

Service and Special Functions

"M" button → Call up "TV-menu" or go back to previous menu.

"E" button → Exit menu.

Cursor buttons $\triangle$ ∇ → Select dialogue line.

Cursor buttons $\triangleleft$ $\triangleright$ → Change setting.

1. Switching-on Options

1.1 Loading the Average Values / Emergency Data Set (ROM Data)

Press and hold down the "P-" button on the remote control and switch on with the mains button. After replacement of CIC82501 (NVM), for example, the TV set is started with the emergency data set.

In doing so, the basic data is read out from the ROM of processor IC81500 and loaded into the NVM CIC82501:

CIC82501: (data specific to the TV can be set via the TV Menu):

- chroma and audio standards
- decoder settings
- reversing point
- OSD position
- ATS reset
- Hotel mode on/off
- AGC and AFC
- analog values (volume, brightness etc.)
- picture sharpness
- security on/off
- geometry adjustment
- programme data (channel and finetuning, station ident)

Subsequently enter your personal values, picture geometry via the TV Menu.

1.2 Cancelling the Parental Lock Continuously

To cancel the parental lock, enter the number **3001**.

This number is locked for the code number.

1.3 Software Version Number

Call up the "TV-menu".

Pressing the "V=" button displays the software version number.

1.4 Switching on with the Last Viewed Programme.

The channel position which has been selected when switching off to standby is recovered when switching on again with the buttons "P+/P-" (last station memory).

2. Special Functions

"TV-menu" → "Settings" → "Special functions".

2.1 Activating or Deactivating the Economy Mains Switch (option)

Select the "Eco switch" dialogue line.

Select the setting "1h...3h" or "off".

The TV receiver switches off at the predetermined time.

With the "off" setting, this function is not used.

By pressing the mains button $\odot$ a longer time with the TV on, the mains switch is released and switches the TV set completely off. This function is carried out in a general way.

2.2 Display Time

Select the "Display time" dialogue line.

The duration of the OSD display can be set between 2...9s.

2.3 Video AV

Select the "Video AV" dialogue line.

The setting "VHS" or "SVHS" can be selected.

2.4 Colour AV

Select the "Colour AV" dialogue line.

The settings "auto", "PAL", "NTSC" and "SECAM" can be selected.

2.5 Service

Select the "Service" dialogue line.

Press the "OK" button to access the open menu.

3. Picture Settings

"TV Menu" → "Picture".

The following settings are possible:

Contrast	0...63
Brightness	0...63
Color	0...63
Sharpness	0...5

or:

press the "red" button to select "Contrast",
press the "green" button to select "Brightness",
press the "blue" button to select "Colour".

When exiting the menu, the analog values are automatically saved.

4. Sound Settings

"TV Menu" → "Sound".

4.1 Max. volume

You can set the maximum volume.

This setting applies also for the headphones.

4.2 AVC (Automatic Volume Control)

With the "on" setting selected, the volume is automatically adjusted to the normal amplitude when high volume amplitudes are received.

5. Programs in the TV Menu

"TV Menu" → "Programs".

5.1 Automatic Search

You can select from what programme position and for what place of installation (country) the automatic saving is to be started.

5.2 Manual Adjustment

Manual entry of Program, Range, Channel, Fine, Name, and AV input.

5.2.1 Maximum Programme Number (Reversing Point)

Select "Manual adjustment".

Select the programme number which is to be the highest selectable programme position. Select "C 00" in the Channel dialogue line. Press the "red" button to save the setting. When this is done, only the programme positions up to the position "C00" can be selected using the "P+/P-" buttons in programme mode.

5.2.2 AV Input

Select "Manual adjustment".

Set the AV input to "on" or "off".

5.3 Sort/Delete

With this function you can sort or delete individual programme positions.

5.4 Enter/Change Name

With this function you can enter or change the station name.

6. Open Service Settings

"TV Menu" → "Settings" → "Special Functions" → "Service".

6.1 TV-Programmer

The settings "off", "TV >> Ext", "Ext >> TV" can be selected.

Ext >> TV The Programmer data is transferred to the TV set and the TV set is programmed.

TV >> Ext Programme position specific data is transferred from the TV set to the Programmer and stored there.

Pressing the "OK" button starts the above functions.

When the data transfer is completed, "OK" is displayed on the screen. In the event of a faulty transfer, "Error" is displayed.

6.2 Teletext Language

You can select between West/East and West/TR

6.3 Black Screen

You can select between "on" and "off".

6.4 Service Code (for the dealer)

Enter the digits 8640 to access the Service Menu.

7. Service Settings for the Dealer

"TV Menu" -> "Settings" -> "Special Functions" -> "Service" -> "Service Code" -> Code number "8640" .

7.1 Service Menu

After entering the code number "8640", the dealer can carry out the following alignment functions for the TV set according to the menu guide:

- GEOMETRIE
- WHITE ADJUSTMENT
- AGC
- AFC 38.9 MHz
- OSD horizontal
- OSD vertical
- RC5 Code
- Initial Mode
- Hotel/Hosp.
- Alarm prog.

Alignment: page 2-3

7.2 OSD Position

With this function, the horizontal or vertical position of the on-screen display can be shifted.

Exit the "End" dialogue line with "with mem" to save the setting.

7.3 RC5 Code

Optional settings of the remote control level.

Default setting "0".

Exit the "End" dialogue line with "with mem" to save the setting.

7.4 Hotel Mode

7.4.1 Activating the Hotel Mode

This function is shown in no dialogue line (hidden function).

Select "Initial mode" then enter the code number 8640. "Initial mode" is displayed in red.

After exiting the "End" dialogue line with "with mem", the hotel mode is activated.

When "Hotel mode" is activated

- the volume last set in the Sound menu is the maximum volume which can be stored.

7.4.2 Deactivating the Hotel Mode

Press and hold down the "i" button on the remote control while switching the TV set on with the mains switch.

Select "Initial mode" then enter the code number 8640. "Initial mode" is displayed in black.

7.5 Hotel / Hosp.

On units with hotel or hospital card, select the „on“ setting.

To reset press and hold down the remote control button "i" while switching the unit on with the mains switch.

7.6 Initial Mode

Pressing the button "OK" will reset the TV set to the factory settings.

7.7 Alarm prog.

This function is used to select the programme which is to be switched on with the alarm function.

The standard setting is "1".

7.8 Display test

Pressing the „red“ button activates the complete display unit of the Clock module (except the message LED).

This enables a function test of all display elements and of the alarm function via the loudspeakers (tone of about 2kHz).

8. Deactivating the Protection Circuits

- Horizontal and vertical protection circuit:
connect the base and emitter at CT50055.
- Horizontal protection circuit:
connect the base and collector at CT57113.
- Vertical protection circuit: to short-circuit C50052.

Attention: When the repair is completed, it is absolutely necessary to re-activate the overload protection circuits.

GB Alignment

Attention!

1. Carry out the alignment with the unit at operating temperature (about 15 min.).
2. Keep the "Sub. Contrast" setting unchanged (factory setting).

All adjustment controls not mentioned in this description are pre-set at the factory and must not be re-adjusted in the case of repairs.

Measuring instruments: 100MHz oscilloscop with 10:1 test probe, digital voltmeter, colour video generator.

Service works after replacement or repair of the following modules:

- **Power supply:** alignment 1
- **IF, video demodulator:** alignment 2, 3
- **IC34015:** alignment 3
- **CRT, CRT panel:** alignment 5...8
- **Deflection:** alignment 7, 8
- **NVM CIC82501:** alignment 2...5 and 8.

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Cursor buttons $\triangle$ ∇ → Select dialogue line.

Cursor buttons $\triangleleft$ $\triangleright$ → Change setting.

Alignment	Preparations	Alignment Process
1. +A voltage	This voltage must be checked and re-adjusted if necessary after every repair and before every alignment. Brightness: Minimum Contrast: Minimum Digital voltmeter: Cathode D61016	Adjust +A acc. to the table (page 3-15) on the power supply circuit diagram with R60516 .
2. Tuner AGC	100MHz Oscilloscop: Channel A: Tuner contact 10 or 11. Ground: Tuner Colour video generator: Feed in a standard test pattern or generator via the aerial, $\geq 80\text{dB}\mu\text{V}$. Call up the dialog line "AGC" via "TV-menu" → "Settings" → "Special functions" → "Service" → Service Code "8640".	Adjust 300mV_{pp} with button $\triangleleft$ or $\triangleright$. Terminate the dialog line " End " " with mem " → "OK".
3. AFC	Colour video generator: Feed in with standard channel spacing without finetuning in Band 1 (channel 2...4). Call up the dialog line "AFC" via "TV-menu" → "Settings" → "Special functions" → "Service" → Service Code "8640".	Press the "OK" button. The alignment is carried out automatically. Terminate the dialog line " End " " with mem " → "OK".
4. OSD	Call up the dialog line "OSD" (horiz. bzw. vertic.) via "TV-menu" → "Settings" → "Special functions" → "Service" → Service Code "8640".	With button $\triangleleft$ or $\triangleright$ position the menu in the middle of the picture. Terminate the dialog line " End " " with mem " → "OK".
5. White Balance	Colour video generator: Feed in a grey scale black/white test pattern with burst. Contrast: maximum Colour contrast: mid-position Screen brightness: mid-position Call up dialog line "WHITE ADJUSTMENT" via "TV-menu" → "Settings" → "Special functions" → "Service" → Service Code "8640".	With button $\triangleleft$ or $\triangleright$ set the values for " Green " and " Blue " so that the picture becomes achromatic. Check this alignment at minimum and maximum contrast. Go back to the "Service" menu with "M" and terminate the dialog line " End " " with mem " → "OK".
6. Screen grid voltage U_{G2}	Colour video generator: Feed in a black test pattern. Adjust the screen brightness so that the test pattern just turns dark. High-resistance voltmeter via $220\text{k}\Omega$: Test points R, G, B (picture tube plate). Determine the test point having the highest voltage.	Use the U_{G2} control (splitter transformer) to adjust at the test point having the highest voltage potential a voltage of $150\text{V} \pm 2.5\text{V}$ for 15"...21" picture tubes.

Alignment	Preparations	Alignment Process
7. Line Sharpness	Colour video generator: Feed in a convergency test pattern. Contrast: maximum Set the screen brightness so that the black background of the test pattern just starts to brighten.	With focus control U_F (splitter transformer) adjust the vertical lines approx. 5cm from the right and left picture edge to minimum horizontal width. The sharpness in the middle must not seem to be worse than the sharpness at the edges. If necessary, take an average.
8. Vertical position of the picture (Vertical Shift)	Colour video generator: Feed in a geometry test pattern. Call up the "Vertical Shift" menu via "TV-menu" -> "Settings" -> "Special functions" -> "Service" -> Service Code "8640" -> "GEOMETRIE" -> "OK".	Adjust according to the test pattern using button ◀ or ▶.
8.1 Vertical Amplitude	Call up the menu "Vertical Amplitude".	Set the vertical amplitude using button ◀ or ▶.
8.2 Vertical Linearity	Call up the menu "Vertical Linearit.".	Adjust according to the test pattern using button ◀ or ▶.
8.3 Horizontal position of the picture (Horizontal Shift)	Call up the menu "Horizontal Shift".	Adjust according to the test pattern using button ◀ or ▶. Go back to the "Service" menu with "M" and terminate the dialog line " End " " with mem " -> "OK".

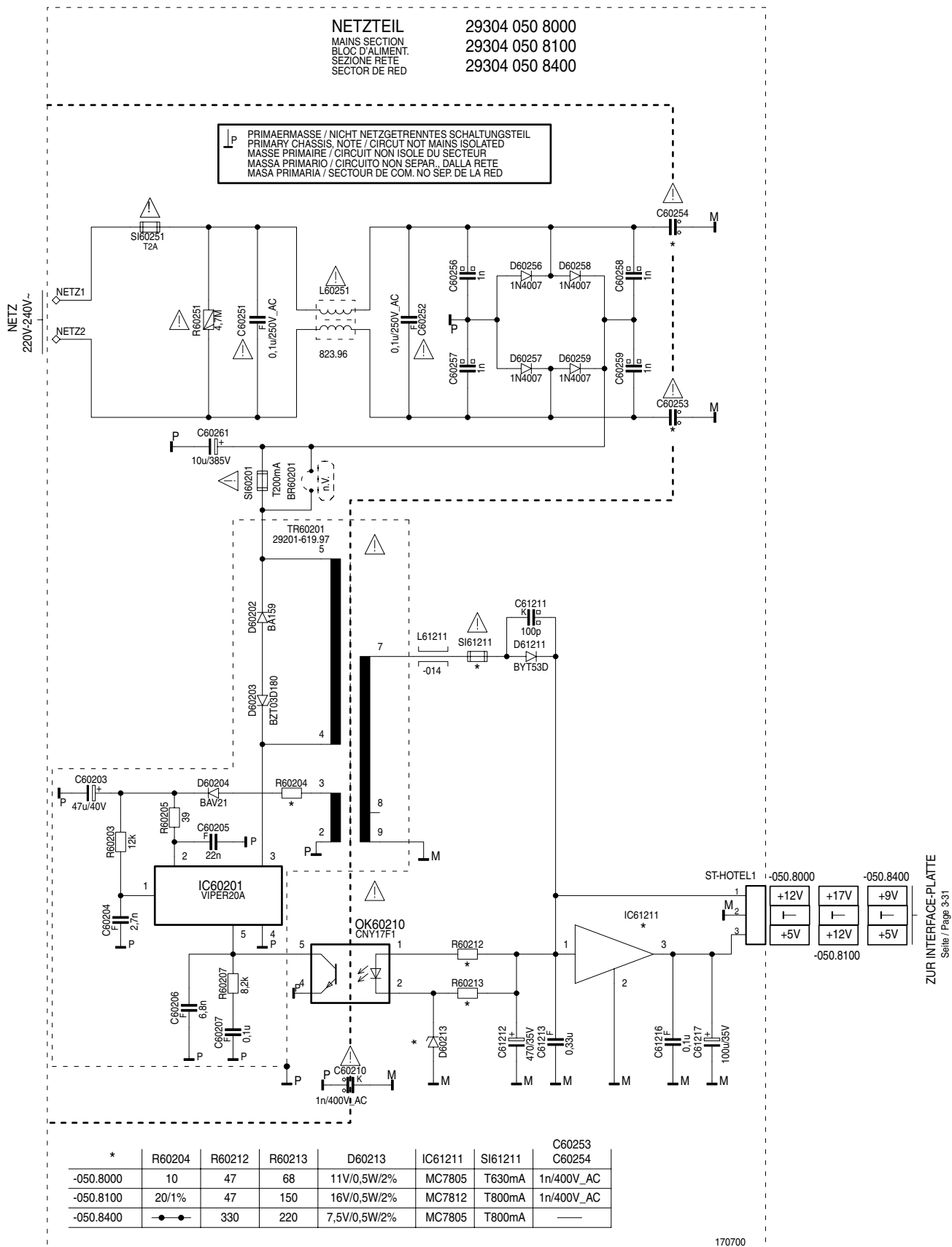
Netzteil / Mains Section 12/17V

Achtung!

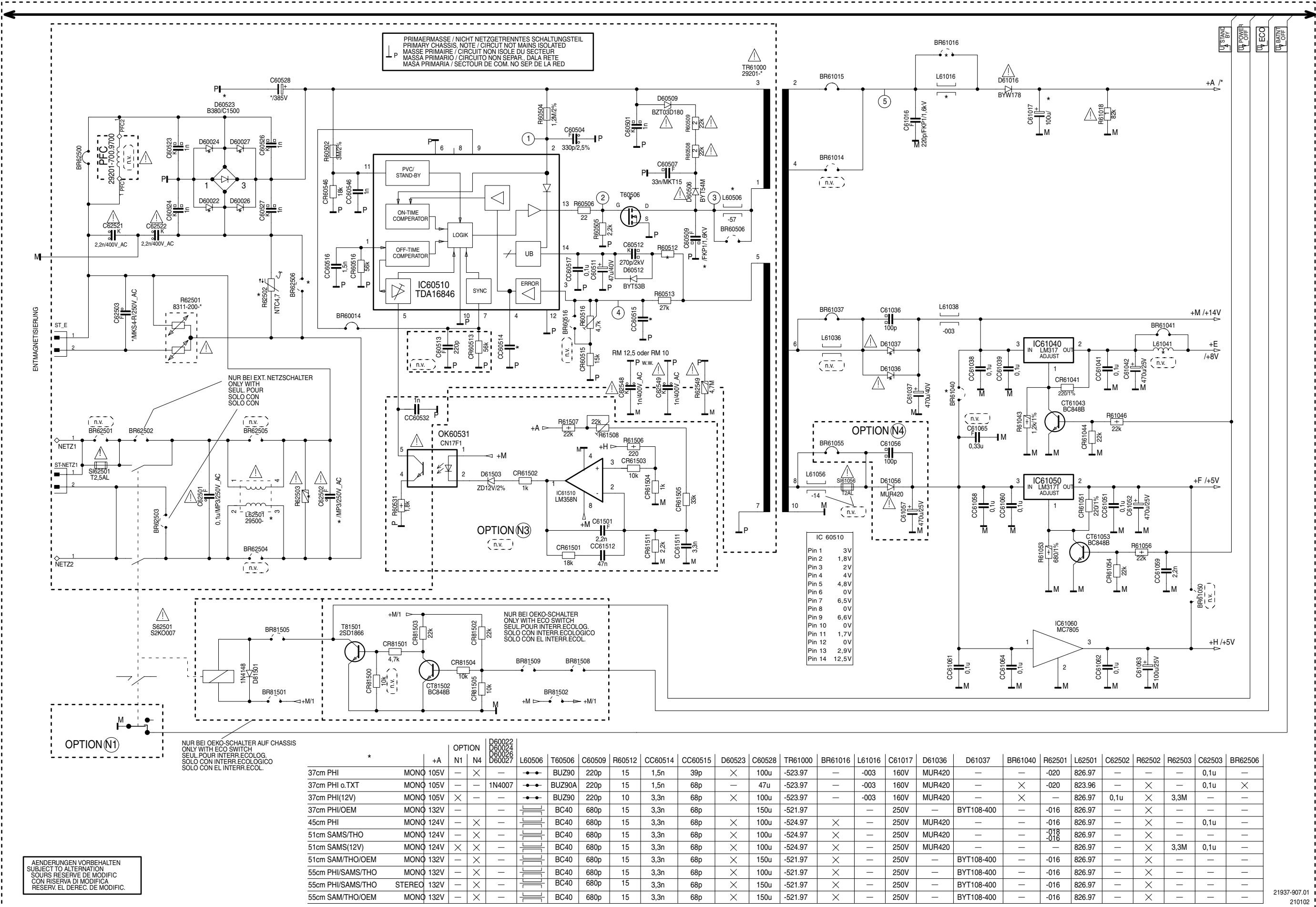
Netzteil steht auch nach Ausschalten des Netzschalters primärseitig weiter unter Netzspannung.

Warning!

When switching off with the mains switch, mains voltage is still applied to the primary side of the mains section.



Teilschaltplan Netzteil / Circuit Diagram Mains Section



*

	BR	+C	R50032	C50044	R50047	C50048	R52004	R52006	BR52006	TR53000	TR53010	TR53020	R53033	C53002	C53006	R53011	C53011	BR53011	L53011	R53016	C53017	R53021	L53021	BR53021	R53074	L53074	BR53074	C54012	R54022	R57118	BR-PLATTE	
37cm PHI	A34EAC01X06	130V	270	100u/25V	1,6	470u	27	0,47/1W	—	653.02 654.01(OEM-L)	—	—	3,3/1W	7,5n	0,42u	—	—	—	—	10/7W	0,68u	—	—	—	—	—	—	—	470u	22k	10k/1%	-122.37
45cm PHI	A41EAM40X01	200V	270	100u/25V	1,3	1000u	150	0,47/1W	—	653.12	—	—	5,6/1W	6,5n	0,26u	6,8	18n	—	10u	10/7W	0,68u	820	115.95	—	1,5k/4W	870.05	—	1000u	39k	5,6k/2%	-122.39	
51cm SAMSUNG	A48ECR143X51 A48EAX93X02	200V	270	100u/25V	1,3	1000u	150	0,47/1W	—	653.12	—	—	1/1W	8,3n	0,33u	6,8	18n	—	10u	10/7W	0,68u	820	114.95	—	820/2W	870.01	—	1000u	39k	5,6k/2%	-122.38	
51cm VC/THO	A48ECR143X51 A48EAX93X02	200V	270	100u/25V	1,3	1000u	150	0,47/1W	—	653.12	—	—	1/1W	7,3n	0,33u	6,8	18n	—	10u	10/7W	0,68u	820	114.95	—	1,5k/4W	870.05	—	1000u	39k	5,6k/2%	-122.38	
55cm PHI 27,5kV	A51EAL155X01	200V	220	220u/16V	1,1	1000u	150	—	—	—	031.57	—	1,5/1W	9n	0,33u	6,8	18n	—	10u	10/9W	1,2u	820	114.95	—	820/2W	870.01	—	1000u	39k	5,6k/2%	-122.38	
											—	—	1,5/1W	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
55cm SAMS/THO 27,5kV	A51EER133X41 A51EFS83X191	200V	220	220u/16V	1,1	1000u	150	—	—	—	031.57	—	0,22/1W	9n	0,33u	6,8	18n	—	10u	10/9W	1,2u	820	114.95	—	820/2W	870.01	—	1000u	39k	5,6k/2%	-122.38	
											—	—	0,22/1W	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
55cm SAMS 27,5kV	A51EER33X78	200V	220	220u/16V	1,1	1000u	150	—	—	—	031.57	—	0,22/1W	8,5n	0,33u	6,8	18n	—	10u	10/9W	1,2u	820	114.95	—	820/2W	870.01	—	1000u	39k	5,6k/2%	-122.38	
											—	—	0,22/1W	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

ZUM SIGNAL-TEIL

SB

37cm COMMUNICATION

TR53000
w.w.
TR53020
w.w.
TR53010
29221-03...
29201-6...

ST-BR

F

+C

1
2
3
4
5

ZUR BILDROHRPLATTE
TO CRT PANEL
ALFA CATHOD.
ALA PLASTRA CINESCO.
A LA PLACA-ZOCALO TRC

SEITE / PAGE 3-27

H, V → ⊥ ⇒ DISABLE PROTECTION

VOLTAGE REGULATOR
FLYBACK GENERATOR
IC50010
TDA8174AW
RAMP GENERATOR
POWER AMP
THERMAL PROTECTION
BUFFER STAGE

ST-JOCH

ST-BOCH

M2106 (OEM)

Spannungstabelle
Table of Voltages

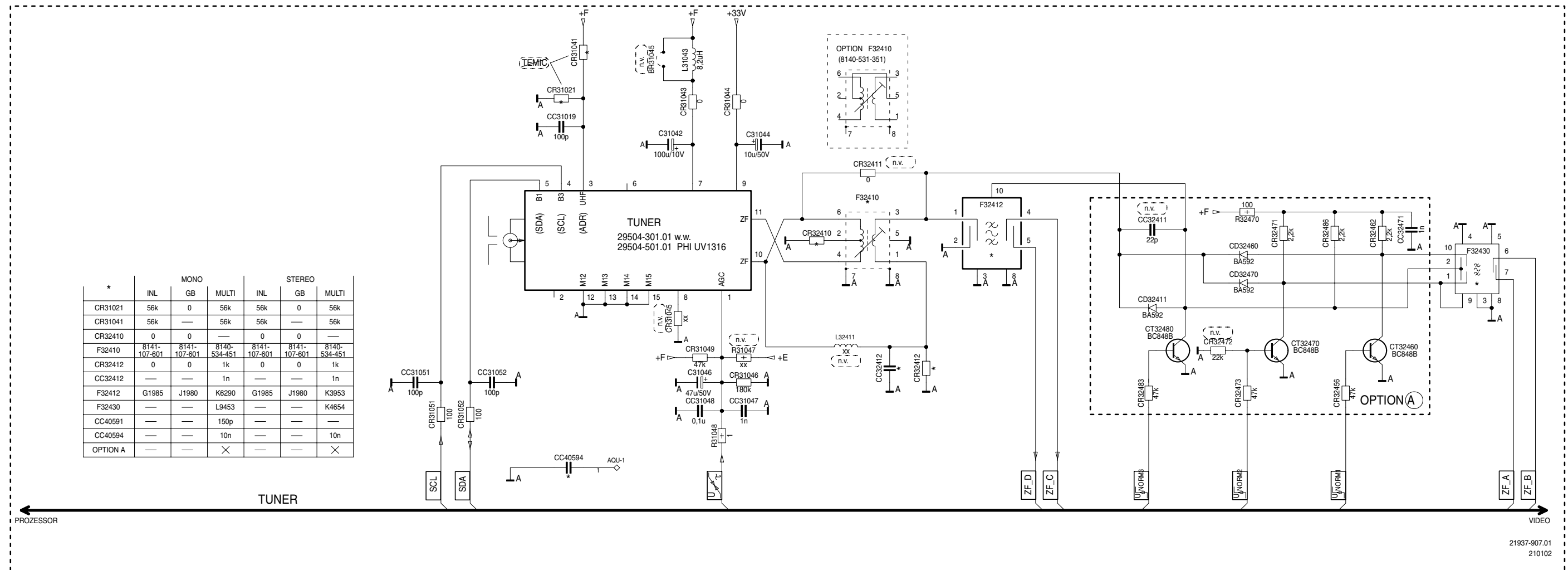
	+200V
+C	14"/+25V
+D	20"/+25V
+E	21"/+26V
+F	+8V
+H	+5V
+M	+14V
+S	+14V

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21102

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Teilschaltplan Tuner / Circuit Diagram Tuner Section

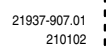


FIRMA	OEM-L m. TEXT MONO	OEM-L m. TEXT STEREO	OEM-L m. TEXT FM	OEM-L m. TEXT TM	OEM-L m. TEXT COM./H

SAT moeglich	X	X	—	—	—
OPTION uP1	—	—	—	—	—
OPTION uP2/uP3	X	X	X	X	X
OPTION uP4	—	—	—	—	X
OPTION uP5	X	X	X	X	X
OPTION uP6	—	—	—	—	—
OPTION uP7	X	X	X	X	X
OPTION V1	X	X	X	—	—
OPTION V2	—	—	—	—	—
OPTION uP9a/uP9b/uP10/V3	X	X	X	X	X
OPTION NF1	—	—	—	X	—
CR31041	56k	56k	—	56k	56k
R34051/R34052/R34053	1k	1k	1k	1k	1k
CL40511	X	X	X	—	—
L40512	X	X	X	—	—
D4055	—	—	—	—	—
ST-BAT3	—	—	—	X	X
R43001/R43112	—	—	—	—	—
BR4403	X	—	—	X	X
R44013	—	—	X	X	X
CS7016	10u/50V	10u/50V	10u/50V	10u/50V	10u/50V
CR57017	15k	15k	15k	15k	15k
CR57021	1,5k	1,5k	1,5k	1,5k	1,5k
BR80501/502	—	—	—	X	X
CD80501	X	X	—	—	—
CR81008	X	X	X	—	—
CR81009	—	—	—	X	X
CC81037	—	—	10n	—	—
R81039/BR811039	—	—	X	—	—
CR81041/CC81041	X	X	X	X	X
R81055	22k	22k	22k	22k	22k
CR81059/CC81059/BR81060	—	—	—	—	—
R81090	—	—	—	X	X
BR81506	—	—	—	—	—
CR81509	0	0	0	0	0
BR81701	—	—	—	X	X
BR81702	X	X	X	X	X
BR81704	—	—	—	—	X
BR81705/BR84501	—	—	—	—	—
BR84501	—	—	—	—	—
BR84502	X	X	X	X	X
ST-M-LD	—	—	—	—	X
ST-HOSP1/ST-HOSP2	—	—	—	X	X
ST-MAIL-TV	—	—	—	X	X
OPTION uP8/ST-V3	X	X	—	X	X
ST-V4	X	X	—	—	—
ST-RGB2	—	—	—	X	X
ST-COM1	—	—	—	—	—
ST-COM2	—	—	—	—	X
ST-A1/ST-A2	X	X	X	—	—
ST-UHR	—	—	—	X	X
ST-UHR2	—	—	—	X	—
JUM12/3/4	X	X	—	—	—

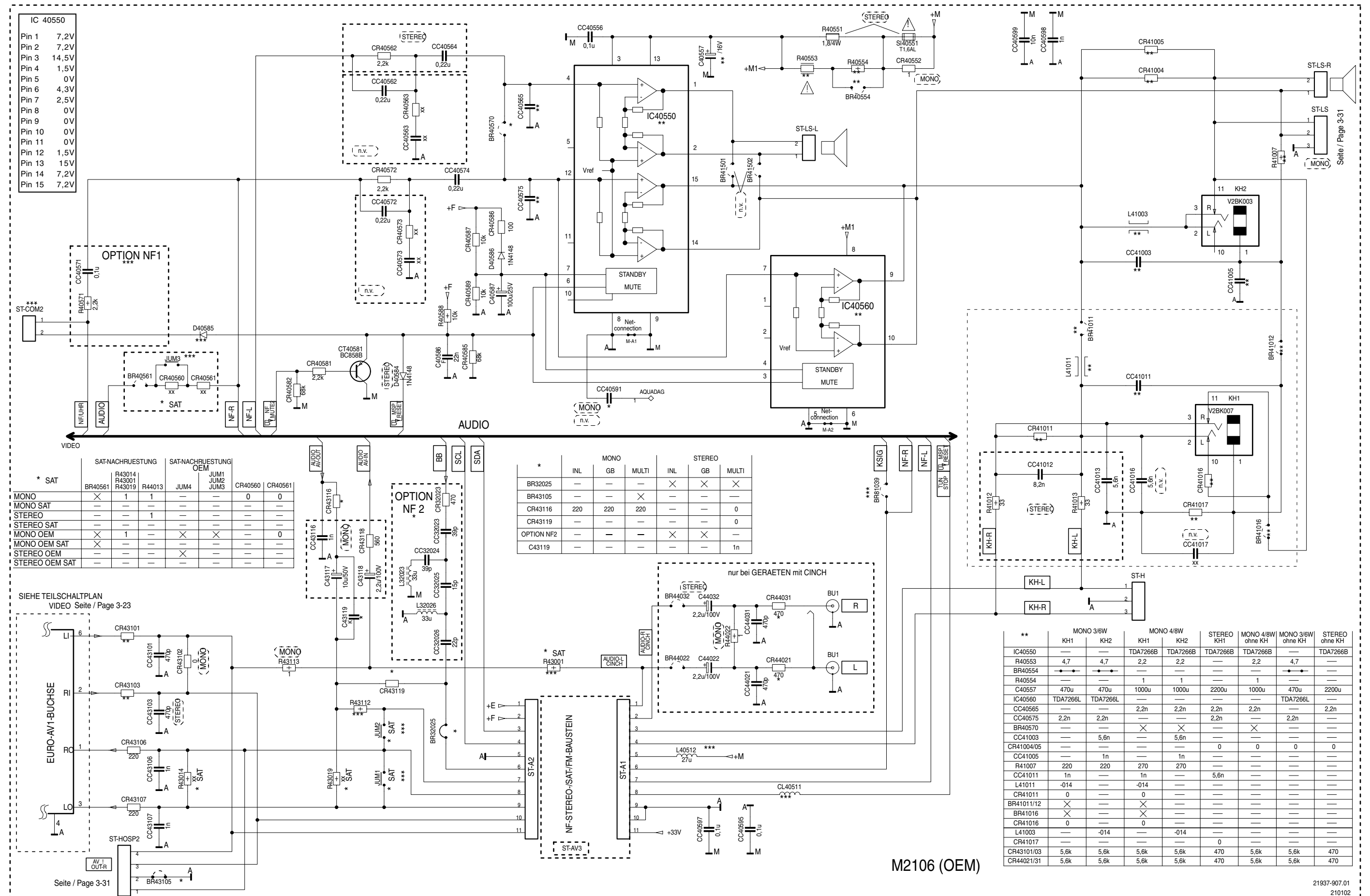
moegliche COLOR - NORMEN	Q34043	Q34044	Q34046	CC34038	CR52269
PAL4.43/NTSC4.43	4.4336MHz	—	—	—	—
PAL4.43/NTSC4.43/SECAM	4.4336MHz	—	—	0,1u	—
PAL4.43/NTSC4.43/NTSC3.58	4.4336MHz	3.5795MHz	—	—	—
PAL4.43/NTSC4.43/NTSC3.58/SECAM	4.4336MHz	3.5795MHz	—	0,1u	—
NTSC3.58/PAL M/PAL N (SOUTH AMERICA)	3.5795MHz	3.5766MHz	3.5820MHz	—	3,3k

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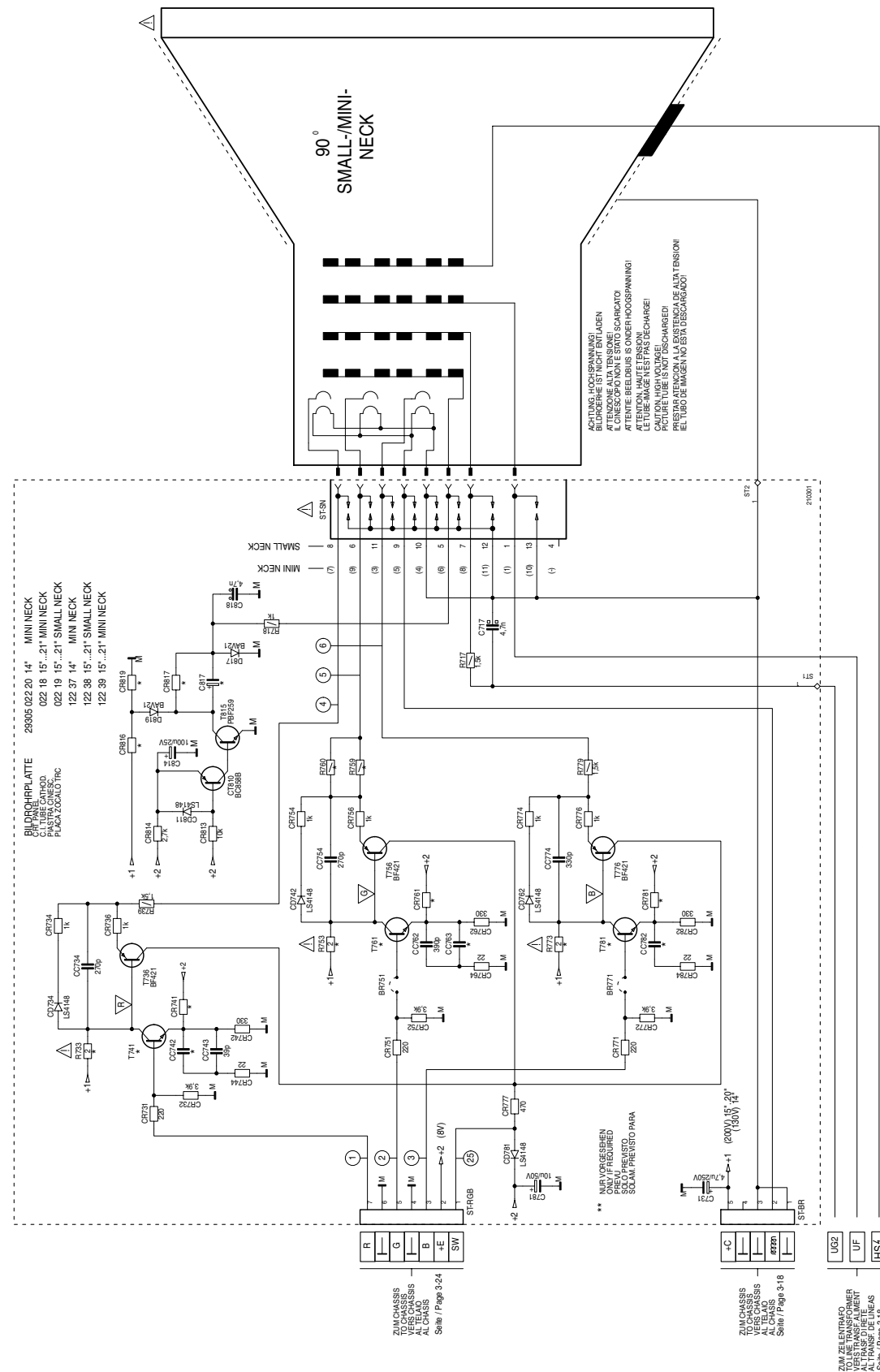


Teilschaltplan Audio / Circuit Diagram Audio

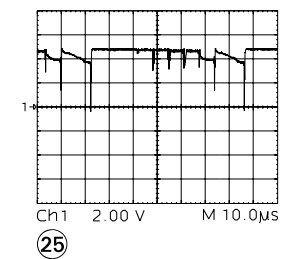
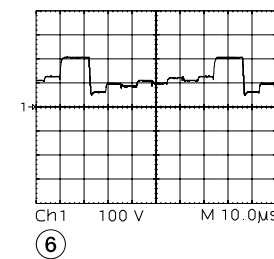
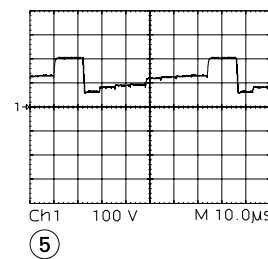
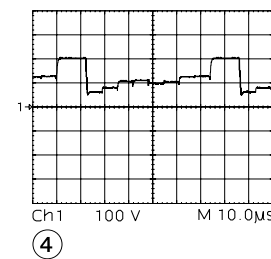
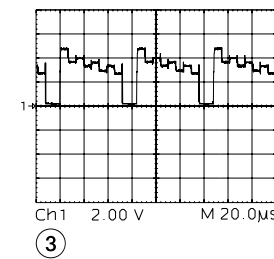
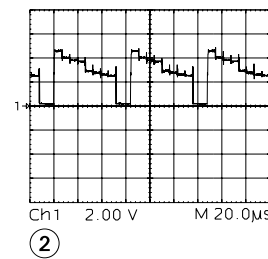
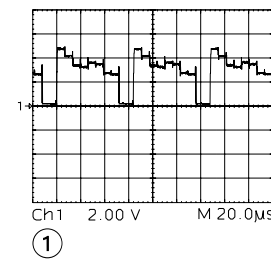
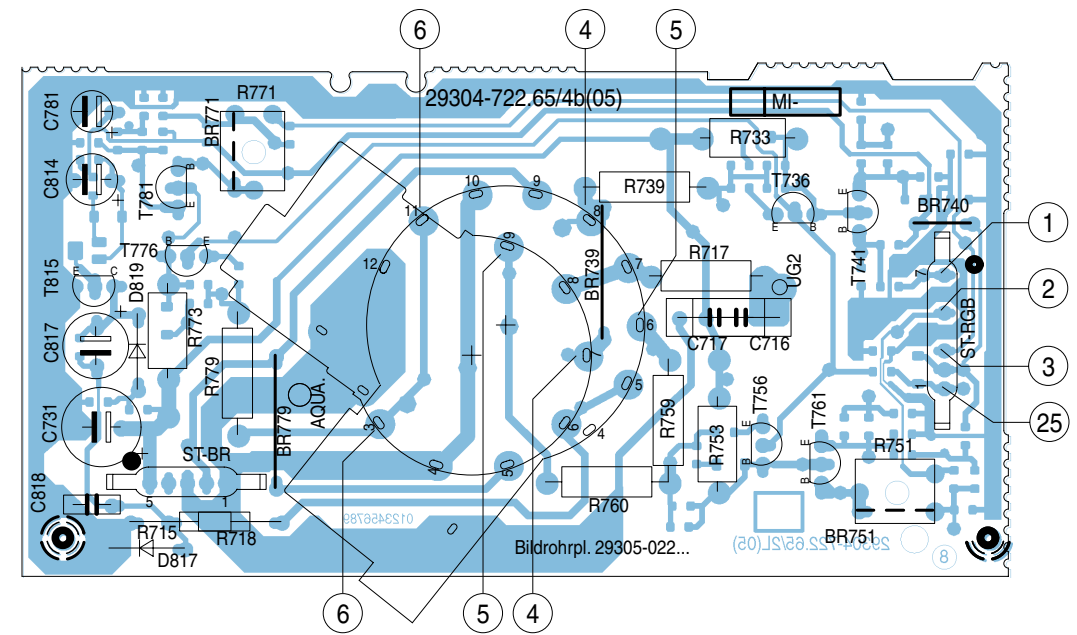
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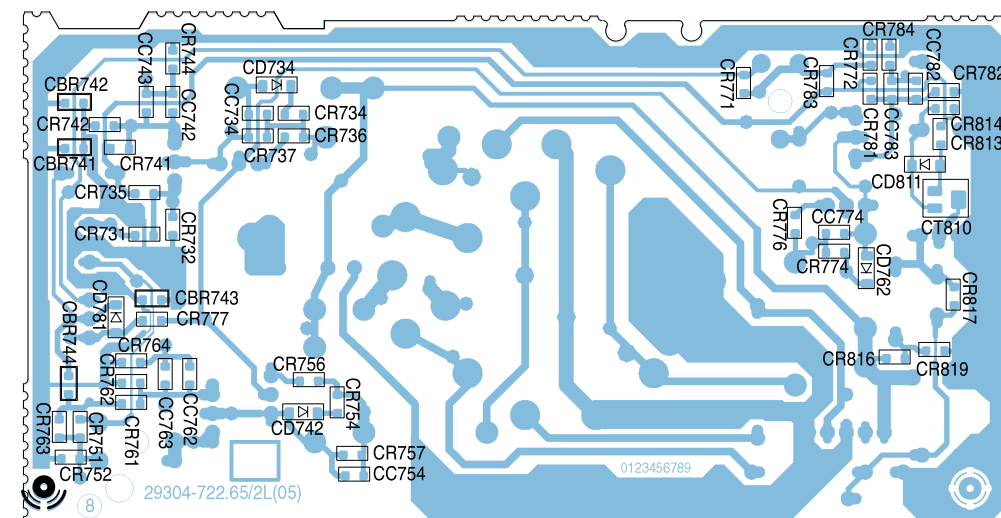
Bildrohrplatte / CRT Panel

[illegible]

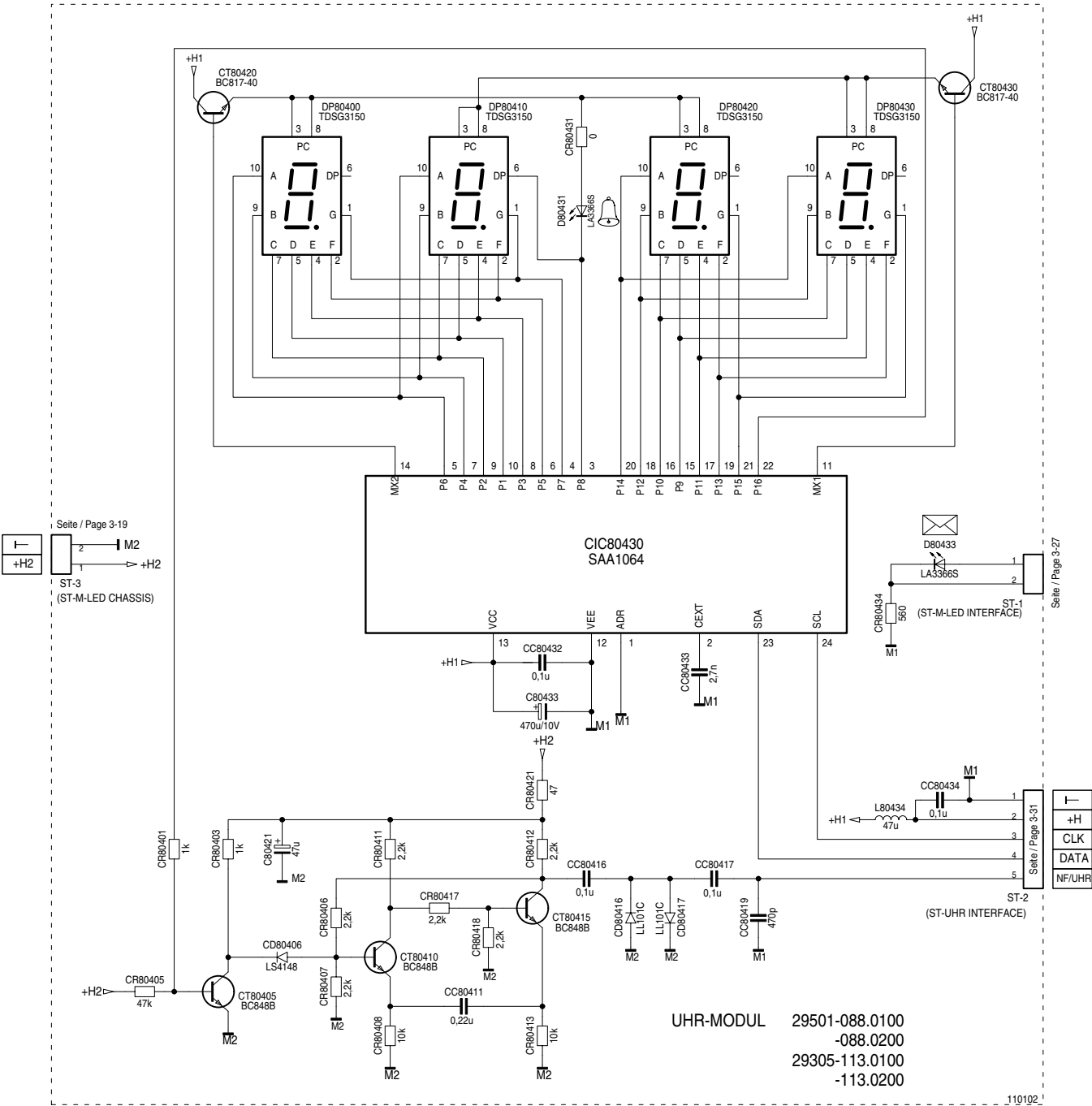
Bestückungsseite, Ansicht von oben / Component Side, Top View



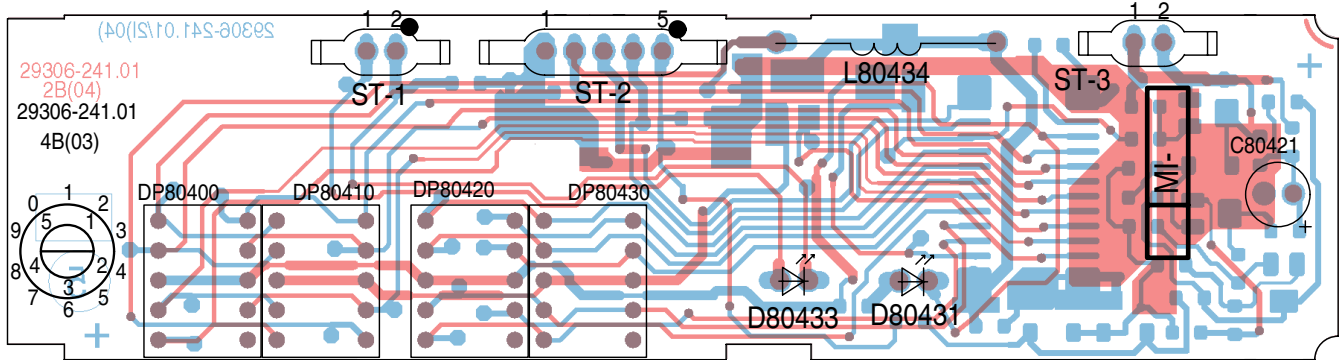
Lötseite, Ansicht von unten / Solder Side, Bottom View



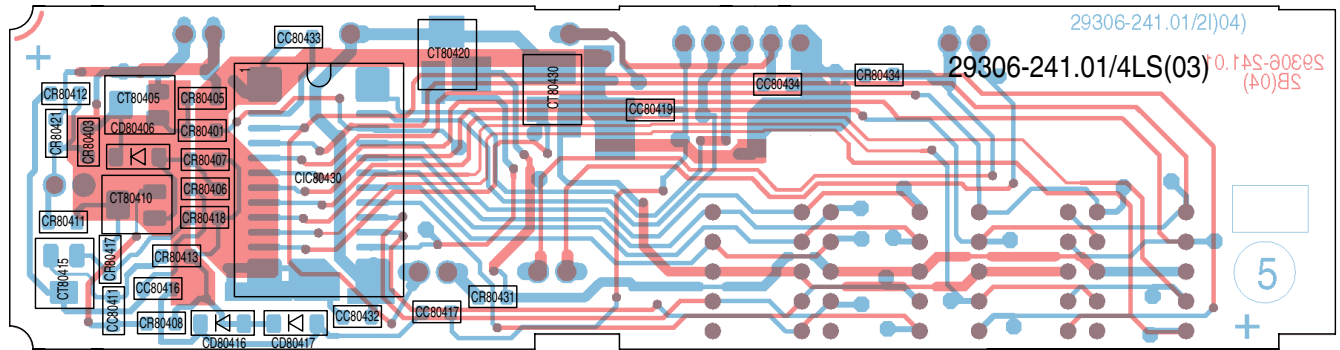
Uhr-Modul / Clock Module



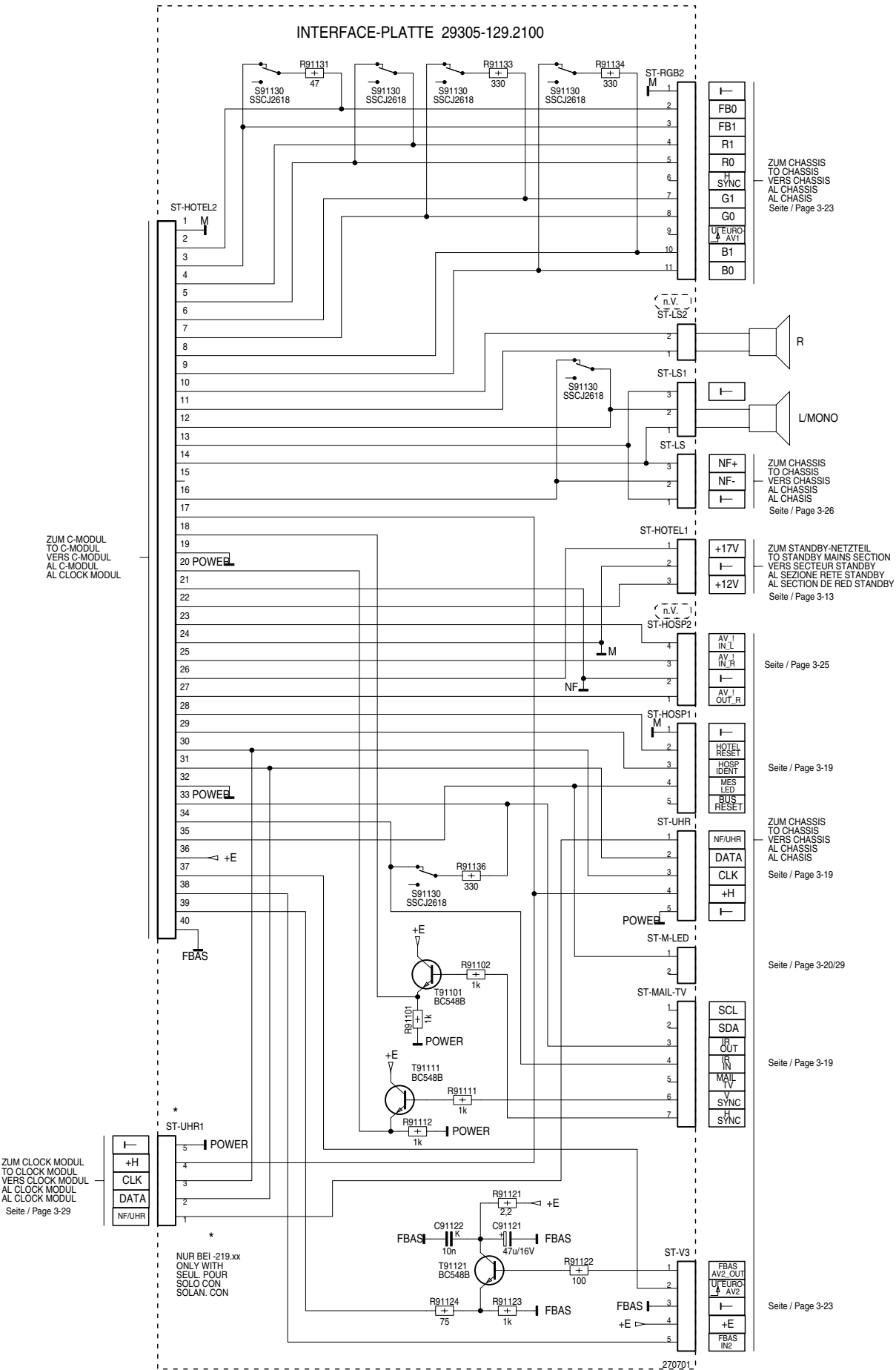
Bestückungsseite, Ansicht von oben
Component Side, Top View



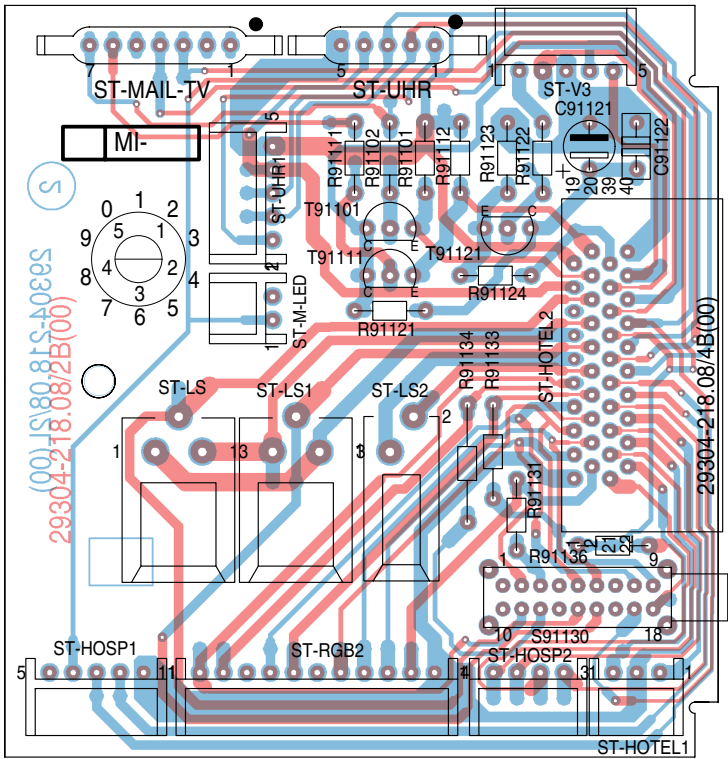
Lötseite, Ansicht von unten
Solder Side, Bottom View



Interfaceplatte / Interface Board



Bestückungsseite, Ansicht von oben
Component Side, Top View



Prozessorplatte / Processing Board

