear volume right". The new value(s) are automatically stored for all TV channels.
- Check if the surround boxes receives sound, the green led should be on.
- Check if the right RF-channel is chosen. Look at the bottom of the active box for the RF-channel of the surround speakers. Check the installed RF-channel in the installation menu. If this RF-channel is different change it to the correct one.

Diagnose Mode (only active during transmission of error codes and diagnose 99)

This mode is activated by the DIAGNOSE command on the DST for reading the error codes and erasing the error buffer by the DST even when the set is in protection and so there is no picture (assuming that the power supply and the control part are working). For activation see paragraph 5.3. The diagnose Mode is only a temporarily mode (the set will go back to the previous mode), and can not be switched on permanently. Note: The diagnose mode can not be entered if the SAM is activated.

ComPair

ComPair (Computer Aided Repair) is a service tool for Philips Consumer Electronics products. ComPair is a further development on the DST service remote control allowing faster and more accurate diagnostics. ComPair has three big advantages:

- ComPair helps you to quickly get an understanding how to repair the MG3.1E in short time by guiding you step by step 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; ComPair takes care of this.
- ComPair speeds up the repair time since it can automatically communicate with the MG3.1E (when the micro processor is working) and all repair information is directly available. When ComPair is installed together with

the SearchMan MG3.1E electronic manual, schematics and PCBs are only a mouse-click away.

ComPair consists of a Windows based fault finding program and an interface box between PC and the (defective) product. The ComPair interface box is connected to the PC via a serial or RS232 cable. In case of the MG3.1E chassis, the ComPair interface box and the television communicate with each other via bi-directional infrared signal.

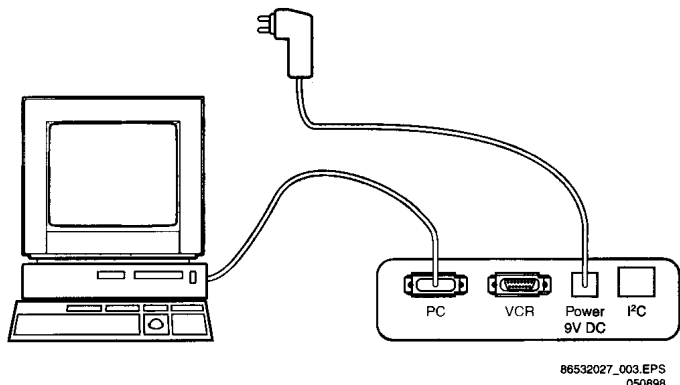


Figure 5-19

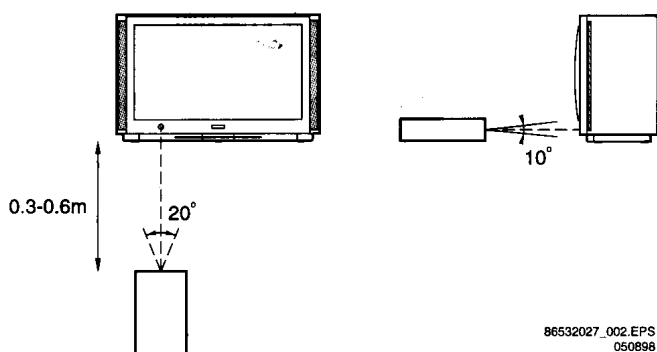


Figure 5-20

The ComPair fault finding program is able to determine the problem of the defective television. ComPair can gather diagnostic information in 2 ways:

1. Communication to the television (automatic)
2. Asking questions to you (manually)

ComPair combines this information with the repair information in its database to find out how to repair the MG3.1E.

Ordering ComPair

ComPair-ordercodes:

- Starterkit Compair+SearchMan software + Compair interface (excluding transformer): 4822 727 21629
- Compair interface (excluding transformer): 4822 727 21631
- Compair transformer (continental) Europe: 4822 727 21632
- Compair transformer United Kingdom: 4822 727 21633
- Starterkit Compair software: 4822 727 21634
- Starterkit SearchMan software: 4822 727 21635
- Compair interface cable: 4822 727 21641

Automatic information gathering

Step-by-step 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.

Reading out the error buffer, ComPair can automatically read out the contents of the entire error buffer.

Diagnosis on I2C level. ComPair can access the I2C bus of the television without a physical connection. ComPair can send and receive infrared commands to the micro controller of the television. These commands are translated by the controller to I2C commands and vice versa. In this way it is possible for ComPair to communicate (read and write) to devices on the I2C busses of the MG3.1E.

Manual information gathering

Automatic diagnosis is only possible if the micro controller of the television is working correctly and only to a certain extend. When this is not the case, ComPair will guide you through the fault finding tree by asking you questions and showing you examples. You can answer by clicking on a link (e.g. text or an oscillogram) that will bring you to the next step in the faultfinding process.

A question could be: Do you see snow? (Click on the correct answer)

YES / NO

An example can be: Measure testpoint I7 and click on the correct oscillogram you see on the oscilloscope

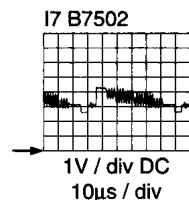


Figure 5-21

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.

Additional features

Beside fault finding, ComPair provides some additional features like:

- Uploading/downloading of presets
- Managing of preset lists
- Emulation of the Dealer Service Tool

SearchMan (electronic service manual)

When ComPair is installed in combination with SearchMan, all schematics and PCBs will be directly available while you repair a television if you click on a PCB or schematic link.

Example: Measure the DC voltage on C2568 (PCB/schematic) on the small signal level.

Clicking on PCB will automatically pop-up a picture of the PCB with the location of C2568 marked. Clicking on schematic will automatically pop-up the schematic with the location of C2568 marked.

Stepwise Startup/Shutdown feature of set can be used via Compair

Stepwise startup explanation

Via ComPair the stepwise startup (see also chapter 4) can be realised. This is very helpful when a protection is activated.

State	Description mode	Display leds	Errorcode possible
0	Low Power Standby/uC in Stby	Red on	None
1	High Power Standby/set in Stby	Red 0.5Hz	None
2	Supply on. Protections 5V2, 8V6, DC-Prot activated.	Orange/Green 0.25 Hz	67,68,76
3	ICs initialized (Sound). Protection FBX-, Edric, Tuner activated	Orange/Green 0.5 Hz	plus 77, 78, 80
4	EHT startup. No blackcurrent stabilisation. Protections VFB, HFB, LDP, BC-prot activated (blanked picture)	Orange/Green 2 Hz	plus 70,71,73,74
5	TV operates, unblanked picture	Orange/Green 10 Hz	

Stepwise shutdown explanation

In the stepwise shutdown mode, state 2 is skipped. (ICs can not be de-initialised).

State	Description mode	Display leds (Note*)	Prot. de-activated
5	TV operates, unblanked picture	Orange/Green 10 Hz	-
4	No blackcurrent stabilisation (no picture). All protections are enabled.	Orange/Green 2 Hz	-
3	ICs stay initialised. (Sound). All protections are off.	Orange/Green 0.5 Hz	74,73,71,70
1	High Power Standby/set in Stby	Red 0.5Hz	80, 78, 77,76,68,67
0	Low Power Standby/uC in Stby	Red on	-

Note: When set is in stepwise-mode and due to stepping-up a protection is activated, the set really will go into protection (blinking red led). The set will not leave the stepwise-mode however. By stepping up the set can be activated again, until state X, where protection was activated. At state (X-1) diagnostic measurements can be performed.

5.3 Error codes

5.3.1 Reading error codes from the error buffer

The error buffer can be read in 2 ways:

1. On the screen via the Service Alignment Mode (SAM). In case picture is OK, the error buffer can be read easiest via the SAM. In the main menu of the SAM the last 10 different error codes occurred are displayed. The most recent detected error code is displayed on the left side, so e.g.:
0 0 0 0 0 means no error codes present in the buffer
3 0 0 0 0 means one error code present in the buffer; error code 3
2 3 0 0 0 means two error codes present in the buffer; error code 2 is the most recent, error code 3 is detected before 2
1. On the display of the DST. If an error has been detected by the MG3.1E chassis, the set might go into protection. Without the presence of a picture the errors can be read by the DST, as long as the main-processor is still active (red LED blinking fast (3Hz).

To transmit the errors from the TV to the DST:

- Press the "DIAGNOSE" key (in all modes except the SAM).
- Press "1" to view the last error detected.
- Hold the DST 5 to 10 cm in front of the stand-by LED of the set (the IR-sending LED of MG3.1E is located near the stand-by LED).
- Press the "OK" key.

The error is represented by a 1 or 2 digit number. The 1 or 2 digits on the DST are displayed sequentially, with a pause before it is repeated. The digit after the pause is the 1st digit. If the display reads 4 - 7, the error code is 47. To read other error codes, press "DIAGNOSE" and one of the other digit keys.

Note:

1. If the DST cannot communicate to the MG3.1E in a proper way, ERROR 2 is shown in the display of the DST. Trying again by changing the DST position a little bit might help.

2. If the error buffer of MG3.1E is empty, no errors are displayed by the DST; the display remains blank.

5.3.2 Clearing the error buffer

The error buffer can be cleared in 2 ways:

1. In the SAM by selecting the item RESET ERROR BUFFER in the main menu.
2. By the "DIAGNOSE 99" command of the DST (in all modes except the SAM). Press the DIAGNOSE key on the DST, followed by 9 and 9 and then .

Note: When error buffer is full (10 codes), no new error can be stored anymore. However of every error raised is monitored how long it exists in the error buffer. When for any reason a false raised error exists in the buffer, it will be deleted after 50 hours. If this error still is actual after 50 hours, it will be raised again. In this way is safeguarded that history of error codes is stored. Sometimes it is an option to first write down the error buffer content, reset the buffer, and look again which error codes are generated by the set.

5.3.3 Error code table

Error	Device	Description	Defective item	Diagram	Defective module indication
2	ST24E32 or M24C32	Non volatile memory	IC7008	K7	Control
3	SAA5801	OTC2.5 microprocessor/TXT	IC7003	K7	Control
5	UV1316	Tuner	U1102	K1	Tuner
10	TEA6415	I/O source select video	IC7208	K8	Source select
11	TEA6422	I/O source select audio	IC7777	K8	Source select
15	TDA9320H	HIP I/O-video processing	IC7501	K1	Chroma IF I/O
20	TDA9330H	HOP video control/deflection processor	IC7300	K6	Video Controller
21	TDA9178	LTP Peaking	IC7402	K6	Video Controller
25	MSP3410D	ITT sound processor	IC7751	K3	Audio module
26	SAA7712H	SEDSP dolby processor	IC7770	K4	Audio module
35	UV1316	FDS Tuner	U1102	M1	Video Dual Screen Panel
36	PCF8574	FDS I/O Expander	IC7860	M2	Video Dual Screen Panel
37	SAB9079	FDS Popov	IC7700	M4	Video Dual Screen Panel
38	TDA9320	FDS HIP2	IC7501	M1	Video Dual Screen Panel
39	M24C04	FDS NVM	IC7991	M1	Video Dual Screen Panel
40	83C751	Cordless Transmitter processor	IC7105	R	Surround Transmitter Panel
41	TDA7309	FDS Headphone	IC7620	M5	Video Dual Screen Panel
50	SAA4978H	FBX Picnic	IC7611	L1	Feature Box
53	SAA4992	FBX Falconic	IC7626	L3	Feature Box
54	SAA4997	FBX Veric	IC7621	L2	Feature Box
55	SAA4996	FBX Macpacic	IC7616	L2	Feature Box
56	83C654	MCS processor	IC7803	N3	Digital Audio Module
57	TDA7438	MCS SOFAC L/R	IC7540	N8	Digital Audio Module
58	TDA7438	MCS SOFAC L/R	IC7600	N9	Digital Audio Module
59	TDA7438	MCS SOFAC L/R	IC7570	N10	Digital Audio Module
61	PCF8574	MCS I/O expander	IC7690	N16	Digital Audio Module
65	Slow IC bus blocked		see fig 5-23		Slow IC bus blocked
66	Fast IC bus blocked		see fig 5-23		Fast IC bus blocked
67	Supply 5V	5V2	see fig 5-22		+5 V Supply
68	Supply 8V	8V6	see fig 5-22		+8V Supply
70	V fail protection	VFB	fig 5-25	A3/A1/ K6	Vertical Flyback
71	H fail protection	HFB	fig 5-25	A1/K6	Horizontal Flyback
73	Line Deflection protection	LDP	fig. 5-24	A1/K6	Line Deflection
74	Beam Current Protection	BC-PROT	fig. 5-24	K6/K7	Beam Current
76	DC Sound protection	DC-PROT	fig. 5-26	A4	Sound Output
77	Feature box protection	FBX-PROT	fig. 5-22	L1	+3V (FBX) Supply
78	Edric protection	EDRIC-PROT	fig. 5-22	K4	+3V (Edric) Supply
80	Tuner protection	Tuner-PROT	fig. 5-22	K1	+8V (Tuner) Supply

Remark: If on the DST the text "ERROR 2" is displayed, this means that the communication from the TV to the DST has failed

5.4 Protections

5.4.1 General

The MG3.1E "Protection Diagram" shows the structure of the protection system. See protection diagram (fig 5-22).

One micro-processor.

The MG3.1E has only one micro-processor (OTC) and it 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. So in both power-on as in Standby-mode the microprocessor is connected to this power supply. The micro processor controls the Standby-line for switching on and off the main supply. In the standby-mode or in the protection-mode the Standby-line will open the contacts of relay 1002 via T7000 and T7001, this results in switching off the mains input to the main supply. In the mean time via T7550 the intensity of LED of the opto-coupler will increase, which results in a quick slow-down of the supply.

Two service-modes.

To get a quick diagnoses the MG3.1E has two service-modes implemented:

- The service default mode. Start-up of the set in a predefined way.
- The service alignment mode. In this mode items of the set can be adjusted via a menu and with the help of test patterns.

Both modes can be entered via the service connector on the SSP (connector 0356) or via the DST (dealer service tool) or via ComPair. The service alignment mode can not be entered by the DST in Standby, the set has to be in normal operation. Protection levels.

If a fault situation is detected an error code will be generated and if necessary the set will be put in the protection-mode. The protection-mode is indicated by blinking of the red LED. In some error cases the micro processor does not put the set in the protection-mode. The error codes of the error buffer can be read via the service-menu (SAM) or via the service send-LED and the DST/ ComPair. The DST diagnose functionality will force the set into the Service-standby, which is alike the usual Standby, however the micro-processor has to remain in normal operation completely.

The protections of the MG3.1E can be divided in 4 groups ;

- Protection from I2C-busses (Fast and Slow) or I2C-IC errors (device errors).
- Protection from the inputs on the OTC.
- Protections from the status register of the HOP (communicated via I2C-bus).
- DC-protection (sound amplifiers) monitored on OTC.

5.4.2 Protection from the I2C bus (fig. 5-23).

In normal operation some registers of the I2C controlled ICs will be refreshed every 200 msec. During this sequence three I2C -busses and the I2C -ICs as well will be checked. The I2C protection will take place if the SDA and SCL are whether short circuited to ground or to each other. An I2C error can also occur, if the power supply of the IC is missing.

5.4.3 Protection from the inputs on the OTC (fig.5-22).

If a protection is detected at an input of the OTC, all protection inputs of the OTC will be scanned every 200 msec. for 5 times. If the protection on one of the inputs is still activated after 1 sec., then the set will be put in the protection-mode. Before the scanning is started a so-called ESD-refresh will be carried out first, because the interrupt on one of the inputs may be caused either by a FLASH or by ESD. As a FLASH or ESD can harm the settings of some ICs, the HOP-HIP-ITT-EDRIC-TEA6417-

TEA6422-LTP-PICNIC and Tuner are initialised again to ensure the normal picture and sound conditions of the set.

- 8V6 and 5V2 protection (see detailed figure 5-24)

The presence of the 8V6 and 5V2 is sensed by the OTC. If the 8V6 and 5V2 is not present, then an error code is stored in the error buffer and the set is put in the protection-mode.

- BC protection (Beam Current). (See detailed figure 5-24)

The beam current is measured by a circuit on the SSP. If the beam current exceeds a certain reference level, then via D6350 and T7351 the BC-input of the OTC is set to high. The error code is stored in the error buffer and the set is put in the protection-mode.

- DC-protection. (Fig. 5-26)

This is an urgent protection, the circuitry is located at the LSP. The output of the protection circuit will slow-down the power supply immediately via the opto-coupler and via the Standby-relay the supply will be switched into Standby-mode at once. To be able to store the error code in the error buffer the protection signals are also wired to the OTC.

The protection is activated in case of :

- Unbalance of +Vs and -Vs
- Unbalance of +V7 and -V7
- DC output present on one of the audio amplifiers
- Unbalance supplies on MCS-module

5.4.4 Protections from the status register of the HOP (fig. 5-22)

Every 200 msec. the status register of the HOP is read by the OTC via I2C. If a protection signal is detected on one of the inputs of the HOP, then the relevant error bit in the HOP register is set to 'high'. If the error bit is still 'high' after 1 sec., the OTC will store the error code in the error buffer and depending on the relevancy of the error bit the set will either go into the protection-mode or not.

- HFB: Horizontal Flyback (See detailed figure 5-25)

If the horizontal flyback is not present, then this is detected via the HOP. 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

- VFB: Vertical Flyback (See detailed figure 5-25).

The HOP will blank the screen, if the vertical flyback signals are not present at the VFB-guard input. The relevant status bit will be set in the register of the HOP.

The error code is stored in the error buffer, in this case protection is not necessary.

- LDP-protection (Line Deflection Protection) (See detailed figure 5-24)

Two protection circuits are connected to the LDP-input of the HOP :

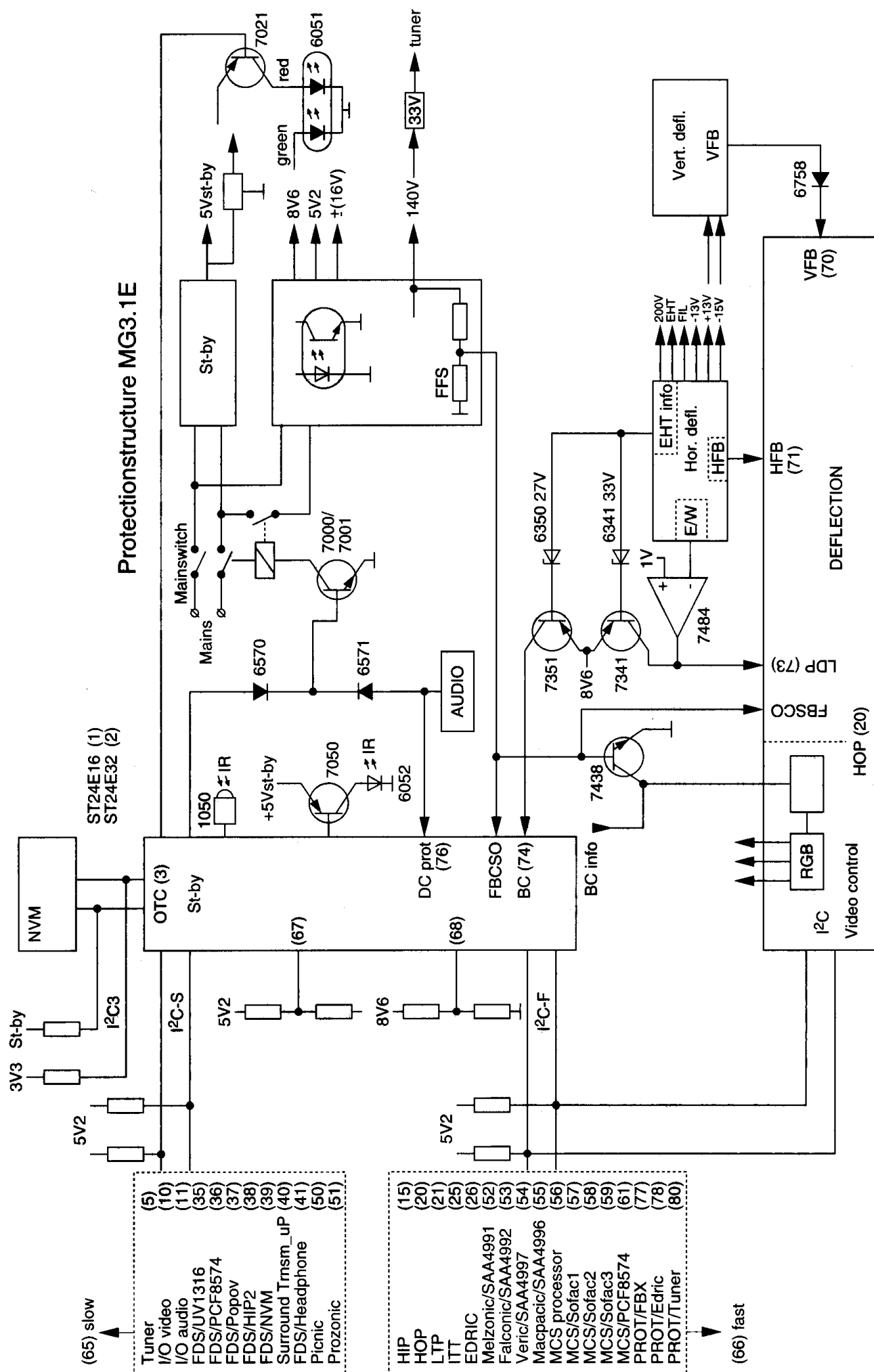
- Flash detection.

From the EHT-info, via D6341 and T7341 a flash will stop the H-drive and line output stage immediately. The FLS-bit in the status register of the HOP is set to 'high'. As the duration of a flash is very short the FLS-bit will be reset to 'low' again after the flash refresh, so via a slow start the set will be started again.

- LDP detection.

The EW-protection, coming from the line-output is also connected to the same input as above. The current through the EW-stage is measured by R3483 and R3484 on the LSP. The voltage across these precision resistors will increase in case of a failure at the line output stage. If the voltage becomes higher than 1 V, then the output of IC7484 will become 'high' and remains 'high' via D6485 and R3490.

Via D6344 the H-drive will be stopped. The FLS-bit will be set to 'high' and remains 'high' by means of the software filtering even after a flash refresh. The OTC will put the set in Standby-mode. The error code is stored in the error buffer and the set gets into the protection mode.



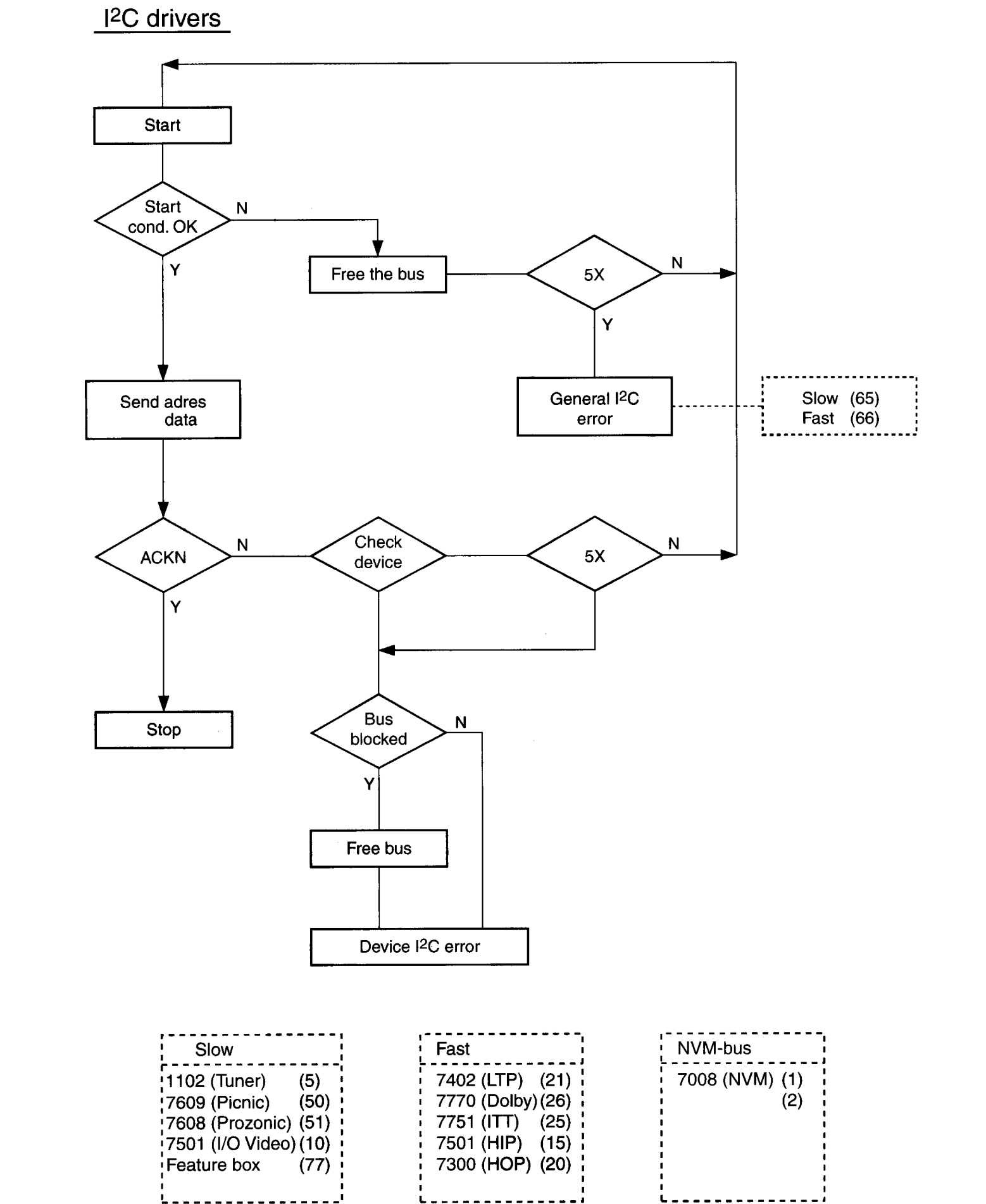


Figure 5-23

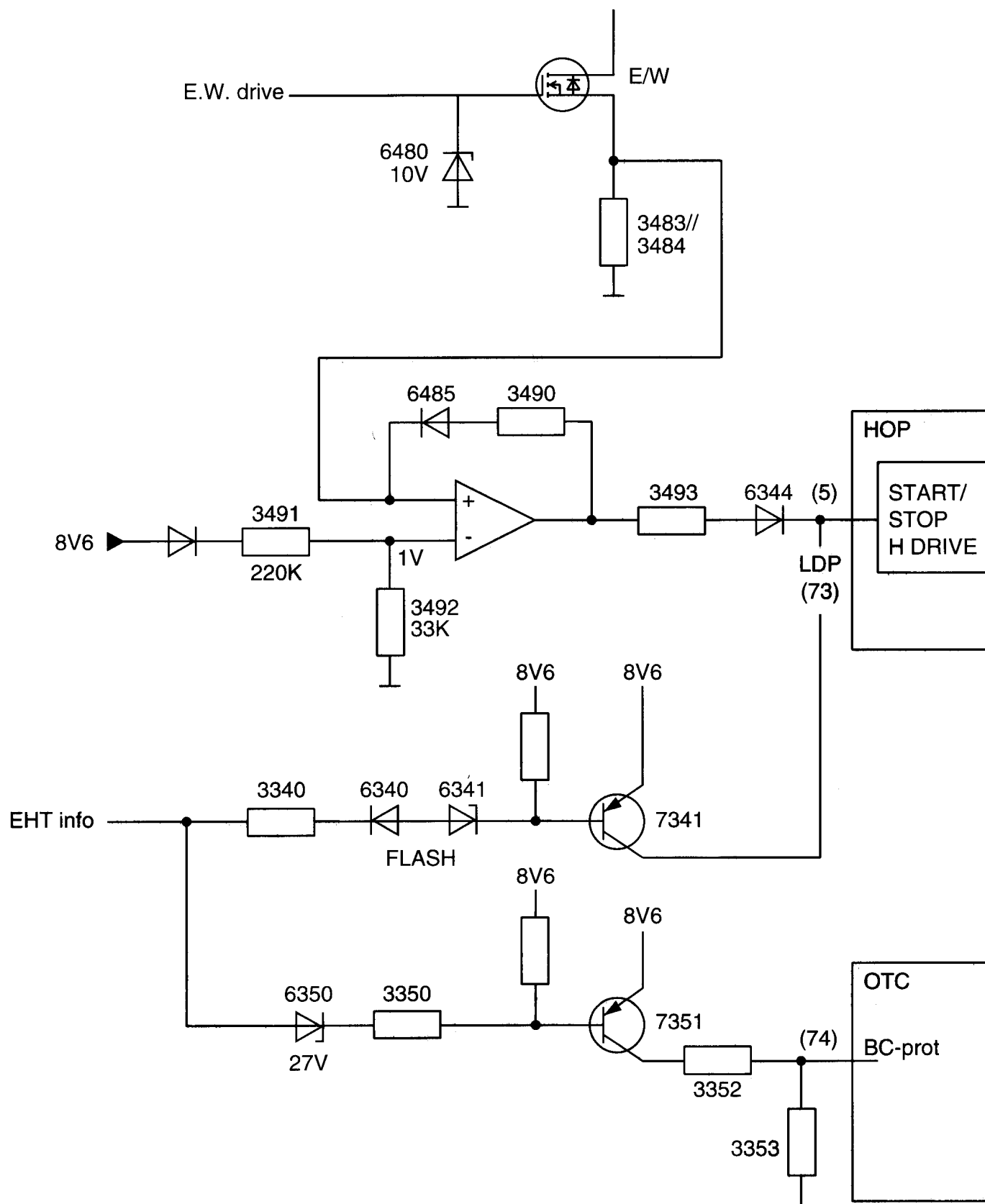
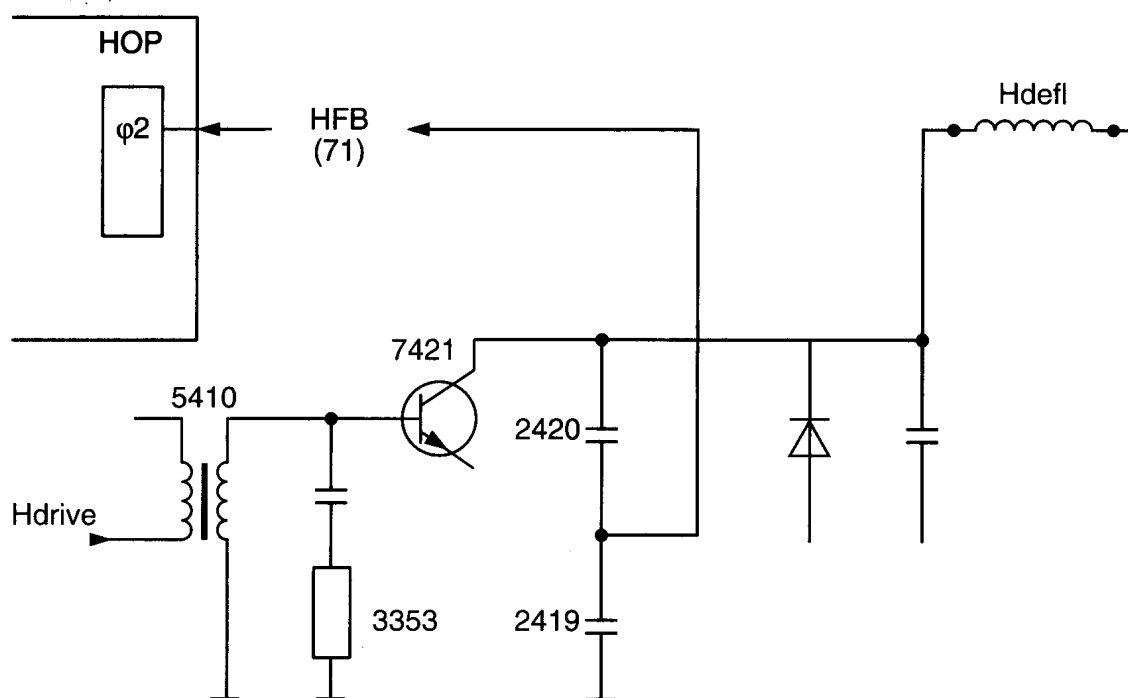


Figure 5-24

HFB horizontal fly-back



VFB vertical fly-back

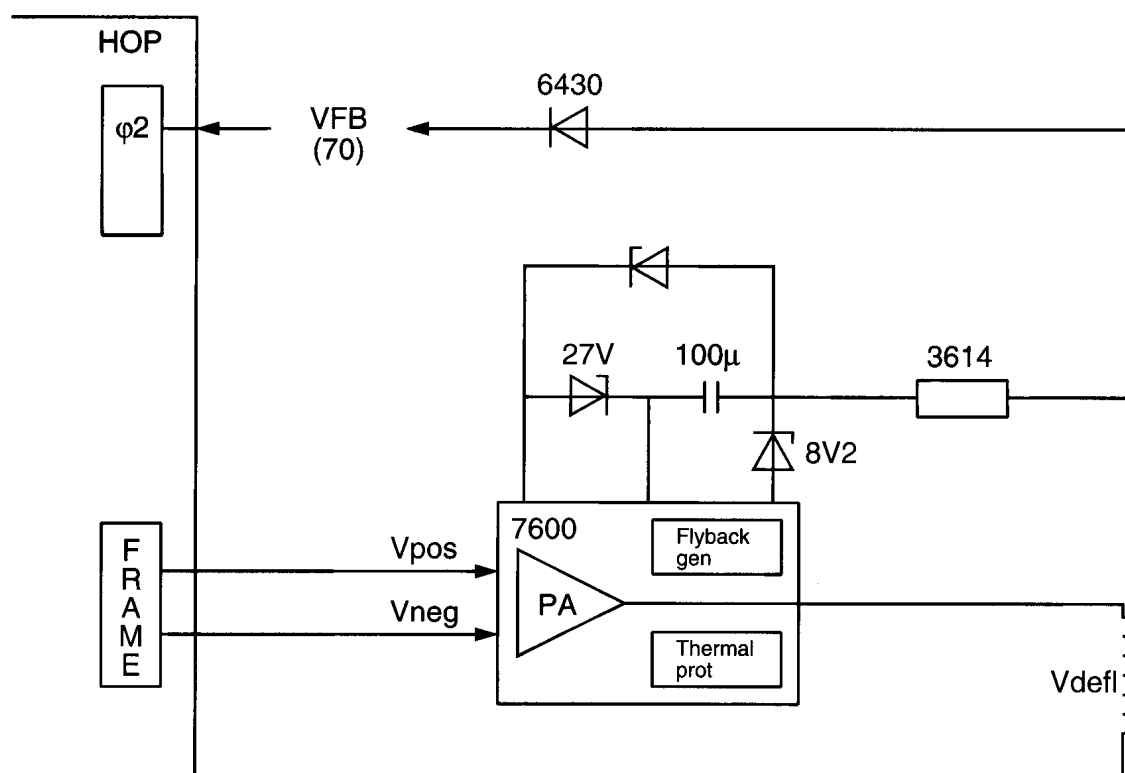
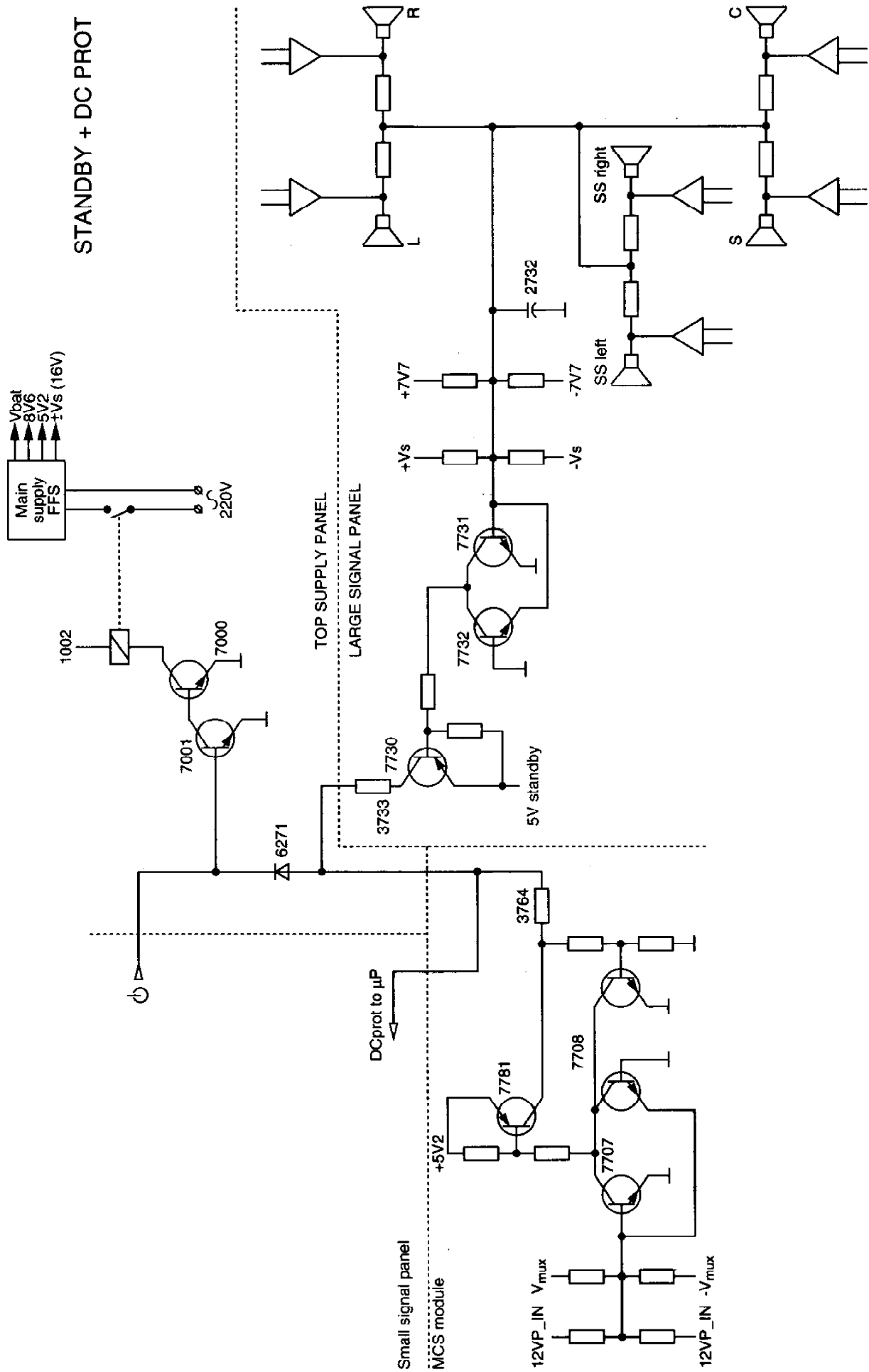
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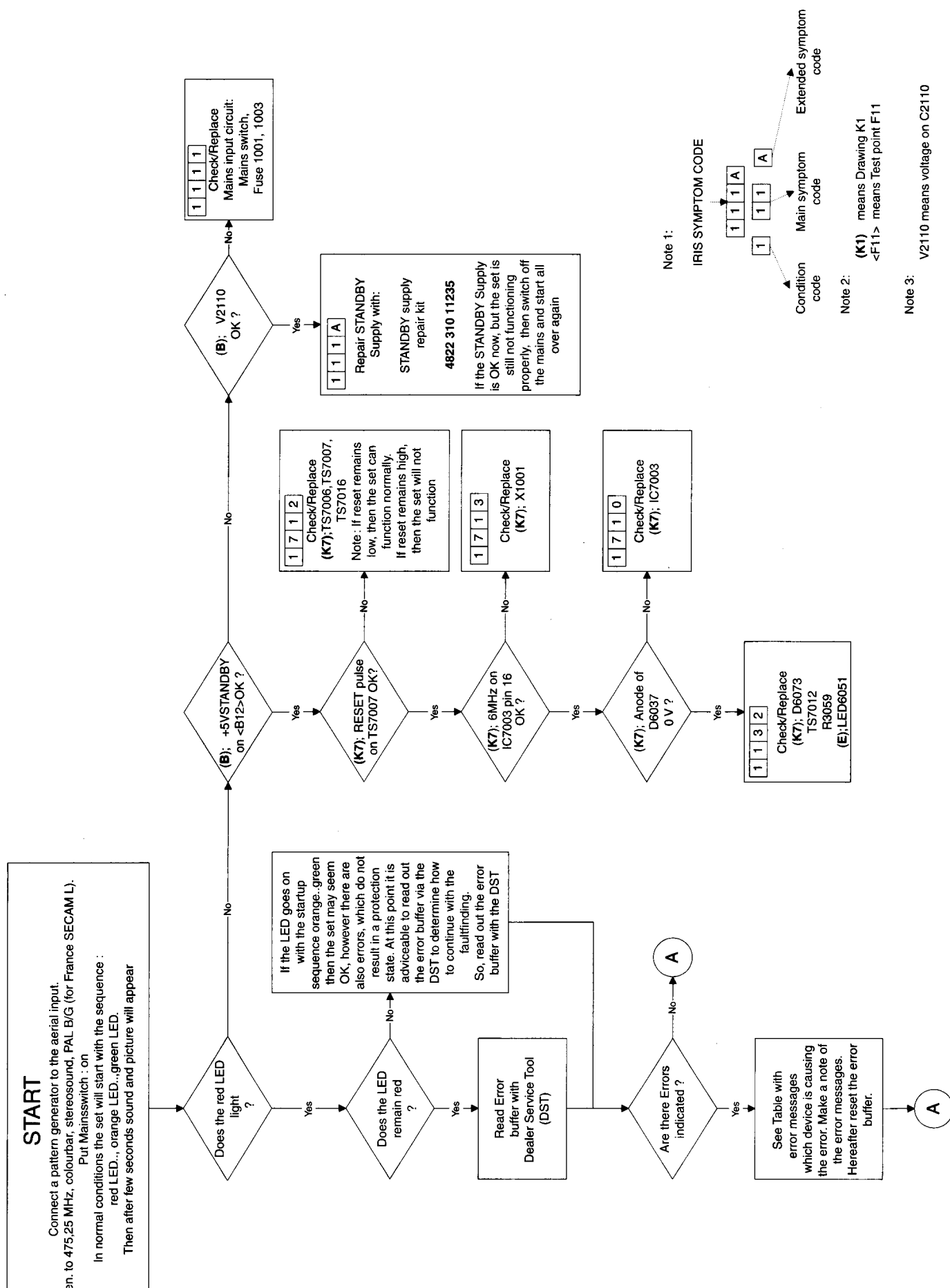
Figure 5-25

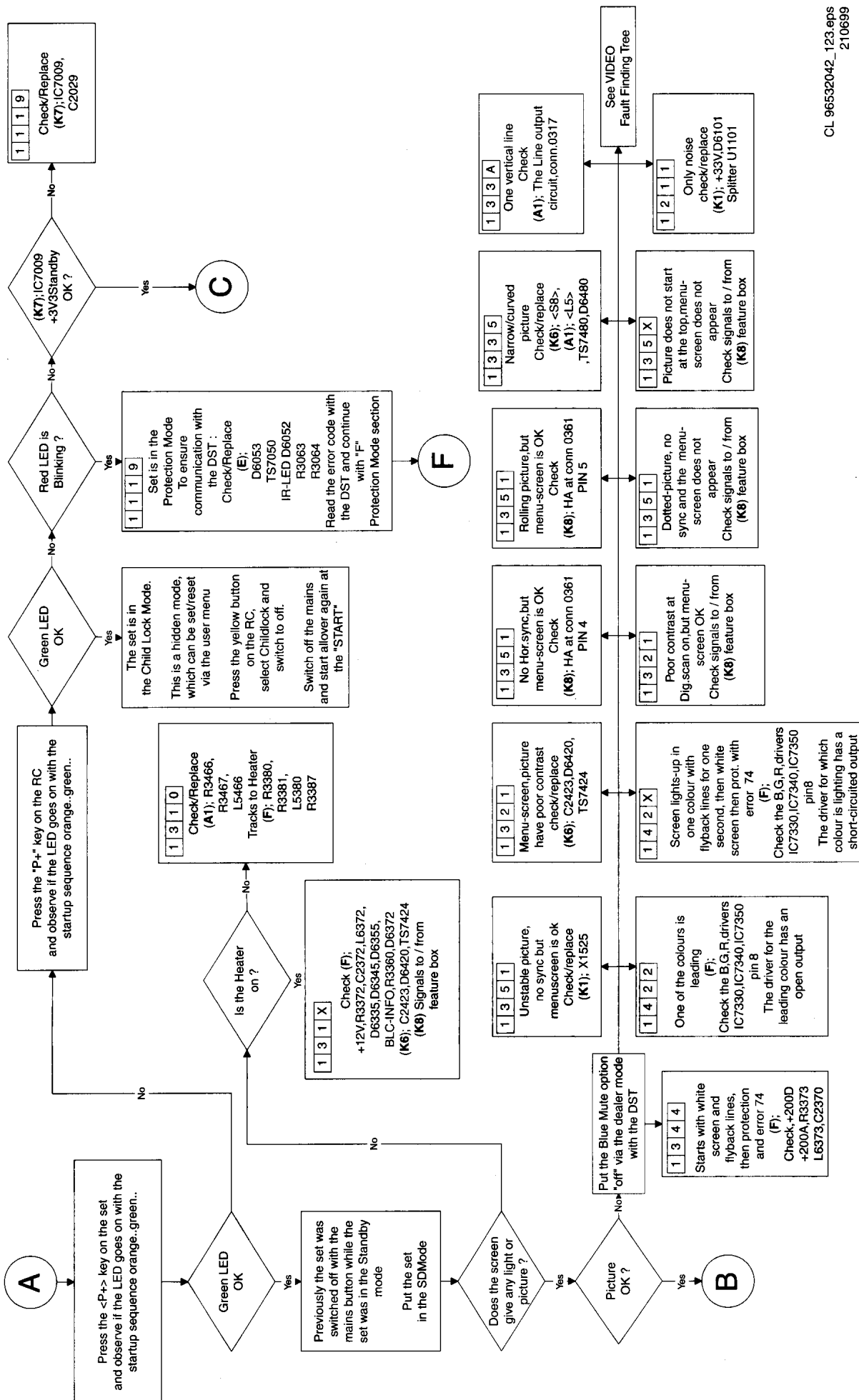


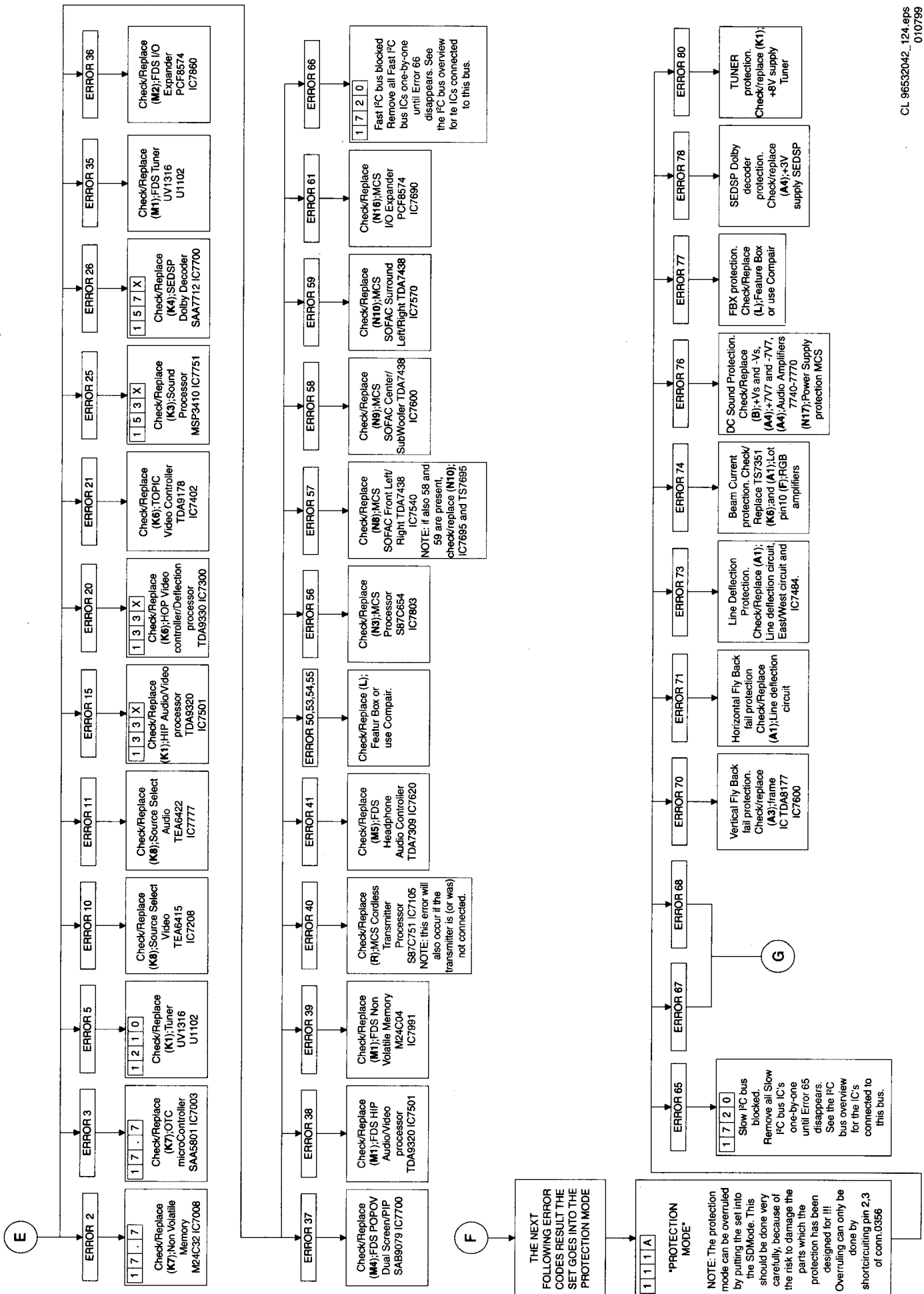
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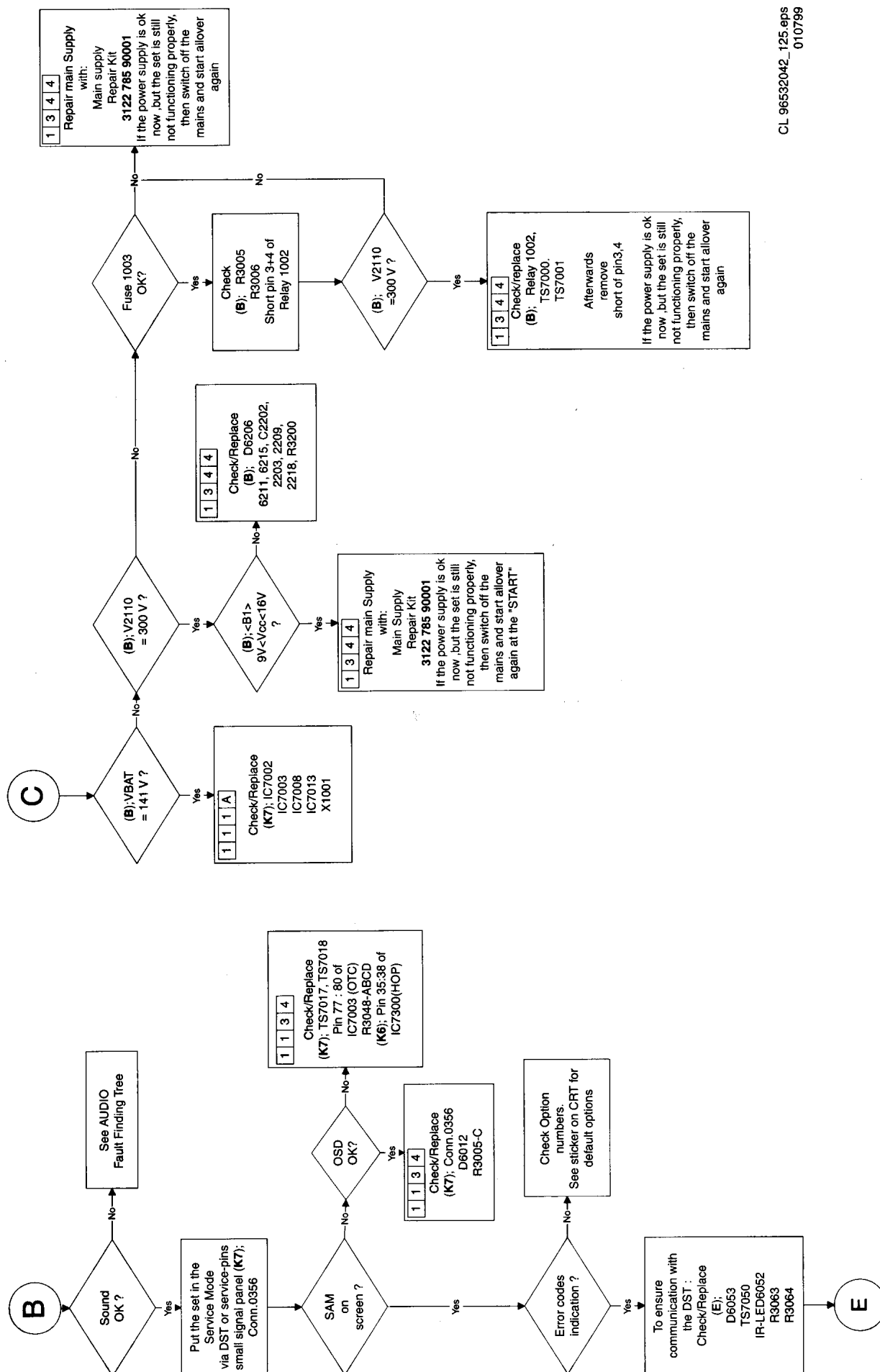
Figure 5-26

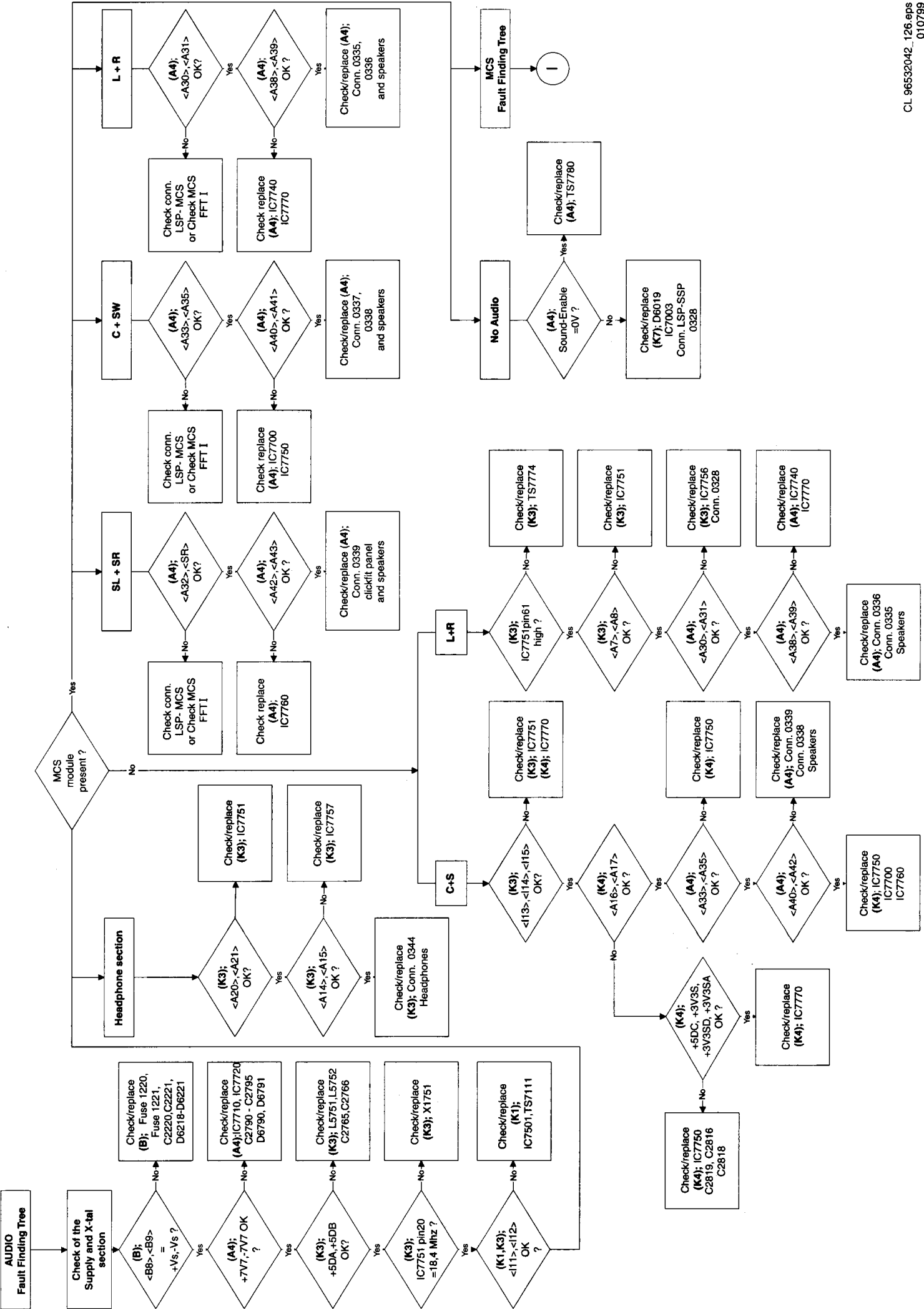
5.5 Fault find trees

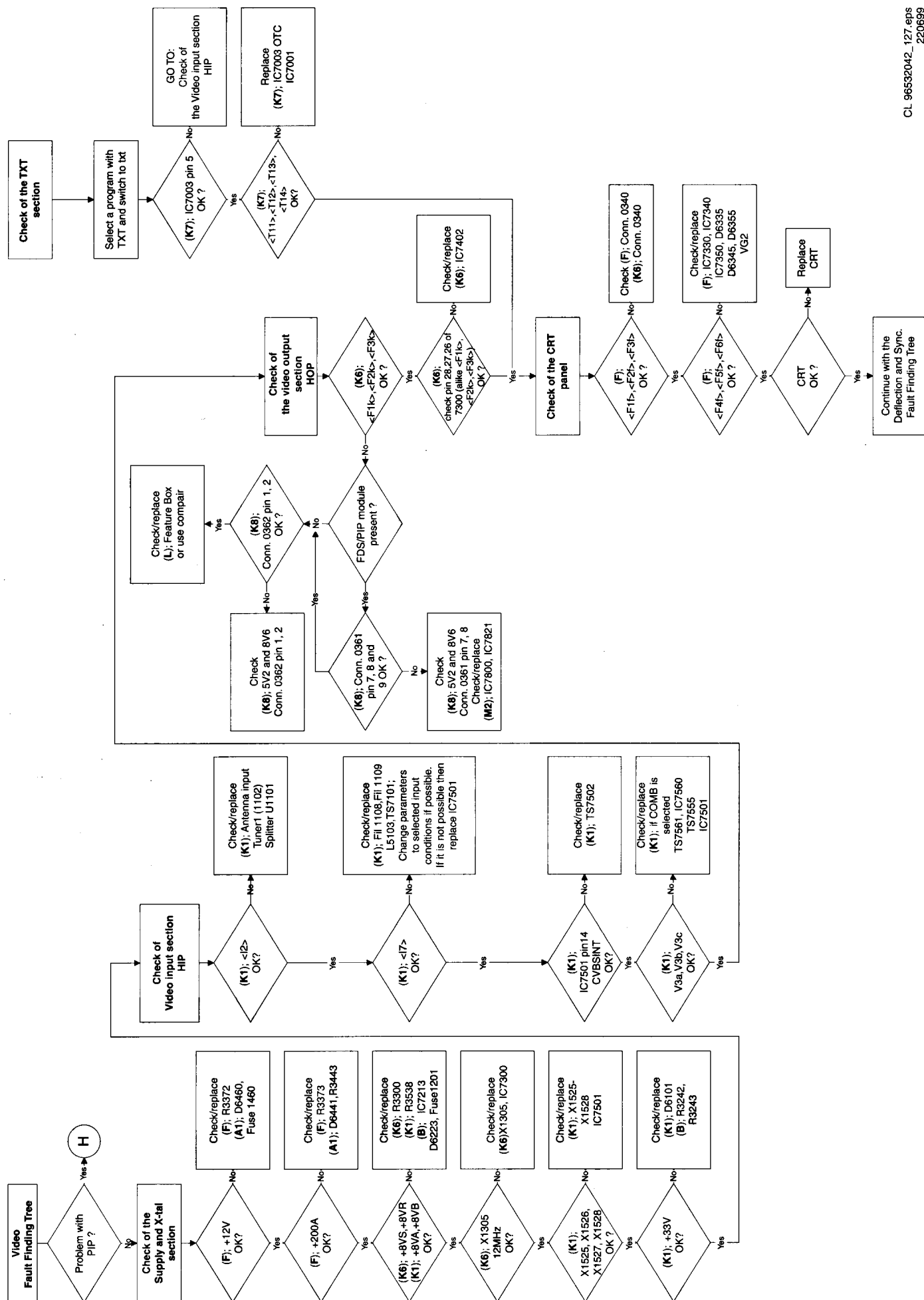


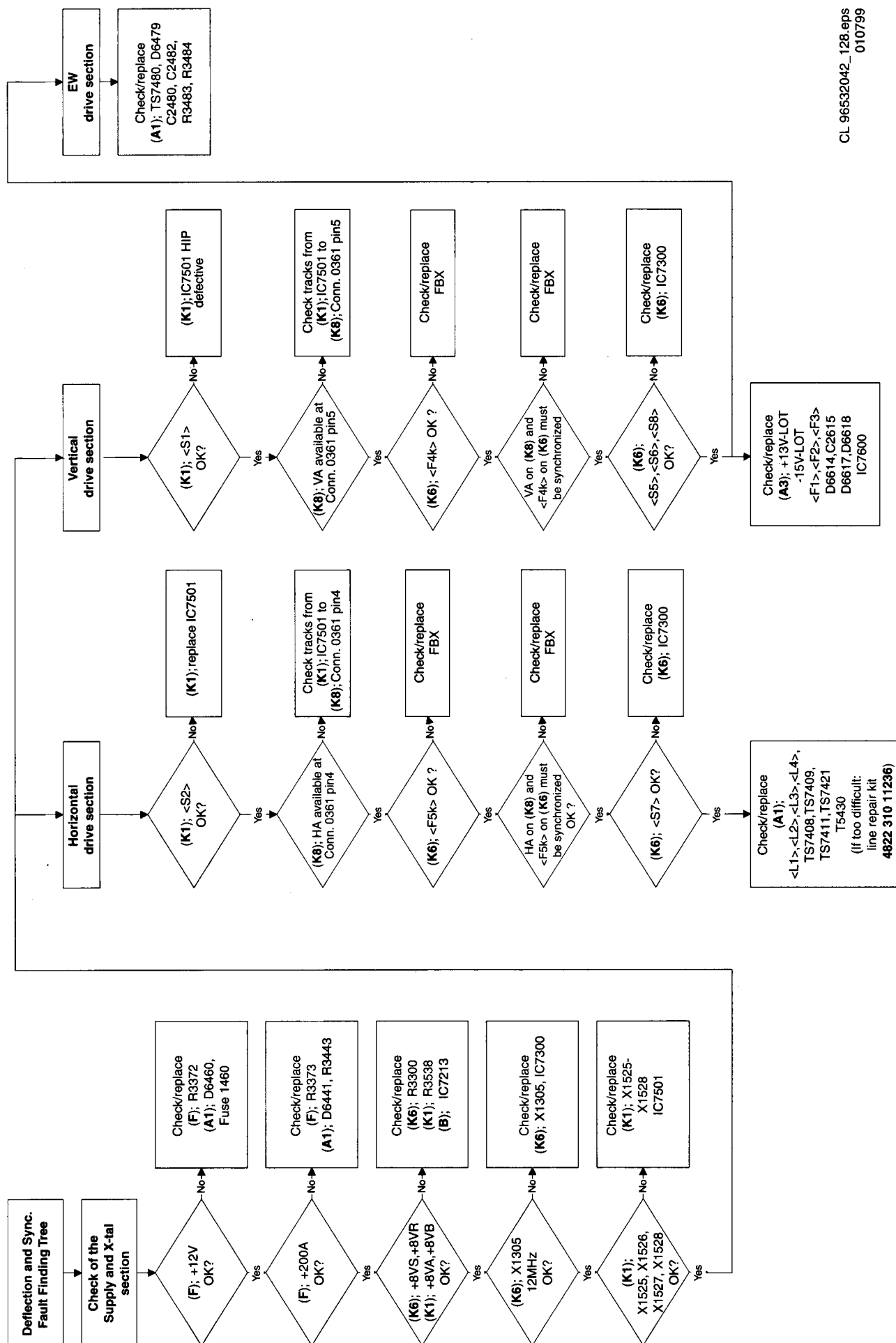


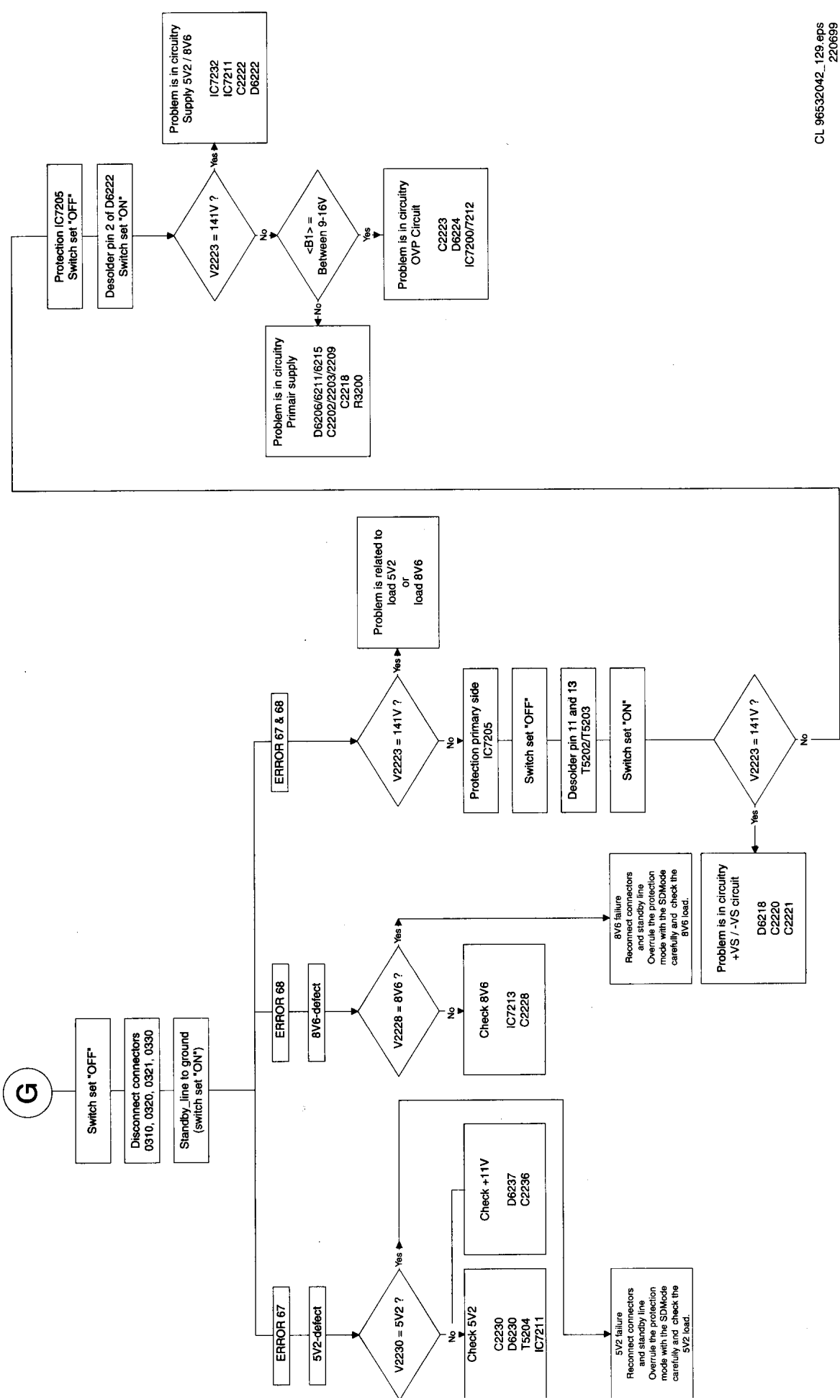


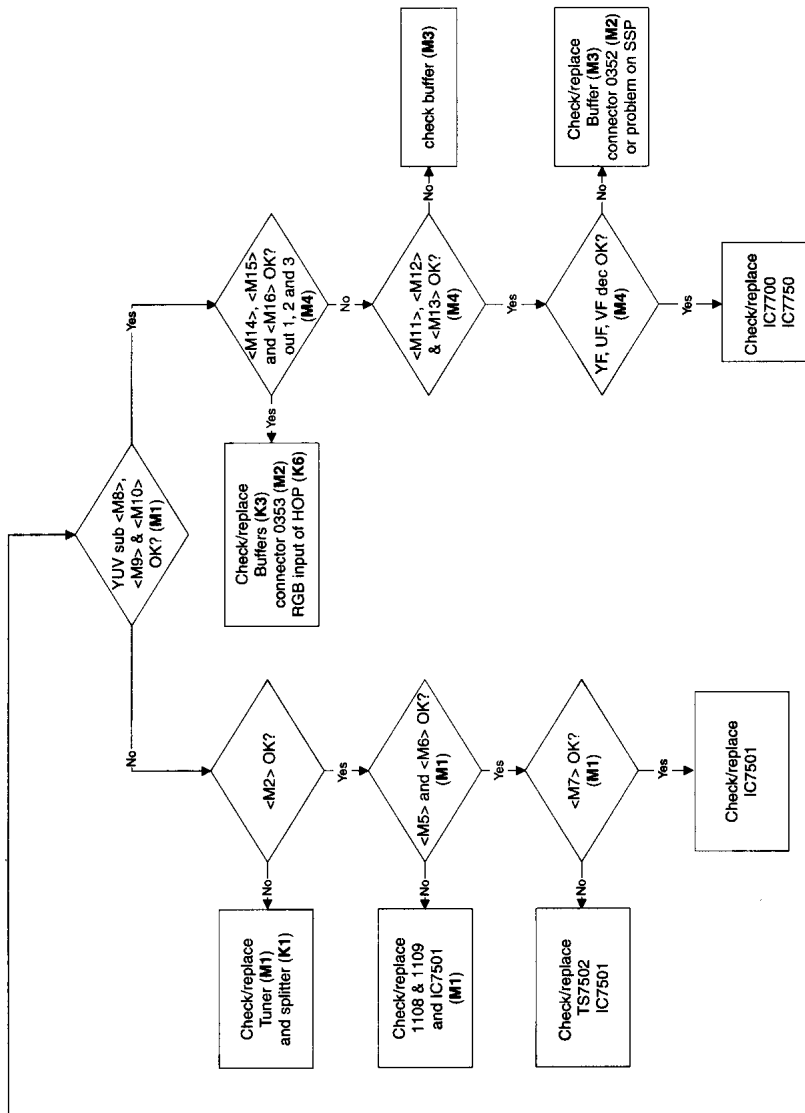
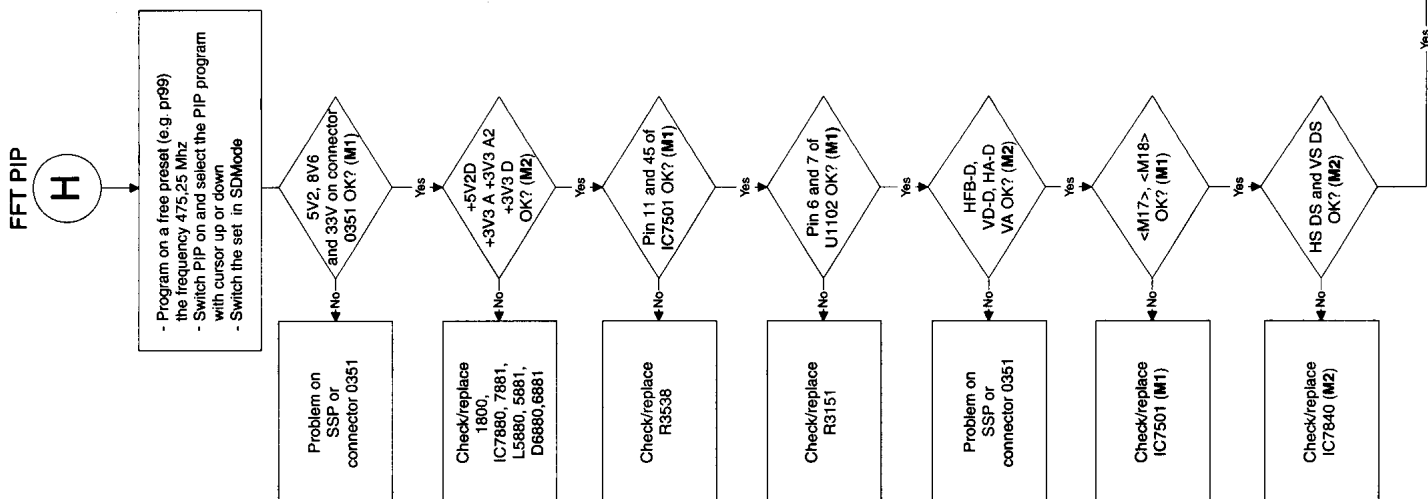












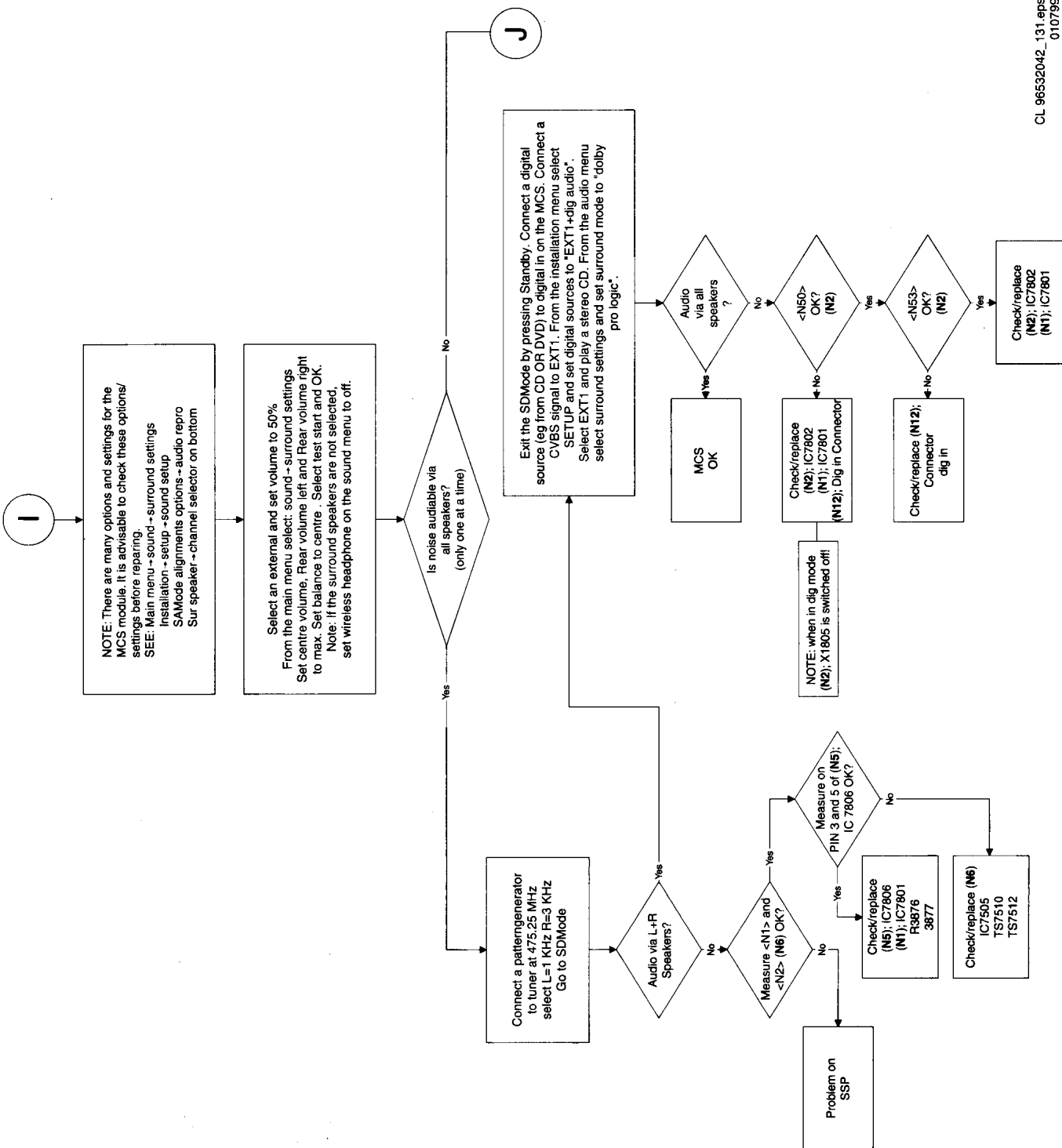
NOTE:

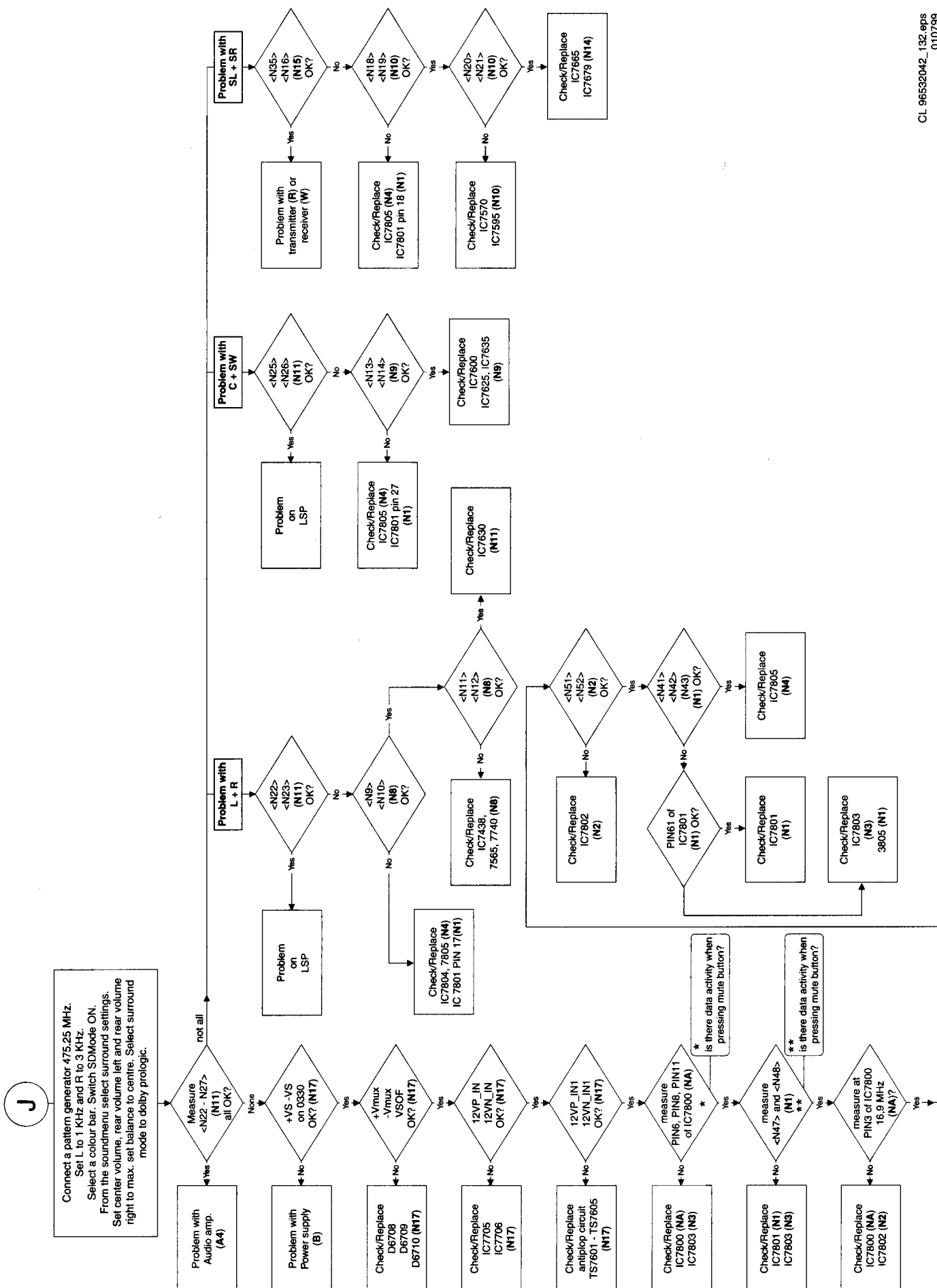
PIP-mode: 100 Hz RGB insertion in HOP (K6)

mosaic-mode: 50 Hz YUV insertion in main YUV in IC7800 (M2)

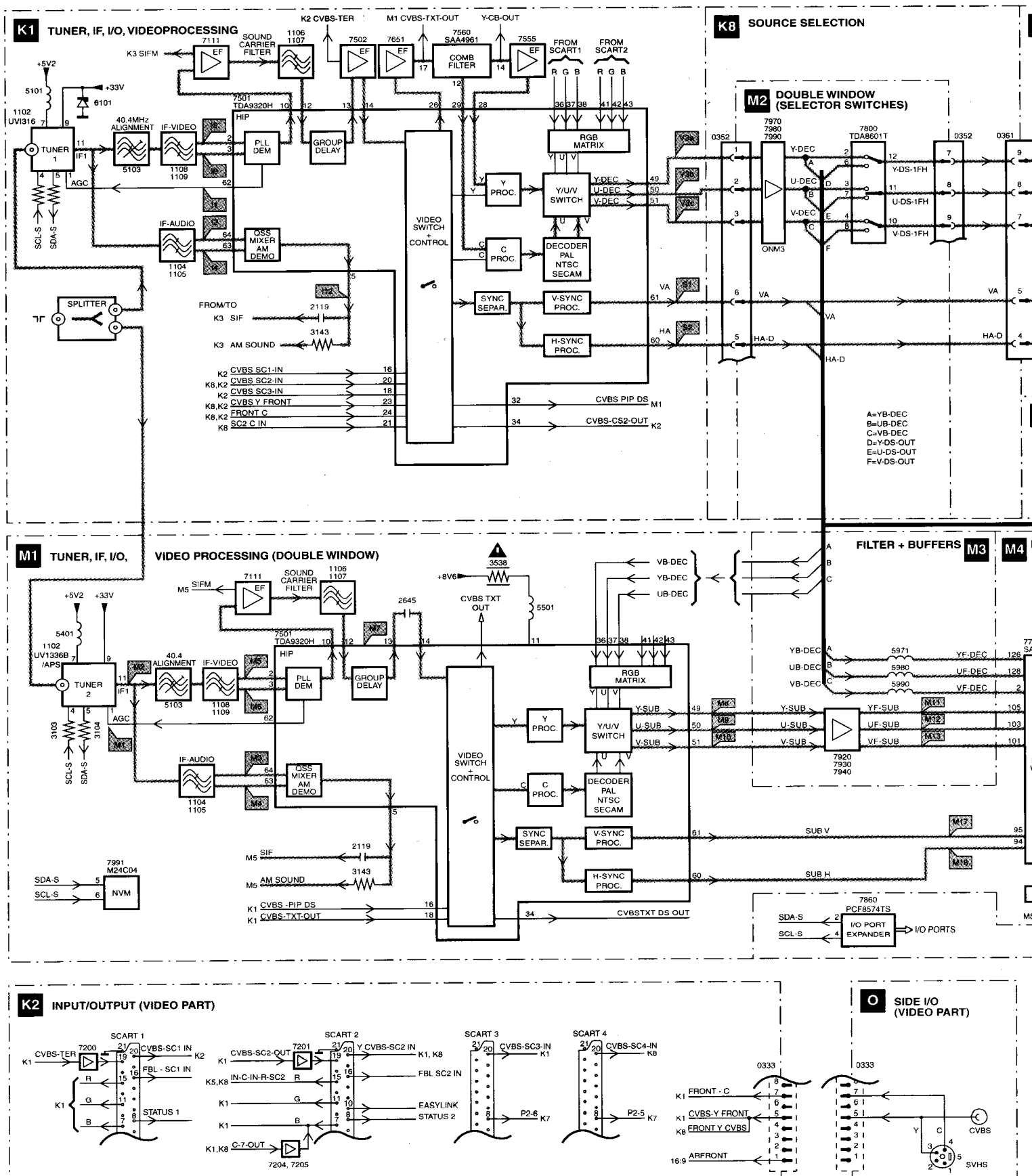
no PIP-mode: IC7800 in transparent mode for main YUV (M2)

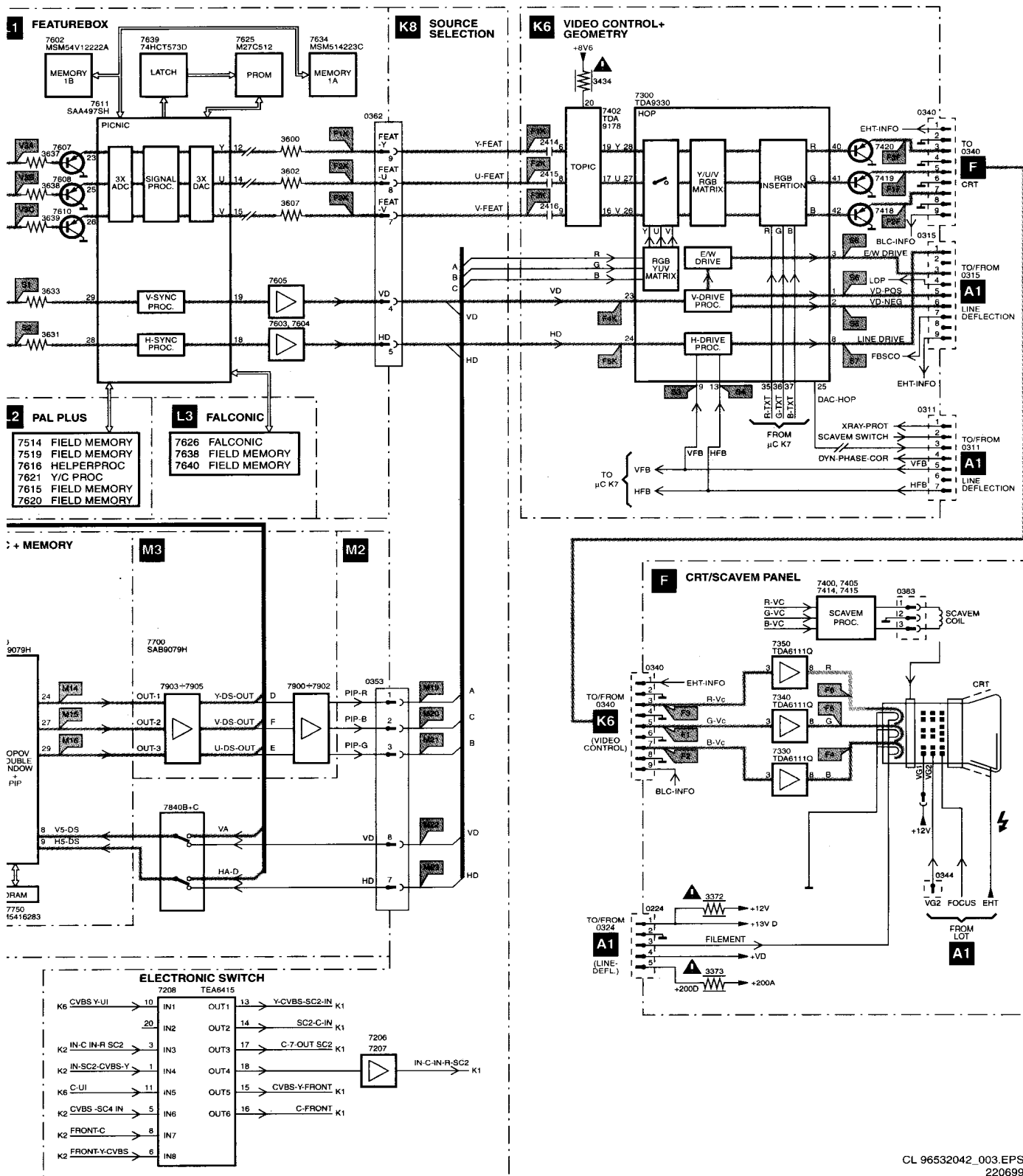
FFT MCS





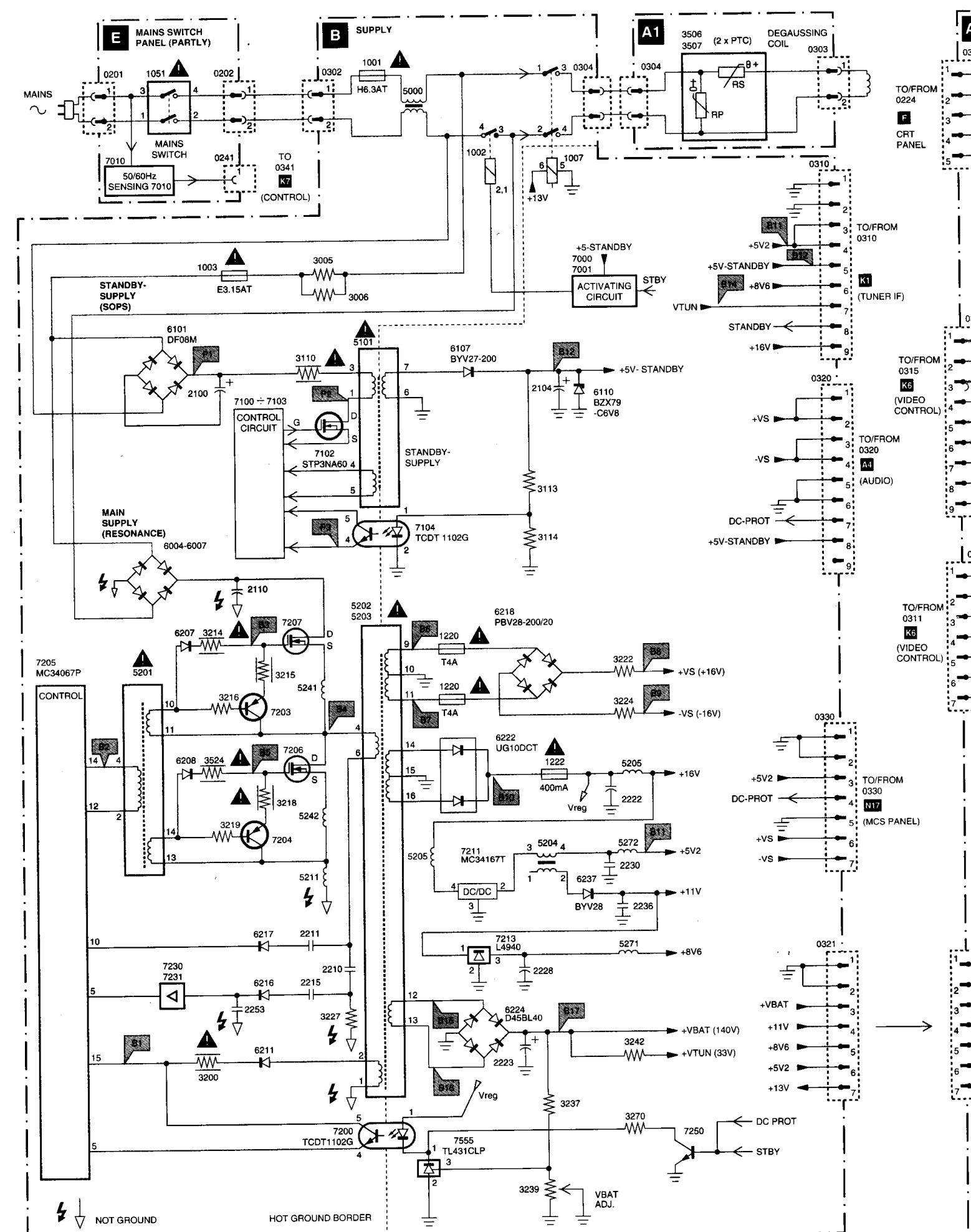
Videosignal flows

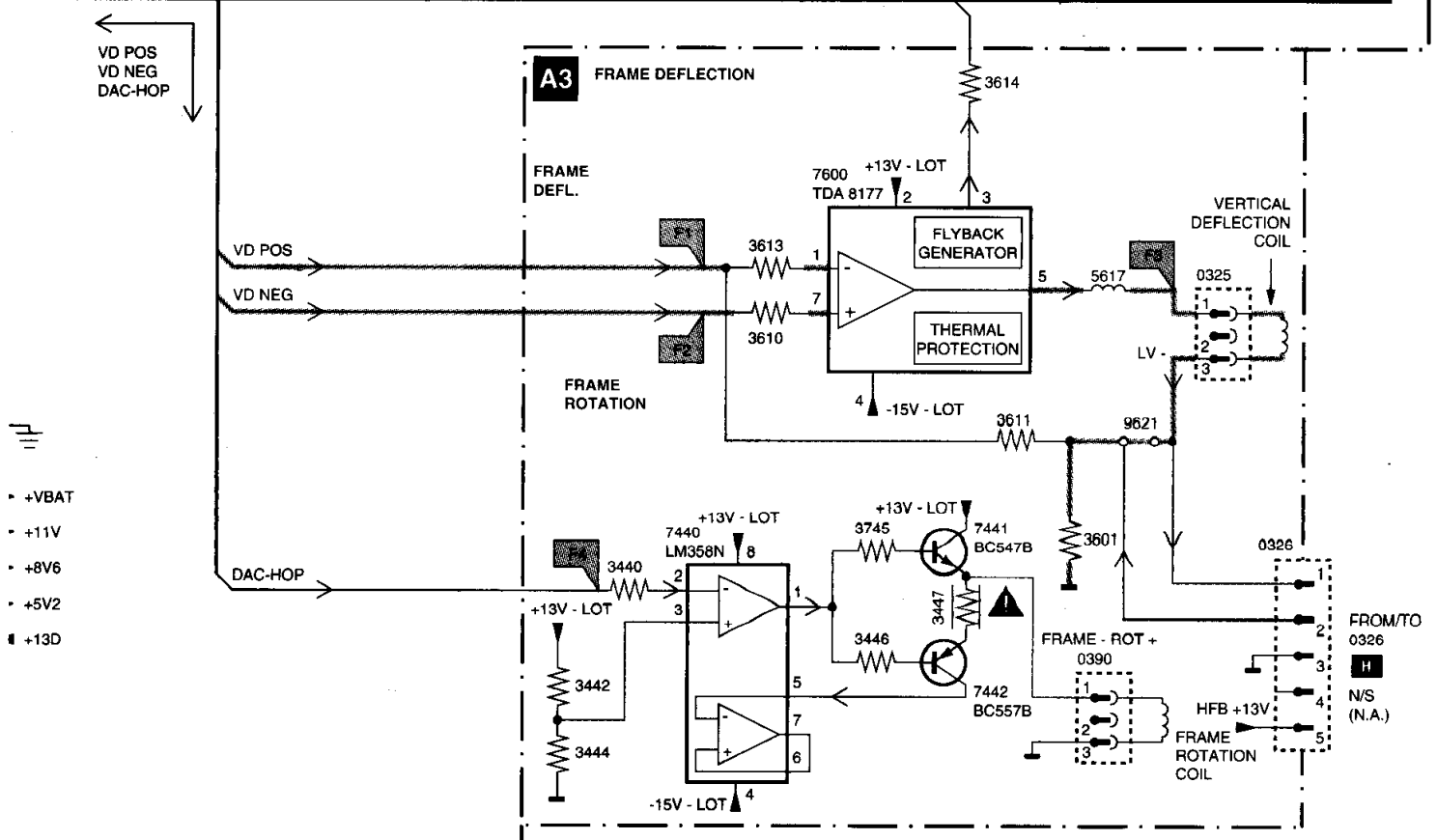
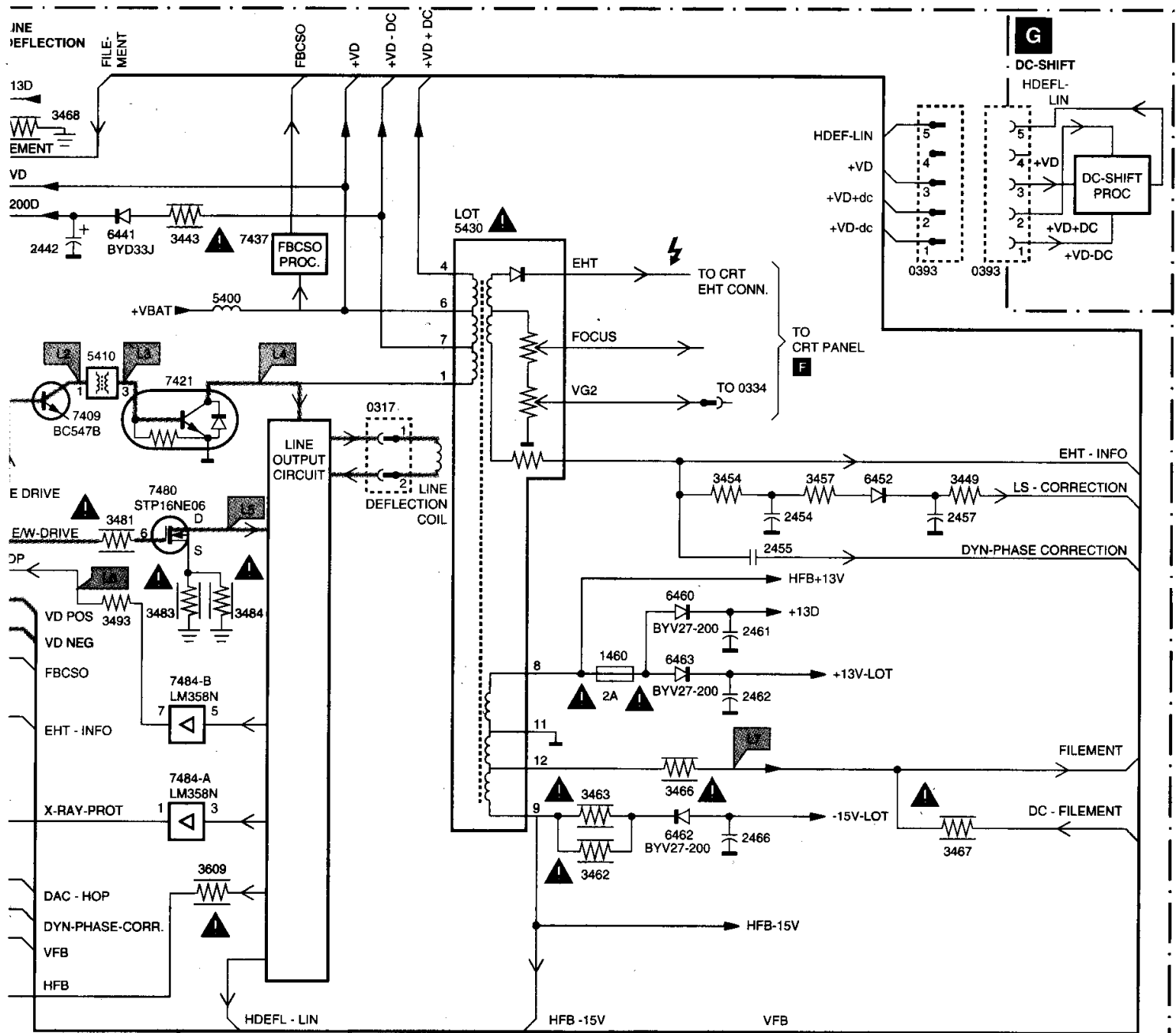




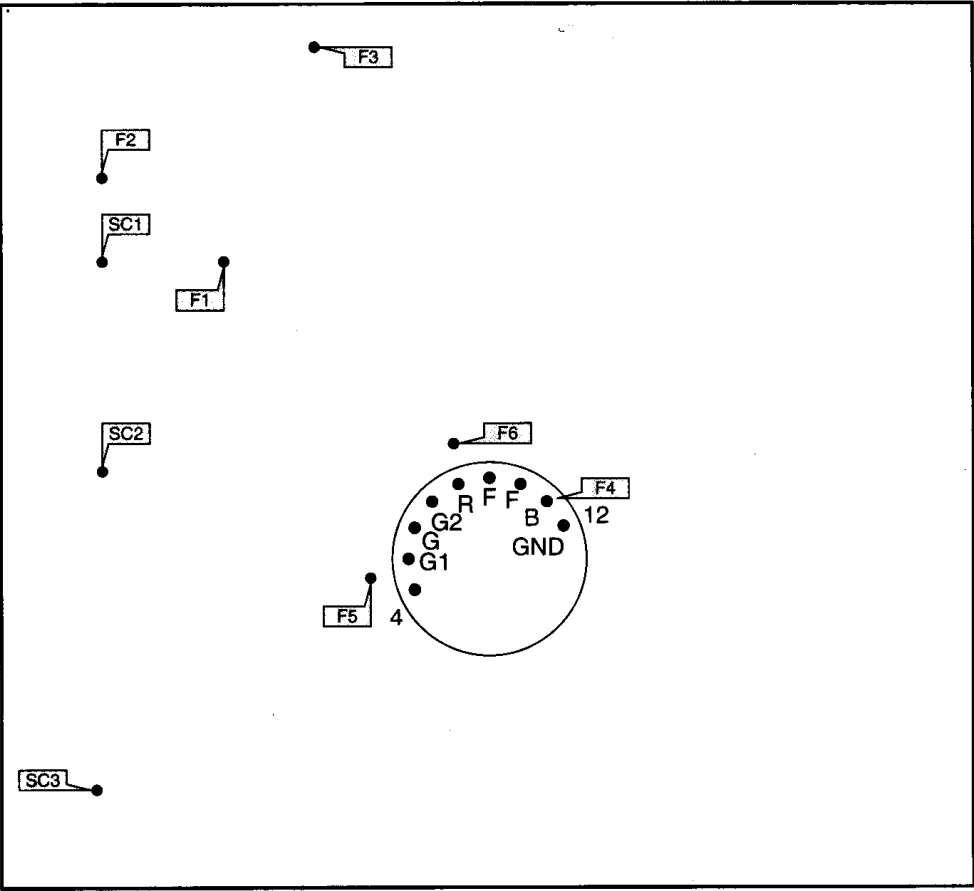
6. Block diagrams, Testpoint overviews and Waveforms

Blockdiagram Supply and Deflection





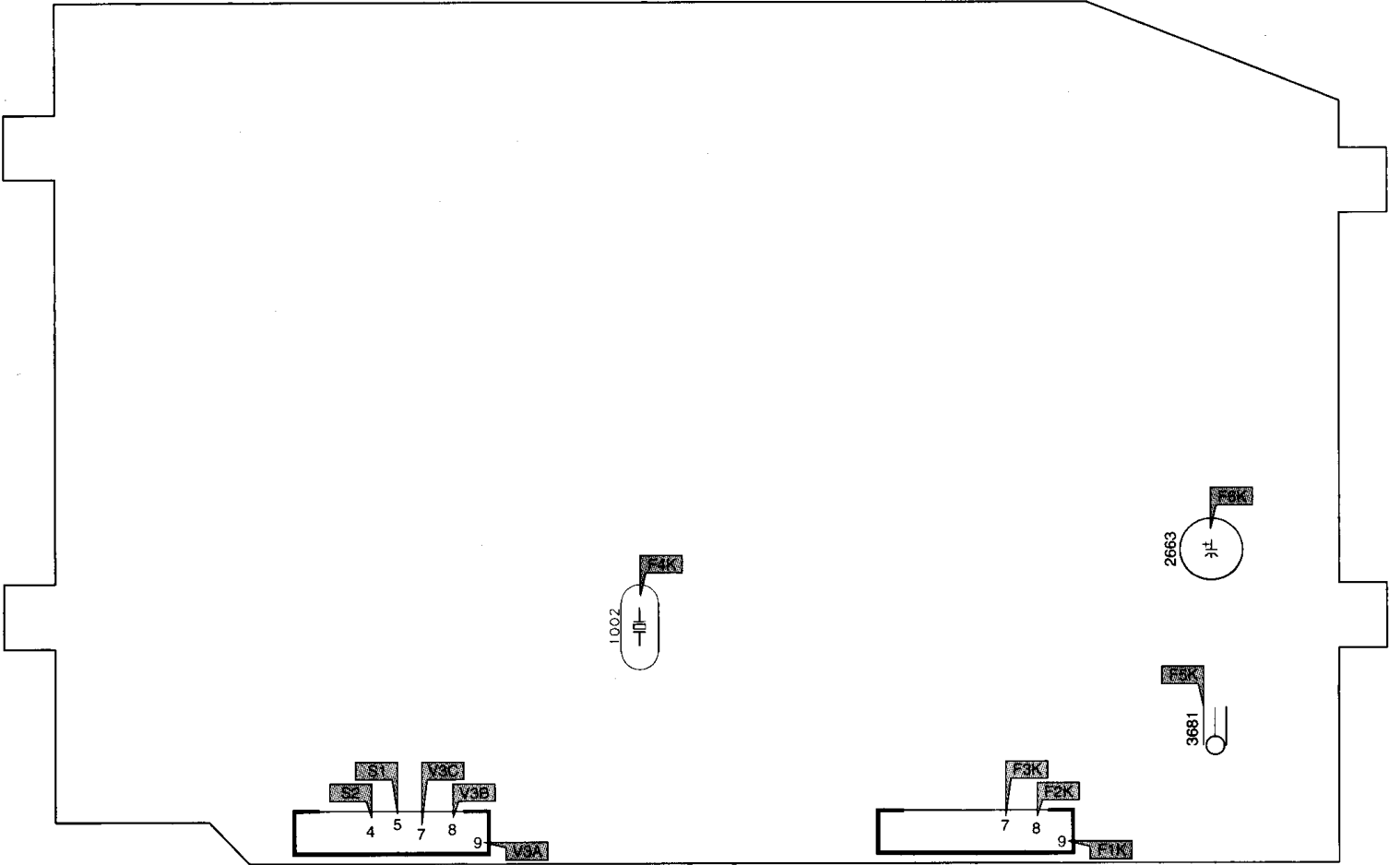
CRT / SCAVEM panel (F)



(COPPER-SIDE)

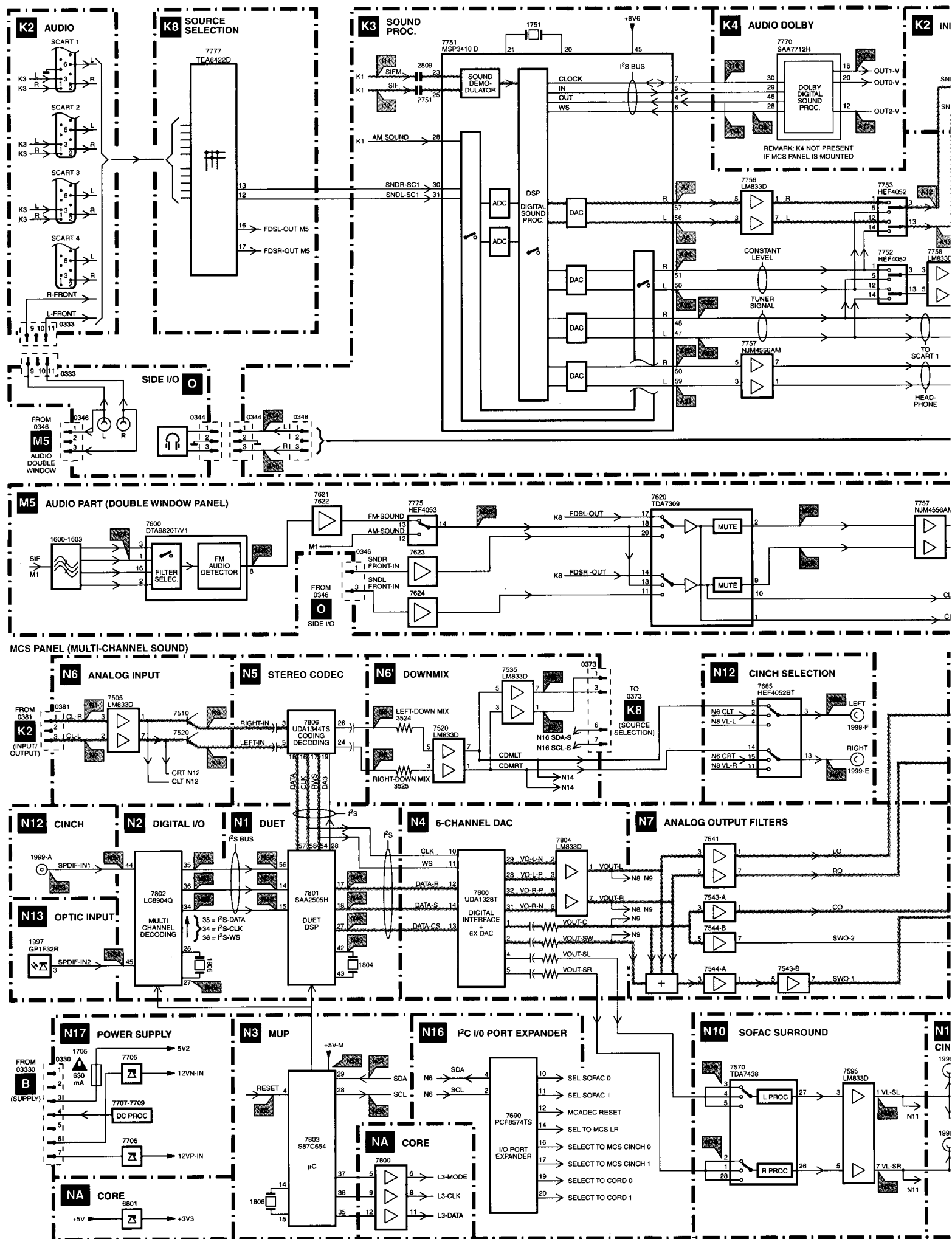
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FBX panel (L)

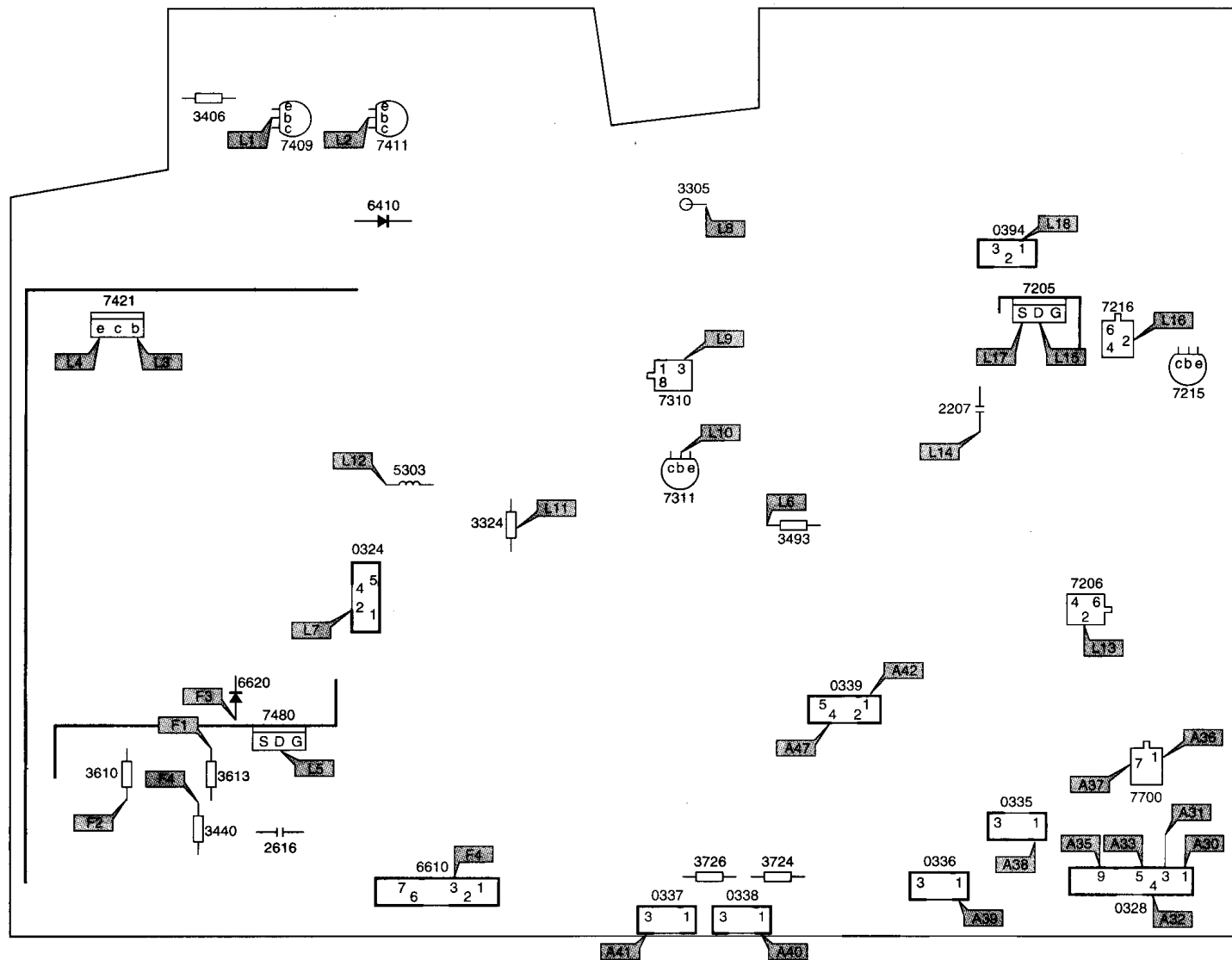


(COPPER-SIDE)

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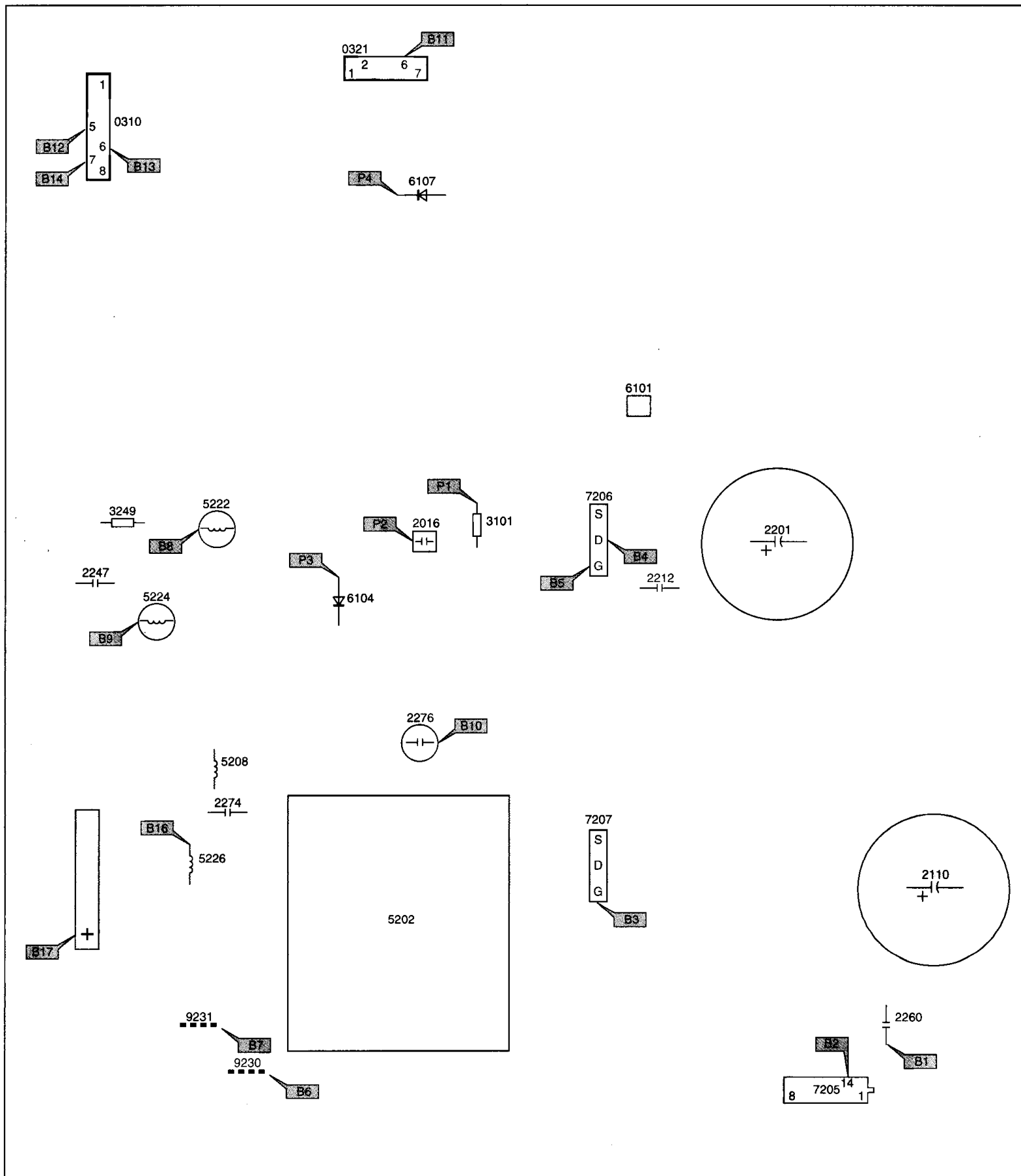


Large signal panel (A)

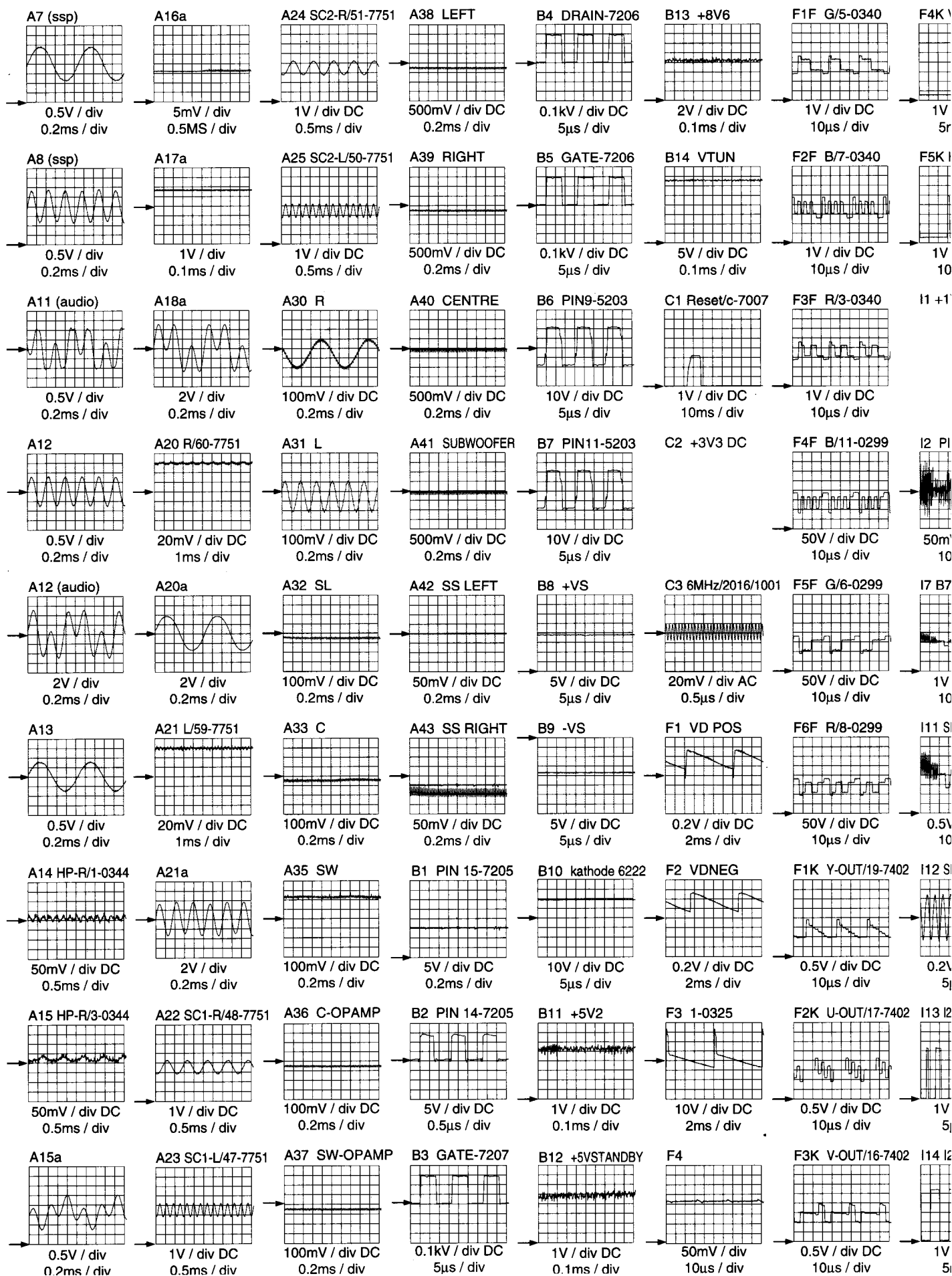


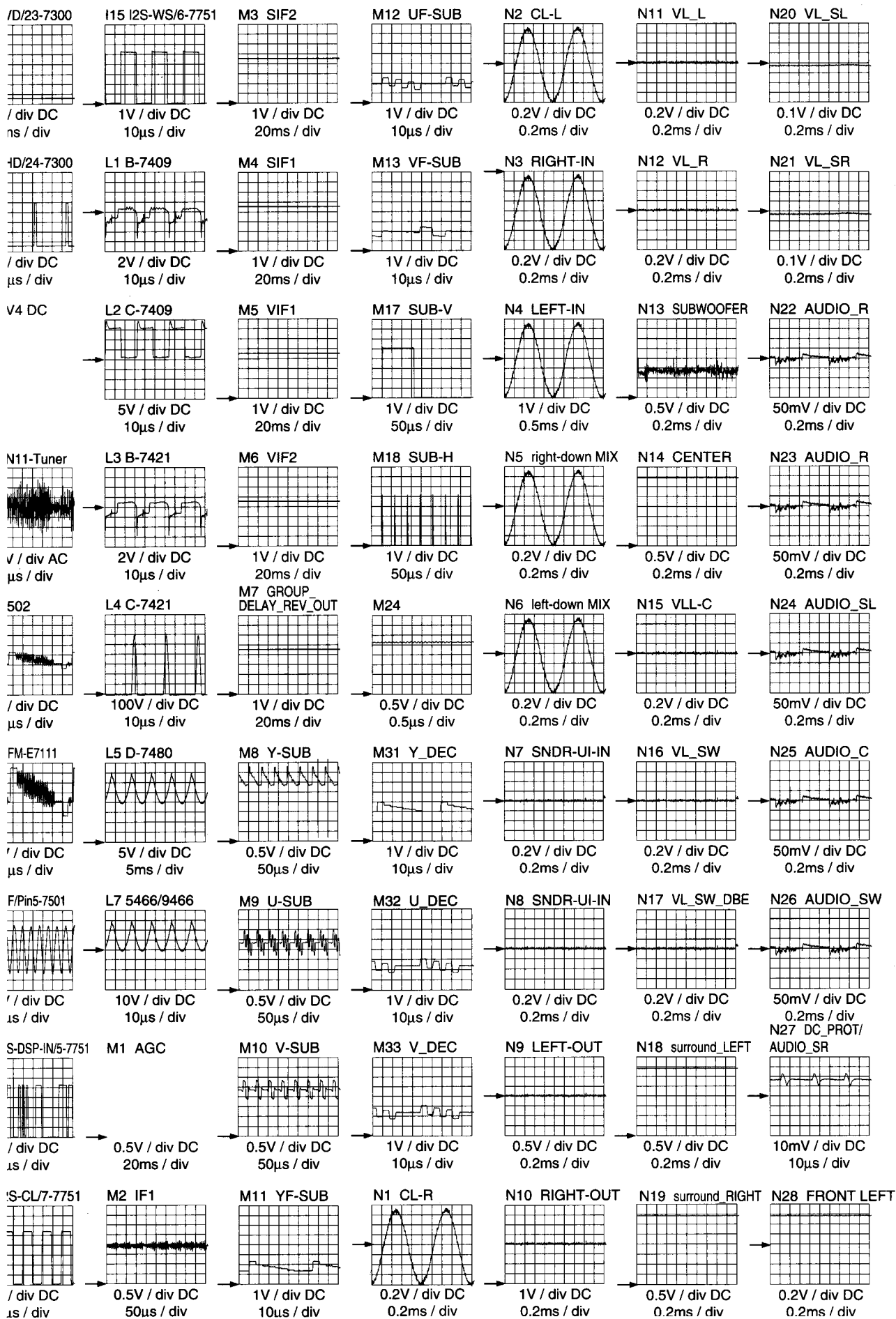
COPPERSIDE

Top supply (B)



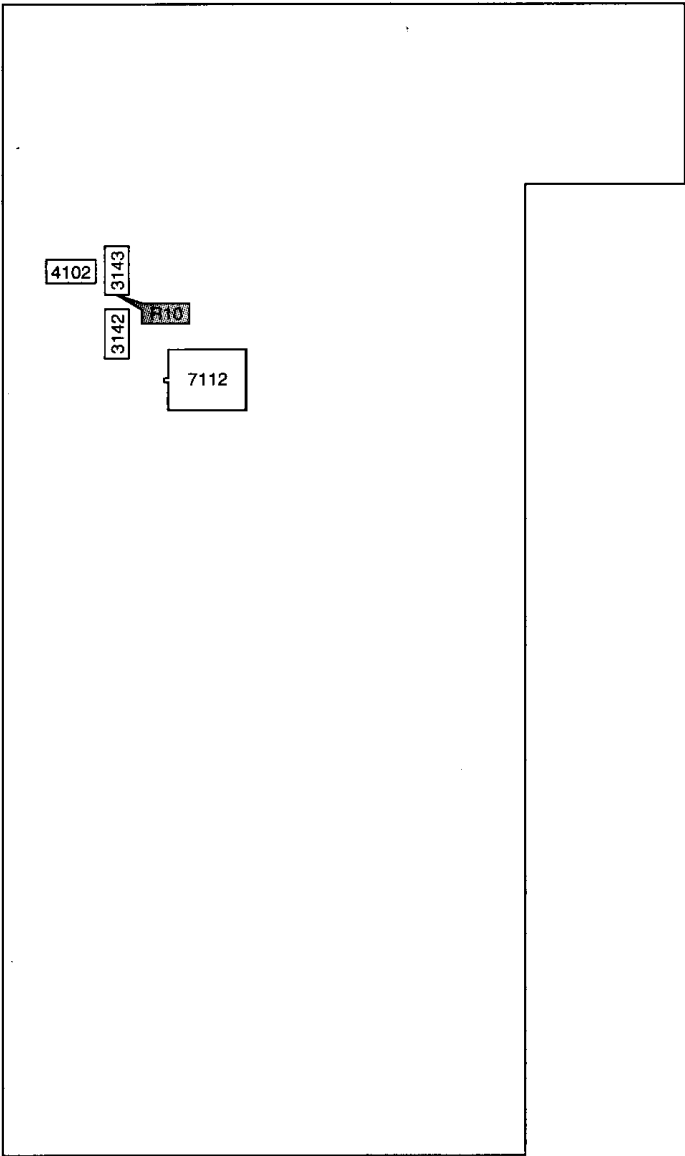
Waveforms





→ = 0V

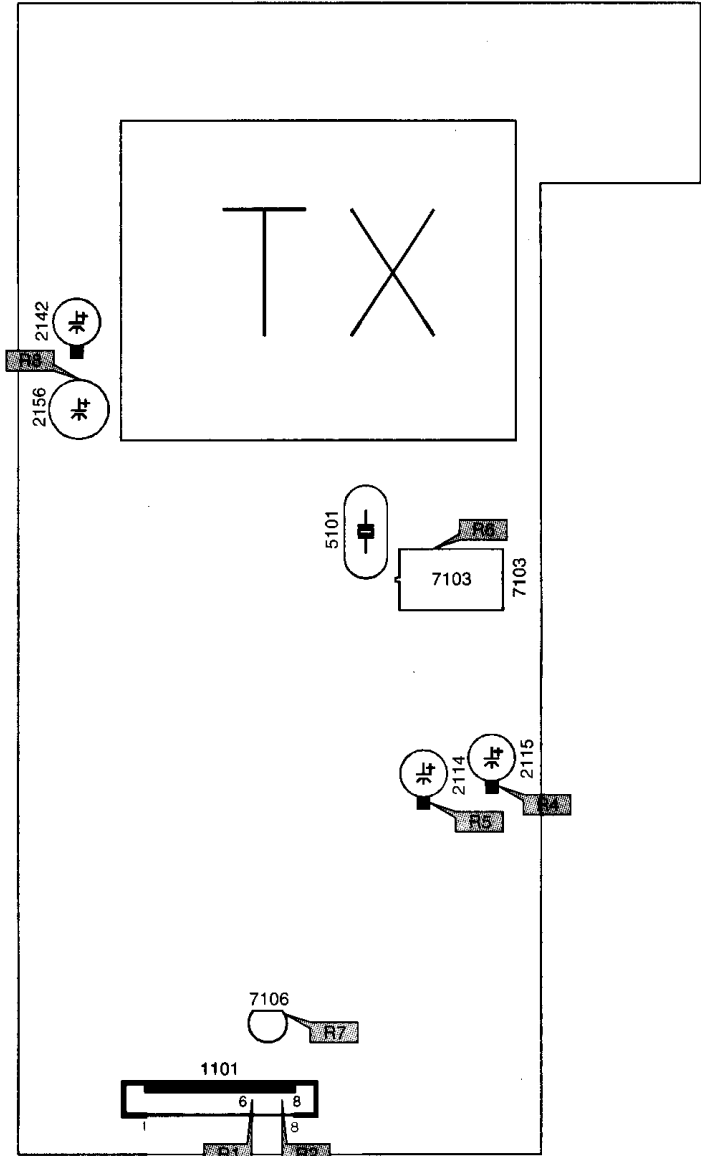
Surround transmitter (R)



(COPPER-SIDE)

CL 96532042_056.eps
210699

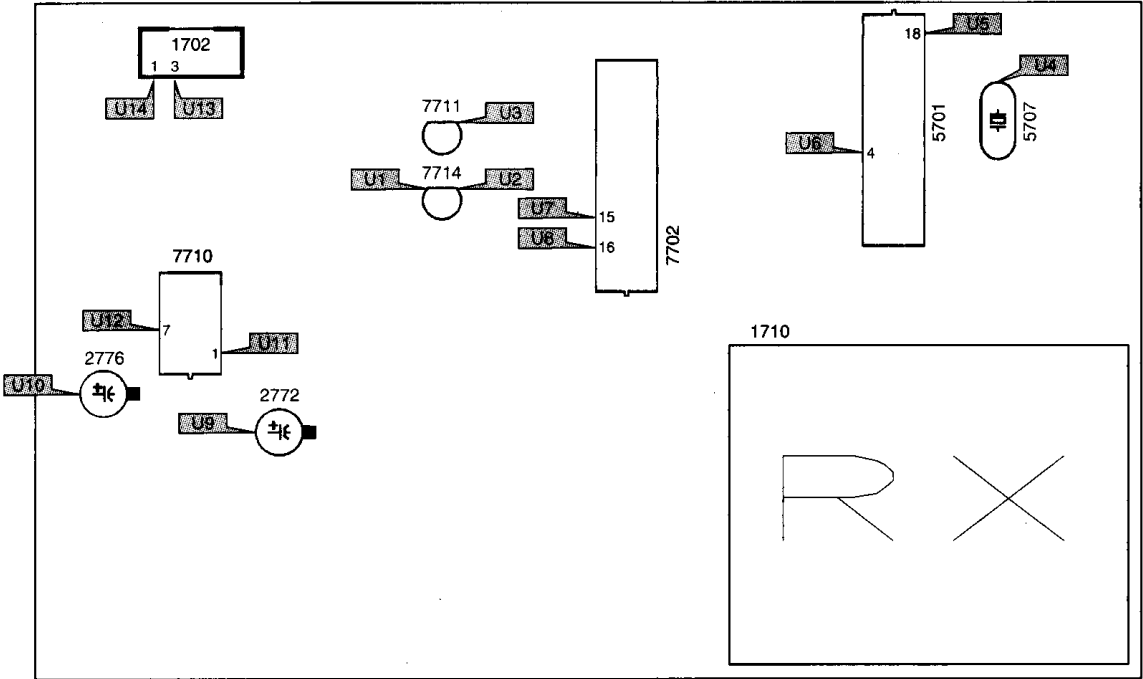
Surround transmitter (R)



(COMPONENT-SIDE)

CL 96532042_057.eps
210699

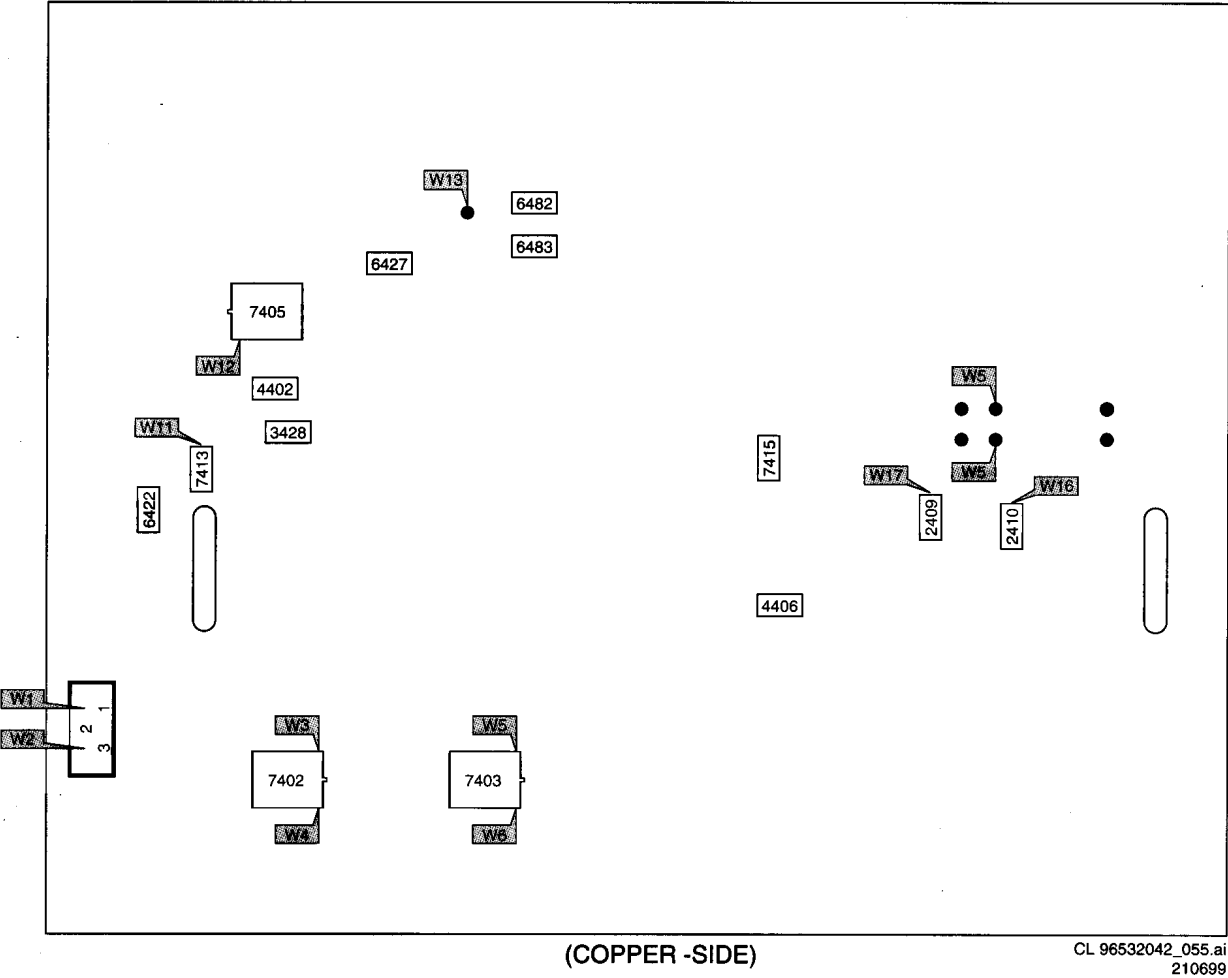
Surround receiver (U)



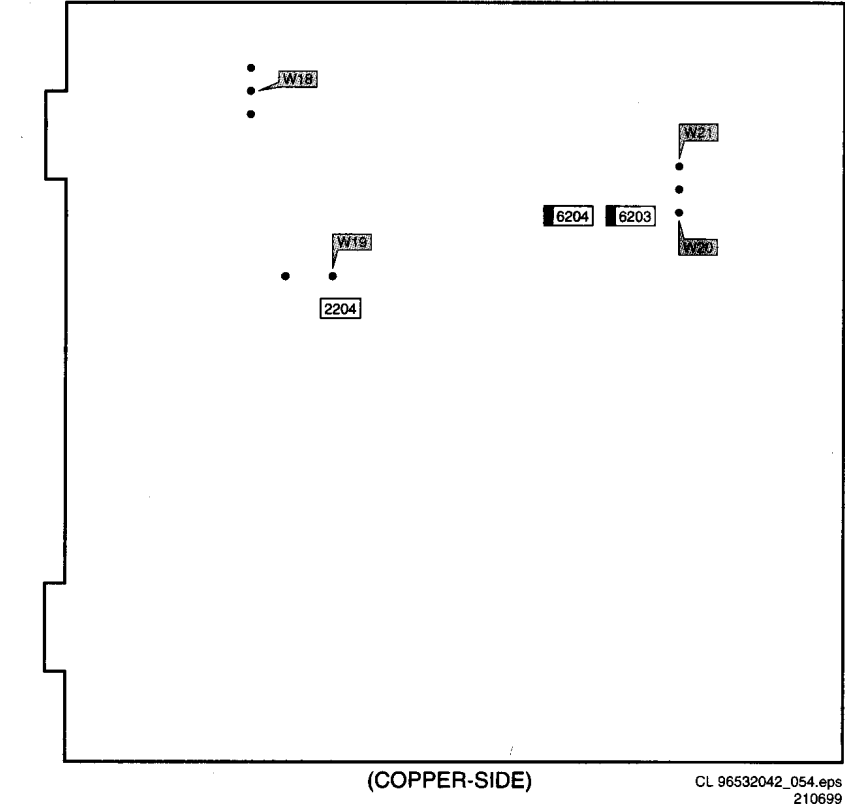
(COMPONENT-SIDE)

CL 96532042_058.ai
210699

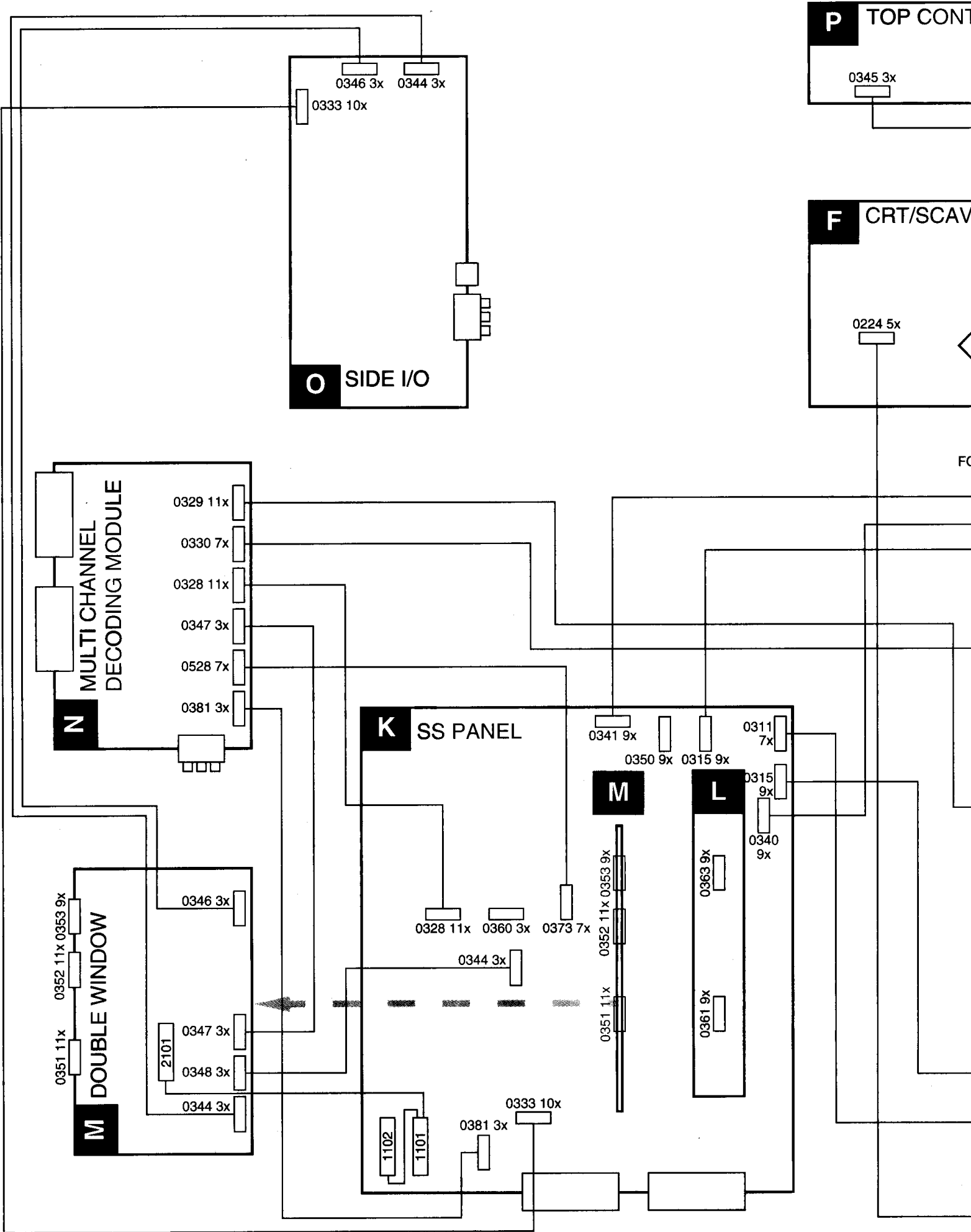
Active surround box amplifier (W1)



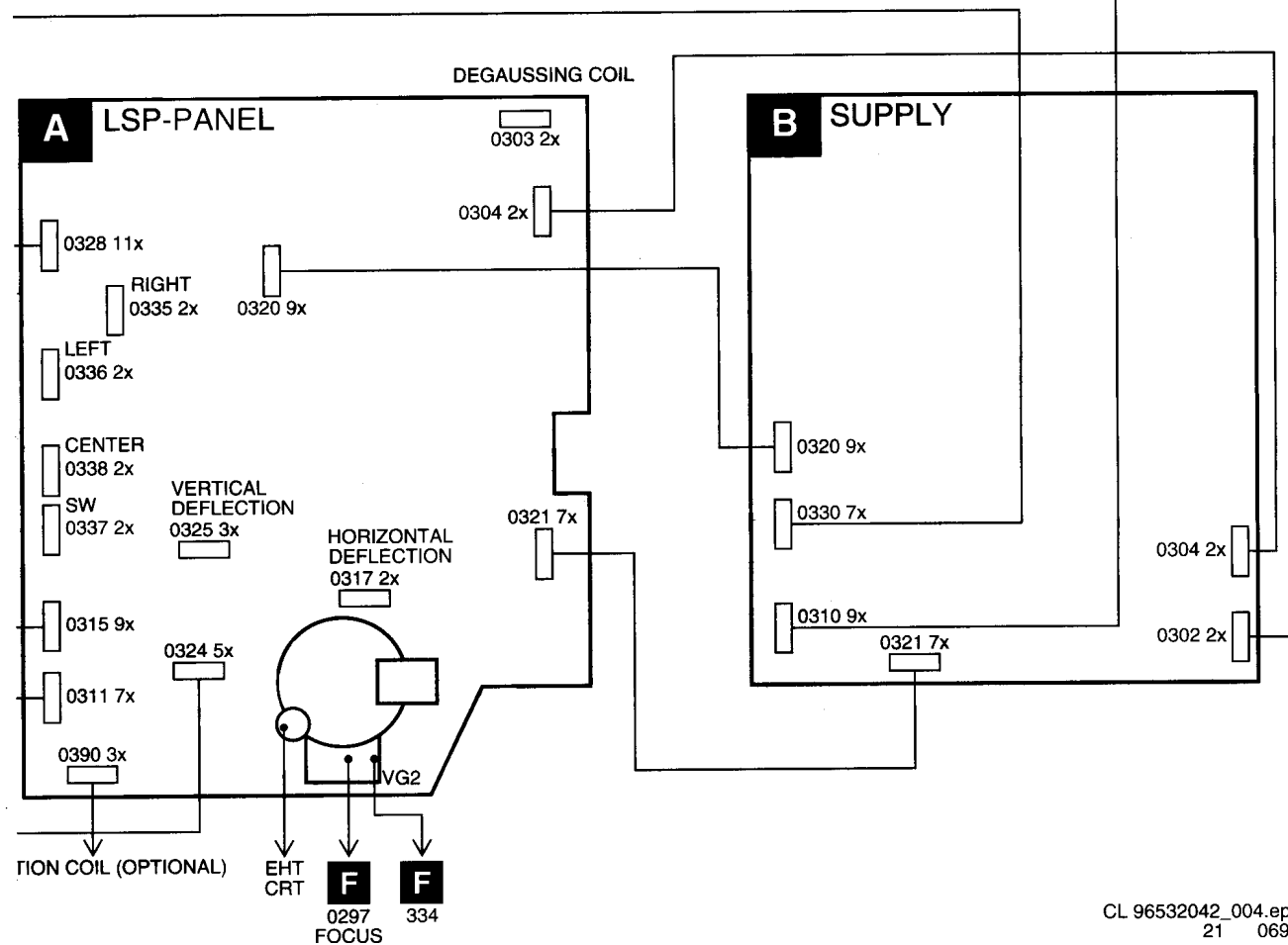
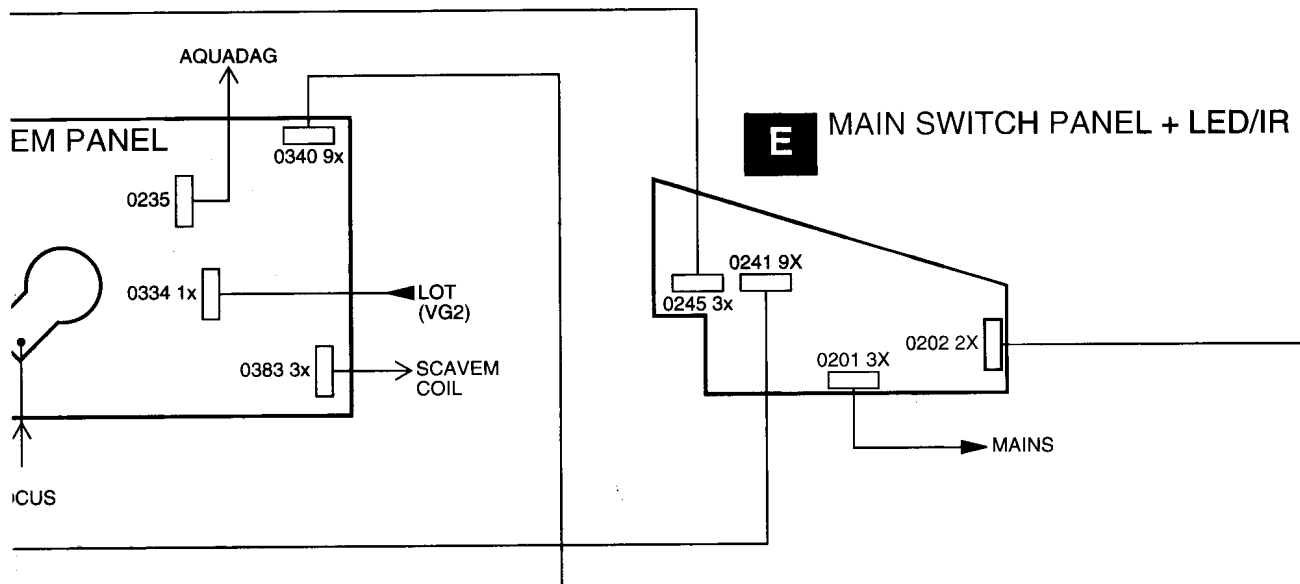
Active surround box supply (W2)



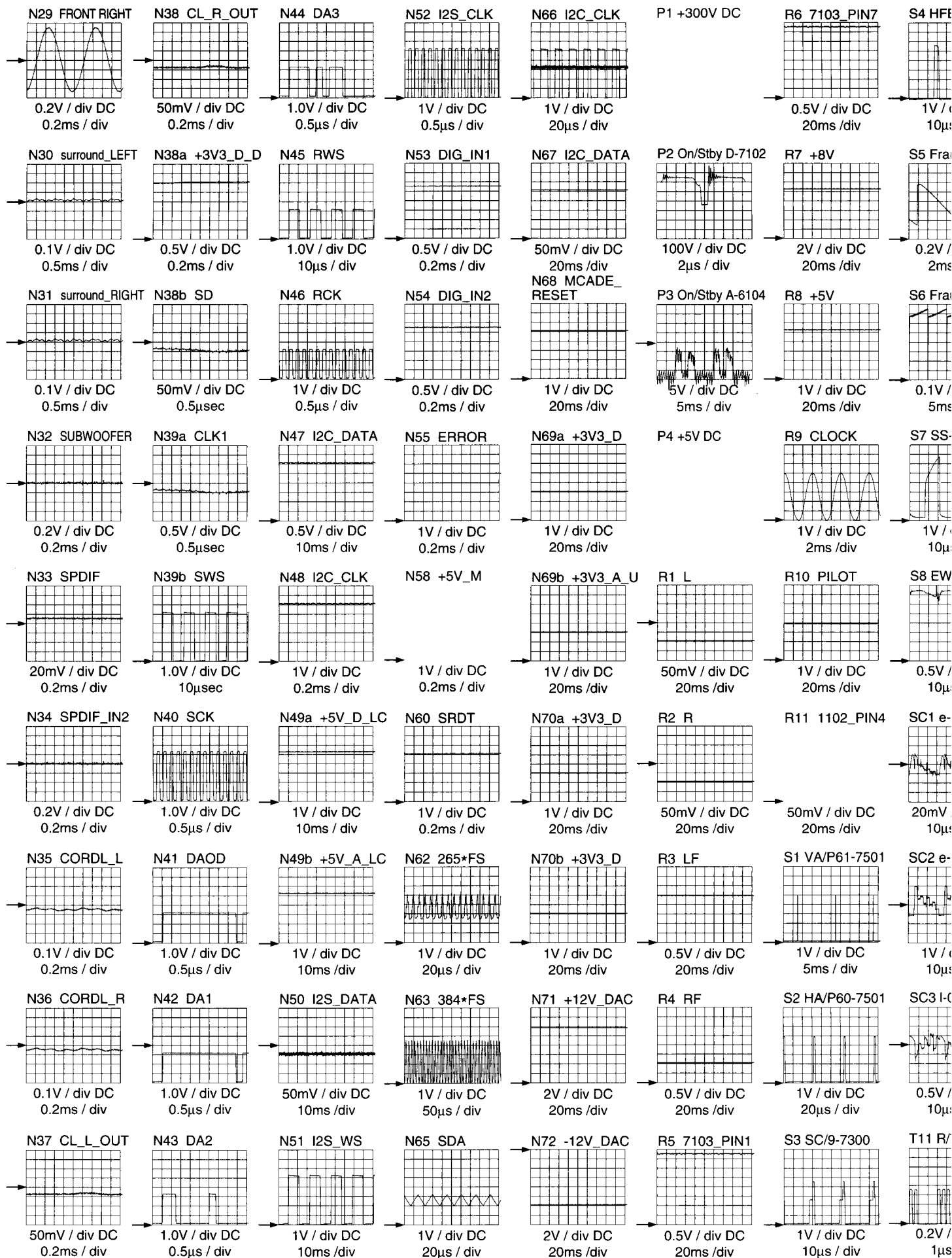
Wiring diagram

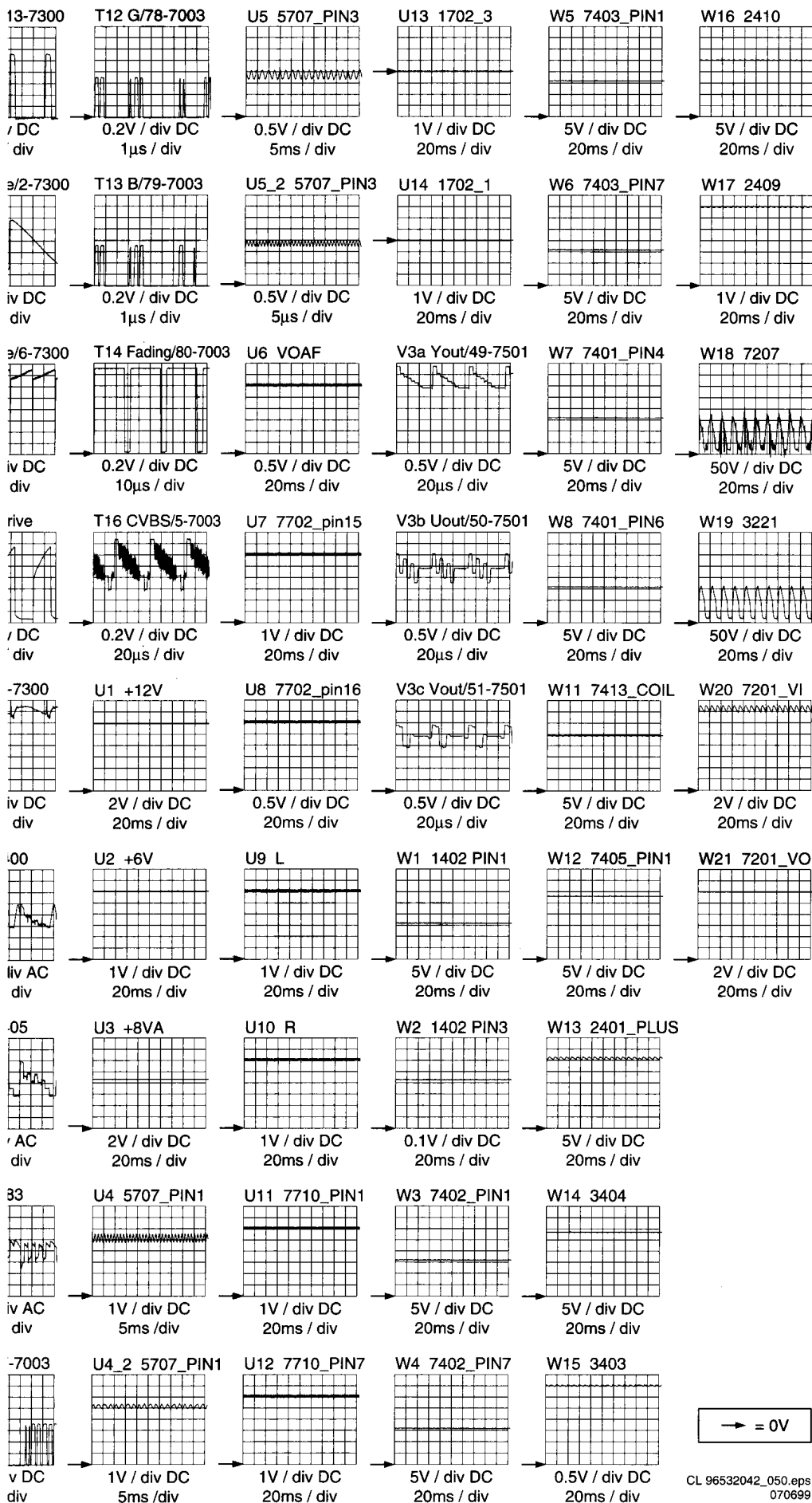


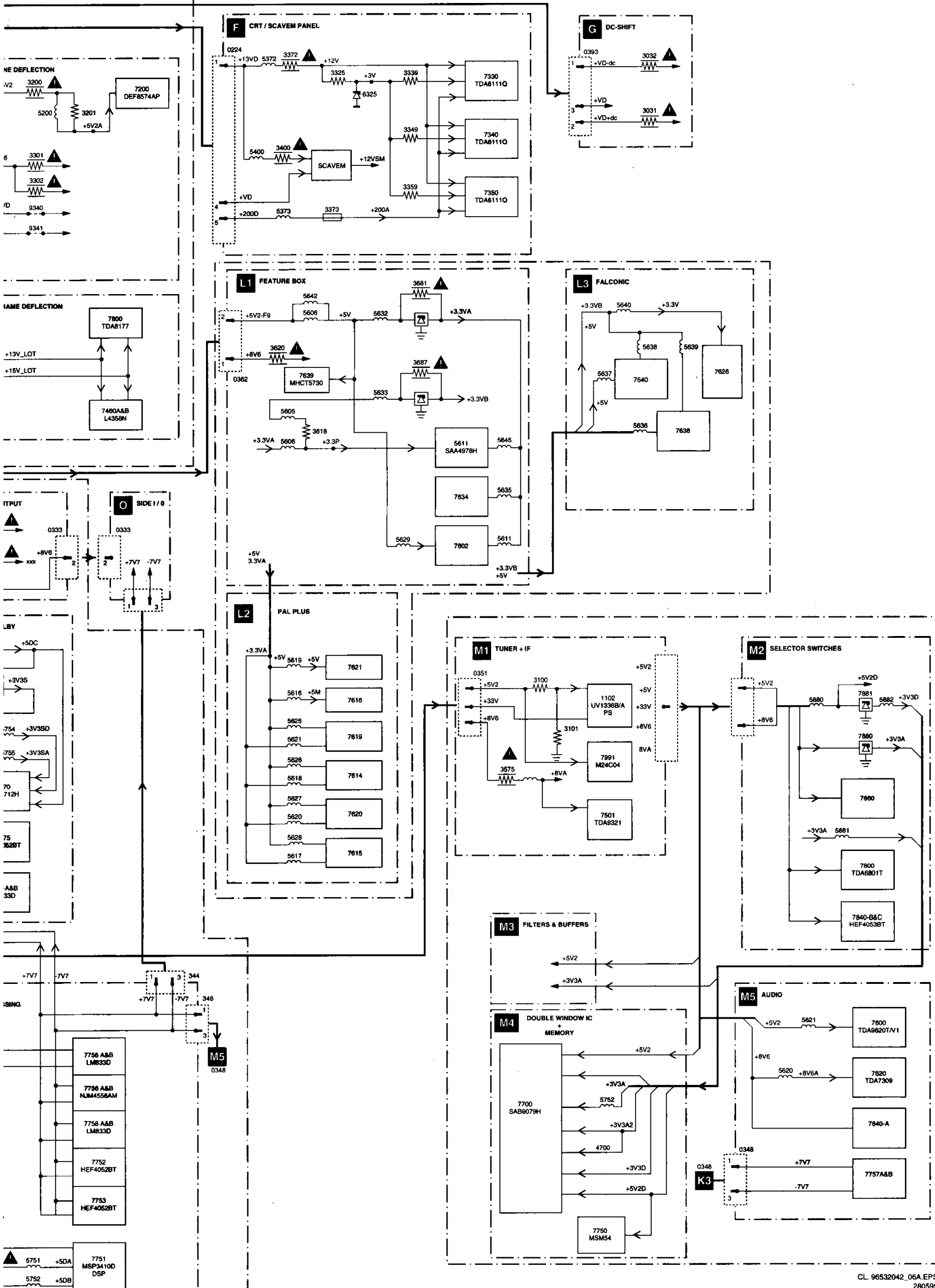
ROL



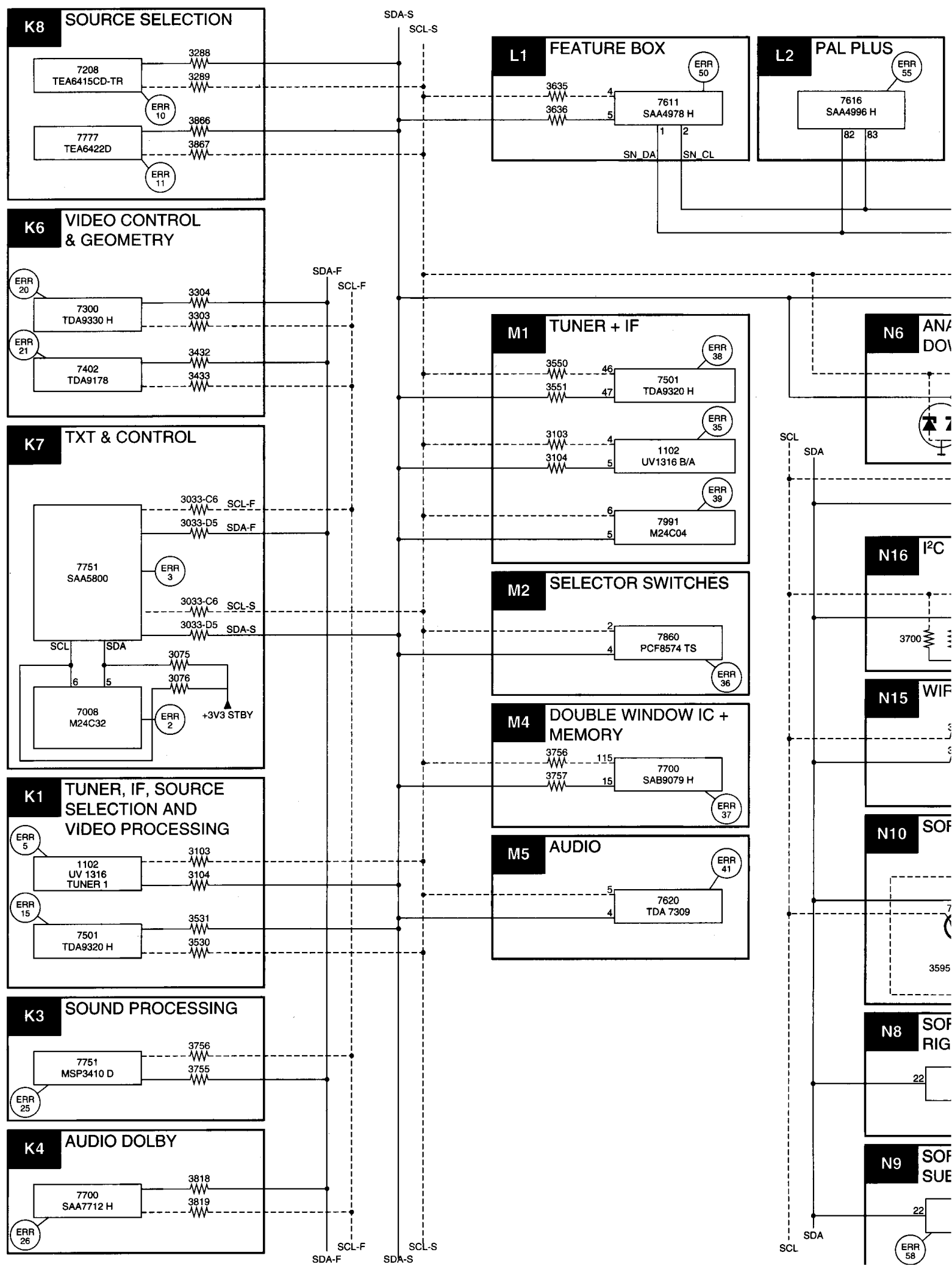
Waveforms

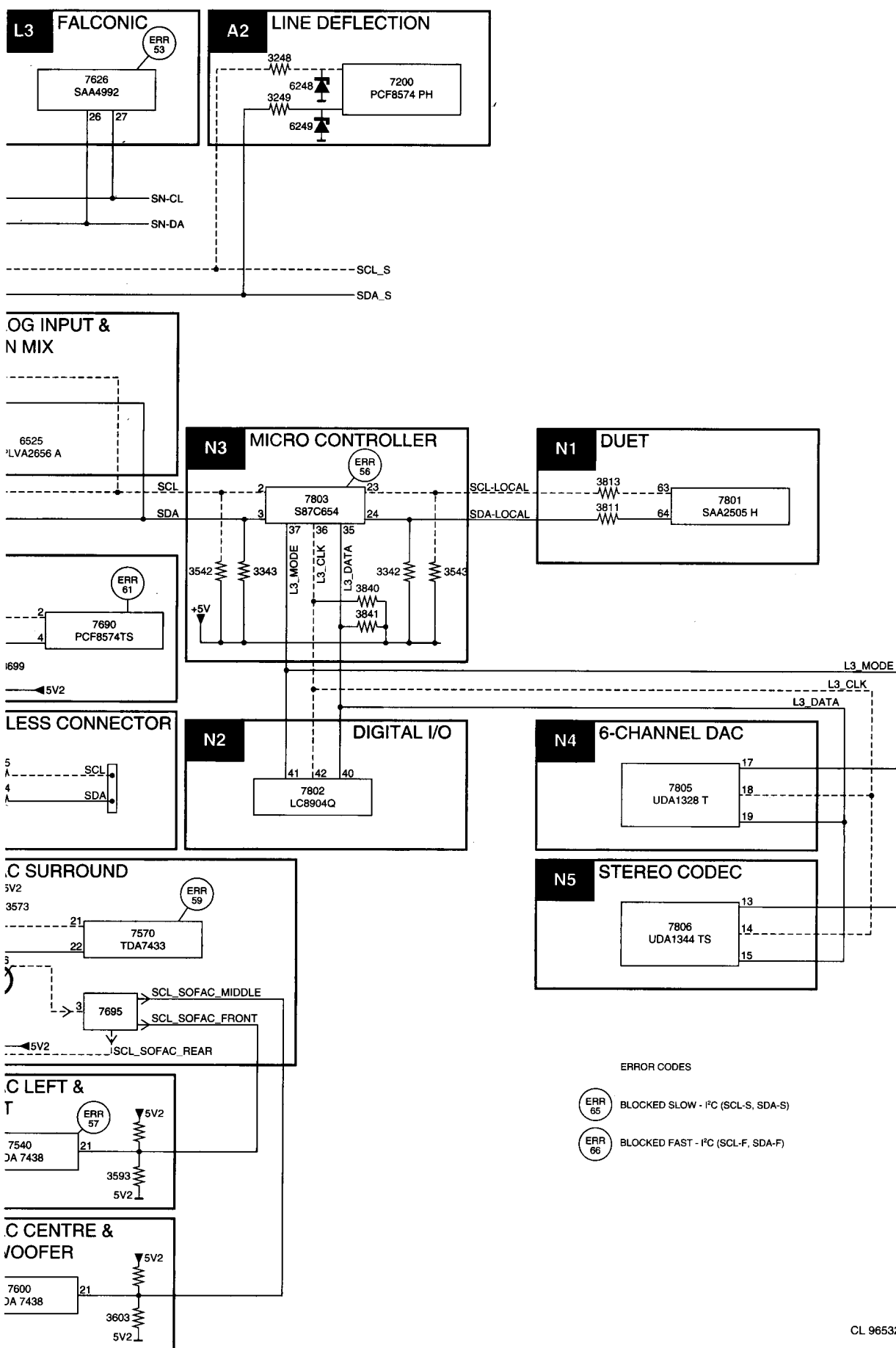






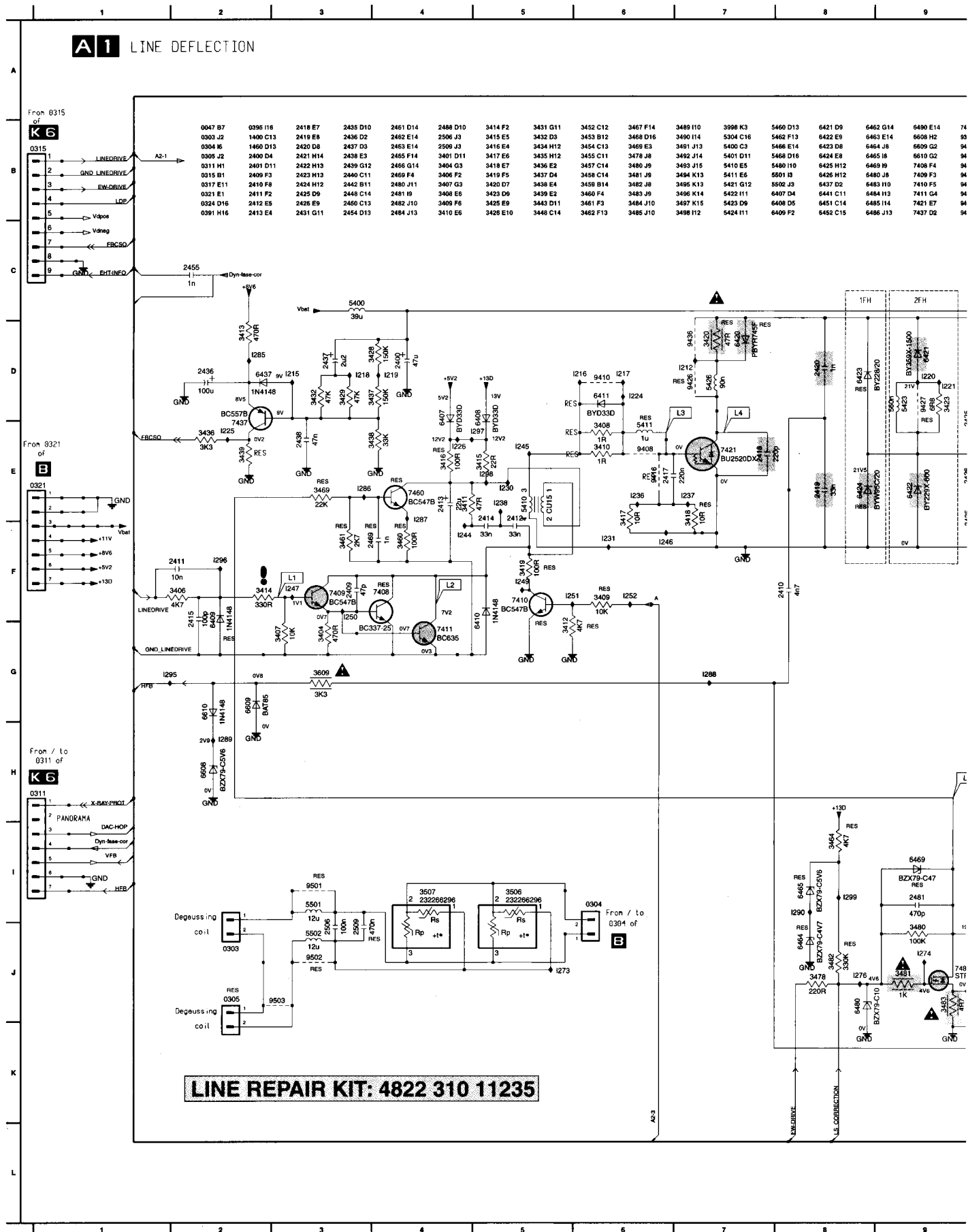
IIC IC's overview





7. Circuit diagrams and PWB lay-outs

Line deflection



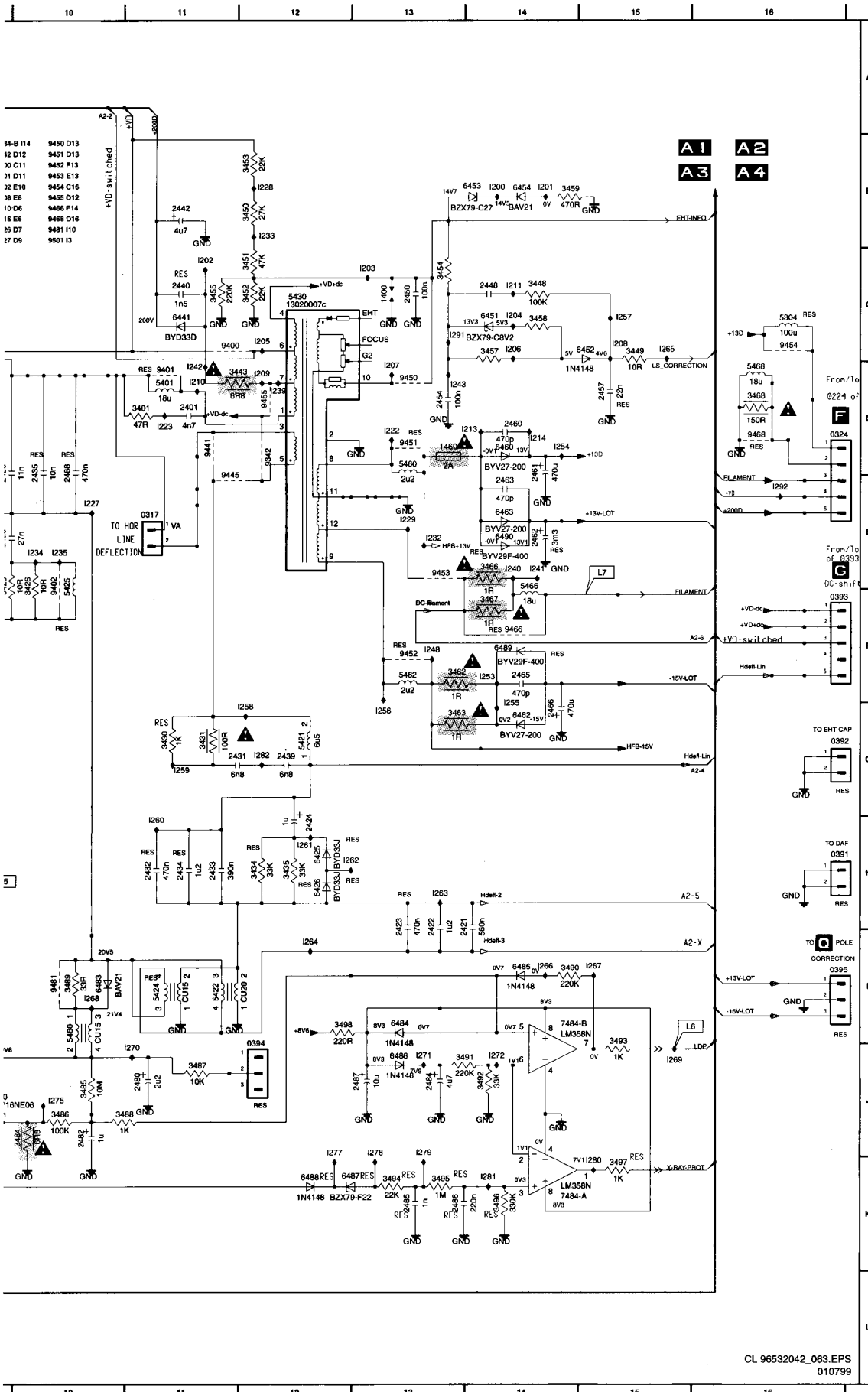
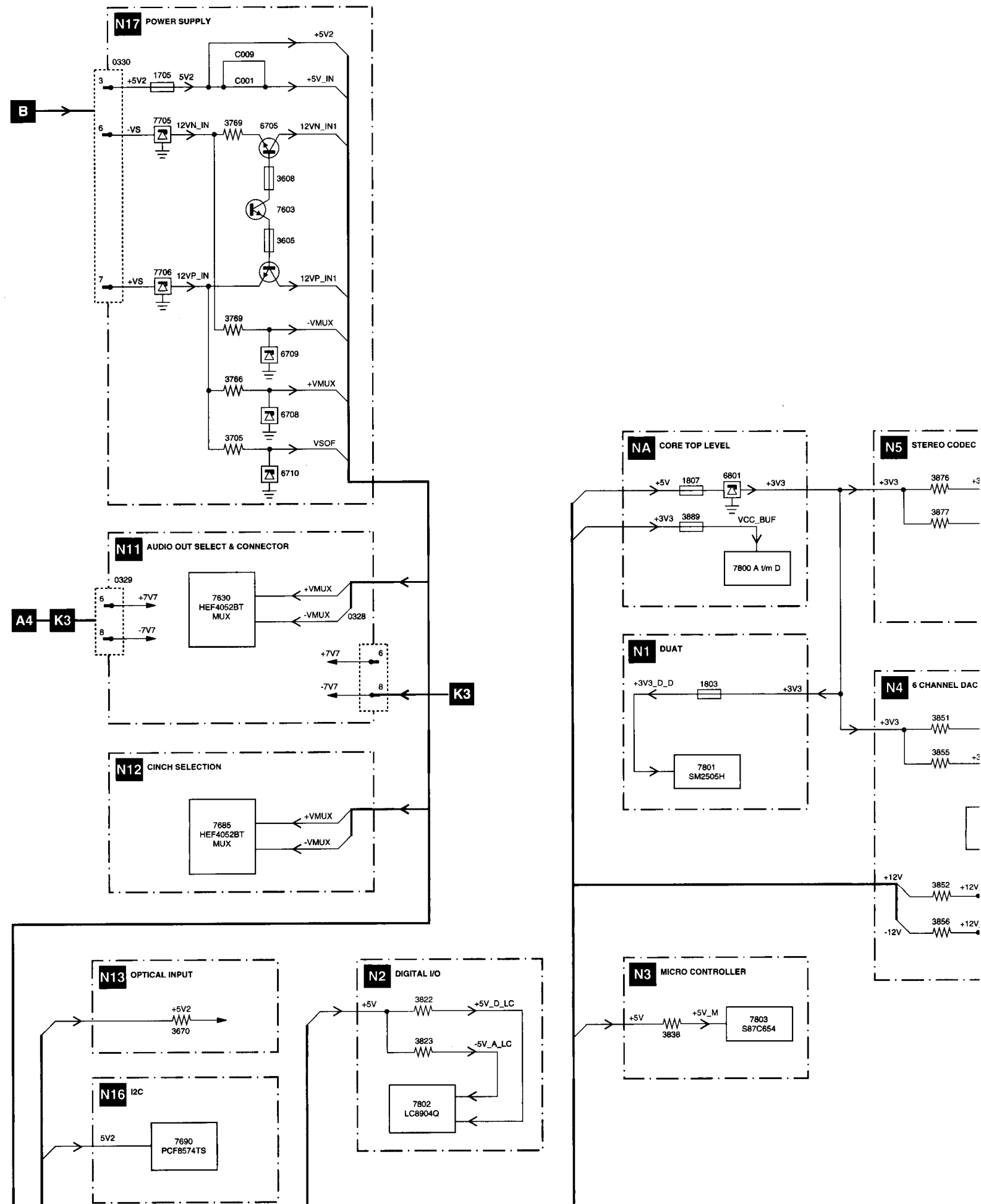
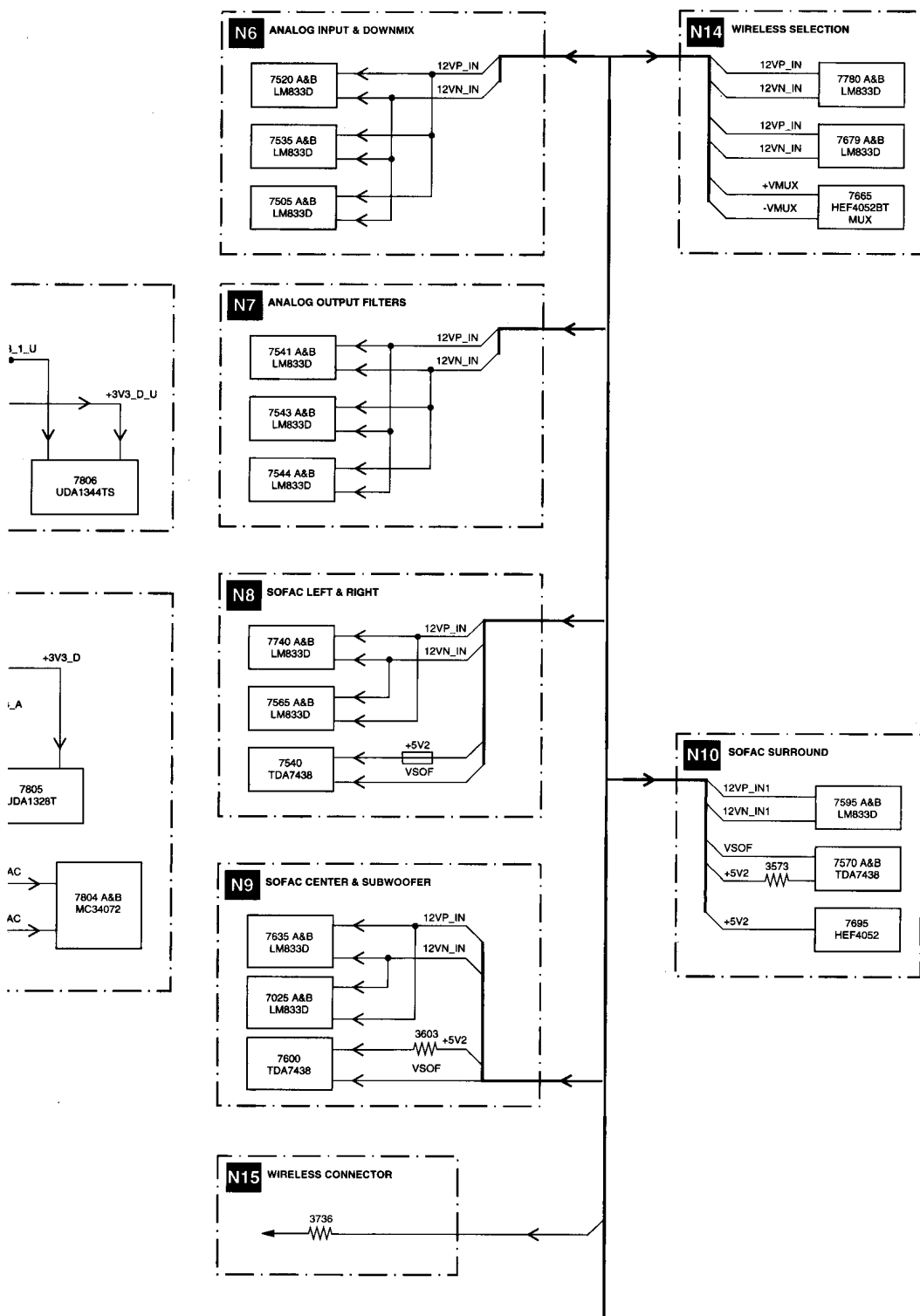


Diagram A1	1	28" WS			
	2	32" WS			
	3	29" SF			
Item	1	2	3	Description	
A	0391				4822 267 10973
	0392				4822 267 10973
	0394				4822 267 10969
	0395				4822 267 10969
	2401	X	X	X	4.7nF
	2419	X	X	X	33nF
	2420	X	X	X	1nF
	2421	X	X	X	560nF
	2421	X	X		560nF
	2422	X	X		1.2uF
B	2425	X	X	X	10nF
	2426	X	X	X	24nF
	2426	X	X		27nF
	2433	X			390nF
	2433	X	X		560nF
	2433	X	X		430nF
	2448	X			8.2nF
	2448	X			12nF
	2448	X	X	X	1nF
	2455	X	X	X	1nF
C	2461	X	X	X	470uF
	2466	X	X	X	470uF
	2506	X	X	X	100nF
	2625				47nF
	3401	X	X	X	47Q
	3451	X	X	X	27k
	3452	X	X	X	220k
	3455	X	X	X	390k
	3457	X	X		560k
	3457	X			560k
D	3457	X	X	X	120k
	3458	X	X	X	120k
	3458			X	220k
	3465				150Q
	3467				1Q
	3480	X	X	X	56k
	3480		X		68k
	3483	X	X	X	4.7Q
	3484	X	X	X	10Q
	3484		X	X	4.7Q
E	3485	X			5M6
	3485		X	X	7M5
	3487				10k
	3507	X	X	X	PTC/PTC
	3601		X	X	1.5Q
	3601		X		1Q
	3602	X	X		1.5Q
	3602		X	X	1Q

Supply lines overview (cont.)





Frame deflection

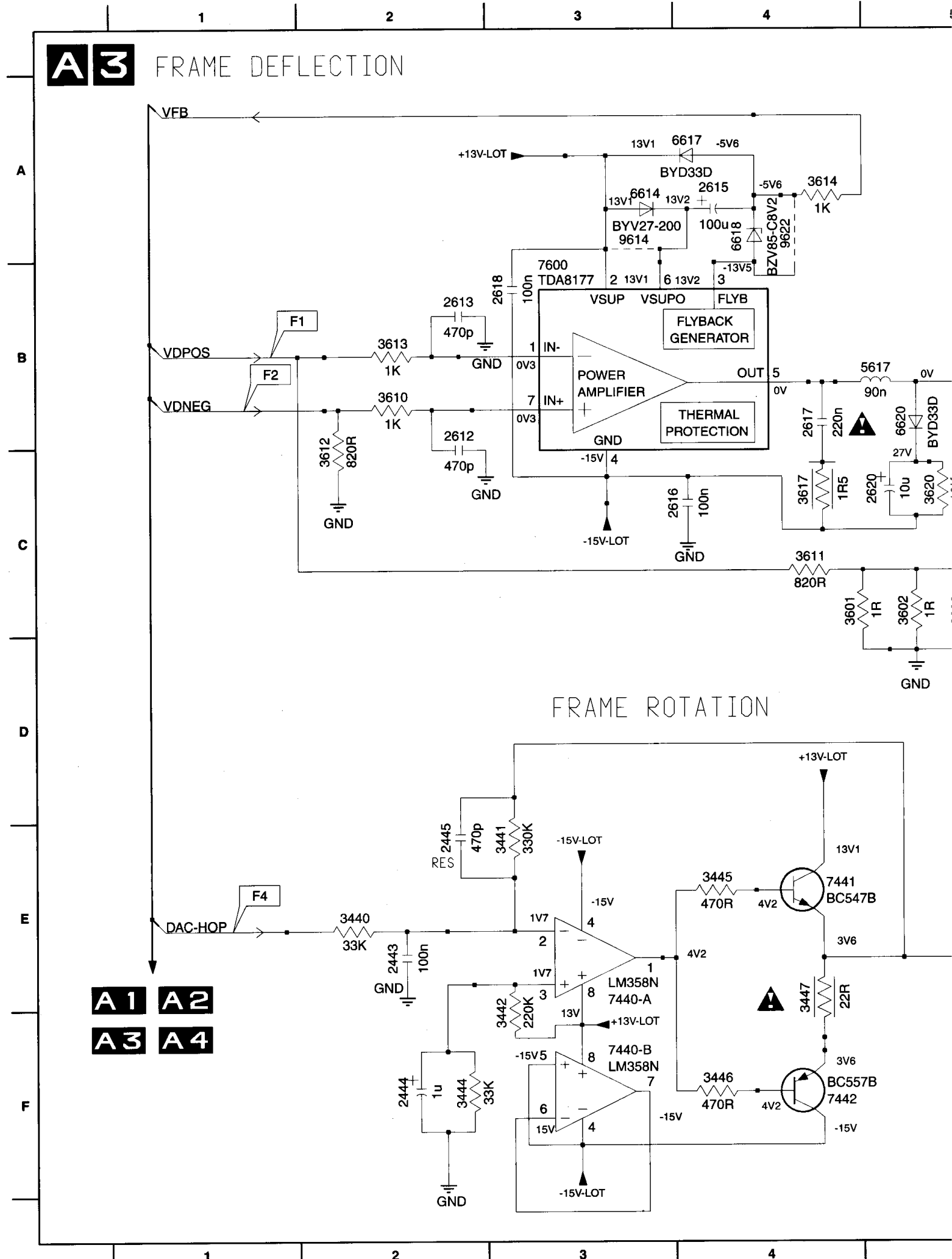
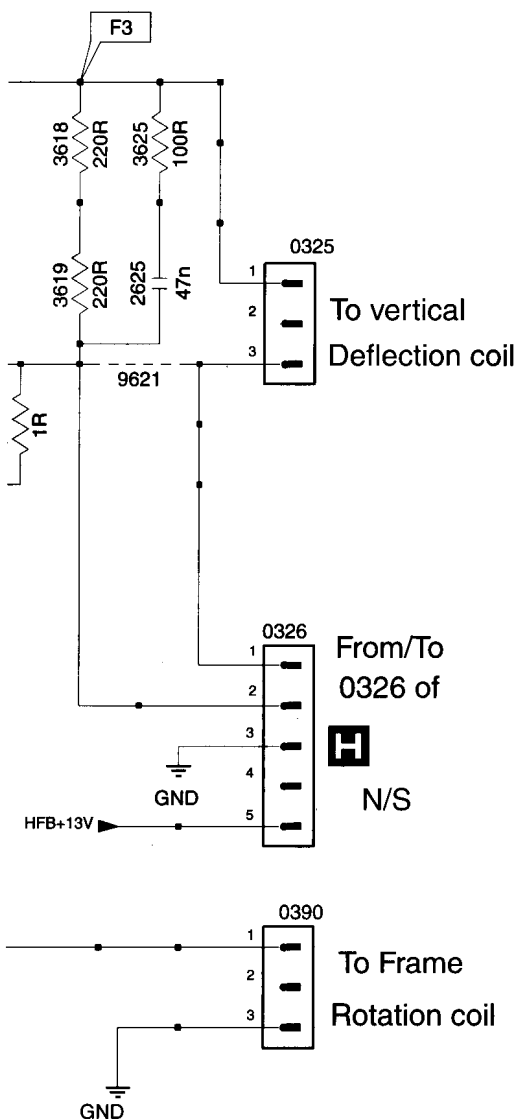


Diagram	1	Rotation	
A3	2	No rotation	
Item	1	2	Description
0390	1		4822 267 10963
3440	1		33k
3441	1		330k
3442	1		220k
3444	1		33k
3445	1		470Ω
3446	1		470Ω
3447	1		22Ω
7440	1		LM358N
7441	1		BC547B
7442	1		BC557B



0325 C6

0326 D6

0390 E6

2443 E2

2444 F2

2445 E2

2612 B2

2613 B2

A 2615 A4

2616 C4

2617 B4

2618 B3

2620 C5

2625 C6

3440 E2

3441 E3

3442 F3

B 3444 F2

3445 E4

3446 F4

3447 E4

3601 C4

3602 C5

3603 C5

3610 B2

3611 C4

C 3612 C2

3613 B2

3614 A4

3617 C4

3618 B5

3619 C5

3620 C5

3625 B6

5617 B5

D 6614 A3

6617 A4

6618 A4

6620 B5

7440-A E3

7440-B F3

7441 E4

7442 F4

7600 B3

9614 A3

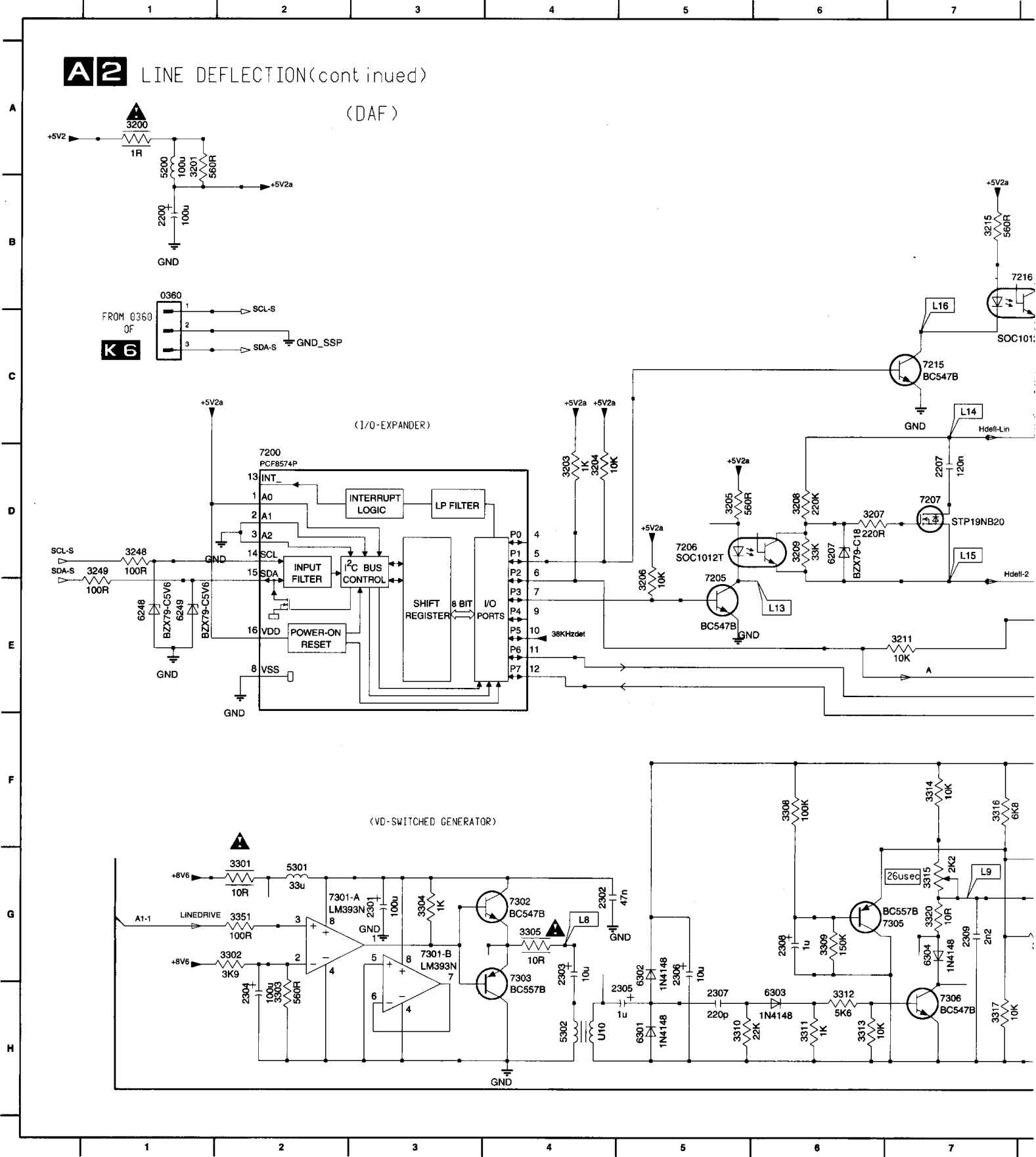
E 9621 C5

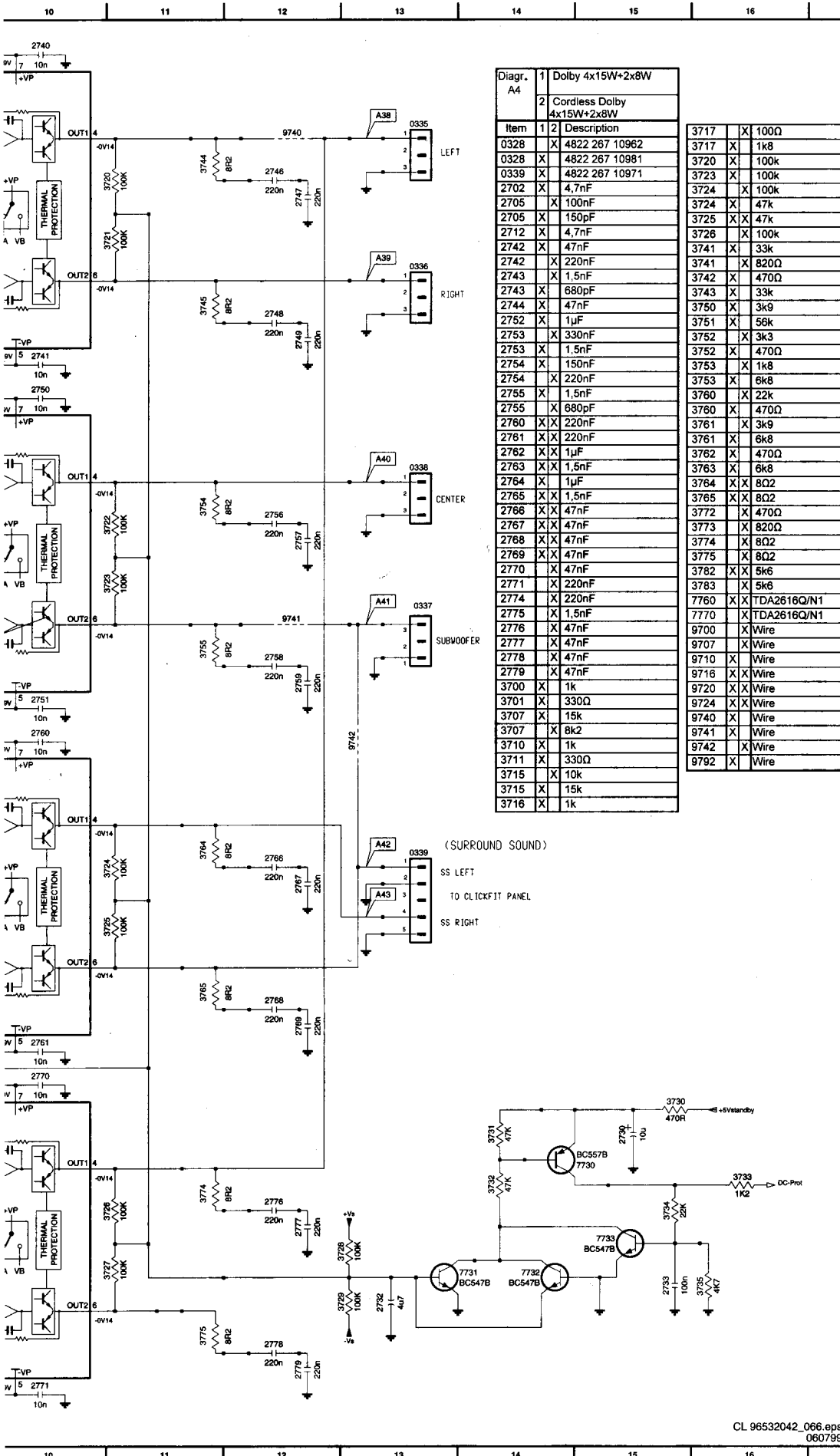
9622 A4

F

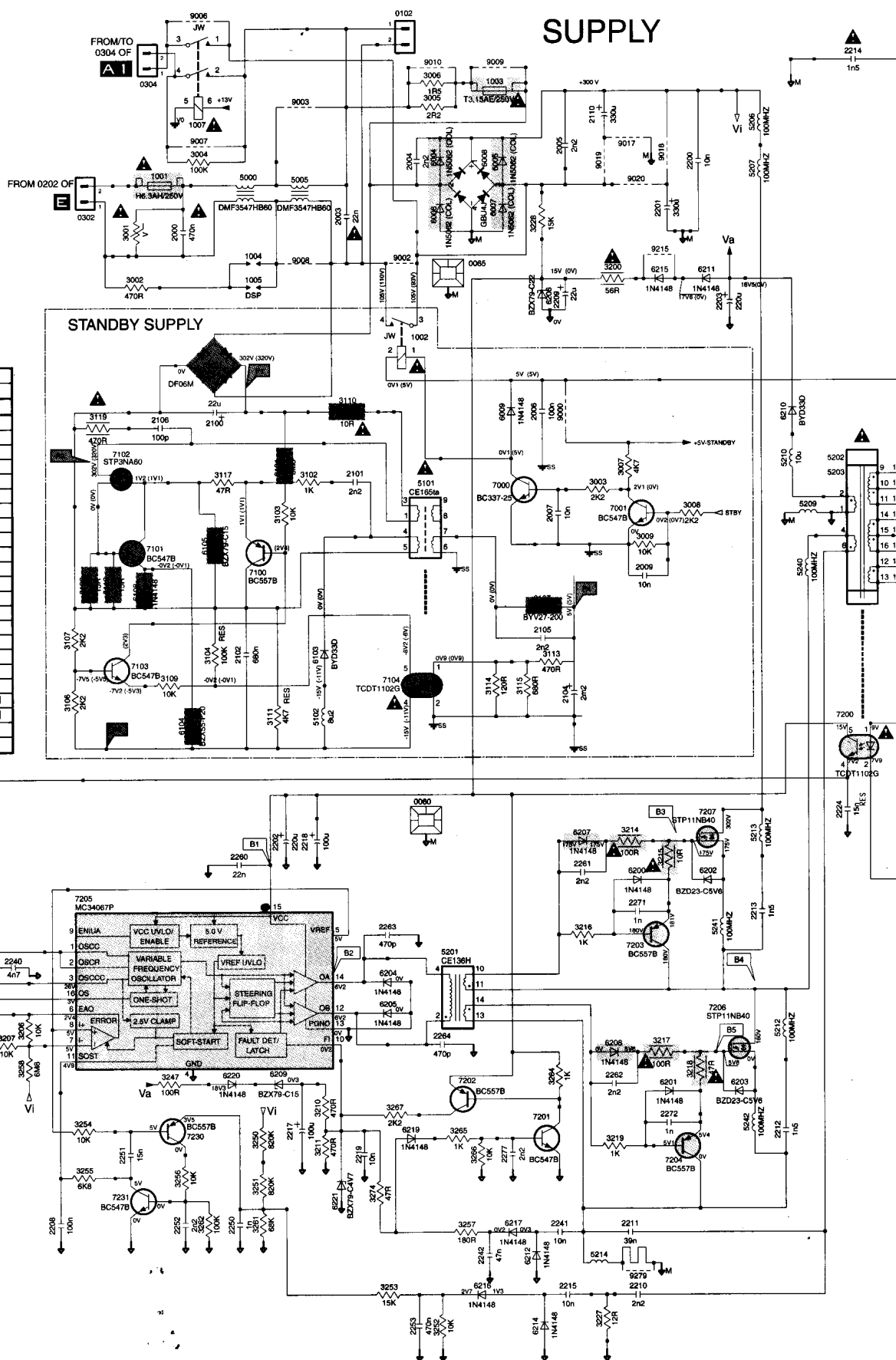
Line deflection (continued)

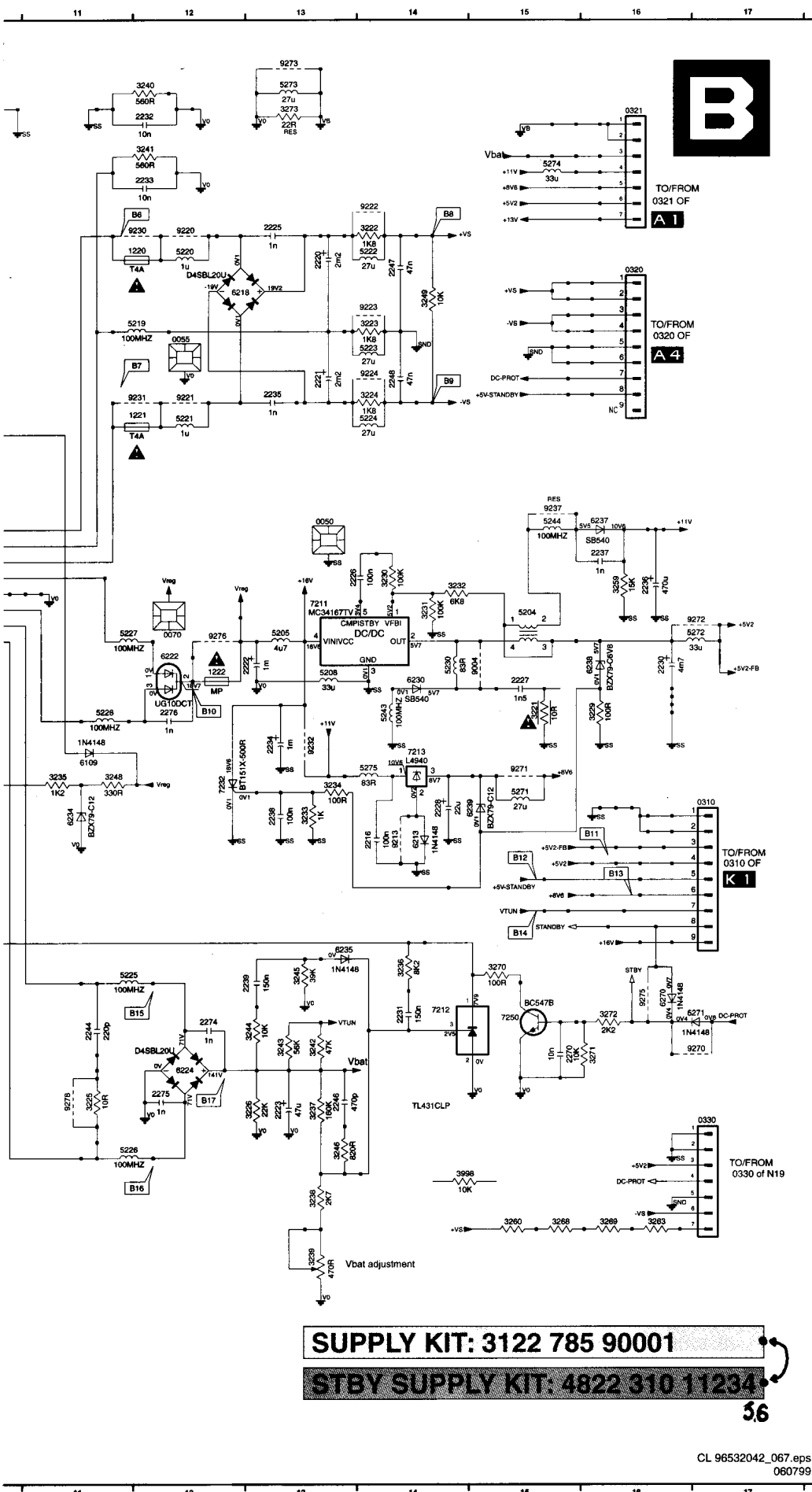
0049 A14	2217 B9	2308 G6	3204 D4	3212 D9	3249 D1	3310 H5	3318 G8	3341 C11	3349 B12	5302 H4	6301 H5	7200 D2	7216 B7	7
0055 D11	2301 G3	2309 G7	3205 D5	3213 D8	3301 G2	3311 H6	3319 F8	3342 C11	3350 B13	5303 G11	6302 G5	7205 E5	7217 B9	7
0056 D11	2302 G4	2312 H11	3206 E5	3214 D8	3302 G2	3312 H6	3320 G7	3343 C11	3351 G2	5405 H10	6303 H6	7206 D5	7301-A G2	7
0058 E11	2303 G4	2340 C12	3207 D6	3215 B7	3303 H2	3313 H6	3322 G9	3344 C13	3353 C14	6207 D6	6304 G7	7207 D7	7301-B G3	7
0360 B1	2304 H2	2341 B13	3208 D6	3217 B8	3304 G3	3314 F7	3323 H9	3345 B13	3354 C14	6212 D9	6307 G9	7210 E8	7302 G4	7
2200 B1	2305 H5	3200 A1	3209 D6	3218 B8	3305 G4	3315 G7	3324 G10	3346 C13	3355 D14	6217 B8	6308 H10	7211 D8	7303 G4	7
2207 D7	2306 G5	3201 A1	3210 D8	3219 B8	3308 F6	3316 F7	3325 G11	3347 D13	5200 A1	6248 E1	6340 B13	7212 D9	7305 G6	7



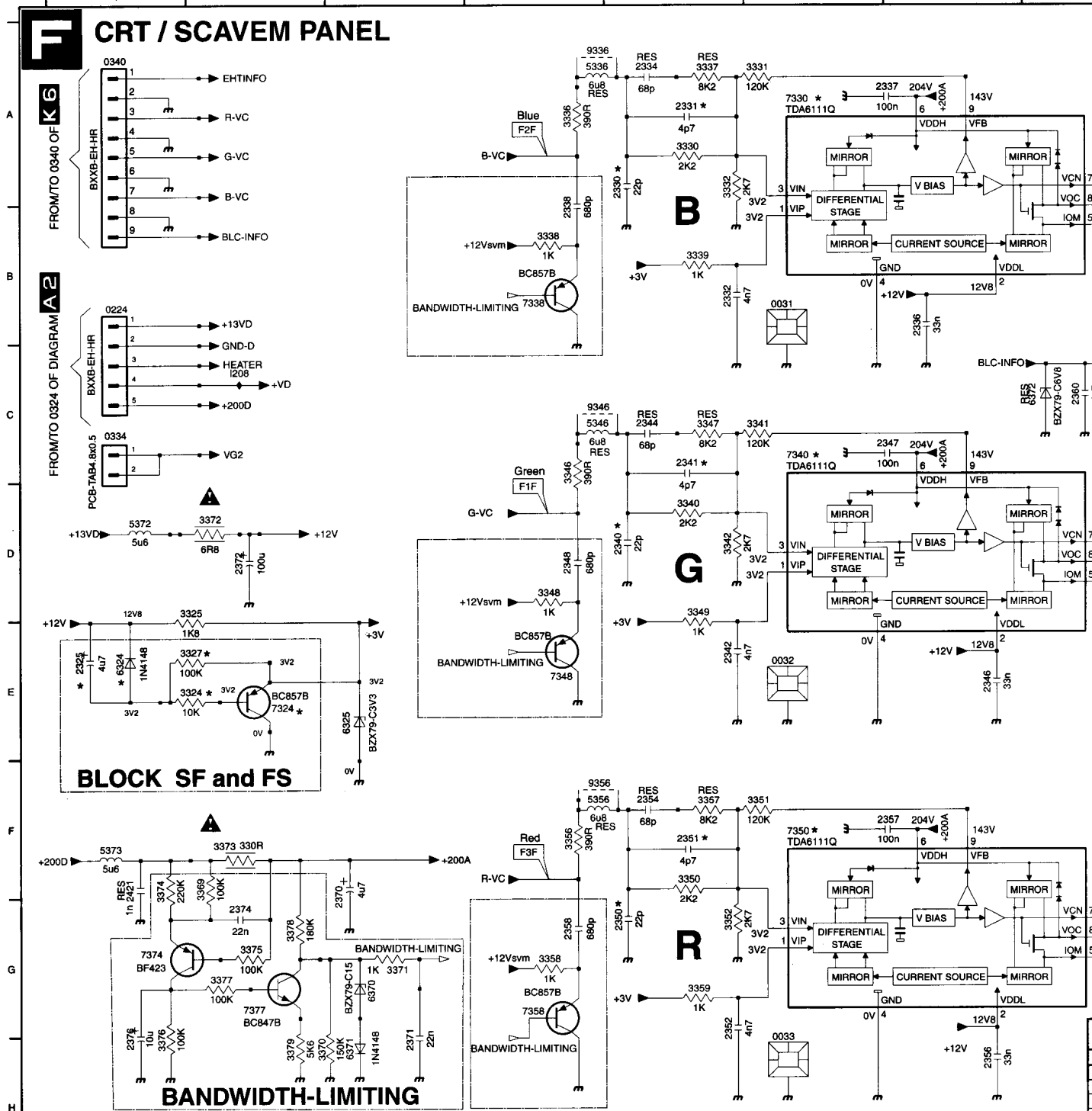


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0043 D16 3772 J7
0044 D16 3773 J7
0320 H1 3774 J11
0328 B1 3775 L11
0335 A13 3780 B8
0336 C13 3781 D8
0337 E13 3782 G8
0338 D13 3783 J8
0339 H13 3785 K6
2701 E5 3786 K6
2702 I5 3787 K5
2704 F3 3790 J4
2705 F5 3791 K4
2711 D5 5701 C2
2712 G5 5702 D2
2714 C4 6790 J4
2715 D5 6791 K4
2730 J15 7700-A C5
2732 K13 7700-B E5
2733 K15 7710 J4
2738 B6 7720 L4
2739 C6 7730 J15
2740 A10 7731 K14
2741 C10 7732 K14
2742 C7 7733 K15
2743 C8 7740 A8
2744 A7 7750 D8
2745 B8 7760 G8
2746 B12 7770 J8
2747 B12 7780 K6
2748 C12 9700 G6
2749 C12 9740 A12
2750 D10 9741 F12
2751 F10 9742 G13
2752 F6 9790 J3
2753 F8 9791 K3
2754 D6 9792 D2
2755 D8 9793 G2
2756 E12 9794 H3
2757 E12
2758 F12
2759 F12
2760 G10
2761 I10
2762 H6
2763 I8
2764 G6
2765 G8
2766 H12
2767 H12
2768 I12
2769 I12
2770 I10
2771 L10
2774 J6
2775 J8
2776 K12
2777 K12
2778 L12
2779 L12
2780 K7
2790 J3
2791 K3
2792 J3
2793 K3
2794 J4
2795 K4
3700 I5
3701 I5
3703 E3
3704 F4
3705 F3
3707 F5
3710 G5
3711 G5
3714 C3
3715 C4
3716 D4
3717 D5
3720 B11
3721 B11
3722 E11
3723 E11
3724 H11
3725 H11
3726 K11
3727 K11
3728 K13
3729 K13
3730 J15
3731 J14
3732 J14
3733 J16
3734 K15
3735 K16
3740 C7
3741 C7
3742 A7
3743 B7
3744 B11
3745 C11
3746 A5
3747 C6
3750 F7
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3755 F11
3760 I7
3761 I7
3762 G7
3763 G7
3764 G11

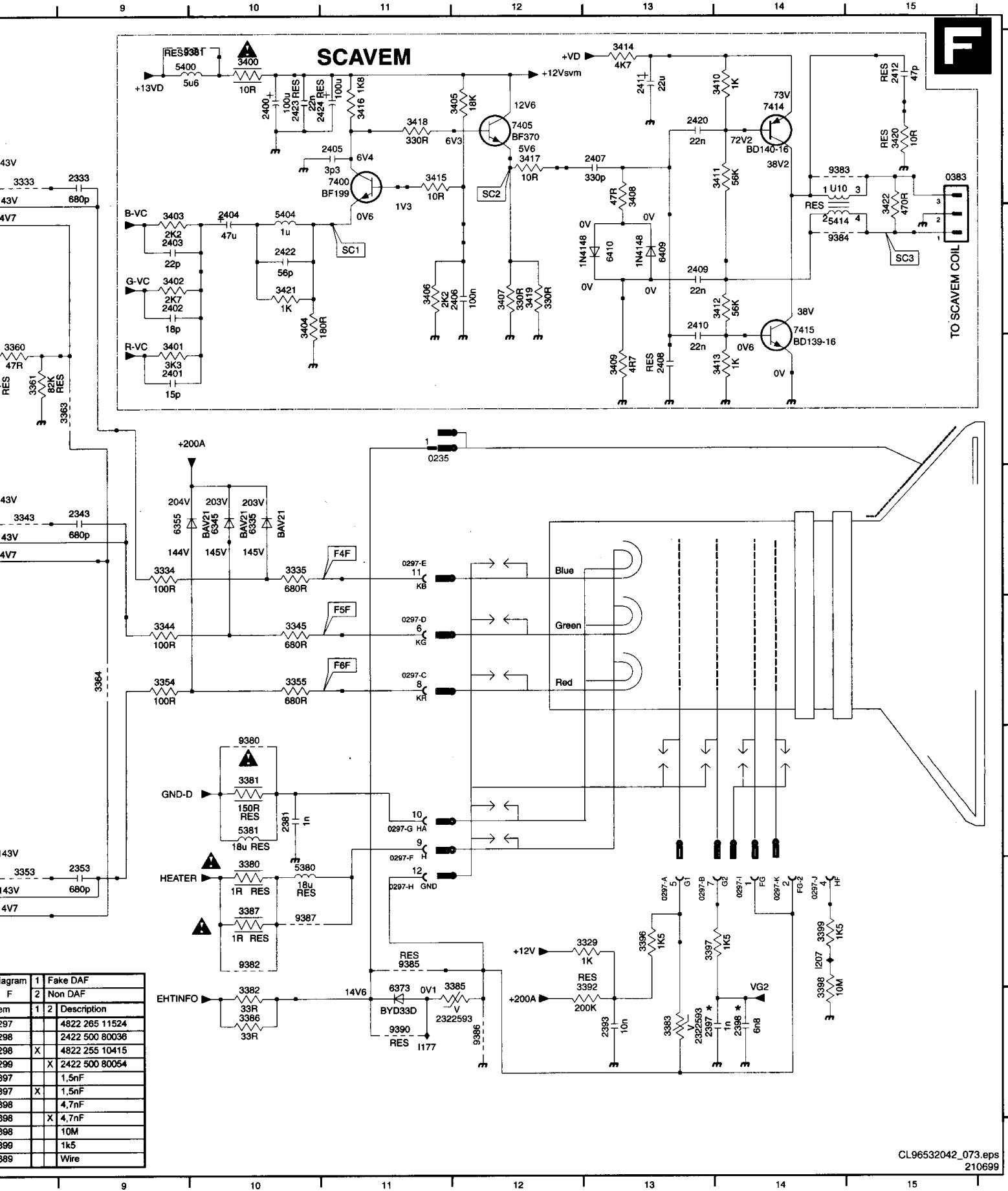
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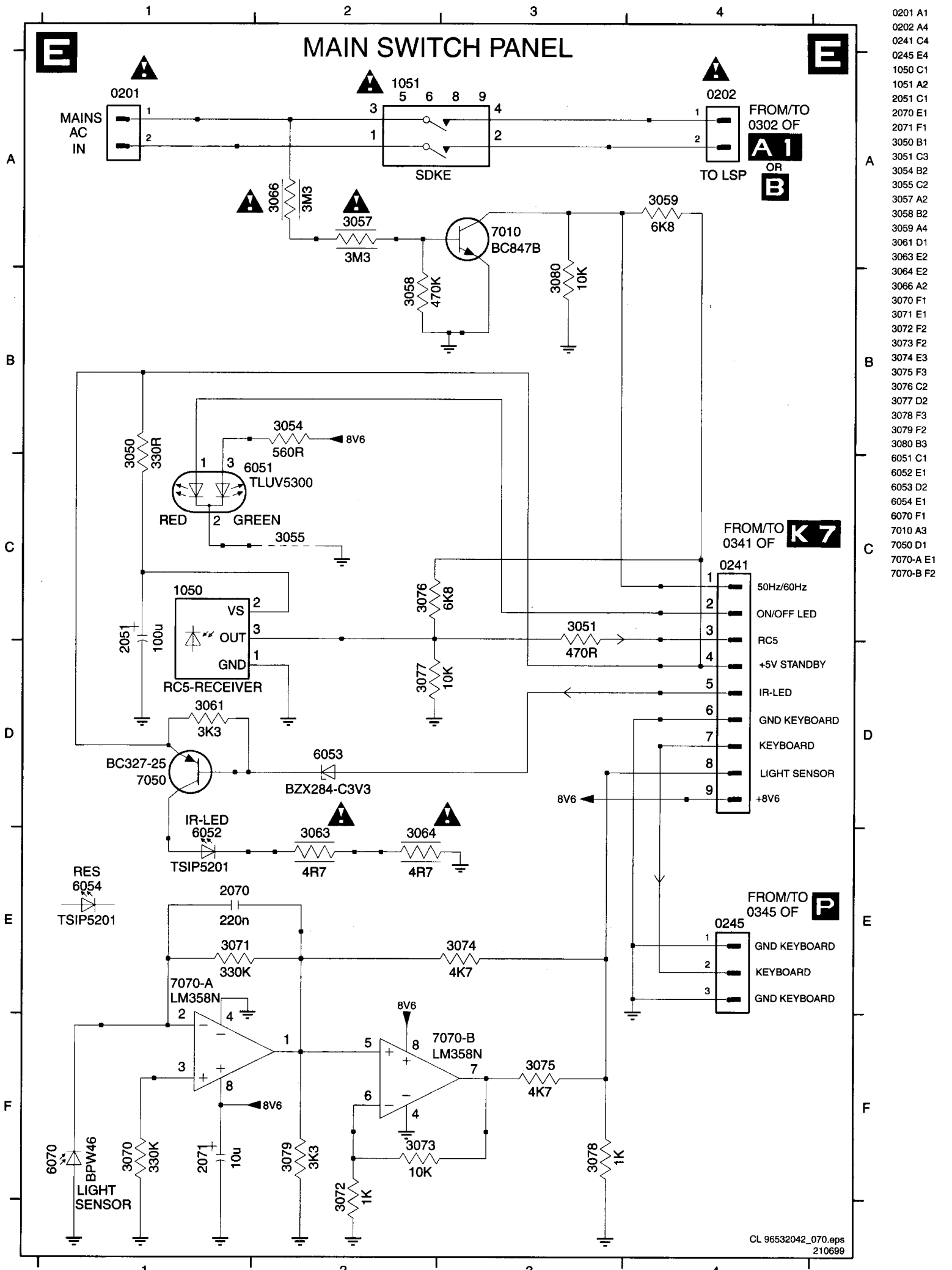
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U2 K16	3207 J2	6212 L7
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0055 C12	3209 K2	6214 M7
0060 H6	3210 K5	6215 C8
0065 C6	3211 K5	6216 L6
0070 F12	3214 H8	6217 L7
0102 A6	3215 I8	6218 C12
0302 C3	3216 I7	6219 K6
0304 A4	3217 J8	6220 K4
0310 G17	3218 J8	6221 L5
0320 C16	3219 K8	6222 F12
0321 A16	3221 G15	6224 J12
0330 J17	3222 B14	6230 F14
0331 G8	3223 C14	6234 H11
1001 B4	3224 D14	6235 I13
1002 D6	3225 J11	6237 E16
1003 A7	3226 J13	6238 F16
1004 C4	3227 M8	6239 H15
1005 C4	3228 C7	6270 I16
1007 B4	3229 G16	6271 I17
1220 C12	3230 E14	7000 E7
1221 D12	3231 F14	7001 E8
1222 F12	3232 F14	7100 F5
2000 C4	3233 H13	7101 F5
2003 C5	3234 G13	7102 E3
2004 B6	3235 G11	7103 G3
2005 B7	3236 I14	7104 G6
2006 D7	3237 J13	7200 G10
2007 E7	3238 K13	7201 K7
2009 F8	3239 K13	7202 K6
2100 E4	3240 A12	7203 I8
2101 E5	3241 B12	7204 K8
2102 G4	3242 J13	7205 I3
2104 G7	3243 J13	7206 J9
2105 F7	3244 J13	7207 H9
2106 E4	3245 I13	7211 F13
2107 G8	3246 K13	7212 I14
2110 B8	3247 K4	7213 G14
2200 B8	3248 G11	7230 K4
2201 C8	3249 C14	7231 L3
2202 H5	3250 K4	7232 G12
2203 C9	3251 L4	7250 I15
2204 J1	3252 M6	9000 D7
2205 J1	3253 L6	9002 C8
2206 J2	3254 K3	9003 B5
2207 K1	3255 K3	9004 F15
2208 L3	3256 K4	9006 A4
2209 C7	3257 L6	9007 B4
2210 L8	3258 J2	9008 C5
2211 L8	3259 E16	9006 A7
2212 K9	3260 K15	9010 A5
2213 I9	3261 L4	9017 B8
2214 A10	3262 L4	9018 B8
2215 L7	3263 K16	9019 B8
2216 H14	3264 K7	9020 B6
2217 K5	3265 K6	9213 H14
2218 H5	3266 K6	9215 C8
2219 K5	3267 K6	9220 B12
2220 C13	3268 K15	9221 D12
2221 D13	3269 K16	9222 B14
2222 F13	3270 I15	9223 C14
2223 J13	3271 J16	9224 D14
2224 H10	3272 I16	9230 B12
2225 B13	3273 A13	9231 D12
2226 E13	3274 L5	9232 G13
2227 F15	3968 K14	9237 E15
2228 H14	5000 B4	9270 J17
2230 F16	6006 B5	9271 G15
2231 I14	5101 E5	9272 F17
2232 A12	5102 G5	9273 A13
2233 B12	5103 G8	9275 I16
2234 G13	5104 G8	9276 F12
2235 D13	5201 I6	9278 J11
2236 F16	5202 E10	9279 L8
2237 E16	5203 E10	
2238 H13	5204 F15	
2239 I13	5205 F13	
2240 I2	5206 B9	
2241 L7	5207 B9	
2242 L6	5208 F13	
2244 J11	5209 E9	
2245 J13	5210 E9	
2247 C14	5212 J9	
2248 D14	5213 H9	
2250 L4	5214 L8	
2251 K3	5219 C12	
2252 L4	5220 C12	
2253 M6	5221 D12	
2260 I4	5222 C14	
2261 I7	5223 C14	
2262 K8	5224 D14	
2263 I6	5225 I11	
2264 J6	5226 K11	
2270 J15	5227 F11	
2271 I8	5228 G11	
2272 K8	5230 F14	
2274 I12	5240 F9	
2275 J12	5241 I9	
2276 G12	5242 K9	
2277 K7	5243 G14	
3001 C3	5244 E15	
3002 C3	5271 G15	
3003 E8	5272 F17	
3004 B4	5273 A13	
3005 B6	5274 B15	
3006 A6	5275 G14	
3007 E8	6004 B6	
3008 E8	6005 B7	
3009 F8	6006 C6	
3101 E5	6007 C7	
3102 E5	6008 B7	
3103 E5	6009 D7	
3104 G4	6101 D4	
3106 G3	6103 G5	
3107 G3	6104 G4	
3108 F3	6105 F4	
3109 G4	6106 F7	
3110 D6	6107 F7	
3111 G5	6108 F3	
3113 G7	6109 G11	
3114 G7	6200 I8	
3115 G7	6201 K8	
3116 G8	6202 I8	
3117 E4	6203 K9	
3118 F3	6204 J6	
3119 D3	6205 J6	
3200 C8	6206 C7	
3202 I2	6207 H7	
3203 I1	6208 J8	
3204 J1	6209 K5	
3205 J2	6210 D9	



6355 D9	7338 B4	7414 A14	9384 B14
6370 G3	7340 C6	7415 B14	9385 G11
6371 H3	7348 E4	9336 A4	9386 H12
6372 C8	7350 F6	9346 C4	9387 G10
6373 H11	7358 G4	9356 F4	9390 H11
6409 B13	7374 G1	9380 F10	
6410 B13	7377 G2	9381 A10	
7324 E2	7400 A11	9382 G10	
7330 A6	7405 A12	9383 A14	

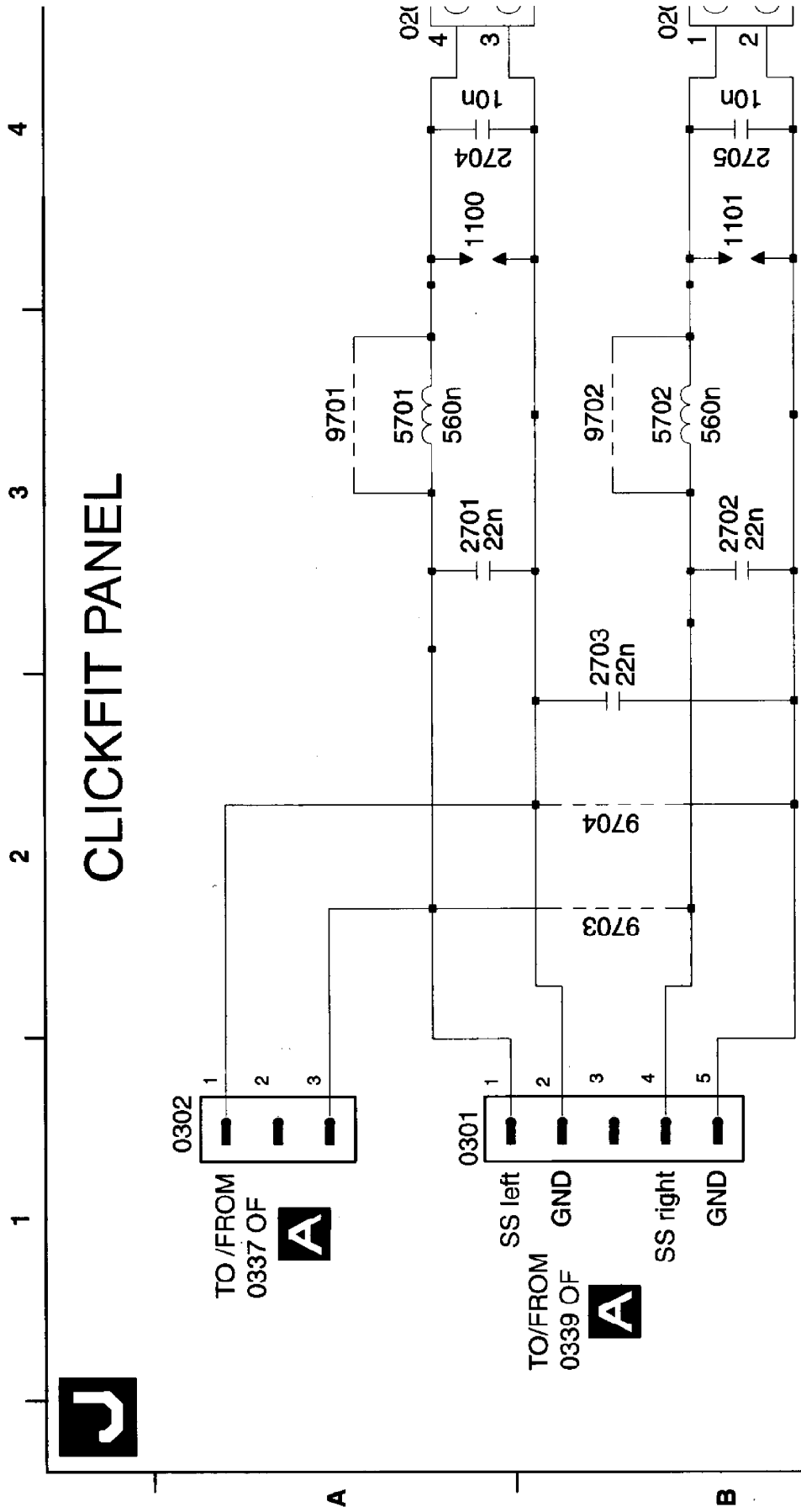


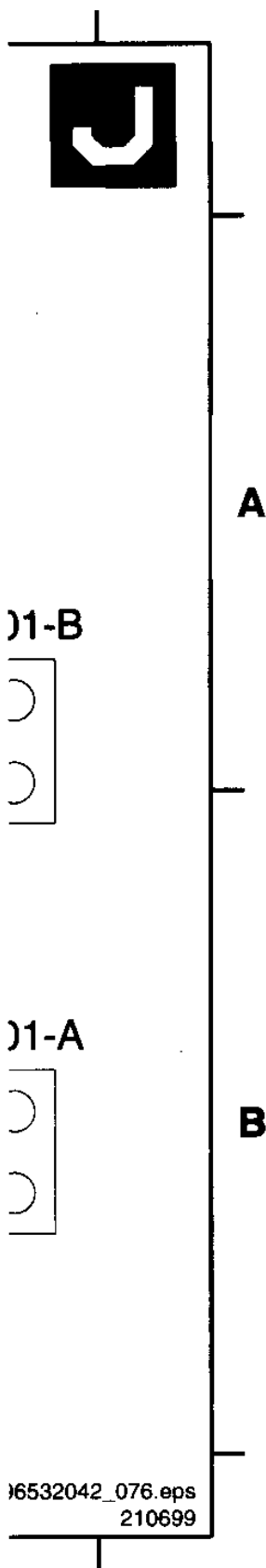
Mainsswitch panel



Clickfit panel

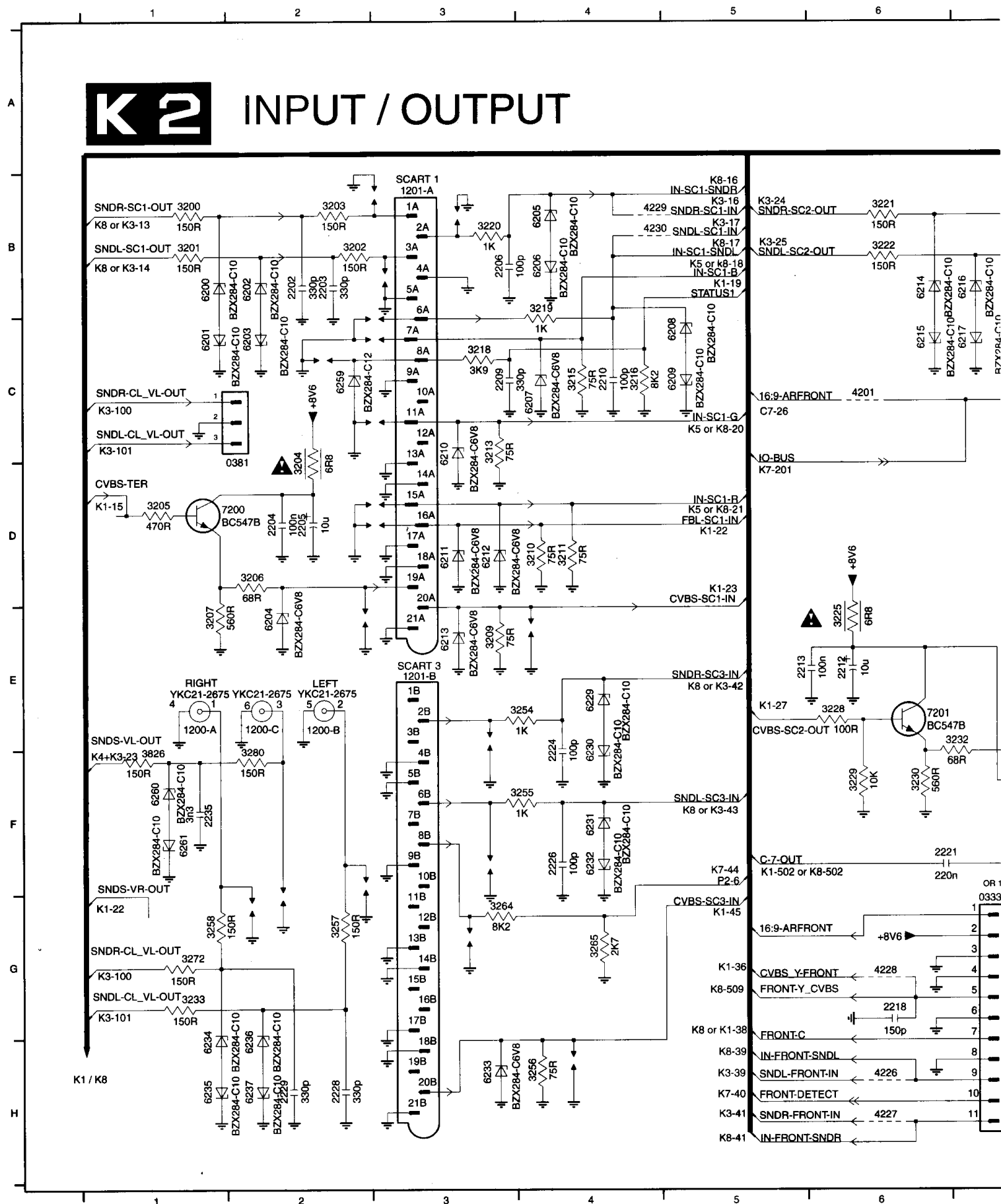
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0201-B A4	1100 A4	2702 B3	2705 B4	5702 B3	9703 B2
0301 A1	1101 B4	2703 B3	3998 B3	9701 A3	9704 B2





Small signal panel

0333 G7	1202-B E10	2212 E6	2222 F9	3200 B1	3209 E3	3220 B3	3230 F6	3243 G8	3253 F8	3270 E11	4227 H6	6204 E2	6213 E3
0376 H8	2126 H9	2213 E5	2224 F4	3201 B1	3210 D4	3221 B6	3231 H12	3244 B11	3254 E4	3271 F11	4228 G6	6205 B4	6214 B6
0381 C1	2202 B2	2215 B7	2226 F4	3202 B2	3211 D4	3222 B6	3232 E7	3245 C10	3255 F4	3272 G1	4229 B4	6206 B4	6215 C6
1200-A E1	2203 B2	2216 B7	2228 H2	3203 B2	3212 E12	3223 B7	3233 G1	3246 B11	3256 H4	3273 G11	4230 B4	6207 C4	6216 B7
1200-B E2	2204 D2	2217 B11	2229 H2	3204 D2	3213 C3	3224 B7	3235 D11	3247 F8	3257 G2	3274 G11	4235 D11	6208 C5	6217 C7
1200-C E2	2205 D2	2218 G6	2235 F1	3205 D1	3215 C4	3225 E6	3236 D11	3248 G8	3258 G1	3280 F2	6200 B1	6209 C5	6218 C7
1201-A B3	2206 B3	2219 C11	2240 E11	3206 D2	3216 C4	3227 G12	3240 C11	3249 G8	3264 G3	3826 F1	6201 C1	6210 C3	6219 E7
1201-B E3	2209 C3	2220 C11	2241 F11	3207 E1	3218 C3	3228 E6	3241 C11	3250 F7	3265 G4	4201 C6	6202 B2	6211 D3	6220 B11
1202-A B10	2210 C4	2221 F6	3147 H8	3208 E11	3219 B4	3229 F6	3242 C12	3252 F8	3266 F8	4226 H6	6203 C2	6212 D3	6221 B11



6222 C11	6231 F4	6241 E11	7203 F8
6223 C12	6232 F4	6242 F11	7204 F8
6224 C12	6233 H3	6243 F11	
6225 C10	6234 H1	6244 H11	
6226 D10	6235 H1	6259 C2	
6227 D11	6236 H2	6260 F1	
6228 E10	6237 H2	6261 F1	
6229 E4	6239 C10	7200 D1	
6230 F4	6240 E11	7201 E6	

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K 2

A

B

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D

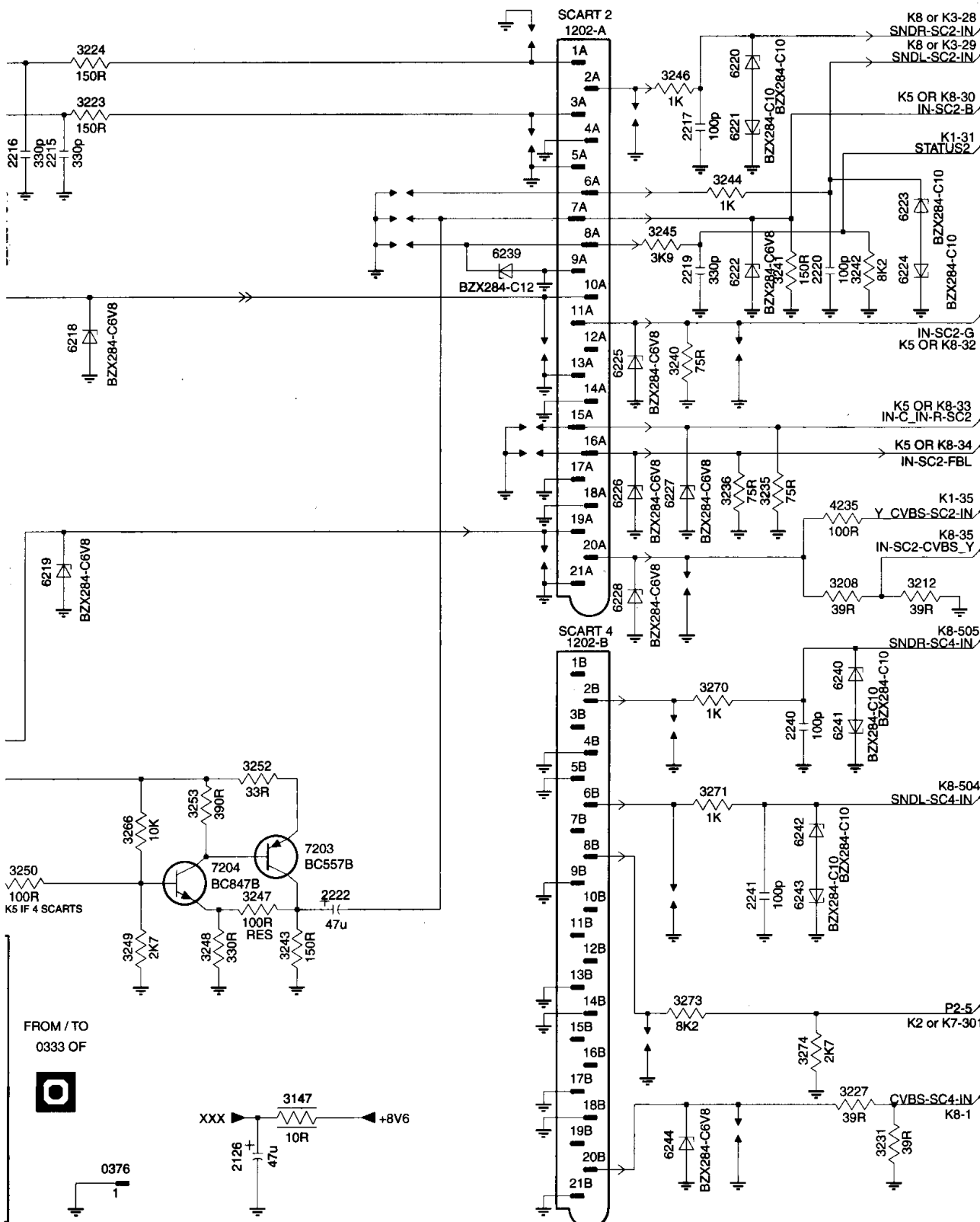
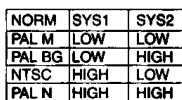
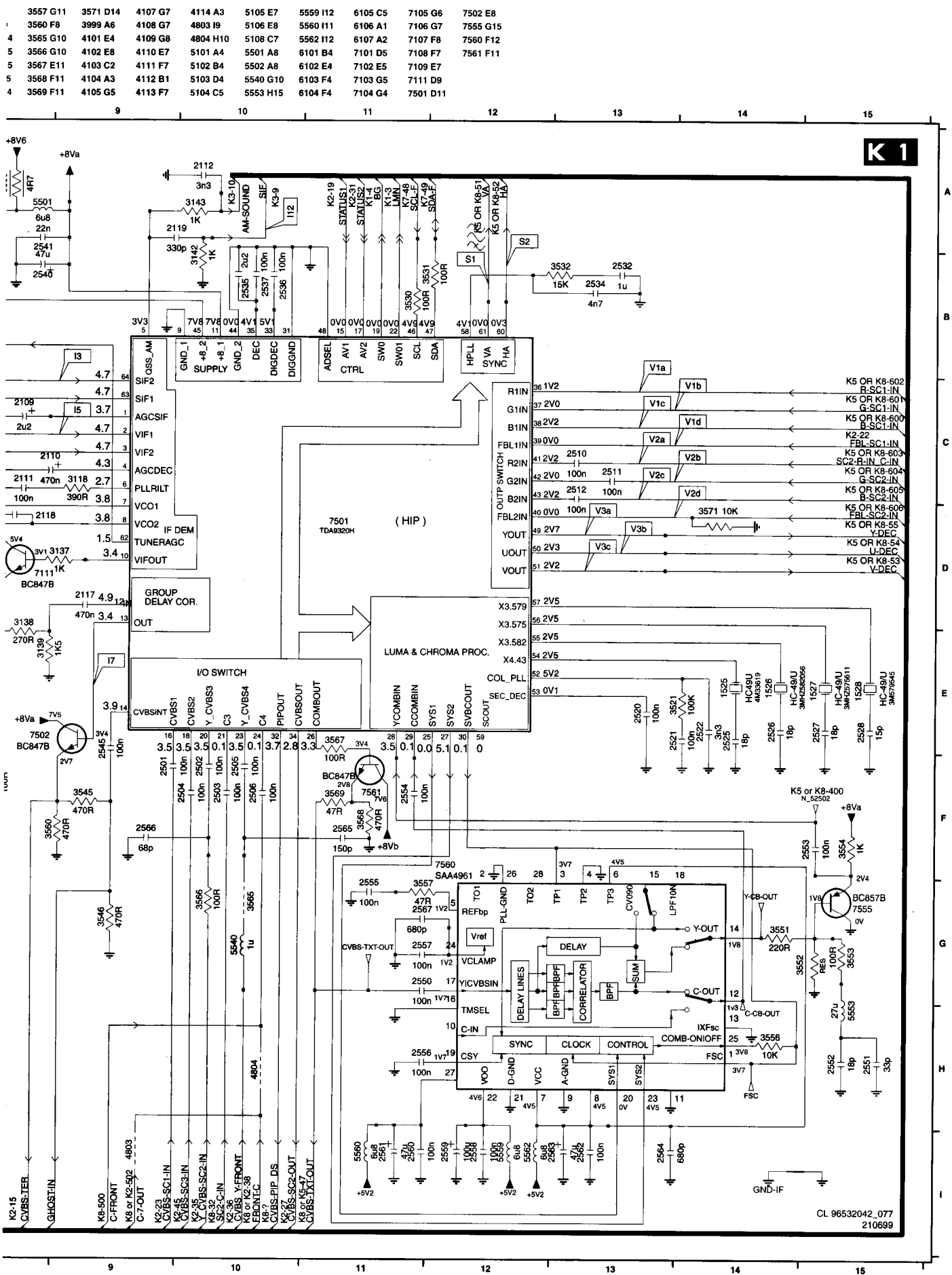


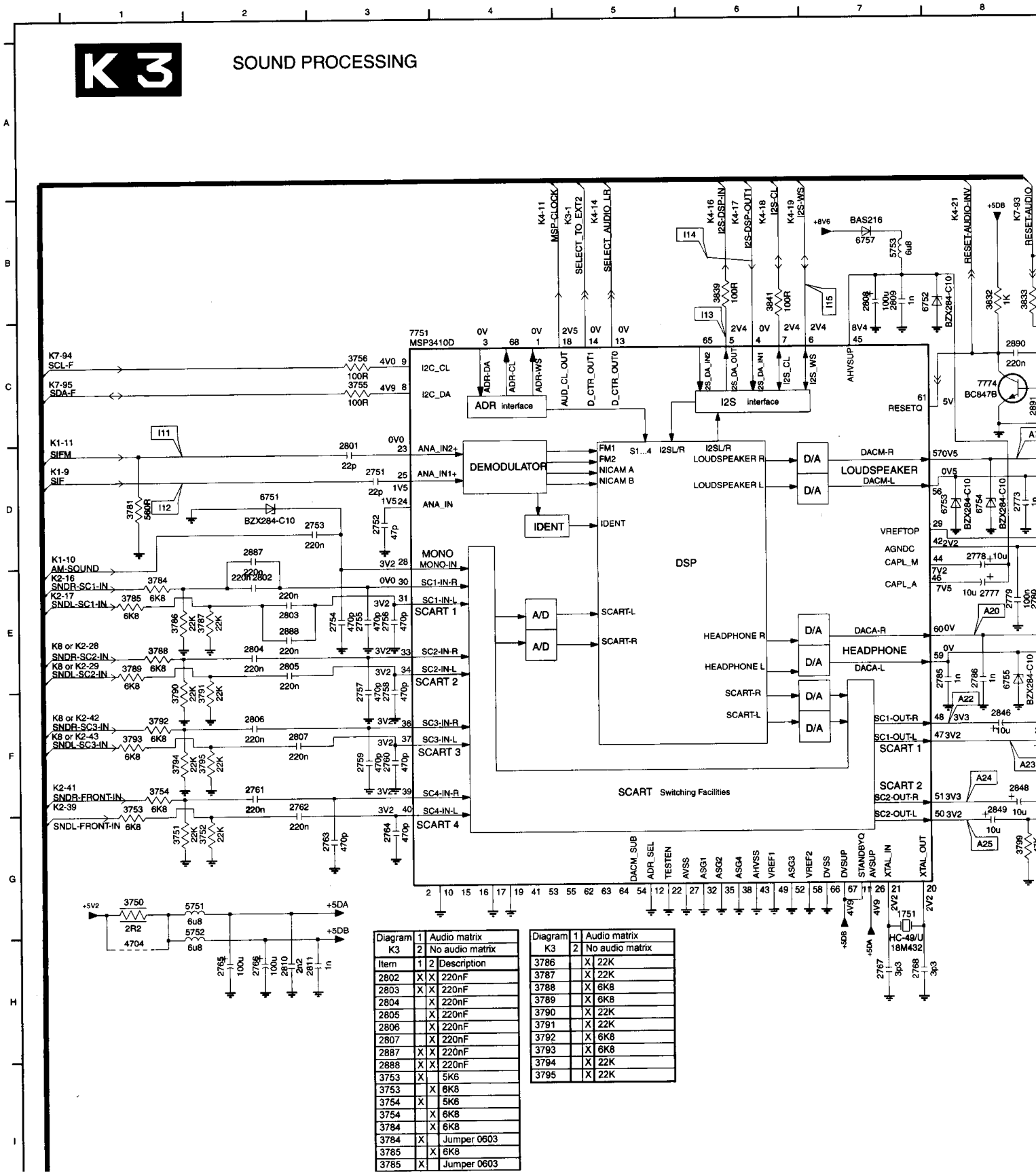
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K2	2	4 x scart	
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1202			4822 267 60385
1202		3	4822 267 10771
2224	2	3	100pF
2226	2	3	100pF
2240		3	100pF
2241		3	100pF
3227		3	39Ω
3231		3	39Ω
3254	2	3	1k
3255	2	3	1k
3256	2	3	75Ω
3264	2	3	8k2
3265	2	3	2k7
3270		3	1k
3271		3	1k
3273		3	8k2
3274		3	2k7
6229	2	3	PDZ10B
6230	2	3	PDZ10B
6231	2	3	PDZ10B
6232	2	3	BZX284-C10
6233	2	3	PDZ6.8B
6240		3	PDZ10B
6241		3	PDZ10B
6242		3	PDZ10B
6243		3	PDZ10B
6244		3	PDZ6.8B

H

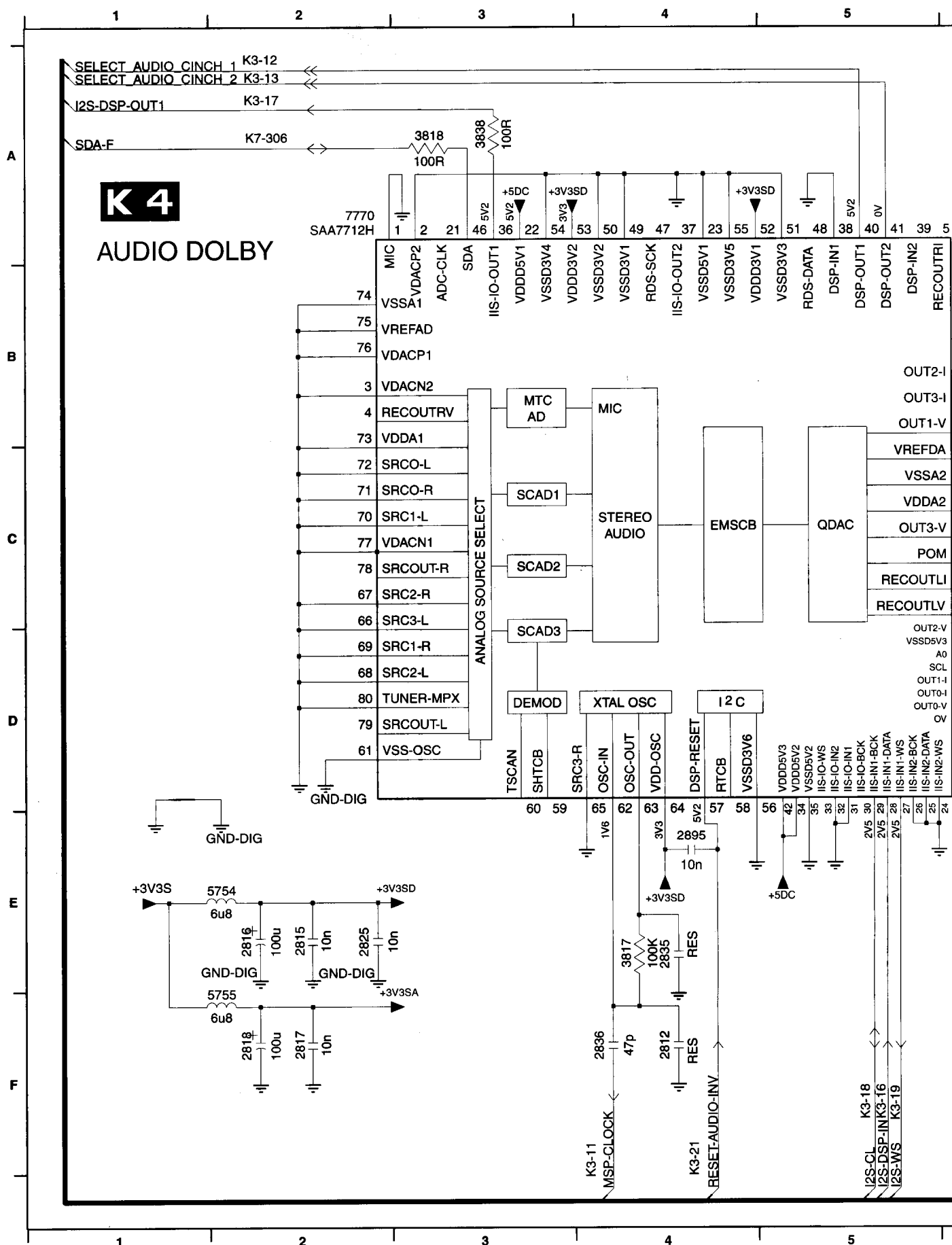
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1101 D3	1109 B6	2104 B4	2111 C8	2121 A3	2505 F10	2522 E14	2535 B10	2545 E9	2556 H11	2563 I13	3103 B2	3112 G4	3119 D7	3135 G7	3142 B10	3151 A3	3546 G1
1102 B3	1525 E14	2105 B5	2112 A10	2125 B2	2506 F10	2525 E14	2536 B10	2550 G11	2557 G11	2564 I13	3104 B1	3113 G4	3121 G7	3136 D8	3143 A10	3521 E13	3551 G1
1104 E6	1526 E14	2106 C4	2116 B1	2127 A4	2510 C13	2526 E14	2537 B10	2551 H15	2558 I12	2565 F11	3106 C4	3114 G5	3122 G6	3137 D9	3145 F8	3530 B11	3552 G1
1105 F6	1527 E15	2107 C4	2117 D9	2501 F9	2511 C13	2527 E15	2538 A7	2552 H15	2559 I12	2566 F9	3107 D5	3115 G5	3123 G6	3138 D8	3146 A2	3531 B11	3553 G11
1106 E7	1528 E15	2108 D4	2118 D8	2502 F10	2512 C13	2528 E15	2539 A7	2553 F15	2560 I11	2567 G11	3109 E4	3116 F4	3124 B7	3139 E8	3148 E7	3532 B13	3554 F1
1107 E8	2101 A4	2109 C8	2119 A9	2503 F10	2520 E13	2532 B13	2540 B8	2554 F11	2561 I11	2569 H3	3110 F4	3117 F5	3133 B5	3140 B1	3149 F7	3538 A8	3556 H1

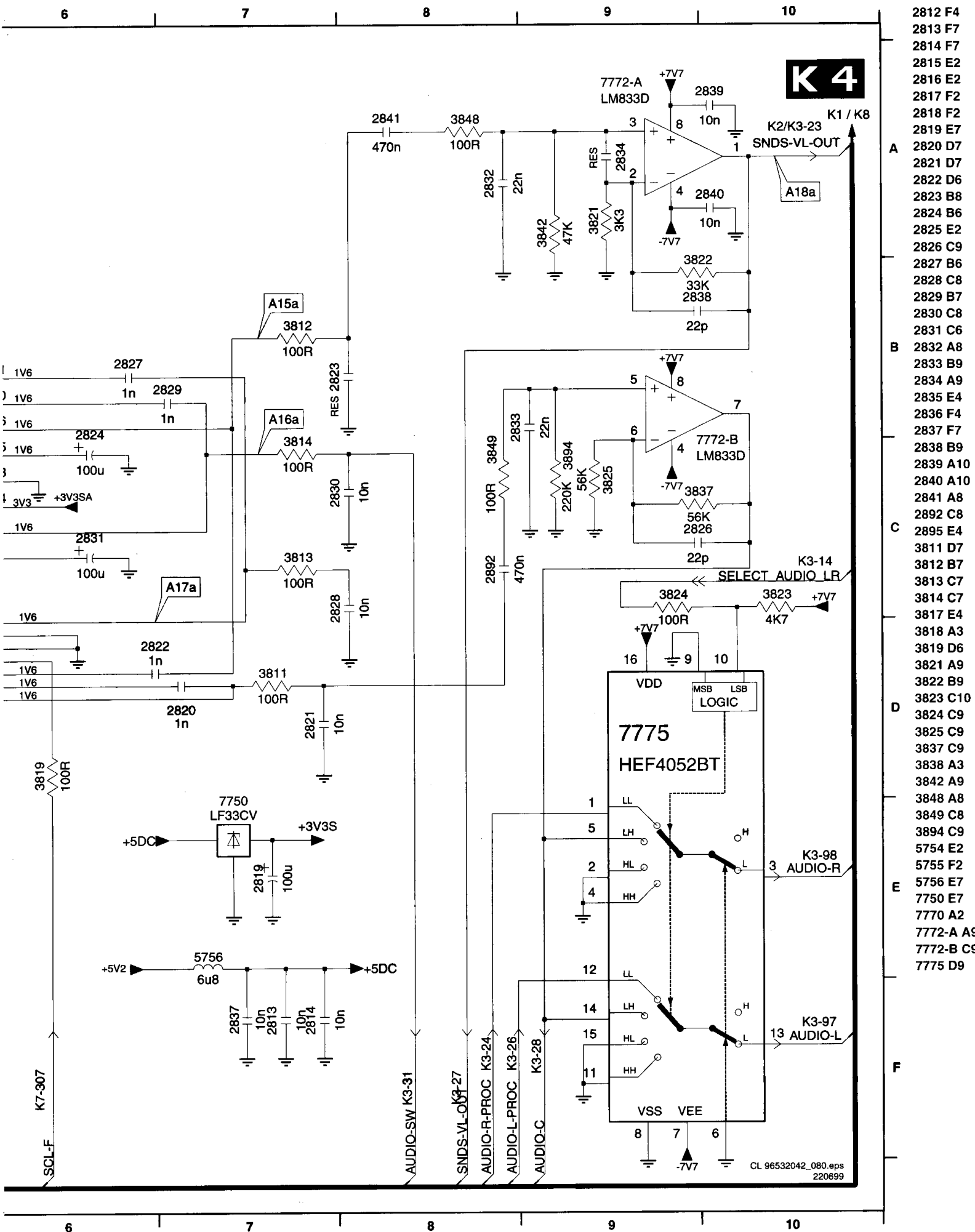






Small signal panel





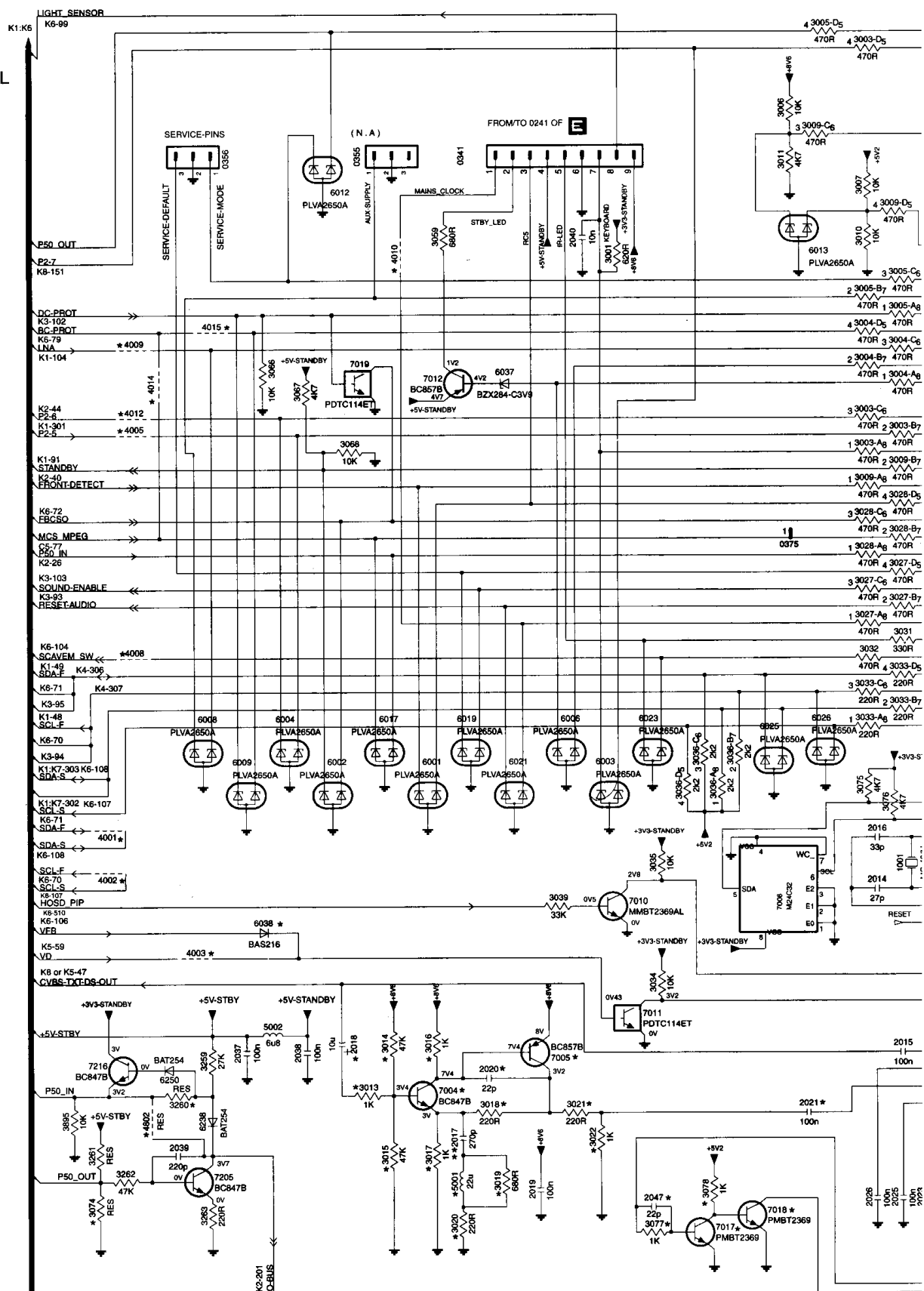
Small signal panel

0341 B6	2003 F15	2012 B11	2020 J6	2028 B12	2039 J4	2047 K8	3003-A E9	3005-A C10	3008-C B9	3017 J6	3023-C K12	3028-A E9	3030-D J14	3035 H8	3043 J17	3049-C D2	3051-C E2	3053-C F2	3055-C G2
0355 B5	2005 B15	2013 K11	2021 J9	2029 J17	2040 C7	2049 B18	3003-B D10	3005-B C9	3009-D C10	3018 J6	3023-D K13	3028-B E10	3031 F10	3036-A G8	3047 K10	3049-D D2	3051-D E2	3053-D F2	3055-D G2
0356 B4	2006 F14	2014 H10	2022 K10	2030 J15	2041 K15	2050 H14	3003-C D9	3005-C C10	3010 C9	3019 K6	3024 K12	3028-C E9	3032 F9	3036-B G8	3048-A K13	3050-A D2	3052-A E2	3054-A F2	3056-A G2
0375 E9	2007 F14	2015 J10	2023 K10	2031 B18	2042 K15	2051 H14	3003-D A9	3005-D A9	3011 B9	3020 K6	3026 K14	3028-D E10	3033-A G9	3036-C G8	3048-B K13	3050-B D2	3052-B E2	3054-B F2	3056-B G2
0399 E16	2008 B12	2016 H10	2024 I14	2032 J16	2043 K15	2052 H14	3003-E D10	3006 B9	3013 J5	3021 J7	3027-A F9	3029 K14	3033-B G10	3036-D G8	3048-C K13	3050-C D2	3052-C E2	3054-C F2	3056-C G2
1001 H10	2009 B12	2017 J6	2025 K10	2035 L17	2044 K15	2053 H14	3004-B D9	3007 B9	3014 J5	3022 J7	3027-B F10	3030-A J15	3033-C G9	3039 H7	3048-D K13	3050-D D2	3052-D E2	3054-D G2	3056-D G2
2001 K16	2010 B12	2018 J5	2026 K9	2037 J4	2045 F14	2054 H16	3004-C D10	3009-A E9	3015 J5	3023-A K12	3027-C F9	3030-B J14	3033-D F10	3041 K16	3049-A C2	3051-A D2	3053-A F2	3055-A G2	3057-A G2
2002 J16	2011 B11	2019 K7	2027 B12	2038 J5	2046 J15	3001 C7	3004-D D9	3009-B E10	3016 J6	3023-B K12	3027-D F10	3030-C J15	3034 I8	3042 K16	3049-B C2	3051-B E2	3053-B F2	3055-B G2	3057-B G2

K 7

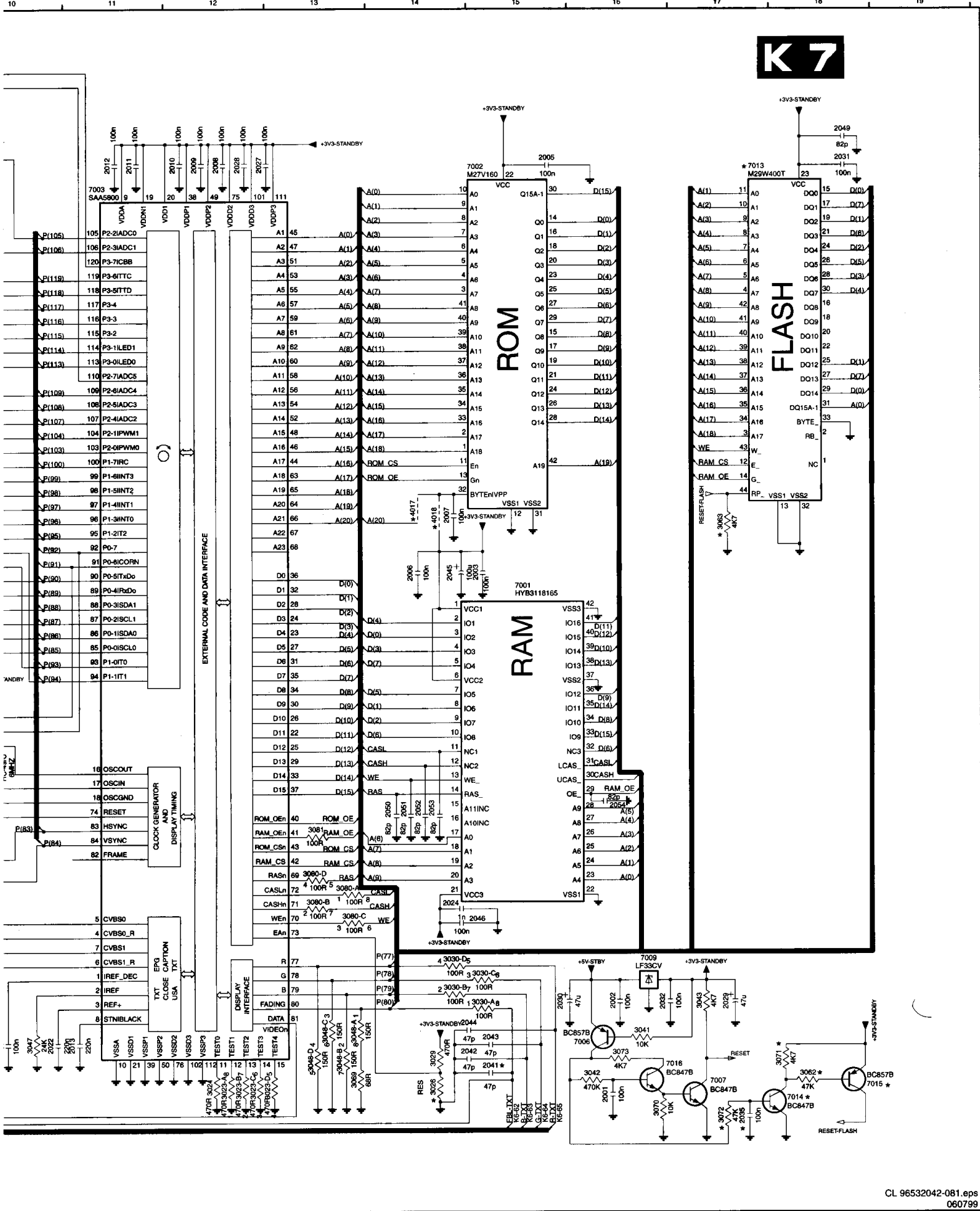
TXT & CONTROL

Diagram	1	2	3 x scart
K7	1	2	4 x scart
Item	1	2	Description
4005	X	X	Jumper 0805
4012	X	X	Jumper 0603



5-C G2	3057-C H2	3069 K13	3077 K8	3260 J4	4005 D3	4018 F14	6006 G7	6023 G8	7002 B15	7010 H7	7018 K9
5-D G2	3057-D H2	3070 K16	3078 K8	3261 J3	4008 F3	4802 J3	6008 G4	6025 G9	7003 B11	7011 I8	7019 D5
6-A G2	3059 C6	3071 K18	3080-A I13	3262 K3	4009 D3	5001 K6	6009 G4	6026 G9	7004 J6	7012 D6	7205 K4
6-B G2	3062 K18	3072 L17	3080-B I13	3263 K4	4010 C6	5002 I5	6012 B5	6037 D6	7005 J7	7013 B17	7216 J3
6-C H2	3063 F17	3073 K16	3080-C J13	3895 J3	4012 D3	6001 G6	6013 C9	6038 I4	7006 K16	7014 K18	
6-D H2	3066 D5	3074 K3	3080-D I13	4001 H3	4014 D3	6002 G5	6017 G6	6238 J4	7007 K17	7015 K18	
7-A H2	3067 D5	3075 G9	3081 I13	4002 H3	4015 D4	6003 G7	6019 G6	6250 J4	7008 H9	7016 K16	
7-B H2	3068 E5	3076 H10	3259 J4	4003 I4	4017 E14	6004 G5	6021 G7	7001 F15	7009 J16	7017 K8	

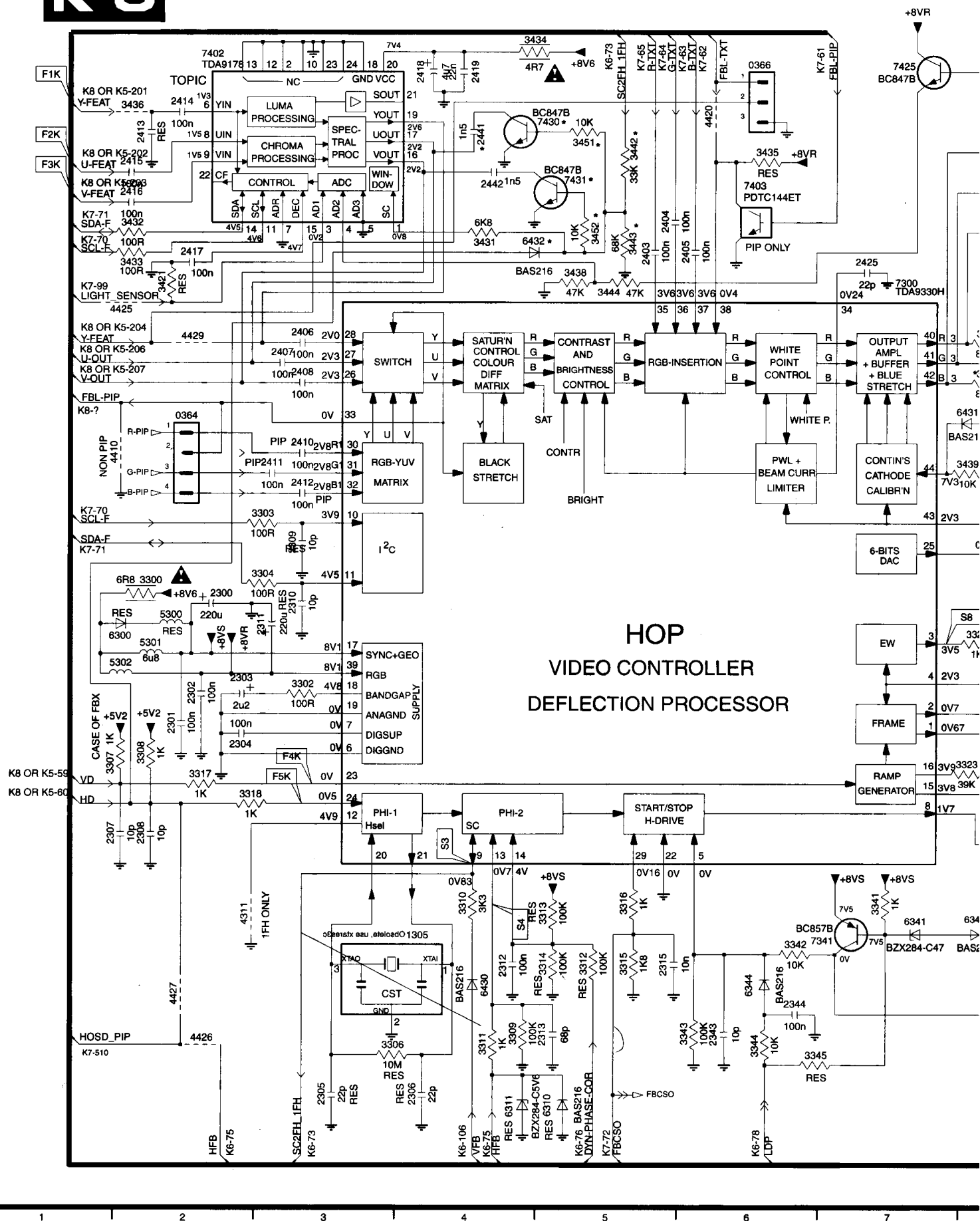
OTC					
Pin nr	Pin name	MG1.1E	MG2.1E	MG3.1E	MG3.1A
93	P1-0/T0				MAINS CLOCK
96	P1-5/INT2			MCS/MPEG	MAINS CLOCK
108	P2-5/ADC3			STATUS 4	AGC
109	P2-6/ADC4	STATUS 3	STATUS 3	STATUS 3	16.9 AR front
110	P2-7/ADC5			RGB1/rv/frontUI	
115	P3-2			LNA	
118	P3-5/TTD			AUX SUPPLY	AUX SUPPLY



Small signal panel

K 6

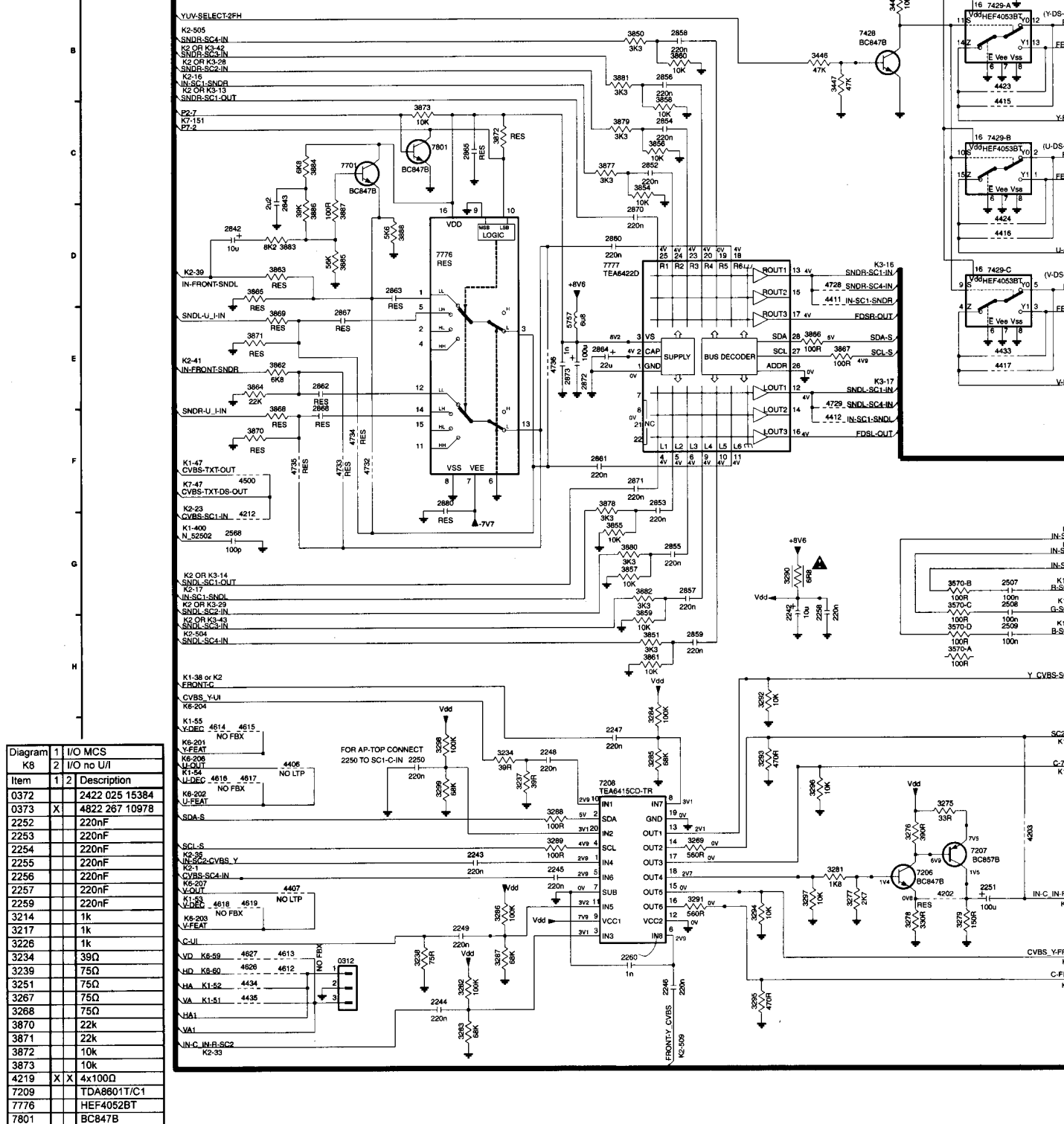
VIDEO CONTROL & GEOMETRY



Small signal panel

0312 K3	0373 K17	2251 J8	2431 G12	2509 H9	2858 B6	2870 D6	3237 I5	3278 J8	3289 J5	3299 I4	3570-C G9	3857 G6	3867 E8	3890 G6	4203 J10	4222-A J13	4411 D8
0351 A17	2242 G7	2252 B12	2432 H12	2568 G2	2859 H6	2871 F6	3238 K4	3279 J9	3290 G7	3445 B8	3570-D H9	3858 C6	3868 F2	3881 B6	4212 Q2	4222-B J13	4412 F8
0352 C17	2243 J4	2253 B12	2433 G12	2842 D2	2860 D6	2872 E5	3239 B10	3281 J8	3291 G7	3446 B8	3583 A15	3859 H6	3869 E2	3882 G6	4215 D11	4222-C J13	4415 C9
0353 D17	2244 K4	2254 C12	2434 G12	2843 C2	2861 F5	2873 E5	3251 C10	3282 K4	3292 H7	3447 B8	3584 A16	3860 B6	3870 F2	3883 D2	4216 D12	4222-D J13	4416 D9
0361 F17	2245 J5	2255 B12	2435 H12	2852 C6	2862 E3	2880 F4	3267 C10	3283 L4	3293 I7	3448 G15	3585 A17	3861 H6	3871 E2	3884 C3	4217 D12	4400 G16	4417 E9
0362 G17	2246 K6	2256 C12	2436 J15	2853 F6	2863 D3	2893 G12	3268 D10	3284 H6	3294 J7	3449 G15	3586 B6	3862 E2	3872 C4	3885 D3	4218 D12	4401 G16	4421-A J13
0368 K15	2247 I6	2257 C12	2437 J16	2854 C6	2864 E5	3214 B15	3269 J6	3285 I6	3295 K7	3450 H15	3581 H6	3863 D2	3873 C4	3886 D3	4219-A E11	4402 G16	4421-B K13
0370 I18	2248 I5	2258 G8	2440 A9	2855 G6	2865 C4	3217 C15	3275 I9	3286 J4	3296 I8	3451 H11	3584 C6	3864 E2	3877 C6	3887 D3	4219-B E11	4403 G16	4421-C K13
0371 J18	2249 K4	2259 D15	2507 G9	2856 B6	2867 E3	3226 C15	3276 J8	3287 K4	3297 J7	3570-A H9	3585 G6	3865 D2	3878 F6	3888 D4	4219-C E11	4406 I2	4421-D K13
0372 I17	2250 I4	2260 K6	2508 G8	2857 G6	2868 F3	3234 I5	3277 J8	3288 I6	3298 I4	3570-B G9	3586 C6	3866 E8	3879 C6	4202 J9	4219-D E11	4407 J2	4423 B9

K 8 SOURCE SELECTION (ADDITIONAL TO K1)



4424 D9 4613 K2 4729 E8 7209 A12 7777 D5
 4430 C17 4614 I2 4732 F3 7426 F12 7801 C4
 4431 C18 4615 I2 4733 F3 7427 I16
 4432 C18 4616 I2 4734 F3 7428 B8
 4433 E8 4617 I2 4735 F2 7429-A B9
 4434 K2 4618 J2 4736 E5 7429-B C9
 4435 K2 4619 J2 5757 E5 7429-C D9
 4436 F17 4626 K2 7206 J9 7575 A16
 4500 F2 4627 K2 7307 J9 7701 C3
 4612 K2 4728 D6 7208 I5 7776 D4

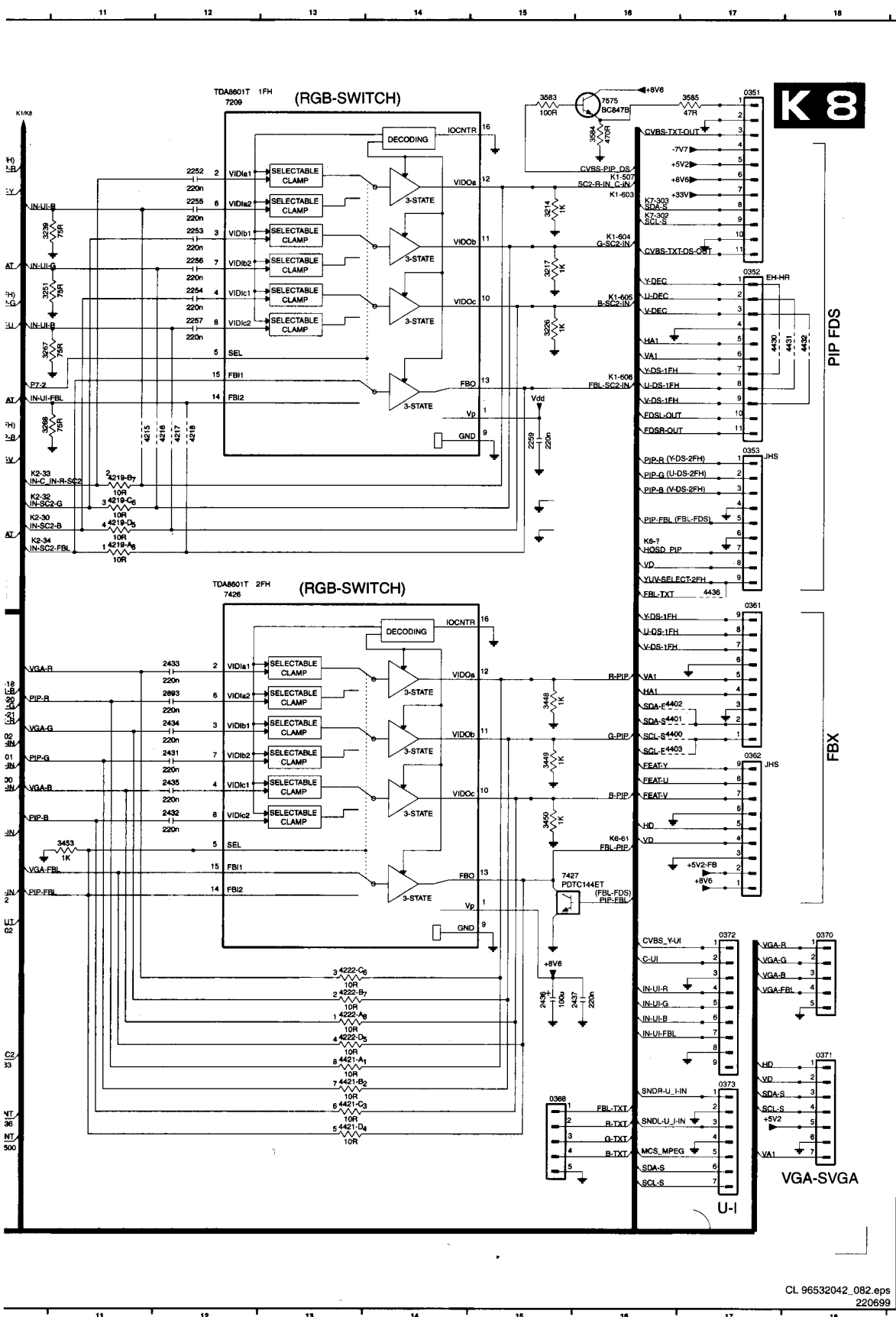


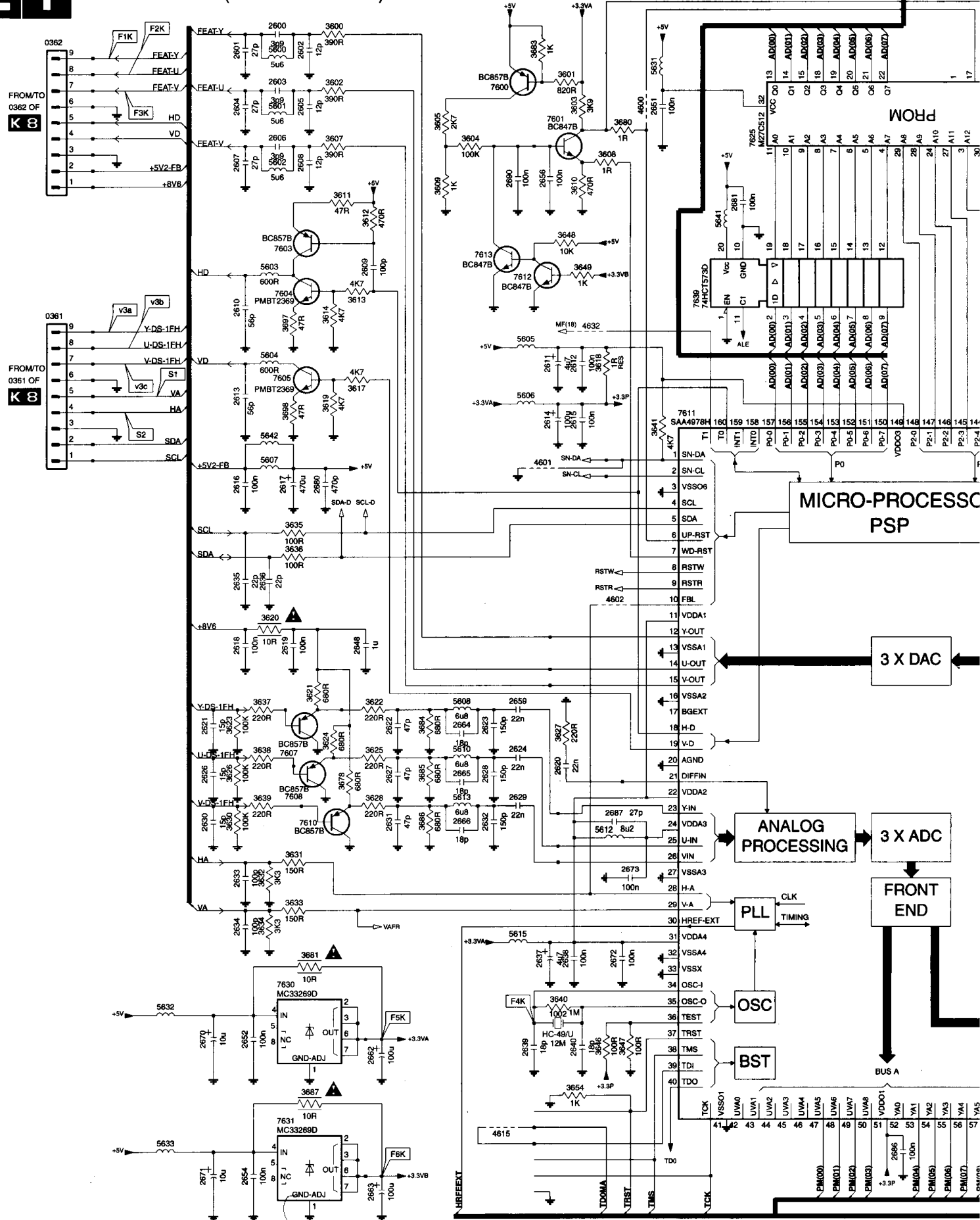
Diagram	1	No FDS
K8	2	FDS
Item	1	2 Description
0351	X	2422 025 15385
0352	X	4822 267 10962
0353	X	2422 025 15384
0370		2422 025 15382
0371		2422 025 15383
2431		100nF
2432		100nF
2433		100nF
2434		100nF
2435		100nF
2437		100nF
2440		100nF
2893		100nF
3445		10k
3446		47k
3447		47k
3448		1k
3449		1k
3450		1k
3453		1k
3583	X	100Q
3584	X	470Ω
3585	X	47Ω
4222		4x10Q
4421	X	4x10Q
4423	X	X Jumper 0805
4424	X	X Jumper 0805
4430	X	X Jumper 0805
4431	X	X Jumper 0805
4432	X	X Jumper 0805
4433	X	X Jumper 0805
4436	X	X Jumper 0803
4500	X	X Jumper 0805
7426		TDA8601T/C1
7427		POTC144ET
7428		BC847B
7429		HEF4053BT
7575	X	BC847B

Diagram	1	No audio matrix	
K8	2	Audio matrix	
Item	1	2	Description
2842	X		10µF
2843	X		2.2µF
2852	X		220nF
2853	X		220nF
2854	X		220nF
2855	X		220nF
2856	X		220nF
2857	X		220nF
2858	X		220nF
2859	X		220nF
2860	X		220nF
2861	X		220nF
2864	X		22µF
2870	X		220nF
2871	X		220nF
2872	X		100µF
2873	X		1nF
3850	X		3k3
3851	X		3k3
3854	X		10k
3855	X		10k
3856	X		10k
3857	X		10k
3858	X		10k
3859	X		10k
3860	X		10k
3861	X		10k
3862	X		6k8
3864	X		22k
3866	X		100Ω
3867	X		100Ω
3877	X		3k3
3878	X		3k3
3879	X		3k3
3880	X		3k3
3881	X		3k3
3882	X		3k3
3883	X		8k2
3884	X		6k8
3885	X		56k
3886	X		39k
3887	X		100Ω
3888	X		5k6
4411	X		Jumper 0805
4412	X		Jumper 0805
4728	X		Jumper 0805
4729	X		Jumper 0805
4732	X		Jumper 0805
4736	X		Jumper 0805
5757	X		5.8µH
7701	X		BC847B
7777	X		TEA6422D

Featurebox

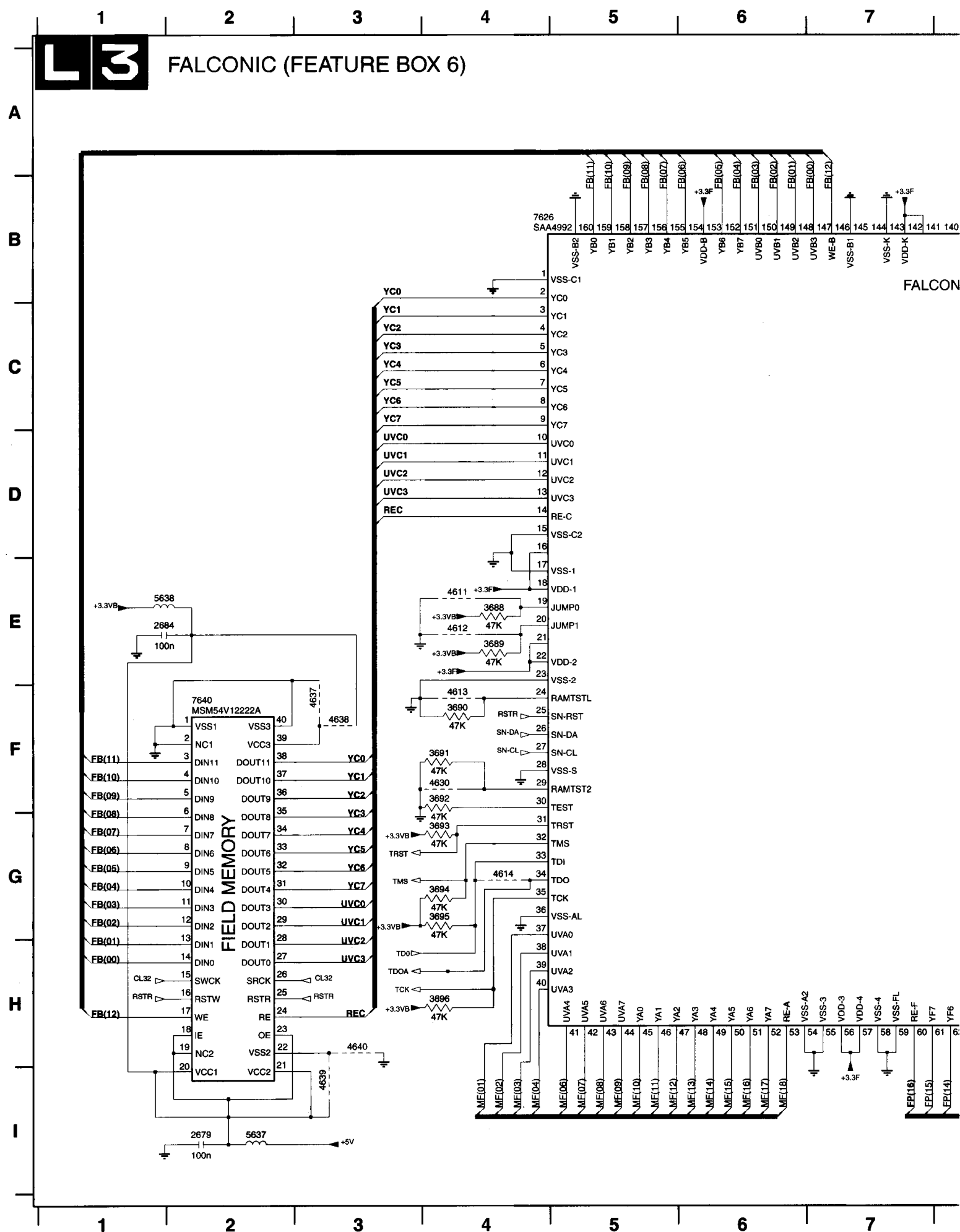
L1

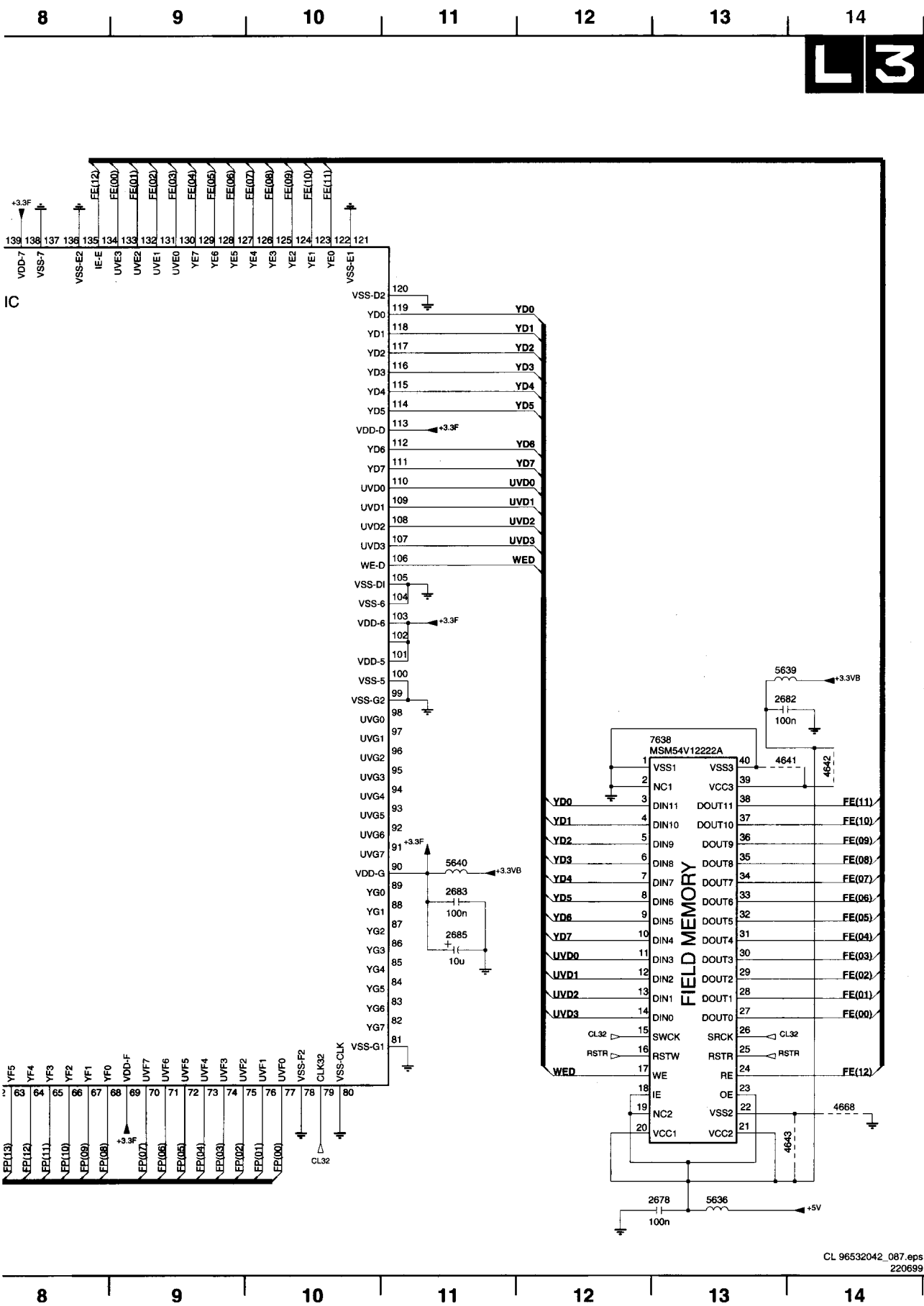
FEATURE BOX (FEATURE BOX 6)



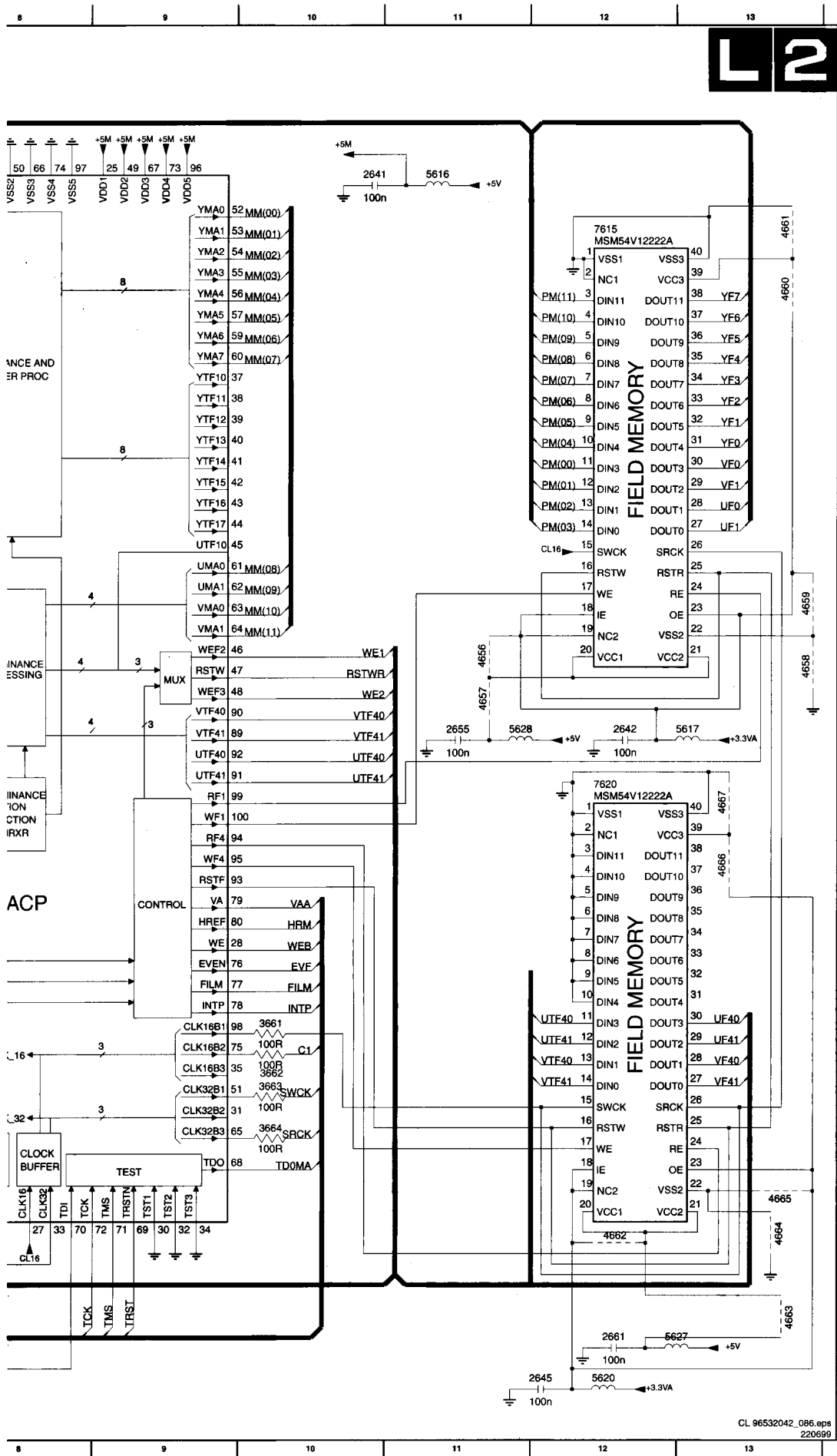
L	3
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FALCON





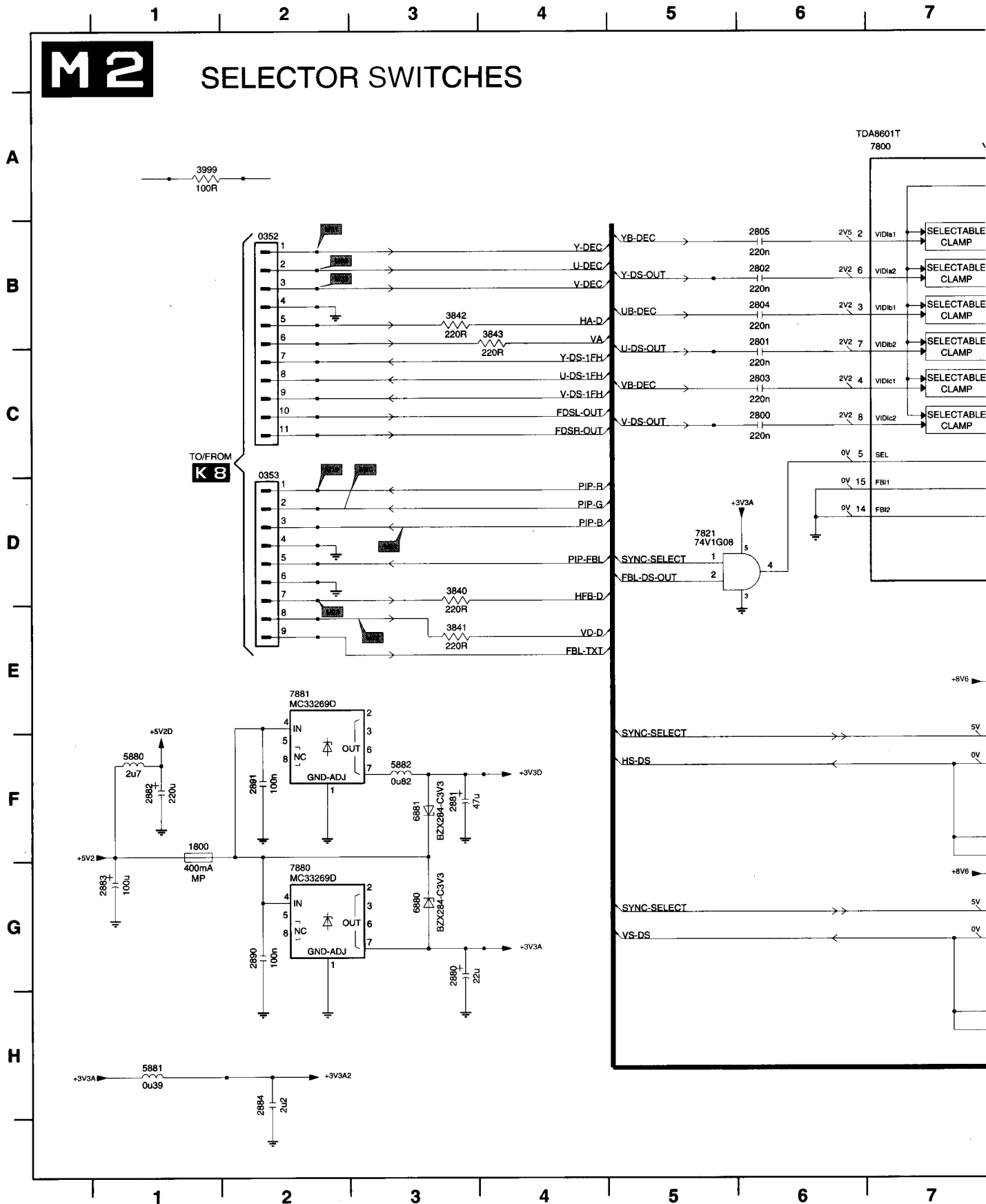
2678 I13
2679 I2
2682 E13
2683 G11
2684 E1
2685 G11
3688 E4
3689 E4
3690 F4
3691 F4
3692 F4
3693 G4
3694 G4
3695 G4
3696 H4
4611 E4
4612 E4
4613 F4
4614 G4
4630 F4
4637 F3
4638 F3
4639 I3
4640 H3
4641 F13
4642 F14
4643 I14
4668 H14
5636 I13
5637 I2
5638 E1
5639 E13
5640 G11
7626 B4
7638 F12
7640 F2



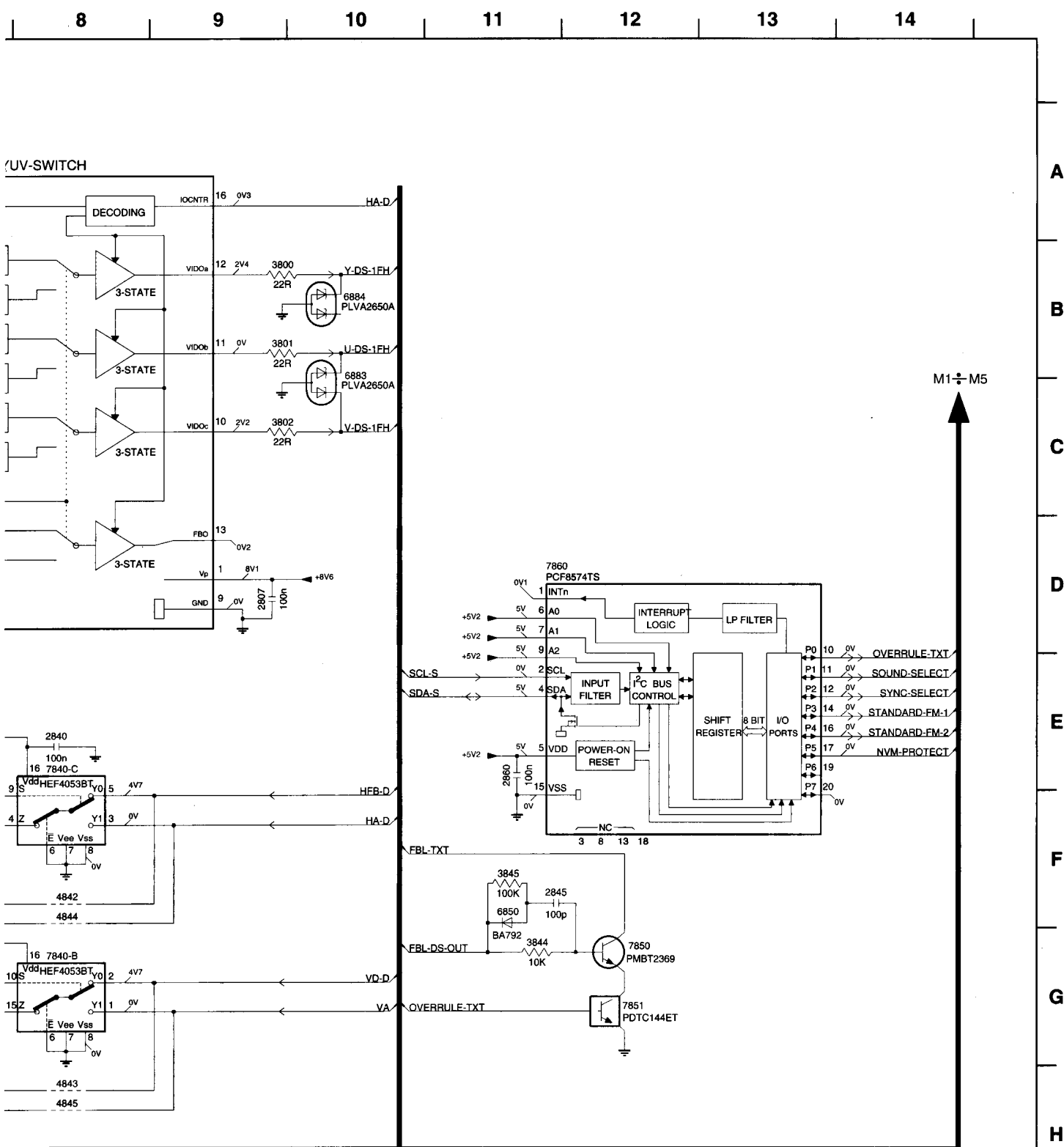
2641 A10
2642 E12
2643 E2
2644 E4
2645 H12
2646 I2
2653 E1
2655 E11
2660 I1
2661 H12
3661 G10
3662 G10
3663 G10
3664 H10
4644 E1
4645 E1
4646 E2
4647 D2
4648 B2
4649 B2
4650 H1
4651 I1
4652 H2
4653 H2
4654 F2
4655 F2
4656 D11
4657 E11
4658 E13
4659 D13
4660 B13
4661 B13
4662 H12
4663 H13
4664 H13
4665 H13
4666 F13
4667 E13
4669 I5
4670 I5
5616 A11
5617 E13
5618 E2
5619 E4
5620 H12
5621 I3
5622 I8
5625 I2
5626 E2
5627 H13
5628 E11
7614 B1
7615 B12
7616 A7
7619 E1
7620 E12
7621 F3

Full dualscreen / PIP module

0352 B2	2800 C6	2803 C6	2807 D9	2860 E11	2882 F1	2890 G2	3801 B9	3841 E3	3844 G11	4842 F8	4845 H8	5882 F3	6881 F3
0353 D2	2801 B6	2804 B6	2840 E8	2880 G3	2883 G1	2891 F2	3802 C9	3842 B3	3845 F11	4843 H8	5880 F1	6850 F11	6883 C10
1800 F1	2802 B6	2805 B6	2845 F11	2881 F3	2884 H2	3800 B9	3840 D3	3843 B4	3999 A1	4844 F8	5881 H1	6880 G3	6884 B10

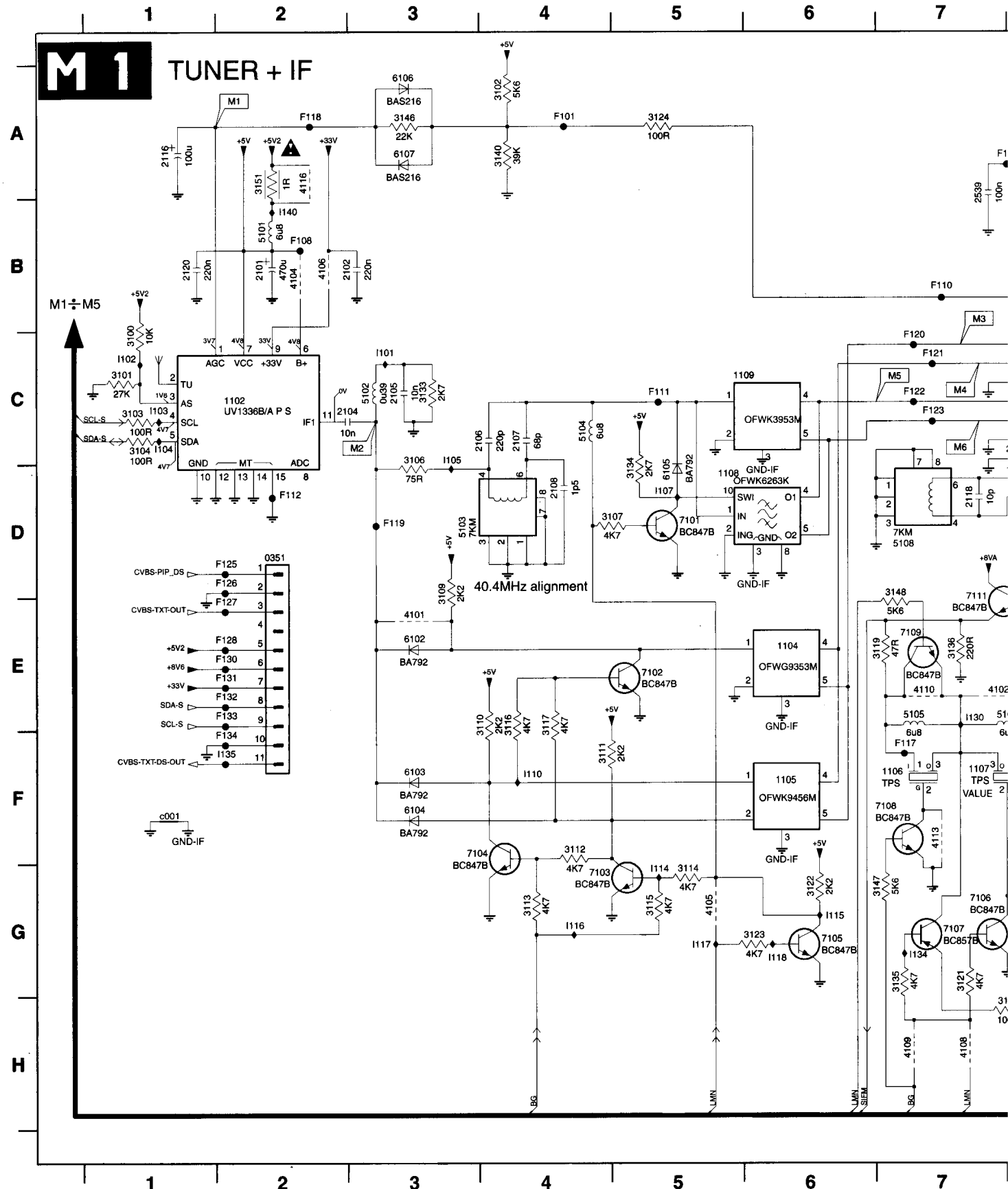


7800 A7 7840-C E8 7860 D11
 7821 D5 7850 G12 7880 G2
 7840-B G8 7851 G12 7881 E2

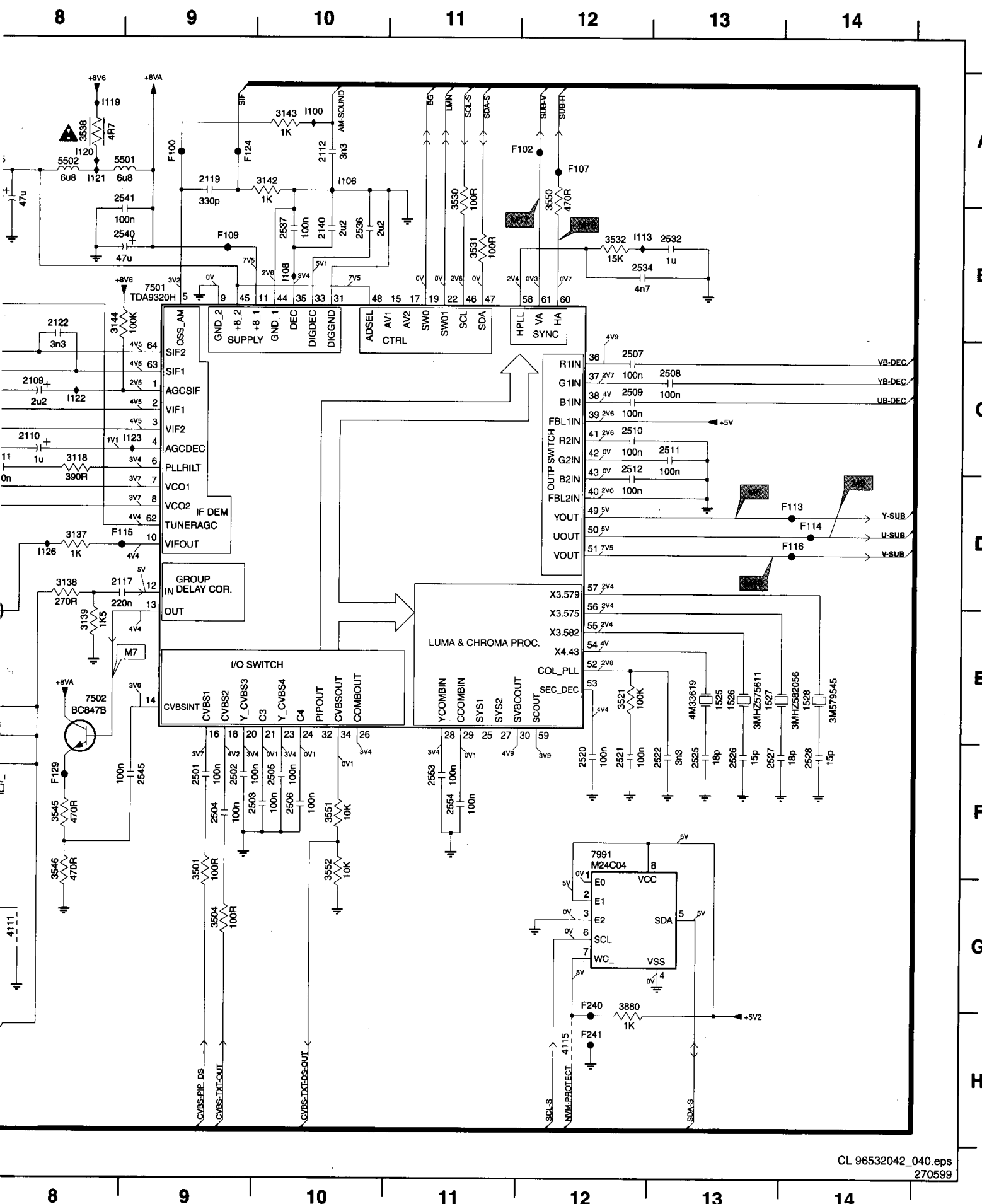


Full dualscreen / PIP module

0351 D2	1109 C5	2104 C2	2111 C8	2122 B8	2506 F10	2520 F12	2532 B13	2541 A8	3103 C1	3112 F4	3119 E7	3135 G7	3143 A10	3501 F9	3545 F8	4102 E7	411
1102 C2	1525 E13	2105 C3	2112 A10	2140 B10	2507 C12	2521 F12	2534 B12	2545 F9	3104 C1	3113 G4	3121 G7	3136 E7	3144 B8	3504 G9	3546 F8	4104 B2	411
1104 E6	1526 E13	2106 C4	2116 A1	2501 F9	2508 C13	2522 F13	2536 B10	2553 F11	3106 C3	3114 G5	3122 G6	3137 D8	3145 H8	3521 E12	3550 A12	4105 G5	411
1105 F6	1527 E13	2107 C4	2117 D8	2502 F9	2509 C12	2525 F13	2537 B10	2554 F11	3107 D5	3115 G5	3123 G6	3138 D8	3146 A3	3530 A11	3551 F10	4106 B2	411
1106 F7	1528 E14	2108 D4	2118 D7	2503 F10	2510 C12	2526 F13	2538 A8	3100 C1	3109 D3	3116 E4	3124 A5	3139 E8	3147 G7	3531 B11	3552 F10	4108 H7	510
1107 F7	2101 B2	2109 C8	2119 A9	2504 F9	2511 C13	2527 F13	2539 A7	3101 C1	3110 E4	3117 E4	3133 C3	3140 A4	3148 D7	3532 B12	3880 G12	4109 H7	510
1108 D5	2102 B3	2110 C8	2120 B1	2505 F10	2512 C12	2528 F14	2540 B8	3102 A4	3111 F4	3118 C8	3134 D5	3142 A10	3151 A2	3538 A8	4101 E3	4110 E7	510

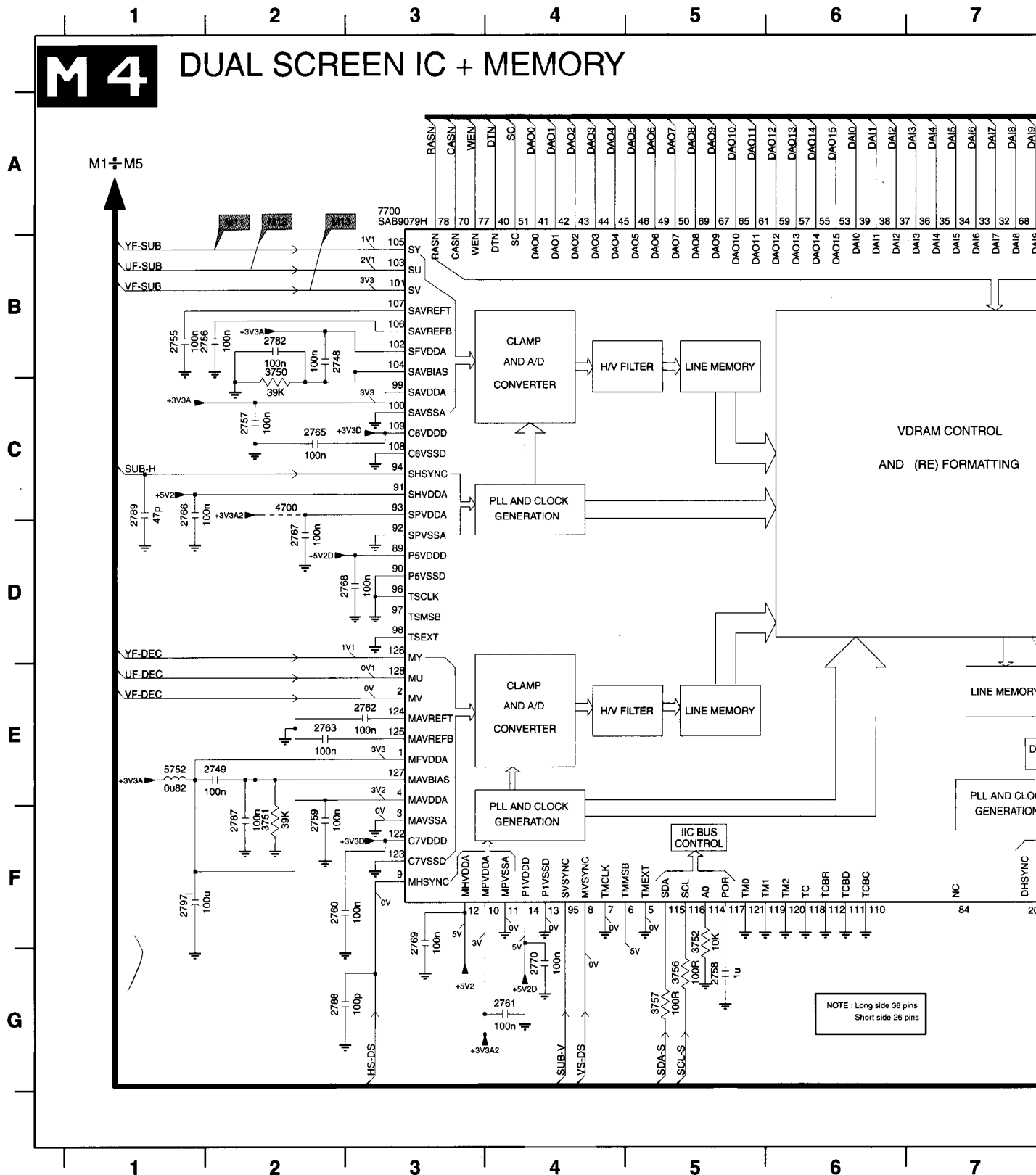


H12	5106 E7	6105 D5	7105 G6	7502 E8
A2	5108 D7	6106 A3	7106 G7	7991 F12
B2	5501 A8	6107 A3	7107 G7	c001 F1
C3	5502 A8	7101 D5	7108 F6	
D3	6102 E3	7102 E5	7109 E7	

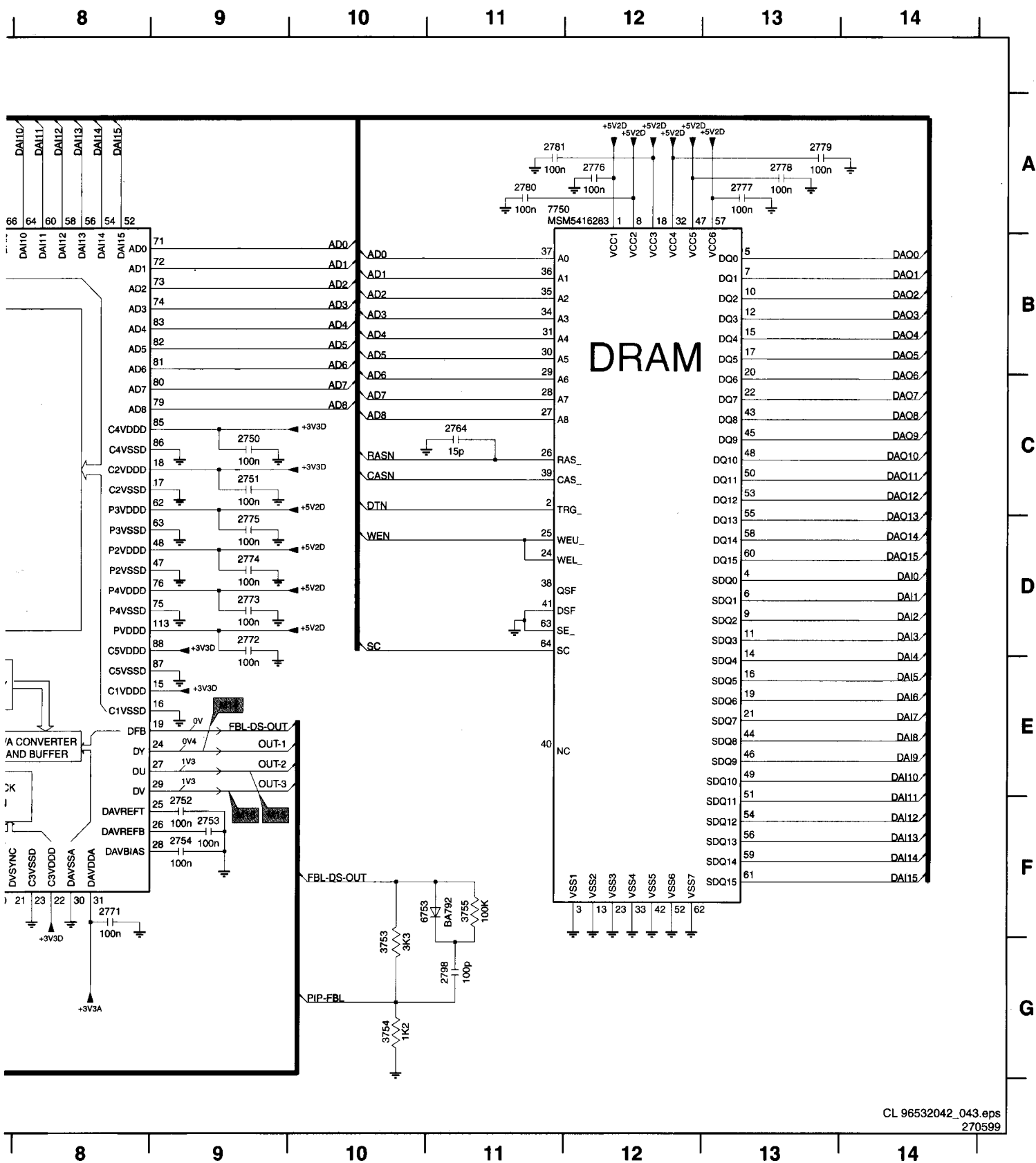


Full dualscreen / PIP module

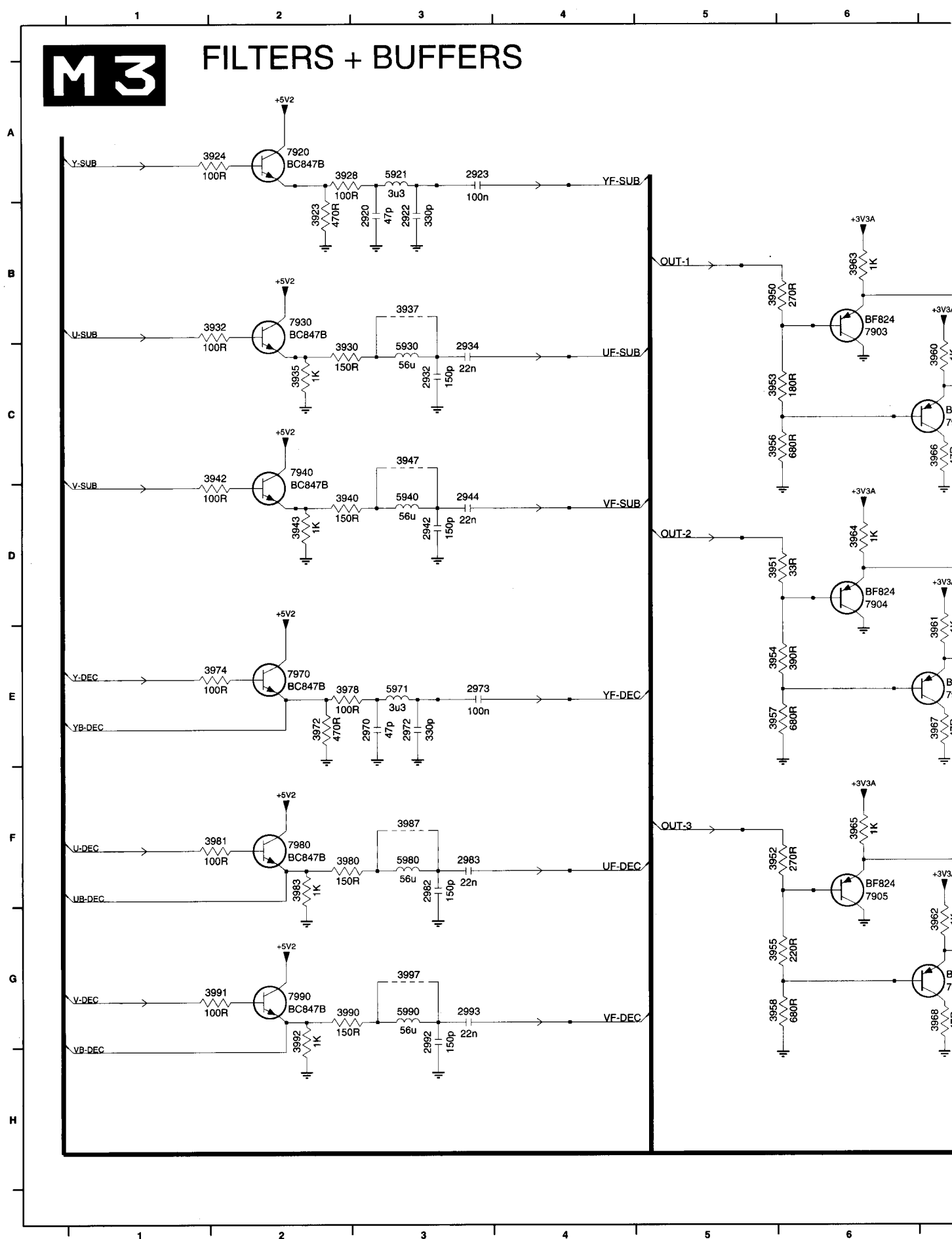
2748 B2 2750 C9 2752 F9 2754 F9 2756 B2 2758 G5 2760 F2 2762 E3 2764 C11 2766 C1 2768 D3 2770 G4 2772 D9 2774 D9 2776 A12 2778 A13 2780 A1
 2749 E2 2751 C9 2753 F9 2755 B1 2757 C2 2759 F2 2761 G4 2763 E2 2765 C2 2767 D2 2769 F3 2771 F8 2773 D9 2775 D9 2777 A13 2779 A13 2781 A1

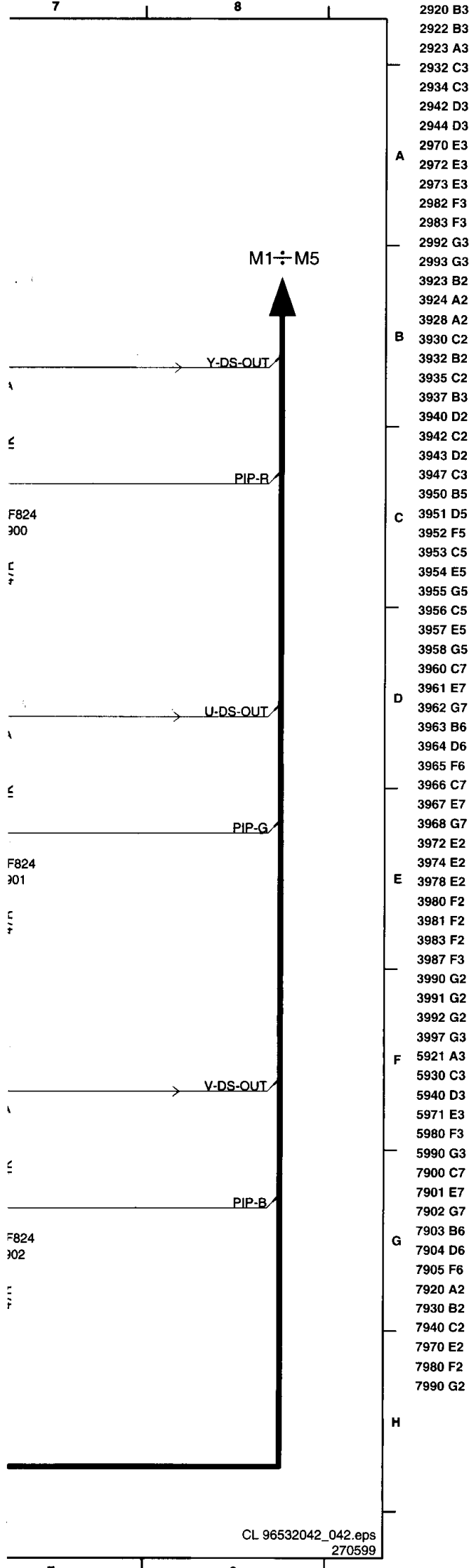


1 2782 B2 2788 G2 2797 F1 3750 B2 3752 F5 3754 G10 3756 G5 4700 C2 6753 F11 7750 A11
 1 2787 F2 2789 C1 2798 G11 3751 F2 3753 G10 3755 F11 3757 G5 5752 E1 7700 A3



Full dualscreen / PIP module

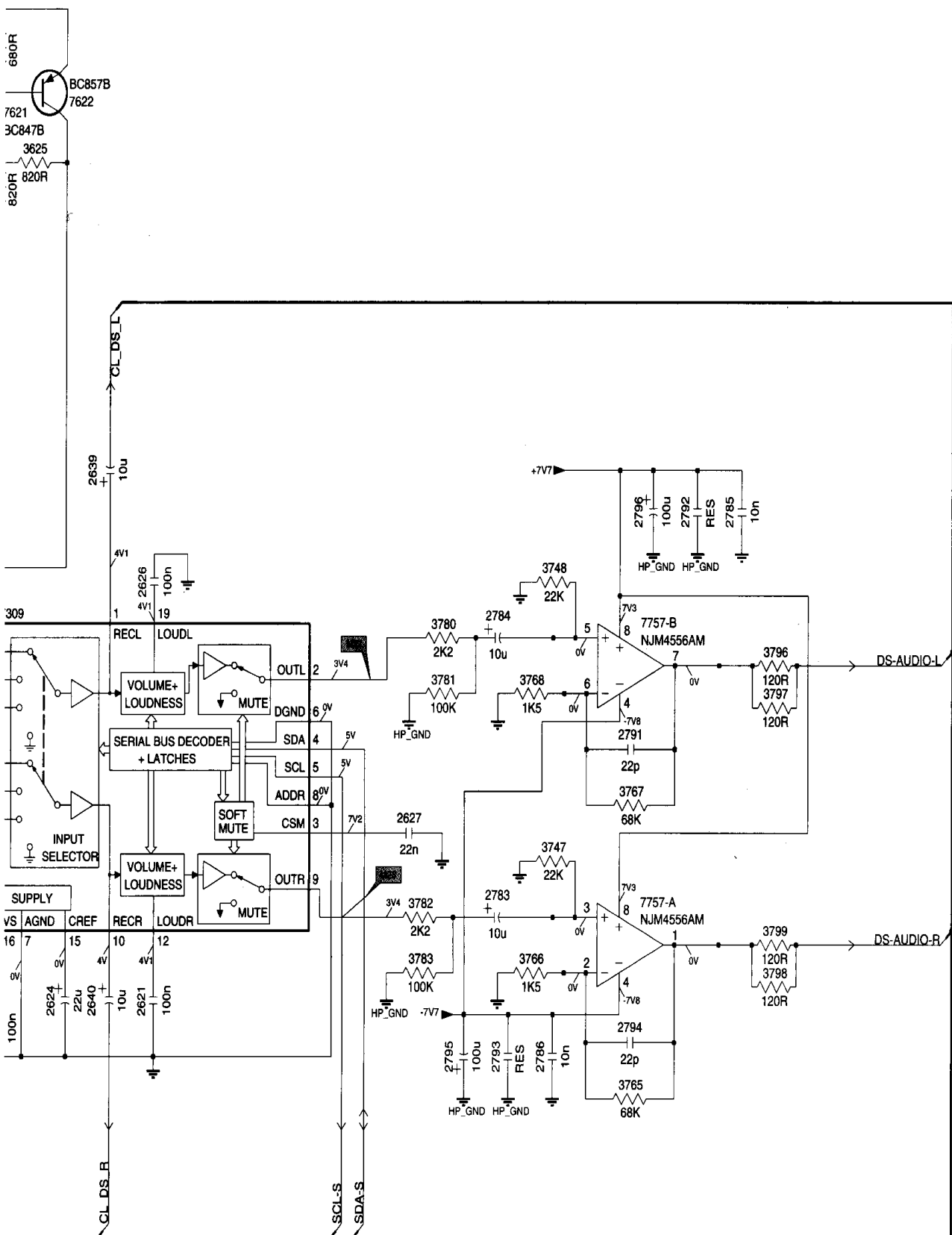




8 9 10 11 12 13

0344 E2 7840-A F4

3A



A

B

C

D

E

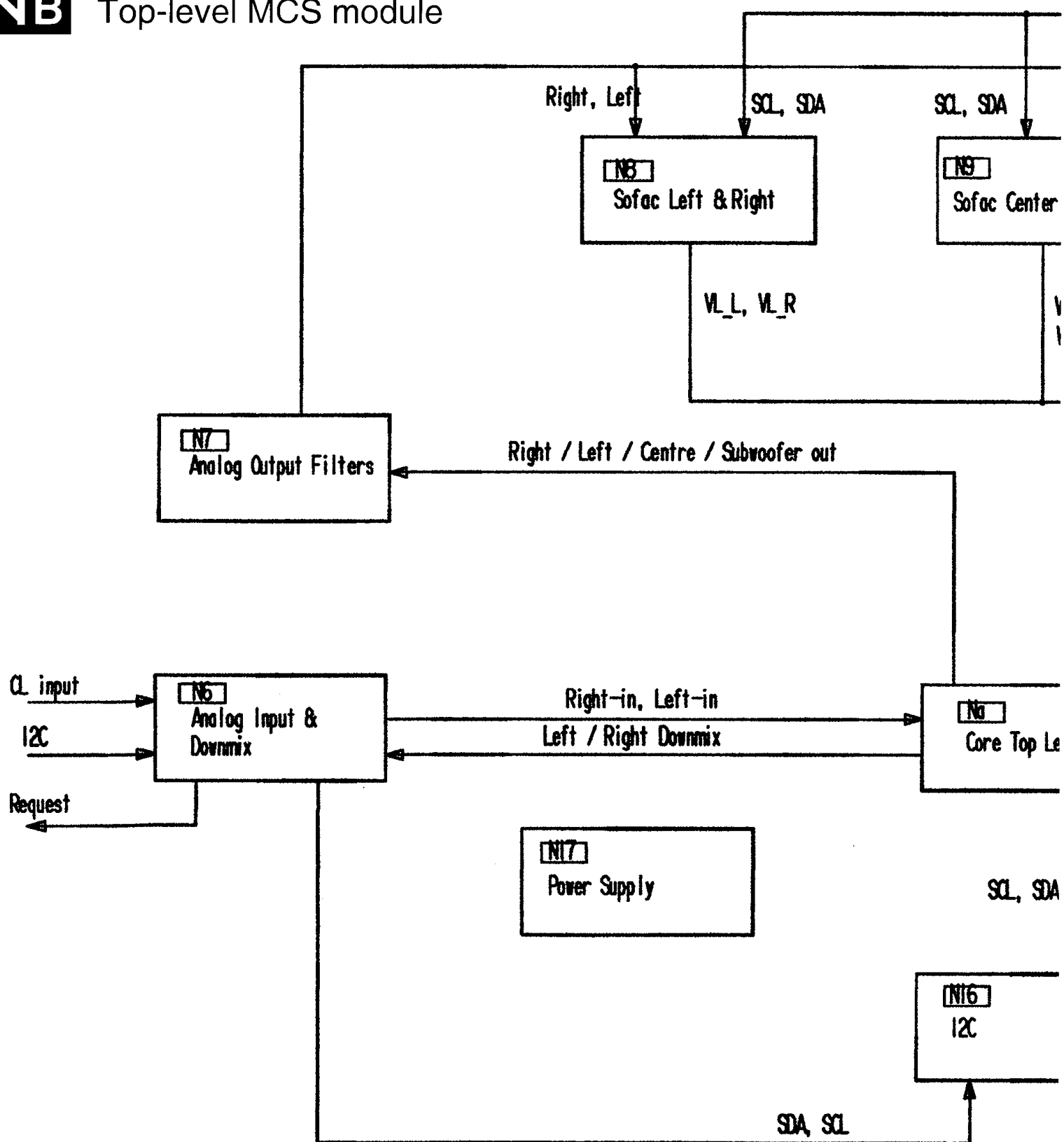
F

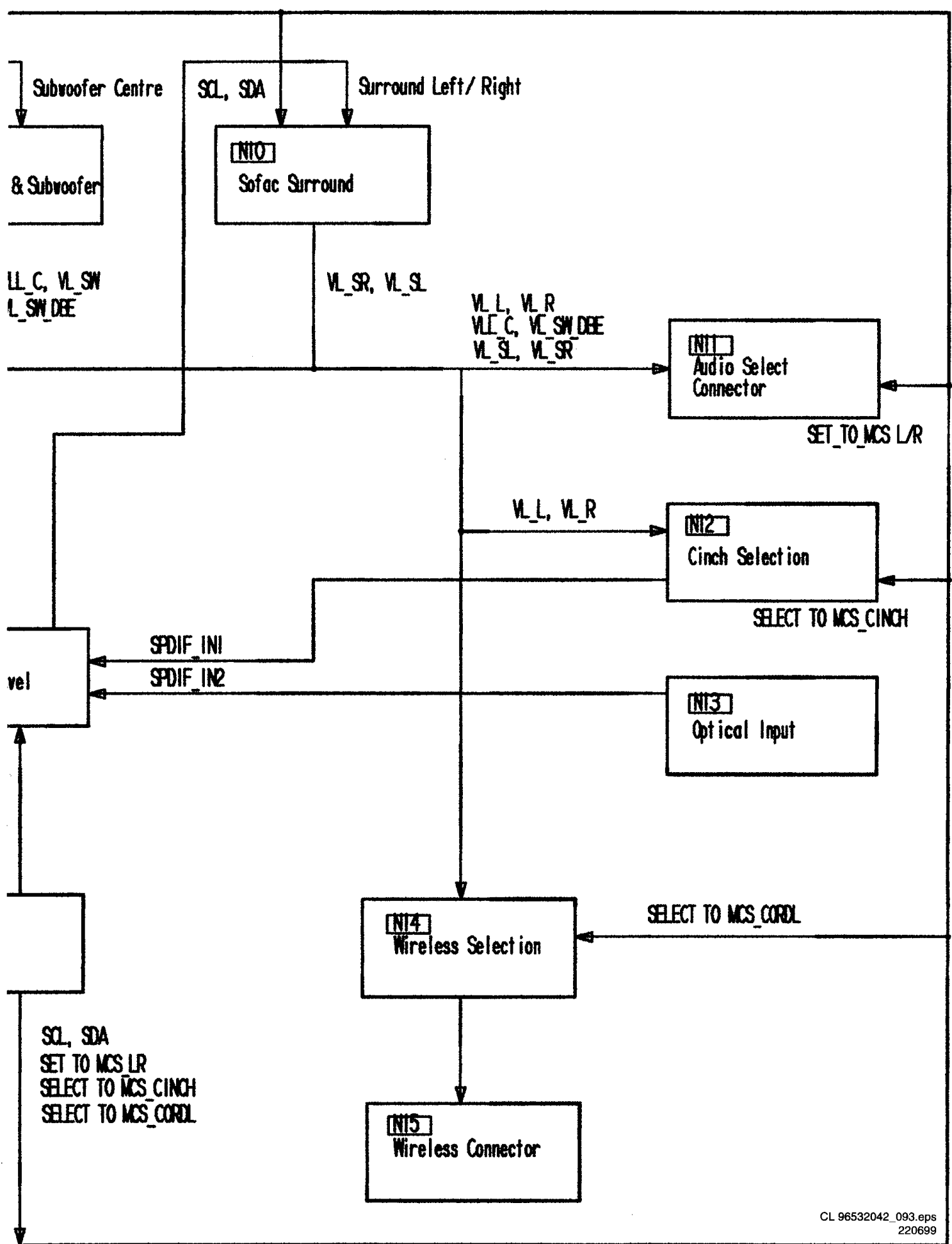
G

0344 E2
0346 D2
0347 F2
0348 F2
1600 B2
1601 C2
1602 C2
1603 D1
2600 E3
2601 E3
2603 C5
2605 B6
2620 D7
2621 F9
2622 D7
2623 E7
2624 F8
2625 D7
2626 D9
2627 E10
2628 F8
2629 E7
2630 A7
2631 B6
2632 E7
2633 D3
2783 E11
2784 D11
2785 C12
2786 F11
2791 E12
2792 C12
2793 F11
2794 F12
2795 F11
2796 C12
2XXX A7
2XXX C8
2XXX F8
3600 C2
3601 C2
3602 C1
3603 D1
3604 E4
3605 A6
3620 A7
3621 B7
3622 A7
3623 A8
3624 B8
3625 B8
3626 B7
3629 B6
3630 E6
3631 C6
3633 C6
3634 E7
3635 D6
3636 E7
3747 E11
3748 D11
3765 F12
3766 F11
3767 E12
3768 D11
3796 D13
3797 D13
3798 F13
3799 F13
3XXX D10
3XXX D10
3XXX E10
3XXX F10
3XXX A7
5620 F7
5621 E3
7600 C3
7620 D7
7621 A8
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7624 C6
7625 C7
7757-A E12
7757-B D12

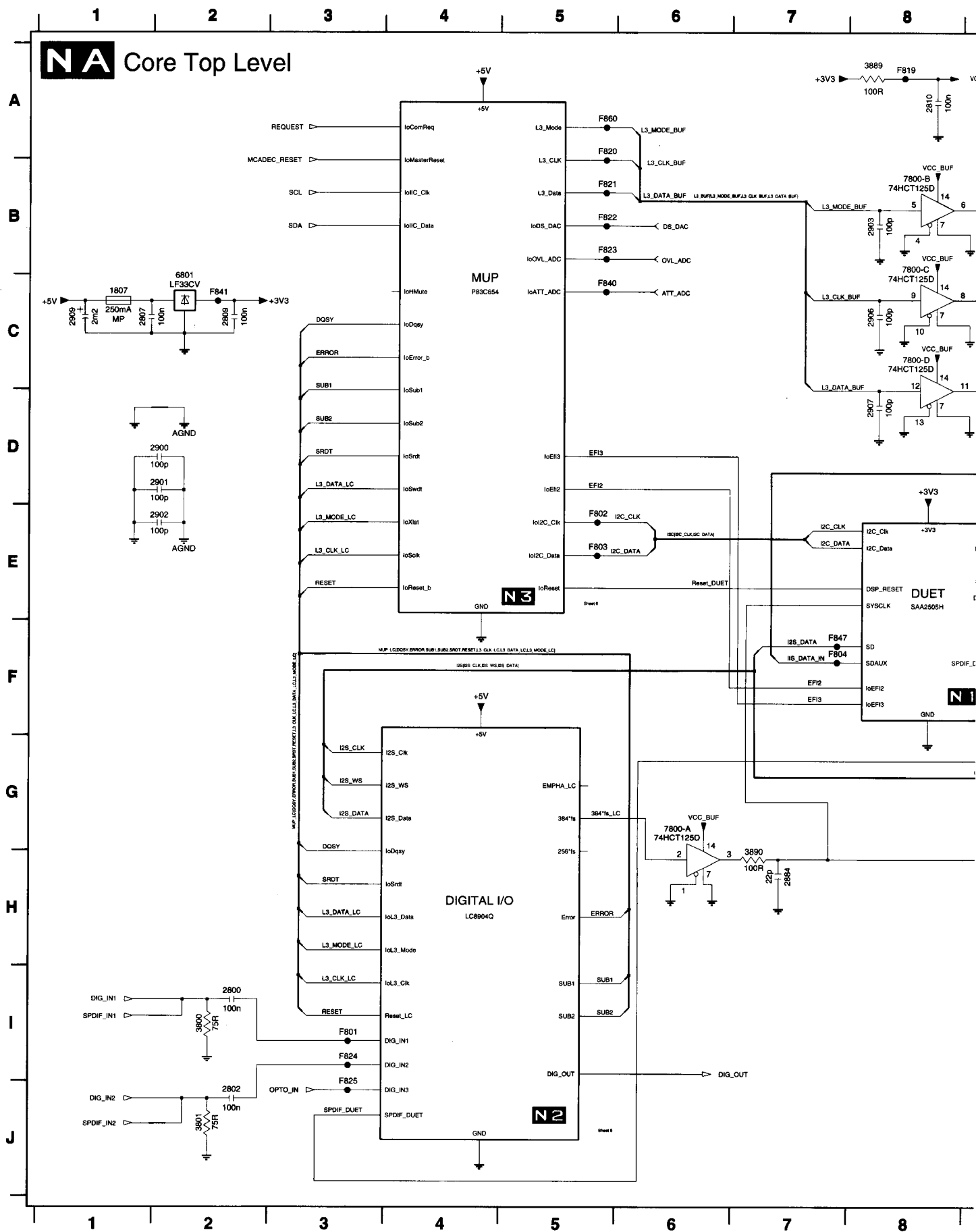
8 9 10 11 12 13

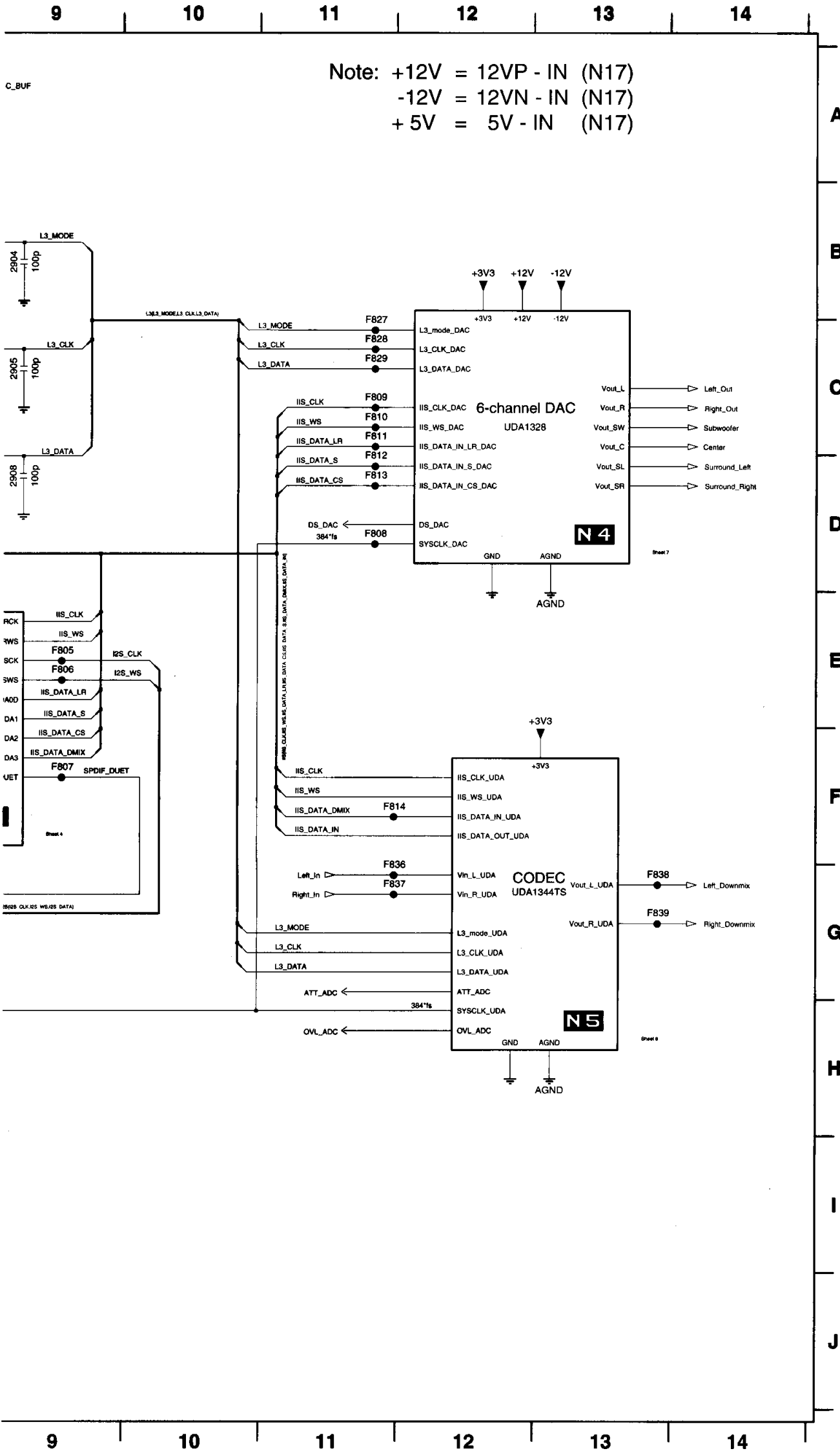
Multi-channel sound module

NB Top-level MCS module



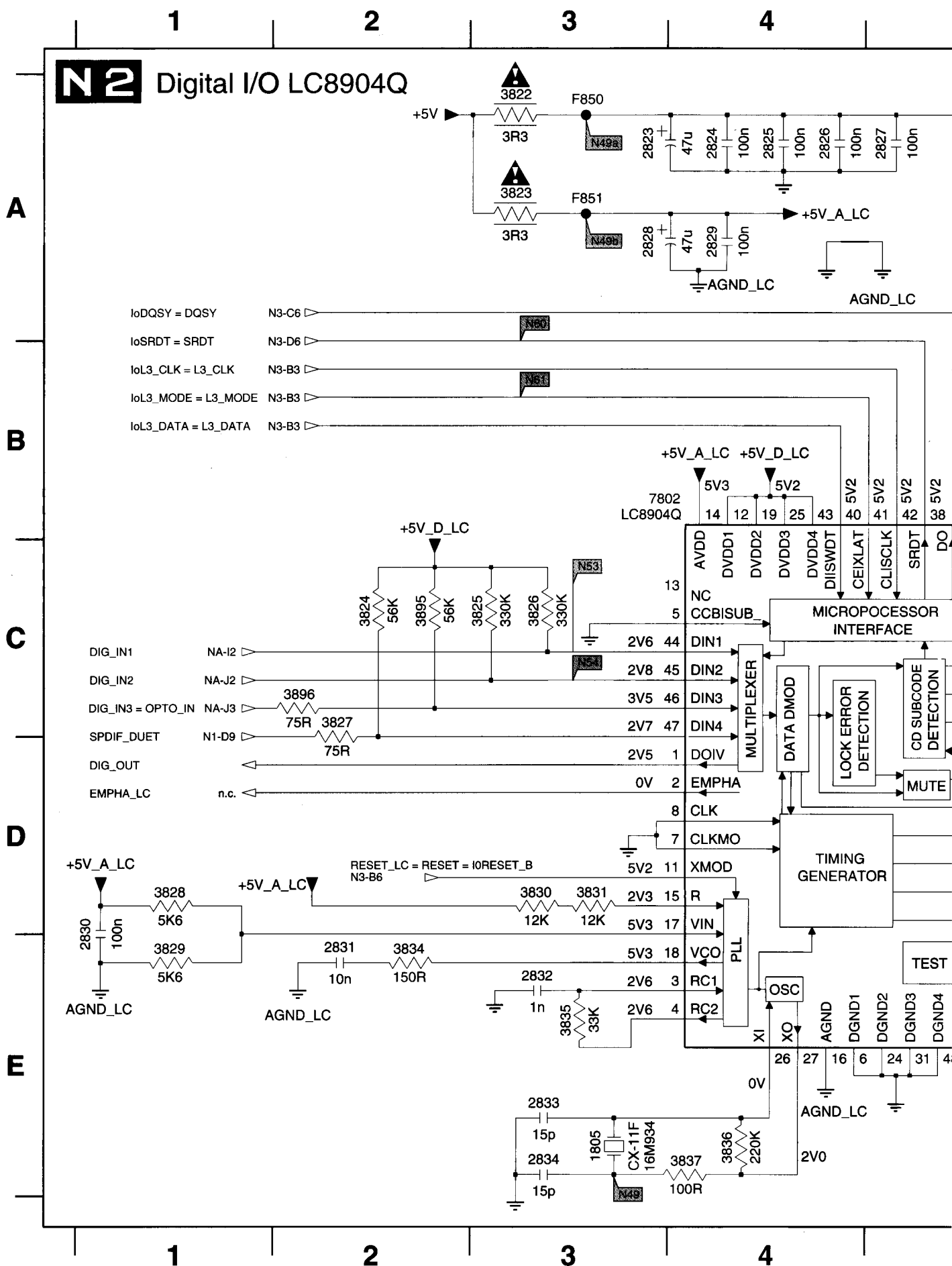
Multi-channel sound module

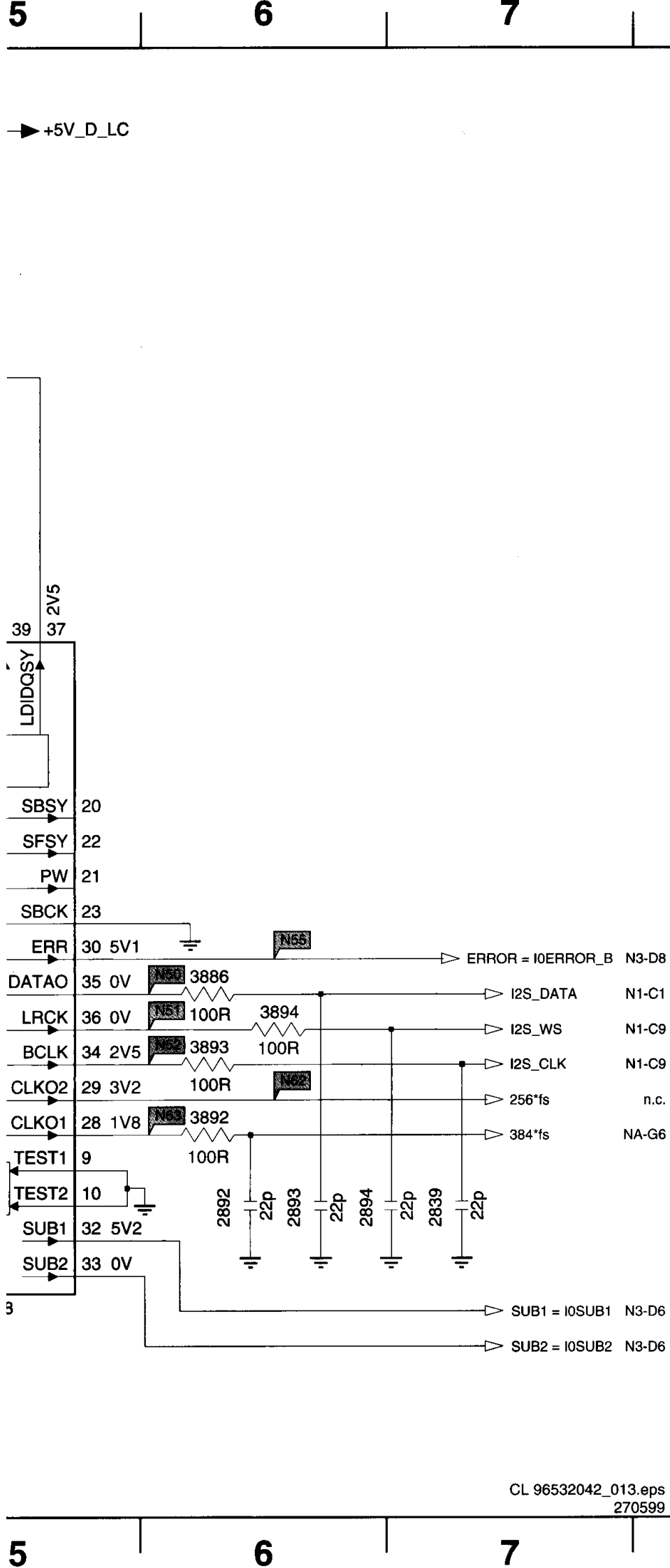




2800 I2
2802 J2
2807 C1
2809 C2
2810 A8
2884 H7
2900 D2
2901 D2
2902 E2
2903 B8
2904 B9
2905 C9
2906 C8
2907 D8
2908 D9
2909 C1
3800 I2
3801 J2
3889 A8
3890 H7
6801 C2
7800-A G6
7800-B B8
7800-C B8
7800-D C8
F801 I3
F802 E5
F803 E5
F804 F7
F805 E9
F806 E9
F807 F9
F808 D11
F809 C11
F810 C11
F811 C11
F812 D11
F813 D11
F814 F11
F819 A8
F820 A5
F821 B5
F822 B5
F823 B5
F824 I3
F825 J3
F827 C11
F828 C11
F829 C11
F836 G11
F837 G11
F838 G13
F839 G13
F840 C5
F841 A2
F847 F7
F860 A5

Multi-channel sound module





1805 E3
 2823 A3
 2824 A4
 2825 A4
 2826 A4
 2827 A5
 2828 A3
 2829 A4
 2830 D1
 2831 E2
 2832 E3
 2833 E3
 2834 E3
 2839 E7
 2892 E6
 2893 E6
 2894 E6
 3822 A3
 3823 A3
 3824 C2
 3825 C3
 3826 C3
 3827 C2
 3828 D1
 3829 E1
 3830 D3
 3831 D3
 3834 E2
 3835 E3
 3836 E4
 3837 E4
 3886 D6
 3892 D6
 3893 D6
 3894 D6
 3895 C3
 3896 C2
 7802 B3
 F850 A2
 F851 A2

A

B

C

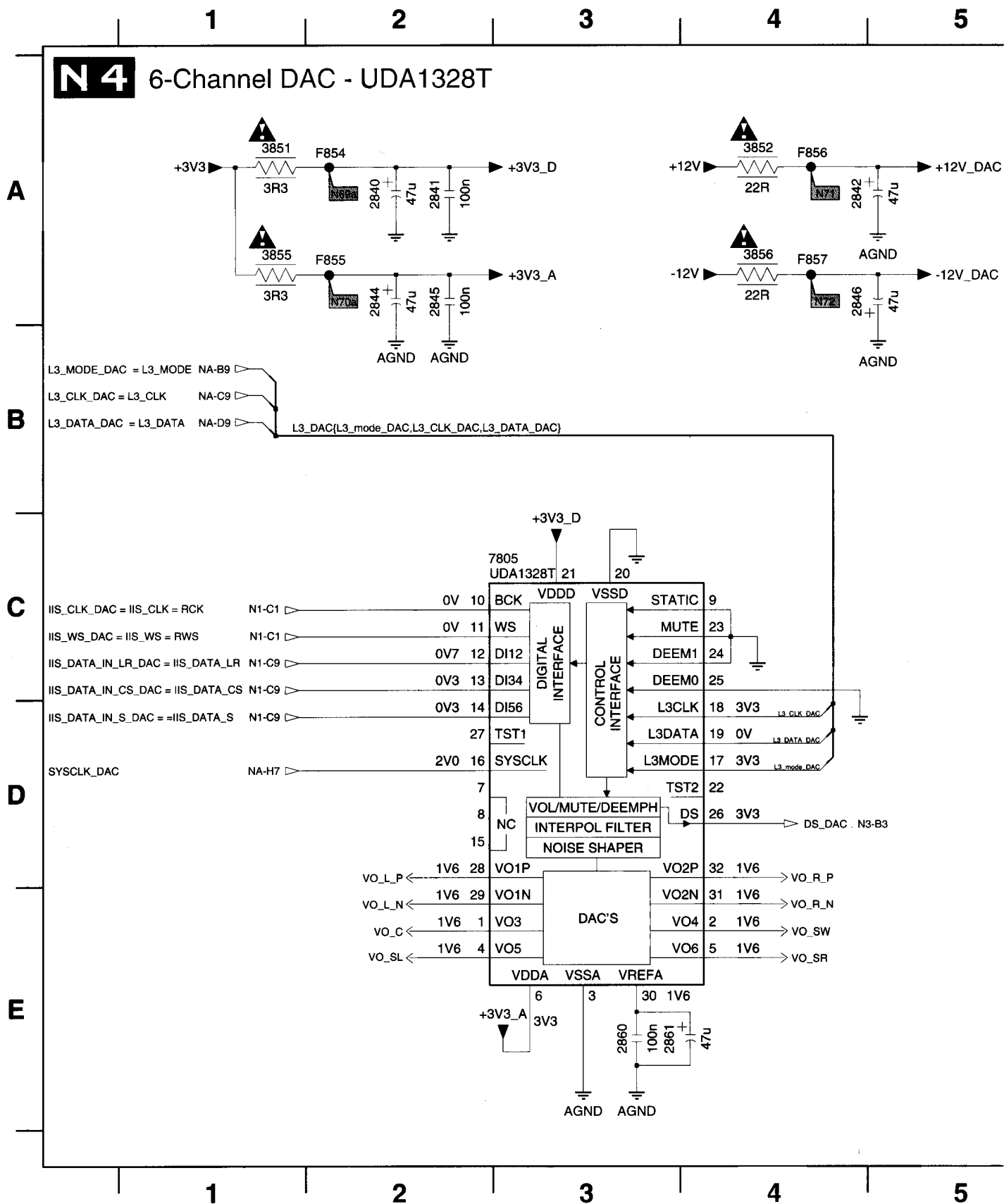
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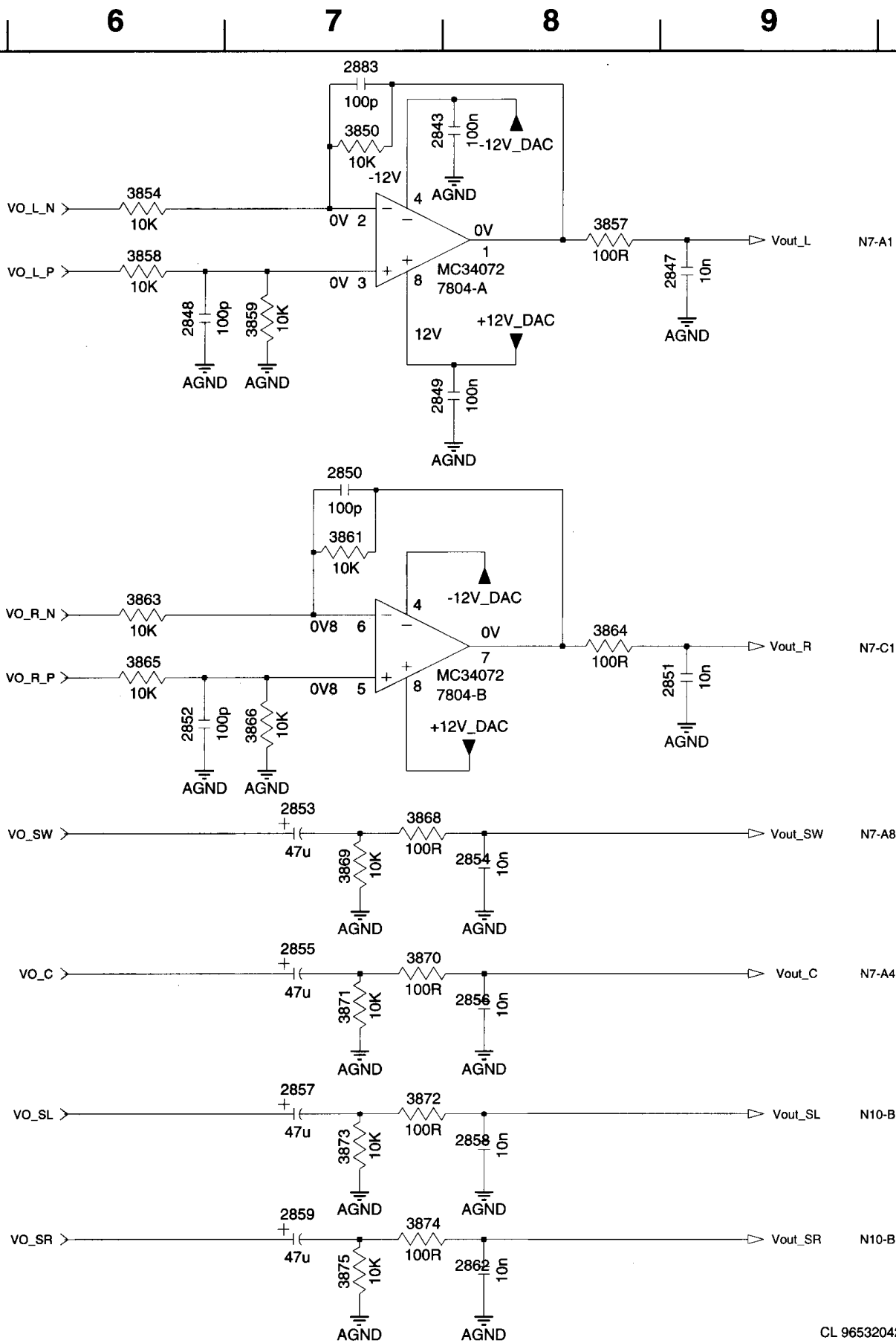
E

N 1 DUET SAA2505H



Multi-channel sound module





A

B

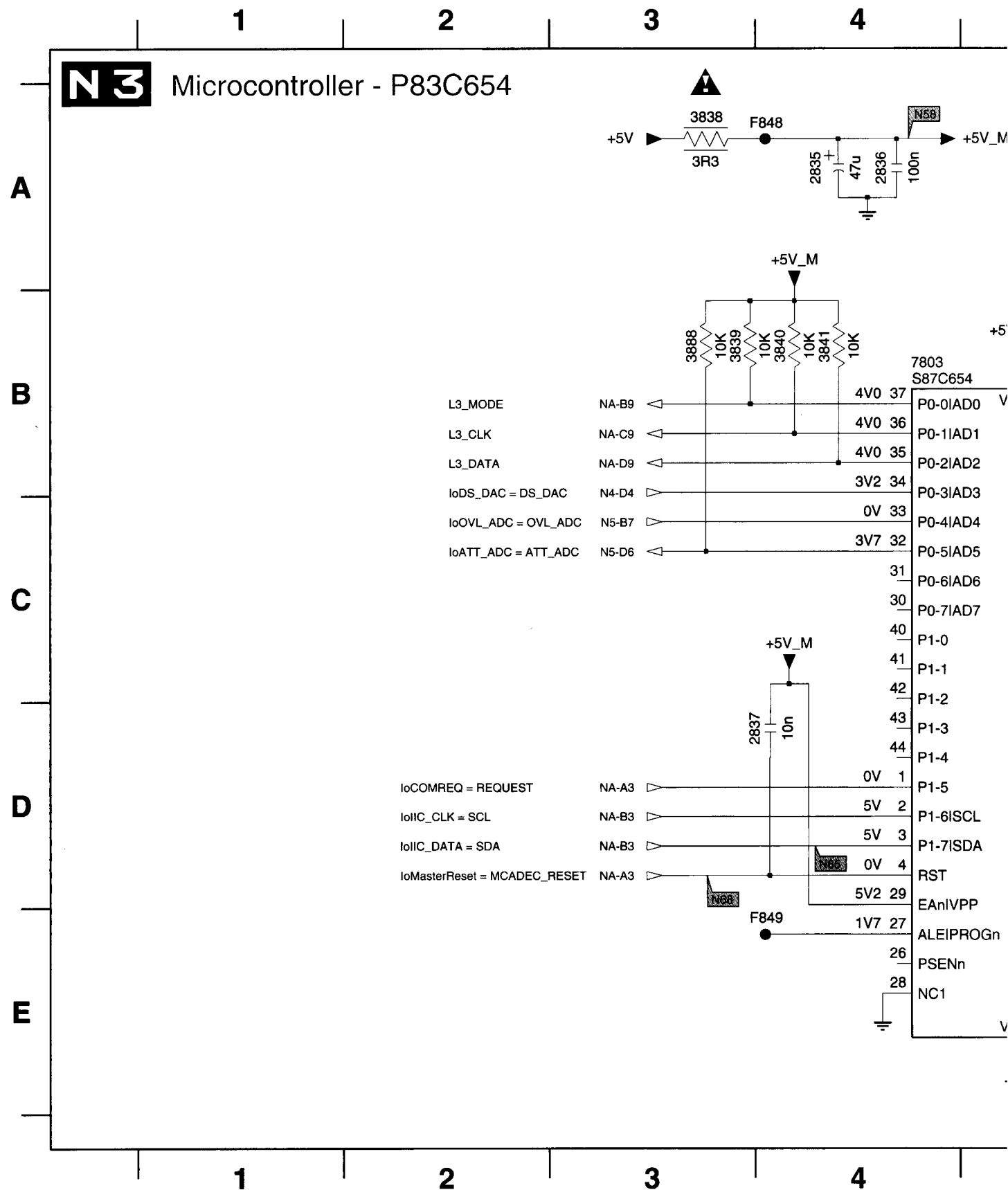
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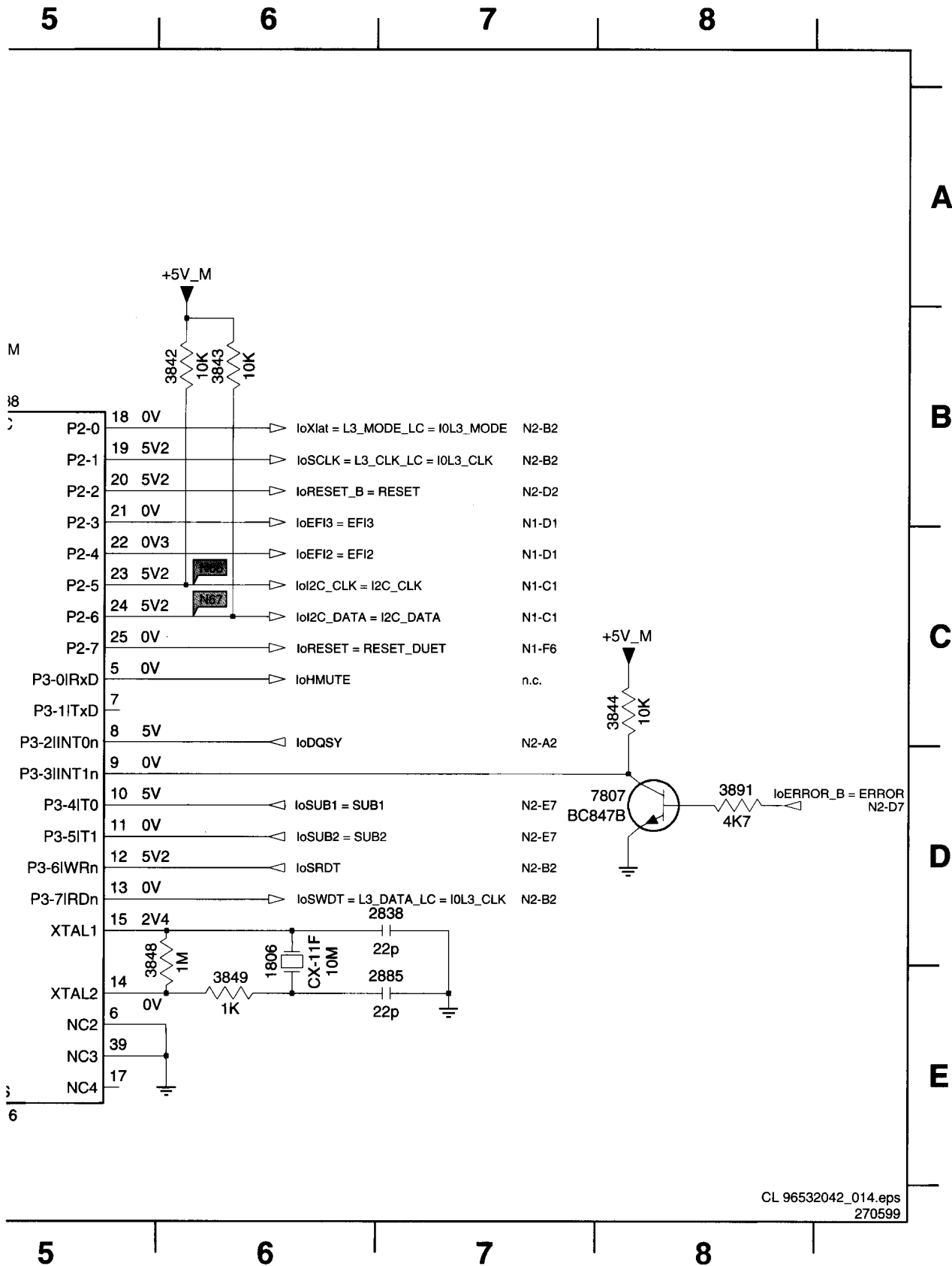
D

E

2840 A2
2841 A2
2842 A4
2843 A7
2844 A2
2845 A2
2846 A4
2847 A9
2848 A6
2849 B7
2850 B7
2851 C9
2852 C6
2853 D7
2854 D8
2855 D7
2856 D8
2857 E7
2858 E8
2859 E7
2860 E3
2861 E3
2862 E8
2863 A7
2864 A7
2865 A1
2866 A4
2867 A6
2868 A4
2869 A8
2870 A6
2871 A7
2872 A7
2873 A7
2874 A7
2875 A7
2876 A7
2877 A7
2878 A7
2879 A7
2880 A7
2881 A7
2882 A7
2883 A7
2884 A7
2885 A7
2886 A7
2887 A7
2888 A7
2889 A7
2890 A7
2891 A7
2892 A7
2893 A7
2894 A7
2895 A7
2896 A7
2897 A7
2898 A7
2899 A7
2900 A7
2901 A7
2902 A7
2903 A7
2904 A7
2905 A7
2906 A7
2907 A7
2908 A7
2909 A7
2910 A7
2911 A7
2912 A7
2913 A7
2914 A7
2915 A7
2916 A7
2917 A7
2918 A7
2919 A7
2920 A7
2921 A7
2922 A7
2923 A7
2924 A7
2925 A7
2926 A7
2927 A7
2928 A7
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2932 A7
2933 A7
2934 A7
2935 A7
2936 A7
2937 A7
2938 A7
2939 A7
2940 A7
2941 A7
2942 A7
2943 A7
2944 A7
2945 A7
2946 A7
2947 A7
2948 A7
2949 A7
2950 A7
2951 A7
2952 A7
2953 A7
2954 A7
2955 A7
2956 A7
2957 A7
2958 A7
2959 A7
2960 A7
2961 A7
2962 A7
2963 A7
2964 A7
2965 A7
2966 A7
2967 A7
2968 A7
2969 A7
2970 A7
2971 A7
2972 A7
2973 A7
2974 A7
2975 A7
2976 A7
2977 A7
2978 A7
2979 A7
2980 A7
2981 A7
2982 A7
2983 A7
2984 A7
2985 A7
2986 A7
2987 A7
2988 A7
2989 A7
2990 A7
2991 A7
2992 A7
2993 A7
2994 A7
2995 A7
2996 A7
2997 A7
2998 A7
2999 A7
3000 A7

Multi-channel sound module

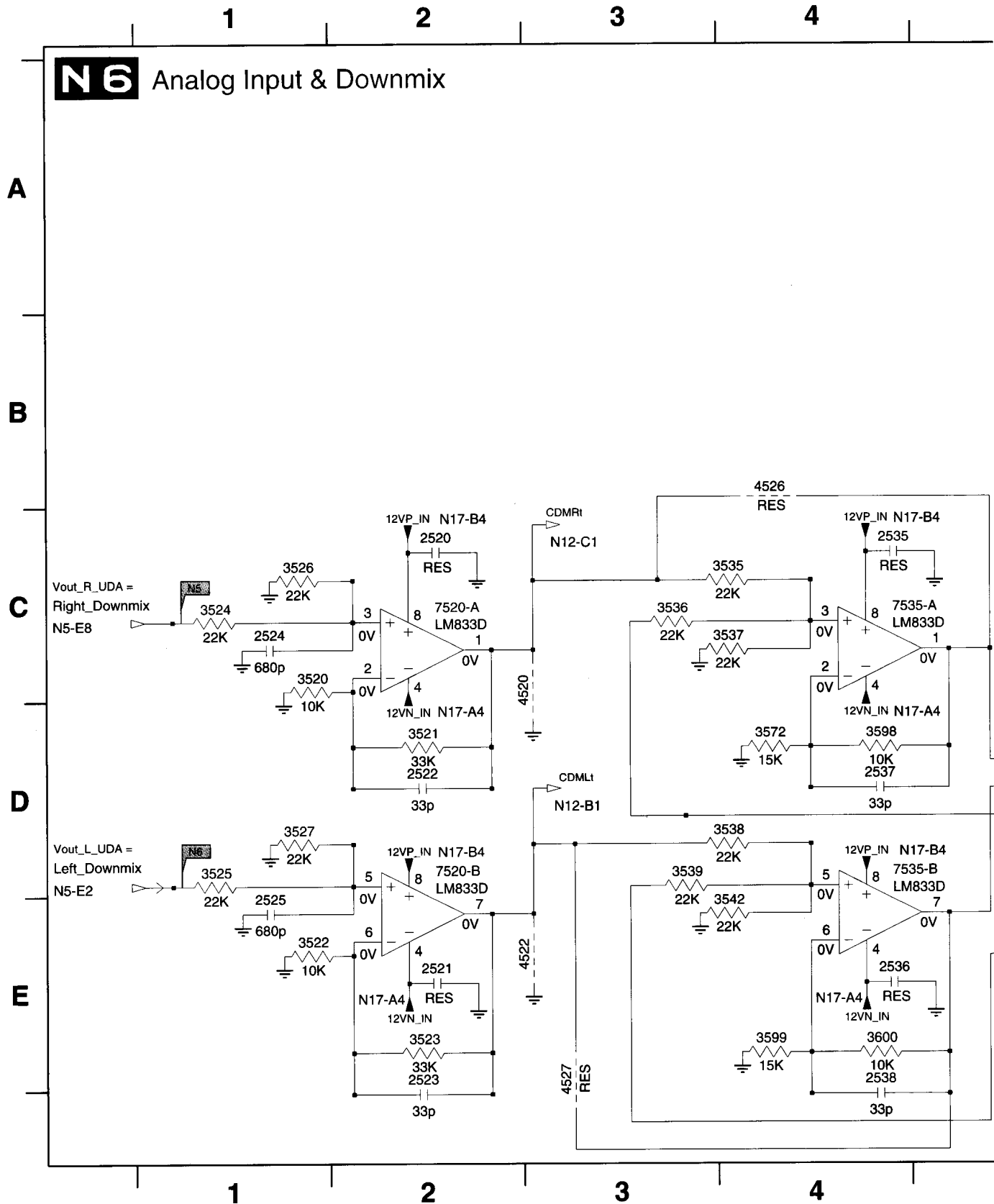




1806 D6
2835 A4
2836 A4
2837 D4
2838 D7
2885 E7
3838 A3
3839 B3
3840 B4
3841 B4
3842 B6
3843 B6
3844 C7
3848 D5
3849 E6
3888 B3
3891 D8
7803 B4
7807 D7
F848 A4
F849 E4

Multi-channel sound module

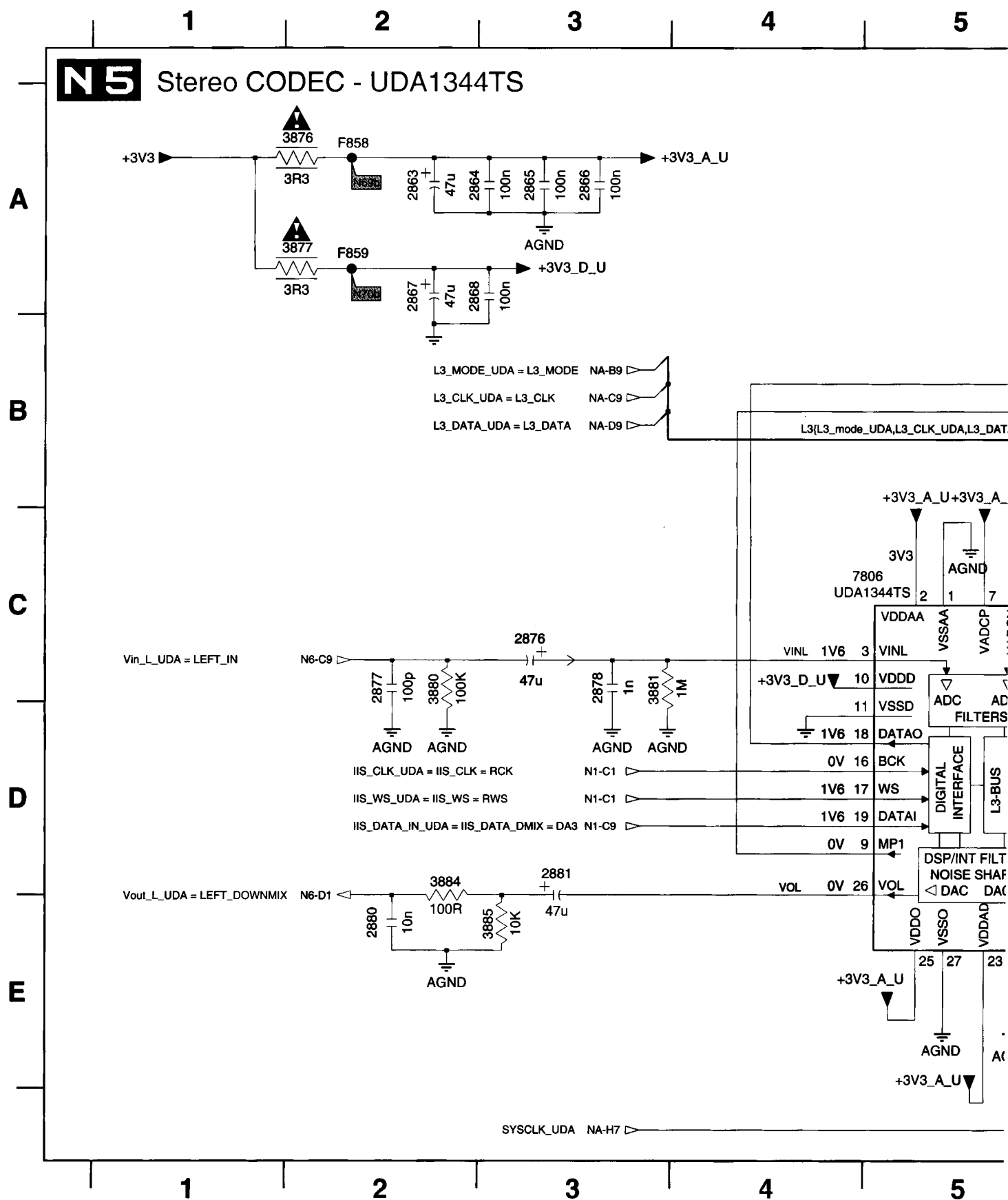
0373 D9	2505 A8	2512 D6	2524 C1	2537 D4	3501 B6	3506 A9	3511 B8	3516 A9	3521 D2	35
0381 A6	2506 C8	2520 C2	2525 E1	2538 E4	3502 A7	3507 C8	3512 D6	3517 B9	3522 E1	35
2500 A6	2507 B8	2521 E2	2534 C7	2539 A9	3503 C7	3508 C9	3513 C7	3518 C9	3523 E2	35
2501 C6	2508 D8	2522 D2	2535 C4	2793 C9	3504 B6	3509 B7	3514 C8	3519 D5	3524 C1	35
2504 B6	2511 E6	2523 E2	2536 E4	3500 A6	3505 A8	3510 B7	3515 A9	3520 C1	3525 D1	35



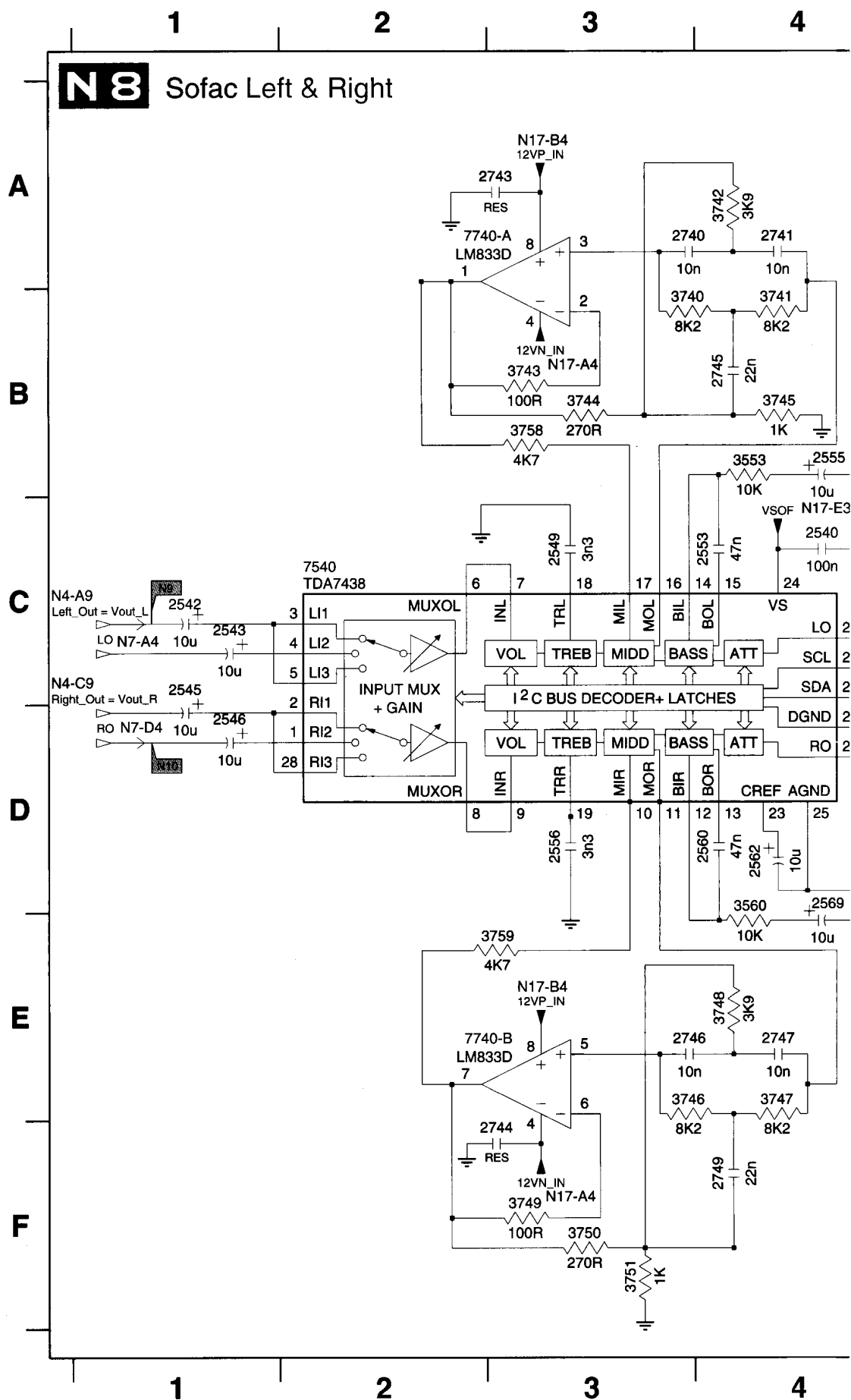
5 **6** **7** **8** **9**

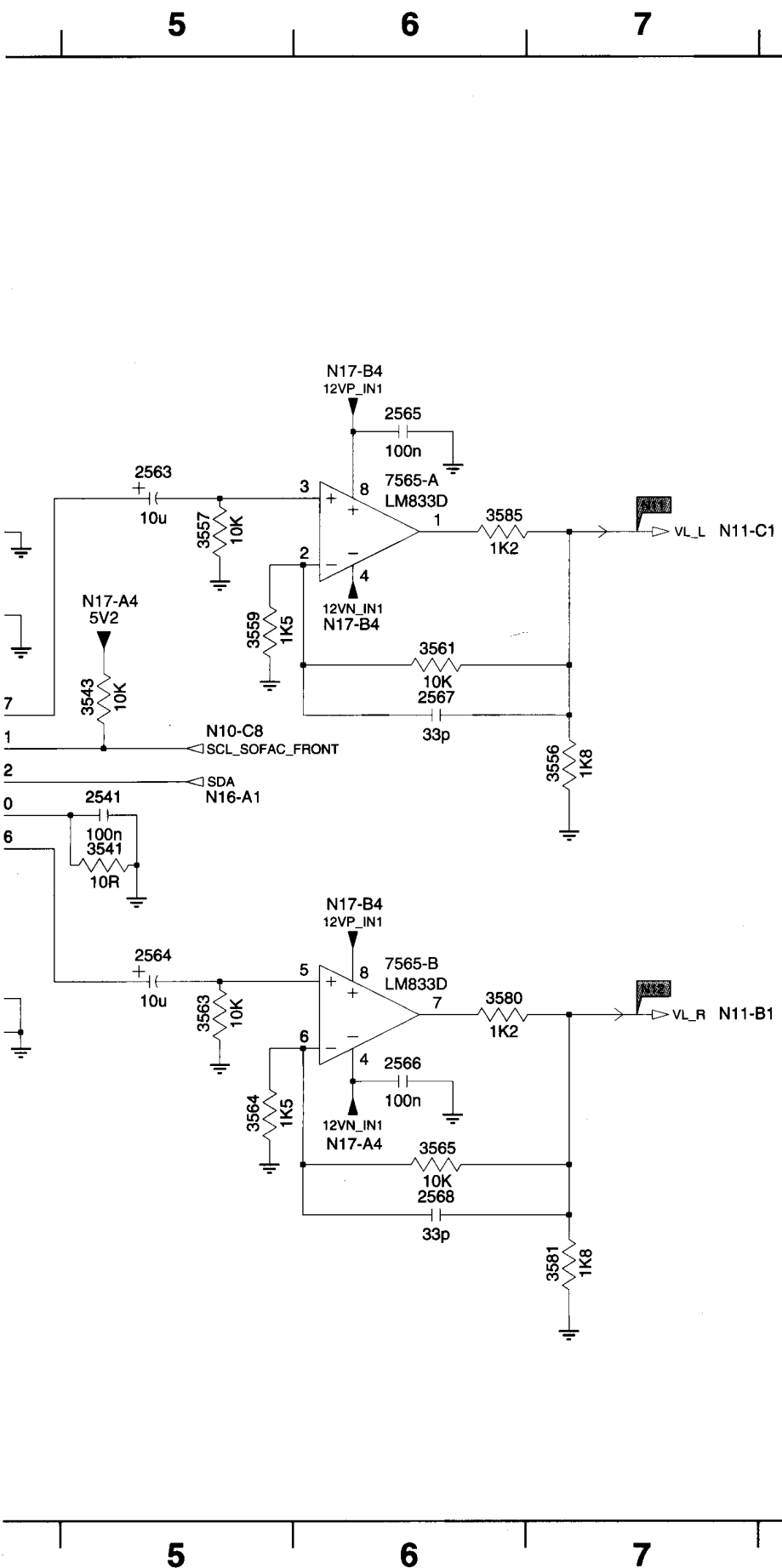


Multi-channel sound module



Multi-channel sound module





A

B

C

D

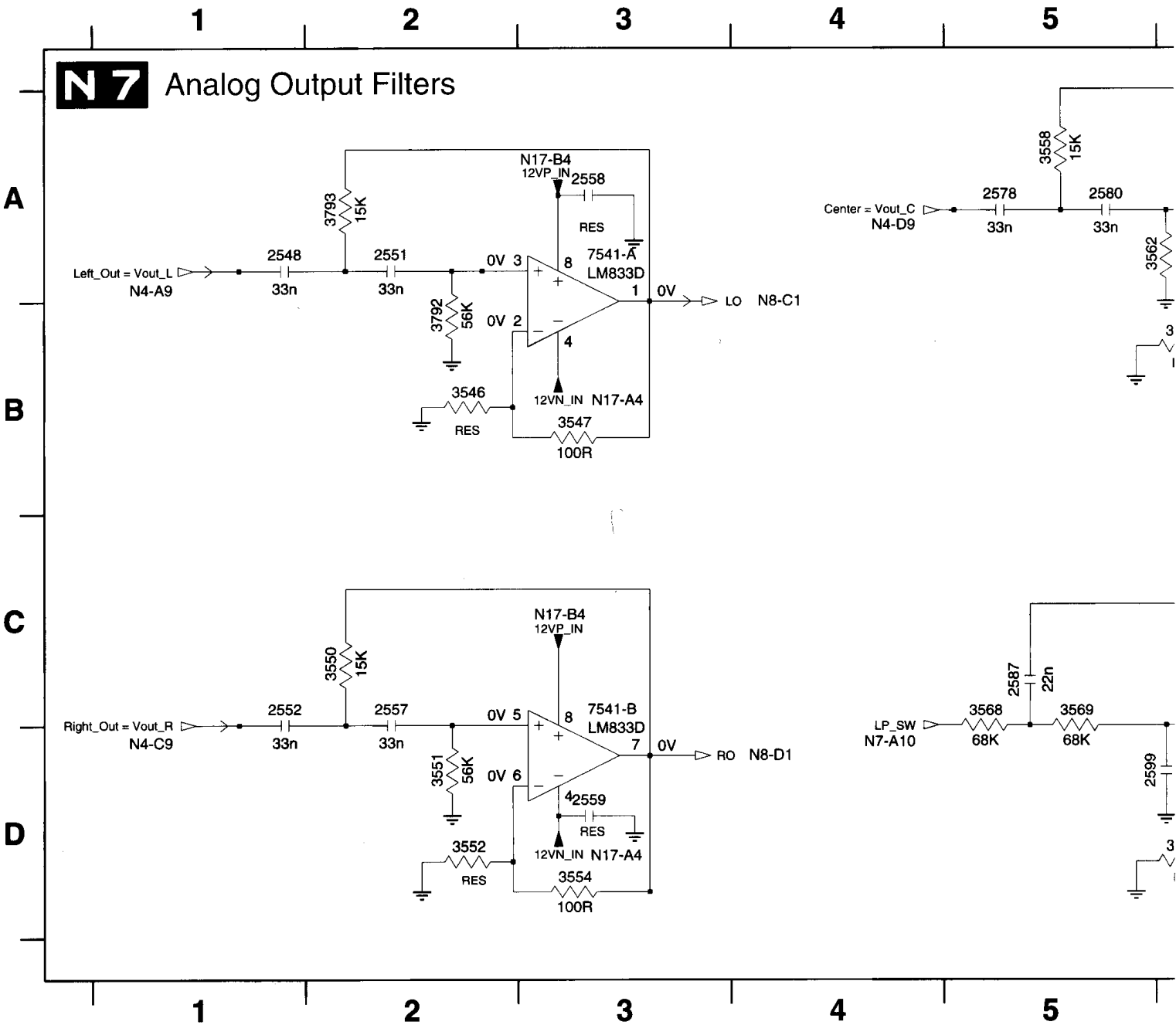
E

F

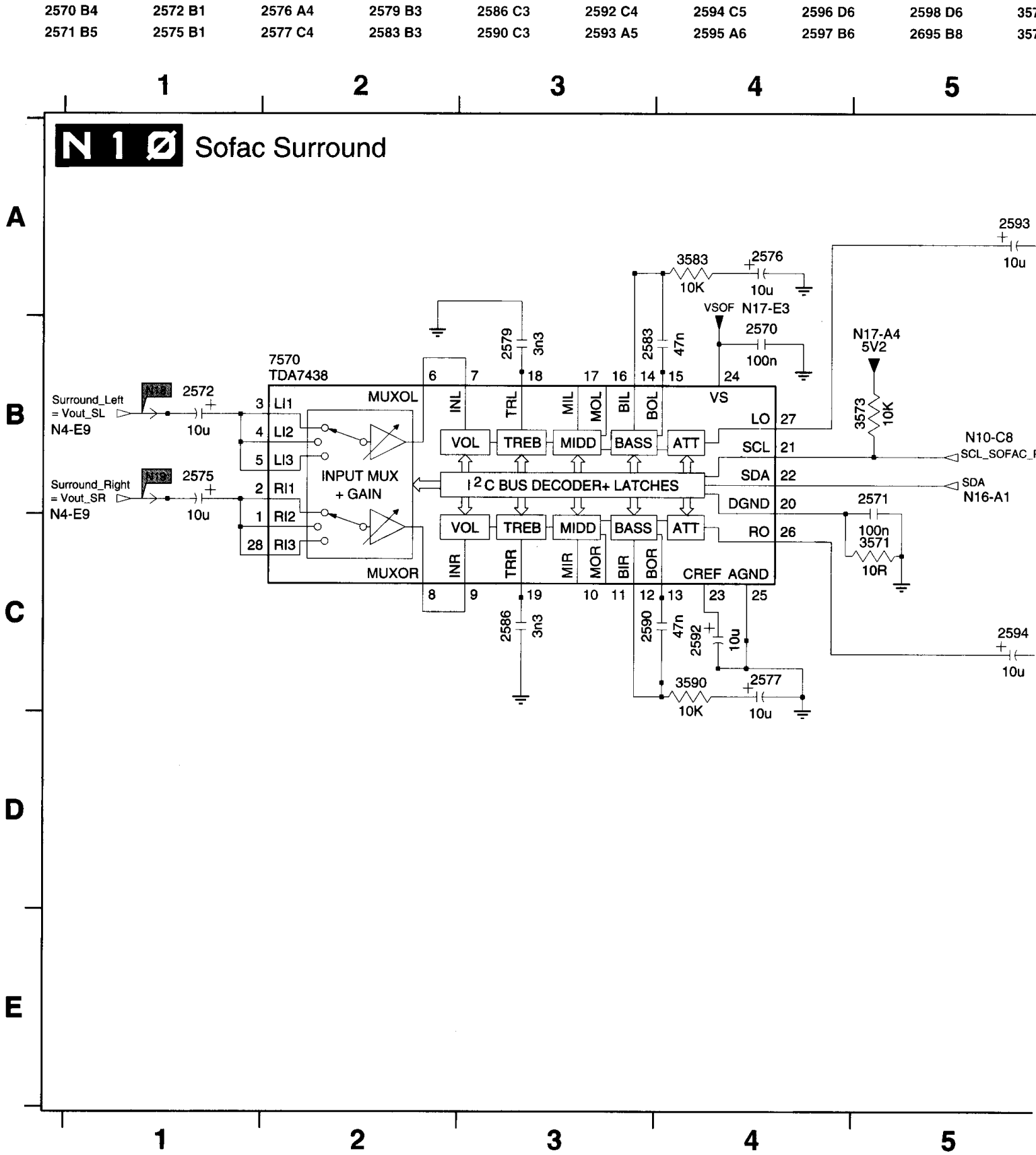
2540 C4
2541 D5
2542 C1
2543 C1
2545 C1
2546 D1
2549 C3
2553 C4
2555 B4
2556 D3
2560 D4
2562 D4
2563 B5
2564 D5
2565 B6
2566 E6
2567 C6
2568 E6
2569 D4
2740 A3
2741 A4
2743 A3
2744 F3
2745 B4
2746 E3
2747 E4
2749 F4
3541 D5
3543 C5
3553 B4
3556 C7
3557 B5
3559 C5
3560 D4
3561 C6
3563 D5
3564 E5
3565 E6
3580 D6
3581 F7
3585 B6
3740 B3
3741 B4
3742 A4
3743 B3
3744 B3
3745 B4
3746 E3
3747 E4
3748 E4
3749 F3
3750 F3
3751 F3
3758 B3
3759 E3
7540 C2
7565-A B6
7565-B D6
7740-A A3
7740-B E3

Multi-channel sound module

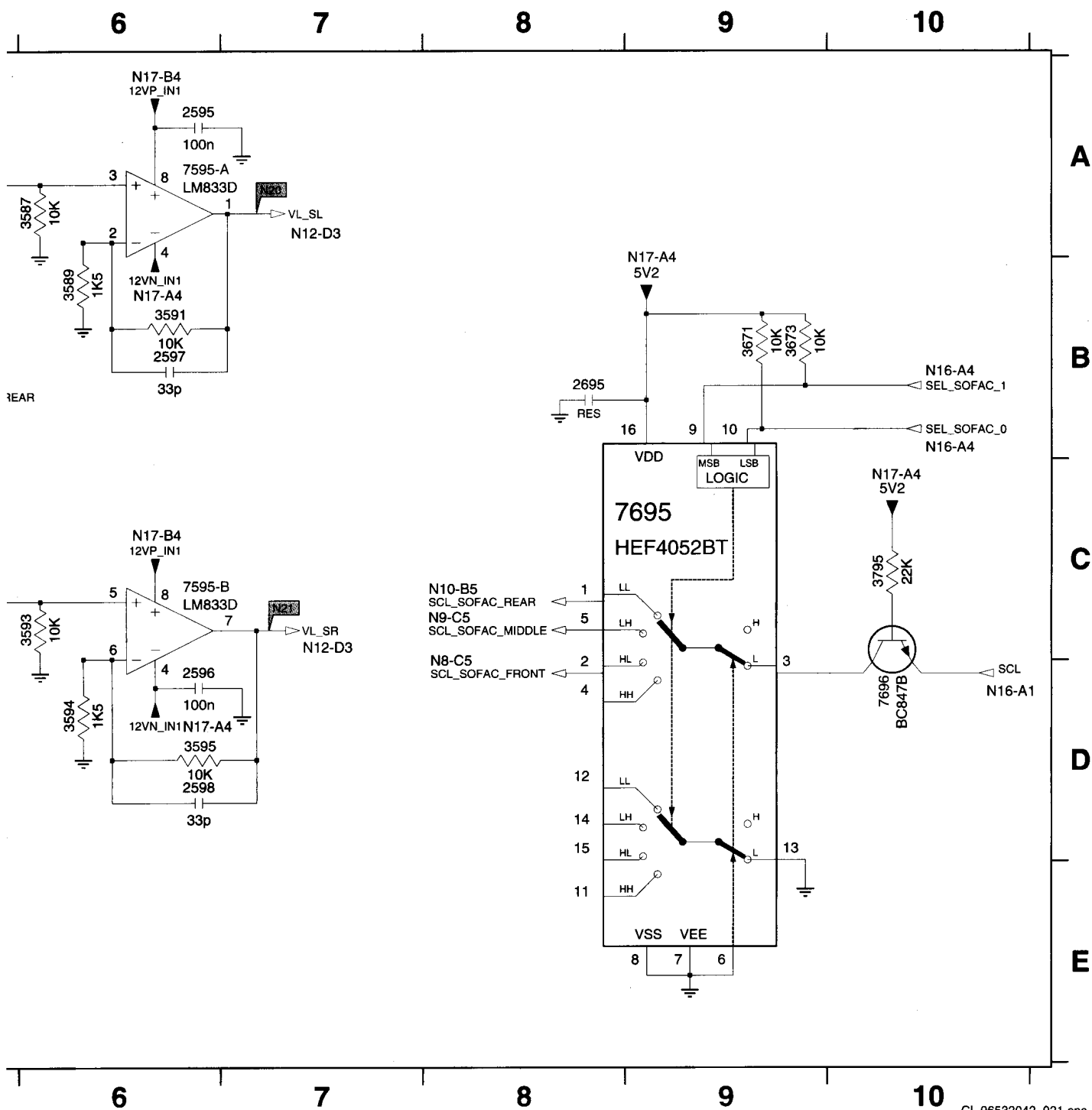
2548 A1	2557 C2	2578 A5	2587 C5	2610 D6	2667 C8	3540 A8	3548 A8	3552 D2	3558 A5	3567 B6
2551 A2	2558 A3	2580 A5	2599 D5	2629 A9	2668 D9	3546 B2	3550 C2	3554 D3	3562 A5	3568 C5
2552 C1	2559 D3	2585 B9	2608 A6	2632 D9	2669 D9	3547 B3	3551 D2	3555 A8	3566 B6	3569 C5



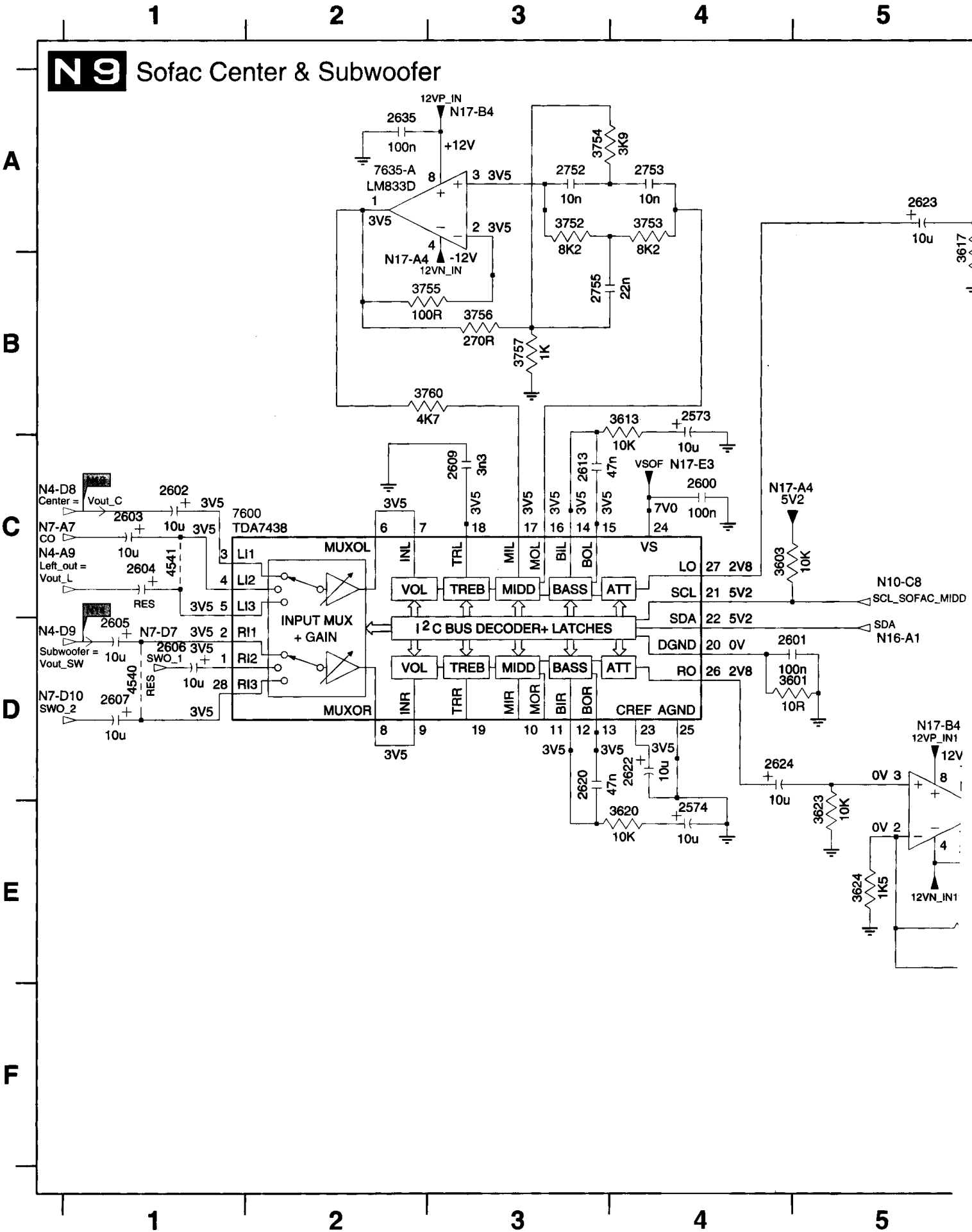
Multi-channel sound module



1 C5	3583 A4	3589 B6	3591 B6	3594 D6	3671 B9	3795 C10	7595-A A6	7695 C8
3 B5	3587 A6	3590 C4	3593 C6	3595 D6	3673 B9	7570 B2	7595-B C6	7696 D10



Multi-channel sound module

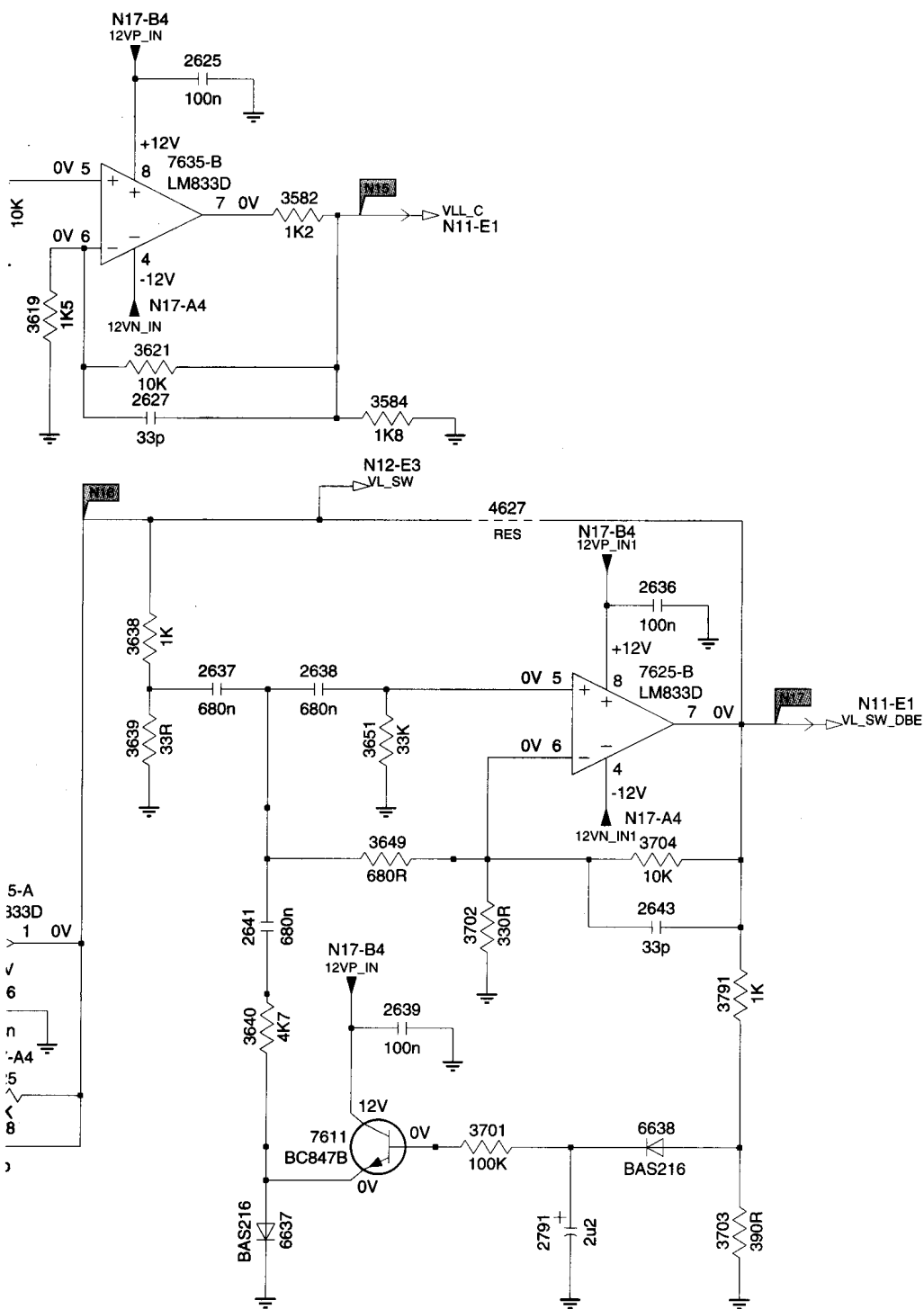


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A

B

C

D

E

F

2573 B4
2574 E4
2600 C4
2601 D4
2602 C1
2603 C1
2604 C1
2605 D1
2606 D1
2607 D1
2609 C3
2613 C3
2620 D3
2622 D4
2623 A5
2624 D4
2625 A6
2626 E5
2627 B6
2628 E5
2635 A2
2636 C8
2637 C6
2638 C7
2639 E7
2641 D7
2643 D8
2752 A3
2753 A4
2755 B3
2791 F8
3582 A7
3584 B7
3601 D5
3603 C4
3613 B4
3617 A5
3619 B6
3620 E4
3621 B6
3623 E5
3624 E5
3625 E6
3638 C6
3639 D6
3640 E7
3649 D7
3651 D7
3701 E8
3702 D8
3703 F9
3704 D8
3752 A3
3753 A4
3754 A3
3755 B2
3756 B3
3757 B3
3760 B3
3791 E9

4540 D1
4541 C1
4627 C8
6637 F7
6638 E8
7600 C1
7611 E7
7625-A D5
7625-B C8
7635-A A2
7635-B A6

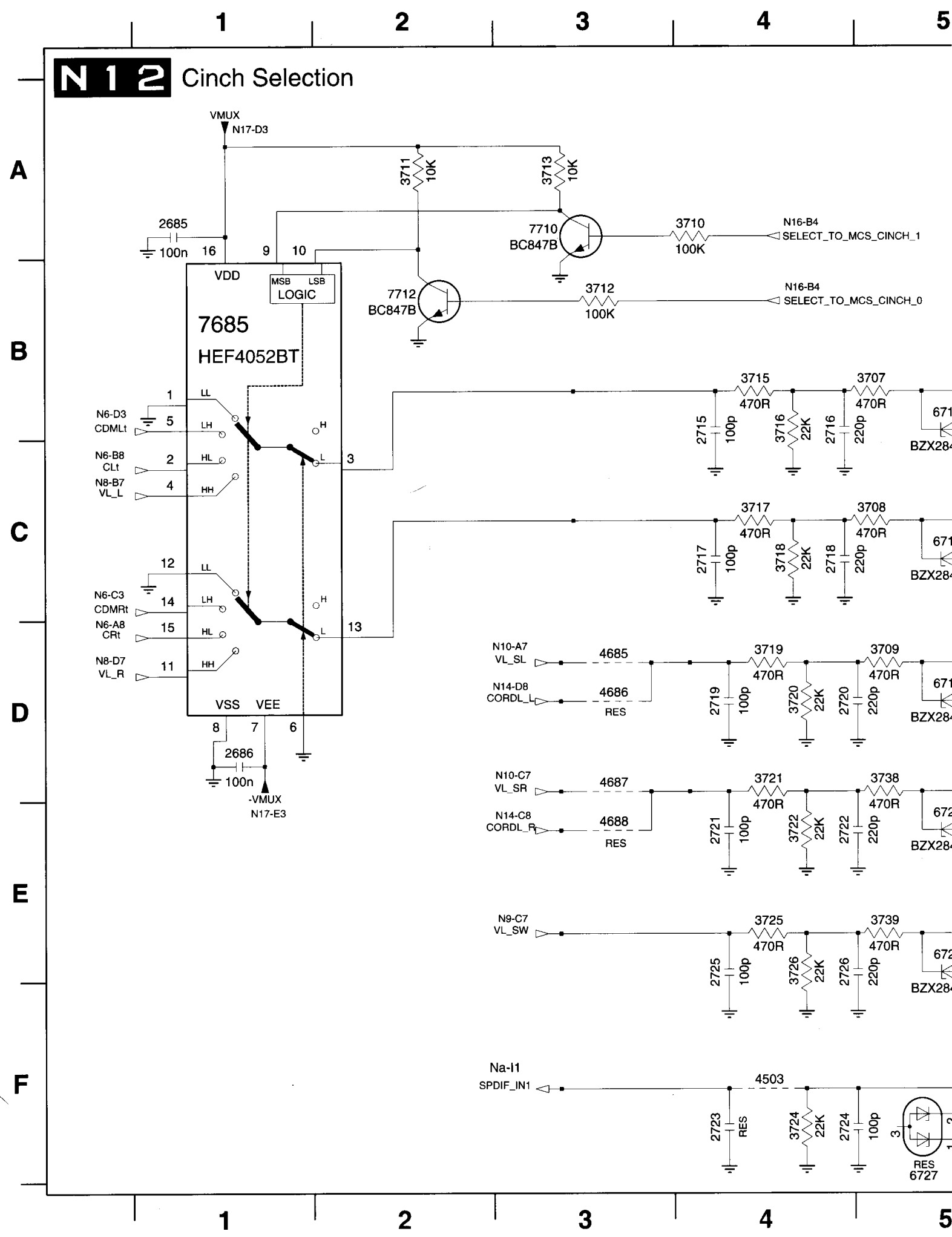
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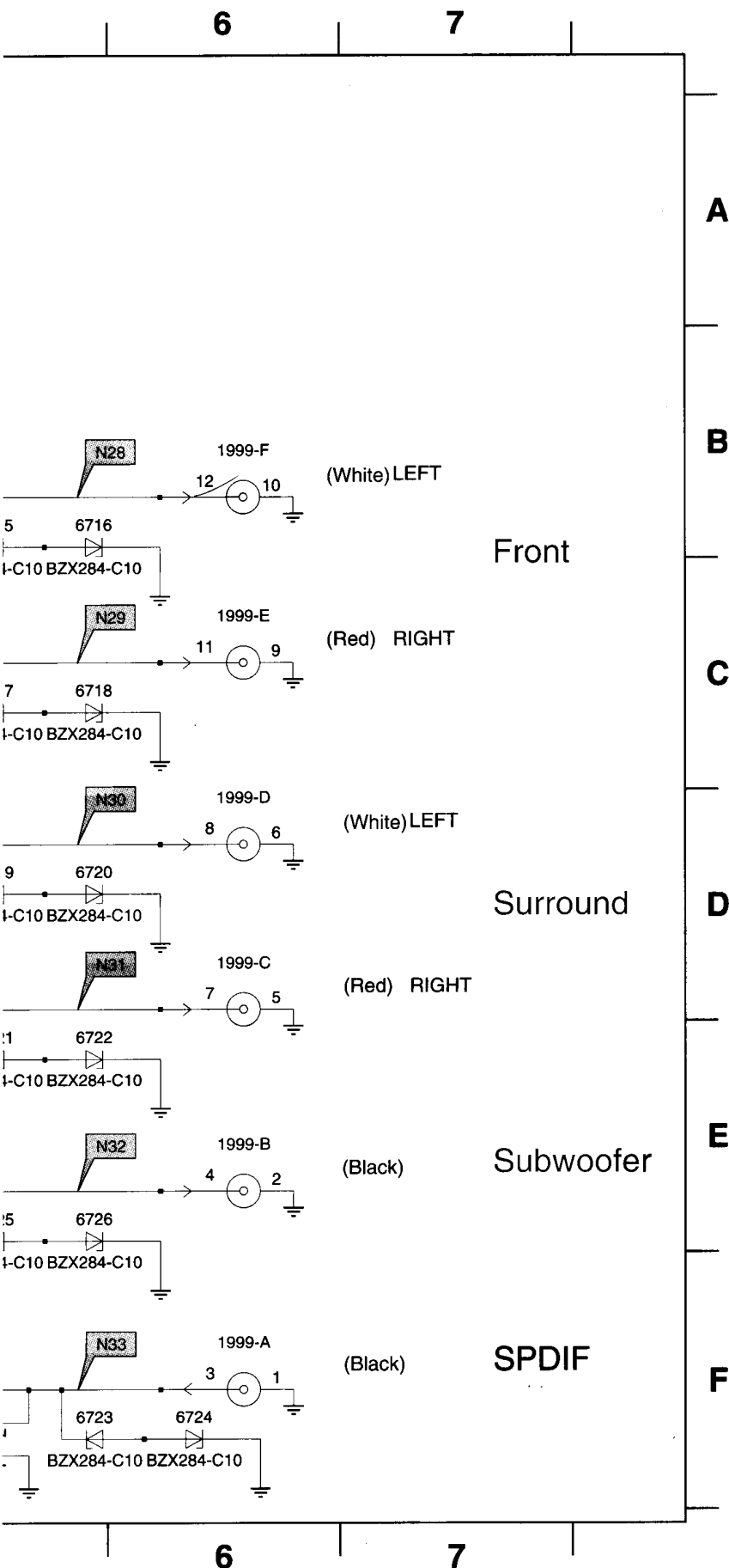
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8

9

Multi-channel sound module

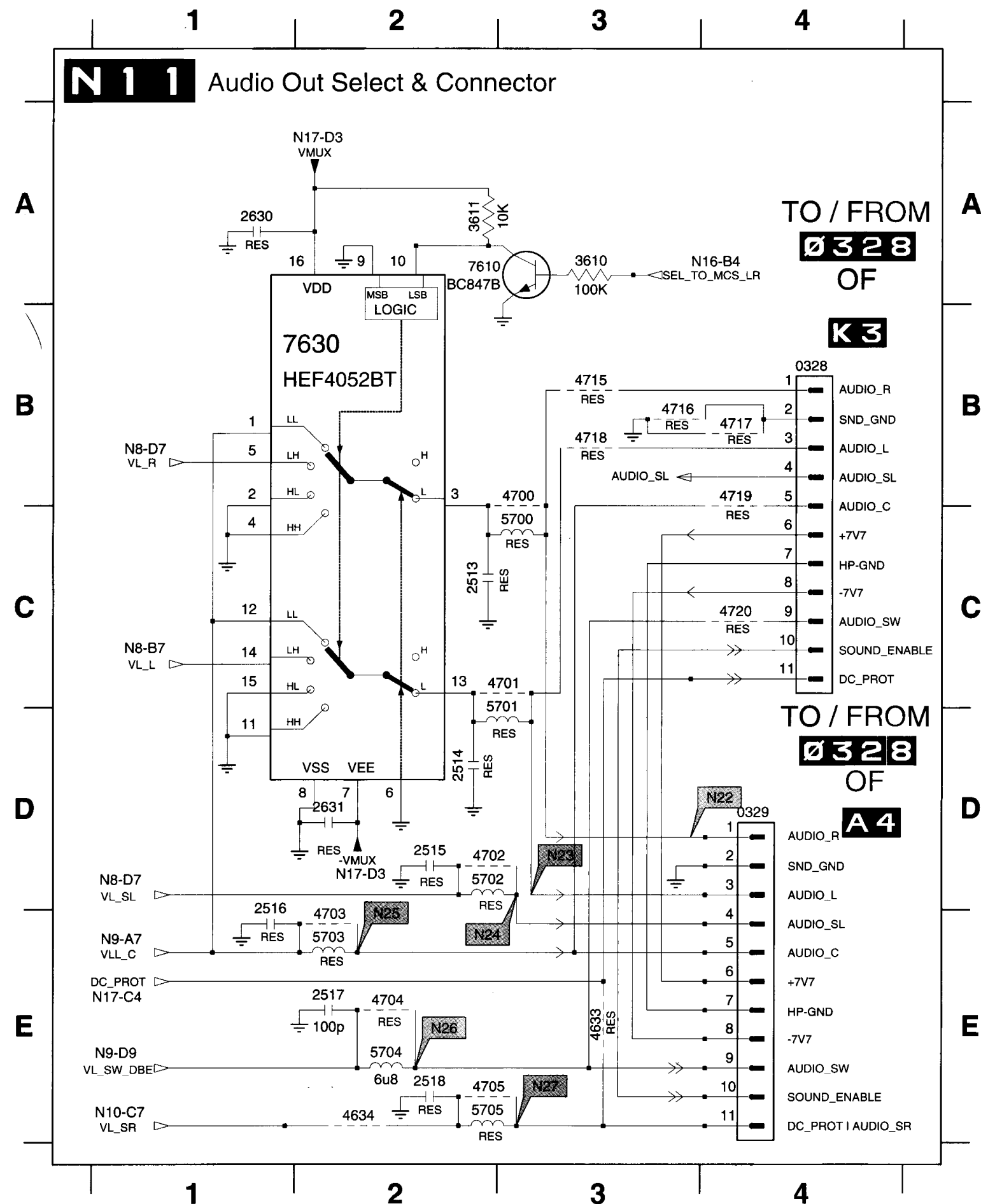


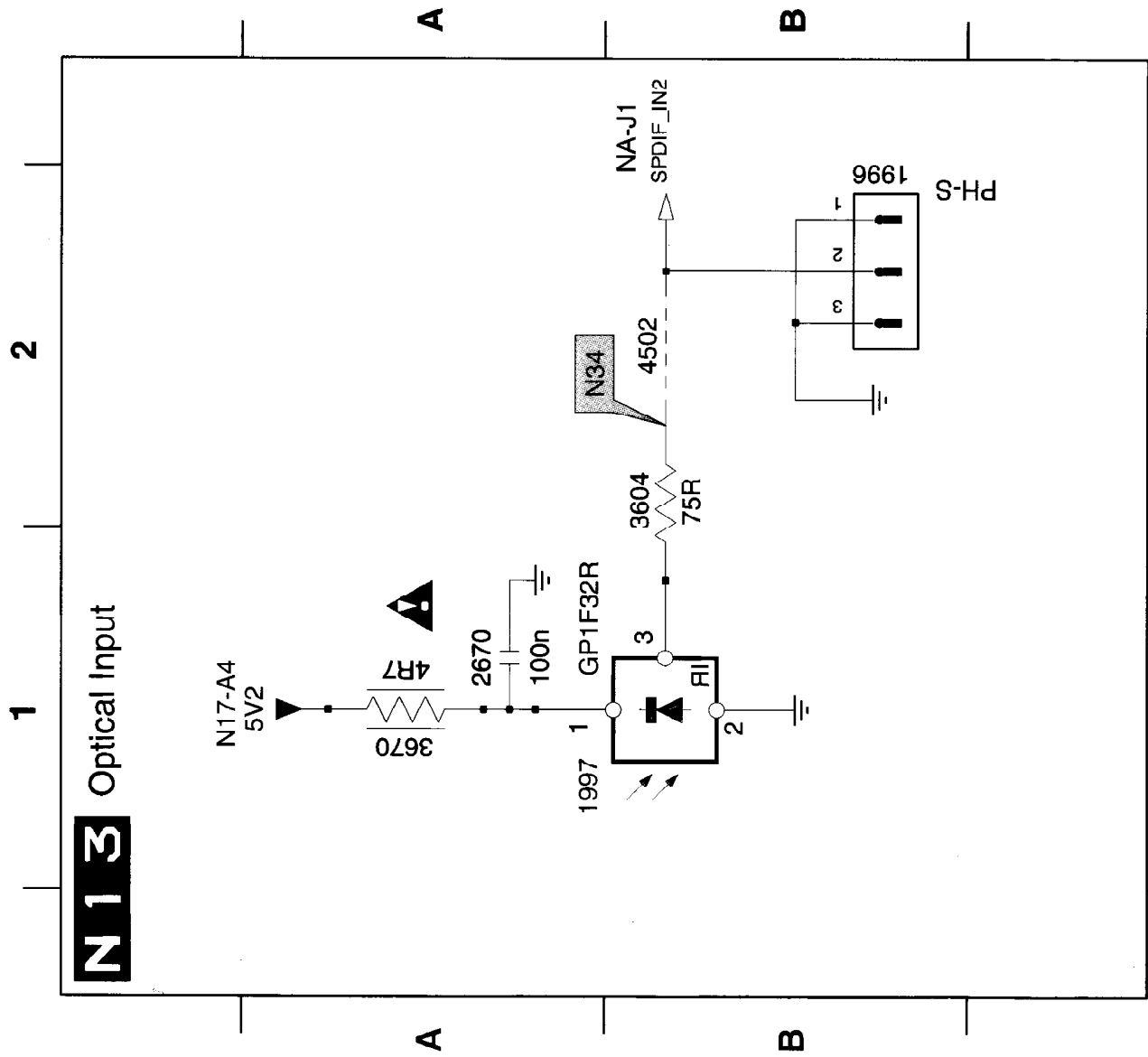


- 1999-A F6
- 1999-B E6
- 1999-C D6
- 1999-D D6
- 1999-E C6
- 1999-F B6
- 2685 A1
- 2686 D1
- 2715 B4
- 2716 B4
- 2717 C4
- 2718 C4
- 2719 D4
- 2720 D4
- 2721 E4
- 2722 E4
- 2723 F4
- 2724 F4
- 2725 E4
- 2726 E4
- 3707 B5
- 3708 C5
- 3709 D5
- 3710 A4
- 3711 A2
- 3712 B3
- 3713 A3
- 3715 B4
- 3716 B4
- 3717 C4
- 3718 C4
- 3719 D4
- 3720 D4
- 3721 D4
- 3722 E4
- 3724 F4
- 3725 E4
- 3726 E4
- 3738 D5
- 3739 E5
- 4503 F4
- 4685 D3
- 4686 D3
- 4687 D3
- 4688 E3
- 6715 B5
- 6716 B5
- 6717 C5
- 6718 C5
- 6719 D5
- 6720 D5
- 6721 E5
- 6722 E5
- 6723 F5
- 6724 F6
- 6725 E5
- 6726 E5
- 6727 F5
- 7685 B1
- 7710 A3
- 7712 B2

Multi-channel sound module

0328 B4	2514 D2	2517 E2	2631 D2	4633 E3	4701 C3	4704 E2	4716 B3	4719 B4	5701 D3	5704 E2	7630 B1
0329 D4	2515 D2	2518 E2	3610 A3	4634 E2	4702 D2	4705 E2	4717 B4	4720 C4	5702 D2	5705 E2	
2513 C2	2516 E1	2630 A1	3611 A2	4700 B3	4703 E2	4715 B3	4718 B3	5700 C3	5703 E2	7610 A3	

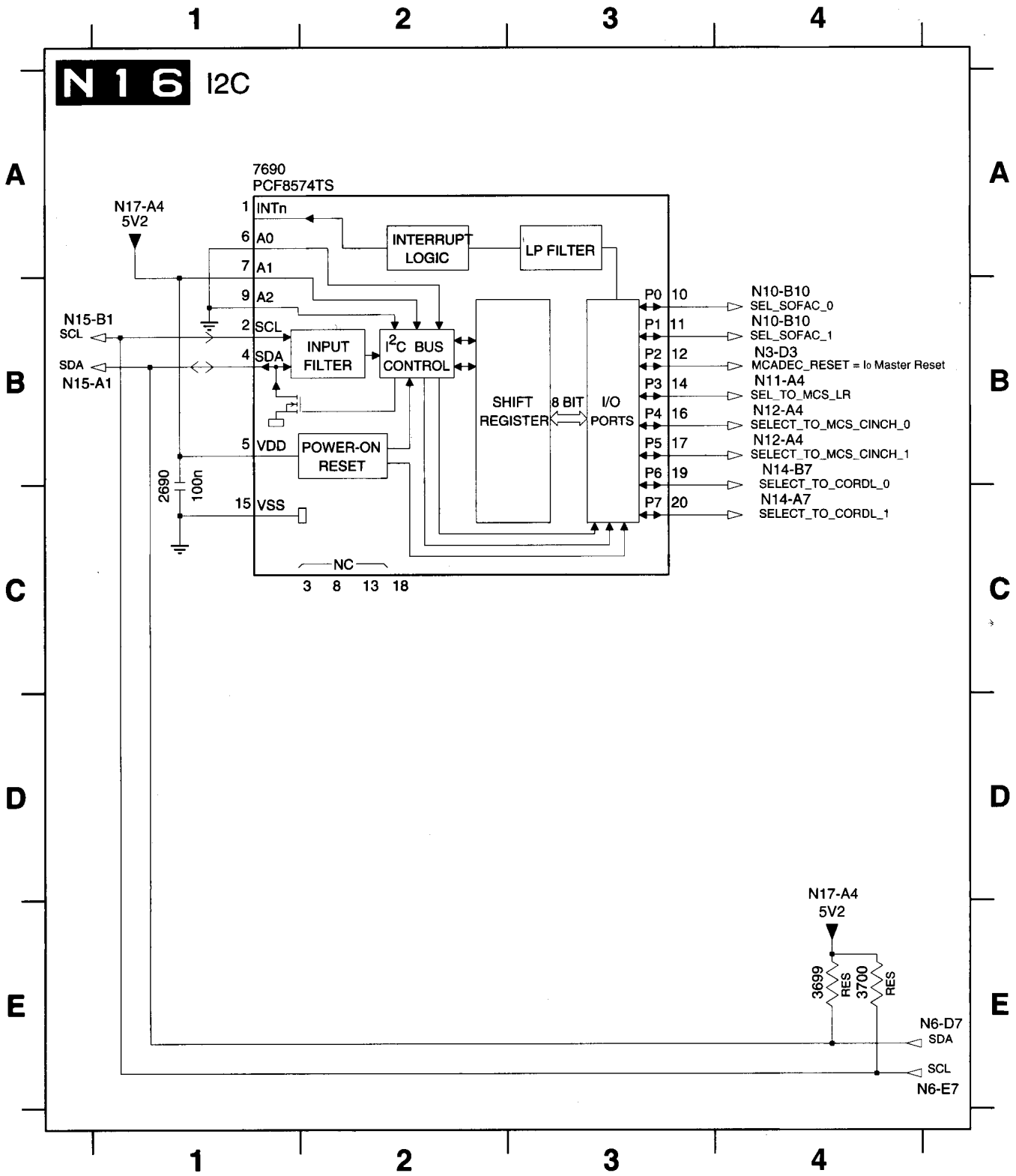




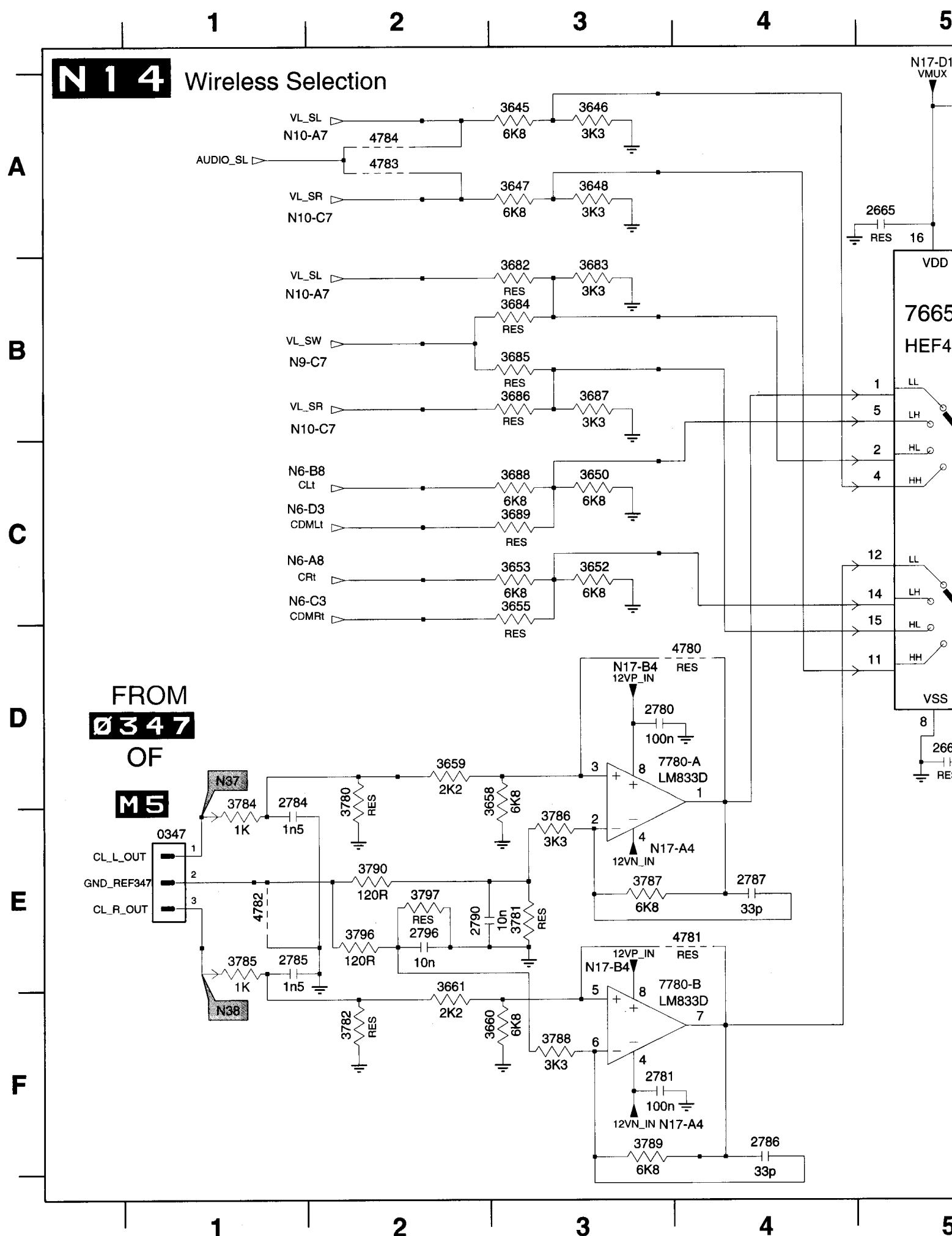
1996 B2
1997 A1
2670 A1
3604 B2
3670 A1
4502 B2

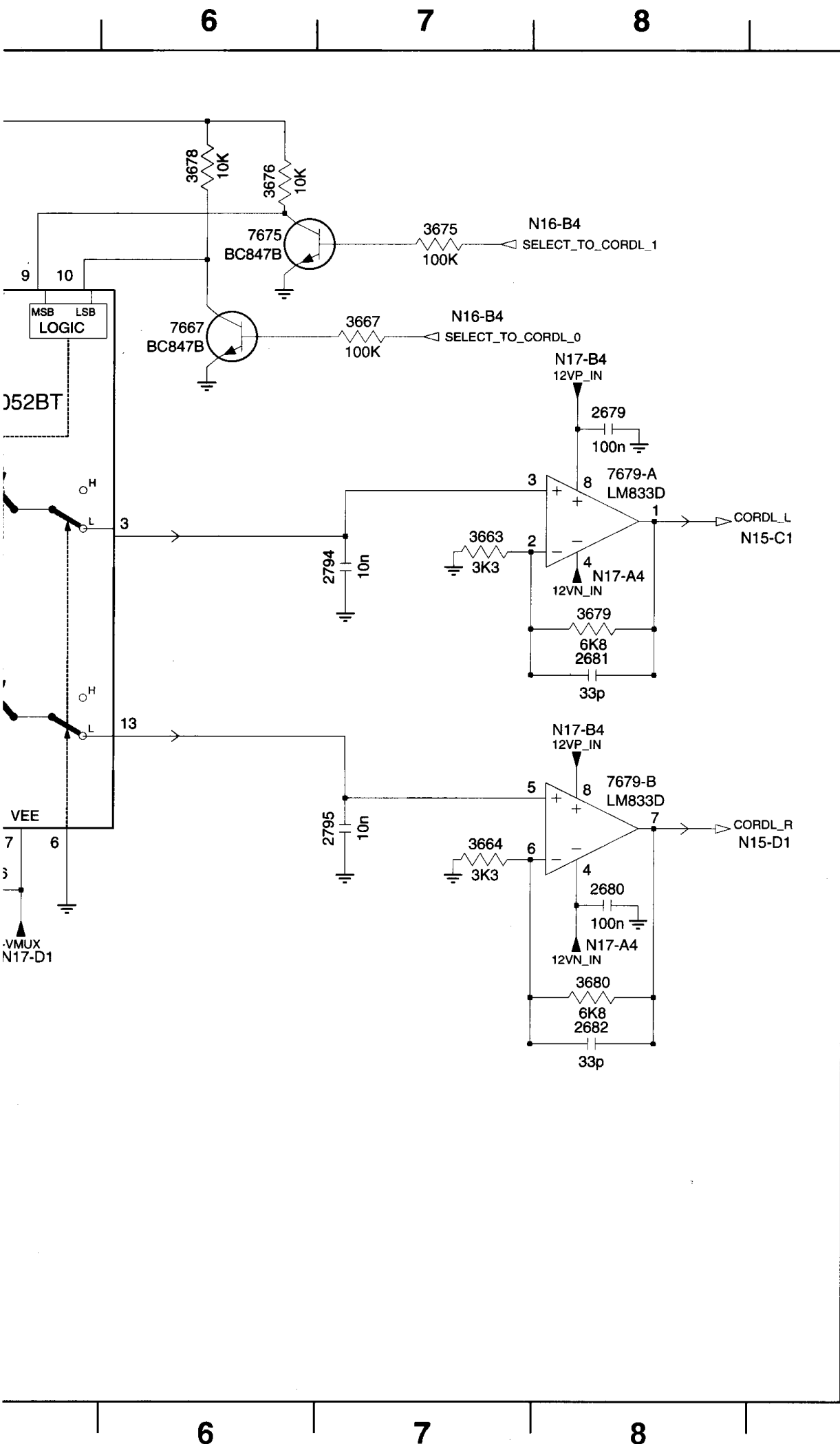
Multi-channel sound module

2690 B1 3699 E4 3700 E4 7690 A1



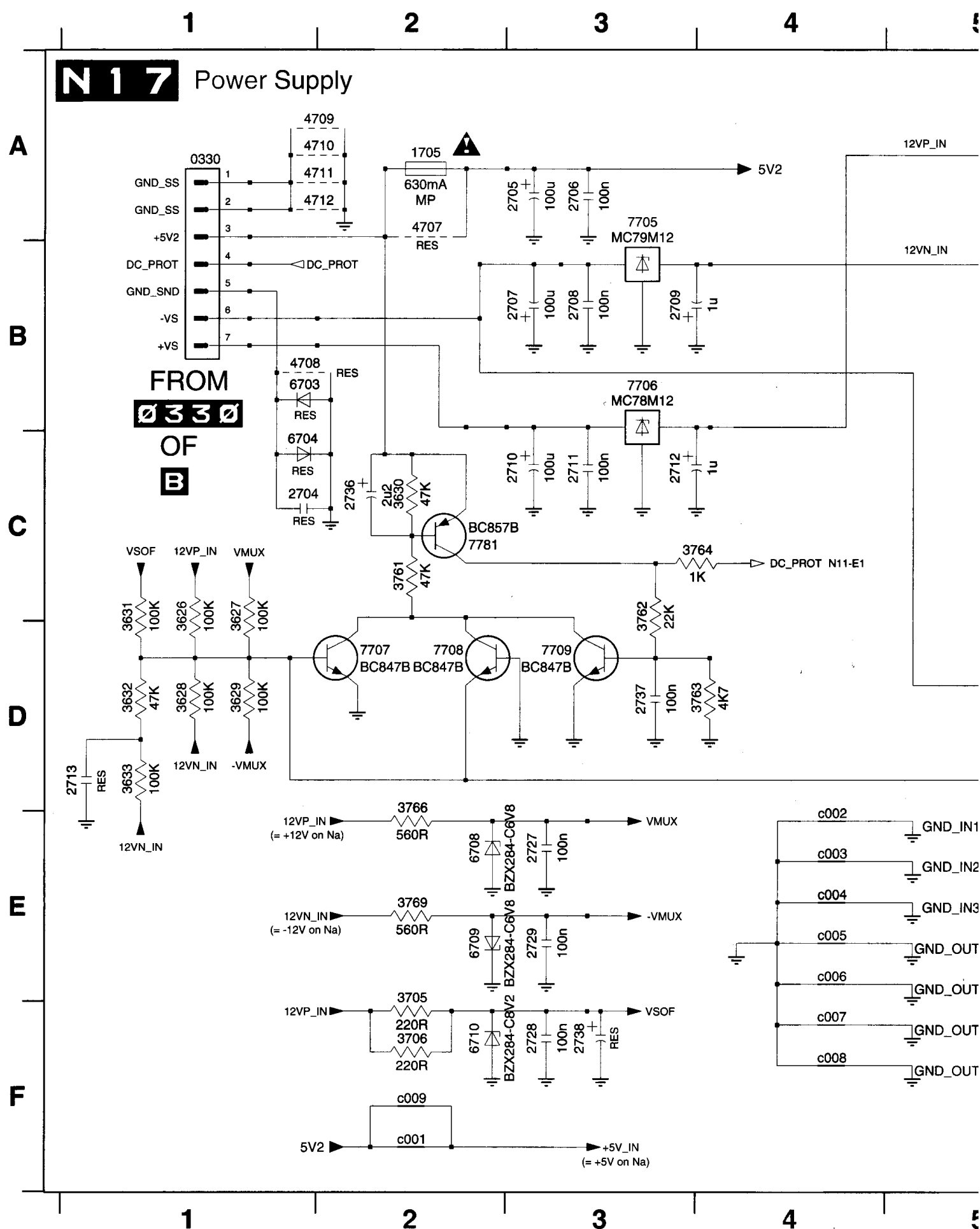
Multi-channel sound module

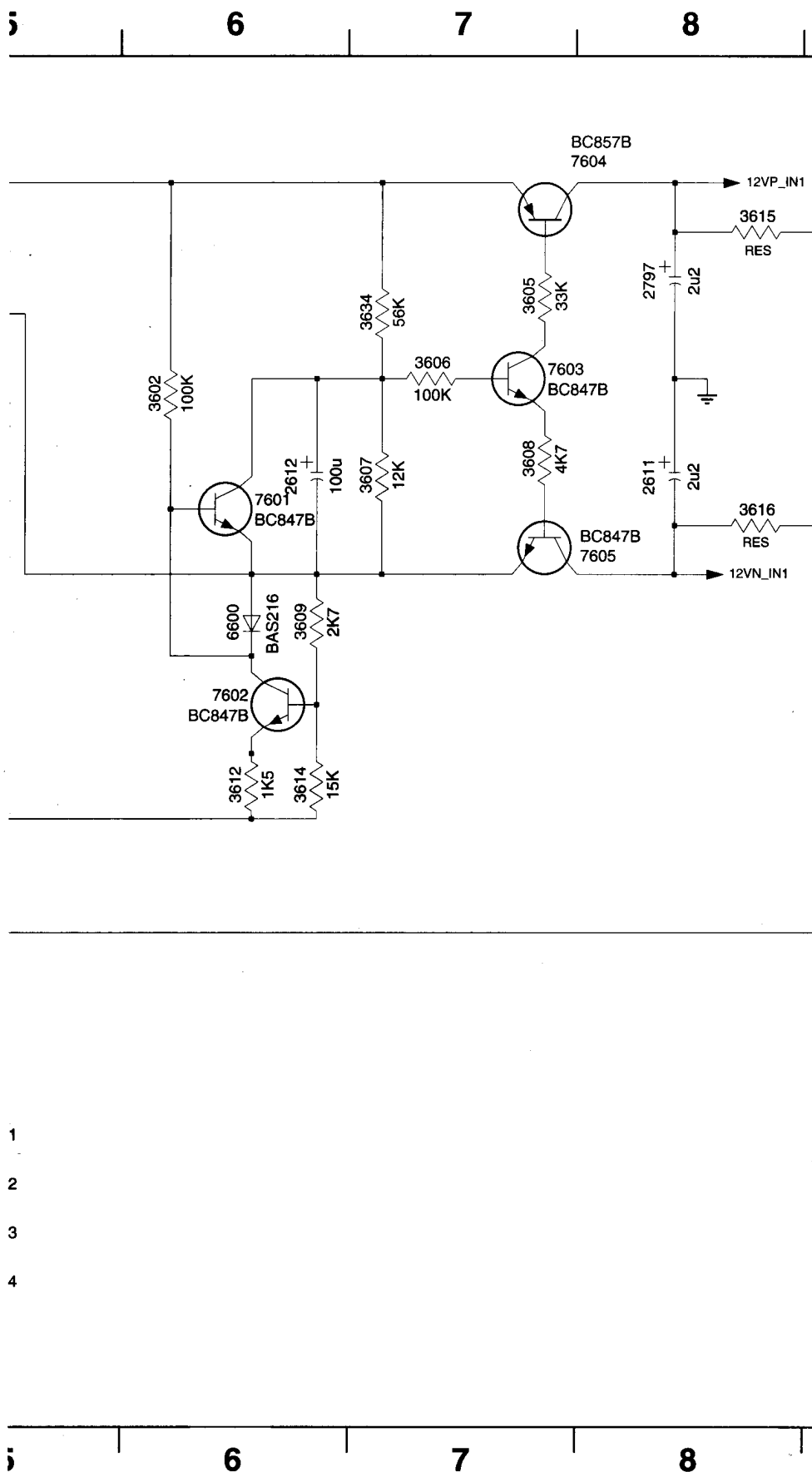




0347 E1	4783 A2
2665 A5	4784 A2
2666 D5	7665 B5
2679 B8	7667 B6
2680 D8	7675 A6
2681 C8	7679-A B8
2682 E8	7679-B D8
2780 D3	7780-A D3
2781 F3	7780-B E3
2784 D1	
2785 E1	
2786 F4	
2787 E4	
2790 E2	
2794 C7	
2795 D7	
2796 E2	
3645 A3	
3646 A3	
3647 A3	
3648 A3	
3650 C3	
3652 C3	
3653 C3	
3655 C3	
3658 D3	
3659 D2	
3660 F3	
3661 E2	
3663 C7	
3664 D7	
3667 B7	
3675 A7	
3676 A6	
3678 A6	
3679 C8	
3680 E8	
3682 B3	
3683 B3	
3684 B3	
3685 B3	
3686 B3	
3687 B3	
3688 C3	
3689 C3	
3780 D2	
3781 E3	
3782 F2	
3784 D1	
3785 E1	
3786 E3	
3787 E3	
3788 F3	
3789 F3	
3790 E2	
3796 E2	
3797 E2	
4780 D4	
4781 E4	
4782 E1	

N 1 7 Power Supply





A

B

C

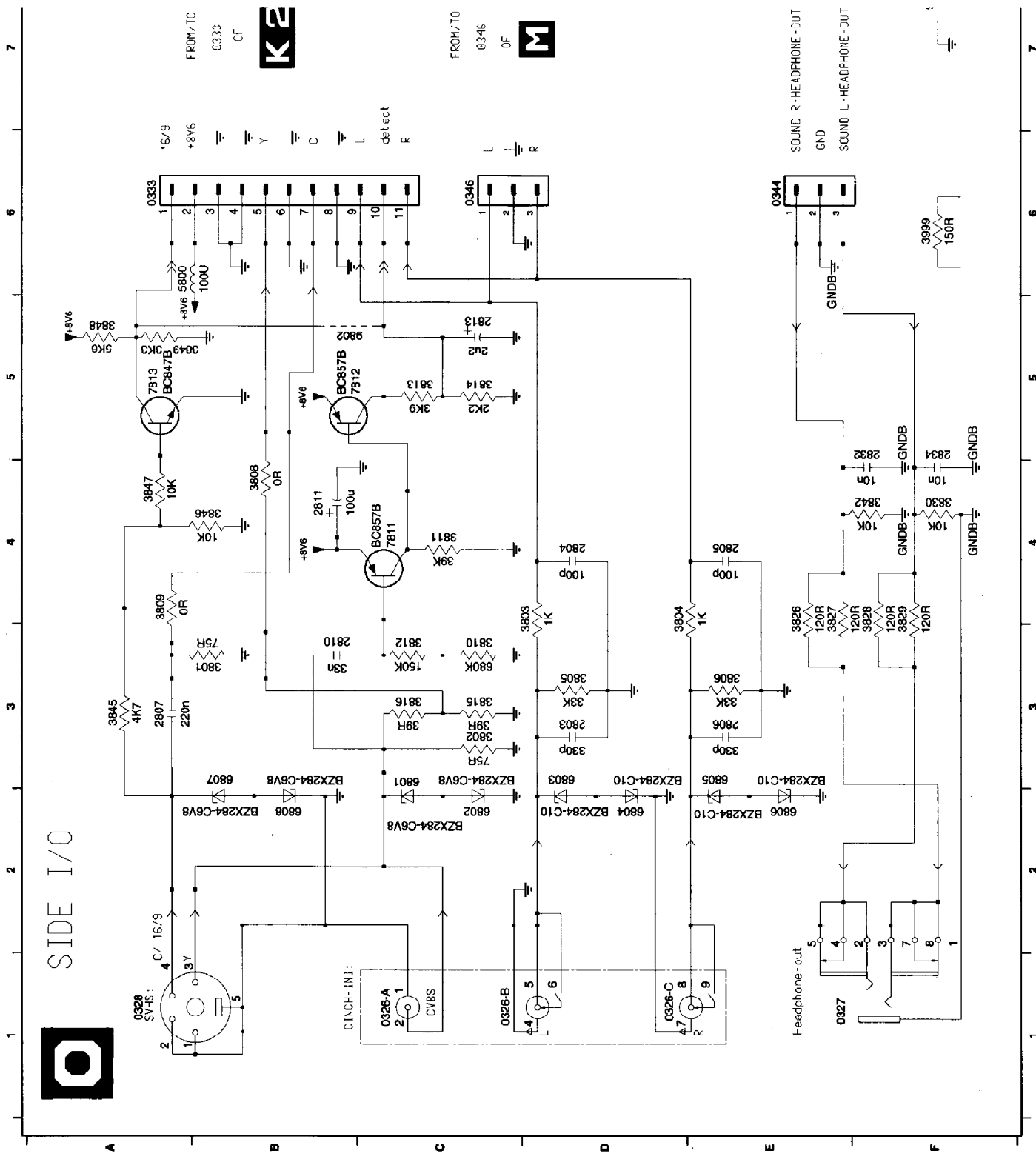
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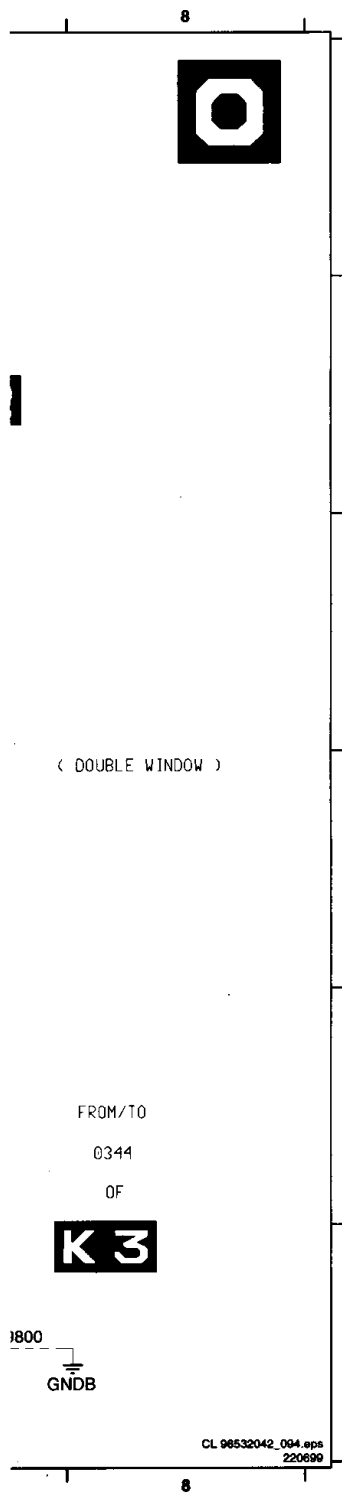
E

F

- 0330 A1
- 1705 A2
- 2611 B8
- 2612 B6
- 2704 C1
- 2705 A3
- 2706 A3
- 2707 B3
- 2708 B3
- 2709 B3
- 2710 C3
- 2711 C3
- 2712 C3
- 2713 D1
- 2727 E3
- 2728 F3
- 2729 E3
- 2736 C2
- 2737 D3
- 2738 F3
- 2797 A8
- 3602 B6
- 3605 B7
- 3606 B7
- 3607 B7
- 3608 B7
- 3609 C6
- 3612 D6
- 3614 D6
- 3615 A8
- 3616 C8
- 3626 C1
- 3627 C1
- 3628 D1
- 3629 D1
- 3630 C2
- 3631 C1
- 3632 D1
- 3633 D1
- 3634 B7
- 3705 F2
- 3706 F2
- 3761 C2
- 3762 C3
- 3763 D4
- 3764 C4
- 3766 E2
- 3769 E2
- 4707 A2
- 4708 B1
- 4709 A2
- 4710 A2
- 4711 A2
- 4712 A2
- 6600 C6
- 6703 B1
- 6704 C1
- 6708 E2
- 6709 E2
- 6710 F2
- 7601 B6
- 7602 C6
- 7603 B7
- 7604 A8
- 7605 C8
- 7705 A3
- 7706 B3
- 7707 D2
- 7708 D2
- 7709 D3
- 7781 C2
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- c005 E4
- c006 E4
- c007 F4
- c008 F4
- c009 F2

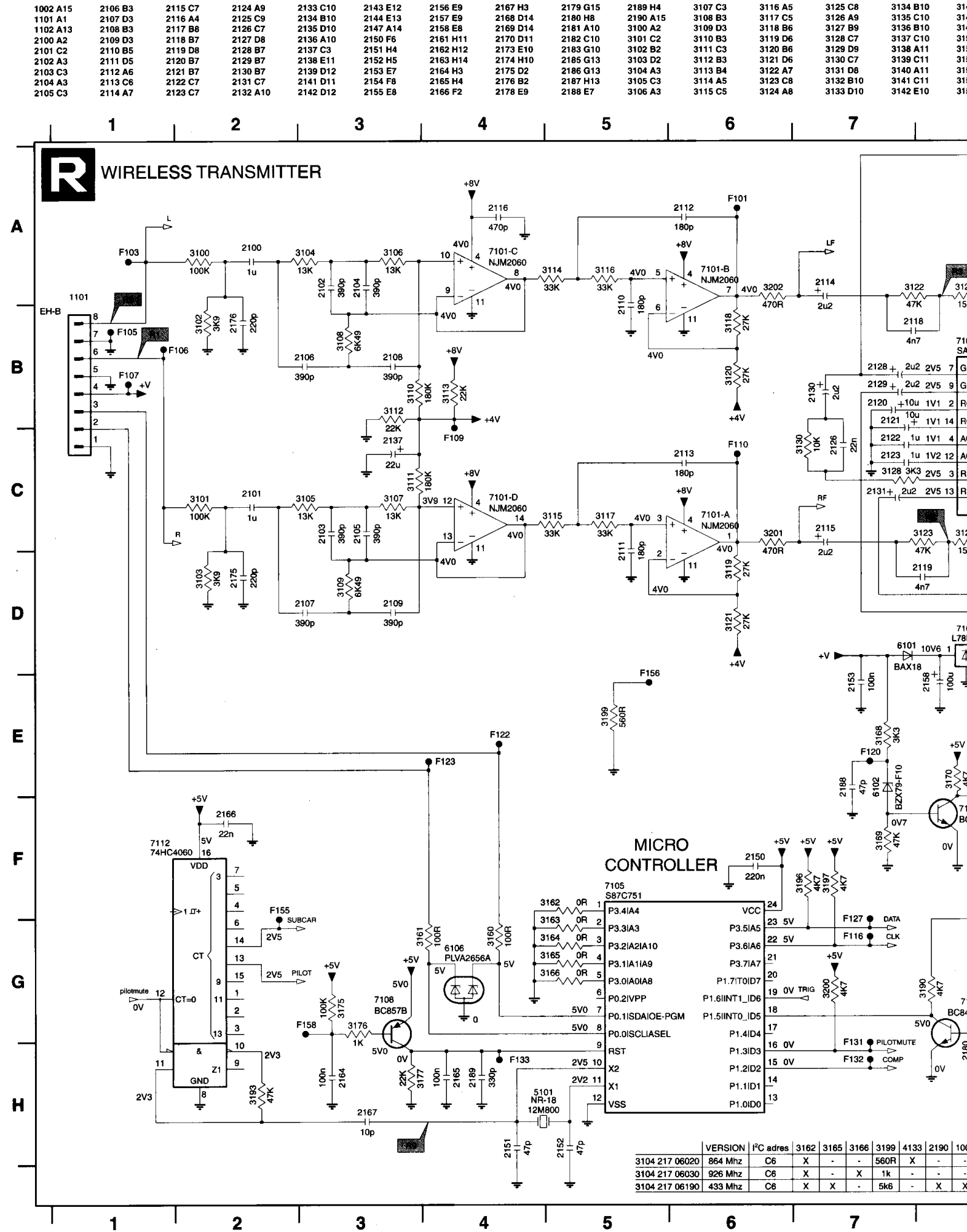
Side I/O



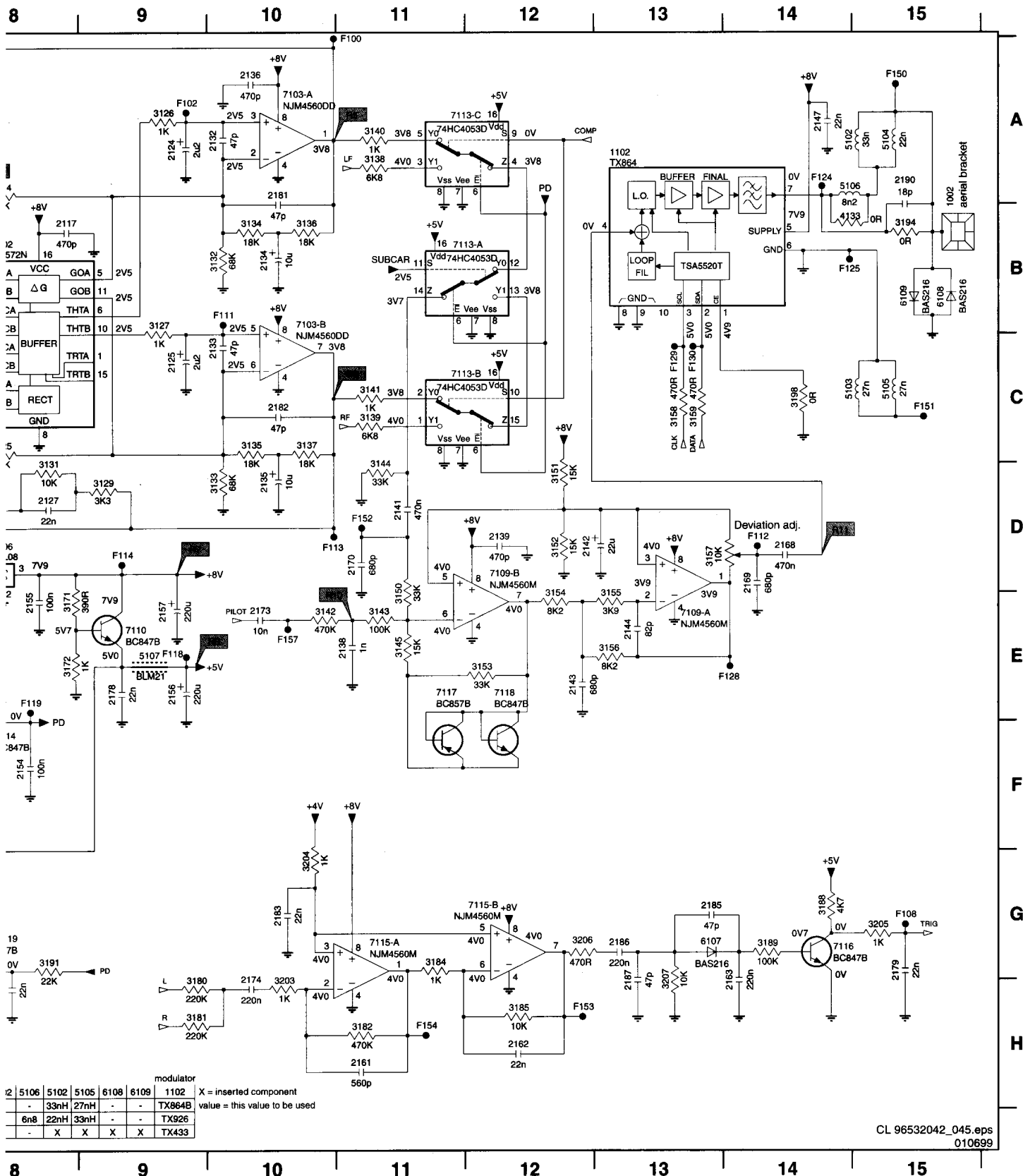


0326-A C1 9800 F7
0326-B C1 9802 B5
0326-C D1
0327 E1
0328 A1
0333 A6
A
0344 E6
0346 C6
2803 D3
2804 D4
2805 E4
2806 E3
2807 A3
2810 B3
2811 B4
B
2813 C5
2832 F5
2834 F5
3801 B3
3802 C3
3803 D4
3804 D4
3805 D3
3806 E3
C
3808 B4
3809 A4
3810 C3
3811 C4
3812 C3
3813 C5
3814 C5
3815 C3
3816 C3
D
3826 E4
3827 E4
3828 F4
3829 F4
3830 F4
3842 F4
3845 A3
3846 B4
3847 A4
3848 A5
E
3849 A5
3999 F6
5800 A6
6801 C3
6802 C2
6803 D3
6804 D2
6805 E3
6806 E2
F
6807 B3
6808 B2
7811 C4
7812 B5
7813 A5

Wireless surround transmitter

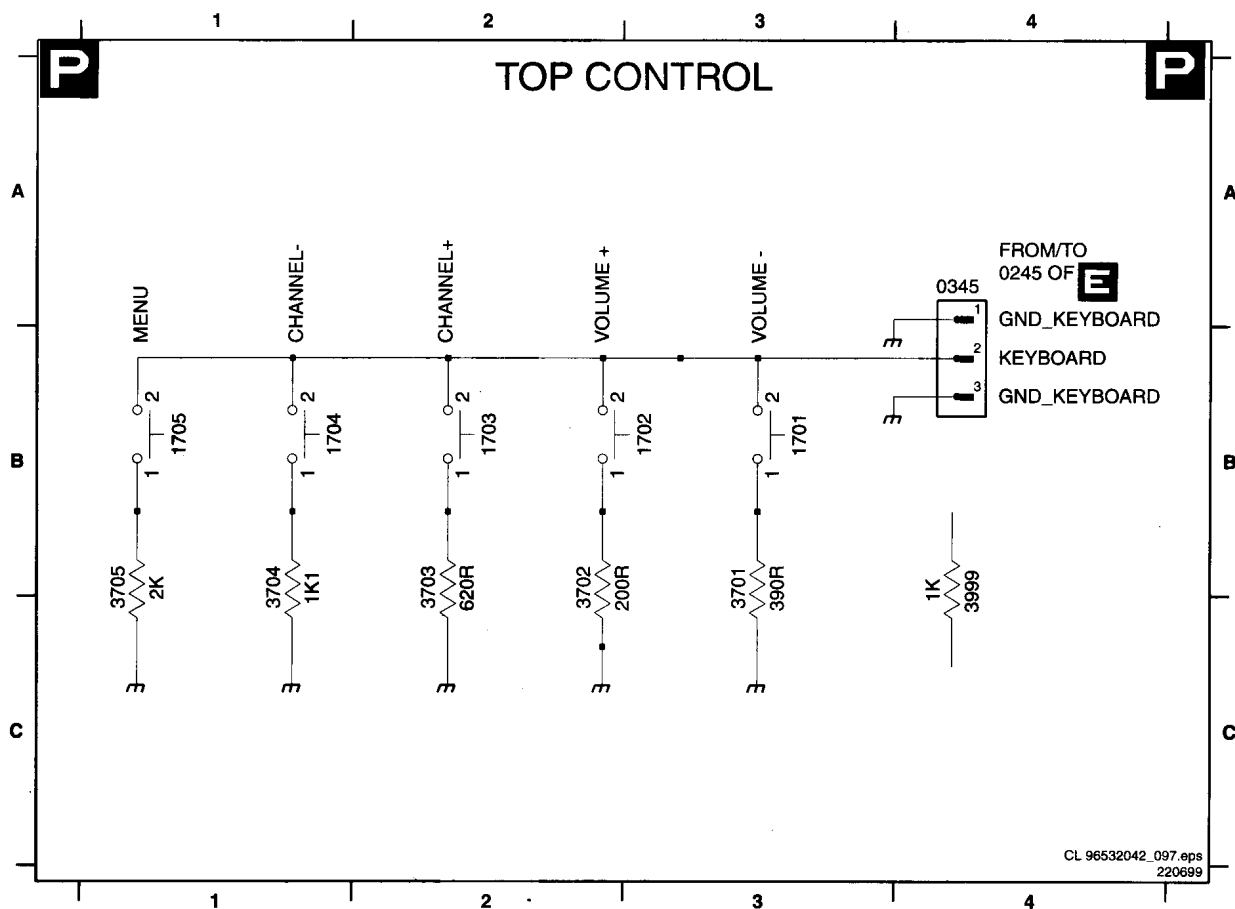


13 E11	3156 E13	3165 G5	3177 H3	3191 G8	3202 A6	5103 C14	6108 B15	7105 F5	7113-C A12	F101 A6	F111 B10	F123 E4	F133 H4	F158 G3
14 D11	3157 D13	3166 G5	3180 H9	3193 H2	3203 H10	5104 A15	6109 B15	7106 D8	7114 F8	F102 A9	F112 D14	F124 A14	F150 A15	
15 E11	3158 C13	3168 E7	3181 H9	3194 B15	3204 G10	5105 C15	7101-A C6	7108 G3	7115-A G11	F103 A1	F113 D10	F125 B14	F151 C15	
16 E11	3159 C13	3169 F7	3182 H11	3196 F7	3205 G15	5106 A14	7101-B A6	7109-A E13	7115-B G12	F105 B1	F114 D9	F127 G7	F152 D11	
17 D12	3160 G4	3170 E8	3184 G11	3197 F7	3206 G12	5107 E9	7101-C A4	7109-B D12	7116 G14	F106 B2	F116 G7	F128 E14	F153 H12	
18 D12	3161 G4	3171 E8	3185 H12	3198 C14	3207 H13	6101 D7	7101-D C4	7110 E9	7117 E11	F107 B1	F118 E8	F129 C13	F154 H11	
19 E12	3162 F5	3172 E8	3188 G14	3199 E5	4133 B14	6102 E7	7102 B8	7112 F1	7118 E12	F108 G15	F119 E8	F130 C13	F155 F2	
20 E12	3163 G5	3175 G3	3189 G14	3200 G7	5101 H4	6106 G4	7103-A A10	7113-A B12	7119 G8	F109 C4	F120 E7	F131 H7	F156 E5	
21 E13	3164 G5	3176 G3	3190 G8	3201 C6	5102 A14	6107 G13	7103-B B10	7113-B C12	F100 A11	F110 C6	F122 E4	F132 H7	F157 E10	

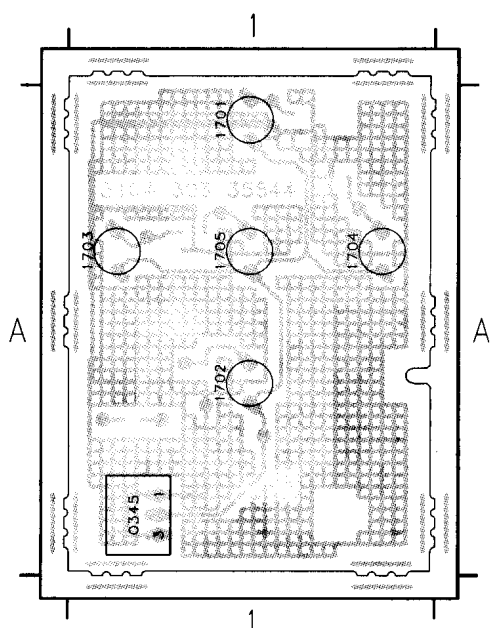


Top Control

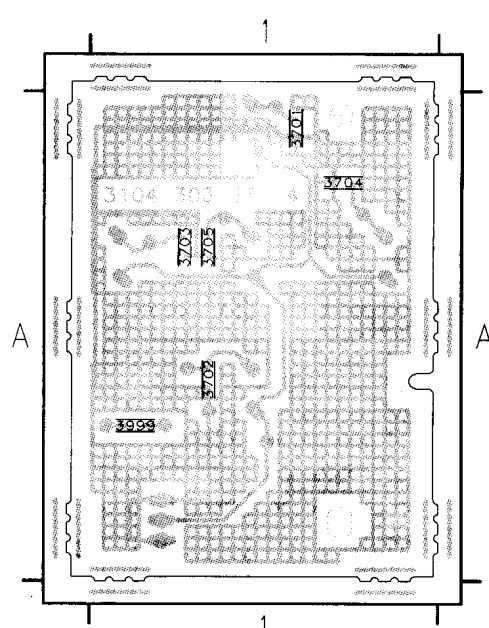
0345 A4 1702 B3 1704 B1 3701 B3 3703 B2 3705 B1
 1701 B3 1703 B2 1705 B1 3702 B2 3704 B1 3999 B4



Componentside



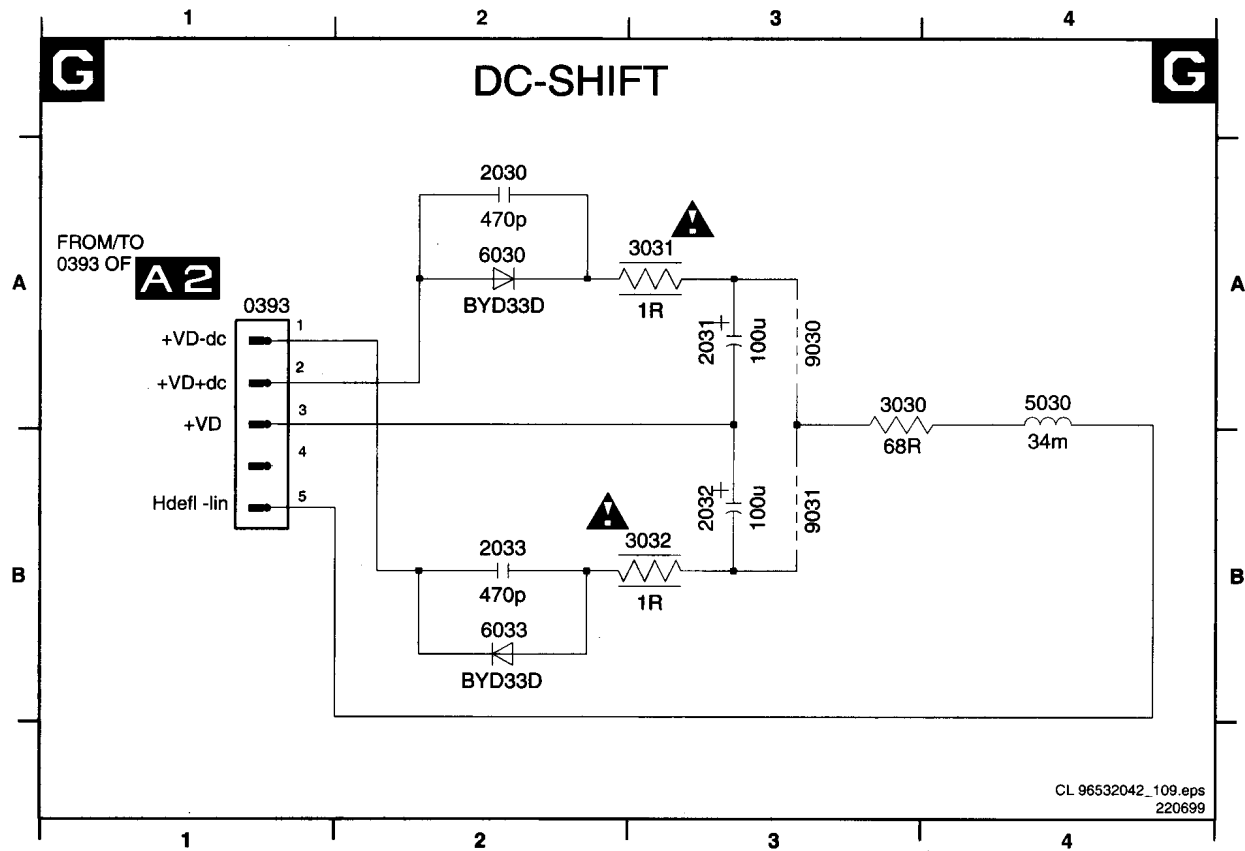
Copperside



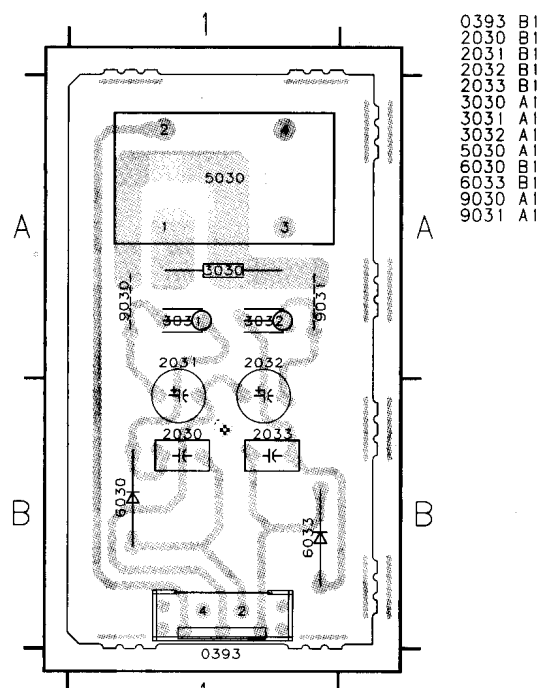
0345 A1
 1701 A1
 1702 A1
 1703 A1
 1704 A1
 1705 A1
 3701 A1
 3702 A1
 3703 A1
 3704 A1
 3705 A1
 3999 A1

3701 A1
 3702 A1
 3703 A1
 3704 A1
 3705 A1
 3999 A1

0393 A1	2031 A3	2033 B2	3031 A3	5030 A4	6033 B2	9031 B3
2030 A2	2032 B3	3030 A3	3032 B3	6030 A2	9030 A3	

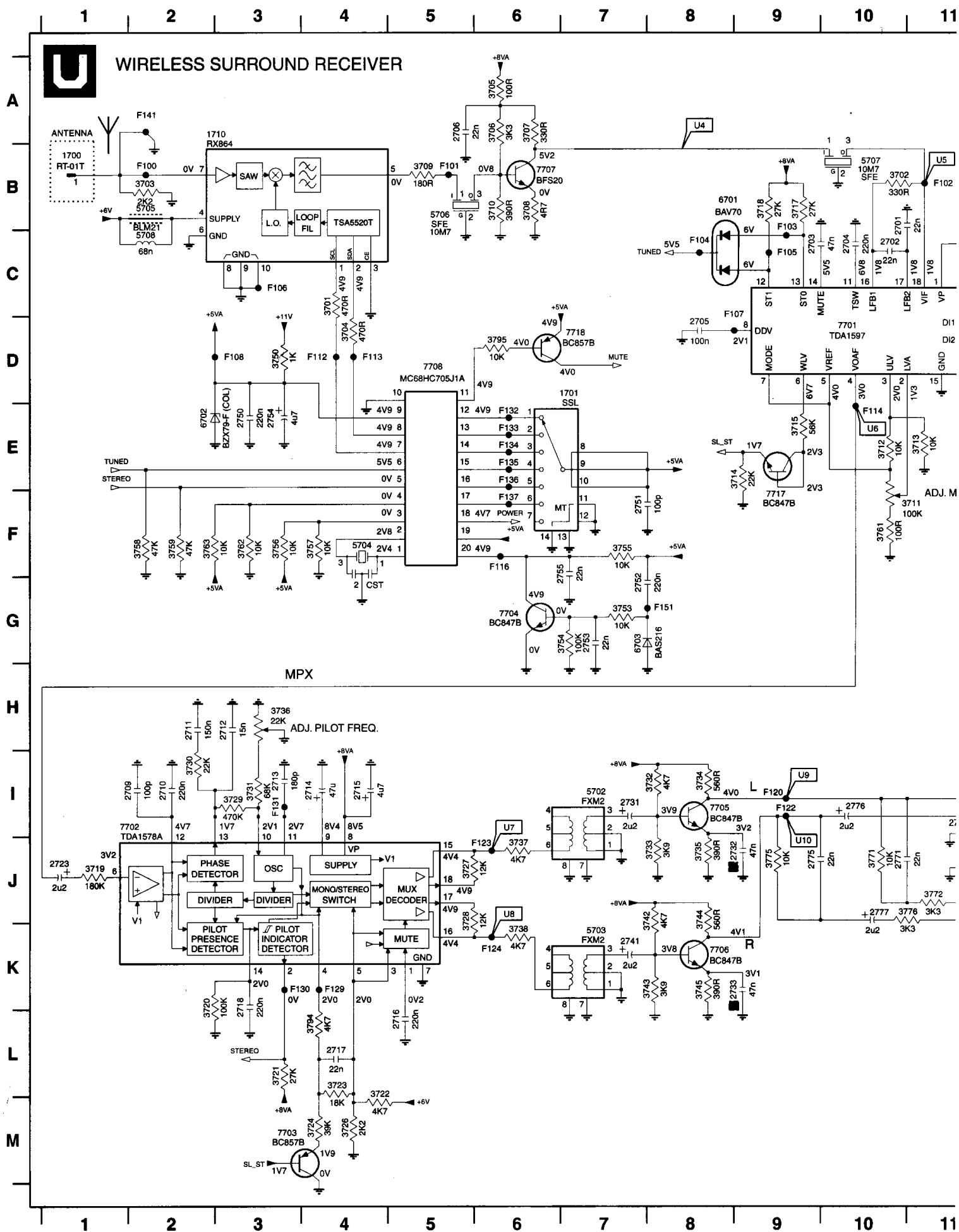


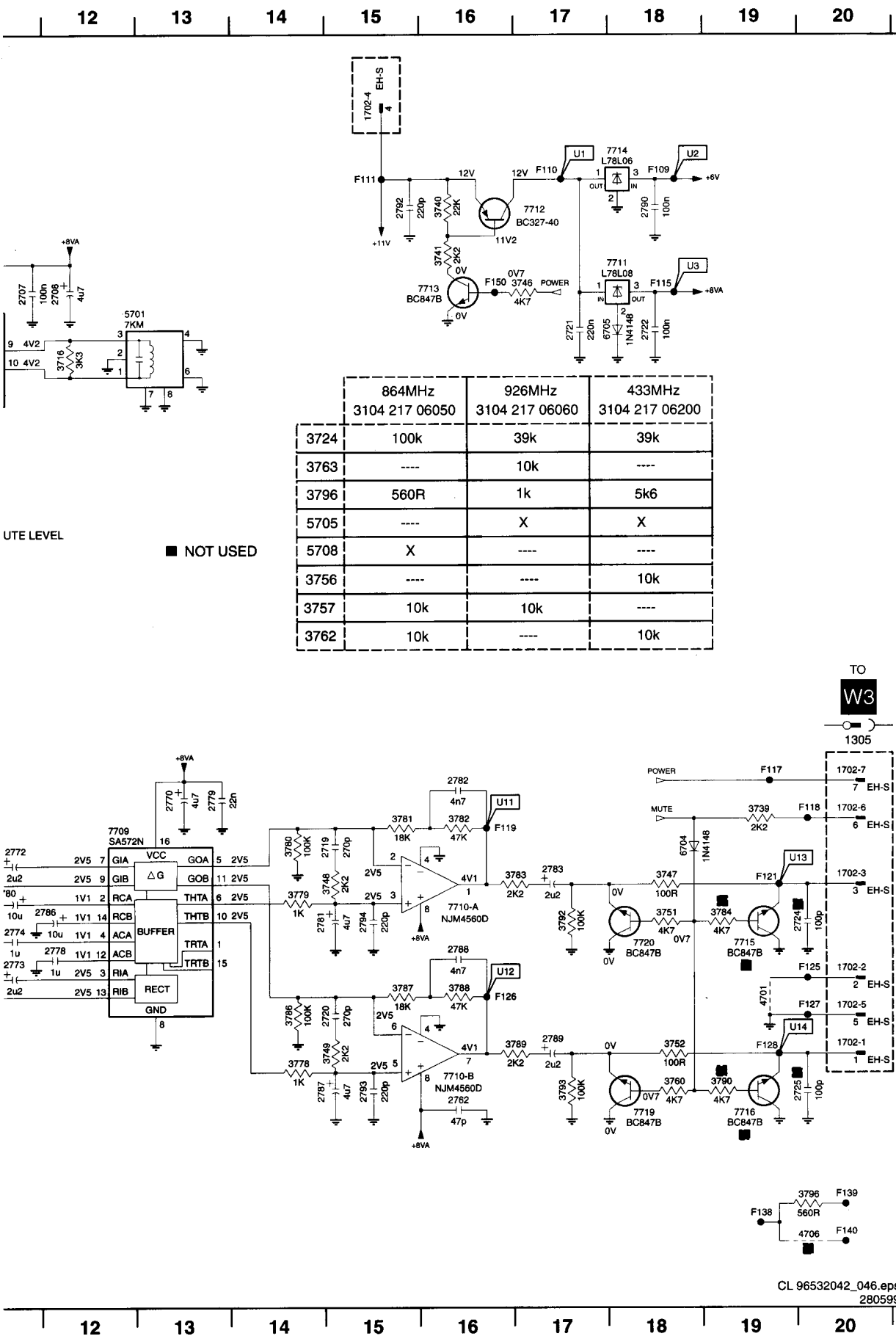
DC-Shift (componentside)



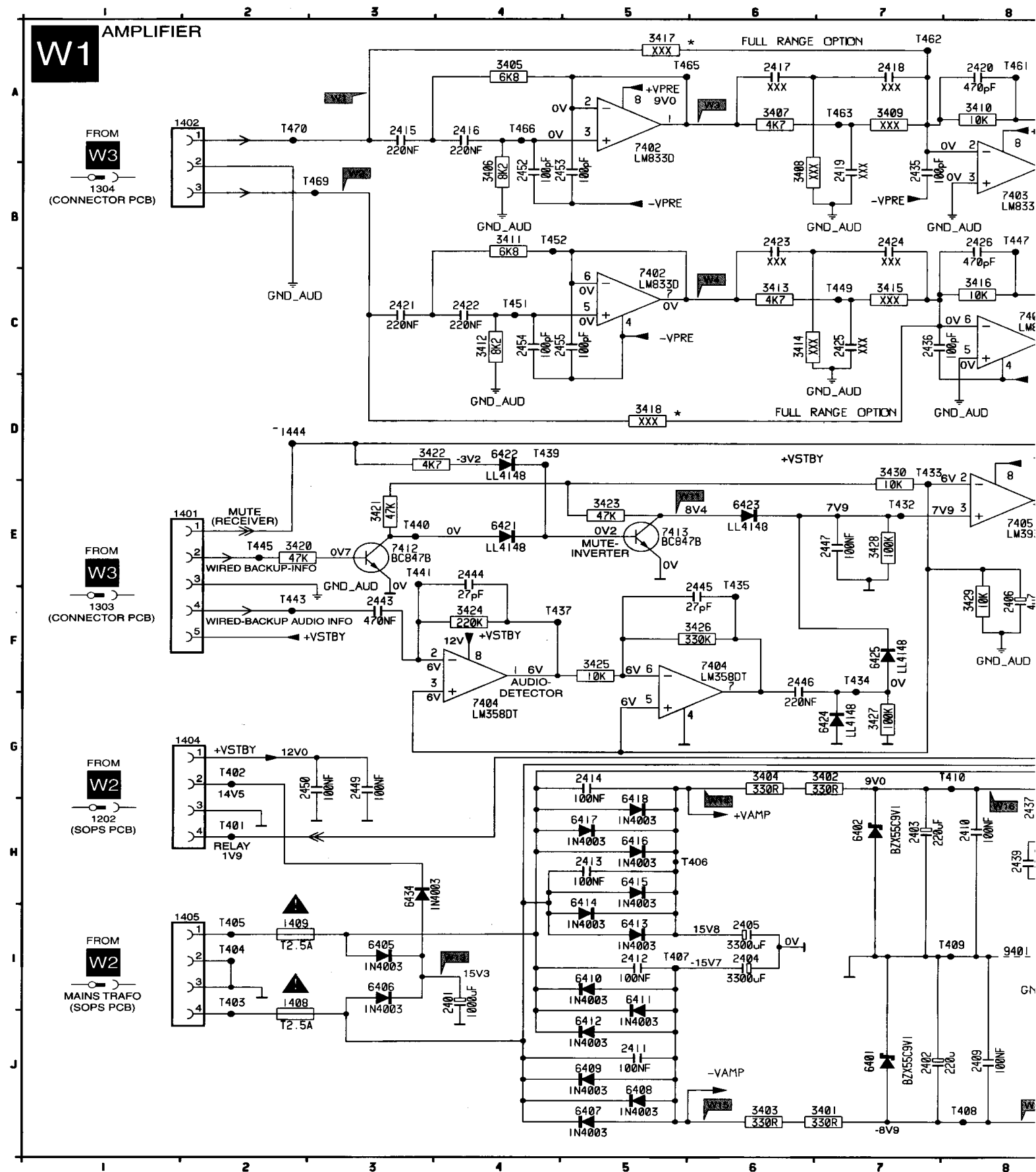
0393	B1
2030	B1
2031	B1
2032	B1
2033	B1
3030	A1
3031	A1
3032	A1
5030	A1
6030	B1
6033	B1
9030	A1
9031	A1

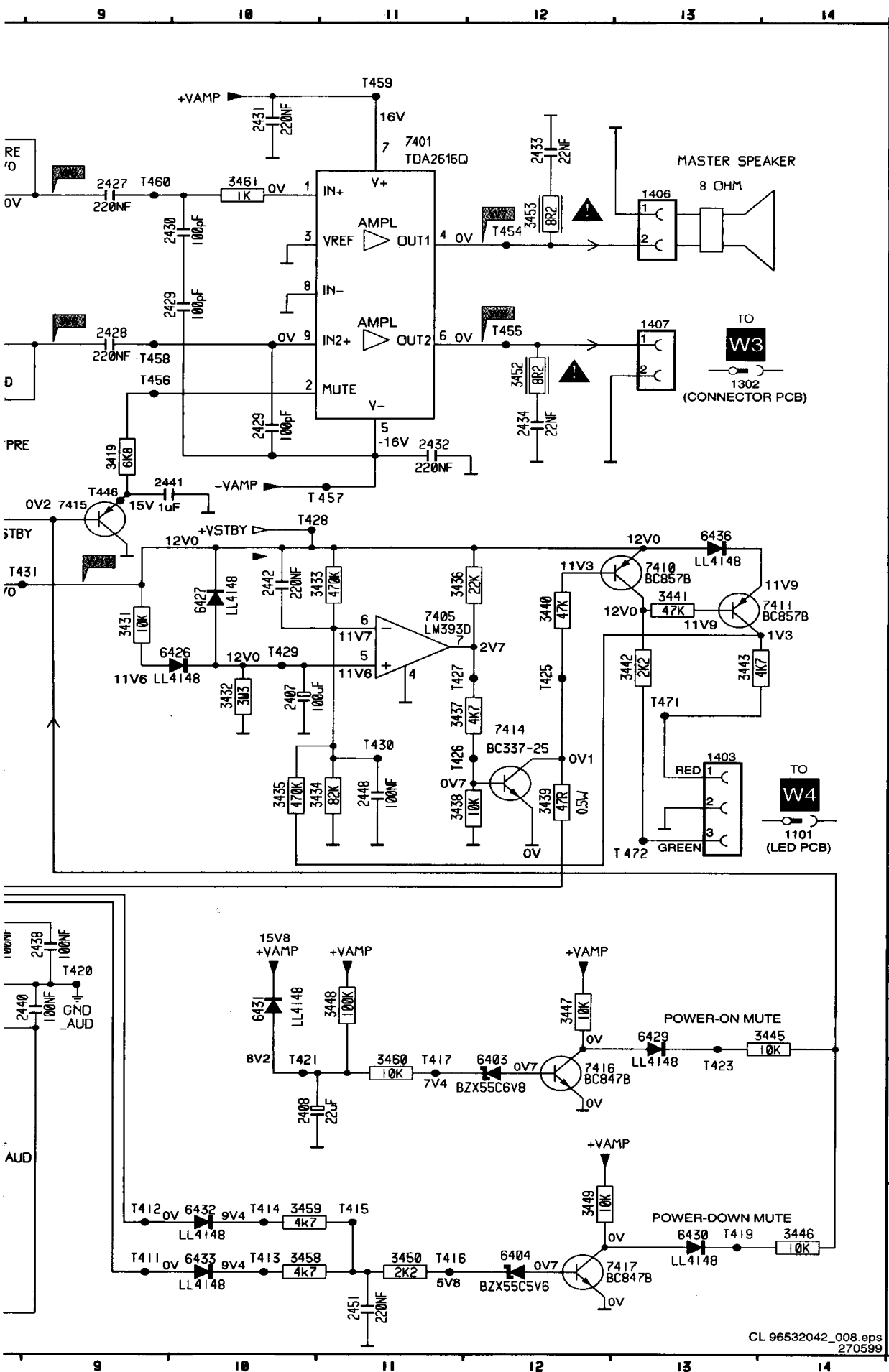
Wireless surround receiver





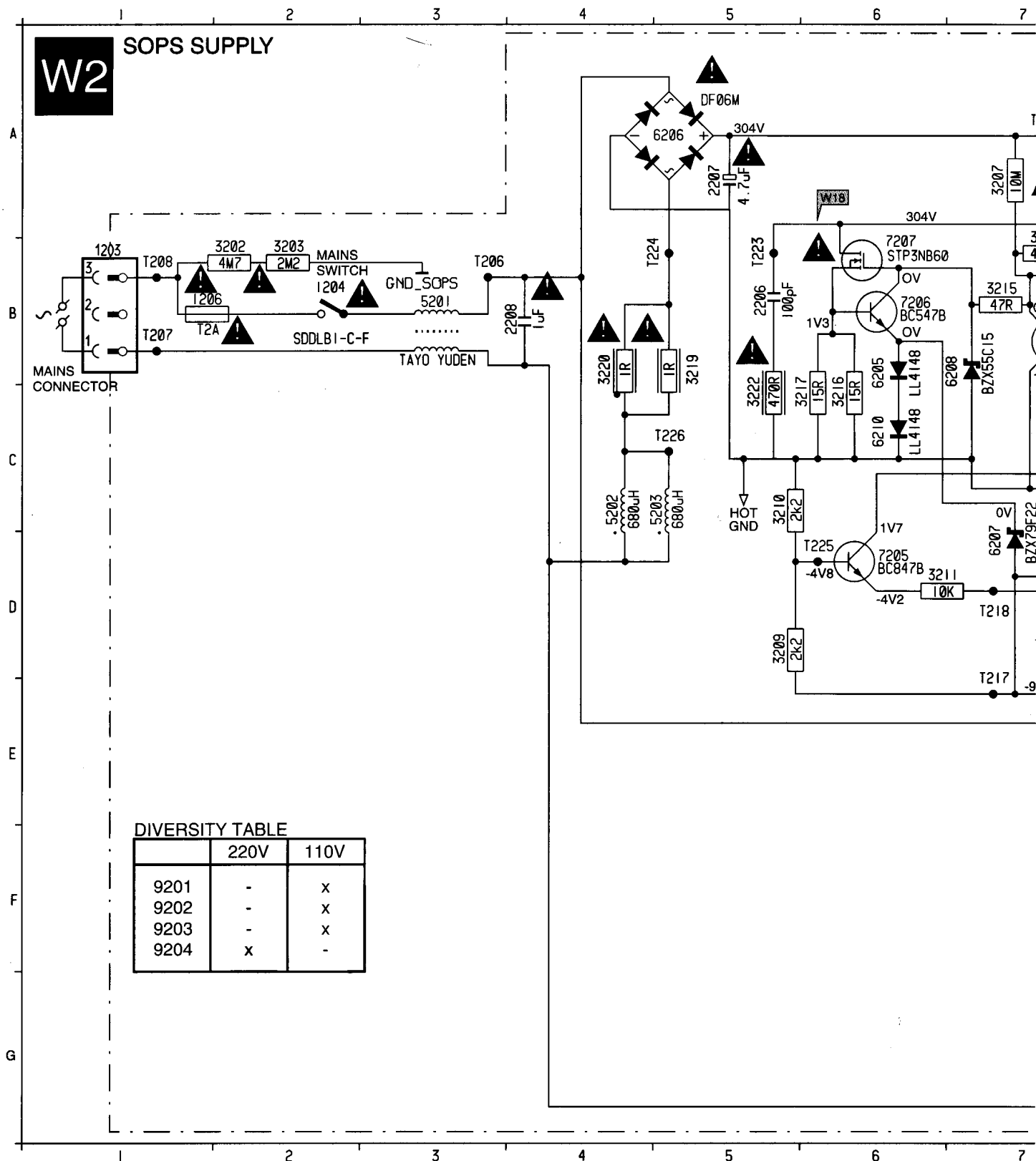
Active surroundbox amplifier



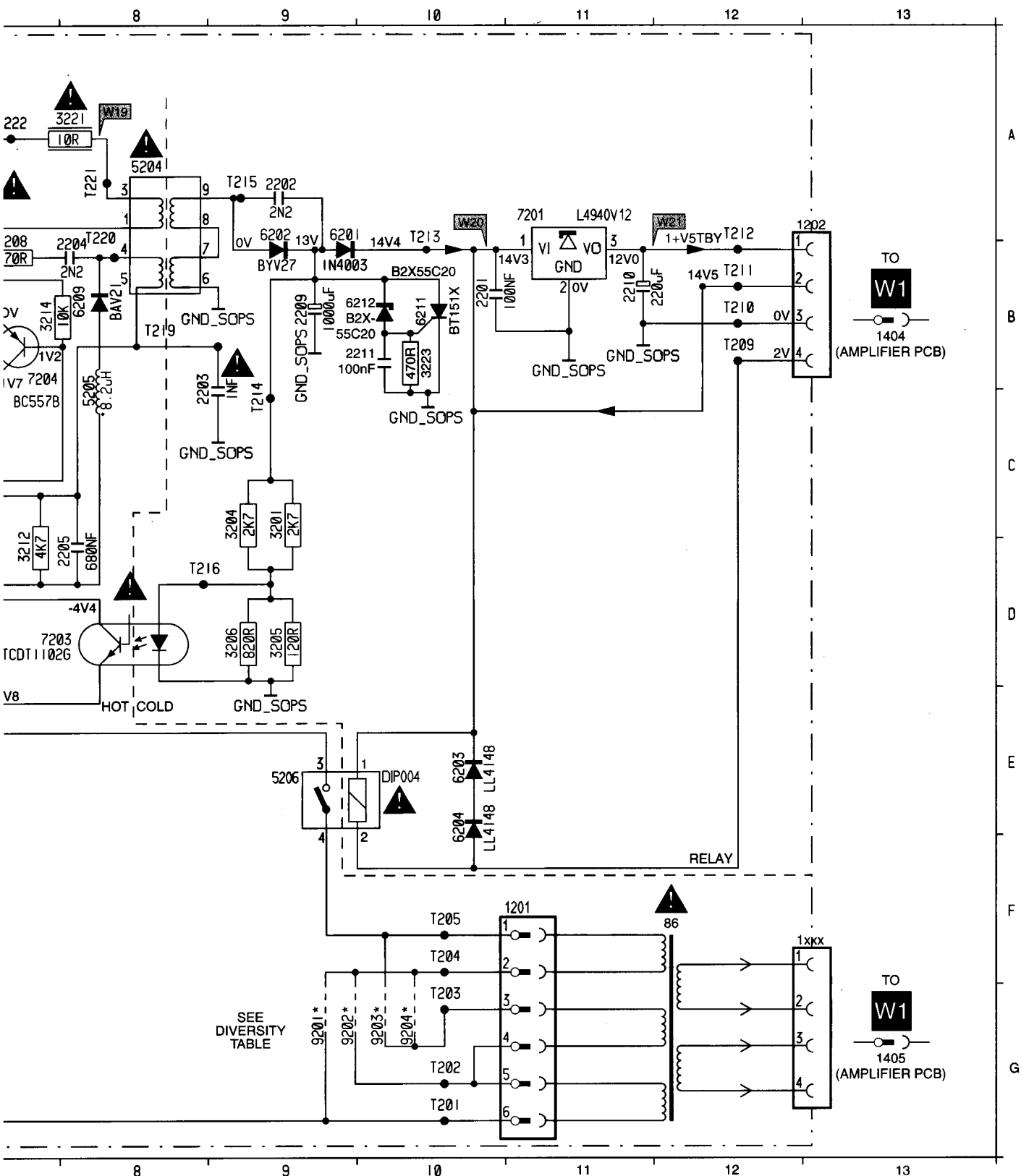


1401	E2	6410	I5
1402	A2	6411	I5
1403	F13	6412	I5
1404	G2	6413	I5
1405	I2	6414	J5
1406	B13	6415	H5
1407	C13	6416	H5
1408	J2	6417	H5
1409	I2	6418	H5
1410	I4	6419	E4
1411	J7	6420	D4
1412	H7	6421	E6
1413	I6	6422	G7
1414	I6	6423	F7
1415	F8	6424	E10
1416	F10	6425	H10
1417	I11	6426	H10
1418	J8	6427	H13
1419	H8	6428	H13
1420	J5	6429	J13
1421	I5	6430	J10
1422	H5	6431	J10
1423	G5	6432	J10
1424	A3	6433	J10
1425	A4	6434	H3
1426	A6	6435	D13
1427	A7	7401	A11
1428	B7	7402	A5
1429	B7	7403	C8
1430	A8	7404	F4
1431	C3	7405	E11
1432	C4	7406	E13
1433	B6	7407	I6
1434	B7	7408	H6
1435	C7	7409	G8
1436	H8	7410	J9
1437	H8	7411	J9
1438	H8	7412	J9
1439	H8	7413	J10
1440	H9	7414	J10
1441	D10	7415	J11
1442	E10	7416	J11
1443	F3	7417	J12
1444	F4	7418	J12
1445	F4	7419	J13
1446	F6	7420	H9
1447	E7	7421	I10
1448	F11	7422	H13
1449	G3	7423	E12
1450	G3	7424	E12
1451	J11	7425	E12
1452	B4	7426	D10
1453	B5	7427	D10
1454	C5	7428	E10
1455	C5	7429	F11
1456	J7	7430	E7
1457	G7	7431	E7
1458	G7	7432	D7
1459	G6	7433	F4
1460	A4	7434	F6
1461	B4	7435	F6
1462	A6	7436	D4
1463	B6	7437	E3
1464	A7	7438	E3
1465	A8	7439	D2
1466	B4	7440	E2
1467	C4	7441	D9
1468	C6	7442	B8
1469	C7	7443	C7
1470	C8	7444	C4
1471	A5	7445	C4
1472	D5	7446	B4
1473	E2	7447	A5
1474	E3	7448	A4
1475	D3	7449	B3
1476	E5	7450	A2
1477	F4	7451	F13
1478	F5	7452	G13
1479	F6		
1480	F7		
1481	F8		
1482	D7		
1483	E9		
1484	F10		
1485	F11		
1486	F12		
1487	F12		
1488	F12		
1489	F12		
1490	F12		
1491	F12		
1492	F12		
1493	F12		
1494	F12		
1495	F12		
1496	F12		
1497	F12		
1498	F12		
1499	F12		

1201 F11	2201 B11	2207 A5	3202 B2	3208 B7	3215 B7	3222 C6	5204 A8	6204 E11	6210 C6	7205 D6
1202 B13	2202 A9	2208 B4	3203 B2	3209 D6	3216 C6	3223 B10	5205 B8	6205 B6	6211 B10	7206 B6
1203 A1	2203 B9	2209 B9	3204 C9	3210 C6	3217 C6	0086 F12	5206 E10	6206 A5	6212 B10	7207 B6
1204 B3	2204 B8	2210 B12	3205 D9	3211 D7	3219 B5	5201 B3	6201 A10	6207 D7	7201 A11	9201 G10
1206 B2	2205 D8	2211 C10	3206 D9	3212 D8	3220 B5	5202 C5	6202 A9	6208 B7	7203 D8	9202 G10
1209 B10	2206 B6	3201 C9	3207 A7	3214 B8	3221 A8	5203 C5	6203 E11	6209 B8	7204 B8	9203 G10

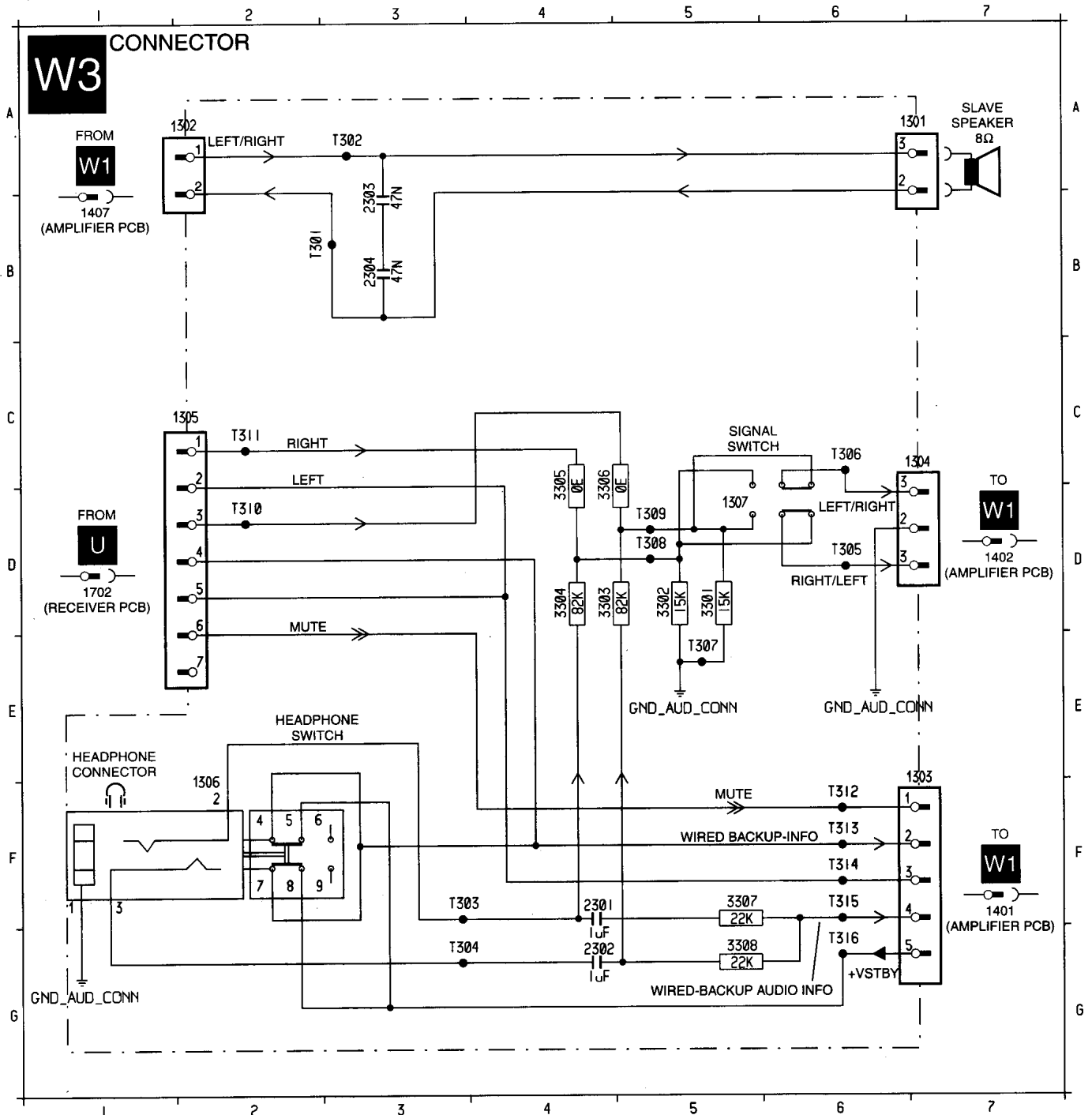


9204 G10	T206 A4	T212 B12	T218 T218	T224 B5
T201 G10	T207 A1	T213 B10	T219 B8	T225 D6
T202 G10	T208 A1	T214 C9	T220 B8	T226 C5
T203 G10	T209 B12	T215 A9	T221 A8	
T204 F10	T210 B12	T216 D9	T222 A7	
T205 F10	T211 B12	T217 E7	T223 B6	

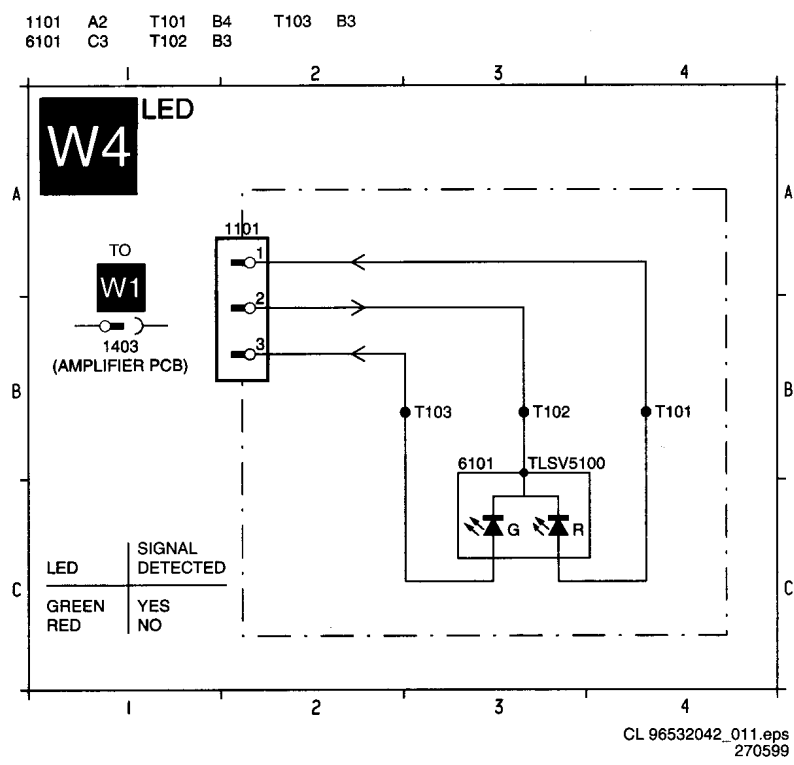


Active surroundbox connector

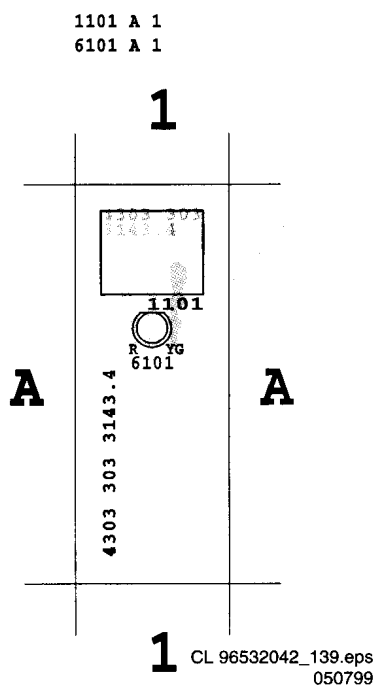
1301	A 7	1305	D2	2302	G4	3302	D5	3306	C5	T302	A3	T306	T310	D2	T314	F6
1302	A2	1306	F2	2303	B3	3303	D4	3307	F5	T303	F3	T307	T311	C2	T315	F6
1303	F7	1307	D5	2304	B3	3304	D4	3308	G5	T304	G3	T308	T312	F6	T316	G6
1304	D7	2301	F4	3301	D5	3305	C4	T301	B3	T305	D6	T309	T313	F6		



Active surroundbox led



Led panel (W4 componentside)



8. Electrical alignments

8.1 General alignment conditions

All electrical alignments should be made under the following conditions:

- Power supply voltage: 220-240V $\pm$ 10%; 50-60 Hz $\pm$ 5%.
- Warm-up time >10 minutes.
- Voltages and oscillograms are measured in relation to tuner earth (with exception to the voltages on the primary side of the power supply). Never use the cooling fins/plates as ground.
- Test probe: Ri > 10 M Ω , Ci < 20 pF.

8.2 Alignments on the Supply Panel (B)

8.2.1 +141V (Vbat) supply voltage

Top Supply Panel

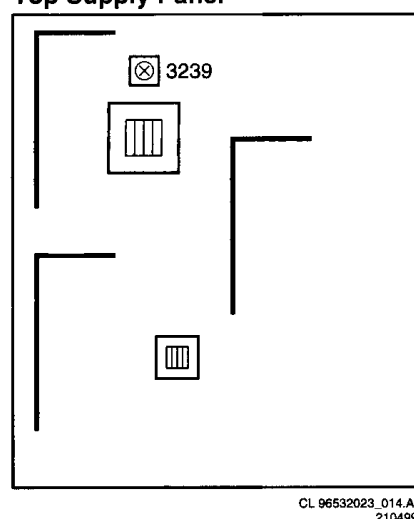


Figure 8-27

- Connect a voltmeter across C2223 (diagram B, +Vbat).
- Switch on the set.
- Using potentiometer R3239 (diagram B) adjust the Vbat supply voltage to +141V $\pm$ 0V5. (see Fig. 8-27)

8.3 Alignments on the Large Signal Panel (A)

8.3.1 Focusing

Deflection/Audio panel

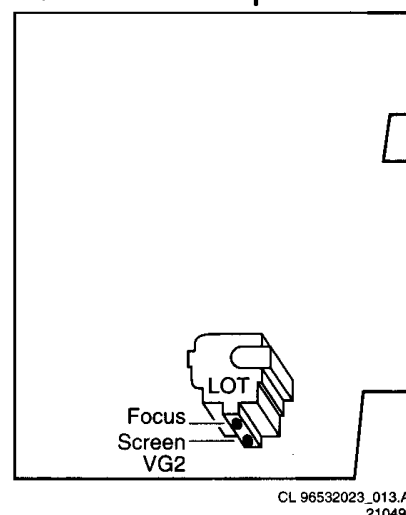


Figure 8-28

- Tune the set to a crosshatch test-pattern.
- Adjust the focus potentiometer (diagram A1, upper knob of the LOT, see Fig. 8.28) for an overall optimum focusing of the picture.

8.3.2 Vg2 adjustment

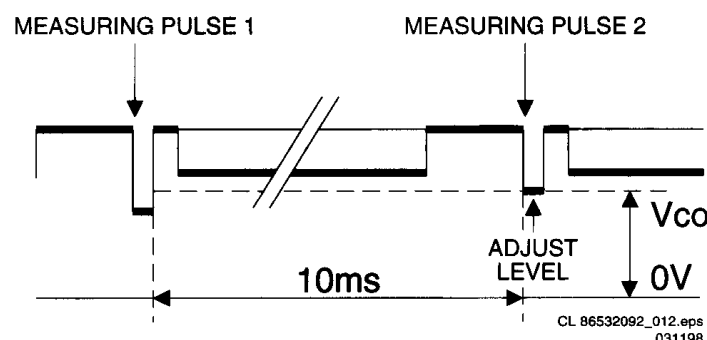


Figure 8-29

New method (with OSD-feedback):

- Put the set in the SAM mode (via the -button of the DST and entry-code 3 1 4 0), or via short circuiting the SAM pins 1 and 2 of connector 0356 on the SSP (diagram K7).
- Chose sub-menu 'General', and further menu-line 'Vg2 test pattern on/off'
- Activate the vg2 test pattern by toggling via right cursor-button to 'on'
- Place a mirror opposite of the TV-set, so that the OSD-feedback can be read
- First turn the Vg2-potmeter to the left. (osd-feedback is not readable now)
- If the vg2-potmeter is turned very slowly clockwise the next sequence of osd-messages will follow: out high--> in high -->in low --> out low. At the moment you see 'in low', the vg2-potmeter has been aligned correctly

Old method (with oscilloscope):

Elucidation: In the frame blanking period of the R, G and B signals applied to the CRT, alternately per frame two measuring pulses with different DC levels are inserted by the "HOP" video processor IC7300. During the first frame flyback a pulse is inserted used as reference for the Vg2 adjustment and in the next frame flyback a second pulse is inserted used as reference for the internal white "D" adjustment. For the Vg2 adjustment the pulse with the highest DC-level is used.

- Put the set in the SDM mode (via the -button on the DST, or via short circuiting the SDM pins 2 and 3 of connector 0356 on the SSP (diagram K7).
- Insert a black test-pattern signal (carrier 475.25 MHz) to the tuner input.
- Connect an oscilloscope (position 50V/Div DC and 2ms/Div) alternately to the CRT cathodes (red pin 8, green pin 6, blue pin 11) and measure for each cathode the DC level of the measuring pulse (see elucidation above and Fig. 8.29) and write down each value. Remark: Trigger the scope external via a CVBS signal (for instance via pin 19 of the scart1 connection).
- Adjust the Vg2 potentiometer (diagram A1, lower knob on the LOT) so that the measuring pulse with the highest noted level is on 156V level.



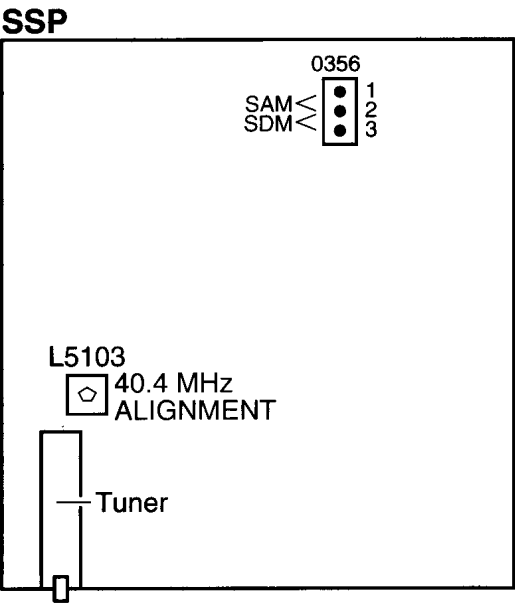
CL 86532057_006.AI
170798

Figure 8-31

8.4 Alignments on the small signal panel (K)

8.4.1 40.4 MHz neighbour-channel sound trap

- Tune to a checker board test-pattern (system BG - and with a carrier frequency of 475.25 MHz).
- Connect an oscilloscope (trigger line frequent) to pin 19 (CVBS out) of the scart1 connection.
- Align the coil L5103 (diagram K1) completely downwards (see Fig. 8.30).
- Align the coil upwards till under- and overshoot arise at the black/white and white/black transitions in the video signal (Fig. 8.31).
- Align the coil downwards again till above mentioned under- and overshoot is just disappeared.



CL 86532057_004a.AI
240798

Figure 8-30

8.4.2 Alignments needing SAM-mode + measuring equipment

(These alignments could be of interest when ICs (7501, TDA9320AH), or the EAROM (7008, ST24E16) are exchanged on the SSP).

'IF AFC' (navigation to this menu item via Alignment --> General --> IF AFC)

Supply via a Service generator (e.g. PM5518) a TV-signal, with a signal-strength of at least 1 mV. Frequency 475.25 MHz. Use BG if possible, otherwise match the system of your generator with the received signal in the set. In this procedure the Service-man is asked to go into Install menu and select 'Fine Tune'-menu-line. In this way the AFC of the set is disabled.

Procedure how to check correct alignment:

- If the IF-frequency-value in the 'Fine Tune'-line is between 475.18 MHz and 475.31 MHz, you do not need to re-align the AFC-value as mentioned above (SAM-menu).
- If this is NOT the case, decrease the 'Tuner IF'-value (in the SAM-menu) if the frequency on the 'Fine-tune'-line was lower than 475.18 MHz, or increase the 'Tuner IF'-value if the frequency on the 'Fine-tune'-line was higher than 475.31 MHz (initially first an 'Tuner IF'- alignment can be done, making the multi-burst signal flat).

Alignment procedure:

- During the 'IF AFC'-parameter adjustment one can see OSD feedback on the screen.
- The OSD feedback can give 4 kind of messages:

AFC-window	AFC-frequency versus reference
Out	High
In	High
In	Low
Out	Low

The first item (in or out) informs you whether you are in or out the AFC-window

The second item (high/low) informs you about whether the AFC-frequency is to high or to low

- First you must align the 'IF AFC'-parameter such that you come into the AFC-window (= 'in')
- Then you must look for the point where the 'IF AFC' parameter influences the high/low message. This level is the value you are looking for.

Service-tip: If you do not trust the accuracy of the frequency of your Service-generator, first 'measure' with 'Fine tune'-line (manual install-menu) of a good set your Service generator.

'Tuner AGC'

Supply a TV-signal, with a frequency of 475.25 MHz and a signal-strength of about 2 mV.
Measure the DC-voltage on pin 1 of the Tuner (position 1102).
With the 'Tuner AGC'-alignment in the SAM-menu, this voltage can be aligned. Alignment is correct when DC-voltage is just below 3.8 V

8.4.3 Alignments and settings in the Service Alignment Menu

General

Entering the SAM can be done in 2 ways:

- Briefly shorting the service pins 'SERVICE ALIGNMENT MODE' on the front side of the SSP (pins 1 and 2 of connector 0356)
- or:
- Pressing the **key** on the Dealer Service Tool (DST) (RC7150), followed by keying in the password "3140" and then pressing the **key**.

- The Service Alignment Mode menu will now appear on the screen. The following information is now displayed:
1. The software date ('Date') and version ('ID.') of the RO (Example: MG31E11.0_xxxxx).
(This software-code stands for MG3.1 (chassis), E for Europe, 1-language, 1.0 software version, xxxxx latest 5 digits of 12nc code software.)
 2. The accumulated total of operation hours ('Operation Hours').
 3. ('Errors') followed by maximal 10 errors. The most recent error is displayed at the upper left. For explanation errors see chapter 5 (table 5.1).
 4. ('Defect. Module'). Here the module that generates the error is displayed. (If there are multiple errors in the buffer that have not all been generated by a single module, there is probably another defect. The message 'Unknown' will then be displayed here).
 5. ('Reset Error Buffer'). The error buffer can be reset by pressing the **key**.
 6. ('Functional Test'). All devices are tested via the **key**.
Eventual errors are displayed in the error buffer. The error buffer is not erased, the contents return when the Functional Test is terminated.
 7. ('Alignments'). This enables the Alignments sub-menu to be called up.

The following alignments can be selected:

'General':

- 'Drive'
- 'Luminance Delays'
- 'EHT Compensation'
- 'Soft Clipper'
- 'Luma Gain'
- 'IF AFC'
- 'Tuner AGC'
- 'Blending Intensity'
- 'Peak White Limiter'
- 'Vg2 Test pattern'
- 'VDS/PIP alignments'(optional)

'Normal Geometry':

- General geometry alignments.

'Super wide geometry': (only valid for widescreen sets)

- Geometry alignments for the 'Super Wide' position in 16:9 sets (only valid for wide screen sets; alignments can be performed, however, it is better to set values as mentioned below).

'Options':

- Setting the initialisation codes in the set via text.

'Option numbers':

- All options together, expressed in two long numbers. The original factory setting for these numbers can be found on the picture tube sticker on the inside of the set.

'Store':

- Store all alignments.

The alignments are explained now in the sequence of the sub-menu:

General alignments in Service Alignment Menu:

- Once all alignments/settings have been completed than 'Store' must be selected to record all the values in the permanent memory of the set.
- If the option codes have been changed and stored, the set has to be switched on and off using the mains switch to activate the new settings (when switching on and off 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 (standard) values.
- A built-in test pattern can be called up in various sub-menus. The test pattern generator can be switched on using the item 'Test pattern on/off'. The test pattern only appears AFTER the specific alignment has been selected. The test patterns are generated by the Teletext-IC.

'Drive'

Method 1:

If you want to align tint-settings with a colour-analyser, the Test pattern must be switched on. You get a white block in middle of the image now.

Before doing the tint-settings the 'Cathode'-parameter must be aligned. This is dependent of the picture tube size.

Lightoutput cd/m2	
4:3	16:9
25" : 500	24" : 550
28" : 350	28" : 450
29" : 400	32" : 400

Tint-settings:

Set the red, green and blue parameters for the three tint-settings 'Normal', 'Warm' and 'Cool'. The next values must be aligned:

	Cool	Normal	Warm
X	280	289	303
Y	287	299	314
Temp	10200	8700	7200

Method 2:

Without having a colour-analyser one can set some parameters. This is the next best solution. The setting-parameters are average values coming from productio (statistics).

Before doing the tint-settings the 'Cathode'-parameter must be setted. For all picture tubes the following vallue must be entered: 5

The 'Tint' setting must be on 'normal'.

Tint-settings:

Set the white levels for the three tint-settings 'Normal', 'Warm' and 'Cool'. The next values must be entered:

Remark:

In case the HOP N2 IC is used in stead of the HOP N1 IC, automatically, two additional Menu lines are displayed, namely:

- 'Red BL offset'
- 'Green BL offset'

Herewith the black levels can be aligned very precise.

	Cool	Normal	Warm
R	22	25	29
G	20	20	20
B	17	14	7

'Luminance delays'

With the 'Luminance delays' alignment the luminance information is placed on the chrominance information (brightness is pushed onto the colour). Use a colour bar/grey scale pattern as test signal.

- Lum. Delay Pal: Apply a PAL colour bar/grey scale pattern as a test signal. Adjust 'Lum. Delay PAL' until the transients of the colour part and black and white part of the test pattern are at the same position.
- Lum. Delay Secam: Apply a SECAM colour bar/grey scale pattern as a test signal. Adjust 'Lum. Delay PAL' until the transients of the colour part and black and white part of the test pattern are at the same position.
- Lum. Delay Bypass: Apply a NTSC colour bar/grey scale pattern as a test signal. Adjust 'Lum. Delay Bypass' until the transients of the colour part and black and white part of the test pattern are at the same position.

'EHT compensation'

Fixed value: 0

'Soft clipper'

Fixed setting: 'Pwl+0%'

'Luma gain'

Fixed value: 1

'Tuner IF'

See chapter 8.4.2.

'Tuner AGC'

See chapter 8.4.2. The SAM-mode is needed to make alignment, a test generator to make signal, a DC-Voltmeter to measure at pin 1 of the Tuner.

'Blending Intensity'

(This alignment could be used when micro controller or HOP-IC has been replaced).

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).
- Apply a signal with a 100 % white video-pattern
- Connect an oscilloscope to pin 3 of connector 0340 of the CRT panel and measure the Red output level
- Align 'blending intensity'-parameter such that the blended signal is 65 % of the black-white amplitude. Practically this will be about 1.3 V (blended signal) versus 2 V (full white signal).
- The parameter can be adjusted in between 0 and 31.

'Peak White Limiter'

Dependent of the picture-tube size (25", 29", and 24", 28", 32" wide screen tubes) the next value of the table must be entered:

24"	11
25"	11
28"	11
29"	11
32"	11

'Vg2 Test pattern'

Here the Vg2 Test pattern can be switched on.

We get feedback on the screen now, how to align correctly the vg2-potmeter of the LOT. This alignment is explained in chapter 8.3.2.

'VDS/PIP Alignments' (optional)

With the 'VDS/PIP' alignments the following settings are setted and stored in the local memory IC7991.

- 'Tuner IF': This method is exactly the same as the 'Tuner IF'-alignment that already has been explained for the SSP-Tuner.
- 'Tuner AGC': This alignment that needs test-equipment is described in chapter "Alignments on Full Dual Screen module (M), needing SAM-mode + measuring equipment"

Geometry alignments 'Normal Geometry' in the Service Alignment Menu

Warning:

At this moment the INTERNAL test pattern of the set will lead to a mis-aligned geometry of the picture. Please do not use internal test pattern. When using a service generator with a geometry-pattern (e.g. a crosshatch-pattern), the set can be aligned without problems.

Before doing this alignment, check whether the image is not slightly rotated. (Install-menu-->Setup-menu-->'Picture Tilt'-menuline)

Vertical amplitude and centring

Select 'Test Pattern On' and set the begin conditions for 4: sets (25", 28" and 29"):

- Vertical S-correction value on 13 for 29" set, and on 19 for the 25" and 28" sets.

The boundary-stripes of the test pattern should be positioned on the edge of the picture tube.

Set the begin conditions for 16:9 sets (24", 28", 32"):

- Vertical S-correction value on 7 for 24", on 8 for the 28" and on 7 for the 32" set.

The boundary-stripes of the test pattern should be positioned on the edge of the picture tube.

1. Align 'V slope' (when aligning the below half of the picture is blanked). The middle line of the test pattern must be matched with the edge of this blanking/picture transient in the middle of the picture. Pushing button again, gives you previous menu again. (This alignment is meant to align the zero-crossing of the frame-deflection to the mechanical middle of the picture tube.)
2. Align the vertical amplitude using 'V amplitude' so that the test pattern is fully visible.
3. Align the vertical centring using 'V shift' so that the test pattern is located vertically in the middle.
4. If necessary repeat the alignment of 'V amplitude', in order to get 'V shift' OK.

Vertical S correction

Select 'Test pattern on'.

Align the vertical S correction using 'V S-correction' so that the vertical amplitude at the top of the picture is equal to the amplitude in the middle of the picture.

Horizontal centring and amplitude

Select 'Test pattern on'.

1. Using 'H amplitude' align the horizontal amplitude so that the entire test pattern is visible.
2. Use an external test signal, with a centre-reference from a service-generator. Use 'H shift' to align the picture horizontally in the middle.
3. Repeat the 'H amplitude' alignment if necessary.

East/west alignment

Select 'Test pattern on'.

1. Use 'East/West Parabola' to align the vertical lines until straight.
2. Use 'East/West Corner' to align the vertical lines in the corners until straight.
3. Use 'East/West Trapezium' to align for a rectangular.
4. Use 'Horizontal Parallelogram' to align for straight vertical lines if necessary.
5. If necessary select 'East/West Corner' and align as required.
6. Repeat steps 1 to 4 if necessary.

Note:

The menu-line "East/West Corner" is used in sets with HOP N1 IC.

In case the HOP N2 IC is applicated, this line is replaced by the following menu-lines:

- 'Upper East/West Corner' (align)
- 'Lower East/West Corner' (align)
- 'Horizontal Bow' (neutral value 31, with this alignment the E/W parabol can be corrected such that it becomes symmetrical.)

Geometry alignments 'Super wide geometry' in the Service Alignment Menu

Only applicable to 16:9 sets.

- Vertical Shift: enter value here of normal geometry

- Vertical Amplitude: adjust image such that outer vertical ref-lines are just visible
- Vertical S correction: enter value here of normal geometry.
- Horizontal amplitude: enter value here or normal geometry subtracted by 4.
- East/west parabola: enter value here or normal geometry.

8.4.4 Option menu

Introduction:

The microprocessor communicates with a large number of I2C-ICs in the set. To ensure good communication and make digital diagnosis possible, the microprocessor has to know which ICs have to be addressed. The presence of specific ICs or functions is made known by means of the option codes.

All options codes can be manipulated using both the option numbers and/or the Option menu.

All hardware related options are incorporated under the heading 'Options' of the 'Alignments' sub-menu of the 'Service Alignment Mode'. All software related options that are incorporated under the heading 'Dealer Options' of the 'Service Alignment Mode', can also be reached directly via the 'button of the DST.

Options in the Service Alignment Mode

Menu-item	Subjects	Options	Physically in the set
Dual screen/PIP	Aux type	None	
		Video Dual Screen	
		PIP	
	Text dual screen	Yes	Text dual screen present (only valid for 16:9 sets
		No	Text dual screen not present
	Aux. Headph. Sound (optional)	Yes	
		No	
Teletext/EPG	TXT	Yes	Teletext present
		No	Teletext not present
	NextView present	Yes	NextView set
		No	NextView not set
	NextView type	Flashram	IC7013 present on SSP (diagram K7)
		No Flashram	IC 7013 not present on SSP (diagram K7)
Communication Picture tube	Easylink Plus	Yes	Easylink Plus set
		No	Easylink Plus not set
	CRT Type	4:3	4:3 picture tube
		16:9	16:9 picture tube
	Picture Rotation (only for 16:9)	Yes	Frame rotation circuitry present on LSP (IC7440 diagram A3
		No	Frame rotation circuitry not present (IC7440 diagram A3
	Dynamic Focus	Yes	Dynamic focus picture tube present
		No	Dynamic focus picture tube not present
	Feature box type	Eco	IC7606 present on SSP (diagram K5)
		Prozonic	IC7606 and IC7607 present on SSP (diagram K5)
		Falconi	
Video Repro	Field memories (only with falconic)	2	
		3	
	Lightsensor	Yes	
		No	

	PALplus	Yes		
		No		
		Yes		IC7560 present on SSP (diagram K1)
		No		IC7560 not present on SSP (diagram K1)
	Picture improvement	Yes		
		No		
		Yes		In normal operation: Yes
		No		During 'Drive' alignments: No
	Signalling bits	Yes		
		No		
Source Selection	External 3	Yes		3rd EURO connector present
		No		No 3rd EURO connector present
	External 4	Yes		4th EURO connector present
		No		No 4th EURO connector present
Audio Repro	Dolby	None		
		Pro Logi		
		Digital		MCS-module present
		Corded		
	Rear speakers	Virtual		
		Cordless		Active surroundbox present
		FL7		Applicable for sets with subwoofer
	Acoustic system	FL8		Applicable for sets without subwoofer
		FL9		Monitor look
Miscellaneous	Heatsink Present	Yes		Heatsinks present on CRT/Scavem panel (diagram F)
		No		Heatsinks not present on CRT/Scavem panel (diagram F)

Dealer Options in the Main-menu of Service Alignment Mode

Menu name	Subjects	Options	Physically in set
Picture options	CTI	Yes	CTI enabled
		No	CTI disable
Personal	Blue Mute	Yes	Blue mute active in case no picture detected
		No	Noise in case of no picture detected
	Virgin Mode	Yes	TV starts up once with language selection menu after mains switch on for the first time (virgin mode)
		No	TV does not starts up once with language selection menu after mains switch on for the first time (virgin mode)
	Auto store mode	None	Autostore mode disabled (not in installation menu)
		PDC-VPS	Autostore mode via ATS (PDC/VPS) enabled
		TXT page	Autostore mode via ACI enabled
		PDC-VPS-TXT	Autostore mode via ACI or ATS enabled
	Demo Mode Enable	Yes	Demo mode enable
		No	Demo mode disable
	Auto TV	Yes	Auto TV mode enabled
		No	Auto TV mode disabled
Teletext	TXT Preference	TOP	Preference to TOP teletext
		FLOF	Preference to FLOF teletext
	East/West TXT	West	TXT characters for non -/58 sets
		East	TXT characters for -/58 sets

- After the option(s) have been changed, they must be stored via the STORE command.
- The new option is only active after the TV is switched off and then back on again using the mains switch (the EAROM is then read out again).

- Align the coil downwards again till above mentioned under- and overshoot is just disappeared.

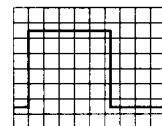
8.4.5 'Option number'

In case the EAROM has to be replaced, all the options will also require resetting. To be certain that the factory settings are reproduced exactly, both option numbers have to be set. These numbers can be found on a sticker on the picture tube.

Example: Option number 28PW9615/12 is:

05099 12568 04931 00016

12343 00001 00000 00000



CL 86532057_006.A1
170798

Figure 8-32

8.5 Alignments on Full Dual Screen module (M), needing SAM-mode + measuring equipment

(These alignments could be of interest when ICs (7501, TDA9320H), or the EAROM (7991, M24C04) are exchanged on the FDS-module, or if the Tuner UV1316 has been exchanged

8.5.1 40.4 MHz neighbour-channel sound trap

- Tune the FDS-module to a checker board test-pattern (system BG - and with a carrier frequency of 475.25 MHz). See to it that the main-program of the set is tuned to another channel.
- Connect an oscilloscope (trigger line frequent) to pin 19 (CVBS out) of the scart2 connection. This output is WYSIWYR (what you see is what you record)
- Align the coil L5103 (diagram M1) completely downwards.
- Align the coil upwards till under- and overshoot arise at the black/white and white/black transitions in the video signal (Fig. 8.32).

8.5.2 'IF AFC'

See chapter 8.4.2 (IF AFC alignment on the SSP).

8.5.3 'Tuner AGC'

Supply a TV-signal, with a frequency of 475.25 MHz and a signal-strength of about 2 mV. Measure the DC-voltage on pin 1 of the Tuner UV1316 (position 1102). This pin 1 (test point M1) can be accessed easy, by measuring at the component-side of the module on smd-elco 2116 just underneath the Tuner. With the 'Tuner AGC' alignment in the SAM-menu (Alignments --> General --> VDS/PIP --> Tuner AGC), this voltage can be aligned. The alignment is correct when the DC-voltage is just below 3.8 V

8.6 Alignments on the Surround Transmitter module (R)

This alignment can only be performed when having mentioned (in alignment instructions) equipment.

Limited repair can be exercised if defective circuit is in the area that no alignment is needed.

If defective part is in circuitry where alignments are necessary two things can be done:

- swap panel by a new one
- if alignment equipment is available module can be aligned according described alignment-instructions:

8.6.1 Frequency Deviation level of Transmitter

- Insert on test points R1 (= F103) and R2 (=F106) a sine wave signal of 400 Hz with a amplitude of 3 Vrms.
- Align potmeter 3157 such, that frequency-deviation is 75 kHz (+/- 5 kHz). This corresponds with a amplitude of 80 mV(rms) on testpoint R11 (F 112); 230 mVpp.

8.7 Alignments on the Surround Receiver module (U)

- Now swap the generator from frequency - 150 kHz to frequency + 150 kHz, with same amplitude and modulation, and align 5107 such, that stop-pulse that can be measured at F104 (cathode of 6701) is symmetrical around 10.7 MHz. (low value is < 0.3V, high value is > 3.5 V)

8.7.2 Alignment of Tuned/Mute level

- Use a RF-generator as source. (3 to 7V, modulation 75 kHz)
- Dependent of receiver-version place receiver on channel 4 (433.9375, 926.250 or 864.00 MHz)
- Align potmeter 3711 such, that at pin 6 of connector 1702 (=F118) mute-level is down at 3 V and high at 7 V.

8.7.3 Alignment of VCO-demodulator

- Use a RF-generator as source. (1 mV, unmodulated)
- Dependent of receiver-version place receiver on channel 4 (433.9375, 926.250 or 864.00 MHz)
- Align potmeter 3736 such, that at test point F131 (pin 11 of TDA1578A), you measure 100 kHz (+/- 300 Hz).

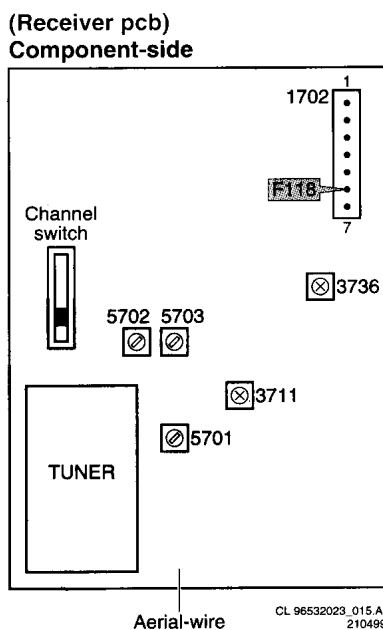


Figure 8-33

This alignment can only be performed when having mentioned (in alignment instructions) equipment.

Limited repair can be exercised if defective circuit is in the area that no alignment is needed.

If defective part is in circuitry where alignments are necessary two things can be done:

- swap panel by a new one
- (see Fig. 8.33). if alignment equipment is available module can be aligned according described alignment-instructions: (note: the alignment-components are covered by glue, so this must be cleaned first).

8.7.1 Alignment of FM-detection coil

- Use a RF-generator as source. (1 mV, modulation 75 kHz)
- Dependent of receiver-version place receiver on channel 4 (433.9375, 926.250 or 864.00 MHz)
- Align coil 5701 such, that at test point U6 (= F114) a maximal audio frequency is detected.

9. Circuit descriptions and list of abbreviations

9.1 Circuit descriptions

For the circuit description see the provisional Training Manual
MG3.1E (3122 785 10007)

9.2 List of abbreviations

16:9-ARFRONT	16:9 aspect ratio input from side I/O	DETECT	Detect signal side I/O input
50Hz/60Hz	50Hz/60Hz mains frequency	DFU	Directions For Use
6-CHANNEL DAC	6- Channel DAC	DIG_IN1	Digital In 1
AFC	Automatic Frequency Control	DIG_IN2	Digital In 2
AGC	Automatic Gain Control	DIGITAL I/O	Digital in/out
AM-FM	Amplitude Modulation/Frequency Modulation	DIG-OUT	Digital out
AM-SOUND	Amplitude modulated sound signal	DNR	Dynamic Noise Reduction
AUDIO_C	Audio Centre	DS-AUDIO-L	Dual Sound Audio Left
AUDIO_L	Audio Left	DS-AUDIO-R	Dual Sound Audio Right
AUDIO_R	Audio Right	DSP	Digital Signal Processing
AUDIO_SL	Audio surround Left	DST	Dealer Service Tool
AUDIO_SW	Audio Subwoofe	DUET	DUET-IC
AUDIO-L-PROC	Audio left processed	DVD	Digital Versatile Disc
AUDIO-R-PROC	Audio right processe	DYN-FASE-COR	Dynamic phase correction
AUDIO-SR	Audio surround right	EHT-INFO	Extra high tension information
AUX-SUPPLY	Auxiliary supply	EPG	Electronic Programme Guide (= NextView)
BC-PROT	Beam current protection	EW-DRIVE	East-west drive signal
BG	System B and G	FALCONIC	Field and line rate convertor IC
BLC-INFO	Black current information	FBCSO	Fixed beam current switch off
B-SC1-IN	Blue scart1 in	FBL-DS-OUT	Fast Blanking Dual Screen out
B-SC2-IN	Blue scart2 in	FBL-FDS	Fast Blanking Full Dual Screen
B-TXT	Blue teletext	FBL-PIP	Fast Blanking PIP
B-vc	Blue from video-controller	FBL-SC1-IN	Fast blanking signal for scart1 in
C	Center	FBL-SC2-IN	Fast blanking signal for scart2 in
C/16/9	Chrominance input	FBL-TXT	Fast Blanking Teletext
C-7-OUT	Chrominance on pin 7 scart (variant)	FDSL-OUT	Full Dual Screen - Left out
CENTER	Center speake	FDSR-OUT	Full Dual Screen - Right out
C-FRONT	Chrominance front input	FEAT-U	U from Feature Box
CL_DS_L	Constant Level Dual Screen Left	FEAT-V	V from Feature Box
CL_DS_R	Constant Level Dual Screen Right	FEAT-Y	Y from Feature Box
CL_L	Constant Level Left	FILAMENT	Filament of CRT
CL_L_OUT	Constant Level Left out	FILAMENT-PROT	Filament protection
CL_R	Constant Level Right	FLASH	Flash memory
CL-R-OUT	Constant Level Right out	FM SOUND	Frequency Modulation Sound
CODEC	Coding/Decoding	FRAME ROTATION	Frame rotation
COMP	Compander ON/OFF	FRAME-ROT +	Frame rotation +
Compair	Computer aided repair	FRONT-C	Front input chrominance (SVHS)
CORDL_L	Cordless Left	FRONT-DETECT	Front input detection
CORDL_R	cordless Right	FRONT-Y_CVBS	Front input luminance or CVBS (SVHS)
CORE TOP LEVEL	Core Top Level	GHOST-IN	Signal Ghost cancellation in
CRT	Cathode ray tube	G-SC1-	Green scart1 in
CSM	Customer Service Mode	G-SC2-	Green scart2 in
C-UI	Chrominance UI	G-TXT	Green teletext
CVBS	Composite Video Blanking Signal	G-vc	Green from video-controller
CVBS_Y-UI	CVBS Y UI	HA	Horizontal Acquisition
CVBS-PIP-DS	CVBS Picture In Picture dual Scree	HA1	Horizontal Sync (diversity)
CVBS-SC1-IN	CVBS scart1 in	HA-D	Horizontal Sync from HIP-IC to FDS
CVBS-SC2 OUT	CVBS scart2 out	HD	Horizontal drive coming from PICNIC
CVBS-SC2-IN	CVBS scart2 in	Hdefl-1in	Horizontal deflection signal needed for DC-shift circuitry
CVBS-SC3-IN	CVBS scart3 in	Hdefl-lin	Horizontal deflection linearity
CVBS-SC4-IN	CVBS Scart4 IN	HEATER	Heater (Filament)
CVBS-TER	CVBS terrestrial	HFB	Horizontal flyba
CVBS-TXT-DS-OUT	CBVBS teletext Dual Screen out	HFB+13V	Non rectified output 13V-winding LOT
CVBS-TXT-OUT	CVBS teletext out	HFB-D	Horizontal Fly Back to FDS
CVBS-Y-FRONT	CVBS luminance front input	HIP	High-end Input Processor
DAC-HOP	Digital analogue converter HOP IC	HOP	High-end Output Processor
DC_PROT/		HOSD PIP	Horizontal OSD PIP
AUDIO_SR	DC protection (for supply)	HP	Headphone
DC-filament	Filament supply voltage	HS-D	Main, Horizontal sync input POPOV IC
DC-PROT	DC protection	I2C	Inter-integrated Circuit Bus
		I2S-CL	I2S bus clock
		I2S-DSP-IN	I2S digital signal processor in
		I2S-DSP-OUT	I2S digital signal processor out
		I2S-DSP-OUT1	Serial-DSP-bus-out1
		I2S-WS	I2S bus word stroke

IN-C_IN-R-SC2	Either Chrominance-in scart2 or Red-in scart pin 15	POPOV	Double Window/PIP IC
IN-FRONT-SNDL	Sound left front in	POWER-DOWN	
IN-FRONT-SNDR	Sound right front in	MUTE	Power Down Mute
IN-SC1	In scart1 blue	POWER-ON MUTE	Power On Mute
IN-SC1-G	In scart1 green	R	Right Audio
IN-SC1-R	In scart1 red	RAM	Random Access Memory
IN-SC1-SNDL	In scart1 sound left	RC5	RC5 signal from the remote control receiver
IN-SC1-SNDR	In scart1 sound right	RESET	Reset signal
IN-SC2	In scart2 blue	RESET-AUDIO	Reset signal for audio IC MSP3410
IN-SC2-CVBS_Y	In scart2 CVBS or luminance (SVHS)	RESET-AUDIO-INV	Reset signal for audio IC MSP3410 inverted
IN-SC2-FBL	In scart2 fast blanking	RESET-FLASH	Reset signal flash memory
IN-SC2-G	In scart2 green	RF	Right output (no companding)
IN-UI-B	B input from UI	RIGHT	Right
IN-UI-FBL	Fast Blanking input from UI	RIGHT_DOWNMIX	Right Downmix
IN-UI-G	G input from UI	RIGHT_IN	Right In
IN-UI-R	R input from UI	RIGHT_OUT	Right out
IO-BUS	In/Out - Bus	ROM	Read Only Memory
IO-BUS	In/out bus	R-SC1-IN	Red scart1 in
IR-LED	Drive signal for the service Infra red LED	R-TXT	Red teletext
KEYBOARD	Top controls	R-vc	Red from video-controller
L	Left Audio	S/C	Short Circuit
LDP	Line deflection protectio	SAM	Service Alignment Mode
LED	Light Emitting Diode	SC2-B-IN	Scart2 blue in
LEFT	Left	SC2-C-IN	Scart2 chrominance in
LEFT_DOWNMIX	LEFT Downmix	SC2FH_IFH	Sand-castle 1FH/2FH
LEFT_IN	Left In	SC2-G-IN	Scart2 green in
LEFT_OUT	Left out	SC2-R-IN C-I	Red in scart2 or chrominance in
LF	Left output	Scavem	Scan Velocity Modulation
LIGHT SENSOR	Light sensor	SCAVEM-SW	Scavem- switc
LINE-DRIVE	Line drive signal	SCL-F	Clock line of the I2C-bus fast (for TXT)
LMN	System L,M,N	SCL-S	Clock line of the I2C-bus slow
LNA	Low noise adapter	SDA-F	Data line of the I2C-bus fast (for TXT)
LS CORRECTION	Picture with corrections	SDA-S	Data line of the I2C-bus slow
LSP	Large signal panel	SDM	Service Default Mode
LV-	Frame coil sink signal to the N/S correction circuitry	SEL_SOFAC_0	Selection-signal for SOFAC 0
LV+	Frame coil drive signal from the frame output stag	SEL_SOFAC_1	Selection-signal for SOFAC 1
MCADEC_RESET	Reset signal (Master reset)	SEL_TO-MCS_LR	Selection switch MCS Left Right
MCS-MPEG	Multi channel sound - MPEG	SELECT TO EXT2	Selection of Extern 2 input
MSP-CLOCK	Clock signal multi-standard sound processor	SELECT_TO_CORD L_1	Selection signal for Cordless 1
MUP	Micro-Computer	SELECT_TO_MCS_CINCH_0	Selection-signal for MCS Cinch 0
MUTE	Mute-Line	SELECT_TO_MCS_CINCH_1	Selection-signal for MCS Cinch 1
N52502	CAD-naming referring to other sub-schedule	SELECT-AUDIO CINCH1	Selection of audio via cinch input 1
NC	Not Connected	SELECT-AUDIO-CINCH2	Selection of audio via cinch input 2
NVM	Non Volatile Memory	SELECT-AUDIO-LR	Selection of audio left and right
O/C	Open Circuit	SELECT-TO_CORDL_0	Selection signal for Cordless 0
ON/OFF LED	On/off control signal for the LED	SERVICE-DEFAULT	Service pin to activate SDM
OSD	On Screen Display	SERVICE-MODE	Service pin to activate SAM
OTC	OSD, Teletext Controlle	SIF	Sound Intermediate frequency
OUT-1	Y-output POPOV IC	SIFM	Sound intermediate frequency (Mono)
OUT-2	V-output POPOV IC	SL	Surround Left
OUT-3	U-output POPOV IC	SL-ST	Sliding stereo of the Stereo
OVERRIDE-TXT	Override Teletext	SNDL-CL_VL-OUT	Demodulator IC TDA1578A
P2-5	9for MG3.1E, status 4 (scart 4)		Sound left constant level -variable level out
P2-6	(for MG3.1E, status 3 (scart 3)	SNDL-CL-VL-OUT	Sound L constant level, variable level out
P2-7	In MG3.1E, RGB 1FH/Front UI	SNDL-FRONT-I	Sound left front in
P50_OUT	Easy link data line from scart	SNDL-HEADPH-OUT	Sound left headphone out
PCB	Printed Circuit board	SNDL-SC1-IN	Sound left scart1 in
PD	Power Down	SNDL-SC1-OUT	Sound left scart1 out
PICNIC	Picture Inproved Combined Network IC	SNDL-SC2-IN	Sound left scart2 in
PILOT	Pilot Signal	SNDL-SC2-OUT	Sound left scart2 out
PILOTMUTE	Pilot Mute signal	SNDL-SC3-IN	Sound left scart3 in
PIP	Picture In Picture	SNDL-SC4-IN	Sound left scart4 in
PIP-B	Picture In picture Blue	SNDL-UI-IN	Sound left UI IN
PIP-FBL	PIP Fast Blanking		
PIP-G	Picture In Picture Green		
PIP-R	Picture In Picture Red		

SNDR-CL-VL-OUT	Sound R constant level, variable level out	VDNEG	Negative vertical drive signal
SNDR-FRONT-IN	Sound right front in	VDPOS	Positive vertical drive signal
SNDR-HEADPH-OUT	Sound right headphone out	+VD-switched	Only for VGA sets (VD-switched i.s.o. Vbat.
SNDR-SC1-IN	Sound right scart1 in	V-DS-1FH	V Dual Screen 1 X Horizontal Frequency
SNDR-SC1-OUT	Sound right scart1 out	V-DS-2FH	V Dual Screen 2 X Horizontal Frequency
SNDR-SC2-IN	Sound right scart2 out	V-DS-OUT	V Dual Screen out
SNDR-SC2-OUT	Sound right scart2 out	VFB	Vertical flyback pulse
SNDR-SC3-IN	Sound right scart3 in	VF-DEC	V-MAIN input POPOV IC
SNDR-SC4-IN	Sound Right scart4 IN	V-FEAT	V-feature-box (output signal from PICNIC)
SNDR-SC4-OUT	Sound right scart4 in	VF-SU	V-SUB input POPOV IC
SNDS-CL-VL-OUT	Sound surround constant level, variable level out	VGA-B	VGA Blue
SNDS-VL-OUT	Surround sound left variable level out	VGA-FBL	VGA Fast-blanking
SNDS-VR-OUT	Surround sound right variable level out	VGA-G	VGA Green
SOFAC	Sound and Fading Control	VGA-R	VGA Red
SOUND L-HEADPHONE-OUT	Sound left headphone out	VL_L	Variable level Left
SOUND R-HEADPHONE-OUT	Sound right headphone out	VL_R	Variable level Right
SOUND-ENABLE	Sound Enable	VL_SL	Variable level - Surround Left
SOUND-SELECT	Sound signal Selection	VL_SR	Variable level - Surround Right
SPDIF	Sony Philips Digital Interface Format	VL_SW	Variable Level Sub-Woofe
SPDIF_IN1	SPDIF In 1	VL_SW_DBE	Variable Level - Subwoofer- Dynamic Bass Enhancement
SPDIF_IN2	SPDIF In 2	VLL_C	Variable level Center
SS LEFT	Surround Left	V-OUT	V-signal to HOP-IC
SS RIGHT	Surround Right	VOUT_C	V-out Center
SSP	Small Signal Panel	VOUT_L	V-out Left
STANDARD-FM-1	Standard Frequency Modulation 1	VOUT_R	V-out Right
STANDARD-FM-2	Standard Frequency Modulation 2	VOUT_SL	V-out Surround Left
STANDBY	Standb	VOUT_SR	V-out Surround Right
STATUS1/2/3	Status signal from Euro-connector 1 or 2 or 3 to the P, signal (1.29-3.31V is 16:9 signal, 3.32-5.0V is 4:3 signal)	VOUT-SW	V-out Subwoofe
STBY	Standb	VREG	Opto-coupler feedback signal
STEREO	Stereo	VS-DS	Main, Vertical sync input POPOV IC
SUBCAR	Subcarrier	V-SUB	V-output of HIP-IC on FDS
SUB-H	Horizontal Sync Sub-TV-Program (via FDS)	WIRED BACKUP-INFO	Wired back up information
SUB-V	Vertical Sync Sub-TV-Program (via FDS)	WIRED-BACKUP AUDIO INFO	Audio signal (surround)
SUBWOOFER	Subwoofer speaker	WIRELESS SURROUND RECEIVER	Wireless Surround receiver
SURROUND-LEFT	Surround Left	WIRELESS TRANSMITTER	Wireless Transmitter
SURROUND-RIGHT	Surround Right	X-RAY-PROT	X-Ray Protection
SW	Subwoofe	X-tal	Crystal
SYNC-SELECT	Synchronisation selection	Y_CVBS-SC2-	Luminance or CVBS scart2 in
TOPIC	The Outmost Picture Improvement IC	YB-DEC	Y-input for FDS
TRIG	Triggering	Y-DEC	Luminance-dec (input signal for PICNIC)
TUNED	Tuned-flag coming from the IF-IC TDA1597	Y-DS-1FH	y Dual Screen 1 X Horizontal Frequency
UB-DEC	U-input for FDS	Y-DS-2FH	Y-Dual Screen 2 x Horizontal Frequency
U-DEC	U-dec (input signal for PICNIC)	Y-DS-OUT	Y Dual Screen out
U-DS-1FH	U Dual Screen 1 X Horizontal Frequency	YF-DEC	Y-MAIN input POPOV IC
U-DS-2FH	U dual Sound 2 X Horizontal Frequency	Y-FEAT	Luminance -feature-box (output signal from PICNIC)
U-DS-OUT	U Dual Screen out	YF-SU	Y-SUB input POPOV IC
UF-DEC	U-MAIN input POPOV IC	Y-OUT	Luminance-signal to HOP-IC
U-FEAT	U-feature-box (output signal fro PICNIC)	Y-SUB	Y-output of HIP-IC on FDS
UF-SUB	U-SUB input POPOV IC	YUV-SELECT-2FH	YUV selection 2 X Horizontal Frequency
UI	Universal Interface		
U-OUT	U-signal to HOP IC		
U-SUB	U-output of HIP-IC on FDS		
VA	Vertical Acquisition		
VA1	Vertical Sync (diversity)		
VB-DEC	V-input for FDS		
VD	Vertical Drive coming from PICNIC		
VD-D	Vertical sync to FDS		
V-DEC	V-dec (input signal for PICNIC)		
VDEFL-1	Vertical deflection connection 1		
VDEFL-2	Vertical deflection connection 2		

10. Spare parts list

Large Signal Panel [A2] [A3] [A4]

Various

	3104 301 07723	Cable 11P 340mm
	3104 301 07815	Cable 2/3P 560mm
	3104 301 08332	Cable 7P 340mm
	3104 301 08671	Cable 2/3P 220mm
	3104 301 08682	Cable 7P 180mm
	3104 301 08752	Cable 9P 560mm
	3104 301 08762	Cable 5P 400mm
	3104 301 08772	Cable 11P 340mm
	3104 301 09611	Cable 9P 340mm
	3104 304 19583	LSP bracket
	3104 304 20263	LOT support bracket
	3104 311 00321	Cable 2/3P 560mm
	3104 317 70791	EHT cable 640mm
	3104 317 79573	EHT cable 590mm
	3104 328 01011	LSP 28WS
	3104 328 01031	LSP 32WS
	3104 328 01051	LSP 29SF
	4822 320 12504	Cable 3P 560mm
	4822 320 20216	Focus cable
	3104 301 22172	Spring short
	3122 121 24785	Spring
	3104 301 23611	Spring
0303	4822 267 10774	2P male red
0304	4822 265 20723	2P male
0311	4822 267 10978	7P male black
0315	4822 267 10979	9P male black
0317	4822 265 20723	2P male
0320	4822 267 10974	9P male black
0321	4822 267 10978	7P male black
0324	4822 267 10972	5P male black
0325	4822 267 10967	3P male v
0328	4822 267 10962	11P male v
0328	4822 267 10981	11P male v
0335	4822 267 10969	3P male v red
0336	4822 267 10967	3P male black
0337	4822 267 10967	3P male black
0338	4822 267 11043	3P male yellow
0339	4822 267 10971	5P male v
0390	4822 267 10963	3P male v
0393	4822 267 10971	5P male v
1010	3104 328 01011	LSP 28" WS
1010	3104 328 01031	LSP 32" WS
1010	3104 328 01051	LSP 29"
1460▲	4822 252 51186	Fuse 2A

2400	4822	124	11575	47μF	20%	160V
2401	4822	121	43343	4.7nF	10%	400V
2409	4822	126	12726	47pF	5%	50V
2410	2222	462	90009	4.7nF	2%	250V
2412	5322	121	42489	33nF	5%	250V
2413	5322	124	40641	10μF	20%	100V
2414	5322	121	42489	33nF	5%	250V
2415	5322	122	32334	220pF	10%	100V
2417	4822	121	42408	220nF	5%	63V
2418	4822	126	12263	220pF	10%	2KV
2419	5322	121	44151	33nF	10%	400V
2420	4822	121	70594	1nF	5%	2KV
2421	4822	121	42634	560nF	5%	250V
2422	4822	121	10805	1.2μF	5%	250V
2425	4822	121	70435	10nF	5%	2KV
2426	4822	121	10551	27nF	5%	630V
2426	4822	121	10658	24nF	5%	630V
2431	4822	126	12638	6.8nF	10%	50V
2433	2022	333	00085	390nF	5%	250V
2433	4822	121	42634	560nF	5%	250V
2433	4822	121	51653	430nF	5%	250V
2436	4822	124	41584	100μF	20%	10V
2437	4822	124	41741	2.2μF	20%	350V
2438	4822	122	33449	47nF	30%	50V
2439	4822	126	12638	6.8nF	10%	B 50V
2442	4822	124	12297	4.7μF	20%	350V
2448	2020	300	90572	8.2nF	10%	50V
2448	4822	121	41935	12nF	5%	250V
2448	4822	121	51093	100nF	5%	250V
2450	4822	121	40518	6.8nF	10%	250V
2454	5322	121	42386	100nF	5%	63V
2455	4822	121	43897	1nF	5%	400V
2460	4822	122	31177	470pF	10%	500V

2461	4822 124 11909	470μF 20% 25V
2462	4822 124 81039	3300μF 20% 25V
2463	4822 122 31177	470pF 10% 500V
2465	4822 122 31177	470pF 10% 500V
2466	4822 124 11909	25V 470μF 20%
2480	4822 124 40763	2.2μF 100V
2481	5322 122 32311	470pF 10% 100V
2482	4822 124 22466	1μF 20% 50V
2484	4822 124 40769	4.7μF 20% 100V
2487	4822 124 40248	10μF 20% 63V
2506	4822 121 10711	100nF 20% 275V
2612	5322 122 32311	470pF 10% 100V
2613	5322 122 32311	470pF 10% 100V
2615	4822 124 40255	100μF 20% 63V
2616	5322 121 42386	100nF 5% 63V
2617	4822 121 42408	220nF 5% 63V
2618	5322 121 42386	100nF 5% 63V
2620	5322 124 40641	10μF 20% 100V
2701	5322 121 42386	100nF 5% 63V
2702	5322 122 32261	4.7nF 10% 100V
2704	4822 124 40248	10μF 20% 63V
2705	4822 122 33642	150pF 5% 50V
2705	5322 121 42386	100nF 5% 63V
2711	5322 121 42386	100nF 5% 63V
2712	5322 122 32261	4.7nF 10% 100V
2714	4822 122 10182	100pF 5% 50V
2715	5322 122 32332	1.5nF 10% 100V
2730	4822 124 40248	10μF 20% 63V
2732	4822 124 12392	47μF 20% 16V
2733	5322 121 42386	100nF 5% 63V
2738	4822 122 10182	100pF 5% 50V
2739	4822 122 10182	100pF 5% 50V
2740	4822 121 42408	220nF 5% 63V
2741	4822 121 42408	220nF 5% 63V
2742	4822 121 42408	220nF 5% 63V
2742	4822 121 43526	47nF 5% 250V
2743	4822 126 13461	680pF 10% 50V
2743	5322 122 32332	1.5nF 10% 100V
2744	4822 121 43526	47nF 5% 250V
2745	4822 126 13461	680pF 10% 50V
2746	4822 121 43526	47nF 5% 250V
2747	4822 121 43526	47nF 5% 250V
2748	4822 121 43526	47nF 5% 250V
2749	4822 121 43526	47nF 5% 250V
2750	4822 121 42408	220nF 5% 63V
2751	4822 121 42408	220nF 5% 63V
2752	4822 124 21913	1μF 20% 63V
2753	5322 121 42661	330nF 5% 63V
2753	5322 122 32332	1.5nF 10% 100V
2754	4822 121 41854	150nF 5% 63V
2754	4822 121 42408	220nF 5% 63V
2755	4822 126 13461	680pF 10% 50V
2755	5322 122 32332	1.5nF 10% 100V
2756	4822 121 43526	47nF 5% 250V
2757	4822 121 43526	47nF 5% 250V
2758	4822 121 43526	47nF 5% 250V
2759	4822 121 43526	47nF 5% 250V
2760	4822 121 42408	220nF 5% 63V
2761	4822 121 42408	220nF 5% 63V
2762	4822 124 21913	1μF 20% 63V
2763	5322 122 32332	1.5nF 10% 100V
2764	4822 124 21913	1μF 20% 63V
2765	5322 122 32332	1.5nF 10% 100V
2766	4822 121 43526	47nF 5% 250V
2767	4822 121 43526	47nF 5% 250V
2768	4822 121 43526	47nF 5% 250V
2769	4822 121 43526	47nF 5% 250V
2770	4822 121 43526	47nF 5% 250V
2771	4822 121 42408	220nF 5% 63V
2774	4822 121 42408	220nF 5% 63V
2775	5322 122 32332	1.5nF 10% 100V
2776	4822 121 43526	47nF 5% 250V
2777	4822 121 43526	47nF 5% 250V
2778	4822 121 43526	47nF 5% 250V
2779	4822 121 43526	47nF 5% 250V
2780	4822 124 21913	1μF 20% 63V
2790	4822 124 80061	1000μF 20% 25V
2791	4822 124 80061	1000μF 20% 25V
2792	5322 121 42386	100nF 5% 63V
2793	5322 121 42386	100nF 5% 63V
2794	4822 124 40248	10μF 20% 63V
2795	4822 124 40248	10μF 20% 63V



3401 4822 053 12479 47Ω 5% 3W

3404	4822 116 83883	470Ω 5% 0.5W
3406	4822 116 52175	100Ω 5% 0.5W
3407	4822 050 21003	10k 1% 0.5W
3411	4822 116 52195	47Ω 5% 0.5W
3413	4822 116 83883	470Ω 5% 0.5W
3414	4822 116 52226	560Ω 5% 0.5W
3415	4822 053 12229	22Ω 5% 3W
3417	4822 116 52176	10Ω 5% 0.5W
3423	4822 053 10688	62Ω 5% 1W
3425	4822 116 52172	10Ω 5% 0.5W
3426	4822 116 52176	10Ω 5% 0.5W
3428	4822 116 52245	150k 5% 0.5W
3429	4822 116 83884	47k 5% 0.5W
3431▲	4822 052 10101	100Ω 5% 0.33W
3432	4822 116 83884	47k 5% 0.5W
3436	4822 116 52269	3k 5% 0.5W
3437	4822 116 52245	150k 5% 0.5W
3438	4822 050 23303	33k 1% 0.6W
3440	4822 050 23303	33k 1% 0.6W
3441	4822 116 52272	330k 5% 0.5W
3442	4822 116 83874	220k 5% 0.5W
3443▲	4822 052 11688	62Ω 5% 0.5W
3444	4822 050 23303	33k 1% 0.6W
3445	4822 116 83883	470Ω 5% 0.5W
3446	4822 116 83883	470Ω 5% 0.5W
3447▲	4822 052 10229	22Ω 5% 0.33W
3448	4822 116 52234	100k 5% 0.5W
3449	4822 116 52176	10Ω 5% 0.5W
3450	4822 116 83884	47k 5% 0.5W
3451	4822 116 52264	27k 5% 0.5W
3452	4822 116 52257	22k 5% 0.5W
3453	4822 116 80176	1Ω 5% 0.5W
3454	4822 116 52291	56k 5% 0.5W
3455	4822 116 83874	220k 5% 0.5W
3457	4822 050 13904	390k 1% 0.4W
3457	4822 116 52292	560k 5% 0.5W
3457	4822 116 52298	680k 5% 0.5W
3458	4822 050 11204	120k 1% 0.4W
3458	4822 116 83874	220k 5% 0.5W
3459	4822 116 83883	470Ω 5% 0.5W
3462▲	4822 052 11108	1Ω 5% 0.5W
3463▲	4822 052 11108	1Ω 5% 0.5W
3466▲	4822 052 10108	1Ω 5% 0.33W
3468▲	4822 052 10151	150Ω 5% 0.33W
3478	4822 116 83872	220Ω 5% 0.5W
3480	4822 116 52291	56k 5% 0.5W
3480	4822 116 52297	68k 5% 0.5W
3481▲	4822 052 10102	1k 5% 0.33W
3483▲	4822 052 10478	4Ω 5% 0.33W
3484▲	4822 052 10109	10Ω 5% 0.33W
3484▲	4822 052 10478	4Ω 5% 0.33W
3485	4822 050 25605	5M6 1% 0.6W
3485	4822 050 27505	7M5 1% 0.6W
3486	4822 116 52234	100k 5% 0.5W
3488	4822 050 11002	1k 1% 0.4W
3489	4822 116 52191	33Ω 5% 0.5W
3490	4822 116 83874	220k 5% 0.5W
3491	4822 116 83874	220k 5% 0.5W
3492	4822 050 23303	33k 1% 0.6W
3493	4822 050 11002	1k 1% 0.4W
3498	4822 116 83872	220Ω 5% 0.5W
3506	4822 117 12027	18Ω-3k 25%
3507	4822 117 12027	18Ω-3k 25%
3601	4822 116 80176	1Ω 5% 0.5W
3601	4822 116 80676	1Ω 5% 0.5W
3602	4822 116 80176	1Ω 5% 0.5W
3602	4822 116 80676	1Ω 5% 0.5W
3603	4822 116 80676	1Ω 5% 0.5W
3603	4822 116 81039	1Ω 5% 0.5W
3609▲	4822 052 10472	4k 5% 0.33W
3610	4822 050 11002	1k 1% 0.4W
3611	4822 050 28201	820Ω 1% 0.6W
3612	4822 050 28201	820Ω 1% 0.6W
3613	4822 050 11002	1k 1% 0.4W
3614	4822 050 11002	1k 1% 0.4W
3617▲	4822 052 10158	1Ω 5% 0.33W
3618	4822 116 83872	220Ω 5% 0.5W
3619	4822 116 83872	220Ω 5% 0.5W
3620	4822 050 21003	10k 1% 0.6W
3700	4822 050 11002	1k 1% 0.4W
3701	4822 116 52219	330Ω 5% 0.5W
3704	4822 116 52303	8k 5% 0.5W
3705	4822 116 52244	15k 5% 0.5W
3707	4822 116 52244	15k 5% 0.5W
3707	4822 116 52303	8k 5% 0.

3711	4822 116 52219	330Ω 5% 0.5W
3714	4822 050 21003	10k 1% 0.6W
3715	4822 050 21003	10k 1% 0.6W
3715	4822 116 52244	15k 5% 0.5W
3716	4822 050 11002	1k 1% 0.4W
3717	4822 116 52175	100Ω 5% 0.5W
3717	4822 116 52249	1k8 5% 0.5W
3720	4822 116 52234	100k 5% 0.5W
3721	4822 116 52234	100k 5% 0.5W
3722	4822 116 52234	100k 5% 0.5W
3723	4822 116 52234	100k 5% 0.5W
3724	4822 116 52234	100k 5% 0.5W
3724	4822 116 83884	47k 5% 0.5W
3725	4822 116 83884	47k 5% 0.5W
3726	4822 116 52234	100k 5% 0.5W
3728	4822 116 52234	100k 5% 0.5W
3729	4822 116 52234	100k 5% 0.5W
3730	4822 116 83883	470Ω 5% 0.5W
3731	4822 116 83884	47k 5% 0.5W
3732	4822 116 83884	47k 5% 0.5W
3733	4822 116 52207	1k2 5% 0.5W
3734	4822 116 52257	22k 5% 0.5W
3735	4822 116 52283	4k7 5% 0.5W
3740	4822 116 83883	470Ω 5% 0.5W
3741	4822 050 23303	33k 1% 0.6W
3741	4822 116 52231	820Ω 5% 0.5W
3742	4822 116 83883	470Ω 5% 0.5W
3743	4822 050 23303	33k 1% 0.6W
3744	4822 117 12798	8Ω2 5% 0.25W
3745	4822 117 12798	8Ω2 5% 0.25W
3746	4822 116 52276	3k9 5% 0.5W
3747	4822 116 52276	3k9 5% 0.5W
3750	4822 116 52276	3k9 5% 0.5W
3751	4822 116 52291	56k 5% 0.5W
3752	4822 116 52269	3k3 5% 0.5W
3752	4822 116 83883	470Ω 5% 0.5W
3753	4822 116 52249	1k8 5% 0.5W
3753	4822 116 83961	6k8 5%
3754	4822 117 12798	8Ω2 5% 0.25W
3755	4822 117 12798	8Ω2 5% 0.25W
3760	4822 116 52257	22k 5% 0.5W
3760	4822 116 83883	470Ω 5% 0.5W
3761	4822 116 52276	3k9 5% 0.5W
3761	4822 116 83961	6k8 5%
3762	4822 116 83883	470Ω 5% 0.5W
3763	4822 116 83961	6k8 5%
3764	4822 117 12798	8Ω2 5% 0.25W
3765	4822 117 12798	8Ω2 5% 0.25W
3772	4822 116 83883	470Ω 5% 0.5W
3773	4822 116 52231	820Ω 5% 0.5W
3774	4822 117 12798	8Ω2 5% 0.25W
3775	4822 117 12798	8Ω2 5% 0.25W
3780	4822 116 52289	5k6 5% 0.5W
3781	4822 116 52289	5k6 5% 0.5W
3782	4822 116 52289	5k6 5% 0.5W
3783	4822 116 52289	5k6 5% 0.5W
3785	4822 116 52263	2k7 5% 0.5W
3786	4822 116 52269	3k3 5% 0.5W
3787	4822 050 21003	10k 1% 0.6W
3790	4822 116 52234	100k 5% 0.5W
3791	4822 116 52234	100k 5% 0.5W

5400	4822 157 71467	39μH 10%
5401	4822 157 71452	18μH 10%
5410	3128 138 36851	Line driver transf.
5421	3128 138 52581	Linearity corr.
5421	3128 138 52561	Linearity corr. 29"
5422	4822 146 11137	Bridge coil
5422	2422 531 02357	Bridge coil 29"
5423	4822 157 71097	0.56μH
5425	4822 157 11411	Bead 100MHz
5426	4822 157 11411	Bead 100MHz
5430	2422 531 02365	LOT
5460	4822 157 71466	2.2μH 20%
5462	4822 157 71466	2.2μH 20%
5466	4822 157 71452	18μH 10%
5468	4822 157 71452	18μH 10%
5480	3128 138 30972	Choke
5501	4822 157 11422	12μH 10%
5502	4822 157 11422	12μH 10%
5617	4822 157 11771	0.09μH 10%
5701	4822 157 11299	10μH 5%
5702	4822 157 11299	10μH 5%

6407	4822 130 42488	BYD33D
6408	4822 130 42488	BYD33D

6410	4822 130 30621	1N4148
6421	4822 130 10753	BY359X-1500
6422	4822 130 10218	BY229X-800
6437	4822 130 30621	1N4148
6441	4822 130 42488	BYD33
6451	4822 130 34382	BZX79-B8V2
6452	4822 130 30621	1N4148
6453	4822 130 34142	BZX79-B33
6454	4822 130 30842	BAV21
6460	4822 130 41487	BYV95C
6462	4822 130 41487	BYV95C
6463	4822 130 41487	BYV95C
6480	4822 130 61219	BZX79-B10
6483	4822 130 30842	BAV21
6484	4822 130 30621	1N4148
6485	4822 130 30621	1N4148
6486	4822 130 30621	1N4148
6608	4822 130 34174	BZX79-B4V7
6609	4822 130 31983	BAT85
6610	4822 130 30621	1N4148
6614	5322 130 31938	BYV27-200
6617	4822 130 42488	BYD33
6618	5322 130 33635	BZV85-C8V2
6620	4822 130 42488	BYD33
6790	5322 130 34563	BZX79-C2V7
6791	5322 130 34563	BZX79-C2V7



7409	4822 130 40959	BC547B
7411	5322 130 44349	BC635
7421	4822 130 63666	BU2520DF
7437	4822 130 44568	BC557B
7440	4822 209 70672	LM358N SEL.
7441	4822 130 40959	BC547B
7442	4822 130 44568	BC557B
7480	4822 130 11336	STP16NE06FP
7484	4822 209 70672	LM358N SEL.
7600	4822 209 90009	TDA8177
7700	4822 209 83163	LM833N
7710	5322 209 86445	LM7805CT
7720	4822 209 11079	MC79M05CT
7730	4822 130 44568	BC557B
7731	4822 130 40959	BC547B
7732	4822 130 40959	BC547B
7733	4822 130 40959	BC547B
7740	4822 209 32641	TDA2616Q
7750	4822 209 32641	TDA2616Q
7760	4822 209 32641	TDA2616Q
7770	4822 209 32641	TDA2616Q
7780	4822 130 40959	BC547B

Power Supply panel [B]

Various

	3104 304 19651	Power supply frame
1001	3104 328 01111	Power supply panel WS
1001	3104 328 02181	Power supply panel 29"
0051	3104 304 90261	Isulator
0052	3122 121 24785	Spring
0150	4822 265 11253	Fuse holder
0151	4822 265 11253	Fuse holder
0302	2422 025 16374	2P male v black
0304	4822 265 20723	2P
0310	4822 267 10964	9P
0320	4822 267 10974	9P
0321	4822 267 10978	7P
0330	2422 025 14904	7P male v/description>
1001▲	4822 253 30467	Fuse 6,3A
1002▲	4822 280 10375	Relay 1P 5V 10A
1003▲	4822 070 33152	Fuse 3.15A
1005	4822 252 60151	Surge protect
1007	4822 280 80777	Relay 2P 12V 5A



2000	4822 126 13589	470nF 275V
2004	4822 126 14153	2.2nF 10% 1KV
2005	4822 126 14153	2.2nF 10% 1KV
2007	4822 121 41857	10nF 5% 250V
2009	4822 121 41857	10nF 5% 250V
2100	4822 124 12295	4.7μF 20% 450V
2101	5322 122 32818	2.2nF 10% 100V
2102	5322 121 42498	680nF 5% 63V
2104	4822 123 14025	2200μF 20% 16V
2105	5322 122 32818	2.2nF 10% 100V

2201	4822 124 12359	330μF 20% 400V
2202	4822 124 80144	220μF 20% 25V
2203	4822 124 80144	220μF 20% 25V
2204	5322 121 51214	680pF 1% 400V
2205	4822 121 51288	100pF 630V
2207	4822 121 41854	150nF 5% 63V
2208	5322 121 42386	100nF 5% 63V
2210	4822 126 13451	2.2nF 10% 2KV
2211	2222 375 90224	39nF 5% 1KV
2212	4822 126 13862	1.5nF 10% 2KV
2213	4822 126 13862	1.5nF 10% 2KV
2214▲	4822 126 14504	3.3nF 20% 250V
2215	4822 122 30043	10nF 80% 63V
2216	5322 121 42386	100nF 5% 63V
2217	4822 124 40207	100μF 20% 25V
2218	4822 124 40255	100μF 20% 63V
2219	4822 122 30043	10nF 80% 63V
2220	4822 124 80707	2200μF 20% 25V
2221	4822 124 80707	2200μF 20% 25V
2222	4822 124 40214	1000μF 20% 25V
2223	4822 124 11572	47μF 20% 160V
2225	5322 122 32331	1nF 10% 100V
2226	5322 121 42386	100nF 5% 63V
2227	4822 122 31169	1.5nF 10% 500V
2228	4822 124 81151	22μF 50V
2230	4822 124 11878	4700μF 16V.
2231	4822 121 41854	150nF 5% 63V
2232	4822 122 30043	10nF 80% 63V
2233	4822 122 30043	10nF 80% 63V
2234	4822 124 80061	1000μF 20% 25V
2235	5322 122 32331	1nF 10% 100V
2236	4822 124 11767	470μF 20% 25V
2237	4822 122 31175	1nF 10% 500V
2238	5322 121 42386	100nF 5% 63V
2239	4822 121 42062	150 nF 10% 400V
2240	5322 122 32261	4.7nF 10% 100V
2241	4822 122 30043	10nF 80% 63V
2242	4822 122 33449	47nF 30% 50V
2244	4822 126 12263	220pF 10% 2KV
2246	4822 122 31175	1nF 10% 500V
2246	4822 122 31177	470pF 10% 500V
2250	5322 122 32331	1nF 10% 100V
2251	4822 121 51305	15nF 10% 50V
2252	5322 122 32818	2.2nF 10% 100V
2253	4822 121 51252	470nF 5% 63V
2260	4822 122 30103	22nF 80% 63V
2261	4822 126 10206	2.2nF 10% 500V
2262	4822 126 10206	2.2nF 10% 500V
2263	5322 122 32311	470pF 10% 100V
2264	5322 122 32311	470pF 10% 100V
2271	5322 122 32331	1nF 10% 100V
2272	5322 122 32331	1nF 10% 100V
2274	4822 122 31175	1nF 10% 500V
2275	4822 122 31175	1nF 10% 500V
2276	5322 122 32331	1nF 10% 100V
2277	5322 122 32818	2.2nF 10% 100V



3001▲	4822 116 10065	VDR 1mA/495V MAX 850V
3002	4822 117 12181	470Ω 20% 0.5W
3003	4822 116 52256	2k2 5% 0.5W
3004	4822 116 52234	100k 5% 0.5W
3006	4822 117 12074	7W 1Ω5 10%
3007	4822 116 52283	4k7 5% 0.5W
3008	4822 116 52256	2k2 5% 0.5W
3009	4822 050 21003	10k 1% 0.6W
3101	4822 053 20106	10M 5% 0.25W
3102	4822 050 11002	1k 1% 0.4W
3103	4822 050 21003	10k 1% 0.6W
3106	4822 116 52256	2k2 5% 0.5W
3107	4822 116 52256	2k2 5% 0.5W
3108	4822 116 52182	15Ω 5% 0.5W
3109	4822 050 21003	10k 1% 0.6W
3110▲	4822 052 10109	10Ω 5% 0.33W
3113	4822 050 24701	470Ω 1% 0.6W
3114	4822 050 21201	120Ω 1% 0.6W
3115	4822 116 52228	680Ω 5% 0.5W
3117	4822 116 52195	47Ω 5% 0.5W
3118	4822 116 52182	15Ω 5% 0.5W
3200▲	4822 052 10478	4Ω7 5% 0.33W
3200▲	4822 052 10569	56Ω 5% 0.33W
3202	4822 116 52303	8k2 5% 0.5W
3203	4822 050 23903	39k 1% 0.6W
3204	4822 116 52264	27k 5% 0.5W
3205	4822 116 52289	5k6 5% 0.5W
3206	4822 050 21003	10k 1% 0.6W
3207	4822 050 21003	10k 1% 0.6W
3208	4822 116 83883	470Ω 5% 0.5W
3209	4822 116 52269	3k3 5% 0.5W

3210	4822 116 83883	470Ω 5% 0.5W
3211	4822 116 83883	470Ω 5% 0.5W
3214▲	4822 052 10101	100Ω 5% 0.33W
3215▲	4822 052 10479	47Ω 5% 0.33W
3216	4822 050 11002	1k 1% 0.4W
3217▲	4822 052 10101	100Ω 5% 0.33W
3218▲	4822 052 10479	47Ω 5% 0.33W
3219	4822 050 11002	1k 1% 0.4W
3221	4822 052 10109	10Ω 5% 0.33W
3222	4822 116 52249	1k8 5% 0.5W
3223	4822 116 52249	1k8 5% 0.5W
3224	4822 116 52249	1k8 5% 0.5W
3227	4822 052 10129	12Ω 5% 0.33W
3228	2322 257 41153	15K 5% 5W
3229	4822 116 52175	100Ω 5% 0.5W
3230	4822 116 52234	100k 5% 0.5W
3231	4822 116 52234	100k 5% 0.5W
3232	4822 116 83961	6k8 5%
3233	4822 050 11002	1k 1% 0.4W
3234	4822 116 52175	100Ω 5% 0.5W
3235	4822 116 52207	1k2 5% 0.5W
3236	4822 116 52303	8k2 5% 0.5W
3237	4822 050 21604	160k 1% 0.6W
3238	4822 050 22702	2k7 1% 0.6W
3239	4822 101 11186	470Ω 30%LIN 0.1W
3240	4822 116 52226	560Ω 5% 0.5W
3241	4822 116 52226	560Ω 5% 0.5W
3242	4822 050 24703	47k 1% 0.6W
3243	4822 050 25603	56k 1% 0.6W
3244	4822 050 21003	10k 1% 0.6W
3245	4822 116 83882	39k 5% 0.5W
3246	4822 116 52231	820Ω 5% 0.5W
3246	4822 116 83961	6k8 5%
3247	4822 116 52175	100Ω 5% 0.5W
3248	4822 116 52219	330Ω 5% 0.5W
3249	4822 050 21003	10k 1% 0.6W
3250	4822 050 28204	820k 1% 0.6W
3251	4822 050 26804	680k 1% 0.6W
3252	4822 050 21003	10k 1% 0.6W
3253	4822 116 52244	15k 5% 0.5W
3254	4822 050 21003	10k 1% 0.6W
3255	4822 116 83961	6k8 5%
3256	4822 050 21003	10k 1% 0.6W
3257	4822 116 52213	180Ω 5% 0.5W
3258	4822 053 20565	5M6 5% 0.25W
3259	4822 116 52244	15k 5% 0.5W
3260	4822 050 21508	1Ω5 1% 0.6W
3260	4822 050 24708	4Ω7 1% 0.6W
3261	4822 116 52297	68k 5% 0.5W
3262	4822 116 52234	100k 5% 0.5W
3263	4822 050 22208	2Ω2 1% 0.6W
3263	4822 050 26808	6Ω8 1% 0.6W
3264	4822 050 11002	1k 1% 0.4W
3265	4822 050 11002	1k 1% 0.4W
3266	4822 050 21003	10k 1% 0.6W
3267	4822 116 52256	2k2 5% 0.5W
3268	4822 050 21508	1Ω5 1% 0.6W
3268	4822 050 24708	4Ω7 1% 0.6W
3269	4822 050 21508	1Ω5 1% 0.6W
3269	4822 050 24708	4Ω7 1% 0.6W
3274	4822 116 52195	47Ω 5% 0.5W
3998	4822 050 21003	10k 1% 0.6W
9281	4822 050 21001	100Ω 1% 0.6W

5000	3104 308 77931	Mains filter DMF3547HB60
5101▲	4822 146 11065	Standby transf. CE165T
5102	4822 157 70436	8.2μH 10%
5103	4822 157 71466	2.2μH 20%
5201	8222 289 53691	Driver transf. CE136H
5202	3122 268 32481	Transformer
5202	8222 289 55771	Transformer 29"
5204	2422 531 02383	Transformer
5205	3198 018 74780	4.7μH 20%
5206	4822 157 11411	Bead 100MHz
5207	4822 157 11411	Bead 100MHz
5208	4822 157 63985	33μH 5%
5209	4822 157 11411	Bead 100MHz
5210	4822 157 51462	10μH 10%
5212	4822 157 11411	Bead 100MHz
5213	4822 157 11411	Bead 100MHz
5214	4822 157 11771	0.09μH 10%
5219	4822 157 11411	Bead 100MHz
5222	4822 157 71453	27μH 10%
5223	4822 157 71453	27μH 10%
5224	4822 157 71453	27μH 10%
5225	4822 157 11411	Bead 100MHz
5226	4822 157 11411	Bead 100MHz
5227	4822 157 11411	Bead 100MHz

5228	4822 157 11411	Bead 100MHz
5240	4822 157 11411	Bead 100MHz
5241	4822 526 10704	Bead 100MHz
5242	4822 526 10704	Bead 100MHz
5243	4822 526 10704	Bead 100MHz
5244	4822 526 10704	Bead 100MHz
5271	4822 157 71453	27μH 10%
5272	3198 018 74780	4.7μH 20%
5273	4822 157 71453	27μH 10%
5274	4822 157 11869	33μH 10%
5275	4822 157 11411	Bead 100MHz



6004	4822 130 31083	BYW55
6005	4822 130 31083	BYW55
6006	4822 130 31083	BYW55
6007	4822 130 31083	BYW55
6009	4822 130 30621	1N4148
6101	4822 130 83147	DF06M
6103	4822 130 42488	BYD33D
6104	4822 130 34499	BZX79-B20
6105	4822 130 34281	BZX79-B15
6107	5322 130 31938	BYV27-200
6108	4822 130 30621	1N4148
6200	4822 130 30621	1N4148
6201	4822 130 30621	1N4148
6202	9337 534 30133	BZD23-C15
6204	4822 130 30621	1N4148
6205	4822 130 30621	1N4148
6206	4822 130 34441	BZX79-B22
6207	4822 130 30621	1N4148
6208	4822 130 30621	1N4148
6209	4822 130 31024	BZX79-B18
6209	4822 130 34268	BZX79-B16
6210	4822 130 42488	BYD33D
6211	4822 130 30621	1N4148
6212	4822 130 30621	1N4148
6214	4822 130 30621	1N4148
6216	4822 130 30621	1N4148
6217	4822 130 30621	1N4148
6218	4822 130 82158	D3SBA60
6219	4822 130 30621	1N4148
6220	4822 130 30621	1N4148
6221	4822 130 34174	BZX79-B4V7
6222	9322 129 53687	UG10DCT
6224	4822 130 82158	D3SBA60
6230	4822 130 82627	SB540
6234	4822 130 34197	BZX79-B12
6235	4822 130 30621	1N4148
6237	4822 130 80791	BYV28-200/20
6238	4822 130 34278	BZX79-B6V8
6239	4822 130 34197	BZX79-B12
6270	4822 130 30621	1N4148
6271	4822 130 30621	1N4148



7000	4822 130 40981	BC337-25
7001	4822 130 40959	BC547B
7100	4822 130 44568	BC557B
7101	4822 130 40959	BC547B
7102	4822 130 11417	STP3NB60FP
7103	4822 130 40959	BC547B
7104▲	4822 130 11418	TCDT1102G
7200▲	4822 130 11418	TCDT1102G
7201	4822 130 40959	BC547B
7202	4822 130 44568	BC557B
7203	4822 130 44568	BC557B
7204	4822 130 44568	BC557B
7205	9322 108 21682	MC34067P
7206	9322 132 14687	STP11NB40FP
7207	9322 132 14687	STP11NB40FP
7211	4822 209 32063	MC34167TV
7212	4822 209 81397	TL431CLPST
7213	4822 209 12334	L4940V85
7230	4822 130 44568	BC557B
7231	4822 130 40959	BC547B
7232	4822 130 11421	BT151X-500R

Mains switch panel [E]

Various

3104 301 08291	VCable 2/3P 560mm
3104 304 19810	Lightguide
3104 328 01151	Mains switch panel

	4822 402 11176	Bracket mains unit
	4822 410 12069	Mains konb
	3104 304 19732	Photo diode holder
	3111 104 48012	LED holder
	3111 104 48012	LED holder
	2422 025 16268	2P male h
	2422 025 16374	2P male v
0241	4822 267 10974	9P
0245	4822 267 10963	3P
1050	4822 130 91478	IR receiverTSOP1736KD1
1051	4822 276 14024	Mains switch 2P 4/128A



2051	4822 124 41584	100μF 20% 10V
2070	4822 126 14076	220nF 20% 25V
2071	4822 124 40248	10μF 20% 63V



3050	4822 117 13577	330Ω 1% 1.25W
3051	4822 051 20471	470Ω 5% 0.1W
3054	4822 051 20561	560Ω 5% 0.1W
3055	4822 051 20008	Jumper 0805
3057	4822 053 21335	3M3 5% 0.5W
3058	4822 051 20474	470k 5% 0.1W
3059	4822 117 11507	6k8 1% 0.1W
3061	4822 051 20332	3k3 5% 0.1W
3063	4822 052 10478	4Ω7 5% 0.33W
3064	4822 052 10478	4Ω7 5% 0.33W
3066	4822 053 21335	3M3 5% 0.5W
3070	4822 051 20334	330k 5% 0.1W
3071	4822 051 20334	330k 5% 0.1W
3072	4822 051 10102	1k 2% 0.25W
3073	4822 117 10833	10k 1% 0.1W
3074	4822 051 20472	4k7 5% 0.1W
3075	4822 051 20472	4k7 5% 0.1W
3076	4822 117 11507	6k8 1% 0.1W
3077	4822 117 10833	10k 1% 0.1W
3078	4822 051 10102	1k 2% 0.25W
3079	4822 051 20332	3k3 5% 0.1W
3080	4822 117 10833	10k 1% 0.1W



6051	4822 209 72895	TLUV5320
6052	4822 130 11409	TSIL6403
6053	4822 130 11411	BZX284-C3V3
6070	4822 130 11595	BPW46



7010	4822 130 60511	BC847B
7050	4822 130 41246	BC327-25

Picture Tube Panel [F]

Various

0041	4822 492 70788	Spring fix IC
0042	4822 492 70788	Spring fix IC
0043	4822 492 70788	Spring fix IC
0224	4822 267 10972	5P
0297	4822 255 10415	CRT socket 9P DAF
0298	2422 500 80054	CRT socket 8P N-NECK
0334	4822 267 10973	1P
0340	4822 267 10974	9P
0383	4822 267 10967	3P
1030	3104 328 02321	PTP 28"-29"
1030	3104 328 02341	PTP 32"
8383	4822 320 12525	Caple 3P 340mm



2325	4822 124 40248	10μF 20% 63V
2330	5322 122 32658	22pF 5% 50V
2331	5322 122 33244	8.2pF 5% 50V
2332	5322 126 10223	4.7nF 10% 63V
2333	4822 122 32535	680pF 10% 63V
2336	4822 126 12105	33nF 5% 50V
2337	5322 121 42489	33nF 5% 250V
2340	5322 122 32658	22pF 5% 50V
2341	5322 122 32269	6.8pF 5% 50V
2342	5322 126 10223	4.7nF 10% 63V
2343	4822 122 32535	680pF 10% 63V

2346	4822 126 12105	33nF 5% 50V
2347	5322 121 42489	33nF 5% 250V
2350	5322 122 32658	22pF 5% 50V
2351	5322 122 32269	6.8pF 5% 50V
2352	5322 126 10223	4.7nF 10% 63V
2353	4822 122 32535	680pF 10% 63V
2356	4822 126 12105	33nF 5% 50V
2357	5322 121 42489	33nF 5% 250V
2370	4822 124 11565	10µF 20% 250V
2372	4822 124 40207	100µF 20% 25V
2381	4822 122 31175	1nF 10% 500V
2393	5322 122 31647	1nF 10% 63V
2397	4822 121 70581	1.5nF 10% 2kV
2398	5322 121 44356	4.7nF 10% 2kV
2400	4822 124 40207	100µF 20% 25V
2401	4822 126 13486	15pF 2% 63V
2402	4822 126 13689	18pF 1% 63V
2403	5322 122 32658	22pF 5% 50V
2404	4822 124 40433	47µF 20% 25V
2405	5322 122 32286	3.3pF 5% 50V
2406	5322 121 42386	100nF 5% 63V
2407	5322 122 31863	330pF 5% 63V
2409	4822 121 70619	22nF 10% 50V
2410	5322 122 32654	22nF 10% 63V
2411	4822 124 40764	22µF 100V
2420	4822 121 41856	22nF 5% 250V
2422	4822 126 13486	15pF 2% 63V



3324	4822 117 10833	10k 1% 0.1W
3325	4822 051 20182	1k8 5% 0.1W
3327	4822 117 10837	100k 1% 0.1W
3329	4822 050 21003	10k 1% 0.6W
3330	4822 117 11449	2k2 1% 0.1W
3331	4822 050 21204	120k 1% 0.6W
3332	4822 117 12955	2k7 1% 0.1W
3333	4822 051 20008	Jumper 0805
3334	4822 116 52175	100Ω 5% 0.5W
3335	4822 117 12516	680Ω 2% 0.5W
3336	4822 051 20561	560Ω 5% 0.1W
3339	4822 050 11002	1k 1% 0.4W
3340	4822 117 11449	2k2 1% 0.1W
3341	4822 050 21204	120k 1% 0.6W
3342	4822 117 12955	2k7 1% 0.1W 0805
3343	4822 051 20008	Jumper 0805
3344	4822 116 52175	100Ω 5% 0.5W
3345	4822 117 12516	680Ω 2% 0.5W
3346	4822 051 20561	560Ω 5% 0.1W
3349	4822 050 11002	1k 1% 0.4W
3350	4822 117 11449	2k2 1% 0.1W
3351	4822 050 21204	120k 1% 0.6W
3352	4822 117 12955	2k7 1% 0.1W 0805
3353	4822 051 20008	Jumper 0805
3354	4822 116 52175	100Ω 5% 0.5W
3355	4822 117 12516	680Ω 2% 0.5W
3356	4822 116 52226	560Ω 5% 0.5W
3359	4822 050 11002	1k 1% 0.4W
3360	4822 116 52195	47Ω 5% 0.5W
3363	4822 051 20008	Jumper 0805
3364	4822 051 20008	Jumper 0805
3372▲	4822 052 10688	608 5% 0.33W
3373▲	4822 052 10331	330Ω 5% 0.33W
3382	4822 116 52191	33Ω 5% 0.5W
3383	4822 117 13016	VDR 1mA/50V MAX 115V
3385	4822 117 13016	VDR 1mA/50V MAX 115V
3386	4822 116 52191	33Ω 5% 0.5W
3396	4822 052 11152	1k5 5% 0.5W
3397	4822 052 11152	1k5 5% 0.5W
3400▲	4822 052 10109	10Ω 5% 0.33W
3401	4822 051 20332	3k3 5% 0.1W
3402	4822 117 12955	2k7 1% 0.1W 0805
3403	4822 117 11449	2k2 1% 0.1W
3404	4822 117 11448	180Ω 1% 0.1W
3405	4822 117 10965	18k 1% 0.1W
3406	4822 117 11449	2k2 1% 0.1W
3407	4822 116 52219	330Ω 5% 0.5W
3408	4822 051 20479	47Ω 5% 0.1W
3409	4822 051 20478	40Ω 5% 0.1W
3410	4822 051 10102	1k 2% 0.25W
3411	4822 117 11148	56k 1% 0.1W
3412	4822 117 11148	56k 1% 0.1W
3413	4822 051 10102	1k 2% 0.25W
3414	4822 053 12472	4k7 5% 3W
3415	4822 051 20109	10Ω 5% 0.1W
3416	4822 051 20182	1k8 5% 0.1W
3417	4822 051 20109	10Ω 5% 0.1W
3418	4822 117 13577	330Ω 1% RC12H 0805 1.25W
3419	4822 116 52219	330Ω 5% 0.5W

3421	4822 117 10833	10k 1% 0.1W
3422	4822 116 83883	470Ω 5% 0.5W
3999	4822 117 10361	680Ω 1% 0.1W
4xxx	4822 051 10008	0Ω jumper 1206
4xxx	4822 051 20008	0Ω jumper 0805



5336	4822 157 11139	6.8µH 5%
5346	4822 157 11139	6.8µH 5%
5356	4822 157 11139	6.8µH 5%
5372	4822 157 51216	5.6µH 10%
5373	4822 157 51216	5.6µH 10%
5400	4822 157 51216	5.6µH 10%
5404	4822 157 10586	2.2µH 10%



6324	4822 130 30621	1N4148
6325	5322 130 31504	BZX79-B3V3
6335	4822 130 30842	BAV21
6345	4822 130 30842	BAV21
6355	4822 130 30842	BAV21
6373	4822 130 42488	BYD33
6409	4822 130 30621	1N4148
6410	4822 130 30621	1N4148



7324	4822 130 60373	BC856B
7330	4822 209 33365	TDA6111Q/N4
7340	4822 209 33365	TDA6111Q/N4
7350	4822 209 33365	TDA6111Q/N4
7400	4822 130 44154	BF199
7405	4822 130 42589	BF370
7414	5322 130 41888	BD140-16
7415	5322 130 41886	BD139-16

DC-shift panel [G]

Various

0393	4822 267 10976	5P female h
1500	3104 328 00750	DC-shift panel



2030	4822 122 31177	470pF 10% 500V
2031	4822 124 81029	100µF 20% 25V
2032	4822 124 81029	100µF 20% 25V
2033	4822 122 31177	470pF 10% 500V



3030▲	4822 053 11689	68Ω 5% 2W
3031▲	4822 052 10108	1Ω 5% 0.33W
3032▲	4822 052 10108	1Ω 5% 0.33W



5030	4822 157 70006	DC-shift coil
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6030	4822 130 42488	BYD33
6033	4822 130 42488	BYD33

Clickfit panel [J]

Various

0201	4822 265 11579	Socket clickfit 4P
0301	2422 025 06353	5P male
2704	4822 122 30043	10nF 80% 63V
2705	4822 122 30043	10nF 80% 63V

Small Signal Panel [K1-8]

Various

0002	4822 267 10977	IC socket 42P
0008	5322 255 40958	IC socket 8P
0031	3104 304 19595	SSP frame
0032	3104 304 19644	Module support bracket
0310	4822 267 10964	9P male red
0311	4822 267 10978	7P male black
0315	4822 267 10979	9P male black
0328	4822 267 10981	11P male black
0333	4822 267 10962	11P male v
0340	4822 267 10974	9P male v
0341	4822 267 10974	9P male v
0344	4822 267 10963	3P male
0351	2422 025 15385	11P male v
0352	4822 267 10962	11P male v
0353	2422 025 15384	9P male v
0356	4822 267 10963	3P male
0361	2422 025 15384	9P male v
0362	2422 025 15384	9P male v
0373	4822 267 10978	7P male v
0381	4822 267 10963	3P male
1001	4822 242 10972	Crystal 6MHz
1020	3104 328 00991	SSP MT EU CF LTP FAL
1020	3104 328 02021	SSP MT CF LTP EPG FAL P+
1101	3139 147 14591	Splitter PS1311/I
1102	3139 147 14121	Tuner UV1316/A P-2
1102	4822 210 10841	Tuner UV1316/A I-2
1105	4822 242 10688	Filter OFWK9456M
1107	4822 242 72211	Filter 5.5MHz
1109	4822 242 81436	Filter OFWK3953M
1198	3104 301 08351	Cable phono-phono 120mm
1200	4822 267 11033	Socket cinch 3P
1201	4822 267 10771	Socket 2 x scart black
1202	4822 267 10771	Socket 2 x scart black
1202	4822 267 60385	Socket 1 x scart black
1305	5322 242 73686	Crystal 12MHz
1525	4822 242 10695	Crystal 4.433 619 MHz
1528	4822 242 10697	Crystal 3.579 545 MHz
1751	4822 242 10434	Crystal 18.432MHz
8310	3104 301 08303	Cable 9P 680mm
8330	3104 301 08952	Cable 7P 820mm



2001	4822 126 14585	100nF 10% 50V
2002	4822 126 14305	100nF 10% 16V 0603
2003	4822 126 14305	100nF 10% 16V 0603
2005	4822 126 14305	100nF 10% 16V 0603
2006	4822 126 14305	100nF 10% 16V 0603
2007	4822 126 14305	100nF 10% 16V 0603
2008	4822 126 14305	100nF 10% 16V 0603
2009	4822 126 14305	100nF 10% 16V 0603
2010	4822 126 14305	100nF 10% 16V 0603
2011	4822 126 14305	100nF 10% 16V 0603
2012	4822 126 14305	100nF 10% 16V 0603
2013	4822 126 14076	220nF 80-20% 25V
2014	4822 126 11669	27pF
2015	4822 126 14585	100nF 10% 50V
2016	5322 122 32659	33pF 5% 50V
2018	4822 124 40248	10µF 20% 63V
2019	4822 126 14305	100nF 10% 16V 0603
2020	5322 122 32658	22pF 5% 50V
2021	4822 126 14585	100nF 10% 50V
2022	4822 126 14076	220nF 80-20% 25V
2023	4822 126 14305	100nF 10% 16V 0603
2024	5322 126 11578	1nF 10% 50V 0603
2025	4822 126 14305	100nF 10% 16V 0603
2026	4822 126 14305	100nF 10% 16V 0603
2027	4822 126 14305	100nF 10% 16V 0603
2028	4822 126 14305	100nF 10% 16V 0603
2029	4822 124 40433	47µF 20% 25V
2030	4822 124 40433	47µF 20% 25V
2031	4822 126 14305	100nF 10% 16V 0603
2032	4822 126 14305	100nF 10% 16V 0603
2035	4822 126 14585	100nF 10% 50V
2037	4822 126 14585	100nF 10% 50V
2038	4822 126 14585	100nF 10% 50V
2039	4822 126 13883	220pF 5% 50V
2040	4822 122 33177	10nF 20% 50V
2042	4822 122 33777	47pF 5% 63V
2043	4822 122 33777	47pF 5% 63V
2044	4822 122 33777	47pF 5% 63V
2045	4822 124 41584	100µF 20% 10V

2046	4822 126 14585	100nF 10% 50V	2415	3198 021 90030	0Ω jumper 0603	2786	5322 122 31647	1nF 10% 63V
2049	4822 126 14226	82pF 5% 50V 0603	2416	3198 021 90030	0Ω jumper 0603	2790	4822 122 33761	22pF 5% 50V
2050	4822 126 14226	82pF 5% 50V 0603	2417	4822 126 14305	100nF 10% 16V 0603	2791	4822 122 33761	22pF 5% 50V
2051	4822 126 14226	82pF 5% 50V 0603	2418	4822 124 40769	4.7μF 20% 100V	2792	5322 126 11583	10nF 10% 50V 0603
2052	4822 126 14226	82pF 5% 50V 0603	2419	5322 122 32654	22nF 10% 63V	2793	4822 122 33177	10nF 20% 50V
2053	4822 126 14226	82pF 5% 50V 0603	2422	4822 124 22652	2.2μF 20% 50V	2797	4822 122 33177	10nF 20% 50V
2054	4822 126 14226	82pF 5% 50V 0603	2423	4822 124 21913	1μF 20% 63V	2798	4822 122 33177	10nF 20% 50V
2101	4822 124 40196	220μF 20% 16V	2425	4822 122 33761	22pF 5% 50V	2799	5322 122 32658	22pF 5% 50V
2102	4822 126 13473	220nF 80-20% 50V	2428	4822 126 13956	68pF 5% 63V 0603	2800	5322 122 32658	22pF 5% 50V
2104	4822 122 33177	10nF 20% 50V	2429	4822 126 13956	68pF 5% 63V 0603	2801	4822 122 33761	22pF 5% 50V
2105	4822 122 33177	10nF 20% 50V	2430	5322 122 32269	6.8pF 5% 50V	2802	4822 122 32927	220nF 20% 50V
2106	4822 122 33575	220pF 5% 63V CASE	2436	4822 124 41842	47μF	2803	4822 122 32927	220nF 20% 50V
2107	4822 126 13694	68pF 1% 63V	2501	4822 126 14305	100nF 10% 16V 0603	2804	4822 122 32927	220nF 20% 50V
2108	5322 122 31873	2.7pF 5% 100V	2502	4822 126 14305	100nF 10% 16V 0603	2805	4822 122 32927	220nF 20% 50V
2109	4822 124 22652	2.2μF 20% 50V	2503	4822 126 14305	100nF 10% 16V 0603	2806	4822 122 32927	220nF 20% 50V
2110	4822 124 21913	1μF 20% 63V	2504	4822 126 14305	100nF 10% 16V 0603	2807	4822 122 32927	220nF 20% 50V
2111	4822 126 14585	100nF 10% 50V	2505	4822 126 14305	100nF 10% 16V 0603	2808	4822 124 12095	100μF 20% 16V
2112	4822 122 33891	3.3nF 10% 63V	2506	4822 126 14305	100nF 10% 16V 0603	2809	5322 126 10511	1nF 5% 50V
2116	4822 124 41584	100μF 20% 10V	2507	4822 126 14305	100nF 10% 16V 0603	2810	4822 122 33127	2.2nF 10% 63V
2117	4822 126 13482	470nF 80/20% 16V	2508	4822 126 14305	100nF 10% 16V 0603	2811	5322 126 10511	1nF 5% 50V
2118	5322 122 33244	8.2pF 5% 50V	2509	4822 126 14305	100nF 10% 16V 0603	2813	5322 126 11583	10nF 10% 50V 0603
2119	5322 122 31863	330pF 5% 63V	2510	4822 126 14305	100nF 10% 16V 0603	2814	5322 126 11583	10nF 10% 50V 0603
2120	4822 126 14076	220nF 80-20% 25V	2511	4822 126 14305	100nF 10% 16V 0603	2815	5322 126 11583	10nF 10% 50V 0603
2121	4822 124 41584	100μF 20% 10V	2512	4822 126 14305	100nF 10% 16V 0603	2816	4822 124 12095	100μF 20% 16V
2125	4822 122 33177	10nF 20% 50V	2520	4822 126 14305	100nF 10% 16V 0603	2817	5322 126 11583	10nF 10% 50V 0603
2126	4822 124 40433	47μF 20% 25V	2521	4822 126 14305	100nF 10% 16V 0603	2818	4822 124 12095	100μF 20% 16V
2127	4822 126 14076	220nF 80-20% 25V	2522	5322 122 11579	3.3nF 10% 63V	2819	4822 124 12095	100μF 20% 16V
2202	5322 122 31863	330pF 5% 63V	2525	4822 126 14507	18pF 5% 50V 0603	2820	5322 126 11578	1nF 10% 50V 0603
2203	5322 122 31863	330pF 5% 63V	2528	4822 122 33752	15pF 5% 50V	2821	4822 122 33177	10nF 20% 50V
2204	4822 126 14305	100nF 10% 16V 0603	2532	4822 126 14043	1μF 20% 16V CASE	2822	5322 126 11578	1nF 10% 50V 0603
2205	4822 124 40248	10μF 20% 63V	2534	5322 126 10223	4.7nF 10% 63V	2824	4822 124 12095	100μF 20% 16V
2206	5322 122 32531	100pF 5% 50V	2535	4822 126 14491	2.2μF 10V	2825	4822 122 33177	10nF 20% 50V
2209	5322 122 31863	330pF 5% 63V	2536	4822 126 14585	100nF 10% 50V	2826	4822 122 33761	22pF 5% 50V
2210	5322 122 32531	100pF 5% 50V	2537	4822 126 14585	100nF 10% 50V	2827	5322 126 11578	1nF 10% 50V 0603
2212	4822 124 40248	10μF 20% 63V	2538	4822 124 40433	47μF 20% 25V	2828	4822 122 33177	10nF 20% 50V
2213	4822 126 14305	100nF 10% 16V 0603	2539	4822 126 14305	100nF 10% 16V 0603	2829	5322 126 11578	1nF 10% 50V 0603
2215	5322 122 31863	330pF 5% 63V	2540	4822 124 40433	47μF 20% 25V	2830	4822 122 33177	10nF 20% 50V
2216	5322 122 31863	330pF 5% 63V	2541	5322 122 32654	22nF 10% 63V	2831	4822 124 12095	100μF 20% 16V
2217	5322 122 32531	100pF 5% 50V	2545	4822 126 14305	100nF 10% 16V 0603	2832	4822 126 14494	22nF 10% 25V 0603
2219	5322 122 31863	330pF 5% 63V	2550	4822 126 14305	100nF 10% 16V 0603	2833	4822 126 14494	22nF 10% 25V 0603
2220	5322 122 32531	100pF 5% 50V	2551	5322 122 32448	10pF 5% 63V	2836	4822 126 13692	47pF 1% 63V
2221	4822 126 14076	220nF 80-20% 25V	2552	5322 122 32269	6.8pF 5% 50V	2837	5322 126 11583	10nF 10% 50V 0603
2222	4822 124 81286	47μF 20% 16V	2553	4822 126 13838	100nF 50V 20%	2838	4822 122 33761	22pF 5% 50V
2224	5322 122 32531	100pF 5% 50V	2554	4822 126 13838	100nF 50V 20%	2839	5322 126 11583	10nF 10% 50V 0603
2226	5322 122 32531	100pF 5% 50V	2555	4822 126 14305	100nF 10% 16V 0603	2840	5322 126 11583	10nF 10% 50V 0603
2228	5322 122 31863	330pF 5% 63V	2556	4822 126 14305	100nF 10% 16V 0603	2841	4822 126 13482	470nF 80/20% 16V
2229	5322 122 31863	330pF 5% 63V	2557	4822 126 14305	100nF 10% 16V 0603	2842	5322 124 41979	10μF 10% 16V
2235	4822 122 33891	3.3nF 10% 63V	2558	4822 126 14305	100nF 10% 16V 0603	2843	4822 126 14491	2.2μF 10V
2240	5322 122 32531	100pF 5% 50V	2559	4822 124 40207	100μF 20% 25V	2844	4822 126 14043	1μF 20% 16V
2241	5322 122 32531	100pF 5% 50V	2560	4822 126 14305	100nF 10% 16V 0603	2845	4822 126 14043	1μF 20% 16V
2242	5322 124 41979	10μF 10% 16V	2561	4822 124 81286	47μF 20% 16V	2846	5322 124 41979	10μF 10% 16V
2243	4822 126 14076	220nF 80-20% 25V	2562	4822 126 14305	100nF 10% 16V 0603	2847	5322 124 41979	10μF 10% 16V
2244	4822 126 14076	220nF 80-20% 25V	2563	4822 124 81286	47μF 20% 16V	2848	5322 124 41979	10μF 10% 16V
2245	4822 126 14076	220nF 80-20% 25V	2567	5322 126 10184	820P 5% 50V	2849	5322 124 41979	10μF 10% 16V
2246	4822 126 14076	220nF 80-20% 25V	2568	4822 122 31765	100pF 2% 63V	2852	4822 122 32927	220nF 20% 50V
2247	4822 126 14076	220nF 80-20% 25V	2569	4822 122 33177	10nF 20% 50V	2853	4822 122 32927	220nF 20% 50V
2248	4822 126 14076	220nF 80-20% 25V	2751	4822 122 33761	22pF 5% 50V	2854	4822 122 32927	220nF 20% 50V
2249	4822 126 14076	220nF 80-20% 25V	2752	4822 126 13692	47pF 1% 63V	2855	4822 122 32927	220nF 20% 50V
2250	4822 126 14076	220nF 80-20% 25V	2753	4822 122 32927	220nF 20% 50V	2856	4822 122 32927	220nF 20% 50V
2251	4822 124 41842	47μF	2754	5322 122 32268	470pF 10% 50V	2857	4822 122 32927	220nF 20% 50V
2258	4822 126 14076	220nF 80-20% 25V	2755	5322 122 32268	470pF 10% 50V	2858	4822 122 32927	220nF 20% 50V
2260	5322 122 31647	1nF 10% 63V	2756	5322 122 32268	470pF 10% 50V	2859	4822 122 32927	220nF 20% 50V
2300	4822 124 40196	220μF 20% 16V	2757	5322 122 32268	470pF 10% 50V	2860	4822 122 32927	220nF 20% 50V
2301	4822 126 13838	100nF 50V 20%	2758	5322 122 32268	470pF 10% 50V	2861	4822 122 32927	220nF 20% 50V
2302	4822 126 13838	100nF 50V 20%	2759	5322 122 32268	470pF 10% 50V	2864	4822 124 81151	22μF 50V
2303	4822 124 22652	2.2μF 20% 50V	2760	5322 122 32268	470pF 10% 50V	2870	4822 122 32927	220nF 20% 50V
2304	4822 126 14305	100nF 10% 16V 0603	2761	4822 122 32927	220nF 20% 50V	2871	4822 122 32927	220nF 20% 50V
2307	4822 122 33741	10pF 10% 50V	2762	4822 122 32927	220nF 20% 50V	2872	4822 124 40207	100μF 20% 25V
2308	4822 122 33741	10pF 10% 50V	2763	5322 122 32268	470pF 10% 50V	2873	5322 126 10511	1nF 5% 50V
2311	4822 124 40196	220μF 20% 16V	2764	5322 122 32268	470pF 10% 50V	2887	4822 122 32927	220nF 20% 50V
2312	4822 126 14305	100nF 10% 16V 0603	2765	4822 124 12095	100μF 20% 16V	2888	4822 122 32927	220nF 20% 50V
2313	4822 126 13694	68pF 1% 63V	2766	4822 124 12095	100μF 20% 16V	2890	4822 126 14076	220nF 80-20% 25V
2315	5322 122 34098	10nF 10% 63V	2767	5322 122 32286	3.3pF 5% 50V	2891	4822 126 13838	100nF 50V 20%
2321	4822 126 13881	470pF 5% 50V	2768	5322 122 32286	3.3pF 5% 50V	2892	4822 126 13482	470nF 80/20% 16V
2322	4822 126 13881	470pF 5% 50V	2769	4822 126 13482	470nF 80/20% 16V	2895	4822 122 33177	10nF 20% 50V
2323	5322 121 42386	100nF 5% 63V	2770	5322 126 11583	10nF 10% 50V 0603			
2331	5322 126 11583	10nF 10% 50V 0603	2771	4822 122 33177	10nF 20% 50V			
2340	4822 126 13881	470pF 5% 50V	2772	4822 122 33761	22pF 5% 50V			
2343	5322 122 32448	10pF 5% 63V	2773	5322 122 31647	1nF 10% 63V			
2344	4822 126 14305	100nF 10% 16V 0603	2774	5322 122 31647	1nF 10% 63V			
2351	4822 126 13849	220nF 10% 16V	2775	4822 126 13482	470nF 80/20% 16V			
2403	4822 126 13838	100nF 50V 20%	2776	4822 122 33761	22pF 5% 50V			
2404	4822 126 13838	100nF 50V 20%	2777	5322 124 41979	10μF 10% 16V			
2405	4822 126 13838	100nF 50V 20%	2778	5322 124 41979	10μF 10% 16V			
2406	4822 126 14305	100nF 10% 16V 0603	2779	4822 126 13838	100nF 50V 20%			
2407	4822 126 14305	100nF 10% 16V 0603	2780	5322 124 41979	10μF 10% 16V			
2408	4822 126 14305	100nF 10% 16V 0603	2781	4822 126 13838	100nF 50V 20%			
2410	4822 126 14305	100nF 10% 16V 0603	2782	5322 124 41979	10μF 10% 16V			
2411	4822 126 14305	100nF 10% 16V 0603	2783	4822 126 13482	470nF 80/20% 16V			</

3016	4822 051 30102	1k 5% 0.062W	3228	4822 051 30101	100Ω 5% 0.062W	3344	4822 051 30103	10k 5% 0.062W
3017	4822 051 30102	1k 5% 0.062W	3229	4822 051 30103	10k 5% 0.062W	3350	4822 051 30474	470k 5% 0.062W
3018	4822 051 30221	220Ω 5% 0.062W	3230	4822 051 20561	560Ω 5% 0.1W	3351	4822 117 12891	220k 1%
3019	4822 051 30681	680Ω 5% 0.062W	3231	4822 051 20399	39Ω 5% 0.1W	3352	4822 051 30332	3k3 5% 0.062W
3020	4822 051 30221	220Ω 5% 0.062W	3232	4822 117 12521	68Ω 1% 0.1W	3353	4822 117 12903	1k8 1% 0.063W 0603
3021	4822 051 30221	220Ω 5% 0.062W	3233	4822 117 10353	150Ω 1% 0.1W	3369	4822 051 30103	10k 5% 0.062W
3022	4822 051 10102	1k 2% 0.25W	3235	4822 117 10353	150Ω 1% 0.1W	3370	4822 051 30103	10k 5% 0.062W
3023	4822 117 13521	470Ω 5% RESN 0.63W	3236	4822 117 11927	75Ω 1% 0.1W	3400	4822 117 11454	820Ω 1% 0.1W
3024	4822 051 30471	470Ω 5% 0.062W	3237	4822 051 20399	39Ω 5% 0.1W	3401	4822 117 11454	820Ω 1% 0.1W
3027	4822 117 13521	470Ω 5% RESN 0.63W	3238	4822 051 30759	75Ω 5% 0.062W	3402	4822 117 11454	820Ω 1% 0.1W
3028	4822 117 13521	470Ω 5% RESN 0.63W	3240	4822 117 11927	75Ω 1% 0.1W	3404	4822 051 20479	47Ω 5% 0.1W
3029	4822 051 30471	470Ω 5% 0.062W	3241	4822 117 10353	150Ω 1% 0.1W	3405	4822 051 20479	47Ω 5% 0.1W
3030	4822 117 13522	100Ω 5% RESN 0.63W	3242	4822 051 20822	8k2 5% 0.1W	3406	4822 051 20479	47Ω 5% 0.1W
3031	4822 117 13577	330Ω 1% 1.25W	3243	4822 117 10353	150Ω 1% 0.1W	3407	4822 117 10361	680Ω 1% 0.1W
3032	4822 051 30471	470Ω 5% 0.062W	3244	4822 051 10102	1k 2% 0.25W	3408	4822 117 10361	680Ω 1% 0.1W
3033	4822 117 13523	220Ω 5% RESN 0.63W	3245	4822 051 20392	3k9 5% 0.1W	3409	4822 117 10361	680Ω 1% 0.1W
3034	4822 051 30103	10k 5% 0.062W	3246	4822 051 10102	1k 2% 0.25W	3420	4822 117 12925	47k 1% 0.063W 0603
3035	4822 051 30103	10k 5% 0.062W	3248	4822 117 13577	330Ω 1% 1.25W	3422	4822 117 11449	2k2 1% 0.1W
3036	4822 117 13524	2.2k 5% RESN 0.63W	3249	4822 117 12955	2k7 1% 0.1W 0805	3423	4822 117 11449	2k2 1% 0.1W
3039	4822 051 30333	33k 5% 0.062W	3250	4822 117 11139	1k5 1% 0.1W	3425	4822 051 30155	1M5 5% 0.062W
3041	4822 117 10833	10k 1% 0.1W	3252	4822 051 20339	33Ω 5% 0.1W	3426	4822 051 30333	33k 5% 0.062W
3042	4822 051 20474	470k 5% 0.1W	3253	4822 051 20391	390Ω 5% 0.1W	3427	4822 051 30154	150k 5% 0.062W
3043	4822 051 30472	4k7 5% 0.062W	3254	4822 051 10102	1k 2% 0.25W	3428	4822 051 30222	2k2 5% 0.062W
3047	4822 117 13525	24k 1% 0.62W 0603	3255	4822 051 10102	1k 2% 0.25W	3429	4822 117 12968	820Ω 5% 0.62W
3048	4822 117 13526	150Ω 5% RESN 0.63W	3256	4822 117 11927	75Ω 1% 0.1W	3430	4822 051 30181	180Ω 5% 0.062W
3059	4822 051 30681	680Ω 5% 0.062W	3257	4822 117 10353	150Ω 1% 0.1W	3431	4822 051 30682	6k8 5% 0.062W
3062	4822 117 12925	47k 1% 0.063W 0603	3258	4822 117 10353	150Ω 1% 0.1W	3432	4822 051 30101	100Ω 5% 0.062W
3063	4822 051 30472	4k7 5% 0.062W	3259	4822 051 30273	27k 5% 0.062W	3433	4822 051 30101	100Ω 5% 0.062W
3066	4822 117 10833	10k 1% 0.1W	3262	4822 117 12925	47k 1% 0.063W 0603	3434▲	4822 052 10478	4Ω7 5% 0.33W
3067	4822 051 30472	4k7 5% 0.062W	3263	4822 051 30221	220Ω 5% 0.062W	3436	4822 051 20008	0Ω jumper 0805
3068	4822 051 30103	10k 5% 0.062W	3264	4822 051 20822	8k2 5% 0.1W	3438	4822 117 10834	47k 1% 0.1W
3069	4822 051 30689	68Ω 5% 0.063W 0603	3265	4822 117 12955	2k7 1% 0.1W 0805	3439	4822 117 10833	10k 1% 0.1W
3070	4822 051 30103	10k 5% 0.062W	3266	4822 117 10833	10k 1% 0.1W	3440	4822 051 20333	33k 5% 0.1W
3071	4822 051 30472	4k7 5% 0.062W	3269	4822 051 30561	560Ω 5% 0.062W	3441	4822 051 20223	22k 5% 0.1W
3072	4822 117 10834	47k 1% 0.1W	3270	4822 051 10102	1k 2% 0.25W	3442	4822 051 20333	33k 5% 0.1W
3073	4822 051 20472	4k7 5% 0.1W	3271	4822 051 10102	1k 2% 0.25W	3443	4822 051 20683	68k 5% 0.1W
3075	4822 051 30472	4k7 5% 0.062W	3272	4822 117 10353	150Ω 1% 0.1W	3521	4822 117 13632	100k 1% 0603 0.62W
3076	4822 051 30472	4k7 5% 0.062W	3273	4822 051 20822	8k2 5% 0.1W	3530	4822 051 30101	100Ω 5% 0.062W
3080	4822 117 13522	100Ω 5% RESN 0.63W	3274	4822 117 12955	2k7 1% 0.1W 0805	3531	4822 051 30101	100Ω 5% 0.062W
3081	4822 051 30101	100Ω 5% 0.062W	3275	4822 051 30339	33Ω 5% 0.062W	3532	4822 116 83933	15k 1% 0.1W
3102	4822 117 10833	10k 1% 0.1W	3276	4822 051 30391	390Ω 5% 0.062W	3538▲	4822 052 10478	4Ω7 5% 0.33W
3103	4822 051 20101	100Ω 5% 0.1W	3277	4822 051 30222	2k2 5% 0.062W	3545	4822 051 30471	470Ω 5% 0.062W
3104	4822 051 20101	100Ω 5% 0.1W	3278	4822 051 30331	330Ω 5% 0.062W	3546	4822 051 30471	470Ω 5% 0.062W
3106	4822 051 20479	47Ω 5% 0.1W	3279	4822 051 30151	150Ω 5% 0.062W	3551	4822 051 30271	270Ω 5% 0.062W
3110	4822 117 11449	2k2 1% 0.1W	3280	4822 117 10353	150Ω 1% 0.1W	3553	4822 117 10353	150Ω 1% 0.1W
3111	4822 117 11449	2k2 1% 0.1W	3281	4822 117 12903	1k8 1% 0.063W 0603	3554	4822 051 10102	1k 2% 0.25W
3112	4822 051 20472	4k7 5% 0.1W	3282	4822 117 13632	100k 1% 0603 0.62W	3556	4822 117 10833	10k 1% 0.1W
3114	4822 051 20472	4k7 5% 0.1W	3283	4822 051 30683	68k 5% 0.062W	3557	4822 051 30479	47Ω 5% 0.062W
3118	4822 051 20391	390Ω 5% 0.1W	3284	4822 117 13632	100k 1% 0603 0.62W	3565	3198 021 90030	0Ω jumper 0603
3119	4822 051 20479	47Ω 5% 0.1W	3285	4822 051 30683	68k 5% 0.062W	3566	3198 021 90030	0Ω jumper 0603
3124	4822 051 30101	100Ω 5% 0.062W	3286	4822 117 13632	100k 1% 0603 0.62W	3567	4822 051 20101	100Ω 5% 0.1W
3133	4822 117 12955	2k7 1% 0.1W 0805	3287	4822 051 30683	68k 5% 0.062W	3568	4822 051 20471	470Ω 5% 0.1W
3135	4822 051 20472	4k7 5% 0.1W	3288	4822 051 30101	100Ω 5% 0.062W	3569	4822 051 30479	47Ω 5% 0.062W
3136	4822 117 11503	220Ω 1% 0.1W	3289	4822 051 30101	100Ω 5% 0.062W	3570	4822 117 13522	100Ω 5% RESN 0.63W
3137	4822 051 10102	1k 2% 0.25W	3290▲	4822 052 10688	6Ω8 5% 0.33W	3583	4822 051 30101	100Ω 5% 0.062W
3138	4822 117 11504	270Ω 1% 0.1W	3291	4822 051 30561	560Ω 5% 0.062W	3584	4822 051 30471	470Ω 5% 0.062W
3139	4822 117 11139	1k5 1% 0.1W	3292	4822 051 30103	10k 5% 0.062W	3585	4822 051 30479	47Ω 5% 0.062W
3140	4822 116 83933	15k 1% 0.1W	3293	4822 051 30471	470Ω 5% 0.062W	3750▲	4822 052 10228	2Ω2 5% 0.33W
3141	4822 051 30333	33k 5% 0.062W	3294	4822 051 30103	10k 5% 0.062W	3751	4822 051 30223	22k 5% 0.062W
3142	4822 051 30102	1k 5% 0.062W	3295	4822 051 30471	470Ω 5% 0.062W	3752	4822 051 30223	22k 5% 0.062W
3143	4822 051 30102	1k 5% 0.062W	3296	4822 051 30103	10k 5% 0.062W	3753	4822 051 30562	5k6 5% 0.063W 0603
3145	4822 051 30101	100Ω 5% 0.062W	3297	4822 051 30103	10k 5% 0.062W	3753	4822 051 30682	6k8 5% 0.062W
3146	4822 051 20223	22k 5% 0.1W	3298	4822 117 13632	100k 1% 0603 0.62W	3754	4822 051 30562	5k6 5% 0.063W 0603
3147▲	4822 052 10109	10Ω 5% 0.33W	3299	4822 051 30683	68k 5% 0.062W	3754	4822 051 30682	6k8 5% 0.062W
3150▲	4822 052 10189	18Ω 5% 0.33W	3300▲	4822 052 10688	6Ω8 5% 0.33W	3755	4822 051 30101	100Ω 5% 0.062W
3151▲	4822 052 10159	15Ω 5% 0.33W	3302	4822 051 30101	100Ω 5% 0.062W	3756	4822 051 30101	100Ω 5% 0.062W
3200	4822 117 10353	150Ω 1% 0.1W	3303	4822 051 30101	100Ω 5% 0.062W	3758	4822 117 12925	47k 1% 0.063W 0603
3201	4822 117 10353	150Ω 1% 0.1W	3304	4822 051 30101	100Ω 5% 0.062W	3760	4822 117 12925	47k 1% 0.063W 0603
3202	4822 117 10353	150Ω 1% 0.1W	3307	4822 051 30102	1k 5% 0.062W	3761	4822 051 30682	6k8 5% 0.062W
3203	4822 117 10353	150Ω 1% 0.1W	3308	4822 051 30102	1k 5% 0.062W	3762	4822 051 20472	4k7 5% 0.1W
3204▲	4822 052 10688	6Ω8 5% 0.33W	3309	4822 051 30333	33k 5% 0.062W	3765	4822 051 30683	68k 5% 0.062W
3205	4822 051 20471	470Ω 5% 0.1W	3310	4822 051 20332	3k3 5% 0.1W	3766	4822 051 30103	10k 5% 0.062W
3206	4822 117 12521	68Ω 1% 0.1W	3311	4822 051 30102	1k 5% 0.062W	3767	4822 051 30683	68k 5% 0.062W
3207	4822 051 20561	560Ω 5% 0.1W	3312	4822 117 13632	100k 1% 0603 0.62W	3768	4822 051 30103	10k 5% 0.062W
3208	4822 051 20399	39Ω 5% 0.1W	3315	4822 051 20182	1k8 5% 0.1W	3769	4822 117 11507	6k8 1% 0.1W
3209	4822 117 11927	75Ω 1% 0.1W	3316	4822 051 10102	1k 2% 0.25W	3770	4822 117 11507	6k8 1% 0.1W
3210	4822 117 11927	75Ω 1% 0.1W	3317	4822 051 30102	1k 5% 0.062W	3771	4822 116 83933	15k 1% 0.1W
3211	4822 117 11927	75Ω 1% 0.1W	3318	4822 051 30102	1k 5% 0.062W	3772	4822 116 83933	15k 1% 0.1W
3212	4822 051 20399	39Ω 5% 0.1W	3320	4822 051 30102	1k 5% 0.062W	3773	4822 051 20472	4k7 5% 0.1W
3213	4822 117 11927	75Ω 1% 0.1W	3321	4822 051 30102	1k 5% 0.062W	3776	4822 051 20333	33k 5% 0.1W
3215	4822 117 11927	75Ω 1% 0.1W	3322	4822 051 30102	1k 5% 0.062W	3777	4822 117 11148	56k 1% 0.1W
3216	4822 051 20822	8k2 5% 0.1W	3323	4822 051 20393	39k 5% 0.1W	3778	4822 051 20333	33k 5% 0.1W
3218	4822 051 20392	3k9 5% 0.1W	3325	4822 051 30102	1k 5% 0.062W	3779	4822 117 11148	56k 1% 0.1W
3219	4822 051 10102	1k 2% 0.25W	3326	4822 051 30221	220Ω 5% 0.062W	3780	4822 051 30682	6k8 5% 0.062W
3220	4822 051 10102	1k 2% 0.25W	3330	4822 051 30684	680k 5% 0.062W	3781	4822 051 30561	560Ω 5% 0.062W
3221	4822 117 10353	150Ω 1% 0.1W	3331	4822 117 12925	47k 1% 0.063W 0603	3782	4822 051 30101	100Ω 5% 0.062W
3222	4822 117 10353	150Ω 1% 0.1W	3332	482				

3786	4822 051 30223	22k 5% 0.062W
3787	4822 051 30223	22k 5% 0.062W
3788	4822 051 30682	6k8 5% 0.062W
3789	4822 051 30682	6k8 5% 0.062W
3790	4822 051 30223	22k 5% 0.062W
3791	4822 051 30223	22k 5% 0.062W
3792	4822 051 30682	6k8 5% 0.062W
3793	4822 051 30682	6k8 5% 0.062W
3794	4822 051 30223	22k 5% 0.062W
3795	4822 051 30223	22k 5% 0.062W
3796	4822 051 20121	120Ω 5% 0.1W
3797	4822 051 20121	120Ω 5% 0.1W
3798	4822 117 10834	47k 1% 0.1W
3799	4822 117 12925	47k 1% 0.063W 0603
3811	4822 051 30101	100Ω 5% 0.062W
3812	4822 051 30101	100Ω 5% 0.062W
3813	4822 051 30101	100Ω 5% 0.062W
3814	4822 051 30101	100Ω 5% 0.062W
3817	4822 117 10837	100k 1% 0.1W
3818	4822 051 30101	100Ω 5% 0.062W
3819	4822 051 30101	100Ω 5% 0.062W
3820	4822 051 30101	100Ω 5% 0.062W
3821	4822 051 30332	3k3 5% 0.062W
3822	4822 051 30332	3k3 5% 0.062W
3823	4822 051 20472	4k7 5% 0.1W
3824	4822 051 20101	100Ω 5% 0.1W
3825	4822 051 30563	56k 5% 0.062W
3826	4822 117 10353	150Ω 1% 0.1W
3827	4822 051 30101	100Ω 5% 0.062W
3828	4822 117 12925	47k 1% 0.063W 0603
3829	4822 117 12925	47k 1% 0.063W 0603
3830	4822 051 20121	120Ω 5% 0.1W
3831	4822 051 20121	120Ω 5% 0.1W
3832	4822 051 10102	1k 2% 0.25W
3833	4822 051 30103	10k 5% 0.062W
3837	4822 051 30563	56k 5% 0.062W
3838	4822 051 30101	100Ω 5% 0.062W
3839	4822 051 30101	100Ω 5% 0.062W
3840	4822 051 30103	10k 5% 0.062W
3841	4822 051 30101	100Ω 5% 0.062W
3842	4822 117 12925	47k 1% 0.063W 0603
3844	4822 117 12925	47k 1% 0.063W 0603
3845	4822 117 12925	47k 1% 0.063W 0603
3846	4822 117 12925	47k 1% 0.063W 0603
3847	4822 117 12925	47k 1% 0.063W 0603
3848	4822 051 30101	100Ω 5% 0.062W
3849	4822 051 30101	100Ω 5% 0.062W
3850	4822 051 20332	3k3 5% 0.1W
3851	4822 051 20332	3k3 5% 0.1W
3852	4822 051 30223	22k 5% 0.062W
3853	4822 051 30223	22k 5% 0.062W
3854	4822 117 10833	10k 1% 0.1W
3855	4822 117 10833	10k 1% 0.1W
3856	4822 117 10833	10k 1% 0.1W
3857	4822 117 10833	10k 1% 0.1W
3858	4822 117 10833	10k 1% 0.1W
3859	4822 117 10833	10k 1% 0.1W
3860	4822 117 10833	10k 1% 0.1W
3861	4822 117 10833	10k 1% 0.1W
3862	4822 117 11507	6k8 1% 0.1W
3864	4822 051 20223	22k 5% 0.1W
3866	4822 051 20101	100Ω 5% 0.1W
3867	4822 051 20101	100Ω 5% 0.1W
3877	4822 051 20332	3k3 5% 0.1W
3878	4822 051 20332	3k3 5% 0.1W
3879	4822 051 20332	3k3 5% 0.1W
3880	4822 051 20332	3k3 5% 0.1W
3881	4822 051 20332	3k3 5% 0.1W
3882	4822 051 20332	3k3 5% 0.1W
3883	4822 051 20822	8k2 5% 0.1W
3884	4822 117 11507	6k8 1% 0.1W
3885	4822 117 11148	56k 1% 0.1W
3886	4822 051 20393	39k 5% 0.1W
3887	4822 051 20101	100Ω 5% 0.1W
3888	4822 051 20562	5k6 5% 0.1W 0805
3890	4822 051 30272	2k7 5% 0.062W
3890	3198 021 90030	0Ω jumper 0603
3891	4822 051 30102	1k 5% 0.062W
3892	4822 117 12955	2k7 1% 0.1W 0805
3893	4822 051 10102	1k 2% 0.25W
3894	4822 117 10834	47k 1% 0.1W
3895	4822 051 30103	10k 5% 0.062W
3897	4822 051 30472	4k7 5% 0.062W
3898	4822 051 30101	100Ω 5% 0.062W
4xxx	4822 051 10008	0Ω jumper 1206
4xxx	4822 051 20008	0Ω jumper 0805
4xxx	3198 021 90030	0Ω jumper 0603

5001	4822 157 11828	22U 20% 0805
5002	4822 157 11775	6.8μH 5%
5101	4822 157 11775	6.8μH 5%
5102	4822 157 71303	0.39μH 10%
5103	4822 157 11776	Coil var. 40.4MHz
5106	4822 157 10977	4.7μH 10%
5108	4822 157 11534	Coil var. 78MHz
5301	4822 157 11876	6.8μH 10% 0805
5302	4822 157 11876	6.8μH 10% 0805
5305	4822 157 11778	5.6μH 10% 0805
5306	4822 157 11778	5.6μH 10% 0805
5307	4822 157 11778	5.6μH 10% 0805
5501	4822 157 11775	6.8μH 5%
5502	4822 157 11775	6.8μH 5%
5540	4822 157 71304	1μH 10%
5553	4822 157 11855	68μH 10% 0805
5559	4822 157 11775	6.8μH 5%
5560	4822 157 11775	6.8μH 5%
5562	4822 157 11775	6.8μH 5%
5751	4822 157 11775	6.8μH 5%
5752	4822 157 11775	6.8μH 5%
5753	4822 157 11775	6.8μH 5%
5754	4822 157 11876	6.8μH 10% 0805
5755	4822 157 11876	6.8μH 10% 0805
5756	4822 157 11775	6.8μH 5%
5757	4822 157 11876	6.8μH 10% 0805

6001	4822 130 11422	PLVA2650A
6002	4822 130 11422	PLVA2650A
6003	4822 130 11422	PLVA2650A
6004	4822 130 11422	PLVA2650A
6006	4822 130 11422	PLVA2650A
6008	4822 130 11422	PLVA2650A
6009	4822 130 11422	PLVA2650A
6012	4822 130 11422	PLVA2650A
6013	4822 130 11422	PLVA2650A
6017	4822 130 11422	PLVA2650A
6019	4822 130 11422	PLVA2650A
6021	4822 130 11422	PLVA2650A
6023	4822 130 11422	PLVA2650A
6025	4822 130 11423	PLVA2656A
6026	4822 130 11423	PLVA2656A
6037	4822 130 11366	BZX284-C3V9
6101	4822 130 11027	BZX284-C33
6103	4822 130 10414	BA792
6104	4822 130 10414	BA792
6106	4822 130 83757	BAS216
6107	4822 130 83757	BAS216
6200	4822 130 11413	PDZ10B
6201	4822 130 11416	PDZ6.8B
6202	4822 130 11413	PDZ10B
6203	4822 130 11413	PDZ10B
6204	4822 130 11416	PDZ6.8B
6205	4822 130 11413	PDZ10B
6206	4822 130 11413	PDZ10B
6207	4822 130 11416	PDZ6.8B
6208	4822 130 11413	PDZ10B
6209	4822 130 11413	PDZ10B
6210	4822 130 11416	PDZ6.8B
6211	4822 130 11416	PDZ6.8B
6212	4822 130 11416	PDZ6.8B
6213	4822 130 11416	PDZ6.8B
6214	4822 130 11413	PDZ10B
6215	4822 130 11413	PDZ10B
6216	4822 130 11413	PDZ10B
6217	4822 130 11413	PDZ10B
6218	4822 130 11031	BZX284-C12
6219	4822 130 11416	PDZ6.8B
6220	4822 130 11413	PDZ10B
6221	4822 130 11413	PDZ10B
6222	4822 130 11416	PDZ6.8B
6223	4822 130 11413	PDZ10B
6224	4822 130 11413	PDZ10B
6225	4822 130 11416	PDZ6.8B
6226	4822 130 11416	PDZ6.8B
6227	4822 130 11416	PDZ6.8B
6228	4822 130 11416	PDZ6.8B
6229	4822 130 11413	PDZ10B
6230	4822 130 11413	PDZ10B
6231	4822 130 11413	PDZ10B
6232	4822 130 10794	BZX284-C10
6233	4822 130 11416	PDZ6.8B
6234	4822 130 10794	BZX284-C10
6235	4822 130 10794	BZX284-C10
6236	4822 130 10794	BZX284-C10



7002	3104 317 01981	Software MG31E11.0_01981
7003	9352 629 88557	SAA5801/011 V30
7004	4822 130 60511	BC847B
7005	4822 130 60373	BC856B
7006	4822 130 60373	BC856B
7007	4822 130 60511	BC847B
7008	4822 209 16977	M24C32-WB96
7009	4822 209 16978	LF33CV
7010	4822 209 73852	PMBT2369
7011	4822 130 11155	PDTCT114ET
7012	4822 130 60373	BC856B
7013	4822 209 17308	M29W400T-100M1
7014	4822 130 60511	BC847B
7015	4822 130 60373	BC856B
7016	4822 130 60511	BC847B
7103	4822 130 60511	BC847B
7104	4822 130 60511	BC847B
7107	4822 130 60373	BC856B
7111	4822 130 60511	BC847B
7200	4822 130 40959	BC547B
7201	4822 130 40959	BC547B
7203	4822 130 44568	BC557B
7204	4822 130 60511	BC847B
7205	4822 130 60511	BC847B
7206	4822 130 60511	BC847B
7207	4822 130 60373	BC856B
7208	4822 209 12999	TEA6415C
7216	4822 130 60511	BC847B
7300	4822 209 16979	TDA9330H/N1
7341	4822 130 60373	BC856B
7351	4822 130 60373	BC856B
7402	4822 209 17311	TDA9178T/N1
7418	4822 130 60373	BC856B
7419	4822 130 60373	BC856B
7420	4822 130 60373	BC856B
7424	4822 130 60373	BC856B
7438	4822 130 10255	MMUN2213
7501	4822 209 17487	TDA9320AH/N1
7502	4822 130 60511	BC847B
7555	4822 130 60373	BC856B
7560	4822 209 12998	SAA4961/V3/S1
7561	4822 130 60511	BC847B
7575	4822 130 60511	BC847B
7701	4822 130 60511	BC847B
7750	4822 209 16978	LF33CV
7751	4822 209 16803	MSP3410D-PS-B4
7752	5322 209 11102	HEF4052BT
7753	5322 209 11102	HEF4052BT
7756	4822 209 30095	LM833D
7757	4822 209 31378	NJM4556MB
7758	4822 209 30095	LM833D
7770	4822 209 17421	SAA7712H/N203
7772	4822 209 30095	LM833D
7774	4822 130 60511	BC847B
7775	5322 209 11102	HEF4052BT
7777	4822 209 90369	TEA6422

Feature Box [L]

Various

0025	3104 301 23823	FBX-shield top
0026	3104 301 23834	FBX-shield bottom
0300	2422 486 80737	Socket IC 32P
0361	2422 025 15389	9P male h
0362	2422 025 15389	9P male h
1002	4822 242 10685	Crystal 12MHz
	3104 328 01711	FBX6 falconic no PAL+

-II-

2600	4822 126 14218	3.9pF 50V
2601	4822 126 11669	27pF
2602	4822 126 11663	12pF
2603	4822 126 14218	3.9pF 50V
2604	4822 126 11669	27pF
2605	4822 126 11663	12pF
2606	4822 126 14218	3.9pF 50V
2607	4822 126 11669	27pF
2608	4822 126 11663	12pF
2610	4822 126 14225	56pF 5% 50V 0603
2611	4822 124 40769	4.7μF 5% 100V
2612	4822 126 14585	100nF 10% 50V
2613	4822 126 14225	56pF 5% 50V 0603
2614	4822 124 40255	100μF 20% 63V
2615	4822 126 14585	100nF 10% 50V
2616	4822 126 14585	100nF 10% 50V
2617	4822 124 80791	470μF 20% 16V
2618	4822 126 14585	100nF 10% 50V
2619	4822 126 14585	100nF 10% 50V
2620	5322 122 32654	22nF 10% 63V
2621	4822 122 33752	15pF 5% 50V
2622	4822 122 33777	47pF 5% 63V
2623	4822 122 33753	150pF 5% 50V
2624	4822 126 14494	22nF 10% 25V 0603
2625	4822 126 14585	100nF 10% 50V
2626	4822 122 33752	15pF 5% 50V
2627	4822 122 33777	47pF 5% 63V
2628	4822 122 33753	150pF 5% 50V
2629	4822 126 14494	22nF 10% 25V 0603
2630	4822 122 33752	15pF 5% 50V
2631	4822 122 33777	47pF 5% 63V
2632	4822 122 33753	150pF 5% 50V
2633	4822 122 31765	100pF 2% 63V
2634	4822 122 31765	100pF 2% 63V
2635	4822 122 33761	22pF 5% 50V
2636	4822 122 33761	22pF 5% 50V
2637	4822 124 40769	4.7μF 20% 100V
2638	4822 126 14585	100nF 10% 50V
2639	4822 126 14507	18pF 5% 50V 0603
2640	4822 126 14507	18pF 5% 50V 0603
2648	4822 126 14043	1μF 20% 16V
2651	4822 126 14585	100nF 10% 50V
2652	4822 126 14305	100nF 10% 16V 0603
2654	4822 126 14305	100nF 10% 16V 0603
2656	4822 126 14305	100nF 10% 16V 0603
2659	4822 126 14494	22nF 10% 25V 0603
2662	4822 124 40255	100μF 20% 63V
2663	4822 124 40255	100μF 20% 63V
2664	4822 126 14507	18pF 5% 50V 0603
2665	4822 126 14507	18pF 5% 50V 0603
2666	4822 126 14507	18pF 5% 50V 0603
2670	4822 124 40248	10μF 20% 63V
2671	4822 124 40248	10μF 20% 63V
2672	4822 126 14305	100nF 10% 16V 0603
2673	4822 126 14585	100nF 10% 50V
2677	4822 126 14585	100nF 10% 50V
2678	4822 126 14585	100nF 10% 50V
2680	5322 122 32311	470pF 10% 100V
2681	4822 126 14585	100nF 10% 50V
2682	4822 126 14305	100nF 10% 16V 0603
2683	4822 126 14585	100nF 10% 50V
2684	4822 126 14305	100nF 10% 16V 0603
2685	4822 124 40248	10μF 20% 63V
2686	4822 126 14305	100nF 10% 16V 0603
2687	4822 126 13691	27pF 1% 63V
2690	4822 126 14305	100nF 10% 16V 0603

-III-

3600	4822 051 30391	390Ω 5% 0.062W
3601	4822 117 12968	820Ω 5% 0.62W
3602	4822 051 30391	390Ω 5% 0.062W
3603	4822 051 30392	3k9 5% 0.063W 0603
3604	4822 117 13632	100k 1% 0603 0.62W

3605	4822 051 30272	2k7 5% 0.062W
3607	4822 051 30391	390Ω 5% 0.062W
3608	4822 117 12917	1Ω 5% 0.062W 0603
3609	4822 051 30102	1k 5% 0.062W
3610	4822 051 30471	470Ω 5% 0.062W
3613	4822 051 30472	4k7 5% 0.062W
3614	4822 051 30472	4k7 5% 0.062W
3615	4822 051 30109	10Ω 5% 0.062W
3616	4822 051 30102	1k 5% 0.062W
3617	4822 051 30472	4k7 5% 0.062W
3619	4822 051 30472	4k7 5% 0.062W
3620▲	4822 052 10109	10Ω 5% 0.33W
3621	4822 051 30681	680Ω 5% 0.062W
3622	4822 051 30221	220Ω 5% 0.062W
3623	4822 117 13632	100k 1% 0603 0.62W
3624	4822 051 30681	680Ω 5% 0.062W
3625	4822 051 30221	220Ω 5% 0.062W
3626	4822 117 13632	100k 1% 0603 0.62W
3627	4822 117 11503	220Ω 1% 0.1W
3628	4822 051 30221	220Ω 5% 0.062W
3630	4822 117 13632	100k 1% 0603 0.62W
3631	4822 051 30151	150Ω 5% 0.062W
3632	4822 051 30332	3k3 5% 0.062W
3633	4822 051 30151	150Ω 5% 0.062W
3634	4822 051 30332	3k3 5% 0.062W
3635	4822 051 30101	100Ω 5% 0.062W
3636	4822 051 30101	100Ω 5% 0.062W
3637	4822 051 30221	220Ω 5% 0.062W
3638	4822 051 30221	220Ω 5% 0.062W
3639	4822 051 30221	220Ω 5% 0.062W
3640	4822 051 30105	1M 5% 0.062W
3641	4822 051 20472	4k7 5% 0.1W
3646	4822 051 20101	100Ω 5% 0.1W
3647	4822 051 20101	100Ω 5% 0.1W
3648	4822 051 30103	10k 5% 0.062W
3649	4822 051 30102	1k 5% 0.062W
3654	4822 051 10102	1k 2% 0.25W
3676	4822 117 12139	22Ω 5% 0.062W
3677	4822 051 30101	100Ω 5% 0.062W
3678	4822 051 30681	680Ω 5% 0.062W
3680	4822 051 20108	1Ω 5% 0.1W
3681▲	4822 052 10109	10Ω 5% 0.33W
3683	4822 051 10102	1k 2% 0.25W
3687▲	4822 052 10109	10Ω 5% 0.33W
3688	4822 117 12925	47k 1% 0.063W 0603
3689	4822 117 12925	47k 1% 0.063W 0603
3690	4822 117 12925	47k 1% 0.063W 0603
3691	4822 117 12925	47k 1% 0.063W 0603
3692	4822 117 12925	47k 1% 0.063W 0603
3693	4822 117 12925	47k 1% 0.063W 0603
3694	4822 117 12925	47k 1% 0.063W 0603
3695	4822 117 12925	47k 1% 0.063W 0603
3696	4822 117 12925	47k 1% 0.063W 0603
3697	4822 051 30479	47Ω 5% 0.062W
3698	4822 051 30479	47Ω 5% 0.062W
3699	4822 051 30331	330Ω 5% 0.062W
4xxx	4822 051 10008	0Ω jumper 1206
4xxx	4822 051 20008	0Ω jumper 0805

5600	4822 157 11778	5.6μH 10% 0805
5601	4822 157 11778	5.6μH 10% 0805
5602	4822 157 11778	5.6μH 10% 0805
5603	4822 157 11781	Bead 100MHz 600Ω
5604	4822 157 11781	Bead 100MHz 600Ω
5605	4822 157 11716	Bead 100MHz 30Ω
5606	4822 157 11716	Bead 100MHz 30Ω
5607	4822 157 11716	Bead 100MHz 30Ω
5608	4822 157 11876	6.8μH 10% 0805
5610	4822 157 11876	6.8μH 10% 0805
5611	4822 157 11716	Bead 100MHz 30Ω
5612	3198 018 38280	8.2μH 10% 0805
5613	4822 157 11876	6.8μH 10% 0805
5615	4822 157 11716	Bead 100MHz 30Ω
5631	4822 157 11716	Bead 100MHz 30Ω
5632	4822 157 11716	Bead 100MHz 30Ω
5633	4822 157 11716	Bead 100MHz 30Ω
5635	4822 157 11716	Bead 100MHz 30Ω
5638	4822 157 11716	Bead 100MHz 30Ω
5639	4822 157 11716	Bead 100MHz 30Ω
5640	4822 157 11716	Bead 100MHz 30Ω
5641	4822 157 11716	Bead 100MHz 30Ω
5642	4822 157 11716	Bead 100MHz 30Ω



7600	4822 130 60373	BC856B
7601	4822 130 60511	BC847B
7602	4822 209 17307	MSM54V12222A-30JS

7604	4822 209 73852	PMBT2369
7605	4822 209 73852	PMBT2369
7607	4822 130 60373	BC856B
7608	4822 130 60373	BC856B
7610	4822 130 60373	BC856B
7611	9352 626 35557	SAA4978H/V2
7612	4822 130 60511	BC847B
7613	4822 130 60511	BC847B
7625	9322 127 85682	IC socket 32P for 7999
7626	9352 613 73557	SAA4992H/V1
7630	4822 209 15882	MC33269D
7631	4822 209 15882	MC33269D
7634	9322 136 43682	MSM51V4223C-30RS
7638	4822 209 17307	MSM54V12222A-30JS
7639	5322 209 60424	74HC573
7640	4822 209 17307	MSM54V12222A-30JS
7999	3104 317 02011	Software FBX6 4.3

Full Dual Screen [M]

Various

1198	3104 301 08351	Cable phono-phono 120mm
0351	2422 025 15391	11P male h
0352	2422 025 15391	11P male h
0353	2422 025 15389	9P male h
1102	3139 147 14121	Tuner UV1316/A P-2
1107	4822 242 72211	Filter 5.5MHz
1109	4822 242 81436	Filter OFWK3953M
1525	4822 242 10695	Crystal 4.433 619 MHz
1528	4822 242 10697	Crystal 3.579 545 MHz
1800	2422 086 10581	Prot devV 65V 400mA
1021	3104 328 03321	FDS PIP EUR

-II-

2101	4822 124 80195	470μF 20% 10V
2102	4822 126 13473	220nF 80-20% 50V
2104	4822 122 33177	10nF 20% 50V
2105	4822 122 33177	10nF 20% 50V
2106	4822 122 33575	220pF 5% 63V
2107	4822 126 13694	68pF 1% 63V
2108	5322 126 10225	1P5 5%
2110	4822 124 21913	1μF 20% 63V
2111	4822 126 14585	100nF 10% 50V
2116	4822 124 12095	100μF 20% 16V
2117	4822 126 14076	220nF 80-20% 25V
2118	3198 016 38280	8.2pF 50V 0603
2120	4822 126 13473	220nF 80-20% 50V
2122	5322 126 11579	3.3nF 10% 63V
2140	4822 126 14491	2.2μF 10V
2501	4822 126 14305	100nF 10% 16V 0603
2504	4822 126 14305	100nF 10% 16V 0603
2520	4822 126 14305	100nF 10% 16V 0603
2521	4822 126 14305	100nF 10% 16V 0603
2522	5322 126 11579	3.3nF 10% 63V
2525	4822 126 14507	18pF 5% 50V 0603
2528	4822 122 33752	15pF 5% 50V
2532	4822 126 14043	1μF 20% 16V
2534	5322 126 10223	4.7nF 10% 63V
2536	4822 126 14491	2.2μF 10V
2537	4822 126 13838	100nF 50V 20%
2538	4822 124 80151	47μF 16V
2539	4822 126 13838	100nF 50V 20%
2540	4822 124 80151	47μF 16V
2541	4822 126 14585	100nF 10% 50V
2545	4822 126 14305	100nF 10% 16V 0603
2748	4822 126 14305	100nF 10% 16V 0603
2749	4822 126 14305	100nF 10% 16V 0603
2752	4822 126 14305	100nF 10% 16V 0603
2753	4822 126 14305	100nF 10% 16V 0603
2754	4822 126 14305	100nF 10% 16V 0603
2755	4822 126 14305	100nF 10% 16V 0603
2756	4822 126 14305	100nF 10% 16V 0603
2757	4822 126 14305	100nF 10% 16V 0603
2758	4822 126 14043	1μF 20% 16V
2759	4822 126 14305	100nF 10% 16V 06

2774	4822	126	14305	100nF	10%	16V	0603
2775	4822	126	14305	100nF	10%	16V	0603
2776	4822	126	14305	100nF	10%	16V	0603
2777	4822	126	14305	100nF	10%	16V	0603
2778	4822	126	14305	100nF	10%	16V	0603
2779	4822	126	14305	100nF	10%	16V	0603
2780	4822	126	14305	100nF	10%	16V	0603
2781	4822	126	14305	100nF	10%	16V	0603
2782	4822	126	14305	100nF	10%	16V	0603
2787	4822	126	14305	100nF	10%	16V	0603
2788	5322	122	32531	100pF	5%	50V	
2789	4822	126	13692	47pF	1%	63V	
2797	4822	124	12095	100μF	20%	16V	
2798	4822	122	31765	100pF	2%	83V	
2800	4822	126	13879	220nF	20%	16V	
2801	4822	126	13879	220nF	20%	16V	
2802	4822	126	13879	220nF	20%	16V	
2803	4822	126	13879	220nF	20%	16V	
2804	4822	126	13879	220nF	20%	16V	
2805	4822	126	13879	220nF	20%	16V	
2807	4822	126	13838	100nF	50V	20%	
2840	4822	126	13838	100nF	50V	20%	
2845	4822	122	31765	100pF	2%	63V	
2860	4822	126	13838	100nF	50V	20%	
2880	5322	124	41945	22μF	20%	35V	
2881	4822	124	40433	47μF	20%	25V	
2882	4822	124	11912	220μF	20%	6.3V	
2883	4822	124	12095	100μF	20%	16V	
2884	4822	126	14491	2.2μF	10V		
2890	4822	126	14585	100nF	10%	50V	
2891	4822	126	14585	100nF	10%	50V	
2922	4822	126	14241	330pF	50V	0603	
2923	4822	126	14305	100nF	10%	16V	0603
2932	4822	122	33753	150pF	5%	50V	
2934	4822	126	14305	100nF	10%	16V	0603
2942	4822	122	33753	150pF	5%	50V	
2944	4822	126	14305	100nF	10%	16V	0603
2972	4822	126	14241	330pF	50V	0603	
2973	4822	126	14305	100nF	10%	16V	0603
2982	4822	122	33753	150pF	5%	50V	
2983	4822	126	14305	100nF	10%	16V	0603
2992	4822	122	33753	150pF	5%	50V	
2993	4822	126	14305	100nF	10%	16V	0603



3100	4822 117 10833	10k 1% 0.1W
3101	4822 051 20273	27k 5% 0.1W
3102	4822 051 20562	5k6 5% 0.1W 0805
3103	4822 051 20101	100Ω 5% 0.1W
3104	4822 051 20101	100Ω 5% 0.1W
3106	4822 117 11927	75Ω 1% 0.1W
3118	4822 051 20391	390Ω 5% 0.1W
3119	4822 117 12521	68Ω 1% 0.1W
3124	4822 051 20101	100Ω 5% 0.1W
3135	4822 051 20472	4k7 5% 0.1W
3136	4822 117 11503	220Ω 1% 0.1W
3137	4822 051 10102	1k 2% 0.25W
3138	4822 117 11504	270Ω 1% 0.1W
3139	4822 117 11139	1k5 1% 0.1W
3140	4822 051 20393	39k 5% 0.1W
3144	4822 117 13632	100k 1% 0603 0.62W
3145	4822 051 20121	120Ω 5% 0.1W
3146	4822 051 20223	22k 5% 0.1W
3151▲	4822 052 10128	1Ω2 5% 0.33W
3501	4822 051 30101	100Ω 5% 0.062W
3504	4822 051 30101	100Ω 5% 0.062W
3521	4822 117 13632	100k 1% 0603 0.62W
3530	4822 051 30101	100Ω 5% 0.062W
3531	4822 051 30101	100Ω 5% 0.062W
3532	4822 116 83933	15k 1% 0.1W
3538▲	4822 052 10478	4k7 5% 0.33W
3545	4822 051 30471	470Ω 5% 0.062W
3546	4822 051 30471	470Ω 5% 0.062W
3550	4822 051 20471	470Ω 5% 0.1W
3750	4822 051 30393	39k 5% 0.062W
3751	4822 051 30393	39k 5% 0.062W
3752	4822 051 30103	10k 5% 0.062W
3753	4822 051 30332	3k3 5% 0.062W
3754	4822 117 11817	1k2 1% 1/16W
3755	4822 117 13632	100k 1% 0603 0.62W
3756	4822 051 30101	100Ω 5% 0.062W
3757	4822 051 30101	100Ω 5% 0.062W
3800	4822 117 12139	22Ω 5% 0.062W
3801	4822 117 12139	22Ω 5% 0.062W
3802	4822 117 12139	22Ω 5% 0.062W
3840	4822 117 11503	220Ω 1% 0.1W
3841	4822 117 11503	220Ω 1% 0.1W
3842	4822 117 11503	220Ω 1% 0.1W
3843	4822 117 11503	220Ω 1% 0.1W

3844	4822 051 30103	10k 5% 0.062W
3845	4822 117 13632	100k 1% 0.603 0.62W
3880	4822 051 30102	1k 5% 0.062W
3923	4822 051 30471	470Ω 5% 0.062W
3924	4822 051 30101	100Ω 5% 0.062W
3928	4822 051 30101	100Ω 5% 0.062W
3930	4822 051 30151	150Ω 5% 0.062W
3932	4822 051 30101	100Ω 5% 0.062W
3935	4822 051 30102	1k 5% 0.062W
3937	3198 021 90030	0Ω jumper 0603
3940	4822 051 30151	150Ω 5% 0.062W
3942	4822 051 30101	100Ω 5% 0.062W
3943	4822 051 30102	1k 5% 0.062W
3947	3198 021 90030	0Ω jumper 0603
3950	4822 117 11504	270Ω 1% 0.1W
3951	4822 051 20339	33Ω 5% 0.1W
3952	4822 117 11504	270Ω 1% 0.1W
3953	4822 117 11448	180Ω 1% 0.1W
3954	4822 051 20391	390Ω 5% 0.1W
3955	4822 117 11503	220Ω 1% 0.1W
3956	4822 117 10361	680Ω 1% 0.1W
3957	4822 117 10361	680Ω 1% 0.1W
3958	4822 117 10361	680Ω 1% 0.1W
3960	4822 051 10102	1k 2% 0.25W
3961	4822 051 10102	1k 2% 0.25W
3962	4822 051 10102	1k 2% 0.25W
3963	4822 051 10102	1k 2% 0.25W
3964	4822 051 10102	1k 2% 0.25W
3965	4822 051 10102	1k 2% 0.25W
3966	4822 051 20479	47Ω 5% 0.1W
3967	4822 051 20479	47Ω 5% 0.1W
3968	4822 051 20479	47Ω 5% 0.1W
3972	4822 051 30471	470Ω 5% 0.062W
3974	4822 051 30101	100Ω 5% 0.062W
3978	4822 051 30101	100Ω 5% 0.062W
3980	4822 051 30151	150Ω 5% 0.062W
3981	4822 051 30101	100Ω 5% 0.062W
3983	4822 051 30102	1k 5% 0.062W
3987	3198 021 90030	0Ω jumper 0603
3990	4822 051 30151	150Ω 5% 0.062W
3991	4822 051 30101	100Ω 5% 0.062W
3992	4822 051 30102	1k 5% 0.062W
3997	3198 021 90030	0Ω jumper 0603
3999	4822 117 11449	2k2 1% 0.1W
4xxx	4822 051 10008	0Ω jumper 1206
4xxx	4822 051 20008	0Ω jumper 0805
4xxx	3198 021 90030	0Ω jumper 0603



5101	4822 157 11775	6.8μH 5%
5102	3198 018 35670	0.56μH 10% 0805
5103	4822 157 11776	Coil var. 40.4MHz
5106	4822 157 10977	4.7μH 10%
5108	4822 157 11534	Coil var. 78MHz
5501	4822 157 11775	6.8μH 5%
5502	4822 157 11775	6.8μH 5%
5752	4822 157 71694	0.82μH 10%
5880	2422 535 94406	2.7μH 10%
5881	4822 157 71694	0.82μH 10%
5882	4822 157 71694	0.82μH 10%
5921	4822 157 71411	3.3μH 10%
5971	4822 157 71411	3.3μH 10%



6106	4822 130 83757	BAS216
6107	4822 130 83757	BAS216
6753	4822 130 10414	BA792
6850	4822 130 10414	BA792
6880	4822 130 11088	BZX284-C2V4
6881	4822 130 11088	BZX284-C2V4
6883	4822 130 11422	PLVA2650A
6884	4822 130 11422	PLVA2650A



7107	4822	130	60373	BC856B
7111	4822	130	60511	BC847B
7501	4822	209	16981	TDA9320H/N1
7502	4822	130	60511	BC847B
7700	9352	615	51557	SAB9079HS/N1
7750	9322	124	83668	MSM5416283-60GS
7800	4822	209	12776	TDA8601T/C1
7821	9322	135	04668	74V1G08
7840	5322	209	11296	74HC4053N
7850	4822	209	73852	PMBT2369
7851	4822	130	10255	MMCM2213
7860	4822	209	13252	PCF8574TS/F3

7880	4822 209 15882	MC33269D
7881	4822 209 15882	MC33269D
7900	4822 130 60383	BF824
7901	4822 130 60383	BF824
7902	4822 130 60383	BF824
7903	4822 130 60383	BF824
7904	4822 130 60383	BF824
7905	4822 130 60383	BF824
7920	4822 130 60511	BC847B
7930	4822 130 60511	BC847B
7940	4822 130 60511	BC847B
7970	4822 130 60511	BC847B
7980	4822 130 60511	BC847B
7990	4822 130 60511	BC847B
7991	4822 209 16868	M24C04-WMN6

Multi Channel Sound [N]

Various

0328	4822 267 10981	11P
0329	4822 267 10962	11P
0330	2422 025 14904	7P male v
0347	4822 267 10969	3P
0373	4822 267 10978	7P
0381	4822 267 10963	3P
1705	2422 086 10581	Prot dev. 65V 400mA
1804	2422 543 01016	Crystal 40MHz
1806	2422 543 01015	Crystal 10MHz
1805	4822 242 10964	Crystal 16.9344MHz
1807	4822 252 51169	Fuse 0,250A
1998	2422 025 16194	Socket 8P for transmitter
1999	2422 026 04961	Socket cinch 6P
8328	3104 301 08912	Cable 11P 220mm
8373	3104 301 08922	Cable 7P 280mm
8381	3104 301 08932	Cable 3P 140mm



2500	4822	126	14315	390pF	5%	50V	0603
2501	4822	126	14315	390pF	5%	50V	0603
2504	5322	126	11583	10nF	10%	50V	0603
2505	4822	126	14305	100nF	10%	16V	0603
2506	4822	126	14305	100nF	10%	16V	0603
2507	4822	126	11671	33pF			
2508	4822	126	11671	33pF			
2511	4822	126	12105	33nF	5%	50V	
2517	4822	122	31765	100pF	2%	63V	
2534	5322	126	11583	10nF	10%	50V	0603
2539	4822	126	14305	270pF	5%	50V	0603
2540	4822	126	14305	100nF	10%	16V	0603
2541	4822	126	14305	100nF	10%	16V	0603
2542	5322	124	41979	10μF	10%	16V	
2543	5322	124	41979	10μF	10%	16V	
2545	5322	124	41979	10μF	10%	16V	
2546	5322	124	41979	10μF	10%	16V	
2548	4822	126	14549	33nF	16V	O6O3	
2549	5322	126	11579	3.3nF	10%	63V	
2551	4822	126	14549	33nF	16V	O6O3	
2552	4822	126	14549	33nF	16V	O6O3	
2553	3198	017	34730	47nF	16V	0603	
2555	5322	124	41979	10μF	10%	16V	
2556	5322	126	11579	3.3nF	10%	63V	
2557	4822	126	14549	33nF	16V	O6O3	
2560	3198	017	34730	47nF	16V	0603	
2562	5322	124	41979	10μF	10%	16V	
2563	5322	124	41979	10μF	10%	16V	
2564	5322	124	41979	10μF	10%	16V	
2565	4822	126	14305	100nF	10%	16V	0603
2566	4822	126	14305	100nF	10%	16V	0603
2567	4822	126	11671	33pF			
2568	4822	126	11671	33pF			
2569	5322	124	41979	10μF	10%	16V	
2570	4822	126	14305	100nF	10%	16V	0603
2571	4822	126	14305	100nF	10%	16V	0603
2572	5322	124	41979	10μF	10%	16V	
2573	5322	124	41979	10μF	10%	16V	
2574	5322	124	41979	10μF	10%	16V	
2575	5322	124	41979	10μF	10%	16V	
2576	5322	124	41979	10μF	10%	16V	
2577	5322	124	41979	10μF	10%	16V	
2578	4822	126	14549	33nF	16V	O6O3	
2579	5322	126	11579	3.3nF	10%	63V	
2580	4822	126	14549	33nF	16V	O6O3	
2583	3198	017	34730	47nF	16V	0603	
2585	4822	126	11671	33pF			
2586	5322	126	11579	3.3nF	10%	63V	
2587	4822	126	14494	22nF	10%	25V	0603

2590	3198 017 34730	47nF 16V 0603	2793	4822 126 14506	270pF 5% 50V 0603	2893	4822 122 33761	22pF 5% 50V
2592	5322 124 41979	10μF 10% 16V	2794	5322 126 11583	10nF 10% 50V 0603	2894	4822 122 33761	22pF 5% 50V
2593	5322 124 41979	10μF 10% 16V	2795	5322 126 11583	10nF 10% 50V 0603	2900	5322 122 32531	100pF 5% 50V
2594	5322 124 41979	10μF 10% 16V	2796	4822 122 33177	10nF 20% 50V	2901	4822 122 31765	100pF 2% 63V
2595	4822 126 14305	100nF 10% 16V 0603	2797	4822 124 22652	2.2μF 20% 50V	2909	4822 123 14025	2200μF 20% 16V
2596	4822 126 14305	100nF 10% 16V 0603	2800	4822 126 14585	100nF 10% 50V			
2597	4822 126 11671	33pF	2802	4822 126 14585	100nF 10% 50V			
2598	4822 126 11671	33pF	2807	4822 126 14585	100nF 10% 50V			
2599	5322 126 11583	10nF 10% 50V 0603	2809	4822 126 14585	100nF 10% 50V			
2600	4822 126 14305	100nF 10% 16V 0603	2810	4822 126 14585	100nF 10% 50V			
2601	4822 126 14305	100nF 10% 16V 0603	2811	4822 124 80151	47μF 16V			
2602	5322 124 41979	10μF 10% 16V	2812	4822 126 14305	100nF 10% 16V 0603			
2603	5322 124 41979	10μF 10% 16V	2813	4822 126 14305	100nF 10% 16V 0603			
2605	5322 124 41979	10μF 10% 16V	2814	4822 126 14305	100nF 10% 16V 0603			
2606	5322 124 41979	10μF 10% 16V	2815	4822 126 14305	100nF 10% 16V 0603			
2607	5322 124 41979	10μF 10% 16V	2816	4822 126 14305	100nF 10% 16V 0603			
2609	5322 126 11579	3.3nF 10% 63V	2817	4822 126 14585	100nF 10% 50V			
2611	4822 124 22652	2.2μF 20% 50V	2818	4822 126 14305	100nF 10% 16V 0603			
2612	4822 124 40207	100μF 20% 25V	2819	4822 126 14305	100nF 10% 16V 0603			
2613	3198 017 34730	47nF 16V 0603	2820	4822 126 13486	15pF 2% 63V			
2620	3198 017 34730	47nF 16V 0603	2821	4822 126 13486	15pF 2% 63V			
2622	5322 124 41979	10μF 10% 16V	2822	4822 126 14585	100nF 10% 50V			
2623	5322 124 41979	10μF 10% 16V	2823	4822 124 80151	47μF 16V			
2624	5322 124 41979	10μF 10% 16V	2824	4822 126 14585	100nF 10% 50V			
2625	4822 126 14305	100nF 10% 16V 0603	2825	4822 126 14585	100nF 10% 50V			
2626	4822 126 14305	100nF 10% 16V 0603	2826	4822 126 14305	100nF 10% 16V 0603			
2627	4822 126 11671	33pF	2827	4822 126 14305	100nF 10% 16V 0603			
2628	4822 126 11671	33pF	2828	4822 124 80151	47μF 16V			
2635	4822 126 14305	100nF 10% 16V 0603	2829	4822 126 14305	100nF 10% 16V 0603			
2636	4822 126 14305	100nF 10% 16V 0603	2830	4822 126 14305	100nF 10% 16V 0603			
2637	5322 121 42498	680nF 5% 63V	2831	5322 126 11583	10nF 10% 50V 0603			
2638	5322 121 42498	680nF 5% 63V	2832	3198 016 31020	0603 25V 1nF			
2639	4822 126 14305	100nF 10% 16V 0603	2833	4822 126 13486	15pF 2% 63V			
2641	5322 121 42498	680nF 5% 63V	2834	4822 126 13486	15pF 2% 63V			
2643	4822 126 11671	33pF	2835	4822 124 80151	47μF 16V			
2667	4822 126 14494	22nF 10% 25V 0603	2836	4822 126 14305	100nF 10% 16V 0603			
2668	5322 126 11583	10nF 10% 50V 0603	2837	4822 122 33177	10nF 20% 50V			
2669	4822 126 11671	33pF	2838	4822 122 33761	22pF 5% 50V			
2679	4822 126 14585	100nF 10% 50V	2839	4822 122 33761	22pF 5% 50V			
2680	4822 126 14585	100nF 10% 50V	2840	4822 124 80151	47μF 16V			
2681	5322 122 32659	33pF 5% 50V	2841	4822 126 14585	100nF 10% 50V			
2682	5322 122 32659	33pF 5% 50V	2842	4822 124 80151	47μF 16V			
2690	4822 126 14305	100nF 10% 16V 0603	2843	4822 126 14305	100nF 10% 16V 0603			
2704	4822 126 14305	100nF 10% 16V 0603	2844	4822 124 80151	47μF 16V			
2705	4822 124 12095	100μF 20% 16V	2845	4822 126 14585	100nF 10% 50V			
2706	4822 126 14585	100nF 10% 50V	2846	4822 124 80151	47μF 16V			
2707	4822 124 40207	100μF 20% 25V	2847	5322 126 10511	1nF 5% 50V			
2708	4822 126 14585	100nF 10% 50V	2848	4822 122 31765	100pF 2% 63V			
2709	4822 124 21913	1μF 20% 63V	2849	4822 126 14585	100nF 10% 50V			
2710	4822 124 40207	100μF 20% 25V	2850	5322 122 32531	100pF 5% 50V			
2711	4822 126 14585	100nF 10% 50V	2851	5322 126 10511	1nF 5% 50V			
2712	4822 124 21913	1μF 20% 63V	2852	5322 122 32531	100pF 5% 50V			
2713	4822 126 14585	100nF 10% 50V	2853	4822 124 80151	47μF 16V			
2715	5322 122 32531	100pF 5% 50V	2854	5322 126 10511	1nF 5% 50V			
2716	4822 122 33575	220pF 5% 63V	2855	4822 124 80151	47μF 16V			
2717	5322 122 32531	100pF 5% 50V	2856	5322 126 10511	1nF 5% 50V			
2718	4822 122 33575	220pF 5% 63V	2857	4822 124 80151	47μF 16V			
2719	5322 122 32531	100pF 5% 50V	2858	5322 126 10511	1nF 5% 50V			
2720	4822 122 33575	220pF 5% 63V	2859	4822 124 80151	47μF 16V			
2721	5322 122 32531	100pF 5% 50V	2860	4822 126 14585	100nF 10% 50V			
2722	4822 122 33575	220pF 5% 63V	2861	4822 124 80151	47μF 16V			
2724	5322 122 32531	100pF 5% 50V	2862	5322 126 10511	1nF 5% 50V			
2725	5322 122 32531	100pF 5% 50V	2863	4822 124 80151	47μF 16V			
2726	4822 122 33575	220pF 5% 63V	2864	4822 126 14585	100nF 10% 50V			
2727	4822 126 14585	100nF 10% 50V	2865	4822 126 14585	100nF 10% 50V			
2728	4822 126 14305	100nF 10% 16V 0603	2866	4822 126 14585	100nF 10% 50V			
2729	4822 126 14585	100nF 10% 50V	2867	4822 124 80151	47μF 16V			
2730	5322 122 32531	100pF 5% 50V	2868	4822 126 14585	100nF 10% 50V			
2731	5322 122 32531	100pF 5% 50V	2869	4822 126 14585	100nF 10% 50V			
2732	5322 122 32531	100pF 5% 50V	2870	4822 124 80151	47μF 16V			
2733	5322 122 32531	100pF 5% 50V	2871	4822 124 80151	47μF 16V			
2736	4822 124 40248	10μF 20% 63V	2872	5322 122 32531	100pF 5% 50V			
2737	4822 126 14585	100nF 10% 50V	2873	5322 126 10511	1nF 5% 50V			
2738	4822 124 40207	100μF 20% 25V	2874	4822 124 80151	47μF 16V			
2740	5322 126 11583	10nF 10% 50V 0603	2875	4822 126 14585	100nF 10% 50V			
2741	5322 126 11583	10nF 10% 50V 0603	2876	4822 124 80151	47μF 16V			
2745	4822 126 14494	22nF 10% 25V 0603	2877	5322 122 32531	100pF 5% 50V			
2746	5322 126 11583	10nF 10% 50V 0603	2878	5322 126 10511	1nF 5% 50V			
2747	5322 126 11583	10nF 10% 50V 0603	2879	4822 124 80151	47μF 16V			
2749	4822 126 14494	22nF 10% 25V 0603	2880	5322 126 10511	1nF 5% 50V			
2752	5322 126 11583	10nF 10% 50V 0603	2881	4822 124 80151	47μF 16V			
2753	5322 126 11583	10nF 10% 50V 0603	2882	5322 126 10511	1nF 5% 50V			
2755	4822 126 14494	22nF 10% 25V 0603	2883	5322 122 32531	100pF 5% 50V			
2780	4822 126 14305	100nF 10% 16V 0603	2885	4822 122 33761	22pF 5% 50V			
2781	4822 126 14305	100nF 10% 16V 0603	2886	4822 122 33761	22pF 5% 50V			
2784	5322 122 31865	1.5nF 10% 63V	2887	4822 122 33761	22pF 5% 50V			
2785	5322 122 31865	1.5nF 10% 63V	2888	4822 122 33761	22pF 5% 50V			
2786	4822 126 11671	33pF	2889	4822 122 33761	22pF 5% 50V			
2787	4822 126 11671	33pF	2890	4822 122 33761	22pF 5% 50V			
2790	4822 122 33177	10nF 20% 50V	2891	4822 122 33761	22pF 5% 50V			
2791	4822 124 22652	2.2μF 20% 50V	2892	4822 122 33761	22pF 5% 50V			

3623	4822 051 30103	10k 5% 0.062W
3624	4822 051 30152	1k5 5% 0.062W
3625	4822 051 30103	10k 5% 0.062W
3626	4822 117 10837	100k 1% 0.1W
3627	4822 117 10837	100k 1% 0.1W
3628	4822 117 10837	100k 1% 0.1W
3629	4822 117 10837	100k 1% 0.1W
3630	4822 117 10834	47k 1% 0.1W
3631	4822 117 13632	100k 1% 0.603 0.62W
3632	4822 117 12925	47k 1% 0.063W 0.603
3633	4822 117 13632	100k 1% 0.603 0.62W
3634	4822 051 30563	56k 5% 0.062W
3638	4822 051 30102	1k 5% 0.062W
3639	4822 051 30339	33Ω 5% 0.062W
3640	4822 051 30472	4k7 5% 0.062W
3645	4822 117 11507	6k8 1% 0.1W
3646	4822 051 20332	3k3 5% 0.1W
3647	4822 117 11507	6k8 1% 0.1W
3648	4822 051 20332	3k3 5% 0.1W
3649	4822 051 30681	680Ω 5% 0.062W
3650	4822 117 11507	6k8 1% 0.1W
3651	4822 051 30333	33k 5% 0.062W
3652	4822 117 11507	6k8 1% 0.1W
3653	4822 117 11507	6k8 1% 0.1W
3658	4822 051 30682	6k8 5% 0.062W
3659	4822 051 30222	2k2 5% 0.062W
3660	4822 051 30682	6k8 5% 0.062W
3661	4822 051 30222	2k2 5% 0.062W
3663	4822 051 20332	3k3 5% 0.1W
3664	4822 051 20332	3k3 5% 0.1W
3667	4822 117 10837	100k 1% 0.1W
3671	4822 117 10833	10k 1% 0.1W
3673	4822 117 10833	10k 1% 0.1W
3675	4822 117 10837	100k 1% 0.1W
3676	4822 117 10833	10k 1% 0.1W
3678	4822 117 10833	10k 1% 0.1W
3679	4822 117 11507	6k8 1% 0.1W
3680	4822 117 11507	6k8 1% 0.1W
3682	4822 117 10837	100k 1% 0.1W
3683	4822 051 20332	3k3 5% 0.1W
3684	4822 117 10837	100k 1% 0.1W
3685	4822 117 10837	100k 1% 0.1W
3686	4822 117 10837	100k 1% 0.1W
3687	4822 051 20332	3k3 5% 0.1W
3688	4822 117 11507	6k8 1% 0.1W
3699	4822 117 10833	10k 1% 0.1W
3700	4822 117 10833	10k 1% 0.1W
3701	4822 117 13632	100k 1% 0.603 0.62W
3702	4822 051 30331	330Ω 5% 0.062W
3703	4822 051 30391	390Ω 5% 0.062W
3704	4822 051 30103	10k 5% 0.062W
3705	4822 051 30221	220Ω 5% 0.062W
3706	4822 051 30221	220Ω 5% 0.062W
3707	4822 051 20471	470Ω 5% 0.1W
3708	4822 051 20471	470Ω 5% 0.1W
3709	4822 051 20471	470Ω 5% 0.1W
3710	4822 117 10837	100k 1% 0.1W
3711	4822 117 10833	10k 1% 0.1W
3712	4822 117 10837	100k 1% 0.1W
3713	4822 117 10833	10k 1% 0.1W
3715	4822 051 20471	470Ω 5% 0.1W
3716	4822 051 20223	22k 5% 0.1W
3717	4822 051 20471	470Ω 5% 0.1W
3718	4822 051 20223	22k 5% 0.1W
3719	4822 051 20471	470Ω 5% 0.1W
3720	4822 051 20223	22k 5% 0.1W
3721	4822 051 20471	470Ω 5% 0.1W
3722	4822 051 20223	22k 5% 0.1W
3724	4822 051 20223	22k 5% 0.1W
3725	4822 051 20471	470Ω 5% 0.1W
3726	4822 051 20223	22k 5% 0.1W
3727	4822 051 30103	10k 5% 0.062W
3728	4822 051 30333	33k 5% 0.062W
3729	4822 051 30683	68k 5% 0.062W
3730	4822 117 10353	150Ω 1% 0.1W
3731	4822 051 20223	22k 5% 0.1W
3732	4822 117 10353	150Ω 1% 0.1W
3733	4822 051 20223	22k 5% 0.1W
3734	4822 117 11503	220Ω 1% 0.1W
3735	4822 117 11503	220Ω 1% 0.1W
3737	4822 051 30683	68k 5% 0.062W
3738	4822 051 20471	470Ω 5% 0.1W
3739	4822 051 20471	470Ω 5% 0.1W
3740	4822 117 12902	8k2 1% 0.063W 0.603
3741	4822 117 12902	8k2 1% 0.063W 0.603
3742	4822 051 30392	3k9 5% 0.063W 0.603
3743	4822 051 30101	100Ω 5% 0.062W
3744	4822 051 30271	270Ω 5% 0.062W
3745	4822 051 30102	1k 5% 0.062W
3746	4822 117 12902	8k2 1% 0.063W 0.603
3747	4822 117 12902	8k2 1% 0.063W 0.603

3748	4822 051 30392	3k9 5% 0.063W 0.603
3749	4822 051 30101	100Ω 5% 0.062W
3750	4822 051 30271	270Ω 5% 0.062W
3751	4822 051 30102	1k 5% 0.062W
3752	4822 117 12902	8k2 1% 0.063W 0.603
3753	4822 117 12902	8k2 1% 0.063W 0.603
3754	4822 051 30392	3k9 5% 0.063W 0.603
3755	4822 051 30101	100Ω 5% 0.062W
3756	4822 051 30271	270Ω 5% 0.062W
3757	4822 051 30102	1k 5% 0.062W
3758	4822 051 30472	4k7 5% 0.062W
3759	4822 051 30472	4k7 5% 0.062W
3760	4822 051 30472	4k7 5% 0.062W
3761	4822 117 10834	47k 1% 0.1W
3762	4822 051 20223	22k 5% 0.1W
3763	4822 051 20472	4k7 5% 0.1W
3764	4822 051 10102	1k 2% 0.25W
3766	4822 051 20561	560Ω 5% 0.1W
3769	4822 051 20561	560Ω 5% 0.1W
3784	4822 051 10102	1k 2% 0.25W
3785	4822 051 10102	1k 2% 0.25W
3786	4822 051 30332	3k3 5% 0.062W
3787	4822 051 30682	6k8 5% 0.062W
3788	4822 051 30332	3k3 5% 0.062W
3789	4822 051 30682	6k8 5% 0.062W
3790	4822 051 20121	120Ω 5% 0.1W
3791	4822 051 30102	1k 5% 0.062W
3792	4822 051 30563	56k 5% 0.062W
3793	4822 051 30153	15k 5% 0.062W
3795	4822 051 30223	22k 5% 0.062W
3796	4822 051 20121	120Ω 5% 0.1W
3799	4822 051 20223	22k 5% 0.1W
3800	4822 117 11927	75Ω 1% 0.1W
3801	4822 117 11927	75Ω 1% 0.1W
3803▲	4822 117 11151	1Ω 5%
3804	4822 051 20105	1M 5% 0.1W
3805	4822 117 10833	10k 1% 0.1W
3807	4822 051 30101	100Ω 5% 0.062W
3808	4822 051 30103	10k 5% 0.062W
3809	4822 051 30101	100Ω 5% 0.062W
3810	4822 051 20101	100Ω 5% 0.1W
3811	4822 051 30101	100Ω 5% 0.062W
3812	4822 051 20101	100Ω 5% 0.1W
3813	4822 051 30101	100Ω 5% 0.062W
3814	4822 051 20101	100Ω 5% 0.1W
3815	4822 051 20101	100Ω 5% 0.1W
3816	4822 051 30103	10k 5% 0.062W
3817	4822 051 30103	10k 5% 0.062W
3818	4822 051 30103	10k 5% 0.062W
3819	4822 051 30103	10k 5% 0.062W
3820	4822 051 30103	10k 5% 0.062W
3821	4822 051 30103	10k 5% 0.062W
3822▲	4822 117 12984	3Ω3 5% 0.125W 1206
3823▲	4822 117 12984	3Ω3 5% 0.125W 1206
3824	4822 117 11148	56k 1% 0.1W
3825	4822 051 20334	330k 5% 0.1W
3826	4822 051 20334	330k 5% 0.1W
3827	4822 117 11927	75Ω 1% 0.1W
3828	4822 051 30562	5k6 5% 0.063W 0.603
3829	4822 051 30562	5k6 5% 0.063W 0.603
3830	4822 051 30123	12k 5% 0.062W
3831	4822 051 30123	12k 5% 0.062W
3834	4822 051 30151	150Ω 5% 0.062W
3835	4822 051 20333	33k 5% 0.1W
3836	4822 117 13579	220k 1% 0.1W 0.805
3837	4822 051 20101	100Ω 5% 0.1W
3838▲	4822 117 12984	3Ω3 5% 0.125W 1206
3839	4822 051 30103	10k 5% 0.062W
3840	4822 051 30103	10k 5% 0.062W
3841	4822 051 30103	10k 5% 0.062W
3842	4822 051 30103	10k 5% 0.062W
3843	4822 051 30103	10k 5% 0.062W
3844	4822 117 10833	10k 1% 0.1W
3848	4822 051 20105	1M 5% 0.1W
3849	4822 051 30102	1k 5% 0.062W
3850	4822 117 10833	10k 1% 0.1W
3851▲	4822 117 12984	3Ω3 5% 0.125W 1206
3852▲	4822 117 13572	22Ω 5% 1206
3854	4822 117 10833	10k 1% 0.1W
3855▲	4822 117 12984	3Ω3 5% 0.125W 1206
3856▲	4822 117 13572	22Ω 5% 1206
3857	4822 051 20101	100Ω 5% 0.1W
3858	4822 051 30103	10k 5% 0.062W
3859	4822 051 30103	10k 5% 0.062W
3861	4822 117 10833	10k 1% 0.1W
3863	4822 117 10833	10k 1% 0.1W
3864	4822 051 20101	100Ω 5% 0.1W
3865	4822 051 30103	10k 5% 0.062W
3866	4822 117 10833	10k 1% 0.1W
3868	4822 051 20101	100Ω 5% 0.1W
3869	4822 117 10833	10k 1% 0.1W

3870	4822 051 20101	100Ω 5% 0.1W
3871	4822 117 10833	10k 1% 0.1W
3872	4822 051 20101	100Ω 5% 0.1W
3873	4822 117 10833	10k 1% 0.1W
3874	4822 051 20101	100Ω 5% 0.1W
3875	4822 117 10833	10k 1% 0.1W
3876▲	4822 117 12984	3Ω3 5% 0.125W 1206
3877▲	4822 117 12984	3Ω3 5% 0.125W 1206
3878	4822 117 10837	100k 1% 0.1W
3879	4822 051 20684	680k 5% 0.1W
3880	4822 117 10837	100k 1% 0.1W
3881	4822 051 20105	1M 5% 0.1W
3882	4822 051 20101	100Ω 5% 0.1W
3883	4822 117 10833	10k 1% 0.1W
3884	4822 051 20101	100Ω 5% 0.1W
3885	4822 117 10833	10k 1% 0.1W
3886	4822 051 30101	100Ω 5% 0.062W
3888	4822 051 30103	10k 5% 0.062W
3889	4822 051 20101	100Ω 5% 0.1W
3890	4822 051 30101	100Ω 5% 0.062W
3891	4822 051 20472	4k7 5% 0.1W
3892	4822 051 30101	100Ω 5% 0.062W
3893	4822 051 30101	100Ω 5% 0.062W
3894	4822 051 30101	100Ω 5% 0.062W
4xxx	4822 051 10008	0Ω jumper 1206
4xxx	4822 051 20008	0Ω jumper 0805
4xxx	3198 021 90030	0Ω jumper 0603

5704	4822 157 11876	6.8μH 10% 0805
5801	4822 157 71411	3.3μH 10%



6525	4822 130 11423	PLVA2656A
6600	4822 130 83757	BAS216
6637	4822 130 83757	BAS216
6638	4822 130 83757	BAS216
6708	4822 130 11416	PDZ6.8B
6709	4822 130 11416	PDZ6.8B
6710	4822 130 11666	BZX284-C8V2
6715	4822 130 11413	PDZ10B
6716	4822 130 11413	PDZ10B
6717	4822 130 11413	PDZ10B
6718	4822 130 11413	PDZ10B
6719	4822 130 11413	PDZ10B
6720	4822 130 11413	PDZ10B
6721	4822 130 11413	PDZ10B
6722	4822 130 11413	PDZ10B
6723	4822 130 11413	PDZ10B
6724	4822 130 11413	PDZ10B
6725	4822 130 11413	PDZ10B
6726	4822 130 11413	PDZ10B
6730	4822 130 11413	PDZ10B
6731	4822 130 11413	PDZ10B
6732	4822 130 11413	PDZ10B
6733	4822 130 11413	PDZ10B
6734	4822 130 11423	PLVA2656A
6801	4822 209 16978	LF33CV



7505	4822 209 30095	LM833D
7510	4822 130 60511	BC847B
7512	4822 130 60511	BC847B
7540	9322 127 49668	TDA7438D
7541	4822 209 30095	LM833D
7543	4822 209 30095	LM833D
7544	4822 209 30095	LM833D
7565	4822 209 30095	LM833D
7570	9322 127 49668	TDA7438D
7595	4822 209 30095	LM833D
7600	9322 127 49668	TDA7438D
7601	4822 130 60511	BC847B
7602	4822 130 60511	BC847B
7603	4822 130 60511	BC847B
7604	4822 130 60373	BC856B
7605	4822 130 60511	BC847B
7610	4822 130 60511	BC847B
7611	4822 130 60511	BC847B
7625	4822 209 30095	LM833D
7630	5322 209 11102	HEF4052BT
7635	4822 209 30095	LM833D
7665	5322 209 11102	HEF4052BT
7667	4822 130 60511	BC847B
7675	4822 130 60511	BC847B
7679	4822 209 30095	LM833D
7685	5322 209 11102	HEF4052BT

7690	4822 209 13252	PCF8574TS/F3
7695	5322 209 11102	HEF4052BT
7696	4822 130 60511	BC847B
7705	5322 209 81856	LM7912CT
7706	4822 209 81726	MC7812CT
7707	4822 130 60511	BC847B
7708	4822 130 60511	BC847B
7709	4822 130 60511	BC847B
7710	4822 130 60511	BC847B
7712	4822 130 60511	BC847B
7740	4822 209 30095	LM833D
7780	4822 209 30095	LM833D
7781	4822 130 60373	BC856B
7800	9351 705 10118	74LVT125D
7801	9352 629 51557	SAA2505H/M1
7802	4822 209 14863	LC8904Q
7803	3104 317 02021	Software V12
7804	4822 209 30095	LM833D
7805	4822 209 17423	UAD1328T
7806	9352 617 90118	UDA1344TS 7806 7806
7807	4822 130 60511	BC847B

Side I/O panel [O]

Various

0044	4822 402 11175	Bracket side I/O
0326	4822 267 10975	Socket 3 x cinch
0327	4822 267 31014	Socket headphone 3.5mm
0328	4822 265 11337	Socket SVHS
0333	4822 267 10962	11P male v
0344	4822 267 10963	3P
0346	4822 267 10967	3P male black
1047	3104 328 01391	Side I/O panel
8333	4822 320 12505	Cable 11P 820mm
8344	4822 320 12509	Cable 3P 820mm



2804	5322 122 32531	100pF 5% 50V
2805	5322 122 32531	100pF 5% 50V
2807	4822 126 14076	220nF 80-20% 25V
2810	4822 126 12105	33nF 5% 50V
2811	4822 124 40207	100µF 20% 25V
2813	4822 124 22652	2.2µF 20% 50V
2832	4822 122 33177	10nF 20% 50V
2834	4822 122 33177	10nF 20% 50V



3801	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	0Ω jumper 0805
3809	4822 051 20008	0Ω jumper 0805
3810	4822 051 20684	680k 5% 0.1W
3811	4822 051 20393	39k 5% 0.1W
3812	4822 051 20154	150k 5% 0.1W
3813	4822 051 20392	3k9 5% 0.1W
3814	4822 117 11449	2k2 1% 0.1W
3815	4822 051 20399	39Ω 5% 0.1W
3816	4822 051 20399	39Ω 5% 0.1W
3826	4822 116 52206	120Ω 5% 0.5W
3827	4822 116 52206	120Ω 5% 0.5W
3828	4822 116 52206	120Ω 5% 0.5W
3829	4822 116 52206	120Ω 5% 0.5W
3830	4822 050 21003	10k 1% 0.6W
3842	4822 050 21003	10k 1% 0.6W
3845	4822 116 52283	4k7 5% 0.5W
3846	4822 050 21003	10k 1% 0.6W
3847	4822 117 10833	10k 1% 0.1W
3848	4822 051 20562	5k6 5% 0.1W 0805
3849	4822 051 20332	3k3 5% 0.1W
3999	4822 117 11448	180Ω 1% 0.1W



5800	4822 157 11228	100µH 5%
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6801	4822 130 11416	PDZ6.8B
6802	4822 130 11416	PDZ6.8B
6803	4822 130 11413	PDZ10B
6804	4822 130 11413	PDZ10B
6805	4822 130 11413	PDZ10B

6806	4822 130 11413	PDZ10B
6807	4822 130 11416	PDZ6.8B
6808	4822 130 11416	PDZ6.8B



7811	4822 130 60373	BC856B
7812	4822 130 60373	BC856B
7813	4822 130 60511	BC847B

Top control panel [P]

Various

0052	3104 304 19794	Top control frame
0053	3104 304 20921	Top control keypad
0345	4822 267 10748	3P male
1049	3104 328 00160	Top control panel
1701	4822 276 13775	Tact switch
1702	4822 276 13775	Tact switch
1703	4822 276 13775	Tact switch
1704	4822 276 13775	Tact switch
1705	4822 276 13775	Tact switch



3701	4822 051 20391	390Ω 5% 0.1W
3702	4822 117 13528	200Ω 1% 0.125W 0805
3703	4822 117 10845	620Ω 1% 0.1W
3704	4822 117 11534	1k1 1% 0.1W
3705	4822 117 11951	2k 1% 0.1W

Wireless transmitter [R]

Various

0320	4304 078 87600	Transmitter 864MHz
0320	4304 078 87610	Transmitter 433MHz
1102	3104 217 06120	864MHz modulator
1102	4822 218 11567	433MHz modulator



2100	4822 126 14043	1µF 20% 16V
2101	4822 126 14043	1µF 20% 16V
2102	4822 126 13222	390pF 2% 63V
2103	4822 126 13222	390pF 2% 63V
2104	4822 126 13222	390pF 2% 63V
2105	4822 126 13222	390pF 2% 63V
2106	4822 126 13222	390pF 2% 63V
2107	4822 126 13222	390pF 2% 63V
2108	4822 126 13222	390pF 2% 63V
2109	4822 126 13222	390pF 2% 63V
2110	4822 126 10326	180pF 5% 63V
2111	4822 126 10326	180pF 5% 63V
2112	4822 126 10326	180pF 5% 63V
2113	4822 126 10326	180pF 5% 63V
2114	4822 124 22652	2.2µF 20% 50V
2115	4822 124 22652	2.2µF 20% 50V
2116	5322 122 32268	470pF 10% 50V
2117	5322 122 32268	470pF 10% 50V
2118	5322 126 10223	4.7nF 10% 63V
2119	5322 126 10223	4.7nF 10% 63V
2120	4822 124 40248	10µF 20% 63V
2121	4822 124 40248	10µF 20% 63V
2122	4822 121 51319	1µF 10% 63V
2123	4822 121 51319	1µF 10% 63V
2124	4822 124 22652	2.2µF 20% 50V
2125	4822 124 22652	2.2µF 20% 50V
2126	5322 122 32654	22nF 10% 63V
2127	5322 122 32654	22nF 10% 63V
2128	4822 124 22652	2.2µF 20% 50V
2129	4822 124 22652	2.2µF 20% 50V
2130	4822 124 22652	2.2µF 20% 50V
2131	4822 124 22652	2.2µF 20% 50V
2132	4822 126 13692	47pF 1% 63V
2133	4822 126 13692	47pF 1% 63V
2134	4822 124 40248	10µF 20% 63V
2135	4822 124 40248	10µF 20% 63V
2136	5322 122 32268	470pF 10% 50V
2137	4822 124 81151	22µF 50V
2138	5322 122 31647	1nF 10% 63V
2139	5322 122 32268	470pF 10% 50V
2141	4822 126 13482	470nF 80/20% 16V

2142	4822 124 81151	22µF 50V
2143	4822 122 32535	680pF 10% 63V
2144	4822 126 13695	82pF 1% 63V
2147	5322 122 32654	22nF 10% 63V
2150	4822 126 13473	220nF 80-20% 50V
2151	4822 126 13692	47pF 1% 63V
2152	4822 126 13692	47pF 1% 63V
2153	4822 126 14585	100nF 10% 50V
2154	4822 126 14585	100nF 10% 50V
2155	4822 126 14585	100nF 10% 50V
2156	4822 124 40196	220µF 20% 16V
2157	4822 124 40196	220µF 20% 16V
2158	4822 124 40207	100µF 20% 25V
2162	5322 122 32654	22nF 10% 63V
2163	4822 126 13473	220nF 80-20% 50V
2164	4822 126 14585	100nF 10% 50V
2165	4822 126 14585	100nF 10% 50V
2166	5322 122 32654	22nF 10% 63V
2167	5322 122 32448	10pF 5% 63V
2168	4822 126 13482	470nF 80/20% 16V
2169	4822 122 32535	680pF 10% 63V
2170	4822 122 32535	680pF 10% 63V
2173	4822 122 33177	10nF 20% 50V
2174	4822 126 13473	220nF 80-20% 50V
2175	4822 122 33575	220pF 5% 63V
2176	4822 122 33575	220pF 5% 63V
2178	5322 122 32654	22nF 10% 63V
2179	5322 122 32654	22nF 10% 63V
2180	5322 122 32654	22nF 10% 63V
2181	4822 126 13692	47pF 1% 63V
2182	4822 126 13692	47pF 1% 63V
2183	5322 122 32654	22nF 10% 63V
2185	4822 126 13692	47pF 1% 63V
2186	4822 126 13473	220nF 80-20% 50V
2188	4822 126 13692	47pF 1% 63V
2189	5322 122 31863	330pF 5% 63V



3100	4822 117 10837	100k 1% 0.1W
3101	4822 117 10837	100k 1% 0.1W
3102	4822 051 20392	3k9 5% 0.1W
3103	4822 051 20392	3k9 5% 0.1W
3104	4822 050 21303	13k 1% 0.6W
3105	4822 050 21303	13k 1% 0.6W
3106	4822 050 21303	13k 1% 0.6W
3107	4822 050 21303	13k 1% 0.6W
3108	4822 050 26492	6k49 1% 0.6W
3109	4822 050 26492	6k49 1% 0.6W
3110	4822 051 20184	180k 5% 0.1W
3111	4822 051 20184	180k 5% 0.1W
3112	4822 051 20223	22k 5% 0.1W
3113	4822 051 20223	22k 5% 0.1W
3114	4822 050 23303	33k 1% 0.6W
3115	4822 051 20333	33k 5% 0.1W
3116	4822 051 20333	33k 5% 0.1W
3117	4822 051 20333	33k 5% 0.1W
3118	4822 051 20273	27k 5% 0.1W
3119	4822 051 20273	27k 5% 0.1W
3120	4822 051 20273	27k 5% 0.1W
3121	4822 051 20273	27k 5% 0.1W
3122	4822 117 10834	47k 1% 0.1W
3123	4822 117 10834	47k 1% 0.1W
3124	4822 116 83933	15k 1% 0.1W
3125	4822 116 83933	15k 1% 0.1W
3126	4822 051 10102	1k 2% 0.25W
3127	4822 051 10102	1k 2% 0.25W
3128	4822 051 20332	3k3 5% 0.1W
3129	4822 051 20332	3k3 5% 0.1W
3130	4822 117 10833	10k 1% 0.1W
3131	4822 117 10833	10k 1% 0.1W
3132	4822 051 20683	68k 5% 0.1W
3133	4822 051 20683	68k 5% 0.1W
3134	4822 117 10965	18k 1% 0.1W
3135	4822 117 10965	18k 1% 0.1W
3136	4822 117 10965	18k 1% 0.1W
3137	4822 117 10965	18k 1% 0.1W
3138	4822 117 11507	6k8 1% 0.1W
3139	4822 117 11507	6k8 1% 0.1W
3140	4822 051 10102	1k 2% 0.25W
3141	4822 051 10102	1k 2% 0.25W
3142	4822 051 20474	470k 5% 0.1W
3143	4822 117 10837	100k 1% 0.1W
3144	4822 051 20333	33k 5% 0.1W
3145	4822 116 83933	15k 1% 0.1W
3150	4822 051 20333	33k 5% 0.1W
3151	4822 116 83933	15k 1% 0.1W
3152	4822 116 83933	15k 1% 0.1W
3153	4822 051 20333	33k 5% 0.1W
3154	4822 051 20822	8k2 5% 0.1W

3155	4822 051 20392	3k9 5% 0.1W
3156	4822 051 20822	8k2 5% 0.1W
3157	4822 100 11676	10k 30%LIN 0.2W
3158	4822 051 20471	470Ω 5% 0.1W
3159	4822 051 20471	470Ω 5% 0.1W
3160	4822 116 52175	100Ω 5% 0.5W
3161	4822 116 52175	100Ω 5% 0.5W
3162	4822 051 20008	0Ω jumper 0805
3165	4822 051 20008	0Ω jumper 0805
3168	4822 051 20332	3k3 5% 0.1W
3169	4822 117 10834	47k 1% 0.1W
3170	4822 051 20472	4k7 5% 0.1W
3171	4822 051 20391	390Ω 5% 0.1W
3172	4822 051 10102	1k 2% 0.25W
3175	4822 117 10837	100k 1% 0.1W
3176	4822 051 10102	1k 2% 0.25W
3177	4822 051 20223	22k 5% 0.1W
3180	4822 117 13579	220k 1% 0.1W 0805
3181	4822 117 13579	220k 1% 0.1W 0805
3182	4822 051 20474	470k 5% 0.1W
3184	4822 051 10102	1k 2% 0.25W
3185	4822 117 10833	10k 1% 0.1W
3188	4822 051 20472	4k7 5% 0.1W
3189	4822 117 10837	100k 1% 0.1W
3190	4822 051 20472	4k7 5% 0.1W
3191	4822 051 20223	22k 5% 0.1W
3193	4822 117 10834	47k 1% 0.1W
3194	4822 051 20008	0Ω jumper 0805
3196	4822 051 20472	4k7 5% 0.1W
3197	4822 051 20472	4k7 5% 0.1W
3198	4822 051 20008	0Ω jumper 0805
3199	4822 051 20561	560Ω 5% 0.1W
3199	4822 051 20562	5k6 5% 0.1W 0805
3200	4822 051 20472	4k7 5% 0.1W
3201	4822 051 20471	470Ω 5% 0.1W
3202	4822 051 20471	470Ω 5% 0.1W
3203	4822 051 10102	1k 2% 0.25W
3204	4822 051 10102	1k 2% 0.25W
3205	4822 051 10102	1k 2% 0.25W
3206	4822 051 20471	470Ω 5% 0.1W
3207	4822 117 10833	10k 1% 0.1W
4xxx	4822 051 10008	0Ω jumper 1206
4xxx	4822 051 20008	0Ω jumper 0805

5101	2422 543 01048	Crystal 12.8MHz
5102	2422 535 94915	33nH 5% 0805
5105	2422 535 94828	27nH 5% 0805
5107	4822 157 71206	Bead 100MHz 600Ω

6101	4822 130 34121	BAX18
6102	4822 130 61219	BZX79-B10
6106	4822 130 11423	PLVA2656A
6107	4822 130 83757	BAS216



7101	9322 137 78682	NJM2060D
7102	9338 436 90602	SA572N
7103	4822 209 70157	NJM4560DD
7105	3104 218 80310	μP S83C751-4N24
7106	4822 209 17338	L78L08ACZ
7108	4822 130 60373	BC856B
7109	4822 209 83357	NJM4560M
7110	4822 130 60511	BC847B
7112	9337 140 10653	74HC4060D
7113	4822 209 60792	74HC4053D
7114	4822 130 60511	BC847B
7115	4822 209 83357	NJM4560M
7116	4822 130 60511	BC847B
7117	4822 130 60373	BC856B
7118	4822 130 60511	BC847B
7119	4822 130 60511	BC847B

Wireless receiver [U]

Various

0438	3104 217 06050	Receiver 864MHz
0438	3104 217 06200	Receiver 433MHz
1701	4822 277 11671	Slide switch 1P 7pos
1710	3104 217 06260	Frontend 864MHz
1710	4822 218 11568	Frontend 433MHz



2701	5322 122 32654	22nF 10% 63V
2702	5322 122 32654	22nF 10% 63V
2703	4822 126 13751	47nF 10% 63V
2704	4822 126 13473	220nF 80-20% 50V
2705	4822 126 14585	100nF 10% 50V
2706	5322 122 32654	22nF 10% 63V
2707	4822 126 14585	100nF 10% 50V
2708	4822 124 40769	4.7μF 20% 100V
2709	5322 122 32531	100pF 5% 50V
2710	4822 126 13473	220nF 80-20% 50V
2711	4822 121 41854	150nF 5% 63V
2712	4822 126 13188	15nF 5% 63V
2713	2222 464 90014	180pF 2% 630V
2714	4822 124 41751	47μF 20% 50V
2715	4822 124 40769	4.7μF 20% 100V
2716	4822 126 13473	220nF 80-20% 50V
2717	5322 122 32654	22nF 10% 63V
2718	4822 126 13473	220nF 80-20% 50V
2719	4822 122 33216	270pF 5% 50V
2720	4822 122 33216	270pF 5% 50V
2721	4822 126 13473	220nF 80-20% 50V
2722	4822 126 14585	100nF 10% 50V
2723	4822 124 22652	2.2μF 20% 50V
2731	4822 124 22652	2.2μF 20% 50V
2741	4822 124 22652	2.2μF 20% 50V
2750	4822 126 13473	220nF 80-20% 50V
2751	5322 122 32531	100pF 5% 50V
2752	4822 126 13473	220nF 80-20% 50V
2753	5322 122 32654	22nF 10% 63V
2754	4822 124 40769	4.7μF 20% 100V
2755	5322 122 32654	22nF 10% 63V
2762	4822 126 13692	47pF 1% 63V
2770	4822 124 40769	4.7μF 20% 100V
2771	5322 122 32654	22nF 10% 63V
2772	4822 124 22652	2.2μF 20% 50V
2773	4822 124 22652	2.2μF 20% 50V
2774	4822 121 51319	1μF 10% 63V
2775	5322 122 32654	22nF 10% 63V
2776	4822 124 22652	2.2μF 20% 50V
2777	4822 124 22652	2.2μF 20% 50V
2778	4822 121 51319	1μF 10% 63V
2779	5322 122 32654	22nF 10% 63V
2780	4822 124 40248	10μF 20% 63V
2781	4822 124 40769	4.7μF 20% 100V
2782	5322 126 10223	4.7nF 10% 63V
2783	4822 124 22652	2.2μF 20% 50V
2786	4822 124 40248	10μF 20% 63V
2787	4822 124 40769	4.7μF 20% 100V
2788	5322 126 10223	4.7nF 10% 63V
2789	4822 124 22652	2.2μF 20% 50V
2790	4822 126 14585	100nF 10% 50V
2792	4822 122 33575	220pF 5% 63V
2793	4822 122 33575	220pF 5% 63V
2794	4822 122 33575	220pF 5% 63V



3701	4822 051 20471	470Ω 5% 0.1W
3702	4822 117 13577	330Ω 1% 0805 1.25W
3703	4822 117 11449	2k2 1% 0.1W
3704	4822 051 20471	470Ω 5% 0.1W
3705	4822 051 20101	100Ω 5% 0.1W
3706	4822 051 20332	3k3 5% 0.1W
3707	4822 117 13577	330Ω 1% 0805 1.25W
3708	4822 051 20478	4Ω7 5% 0.1W
3709	4822 117 11448	180Ω 1% 0.1W
3710	4822 051 20391	390Ω 5% 0.1W
3711	4822 100 12159	100k 30%
3712	4822 117 10833	10k 1% 0.1W
3713	4822 117 10833	10k 1% 0.1W
3714	4822 051 20223	22k 5% 0.1W
3715	4822 117 11148	56k 1% 0.1W
3716	4822 051 20332	3k3 5% 0.1W
3717	4822 116 52264	27k 5% 0.5W
3718	4822 116 52264	27k 5% 0.5W
3719	4822 117 10837	100k 1% 0.1W
3720	4822 117 10837	100k 1% 0.1W
3721	4822 051 20273	27k 5% 0.1W
3722	4822 051 20472	4k7 5% 0.1W
3723	4822 051 20273	27k 5% 0.1W
3723	4822 117 10965	18k 1% 0.1W
3724	4822 051 20393	39k 5% 0.1W
3724	4822 117 10837	100k 1% 0.1W
3726	4822 117 11449	2k2 1% 0.1W
3727	4822 051 20562	5k6 5% 0.1W 0805
3728	4822 051 20562	5k6 5% 0.1W 0805
3729	4822 051 20474	470k 5% 0.1W

3730	4822 051 20223	22k 5% 0.1W
3731	4822 051 20683	68k 5% 0.1W
3732	4822 051 20562	5k6 5% 0.1W 0805
3733	4822 051 20392	3k9 5% 0.1W
3734	4822 051 20561	560Ω 5% 0.1W
3735	4822 051 20391	390Ω 5% 0.1W
3736	2120 363 90145	22K 30% LIN
3737	4822 051 20472	4k7 5% 0.1W
3738	4822 051 20472	4k7 5% 0.1W
3739	4822 117 11449	2k2 1% 0.1W
3740	4822 051 20223	22k 5% 0.1W
3741	4822 117 11449	2k2 1% 0.1W
3742	4822 051 20562	5k6 5% 0.1W 0805
3743	4822 051 20392	3k9 5% 0.1W
3744	4822 051 20561	560Ω 5% 0.1W
3745	4822 051 20391	390Ω 5% 0.1W
3746	4822 051 20472	4k7 5% 0.1W
3747	4822 051 20101	100Ω 5% 0.1W
3748	4822 117 11449	2k2 1% 0.1W
3749	4822 117 11449	2k2 1% 0.1W
3750	4822 051 10102	1k 2% 0.25W
3751	4822 051 20472	4k7 5% 0.1W
3752	4822 051 20101	100Ω 5% 0.1W
3753	4822 117 10833	10k 1% 0.1W
3754	4822 117 10837	100k 1% 0.1W
3755	4822 117 10833	10k 1% 0.1W
3756	4822 117 10833	10k 1% 0.1W
3757	4822 117 10833	10k 1% 0.1W
3758	4822 117 10834	47k 1% 0.1W
3759	4822 117 10834	47k 1% 0.1W
3760	4822 051 20472	4k7 5% 0.1W
3761	4822 051 20101	100Ω 5% 0.1W
3762	4822 117 10833	10k 1% 0.1W
3763	4822 117 10833	10k 1% 0.1W
3771	4822 117 10833	10k 1% 0.1W
3772	4822 051 20332	3k3 5% 0.1W
3775	4822 117 10833	10k 1% 0.1W
3776	4822 051 20332	3k3 5% 0.1W
3778	4822 051 10102	1k 2% 0.25W
3779	4822 051 10102	1k 2% 0.25W
3780	4822 117 10837	100k 1% 0.1W
3781	4822 117 10965	18k 1% 0.1W
3782	4822 117 10834	47k 1% 0.1W
3783	4822 117 11449	2k2 1% 0.1W
3786	4822 117 10837	100k 1% 0.1W
3787	4822 117 10965	18k 1% 0.1W
3788	4822 117 10834	47k 1% 0.1W
3789	4822 117 11449	2k2 1% 0.1W
3792	4822 117 10837	100k 1% 0.1W
3793	4822 117 10837	100k 1% 0.1W
3794	4822 051 20472	4k7 5% 0.1W
3795	4822 117 10833	10k 1% 0.1W
3796	4822 051 20561	560Ω 5% 0.1W
3796	4822 051 20562	5k6 5% 0.1W 0805
4xxx	4822 051 10008	0Ω jumper 1206
4xxx	4822 051 20008	0Ω jumper 0805

5701	2422 549 43868	Coil var. 10.7MHz
5702	4822 157 11668	Filter MPX 20KHZ
5703	4822 157 11668	Filter MPX 20KHZ
5704	4822 242 72527	Crystal 4.00MHz
5705	4822 157 71206	Bead 100MHz 600Ω
5706	4822 242 70665	Filter SFE10.7MS3-A
5707	4822 242 70665	Filter SFE10.7MS3-A
5708	4822 157 11172	68nH 10% 0805



6701	5322 130 34331	BAV70
6702	4822 130 34233	BZX79-B5V1
6703	4822 130 83757	BAS216
6704	4822 130 30621	1N4148
6705	4822 130 30621	1N4148



7702	9350 394 00112	TDA1578A/V6
7703	4822 130 60373	BC856B
7704	4822 130 60511	BC847B
7705	4822 130 60511	BC847B
7706	4822 130 60511	BC847B
7707	5322 130 42718	BFS20
7708	3104 218 80290	μProcessor
7709	9338 436 90602	SA572N
7710	4822 209 70157	NJM4560DD
7711	4822 209 17338	L78L08ACZ
7712	4822 130 41327	BC327-40

7713	4822 130 60511	BC847B
7714	4822 209 15263	L78L06ACZ
7717	4822 130 60511	BC847B
7718	4822 130 60373	BC856B
7719	4822 130 60511	BC847B
7720	4822 130 60511	BC847B

Surround sound supply+amplifier [W1] [W2] [W3] [W4]

Various

0011	4303 308 76220	HOLDER LED DIST.ELB LU53-080
0012	9390 288 60112	Spring clip SOT93
0013	4822 413 31586	Power button
1101	4822 267 10748	S3B-EH (3P)
1201	2422 025 14044	CON BMT B6P-VH
1202	4822 265 30734	4 PINS
1203	4303 308 99380	CON BMT B2P(3-2)-VH
1204	4822 276 13224	Mains switch
1205	4822 265 11253	Fuse holder
1206	4822 070 32002	Fuse 2A
1301	2422 025 04849	CON BMT 2P
1302	4822 265 10872	YKD21-0178
1303	4822 265 30735	5P
1304	4822 267 10735	B3B-EH-A
1305	4822 265 41392	B7B-EH-A
1306	4822 267 31014	Socket headphone
1307	4303 308 94460	Slide switch 2P
1401	4822 265 30735	5P
1402	4822 267 10735	B3B-EH-A
1403	2422 025 04851	CON BMT 3P
1404	4822 267 10565	4P
1405	2422 025 10647	CON BMT B4P-VH 1P
1406	2422 025 04849	CON BMT 2P
1407	2422 025 04849	CON BMT 2P
1408	4822 071 52502	Fuse 2.5A
1409	4822 071 52502	Fuse 2.5A
8000	3139 110 30840	CABL AS 04EH/040P 180 BK24F
8002	4303 301 91570	CABL AS 7P PART. SHIELDED AC_3
8003	4303 301 91580	CABL AS 3P SHIELDED AC_3
8004	4303 301 00380	CABL AS 2P AWG-22 AC_3
8005	3139 110 30730	Cable 03EH/030P 280 3 BK 24F

-II-

2201	4822 126 13838	100nF 80-20% 50V 0805
2202	4822 126 11958	2,2nF 10% 500V
2203	4822 126 13841	1nF 20% 250V
2204	4822 122 33127	2,2nF 10% 63V
2205	5322 121 42498	680nF 5% 63V
2206	3143 018 90900	100pF 10% 1KV
2207	2222 044 36478	4,7µF 20% 400V
2208	2222 336 20105	1µF 20 275V
2209	4822 124 12056	1000µF 20% 35V
2210	4822 124 40196	220µF 20% 16V
2211	4822 126 13838	100nF 80-20% 50V 0805
2301	4822 126 14043	1µF +80-20% 16V 0805
2302	4822 126 14043	1µF +80-20% 16V 0805
2303	4822 126 13751	47nF 10% 63V
2304	4822 126 13751	47nF 10% 63V
2401	4822 124 12056	1000µF 20% 35V
2402	4822 124 11912	220µF 20% 6,3V
2403	4822 124 11912	220µF 20% 6,3V
2404	4822 124 42367	3300µF 20% 35V
2405	4822 124 42367	3300µF 20% 35V
2406	4822 124 40769	4,7µF 20% 100V
2407	4822 124 40207	100µF 20% 25V
2408	4822 124 81151	22µF 50V
2409	4822 122 31947	100nF 20% 63V
2410	4822 122 31947	100nF 20% 63V
2411	4822 122 31947	100nF 20% 63V
2412	4822 122 31947	100nF 20% 63V
2413	4822 122 31947	100nF 20% 63V
2414	4822 122 31947	100nF 20% 63V
2415	4822 126 13473	220nF 80-20% 50V
2416	4822 126 13473	220nF 80-20% 50V
2420	5322 122 32268	470pF 10% 50V
2421	4822 126 13473	220nF 80-20% 50V
2422	4822 126 13473	220nF 80-20% 50V
2426	5322 122 32268	470PF 10% 50V
2427	4822 126 13473	220nF 80-20% 50V

2428	4822 126 13473	220nF 80-20% 50V
2429	5322 122 32531	100pF 5% 50V
2430	5322 122 32531	100pF 5% 50V
2431	4822 126 13473	220nF 80-20% 50V
2432	4822 126 13473	220nF 80-20% 50V
2433	5322 122 32654	22nF 10% 63V
2434	5322 122 32654	22nF 10% 63V
2435	5322 122 32531	100pF 5% 50V
2436	5322 122 32531	100pF 5% 50V
2437	4822 126 13838	100nF 80-20% 50V 0805
2438	4822 126 13838	100nF 80-20% 50V 0805
2439	4822 126 13838	100nF 80-20% 50V 0805
2440	4822 126 13838	100nF 80-20% 50V 0805
2441	4822 126 14043	1µF +80-20% 16V 0805
2442	4822 126 13473	220nF 80-20% 50V
2443	4822 126 13482	470nF 80/20% 16V
2444	4822 126 13691	27pF 1% 63V
2445	4822 126 13691	27pF 1% 63V
2446	4822 126 13473	220nF 80-20% 50V
2447	4822 126 13838	100nF 80-20% 50V 0805
2448	4822 126 13838	100nF 80-20% 50V 0805
2449	4822 126 13838	100nF 80-20% 50V 0805
2450	4822 126 13838	100nF 80-20% 50V 0805
2451	4822 126 13473	220nF 80-20% 50V
2452	5322 122 32531	100pF 5% 50V
2453	5322 122 32531	100pF 5% 50V
2454	5322 122 32531	100pF 5% 50V
2455	5322 122 32531	100pF 5% 50V
2456	4822 122 33127	2,2nF 10% 63V



3201	4822 051 52702	2k70 1% 0,125W
3202	4822 053 21475	4M70 5% 0,5W
3203	4822 053 21225	2M20 5% 0,5W
3204	4822 051 52702	2k70 1% 0,125W
3205	4822 051 20121	120R00 5% 0,1W
3206	4822 117 11454	820Ω 1% 0,1W
3207	4822 053 20106	10M00 5% 0,25W
3208	4822 116 83883	470Ω 5% 0,5W
3209	4822 117 11449	2k2 1% 0,1W
3210	4822 117 11449	2k2 1% 0,1W
3211	4822 117 10833	10k 1% 0,1W
3212	4822 051 10472	4k70 2% 0,25W
3214	4822 117 10833	10k 1% 0,1W
3215	4822 116 52195	47Ω 5% 0,5W
3216	4822 116 52182	15Ω 5% 0,5W
3217	4822 116 52182	15Ω 5% 0,5W
3219	4822 052 10108	1Ω 5% 0,33W
3220	4822 052 10108	1Ω 5% 0,33W
3221	4822 052 10109	10Ω 5% 0,33W
3222	4822 052 10471	470Ω 5% 0,33W
3223	4822 051 20471	470Ω 5% 0,1W
3301	4822 116 83933	15k 1% 0,1W
3302	4822 116 83933	15k 1% 0,1W
3303	4822 117 11149	82k 1% 0,1W
3304	4822 117 11149	82k 1% 0,1W
3305	4822 051 20008	0Ω jumper 0805
3306	4822 051 20008	0Ω jumper 0805
3307	4822 051 20223	22k00 5% 0,1W
3308	4822 051 20223	22k00 5% 0,1W
3401	4822 050 23301	330Ω 1% 0,6W
3402	4822 050 23301	330Ω 1% 0,6W
3403	4822 050 23301	330Ω 1% 0,6W
3404	4822 050 23301	330Ω 1% 0,6W
3405	4822 117 11507	6k8 1% 0,1W
3406	4822 051 20822	8k20 5% 0,1W
3407	4822 051 20472	4k70 5% 0,1W
3409	4822 051 20008	0Ω jumper 0805
3410	4822 117 10833	10k 1% 0,1W
3411	4822 117 11507	6k8 1% 0,1W
3412	4822 051 20822	8k20 5% 0,1W
3413	4822 051 20472	4k70 5% 0,1W
3415	4822 051 20008	0Ω jumper 0805
3416	4822 117 10833	10k 1% 0,1W
3419	4822 116 83961	6k8 5%
3420	4822 117 10834	47k 1% 0,1W
3421	4822 117 10834	47k 1% 0,1W
3422	4822 051 20472	4k70 5% 0,1W
3423	4822 117 10834	47k 1% 0,1W
3424	4822 117 13579	220k 1% 0,1W 0805
3425	4822 050 21003	10k00 1% 0,6W
3426	4822 051 20334	330k00 5% 0,1W
3427	4822 117 10837	100k 1% 0,1W
3428	4822 117 10837	100k 1% 0,1W
3429	4822 117 10833	10k 1% 0,1W
3430	4822 117 10833	10k 1% 0,1W
3431	4822 117 10833	10k 1% 0,1W
3432	4822 051 20335	3M30 5% 0,1W
3433	4822 051 20474	470k00 5% 0,1W

3434	4822 117 11149	82k 1% 0,1W
3435	4822 051 20474	470k00 5% 0,1W
3436	4822 051 20223	22k00 5% 0,1W
3437	4822 051 20472	4k70 5% 0,1W
3438	4822 117 10833	10k 1% 0,1W
3439	4822 116 52195	47Ω 5% 0,5W
3440	4822 117 10834	47k 1% 0,1W
3441	4822 117 10834	47k 1% 0,1W
3442	4822 117 11449	2k2 1% 0,1W
3443	4822 051 20472	4k70 5% 0,1W
3444	4822 051 20562	5k6 5% 0,1W 0805
3445	4822 117 10833	10k 1% 0,1W
3446	4822 117 10833	10k 1% 0,1W
3447	4822 117 10833	10k 1% 0,1W
3448	4822 117 10837	100k 1% 0,1W
3449	4822 117 10833	10k 1% 0,1W
3450	4822 117 11449	2k2 1% 0,1W
3452	4822 052 10828	8.2Ω 5% 0,33W
3453	4822 052 10828	8.2Ω 5% 0,33W
3458	4822 051 20472	4k70 5% 0,1W
3459	4822 051 20472	4k70 5% 0,1W
3460	4822 117 10833	10k 1% 0,1W
3461	4822 051 20102	1k00 5% 0,1W
3462	4822 051 20102	1k00 5% 0,1W
4xxx	4822 051 10008	0Ω jumper 1206
4xxx	4822 051 20008	0Ω jumper 0805

5201	4303 308 75810	COIL MAN TLF12UA 303 WO R4
5202	2422 535 97353	COIL FIX UIA 680 MU PM10 LAL04
5203	2422 535 97353	COIL FIX UIA 680 MU PM10 LAL04
5204	3128 138 38610	Standby transf.
5205	4822 157 70436	8,2µH
5206	4303 308 75820	Relay MAN JW1AFSN-B- DC12V



6101	9337 175 71682	TLSV5100
6201	4822 130 31878	1N4003G
6202	5322 130 31938	BYV27-200
6203	4822 130 83338	LL4148
6204	4822 130 83338	LL4148
6205	4822 130 83338	LL4148
6206	4822 130 83147	DF06M
6207	9338 872 80673	BZX55-F22
6208	4822 130 34281	BZX79-B15
6209	4822 130 30842	BAV21
6210	4822 130 83338	LL4148
6211	4822 130 11421	BT151X-500R
6212	9339 530 90685	TZM-C20
6401	4822 130 30862	BZX79-B9V1
6402	4822 130 30862	BZX79-B9V1
6403	4822 130 34278	BZX79-B6V8
6404	4822 130 34173	BZX79-B5V6
6405	4822 130 31878	1N4003G
6406	4822 130 31878	1N4003G
6407	4822 130 31878	1N4003G
6408	4822 130 31878	1N4003G
6409	4822 130 31878	1N4003G
6410	4822 130 31878	1N4003G
6411	4822 130 31878	1N4003G
6412	4822 130 31878	1N4003G
6413	4822 130 31878	1N4003G
6414	4822 130 31878	1N4003G
6415	4822 130 31878	1N4003G
6416	4822 130 31878	1N4003G
6417	4822 130 31878	1N4003G
6418	4822 130 31878	1N4003G
6421	4822 130 83338	LL4148
6422	4822 130 83338	LL4148
6423	4822 130 83338	LL4148
6424	4822 130 83338	LL4148
6425	4822 130 83338	LL4148
6426	4822 130 83338	LL4148
6427	4822 130 83338	LL4148
6428	4822 130 30621	1N4148
6429	4822 130 83338	LL4148
6430	4822 130 83338	LL4148
6431	4822 130 83338	LL4148
6432	4822 130 83338	LL4148
6433	4822 130 83338	LL4148
6434	4822 130 31878	1N4003G
6436	4822 130 31878	1N4003G
6437	4822 130 30621	1N4148



7201	4822 209 15867	L4940V12
7203	4822 130 11418	TCDT1102G
7204	4822 130 44568	BC557B
7205	4822 130 60511	BC847B
7206	4822 130 44503	BC547C
7207	4822 130 11417	STP3NB60FP
7401	4822 209 32641	TDA2616Q
7402	4822 209 30095	LM833D
7403	4822 209 30095	LM833D
7404	5322 209 82941	LM358D
7405	5322 209 70225	LM393D
7410	4822 130 60373	BC857B
7411	4822 130 60373	BC857B
7412	4822 130 60511	BC847B
7413	4822 130 60511	BC847B
7414	4822 130 40981	BC337-25
7415	4822 130 60511	BC847B
7416	4822 130 60511	BC847B
7417	4822 130 60511	BC847B