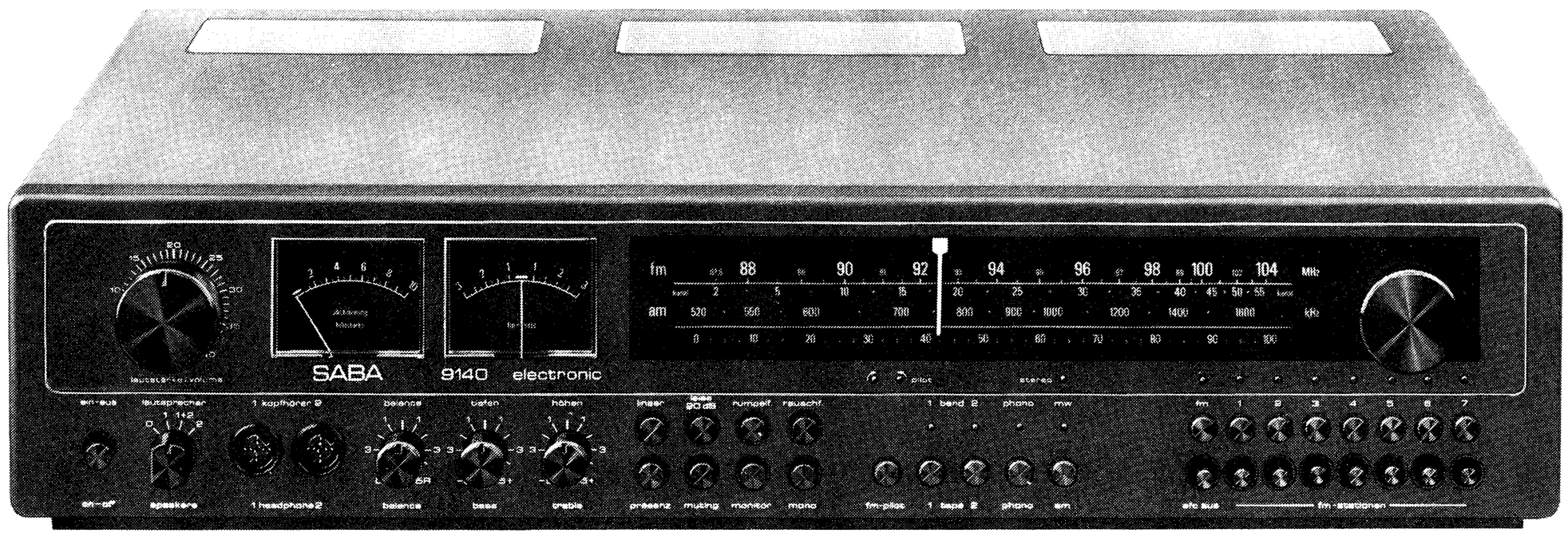
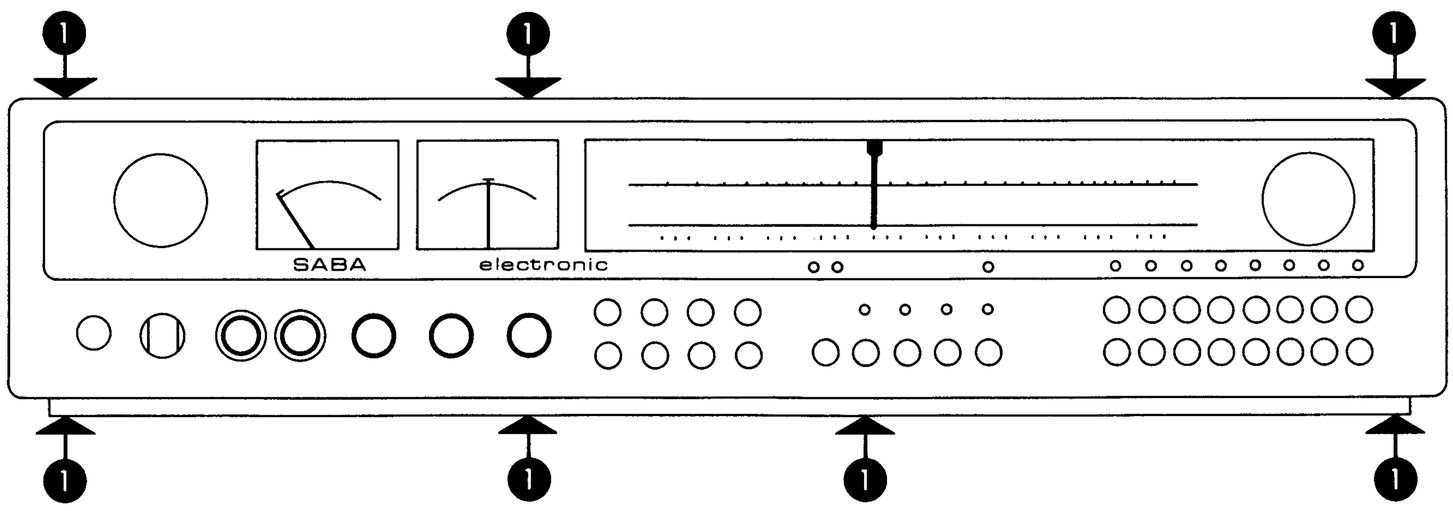
SABA

HiFi 151

Service-Instruction

ULTRA HiFi professional 9140 electronic





Ausbauhinweise

1. Gerät mit der Oberseite auf eine weiche Unterlage legen.
2. Die vier Befestigungsschrauben lösen.
3. Gerät wieder umdrehen und Chassis nach vorne herausziehen.

Zum Ausbau der Frontplatte werden die Schrauben ❶ entfernt und die Drehknöpfe abgenommen.

Instructions pour le démontage

1. Placer l'appareil sens dessus-dessous sur une surface douce.
2. Dévisser les quatre vis de fixation.
3. Retourner l'appareil dans le bon sens et retirer le châssis vers l'avant.

Pour démonter la plaque frontale, enlever les vis ❶ et enlever les boutons.

Instructions for removal

1. Place the set-up-side-down on a soft surface.
2. Unscrew the 4 mounting screws.
3. Turn the set right-side-up and pull the chassis out towards the front.

To remove the front panel, loosen the screws ❶ and remove the rotary knobs.

Istruzioni di smontaggio

1. Appoggiare l'apparecchio con la sua parte superiore su un piano soffice.
2. Svitare le 4 viti di fissaggio.
3. Rigirare l'apparecchio ed estrarre il telaio verso il frontale.

Per smontare il frontale, vengono levate le viti ❶ e le manopole.

Diagnosesystem für die meßtechnische Ermittlung defekter Funktionseinheiten.
Meßmittel: Oszillograf 10 MHz, AC-DC-Eingang, Tastkopf 10:1
Troubleshooting system for defecting faults in functional units.
Test equipment: 10 MHz oscilloscope, AC-DC-input, 10:1 probe.
Méthode de diagnostic pour la localisation de sous-ensembles défectues ainsi la mesure.
Appareils nécessaires: Oszillographe 10 MHz, entrée continu et alternatif, sonde desure 10:1.
Sistema di diagnosi per individuare unità difettose con misurazioni.
Strumento: oscilloscopio 10 MHz, ingresso AC DC, sonda 10:1.

Änderungen vorbehalten!
Subject to modification without notice!
Modifications réservées!
Con riserva di modifiche!

Baugruppe Unit Sous ensemble Unità modulare	Funktion Function Fonction Funzione	Eingangssignal Input signal Signal d'entrée Segnale d'ingresso	Ausgangssignal Output signal Signal de sortie Segnale d'uscità
Netzteil 15 Power supply Alimentation secteur Alimentatore rete	Gleichrichtung Rectification Redressement Raddrizzazione Stabilisierung Stabilisation Stabilisation Stabilizzazione	G4 = FM 15 V G5 = AM 15 V J5 = 60 V J6 = 23 V	F3 = 45 V F4 = 15 V F5 = AM 15 V F6 = FM 15 V H2 = 45 V
Abstimmsp. 33 Tuning voltage Tension de synton. Tensione de sintonia F4 = 15 V F3 = 45 V	Stabilisierung Stabilisation Stabilisation Stabilizzazione Nachstimmung Post tuning Correction d'accord Correzione sintonia	C9 = afc 5,8V A6, B7: ± 25 mV 0 V bei Sendermitte 0 V Station carrier 0 V au point milieu de l'emetteur 0 V a metà trasmettitore	B9 = 4 V B8 = 31 V
FM-Tuner 2 FM-Tuner Tuner-FM Tuner-FM A3 = FM 15 V	HF-Verstärkung HF-amplification Amplification-HF Ampli.-AF Mischung Mixture Mélange Miscelazione	A5 = Abstimmspannung 3 . . . 22 V Tuning voltage 3 . . . 22 V Tension de syntonisation 3 . . . 22 V Tensione de sintonia 3 . . . 22 V	A4 = FM 10,7 MHz 1,6 V DC
FM-ZF 3 FM-IF FI-FM FI-FM A2 = FM 15 V	ZF-Verstärkung IF-amplification Ampli.-FI Ampli.-FI Demodulation Demodulation Démodulation Demodulazione Still-Steuerung Mute control Silencieux Pilotaggio sordina	Stereo-Coder an Antenneneingang 1 mV HF, 40 kHz Hub und Pilot, 1 kHz rechts. Stereo-Coder at antenna input 1 mV HF, 40 kHz deviation and pilot frequency, 1 kHz to the right. Codeur-stéréo sur entrée antenne 1 mV HF, excursion 40 kHz en fréquence piloté modulée par 1 kHz, canal de droite. Codeficatore stereo all'ingresso antenna 1 mV AF, 40 kHz vobulazione e pilot, 1 kHz destra.	B6 = 3 V DC B5 = 900 mV B2 = 6 V DC 150 mV_{eff} MPX-Signal MPX segnale B3, B4: ± 400 mV DC 0 V bei Sendermitte 0 V Station carrier 0 V au point milieu de l'emetteur 0 V a metà trasmettitore
Stereo-Decoder Stereo-decoder 4 Décodeur-stéréo Decoder stereo C5 = FM 15 V	Multiplex-Decodierung Multiplex decoding Décodage multiplex Decodificatione multiplex	Stereo-Coder an Antenneneingang 1 mV HF, 40 kHz Hub und Pilot, 1 kHz rechts. Stereo-Coder at antenna input 1 mV HF, 40 kHz deviation and pilot frequency, 1 kHz to the right. Codeur-stéréo sur entrée antenne 1 mV HF, excursion 40 kHz en fréquence piloté modulée par 1 kHz, canal de droite. Codeficatore stereo all'ingresso antenna 1 mV AF, 40 kHz vobulazione e pilot, 1 kHz destra. D4 = 15 V DC C6 = 3 V DC 150 mV_{eff} MPX	D3 = 10 V L C4 = 5 V DC 20 mV_{eff} 1 kHz L D8 = 0 V DC 30 mV_{eff} 1 kHz R D6 = 5 V DC 900 mV_{eff} 1 kHz R G6 = 0 V DC 1,3 V_{eff} 1 kHz
AM-ZF 5 AM-IF FI-AM FI-AM Betriebsspannung: Operating voltage: Tension d'aligmentation: Tensione lavoro: D1 = AM 15 V	Mischung Mixture Mélange Miscelazione ZF-Verstärkung IF-amplification Ampli.-FI Ampli.-FI	AM-Sender an Antenneneingang 1 mV HF, 800 kHz, 1 kHz 30% Modulation AM-Station at antenna input 1 mV HF, 800 kHz, 1 kHz 30% modulation. Emetteur-AM sur entrée antenne 1 mV HF, 800 kHz, 1 kHz 30% modulation. Generatore AM all'ingresso antenna 1 mV AF, 800 kHz, 1 kHz modulazione 30%. C1 = 1,0 V DC HF 5,5 V_{SS} vom Oszillator Oscillator Oscillateur Oscillatore	D2 = 4,0 V DC 400 mV_{eff} 1 kHz SABA SERVICE-ORGANISATION

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Baugruppe Unit Sous ensemble Unità modulare	Funktion Function Fonction Funzione	Eingangssignal Input signal Signal d'entrée Segnale d'ingresso	Ausgangssignal Output signal Signal de sortie Segnale d'uscita
7 **Phono** Phono PU Fono Betriebsspannung: Operating voltage: Tension d'aligmentation: Tensione lavoro: H8 = 31 V	Vorverstärkung Pre-amplification Préamplification Preamplificazione Schneidkennlinienentzerrung All adjustments "linear" Tous les réglages sur "linéaire" Equalizzazione della curva di incisione	Sinusgenerator an Buchse „Phono" Stift 3 und 5 Sinus generator on socket "Phono" at pin 3 and 5 Générateur sinusoidal sur prise "PU" sur contact 3 sur 5 Generatore sinusoidale alla boccola "Fono" contatto 3 e 5 100 Hz 10 mV_{eff} 1 kHz 10 mV_{eff} 10 kHz 10 mV_{eff}	L H7 100 Hz 4,1 V_{eff} 1 kHz 900 mV_{eff} 10 kHz 190 mV_{eff} R G9 100 Hz 4,1 V_{eff} 1 kHz 900 mV_{eff} 10 kHz 190 mV_{eff}
Betriebsart-umschaltung Operation type change over Commutateur de fonctions Commutazione modo funzionamento F9 = 19 V	Bereichswahl Range selection Choix des gammes Selezione banda	1 kHz, 500 mV_{eff} wahlweise an Buchse „Bd I", „Bd II", „Monitor", Stift 3 und 5, entsprechende Taste drücken, alle Einstellungen „Linear", Lautsprecherausgänge L/R Last-widerstand 4 Ohm 1 kHz, 500 mV_{eff} at socket "Bd I", "Bd II" or "Monitor" at pin 3 and 5, push corresponding button, all adjustments "Linear", Loudspeaker output left/right ballast resistance 4 Ohm 1 kHz, 500 mV_{eff} sur prise "Bd I", "Bd II", ou "Monitor" sur contact 3 sur 5, touche corresp., tous les réglages sur "Lineare", sorties haut par leurs gauche/droite chargées par 4 Ohm 1 kHz, 500 mV_{eff} alla boccola "Bd I", "Bd II", o "Monitor" contatto 3 e 5, tasto corrispondente, tutte le regolazioni "Linear", uscite altoparlante S/D resistenza di carico 4 Ohm	L F7 = 10 V DC 500 mV_{eff} 1 kHz R E9 = 10 V DC 500 mV_{eff} 1 kHz
24 **Bandpass** Bandpass Filtre de bande Passabanda Stift 1 12 V Pin 1 12 V Contact 1 12 V Contatto 1 12 V	Übertragungsbereich-Begrenz. Transmission range limiting Limitation de la bande passante Limitazione risposta di frequenza	L F8 = 10 V DC 250 mV_{eff} R E6 = 10 V DC 250 mV_{eff}	L E8 = 10 V DC 250 mV_{eff} R E7 = 10 V DC 250 mV_{eff}
9 **NF-Filter** Audio-Filter Filtres-BF Filtro-BF G3 = 39 V	Rumpel- und Rausch-absenkung Rumble- and noise reduction Atténuation du rumble et du souffle Attenuazione rombo e fruscio	L F2 = 500 mV_{eff} R F1 = 500 mV_{eff}	L G2 = 24 V DC 500 mV_{eff} R G1 = 24 V DC 500 mV_{eff}
11 **Linear-Verst.** Linear-Amplifier Amplificateur lin. Amplificatore lin. H1 = 23 V	Signal-Anhebung Level accentuation Accentuation du signal Accentuazione segnale Präsenz-Anhebung Presence accentuation Accentuation présence Accentuazione presenza	L J4 = 40 mV_{eff} R J3 = 40 mV_{eff}	L J1 = 10 V DC 200 mV_{eff} R J2 = 10 V DC 200 mV_{eff}

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Con riserva di modifiche!

Baugruppe Unit Sous ensemble Unità modulare	Funktion Function Fonction Funzione	Eingangssignal Input signal Signal d'entrée Segnale d'ingresso	Ausgangssignal Output signal Signal de sortie Segnale d'uscita
12 **Klang** Tone Tonalité Suono Betriebsspannung: Operating voltage: Tension d'aligmentation: Tensione lavoro: L1 = 23 V	Aktives Filter Active filter Filtre actif Filtro attivo	L K4 = 1 mV_{eff} R K3 = 1 mV_{eff}	L K1 = 1,2 V DC 200 mV_{eff} R K2 = 1,2 V DC 200 mV_{eff}
13 **Treiber** Driver Driver Pilotaggio H5 – 32 V H3 + 32 V	Signal-Anhebung Level accentuation Accentuation du signal Accentuazione segnale Arbeitspunkt für Endstufe Final stage working point Point de fonctionnement pour les étages finals Punto lavoro stadio finale	L J8 = 150 mV_{eff} R H4 = 150 mV_{eff}	L J9 = –0,65 V DC 2,4 V_{eff} L K9 = 0,68 V DC 2,4 V_{eff} L K8 = 1,3 V DC 2,4 V_{eff} R G8 = –0,65 V DC 2,4 V_{eff} R G6 = 0,68 V DC 2,4 V_{eff} R G7 = 1,3 V DC 2,4 V_{eff}
31 **Relais** Relays Relais Relais Stift 10 12 V Pin 10 12 V Contact 10 12 V Contatto 10 12 V	Lautsprecherschutz Loudspeaker protection circuit Protection des haut-parleurs Protezione altoparlanti Einschaltverzögerung Switch-on delay Retard à la mise en service Ritardo accensione	L K6 = 0 V DC 2,4 V NF K5 = 0 V DC R L3 = 0 V DC 2,4 V NF J7 = 0 V DC	L L2 = 0 V 2,4 V NF R K7 = 0 V 2,4 V NF

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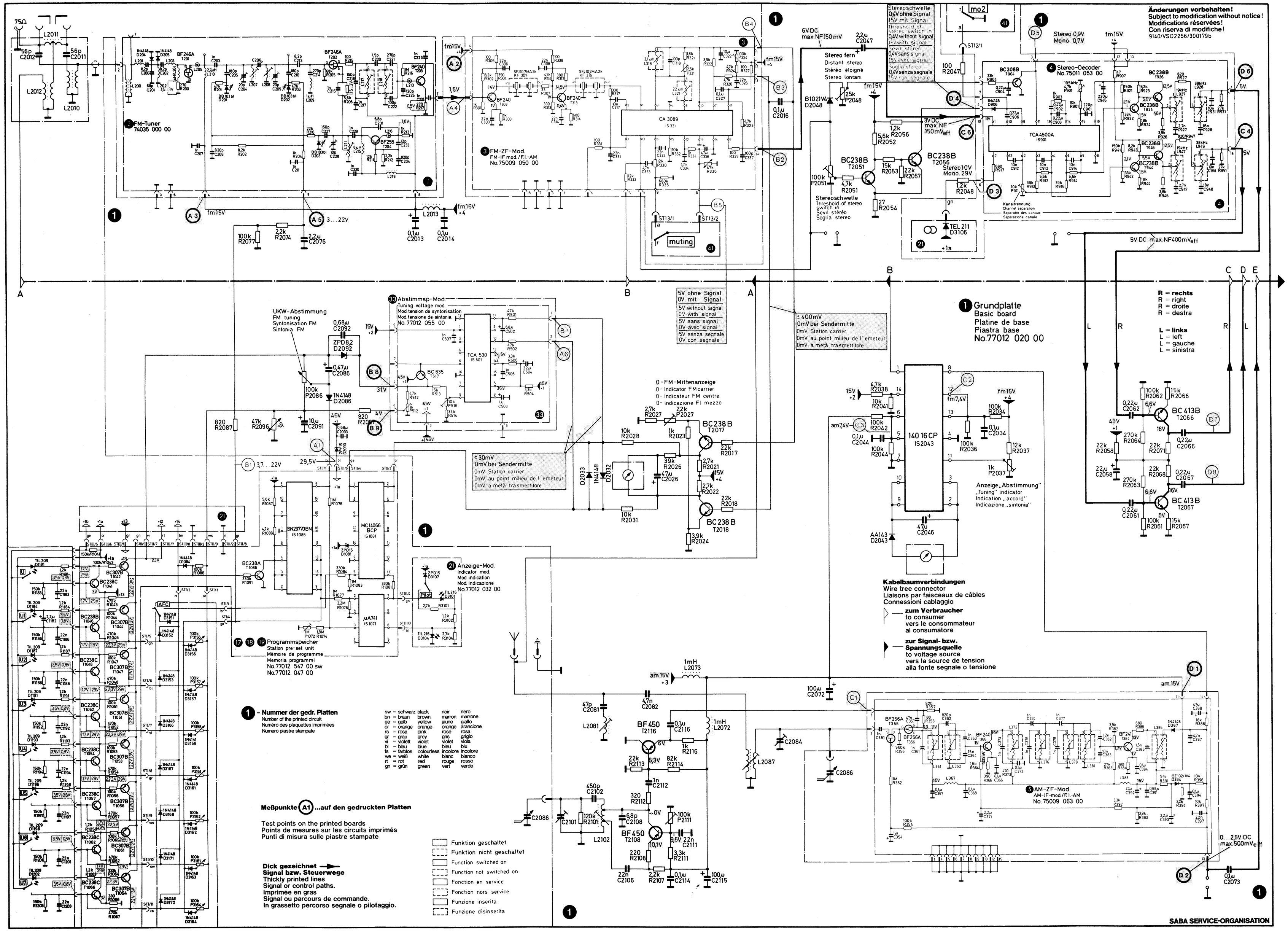
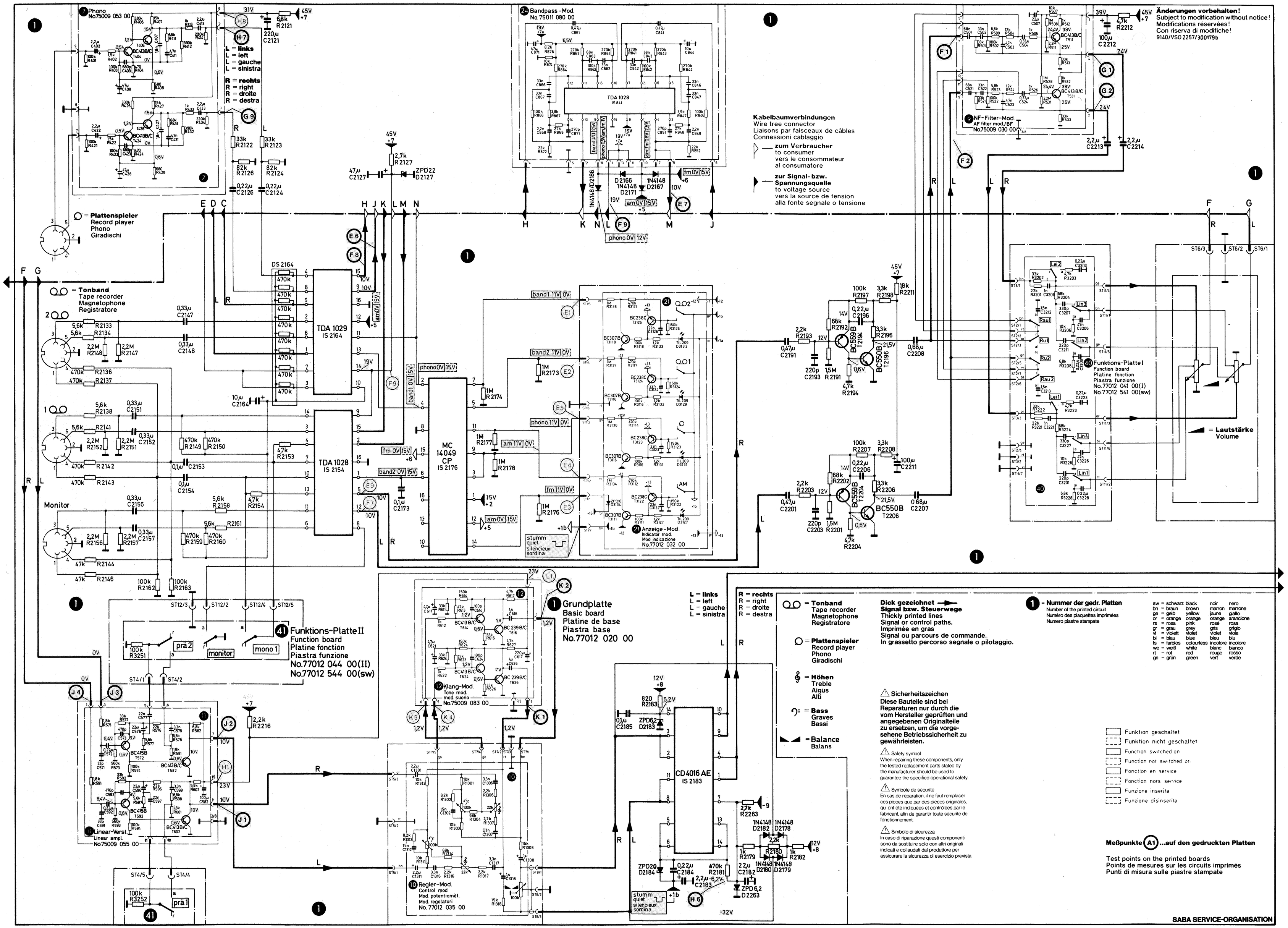
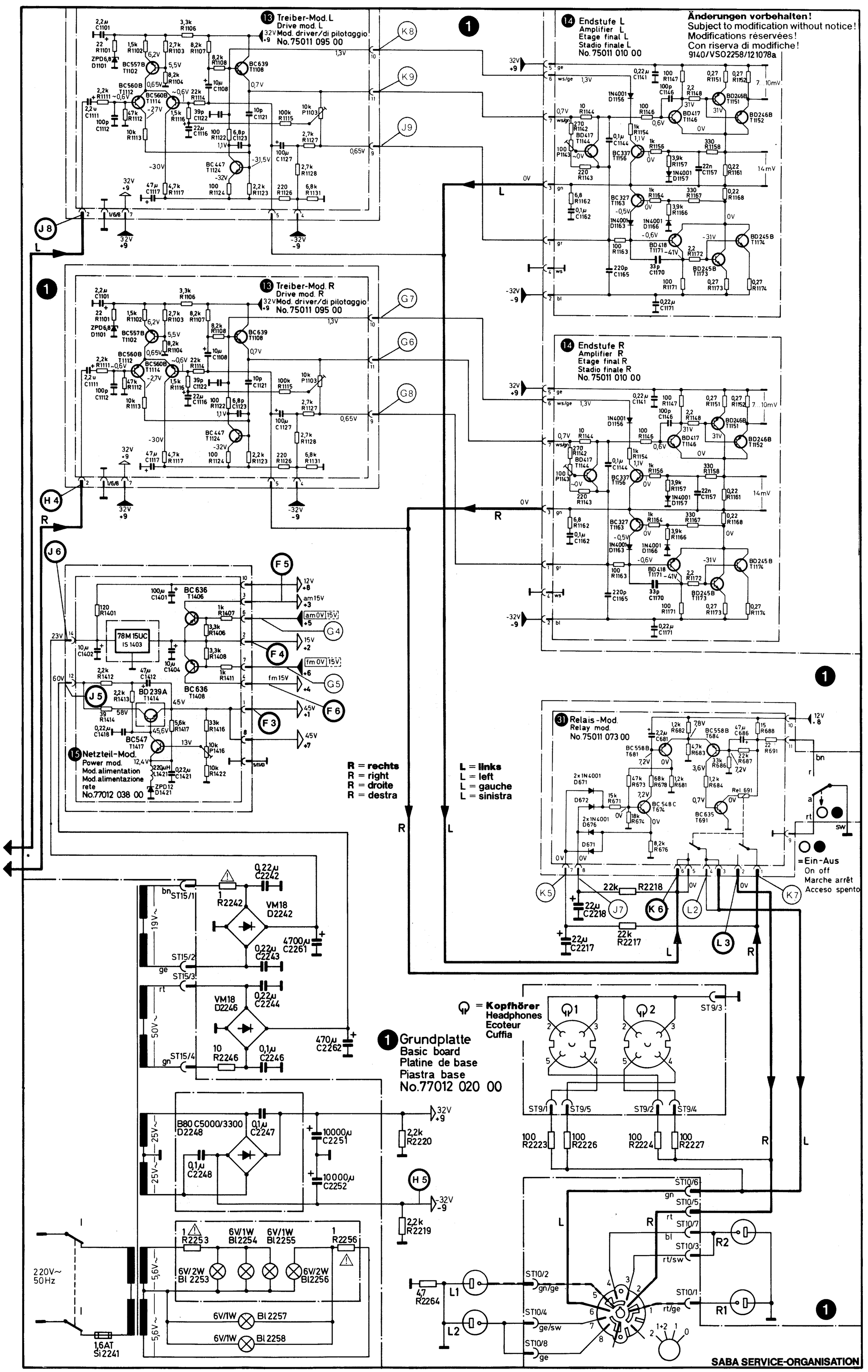

Änderungen vorbehalten!
Subject to modification without notice!
Modifications réservées!
Con riserva di modifiche!
9140/VSO2256/300179b
FM-Tuner 74035 000 00
FM-ZF-Mod. FM-IF mod./FI-AM No.75009 050 00
Stereo-Decoder No.75011 053 00
Grundplatte Basic board Platine de base Piastra base No.77012 020 00
Abstimmsp-Mod. Tuning voltage mod. Mod.tension de syntonisation Mod.tensione di sintonia No.77012 055 00
Anzeige-Mod. Indicator mod. Mod.indication Mod.indicazione No.77012 032 00
Programmspeicher Station pre-set unit Mémoire de programme Memoria programmi No.77012 547 00 sw No.77012 047 00
AM-ZF-Mod. AM-IF-mod./FI-AM No.75009 063 00
R = rechts
R = right
R = droite
R = destra
L = links
L = left
L = gauche
L = sinistra
Kabelbaumverbindungen
Wire tree connector
Liaisons par faisceaux de câbles
Connessioni cablaggio
zum Verbraucher
to consumer
vers le consommateur
al consumatore
zur Signal- bzw. Spannungsquelle
to voltage source
vers la source de tension
alla fonte segnale o tensione
Nummer der gedr. Platten
Number of the printed circuit
Numéro des plaquettes imprimées
Numero piastre stampate
Meßpunkte A1 ...auf den gedruckten Platten
Test points on the printed boards
Points de mesures sur les circuits imprimés
Punti di misura sulle piastre stampate
Dick gezeichnet
Signal bzw. Steuerwege
Thickly printed lines
Signal or control paths.
Imprimée en gras
Signal ou parcours de commande.
In grassetto percorso segnale o pilotaggio.
Funktion geschaltet
Funktion nicht geschaltet
Function switched on
Function not switched on
Fonction en service
Fonction hors service
Funzione inserita
Funzione disinserita
SABA SERVICE-ORGANISATION



sw = schwarz	black	noir	nero	
bn = braun	brown	marron	marrone	
ge = gelb	yellow	jaune	giallo	
or = orange	orange	orange	arancione	
rs = rosa	pink	rosé	rosa	
gr = grau	grey	gris	grigio	
vi = violett	violet	violet	violi	
bl = blau	blue	bleu	blu	
fs = farblos	colourless	incolore	incolore	
we = weiß	white	blanc	bianco	
rt = rot	red	rouge	rosso	
gn = grün	green	vert	verde	


Änderungen vorbehalten!
Subject to modification without notice!
Modifications réservées!
Con riserva di modifiche!
9140/VSO2258/121078a
13 Treiber-Mod. L
Drive mod. L
Mod. driver/di pilotaggio
No. 75011 095 00
13 Treiber-Mod. R
Drive mod. R
Mod. driver/di pilotaggio
No. 75011 095 00
14 Endstufe L
Amplifier L
Etage final L
Stadio finale L
No. 75011 010 00
14 Endstufe R
Amplifier R
Etage final R
Stadio finale R
No. 75011 010 00
15 Netzteil-Mod.
Power mod.
Mod. alimentation
Mod. alimentazione
rete
No. 77012 038 00
31 Relais-Mod.
Relay mod.
No. 75011 073 00
R = rechts
R = right
R = droite
R = destra
L = links
L = left
L = gauche
L = sinistra
= Ein-Aus
On off
Marche arrêt
Acceso spento
= Kopfhörer
Headphones
Ecoteur
Cuffia
1 Grundplatte
Basic board
Platine de base
Piastra base
No. 77012 020 00
220V~
50Hz
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Änderungen vorbehalten!
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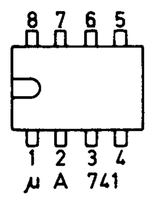
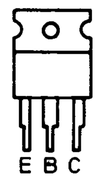
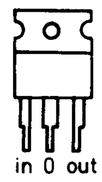
Modifications réservées!
Con riserva di modifiche!
9140/VSO 2259/110878

Transistoren von unten
Transistors from below
Transistor vue de dessous
Transistor visti dal basso

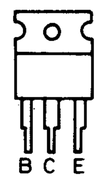




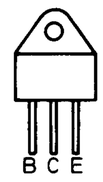
BD 417
BD 418



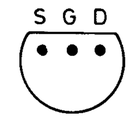
78M 15 UC



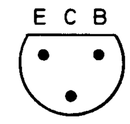
BD 239



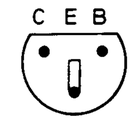
BD 245
BD 246



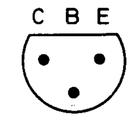
BF 246 A
BF 256 A



BC 635
BC 636
BC 639

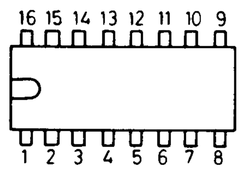


BF 199
BF 240
BF 241
BF 255
BF 450
BF 540

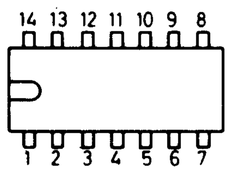


BC 238
BC 307
BC 308
BC 327
BC 337
BC 413
BC 415
BC 447
BC 546
BC 547
BC 548
BC 549
BC 550
BC 557
BC 558
BC 559
BC 560
BC 639

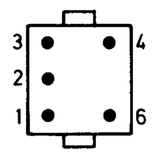
IS von oben
IC top view
Circuit intègrè vue de dessus
Circuiti integrati visti dall'alto



TCA 530
TDA 1028
CA 3089 E
TCA 4500 A
SN 29770 BN
MC 14049 CP



CD 4016 AE
MC 14016 CP
MC 14066 BCP



L 217
L 218
L 318
L 321
L 927
L 928
L 947
L 948

sw	= schwarz	black	noir	nero
bn	= braun	brown	marron	marrone
ge	= gelb	yellow	jaune	giallo
or	= orange	orange	orange	arancione
rs	= rosa	pink	rosé	rosa
gr	= grau	grey	gris	grigio
vi	= violett	violet	violet	viola
bl	= blau	blue	bleu	blu
fs	= farblos	colourless	incolore	incolore
we	= weiß	white	blanc	bianco
rt	= rot	red	rouge	rosso
gn	= grün	green	vert	verde

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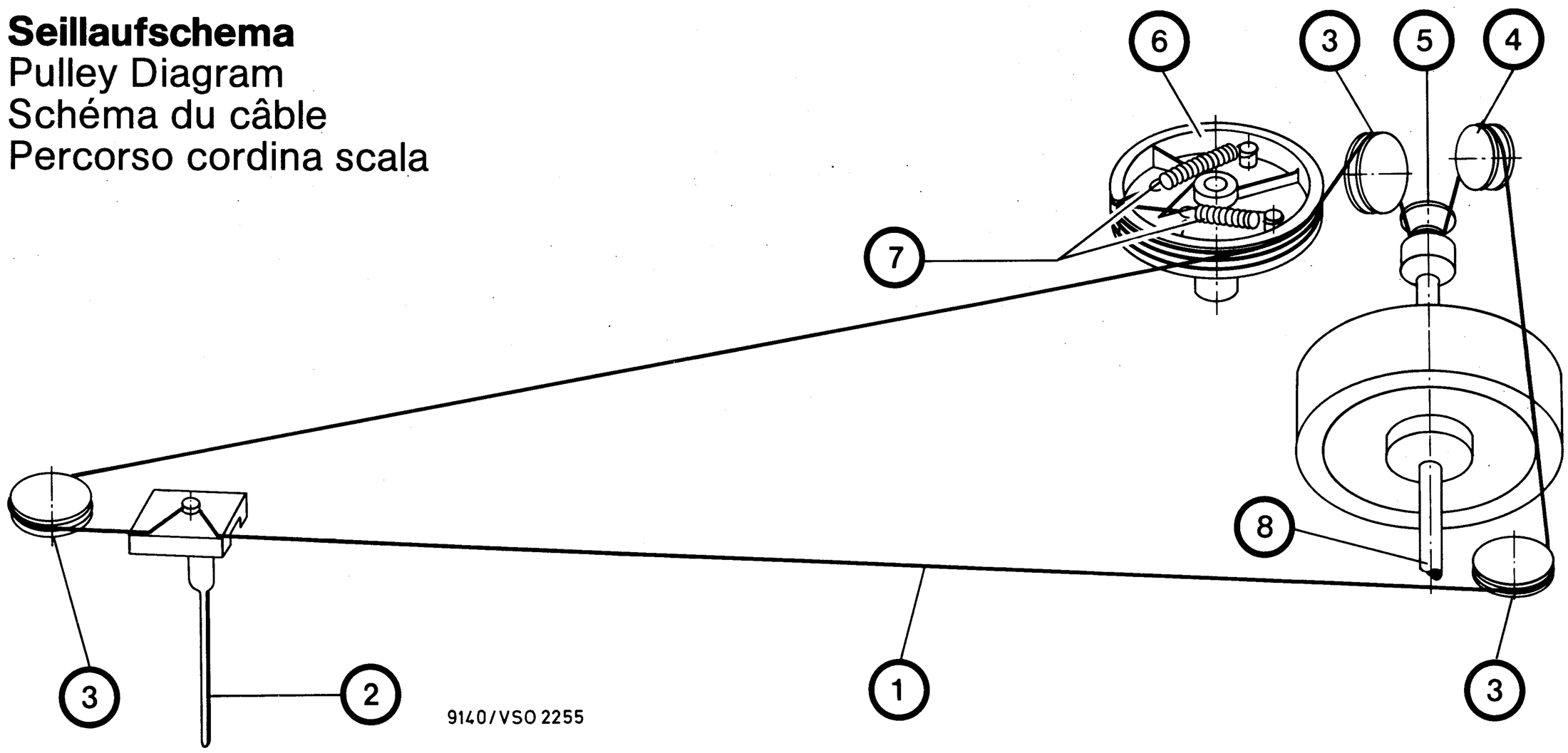
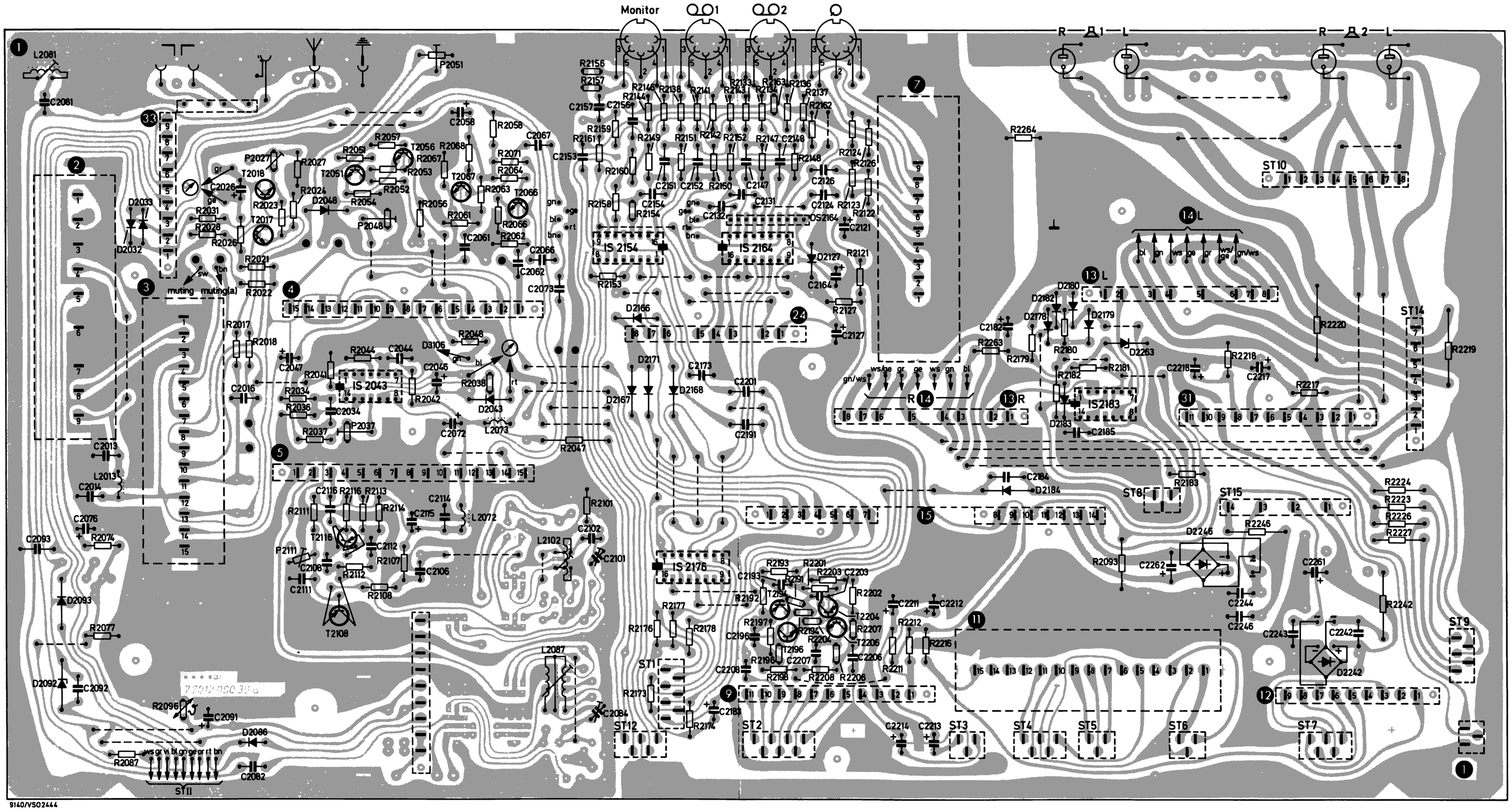
Seillaufschema
Pulley Diagram
Schéma du câble
Percorso cordina scala



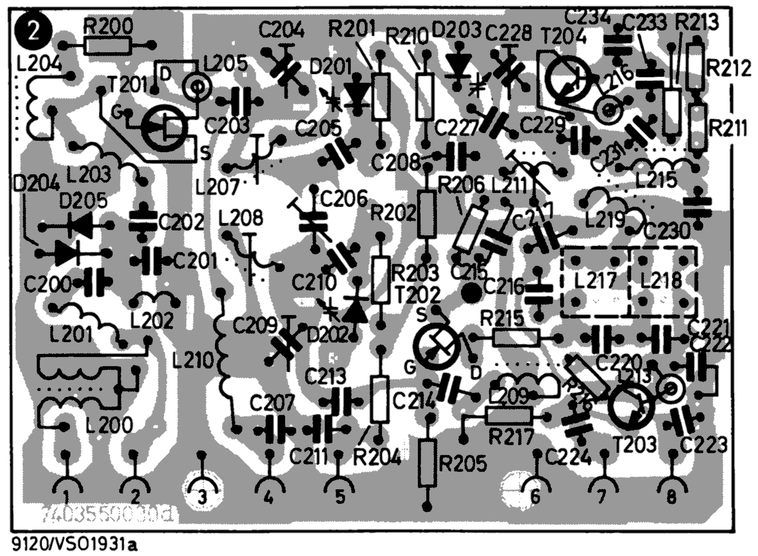
①	**Zeigerseil, komplett** Dial cord, compl. Câble d'aiguille de cadran, cpl. Cordina scala, compl.	77012 058 00
②	**Skalenzeiger** Dial indicator Aiguille de cadran Indice scala	77012 065 00
③	**Seilrolle** Pulley Poulie de câble Puleggia	28630 400 05
④	**Seilrolle 17,6 cm ∅** Pulley 17,6 cm ∅ Poulie de câble 17,6 cm ∅ Puleggia 17,6 cm ∅	28630 320 05
⑤	**Triebrolle, komplett** Drive, compl. Entrainement, cpl. Trazione, compl.	77012 068 00
⑥	**Seilrad, komplett** Dial wheel, compl. Tambour de câble, cpl. Puleggia avvolgicordina, compl.	77012 000 56
⑦	**Zugfeder** Tension spring Ressort de tension Molla tendicordina	29720 310 05
⑧	**Antriebsachse** Drive shaft Axe d'entrainement Asse di trazione	77012 000 13

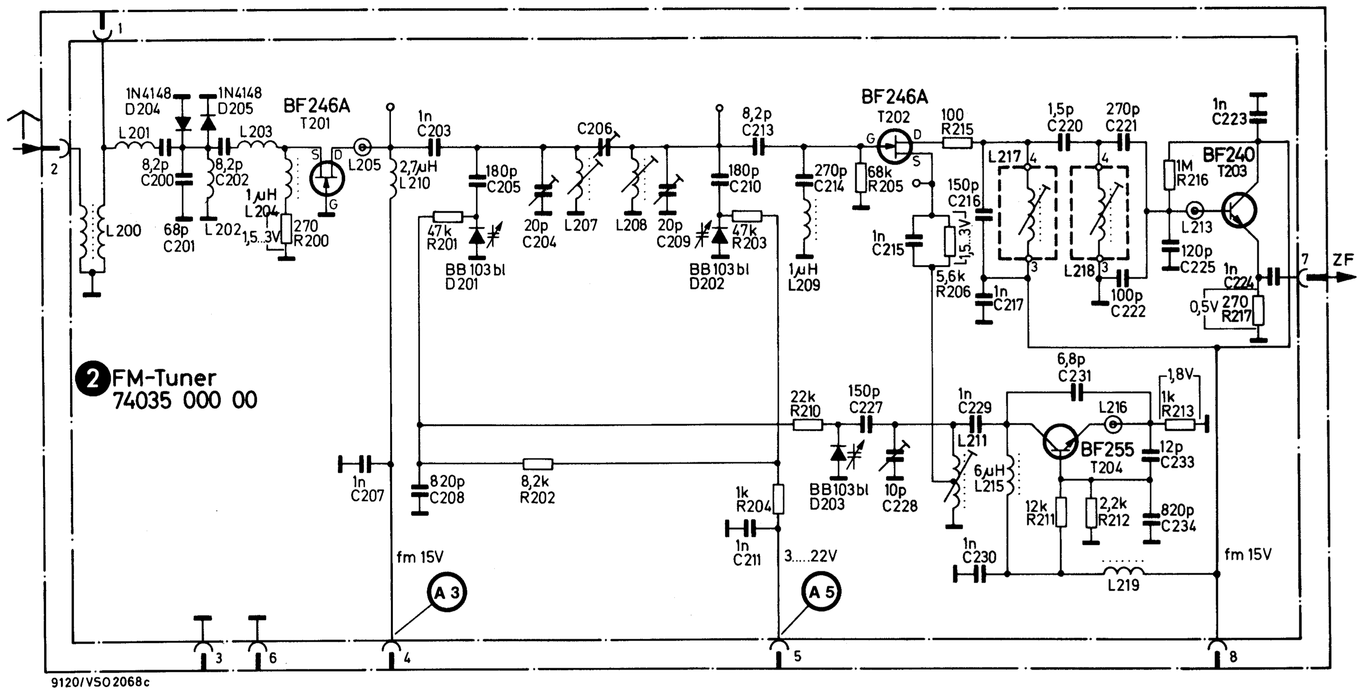
Grundplatte*
Basic board*
Platine de base*
Piastra base*



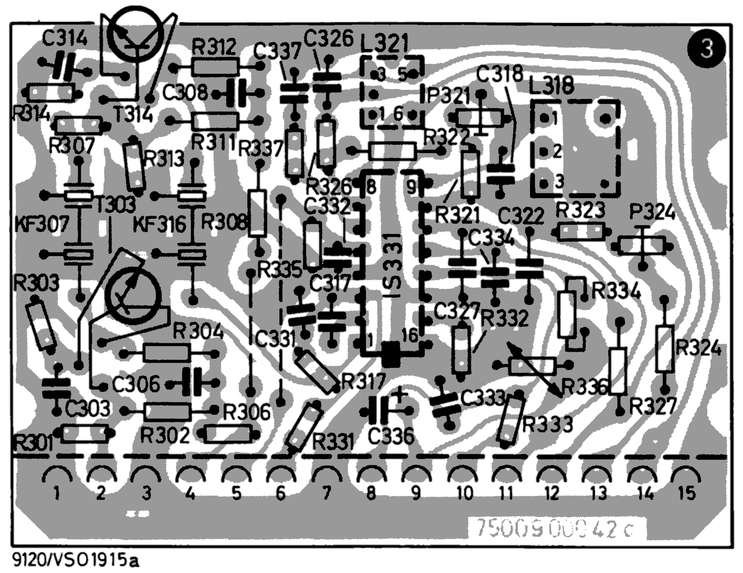
* **Lötseite**
* Soldering side
* Côté soudures
* Lato saldature

FM-Tuner* ❷

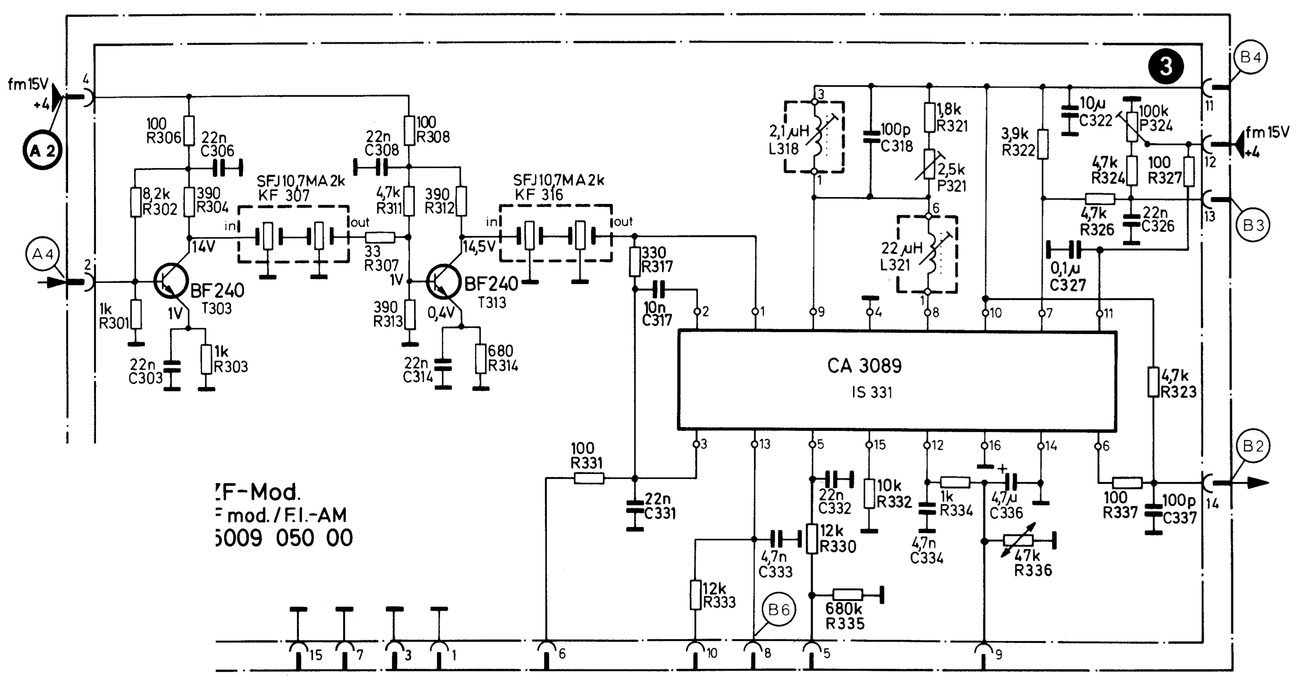




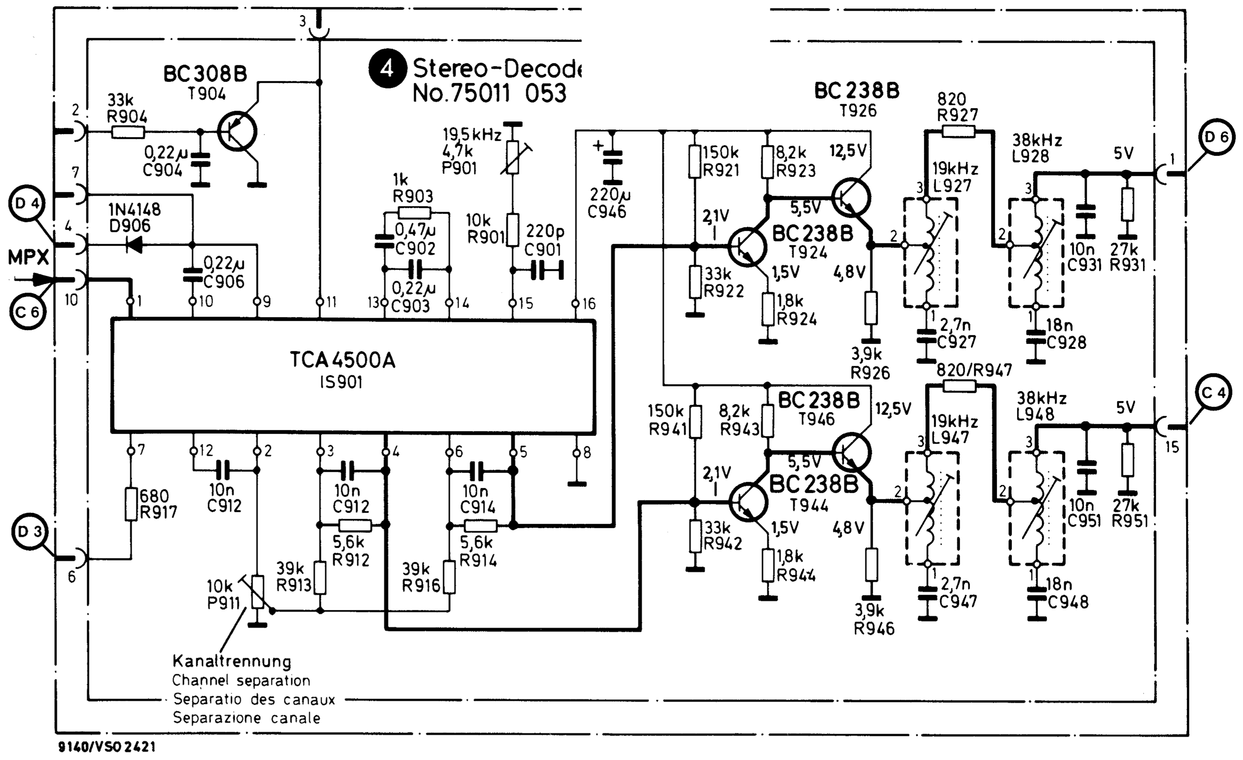
FM-ZF-Modul ❸

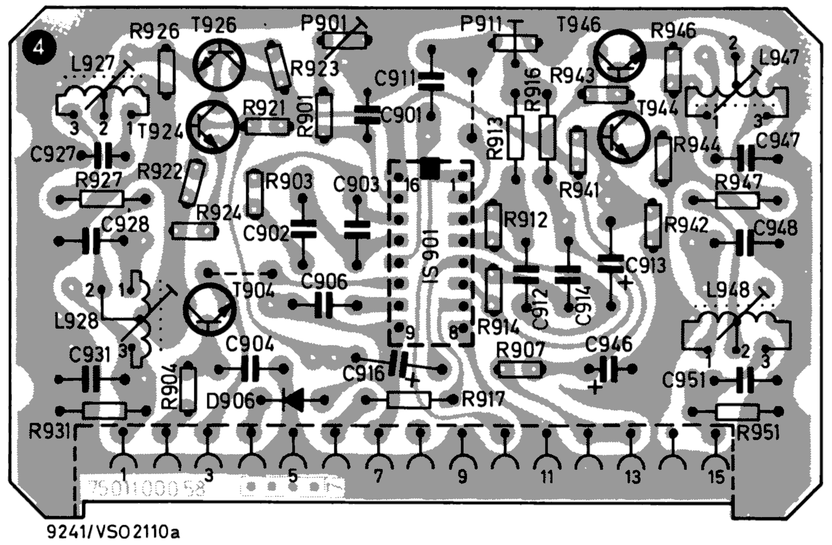


* **Lötseite**
* Soldering side
* Côté soudures
* Lato saldature



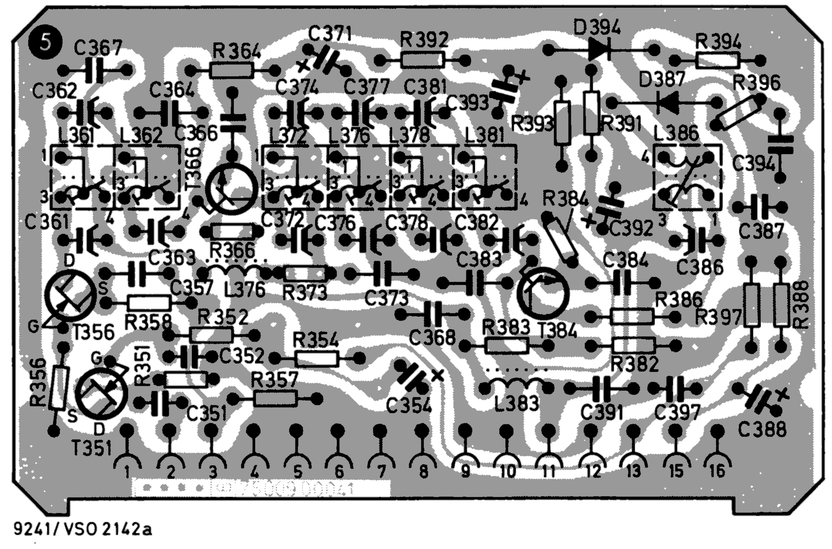
Stereo-Decoder* ❹

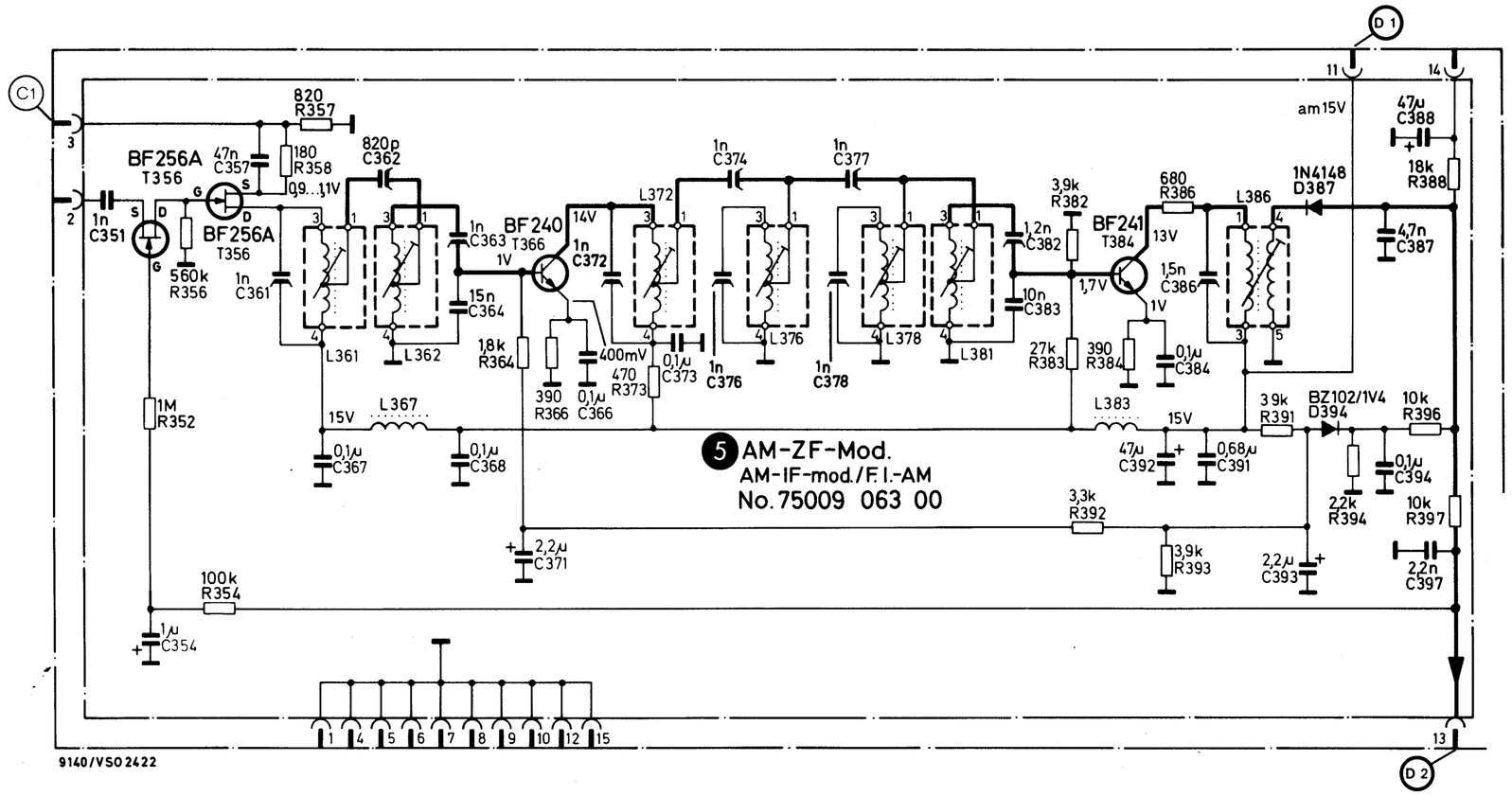




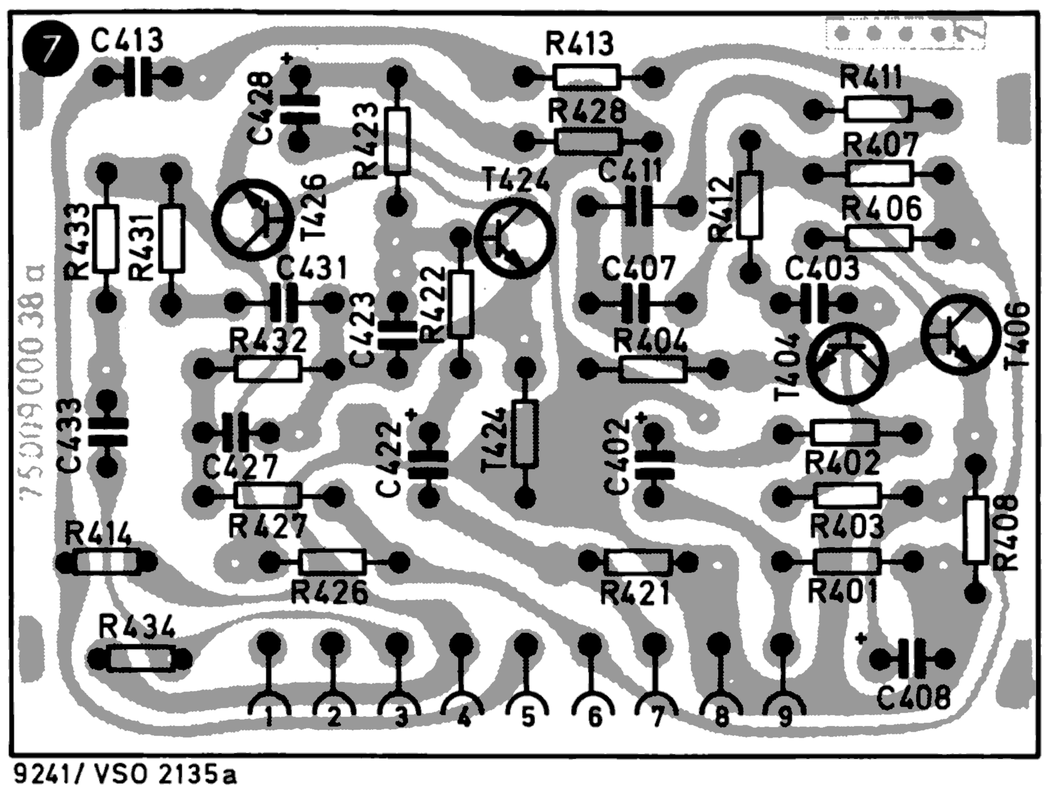
* **Lötseite**
* Soldering side
* Côté soudures
* Lato saldature

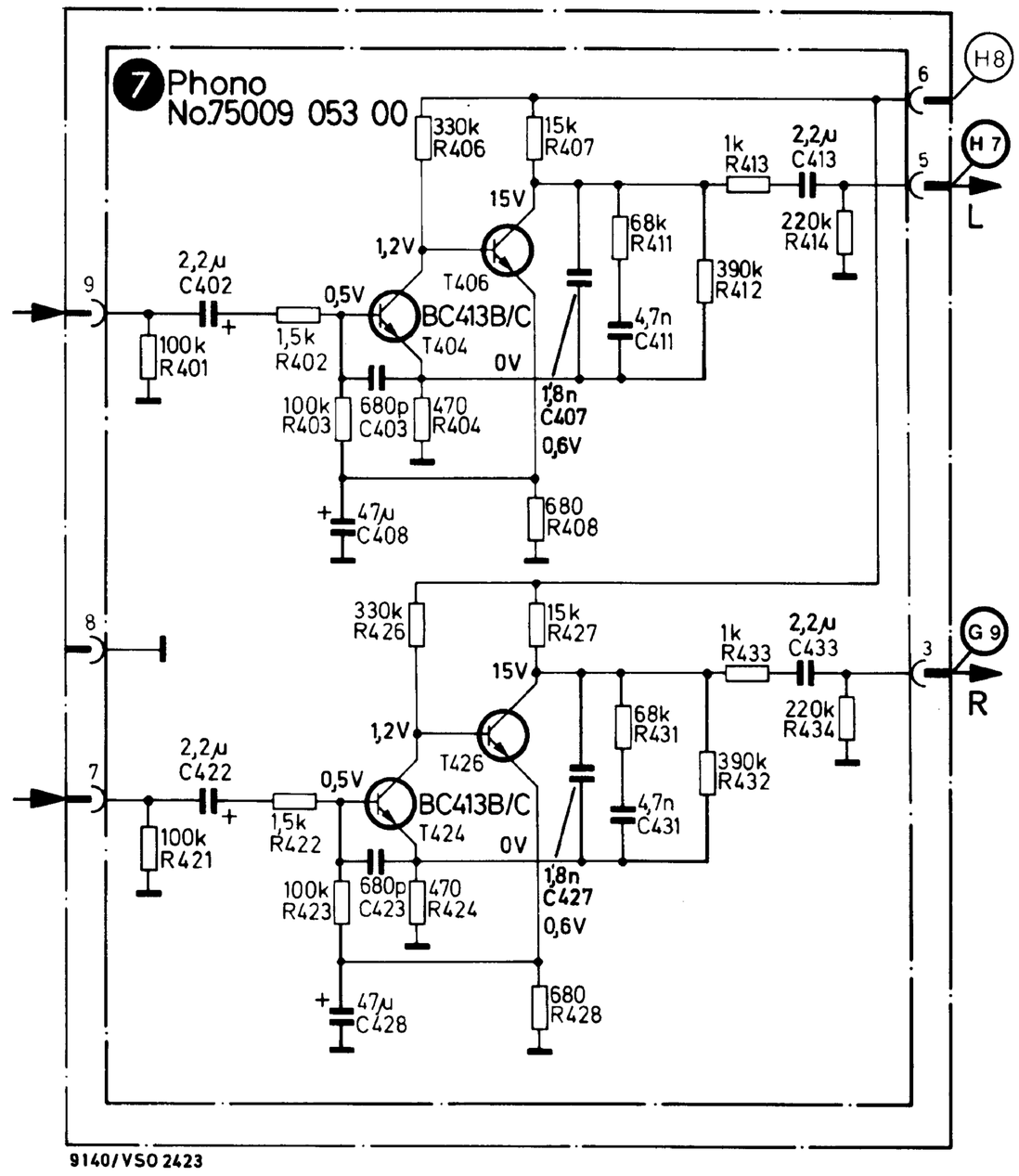
AM-ZF-Modul*



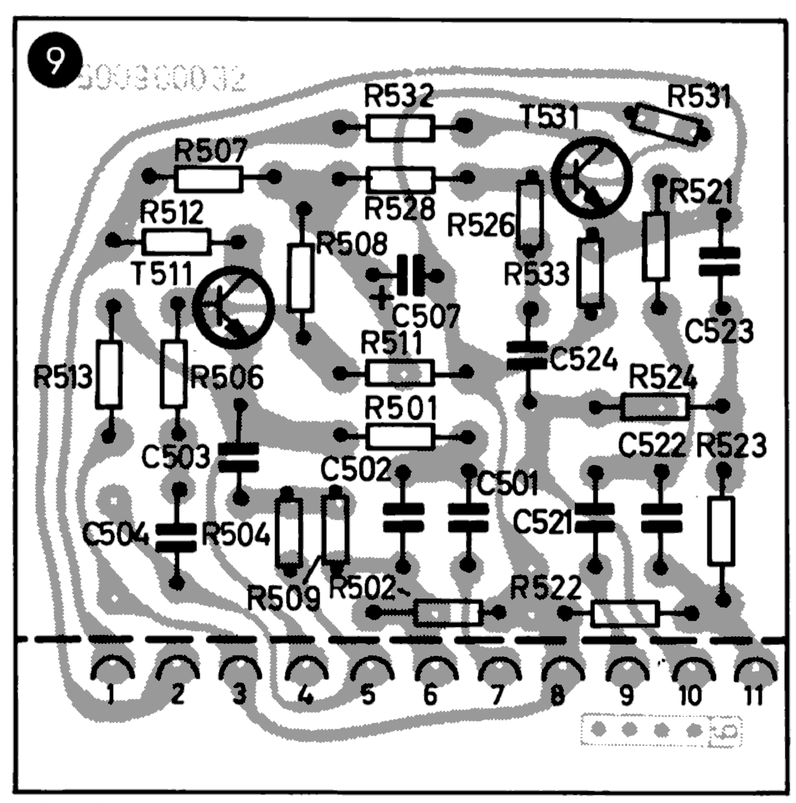


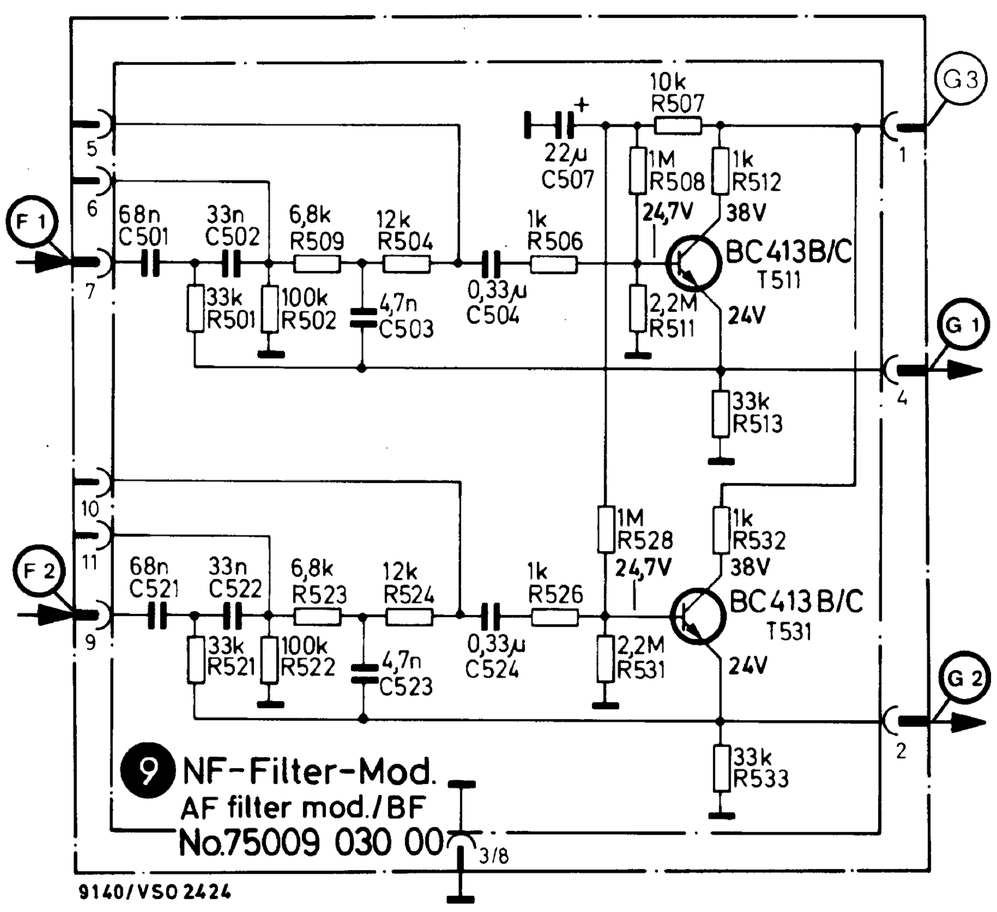
Phono-Modul* 7



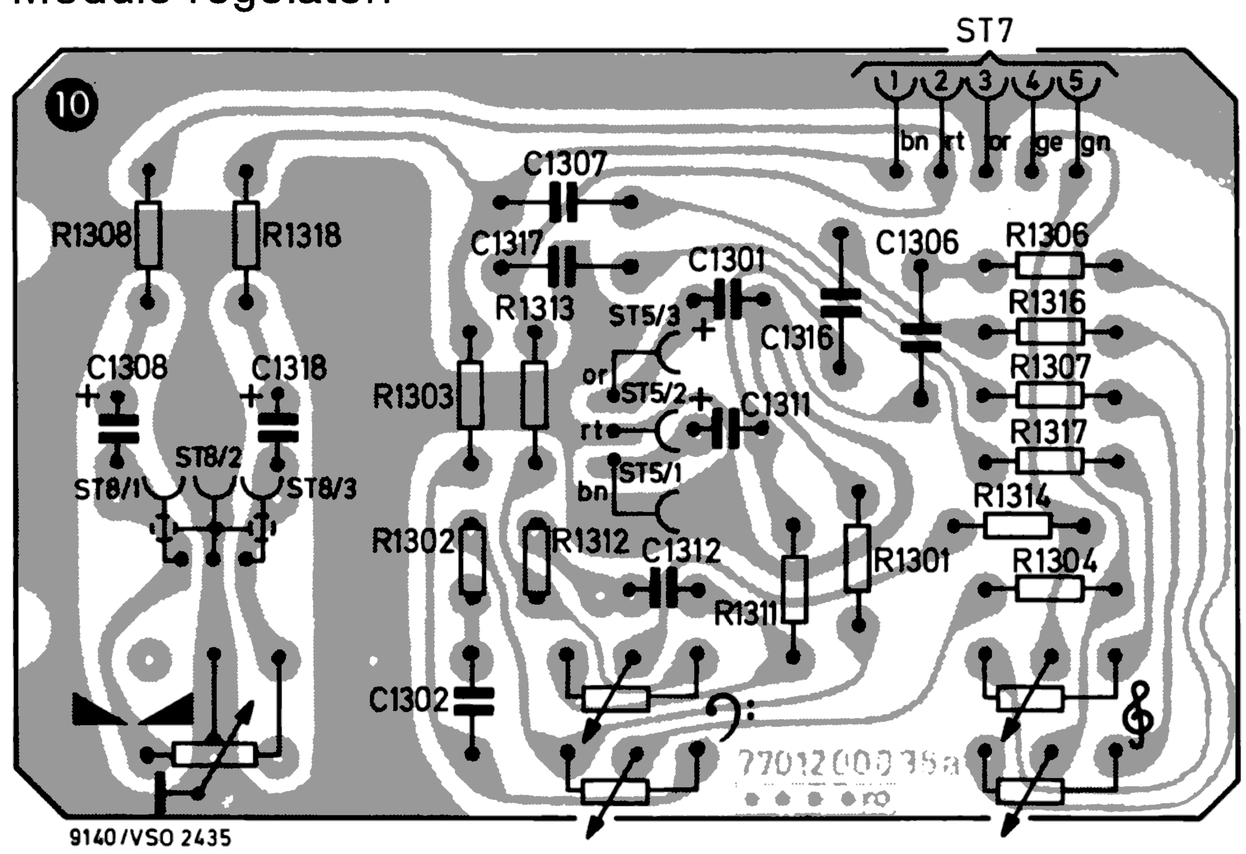


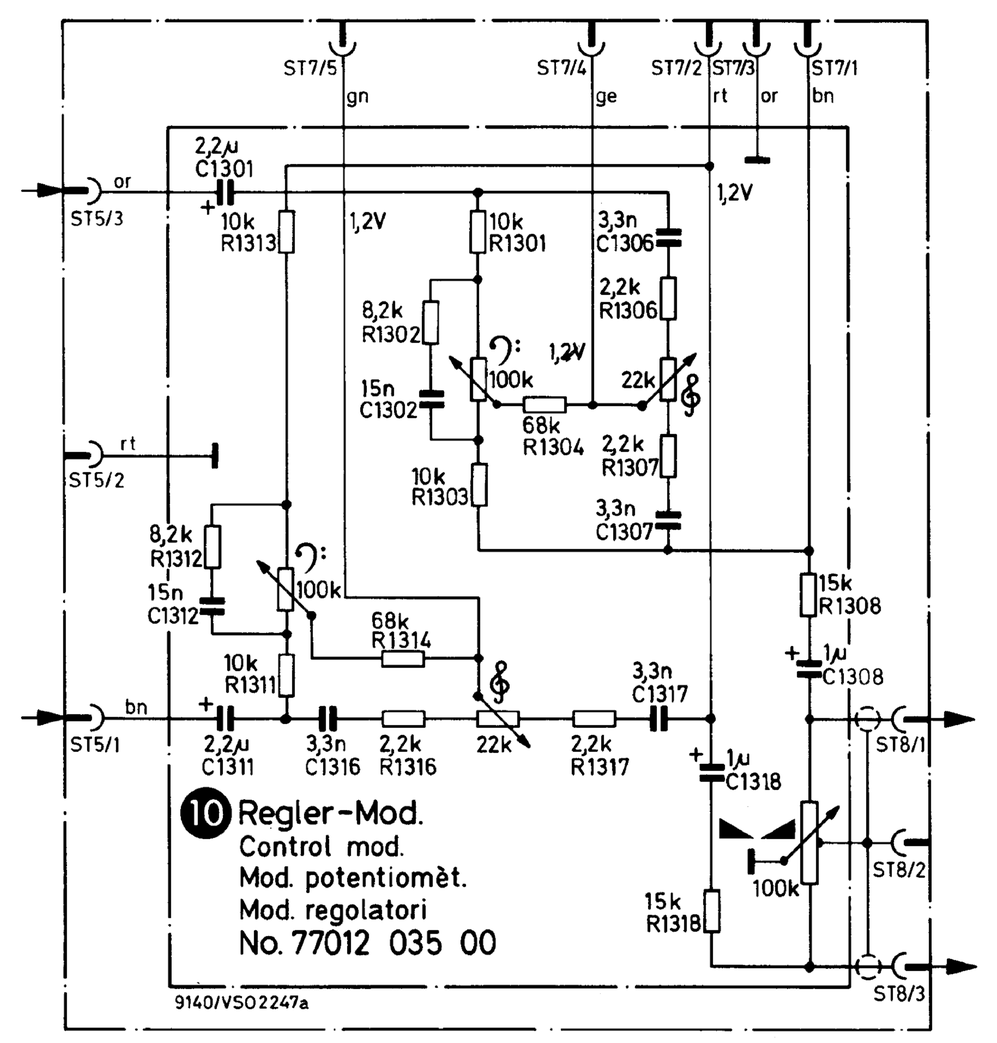
NF-Filter-Modul* 9



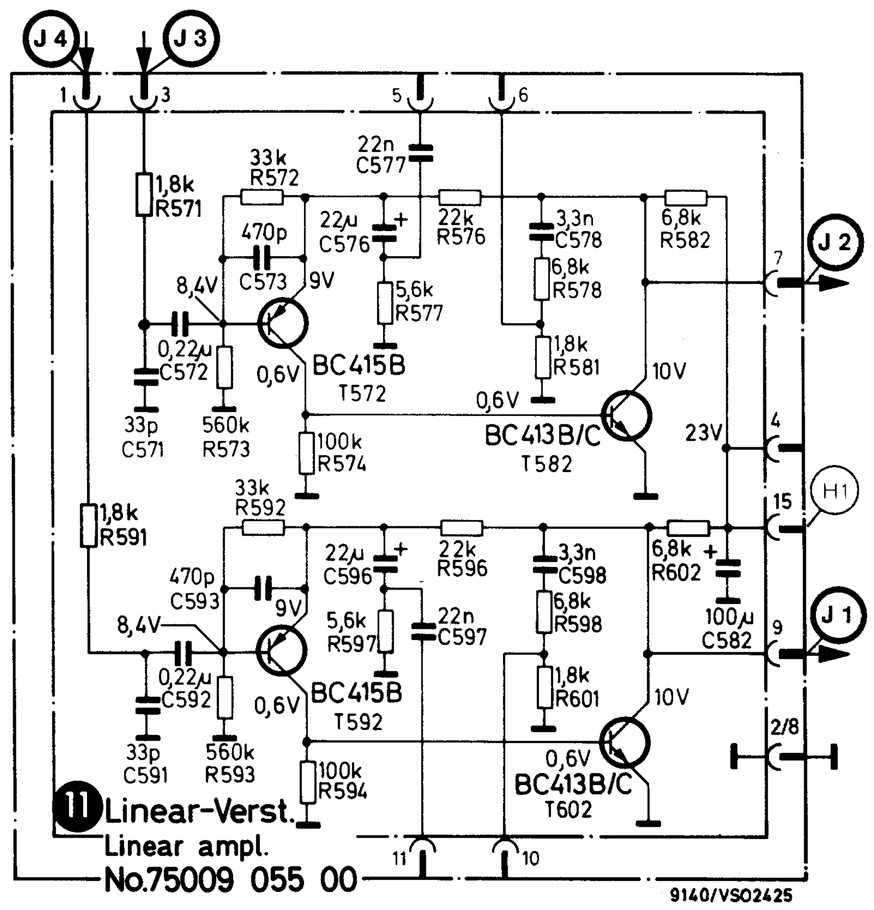


Regler-Modul* 10
Control module*
Module potentiomètre*
Modulo regolatori*

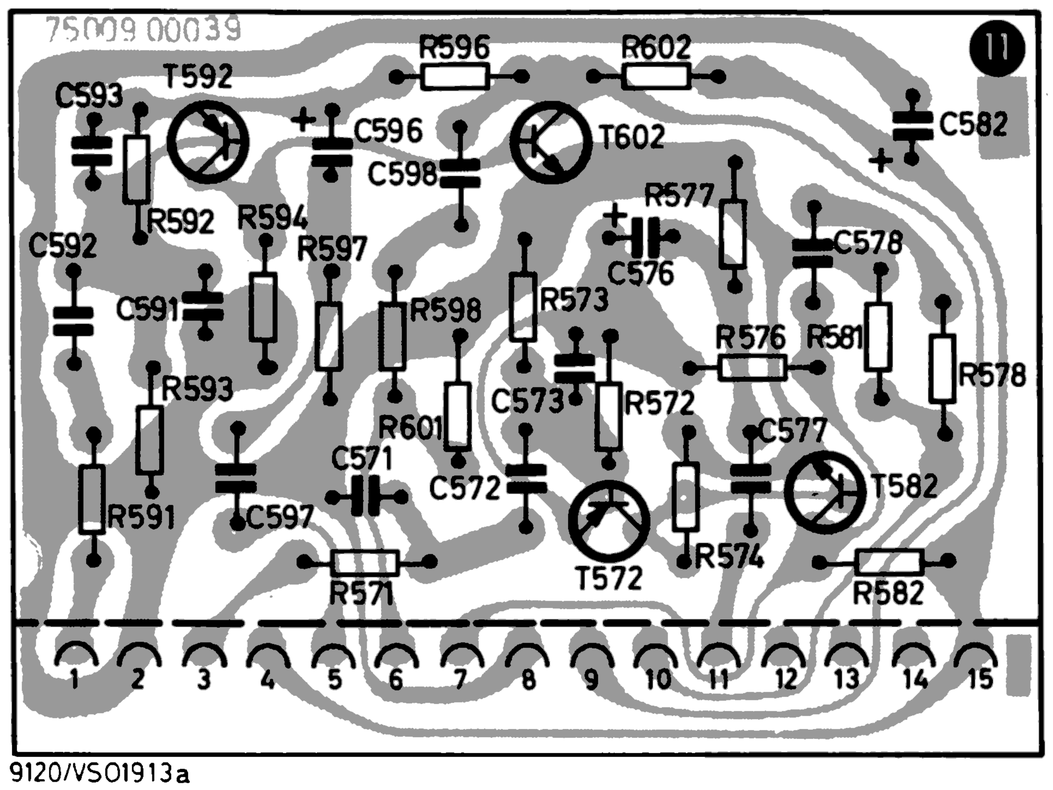


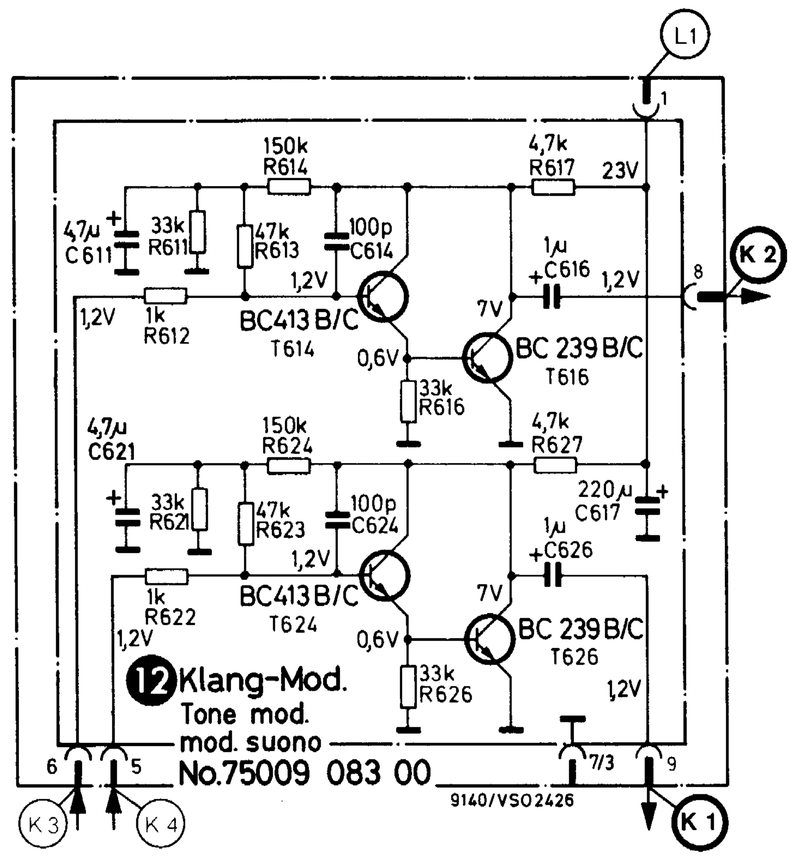


*** Lötseite**
* Soldering side
* Côté soudures
* Lato saldature

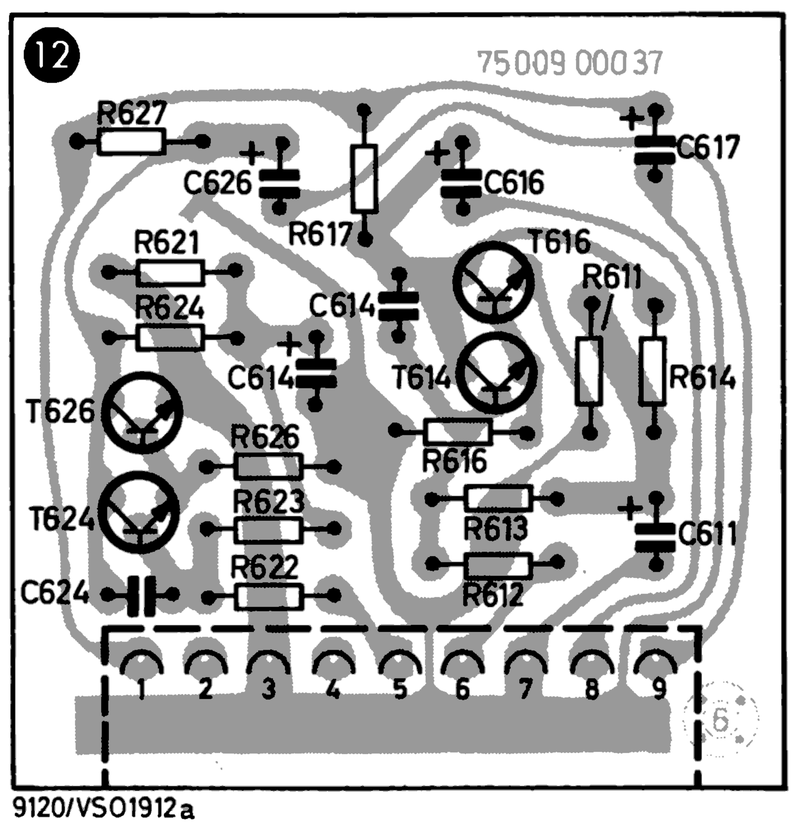


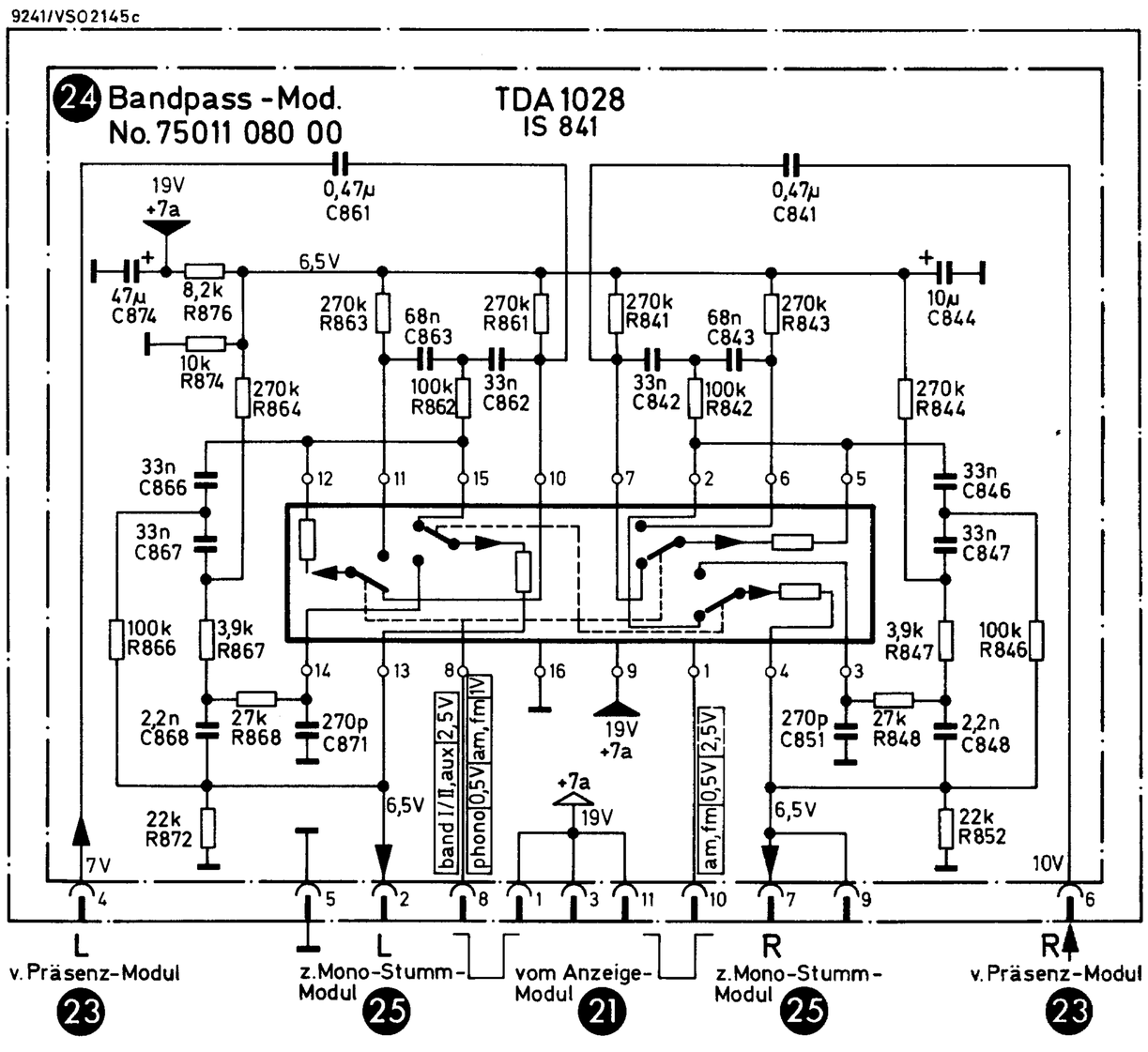
Linear-Verstärker* 11
Linear ampl.*



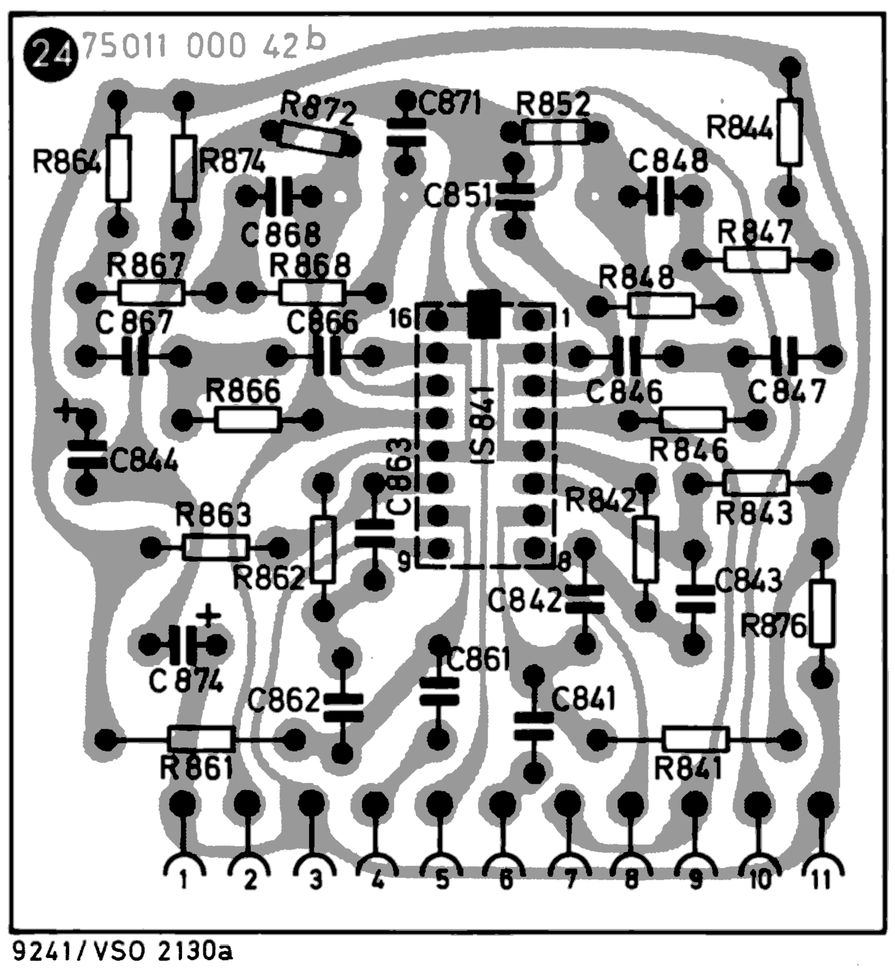


Klang-Modul* 12
Tone*
Tonalité
Suono*



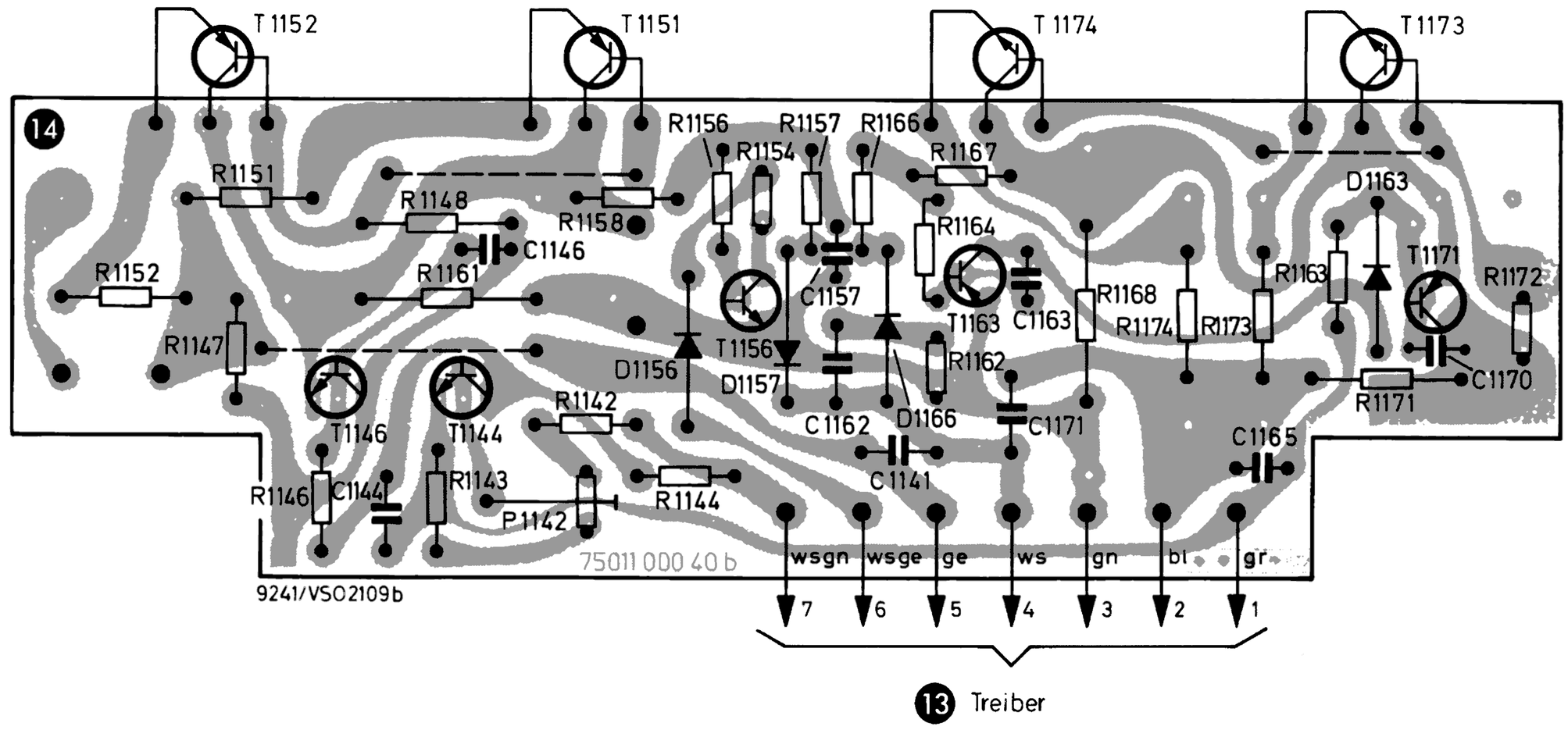


Bandpaß-Modul* 24

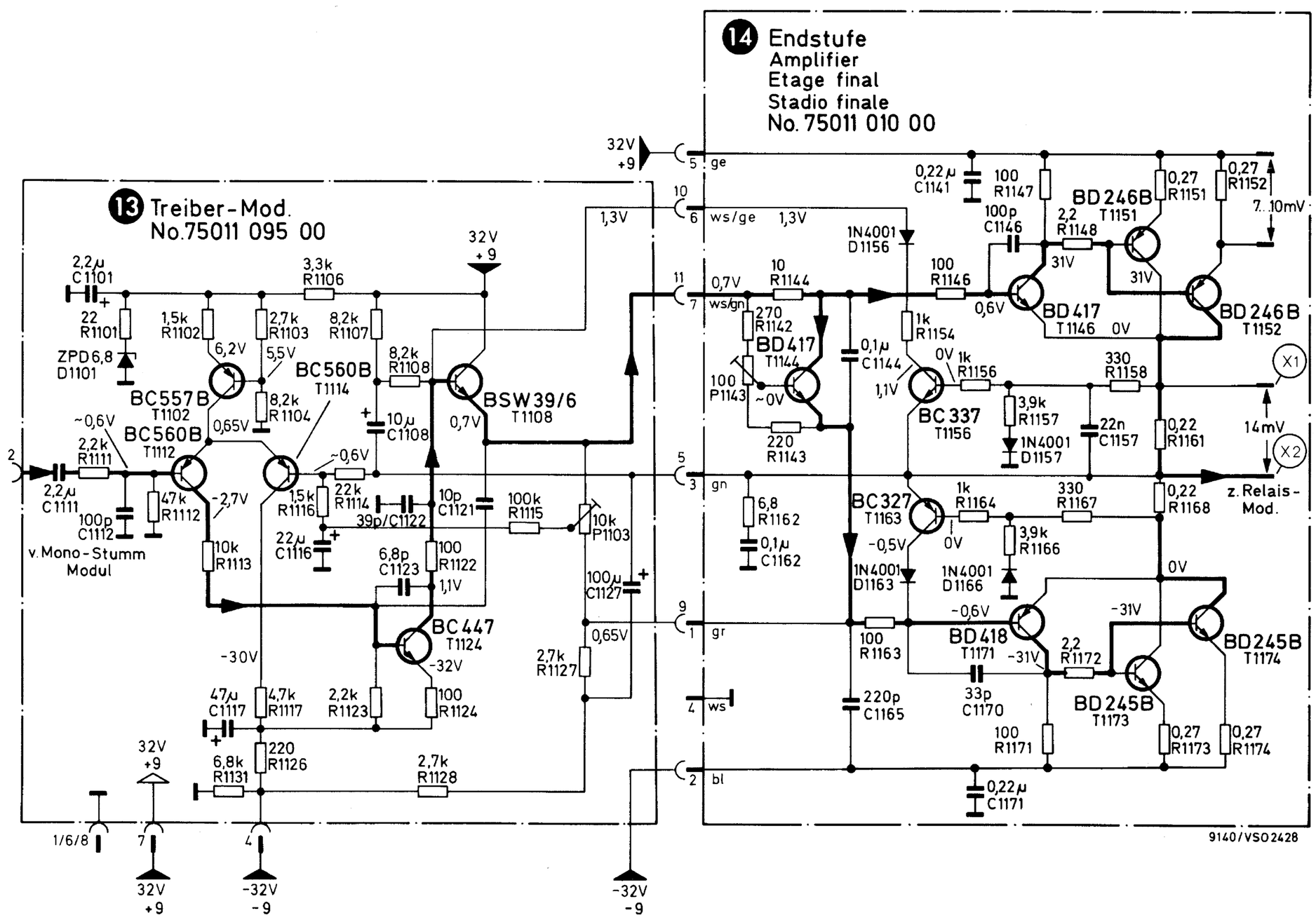


*** Lötseite**
* Soldering side
* Côté soudures
* Lato saldature

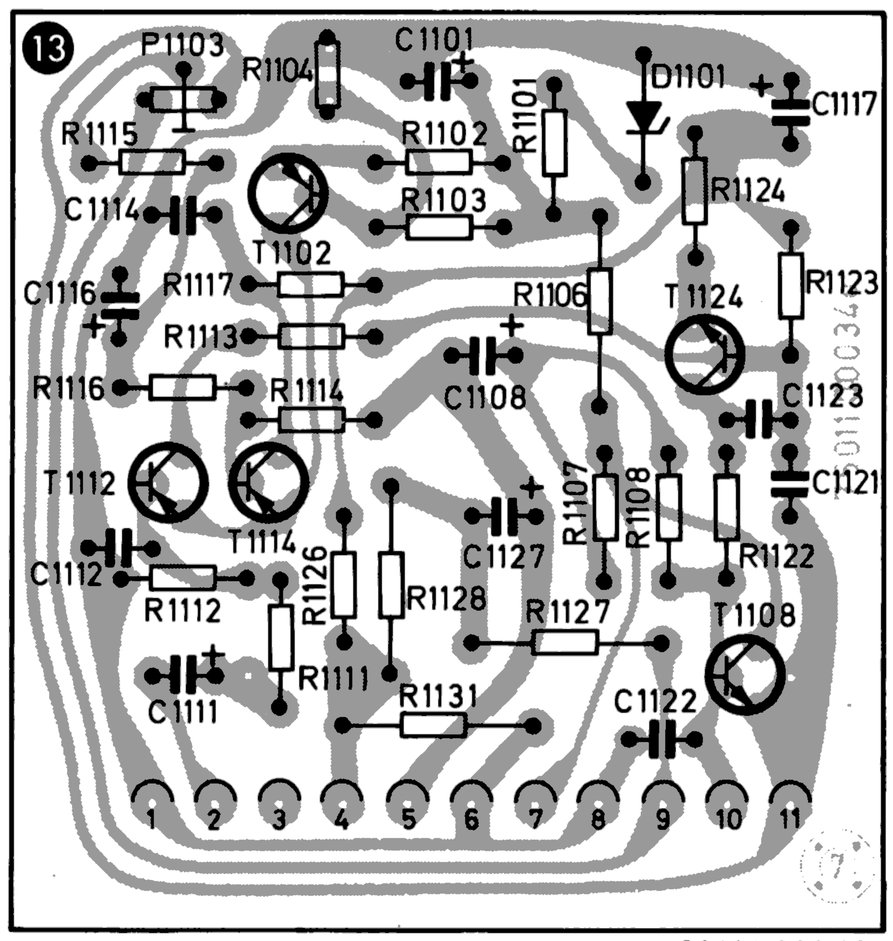
Endstufe* ⑭
Output stage*
Etage final*
Stadio finale*



⑬ Treiber

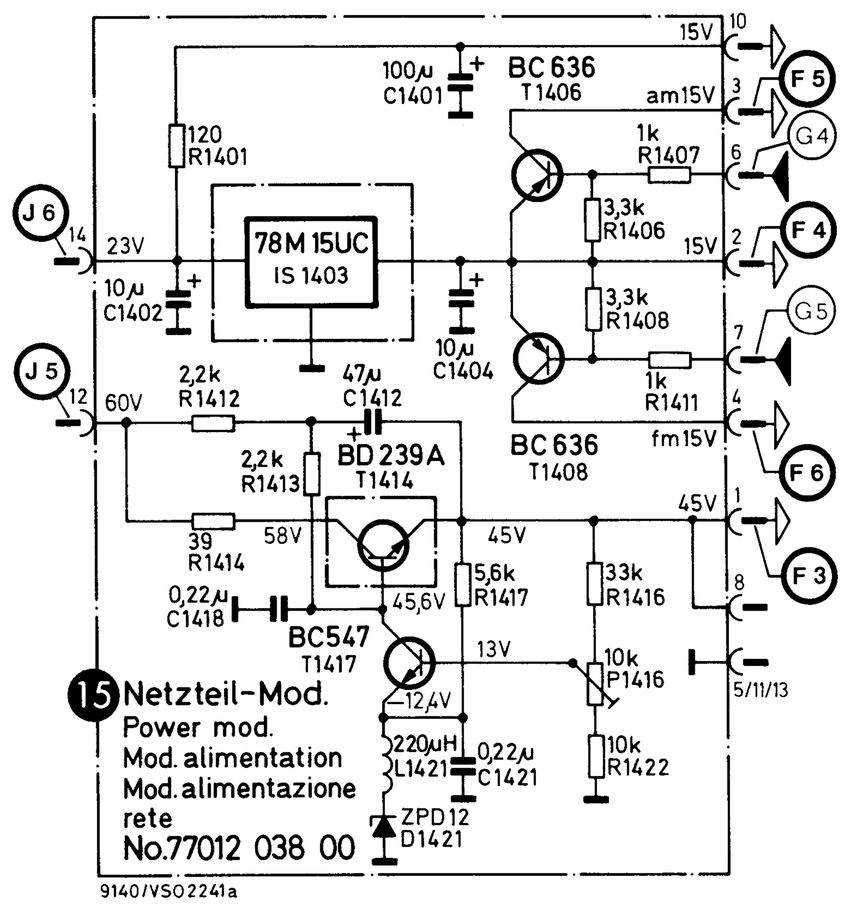


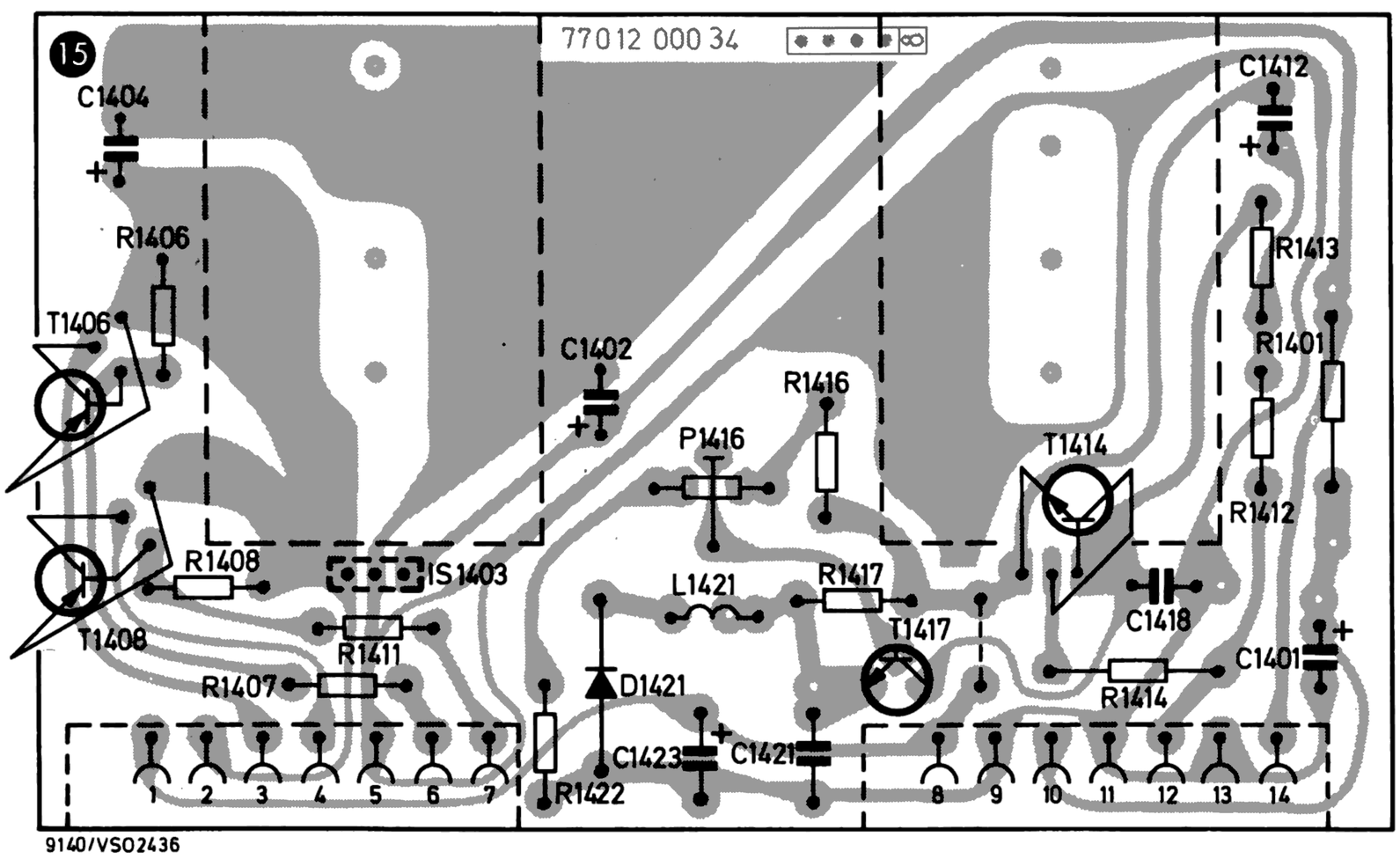
Treiber* ⑬
Driver*
Pilotaggio*

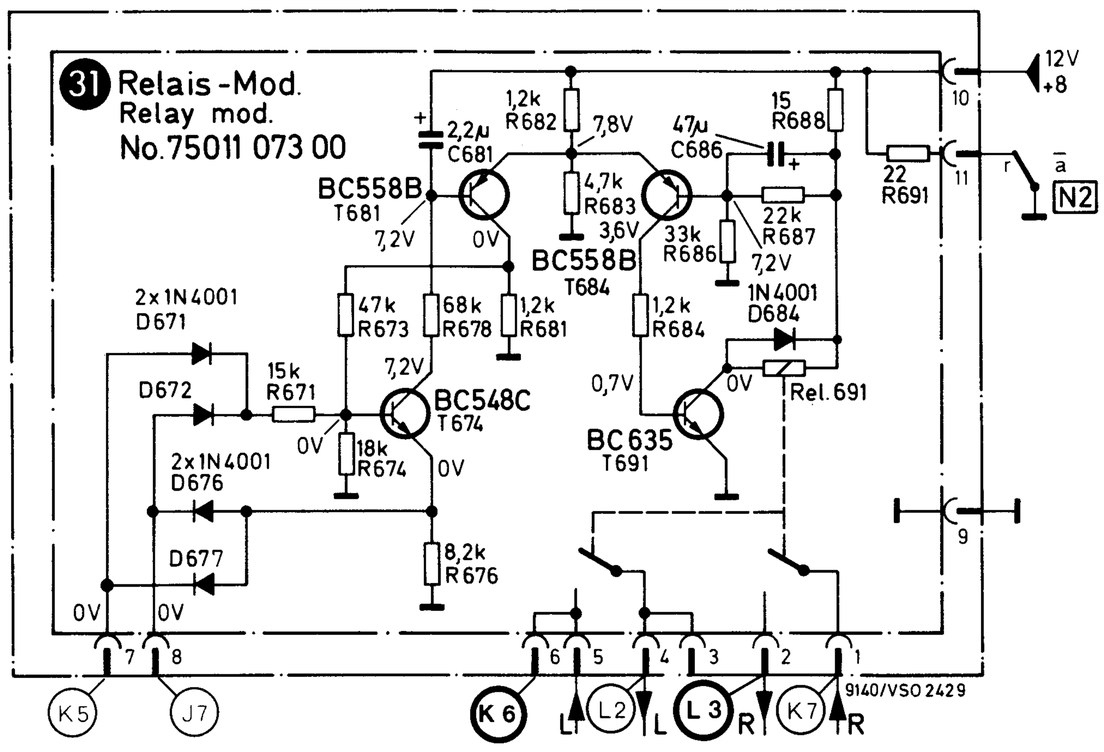


* **Lötseite**
* Soldering side
* Côté soudures
* Lato saldature

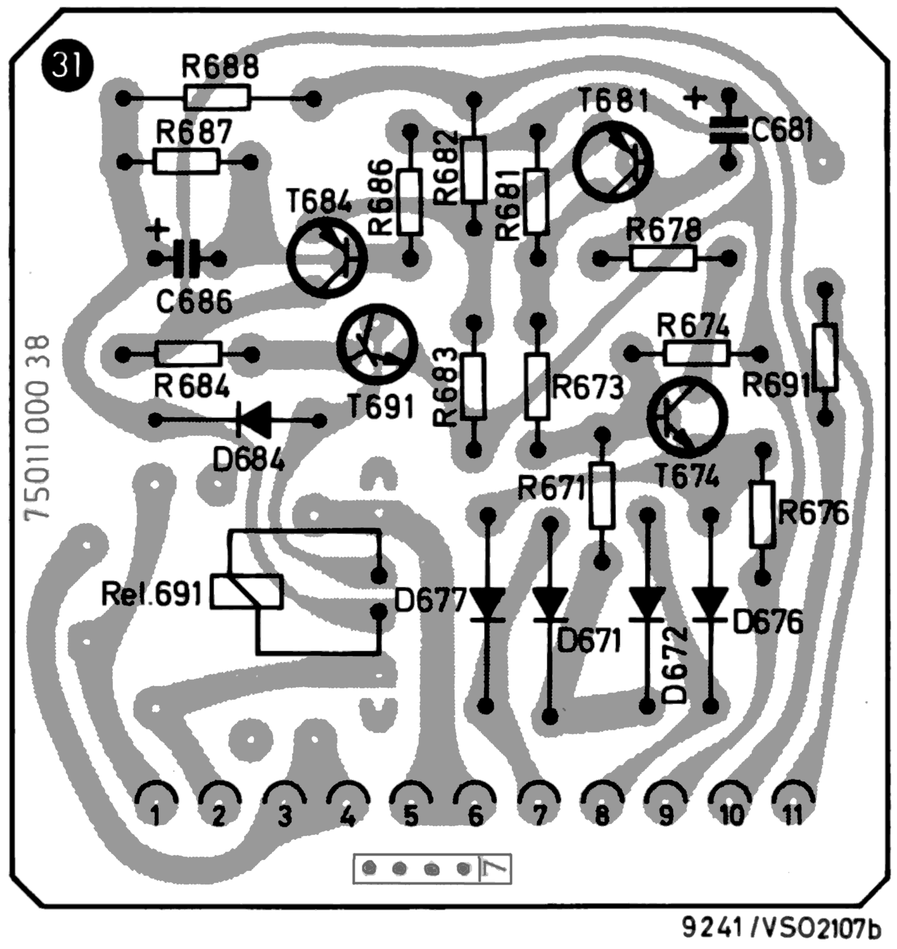
Netzteil-Modul* 15
Power supply module*
Module alimentation secteur*
Modulo alimentatore rete*





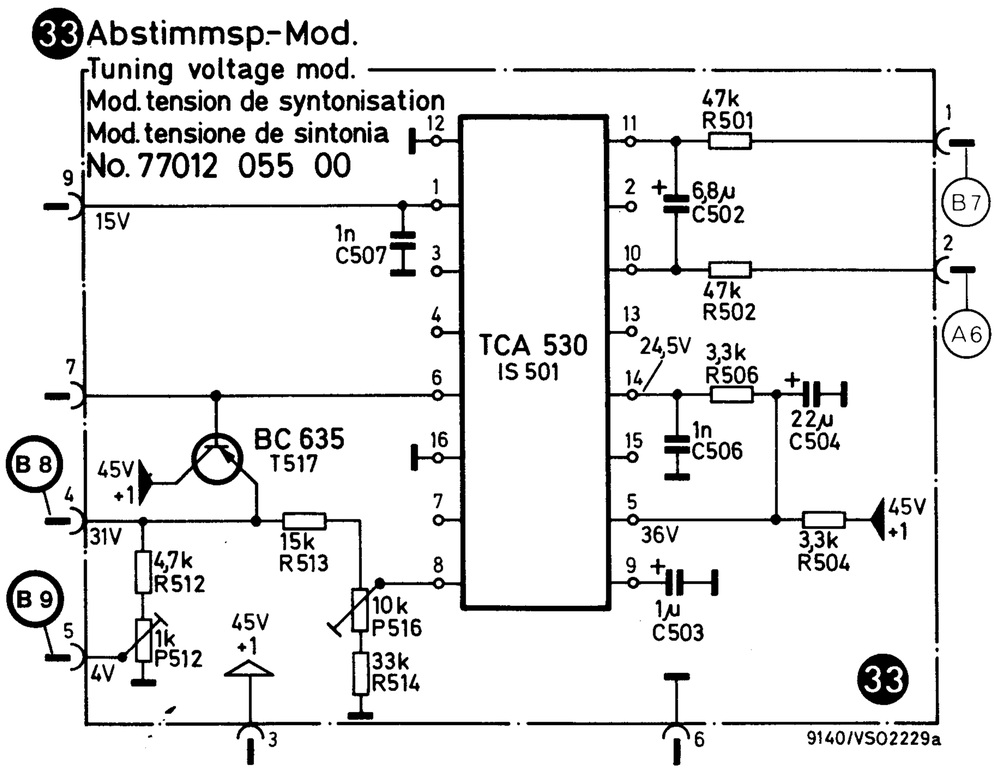


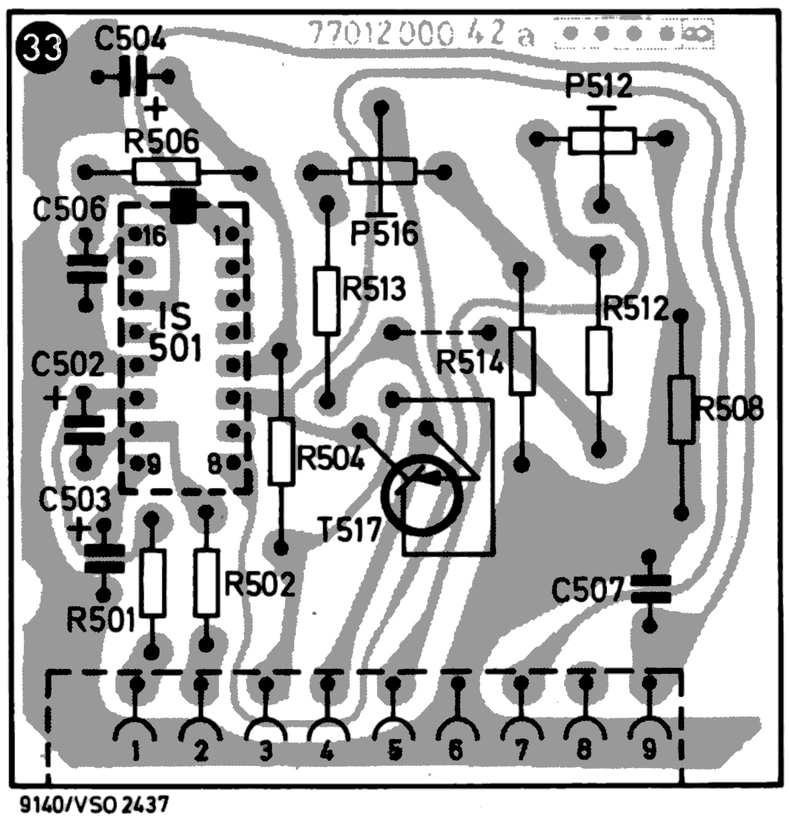
Relais-Modul* 31
Relay module*



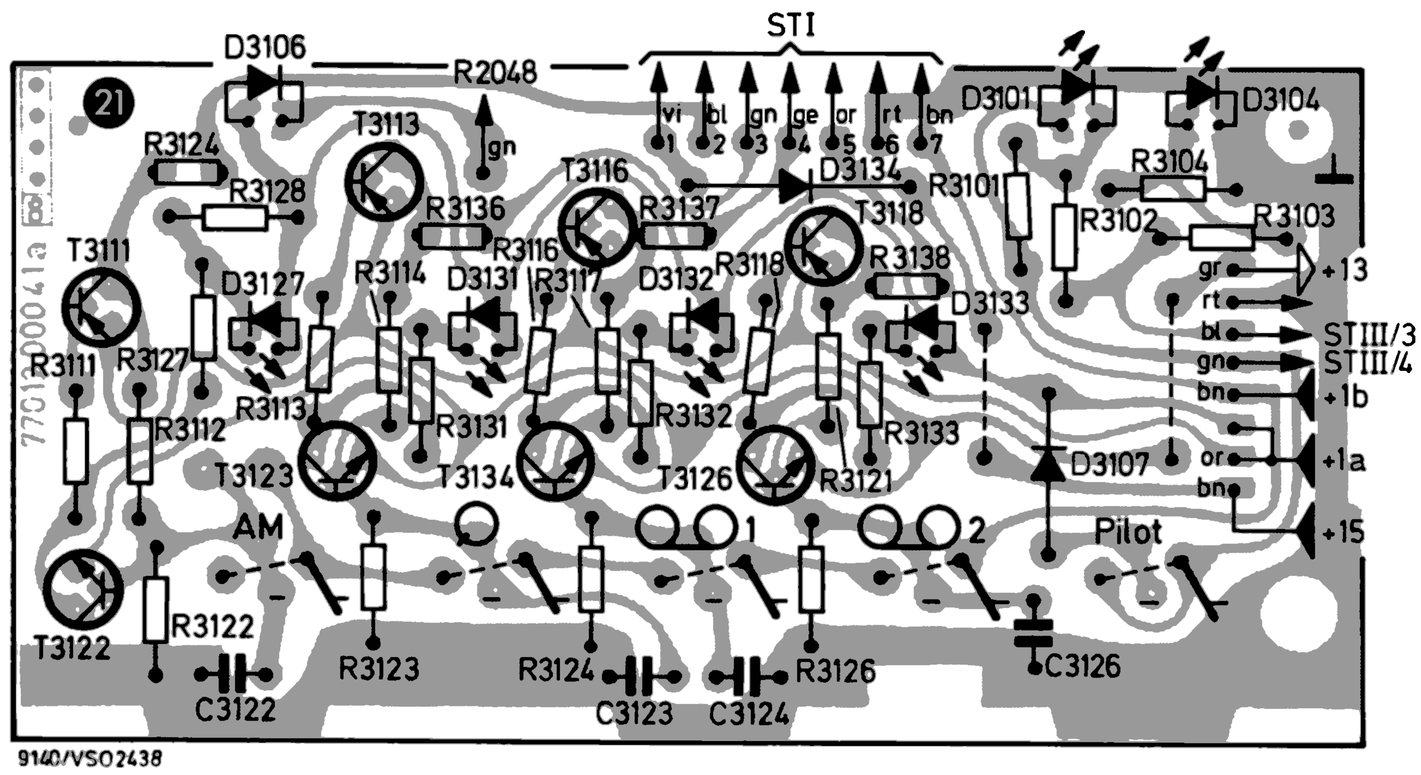
* **Lötseite**
* Soldering side
* Côté soudures
* Lato saldature

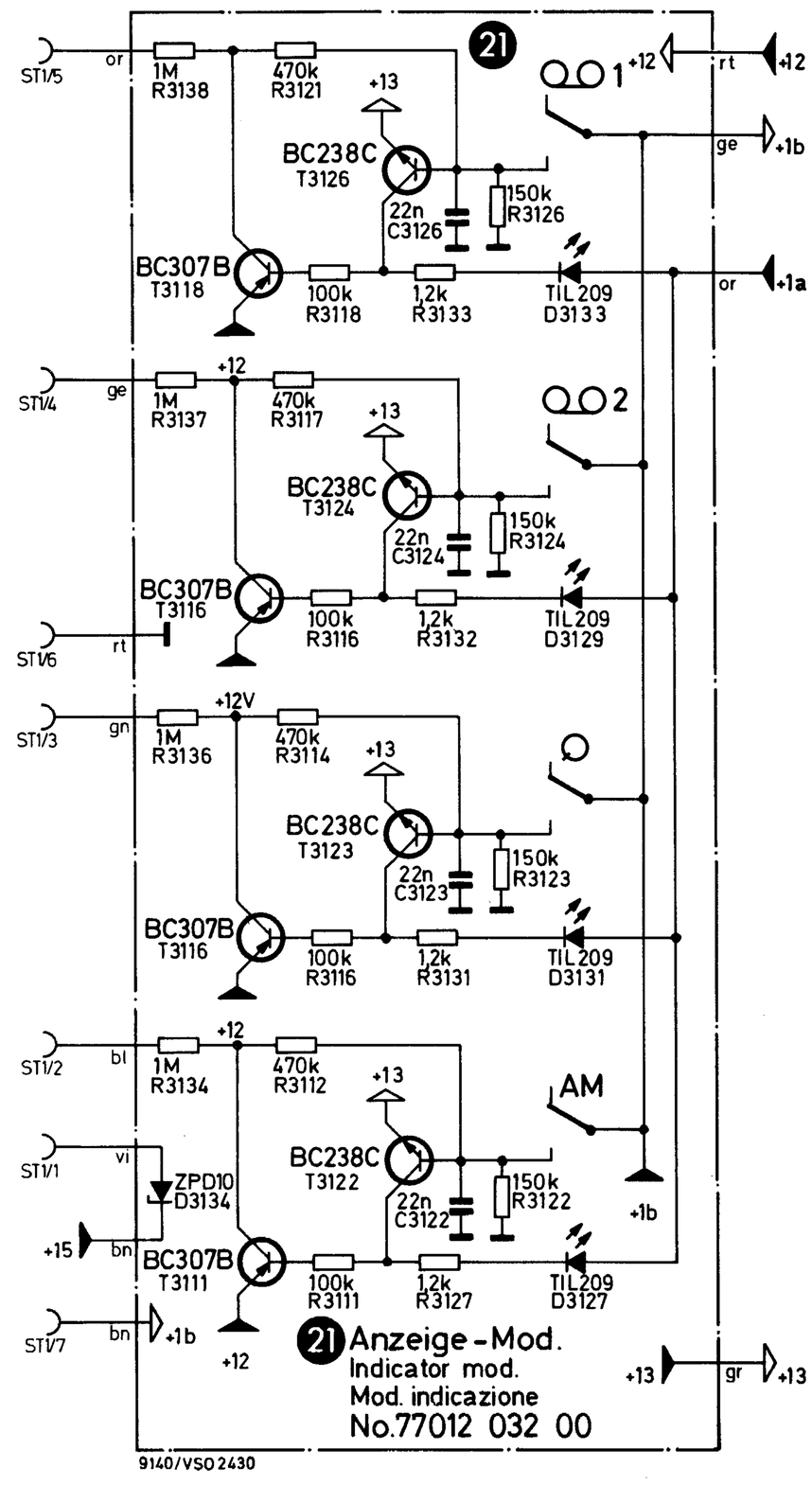
Abstimmspannungs-Modul* 33
Tuning voltage module*
Module tension de syntonisation*
Module tensione de sintonia*

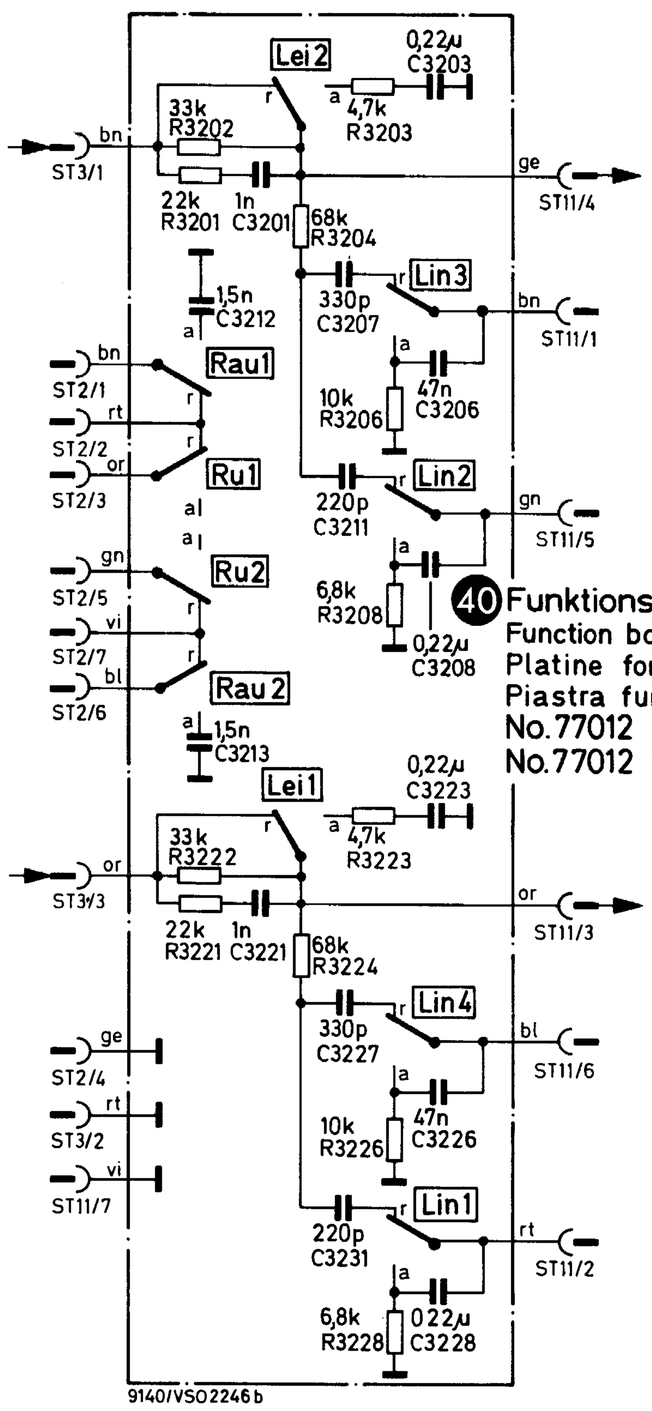




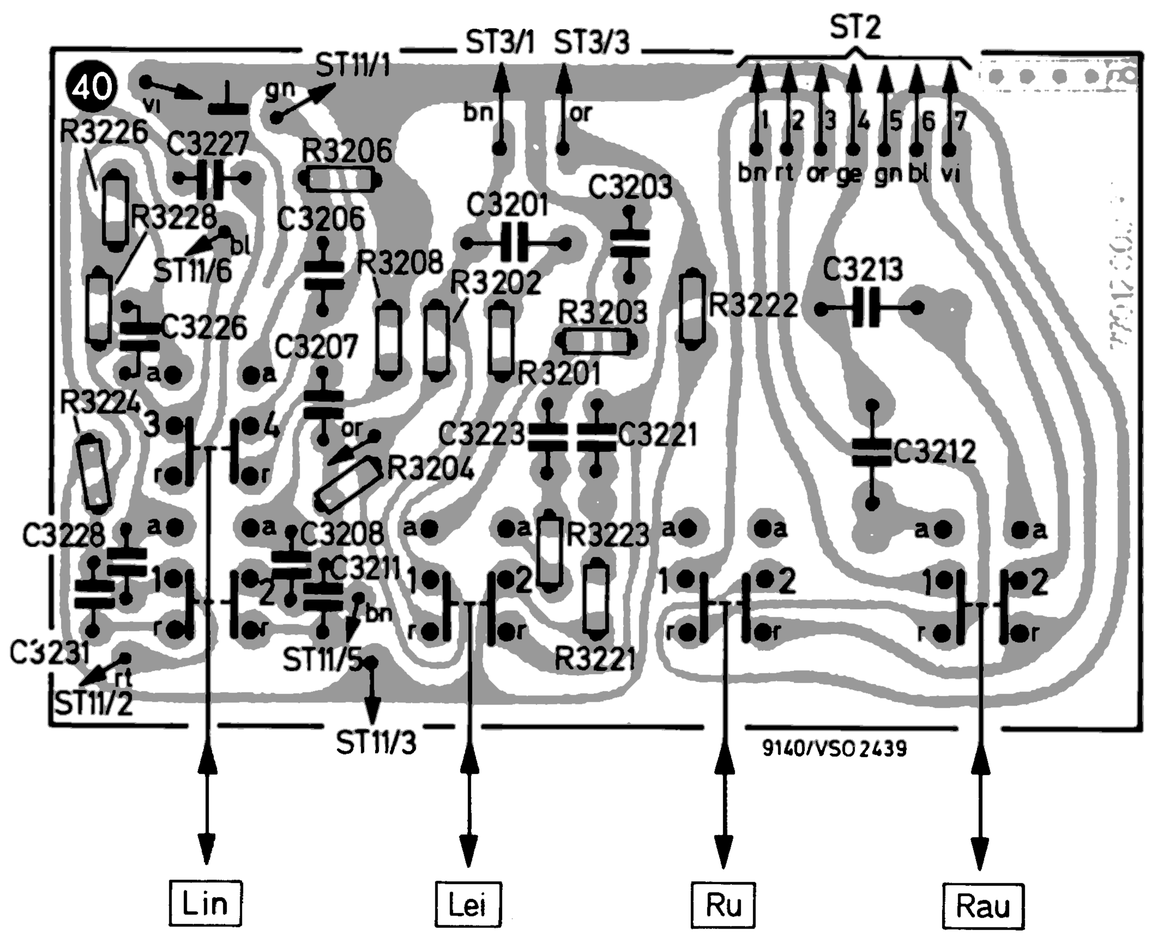
Anzeige-Modul* 21
Indicator module*
Module indication*
Modulo indicazione*





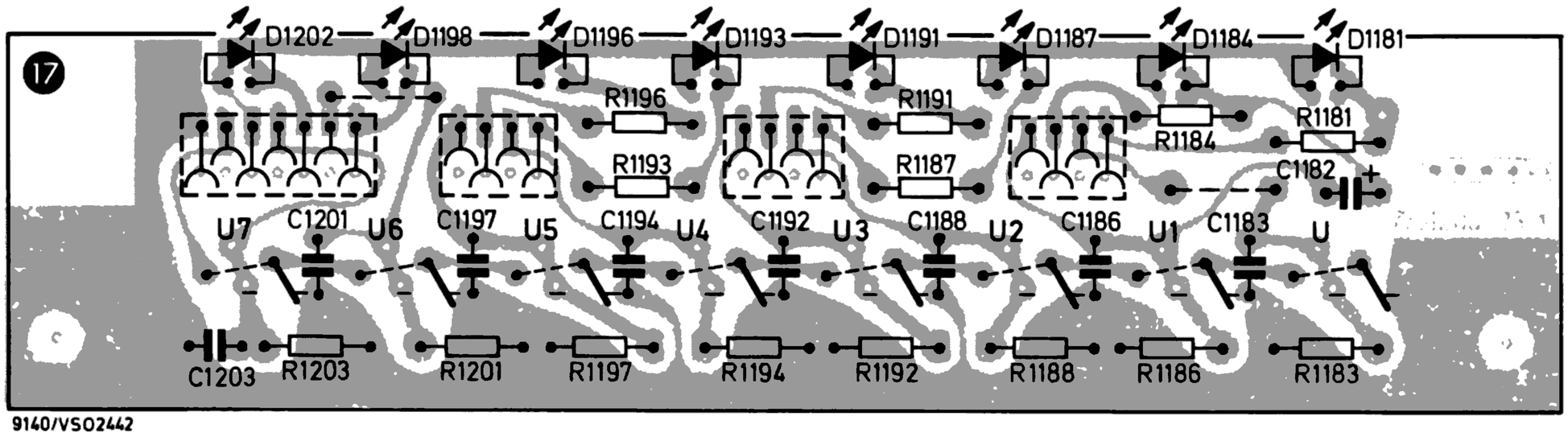


Funktions-Platte I* 40
Function board I*
Platine fonction I*
Piastra funzione I*

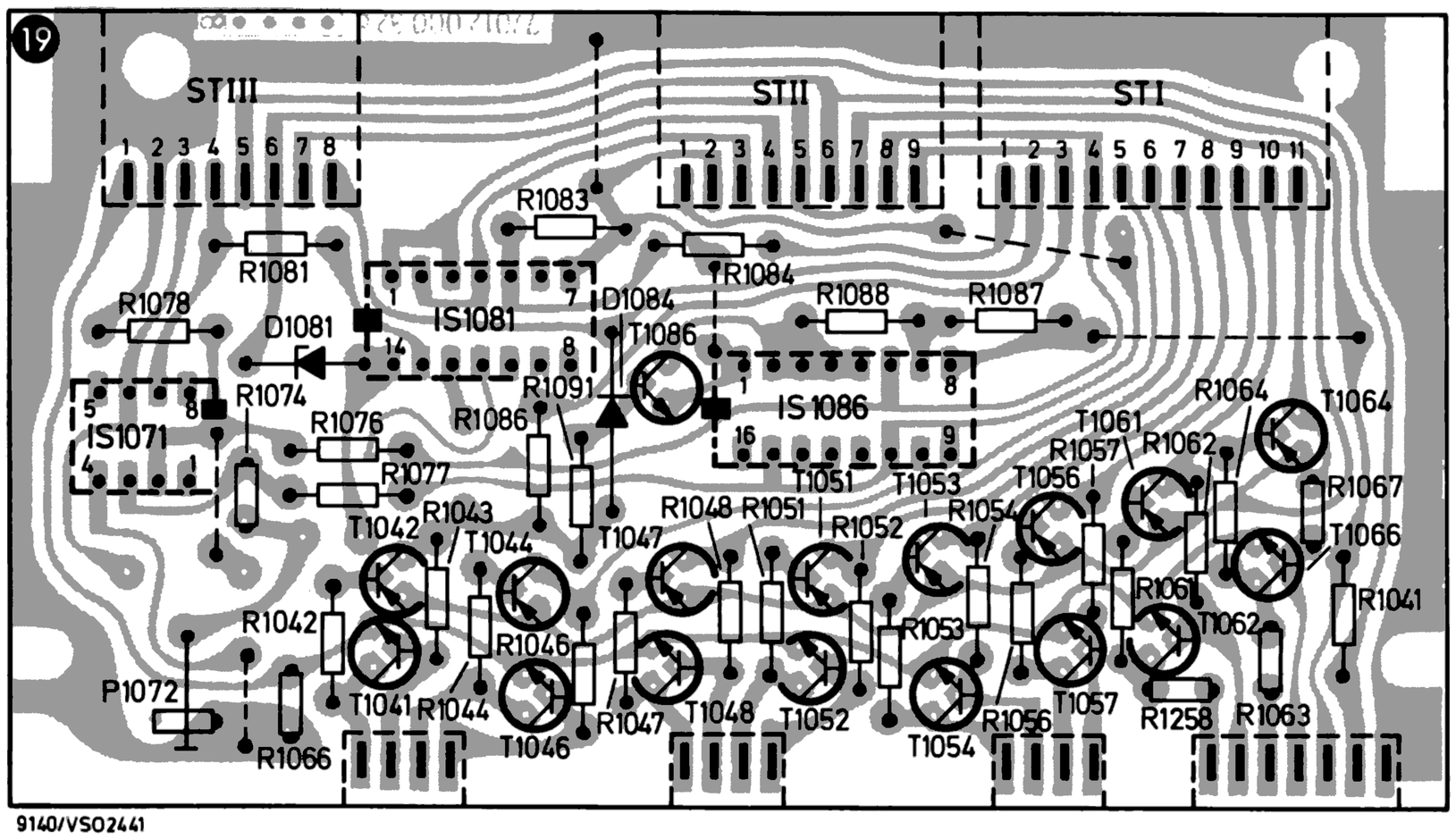


* **Lötseite**
* Soldering side
* Côté soudures
* Lato saldature

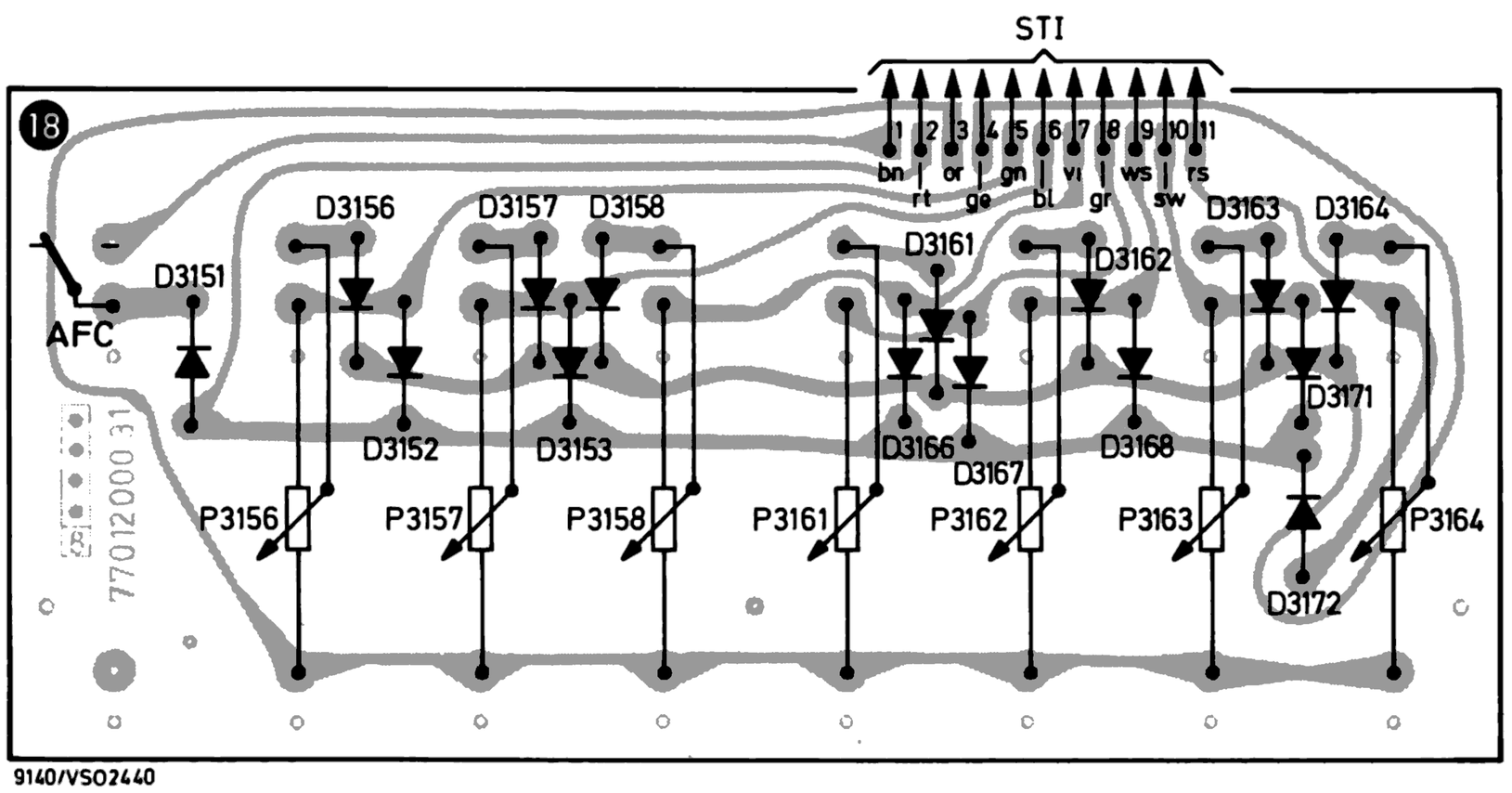
Programmspeicher* ⑰ ⑱ ⑲
Station pre-set unit*
Mémoire de programme*
Memoria programmi*



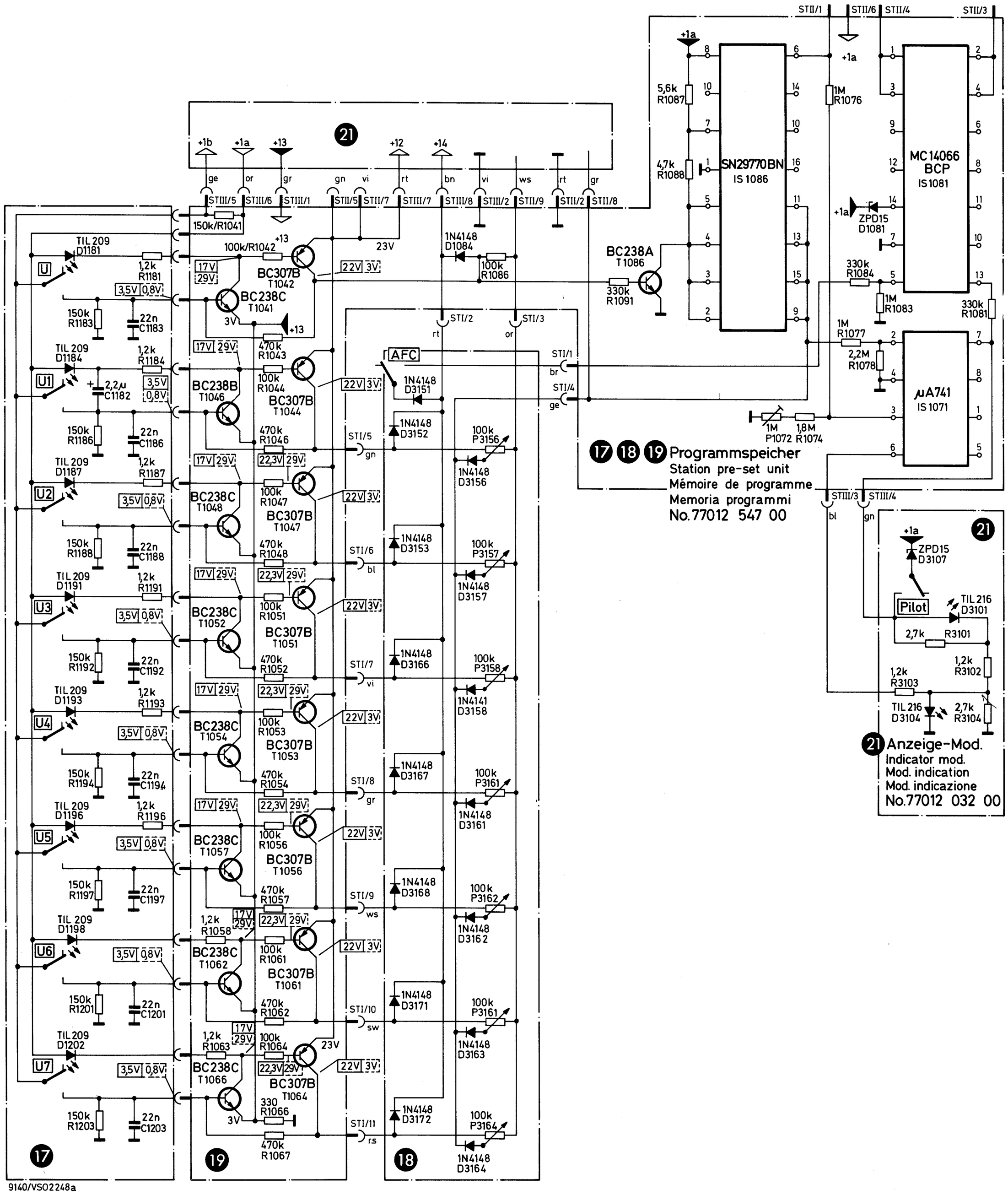
9140/VSO2442



9140/VSO2441



9140/VSO2440


21
+1b
+1a
+13
+12
+14
ge
or
gr
gn
vi
rt
bn
vi
ws
rt
gr
STIII/5
STIII/6
STIII/1
STII/5
STII/7
STIII/7
STIII/8
STIII/2
STII/9
STII/2
STII/8
150k/R1041
TIL 209
D1181
U
1,2k
R1181
3,5V
0,8V
150k
R1183
22n
C1183
TIL 209
D1184
U1
1,2k
R1184
2,2µ
C1182
150k
R1186
22n
C1186
TIL 209
D1187
U2
1,2k
R1187
150k
R1188
22n
C1188
TIL 209
D1191
U3
1,2k
R1191
150k
R1192
22n
C1192
TIL 209
D1193
U4
1,2k
R1193
150k
R1194
22n
C1194
TIL 209
D1196
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22n
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TIL 209
D1198
U6
1,2k
R1198
150k
R1201
22n
C1201
TIL 209
D1202
U7
1,2k
R1203
150k
R1203
22n
C1203
17V
29V
100k/R1042
BC307B
T1042
BC238C
T1041
3V
470k
R1043
100k
R1044
BC238B
T1046
BC307B
T1044
470k
R1046
22,3V
100k
R1047
BC238C
T1048
BC307B
T1047
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R1048
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R1051
BC238C
T1052
BC307B
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3V
23V
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R1086
AFC
1N4148
D3151
1N4148
D3152
100k
P3156
1N4148
D3156
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D3153
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P3157
1N4148
D3157
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D3166
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P3158
1N4141
D3158
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D3167
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P3161
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P3161
1N4148
D3163
1N4148
D3172
100k
P3164
1N4148
D3164
STI/2
STI/3
STI/1
STI/4
STI/5
STI/6
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STI/8
STI/9
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sw
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18
19
9140/VSO2248a
STII/1
STII/6
STII/4
STII/3
+1a
5,6k
R1087
4,7k
R1088
SN29770BN
IS 1086
BC238A
T1086
330k
R1091
1M
R1076
ZPD15
D1081
330k
R1084
1M
R1083
MC 14066
BCP
IS 1081
330k
R1081
1M
R1077
2,2M
R1078
µA741
IS 1071
1M
P1072
1,8M
R1074
STIII/3
STIII/4
bl
gn
17 18 19 Programmspeicher
Station pre-set unit
Mémoire de programme
Memoria programmi
No.77012 547 00
ZPD15
D3107
Pilot
TIL 216
D3101
2,7k
R3101
1,2k
R3102
1,2k
R3103
TIL 216
D3104
2,7k
R3104
21 Anzeige-Mod.
Indicator mod.
Mod. indication
Mod. indicazione
No.77012 032 00

Abgleichanleitung

Generator, Meßvorbereitung	Meßgerät, Meßpunkt	Abgleichpunkt
Netzteil-Modul	DC-VM an (F3)	P 1416 auf 45 V
Endstufen Lautsprecher abschalten	DC-VM zwischen (X1), (X2)	P 1142 auf 14 mV
AM-ZF-Modul AM-ZF-Modul auf Lötseite stecken Meßsender 461 kHz an (C1) **am** ein	DC-VM an (D2)	Ausgangsspannung des Meßsenders auf ca. −0,5 V an (D2) einstellen L 386 auf Max. L 381, L 376, L 378, L 372, L 362, L 361 nacheinander auf Max.
AM-HF-Modul Meßsender an Antenneneingang Sender auf 461 kHz Sender und Empfänger auf 600 kHz Sender und Empfänger auf 1500 kHz	DC-VM über R 2107 DC-VM an (D2)	P 2111 auf 8,5 V L 2081 auf Min. L 2102, L 2087 auf Max. C 2084, C 2101 auf Max.
FM-ZF-Modul Meßsender ca. 100 MHz mit 1 kHz FM an Antenneneingang, **afc** aus Sendersignal soweit erhöhen, bis Anstieg der Anzeige beendet **muting** ein. Senderausgangsspannung auf ca. „1" der Abstimmanzeige verringern	DC-VM an (B6) NF-Millivoltmeter an (D6) DC-VM zwischen (B5), (B7) Mittenanzeige Abstimmanzeige	Senderfrequenz verstimmen bis max. Spannung an (B6) (ca. 1,5 V) L 217, L 218 im FM-Tuner auf Max. an (B6) L 318 auf max. NF P 324 auf Nulldurchgang Mit P 2027 Null an Mittenanzeige Mit P 2037 Zeiger des Abstimminstrumentes auf „10" P 321 auf Stummschaltung der NF einstellen
FM-HF Sender und Empfänger auf 87,40 MHz Sender und Empfänger auf 101 MHz	Abstimmanzeige auf Max. und Mittenanzeige auf Mitte	P 512 auf 87,40 MHz P 516 auf 101 MHz (Abstimmspannungs-Modul)
Stereo-Decoder Meßsender an Antenneneingang ca. 101 MHz, 1 mV, 19 kHz Pilotton, 1 kHz Modulation Empfänger abstimmen P 2045 Linksanschlag P 911 Rechtsanschlag Abwechselnd nur links oder nur rechts modulieren **Stereo-Fern-Automatik** Sendersignal auf „4" am Abstimminstrument einstellen **Stereo-Schwelle** Sendersignal auf „2" am Abstimminstrument einstellen	NF-Voltmeter an (C4) L oder (D6) R	Mit P 901 optimale Übersprechdämpfung einstellen Mit P 911 auf mindestens 40 dB Übersprechdämpfung nachgleichen Mit P 2048 12 dB Übersprechdämpfung einstellen P 2051 so einstellen, daß Stereo-Anzeige gerade wieder aufleuchtet
Pilot-Anzeige Beliebigen Sender mit Preomat auf Null der Mittenanzeige einstellen		Pilot-Taste drücken Mit P 1077 Pilotanzeige korrigieren

Alignment Instructions

Signal Generator, Preparation	Instrument measurement point	Alignment
Power supply	DC voltmeter on F3	P 1416 for 45 V
Output stages Switch off loudspeakers	DC voltmeter between X1 and X2	P 1142 for 14 mV
AM-IF Plug in AM-IF module on soldering side Connection signal generator at 451 kHz on C1 **am** on	DC voltmeter on D2	Adjust output voltage of signal generator for approx. −0.5 V at D2 Adjust L 386 for maximum Adjust L 381, L 376, L 378, L 372, L 362, L 361 in this sequence for maximum
AM-HF Signal generator to antenna input Generator to 461 kHz Generator and receiver to 600 kHz Generator and receiver to 1500 kHz	DC voltmeter across R 2107 DC voltmeter on D2	P 2111 for 8.5 V L 2081 for minimum L 2102, L 2087 for maximum C 2084, C 2101 for maximum
FM-IF Signal generator 100 MHz with 1 kHz FM to antenna input, **afc** off	DC voltmeter on B6 AF millivoltmeter on D6 DC voltmeter between B5 and B7 Center indication	Adjust generator frequency for maximum voltage at B6 (approx. 1.5 V) Adjust L 217, L 218 in FM tuner for maximum at B6 Adjust L 318 for maximum Adjust P 324 for 0 transition Adjust P 2027 for zero at center indication
Increase signal generator output until indication reaches maximum **Muting** on reduce generator output voltage until tuning meter indicates approximately "1"	Tuning meter	Adjust P 2037 until tuning meter indicates "10" Adjust P 321 until AF is muted
FM-HF Tune generator and receiver to 87.40 MHz Tune generator and receiver to 101 MHz	Tuning meter to maximum and center tuning indicator to center	P 512 to 87.40 MHz P 516 to 101 MHz
Stereo decoder Connect signal generator to antenna input, approx. 101 MHz, 1 mV, 19 kHz, pilot carrier, 1 kHz Tune receiver Turn P 2045 fully anticlockwise Turn P 911 fully clockwise Modulate only left or right channel alternately	AF voltmeter on C4 L or D6 R	Adjust P 901 for optimum cross talk attenuation Adjust P 911 for at least 40 dB cross talk attenuation
Distant stereo Adjust generator output for indication of "4" on tuning meter		Adjust P 2048 for 12 dB cross talk attenuation
Stereo threshold Adjust generator output for indication of "2" on tuning meter		Adjust P 2051 so that stereo indicator just lights
Pilot indicator Tune to any existing transmitter with Preomat, tuning for zero on center tuning indicator		Depress pilot button and correct pilot indication with P 1077

Instructions d'alignement

Générateur, Préparation de mesure	Appareil de mesure, Points de mesure	Point d'alignement
Bloc secteur	DC-VM à (F3)	P 1416 sur 45 V
Etages finaux Déconnecter le haut-parleur	DC-VM entre (X1), (X2)	P 1142 sur 14 mV
MA-MF Enficher module MA-ZF sur côté soudure Emetteur de mesure 461 kHz sur (C1) **am** enclenché	DC-VM sur (D2)	Tension de sortie de l'émetteur de mesure à régler sur env. —0,5 V sur (D2) L 386 sur max. L 381, L 376, L 378, L 372, L 362, L 361 l'un après l'autre sur max.
MA-HF Emetteur de mesure sur entrée d'antenne Emetteur sur 461 kHz Emetteur et récepteur sur 600 kHz, Emetteur et récepteur sur 1500 kHz	DC-VM sur R 2107 DC-VM à (D2)	P 2111 sur 8,5 V L 2081 sur min. L 2102, L 2087 sur max. C 2084, C 2101 sur max.
FM-MF Emetteur de mesure 100 MHz avec 1 kHz FM sur entrée d'antenne **C.A.F.** hors circuit Augmenter le signal d'émetteur jusqu'à achèvement de la montée de l'affichage Modération en circuit diminuer la tension de sortie de l'émetteur sur env. "1" de l'affichage d'accord	DC-VM à (B6) Millivoltmètre BF (D6) DC-VM entre (B5), (B7) Affichage du milieu Affichage d'accord	Désaccorder la fréquence d'émetteur jusqu'à tension max. à (B6) (env. 1,5 V) L 217, L 218 du tuner FM sur max. au côté (B6) L 318 sur max. P 324 sur passage zéro avec P 2027 zéro sur affichage de milieu Aiguille de l'instrument d'accord avec P 2037 sur "10" Régler P 321 sur accord silencieux de BFC
MF-HF Emetteur et récepteur sur 87,40 MHz Emetteur et récepteur sur 101 MHz	Affichage de l'émetteur sur max. et affichage de milieu sur milieu	P 512 sur 87,40 MHz P 516 sur 101 MHz
Décodeur stéréo Emetteur de mesure sur entrée d'antenne env. 101 MHz, 1 mV, tonalité pilote, 19 kHz, 1 kHz, accorder le récepteur, P 2045 arrêt à gauche P 911 arrêt à droite Moduler alternativement uniquement à gauche ou à droite **Stéréo éloigné** Régler les signaux d'émetteur sur "4" sur l'instrument d'accord **Seuil stéréo** Régler le signal d'émetteur sur "2" sur l'instrument d'accord	Voltmètre BF à (C4) L ou (D6) R	Régler à l'aide de P 901 d'affaiblissement optimal de diaphonie Accorder avec P 911 un affaiblissement de diaphonie min. de 40 dB Régler l'affaiblissement de diaphonie sur 12 dB avec P 2048 Régler P 2051 de façon à ce que l'affichage stéréo s'allume tout juste
Affichage pilote Positionner une station selon choix à l'aide du "preomat" sur zéro de l'affichage de milieu		Enfoncer la touche pilote Corriger l'affichage du pilote avec P 1077

Istruzioni di taratura

Generatore, Preparazione misure	Strumento di misura, Punto di misura	Punto di taratura
Sezione rete	DC-VM su F3	P 1416 a 45 V
Stadi finali Disinserire gli altoparlanti	DC-VM tra X1, X2	P 1142 a 14 mV
AM-FI Inserire modulo AM-FI su lato brasatura Generatore di misura 461 kHz su C1 **am** inserito	DC-VM su D2	Tensione d'uscita del generatore di misura su D2 ca. — 0,5 V L 386 su max. L 381, L 376, L 378, L 372, L 362, L 361 uno dopo l'altro su max.
AM-HF Generatore di misura su ingresso antenna Trasmettitore a 461 kHz Trasmettitore e ricevitore a 600 kHz Trasmettitore e ricevitore a 1500 kHz	DC-VM sopra R 2107 DC-VM su D2	P 2111 a 8,5 V L 2081 a min. L 2102, L 2087 su max. C 2084, C 2101 a max.
FM-FI Generatore di misura 100 MHz con 1 kHz FM su ingresso antenna, **afc** disinserito	DC-VM su B6 Millivoltmetro BF su D6 DC-VM tra B5, B7 Indicazione sintonia	Variazione di frequenza trasmettitore fino a max. tensione su B6 (ca. 1,5 V) L 217, L 218 nel sintonizzatore FM a max. su B6 L 318 a max. BF P 324 a passaggio per lo zero Con P 2037 zero su indicazione sintonia
Aumentare il segnale del trasmettitore fino a quando terna l'aumento dell'indicazione **muting** inserito, ridurre la tensione d'uscità trasmettitore a ca. "1" dell'indicazione di compensazione	Indicazione di compensazione	Con P 2037 indice dello strumento di compensazione a "10" Regolare P 321 su commutazione muto della BF
FM-HF Trasmettitore e ricevitore su 87,40 MHz Trasmettitore e ricevitore su 101 MHz	Indicazione di compensazione su max., indicazione sintonia al centro	P 512 a 87,40 MHz P 516 a 101 MHz
Decoder stereo Generatore di misura su ingresso antenna ca. 101 MHz, 1 mV, 19 kHz tono pilota, 1 kHz Sintonizzare il ricevitore, arresto a sinistra P 2045 arresto a destra P 911 In maniera alternata modulare soltanto a sinistra o soltanto a destra	Voltmetro BF su C4 L o D6 R	Regolare con P 901 l'attenuazione di diafonia ottimale Compensare successivamente con P 911 alemo 40 dB d'attenuazione diafonia
Stereo lontani Regolare il segnale trasmettitore su "4" sullo strumento di sintonia		Regolare con P 2048 12 dB d'attenuazione di diafonia
Soglia stereo Regolare il segnale trasmettitore a "2" sullo strumento di sintonia		Regolare P 2051 in modo che si accenda appena di nuovo la indicazione stereo
Indicazione pilota Regolare il trasmettitore desiderato con automatismo di rotazione su zero dell'indicazione sintonia		Premere il tasto pilota Correggere con P 1077 l'indicazione pilota