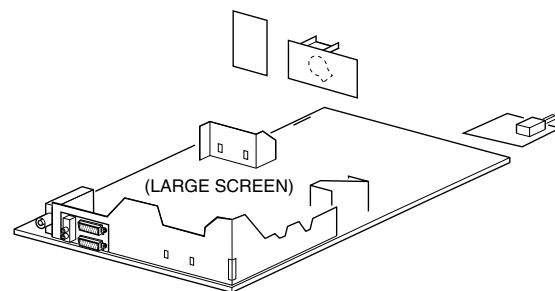


Service
Service
Service



CL26532063_000.eps
140602

Service Manual

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3. Directions for Use

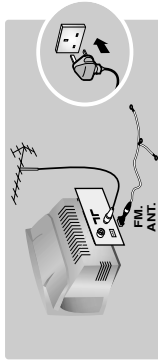
Installing your television set

1 Positioning the television set



Place your TV on a solid, stable surface, leaving a space of at least 5 cm around the appliance. To avoid accidents, do not put anything on the set such as a cloth or cover, a container full of liquid (vase) or a heat source (lamp). The set must not be exposed to water.

2 Connections



- Insert the aerial plug into the **TV** socket at the rear of the set.
- For the versions equipped with a radio: insert the radio aerial socket into the **FM ANT** socket using the adapter supplied. *If you are using an indoor aerial, reception may be difficult in certain conditions. You can improve reception by rotating the aerial. If the reception remains poor, you will need to use an external aerial.*
- Insert the mains plug into a **wall socket (220-240 V / 50 Hz)**.

The keys on the TV set

The television set has 4 keys which are located on the front or the top of the set depending on the model.



Remote control keys

Screen information / permanent no.

To display / clear the program number, name (if it exists), time, audio mode and time remaining for the sleep feature. Press the key for 5 seconds to activate permanent display of the number. This key is also used to exit from the menu.

VCR key (p.11)

Incredible Surround
(only available on certain versions)

To activate / disable the Incredible Surround feature. In stereo, the speakers appear further apart. In mono, a pseudo-spatial stereo effect is obtained.

Pre-set sound

Used to access a series of stored settings: **Speech, Music, Theatre** and return to **Personal**.

Menu

To call up or exit the menus.

Cursor

These 4 keys are used to move around the menus or provide direct access to the different 16:9 formats (p.9).

Volume

To adjust the sound level

Mute

To mute or restore the sound.

Number keys

Direct access to the programmes. For a 2 digit program, enter the 2nd digit before the dash disappears.

Selection of EXT socket

Press several times to select EXT1, EXT2, S-VHS and AV.

Radio / TV mode

To switch the TV set to radio or TV mode (for versions equipped with radio).

Standby

Lets you place the TV set on standby. To turn on the TV, press **P** (), (), () or ().

Teletext keys (p. 8), **VCR keys (p.5)** and list of radio stations ()

Sleep

To select an automatic standby after a preset time (from 0 to 240 minutes).

16:9 modes (p. 9)

Pre-set image

Used to access a series of stored settings: **Bright, Natural, Soft, Multimedia** and return to **Personal**.

Teletext (p. 8)

Program selection

To access the next or previous programme. The number, (name) and sound mode are displayed for a few moments.

For some programs, the title of the program will be displayed at the bottom of the screen.

Teletext keys (p.8)

or **VCR keys (p.11)**

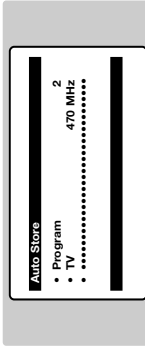
Sound mode

Used to force programmes in Stereo to **Mono** or, for bilingual programs, to choose between **Dual I** or **Dual II**. For TV sets equipped for Nicam reception, depending on the programmes, you can force the **Stereo Nicam** sound to **Mono** or select between **Nicam Dual I**, **Nicam Dual II** and **Mono**.

The Mono indication is red when in forced position.

Quick installation

The first time you switch on the television, a menu appears on the screen and the tuning starts automatically.



If the menu is not displayed, press and hold down the **▲** and **▶** keys on the TV set for 5 seconds to start the tuning.

All the available TV programs and radio stations * will be stored. This operation takes a few minutes. The display shows the progress of the

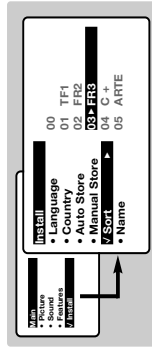
Plug & Play

search and the number of programs found. At the end of the search, the menu disappears. To exit or interrupt the search, press **⏻**. If no program is found, consult the possible solutions p. 12.

- 1 If the transmitter or cable network sends the automatic sort signal, the programs will be numbered correctly. In this case, the installation is complete.
- 2 If this is not the case, you need to use the **Sort** menu to number the programs correctly. Some transmitters or cable networks broadcast their own sort parameters (region, language, etc.). In this case, indicate your choice using the **↔** keys and validate with **↵**.
* Only on versions equipped with a radio.

Program sort

- 1 Press key **⏻**. The **Main** menu is displayed on the screen.



Program name

If required, you can give a name to the programmes and external connectors.

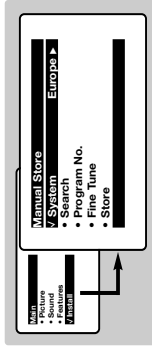
Note: on installation, the programs are named automatically when an identification signal is sent.

- 1 Press the **⏻** key.
- 2 With the cursor, select the **Install** menu, then **Name**.
- 3 Use the **↔** keys to select the programme to name or rename.

Manual store

This menu is used to store the programmes one at a time.

- 1 Press the **⏻** key.
- 2 With the cursor, select the **Install** menu then **Manual store**:



- 3 **System**: select **Europe** (automatic detection*) or **Western Europe** (BG standard), **Eastern Europe** (DK standard), **United Kingdom** (I standard) or **France** (L'L' standard).

* Except for France (L'L' standard), you must select choice **France**.

- 4 **Search**: press **↔**. The search starts. Once a programme is found, the scanning stops and its name is displayed (when available). Go to the next step. If you know the frequency of the required programme, this can be entered directly using the **0** to **9** keys. If no picture is found, consult the possible solutions (p. 12).
- 5 **Program No.**: enter the required number with the **↔** or **0** to **9** keys.
- 6 **Fine Tune**: if the reception is not satisfactory, adjust using the **↔** keys.
- 7 **Store**: press **↵**. The program is stored.
- 8 Repeat steps **4** to **8** for each programme to store.
- 9 To quit the menu, press **⏻**.

Other settings in the Install menu

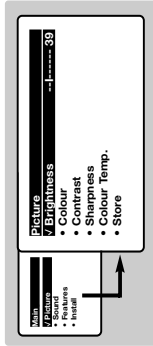
- 1 Press the **⏻** key and select the **Install** menu:
- 2 **Language**: to change the display language for the menus.
- 3 **Country**: to select your country (**GB** for Great Britain).
This setting is used for the search, automatic programme sort and teletext display. If your country does not appear in the list, select "...".
- 4 **Auto Store**: to start automatic search for all programmes available in your region. If the transmitter or cable network sends the automatic sort signal, the programmes will be numbered correctly. If this is not the case, you need to use the **Sort** menu to renumber the programmes (see p. 4).
Some transmitters or cable networks broadcast their own sort parameters (region, language, etc.). In this case, indicate your choice using the **↔** keys and validate with **↵**. To quit or interrupt the search, press **⏻**. If no picture is found, consult the possible solutions (p. 12).
- 5 To quit the menu, press **⏻**.

Using the radio (only available on certain versions)

- 1 **Choice of TV or radio mode**
Press the **⏻** key on the remote control to switch the TV set to either TV or radio mode. In radio mode, the number, station name (if available), frequency and sound mode are displayed on the screen. To enter the station names, use the **Name** menu (p. 4).
Use the **0** to **9** or **P** keys to select the FM stations (from 1 to 40).
- 2 **List of radio stations**
Press the **⏻** key to display the list of radio stations radio. Use the **↔** keys to change station and the **⏻** key to exit.
- 3 **Using the radio menus**
Use the **⏻** key to access the specific radio setting.
- 4 **Search for radio stations**
If you used the quick installation, all available FM stations have already been stored. To start a new search, use the **Install : Auto Store** menu (for a complete search) or **Manual Store** (for a station by station search). The **Sort** and **Name** menus let you sort or name the radio stations. Operation of these menus is the same as for the TV menu.

Picture settings

- 1 Press **Menu** then **Picture** and press **Enter** to store them. Press **Exit** to exit.



- 2 Use the **Left** and **Right** keys to select a setting and the **Up** and **Down** keys to adjust.

Note: during the picture adjustment, only the selected line remains displayed. Press **Enter** to display the menu again.

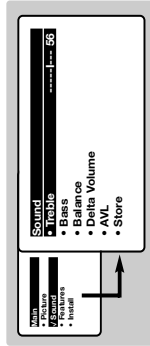
- 3 Once the adjustments have been made, select **Store** and press **Enter** to store them. Press **Exit** to exit.

Description of the adjustments:

- **Brightness:** this changes picture brilliance.
- **Colour:** this changes the intensity of the colour.
- **Contrast:** this changes the difference between the light and dark tones.
- **Sharpness:** this changes the picture definition.
- **Colour Temp.:** this changes the colour rendering: **Gold** (bluer), **Normal** (balanced) or **Warm** (redder).
- **Store:** to store the picture adjustments and settings (as well as the settings for **Contrast +** and **NR** in the **Features** menu).

Sound adjustments

- 1 Press **Menu**, select **Sound** and press **Enter**. The **Sound** menu is displayed:



- 2 Use the **Left** and **Right** keys to select a setting and the **Up** and **Down** keys to adjust.
- 3 Once the adjustments have been made, select **Store** and press **Enter** to store these changes.
- 4 To quit the menu, press **Exit**.

Description of the settings:

- **Treble:** this alters the high frequency sounds.
 - **Bass:** this alters the low frequency sounds.
 - **Balance:** this balances the sound on the left and right speakers.
 - **Delta Volume*:** this is used to compensate any volume discrepancies between the different programs or EXT sockets. This setting is available for programs 0 to 40 and the EXT sockets.
 - **AVL* (Automatic Volume Leveller):** this is used to limit increases in sound, especially on program change or advertising slots.
 - **Store:** this is used to store the sound settings.
- * Only available on certain versions.

Feature settings

- 1 Press **Menu**, select **Features** and press **Enter**. You can adjust:
- 2 **Timer, Child Lock and Parental Cont.:** see next page
- 3 **Contrast +:** automatic adjustment of the picture contrast, which permanently sets the darkest part of the picture to black.
- 4 **NR:** attenuates picture noise (snow) in difficult reception conditions

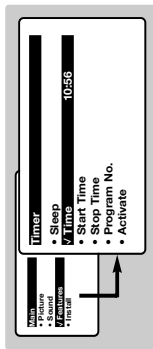
Caution: to store the **Contrast +** and **NR** settings, use the **Store** choice in the **Picture** menu.

- 5 **Rotation** (only available on very large screen sets): large screen sets are sensitive to terrestrial magnetic field variations. This setting is used to compensate for this by adjusting the picture rotation.
- 6 To quit the menu, press **Exit**.

Timer function (only available on certain versions)

- 1 This menu lets you use the TV set as an alarm. Press the **Menu** key.
- 2 With the cursor, select the **Options** menu then **Timer**:

- 3 **Sleep:** to select an automatic standby period.



This setting is also available via the **Timer** key on the remote control.

- 4 **Time:** enter the current time.
Note: the time is updated automatically each time the TV set is switched on via the teletext information on program no. 1. If this program does not have teletext, the update will not take place.

- 5 **Start Time:** enter the start time.
- 6 **Stop Time:** enter the standby time.
- 7 **Program No.:** enter the number of the programme for the wake-up alarm. For models equipped with a radio, you can select an FM station by using the **Left** and **Right** keys (the **Left** and **Right** keys are only used to select TV programs).
- 8 **Activate:** the settings include:
 - Once for a single alarm,
 - Daily for each day,
 - Stop to cancel.

- 9 Press **Enter** to put the TV set in standby. It will automatically come on at the time programmed. If you leave the TV set on, it will just change programmes at the time entered (and will go to standby mode at the **Stop Time**).

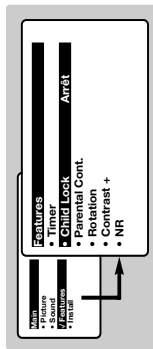
By combining the **TV lock** and **Timer** functions, you can restrict the period during which the TV set is used, for example by your children.

TV lock (only available on certain versions)

You can block certain programs or inhibit use of the TV set completely by locking the keys.

Child lock

- 1 Press **Menu**.
- 2 With the cursor, select the **Options** menu and position **Child Lock** to **On**.
- 3 Turn off the TV set and hide the remote control. The TV set cannot be used (except via the remote control).
- 4 To cancel, position **Child Lock** to **Off**.



Parental control

- 1 Press the **Menu** key, select the **Features** menu then **Parental Cont.:**
- 2 You must enter your secret access code.

The first time you enter this, enter code 0711 twice and then enter your new code choice. The menu is displayed.

- 3 **Parental Cont.:** Use the **Left** and **Right** keys to select the TV programme required and validate with **Enter**. The **AVL** symbol will be displayed opposite the programmes or sockets that are locked. From now on, to view a locked programme, you must enter your secret code, otherwise the screen will stay blank.

The access to the **Install** menu is also locked. *Caution:* for encrypted programs using an external decoder, you must lock the corresponding EXT socket.

- 4 **Change code:** this allows you to enter a new 4 digit code. Confirm your new code by entering it a second time.
If you have forgotten your secret code, enter the universal code 0711 twice.

- 5 **Unlock all:** this is used to unlock all locked programmes.

- 6 **Lock All:** this is used to lock all the TV programmes and EXT connectors.

- 7 Press the **Exit** key to quit.







Teletext


Teletext is an information system broadcast by certain channels which can be consulted like a newspaper. It also offers access to subtitles for viewers with hearing problems or who are not familiar with the transmission language (cable networks, satellite channels, etc.)


Press :  **You will obtain:**


This is used to call teletext, change to transparent mode and then exit. The summary appears with a list of items that can be accessed. Each item has a corresponding 3 digit page number.

If the channel selected does not broadcast teletext, the indication 100 will be displayed and the screen will remain blank (in this case, exit teletext and select another channel).

Selecting a page
   
 Enter the number of the page required using the 0 to 9 or P keys.  . Example: page 120, enter 1 2 0. The number is displayed top left, the counter turns and then the page is displayed. Repeat this operation to view another page.
 If the counter continues to search, this means that the page is not transmitted. Select another number.

Direct access to the items

 Coloured areas are displayed at the bottom of the screen. The 4 coloured keys are used to access the items or corresponding pages.
 The coloured areas flash when the item or the page is not yet available.

Contents

 This returns you to the contents page (usually page 100).


Temporary stop

 This is used to temporarily disable or activate the teletext display.


Enlarge a page




 This allows you to display the top or bottom part of the page and then return to normal size.

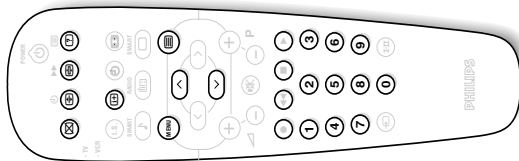
Stop sub-page acquisition

 Certain pages contain sub-pages which are automatically displayed successively. This key is used to stop or resume sub-page acquisition. The indication  appears top left.

Hidden information

 To display or hide the concealed information (games solutions).

Favourite pages

 For teletext programs 0 to 40, you can store 4 favourite pages which can then be accessed directly using the coloured keys (red, green, yellow, blue).

- 1 Press the  key to change to favourite pages mode.
- 2 Press the teletext page that you want to store.
- 3 Press the coloured key of your choice for 3 seconds. The page is now stored.
- 4 Repeat the operation with the other coloured keys.
- 5 You can now consult teletext and your favourite pages will appear in colour at the bottom of the screen. To retrieve the standard items, press . To clear everything, press  for 5 seconds.



16:9 Formats

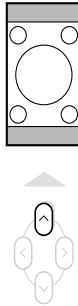
The pictures you receive may be transmitted in 16:9 format (wide screen) or 4:3 format (conventional screen). 4:3 pictures sometimes have a black band at the top and bottom of the screen (letterbox format). This function allows you to optimise the picture display on screen.

Automatic switching



This TV set is also equipped with automatic switching which will select the correct-screen format, provided the specific signals are transmitted with the programmes.
 This automatic format can also be modified manually.

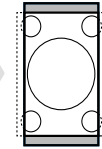
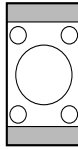
Using the different screen formats

Press the  key (or ) to select the different modes: 4:3, Zoom 14:9, Zoom 16:9, Subtitle Zoom, Super Wide and Widescreen.
 You can also access these settings with key .





4:3 Mode



The picture is reproduced in 4:3 format and a black band is displayed on either side of the picture. The picture may be progressively enlarged using the   keys.

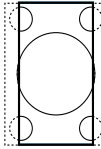


Zoom 14:9 Mode



The picture is enlarged to 14:9 format, a thin black band remains on both sides of the picture. The   keys allow you to compress and move the image vertically to view the top or bottom of the picture (subtitles).

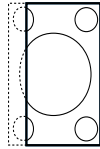
Zoom 16:9 Mode

The picture is enlarged to 16:9 format. This mode is recommended when displaying pictures which have black bands at the top and bottom (letterbox format). Use the   keys if you wish to compress and move the image vertically to view the top or bottom of the picture.





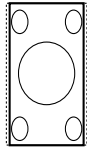
Subtitle Zoom Mode

This mode is used to display 4:3 pictures using the full surface of the screen leaving the sub-titles visible. Use the   keys to increase or decrease the compression at the bottom of the screen.



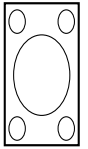
Super Wide Mode

This mode is used to display 4:3 pictures using the full surface of the screen by enlarging the sides of the picture. The   keys allow you to scroll the image up or down the screen.



Widescreen Mode

This mode restores the correct proportions of pictures transmitted in 16:9 using full screen display.
 Note: If you display a 4:3 picture in this mode, it will be enlarged horizontally.

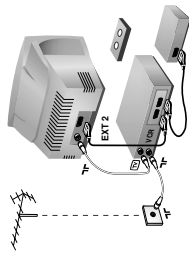


Connecting peripheral equipment

The television has 2 external sockets situated at the back of the set (EXT1 and EXT2).
 The EXT1 socket has audio, CVBS/RGB inputs and audio, CVBS outputs.
 The EXT2 socket has audio, CVBS/S-VHS inputs and audio, CVBS outputs.

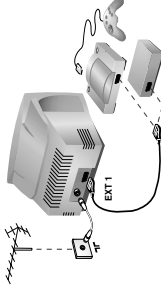
Video recorder

Carry out the connections shown opposite, using a good quality euroconnector cable.
 If your video recorder does not have a euroconnector socket, the only connection possible is via the aerial cable. You will therefore need to tune in your video recorder's test signal and assign it programme number 0 (refer to manual store, p. 6).
 To reproduce the video recorder picture, press 0.



Other equipment

Satellite receiver, decoder, CDV, games, etc.
 Carry out the connections shown opposite.
 To optimise picture quality, connect the equipment which produces the RGB signals (digital decoder, games, etc.) to EXT1, and the equipment which produces the S-VHS signals (S-VHS and Hi-8 video recorders, certain DVD drives) to EXT2 and all other equipment to either EXT1 or EXT2.



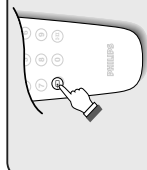
Amplifier (only available on certain versions)

To connect to a hi-fi system, use an audio connection cable and connect the "L" and "R" outputs on the TV set to the "AUDIO IN" "L" and "R" input on your hi-fi amplifier.

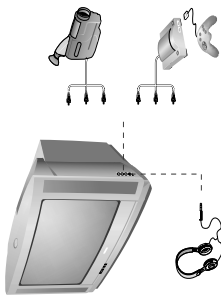


To select connected equipment

Press the 0 key to select EXT1, EXT2, S-VHS2 (S-VHS signals from the EXT2 socket) and AV for connections on the front panel. Most equipment (decoder, video recorder) carries out the switching itself.



Side connections



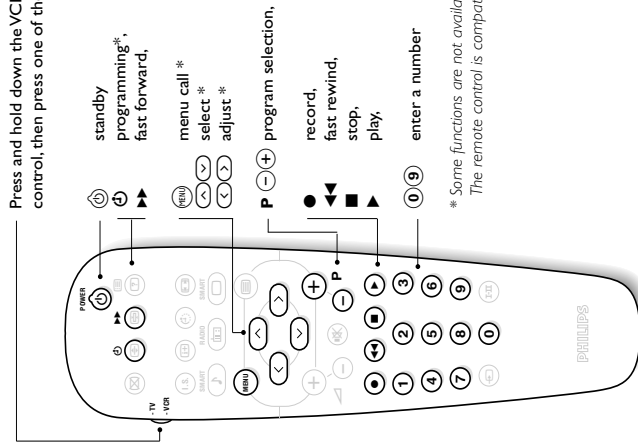
Make the connections as shown opposite.
 With the 0 key, select AV.
 For a monophonic device, connect the audio signal to the AUDIO L input. Use the 0 key to reproduce the sound on the left, and right, speakers of the TV set.

Headphones

When headphones are connected, the sound on the TV set will be cut. The 0 P + keys are used to adjust the volume level.
 The headphone impedance must be between 32 and 600 Ohms.

VCR key

The remote control lets you control the main functions of the VCR.



Press and hold down the VCR key located on the side of the remote control, then press one of the keys to access the VCR functions:

* Some functions are not available on all VCRs.
 The remote control is compatible with all VCRs using the RCS standard.

5. Service Modes, Error Codes and Fault Finding

Index of this chapter:

1. Test points.
2. Service Modes.
3. Problems and Solving Tips (related to CSM).
4. ComPair.
5. Error Codes.
6. The Blinking LED Procedure.
7. Protections.
8. Repair Tips.

5.1 Test Points

The chassis is equipped with test points printed on the circuit board assemblies. These test points refer to the functional blocks:

TEST POINT OVERVIEW L01		
Test point	Circuit	Diagram
A1-A2-A3-.....	Audio processing	A8, A9 / A11
C1-C2-C3-.....	Control	A7
F1-F2-F3-.....	Frame drive	A3
I1-I2-I3-.....	Tuner & IF	A4
L1-L2-L3-.....	Line drive	A2
P1-P2-P3-.....	Power supply	A1
S1-S2-S3-.....	Synchronisation	A6
V1-V2-V3-.....	Video processing	A5, B1

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Figure 5-1

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

Perform measurements under the following conditions:

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

5.2 Service Modes

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

There is also the option of using ComPair, a hardware interface between a computer (see requirements) and the TV chassis. It offers the ability of structured trouble shooting, error code reading and software version readout for all L01 chassis.

Minimum requirements: a 486 processor, Windows 3.1 and a CD-ROM drive. A Pentium Processor and Windows 95/98 are also acceptable (see also paragraph 5.4).

SW cluster	SW name	UOC-type	Diversity	Remark
2EU0	L01ET0 x.y	TDA9555	West Europe, 1 page TXT	All Service Modes
2EU9	L01ET9 x.y	TDA9555	East Europe, 1 page TXT	All Service Modes
3EU1	L01EF1 x.y	TDA9565	West Europe, 10 page TXT	All Service Modes
3EU2	L01EF2 x.y	TDA9563	East Europe, 10 page TXT	All Service Modes
Abbreviations: E= Europe, F= Full TXT, M= mono, T= 1 page TXT				

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Figure 5-2

5.2.1 Service Default Mode (SDM)

Purpose

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

Specifications

- Tuning frequency:
 - 475.25 MHz for PAL/SECAM (Europe and AP-PAL).
 - 61.25 MHz (channel 3) for NTSC-sets (NAFTA, LATAM and AP-NTSC).
- Colour system:
 - PAL-M for LATAM BI/TRI/FOUR-NORMA.
 - SECAM L for France.
 - NTSC for NAFTA and AP-NTSC.
 - PAL-BG for Europe and AP-PAL.
- All picture settings at 50 % (brightness, colour contrast, hue).
- Bass, treble and balance at 50 %; volume at 25 %.
- All service-unfriendly modes (if present) are disabled, like:
 - (sleep) timer,
 - child/parental lock,
 - blue mute,
 - hotel/hospitality mode
 - auto switch-off (when no 'IDENT' video signal is received for 15 minutes),
 - skip / blank of non-favorite presets / channels,
 - auto store of personal presets,
 - auto user menu time-out.

How to enter SDM

Use one of the following methods:

- Use a standard customer RC-transmitter and key in the code '062596' directly followed by the MENU button or
- Short wires 9631 and 9641 on the mono carrier (see Fig. 8-1) and apply Mains power. Then press the power button (remove the short after start-up). **Caution:** Entering SDM by shorten wires 9631 and 9641 will override the +8V-protection. Do this only for a short period. When doing this, the service-technician must know exactly what he is doing, as it could lead to damaging the set.
- Or via ComPair.

After entering SDM, the following screen is visible, with SDM at the upper right side for recognition.

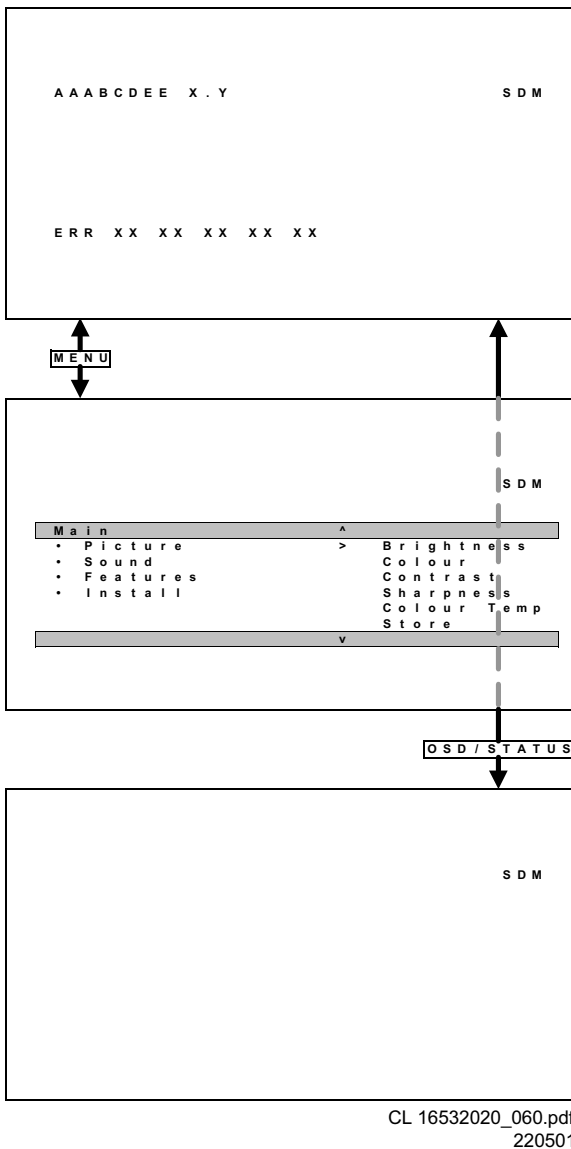


Figure 5-3

How to navigate

Use one of the following methods:

- When you press the MENU button on the remote control, the set will switch between the SDM and the normal user menu (with the SDM mode still active in the background). Return to the SDM screen with the OSD / STATUS button.
- When you press the OSD / STATUS button on the remote control, the menu will show or hide the error buffer. This feature is available to prevent interference during waveform measurements.
- On the TV, press and hold the 'VOLUME down' and press the 'CHANNEL down' for a few seconds, to switch from SDM to SAM and reverse.

How to exit

Switch the set to STANDBY by pressing the power button on the remote control transmitter (if you switch the set 'off' by removing the Mains power, the set will return in SDM when Mains power is re-applied). The error buffer is cleared.

5.2.2 Service Alignment Mode (SAM)**Purpose**

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

Specifications

- Operation hours counter.
- Software version.
- Option settings.
- Error buffer reading and erasing.
- Software alignments.

How to enter

Use one of the following methods:

- Use a standard customer RC-transmitter and key in the code '062596' directly followed by the OSD / STATUS button or
- Via ComPair.

The following screen is visible, with SAM at the upper right side for recognition.

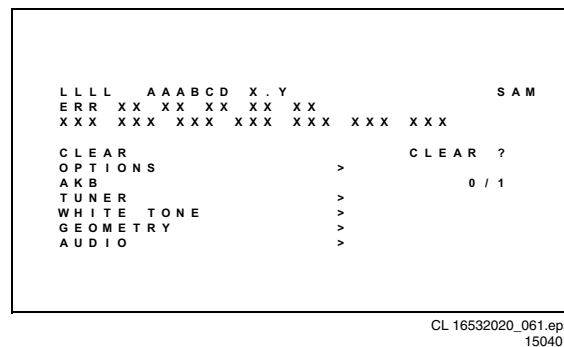


Figure 5-4

1. **LLLL** This is the operation hours counter. It counts the normal operation hours, not the standby hours.
2. **AAABCD-X.Y** This is the software identification of the main micro controller:
 - A = the project name (L01).
 - B = the region: E = Europe, A = Asia Pacific, U = NAFTA, L = LATAM.
 - C = the software diversity: D= DVD, F= full TXT, M= mono, T= 1 page TXT.
 - D = the language cluster number.
 - X = the main software version number.
 - Y = the sub software version number.
3. **SAM** Indication of the actual mode.
4. **Error buffer** Five errors possible.
5. **Option bytes** Seven codes possible.
6. **Clear** Erase the contents of the error buffer. Select the CLEAR menu item and press the CURSOR RIGHT key. The content of the error buffer is cleared.
7. **Options** To set the Option Bytes. See chapter 8.3.1 for a detailed description.
8. **AKB** Disable (0) or enable (1) the 'black current loop' (AKB = Auto Kine Bias).
9. **Tuner** To align the Tuner. See chapter 8.3.2 for a detailed description.
10. **White Tone** To align the White Tone. See chapter 8.3.3 for a detailed description.
11. **Geometry** To align the Geometry. See chapter 8.3.4 for a detailed description.
12. **Audio** To align the Audio. See chapter 8.3.5 for a detailed description.

How to navigate

Use one of the following methods:

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

- Activate the selected submenu.
- When you press the MENU button twice, the set will switch to the normal user menus (with the SAM mode still active in the background). To return to the SAM menu press the OSD / STATUS button [i+].
- When you press the MENU key in a submenu, you will return to the previous menu.

How to exit

Switch the set to STANDBY by pressing the power button on the remote control (if you switch the set 'off' by removing the Mains power, the set will return in SAM when Mains power is re-applied). The error buffer is **not** cleared.

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

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

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

How to enter

The CSM will be turned on after pressing the MUTE key on the remote control transmitter and any of the control buttons on the TV for at least 4 seconds **simultaneously**. This activation only works if there is no menu on the screen.

After switching ON the Customer Service Mode, the following screen will appear:

```

1  AAABCD X.Y CSM
2  CODES  XX XX XX XX XX
3  OP     XXX XXX XXX XXX XXX XXX XXX
4  DETECTED SYSTEM DETECTED SOUND
5  NOT TUNED SKIPPED
6  TIMER
7
8  CO XX CL XX BR XX HU XX SH XX
9  VL XX BL XX AVL DV XX
10 TR XX BS XX

```

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Figure 5-5

1. Software identification of the main micro controller (see paragraph 5.2.2 for an explanation).
2. Error code buffer (see paragraph 5.5 for more details). Displays the last seven errors of the error code buffer.
3. In this line, the Option Bytes (OB) are visible. Each Option Byte is displayed as a decimal number between 0 and 255. The set may not work correctly when an incorrect option code is set. See chapter 8.3.1 for more information on the option settings.
4. Indicates which color and sound system is installed for the selected pre-set.
5. Indicates if the set is not receiving an 'IDENT' signal on the selected source. It will display 'Not Tuned'.
6. Indicates if the sleep timer is enabled.
7. Indicates if the V-chip feature is enabled.
8. Value indicates parameter levels at CSM entry. CO= CONTRAST, CL= COLOR, BR= BRIGHTNESS, HU= HUE, SH= SHARPNESS
9. Value indicates parameter levels at CSM entry. VL= VOLUME LEVEL, BL= BALANCE LEVEL, AVL= AUTO VOLUME LEVEL LIMITER, DV= DELTA VOLUME

10. Value indicates parameter levels at CSM entry (only for stereo sets). TR= TREBLE, BS= BASS

How to exit

Use one of the following methods:

- After you press 'any' key of the remote control transmitter with exception of the CHANNEL and VOLUME keys.
- After you switch-off the TV set with the Mains power switch.

5.3 Problems and Solving Tips (Related To CSM)**5.3.1 Picture Problems**

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

No colours / noise in picture

Check CSM line 4. Wrong colour system installed. To change the setting:

1. Press the MENU button on the remote control.
2. Select the INSTALL sub menu.
3. Select the MANUAL STORE sub menu.
4. Select and change the SYSTEM setting until picture and sound are correct.
5. Select the STORE menu item.

Colours not correct / unstable picture

Check CSM line 4. Wrong colour system installed. To change the setting:

1. Press the MENU button on the remote control.
2. Select the INSTALL sub menu.
3. Select the MANUAL STORE sub menu.
4. Select and change the SYSTEM setting until picture and sound are correct.
5. Select the STORE menu item.

TV switches 'off' (or 'on') or changes the channel without any user action

(Sleep)timer switched the set 'off' or changed channel. To change the setting:

1. Press the MENU button on the remote control.
2. Select the FEATURES sub menu.
3. Select the TIMER sub menu.
4. Select and change the SLEEP or TIME setting.

Picture too dark or too bright

Increase / decrease the BRIGHTNESS and / or the CONTRAST value when:

- The picture improves after you have pressed the 'Smart Picture' button on the remote control.
- The picture improves after you have switched on the Customer Service Mode

The new 'Personal' preference value is automatically stored.

White line around picture elements and text

Decrease the SHARPNESS value when:

- The picture improves after you have pressed the 'Smart Picture' button on the remote control.
- The picture improves after you have switched on the Customer Service Mode

The new 'Personal' preference value is automatically stored.

Snowy picture

Check CSM line 5. If this line indicates 'Not Tuned', check the following:

- No or bad antenna signal. Connect a proper antenna signal.
- Antenna not connected. Connect the antenna.
- No channel / pre-set is stored at this program number. Go to the INSTALL menu and store a proper channel at this program number.

- Starter kit ComPair + SearchMan software + ComPair interface (excluding transformer): 4822 727 21629
- ComPair interface (excluding transformer): 4822 727 21631
- Starter kit ComPair software (registration version): 4822 727 21634
- Starter kit SearchMan software: 4822 727 21635
- ComPair CD (update): 4822 727 21637
- SearchMan CD (update): 4822 727 21638
- ComPair interface cable: 3122 785 90004

5.5 Error Buffer

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

5.5.1 How to Read the Error Buffer

Use one of the following methods:

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

- Via ComPair.

5.5.2 How to Clear the Error Buffer

The error code buffer is cleared in the following cases:

- By activation of the CLEAR command in the SAM menu:
- When you exit SDM / SAM with the STANDBY command on the remote control (when leaving SDM / SAM, by disconnecting the set from Mains power, the error buffer is not reset).
- When you transmit the command DIAGNOSE-99-OK with ComPair.
- If the content of the error buffer has not changed for 50 hours, it resets automatically.

5.5.3 Error Codes

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

If possible, check the entire contents of the error buffer. In some situations, an error code is only the result of another error code and not the actual cause (e.g., a fault in the protection detection circuitry can also lead to a protection).

ERROR CODE TABLE				
Error	Device	Error description	Def. item	Diagram
0	Not applicable	No Error		
1	Not applicable	X-Ray/overvoltage protection (USA only)	2465, 7460	A2
2	Not applicable	Horizontal protection	7460, 7461, 7462, 7463, 6467	A2
	TDA8359/TDA9302	Vertical protection	7861, VlotAux+13V	A2, A3
3	Reserve			
4	MSP34X5 / TDA9853	MSP I ² C identification error	7831 or 7861	A9 or A11
5	TDA95xx	POR 3V3 / +8V protection	7200, 7560, 7480	A5, A6, A7, A1, A2
6	I ² C bus	General I ² C bus error	7200, 3624, 3625	A7
7	AN7522/3	Power down (over current) protection	7901 / 7902, 7561	A8, A1
8	Not applicable	E/W protection (Large Screen)	7400, 3405, 3406, 3400	A2
9	M24C08	NVM I ² C identification error	7602, 3611, 3603/04	A7
10	Tuner	Tuner I ² C identification error	1000, 7482	A4, A2
11	TDA6107/8	Black current loop protection	7330, RGB amps, CRT	B1, B2
12	M65669	PIP I ² C identification error	7803	P

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Figure 5-7

5.6 The Blinking LED Procedure

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

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

Error-codes ≥ 10 are shown as follows:

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

Example of error buffer: **12 9 6 0 0**

After entering SDM:

- 1 long blink of 750 ms followed by a pause of 1.5 s,
- 2 short blinks followed by a pause of 3 s,
- 9 short blinks followed by a pause of 3 s,
- 6 short blinks followed by a pause of 3 s,
- 1 long blink of 3 s to finish the sequence,
- the sequence starts again.

5.7 Protections

If a fault situation is detected an error code will be generated and if necessary, the set will be put in the protection mode. Blinking of the red LED at a frequency of 3 Hz indicates the protection mode. In some error cases, the microprocessor does not put the set in the protection mode. The error codes of the error buffer can be read via the service menu (SAM), the blinking LED procedure or via ComPair. The DST diagnose functionality will force the set into the Service-standby, which is similar to the usual standby mode, however the microprocessor has to remain in normal operation completely.

To get a quick diagnosis the chassis has three service modes implemented:

- The Customer Service Mode (CSM).
- The Service Default Mode (SDM). Start-up of the set in a predefined way.
- The Service Alignment Mode (SAM). Adjustment of the set via a menu and with the help of test patterns.

See for a detailed description Chapter 9 paragraphs Deflection and Power Supply.

5.8 Repair Tips

Below some failure symptoms are given, followed by a repair tip.

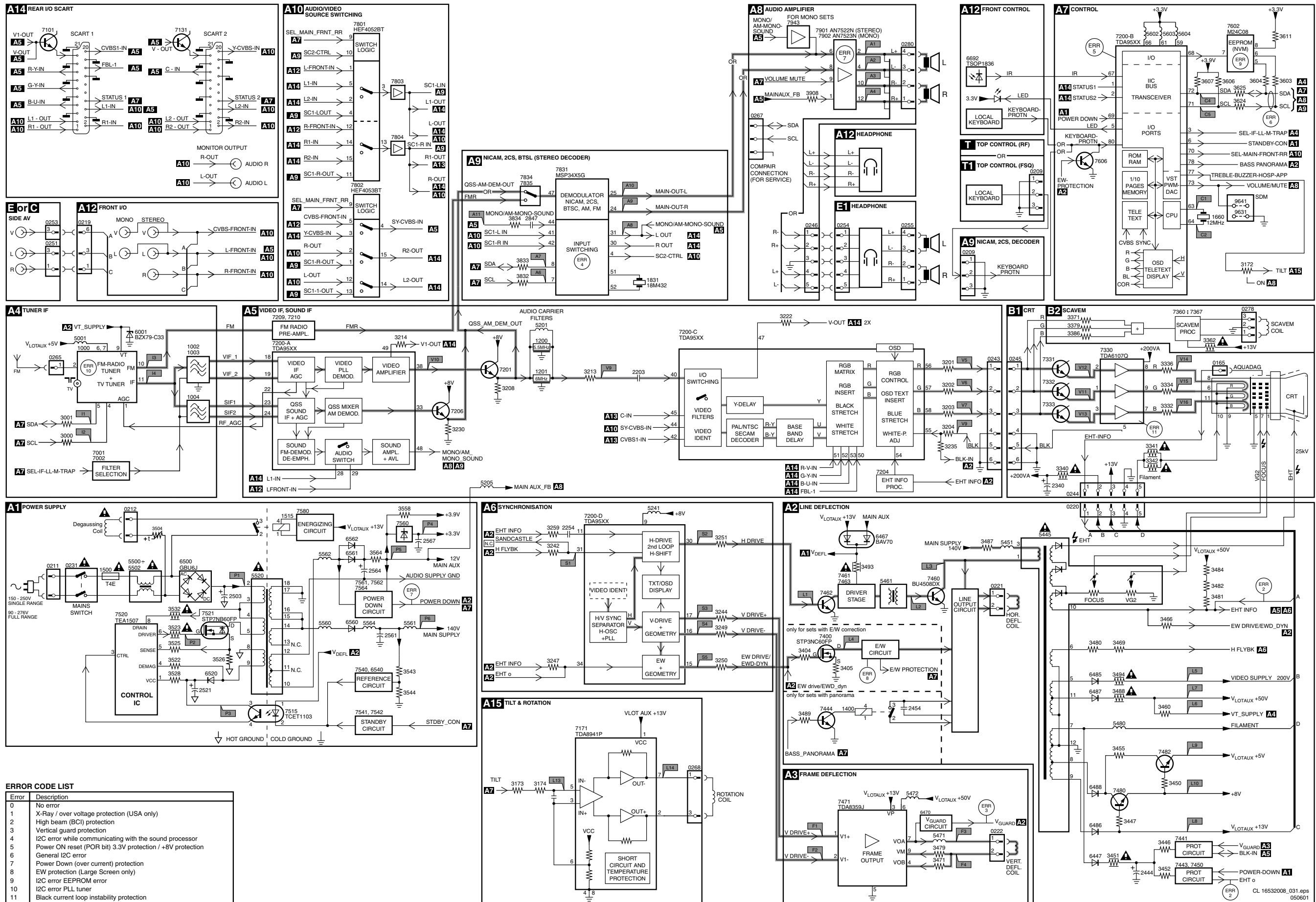
- **Set is dead and makes hiccuping sound**
'MainSupply' is available. Hiccuping stops when desoldering L5561, meaning that problem is in the 'MainSupply' load. No output voltages at LOT, no horizontal deflection. Reason: line transistor 7460 is defective.
- **Set is dead, and makes no sound**
Check power supply IC7520. Result: voltage at pins 1, 3, 4, 5 and 6 are about 180 V and pin 8 is 0 V. The reason why the voltage on these pins is so high is because the output driver (pin 6) has an open load. That is why MOSFET TS7521 is not able to switch. Reason: feedback resistor 3523 is defective.
Caution: be careful measuring on the gate of TS7521; circuitry is very high ohmic and can easily be damaged! (first connect ground to measuring equipment, than the gate).
- **Set is in hiccup mode and shuts down after 8 s.**

Blinking LED (set in SDM mode) indicates error 5. As it is unlikely that μ P 'POR' and '+8V protection' happen at the same time, measure the '+8V'. If this voltage is missing, check transistor TS7480.

- **Set is non-stop in hiccup mode**
Set is in over current mode; check the secondary sensing (opto coupler 7515) and the 'MainSupply' voltage. Signal 'Stdbby_con' must be logic low under normal operation conditions and goes to high (3.3 V) under standby and fault conditions.
- **Set turns on, but without picture and sound**
The screen shows snow, but OSD and other menus are okay. Blinking LED procedure indicates error 10, so problem is expected in the tuner (pos. 1000). Check presence of supply voltages. As 'Vlotaux+5V' at pin 6 and 7 are okay, 'VT_supply' at pin 9 is missing. Conclusion: resistor 3460 or 3488 is defective.
- **Set turns on, but with a half screen at the bottom. Sound is okay**
Blinking LED (set in SDM mode) indicates error 2. Check 'Vlotaux+13V' and '+50V'. If they are okay, problem is expected in the vertical amplifier IC7471. Measure with a scope the waveform on pin 17 of the UOC. Measure also at pin 1 of IC7471. If here the signal is missing, a defective resistor R3244 causes the problem.

6. Block Diagram, Testpoints, I2C and Supply Voltage Overview

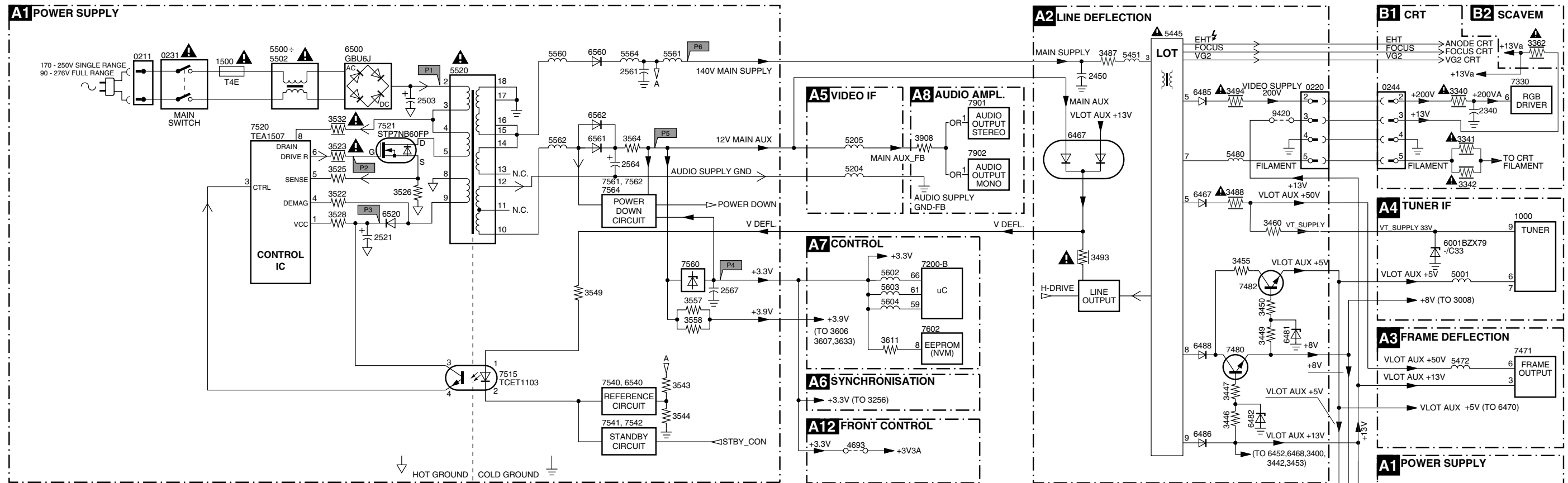
Block Diagram



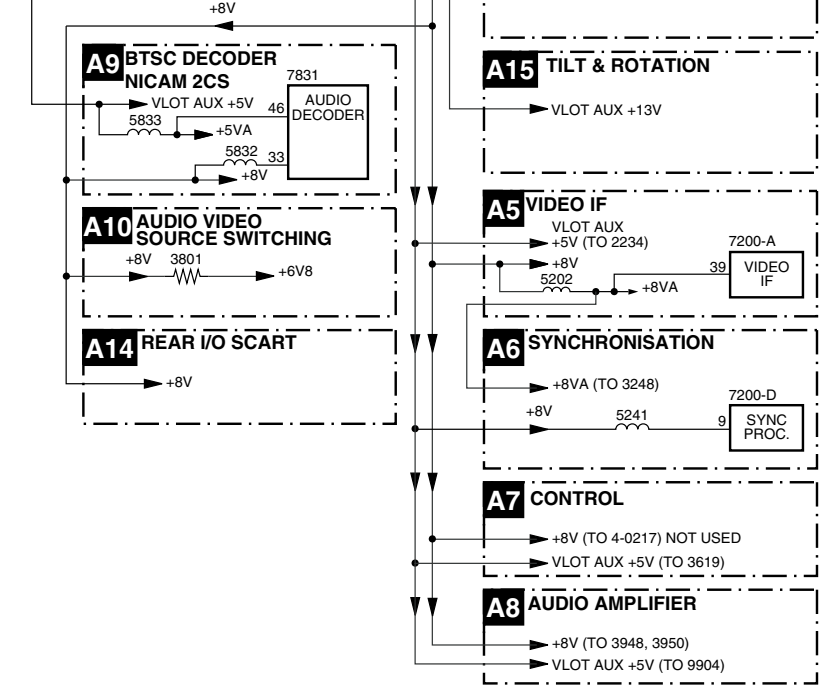
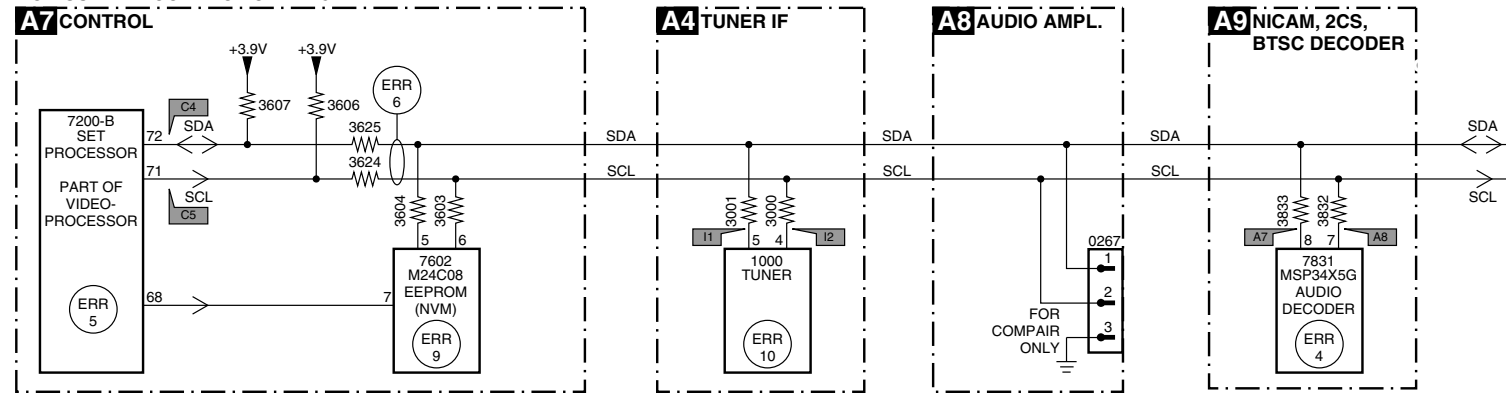
ERROR CODE LIST

Error	Description
0	No error
1	X-Ray / over voltage protection (USA only)
2	High beam (BCI) protection
3	Vertical guard protection
4	I2C error while communicating with the sound processor
5	Power ON reset (POR bit) 3.3V protection / +8V protection
6	General I2C error
7	Power Down (over current) protection
8	EW protection (Large Screen only)
9	I2C error EEPROM error
10	I2C error PLL tuner
11	Black current loop instability protection

I2C and Supply Voltage Diagram



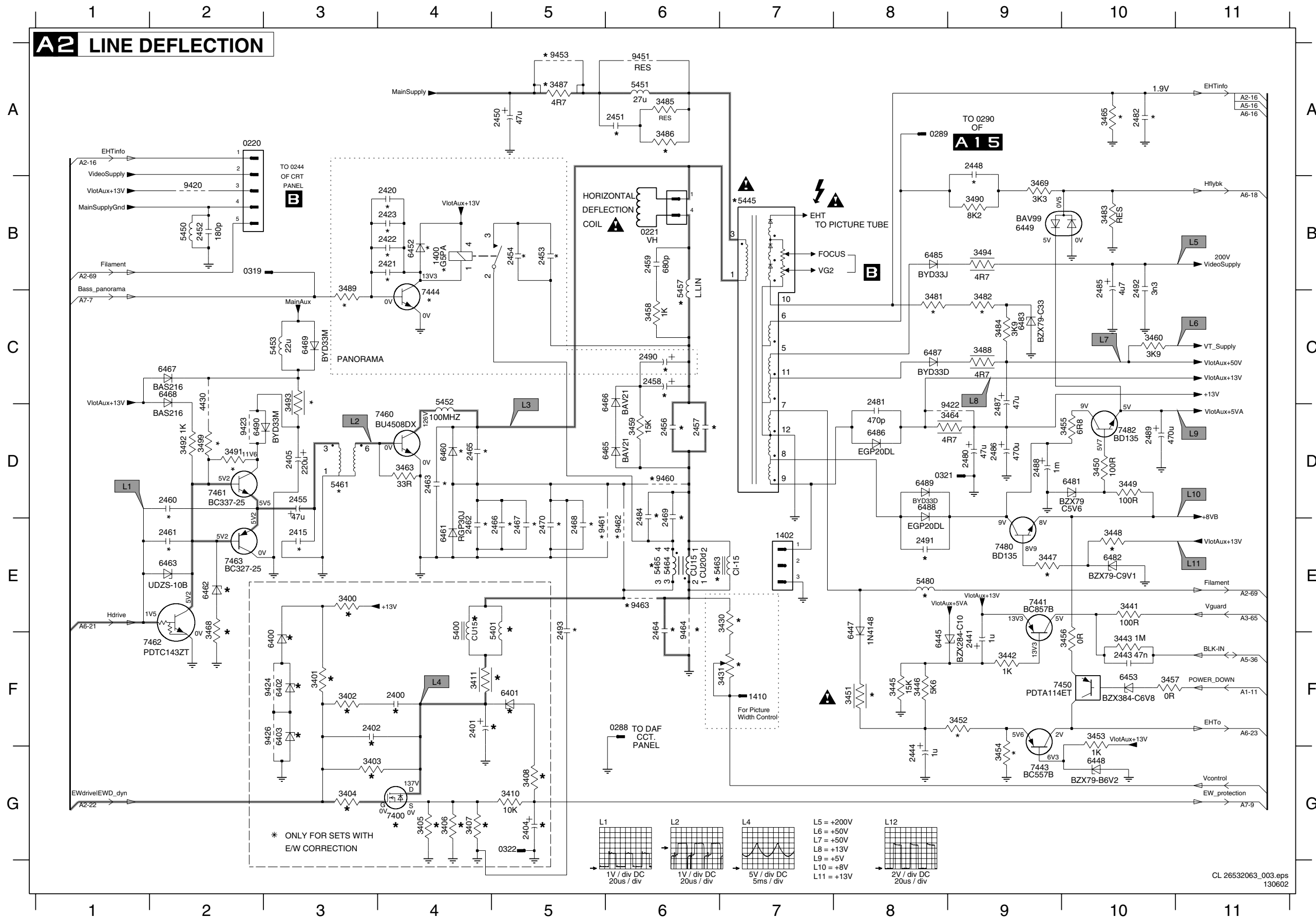
I2C BUS INTERCONNECTION DIAGRAM



ERROR CODE LIST

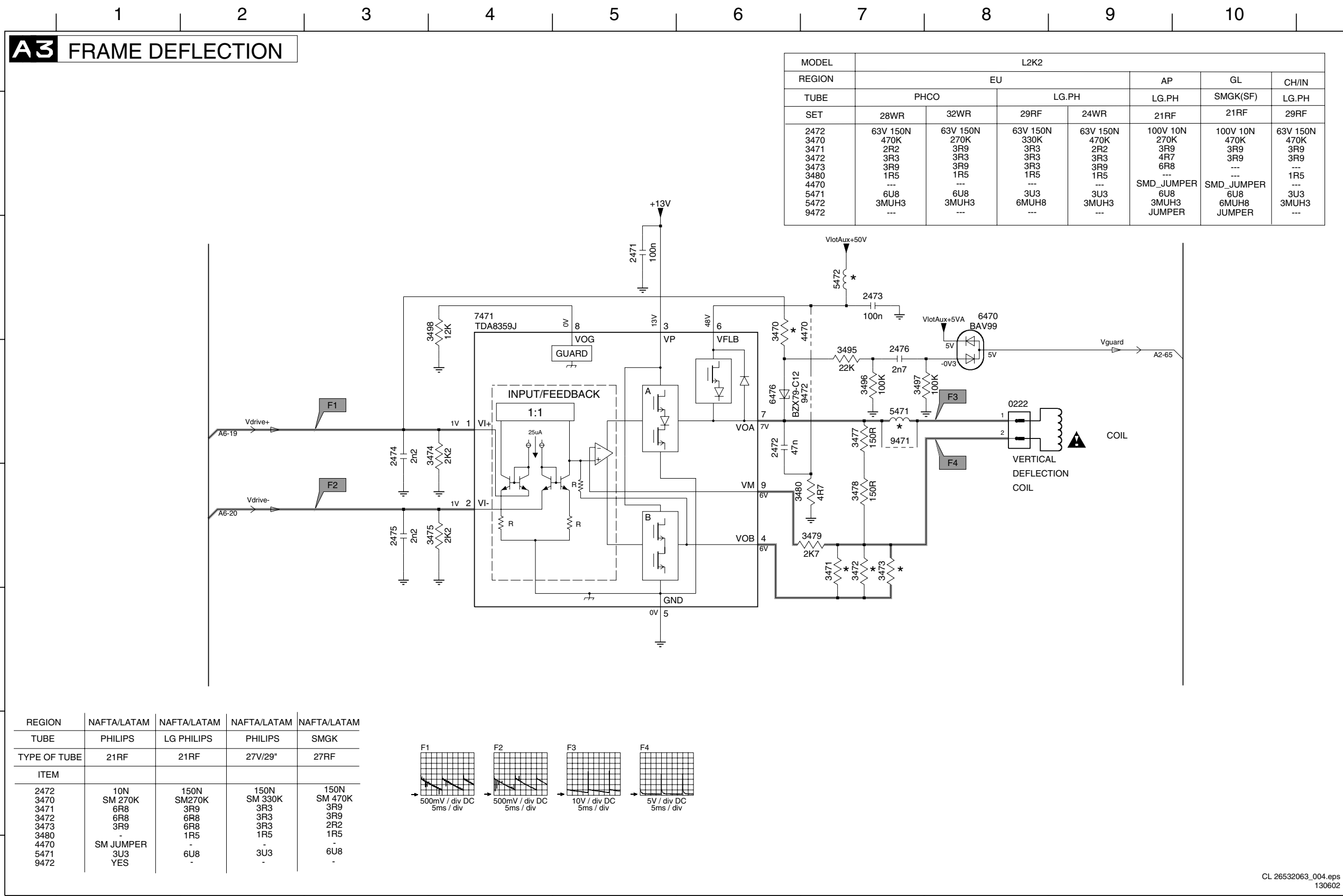
Error	Description
0	No error
1	X-Ray / over voltage protection
2	High beam (BCI) protection
3	Vertical guard protection
4	I2C error while communicating with the sound processor
5	Power ON reset (POR bit) 3.3V protection / +8V protection
6	General I2C error
7	Power Good (over current) protection
8	EW protection (Large Screen only)
9	I2C error EEPROM error
10	I2C error PLL tuner
11	Black current loop instability protection

Mono Carrier: Line Deflection



0220 A2	3464 D9
0221 B6	3465 A10
0288 F6	3468 E2
0289 A9	3469 B9
0319 B2	3481 C8
0321 D8	3482 C9
0322 G5	3483 B10
1400 B4	3484 C9
1402 E7	3485 A6
1410 F7	3486 A6
2400 F4	3487 A5
2401 F4	3488 C9
2402 F3	3489 C3
2404 G5	3490 B9
2405 D3	3491 D2
2415 E3	3492 D2
2420 B4	3493 C3
2421 B4	3494 B9
2422 B4	3499 D2
2423 B4	4430 C2
2441 F9	5400 E4
2443 F10	5401 E5
2444 G8	5445 B7
2448 A9	5450 B2
2450 A5	5451 A6
2451 A6	5452 D4
2452 B2	5453 C3
2453 B5	5457 B6
2454 B5	5461 D3
2455 D3	5463 E7
2456 D6	5464 E6
2457 D6	5465 E6
2458 C6	5480 E8
2459 B6	6400 F3
2460 D2	6401 F5
2461 E2	6402 F3
2462 E4	6403 F3
2463 D4	6445 F8
2464 E6	6447 E8
2465 D4	6448 G10
2466 E5	6449 B9
2467 E5	6452 B4
2468 E5	6453 F10
2469 D6	6460 D4
2470 E5	6461 E4
2480 D9	6462 E2
2481 D8	6463 E2
2482 A10	6465 D6
2484 D6	6466 C6
2485 B10	6467 C2
2486 D9	6468 C2
2487 D9	6469 C3
2488 D9	6481 D10
2489 D10	6482 E10
2490 C6	6483 C9
2491 E8	6485 B8
2492 B10	6486 D8
2493 E5	6487 C8
3400 E3	6488 D8
3401 F3	6489 D8
3402 F3	6490 D2
3403 G3	7400 G4
3404 G3	7441 E9
3405 G4	7443 G9
3406 G4	7444 C4
3407 G4	7450 F10
3408 G5	7460 D3
3410 G5	7461 D2
3411 F4	7462 F1
3430 E7	7463 E2
3431 F7	7480 E9
3441 E10	7482 D10
3442 F9	9420 B2
3443 F10	9422 D9
3445 F8	9423 D2
3446 F8	9424 F3
3447 E9	9426 F3
3448 E10	9451 A6
3449 D10	9453 A5
3450 D10	9460 D6
3451 F8	9461 E5
3452 F9	9462 E6
3453 F10	9463 E6
3454 G9	9464 E6
3455 D10	
3456 F10	
3457 F10	
3458 C6	
3459 D6	
3460 C10	
3463 D4	

Mono Carrier: Frame Deflection

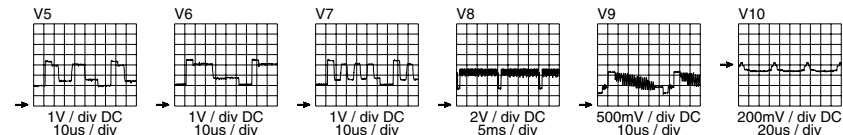
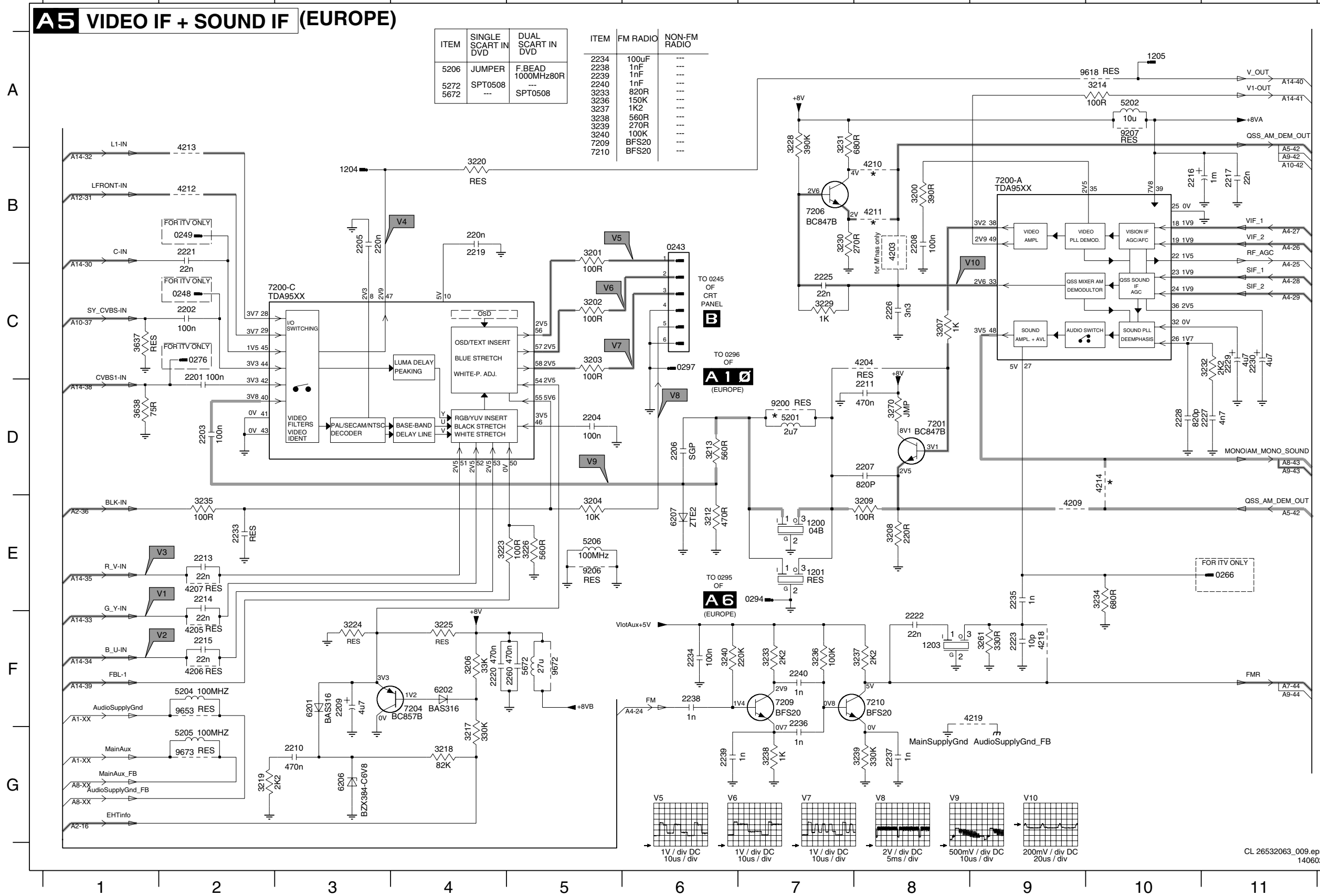


- 0222 C8
- 2471 B5
- 2472 C6
- 2473 B7
- 2474 C3
- 2475 D3
- 2476 C7
- 3470 B6
- 3471 D7
- 3472 D7
- 3473 D7
- 3474 C4
- 3475 D4
- 3477 C7
- 3478 D7
- 3479 D7
- 3480 D6
- 3495 C7
- 3496 C7
- 3497 C7
- 3498 B4
- 4470 B7
- 5471 C7
- 5472 B7
- 6470 B8
- 6476 C6
- 7471 B4
- 9471 C7
- 9472 C7

Mono Carrier: Video IF + Sound IF

A5 VIDEO IF + SOUND IF (EUROPE)

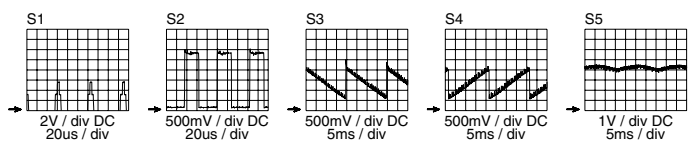
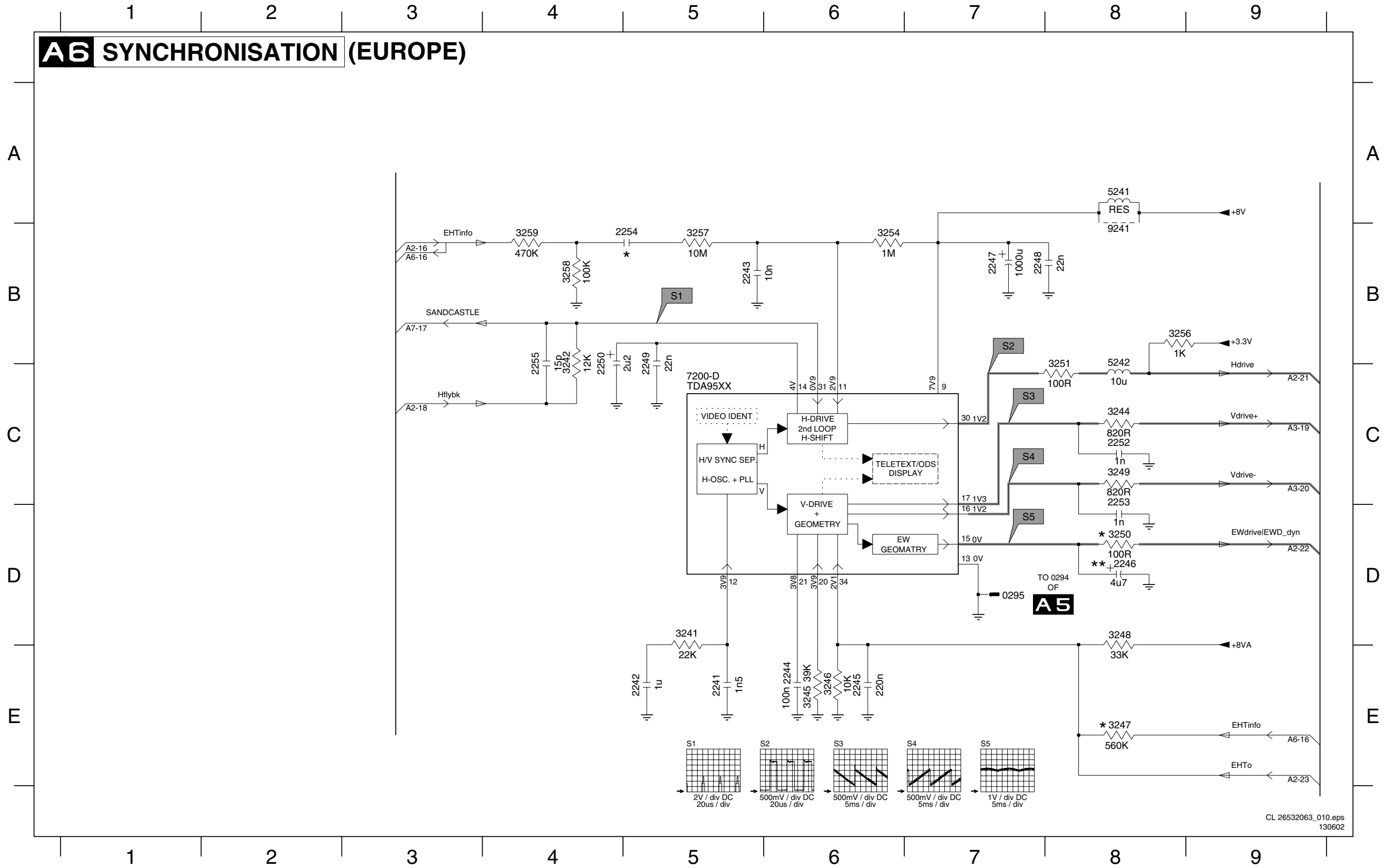
ITEM	SINGLE SCART IN DVD	DUAL SCART IN DVD	ITEM	FM RADIO	NON-FM RADIO
5206	JUMPER	F.BEAD 1000MHZ80R	2234	100uF	---
5272	SPT0508	---	2238	1nF	---
5672	---	SPT0508	2239	1nF	---
			2240	820R	---
			3233	150K	---
			3236	1K2	---
			3237	560R	---
			3238	270R	---
			3239	100K	---
			3240	BFS20	---
			7209	BFS20	---
			7210	BFS20	---



- 0243 B6
- 0248 C2
- 0249 B2
- 0266 E11
- 0276 C2
- 0294 E7
- 0297 C6
- 1200 E7
- 1201 E7
- 1203 F8
- 1204 B3
- 1205 A10
- 2201 D2
- 2202 C2
- 2203 D2
- 2204 D5
- 2205 B3
- 2206 D6
- 2207 D8
- 2208 B8
- 2209 F3
- 2210 G3
- 2211 D8
- 2212 E2
- 2213 E2
- 2214 E2
- 2215 F2
- 2216 B11
- 2217 B10
- 2219 B4
- 2220 F4
- 2221 B2
- 2222 F8
- 2223 F9
- 2225 C7
- 2226 C8
- 2227 D11
- 2228 D10
- 2229 C11
- 2230 C11
- 2233 E2
- 2234 F6
- 2235 E9
- 2236 F7
- 2237 G8
- 2238 F6
- 2239 G6
- 2240 F7
- 2260 F5
- 3200 B8
- 3201 B5
- 3202 C5
- 3203 C5
- 3204 E5
- 3206 F4
- 3207 C8
- 3208 E8
- 3209 E8
- 3212 E6
- 3213 D6
- 3214 A10
- 3217 G4
- 3218 G4
- 3219 G2
- 3220 B4
- 3223 E4
- 3224 F3
- 3225 F4
- 3226 E5
- 3228 A7
- 3229 C7
- 3230 B7
- 3231 A7
- 3232 C11
- 3233 F7
- 3234 E10
- 3235 E2
- 3236 F7
- 3237 F8
- 3238 G7
- 3239 G8
- 3240 F6
- 3261 F9
- 3270 D8
- 3637 C1
- 3638 D1
- 4203 B8
- 4204 C8
- 4205 F2
- 4206 F2
- 4207 E2
- 4209 E9
- 4210 B8
- 4211 B8
- 4212 B2
- 4213 A2
- 4214 D10
- 4218 F9
- 4219 F9
- 5202 D7
- 5202 A10
- 5204 F2
- 5205 G2
- 5206 E5
- 5206 F5
- 6201 F3
- 6202 F4
- 6206 G3
- 6207 E6
- 7200-A B9
- 7200-C C3
- 7210 D8
- 7204 F4
- 7213 E2
- 7206 B7
- 7209 F7
- 7210 F8
- 9200 D7
- 9206 E5
- 9207 A10
- 9618 A10
- 9653 F2
- 9672 F5
- 9673 G2

Mono Carrier: Synchronisation

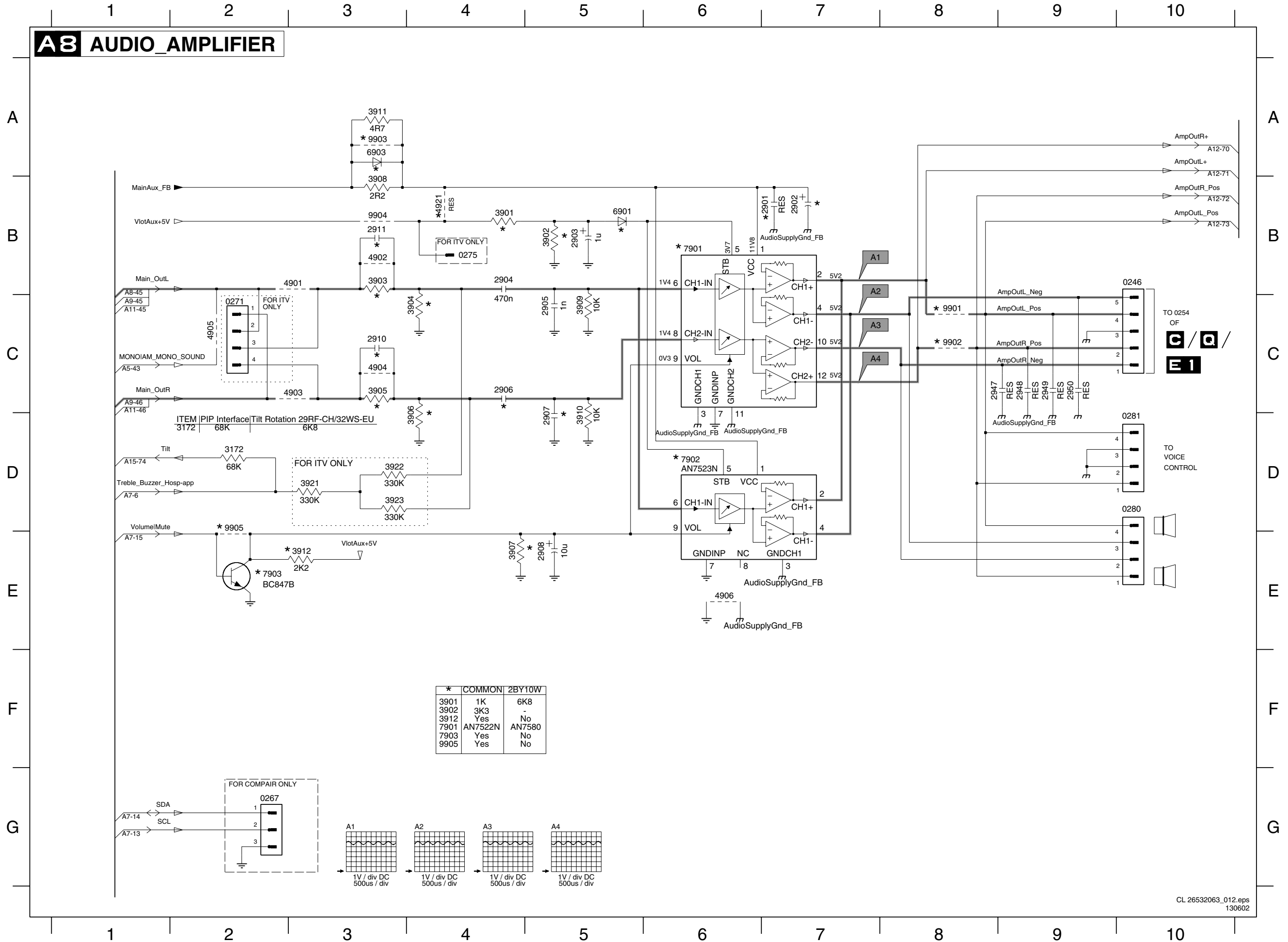
A6 SYNCHRONISATION (EUROPE)



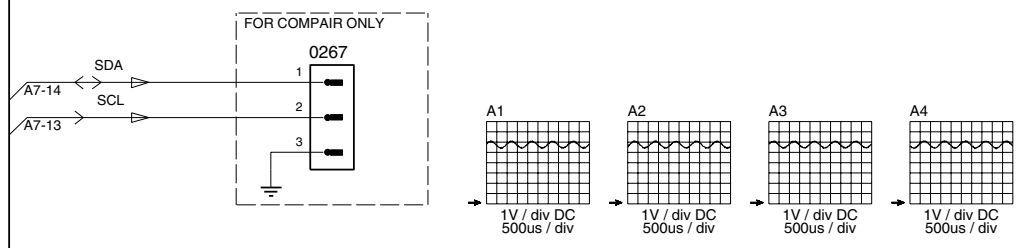
- 0295 D7
- 2241 E5
- 2242 E5
- 2243 B5
- 2244 E6
- 2245 E6
- 2246 D8
- 2247 B7
- 2248 B7
- 2249 B5
- 2250 B4
- 2252 C8
- 2253 C8
- 2254 B5
- 2255 B4
- 3241 D5
- 3242 B4
- 3244 C8
- 3245 E6
- 3246 E6
- 3247 E8
- 3248 D8
- 3249 C8
- 3250 D8
- 3251 C8
- 3254 B6
- 3256 B8
- 3257 B5
- 3258 B4
- 3259 B4
- 5241 A8
- 5242 C8
- 7200-D C5
- 9241 B8

Mono Carrier: Audio Amplifier

A8 AUDIO_AMPLIFIER



* COMMON	2BY10W	
3901	1K	6K8
3902	3K3	-
3912	Yes	No
7901	AN7522N	AN7580
7903	Yes	No
9905	Yes	No



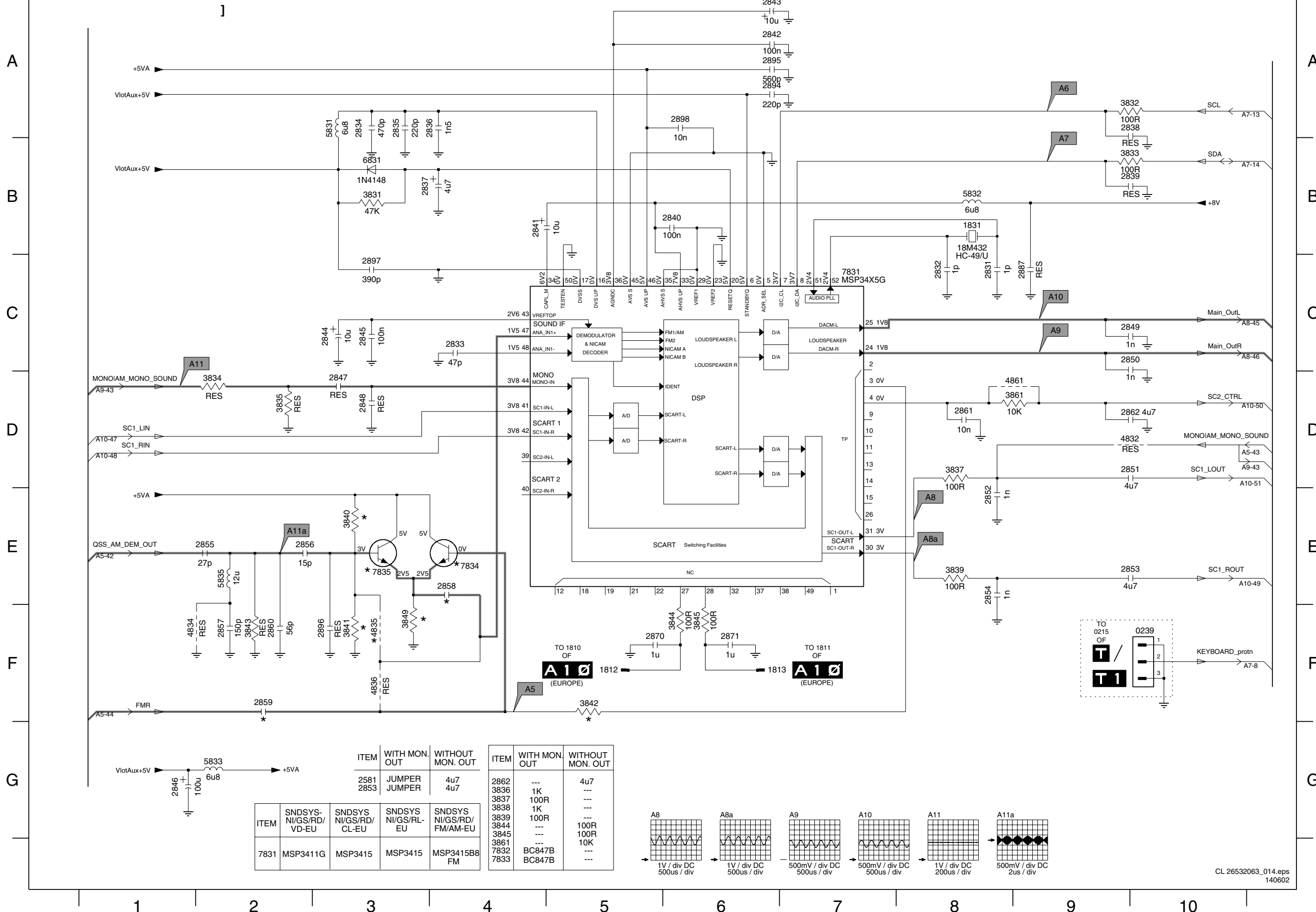
- 0246 B10
- 0267 G2
- 0271 C2
- 0275 B4
- 0280 D10
- 0281 C10
- 2901 B7
- 2902 B7
- 2903 B5
- 2904 B4
- 2905 C5
- 2906 C4
- 2907 D5
- 2908 E5
- 2910 C3
- 2911 B3
- 2947 C8
- 2948 C9
- 2949 C9
- 2950 C9
- 3172 D2
- 3901 B4
- 3902 B5
- 3903 B3
- 3904 C4
- 3905 C3
- 3906 D4
- 3907 E4
- 3908 B3
- 3909 C5
- 3910 D5
- 3911 A3
- 3912 E3
- 3921 D3
- 3922 D3
- 3923 D3
- 4901 B3
- 4902 B3
- 4903 C3
- 4904 C3
- 4905 C2
- 4906 E6
- 4921 B4
- 6901 B5
- 6903 A3
- 7901 B6
- 7902 D6
- 7903 E2
- 9901 C8
- 9902 C8
- 9903 A3
- 9904 B3
- 9905 D2

TO 0254 OF
C / Q /
E1

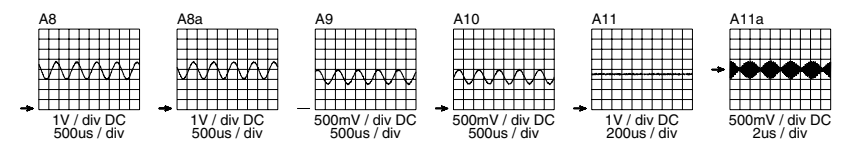
TO VOICE CONTROL

Mono Carrier: NICAM + 2CS + BTSC (Stereo / SAP) Decoder

A9 NICAM + 2CS + BTSC (STEREO/SAP) DECODER (EUROPE)



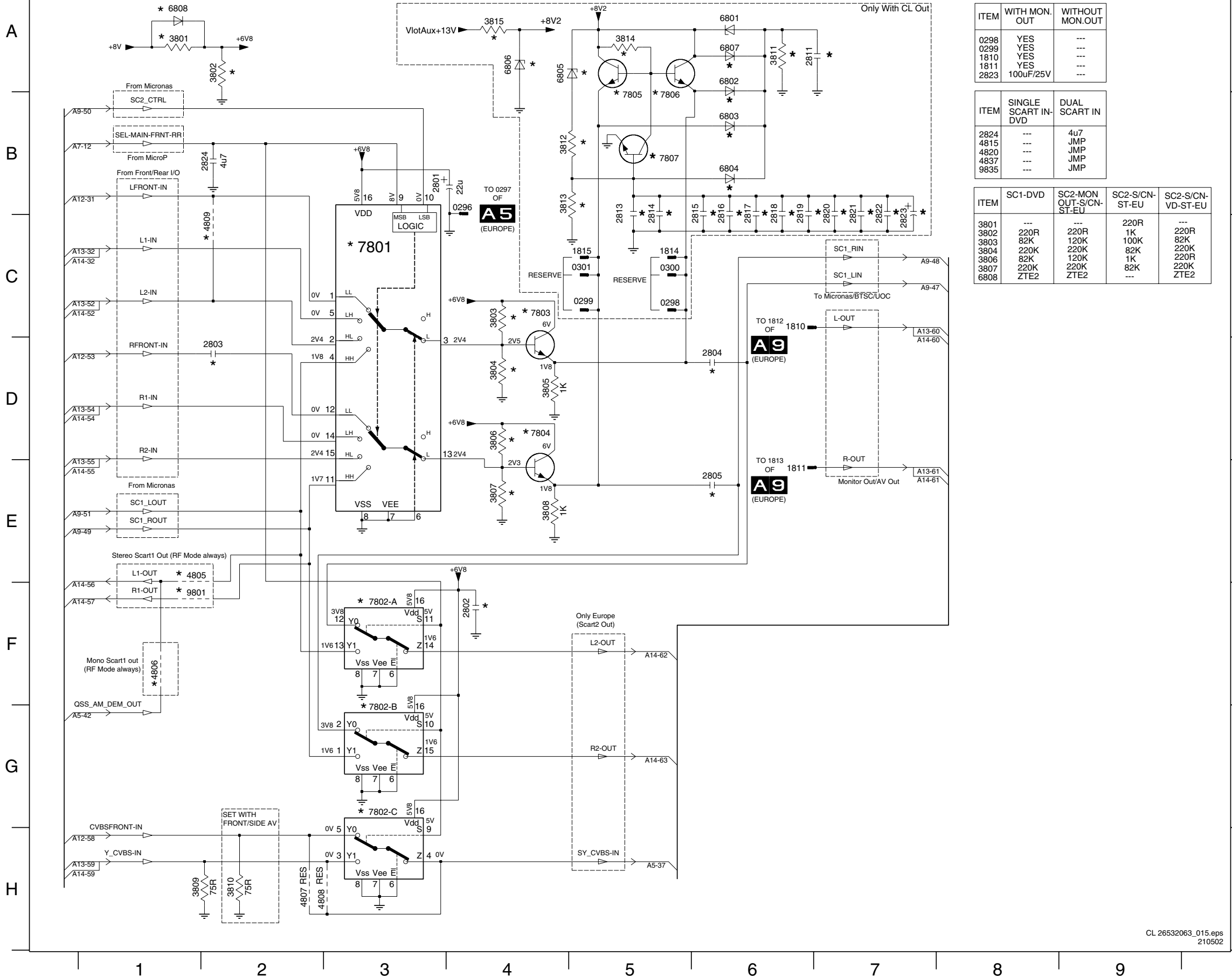
ITEM	WITH MON. OUT		WITHOUT MON. OUT	
	NI/GS/RD/VD-EU	NI/GS/RD/CL-EU	NI/GS/RL-EU	NI/GS/RD/FM/AM-EU
7831	MSP3411G	MSP3415	MSP3415	MSP3415B8 FM
2581	JUMPER	JUMPER	4u7	4u7
2853	JUMPER	JUMPER	4u7	4u7
2862	---	---	4u7	---
3836	1K	---	---	---
3837	100R	---	---	---
3838	1K	---	---	---
3839	100R	---	---	---
3844	---	100R	---	---
3845	---	100R	---	---
3861	---	10K	---	---
7832	BC847B	---	---	---
7833	BC847B	---	---	---



- 0239 F10
- 1812 F5
- 1813 F7
- 1831 B8
- 2832 C8
- 2833 C4
- 2834 A3
- 2835 A3
- 2836 A4
- 2837 B3
- 2838 A10
- 2839 B10
- 2840 B6
- 2841 B4
- 2842 A6
- 2843 A6
- 2844 C3
- 2845 C3
- 2846 G1
- 2847 D3
- 2848 D3
- 2849 C10
- 2850 C10
- 2851 D10
- 2852 E8
- 2853 E10
- 2854 E8
- 2855 E2
- 2856 E2
- 2857 F2
- 2858 E4
- 2859 F2
- 2860 F2
- 2861 D8
- 2862 D10
- 2870 F5
- 2871 F6
- 2887 C9
- 2894 A6
- 2895 A6
- 2896 F3
- 2897 C3
- 2898 A6
- 3831 B3
- 3832 A10
- 3833 B10
- 3834 D2
- 3835 D2
- 3837 D8
- 3839 E8
- 3840 E3
- 3841 F3
- 3842 F5
- 3843 F2
- 3844 F6
- 3845 F6
- 3849 F3
- 3861 D9
- 4832 D10
- 4834 F1
- 4835 F3
- 4836 F3
- 4861 D9
- 5831 A3
- 5832 B8
- 5833 G2
- 5835 E2
- 6831 B3
- 7831 C7
- 7834 E4
- 7835 E3

Mono Carrier: Audio / Video Source Switching

A 1 AUDIO/VIDEO SOURCE SWITCHING (EUROPE)



ITEM	WITH MON. OUT	WITHOUT MON. OUT
0298	YES	---
0299	YES	---
1810	YES	---
1811	YES	---
2823	100uF/25V	---

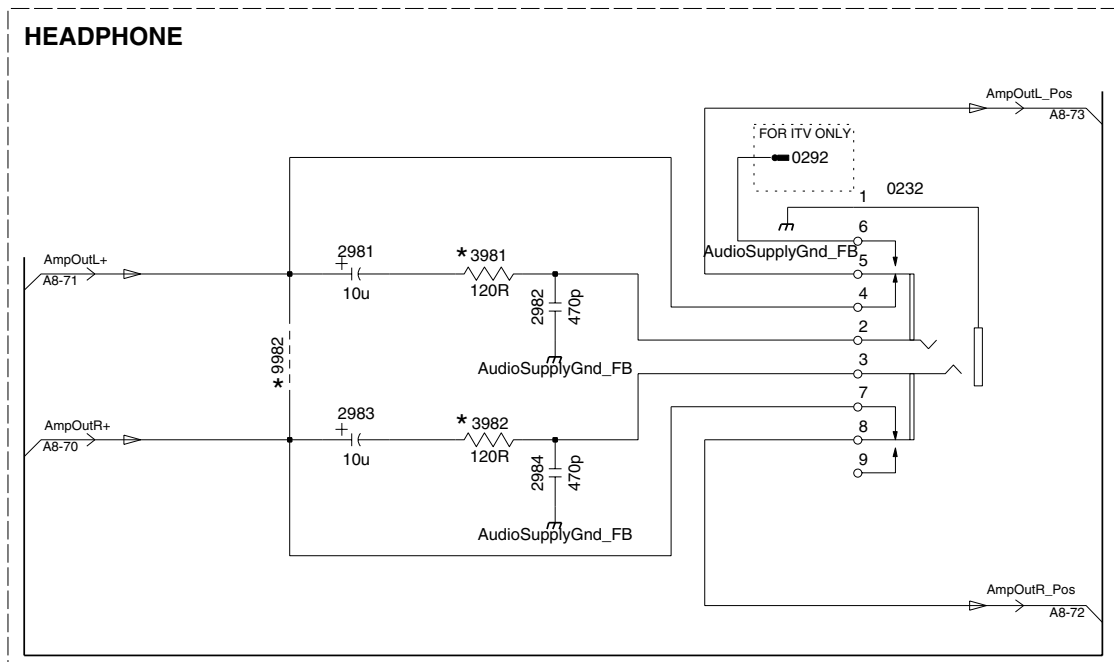
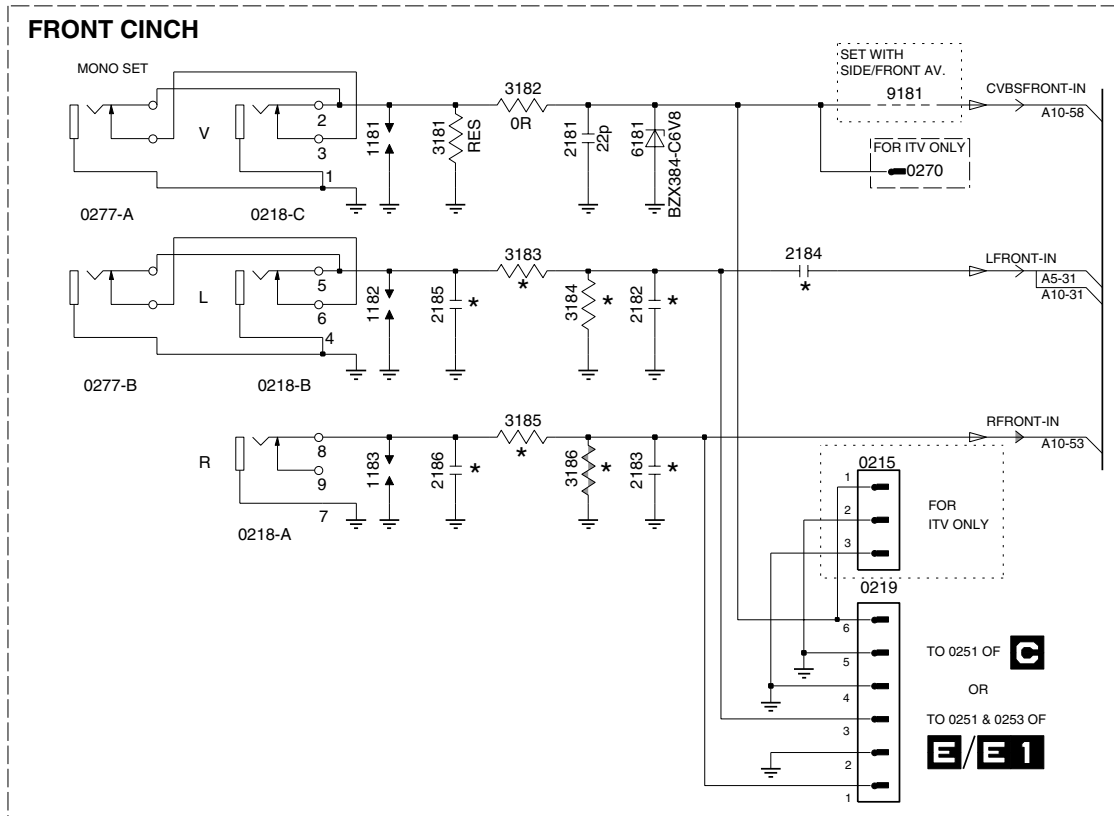
ITEM	SINGLE SCART IN-DVD	DUAL SCART IN
2824	---	4u7
4815	---	JMP
4820	---	JMP
4837	---	JMP
9835	---	JMP

ITEM	SC1-DVD	SC2-MON OUT-S/CN-ST-EU	SC2-S/CN-ST-EU	SC2-S/CN-VD-ST-EU
3801	---	---	220R	---
3802	220R	220R	1K	220R
3803	82K	120K	100K	82K
3804	220K	220K	82K	220K
3806	82K	120K	1K	220R
3807	220K	220K	82K	220K
6808	ZTE2	ZTE2	---	ZTE2

- 0296 B4
- 0298 C5
- 0299 C5
- 0300 C5
- 0301 C5
- 1810 C6
- 1811 E6
- 1814 C5
- 1815 C5
- 2801 B3
- 2802 F4
- 2803 D2
- 2804 D6
- 2805 E6
- 2811 A6
- 2813 B5
- 2814 B5
- 2815 B6
- 2816 B6
- 2817 B6
- 2818 B6
- 2819 B6
- 2820 B7
- 2821 B7
- 2822 B7
- 2823 C7
- 2824 B2
- 3801 A1
- 3802 A2
- 3803 C4
- 3804 D4
- 3805 D4
- 3806 D4
- 3807 E4
- 3808 E4
- 3809 H1
- 3810 H2
- 3811 A6
- 3812 B4
- 3813 B4
- 3814 A5
- 3815 A4
- 4805 E1
- 4806 F1
- 4807 H2
- 4808 H3
- 4809 C2
- 6801 A6
- 6802 A6
- 6803 B6
- 6804 B6
- 6805 A4
- 6806 A4
- 6807 A6
- 6808 A1
- 7801 C3
- 7802-A F3
- 7802-B G3
- 7802-C G3
- 7803 C4
- 7804 D4
- 7805 B5
- 7806 B5
- 7807 B5
- 9801 F1

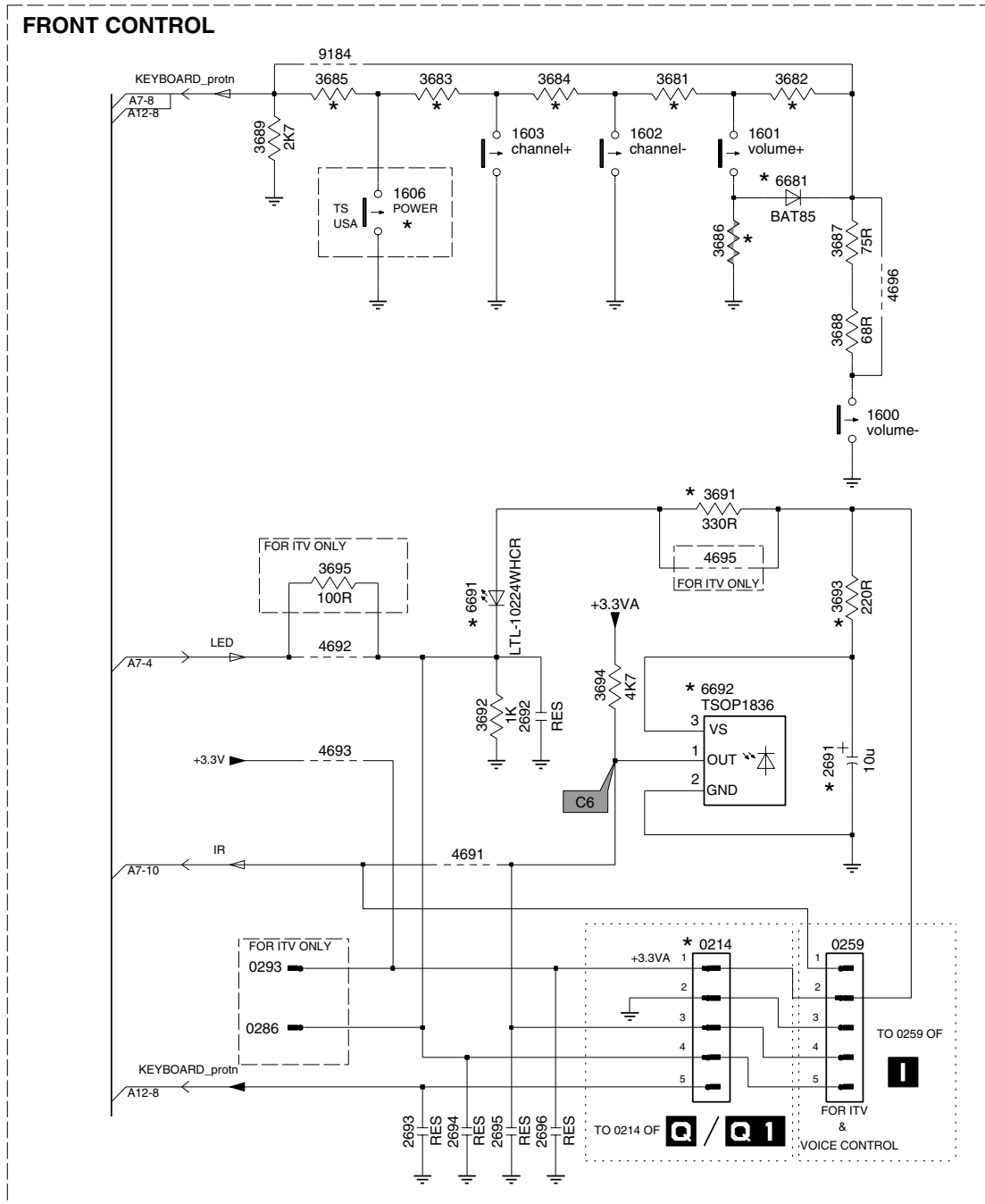
Mono Carrier: Front I/O + Front Control + Headphone

A 1 2 FRONT IO + FRONT CONTROL + HEADPHONE (EUROPE)



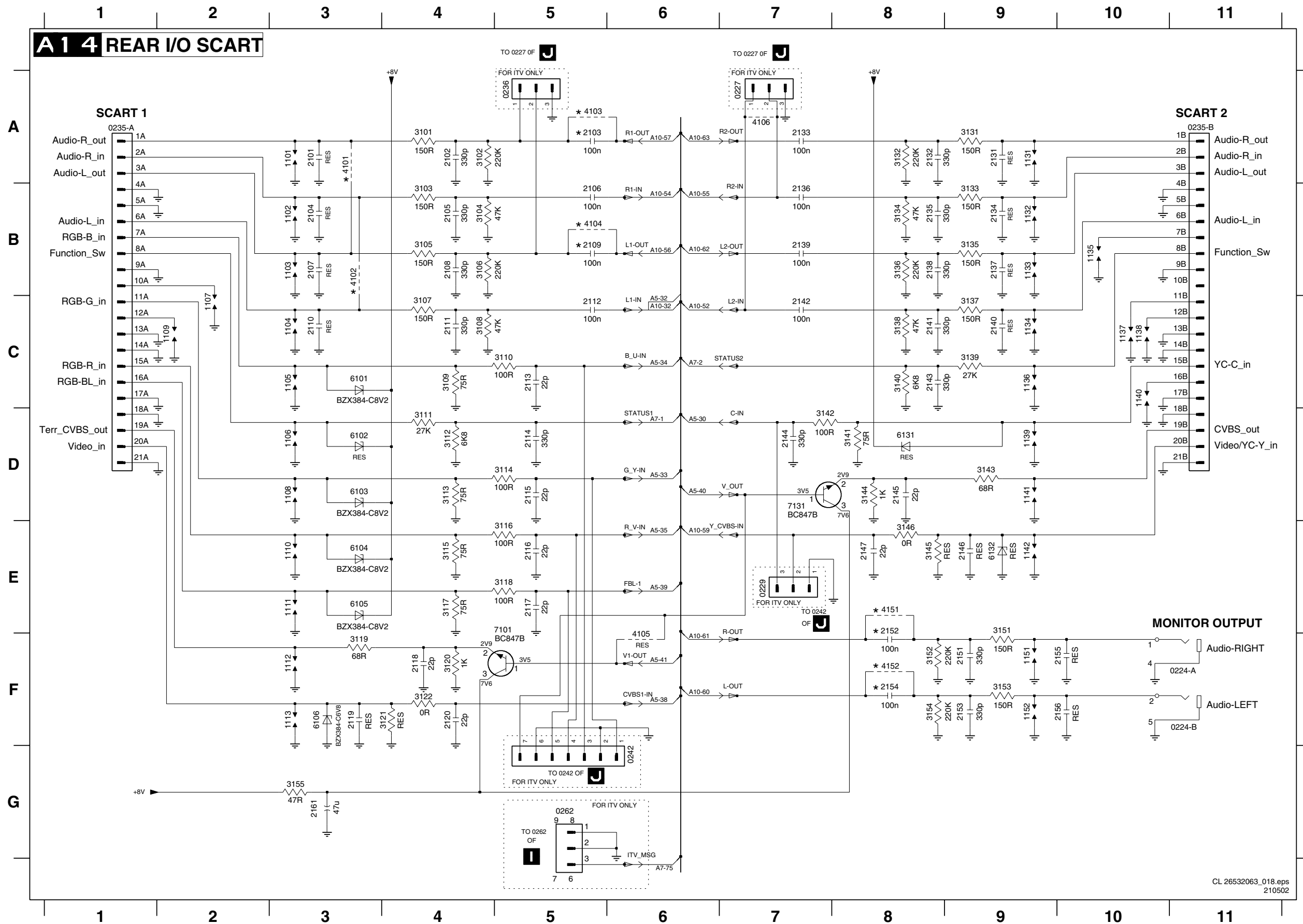
For Engg Purpose Only

4694



- 0214 E9
- 0215 C4
- 0218-A C2
- 0218-B B2
- 0218-C B2
- 0219 C4
- 0232 E5
- 0259 E10
- 0270 A5
- 0277-A B1
- 0277-B B1
- 0286 F7
- 0292 E4
- 0293 E7
- 1181 A2
- 1182 B2
- 1183 C2
- 1600 C10
- 1601 A9
- 1602 A9
- 1603 A8
- 1606 B8
- 2181 A3
- 2182 B3
- 2183 C3
- 2184 B4
- 2185 B3
- 2186 C3
- 2691 D10
- 2692 D8
- 2693 F8
- 2694 F8
- 2695 F8
- 2696 F8
- 2981 E2
- 2982 F3
- 2983 F2
- 2984 F3
- 3181 A3
- 3182 A3
- 3183 B3
- 3184 B3
- 3185 B3
- 3186 C3
- 3681 A9
- 3682 A10
- 3683 A8
- 3684 A8
- 3685 A7
- 3686 B9
- 3687 B10
- 3688 B10
- 3689 A7
- 3691 C9
- 3692 D8
- 3693 D10
- 3694 D9
- 3695 C7
- 3981 E3
- 3982 F3
- 4691 E8
- 4692 D7
- 4693 D7
- 4694 G3
- 4695 C9
- 4696 B10
- 6181 A4
- 6681 B10
- 6691 D8
- 6692 D9
- 9181 A5
- 9184 A7
- 9982 F2

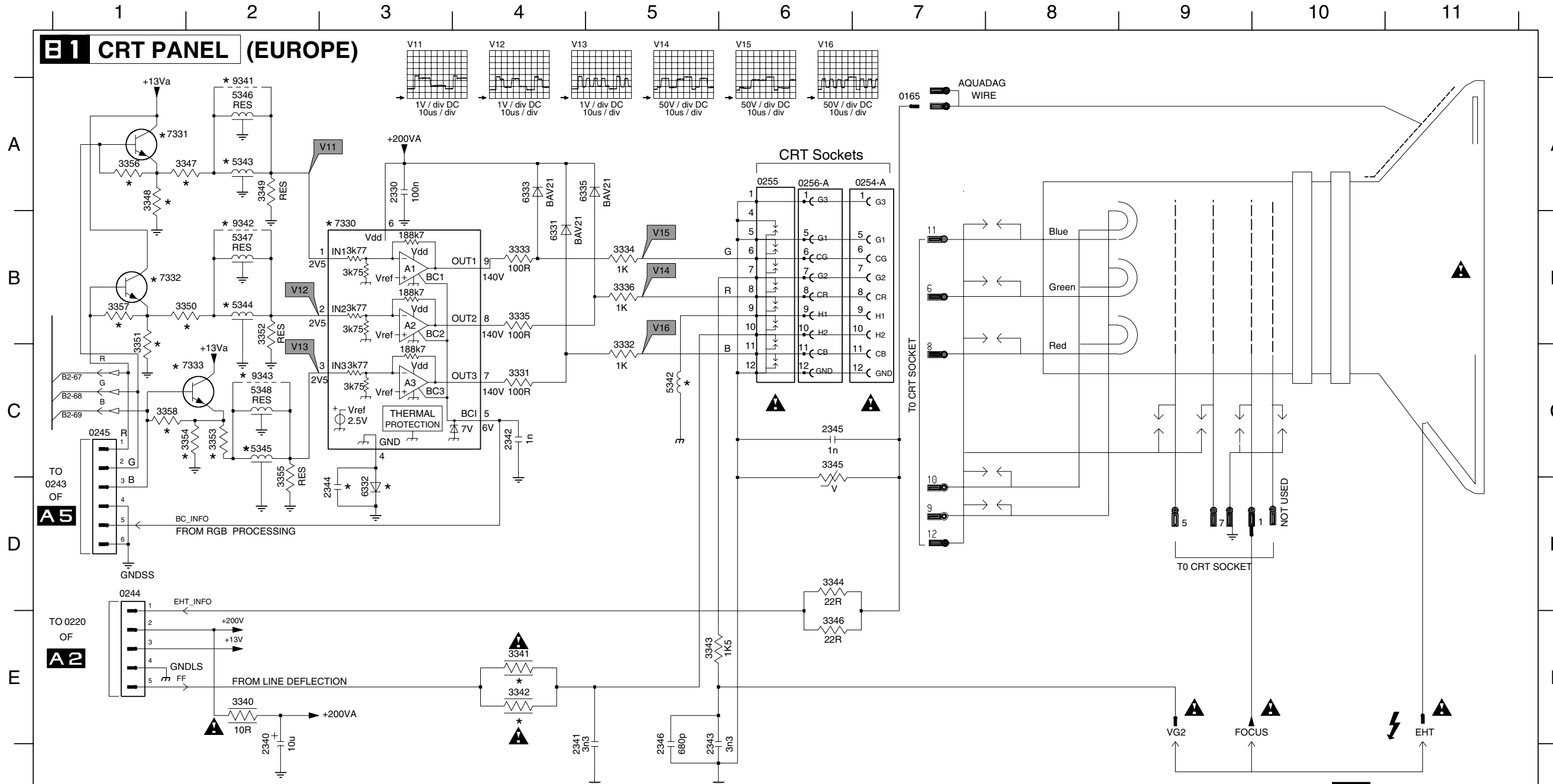
Mono Carrier: Rear I/O SCART



- 0224-A F11
- 0224-B F11
- 0227 A7
- 0229 E7
- 0235-A A1
- 0235-B A11
- 0236 A5
- 0242 F6
- 0262 G5
- 1101 A3
- 1102 B3
- 1103 B3
- 1104 C3
- 1105 C3
- 1106 D3
- 1107 C2
- 1108 D3
- 1109 C2
- 1110 E3
- 1111 E3
- 1112 F3
- 1113 F3
- 1131 A9
- 1132 B9
- 1133 B9
- 1134 C9
- 1135 B10
- 1136 C9
- 1137 C10
- 1138 C10
- 1139 D9
- 1140 C10
- 1141 D9
- 1142 E9
- 1151 F9
- 1152 F9
- 2101 A3
- 2102 A4
- 2103 A5
- 2104 B3
- 2105 B4
- 2106 B5
- 2107 B3
- 2109 B5
- 2110 C3
- 2111 C4
- 2112 C5
- 2113 C5
- 2114 D5
- 2115 D5
- 2116 E5
- 2117 E5
- 2118 F4
- 2119 F3
- 2120 F4
- 2131 A9
- 2132 A8
- 2133 A7
- 2134 B9
- 2135 B8
- 2136 B7
- 2137 B9
- 2138 B8
- 2139 B7
- 2140 C9
- 2141 C8
- 2142 C7
- 2143 C8
- 2144 D7
- 2145 D8
- 2146 E9
- 2147 E8
- 2151 F9
- 2152 F8
- 2153 F9
- 2154 F8
- 2155 F10
- 2156 F10
- 2161 G3
- 3101 A4
- 3102 A4
- 3103 B4
- 3104 B4
- 3105 B4
- 3106 B4
- 3107 C4
- 3108 C4
- 3109 C4
- 3110 C5
- 3111 D4
- 3112 D4
- 3113 D4
- 3114 D5
- 3115 D5
- 3116 E5
- 3117 E5
- 3118 F4
- 3119 F3
- 3120 F4
- 3121 A9
- 3122 A8
- 3123 A7
- 3124 B9
- 3125 B8
- 3126 B7
- 3127 B9
- 3128 B8
- 3129 B7
- 3130 C9
- 3131 C8
- 3132 C7
- 3133 C8
- 3134 D7
- 3135 D8
- 3136 E9
- 3137 E8
- 3138 F9
- 3139 F8
- 3140 F9
- 3141 F8
- 3142 F9
- 3143 F8
- 3144 F9
- 3145 F8
- 3146 F9
- 3147 F8
- 3148 F9
- 3149 F8
- 3150 F9
- 3151 F8
- 3152 F9
- 3153 F8
- 3154 F9
- 3155 F8
- 3156 F9
- 3157 F8
- 3158 F9
- 3159 F8
- 3160 F9
- 3161 F8
- 3162 F9
- 3163 F8
- 3164 F9
- 3165 F8
- 3166 F9
- 3167 F8
- 3168 F9
- 3169 F8
- 3170 F9
- 3171 F8
- 3172 F9
- 3173 F8
- 3174 F9
- 3175 F8
- 3176 F9
- 3177 F8
- 3178 F9
- 3179 F8
- 3180 F9
- 3181 F8
- 3182 F9
- 3183 F8
- 3184 F9
- 3185 F8
- 3186 F9
- 3187 F8
- 3188 F9
- 3189 F8
- 3190 F9
- 3191 F8
- 3192 F9
- 3193 F8
- 3194 F9
- 3195 F8
- 3196 F9
- 3197 F8
- 3198 F9
- 3199 F8
- 3200 F9

CRT Panel

B1 CRT PANEL (EUROPE)



- VG2 E9
- 0165 A7
- 0244 D1
- 0245 C1
- 0254-A A7
- 0255 A6
- 0256-A A6
- 2330 A3
- 2340 F2
- 2341 F4
- 2342 C4
- 2343 F5
- 2344 D3
- 2345 C6
- 2346 F5
- 3331 C4
- 3332 C5
- 3333 B4
- 3334 B5
- 3335 B4
- 3336 B5
- 3340 E2
- 3341 E4
- 3342 E4
- 3343 E5
- 3344 D6
- 3345 C6
- 3346 E6
- 3347 A2
- 3348 A1
- 3349 A2
- 3350 B2
- 3351 B1
- 3352 B2
- 3353 C2
- 3354 C2
- 3355 C2
- 3356 A1
- 3357 B1
- 3358 C1
- 5342 C5
- 5343 A2
- 5344 B2
- 5345 C2
- 5346 A2
- 5347 B2
- 5348 C2
- 6331 B4
- 6332 D3
- 6333 A4
- 6335 A4
- 7330 B3
- 7331 A1
- 7332 B1
- 7333 C1
- 9341 A2
- 9342 B2
- 9343 C2

Diversity Table

ITEM	REGION TUBE (EUROPE)							
	21/25RF	29SF	28BLD/BLS/32WS(O)	29RF(I)	28/32WS(I)	32W(TH)(O)	28/32WS(TH)(I)	NO SVM SETS
2344	100n	100n	100n	JMP	JMP	100n	JMP	100n
3347	JMP	JMP	JMP	1K	1K	JMP	1K	JMP
3348	---	---	---	1K	1K	---	1K	---
3350	JMP	JMP	JMP	1K	1K	JMP	1K	JMP
3351	---	---	---	1K	1K	---	1K	---
3353	JMP	JMP	JMP	1K	1K	JMP	1K	JMP
3354	---	---	---	1K	1K	---	1K	---
3356	JMP	JMP	JMP	---	---	JMP	---	JMP
3357	JMP	JMP	JMP	---	---	JMP	---	JMP
3358	JMP	JMP	JMP	---	---	JMP	---	JMP
5343	---	---	---	SDL-4893	SDL-4893	---	SDL-4893	---
5344	---	---	---	SDL-4893	SDL-4893	---	SDL-4893	---
5345	---	---	---	SDL-4893	SDL-4893	---	SDL-4893	---
6332	BAS316	BAS316	BAS316	---	---	BAS316	---	BAS316
7330	TDA6107	TDA6107	TDA6107	TDA6108	TDA6108	TDA6107	TDA6108	TDA6107
7331	---	---	---	BC847B	BC847B	---	BC847B	---
7332	---	---	---	BC847B	BC847B	---	BC847B	---
7333	---	---	---	BC847B	BC847B	---	BC847B	---
9341	JMP	JMP	JMP	---	---	JMP	---	JMP
9342	JMP	JMP	JMP	---	---	JMP	---	JMP
9343	JMP	JMP	JMP	---	---	JMP	---	JMP

Diversity Table

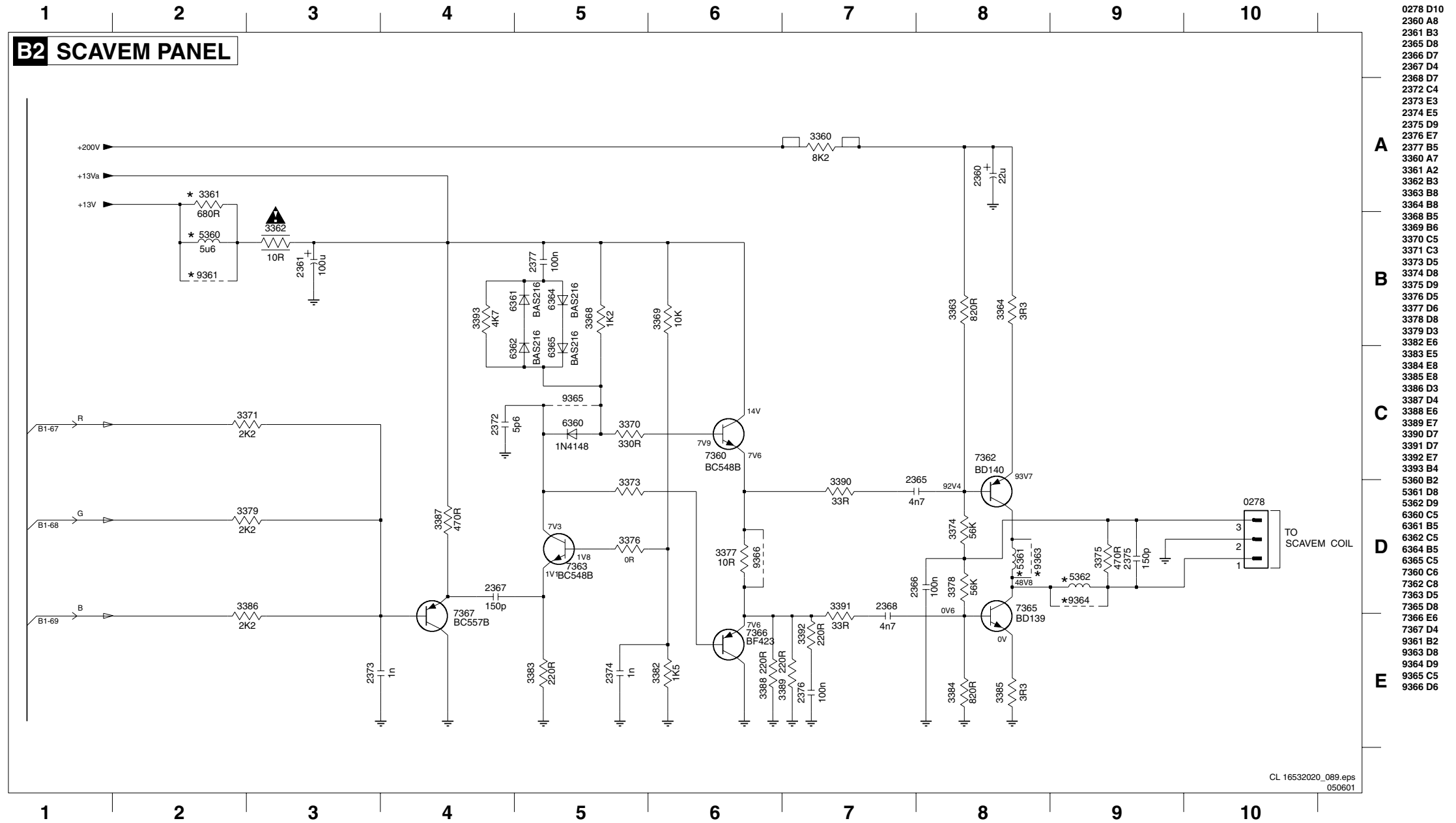
ITEM	REGION TUBE															
	EU PH NO EW	EU PH 21FSQ	EU PH 28*BLD	EU PH 28*BLS	EU PH 25BLD	EU PH 25BLS	EU PH 29SF	EU PH 24*WS BLD	EU PH 29*RF	EU PH 32*WS BLS	EU PH 28*WS BLD	EU PH 25*RF	EU PH 21*RF	EU PH 32WS	EU PH 28WS	
3341	1R	1R	1R	1R	1R	1R	1R	1R	1R	1R8	1R5	1R	1R5	1R5	1R5	
3342	1R	1R	1R	1R	1R	1R	1R	1R	1R	1R8	1R5	1R	1R5	1R5	1R5	
5342	22u	15u	22u	15u	22u	18u	22u	3u9	1R	18u	22u	3u9	100MHZ	50R	JMP	

FROM LOT, MAIN CHASSIS **A2**

MODEL	L2K2				
REGION	EU				
TUBE	29RF	21RF	28WR	32WR	32WR
2343	---	2KV 3N3	2KV 2N2	---	---
2346	2KV 1N2	---	---	2KV 470P	---
3344	22R	22R	33R	33R	33R
3346	22R	22R	33R	33R	33R
5342	LAL04 3U9	LAL04 22U	LAL04 22U	LAL04 22U	LAL04 22U

SCAVEM Panel

Diversity Table B2														
Item	Description	21" Real flat	25" Real flat	30" Super flat	28" Blackline, FM radio	32" Wide screen, No FM radio	29" Real flat	28" Wide screen, FM radio	32" Wide screen, FM radio	21" Blackline	24" Wide screen	25" Blackline	28" Blackline, No FM radio	28" Wide screen, No FM radio
2365	22N 250V	X	X	X	X	X	X	X	X					
2366	100N 100V	X	X	X	X	X	X	X	X					
2367	47P 50V	X	X	X	X	X	X	X	X					
2367	56P 50V				X	X								
2367	150P 50V						X							
2367	180P 50V							X	X					
2368	22N 50v	X	X	X	X	X	X	X	X					
2372	5P6 50V	X	X	X	X	X	X	X	X					
2373	56P 50V						X	X						
2375	100P 50V	X	X	X	X	X								
2375	330P 50V						X	X						
2376	100N 25V						X	X						
2377	100N 25V						X	X						
3360	8K2 5W	X	X	X	X	X	X	X	X					
3361	580R													
3362	Fuse 10R	X	X	X	X	X	X	X	X					
3363	820R	X	X	X	X	X	X	X	X					
3364	1R8						X	X	X					
3364	3R3	X	X	X	X	X								
3368	2K7	X	X	X	X	X	X	X	X					
3369	10K	X	X	X	X	X	X	X	X					
3370	220R						X	X	X					
3370	330R	X	X	X	X	X								
3371	10K	X	X	X	X	X								
3371	4K7						X	X	X					
3373	220R						X	X	X					
3374	56K	X	X	X	X	X	X	X	X					
3375	150R						X	X	X					
3375	220R						X	X	X					
3375	470R	X	X	X	X	X	X	X	X					
3376	Jumper	X	X	X	X	X	X	X	X					
3377	10R						X							
3377	4R7						X	X						
3378	56K	X	X	X	X	X	X	X	X					
3379	10K	X	X	X	X	X								
3379	4K7						X	X	X					
3382	1K5	X	X	X	X	X	X	X	X					
3383	470R	X	X	X	X	X	X	X	X					
3384	820R	X	X	X	X	X	X	X	X					
3385	1R8						X	X	X					
3385	3R3	X	X	X	X	X								
3386	10K	X	X	X	X	X								
3386	4K7						X	X	X					
3387	470R	X	X	X	X	X	X	X	X					
3388	220R	X	X	X	X	X								
3389	220R	X	X	X	X	X								
3390	10R						X	X						
3390	33R	X	X	X	X	X								
3391	10R						X	X						
3391	33R	X	X	X	X	X								
3392	220R						X	X						
3393	4K7						X	X						
5360	5.6uH 10%	X	X	X	X	X	X	X	X					
5361	COIL													
5362	COIL													
6360	1N4148						X	X	X					
6361	BAS316						X	X	X					
6362	BAS316						X	X	X					
6364	BAS316						X	X	X					
6365	BAS316						X	X	X					
7360	BC547B	X	X	X	X	X	X	X	X					
7362	2SA1358	X	X	X	X	X	X	X	X					
7363	BC547B	X	X	X	X	X	X	X	X					
7365	2SC3421	X	X	X	X	X	X	X	X					
7366	BF423						X	X						
7367	BC557B	X	X	X	X	X	X	X	X					
9361	Wire													
9363	Wire	X	X	X	X	X	X	X	X					
9364	Wire	X	X	X	X	X	X	X	X					
9365	Wire	X	X	X	X	X								
9366	Wire	X	X	X	X	X								



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- 0278 D10
- 2360 A8
- 2361 B3
- 2365 D8
- 2366 D7
- 2367 D4
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- 2373 E3
- 2374 E5
- 2375 D9
- 2376 E7
- 2377 B5
- 3360 A7
- 3361 A2
- 3362 B3
- 3363 B8
- 3364 B8
- 3368 B5
- 3369 B6
- 3370 C5
- 3371 C3
- 3373 D5
- 3374 D8
- 3375 D9
- 3376 D5
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- 3389 E7
- 3390 D7
- 3391 D7
- 3392 E7
- 3393 B4
- 5360 B2
- 5361 D8
- 5362 D9
- 6360 C5
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- 6364 B5
- 6365 C5
- 7360 C6
- 7362 C8
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- 7367 D4
- 9361 B2
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- 9366 D6

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