



Schaltbild
Circuit
Diagram
Schema

ⓓ Btx * 32700 #

Grundig passion

CUC 7851

E 72 - 911 / TOP

(9.21095-01)

M 72 - 795 / TOP

(9.21111-01)

M 72 - 795 / 9 TOP

(9.21111-02)

ⓓ

Abgleichvorschriften

Alle nicht beschriebenen Einstellelemente sind werksseitig abgeglichen und dürfen im Service-Fall nicht verstellt werden.

1. Serviceeinstellungen über Bildschirm-Menü

1.1 Tuner-AGC

Nach Austausch oder Reparatur des ZF-Verstärkers oder Tuners verzögerten Regelspannungseinsatz kontrollieren und gegebenenfalls einstellen.

- Normtestbild auf hohen UHF Kanal legen, die HF sollte mindestens 1,5 mV (64 dBµV) betragen.
- Das Menü "Tuner-AGC" über das Service Programm "Info Center" --> "Sonderfunktionen" --> "Service" --> "Kennzahl 8500" --> über die Menüführung aufrufen.
- Mit den Tasten ◀ ▶ kann wahlweise auf Betrieb "automatik" oder "manuell" umgeschaltet werden. Den Mode manuell mit "OK" aktivieren und das Bild mit den Tasten ◀ ▶ so abstimmen, daß der Sender gerade zu rauschen beginnt. Danach den Wert soweit zurückstellen daß das Bild gerade rauschfrei wird. Einstellung mit "OK" speichern.

1.2 Weißabgleich

Nach Bildrohrwechsel, Austausch oder Reparatur der Bildrohrplatte die Weißwerteeinstellung kontrollieren und gegebenenfalls einstellen.

- Das Menü "Weißabgleich" über das Service Programm "Info Center" --> "Sonderfunktionen" --> "Service" --> "Kennzahl 8500" über die Menüführung aufrufen.
- Mit den Tasten ◀ ▶ die Werte für VG und VB so einstellen, daß das Weißfeld in der Bildmitte unbunt wird. Wert mit "OK" abspeichern.

2. Serviceeinstellungen am Chassis

2.1 Einstellung der Schirmgitterspannung USG

Nach Bildrohrwechsel, Austausch oder Reparatur der Bildrohrplatte die Weißwerteeinstellung kontrollieren und gegebenenfalls einstellen.

- Testbild einspeisen.

ⓐB

Adjustment Procedures

All adjustment controls not mentioned in this description are adjusted during production and must not be re-adjusted in the case of repairs.

1. Service Adjustments with the On-Screen Display

1.1 Tuner AGC

After replacement or repair of the IF amplifier or tuner check the Delayed Automatic Gain Control Voltage and re-adjust if necessary.

- Feed in a standard test pattern at a channel in the upper range of the UHF Band. The RF should be at least 1.5 mV (64 dBµV).
- Call up the "Tuner-AGC" menu via the Service Programme "Info Center" --> "Special Functions" --> "Service" --> "Code Number 8500".
- The ◀ ▶ buttons can be used to switch over between the options "automatic" or "manual" operation. Confirm the selected mode manually with the "OK" button and, with the ◀ ▶ buttons, tune the TV station 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".

1.2 White balance

After replacement of the picture tube, replacement or repair of the picture tube panel, check the white balance and re-adjust if necessary.

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

2. Service Adjustments on the Chassis

2.1 Adjustment of the screen grid voltage USG

After replacement of the picture tube, replacement or repair of the picture tube panel check the white balance and re-adjust if necessary.

- Feed in a test pattern.

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Taratura

Tutti i componenti di regolazione non menzionati vengono tarati in fabbrica e pertanto non devono essere ritoccati.

1. Operazioni di servizio mediante menu'

1.1 AGC-Tuner

Dopo la sostituzione o la riparazione dell'amplificatore FI è necessario controllare ed eventualmente ritoccare la tensione di regolazione ritardata del Tuner.

- Applicare un monoscopio su un canale alto UHF. Il segnale AF deve essere almeno 1,5 mV (64dB µV).
- Richiamare il menu' "Tuner-AGC" mediante Service Programm "Info Center" --> "Funzioni speciali" --> "Service" --> "Codice 8500".
- Con i tasti ◀ ▶ si può scegliere tra regolazione "automatica" o "manuale". Eventualmente attivare la regolazione manuale col tasto "OK" e coi tasti ◀ ▶ regolare l'immagine finchè comincia ad apparire fruscio. Quindi regolare in senso contrario finchè l'immagine appare priva di fruscio e memorizzare con "OK".

1.2 Taratura del bianco

Dopo la sostituzione del cinescopio o di una riparazione sulla piastra cinescopio, è necessario controllare ed eventualmente ritoccare la taratura del bianco.

- Richiamare con il menu' "Taratura del bianco" mediante Service Programm "Info Center" --> "Funzioni speciali" --> "Service" --> "Codice 8500".
- Con i tasti ◀ ▶ regolare i valori per VG e VB modo che il campo bianco al centro dell'immagine sia privo di colore. Memorizzare con "OK".

2. Operazioni di taratura sul telaio

2.1 Regolazione della tensione di griglia schermo U_{SG}

Dopo la sostituzione del cinescopio o di una riparazione sulla piastra cinescopio, controllare il valore del bianco ed eventualmente correggerlo.

- Bildschirmhelligkeit mit der Fernbedienung so einstellen, daß die Graufächen gerade dunkel werden.
 - Gerät auf AV-Betrieb schalten.
 - An den Testpunkten R,G,B mit einem hochohmigem Voltmeter (Längswiderstand ca. 220 kOhm) die höchste Spannung ermitteln.
 - Mit dem Einstellregler U_{SG} auf der Bildrohrplatte den höchsten Spannungswert auf ca. 165 V abgleichen.
- Bei Rücklaufstreifen auf dem Bildschirm, die Spannung um ca. 10 V niedriger einstellen.

2.2 Abgleich des Diodenmodulatorenkreises
Die Brückenspule L 511 wird in der Fertigung richtig abgeglichen und sollte nicht verdreht werden.

- Das Menü "Geometrie" über das Service Programm --> "Info Center"--> "Sonderfunktionen"--> "Service"--> "Kennzahl 8500" aufrufen.
- Die Bildbreite auf Minimum stellen.
- Den Tastkopf eines Zweistrahloszilloskops an den Kollektor des Transistors T 572 einhängen.
- Den anderen Tastkopf zwischen den Dioden D 502 und D 503 anschließen.
- Mit der Spule L 511 beide Oszillogramme auf gleiche Impulsbreite abgleichen.
- Bildbreite wieder nach Testbild einstellen und speichern.

2.3 VT-Anpassungsabgleich

Nach Austausch oder Reparatur der Bedieneinheit VT-Anpassungsabgleich kontrollieren und gegebenenfalls einstellen.

Der Einsteller R 378 wird von der Fertigung in Mittenstellung ausgeliefert. Treten trotz einwandfreiem Antennensignal Zeichenfehler auf, R 378 langsam verstellen, bis die Fehler verschwinden. Nicht weiterdrehen, da die Fehlerhäufigkeit wieder zunehmen kann.

Während des Abgleichs ist es notwendig, die Seite 199 ständig neu anzuwählen, da nur so die Seite neu eingelesen wird und eine Beurteilung der Fehlerschwelle möglich ist.

- With the remote control adjust the screen brightness so that the grey areas just become dark.
 - Switch the TV receiver to AV operation.
 - Connect a high-ohmic voltmeter (series resistance approx. 220 kOhm) to the test points R, G, B and determine the maximum voltage.
 - With the control U_{SG} on the picture tube panel set the maximum voltage level to approx. 165 V.
- If retrace lines are visible on the screen reduce the voltage by approx. 10 V.

2.2 Adjustment of the diode modulator stage
The bridge coil L 511 is correctly adjusted during production and should not be re-adjusted any more.

- Call up the "Geometry" menu via the Service Programme --> "Info Center"--> "Special Functions" --> "Service" --> "Code Number 8500".
- Set the horizontal amplitude to minimum.
- Connect one test probe of a dual-beam oscilloscope to the collector of the transistor T 572.
- Connect the second test probe between the diodes D 502 and D 503.
- Adjust the coil L 511 so that both oscillograms have the same pulse width.
- Re-adjust the horizontal amplitude according to the test pattern and store.

2.3 Videotext (VT) matching adjustment

After replacement or repair of the Control Unit check the VT adjustment and correct if necessary.

The control R 378 is set to centre position during production and is delivered as it is. Should character faults occur although the aerial signal is correct, turn R 378 slowly until the character errors disappear. Do not turn R 378 any more as the error rate may increase again.

Page 199 must always be selected anew during this adjustment so that it can be read in anew making it possible to evaluate the error rate.

- Regolare la luminosità, mediante telecomando, finchè i gradini del grigio accennano a diventare scuri.
 - Commutare l'apparecchio in AV.
 - Con un volmetro ad alta impedenza (ca. 220 Kohm) individuare la tensione più elevata sui punti di misura RGB.
 - Col trimmer U_{SG} sulla piastra cinescopio, tarare per un valore max di ca. 165 V.
- Se appaiono tracce di ritorno nell'immagine, ridurre la tensione di ca. 10 V.

2.2 Taratura del modulatore a diodi

La bobina L 511 viene opportunamente tarata in fabbrica, quindi non dovrebbe essere ritoccata.

Richiamare il menu "Geometria" mediante Service Programm "Info Center" --> "Funzioni speciali" --> "Service" --> "Codice 8500".

- Regolare la larghezza d'immagine al minimo.
- Applicare una sonda di un oscilloscopio o doppia traccia al collettore del transistor T 572.
- L'altra sonda tra i diodi D 502 e D 503.
- Agendo su L 511 i due oscillogrammi devono presentare la medesima larghezza d'impulso.
- Ripristinare la larghezza d'immagine e memorizzare con "OK".

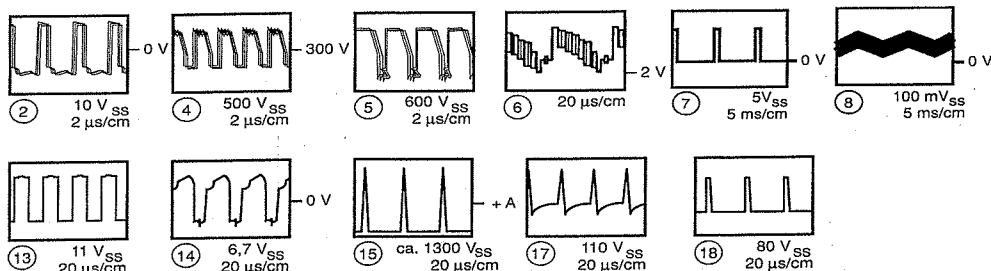
2.3 Adattamento VT

Dopo la sostituzione o la riparazione dell'unità di comando controllare l'adattamento VT. Il trimmer R 378 viene regolato al valore medio in fabbrica.

Nel caso di errore di decodifica nonostante un buon segnale in antenna, agire lentamente su R 378 finchè l'errore si elimina.

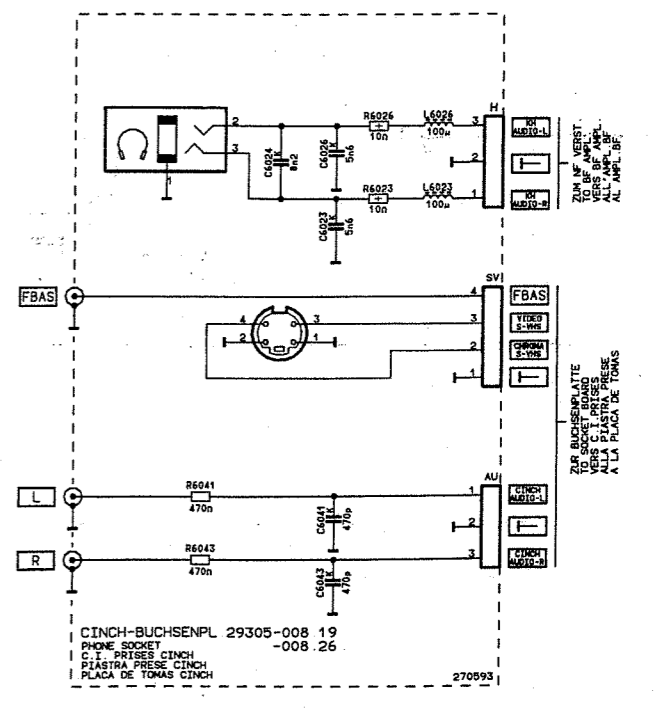
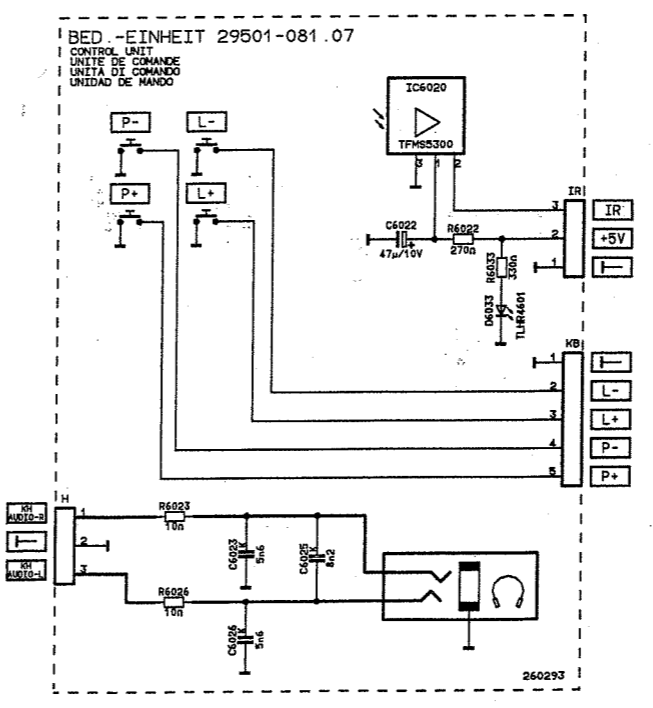
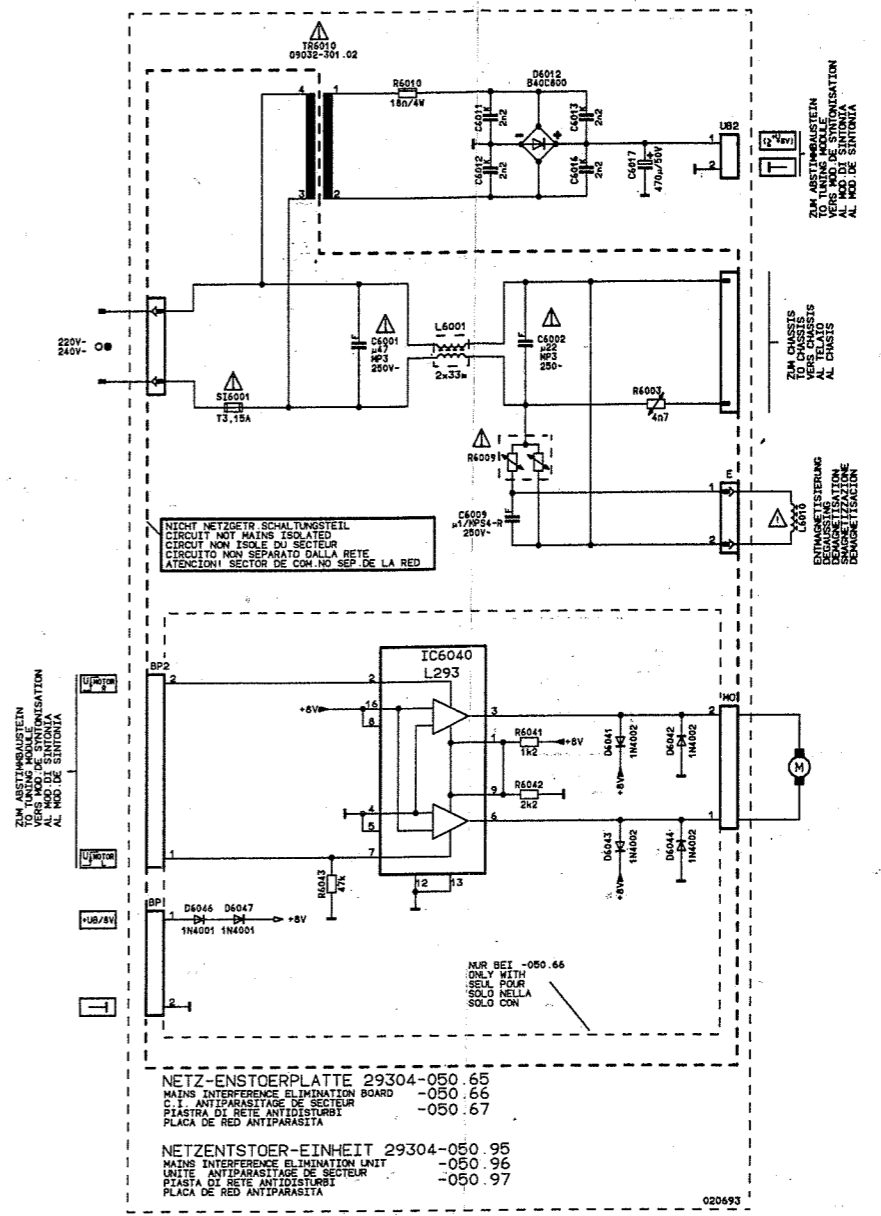
Non regolare oltre altrimenti la possibilità di errore aumenta. Durante la regolazione è necessario richiamare spesso la pagina test di Televideo, solo così è possibile giudicare la soglia dell'errore.

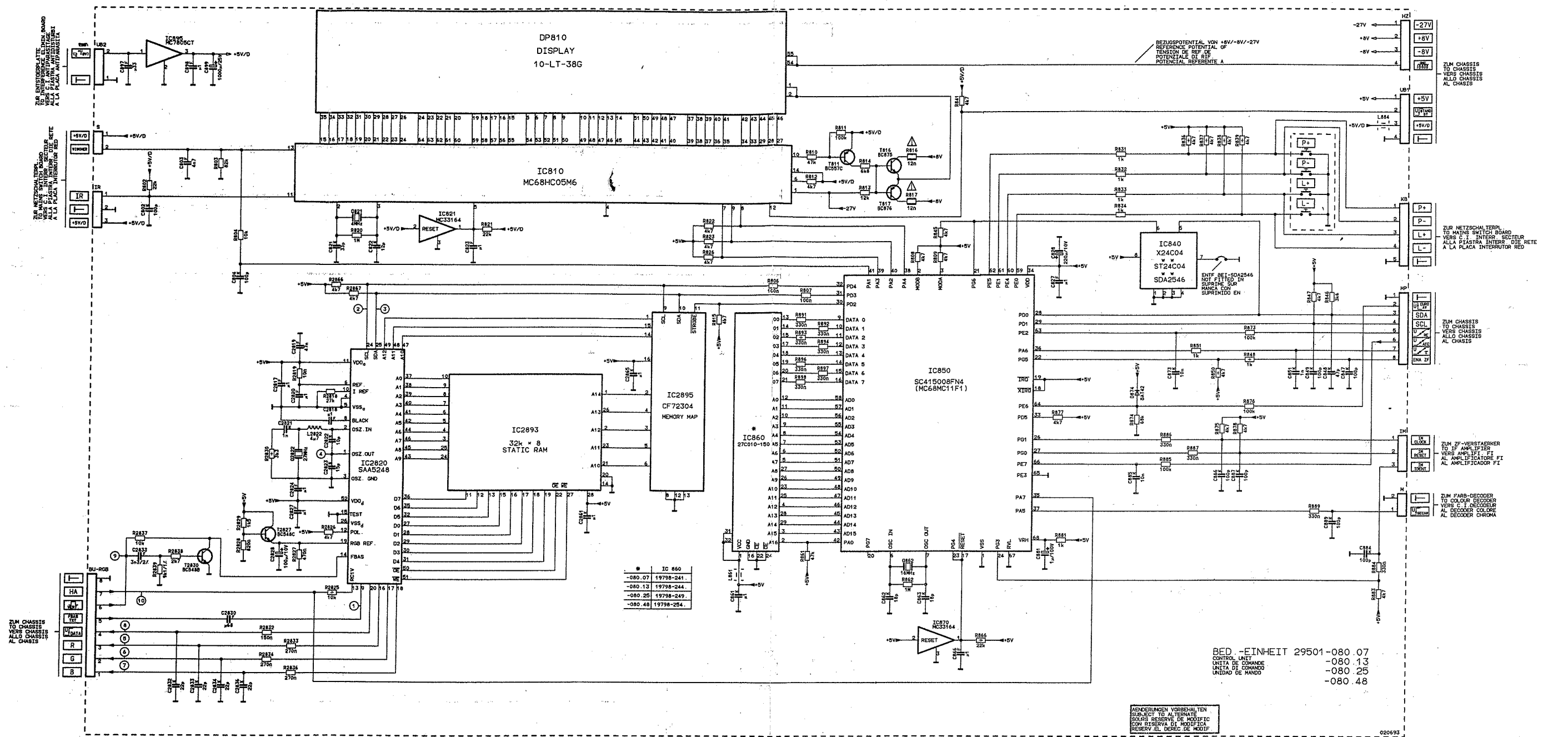
Oszillogramme - Chassis Oscillogrammes chassis Oszillogrammi telaio



Schaltplansymbole / Circuit diagram symbols / Simboli sullo schema

- | | | | |
|--|--|--|---|
| | Zeilenbreite / Line width / Amplitude horizontale / Larghezza di riga / Amplitudo Horizontal | | Bildamplitude / Frame ampl. / Ampl. verticale / Ampiezza d'immagine / Ampl. vertical |
| | Hor. Frequenz / Hor. Frequency / Fréq. horiz. / Freq. orizz. / Freq. horiz. | | Vert. Frequenz / Vert. frequency / Fréq. vert. / Freq. vert. / Freq. vert. |
| | Hor. Linearität / Hor. linearty / Linéar. Horizont / Linear. orizz. / Lineal. Horizontal | | Vert. Linearität / Vert. linearity / Linéarité vert. / Linear. vert. / Linealidad vert. |
| | Bildlage hor. / Hor. picture position / Cadrage horizont. / Posizione orizz. dimmagine / Centrado horizontal | | Bildlage vert. / Vert. picture position / Cadrage vertical / Posiz. vert. d'immagine / Centrado vert. |
| | Ost-West Amplitude / East-West amplitude / Amplitude Est - Ouest / Ampiezza Est-Ovest / Amplitud E-O | | Focusregler / Focus control / Réglage de focalisation / Regolat. di focalizz. / Control de foco |
| | Ost-West Symmetrie / East-West symm. / Symm. Est-Ouest / Simm. Est-Ovest / Simetria E-O | | Trapez / Trapezium / Trapèze / Trapezio / Trapecio |





ZUR ENTSPERREPLATTE
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ZUR NETZSCHALTEPLATTE
VERB. C.I. INTERN. SECTEUR
ALLS PLACIA INTERRUPTOR RED

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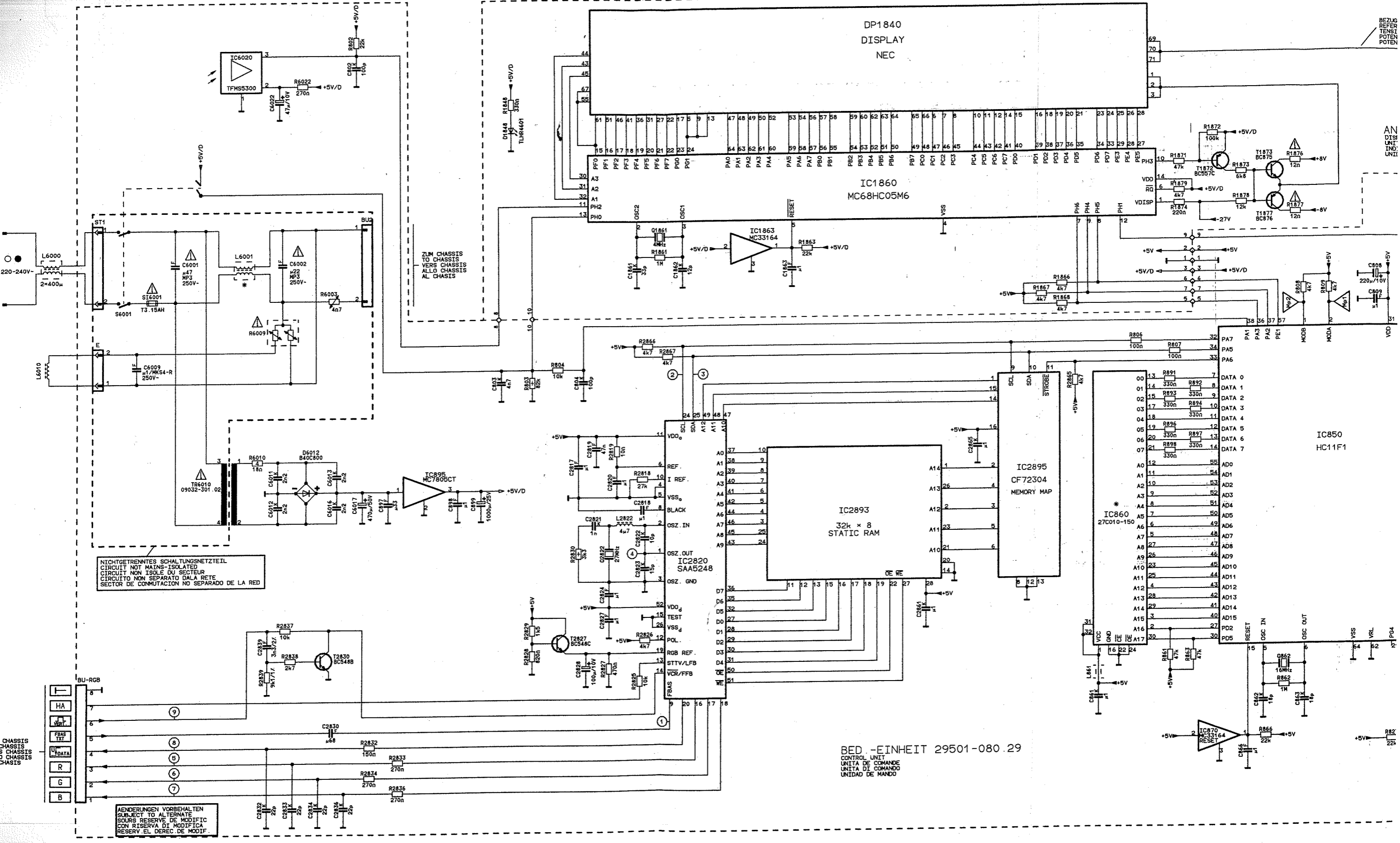
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BFD -EINHEIT 29501-080.07
CONTROL UNIT
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UNIDAD DE MANDO
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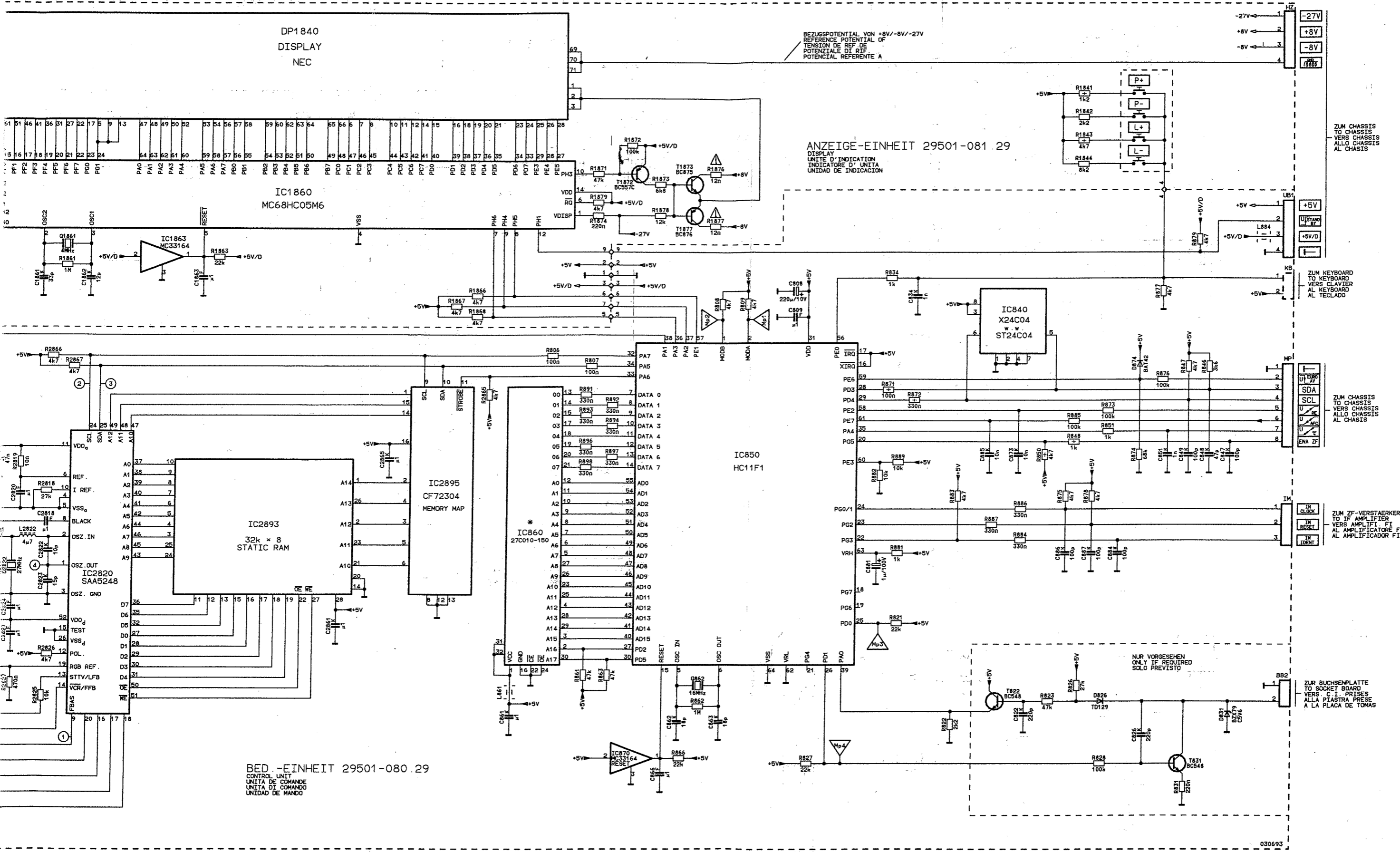
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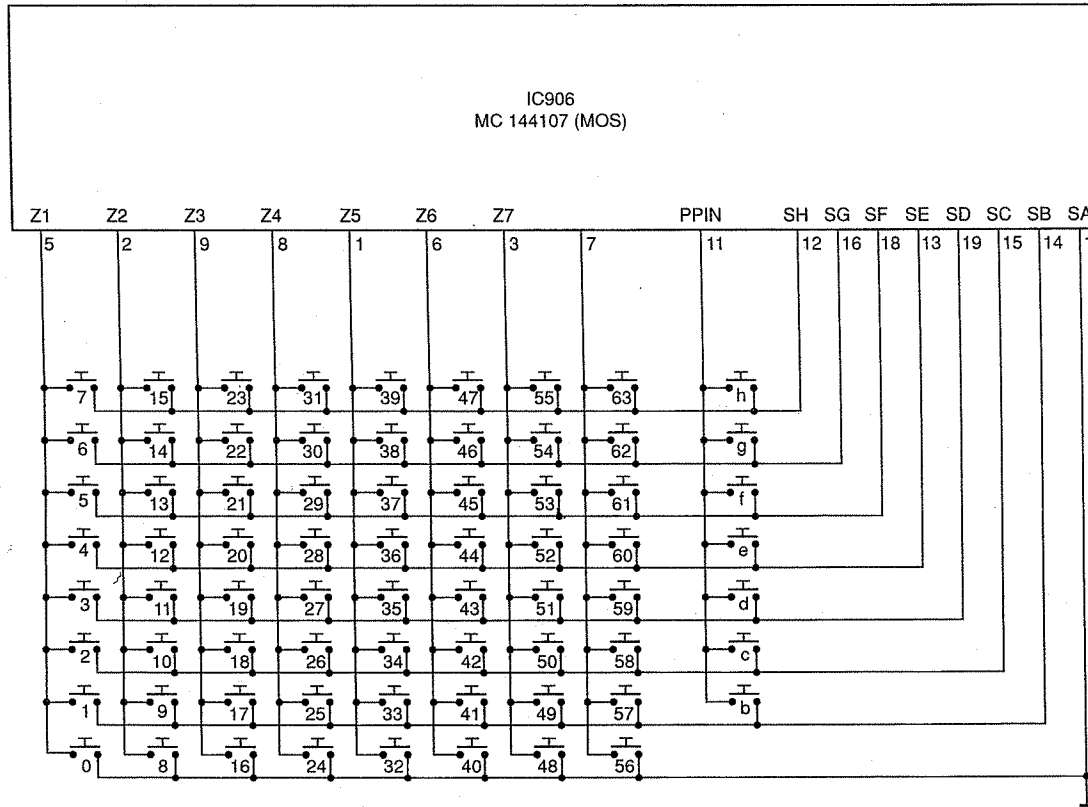
ZUM ZF-VERSTAERKER
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ZUR BUCHSENPLATTE
 TO SOCKET BOARD
 VERS C.I. PRISES
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 A LA PLACA DE TOMAS

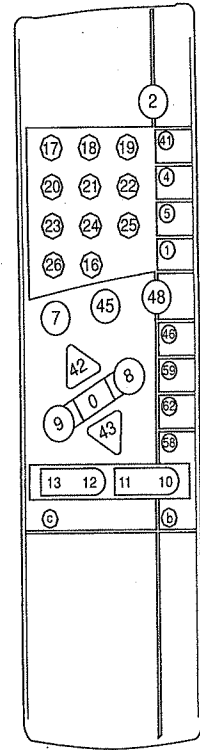
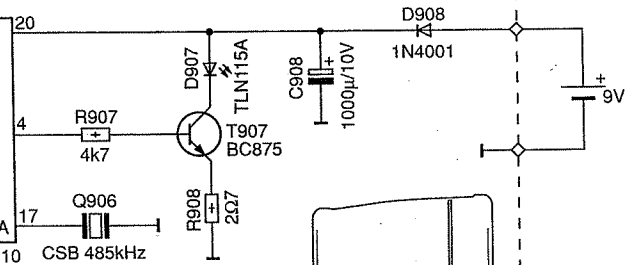
BEZUGSPOTENTIAL VON +8V/-8V/-27V
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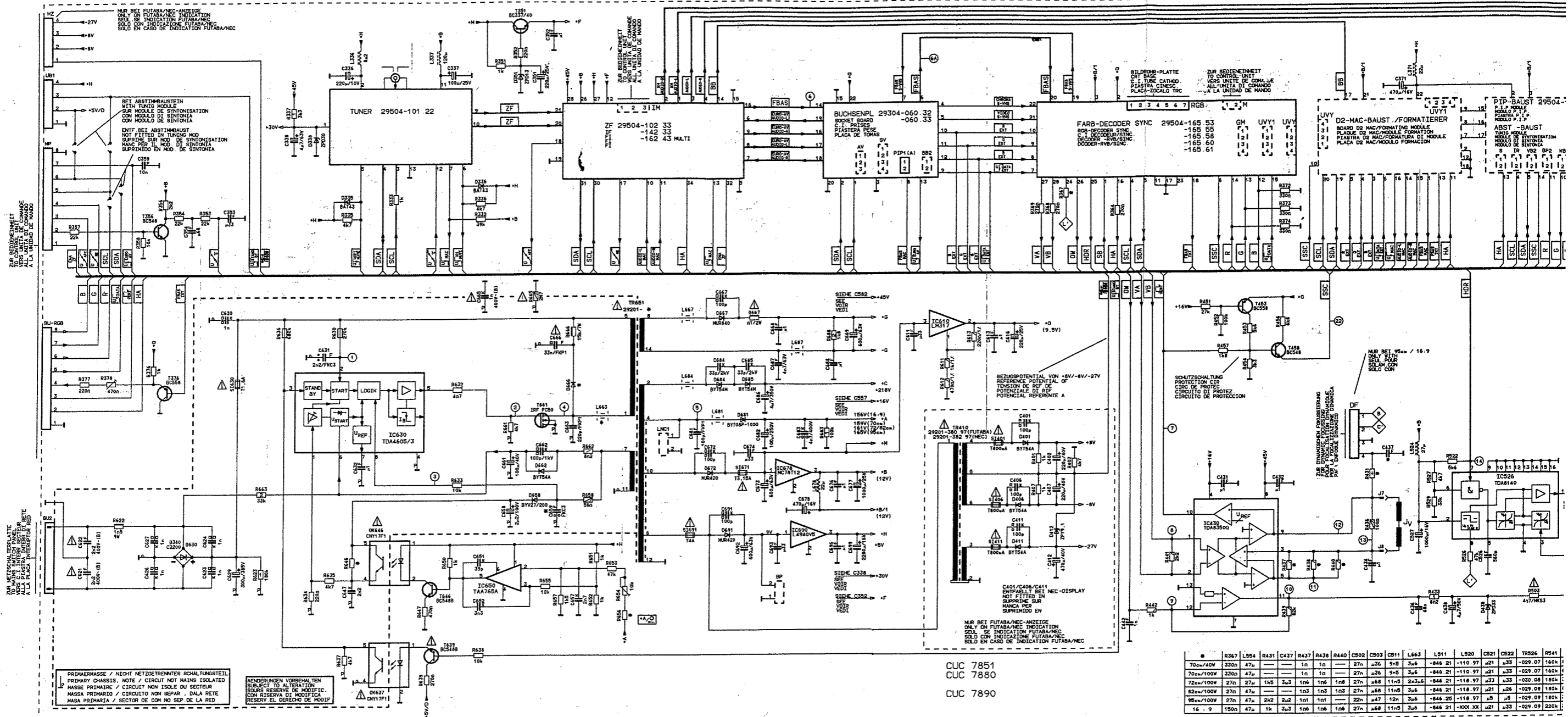
NUR VORGESEHEN
 ONLY IF REQUIRED
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FERNBEDIENUNG 29622 - 059.01
 REMOTE CONTROL
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 TELEMANDO



KEYBOARD 29304-779.01
 CLAVIER
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 KEYBOARD
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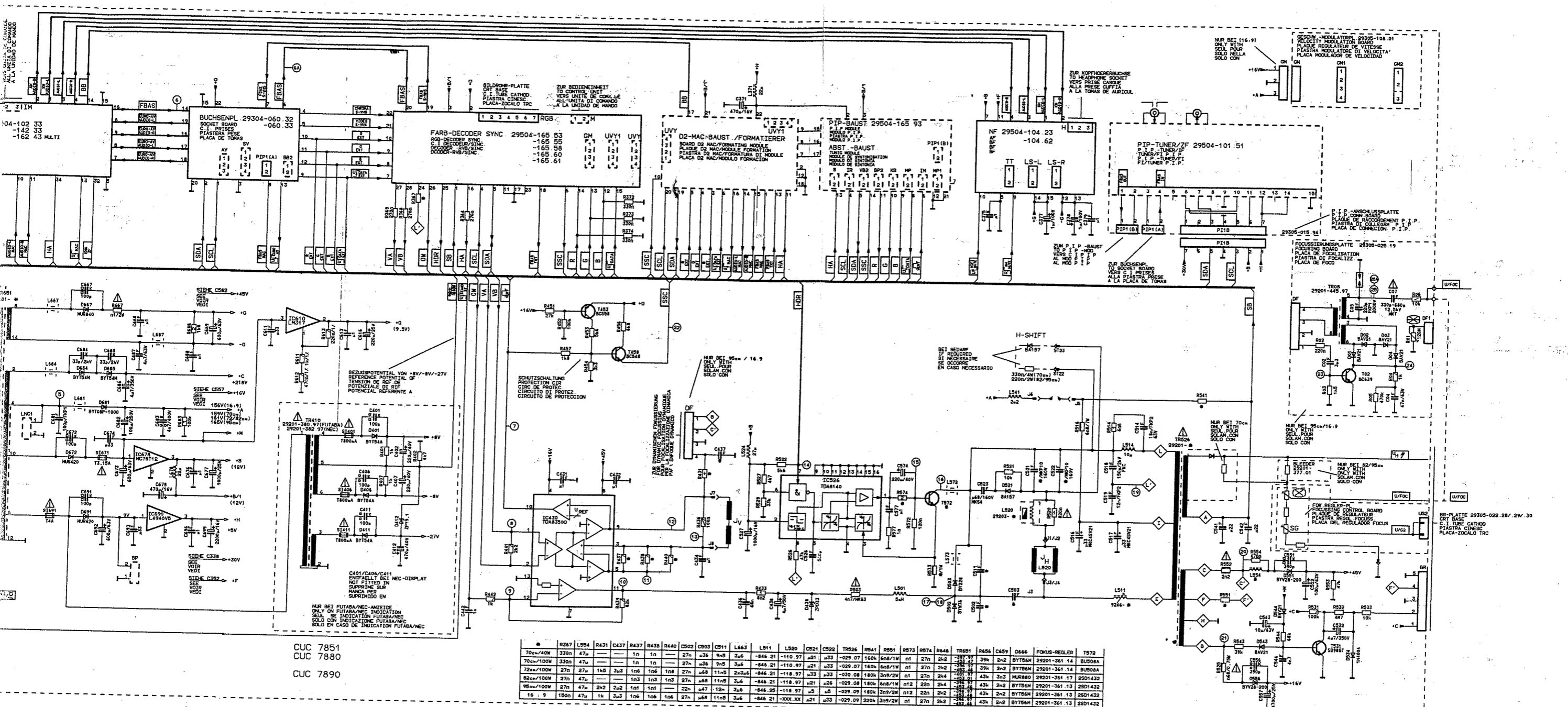


PRIMAERMASSE / NICHT NETZTRENNTES SCHALTUNGSTEIL
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 MASA PRIMARIA / CIRCUITO NO SEPAR. DALA REDE
 MASA PRIMARIA / SECTOR DE COM NO SEP. DE LA RED

ÄNDERUNGEN VORBEHALTEN
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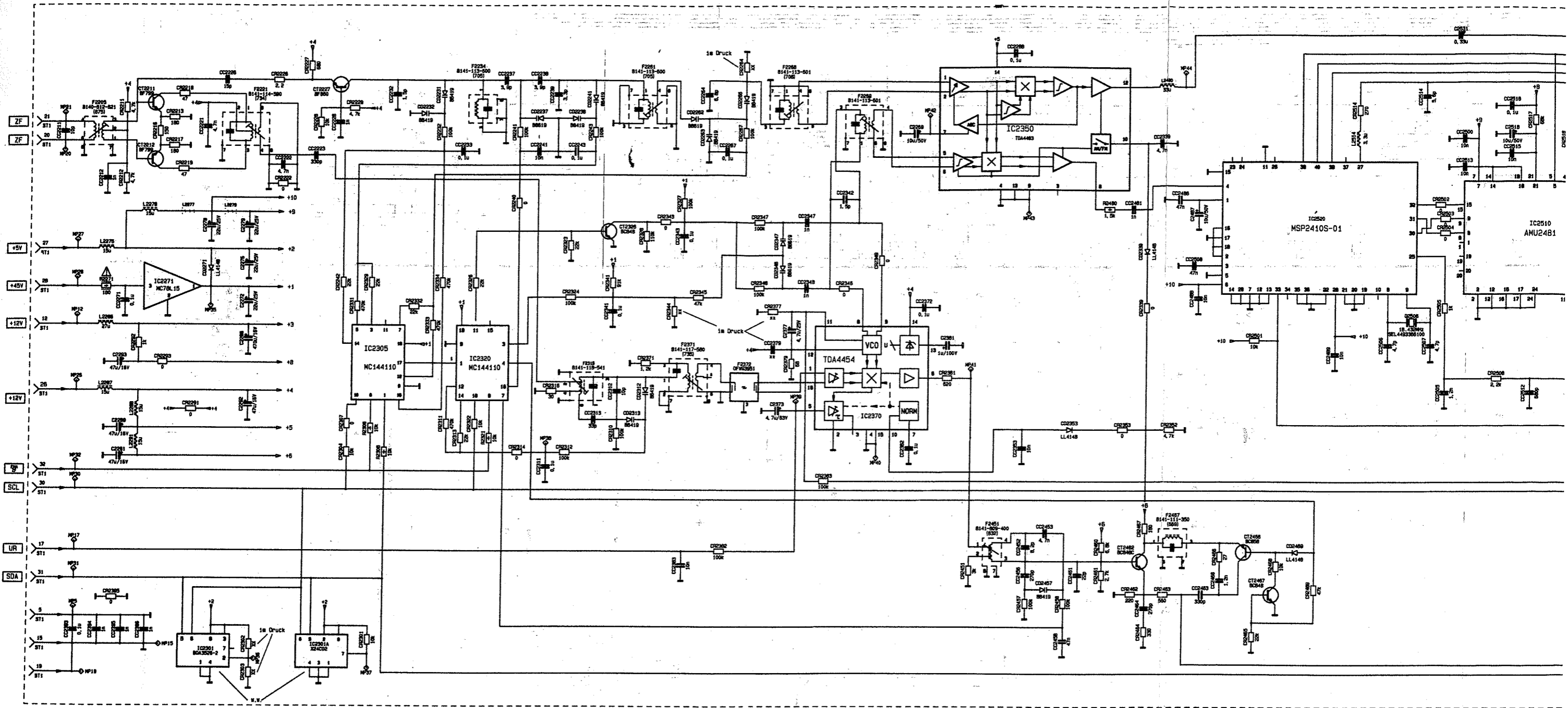
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70cm/40V	330n	47u	—	—	1n	1n	—	27n	u36	9n5	3u6	-846	21	-110	97	u21	u32	-029	07	160n
70cm/100W	330n	47u	—	—	1n	1n	—	27n	u36	9n5	3u6	-846	21	-110	97	u21	u32	-029	07	160n
72cm/100W	27n	27u	1k5	3u3	1n6	1n6	1n8	27n	u68	11n5	2u3u6	-846	21	-110	97	u21	u32	-029	08	180n
82cm/100W	27n	47u	—	—	1n3	1n3	1n3	27n	u68	11n5	3u6	-846	21	-110	97	u21	u32	-029	08	180n
98cm/100W	27n	47u	2k2	2u2	1n1	1n1	—	22n	u47	12n	3u6	-846	20	-110	97	u21	u32	-029	09	180n
16.9	180n	47u	1k	3u3	1n6	1n6	1n6	27n	u68	11n5	3u6	-846	21	-110	97	u21	u32	-029	09	220n

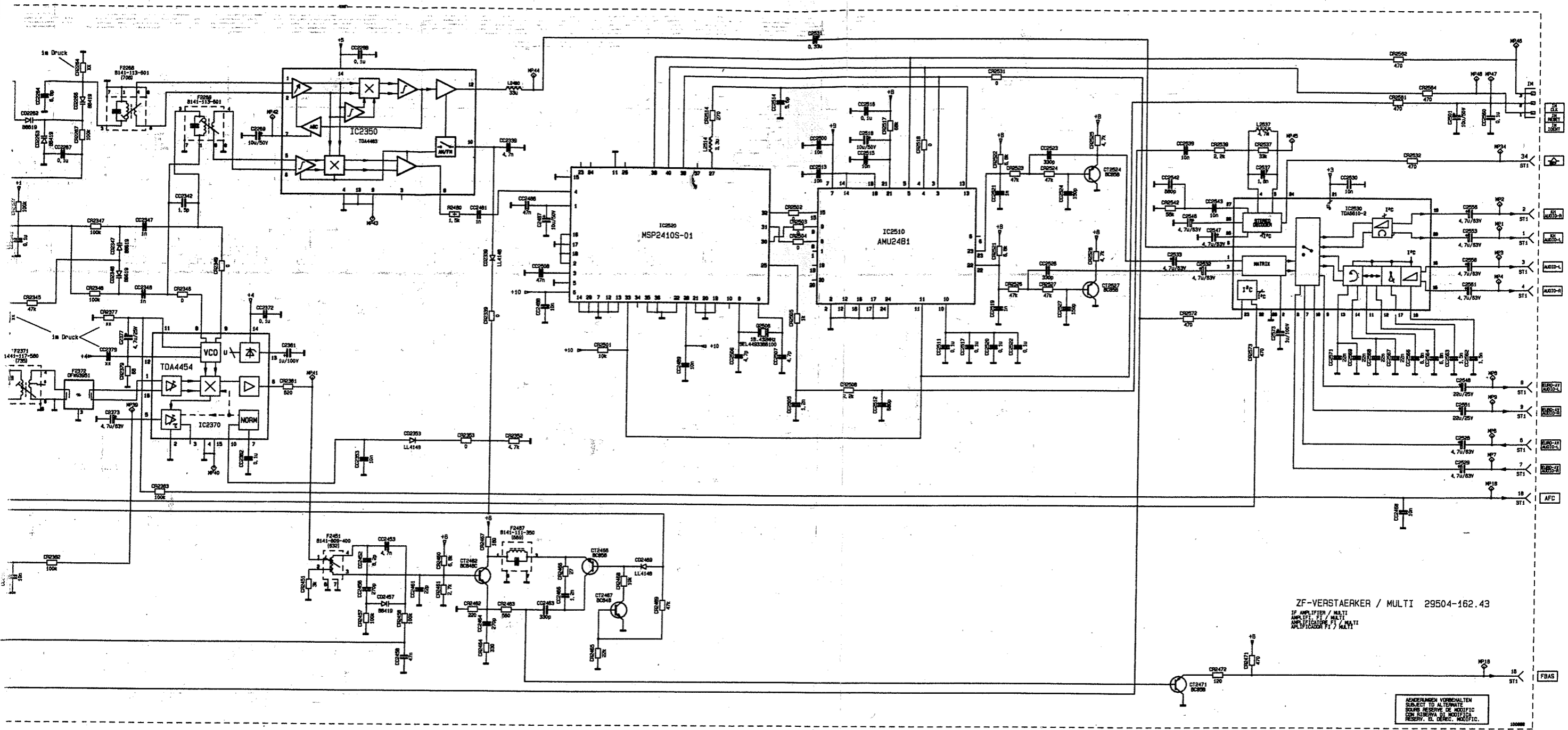


CUC 7851
 CUC 7880
 CUC 7890

Q	R267	L504	R431	C437	R437	R438	R440	C502	C503	C511	L463	L511	L520	C521	C522	T526	R541	R551	R573	R574	R446	T5651	R456	C459	D466	FOKUS-REGLER	T572
70cm/40W	330n	47u	—	—	1n	1n	—	27n	u36	9n5	3u6	-846.21	-110.97	u21	u33	-029.07	160n	6n5/1W	01	27n	2u2	-288.57	39n	2n2	BYT6AN	29201-361.14	BUS08A
70cm/100W	330n	47u	—	—	1n	1n	—	27n	u36	9n5	3u6	-846.21	-110.97	u21	u33	-029.07	160n	6n5/1W	01	27n	2u2	-288.57	39n	2n2	BYT6AN	29201-361.14	BUS08A
72cm/100W	27n	27u	1u5	3u3	10k	10k	10k	27n	u68	11n5	2u3u6	-846.21	-118.97	u33	u33	-030.08	180n	3n9/2W	01	27n	2u4	-288.57	43n	2n2	BYT6AN	29201-361.17	2SD1432
82cm/100W	27n	47u	2n2	2u2	10k	10k	—	22n	u68	11n5	3u6	-846.21	-118.97	u21	u26	-029.08	180n	6n5/1W	012	22n	2u4	-288.57	43n	2n2	BYT6AN	29201-361.13	2SD1432
95cm/100W	27n	47u	1k	3u3	10k	10k	10k	27n	u68	11n5	3u6	-846.21	-118.97	u21	u26	-029.09	180n	3n9/2W	012	22n	2u2	-288.57	43n	2n2	BYT6AN	29201-361.13	2SD1432
15 : 9	150n	47u	1k	3u3	10k	10k	10k	27n	u68	11n5	3u6	-846.21	-XXX.XX	u21	u33	-029.09	220n	3n9/2W	01	27n	2u2	-288.57	43n	2n2	BYT6AN	29201-361.13	2SD1432

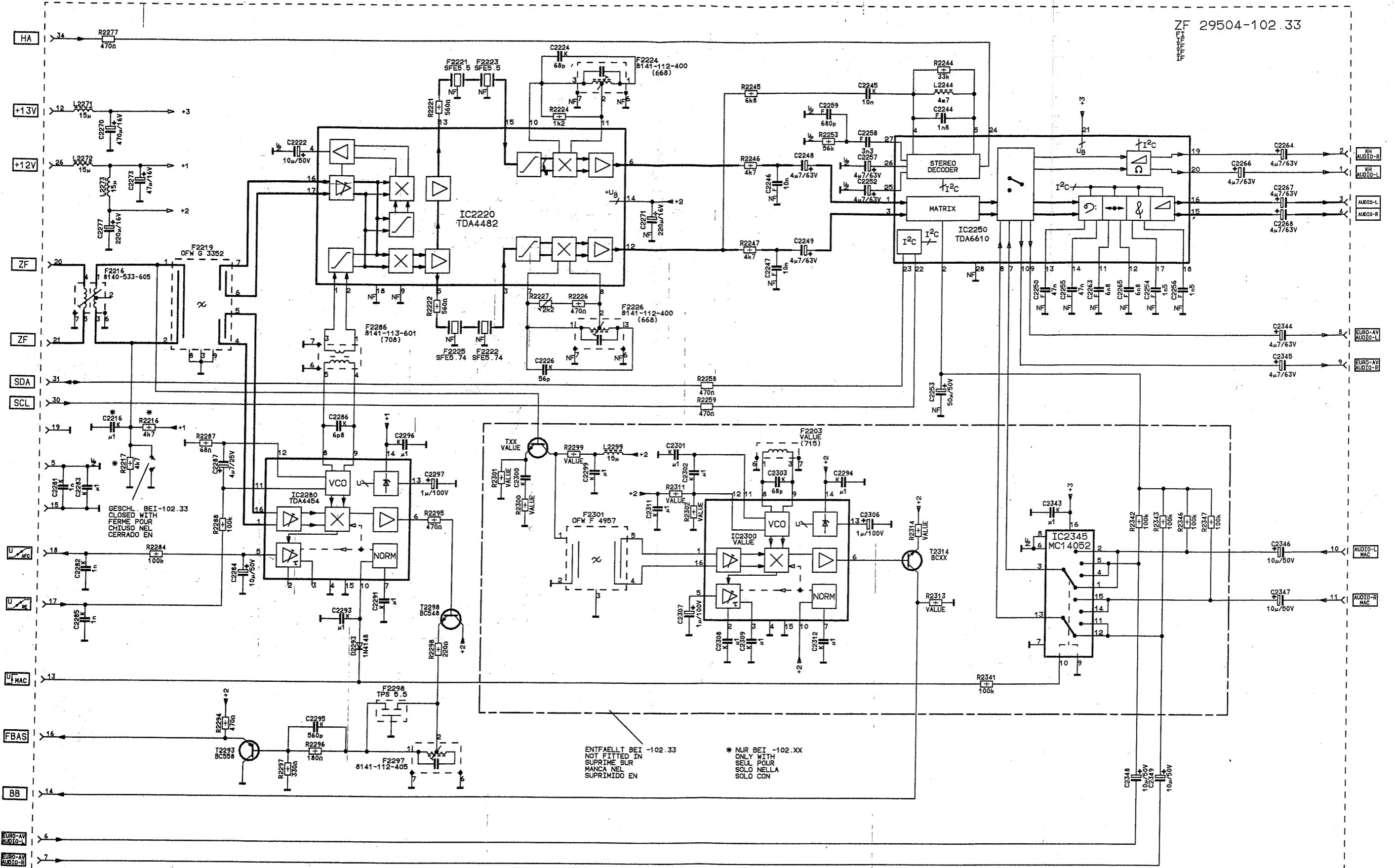
29943-207.01
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ZF-VERSTÄRKER / MULTI 29504-162.43
 IF AMPLIFIER / MULTI
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ÄNDERUNGEN VORBEHALTEN
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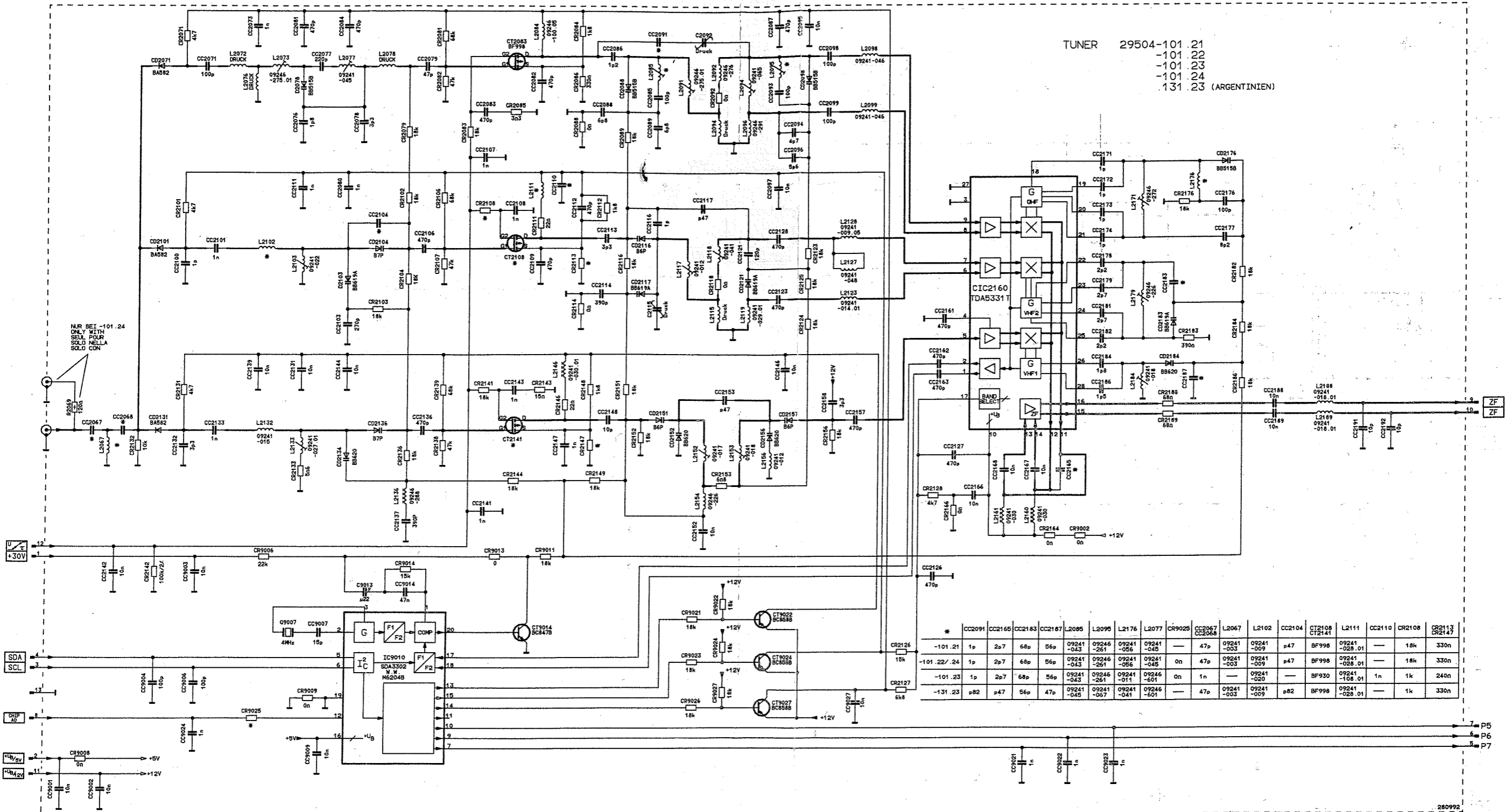


ÄNDERUNGEN VORBEHALTEN
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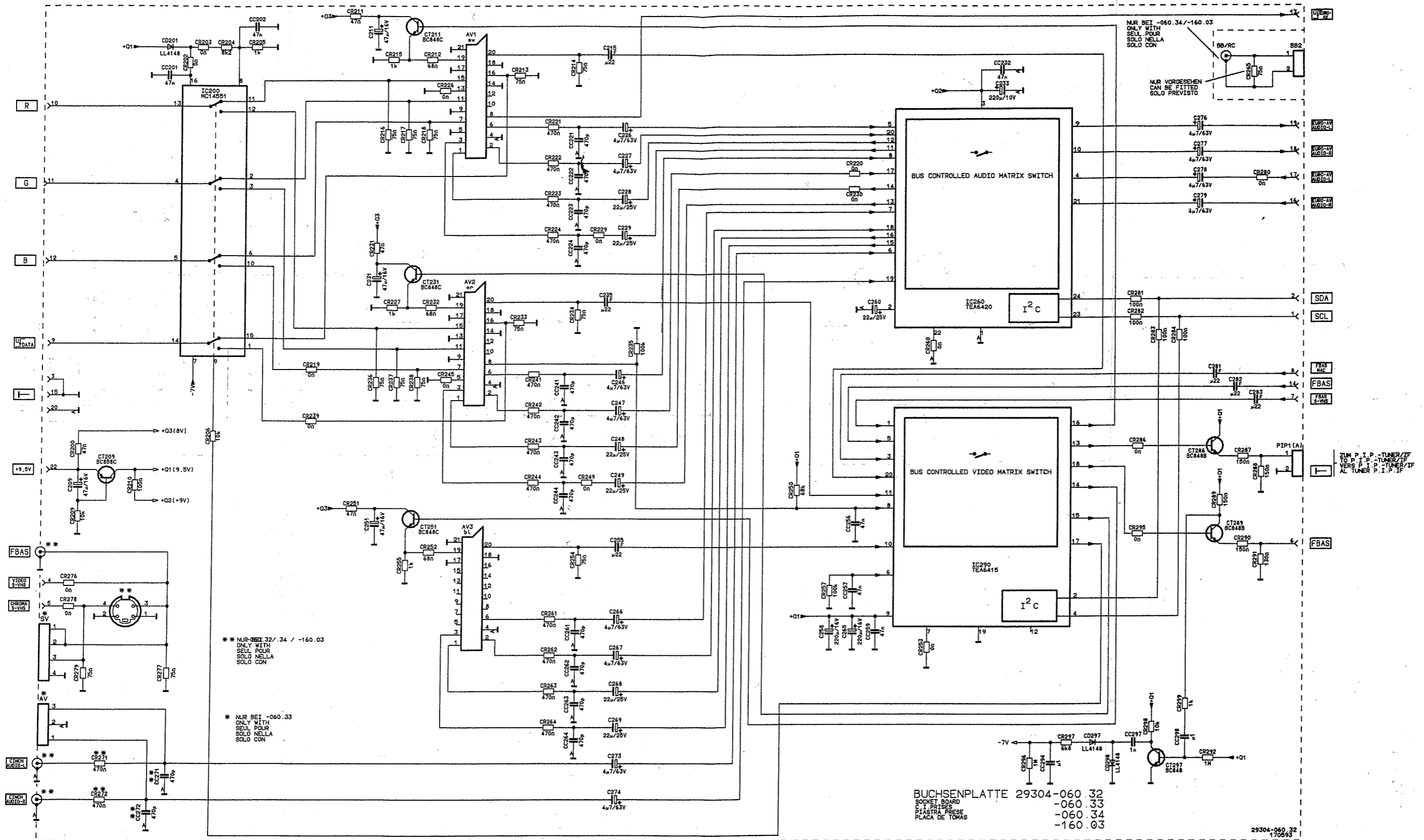
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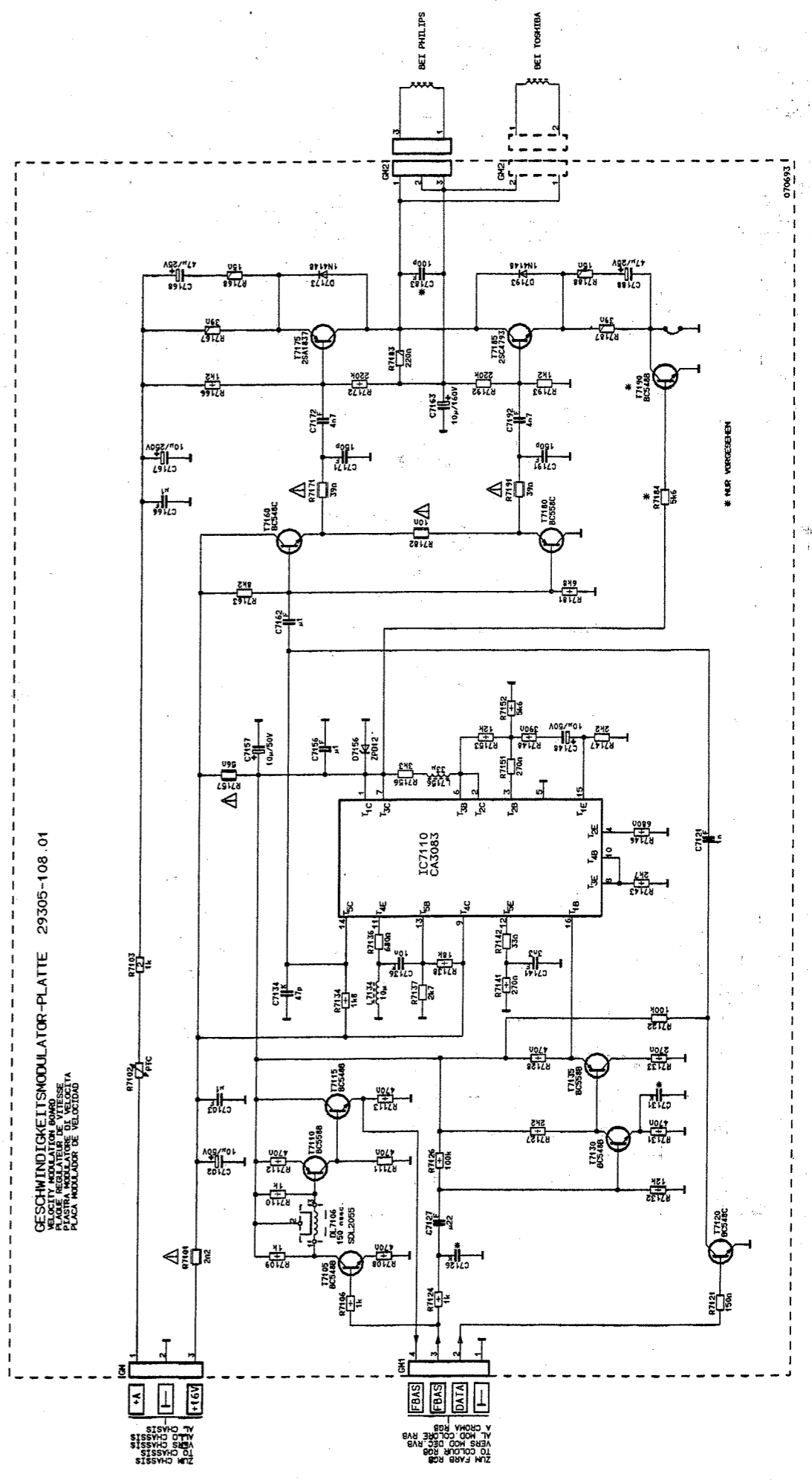
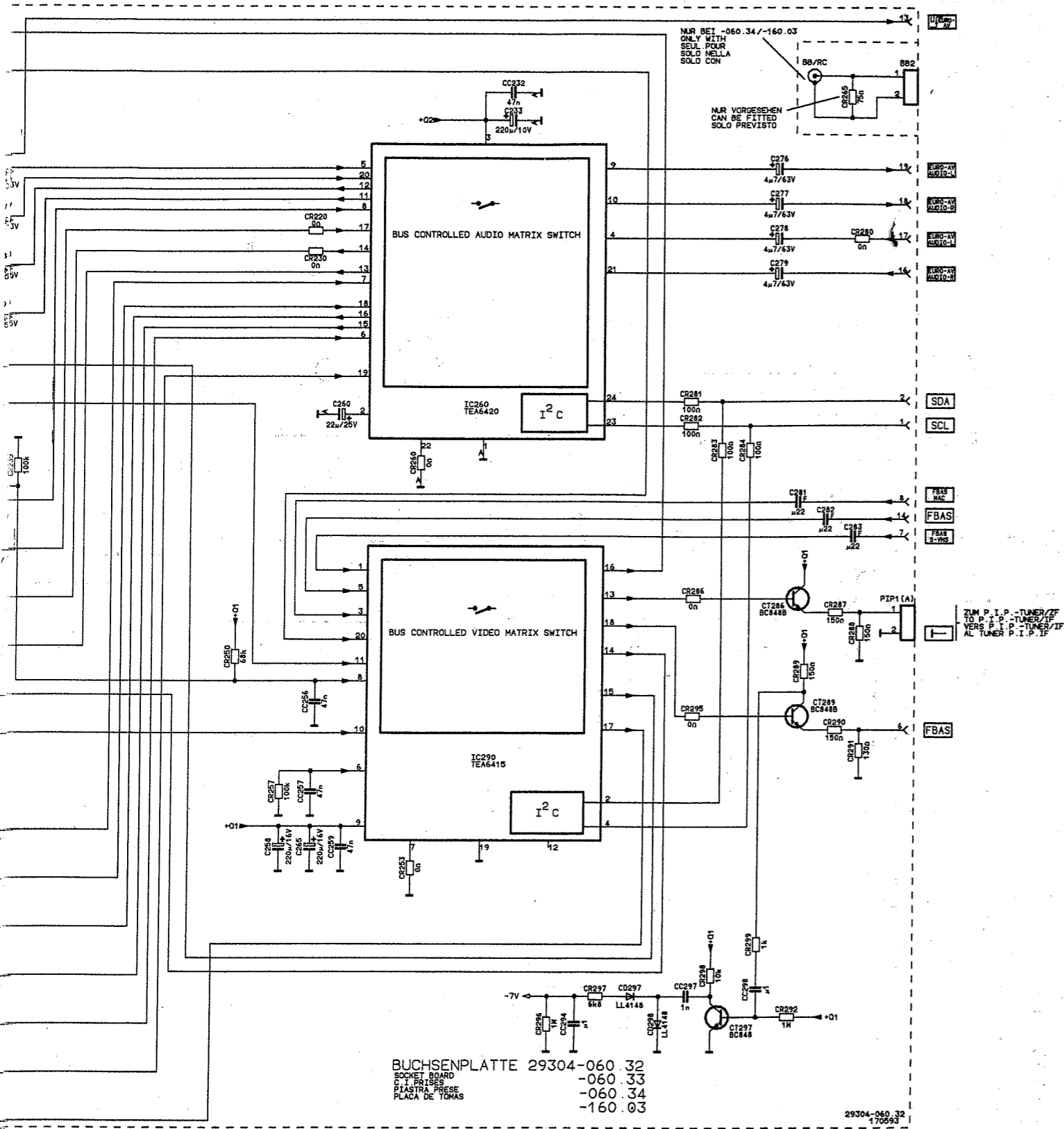
TUNER 29504-101 21
 -101 22
 -101 23
 -101 24
 131 23 (ARGENTINIEN)

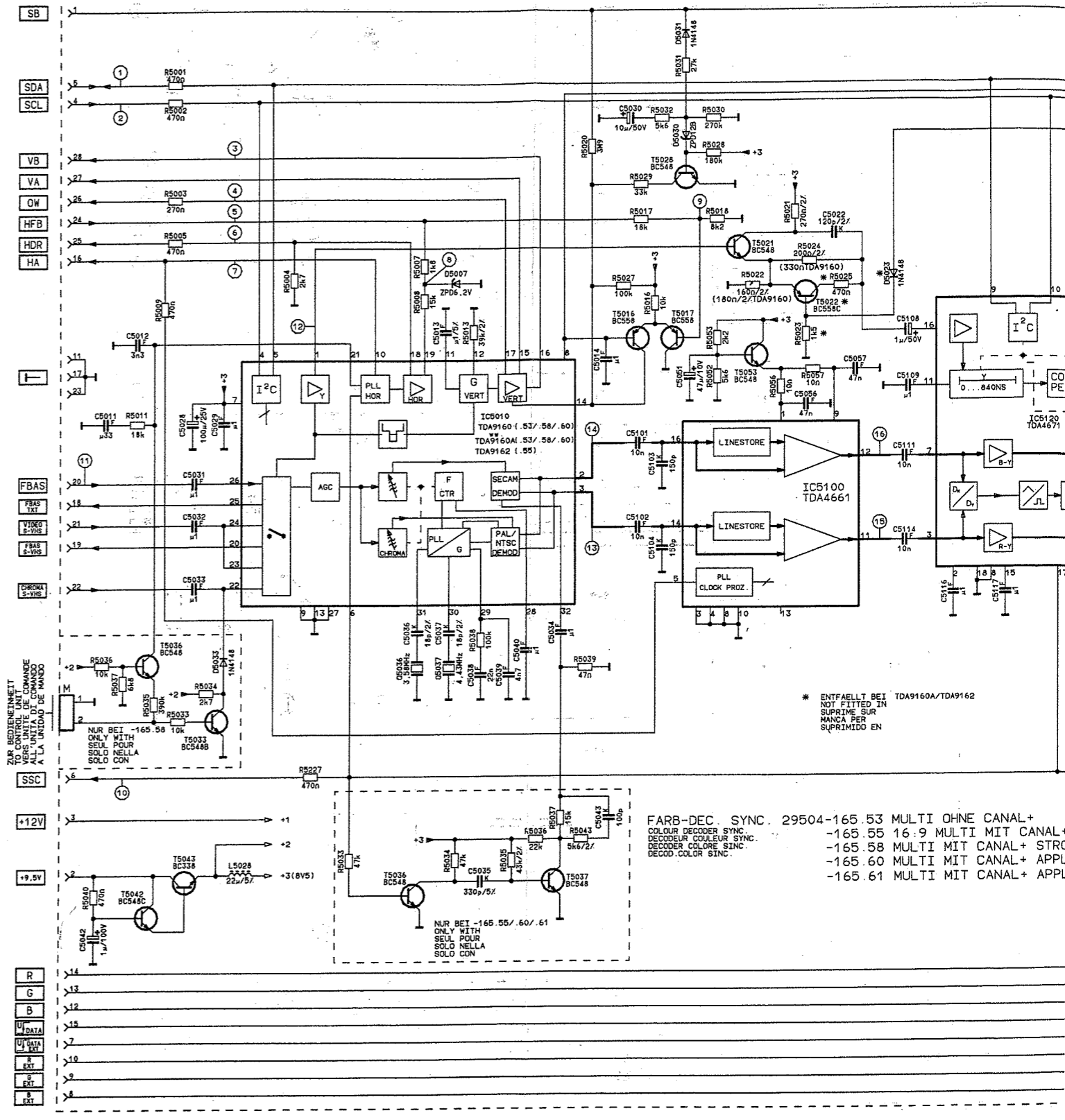
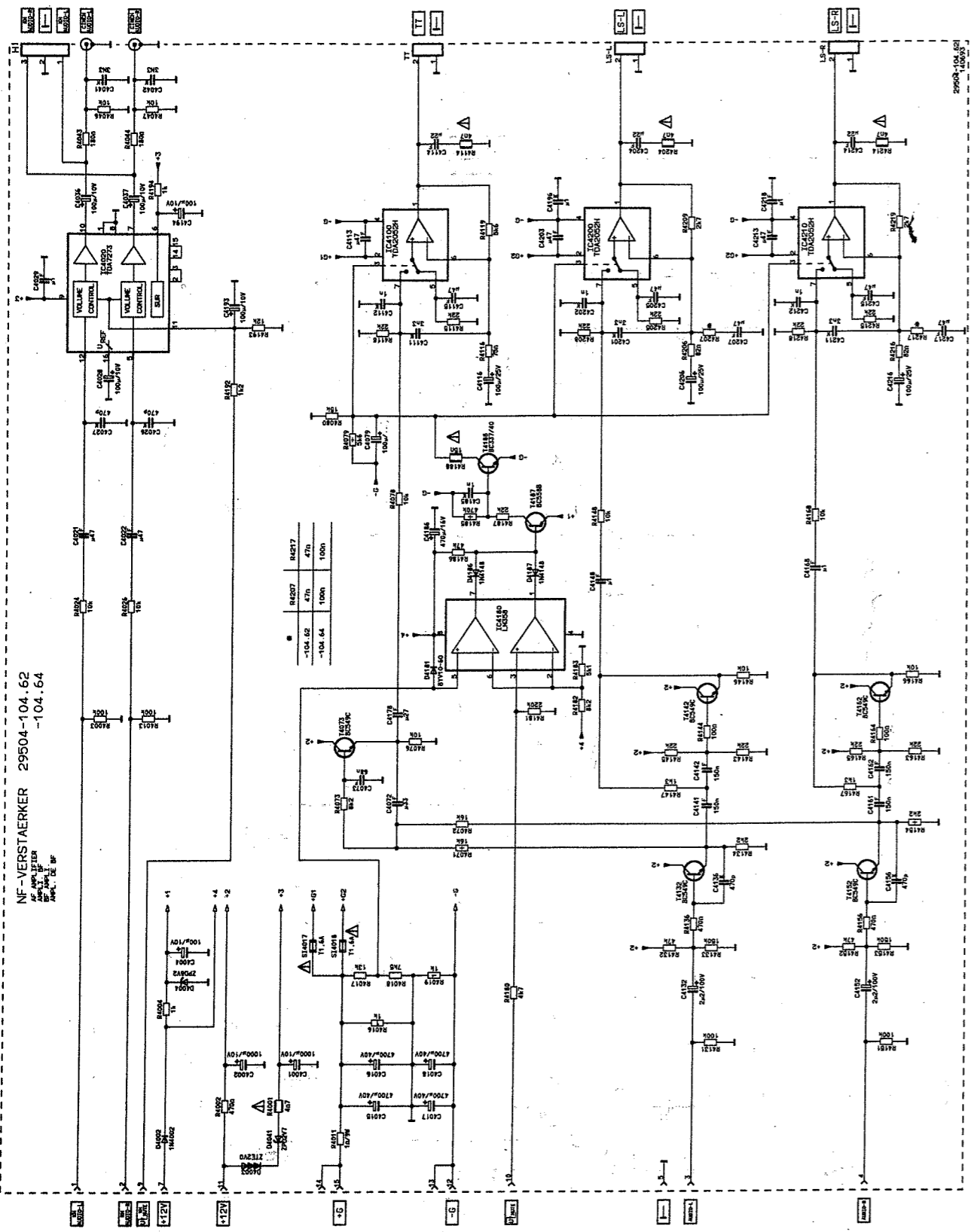


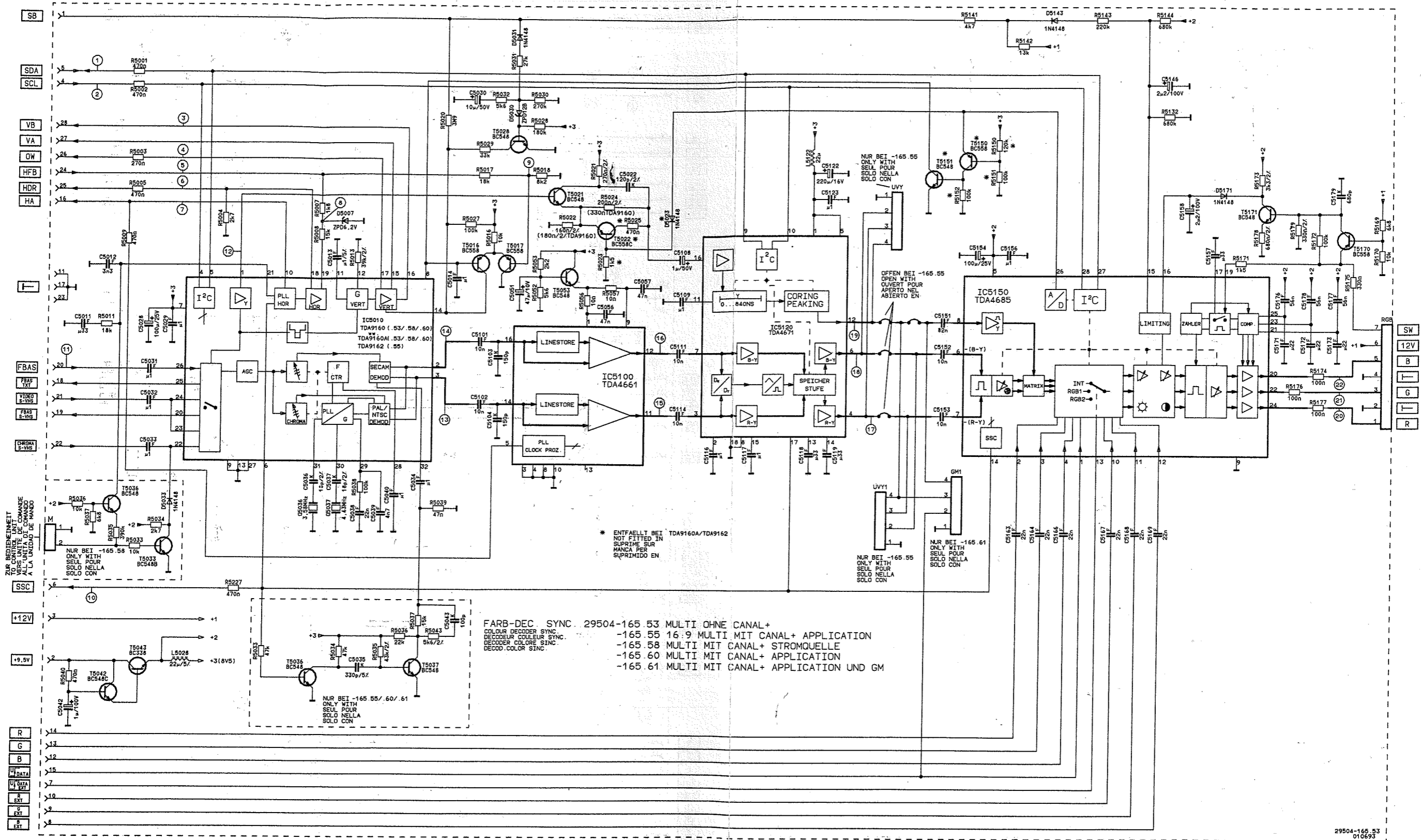
NUR BEI -101.24
 ONLY WITH
 SDA FOUR
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	CC2091	CC2165	CC2183	CC2187	L2085	L2095	L2176	L2077	CR9025	CC2067 CC2068	L2067	L2102	CC2104	CT2108 CT2141	L2111	CC2110	CR2108	CR2113 CR2147
*	-101.21	1p	2p7	68p	56p	09241 -043	09246 -261	09241 -056	09241 -045	09241 -045	09241 -045	09241 -009	p47	BF998	09241 -028.01	—	18k	330n
	-101.22/24	1p	2p7	68p	56p	09241 -043	09246 -261	09241 -056	09241 -045	09241 -045	09241 -045	09241 -009	p47	BF998	09241 -028.01	—	18k	330n
	-101.23	1p	2p7	68p	56p	09241 -043	09246 -261	09241 -056	09241 -045	09241 -045	09241 -045	09241 -009	—	BF930	09241 -108.01	1n	1k	240n
	-131.23	p82	p47	56p	47p	09241 -045	09241 -067	09241 -041	09246 -601	09241 -041	09241 -601	09241 -009	p82	BF998	09241 -028.01	—	1k	330n









* ENTFÄLLT BEI TDA9160A/TDA9162
NOT FITTED IN
SUPRIME SUR
MANCA PER
SUPRIMIDO EN

- FARB-DEC. SYNC. 29504-165.53 MULTI OHNE CANAL+
 COLOUR DECODER SYNC. -165.55 16.9 MULTI MIT CANAL+ APPLICATION
 DECODER COULEUR SYNC. -165.58 MULTI MIT CANAL+ STROMQUELLE
 DECOD. COLOR SYNC. -165.60 MULTI MIT CANAL+ APPLICATION
 -165.61 MULTI MIT CANAL+ APPLICATION UND GM

Matrix

Item	See Model	Book
Service Notes (See Notes).....	Grundig G1000 Chassis	4
X-Ray Precautions (See Notes).....	Grundig G1000 Chassis	4
Circuit Diagram Symbols	Grundig CUC 1982	5
Fault Finding Diagram	Grundig CUC 7861	5
Colour Decoder Sync PCB Diagram	Grundig CUC 7861	5
Control Unit PCB (with Videotext)	Grundig CUC 7861	5
CRT PCB Diagram	Grundig CUC 7861	5
General Circuit Diagram	Grundig CUC 7861	5
IF Amp Diagram (alternative)	Grundig CUC 7861	5
Remote Control Diagram	Grundig CUC 6360	5
Socket PCB Diagram	Grundig CUC 7861	5
Tuner Diagram	Grundig CUC 5301	3
Velocity Modulation PCB	Grundig CUC 7861	5

Recommended Safety Parts

Item	Part No.	Description
E72 911		
WW.	09246-188.31	Degaussing Coil
	09246-188.71	Degaussing Coil
	8300-68-696	Pict. Tube A 68 KZN 696X01
	29703-291.81	Power Switch
	29201-361.17	Focus and UG2 Control
R 816, R817	8766-701-027	KSW SI A 12 OHM 5% -GA
WW. = Optional		
M72 795		
	8300-68-696	Pict. Tube A68 KZN 696X01
	29201-360.11	CRT Socket
	09621-113.02	Fuse Holder
	29303-452.02	Mains Plug, Lower Part
	29703-291.32	Power Switch
	8290-991-307	Power Cable
	29201-361.17	Focus and UG 2 Control
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
R1876, R1877	8766-701-027	KSW SI A 12 OHM 5% -GA
R 6009	8311-200-010	DUO-PTC
SI 6001	8315-622-503	FS.3,15 A/T L 250V
TR6010	09032-301.02	NETZTRAFO
M72 795/9		
WW.	09246-188.31	Degaussing Coil
	09246-188.71	Degaussing Coil
	8300-68-696	Pict. Tube A 68 KZN 696X01
	09621-113.02	Fuse Holder
	29303-452.02	Mains Plug, Lower Part
	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
R1876, R1877	8766-701-027	KSW SI A 12 OHM 5% -GA
R 6009	8311-200-010	DUO-PTC
SI 6001	8315-622-503	FS.3,15 A/T L 250V
TR6010	09032-301.02	NETZTRAFO
WW. = Optional		
CUC 7851 (M72 795)		
	29201-361.17	Focus and UG 2-Control
C 7	8531-505-221	MKT 680PF 20% 12,5KV
C 621, C 622	8600-098-238	SI-KERKO B-SS 2200PF 20%
C 665	8660-098-234	SI-KERKO B-SS 1000PF 20%
C 666	8515-912-063	FKP1 0,033UF 20% 630V
OK 637,		
OK 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	8735-003-068	DW 0,75W 0,68 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, SI 406,		
SI 411	8135-616-205	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 8	29201-445.97	FOKUSIERUEBERTRAGER
TR 410	29201-382.97	UEBERTRAGER
TR 526	29201-030.08	DIODENSPLITTRAFO KPL
TR 651	29201-401.97	SPERRWANDLERTRAFO KPL
WW.	29201-453.01	SPERRWANDLERTRAFO KPL
WW. = Optional		

Recommended Safety Parts Cont'd.

Item	Part No.	Description
R 525	8735-003-068	DW 0,75W 0,68 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, SI 406,		
SI 411	8135-616-205	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 8	29201-445.97	FOKUSIERUEBERTRAGER
TR 410	29201-382.97	UEBERTRAGER
TR 526	29201-030.08	DIODENSPLITTRAFO KPL
TR 651	29201-401.97	SPERRWANDLERTRAFO KPL
WW.	29201-453.01	SPERRWANDLERTRAFO KPL
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	29201-361.17	Focus and UG 2-Control
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C 621, C 622	8600-098-238	SI-KERKO B-SS 2200PF 20%
C 665	8660-098-234	SI-KERKO B-SS 1000PF 20%
C 666	8515-912-063	FKP1 0,033UF 20% 630V
OK 637,		
OK 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	8735-003-068	DW 0,75W 0,68 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, SI 406,		
SI 411	8135-616-205	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 8	29201-445.97	FOKUSIERUEBERTRAGER
TR 410	29201-382.97	UEBERTRAGER
TR 526	29201-030.08	DIODENSPLITTRAFO KPL
TR 651	29201-401.97	SPERRWANDLERTRAFO KPL
WW.	29201-453.01	SPERRWANDLERTRAFO KPL
WW. = Optional		
CUC 7851 (E72 911)		
	09621-113.02	Fuse Holder
C 7	8531-505-221	MKT 680PF 20% 12,5KV
C 621, C 622	8600-098-238	SI-KERKO B-SS 2200PF 20%
C 665	8660-098-234	SI-KERKO B-SS 1000PF 20%
C 666	8515-912-063	FKP1 0,033UF 20% 630V
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.
OK 637	8306-000-012	OPTOKOPPLER CNY 17 F1
OK 646	8306-000-012	OPTOKOPPLER CNY 17F1
R 503	8701-230-817	NKS 3 4,7 OHM 5% ROE
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	8700-329-009	KSW LI 0207-NE 2,2 OHM
R 665	8766-349-155	MSW LI 0414 2,7 MOHM
R 667	8735-002-013	DRW 2 W 0,1 OHM 10%
R 6009	8311-200-010	DUO-PTC
SI 401, SI 406,		
SI 411	8135-616-205	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
SI6001	8315-622-003	FS.3,15 A/T L 250V
TR 8	29201-445.97	FOKUSIERUEBERTRAGER
TR 410	29201-382.97	UEBERTRAGER EF20
TR 526	29201-030.08	DIODENSPLITTRAFO KPL
TR6010	09302-301.02	NETZTRAFO
TR 651	29201-401.97	SPERRWANDLERTRAFO KPL
WW.	29201-453.01	SPERRWANDLERTRAFO KPL
WW. = Optional		

Service and Special Functions

With the remote control buttons.

EPROM Version Number

The version number can be called up in the Info Menu with the "AUX" button. The index 02 of the part number (19798-250.02) 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)

You can cancel your personal code number via the Info Centre --> Timer --> Security Code by pressing ▶ ◀ and ▼ ▲ OK sequentially.

ATS Reset

Press and hold the "L+" button on the local keyboard while switching on with the mains button. This option activates the ATS function next time the TV is switched on.

One place/Two Place Programme Selection

Via the Menu Info Centre --> Special Functions --> Settings, Programme Selection can be switched over between 1-9 and 1-99.

Maximum Programme Number

Via the Menu Info Centre --> Special Functions --> Settings. When storing the channel number "00" at any programme position, programme selection with the ▼ ▲ 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 are not displayed.

OSD-ON/OSD-OFF Individual Programmes

Note: only TVs with LED display.

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.

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 loaded in the programme memory IC840, the AV witch-on bit is 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 the local keyboard and switch the TV on with the mains button.

Loading the Emergency Data (eg. after changing µP IC850)

Connect pin 1 of the processor to chassis and switch the TV on with the mains button. The EPROM in the processor IC850 is loaded with:

- the data set and the geometry data for the IC TDA 9162
- the white balance data VR, VG and VB for the IC TDA 9162
- the IF and AFC control voltages.

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 PH.), volume level 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 PH.), constant level for the Hi-Fi system.

Switching Over the Sound (multi) 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 option "MONO" or ".ONO" at the 1st, 2nd, 3rd and 4th place of the station name, the stereo decoder can be made to switch over to FM-mono. The "MO" option is not indicated in the display.

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).

Setting the Peri Bit

"AUX" --> "AV". With the Peri bit set, the control processor evaluates the switching voltage on pin 8 of the EURO-AV-socket AV1 (black) and switches the TV receiver to this input, eg. on descrambler operation.

Switching over the descrambler:

- Descrambler off
- Descrambler on Auto (Peri bit set)
- Descrambler on Stereo (Peri bit set)
- Descrambler on Mono - L (Peri bit set)
- Descrambler on Mono - R (Peri bit set)

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 --> 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. AV 1, AV 2 etc

- On: "AUX" --> "0/AV". Indication "Copy on".
- Buttons "AUX" --> "☉". Indication "COP" in the display. Copying possibilities are the same as before
- To interrupt the copy mode, press button 1 (indication AV..). to continue the copy mode, press "AUX" --> "☉".
- To cancel the copy mode press "☉" or "power off".

Service and Special Functions Cont'd

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

Changing the Sharpness

Call up the Info Menu --> Picture Menu --> Sharpness, and change the value with \blacktriangleleft \blacktriangleright .

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 \blacktriangleleft \blacktriangleright correct the delay so that the Y chroma signals coincide.

White Balance

- Call up the White Balance menu via the Info Centre --> Special Functions --> Service --> code 8500.
- With the \blacktriangleleft \blacktriangleright 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.

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, Info Centre --> Special Functions --> Service --> Code 8500, select "manual" and confirm. With the \blacktriangleleft \blacktriangleright 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.

AFC-Reference

The AFC control voltage influences the setting of the station (fine tuning) on HF-reproduction and on station search mode.

The Automatic Frequency Control 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 and on station search.

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 220kOhm 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. 10V.

Adjustment of the Bridge Coil L511

- Call up the Geometry Menu via 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 oscillogrammes is the same.

Adjustment of the Line Sharpness

With the focus control \boxtimes 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 \boxtimes on the focusing panel, adjust the lines in the east-west direction for maximum sharpness. Repeat if necessary.

Attention: For measurements on the focusing 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.

Picture Geometry and Picture Position Adjustment via the Remote Control Handset

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

- 1: Call up the Geometry Menu via Info centre --> Special Functions --> Service --> code 8500.
- 2: If a standard test pattern is not available, move the bar with the cursor buttons to the menu item "Test Pattern On".

Attention: Start always with the "V-middle" adjustment otherwise the other vertical deflection parameters would defy correct geometry adjustment.

"V-Middle" Adjustment with a Colour Test Pattern

- Select the "V-Middle" menu. The upper part of the picture is coloured, the lower part is black and white.
- With the \blacktriangleright or \blacktriangleleft buttons move the three broken lines on the left and on the right of the indication "V-Middle" upwards or downwards so that they coincide with the line separating the coloured part and the black/white part of the picture.
- 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 \blacktriangleright or \blacktriangleleft 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 button \blacktriangleright or \blacktriangleleft move the picture into the centre of the raster. Re-adjust the horizontal amplitude with the test pattern.

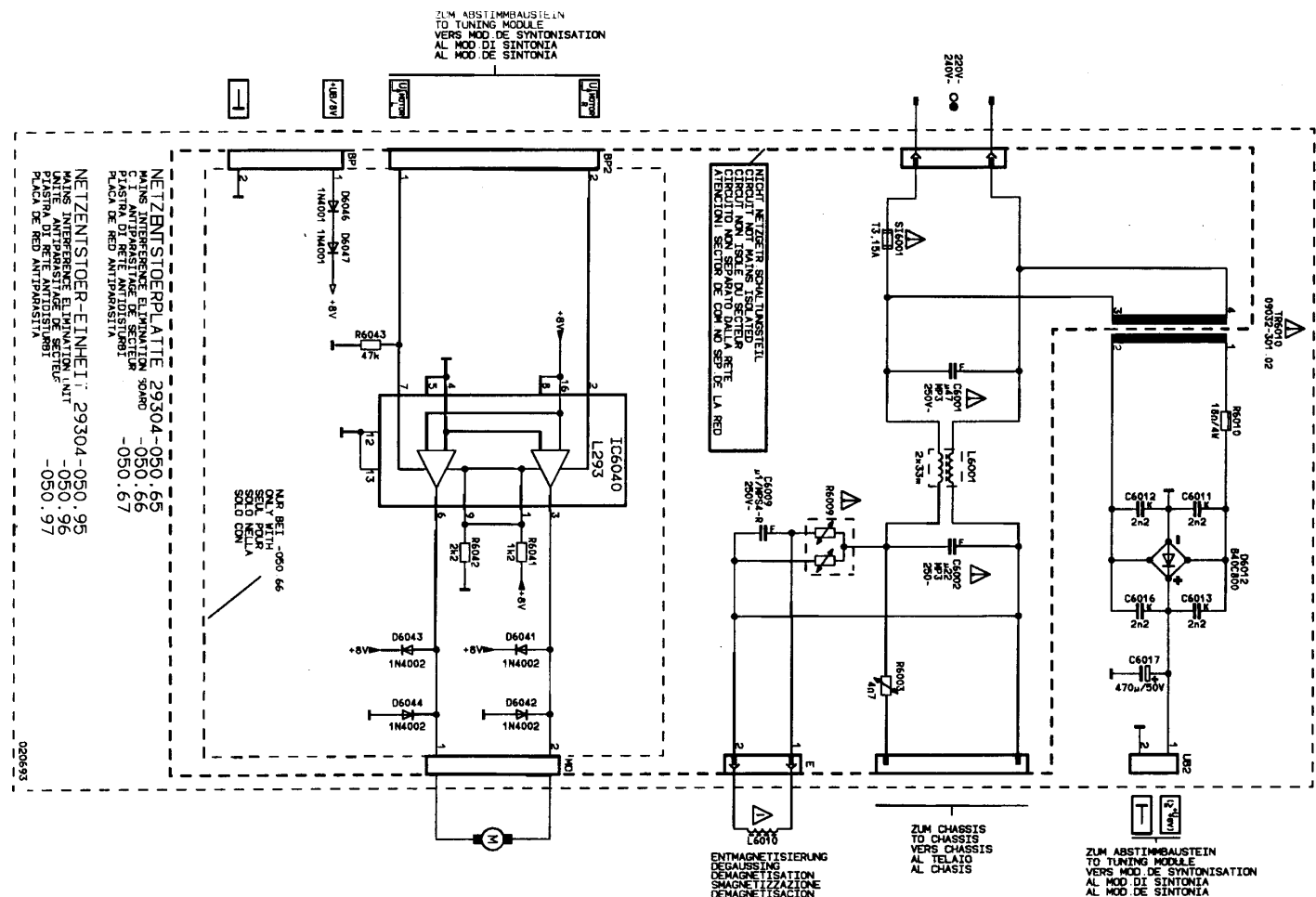
- 3: To store this adjustment, move the bar to "Terminate with store" and confirm with OK. The picture geometry is set to the last stored value whenever the receiver is switched on.

Reset:

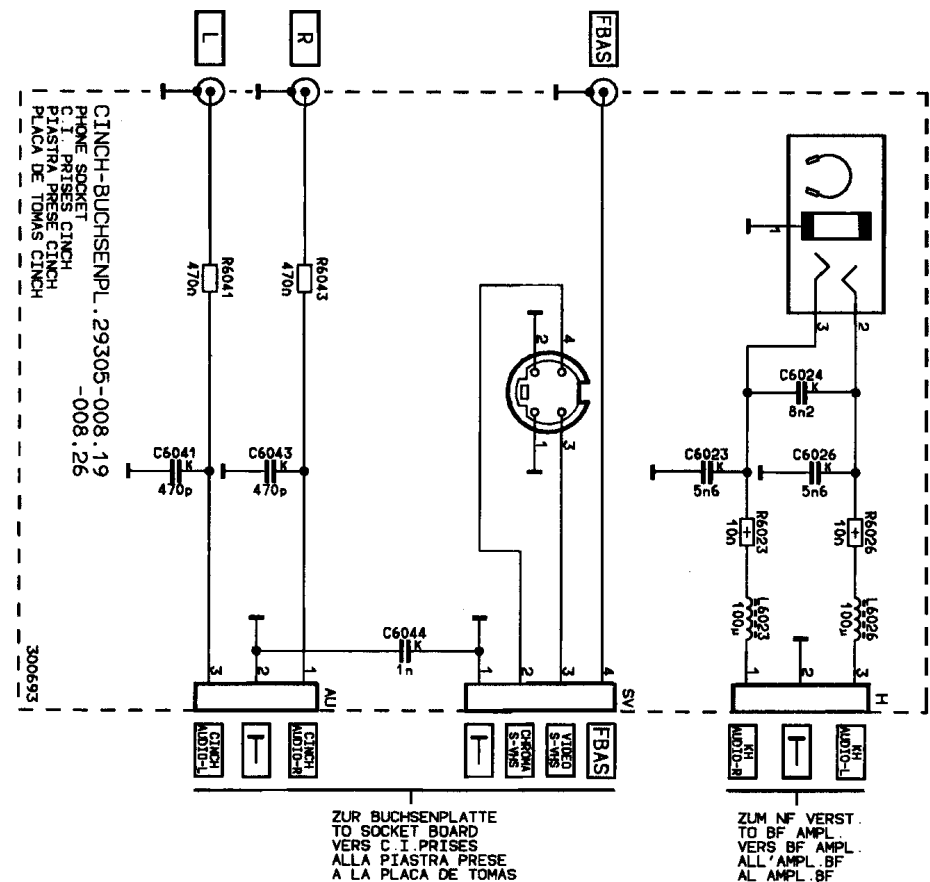
Under the menu item "Reset" an average data set from the ROM is stored. After inadvertent re-adjustment during servicing, these basic values can be re-loaded at any time. For this, move the yellow bar to "Reset", press the OK button. By pressing the "AUX" button the picture geometry is set according to this "Reset" values.

- 4: With the i button return to the normal menu.

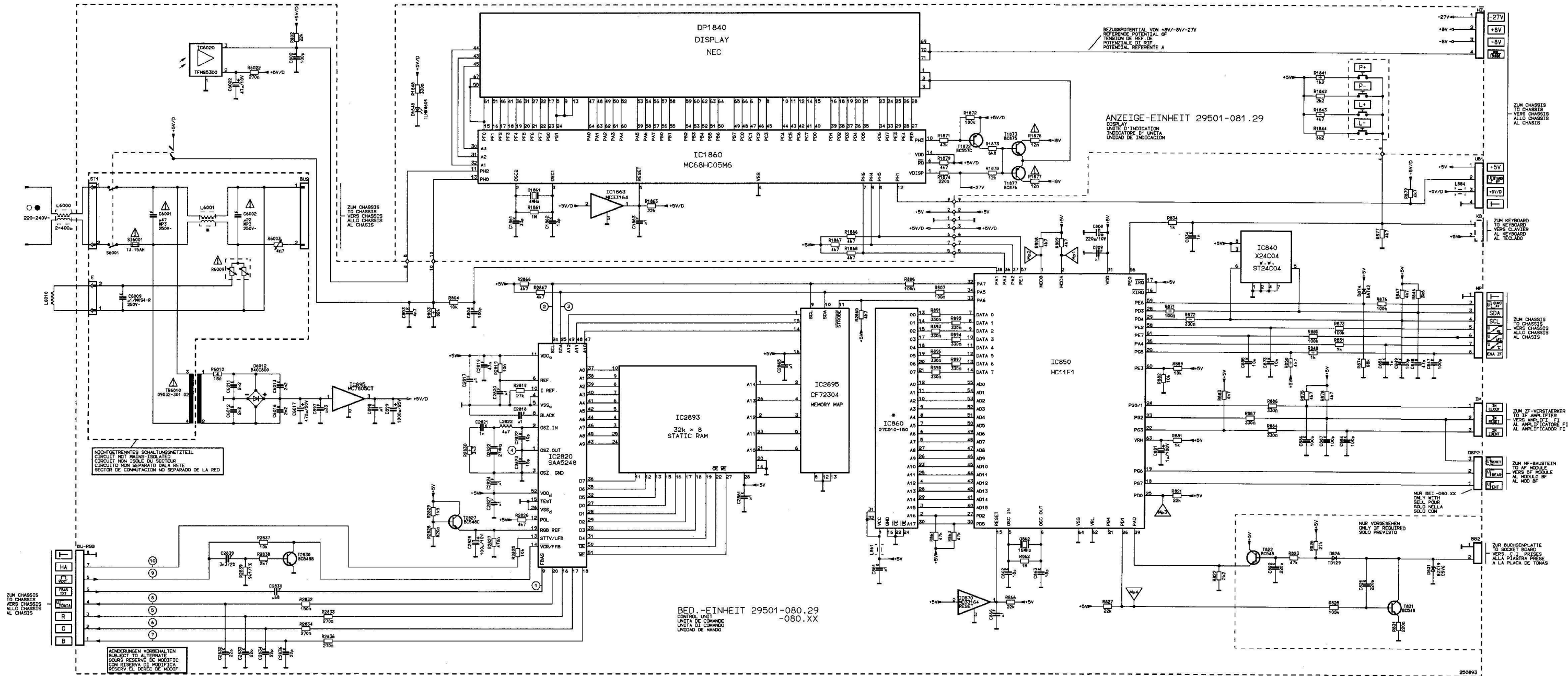
Interference Diagram



Socket Diagram



Control Text Diagram



NICHTTRENNTEILE SONNENNETZTEIL
 CIRCUIT NOT MAINS ISOLATED
 CIRCUITI NON ISOLATI DAL RETE
 CIRCUITO NON SEPARATO DALLA RETE

ÄNDERUNGEN VORBEHALTEN
 SUBJECT TO ALTERATIONS
 SOUS RESERVE DE MODIFICAT
 CON SERVA DI MODIFICA
 RESERV EL DERECH DE MODIF

BED.-EINHEIT 29501-080.29
 CONTROL UNIT
 UNITE DE COMMANDE
 UNIDAD DE COMANDO

ANZEIGE-EINHEIT 29501-081.29
 DISPLAY UNIT
 UNITE D'INDICATION
 UNIDAD DE INDICACION

- ① AC 1V_{ss}
10µs/cm
- ② ③ 4.5V_{ss}
100µs/cm
- ④ DC +2V
AC 0.5V_{ss}
100ns/cm
- ⑤ ⑥ 0.7V_{ss}
5µs/cm
- ⑧ 1.5V = VT
0V = TV
5µs/cm
- ⑨ 5V_{ss}
5ms/cm
- ⑩ 5V_{ss}
20µs/cm