Matrix

Item	See Model	Book
Service Notes (See Notes)	Grundig G1000 Chassis	4
X-Ray Precautions (See Notes)	Grundig G1000 Chassis	4
AF Amp PCB	Grundig CUC 7851	5
CRT PCB	Grundig CUC 7861	5
IF Amp PCB	Grundig CUC 7861	5
IF Amp PCB (alternative)	Grundig CUC 7851	5
Remote Control	Grundig CUC 6360	5
Socket PCB	Grundig CUC 7861	5
Tuner Diagram	Grundig CUC 5301	3

Recommended Safety Parts

Item	Part No.	Description
ST82 775		
	09246-196.31	Degaussing Coil
	8300-020-758	Pict. Tube A 76 JTS 90X08
	29201-377.02	CRT Cable
	09621-113.02	Fuse Holder
	29303-452.02	Mains Plug - Lower Part
	29703-291.32	Power Switch
	8290-991-307	Mains Cable
	09032-301.01	Power Transformer
C 6001	8511-793-047	MP 3 0,47 UF 20% 250VW
C 6002	8511-793-033	MP 3 0,22 UF 20% 250VW
L 6001	29500-809.97	FUNKENTSTOERDR
R 6009	8311-200-010	DUO-PTC
R 816, R 817	8766-701-027	KSW SI A 12 OHM 5% -GA
SI 6001	8315-622-003	FS.3,15 A/T L 250V
WW.	09246-196.71	Degaussing Coil
WW. = Optional		
ST 8277		
	09246-196.31	Degaussing Coil
	8300-020-758	Pict. Tube A 76 JTS 90X08
	29201-377.02	CRT Socket
	09621-113.02	Fuse Holder
	29303-452.02	Mains Plug - Lower Part
	29703-291.32	Power Switch
	8290-991-307	Mains Cable
	09032-301.01	Power Transformer
	29305-165.06	Power Switch Board
C 6001	8511-793-047	MP 3 0,47 UF 20% 250VW
C 6002	8511-793-033	MP 3 0,22 UF 20% 250VW
L 6001	29500-809.97	FUNKENTSTOERDR
R 6009	8311-200-010	DUO-PTC
R 816, R 817	8766-701-027	KSW SI A 12 OHM 5% -GA
SI 6001	8315-622-003	FS.3,15 A/T L 250V
WW.	09246-196.71	Degaussing Coil
WW. = Optional		
CUC 7880		
	29305-025.32	Focusing Control Unit
	29201-361.13	Focus and UG 2 Control
C 621	8660-098-238	SI-KERKO B-SS 2200PF 20% 400V
C 622	8660-098-238	SI-KERKO B-SS 2200PF 20%
C 665	8660-098-234	SI-KERKO B-SS 1000PF 20% 400V
C 666	8515-912-063	FKP1 0,033UF 20% 630V
R 503	8701-230-817	NKS 3 4,7 OHM 5% >>>RES
R 520	8705-329-071	MOW LI 0411 820 OHM 5%
R 525	8735-003-068	DW 0,75W 0,68 OHM 10%
R 552	8700-229-009	KSW AX 0207-GA NB 2,2 OHM
R 665	8718-250-155	Z 0414 2,7 MOHM VDE CECC
R 667	8735-002-013	DRW 2 W 0,1 OHM 10%
SI 401, 406, 411	8315-616-205	LOET-SI.-GR 800 MA/T
SI 630	8315-619-028	LOET-SI.-GR 1,6 A/T
SI 671	8315-622-025	LOET-SI.-GR 3,15 A/T
SI 691	8315-623-008	LOET-SI.-GR 4 A/T
TR 410	29201-380.97	UEBERTRAGER
TR 526	29201-029.08	DIODENSPLITTRAFO KPL
TR 651	29201-369.97	SPERRWANDLERTRAFO KPL
WW.	29201-453.46	SPERRWANDLERTRAFO KPL
WW. = Optional		
ST82 775/9		
	09246-196.31	Degaussing Coil
	8300-020-758	Pict. Tube A 76 JTS 90X08
	29703-291.32	Mains Switch
	09621-113.02	Fuse Holder
	29303-452.02	Mains Plug - Lower Part
	09032-301.01	Power Transformer
	29305-165.06	Power Switch Board
C 6001	8511-793-047	MP 3 0,47 UF 20% 250VW
C 6002	8511-793-033	MP 3 0,22 UF 20% 250VW
L 6001	29500-809.97	FUNKENTSTOERDR
R 6009	8311-200-010	DUO-PTC
R 816, R 817	8766-701-027	KSW SI A 12 OHM 5% -GA
SI 6001	8315-622-003	FS.3,15 A/T L 250V
WW.	09246-196.71	Degaussing Coil
WW. = Optional		

Recommended Safety Parts

Item	Part No.	Description
CUC 7880		
	29201-361.13	Focus and UG 2 Control
C 621, C 622	8660-098-238	SI-KERKO B-SS 2200PF 20% 400V
C 665	8660-098-234	SI-KERKO B-SS 1000PF 20% 400V
C 666	8515-912-063	FKP1 0,033UF 20% 630V
OK 637, 646	8306-000-012	OPTOKOPPLER CNY 17 F1
R 503	8701-230-817	NKS 3 4,7 OHM 5% >>>RES
R 520	8705-329-071	MOW LI 0411 820 OHM 5%
R 525, R 552	8735-003-033	DW 0,75W 0,33 OHM 10%
R 665	8718-250-155	Z 0414 2,7 MOHM VDE CECC
R 667	8735-002-013	DRW 2 W 0,1 OHM 10%
SI 401, 406, 411	8315-616-205	LOET-SI.-GR 800 MA/T
SI 630	8315-619-028	LOET-SI.-GR 1,6 A/T
SI 671	8315-622-025	LOET-SI.-GR 3,15 A/T
SI 691	8315-623-008	LOET-SI.-GR 4 A/T
TR 410	29201-380.97	UEBERTRAGER
TR 526	29201-029.08	DIODENSPLITTRAFO KPL
TR 651	29201-369.97	SPERRWANDLERTRAFO KPL
WW.	29201-453.46	SPERRWANDLERTRAFO KPL
WW. = Optional		
ST82 775/9 PIP		
	09246-196.31	Degaussing Coil
	8300-020-758	Pict. Tube A 76 JTS 90X08
	09621-113.02	Fuse Holder
	29303-452.02	Mains Plug - Lower Part
	09032-301.01	Power Transformer
	29305-165.06	Power Switch Board
C 6001	8511-793-047	MP 3 0,47 UF 20% 250VW
C 6002	8511-793-033	MP 3 0,22 UF 20% 250VW
L 6001	29500-809.97	FUNKENTSTOERDR
R 6009	8311-200-010	DUO-PTC
R 816, R 817	8766-701-027	KSW SI A 12 OHM 5% -GA
SI 6001	8315-622-003	FS.3,15 A/T L 250V
WW.	09246-196.71	Degaussing Coil
WW. = Optional		
CUC 7880		
	29201-361.13	Focus and UG 2 Control
C 621, C 622	8660-098-238	SI-KERKO B-SS 2200PF 20% 400V
C 665	8660-098-234	SI-KERKO B-SS 1000PF 20% 400V
C 666	8515-912-063	FKP1 0,033UF 20% 630V
OK 637, 646	8306-000-012	OPTOKOPPLER CNY 17 F1
R 503	8701-230-817	NKS 3 4,7 OHM 5% >>>RES
R 520	8705-329-071	MOW LI 0411 820 OHM 5%
R 525, R 552	8735-003-033	DW 0,75W 0,33 OHM 10%
R 665	8718-250-155	Z 0414 2,7 MOHM VDE CECC
R 667	8735-002-013	DRW 2 W 0,1 OHM 10%
SI 401, 406, 411	8315-616-205	LOET-SI.-GR 800 MA/T
SI 630	8315-619-028	LOET-SI.-GR 1,6 A/T
SI 671	8315-622-025	LOET-SI.-GR 3,15 A/T
SI 691	8315-623-008	LOET-SI.-GR 4 A/T
TR 410	29201-380.97	UEBERTRAGER
TR 526	29201-029.08	DIODENSPLITTRAFO KPL
TR 651	29201-369.97	SPERRWANDLERTRAFO KPL
WW.	29201-453.46	SPERRWANDLERTRAFO KPL
WW. = Optional		
ST95 775/9 PIP		
	09246-199.71	Degaussing Coil
	8300-020-893	Pict. Tube A 89 JTS 96X01
	09621-113.02	Fuse Holder
	29303-452.02	Mains Plug - Lower Part
	09032-301.01	Power Transformer
	29305-165.06	Power Switch Board
	29501-532.01	Cover
	29703-291.32	Power Switch
C 6001	8511-793-047	MP 3 0,47 UF 20% 250VW
C 6002	8511-793-033	MP 3 0,22 UF 20% 250VW
L 6001	29500-809.97	FUNKENTSTOERDR
R 6009	8311-200-010	DUO-PTC
R 816, R 817	8766-701-027	KSW SI A 12 OHM 5% -GA
SI 6001	8315-622-003	FS.3,15 A/T L 250V
CUC 7890		
	29201-361.13	Focus and UG 2 Control
C 665	8660-098-234	SI-KERKO B-SS 1000PF 20% 400V
C 666	8515-912-063	FKP1 0,033UF 20% 630V
C 7	8531-505-221	MKT 1816 ROE/B32237 SIE/
OK 637, 646	8306-000-012	OPTOKOPPLER CNY 17 F1
R 503	8701-230-817	NKS 3 4,7 OHM 5% >>>RES
R 520	8705-329-071	MOW LI 0411 820 OHM 5%
R 525	8735-003-033	DW 0,75W 0,33 OHM 10%
R 552	8700-229-009	KSW AX 0207-GA NB
R 665	8766-349-155	MSW LI 0414 2,7 MOHM
R 667	8735-002-013	DRW 2 W 0,1 OHM 10%
SI 401, 406, 411	8315-616-205	LOET-SI.-GR 800 MA/T
SI 630	8315-619-028	LOET-SI.-GR 1,6 A/T
SI 671	8315-622-025	LOET-SI.-GR 3,15 A/T
SI 691	8315-623-008	LOET-SI.-GR 4 A/T
TR 410	29201-380.97	UEBERTRAGER
TR 526	29201-029.08	DIODENSPLITTRAFO KPL
TR 651	29201-369.97	SPERRWANDLER KPL
TR 8	29201-445.97	FOKUSIERUEBERTRAGER
WW.	29201-453.46	SPERRWANDLERTRAFO KPL
WW. = Optional		

Service Adjustments

Options for Servicing
With the remote control buttons

EPROM Version Number
The version number, week and month of production, can be called up in the Info Menu with the “AUX” button. The index 02 of the part number (19798-254.02) indicates the EPROM version.

Changing the Display Brightness
The VFD brightness is changed by pressing the “AUX” --> - ⏻ + buttons sequentially.

Programme Lock (protection against unauthorised use)
This electronic combination lock can be cancelled by pressing , ▶ ◀ and P∧ P∨ and **OK** sequentially.

One Place/Two Place Programme Selection
The options 1 - 9 or 1 - 99 can be selected via the menu Info Centre --> Special Functions --->Settings --> Programme Selection.

Maximum Programme Number
When storing the channel number “00” at any programme position, programme selection with P∧ P∨ buttons is limited to the numbers lower than this position.

OSD-ON/OSD-OFF - all programmes.
The on screen display can be switched on or off via the Menu Info Centre --> Special Functions --> Settings --> Pict./Sound Options. When selecting the OSD-OFF option the station identifications and scales for the analog values is switched off.

OSD-ON/OSD-OFF - individual programmes
Activate the desired station via the menu Info Centre --> TV Station Table and enter a decimal point “.” at the first place of the station identification. With this setting the display can be switched off for the selected programmes.

Changing the Sharpness
Call up the Info Menu --> Sharpness and change the value with ◀ ▶ .

Hi-Fi Output: off, variable, linear Via the Audio Menu --> Hi-Fi Output, with the buttons ◀ ▶ , the AF at the Hi-Fi output can be:

- Switched “off” (display shows P..), normal operation.
- Set to “variable” (display shows H..), volume level adjustment for the Hi-Fi system can be changed via the TV remote control. The loud speakers in the TV receiver are switched off in this case.
- Set to “linear” (display shows H..), constant level for the Hi-Fi system.

Switching Over the Sound:
Stereo, Mono, FM, NICAM, NICAM B
Via the Audio Menu --> Sound it is possible with the ◀ ▶ buttons to change over the stereo decoder for the desired sound reception.

Forced Mono
By entering the station identification “MONO” or “.ONO” the stereo decoder can be made to switch over to FM-mono. If a decimal point is entered in the first place of the station identification this indication does not appear on the screen.

Volume Level Matching
Via the Menu Info Centre --> Settings --> Volume it is possible on RF mode and Peri mode to set a volume offset on each TV programme position (volume level matching).

Switching over the descrambler: (AV1 socket black)

“AUX” --> “0/AV”. With the “0/AV” button select:
Descrambler off
Descrambler on Auto
Descrambler on Stereo
Descrambler on Mono - L
Descrambler on Mono - R
The switching voltage present at the EURO-AV-socket changes automatically to Descrambler operation.

Setting the Peri Bit
“AUX” --> “ “0/AV”.
With the Peri bit set, the control processor evaluates the switching voltage on pin 8 of the EURO-AV-socket AV1 and switches the TV receiver to this input, eg. on descrambler operation.

Monitoring the AV Connection
Video source on the AV1 socket, via IDTV Menu --> AV Monitor.

Copy Function
In operating mode:
Select first the AV signal source eg. AV1, AV2 etc.
- On: “AUX” --> “0/AV” indication “Copy on”
- Off: “AUX” --> “0/AV” indication “Copy off”

Copying possibilities:

From	To:	
Scart socket, black:	AV1	--> scart socket 2 (orange).
		--> scart socket 3 (blue).
Scart socket, orange:	AV2	--> scart socket 3 (blue).
Scart socket, blue:	AV3	--> scart socket 2 (orange).
Cinch socket:	AV4	--> scart socket 2
CCVS		--> scart socket 3
S-Video socket:	AV5	--> scart socket 2 (orange).
		--> scart socket 3 (blue).

In stand-by mode:
Select first the AV signal source eg. AV1, AV2 etc.

- On: “AUX” Æ “0/AV”. Indication “Copy on”.
- Buttons “AUX” Æ “⏻”. (Standby) Indication “C” or “COPY” dependant on the display. Copying possibilities are the same as before.
- To cancel the copy mode press “⏻”or “mains off”.

IR-Data Programmer
With this menu and with the IR-Data Programmer 2 it is possible to store a maximum of 99 programme positions with the data for the TV norm, Peri, 6-place station identification and the fine tuning frequency. The programmer AP transfers only channels and 4-place station identifications.
-Call up via the Menu Info Centre --> Special Functions --> IR-Data Programmer.

Emergency Data
If necessary the emergency data can be read out from the EPROM. See “Service Adjustments”.

Service Adjustments

Colour Registration
The colour registration function allows to compensate for differences in the delay between the Y-channel and the chroma channel.

- with the Menu guide call up the “Colour Match” menu via the Service Programme, Info Centre --> Special Functions --> Service --> Code 8500.
- with buttons ▶ ◀ correct the delay so that the Y chroma signals coincide.

Sevice Adjustments Cont'd.

Tuner AGC
The automatic Gain Control offers two possibilities of adjusting the delayed automatic gain control voltage for the tuner:
1: Feed a standard test pattern at a channel in the upper range of the UHF band into the aerial socket. The RF should be 1.5mV (64dBmV). Call up the "Tuner-AGC" menu via the Service Programme Info Centre --> Special Functions --> Service --> Code 8500, select "automatic" and confirm. The control processor will set the correct value for the delayed gain control voltage.
2: Feed in a standard test pattern at a UHF channel as high as possible to the aerial socket. Call up the "Tuner-AGC" menu via the Service Programme Info Centre --> Special Functions --> Service --> Code 8500, select "manual" and confirm.With the ▶ ◀ buttons tune the TV station so that noise just begins to appear in the picture. Then tune in the reverse direction until the picture just becomes noise free. Store with "OK".

Tuner AFC
On RF video recorder reproduction the Automatic Frequency Control is activated is activated only if the desired programme position is marked with the station identification AV.
- Tune the tuner precisely at a programme position.
- Call up the AFC Reference Menu via Service Programme Info Centre --> Special Functions --> Service --> Code 8500 --> with the menu guide and activate with "OK".

On activation of the AFC function a voltage level is read out from the IF-amplifier which is used as a reference for AV-programmes.

Loading the Average Values
Press and hold the P- button on the local keyboard and switch the TV on with the mains button. In doing so, the analog average values for the programmes 1-99 and AV1- AV5 are stored in the programme memory IC840, the AV and switch-on bits are reset, and the ATS bit is set. The individual settings can be entered and stored with the remote control handset.

ATS Reset
Press and hold the L+ button on the local keyboard while switching on with the mains button. With this option the programmes 1 - 99 are pre-programmed with the analog data for brightness, colour contrast and volume level. Additionally, the bits AV, France are reset and the ATS bit is set.

Load Emergency Data
(ex. after changing mP IC850)
Connect pin 2 of the processor to chassis and switch on the TV by power switch. The EEPROM in the processor IC850 is loaded with:
- the data set and the geometry data for the IC TDA 9160
- the white balance data VR, VG and VB for the IC TDA 9160
- the IF and AFC control voltages
- The PI data set
- the data sets for the programmes 47 - 99.

White Balance
- Call up the White Balance menu via the Info Centre --> Special Functions --> Service --> code 8500.
- with the ▶ ◀ buttons set the VG (amplification green) and VB (amplification blue) values so that the white rectangular area in the middle of the picture becomes achromatic. Store with OK.

Adjustment of the Screen Grid voltage U_{SG}
- Feed in a test pattern
- With the remote control adjust the screen brightness so that the grey areas just become dark.
- Switch the receiver to AV operation.
- Connect a high-ohmic voltmeter (series resistance 220k Ohm approx.) to the test points R,G,B and determine the highest voltage.
- With the control U_{SG} on the picture tube panel set the highest voltage level to approx. 175V.
- If retrace lines are visible on the screen reduce the voltage by approx. 10V.

Adjustment of the Bridge Coil L511
- Call up the Geometry Menu via the Service Programme --> Info Centre --> Special Functions --> Service --> Code 8500. Set the horizontal amplitude to minimum.
- Connect one test probe of a dual-beam oscilloscope to the collector of the transistor T572.
- Connect the second test probe between the diodes D502 and D503.
- Adjust the coil L511 so that the pulse width of both oscillogrames is the same.
- Re-adjust the horizontal amplitude according to the test pattern and store.

Adjustment of the Line Sharpness
With the focus control ⊠ on the adjustment control panel adjust the lines in the north-south direction for maximum sharpness.
TV receivers with focusing panel:
Subsequently, with the focus control ⊠ on the focusing panel, adjust the lines in the east-west direction for maximum sharpness.
Repeat if necessary.

Attention: For measurements on the focussing panel use only sufficiently insulated measuring cables and test probes with adequate electric strength (eg. 100:1).

Videotext (VT) Matching Adjustment
At the time of delivery the control R378 is set to the lowest high-frequency emphasis. If, despite a perfect aerial signal, character faults occur, turn R378 slowly until the character errors disappear. Do not turn R378 any more as the error rate may increase again.
During this adjustment page 199 must always be selected anew so that it is read in anew making it possible to evaluate the error rate.

Setting the Micro picture (PIP)
For setting the micropicture press and hold the PIP button on the remote control handset and switch on with the mains button.

Possible settings with the remote control buttons:

- Vertical movement of the PIP:	P▲ P▼
- Horizontal movement of the PIP:	▶ ◀
- Changing the PIP position:	"IDTV"
- Changing the PIP size:	"16:9"
- Changing the PIP contrast:	- ● +
- Selecting the PIP frame colour:	- ◑ +
- Storing the PIP settings:	"OK"
- Not storing the PIP settings:	☰ or ⏻

PIP Colour/RGB
Servicing work after replacing the module:
None.
1: Adjustment of Line Frequency
- Short circuit Pin 5 of IC 5810 (TDA 2579) to chassis.
- Connect a test probe to Pin 17 of IC 5810 (set to 20 msec/div).
- Connect the external trigger input to contact 1 of PIP-colour/RGB module (CCVS signal).
- Set R 5182 so that HA-pulse is no longer sweeping horizontally.
- Remove the short circuit.

2: Adjustments in Chroma Channel
- Feed in PAL test pattern.
- Adjust ◕ and ☼ to nominal value, ◑ to maximum.
- Connect Pin 28 of IC 580 (TDA 4557) to +12V supply.
- Connect Pin 17 of IC 5850 (TDA 4557) to chassis.
- Adjust trimmer C 5783 for stationary pattern in colour bars.
- Remove wire links.
- Connect a test probe to Pin 19 of IC 5520, SDA 9087 (input Y).
- Connect the external trigger input to contact 1 of PIP-colour/RGB module (CCVS signal).
- With PAL-filter F 5773 set the colour carrier of the Y-signal to minimum.

- Feed in SECAM test pattern.
- Connect Pin 27 of IC 5850 (TDA 4557) to +12V supply.
- Connect high-impedance voltmeter to Pin 21 of IC 5850.
- Use filter F 5794 (DL) to align voltage to maximum.
- Remove wire links.
- Connect test probe to Pin 1 of IC 5850.
- Use filter F 5857 (DR) to align zero level of the (R-Y) signal with the line black level.
- Connect test probe to Pin 3 of IC 5850.
- Use filter F 5878 (DB) to align zero level of the (B-Y) signal with the line black level.
- With filter F 5751 adjust the SECAM bell characteristic so that the (B-Y) signal is symmetrical and free of overshooting.

- Feed in 3.58 MHz NTSC test pattern (sound frequency 4.5 MHz).
- Connect Pin 26 of IC5850 to ±12V supply.
- Connect Pin 17 of IC5850 to chassis.
- Adjust trimmer C 5788 for stationary pattern in colour bars.
- Remove wire links.
- With filter F 5761 adjust the 4,5 MHz sound carrier to minimum.

Picture Geometry and Picture Position Adjustment via the Remote Control Handset

For accurate adjustment of the picture a test generator or a standard test pattern should be used. For raster corrections it is also possible to use the integrated test pattern.

1: Call up the Programme Menu with the button i . The indication "Info Centre" is shown on the screen.
2: With buttons P▲ or P▼ move the bar to the menu item "Special Functions" (line becomes red) and activate with the "OK" button.
3: With the button P▲ or P▼ call up "Service" and confirm with the "OK" button.
4: Enter code number 8500.
5: With the cursor button P▲ or P▼ call up the "Geometry" menu.
6: If a standard test pattern is not available, move the yellow bar to the menu item "Test Pattern" and switch the integrated test pattern "On". Press the "OK" button.
7: Move the yellow bar with the cursor button to the desired adjustment, eg. "V-Middle", press the "OK" button, and with the cursor setting function ▶ or ◀ adjust for an optimum picture. Adjust the Geometry for the vertical deflection and then for the horizontal deflection.

Attention: it is absolutely necessary to start with the "V-Middle" adjustment otherwise the other vertical deflection parameters would defy correct geometry adjustment.

"V-Middle" Adjustment with a Standard Test Pattern
- For example feed in the convergence test pattern with circle.
- Select the "V-Middle" menu.
- With the button ▶ or ◀ adjust the rectangles in the upper and lower third of the screen so that they are of equal height.
- With the "V-Linearity" menu adjust the rectangles in the middle of the picture so that their height is identical with the upper and lower ones.
- Continue with the picture geometry adjustment via the menu and store.

"V-Middle" Adjustment with a Video Generator, eg. Grundig VG 1000
- Feed in the convergence test pattern with standard colour bars via RF.
- Call up the "V-Middle" menu.
- With the ▶ or ◀ button change the setting so that the G-Y vector (orange area in the centre of the picture) is just covered.
- Continue with the picture geometry adjustment via the menu and store.

The "Line Shift" alignment influences the line phase setting. Before this adjustment, set the horizontal amplitude to minimum and if necessary, correct the raster position with the "Shift Plug". With the button ▶ or ◀ move the picture into the centre of the raster. Re-adjust the horizontal amplitude with the test pattern.

8: To store this adjustment, move the bar to "Terminate with store" and confirm with "OK".

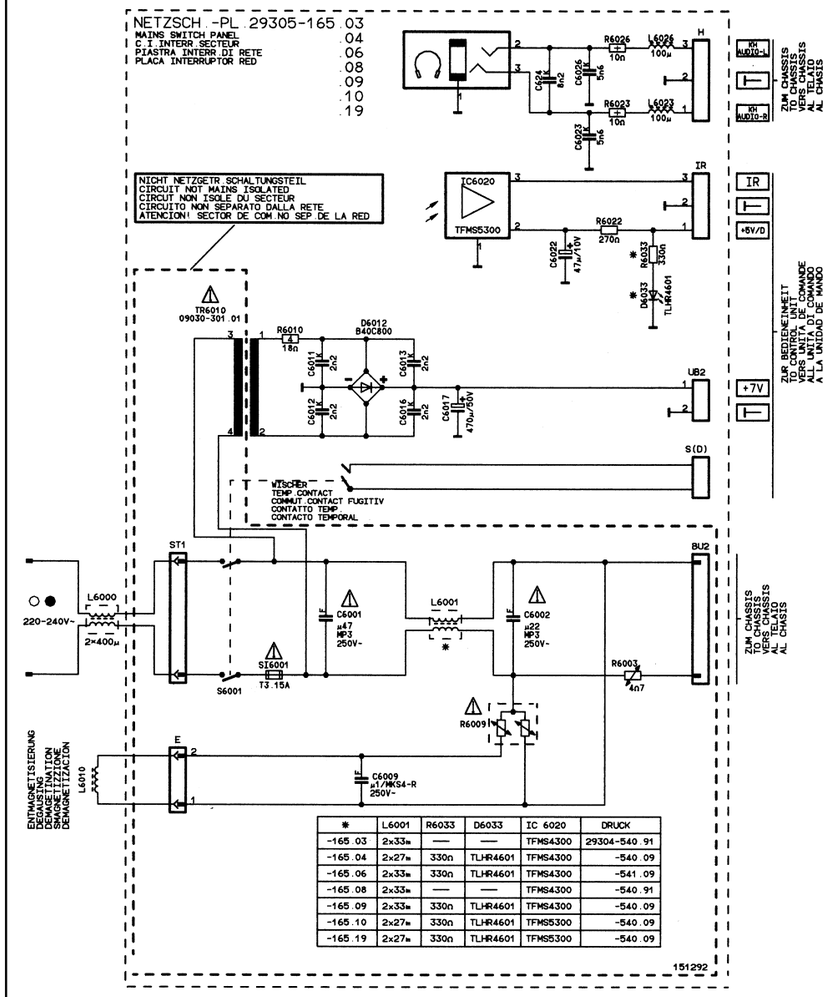
Attention: The picture geometry is set to the last stored value whenever the receiver is switched on.

Reset:
Under the menu item "Reset" an average data set from the ROM is stored. If the geometry has been aligned wrongly, these basic values can be re-loaded at any time. For this, move the yellow bar to "Reset". Press the "OK" button. By pressing the "AUX" button the picture geometry is set according to this "Reset" values.

9: With the button i return to the normal menu.

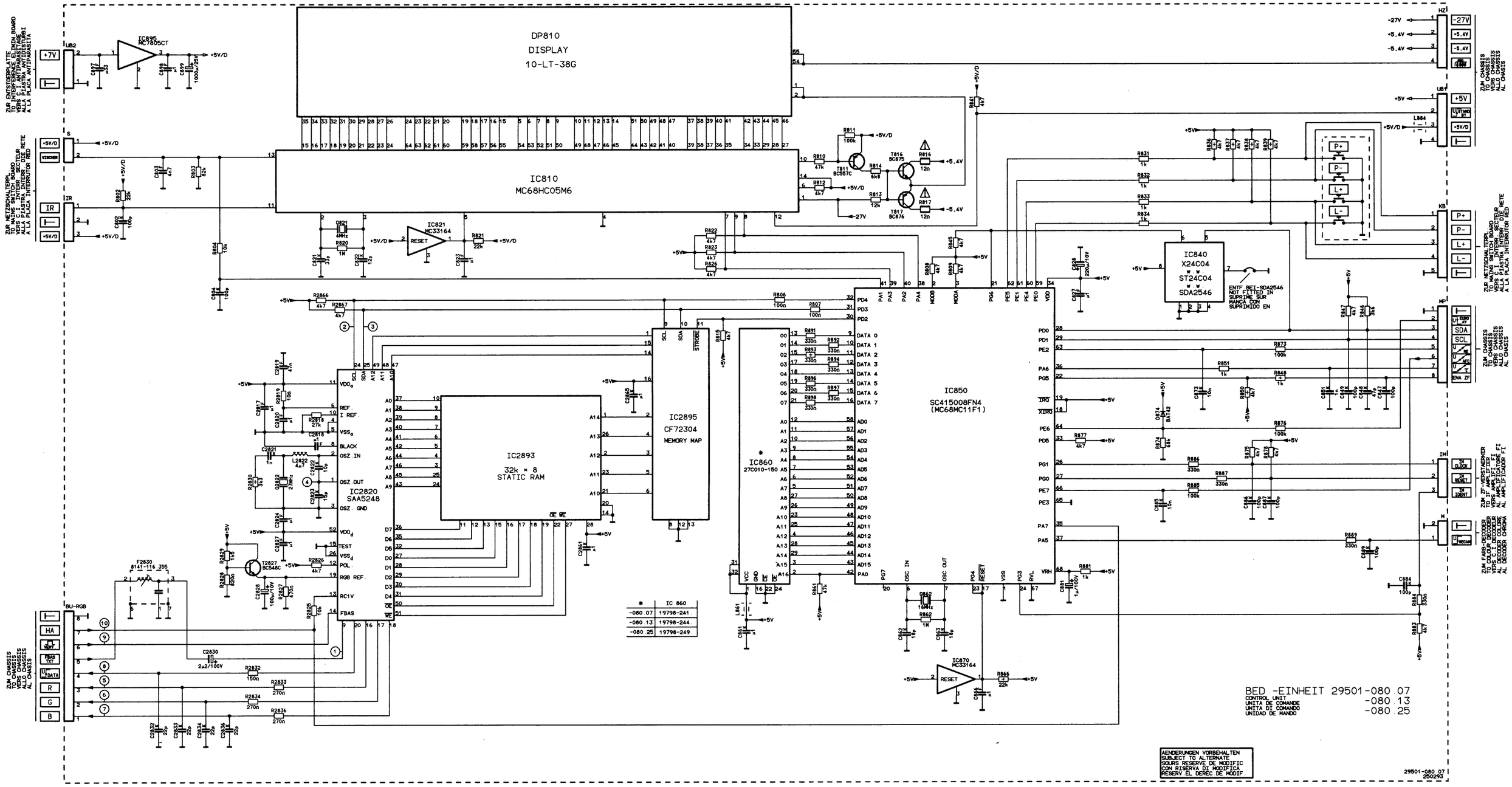
Advice on I²C-bus Faults
To localise a defect on the keyboard control or a short circuit I²C-bus on the chassis, disconnect the "MP plug" and switch the TV on with the mains button.
The operating unit are indicated correctly. The keyboard control unit does not drive the IC 5010, TDA 9160, in the Colour Decoder Sync (no picture, no sound).

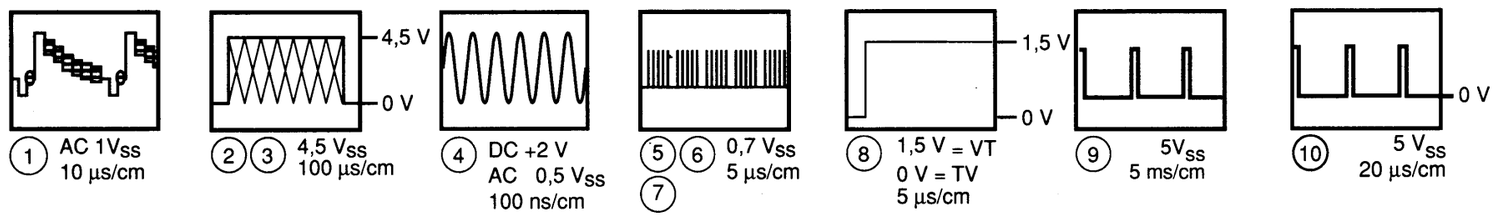
Power Supply Diagram



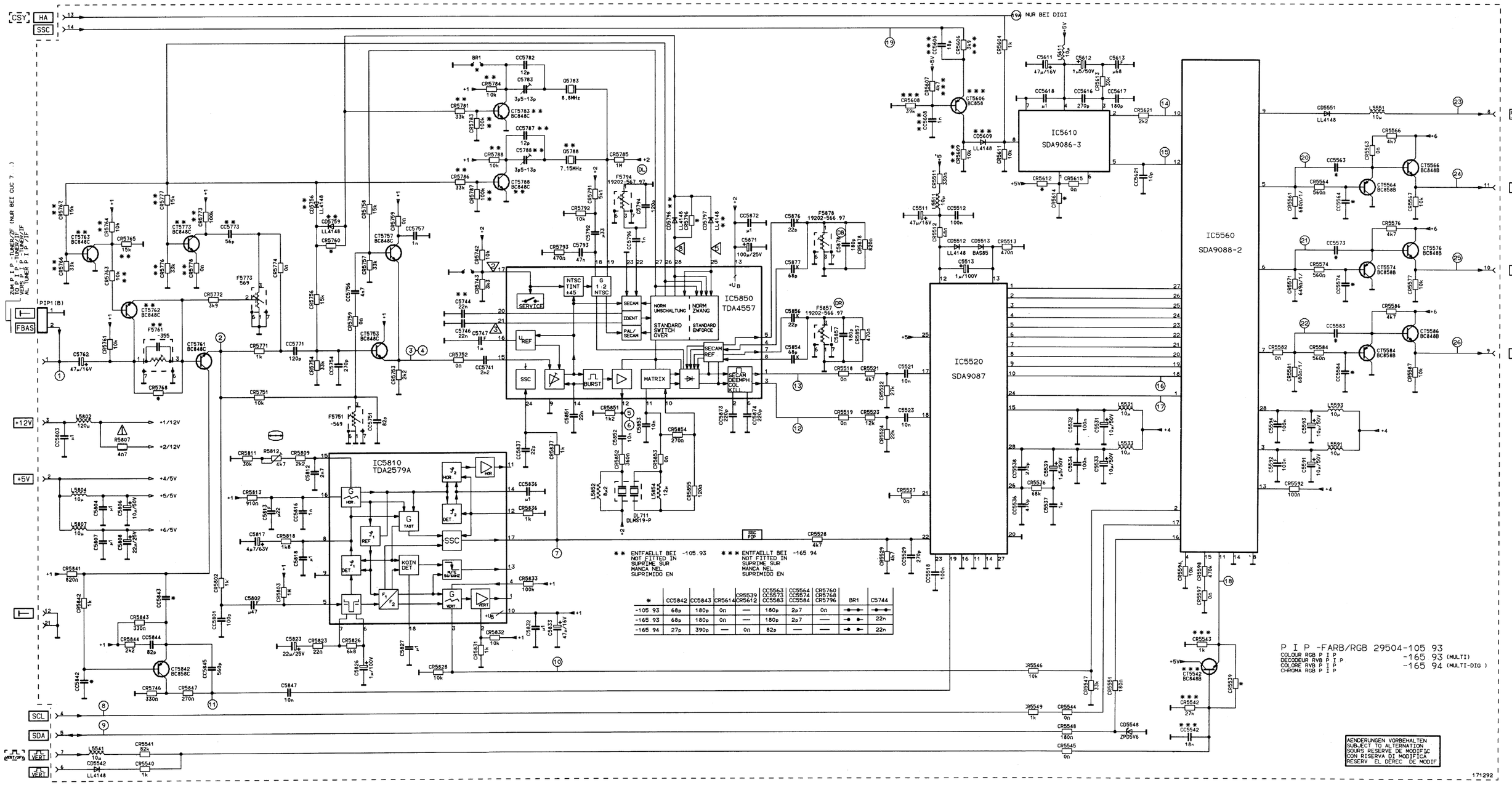
*	L6001	R6033	D6033	IC 6020	DRUCK
-165.03	2×33µ	—	—	TFMS4300	29304-540.91
-165.04	2×27µ	330n	TLHR4601	TFMS4300	-540.09
-165.06	2×33µ	330n	TLHR4601	TFMS4300	-541.09
-165.08	2×33µ	—	—	TFMS4300	-540.91
-165.09	2×33µ	330n	TLHR4601	TFMS4300	-540.09
-165.10	2×27µ	330n	TLHR4601	TFMS5300	-540.09
-165.19	2×27µ	330n	TLHR4601	TFMS5300	-540.09

Control Diagram



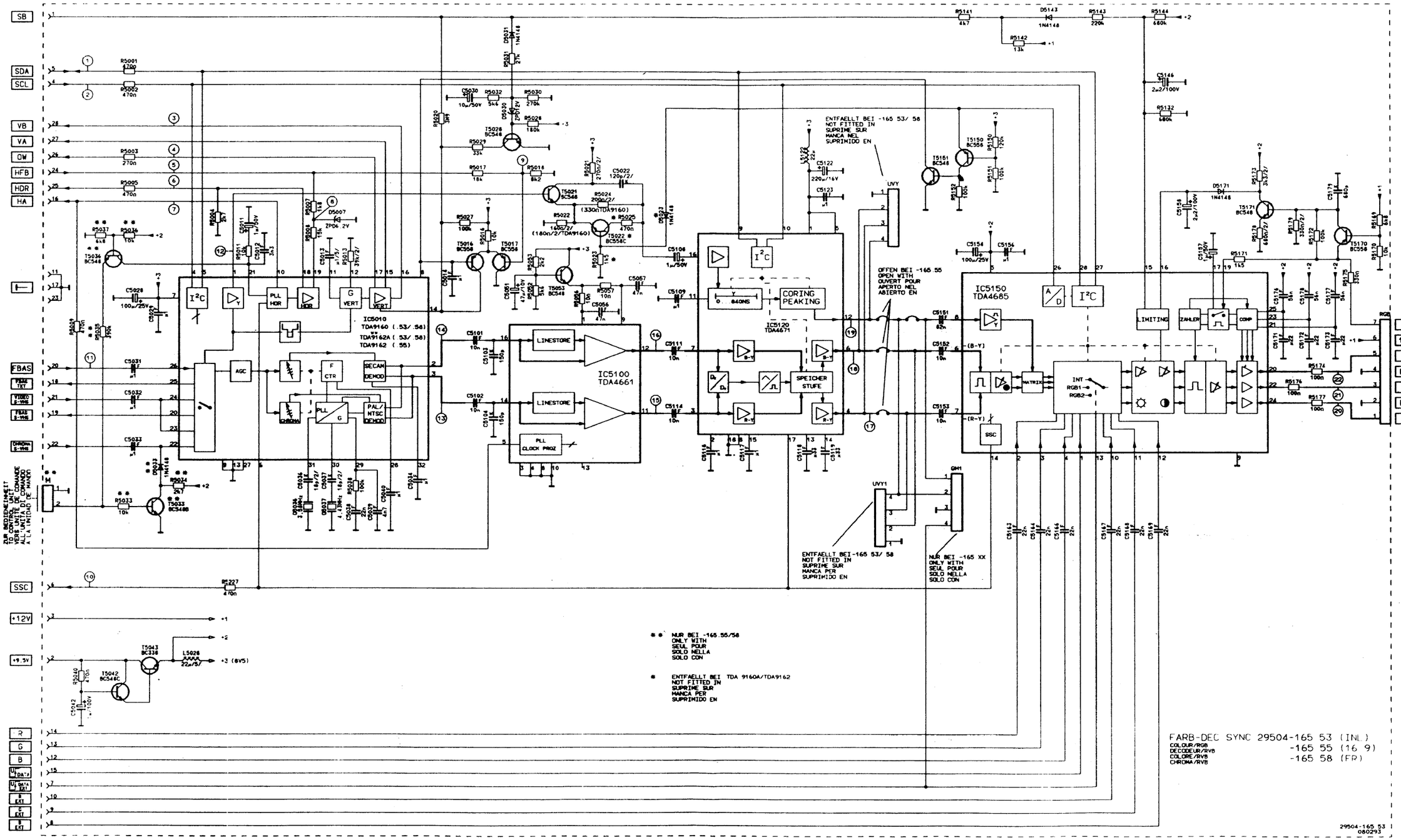


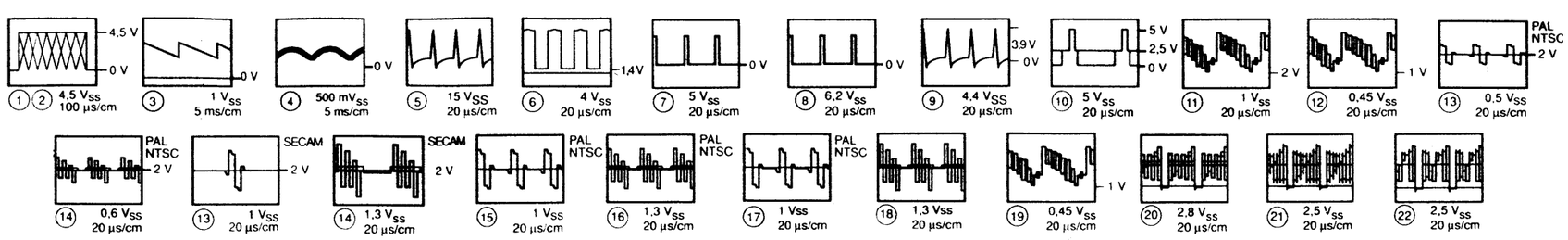
PIP Colour Diagram



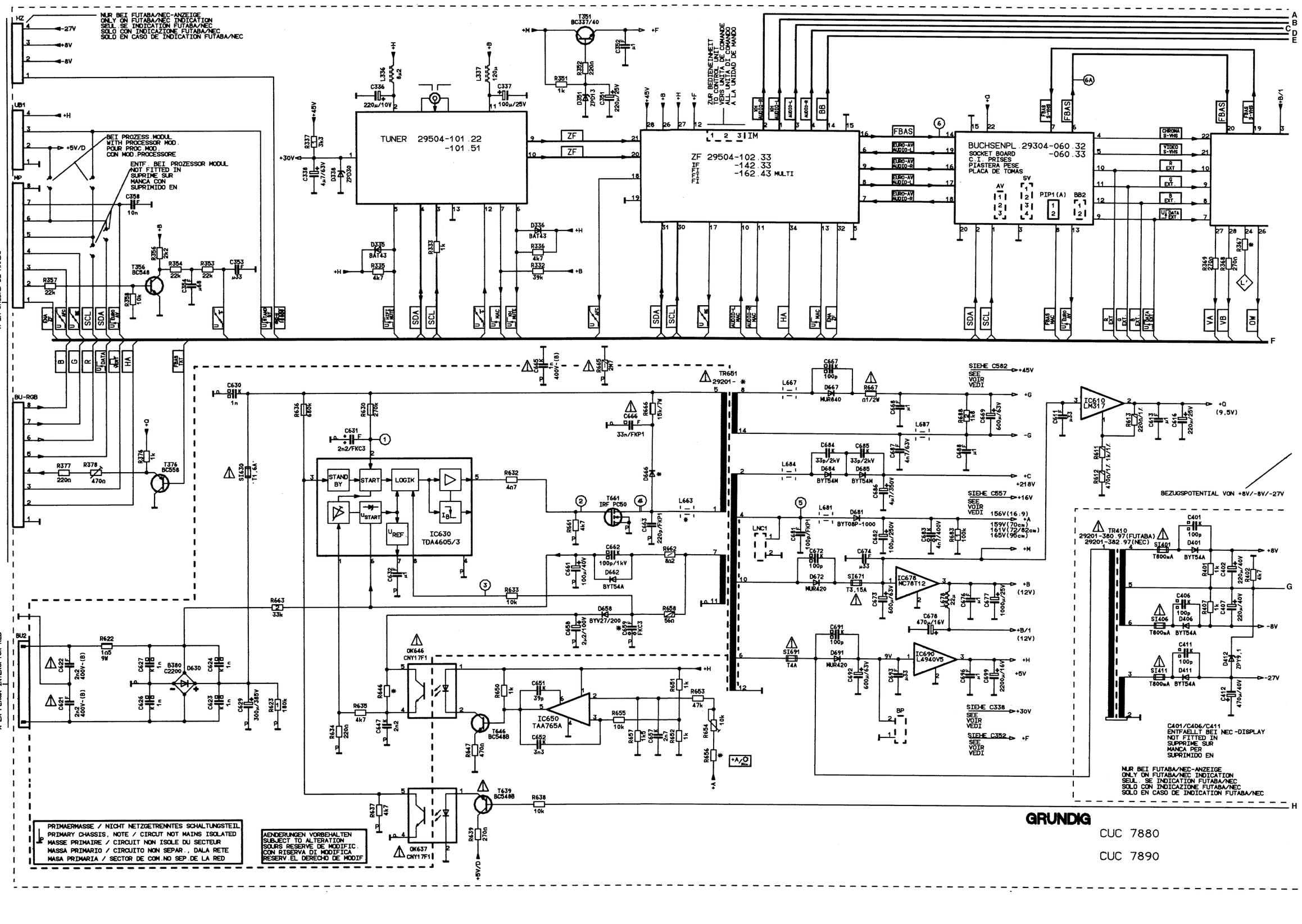
*	CC5842	CC5843	CR5614	CR5539 CR5612	CC5563 CC5573 CC5583	CC5564 CC5574 CC5584	CR5760 CR5796	BR1	C5744
-105 93	68p	180p	0n	—	180p	2p7	0n		
-165 93	68p	180p	0n	—	180p	2p7	—		22n
-165 94	27p	390p	—	0n	82p	—	—		22n

Colour Decoder Sync Diagram



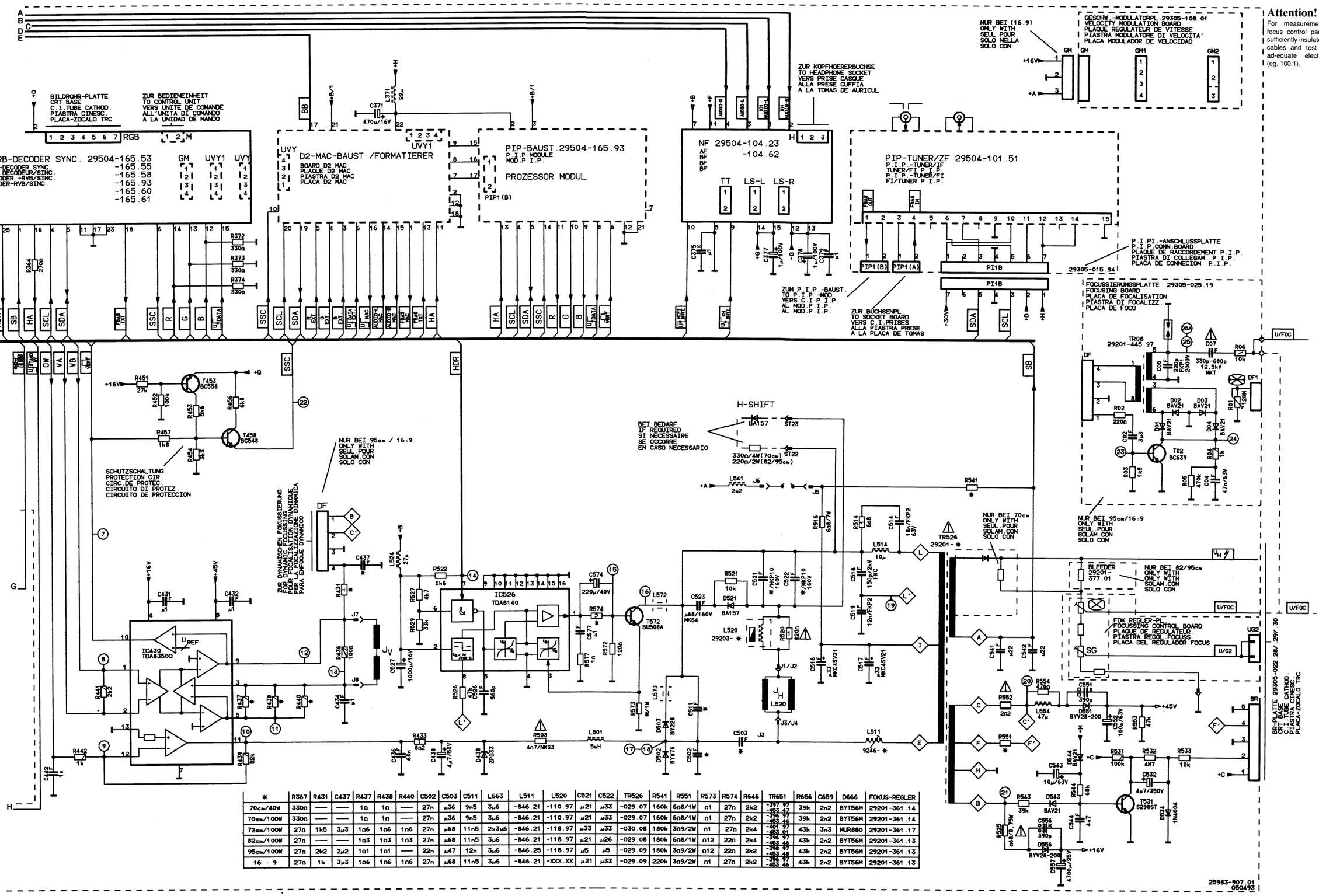


Main Diagram



Continued at 1

Main Diagram Cont'd



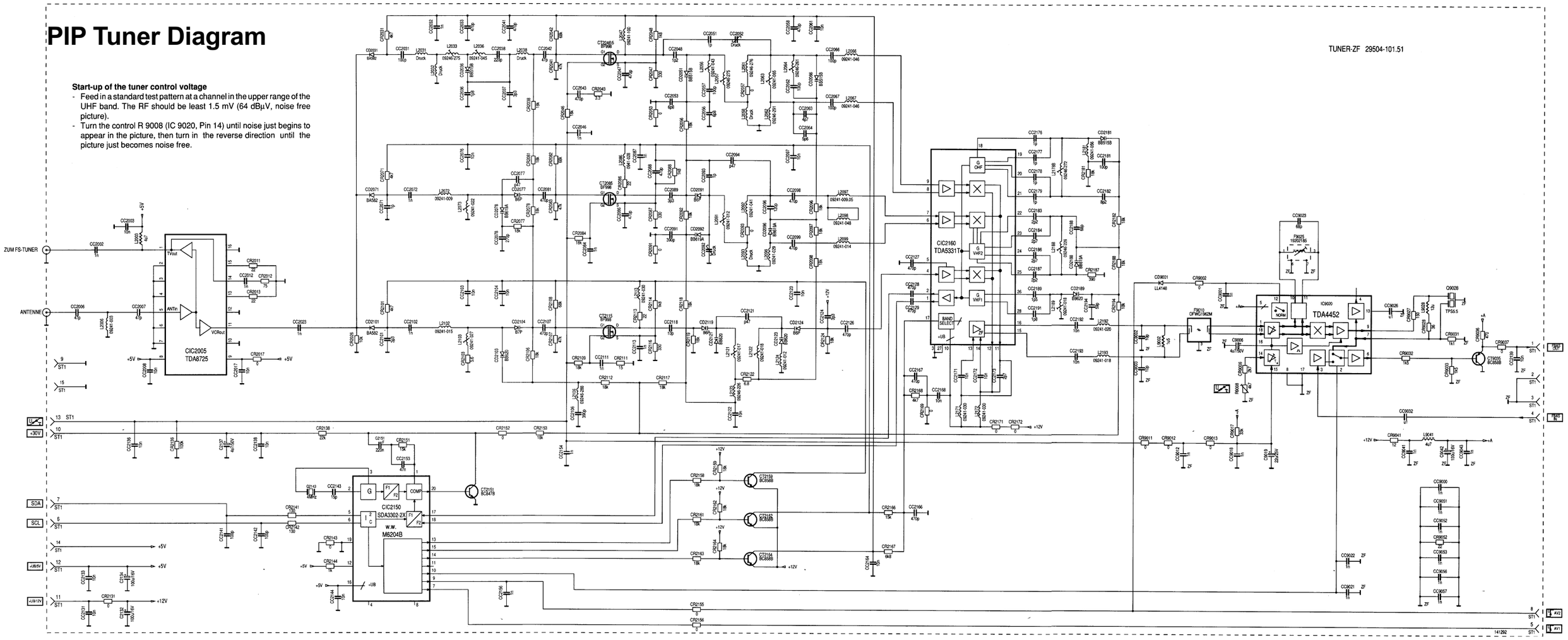
*	R367	R431	C437	R437	R438	R440	C502	C503	C511	L663	L511	L520	C521	C522	TR526	R541	R551	R573	R574	R646	TR651	R656	C659	D666	FOKUS-REGLER
70cm/40W	330n	—	—	1n	1n	—	27n	µ36	9n5	3µ6	-846.21	-110.97	µ21	µ33	-029.07	160k	6n8/1W	n1	27n	2k2	-397.97	39k	2n2	BYT56M	29201-361.14
70cm/100W	330n	—	—	1n	1n	—	27n	µ36	9n5	3µ6	-846.21	-110.97	µ21	µ33	-029.07	160k	6n8/1W	n1	27n	2k2	-453.47	39k	2n2	BYT56M	29201-361.14
72cm/100W	27n	1k5	3µ3	1n6	1n6	1n6	27n	µ68	11n5	2x3µ6	-846.21	-118.97	µ33	µ33	-030.08	180k	3n9/2W	n1	27n	2k4	-453.46 -401.97	43k	3n3	MUR880	29201-361.17
82cm/100W	27n	—	—	1n3	1n3	1n3	27n	µ68	11n5	3µ6	-846.21	-118.97	µ21	µ26	-029.08	180k	6n8/1W	n12	22n	2k4	-852.97 -796.97 -453.46	43k	2n2	BYT56M	29201-361.13
95cm/100W	27n	2k2	2µ2	1n1	1n1	—	22n	µ47	12n	3µ6	-846.25	-118.97	µ5	µ5	-029.09	180k	3n9/2W	n12	22n	2k2	-398.97 -453.46	43k	2n2	BYT56M	29201-361.13
16 : 9	27n	1k	3µ3	1n6	1n6	1n6	27n	µ68	11n5	3µ6	-846.21	-XXX.XX	µ21	µ33	-029.09	220k	3n9/2W	n1	27n	2k2	-453.48 -398.97 -453.46	43k	2n2	BYT56M	29201-361.13

Attention!
For measurements on the focus control panel use only sufficiently insulated measuring cables and test probes with ad-equate electric strength (eg. 100:1).

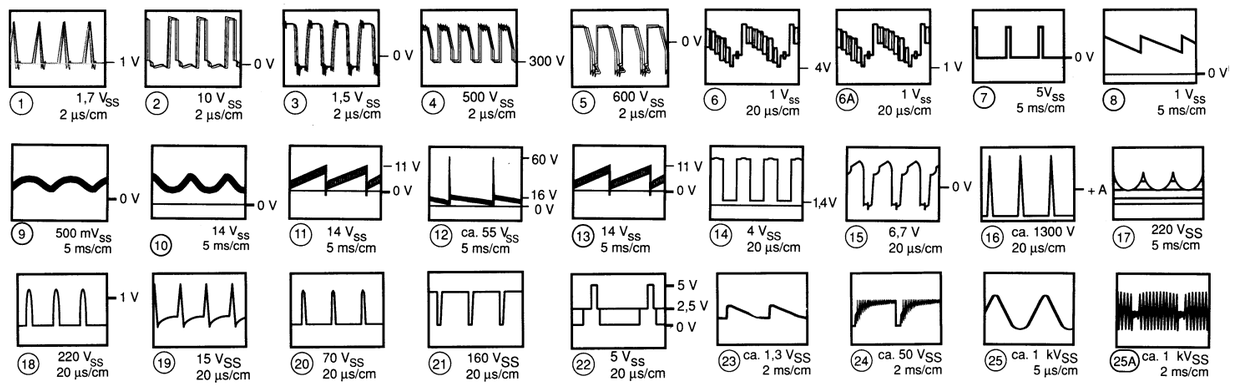
PIP Tuner Diagram

Start-up of the tuner control voltage

- Feed in a standard test pattern at a channel in the upper range of the UHF band. The RF should be least 1.5 mV (64 dBµV, noise free picture).
- Turn the control R 9008 (IC 9020, Pin 14) until noise just begins to appear in the picture, then turn in the reverse direction until the picture just becomes noise free.



Waveforms - Main Diagram



Waveforms - PIP