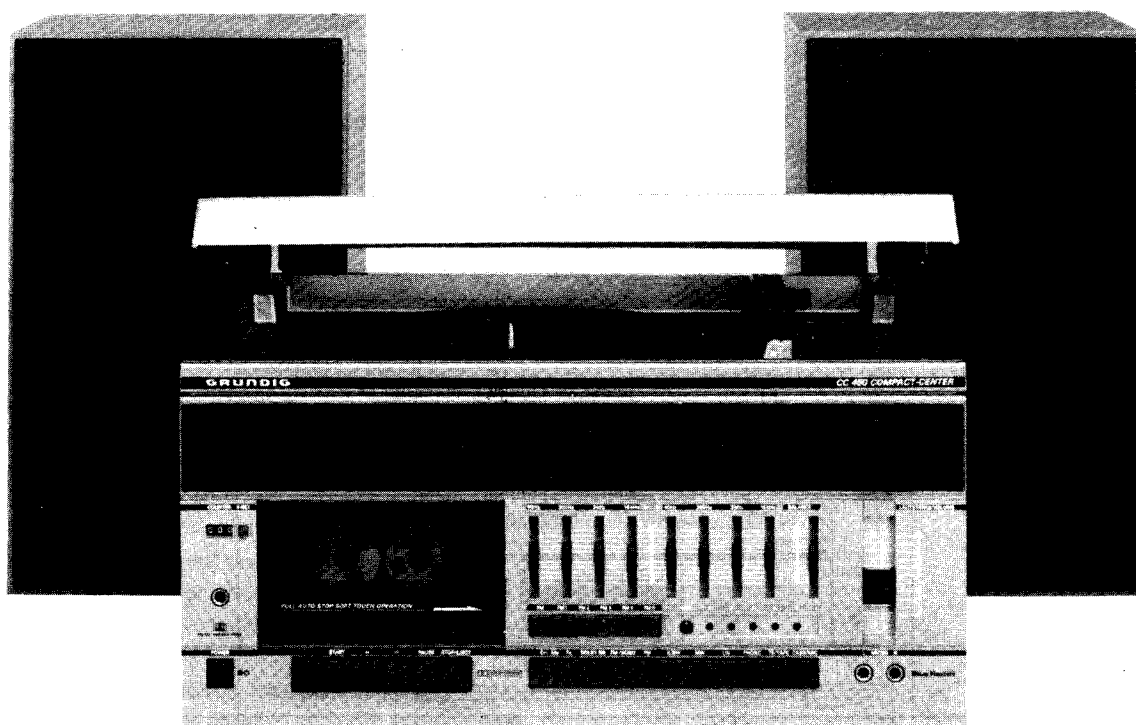




Ⓛ Btx * 32700 #

CC 450
CT 4500
CH 4500 R
HPP 450

12/85



1. Allgemeine Hinweise

Das Gerät muß auch nach der Reparatur den Sicherheitsbestimmungen gemäß VDE 0860-8.81 entsprechen. Bei Austausch von Halbleitern, nur Original-Typen verwenden. Bei Eingriffen Schutzmaßnahmen für MOS-Bausteine beachten. Die einzelnen Platten sind mit Buchstaben gekennzeichnet.

1. General Notes

After the unit has been repaired, it should still meet the VDE 0860-8.81 safety requirements. Only replace semiconductors by original types. The MOS precautions must be observed when the unit is opened.

The boards are identified by letters.

Service-Hinweis

HiFi-Turm CT 4500/CH 4500 R Abb. 1

Bei Reparaturen an o. e. Geräten muß zum Ausbau des Chassis folgendermaßen vorgegangen werden:

1. Plattenspieler ausbauen und Steckverbindungen lösen.
2. Nach Entfernen der Abdeckkappen **a** und Schrauben **b** kann die Zarge abgenommen werden.
3. Nach Entfernen der Schrauben **c** (Chassis muß dabei gehalten werden) kann das Chassis herausgenommen werden.

SERVICE NOTE

Hi fi cabinet CT 4500/CH 4500 R Fig. 1

In the case of the units listed above, removal of the chassis for repair is as follows:

1. Remove record player and disconnect plug-type connectors.
2. Frame can be lifted off once covers **a** and screws **b** have been removed.
3. Chassis can be removed once screws **c** have been unscrewed (hold chassis while unscrewing).

Abb. 1

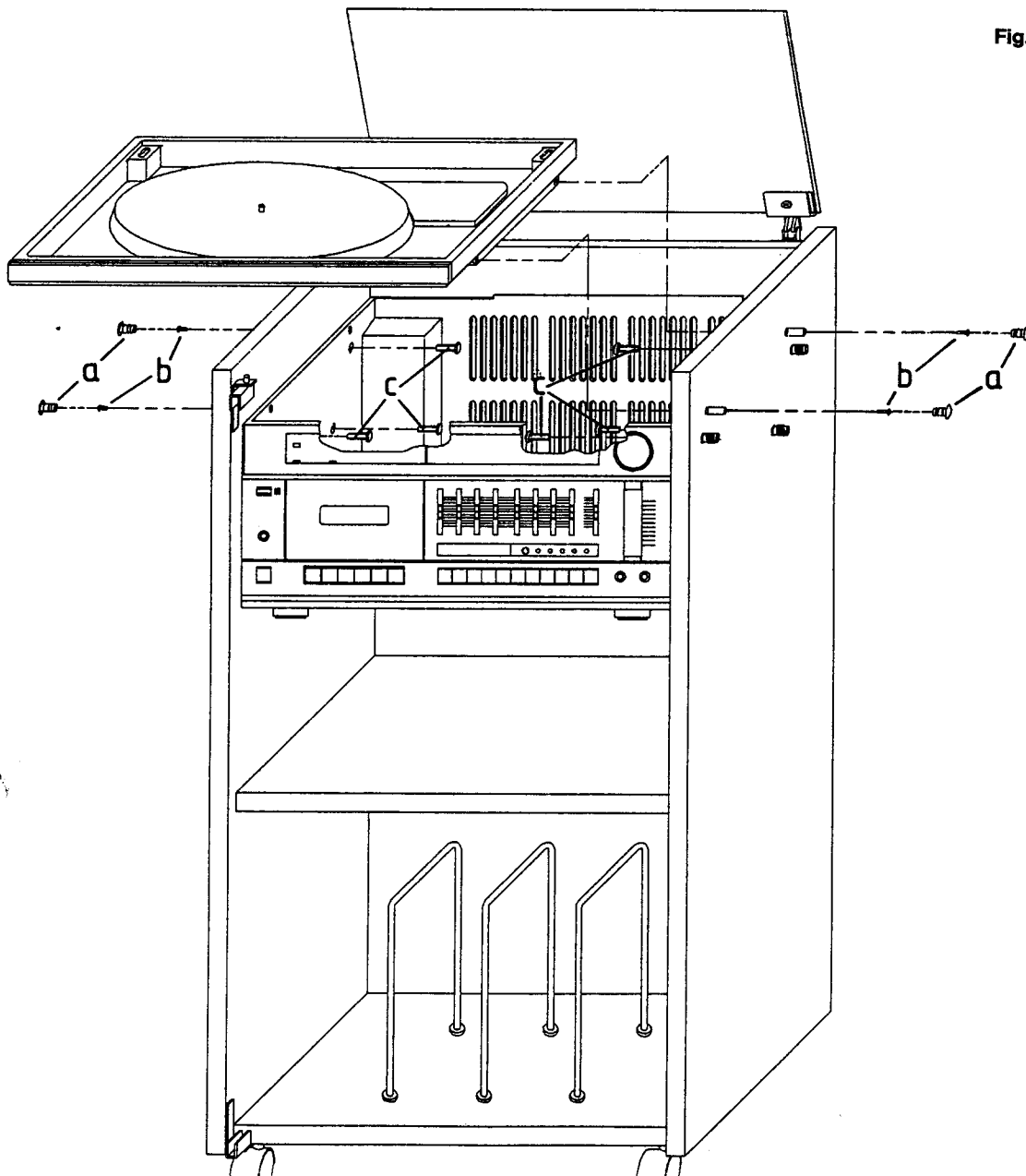


Fig. 1

Ausbauhinweise

a) Ausbau des Oberteiles mit Plattenspieler Abb. 2

1. Abdeckhaube abnehmen. Vorsicht Bügel nicht verkanten.
2. Plattenspieler ausbauen und Steckverbindungen lösen.
3. Schrauben ① herausdrehen und Gehäuseoberteil abnehmen.

b) Ausbau des Vorderteiles mit HF-Platte

1. Schrauben ②, ③ und ④ herausdrehen.
2. Masseschraube ⑤ lösen.
3. Netzschalterleitung und LS-Leitung aus dem Kabelhalter nehmen. Bei der Montage ist darauf zu achten, daß die Netzschalterleitung als letztes im Kabelhalter eingeführt wird.
4. Chassis in Servicestellung bringen.

NOTES ON DISASSEMBLY

a) Removal of upper section with record player

Fig. 2)

1. Remove transparent cover, taking care not to bend clip.
2. Remove record player and disconnect plug-type connectors.
3. Remove screws ① and lift off cabinet upper section.

b) Removal of front with HF board

1. remove screws ②, ③ and ④.
2. Unscrew earth connection ⑤.
3. Remove mains switch cable and LS cable from cable holder. When reassembling, ensure that mains switch cable is inserted last in cable holder.
4. Complete reassembly of chassis.

c) Ausbau des Cassettenteiles Abb. 3

1. Laufwerkdeckel öffnen.
2. Schrauben ⑥ und ⑦ herausdrehen (Abb. 2).
3. Steckverbindungen ⑧ lösen.
4. Zählwerkriemen ⑨ aushängen und sichern.
5. Masseleitung ⑩ ablöten.
6. Bügel ⑪ entsichern und aushängen.
7. Schrauben ⑫ herausdrehen.
8. Vorderteil leicht nach vorne kippen und Laufwerk herausnehmen.

c) Removal of cassette section (Fig. 3)

1. Open drive mechanism cover.
2. Remove screws ⑥ and ⑦. (Fig. 2)
3. Disconnect plug-type connectors ⑧.
4. Unhook rev. counter drive belt ⑨ and secure.
5. Unsolder ground lead ⑩.
6. Unlatch shackle ⑪ and disconnect.
7. Remove screws ⑫.
8. Tilt front slightly forwards and withdraw drive mechanism.

Abb. 2

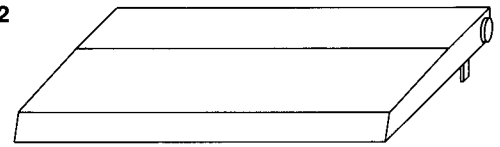


Fig. 2

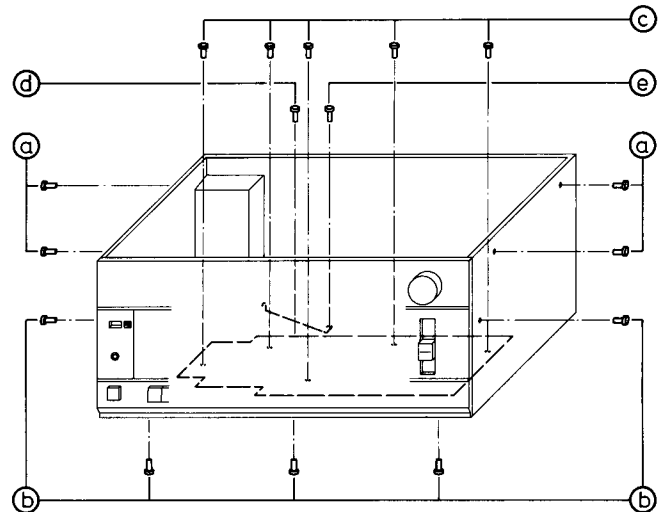
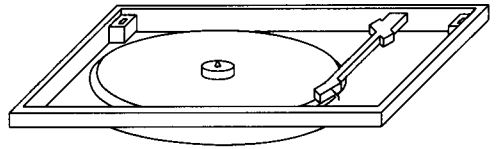
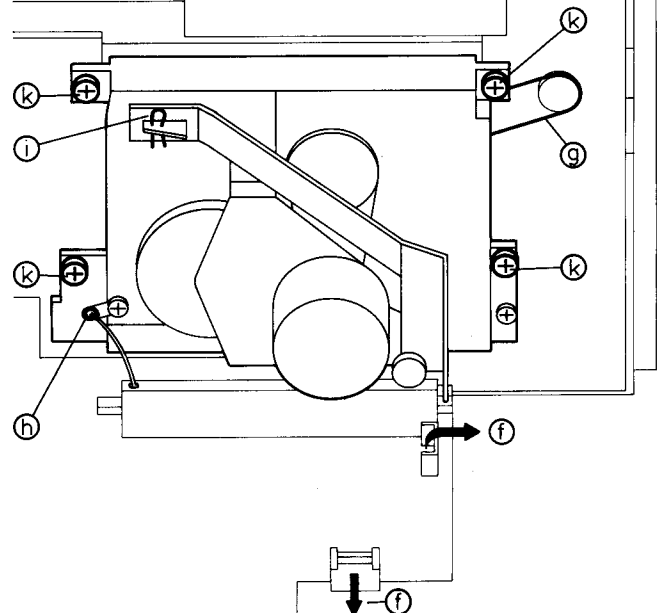


Abb. 3

Fig. 3



Technische Daten

Empfangsbereiche

FM 87,5... 108 MHz
LW 150... 320 kHz
MW 520... 1620 kHz
K/SW 5,9... 16,2 MHz

Empfindlichkeiten

FM-Mono : 0,8 μ V für 26 dB S/R Abstand (75 Ω , 40 kHz Hub)
FM-Stereo : 28 μ V für 46 dB S/R Abstand (75 Ω , 40 kHz Hub)

AM : an AM-Antennenklemmen/an 75 Ω -Koax-Buchse
K/SW 8,5/25 μ V (10 MHz)
MW 10/12,5 μ V (1 MHz)
LW 7,5/6,5 μ V (200 kHz)

Stereo-Umschaltsschwelle

Stereo ein/aus : 3/2,8 μ V bei 98 MHz an 75 Ω

FM-Begrenzung

Begrenzungs-Einsatz (–1/–3 dB) 1/0,7 μ V an 75 Ω

Bandbreite

FM-ZF : ca. 125 kHz; AM-ZF : 4 kHz

ZF-Festigkeit

FM : \geq 80 dB
AM : \geq 70 dB

AM-Unterdrückung

\geq 52 dB bei 1 kHz, gemessen bei 22,5 kHz Hub,
30% AM-Modulation und 1 mV an 75 Ω

Spiegelfrequenzfestigkeit

FM : \geq 68 dB (98 MHz)
MW : \geq 32 dB (1 MHz)
LW : \geq 60 dB (200 kHz)
KW : \geq 15 dB (10 MHz)

FM-Übertragungsbereich

von Antenne bis Lautsprecher-Ausgang
 \geq 10 Hz... \geq 15 kHz \geq 3 dB

FM-Fremdspannungsabstand

gemessen im Bereich 31,5 Hz... 15 kHz,
bei 40 kHz Hub und 1 mV an 75 Ω , Effektivwert
(bezogen auf Nennleistung)
Mono/Stereo : \geq 68/65 dB.

FM-Geräuschspannungsabstand

nach Kurve »A« bei 1 mV an 75 Ω
(bezogen auf Nennleistung) Mono/Stereo : \geq 74/69 dB

Pilotton-Fremdspannungsabstand

\geq 64 dB bei 19 kHz
 \geq 70 dB bei 38 kHz

FM-Klirrfaktor

Mono/Stereo : \leq 0,4% bei 1 kHz und 40 kHz Hub
gemessen bei 1 mV an 75 Ω .

Dynamische Trennschärfe FM-Mono/Stereo

(\pm 300 kHz, bezogen auf 40 kHz Hub,
–30 dB Störspannung) : \geq 65/50 dB

FM-Übersprechdämpfung

1 mV Antennenspannung, 47,5 kHz Gesamthub
1 kHz \geq 40 dB selektiv gemessen.

Ausgangsleistungen

Nennleistung : 2 x 30 W an 4 Ω ; 2 x 20 W an 8 Ω .
Musikleistung : 2 x 50 W an 4 Ω ; 2 x 35 W an 8 Ω .

NF-Übertragungsbereich

Phono : 40 Hz... 30 kHz \leq 3 dB
TB/TAPE : 20 Hz... 27 kHz \leq 3 dB

Klirrfaktor bei Nennleistung

\leq 0,1% (1 kHz)

NF-Fremdspannungsabstand

Effektivwert bei Nennleistung
Phono : \geq 64 dB
TB/TAPE : \geq 73 dB;

NF-Geräuschspannungsabstand

nach Kurve »A«, Effektivwert bei Nennleistung :
Phono : \geq 78 dB
TB/TAPE : \geq 79 dB

Übersprechdämpfung L-R

Phono : 57 dB (1 kHz)
TB/TAPE : 60 dB (1 kHz)

Eingangsempfindlichkeit

(bei Nennleistung : Klangsteller auf »linear«
TB/TAPE : \leq 180 mV/ \geq 220 k Ω)

Max. Eingangsspannung

TB/TAPE : \geq 5,5 V

Specification

Waveband Coverage

VHF/FM : 87.5– 108 MHz
LW : 150– 320 kHz
MW : 520– 1620 kHz
K/SW : 5.9– 16.2 MHz

Sensitivities

FM mono : 0.8 μ V with S/N ratio of 26 dB
(75 Ω , 40 kHz deviation)
FM stereo : 28 μ V with S/N ratio of 46 dB
(75 Ω , 40 kHz deviation)
AM : into AM aerial terminal/into 75 ohm coaxial socket
K/SW 8.5/25 μ V (10 MHz)
MW 10/12.5 μ V (1 MHz)
LW 7.5/6.5 μ V (200 kHz)

Stereo Switch-over Threshold

Stereo on/off : 3/2.8 μ V at 98 MHz and into 75 Ω

FM Limiting

Limiting Point (–1/–3 dB) 1/0.7 μ V into 75 Ω

Bandwidth

FM-IF : approx. 125 kHz; AM-IF : 4 kHz

IF Stability

FM : 80 dB
AM : 70 dB

AM Suppression

\geq 52 dB at 1 kHz, measured with 22.5 kHz deviation,
30% AM modulation and 1 mV into 75 Ω

Image Rejection

FM : \geq 68 dB (98 MHz)
MW : 32 dB (1 MHz)
LW : 60 dB (200 kHz)
SW : 15 dB (10 MHz)

FM Stereo Frequency Response

From aerial input to loudspeaker output
 \leq 10 Hz ... \geq 15 kHz for \leq 3 dB

FM Signal-to-Noise Ratio (Unweighted)

in the range 31.5 Hz... 15 kHz
(deviation 40 kHz and 1 mV into 75 Ω)
for rated output, Mono/Stereo : \geq 68/65 dB

FM Signal-to-Noise Ratio (Weighted)

to curve "A", measured at 1 mV into 75 Ω
for rated output, Mono/Stereo : \geq 74/69 dB

Stereo Pilot Leakage

\geq 64 dB at 19 kHz
 \geq 70 dB at 38 kHz

FM Distortion Factor

Mono/Stereo : \leq 0.4% at 1 kHz and 40 kHz deviation,
measured with 1 mV into 75 Ω

Dynamic Selectivity on FM Mono/Stereo

(\pm 300 kHz for 40 kHz deviation,
–30 dB noise voltage) : \geq 65/50 dB

FM Crosstalk

1 mV at aerial and 47.5 kHz total
deviation : 1 kHz \geq 40 dB
(measured at selected points)

Rated Power Output

into 4 Ω : 2 x 30 W; into 8 Ω : 2 x 20 W

Music Power Output

into 4 Ω : 2 x 50 W; into 8 Ω : 2 x 35 W

AF Frequency Response

Phono : 40 Hz – 30 kHz \leq 3 dB
Tape : 20 Hz – 27 kHz \leq 3 dB

Total Harmonic Distortion

at rated power
 \leq 0.1% (1 kHz)

AF Signal/Noise Ratio (Unweighted)

(rms value) at rated power
Phono \geq 64 dB; Tape : \geq 73 dB.

AF Signal/Noise Ratio (Weighted)

(to curve "A", rms value) at rated power
Phono : \geq 78 dB; Tape : \geq 79 dB.

Stereo Crosstalk L–R

Phono : 57 dB (1 kHz)
Tape : 60 dB (1 kHz)

Input Sensitivity (at rated power, tone controls linear)

Tape : 180 mV/ \geq 220 k Ω

Maximum Input Voltage (Input overload point)

Tape : 5.5 V

Technische Daten

CassettenTeil

Umspülzeit (C 60-Cassette): ca. 120 sec.

Gleichlauffehler (bewertet): $\leq \pm 0,14\%$

Frequenzbereich: 40 Hz...14 kHz

Geräuschspannungsabstand

ohne DOLBY NR/mit DOLBY NR

Fe-Band 56 dB/63 dB

Cr-Band 56 dB/63 dB

Me-Band 56 dB/63 dB

Aufnahme-Empfindlichkeit

(für Bandfluß 200 nWb/m)

TB-Buchse: 200 mV

MICRO-Buchse: 0,95 mV (R_e ca. 6 k Ω)

Übersprechdämpfung

≥ 40 dB ($f = 1$ kHz)

Specification

Cassette Section

Rewind Time: approximately 120 sec for a C 60 cassette

Wow and Flutter: $\leq \pm 0,14\%$

Frequency Response: 40 Hz - 14 kHz

Weighted Signal-to-Noise Ratio

without DOLBY NR/with DOLBY NR

Fe Tape 56 dB/63 dB; Cr Tape 56 dB/63 dB; Me Tape 56 dB/63 dB

Record/Playback Sensitivity

(for magnetic tape flux 200 nWb/m)

TB/Tape socket: 200 mV

MICRO socket: 0.95 mV ($R_{in} =$ approx. 6 kohm)

Crosstalk

≥ 40 dB ($f = 1$ kHz)

Subject to alteration

ABGLEICHTABELLE ALIGNMENT TABLE

Wenn nicht anders angegeben,
Bandsorte "CR"
If nothing else mentioned
type of tape "CR"

Abgleich Alignment	Bandsorte Einspeisung Type of tape Feeding	Meßpunkt Testpoint	Hinweis Notes	f	Abgleichpunkt Alignment point	Einstellung Adjustment
Bandgeschw. Tape speed	Wiedergabe Play back		Testband 448 35079-018.00	3150 Hz	R_M	3150 Hz
Azimet Azimuth	Wiedergabe Play back		Testcassette 448 35079-018.00	12,5 kHz	Justageschraube Adjustment screw	Beide Kanäle auf max. Both channels of max.
Dolby	Wiedergabe Play back		250 nW/m	315 Hz	R 118 (LK) R 119 (RK)	725 mV \pm 0,5 dB
Löschkopfstrom Erase head current	Aufnahme Bandsorte "ME" Recording Type of type "ME"				R 48	150 mV
Kopfstrom Head current	Aufnahme/Recording			315 Hz	U_e (ca. 70 mV)	300 mV
	Wiedergabe Play back		Autom. Aus Autom. off		R 54 (LK) R 55 (RK)	$300 \text{ mV} \pm 10 \text{ mV}$
Vormagnetisierung grob Bias voltage coarse	Aufnahme Recording				C 47 (LK) C 48 (RK)	$25 \text{ mV} \pm 1 \text{ mV}$
Fein fine	Aufnahme/Recording			315 Hz 12,5 kHz	U_e (ca. 7 mV)	30 mV
	Wiedergabe Play back				C 47 (LK) C 48 (RK)	Pegel 12,5 kHz Pegel 315 Hz = 0 dB Level 315 Hz ± 1 dB
19 kHz Unterdrückung 19 kHz suppression	Aufnahme/Recording			315 Hz 19 kHz	U_e (ca. 135 mV) F 5/6	U_a 315 Hz = 580 mV U_a 19 kHz ± 18 mV

CK 5 = Kapazitiver Teiler 1 : 1000
CK 5 = Capacitive division 1 : 1000

ZEICHENERKLÄRUNG LEGENDE

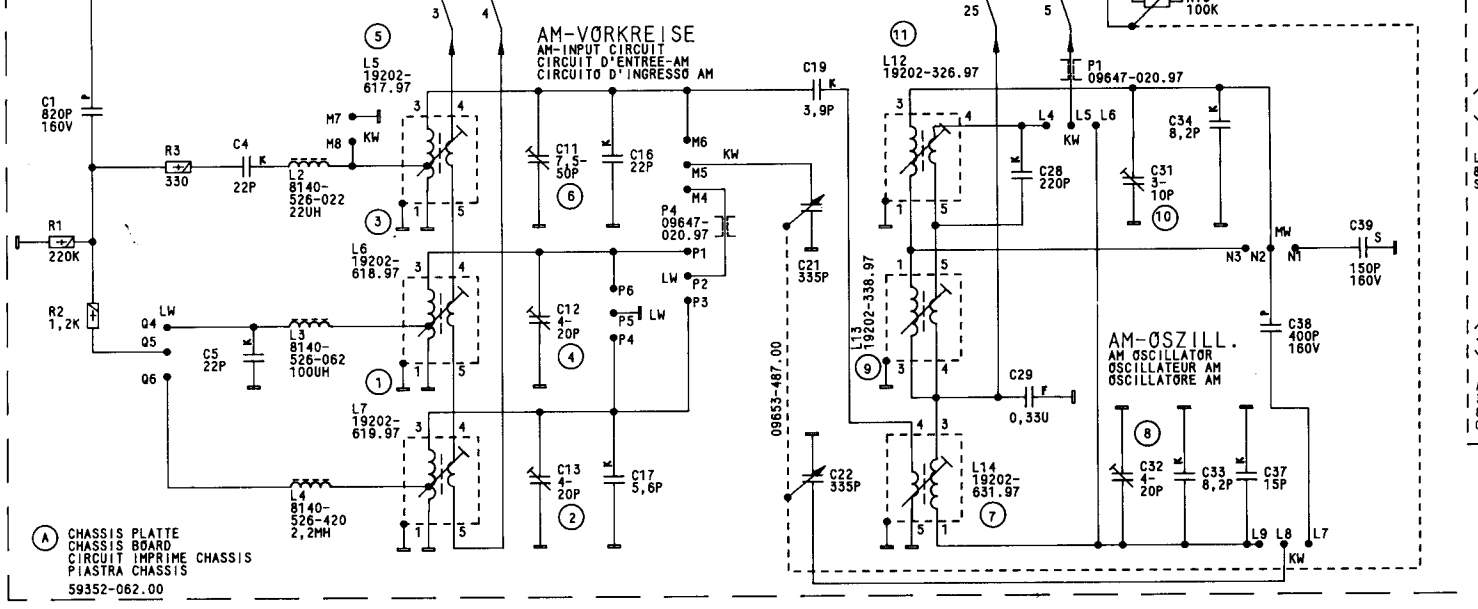
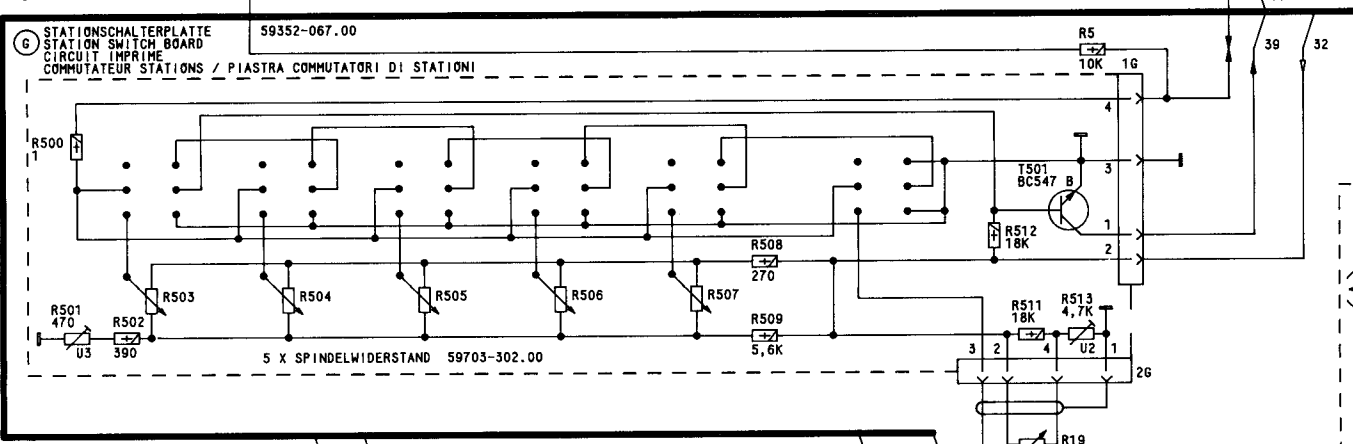
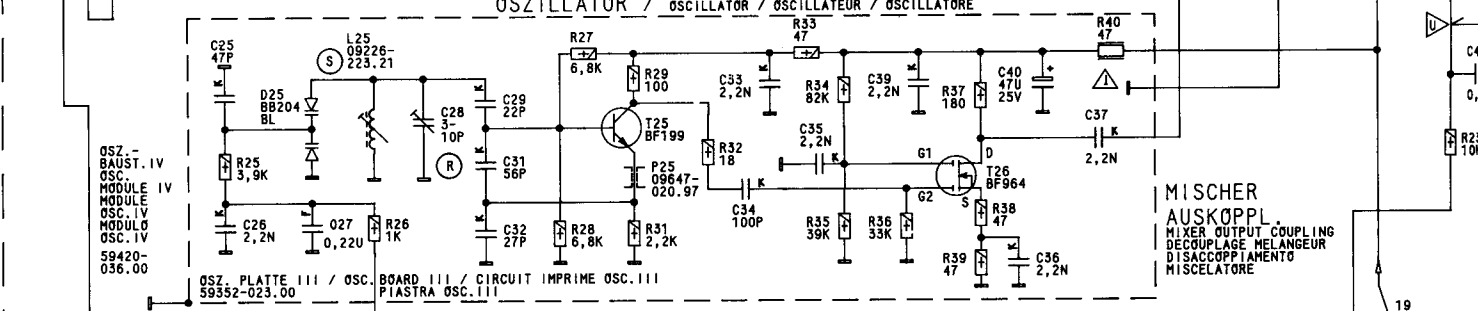
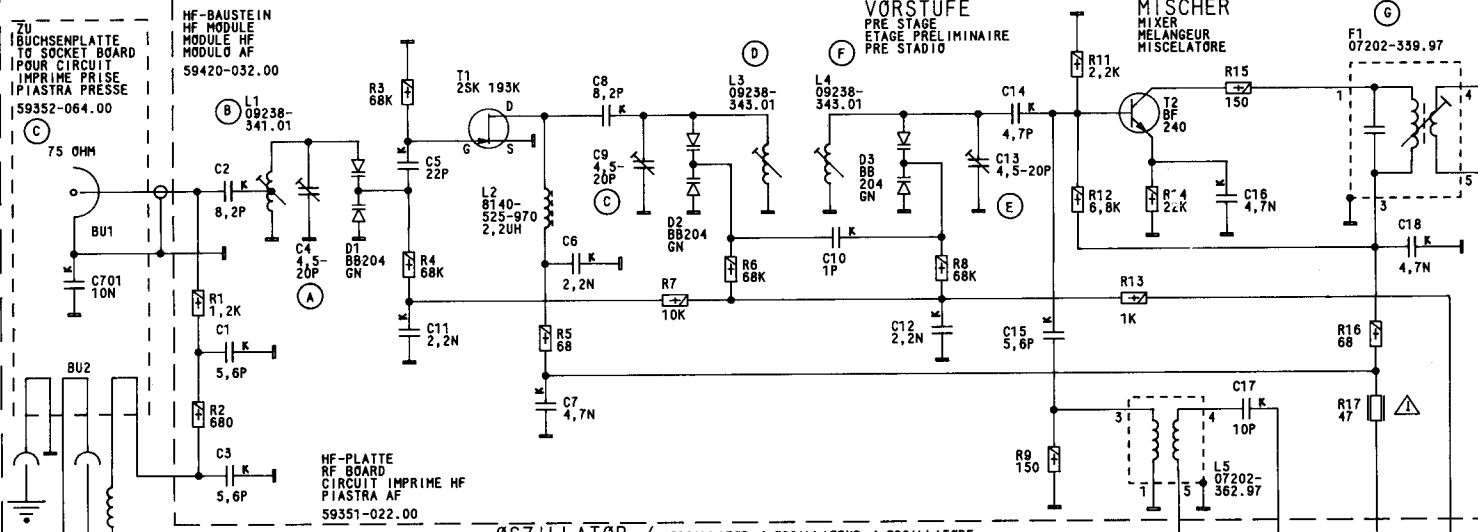
	Stereo-Generator Stereo generator		Bandpaß Bandpass		Gleichspg. Meßger. m. Mittelanzeige DC voltage meter with centre indicator
	NF-Generator AF generator		Antenne Aerial		NF-Voltmeter AF voltage meter
	Frequenzzähler Frequency counter		Regler zu control closed		Gleichspg.-Voltmeter DC voltage meter
	Meßsender Testgenerator		Oszilloskop Oscilloscope		Digitalvoltmeter Digital voltage meter

ABGLEICHTABELLE
ALIGNMENTTABLE

Abgleich Alignment	Einspeisung Feeding	Meßpunkt Testpoint	Hinweise Notes	Bereich Band	f	Abgleich Punkt Alignment Point	Einstellung Adjustment	
U _{var.}				FM FM FM 1	108 MHz 87,5 MHz 87,5 MHz	R 271 U1 R 513 U2 R 501 U3	20V ± 100mV 2,2V ± 50mV 2,2V ± 50mV	
Osz.-Vor-/Zwischenkreis Osc.-aerial-band-pass cct.	$f_{mod.} = 1 \text{ kHz}$ 40 kHz Hub/ deviation $U_E = <$			FM	87,5 MHz	(S)	Max.	
					106 MHz	(R)		
					88 MHz	(B)		
					106 MHz	(A)		
					88 MHz	(D)		
					106 MHz	(C)		
					88 MHz	(F)		
Osz.-Vorkreis Osc.-aerialcircuit	$f_{mod.} = 1 \text{ kHz}$ $m = 30 \%$ $U_E = <$			MW	520 kHz	(9)	Max.	
					1450 kHz	(10)		
					520 kHz	(3)		
					1450 kHz	(4)		
				LW	160 kHz	(11)		Max.
					160 kHz	(1)		
					290 kHz	(2)		
				KW	6,1 MHz	(7)		Max.
					15 MHz	(8)		
					6,1 MHz	(5)		
					15 MHz	(6)		
ZF IF	Abgleich nach Rauschen Alignment by noise			MW		(K)	Max.	
Demodulator						(I) (H)	Min. 0-V	
Stereo	$U_E = 0,5 \text{ mV} / 75 \Omega$ 19 kHz Pilot ein/on $f_{mod.} = 1 \text{ kHz}$			FM	100 MHz	U_1 R147	Min.	
						U_2 R161	*	
						(M) (L)	Min. Min.	
Feldstärke Field-strength	$U_E = 0,5 \text{ mV} / 75 \Omega$	LED			93 MHz	R 601	Die 5. LED muß gerade aufleuchten The 5. LED must lights up feebly	
Ruhestrom Quiescent Current		MPA MPB				R 335 R 336	20 mV + 4 mV - 2 mV	

↕ Einstellung wiederholen.
↕ To repeat the adjustment.

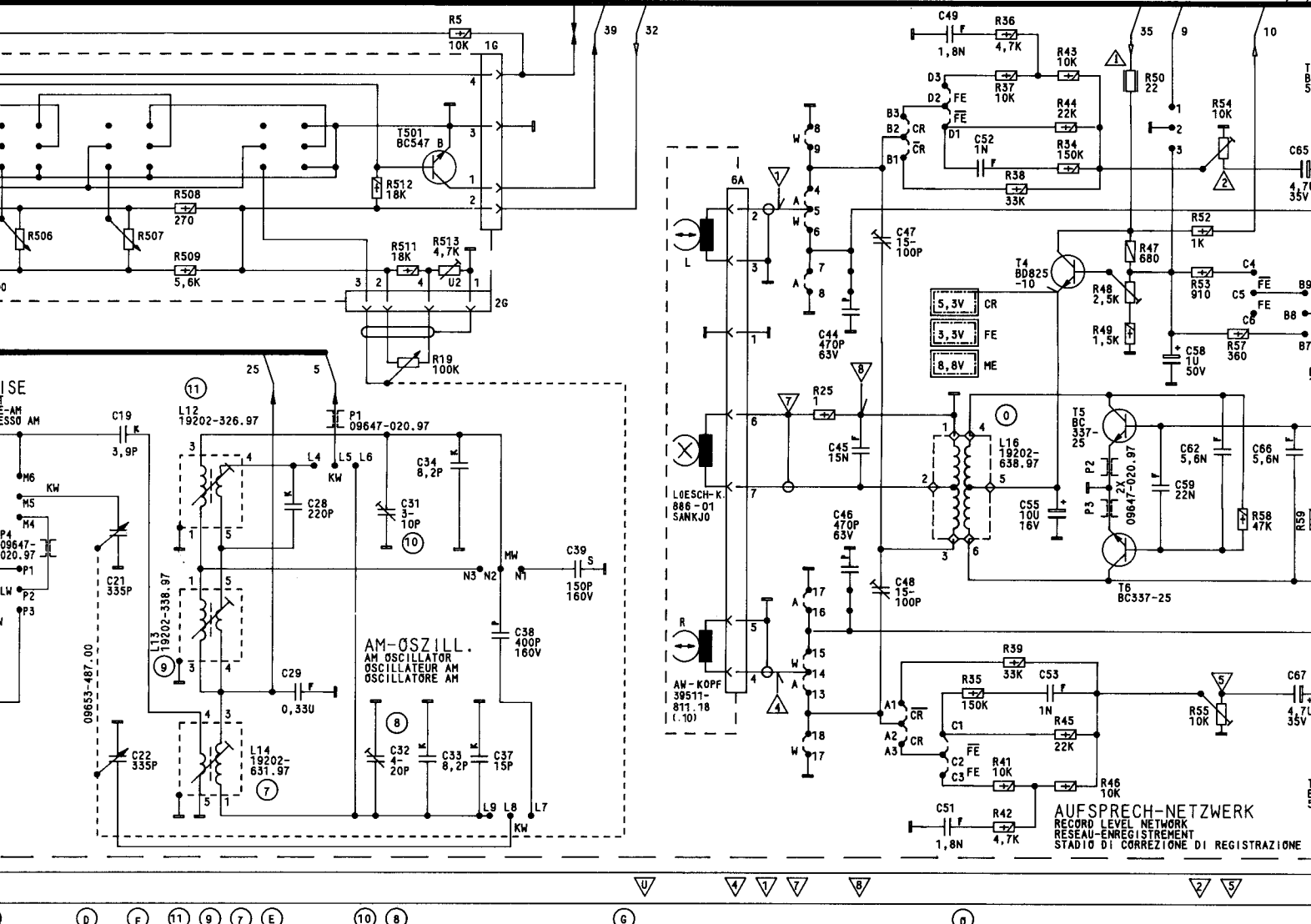
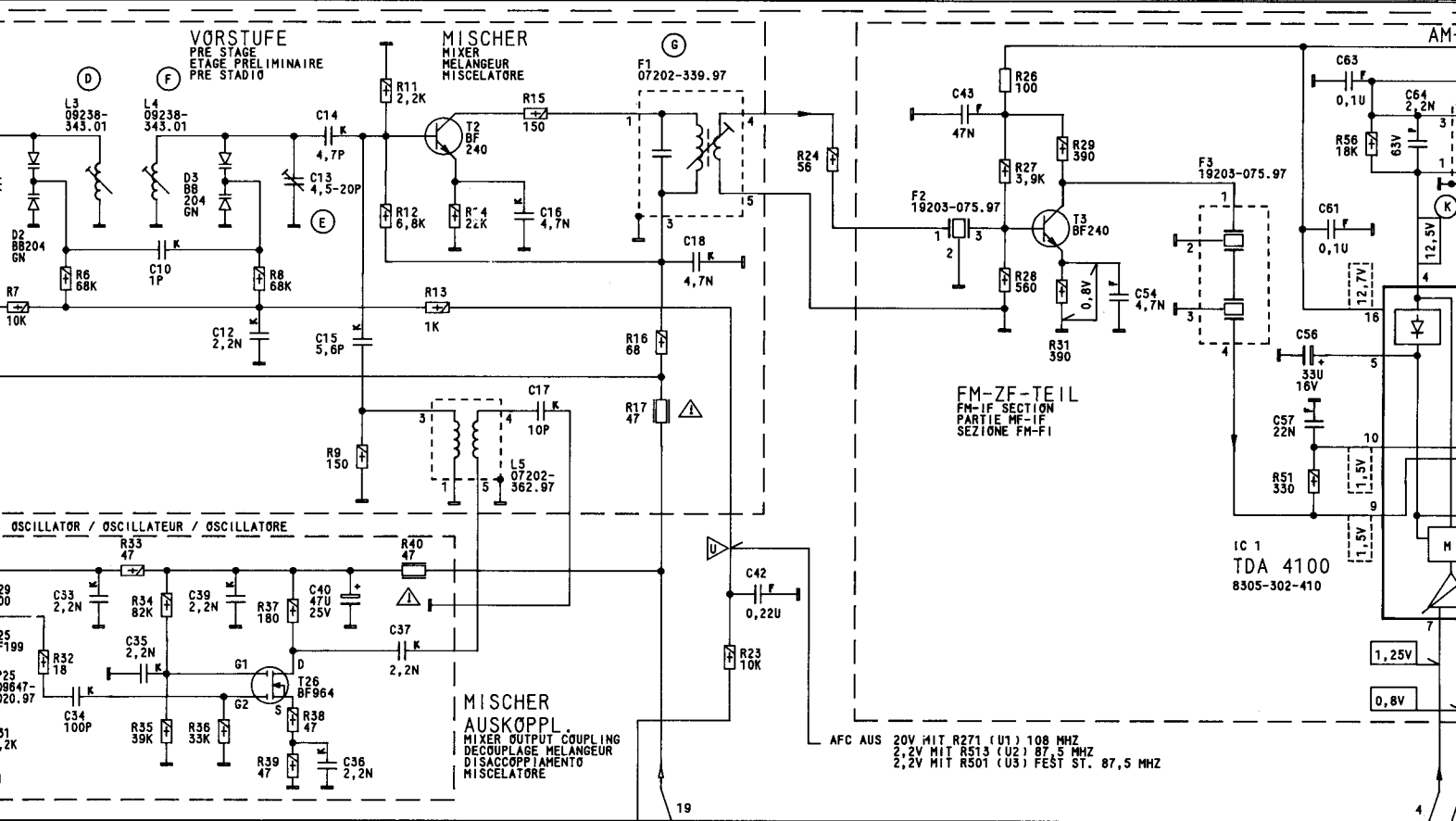
* R 161 auf möglichst große und annähernd gleiche Übersprechdämpfung abgleichen.
* Adjust crosstalk attenuation as high and close as possible using R 161.



MESSPUNKTE MEASURING POINTS

ALIGNEI CHPUNKTE ALIGNMENT POINTS

(B)	(A)	(S)	(3)	(1)	(S)	(R)	(6)	(4)	(2)	(C)	(D)	(F)	(11)	(9)	(7)	(E)	(10)	(8)	(6)
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	------	-----	-----	-----	------	-----	-----



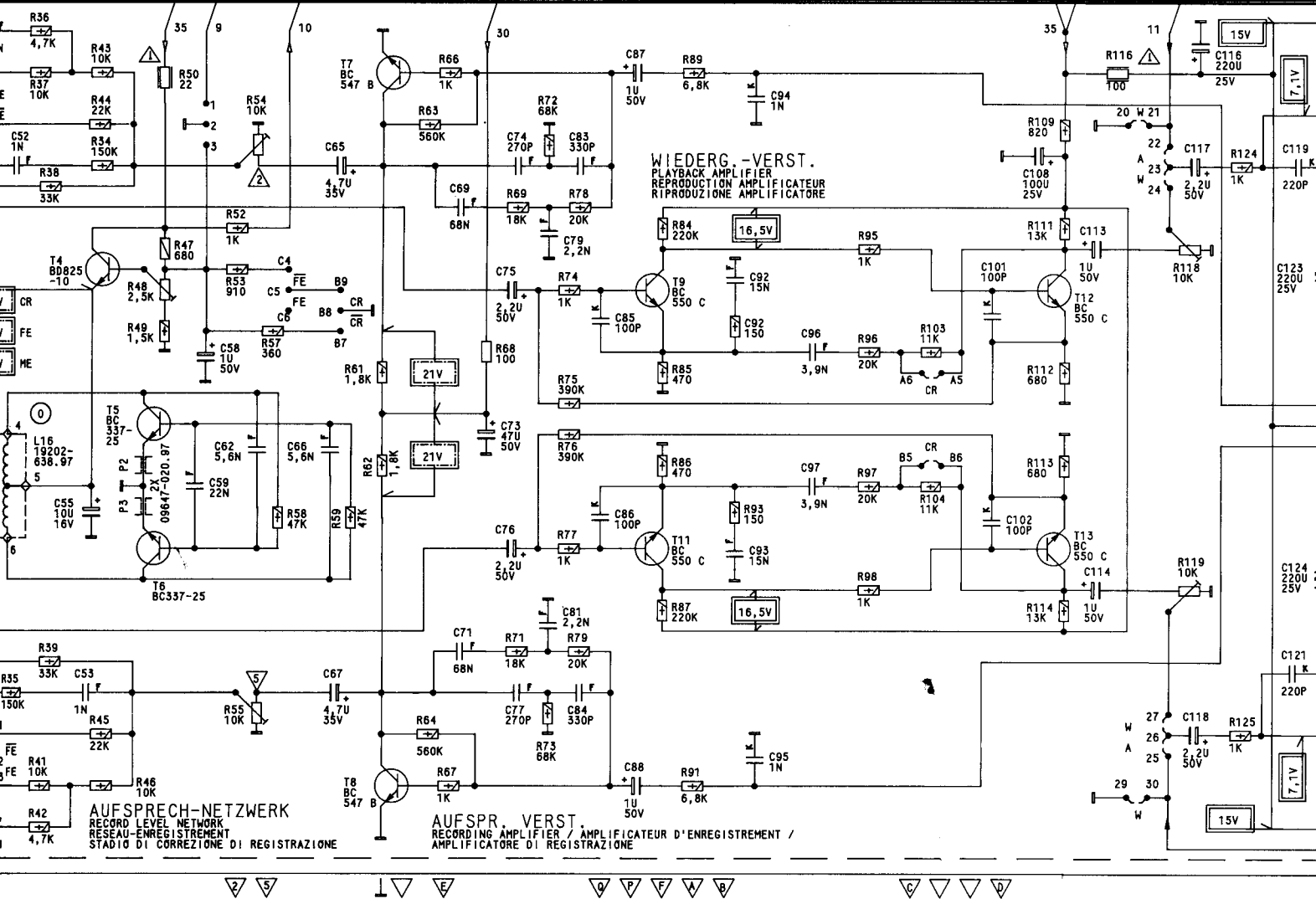
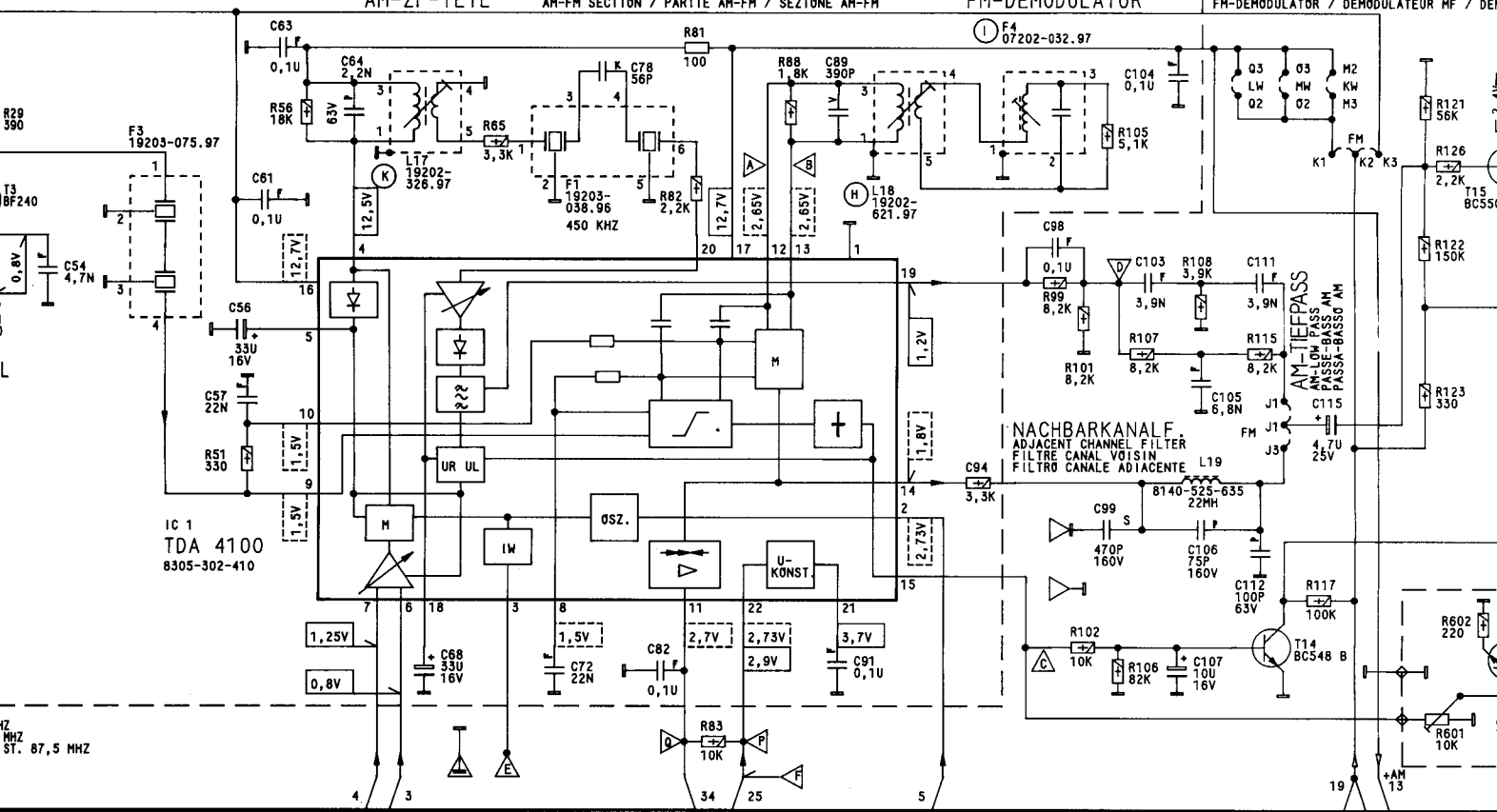
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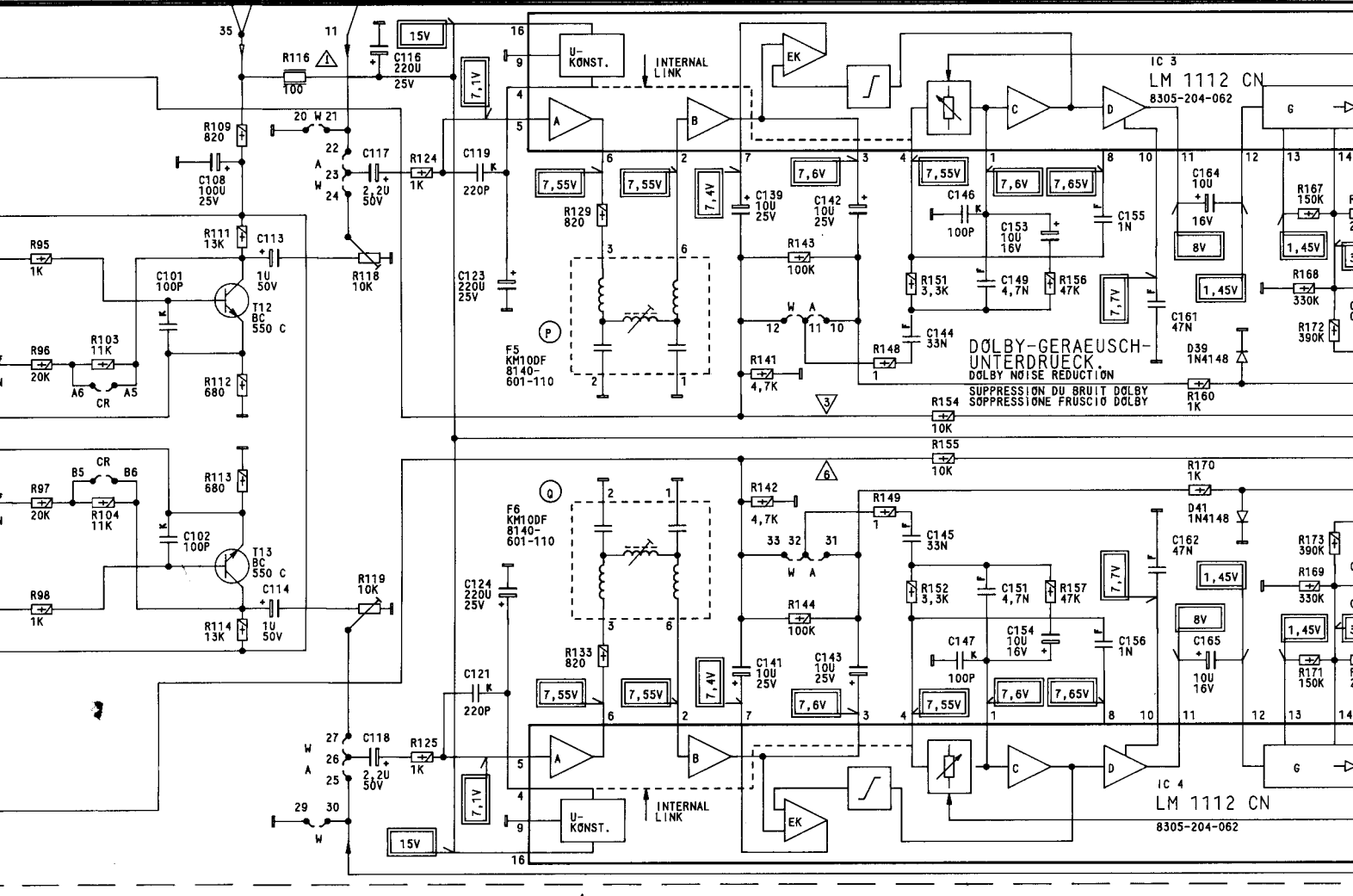
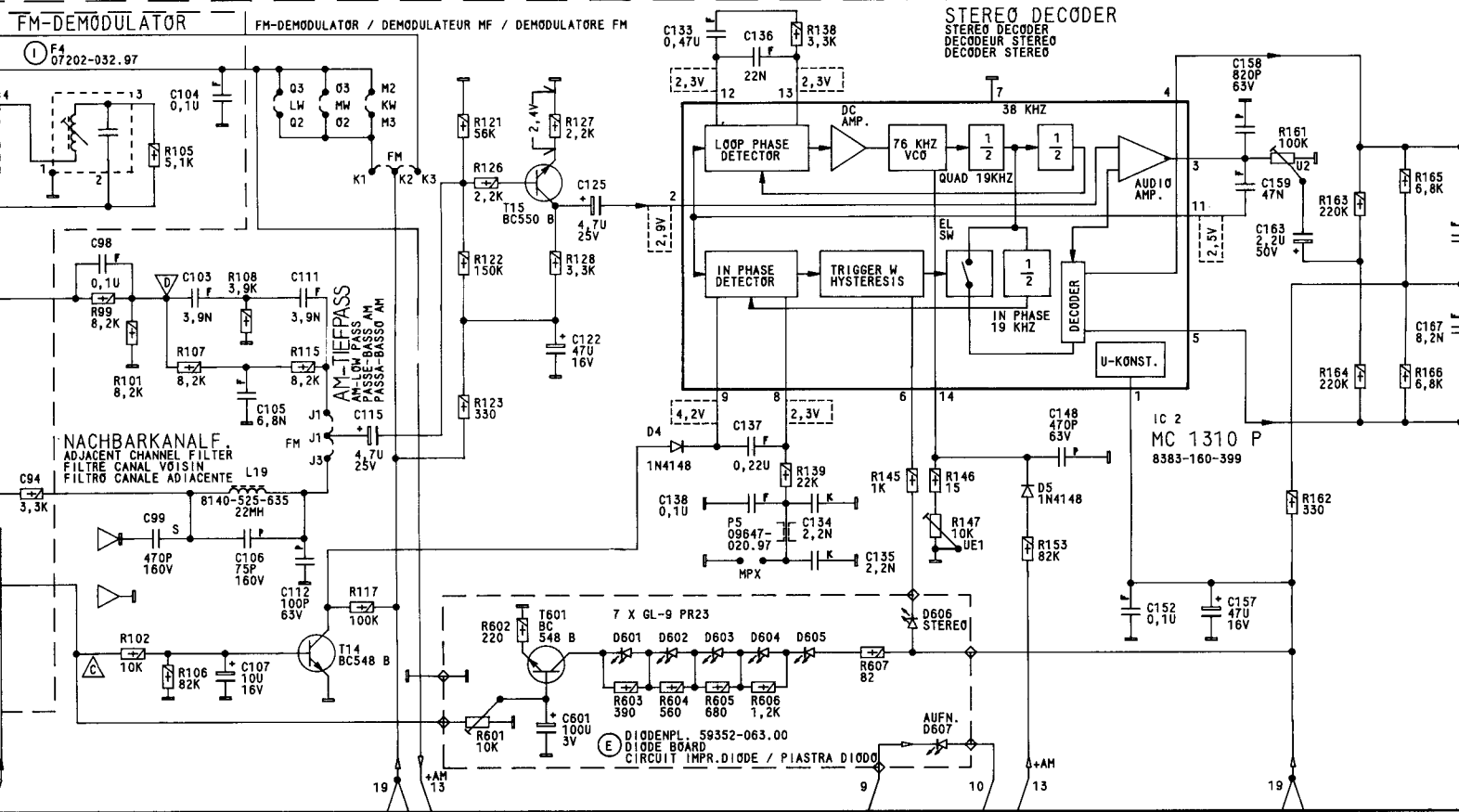
AM-ZF-TEIL

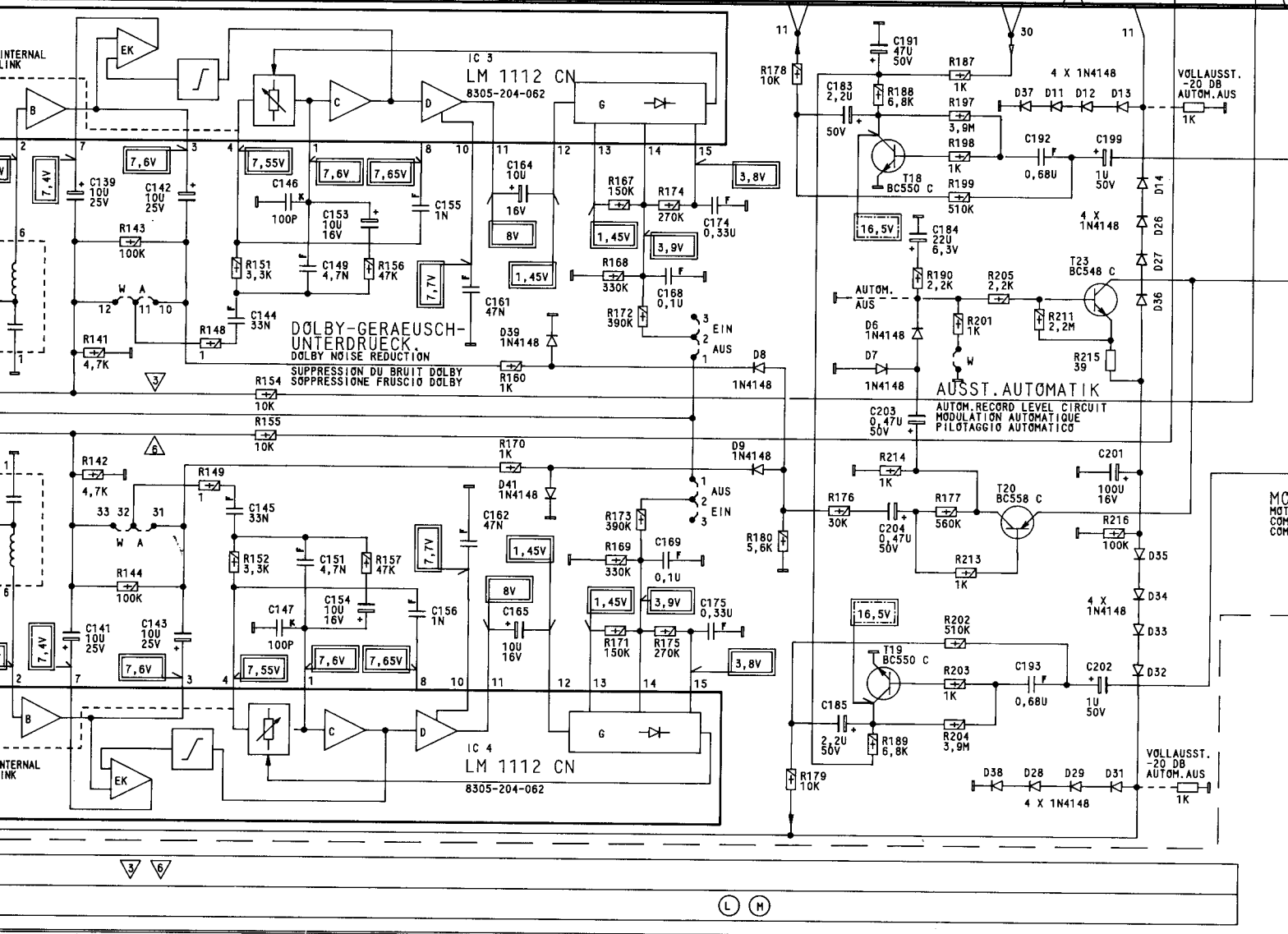
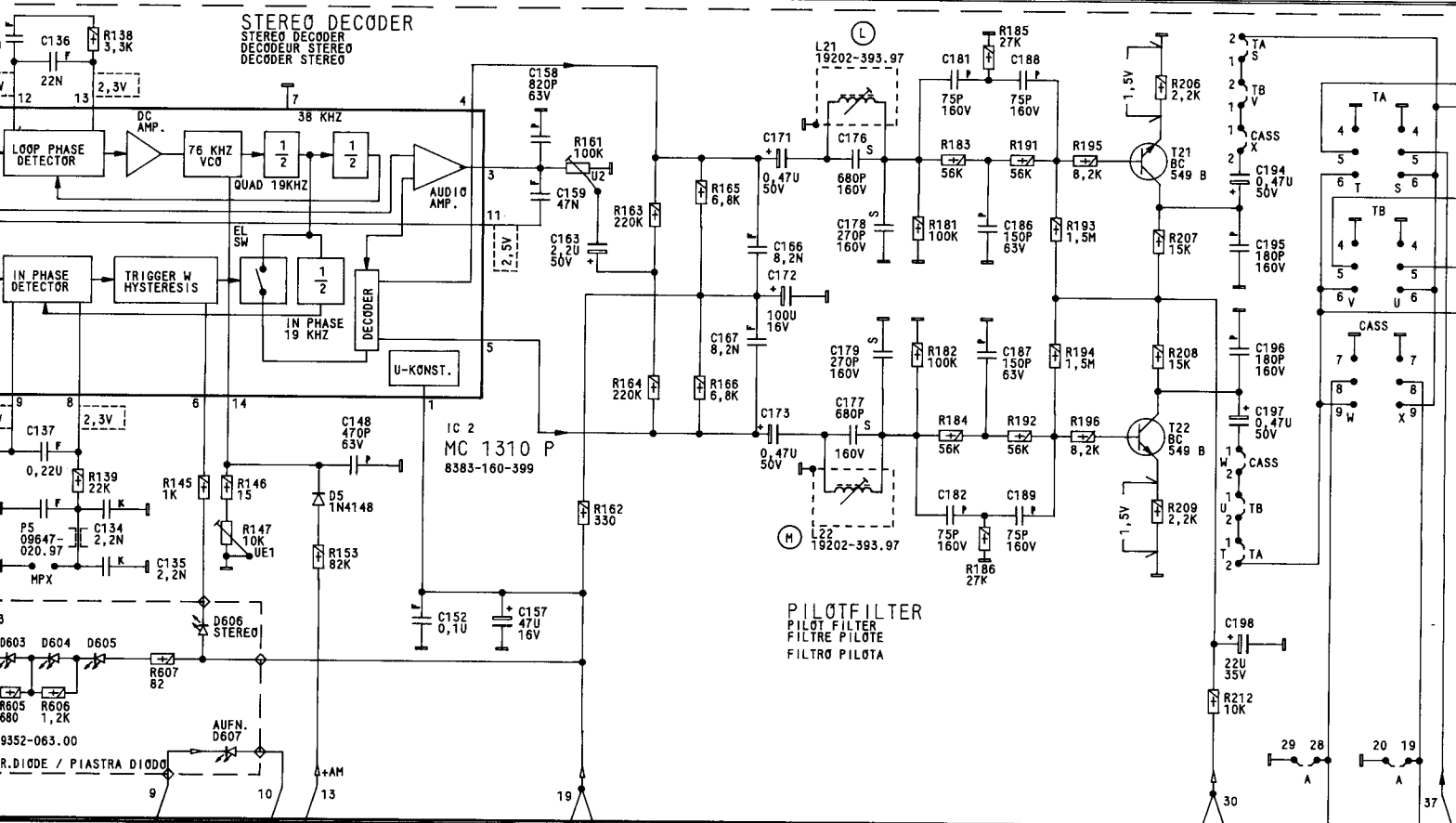
AM-FM SECTION / PARTIE AM-FM / SEZIONE AM-FM

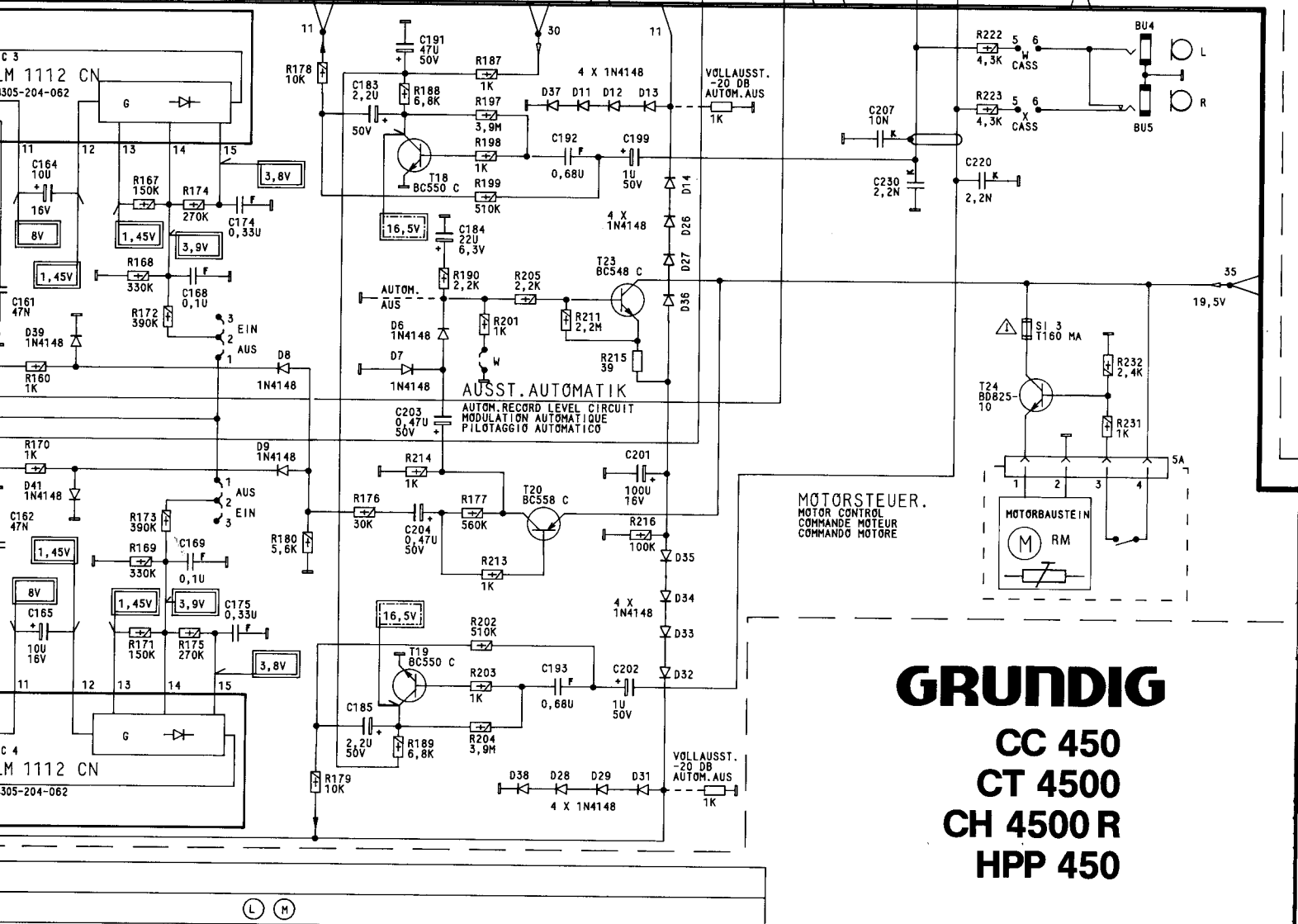
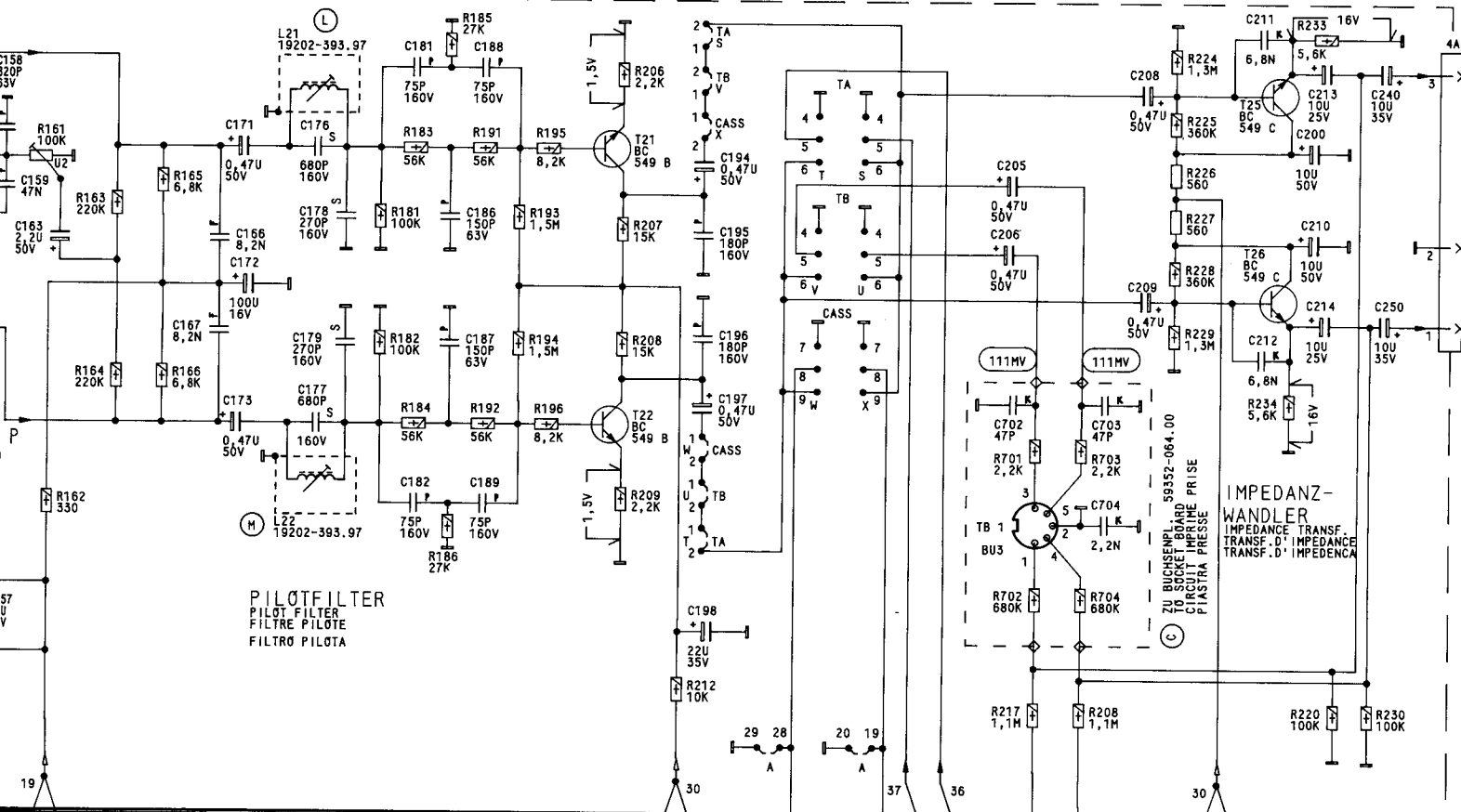
FM-DEMODULATOR

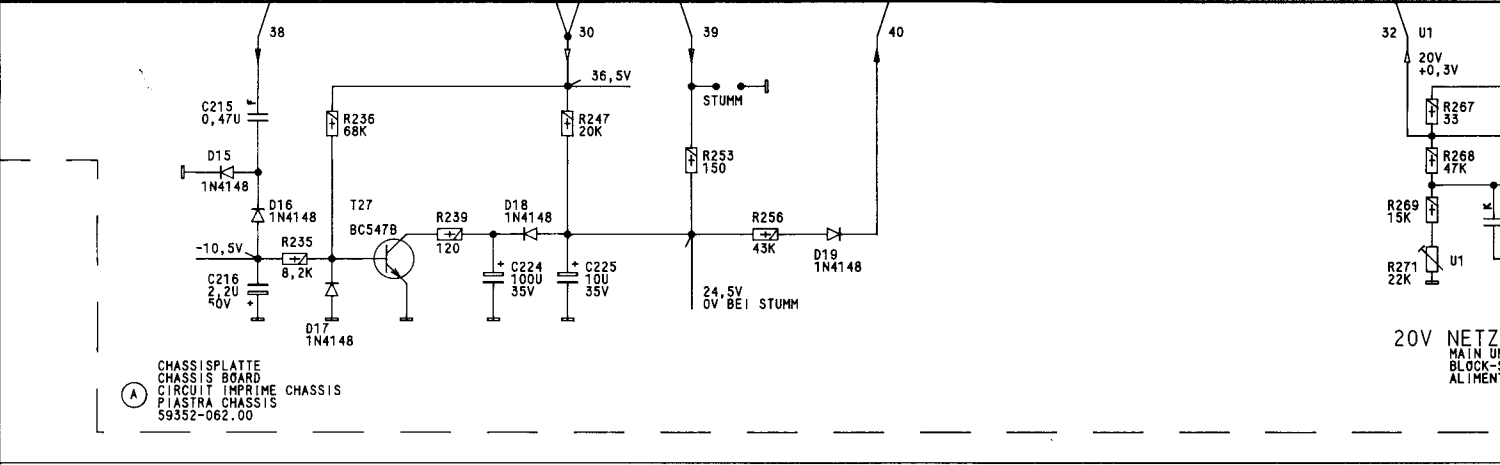
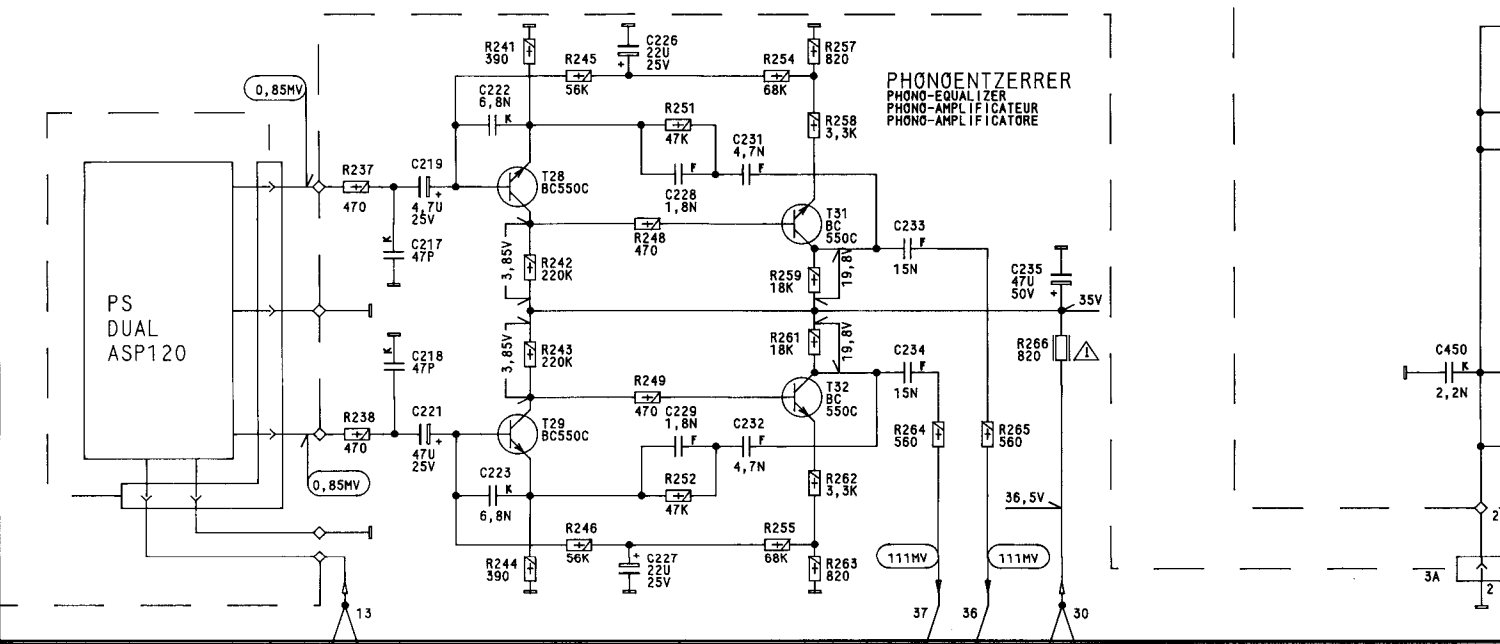
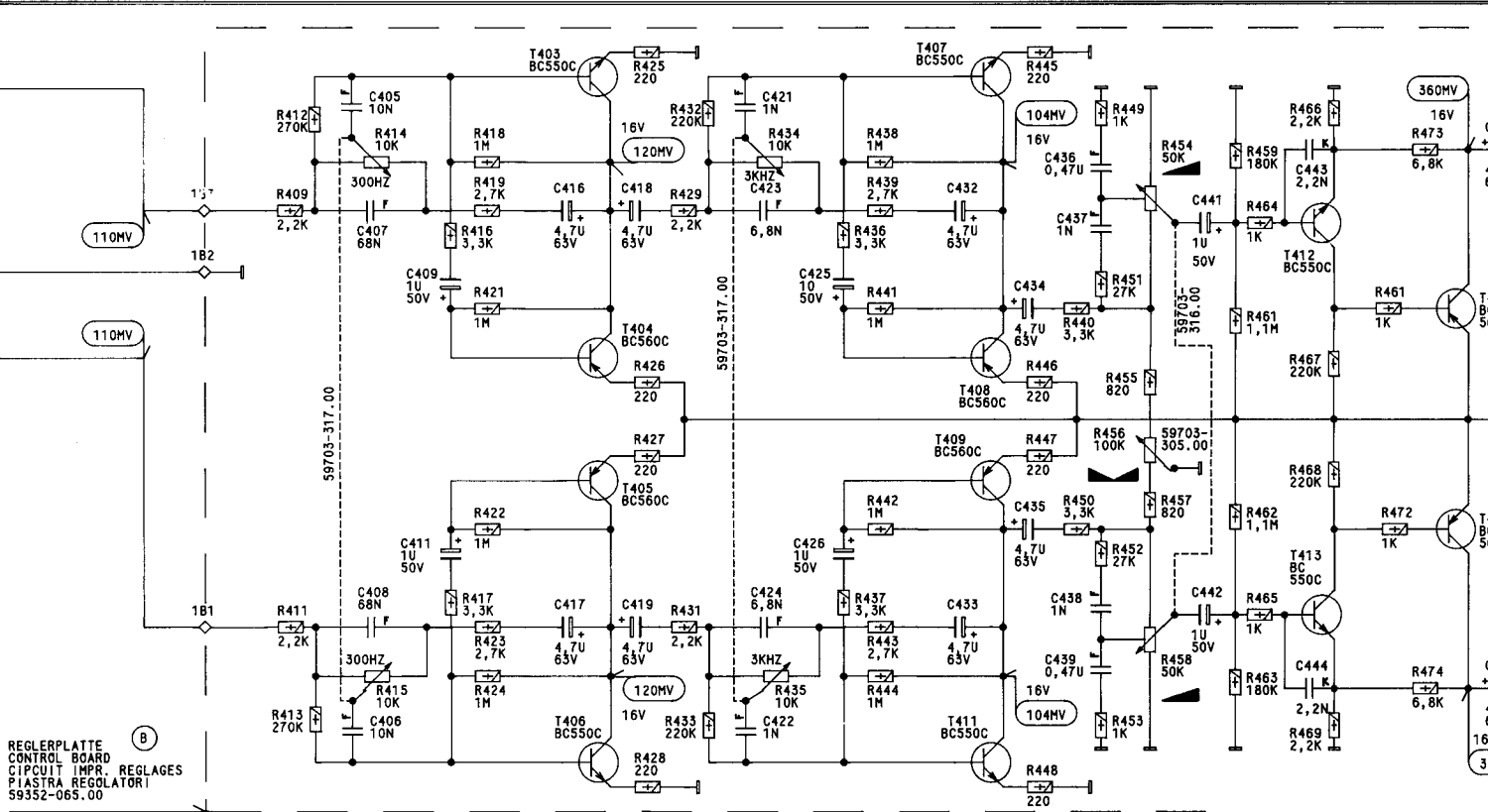
FM-DEMODULATOR / DEMODULATEUR MF / DEMODULATORE MF





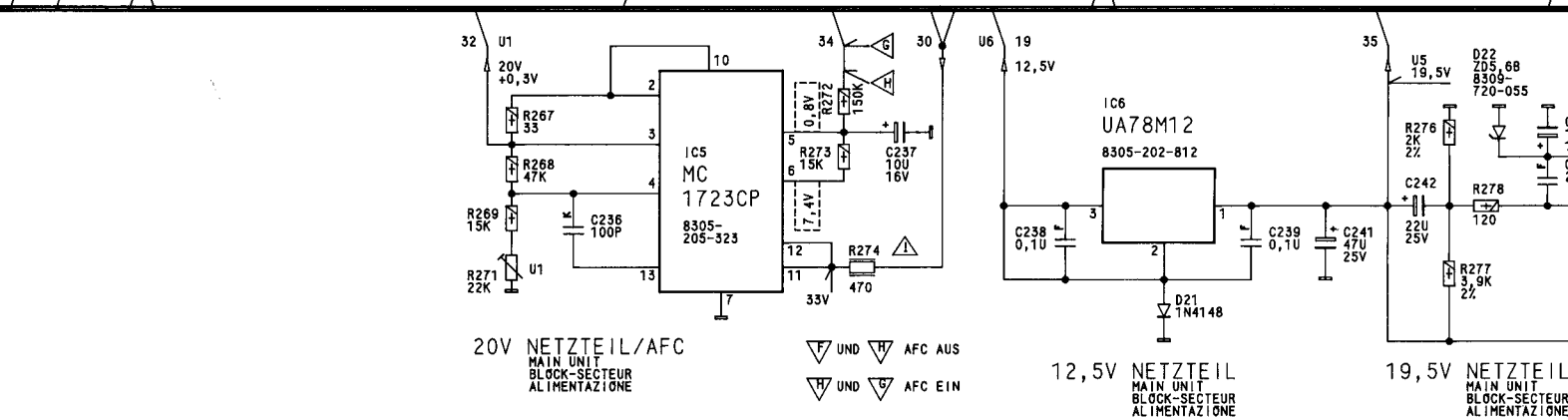
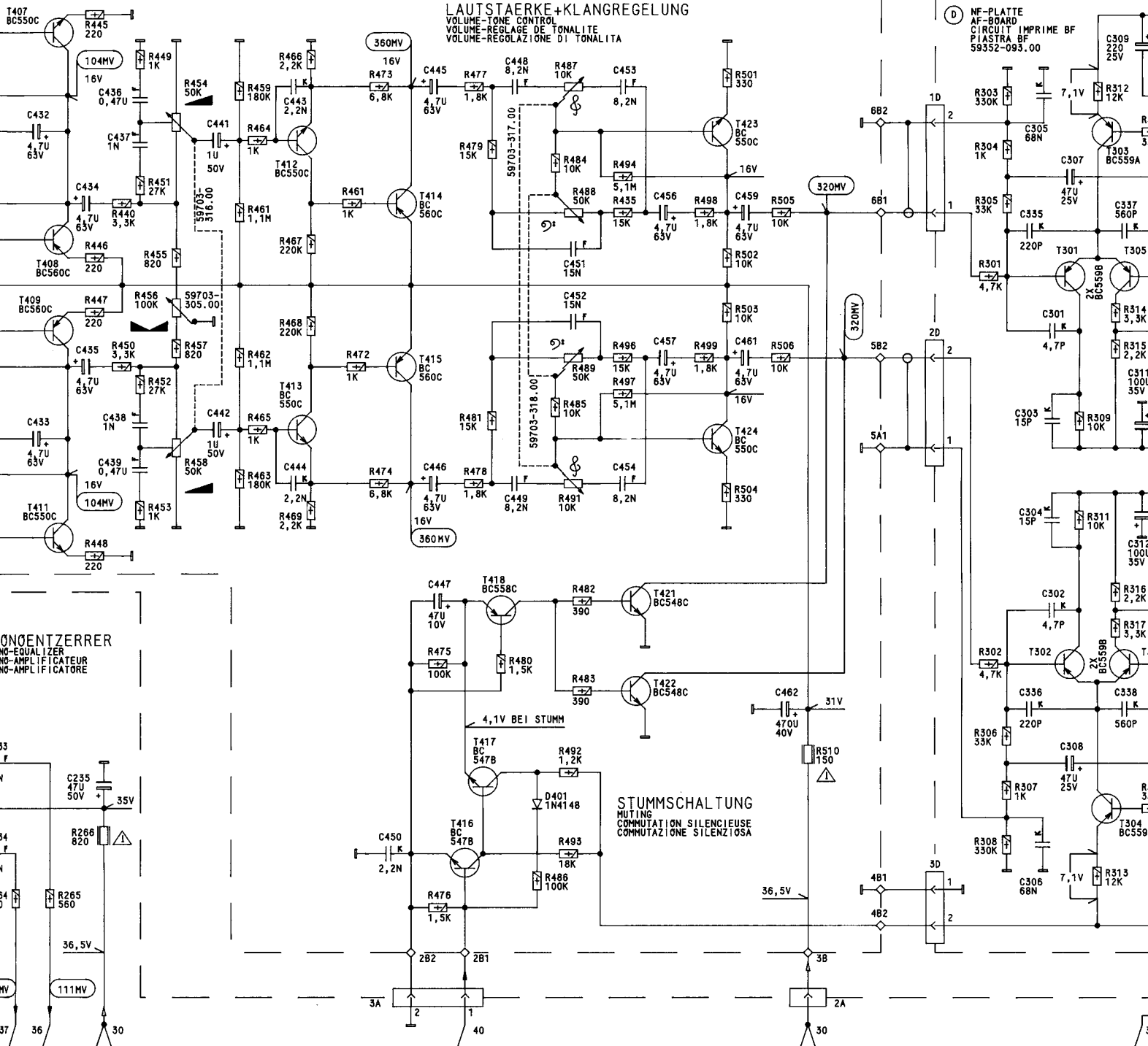


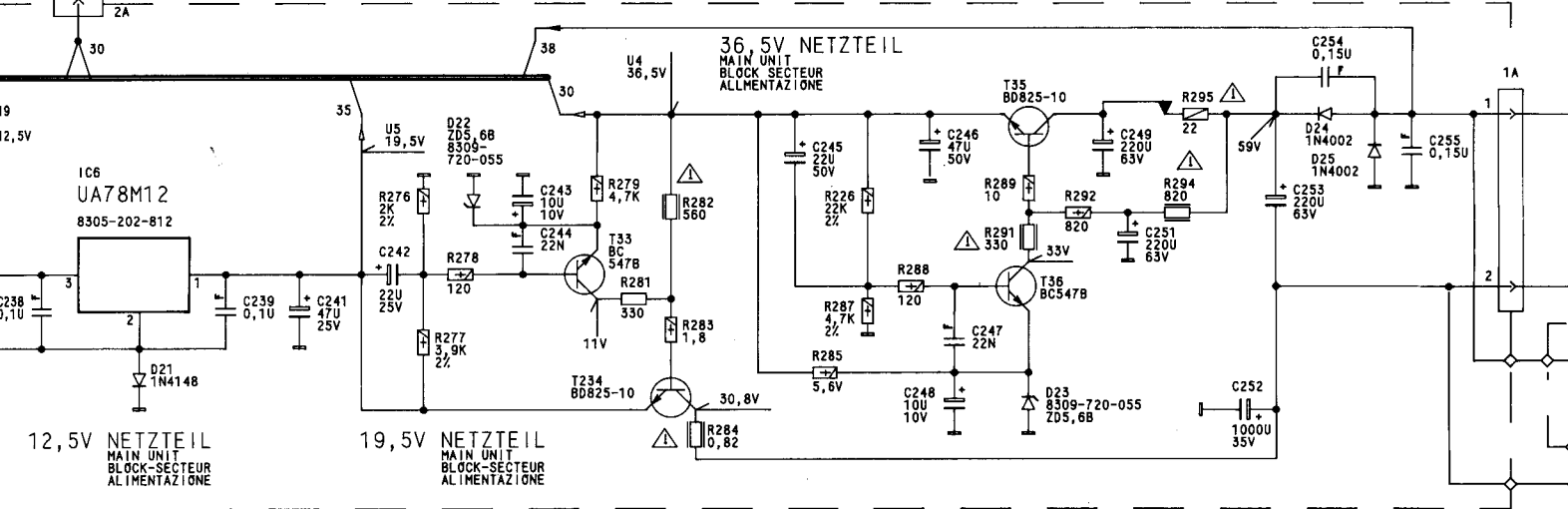
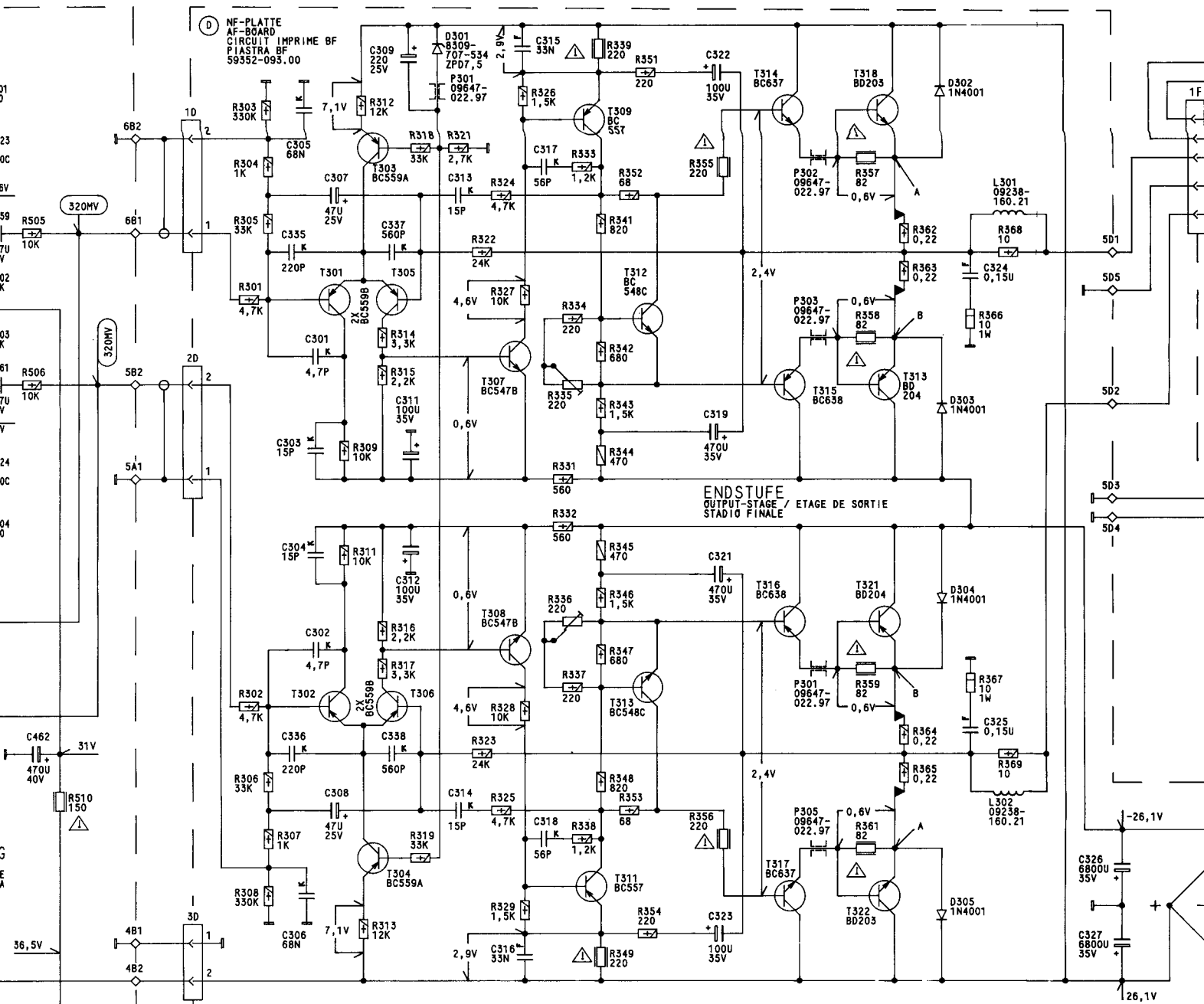




MESSPUNKTE
 MEASURING POINTS
 ABGLEICHPUNKTE
 ALIGNMENT POINTS

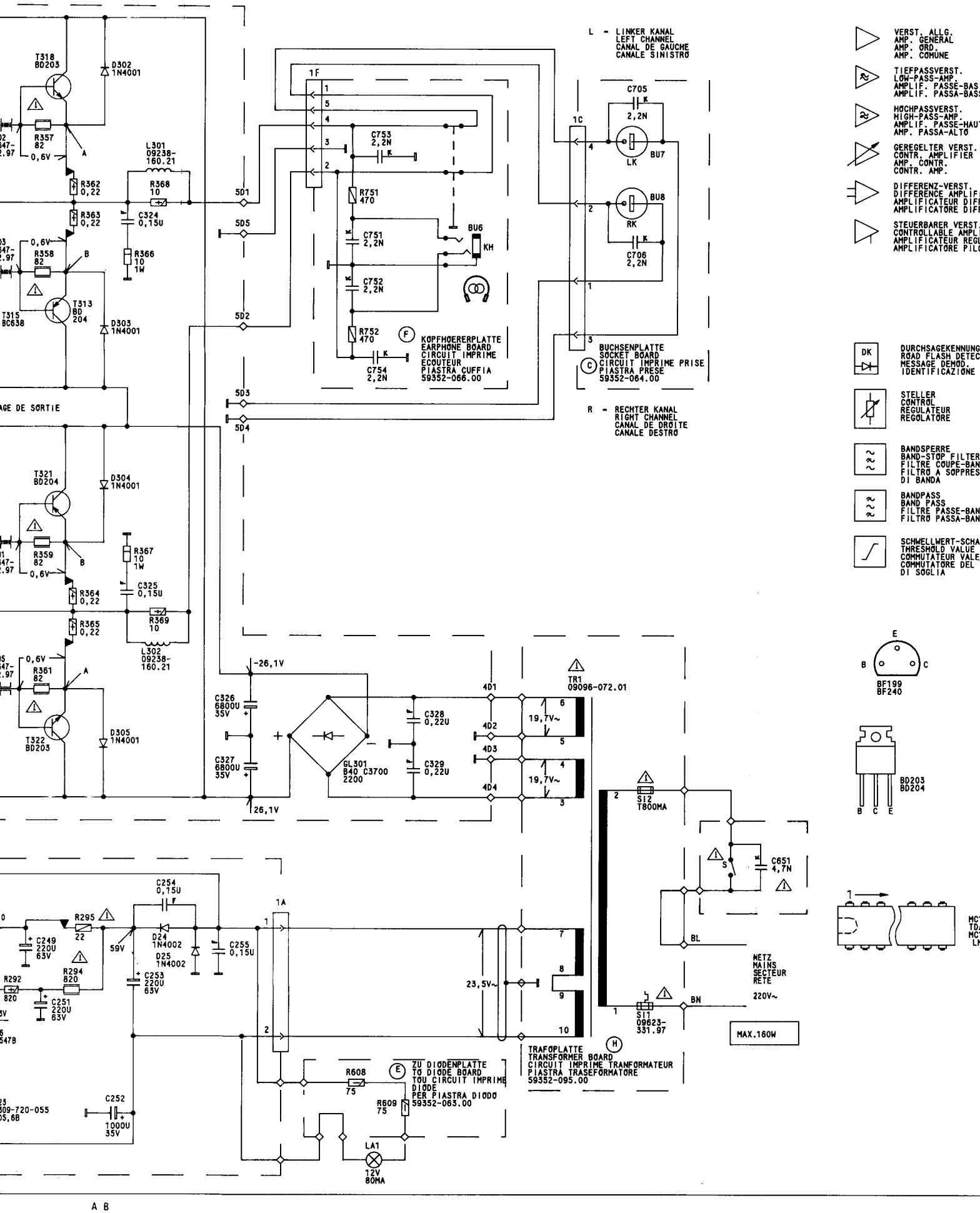
R 271



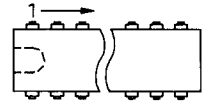
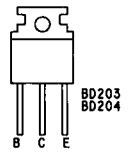
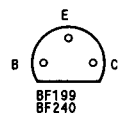


A B

R 335 R 336



- VERST. ALLG. AMP. GENERAL AMP. ORD. AMP. COMUNE
- TIEFPASSVERST. LOW-PASS-AMP. AMPLIF. PASSÉ-BAS AMPLIF. PASSA-BASS
- HOHPASSVERST. HIGH-PASS-AMP. AMPLIF. PASSÉ-HAUT AMP. PASSA-ALTO
- GEREGLETER VERST. CONTR. AMPLIFIER. AMP. CONTR. CONTR. AMP.
- DIFFERENZ-VERST. DIFFERENCE AMPLIFIER. AMPLIFICATEUR DIFF. AMPLIFICATORE DIFF.
- STEUERBARER VERST. CONTROLLABLE AMPLIFIER. AMPLIFICATEUR REGL. AMPLIFICATORE P.I.L.O.
- DURCHSAGEKENNUNG ROAD FLASH DETECT MESSAGE DEMO. IDENTIFICAZIONE
- STELLER CONTROL REGULATEUR REGOLATORE
- BANDSPERRE BAND-STOP FILTER FILTRE COUPE-BAND FILTRO A SOPPRESSIONE DI BANDE
- BANDPASS BAND PASS FILTRE PASSE-BAND FILTRO PASSA-BAND
- SCHWELFWERT-SCHALT. THRESHOLD VALUE SWITCH COMMUTATEUR VALEUR COMMUTATORE DEL VAL. DI SOGLIA



- VERST. ALLG. AMP. GENERAL AMP. ORD. AMP. COMUNE
- TIEFPASSVERST. LOW-PASS-AMP. AMPLIF. PASSE-BAS AMPLIF. PASSE-BASSO
- HOCHPASSVERST. HIGH-PASS-AMP. AMPLIF. PASSE-HAUT AMP. PASSE-ALTO
- GEREGLETER VERST. CONTR. AMPLIFIER AMP. CONTR. CONTR. AMP.
- DIFFERENZ-VERST. DIFFERENCE AMPLIFIER AMPLIFICATEUR DIFFERENCIATEUR AMPLIFICATEUR DIFFERENZIALE
- STEUERBARER VERST. CONTROLLABLE AMPLIFIER AMPLIFICATEUR REGLABLE AMPLIFICATEUR PILOTABILE

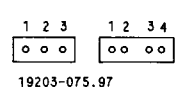
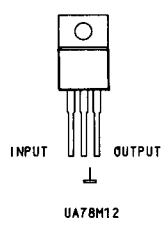
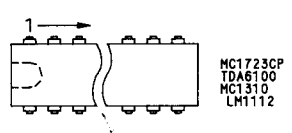
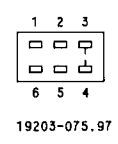
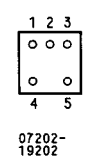
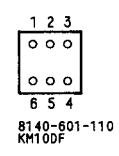
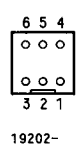
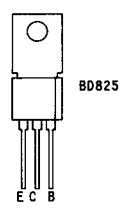
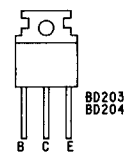
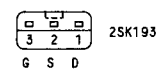
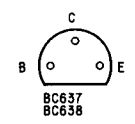
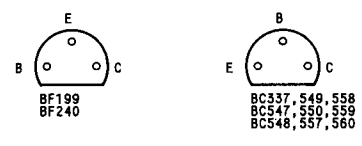
- SCHMITTRIGGER SCHMITT-TRIGGER TRIGGER DE SCHMITT CIRC. DI SGANCIO DI SCHMITT
- ELECTR. SCHALTER ELECTR. SWITCH COMMUTATEUR ELECTR. COMMUTAZIONE ELETTR.
- MISCHER-VERST. MIXER-AMPL. MELANGEUR AMP. MISCELATRICE AMP.
- DEMODULATOR DEMODULATOR DEMODULATEUR DEMODULATORE
- TEILER DIVIDER DIVISEUR PARTITORE
- MISCHER MIXER MELANGEUR MISCELATRICE

- KONSTANTSPANNUNG CONSTANT VOLTAGE TENSION CONSTANTE TENSIONE COSTANTE
- KONSTANTSTROM CONSTANT CURRENT COURANT CONSTANT CORRENTE COSTANTE
- ADDIERSTUFE ADDING STAGE ETAGE D'ADDITION STADIO ADDIZIONATORE
- STROMQUELLE POWER SOURCE SOURCE DE COURANT SORGENTE DI CORRENTE
- TREIBER DRIVER DRIVER ECCITATORE

- DURCHSAGEKENNUNG DEMOD. ROAD FLASH DETECTION DEMOD. MESSAGE DEMOD. IDENTIFICAZIONE COMUNL. DEMOD.
- STELLER CONTROL REGULATORE REGOLATORE
- BANDSPERRE BAND-STOP FILTER FILTRE COUPE-BANDE FILTRO A SOPPRESSIONE DI BANDE
- BANDPASS BAND PASS FILTRE PASSE-BANDE FILTRO PASSE-BANDA
- SCHWELLMERT-SCHALTER THRESHOLD VALUE SWITCH COMMUTEUR VALEUR SEUIL COMMUTATORE DEL VALORE DI SOGLIA

- INDIKATOR INDICATOR INDICATEUR INDICATORE
- FENSTER-DISKRIMINATOR WINDOW DISCRIMINATOR DISCRIMINATEUR A FENETRE DISCRIMINATORE A FINESTRA
- GEREGLETER OSZILLATOR CONTROLLED OSCILLATOR OSC. REGLE OSC. CONTR.
- REGELSPANNUNGS-VERST. CONTROL VOLTAGE-AMP. TENSION DE REGLAGE AMP. TENSIONE DI CONTROLLO AMP.

- SW-SCHWARZ BLACK NOIR NERO
- BN-BRAUN BROWN BRUN MARRONE
- RT-ROT RED ROUGE ROSSO
- GE-GELB YELLOW JAUNE GIALLO
- GN-GRUEN GREEN VERT VERDE
- BL-BLAU BLUE BLEU BLU
- VI-VIOLETT VIOLET VIOLET VIOLETTA
- GR-GRAU GREY GRIS GRIGIO
- WS-WEISS WHITE BLANC BIANCO
- RS-ROSA PINK ROSE ROSA
- OR-ORANGE ORANGE ARANCIONE
- TR-TRANSPARENT TRANSPARENT TRANSPARENT



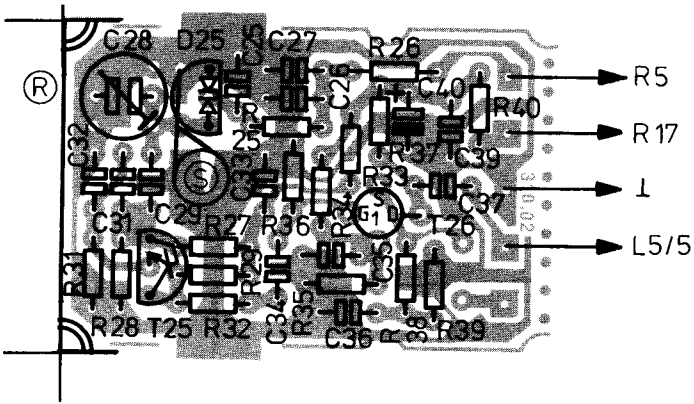
GRUNDIG
CC 450
CT 4500
CH 4500 R
HPP 450

Oszillator-Baustein IV, Lötseite 59420 -036.00

OSCILLATOR MODULE IV, SOLDER SIDE

MODULE OSCILLATEUR IV, COTE SOUDURES

MODULO OSCILLATORE, IV LATO SALDATURE

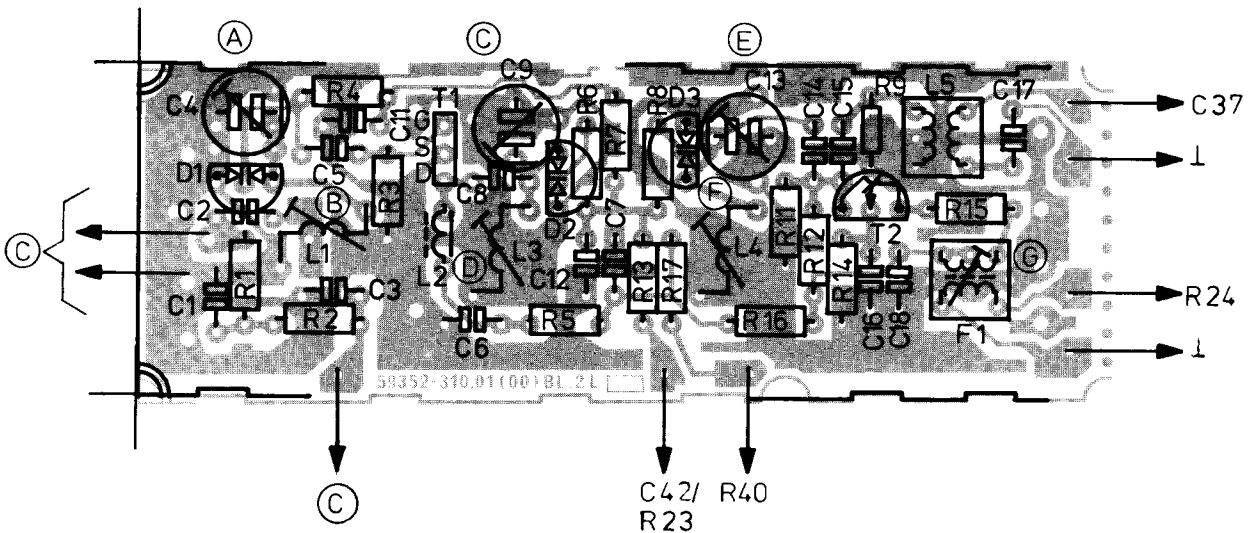


HF-Baustein, Lötseite 59420 -032.00

HF MODULE, SOLDER SIDE

MODULE HF, COTE SOUDURES

MODULO AF, LATO SALDATURE

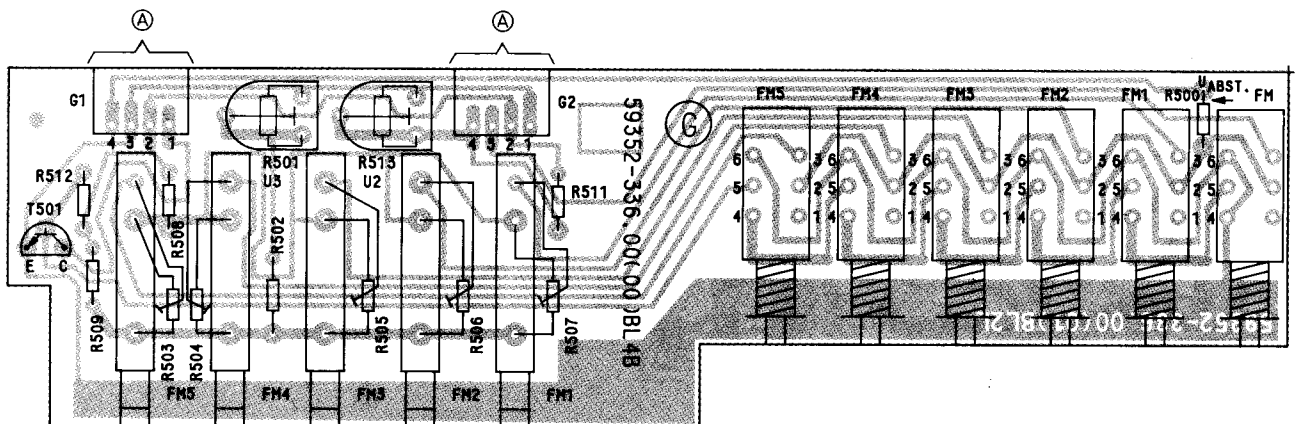


Stationschalterplatte, Lötseite 59352 -067.00

STATION SWITCH BOARD, SOLDER SIDE

CIRCUIT IMPRIME, COTE SOUDURES

COMMUTATEUR STATIONS, LATO SALDATURE



AM-FM-Seilzug

Seillänge ca. 1450 mm

AM-FM-DIAL CORD

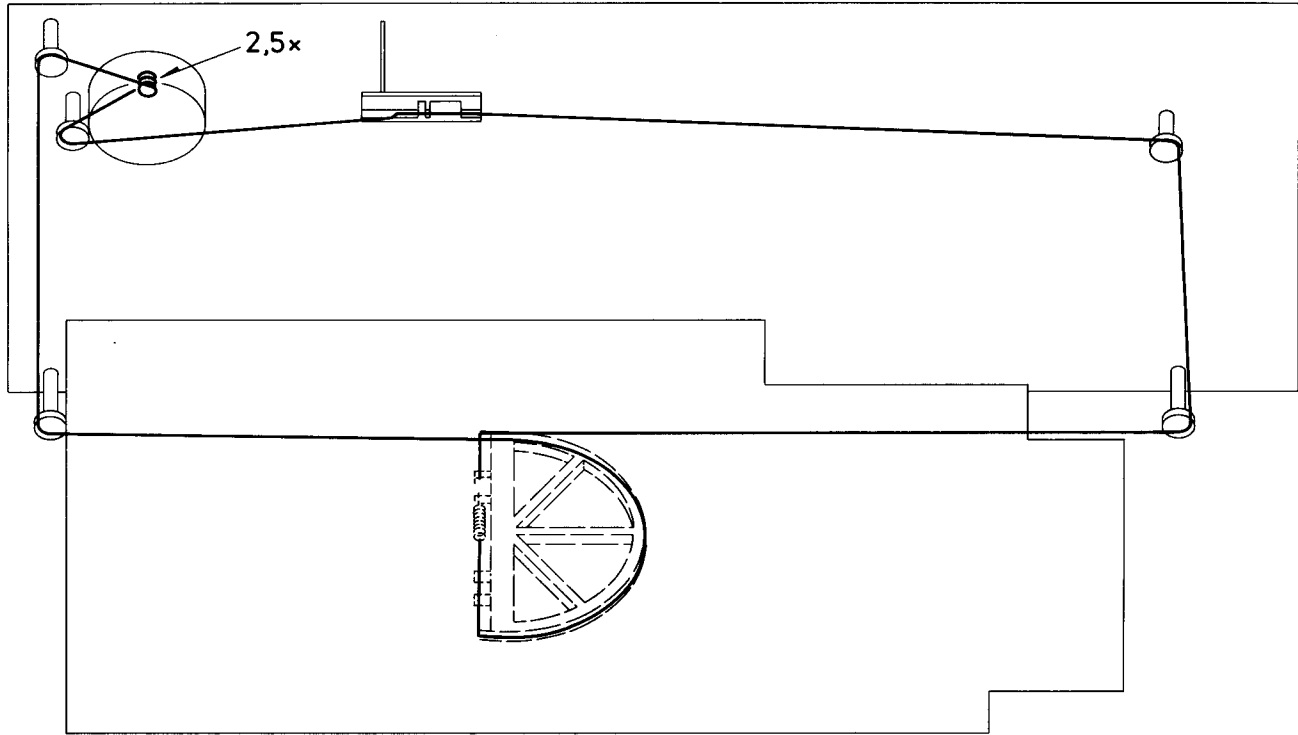
Cord length approx. 1450 mm

ENTRAINEMENT AM/FM

longueur de cable 1450 mm

MONTAGGIO DELLA FUNICELLA AM/FM

lunghezza della funicella ca. 1450 mm

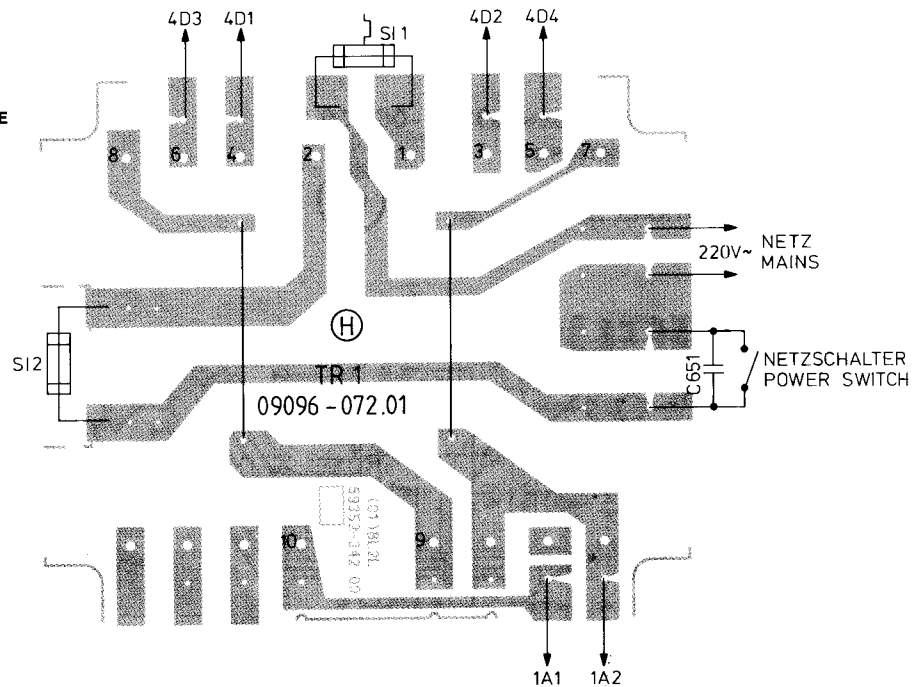


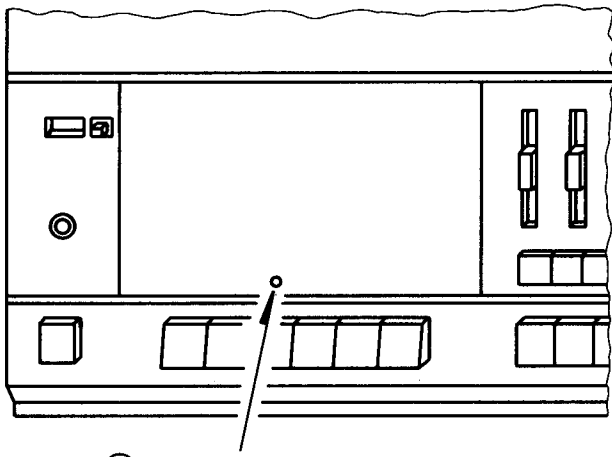
Trafo-Platte, Lötseite 59352-095.00

TRANSFORMER BOARD, SOLDER SIDE

CI TRANSFORMATEUR, COTE SOUDURES

PIASTRA TRASFORMATORE, LATO SALDATURE





⊗ Azimut / Azimuth

FE } BANDSORTEN
CR } TAPE TYPES
HE } TYPES DES BANDES
TIPO DI NASTRO

A - AUFNAHME RECORD ENREGISTREMENT REGISTRAZIONE

W - WIEDERGABE PLAYBACK REPRODUCTION RIPRODUZIONE

- ⚠ FUER DIE GERAETESICHERHEIT ABSOLUT NOTWENDIG UND ENTSPRECHEND DEN RICHTLINIEN DES VDE BZW. IEC, IN ERSATZFALL DUEFEN NUR BAUTEILE MIT GLEICHER SPEZIFIKATION VERWENDET WERDEN.
- ⚠ ABSOLUTELY NECESSARY FOR THE SAFETY OF THE SET, THESE COMPONENTS MEET THE SAFETY REQUIREMENTS ACCORDING TO VDE OR IEC, RESP. AND MUST BE REPLACED BY PARTS OF SAME SPECIFICATION ONLY.
- ⚠ ABSOLUMENT NECESSAIRE POUR LA SECURITE DE L'APPAREIL ET CONFORME AUX REGULATIONS VDE ET IEC, EN CAS DE REMPLACEMENT, N'UTILISER QUE DES COMPOSANTS AVEC LES MEMES SPECIFICATIONS.
- ⚠ NECESSARI PER LA SICUREZZA DELL' APPARECCHIO E SONO CONFORMI ALLE NORMI DI SICUREZZA VDE E IEC, IN CASA DI SOSTITUZIONE IMPIEGARE QUINDI SOLTANTO PEZZI DI RICAMBIO ORIGINALI.

SPANNUNGEN MIT VOLTMETER (RI-10MΩ) FALLS NICHT ANDERS ANGEGEBEN, GEGEN MASSE GEMESSEN. MESSWERTE GELTEN BEI 220V~ NETZSPANNUNG.

IF NOT OTHERWISE INDICATED ALL VOLTAGES ARE MEASURED AGAINST CHASSIS WITH A VOLTMETER (RI-10MΩ). THE VALUES ARE VALID FOR 220V AC MAINS VOLTAGES.

SAUF INDICATION CONTRAIRE, LES TENSIONS SONT MESUREES PAR RAPPORT AU CHASSIS AVEC UN VOLTMETRE (RI-10MΩ). LES VALEURS SONT VALABLES POUR UNE TENSION SECTEUR DE 220V~ CA.

TENSIONI MISURATE CON VOLTMETRO (RI-10MΩ), SALVE ALTRE INDICAZIONI RIFERITE A MASSA, I VALORI DI MISURA VALGONO CON TENSIONE DI RETE DI 220V~.

- ⊖ BEI FM
- BEI AM
- ⊖ BEI TB AUFNAHME CR / ON TR RECORD. CR / EN ENREG. MAGN. CR / IN REGISTR. CR
- ⊖ BEI TB WIEDERGABE CR / ON TR PLAYBACK CR / EN LECTURE MAGN. CR / IN RIPRODUZ. CR
- NF-SPANNUNGEN FUER 15W/40HM ±7,74V BEI 1KHZ, LAUTSTAERKE VOLL AUF, LIN. AF VOLTAGES AT 15W/40HM ±7,74V AND 1KHZ, MAX. VOLUME POS. LIN. TENSIONI BF PER 15W/40HM 7,74V A 1KHZ, PUISSANCE MAXIMUM, POS. LIN. TENSIONI BF PER 15W/40HM 7,74V SU 1KHZ VOLUME AL MASSIMO, LIN.

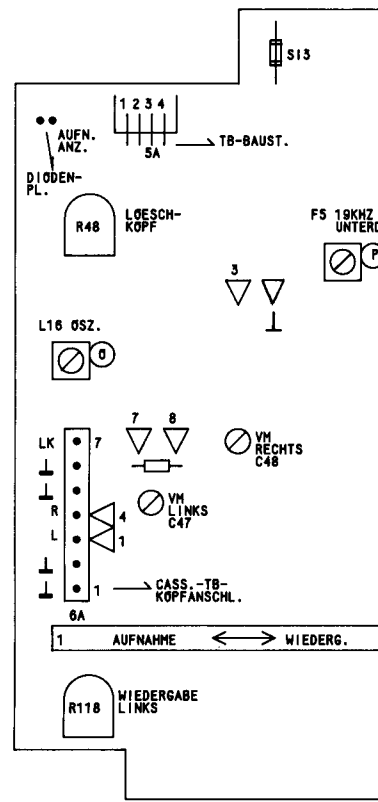
KONDENSATOR/CAPACITOR
CONDENSATEUR/CONDENSATORE

- ELKO ELECTROLYTIC
ELECTROLYTIQUE
ELETTROLITICO
- TANTAL ELKO TANTALUM ELECTROLYTIC
ELECTROLYTIQUE AU TANTALE
ELETTROLITICO AL TANTALIO
- FOLIE FOIL
A FEUILLE
A FOGLIA
- KERAMIK CERAMIC
CERAMIQUE
A CERAMICA
- GLIMMER MICA
AU MICA
A MICA
- VIELSCHICHT MULTILAYER
A COUCHES MULTIPLES
A PIU' STRATI
- POLYPROPYLEN (KP-KS)

WIDERSTAND/RESISTOR
RESISTANZA/RESISTENZA

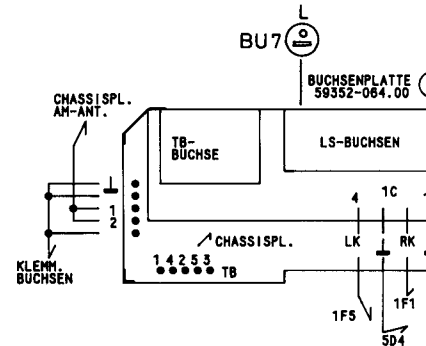
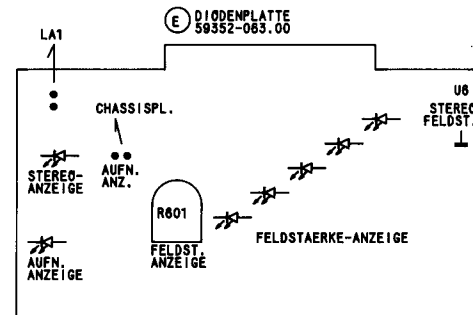
- KSW 0204 DIN
- MSW 0204 DIN
- KSW 0207 DIN
- MSW 0207 DIN
- KSW 0309 DIN
- KSW 0411 DIN
- KSW 0617 DIN
- MSW 0309 DIN
- NTC
- DRAHT WIRE
BOBINEE
A FILO
- METALLOXYDSCHICHT METAL OXIDE
A OXYDE METALLIQUE
AD OSSIDO METALLICO
- RAUSCHARM LOW NOISE
A SOUFFLE REDUIT
A BASSO RUMORE
- SCHWER ENTFLAMMBAR LOW FLAMMABILITY
PEU INFLAMMABLE
A BASSA INFLAMMIABILITA
- SICHERUNGSWIDERSTAND SAFETY RESISTOR
FUSIBLE
DI SICUREZZA

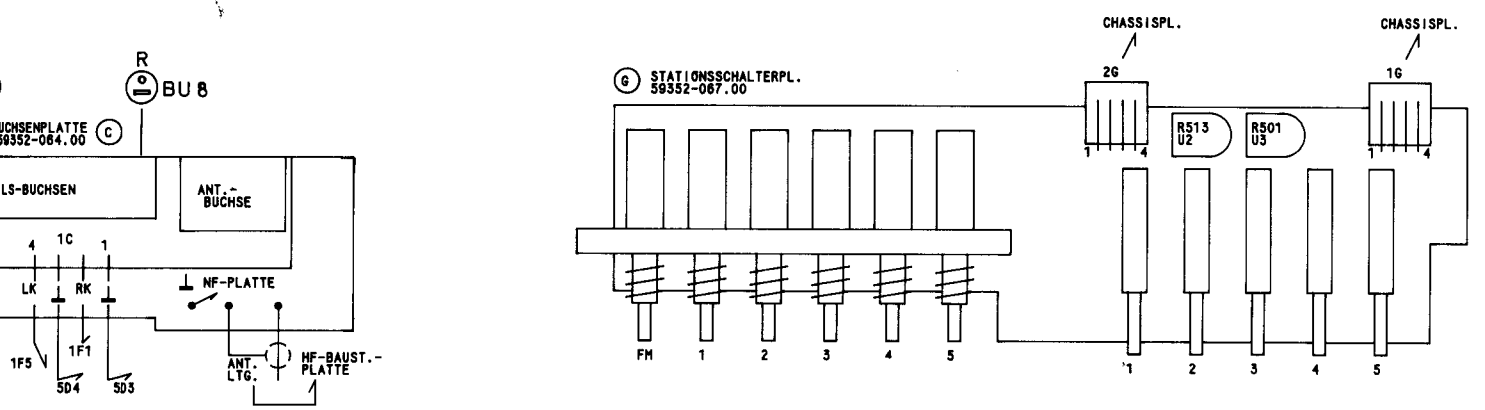
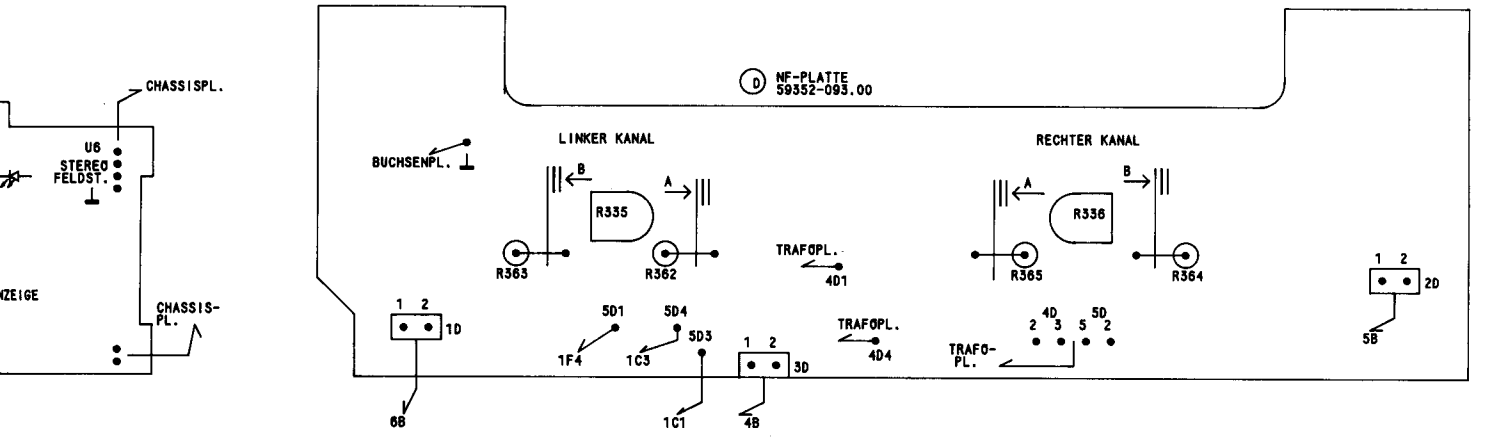
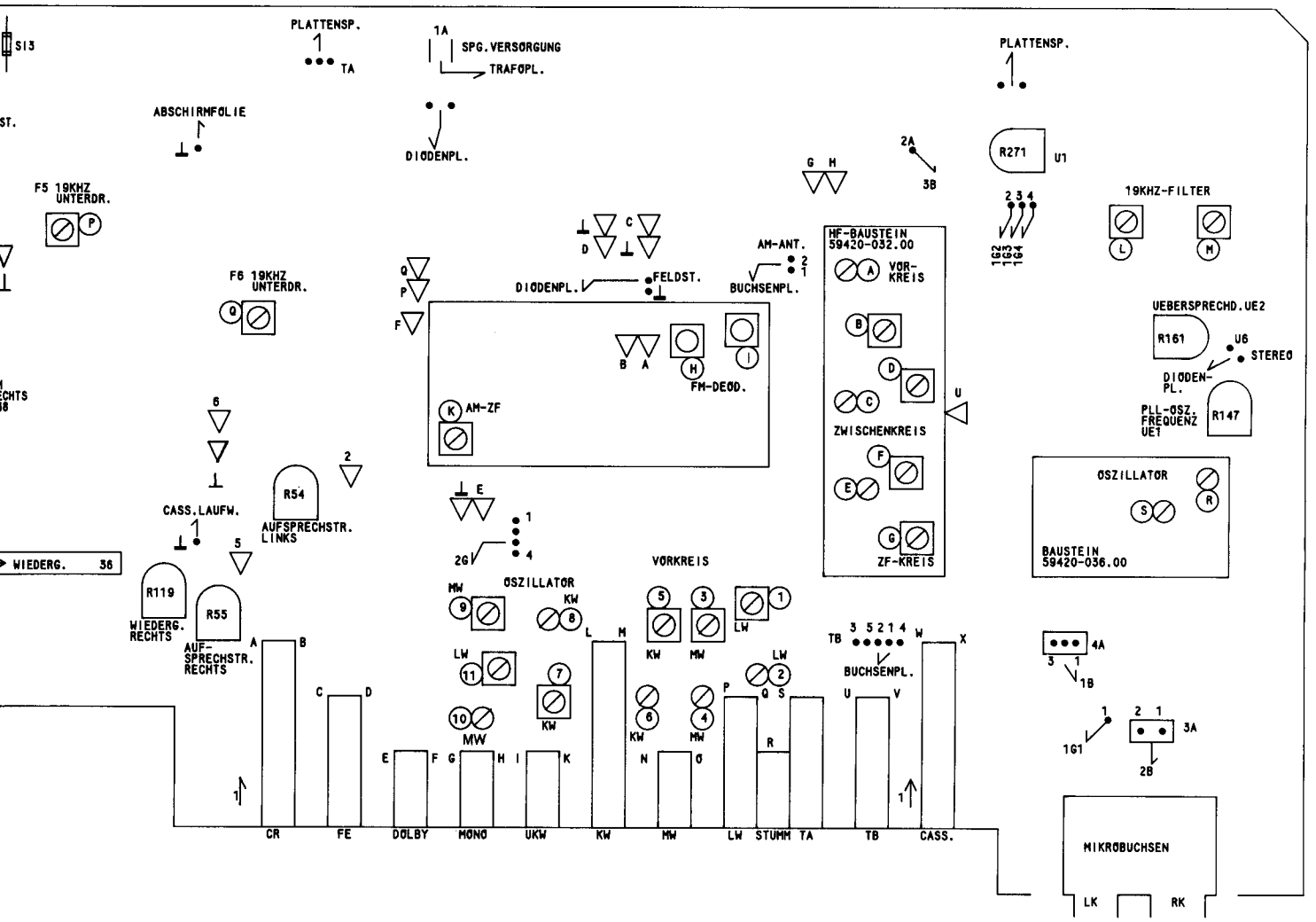
ÄNDERUNGEN VORBEHALTEN
SUBJECT TO ALTERATION
MODIFICATIONS RESERVEES
CON RISERVA DI MODIFICA

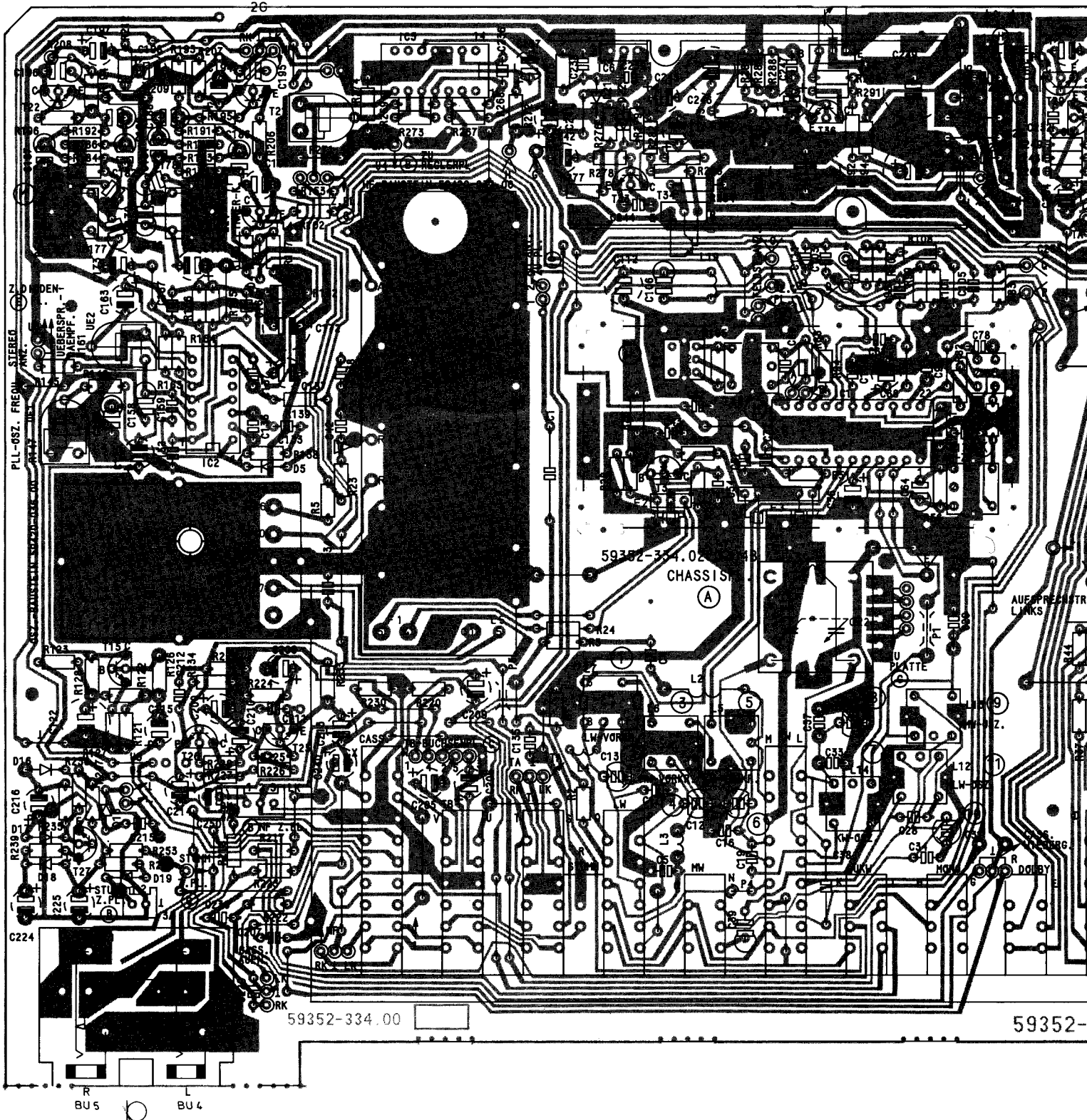


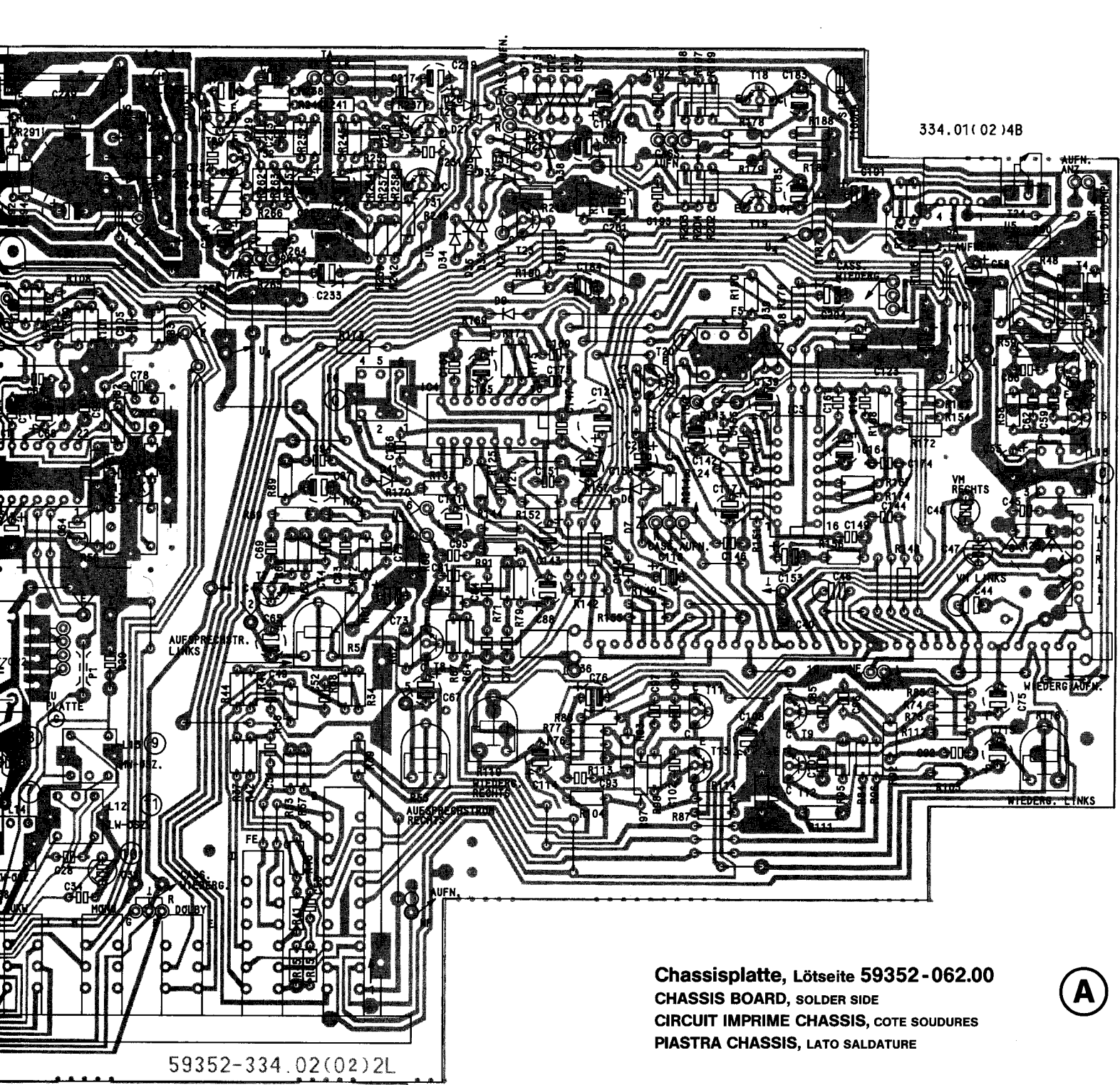
Ⓐ CHASSISPLATTE 59352-062.00

**Abgleich-Lageplan
ALIGNMENT SCHEME
PLAN DE REGLAGE
PIANO DI TARATURA**









334.01(02)4B

59352-334.02(02)2L

Chassisplatte, Lötseite 59352-062.00
CHASSIS BOARD, SOLDER SIDE
CIRCUIT IMPRIME CHASSIS, COTE SOUDURES
PIASTRA CHASSIS, LATO SALDATURE

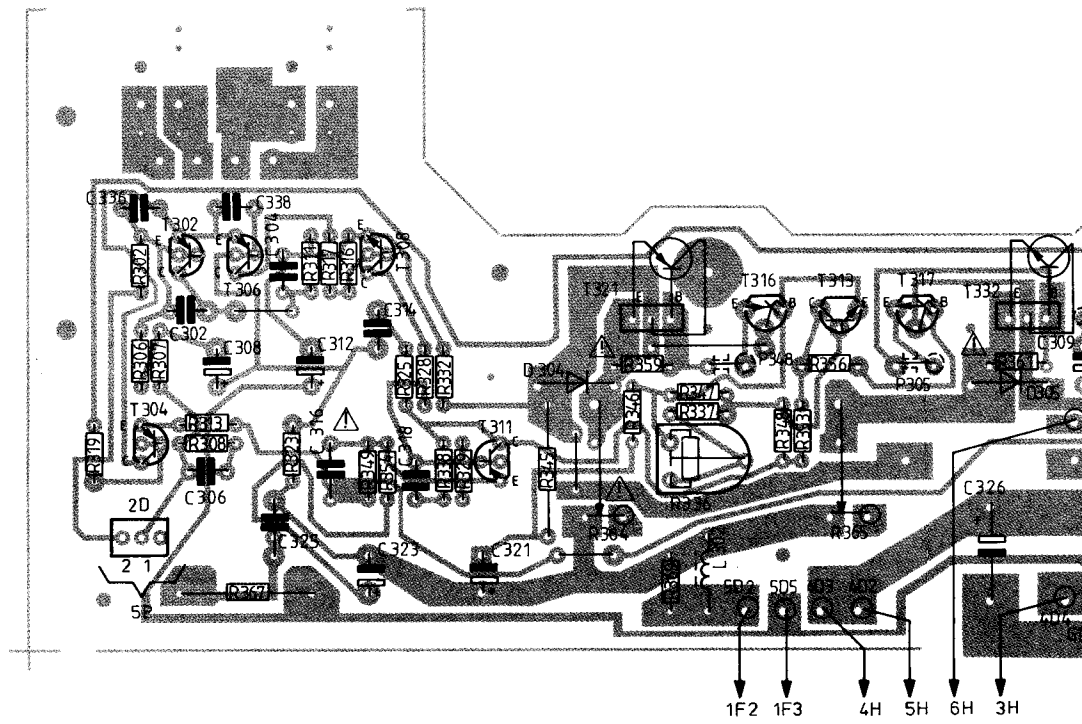
A

NF-Platte, Lötseite 59352-093.00

AF BOARD, SOLDER SIDE

PLAQUE BF, CÔTE SOUDURES

PIASTRA BF, LATO SALDATURE

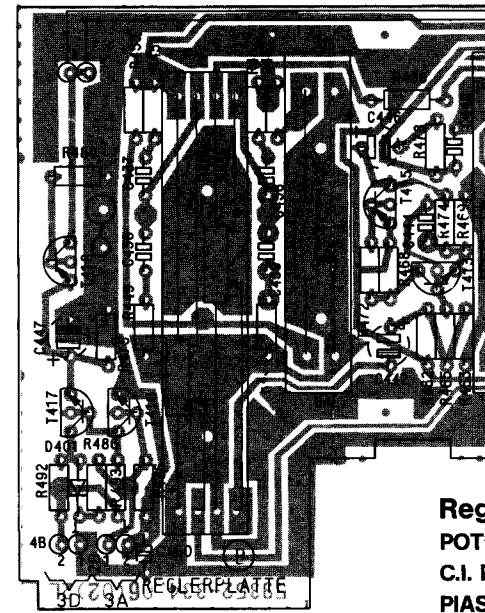
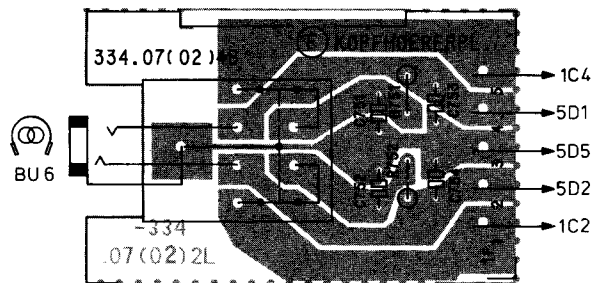


Kopfhörerplatte, Lötseite 59352-066.00

HEADPHONE BOARD, SOLDER SIDE

PLAQUE CASQUE, COTE SOUDURES

PIASTRA CUFFIA, LATO SALDATURE



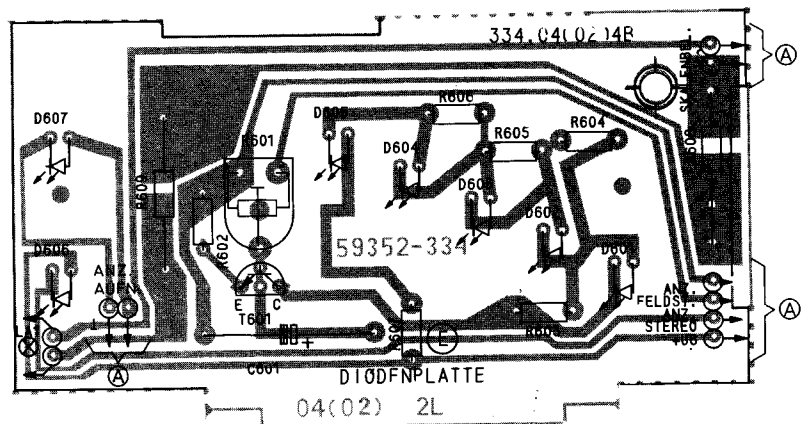
Reg
POT
C.I.
PIAS

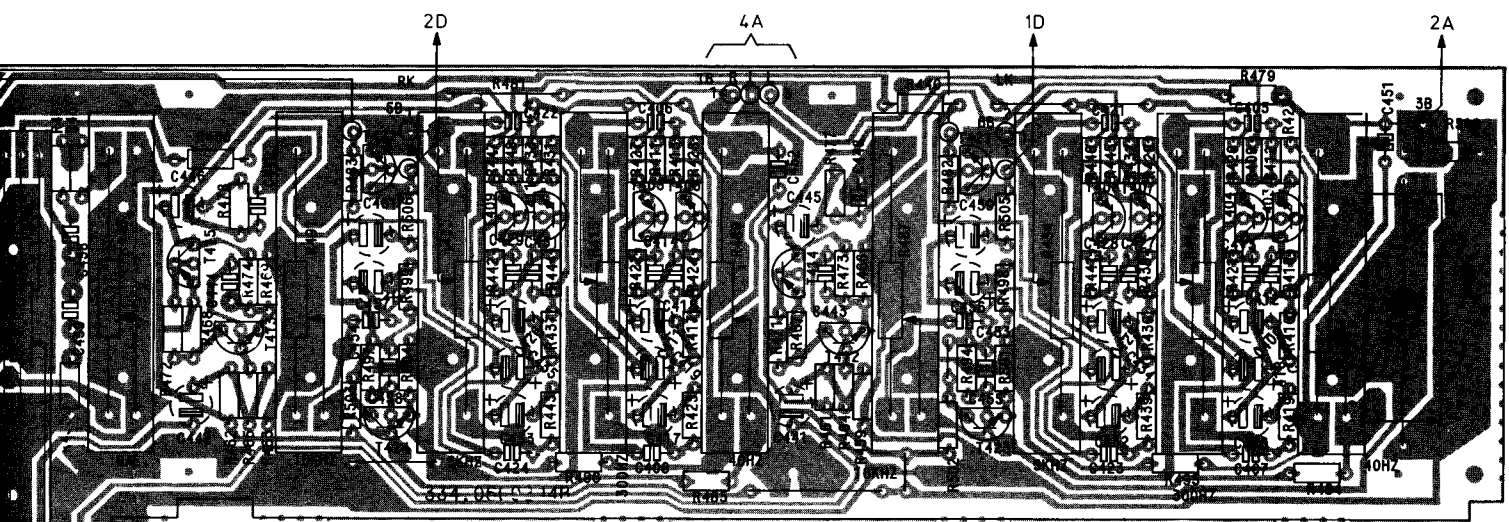
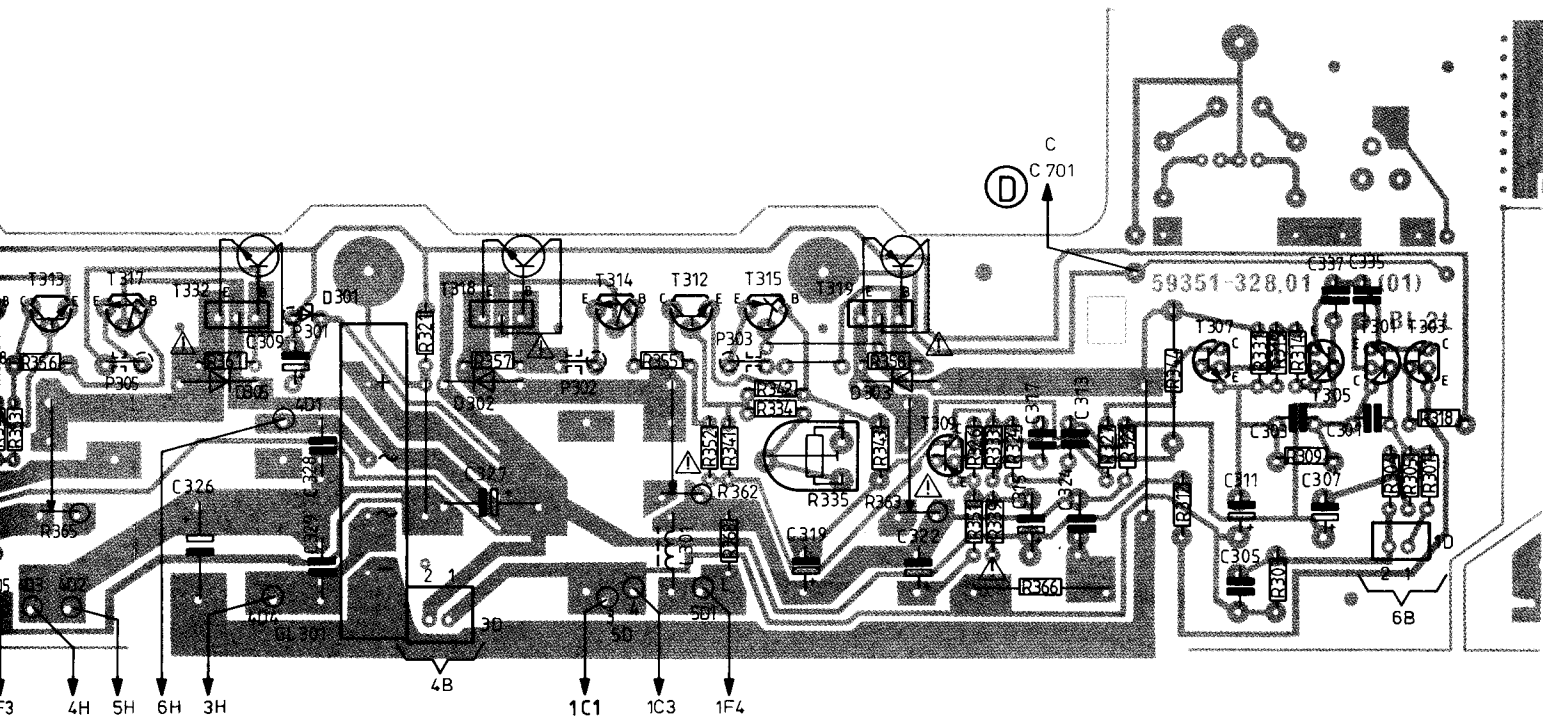
Dioden-Platte, Lötseite 59352-063.00

DIODE BOARD, SOLDER SIDE

PLAQUE DIODES, COTE SOUDURES

PIASTRA DIODI, LATO SALDATURE



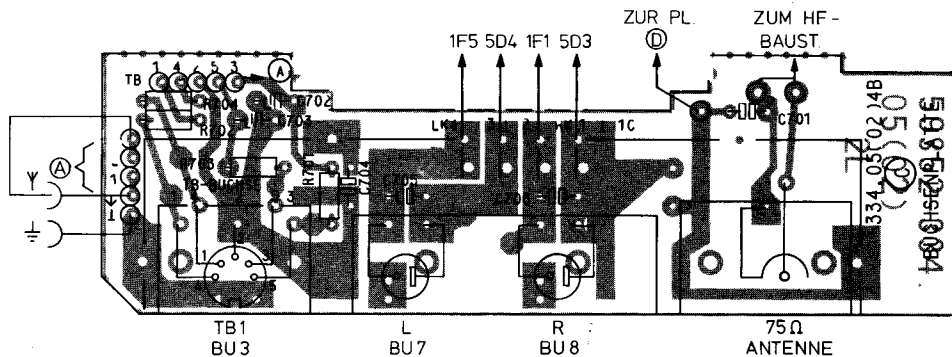


Regler-Platte, Lötseite 59352-065.00
POTENTIOMETER BOARD, SOLDER SIDE
C.I. POTENTIONMETRES, COTE DES SOUDURES
PIASTRA DI REGOLAZIONE, LATO SALDATURE

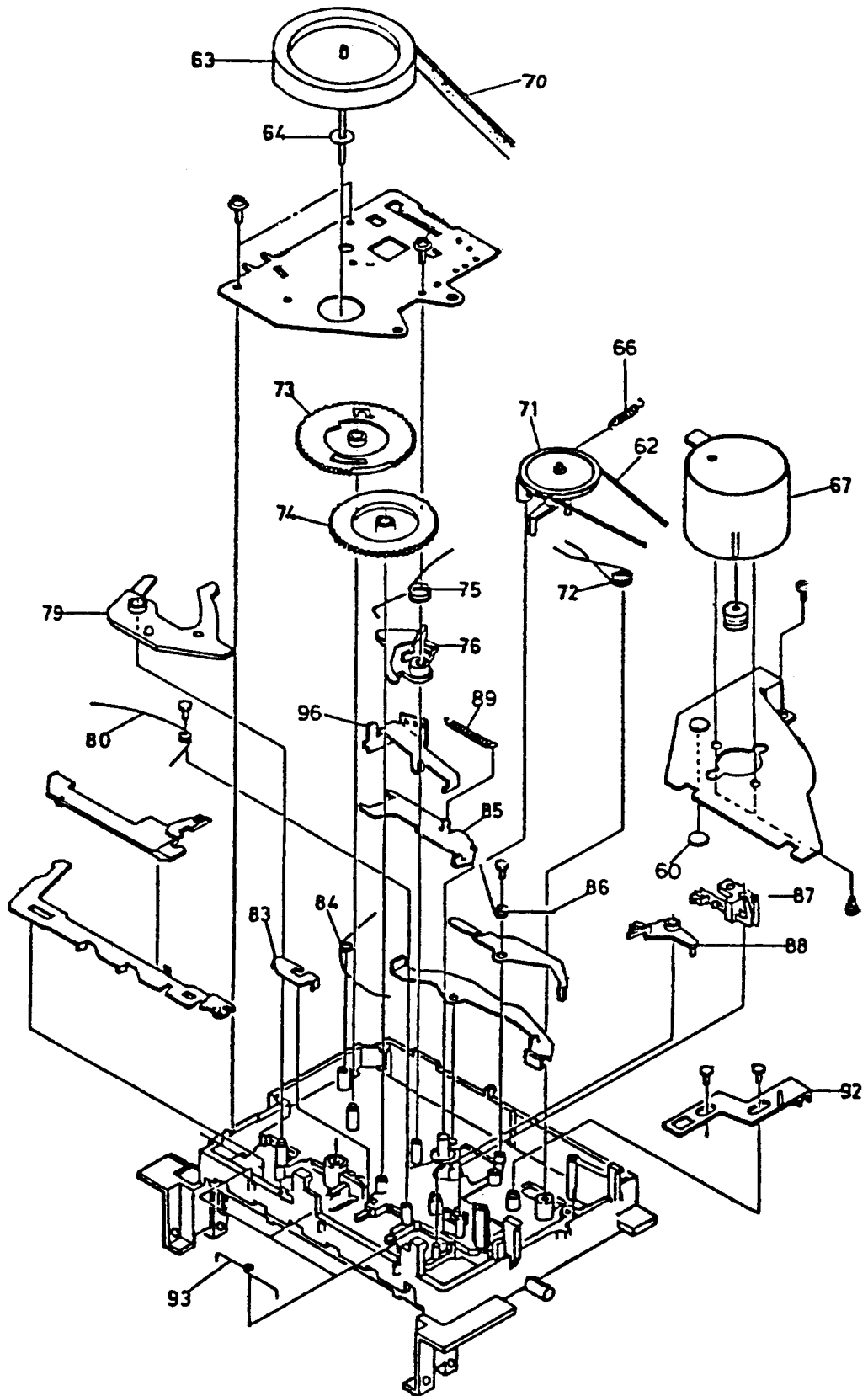
(B)

Buchsenplatte, Lötseite 59352-064.00
SOCKET BOARD, SOLDER SIDE
PLAQUE PRISES, COTE SOUDURES
PIASTRA PRESE, LATO SALDATURE

(C)



EXPLOSIONSZEICHNUNG



EXPLOSION VIEW

