

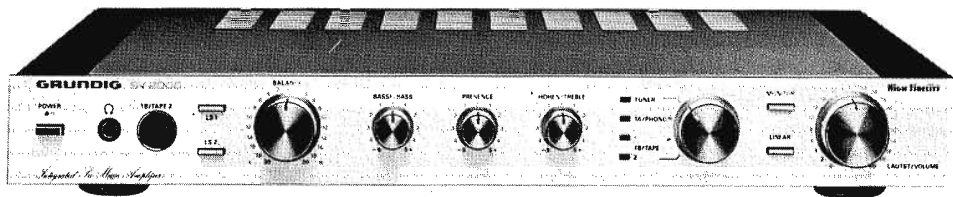
# GRUNDIG

## Service Anleitung



4/80

Verstärker  
SV 2000  
SV 2000 GB  
SV 2000 U



### Abgleich- und Prüfvorschrift

1. Allgemeine Hinweise
2. Ausbauhinweise
3. Arbeitspunkteinstellung des NF-Verstärkers
4. Prüfung des NF-Verstärkers
  - 4.1 Ausgangsleistung an  $4 \Omega$
  - 4.2 Leistungsbandbreite ( $-3 \text{ dB}$ )
  - 4.3 Eingangsempfindlichkeit für  $2 \times 50 \text{ W}$  ( $\approx 14,14 \text{ V}_{\text{eff}}$ )
  - 4.4 Maximale Eingangsspannung
  - 4.5 Frequenzgang linear
  - 4.6 Eingangswiderstand
  - 4.7 Entzerrung TA-Magnet
  - 4.8 Regelbereich der Klangregler
  - 4.9 Regelbereich des Balance-Reglers
  - 4.10 Physiologie (Contour)
  - 4.11 Fremdspannungsabstand
  - 4.12 Übersprechen
  - 4.13 Kurzschlußautomatik

AENDERUNGEN VORBEHALTEN  
ALTERATIONS RESERVED  
MODIFICATIONS RESERVEES  
CON RISERVA DI MODIFICA

VORNUMMERN FUER DIODEN UND TRANSISTOREN  
INDEX NUMBER FOR DIODES AND TRANSISTORS  
CHIFFRES REPÈRES POUR DIODES ET TRANSISTORS  
SIGLA PER DIODI E TRANSISTORS

09654-

ERSATZTYPEN IN KLAMMERN ( )  
INTERCHANGEABLE TYPES IN BRACKETS ( )  
TYPES DE RECHANGE EN PARENTHESES ( )  
TIPI DI RICAMBI IN ( )

DIODEN

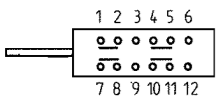
-172 97 (BA 317/BA 318/1N4151)

Z-DIODEN

7,5V -124 01 (02/03/04/31)

- ELKO
- FOLIE
- KERAMIK
- 0204 DIN
- 0207 DIN
- 0207 DIN RAUSCHARM
- 0309 DIN
- 0411 DIN
- SCHWER ENTLAMMBAR
- DRAHT
- METALLOXYDSCHICHT
- METALLSCHICHT

LINEAR-CONTOUR-SCHALTER



CONTOUR ← LINEAR

TB I, TB II

- 1 = AUFNAHME MONO, AUFNAHME STEREO LINKS
- 2 = MASSE
- 3 = WIEDERGABE MONO, WIEDERGABE STEREO LINKS
- 4 = AUFNAHME STEREO RECHTS
- 5 = WIEDERGABE STEREO RECHTS

TR I, TR II

- 1 = RECORDING MONO, RECORDING LH STEREO
- 2 = CHASSIS
- 3 = PLAYBACK MONO, PLAYBACK LH STEREO
- 4 = RECORDING RH STEREO
- 5 = PLAYBACK RH STEREO

MAG I, MAG II

- 1 = ENR MONO, ENR STEREO CANAL GAUCHE
- 2 = MASSE
- 3 = LECTURE MONO, LECTURE STEREO CANAL GAUCHE
- 4 = ENREGISTREMENT STEREO CANAL DROIT
- 5 = LECTURE STEREO CANAL DROIT

TB I, TB II

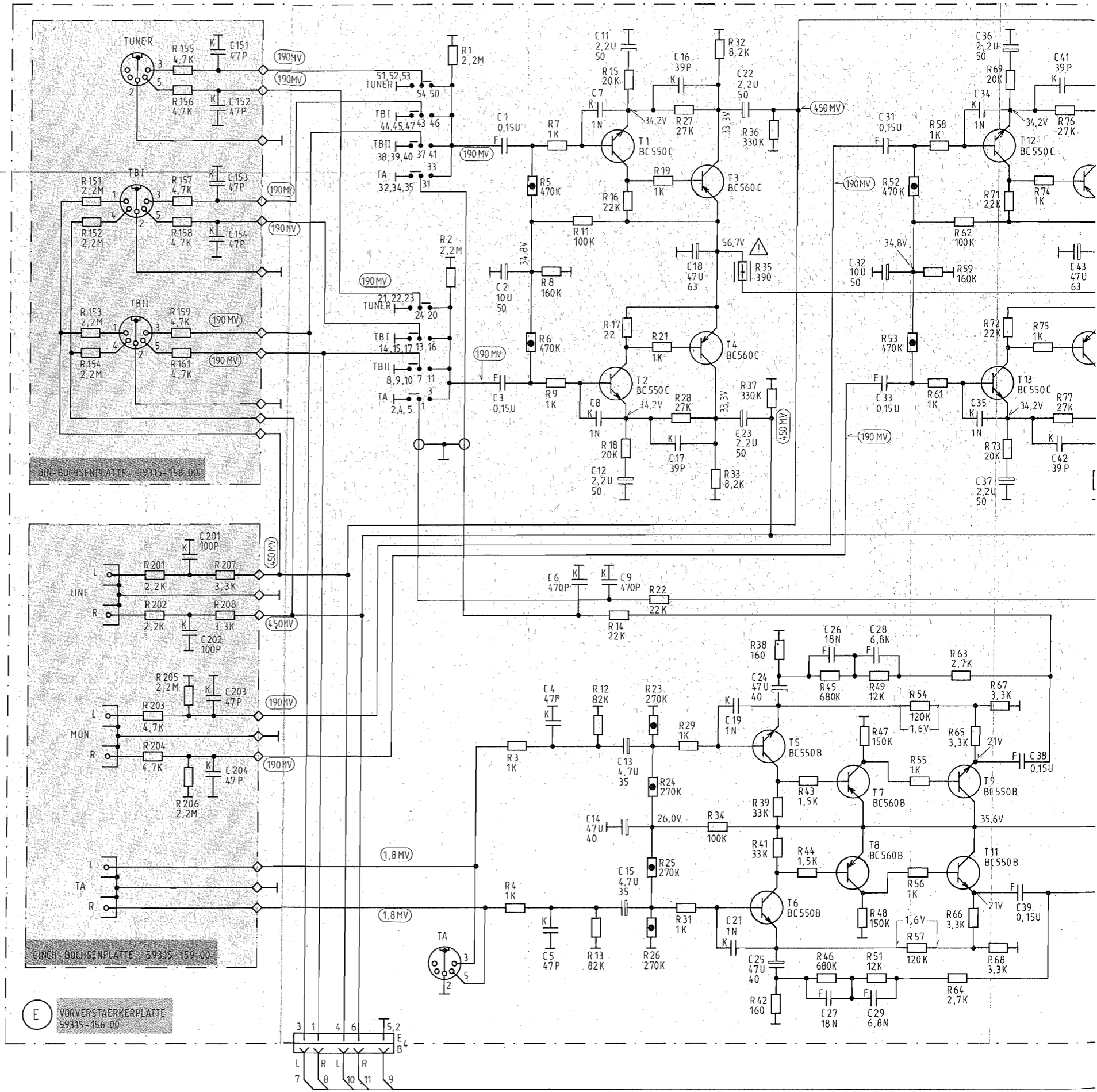
- 1 = PRESA MONO, PRESA STEREO SINISTRO
- 2 = MASSA
- 3 = RIP MONO, RIP STEREO SINISTRO
- 4 = PRESA STEREO DESTRO
- 5 = RIPRODUZIONE STEREO DESTRO

TA/PU, TUNER

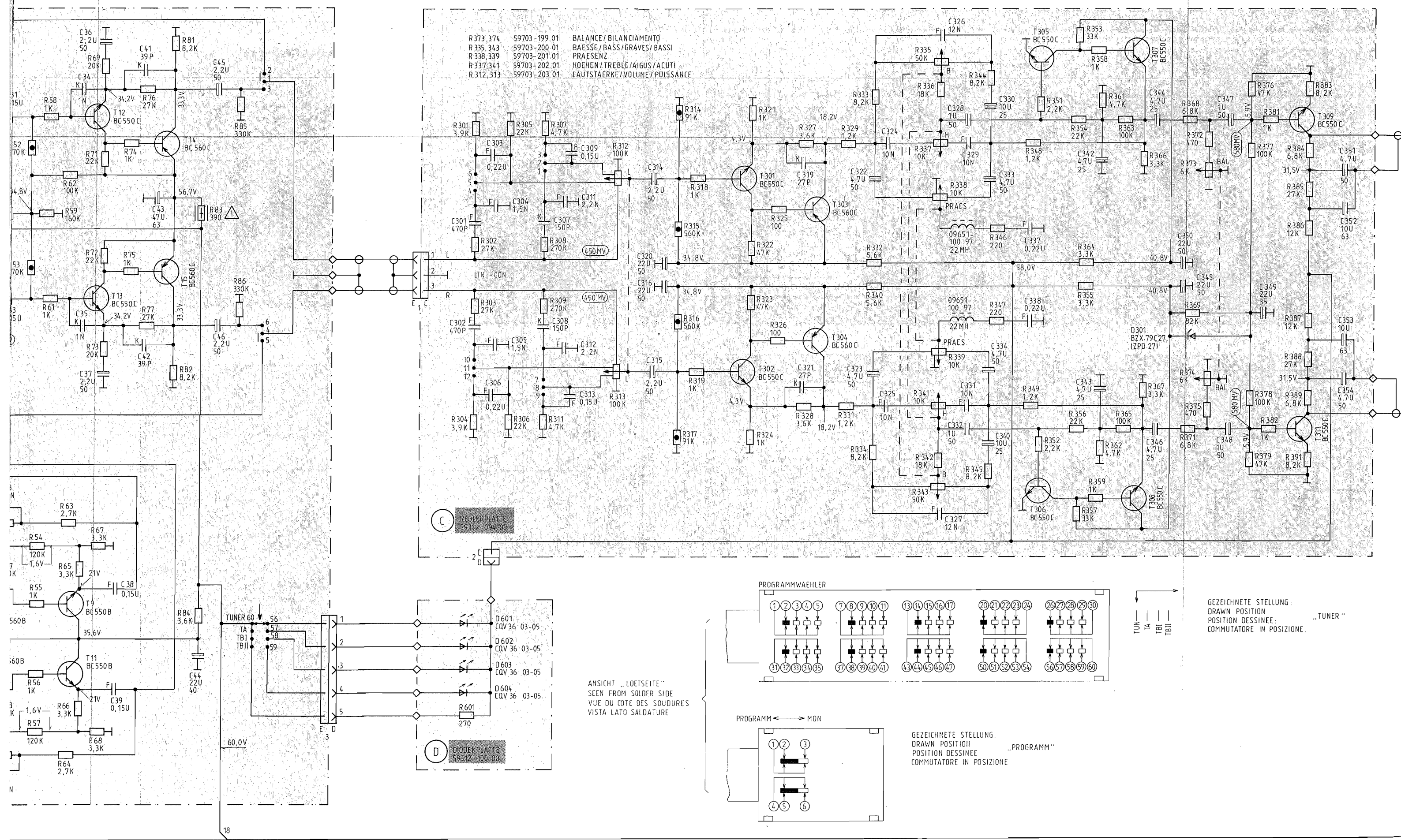
- 2 = MASSE/CHASSIS/MASSA
- 3 = STEREO LINKS / STEREO LH CHANNEL  
STEREO CANAL GAUCHE / STEREO SINISTRO
- 5 = STEREO RECHTS / STEREO RH CHANNEL  
STEREO CANAL DROIT / STEREO DESTRO

TRANSISTOREN

- BC 546/548
- BC 550/560
- BC 328
- MPS L01 -265 97
- GPS A05 -264 97
- NPN GP 140 -440 25/31
- GDV 65A -484 02
- PNP GP 145 -445 25/31
- GDV 64A -483 02



C	201, 151, 154, 203, 202, 152, 204, 153.	1, 2, 3.	4, 5.	6, 7, 8.	9, 11, 13, 12, 14, 15.	16, 18, 17.	19, 22, 21, 23, 25.	24, 26, 27.	28, 31, 29, 32, 33.	34, 35.	36, 38, 37, 39.	41, 43, 42.
R	151, 154, 152, 153, 201, 204, 157, 161, 207, 202, 155, 158, 205, 208, 203, 156, 159, 206.	1, 2.	3, 5, 8, 9.	7, 11, 12, 14, 15, 18, 19, 23, 26, 29, 32, 33, 34.	16, 17, 21, 24, 27, 31, 33, 22, 25, 28.	35, 36, 38, 42, 43, 44, 41.	37, 39, 44, 46.	47, 49, 48, 51.	52, 55, 58, 53, 56, 59, 63, 66, 68, 71, 75, 77.	62, 65, 67, 69, 73, 74, 76, 82.	64, 72.	81, 82.

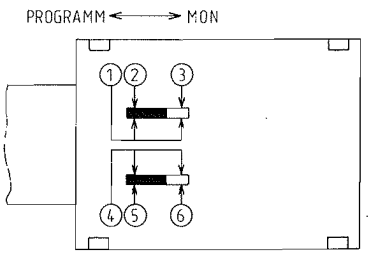
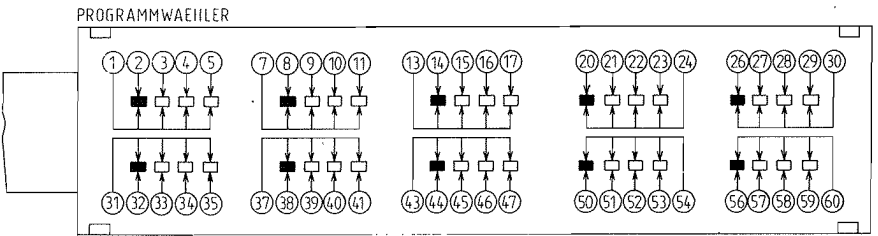


R 373, 374 59703-199.01 BALANCE / BILANCIAMENTO  
 R 335, 343 59703-200.01 BASSES / BASS / GRAVES / BASSI  
 R 338, 339 59703-201.01 PRAESENZ  
 R 337, 341 59703-202.01 HOEHEN / TREBLE / AIGUS / ACUTI  
 R 312, 313 59703-203.01 LAUTSTAERKE / VOLUME / PUISSANCE

(C) REGELERPLATTE  
 59312-094.00

(D) DIBDENPLATTE  
 59312-100.00

ANSICHT ..LOETSEITE..  
 SEEN FROM SOLDER SIDE  
 VUE DU COTE DES SOUDURES  
 VISTA LATO SALDATURE

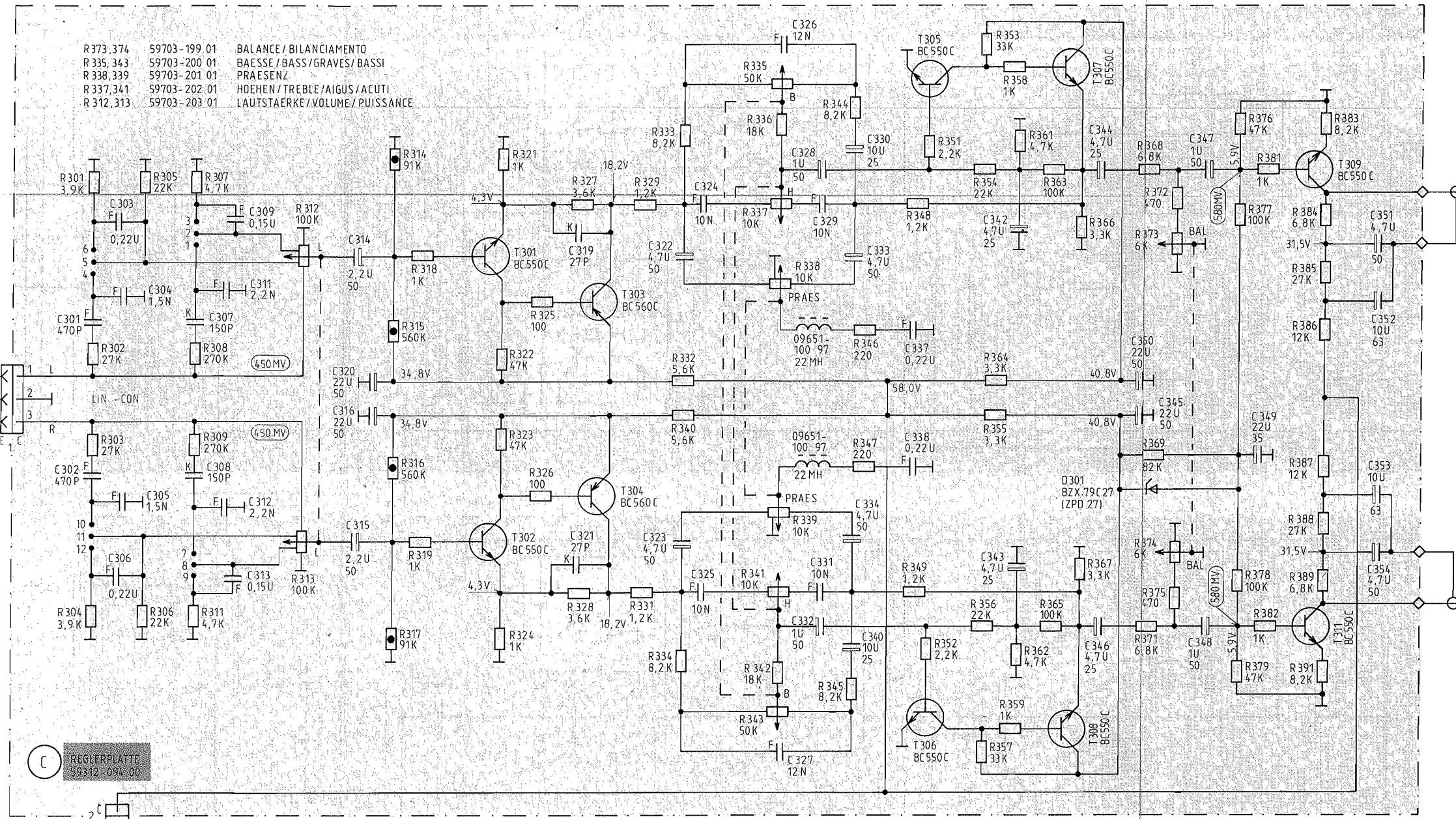


GEZEICHNETE STELLUNG.  
 DRAWN POSITION  
 POSITION DESSINEE  
 COMMUTATORE IN POSIZIONE

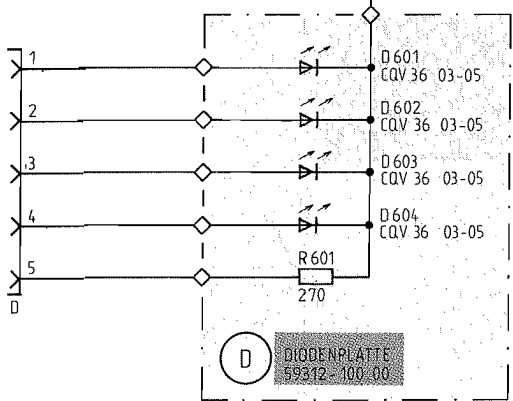
GEZEICHNETE STELLUNG.  
 DRAWN POSITION  
 POSITION DESSINEE  
 COMMUTATORE IN POSIZIONE

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3,								305,																						
52-55, 58,	62-65,	67-69, 73-74,	76,	81,	83,	85,		601-301, 304,	305,	307-311,	312,	314, 317, 318,	321, 324, 325,	327,	329,	333, 334,	335, 338, 342,	344, 346,	348, 351,	353, 357, 358, 362, 363,	366,	369, 373,	377, 381,	384, 387, 391,	368, 372, 375,	376, 379,	383, 386, 389,	352,	353,	
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54, 57, 61,	64,	72,						303,	309,	309,		316,	323,	340,						356, 355, 361,										

R 373, 374 59703-199.01 BALANCE / BILANCIAMENTO  
 R 335, 343 59703-200.01 BAESSE / BASS / GRAVES / BASSI  
 R 338, 339 59703-201.01 PRAESENZ  
 R 337, 341 59703-202.01 HOEHEN / TREBLE / AIGUS / ACUTI  
 R 312, 313 59703-203.01 LAUTSTAERKE / VOLUME / PUISSANCE

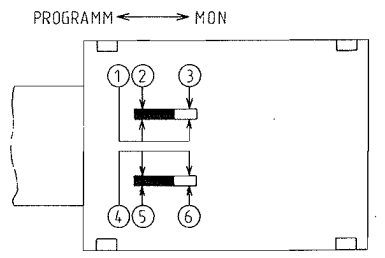
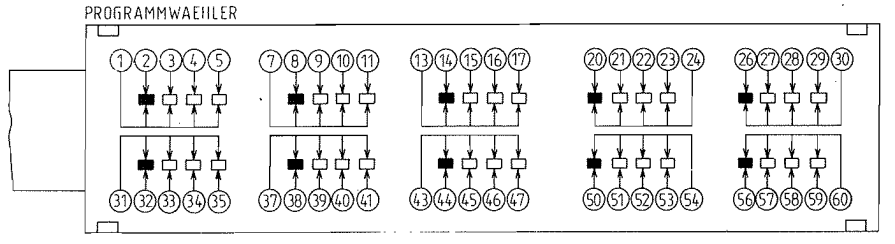


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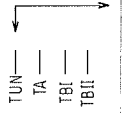


DIODENPLATTE  
59312-100.00

ANSICHT ..LOETSEITE"  
SEEN FROM SOLDER SIDE  
VUE DU COTE DES SOUDURES  
VISTA LATO SALDATURE



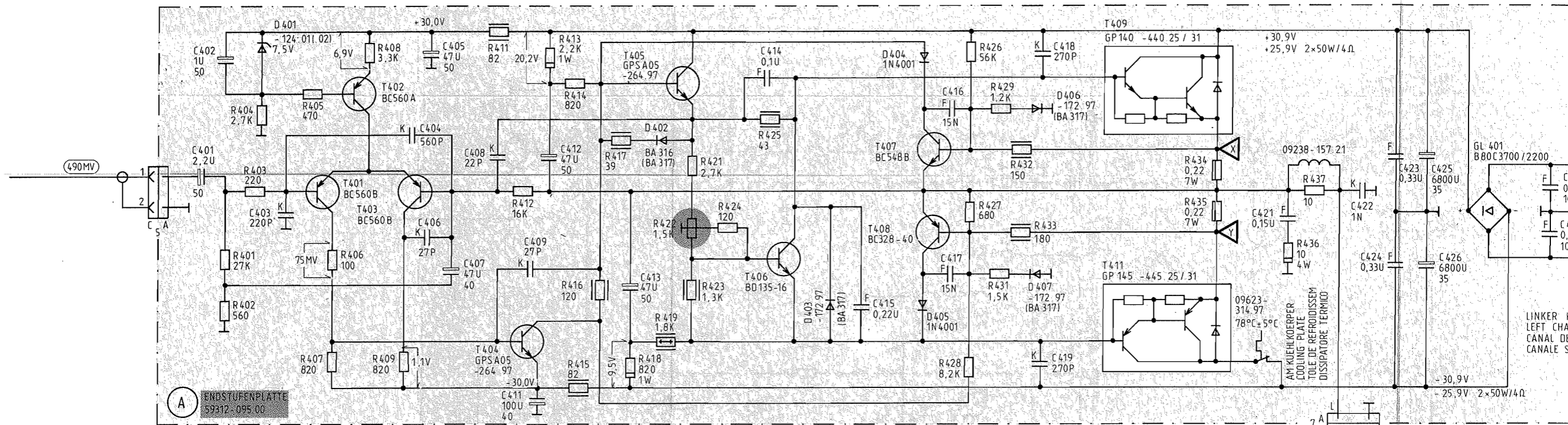
GEZEICHNETE STELLUNG  
DRAWN POSITION  
POSITION DESSINEE  
COMMUTATORE IN POSIZIONE



GEZEICHNETE STELLUNG  
DRAWN POSITION  
POSITION DESSINEE  
COMMUTATORE IN POSIZIONE ..TUNER"

**GRUNDIG**  
**SV 2000**  
**SV 2000 GB**  
**SV 2000 U**  
 55049-906.01

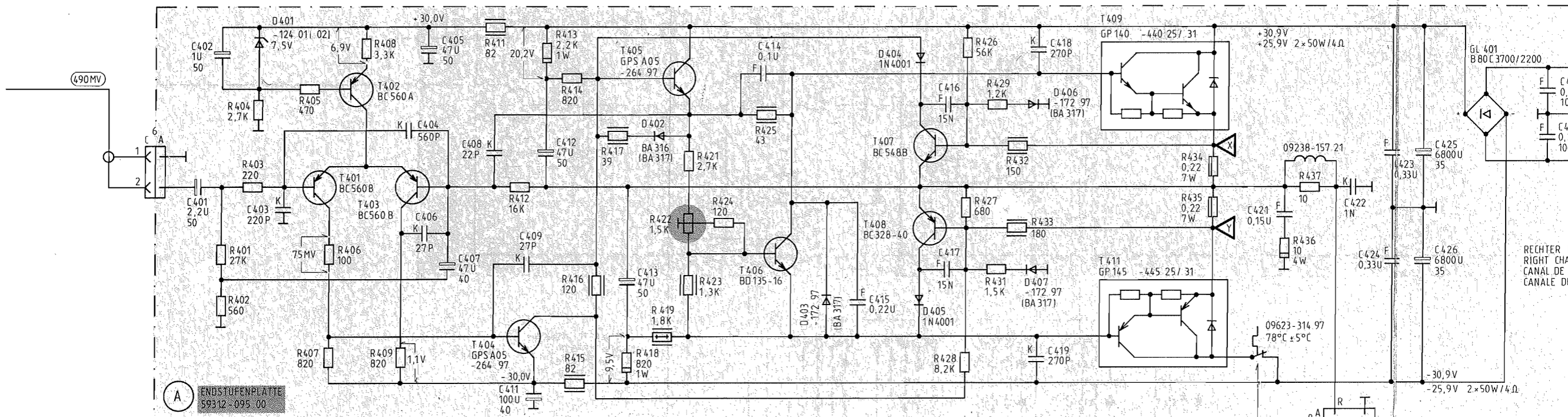
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(A) ENDSTUFENPLATTE  
59312-095 00

LINKER K  
LEFT CHA  
CANAL DE  
CANALE S

MAX ±100 MV  
(14,1V) 50W/4Ω



(A) ENDSTUFENPLATTE  
59312-095 00

RECHTER K  
RIGHT CHA  
CANAL DE  
CANALE DE

AM KUEHLKOEPPER  
COOLING PLATE  
TOLE DE REFRROIDISSEM  
DISSIPATORE TERMICO

MAX ±100 MV  
(14,1V) 50W/4Ω

RUHESTROMEINSTELLUNG  
OHNE LAUTSPRECHERANSCHLUSS MIT R422  
SPANNUNGSABFALL AN R434 R435  
AUF 30MV ± 10% EINSTELLEN

SETTING OF QUIESCIENT CURRENT  
WITH LOUSPEAKER SOCKET NOT TERMINATED  
ADJUST R422 TO OBTAIN A POTENTIAL DROP  
ACROSS R434 R435 OF 30MV ± 10%

REGLAGE DU COURANT DE REPOS  
SANS CHARGE HP REGLER RESP PAR R422 LA  
CHUTE DE TENSION AUX BORNES DE R434 R435  
A 30MV ± 10%

REGOL CORRENTE DI RIPOSO  
SENZA CHIUSURA SULL ALTOP REGOLARE LA  
CALDUTA DI TENSIONE CON R422 AGENDO SU  
R434 R435 PORTANDO IL VALORE 30MV  
± 10%

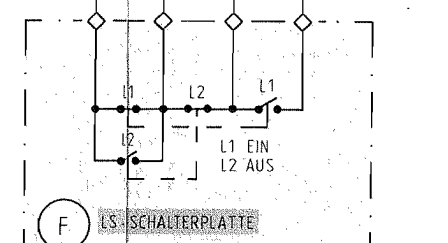
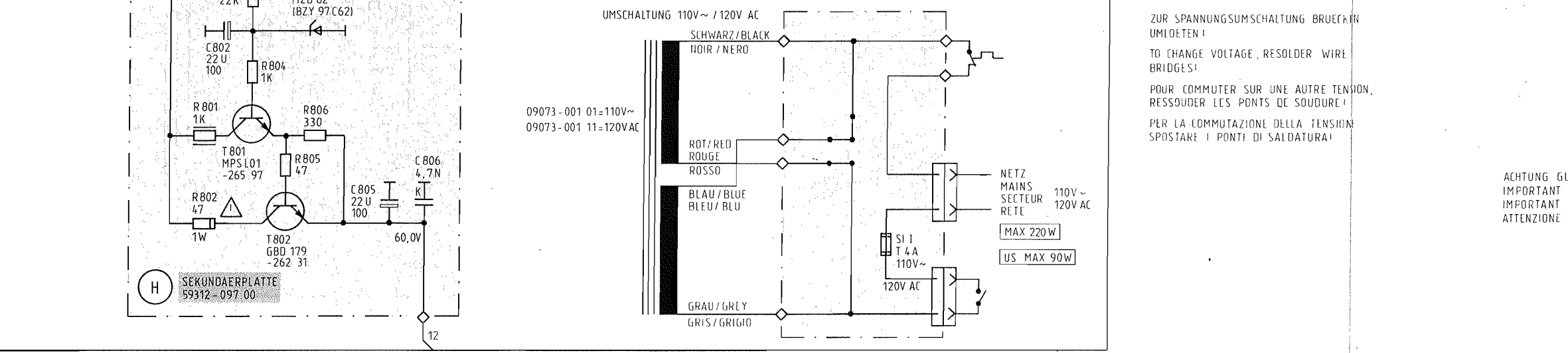
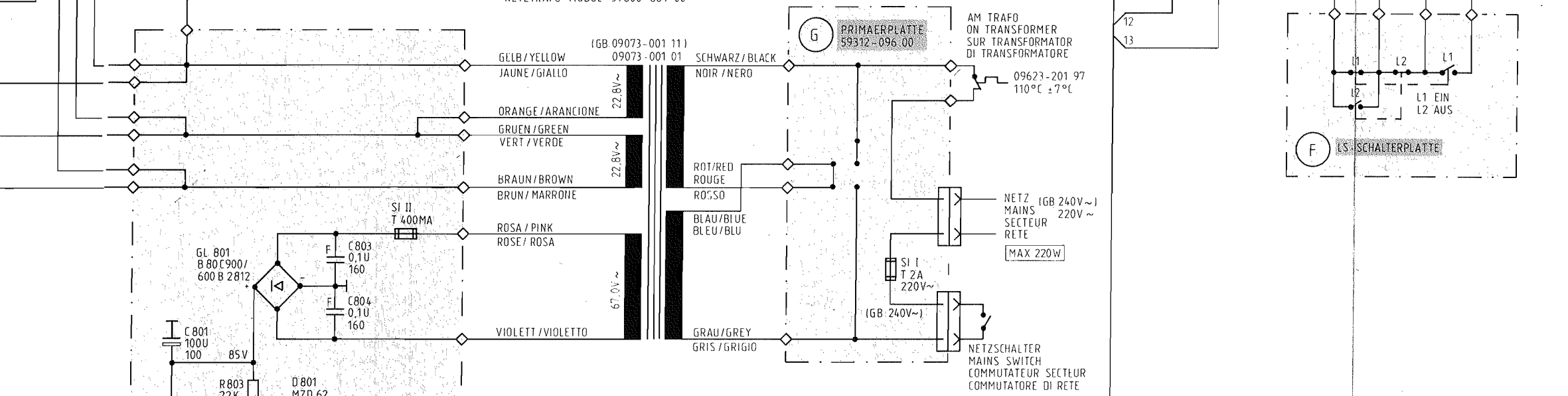
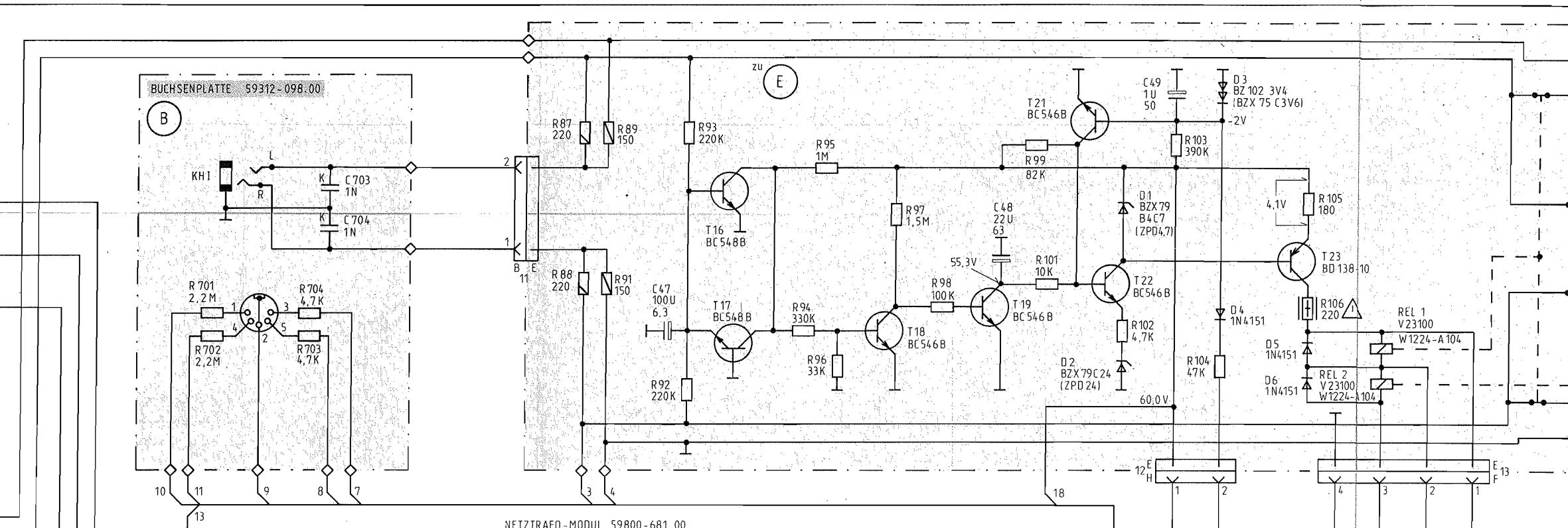
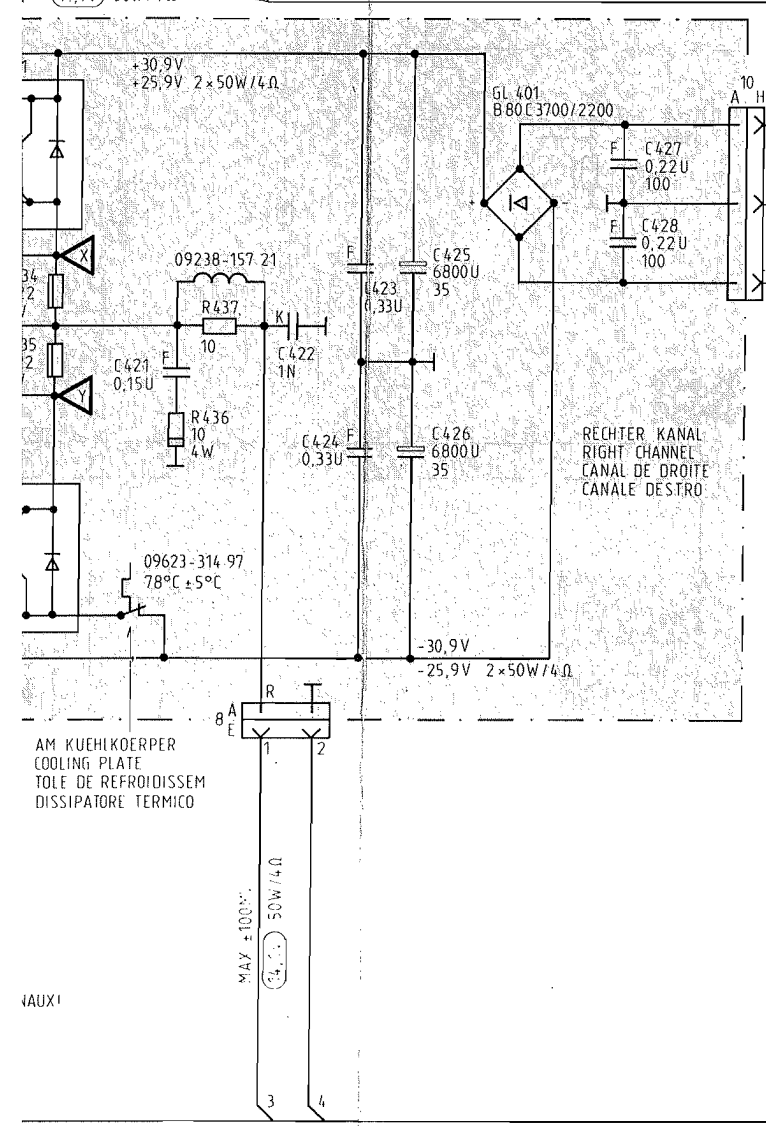
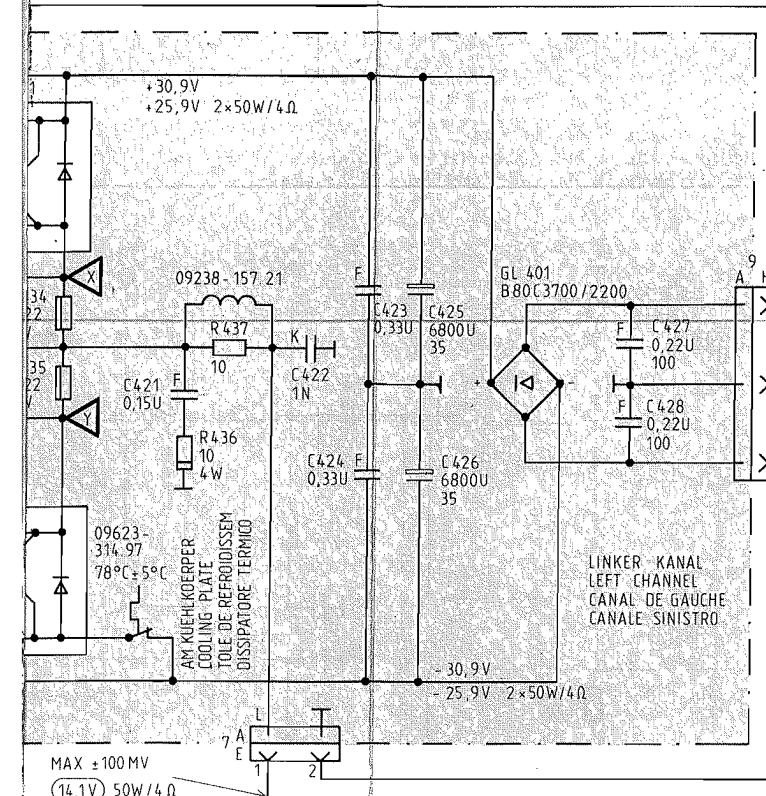
GEKENNZEICHNETE BAUTEILE  
AUS SICHERHEITSGRUNDEN NUR DURCH ORIGINALBAUTEILE ERSETZEN!

MARKED COMPONENTS  
FOR SAFETY REASONS, REPLACE THESE COMPONENTS BY ORIGINAL COMPONENTS ONLY!

COMPOSANTS REPERES  
POUR DE RAISONS DE SECURITE, NE REMPLACET CES COMPOSANTS PAR DES QUE COMPOSANTS ORIGINAUX!

COMPONENTI CONTRASSEGNAI  
PER MOTIVI DI SICUREZZA SOSTITUIRILI SOLO CON PEZZI DI RICAMBIO ORIGINALI!

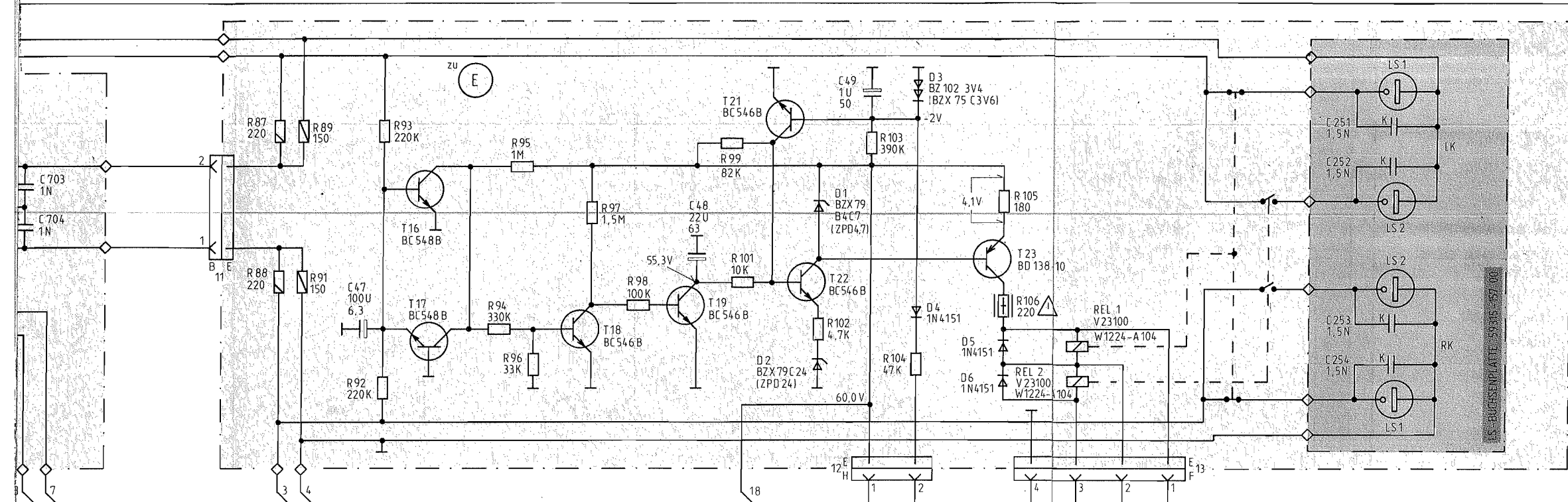
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421.	422.	423.	425.	427.	801.	802.	703,803.	805.	806.	47.	48.	49.
434.	436.	437.	424.	426.	428.	701,801.	803.	805.	806.	703,704.	87.	89.
435.						702,802.	804.				88.	91.
											93.	94.
											95.	96.
											97.	98.
											99.	101.
											102.	103.
											104.	105.
											106.	107.

ACHTUNG GLEICH  
IMPORTANT SE  
ATTENZIONE L

ZUR SPANNUNGSUMSCHALTUNG BRUECKEN  
UMLOETEN!  
TO CHANGE VOLTAGE, RESOLDER WIRE  
BRIDGES!  
POUR COMMUTER SUR UNE AUTRE TENSION,  
RESSOLDER LES PONTS DE SOUDURE!  
PER LA COMMUTAZIONE DELLA TENSIONE  
SPOSTARE I PONTI DI SALDATURA!

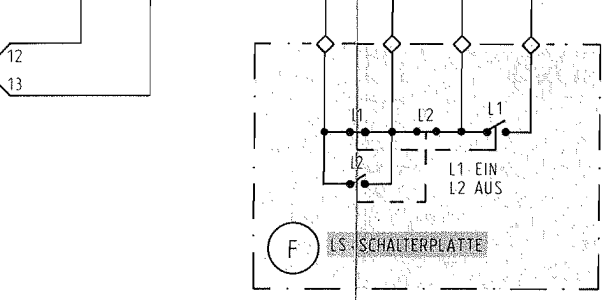
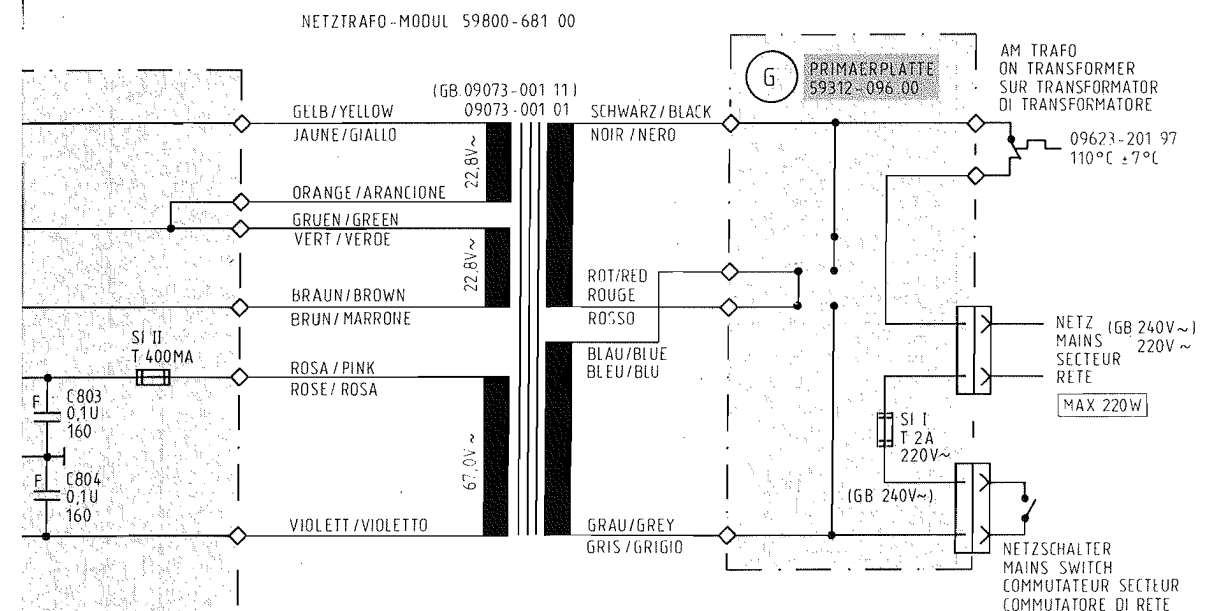


SPANNUNGEN MIT GRUNDIG-MILLIVOLTMETER (RI=10MΩ), FALLS NICHT ANDERS ANGEGEBEN, GEGEN MASSE GEMESSEN  
 MEASUREMENTS WITH A GRUNDIG VOLTMEETER (RI=10MΩ), IF NOT OTHERWISE INDICATED ALL VOLTAGES ARE MEASURED AGAINST CHASSIS WITH A GRUNDIG VOLTMEETER (RI=10MΩ).  
 ZUSTAND OHNE SIGNAL, BEI 20°C RAUMTEMPERATUR  
 NOT WARMED UP, 20°C AMBIENT TEMPERATURE

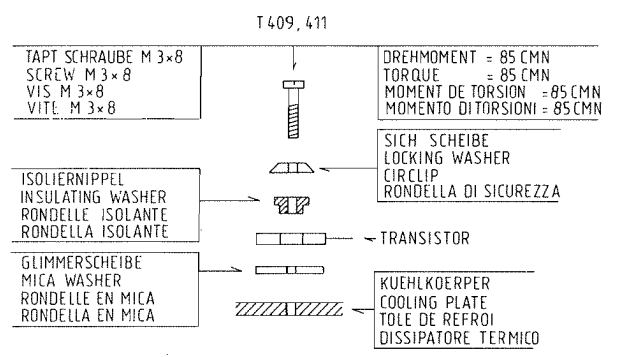
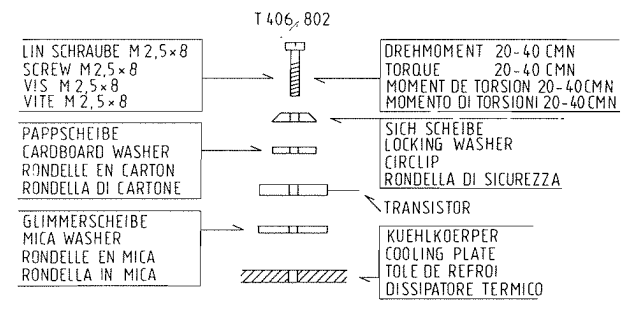
○ NF-SPANNUNGEN FREQUENZ (1KHZ)  
 ○ AF VOLTAGES FREQUENCY (1KHZ)

SAUF INDICATION CONTRAIRE, LES TENSIONS SONT MESUREES PAR RAPPORT AU CHASSIS AVEC UN VOLTMETRE GRUNDIG (RI=10MΩ)  
 LES VALEURS SONT VALABLES POUR UNE TENSION SECTEUR DE 220V~CA, L'APPAREIL EN ETAT NON-ECHAUFFE, TEMPERATURE AMBIANTE DE 20°C

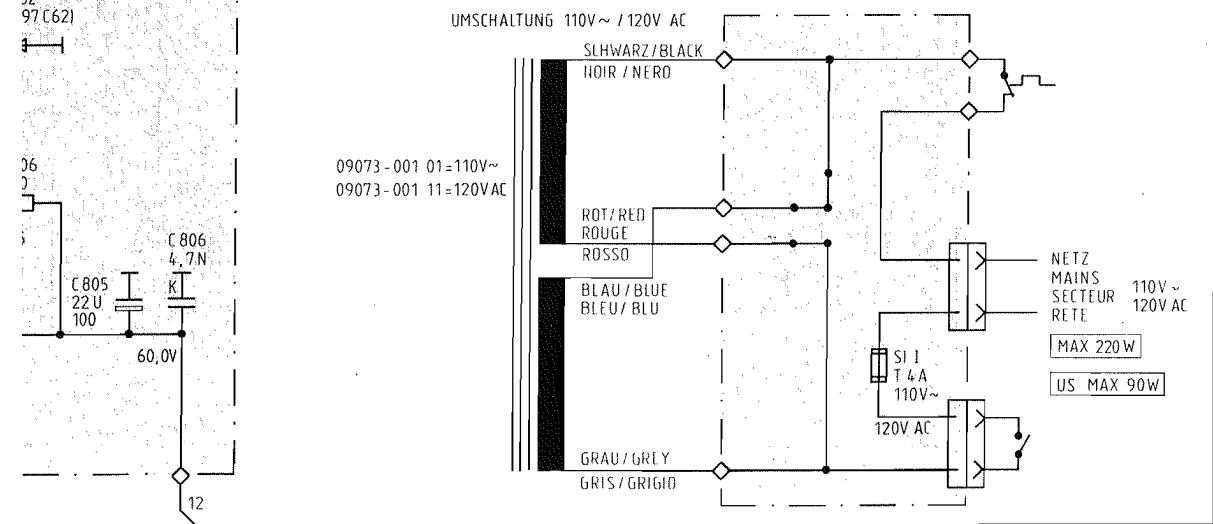
○ TENSIONS BF FREQUENCE (1KHZ)  
 ○ TENSIONI MISURATE CON MILLIVOLTMETRO GRUNDIG (RI=10MΩ), SALVE ALTRE INDICAZIONI, RIFERITE A MASSA  
 I VALORI DI MISURA VALGONO CON TENSIONE DI RETE DI 220V~ CON TEMPERATURA AMBIENTALE DI 20°C  
 ○ TENSIONI BF FREQUENZA (1KHZ)



MONTAGEANLEITUNG FUER TRANSISTOREN / MOUNTING INSTRUCTIONS FOR TRANSISTORS  
 INSTRUCTIONS DE MONTAGE POUR LES TRANSISTORS / ISTRUZIONI DI MONTAGGIO PER DEI TRANSISTORI



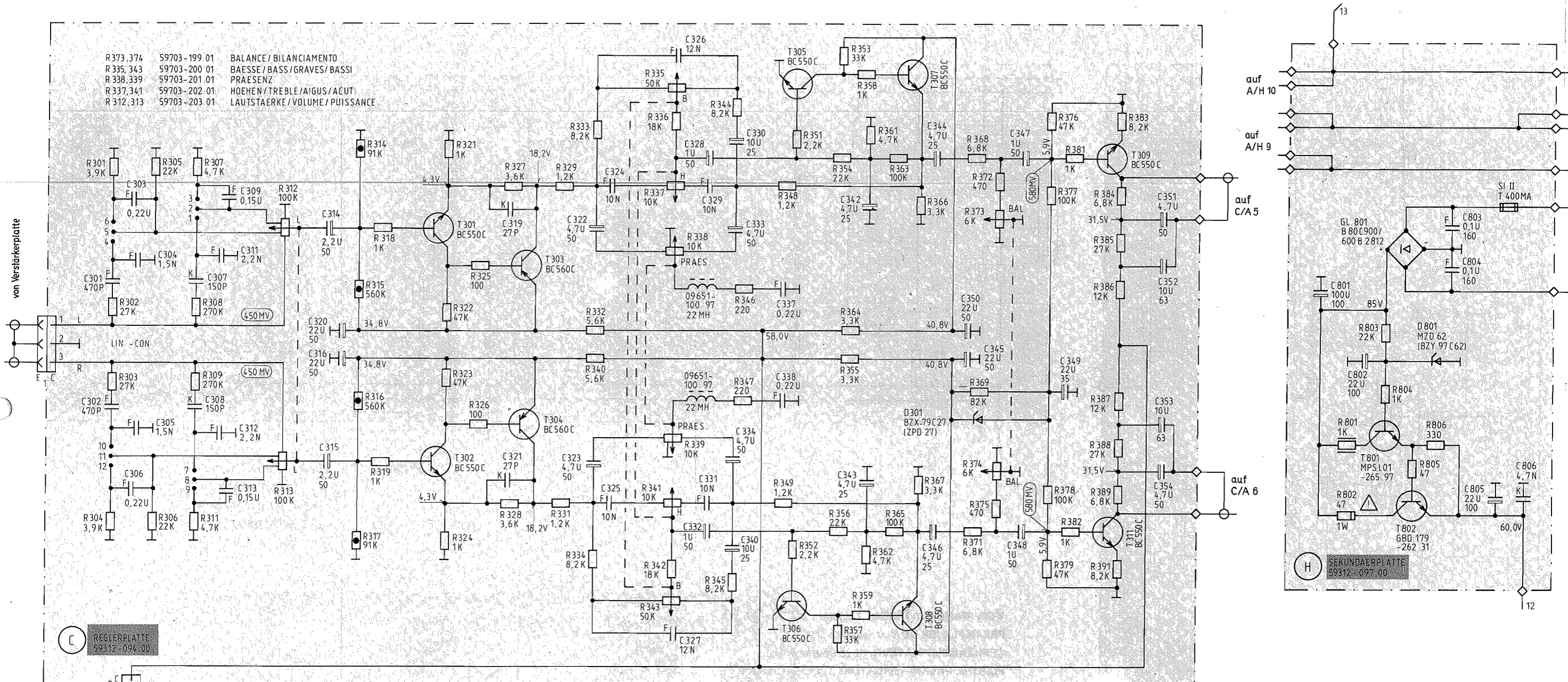
ACHTUNG GLIMMERSCHEIBE BEIDSEITIG MIT SILICONFETT P12 BESTREICHEN (WACKER-CHEMIE, MUENCHEN)  
 IMPORTANT SMEAR MICA WASHER AT BOTH SIDES WITH SILICON GREASE P12 (WACKER-CHEMIE, MUENCHEN)  
 IMPORTANTE GRAISSER LA RONDELLE DE MICA AVEC DE LA GRAISSE P12 (WACKER-CHEMIE, MUENCHEN)  
 ATTENZIONE LA RONDELLE IN MICA VA SPALMATA DA AMBO LE PARTI DI GRASSO AL SILICONI P12 (WACKER-CHEMIE, MUENCHEN)



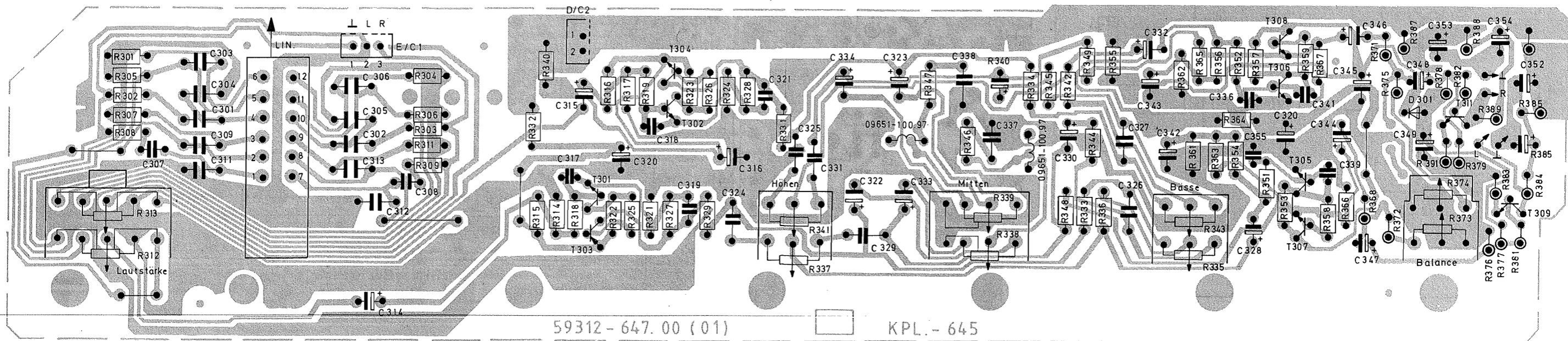
ZUR SPANNUNGSUMSCHALTUNG BRUECKEN UMLOETEN!  
 TO CHANGE VOLTAGE, RESOLDER WIRE BRIDGES!  
 POUR COMMUTER SUR UNE AUTRE TENSION, RESSOLDER LES PONTS DE SOUDURE!  
 PER LA COMMUTAZIONE DELLA TENSIONE SPOSTARE I PONTI DI SALDATURA!

33, 803, 74, 804,	805, 806,	47,	87-89, 88, 91,	93, 92,	94, 95, 96,	97, 98,	99-101,	102, 103, 104,	105, 106,	251, 254, 252, 253,	C
703, 704,											R

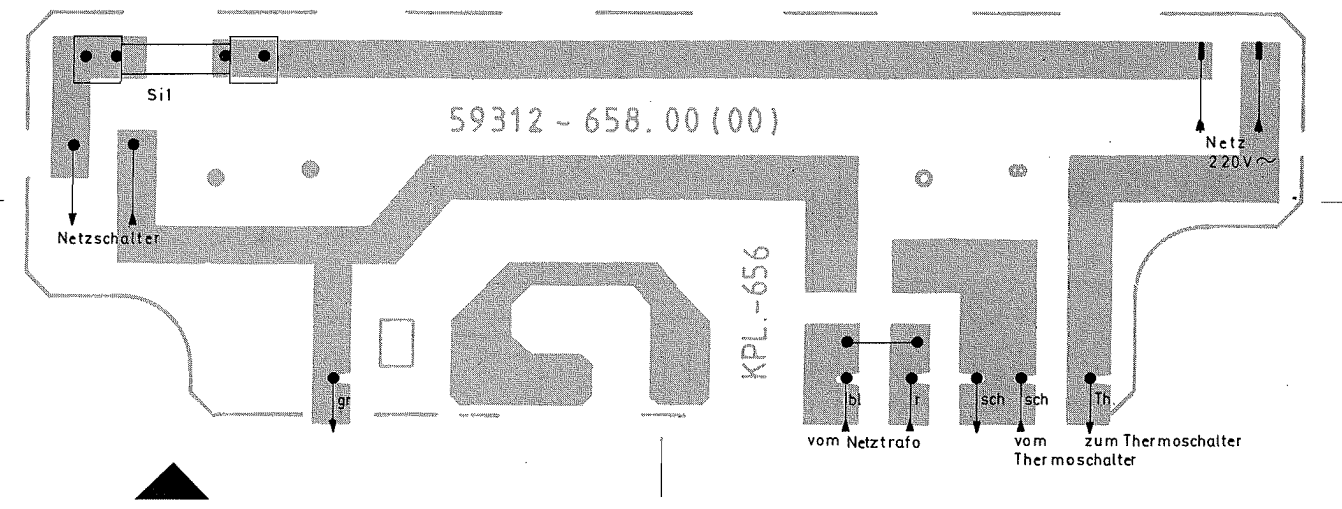
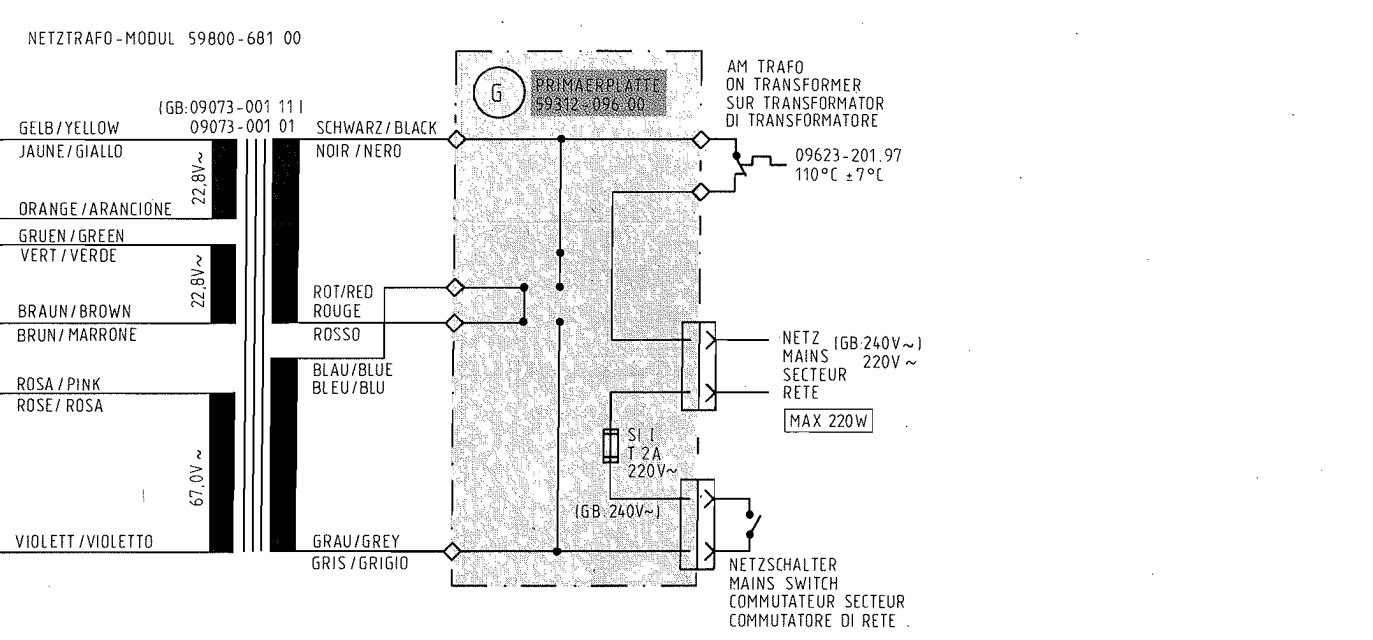
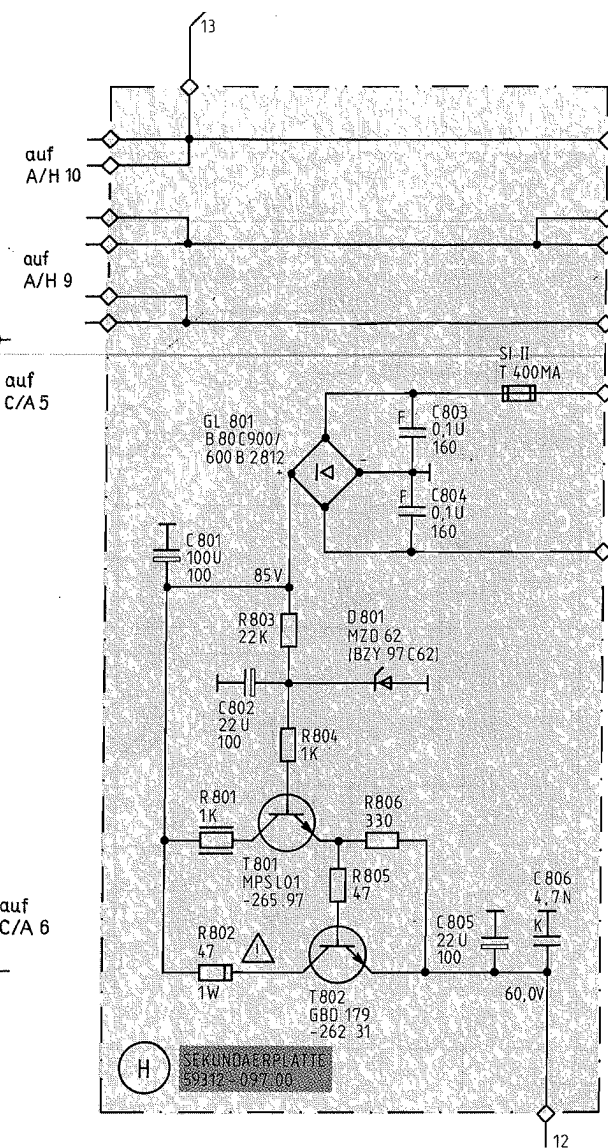
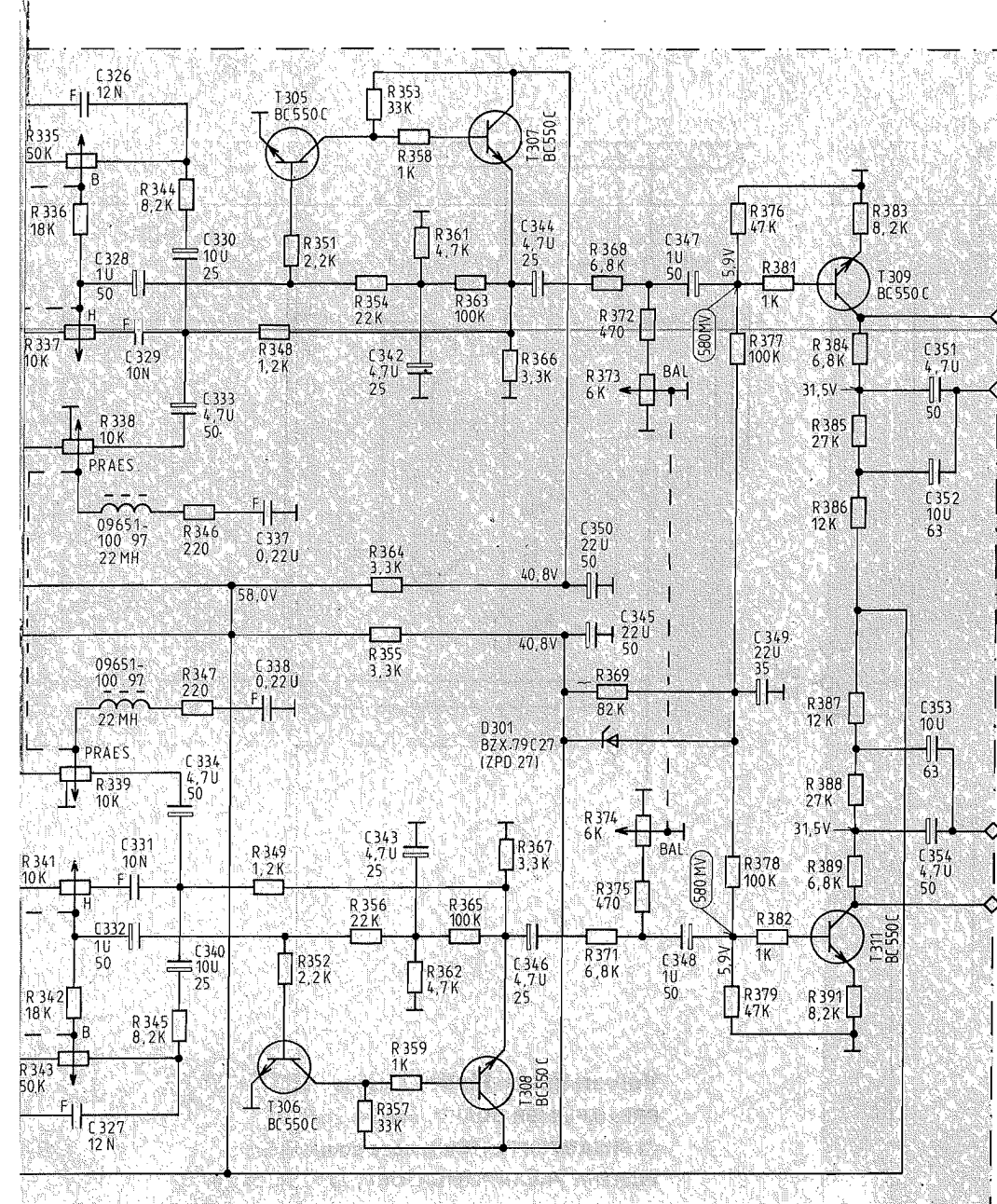
**GRUNDIG**  
**SV 2000**  
**SV 2000 GB**  
**SV 2000 U**  
 55049-906.01



**Reglerplatte, Lötseite 59312-094.00**  
**CONTROLS BOARD, SOLDER SIDE**  
**CI DE REGLAGES, COTE SOUDURES**  
**PIASTRA REGOLATORI, LATO SALDATURE**



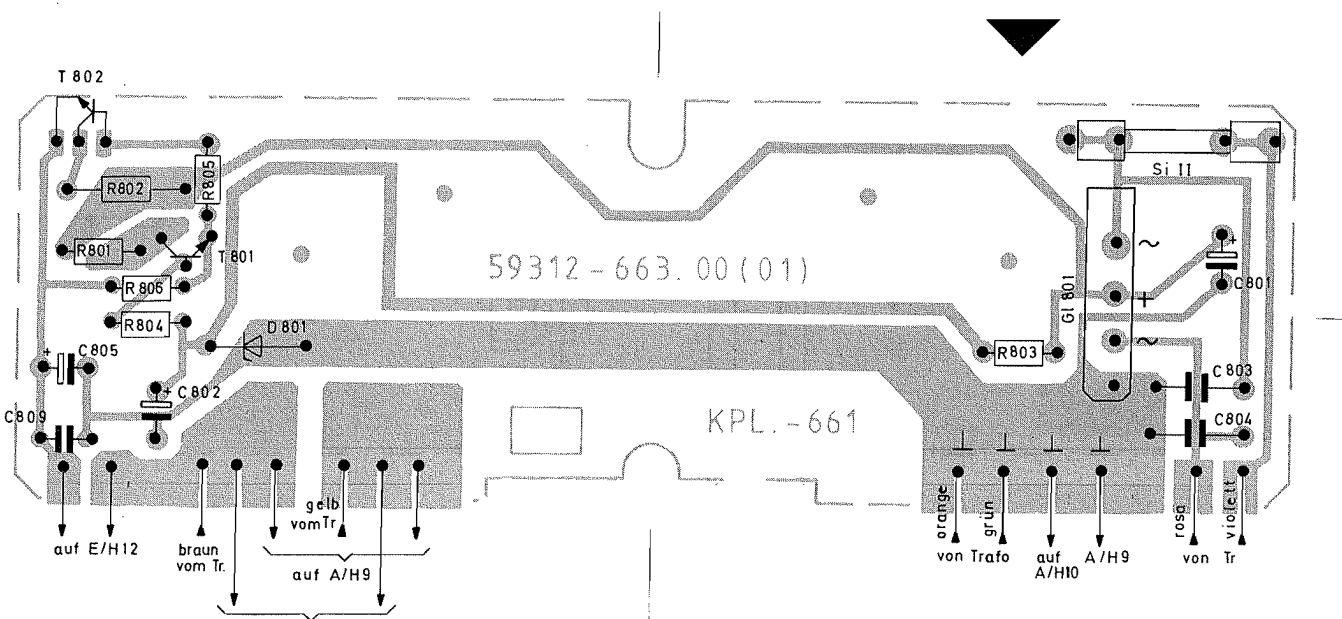
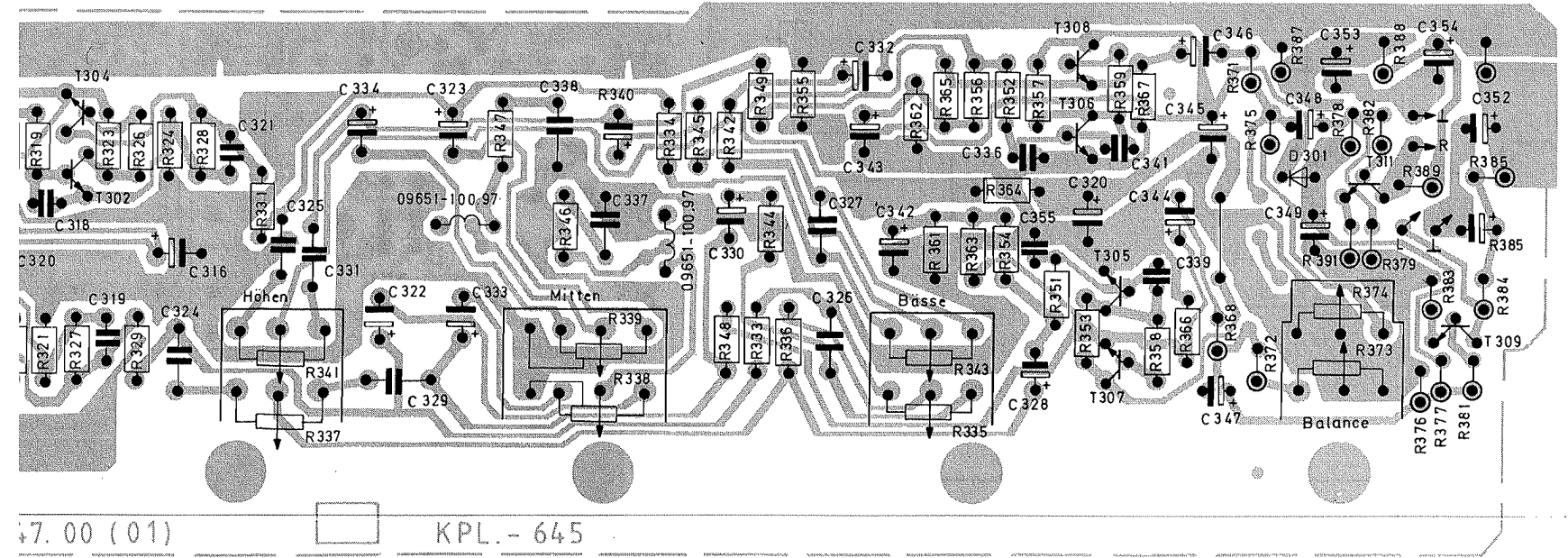


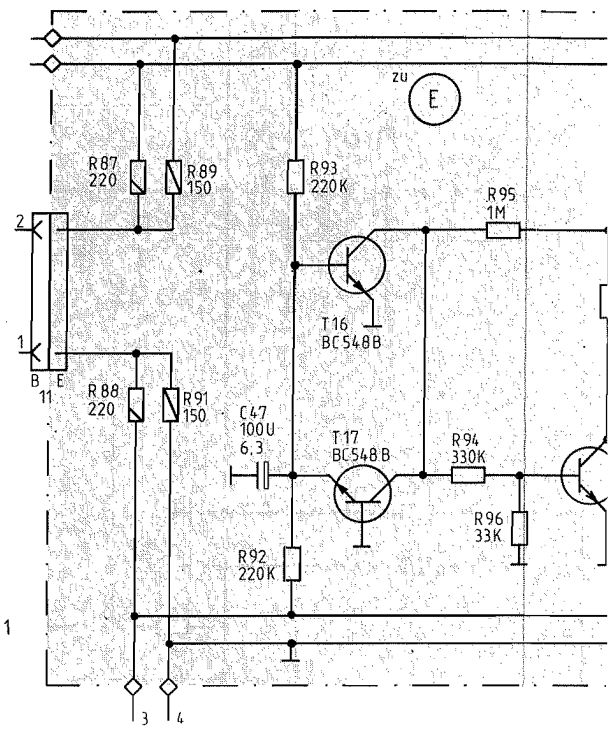
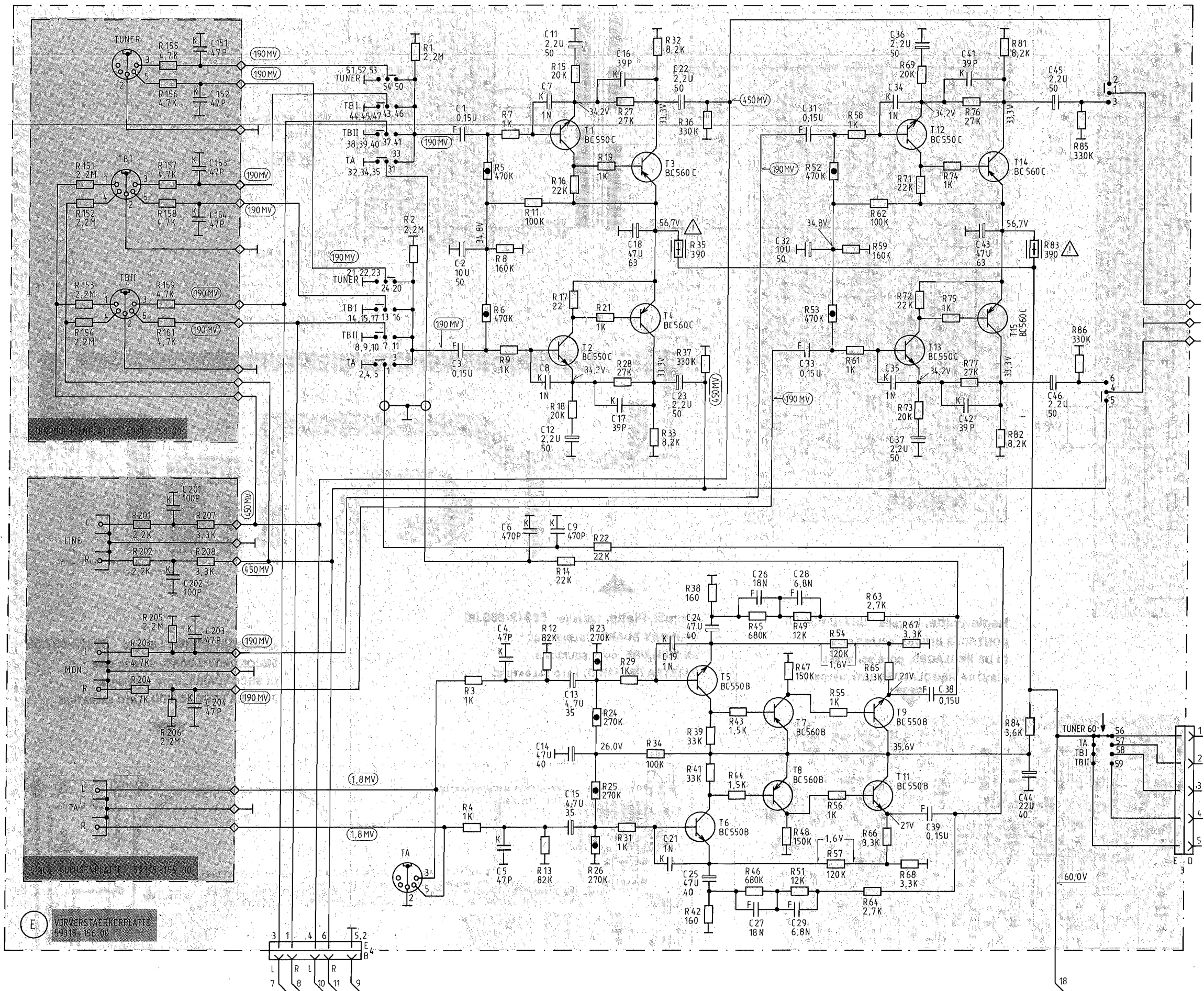


**Reglerplatte, Lötseite 59312-094.00**  
**CONTROLS BOARD, SOLDER SIDE**  
**CI DE REGLAGES, COTE SOUDURES**  
**PIASTRA REGOLATORI, LATO SALDATURE**

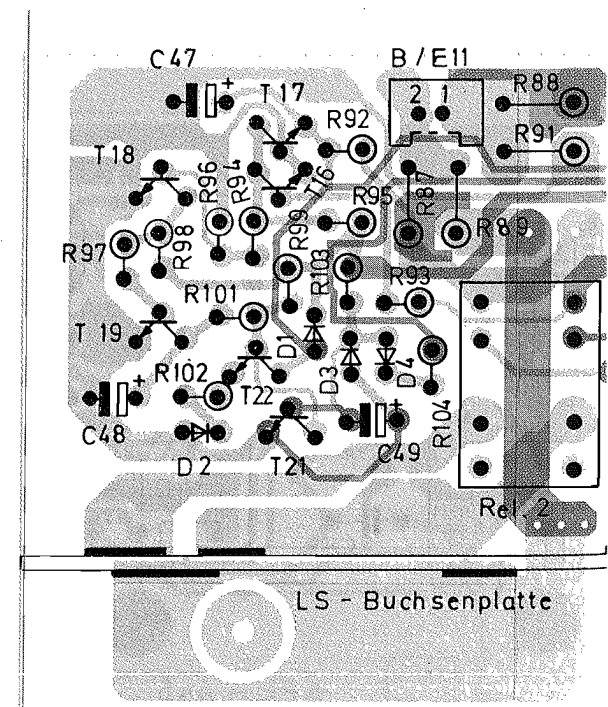
**Primär-Platte, Lötseite 59312-096.00**  
**PRIMARY BOARD, SOLDER SIDE**  
**CI PRIMAIRE, COTE SOUDURES**  
**PIASTRA PRIMARIO, LATO SALDATURE**

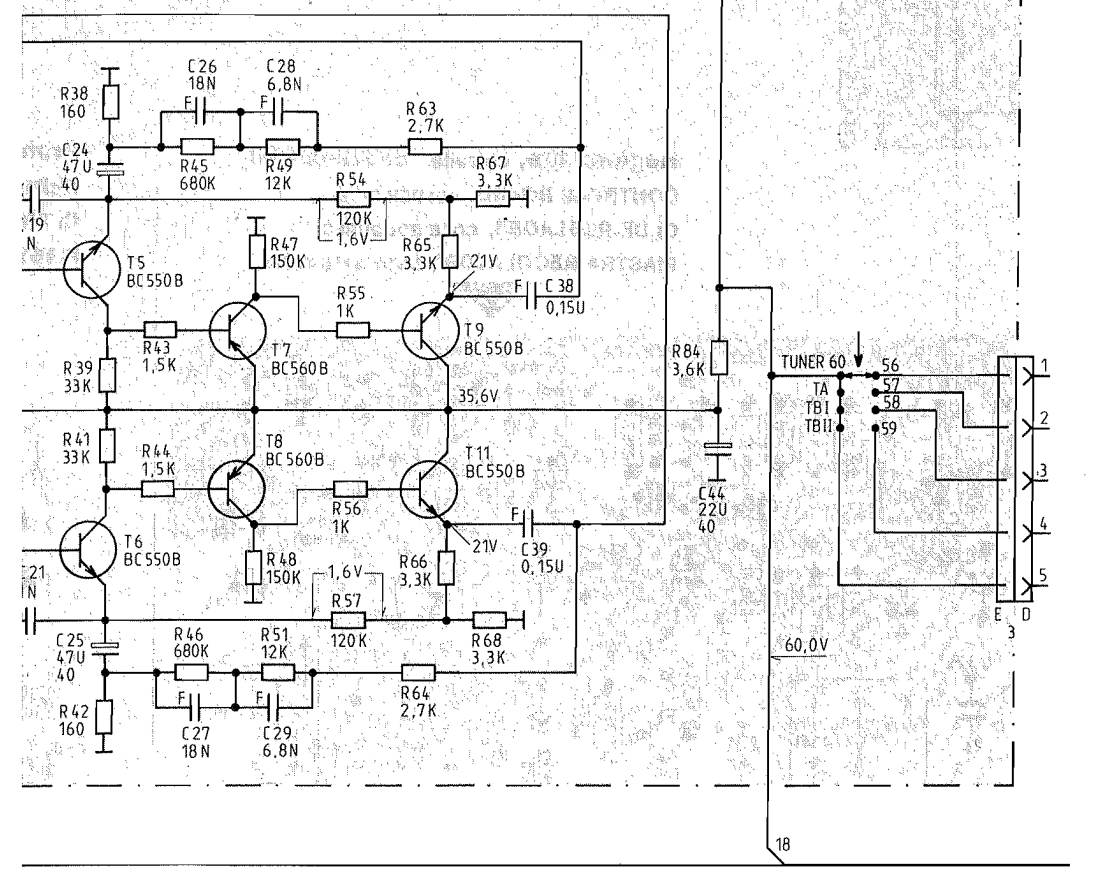
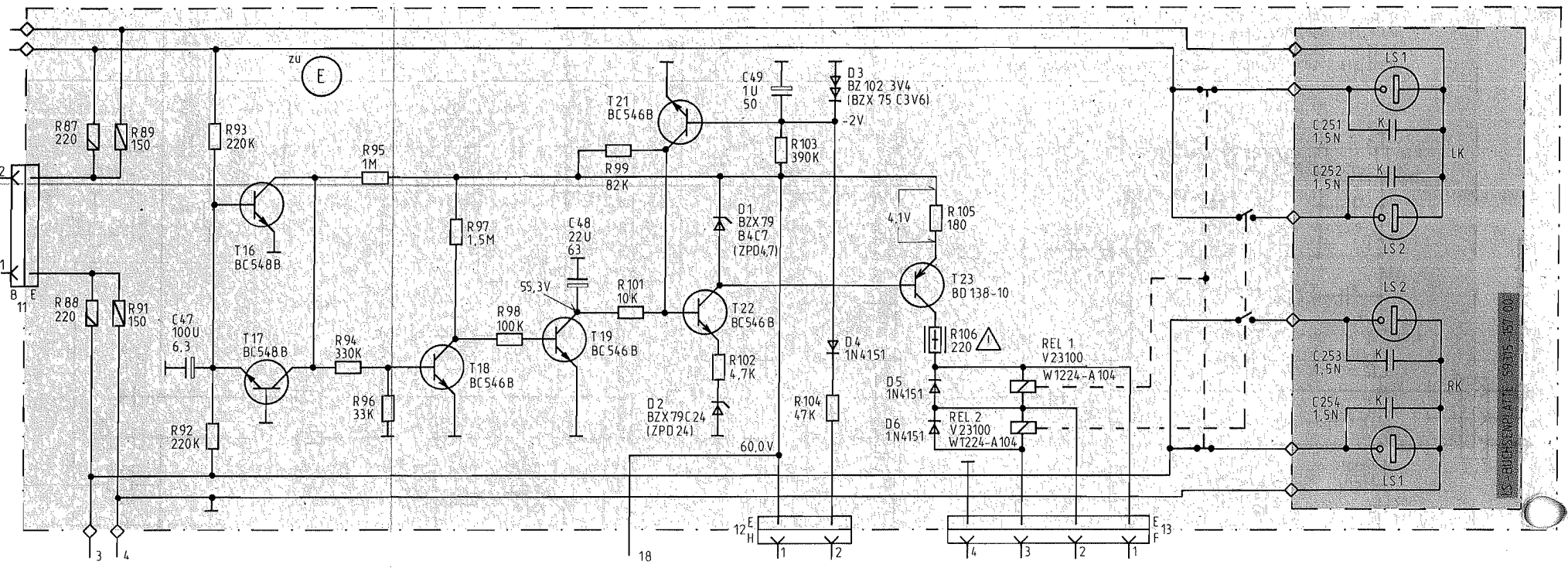
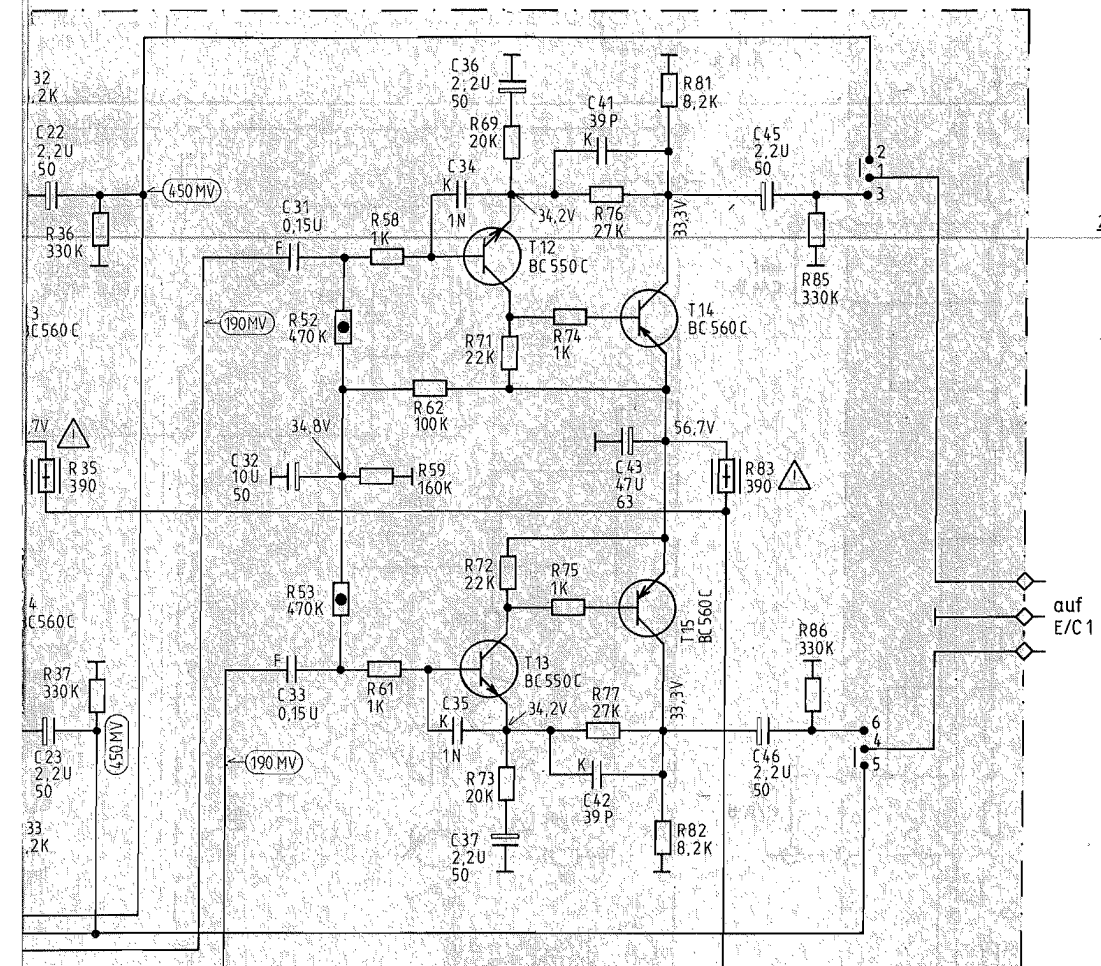
**Sekundär-Platte, Lötseite 59312-097.00**  
**SECONDARY BOARD, SOLDER SIDE**  
**CI SECONDAIRE, COTE SOUDURES**  
**PIASTRA SECONDARIO, LATO SALDATURE**



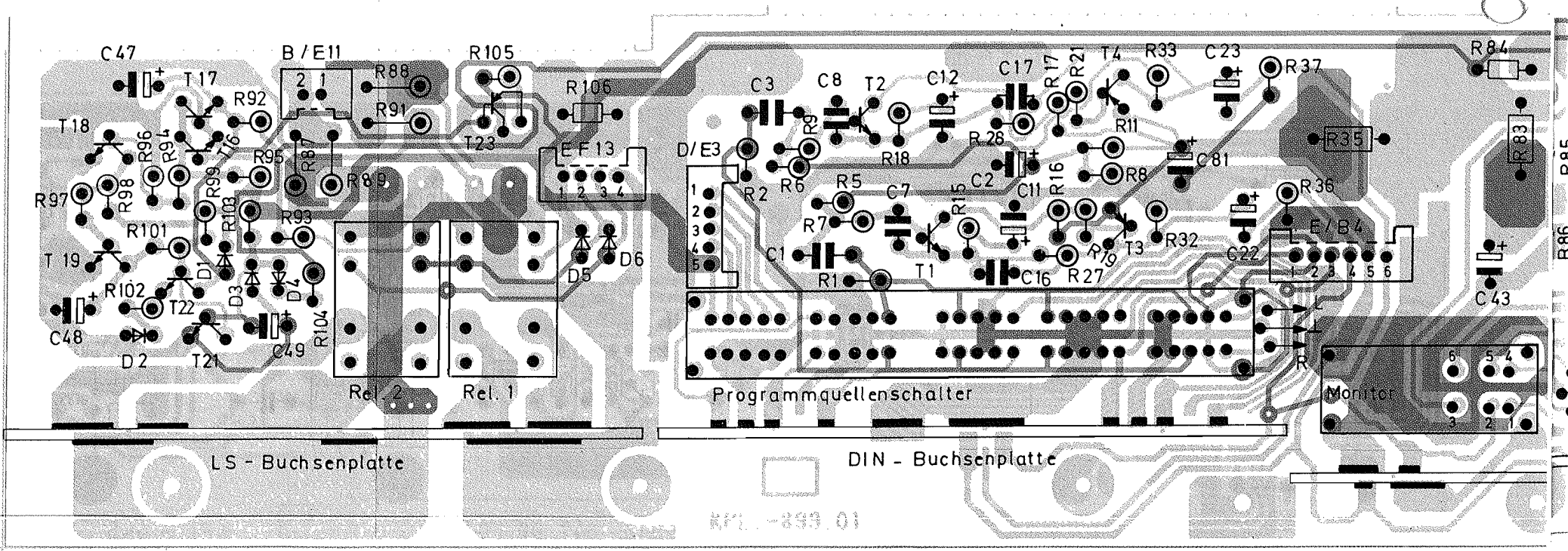


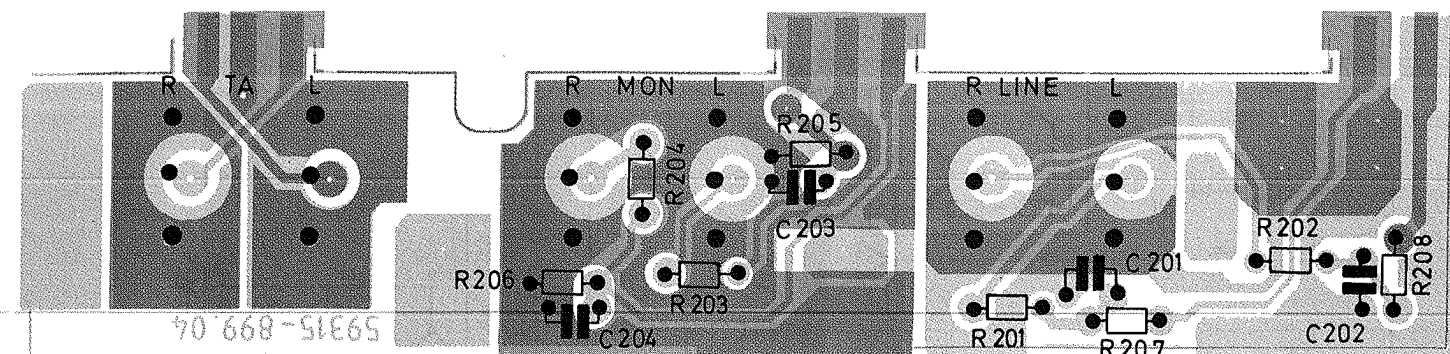
**Vorverstärker-Platte, Lötseite 59315-156**  
**PREAMPLIFIER BOARD, SOLDER SIDE**  
**CI PREAMPLIFICATEUR, COTE SOUDURES**  
**PIASTRA PREAMPLIFICATORE, LATO SALDATURE**



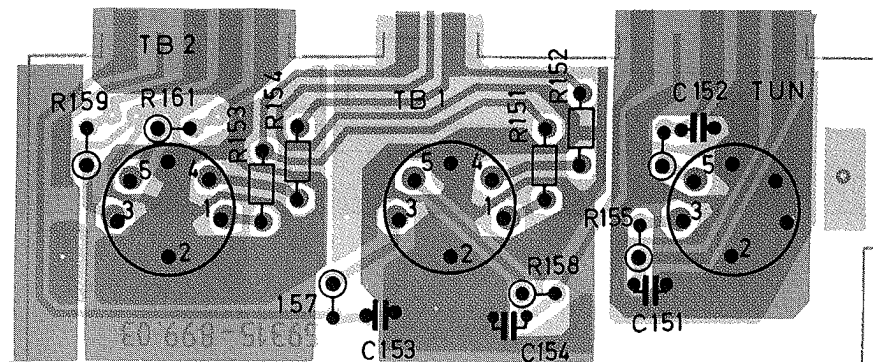


**Vorverstärker-Platte, Lötseite 59315-156.00**  
**PREAMPLIFIER BOARD, SOLDER SIDE**  
**CI PREAMPLIFICATEUR, COTE SOUDURES**  
**PIASTRA PREAMPLIFICATORE, LATO SALDATURE**

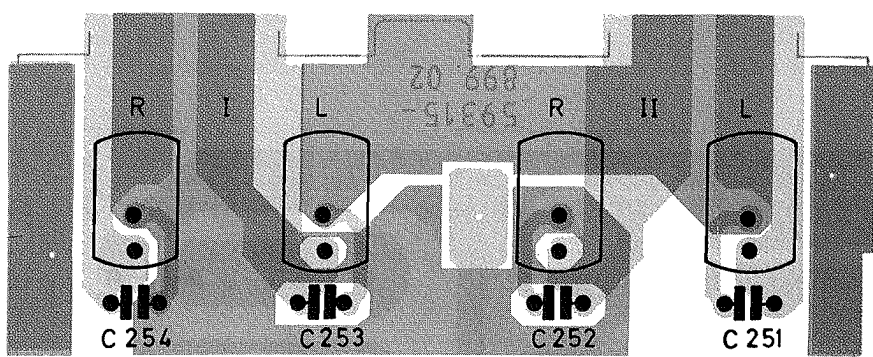




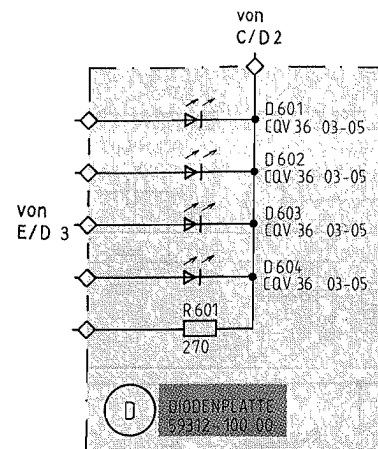
**Cinch-Buchsenplatte, Lötseite 59312-159.00**  
**PHONO SOCKET BOARD, SOLDER SIDE**  
**CI PRISES » CINCH », COTE SOUDURES**  
**PIASTRA PRESE CINCH, LATO SALDATURE**



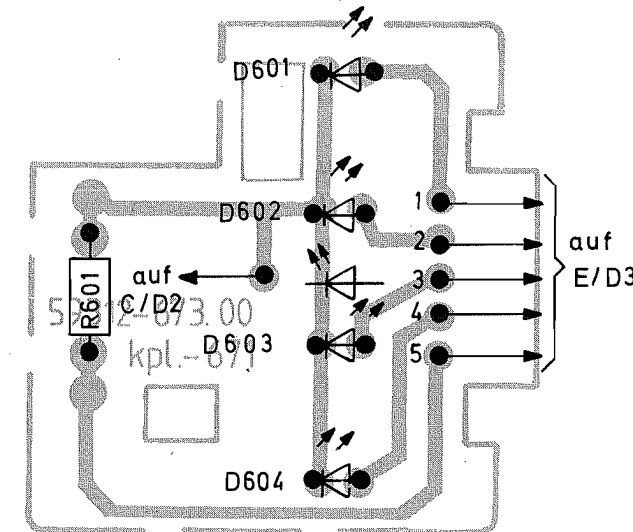
**DIN-Buchsenplatte, Lötseite 59315-158.00**  
**DIN SOCKET BOARD, SOLDER SIDE**  
**CI PRISES DIN, COTE SOUDURES**  
**PIASTRA PRESE DIN, LATO SALDATURE**



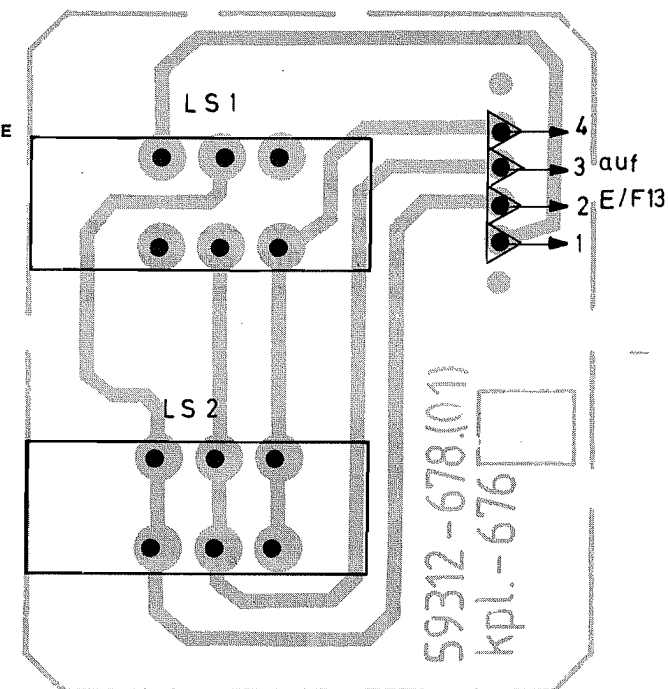
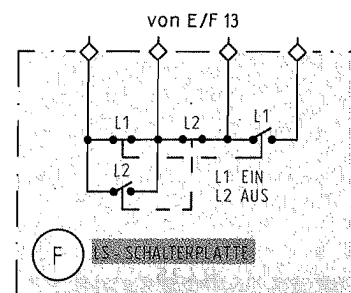
**LS-Buchsen-Platte, Lötseite 59315-157.00**  
**LS-SOCKET BOARD, SOLDER SIDE**  
**CIRCUIT IMPRIME PRISES HP, COTE SOUDURES**  
**PIASTRA PRESE ALTOPARLANTE, LATO SALDATURE**



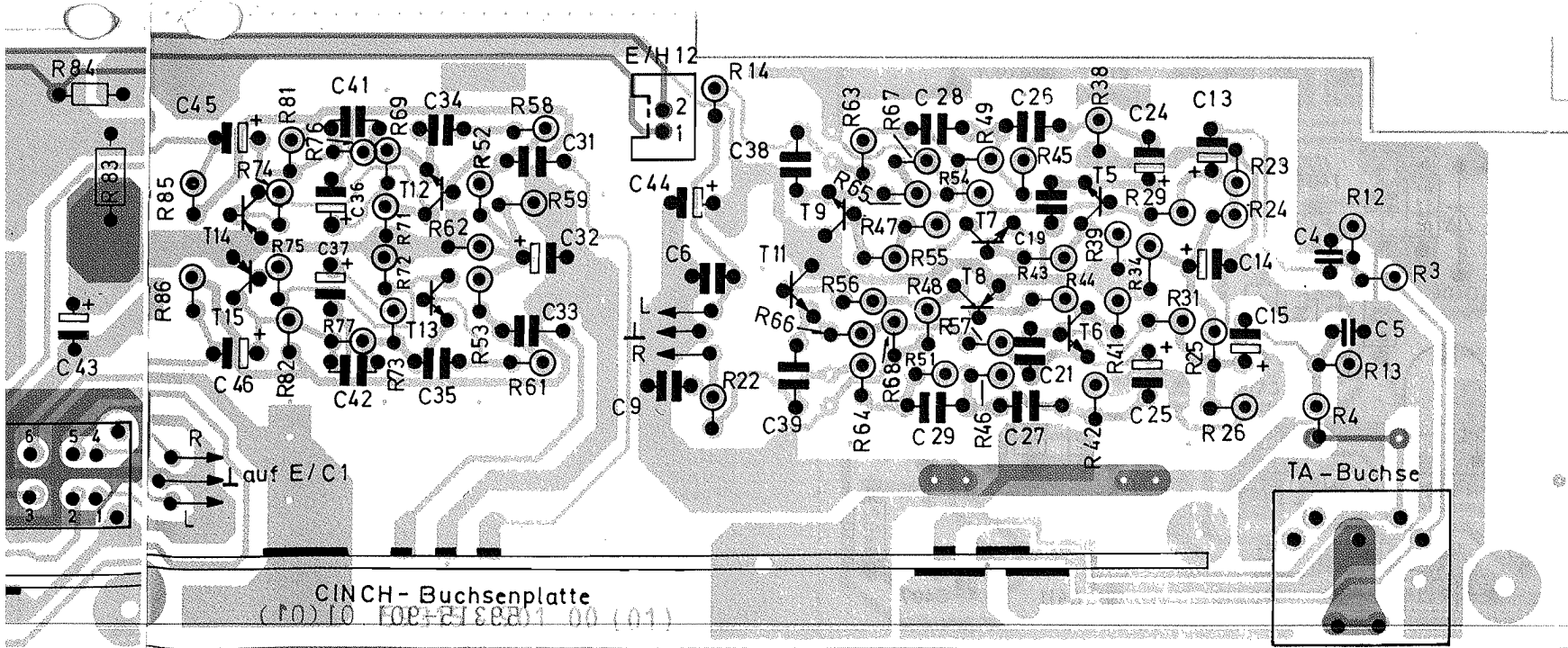
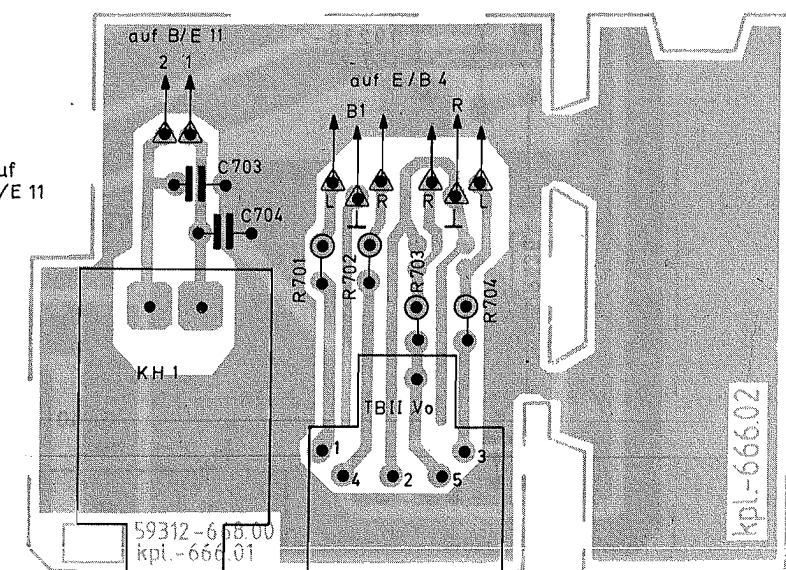
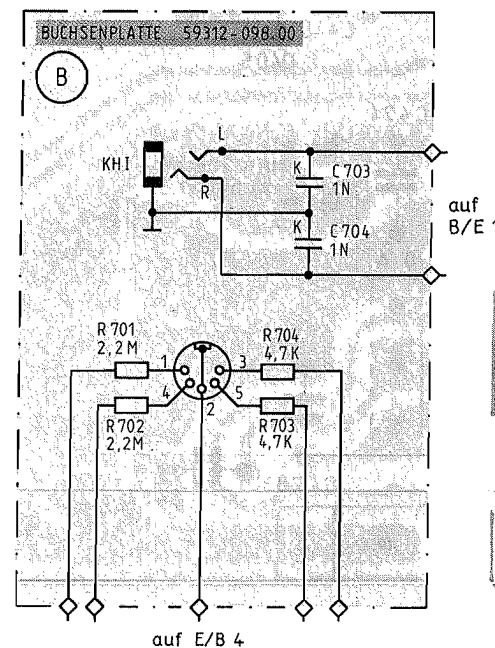
**Diodenplatte, Lötseite 59312-100.00**  
**DIODE BOARD, SOLDER SIDE**  
**CI DIODES, COTE SOUDURES**  
**PIASTRA DIODI, LATO SALDATURE**

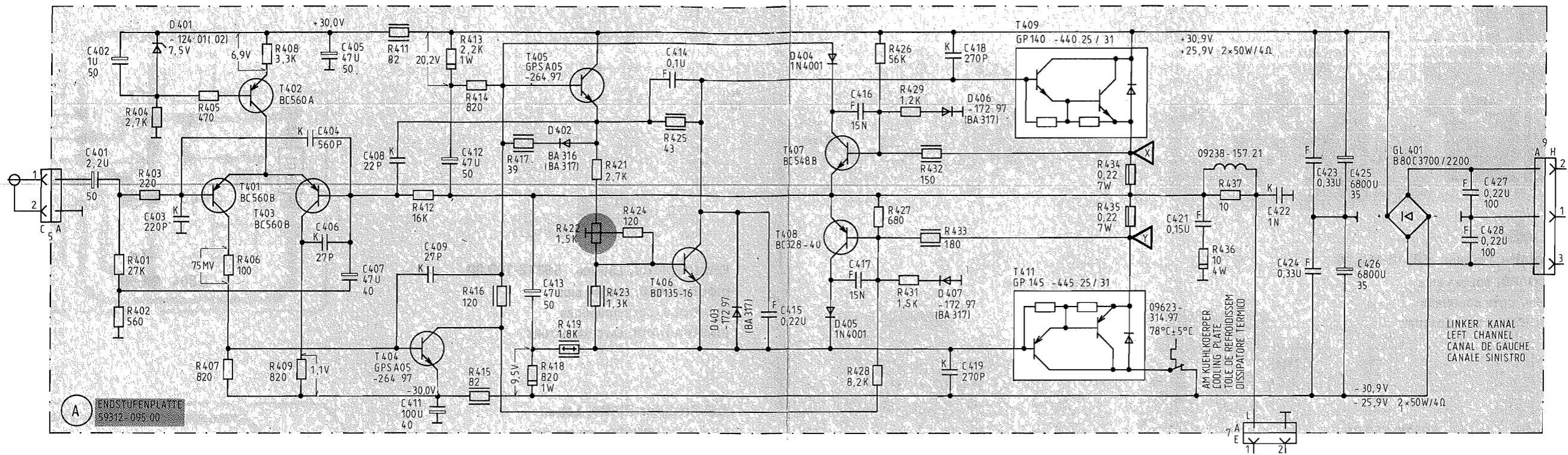


**LS-Schalter-Platte, Lötseite**  
**LS-SWITCH BOARD, SOLDER SIDE**  
**CI COMMUTATEUR HP, COTE SOUDURES**  
**PIASTRA COMMUTATORI ALTOPARLANTE, LATO SALDATURE**



**Buchsen-Platte, Lötseite 59312-098.00**  
**SOCKET BOARD, SOLDER SIDE**  
**CI PRISES, COTE SOUDURES**  
**PIASTRA PRESE, LATO SALDATURE**





**Endstufen-Platte, Lötseite 59312-095.00**

**OUTPUT STAGE BOARD, SOLDER SIDE**

**CI ETAGE DE SORTIE, COTE SOUDURES**

**PIASTRA STADIO FINALE, LATO SALDATURE**

