

# PHILIPS *Service*

RADIO

H3X53A/16



① Volume control  
Volumeregeling  
Contrôle de volume  
Lautstärkeregl.  
Control de volumen

R 31  
R 31'

② Mains switch  
Netschakelaar  
Commutateur secteur SK-A  
Netzschalter  
Commutador de red

③ PU switch  
PU-schakelaar SK-M  
+  
Commutateur PU  
④ TA-Schalter SK-F  
Commutador PU

③ MW switch  
MG-schakelaar SK-M  
Commutateur PO  
MW-Schalter  
Commutador OM

④ FM switch  
FM-schakelaar SK-F  
Commutateur FM  
UKW-Schalter  
Commutador de FM

⑤ LW switch  
LG-schakelaar SK-L  
Commutateur GO  
LW-Schalter  
Commutador OL

⑥ Tuning  
Afstemming  
Syntonisation  
Abstimmung  
Sintonia

⑦ Tone switch SK-B  
Toonschakelaar  
Comm. de tonalité SK-D  
⑧ Klangschalter SK-E  
Comm. de tonalidad

Loudspeaker AD3570M(5 g)  
IF 460 kc/s /16 (AM)  
10,7 Mc/s (FM)  
Mains voltages 110-127-220 V.  
Consumption 35 W  
Output 2,5 W  
Dimensions 560x210x170 mm  
Record changer AG 2031/00

Luidspreker Haut-parleur  
FI MF  
Netspanningen Tensions de  
secteur  
Verbruik Consommation  
④ Uitgangsvermogen Puissance  
Afmetingen Dimensiona  
Platenwisselaar Changeur de  
disques

Lautsprecher ZF  
AD3570M(5 g)  
460 kc/s /16 (AM)  
10,7 Mc/s (FM)  
Netzspannungen 110-127-220 V.  
Verbrauch 35 W  
Ausgangsleistung 2,5 W  
Abmessungen 560x210x170 mm  
Plattenwechsler AG 2031/00

Altavoz FI  
Tensiones de red  
Consumo  
Tension de salida  
Dimensiones  
Cambiadiscos

WAVE RANGES - GOLFGEBIEDEN - GAMMES D'ONDES - WELLENBEREICHE - MARGENES DE ONDAS

MW - MG - OP - MW - OM : 185 - 585 m (1612 - 512 kc/s)  
FM - FK - FM - UKW - FM : 108 - 87,5 Mc/s  
LW - LG - GO - LW - OL : 837 - 2000 m ( 350 - 150 kc/s)

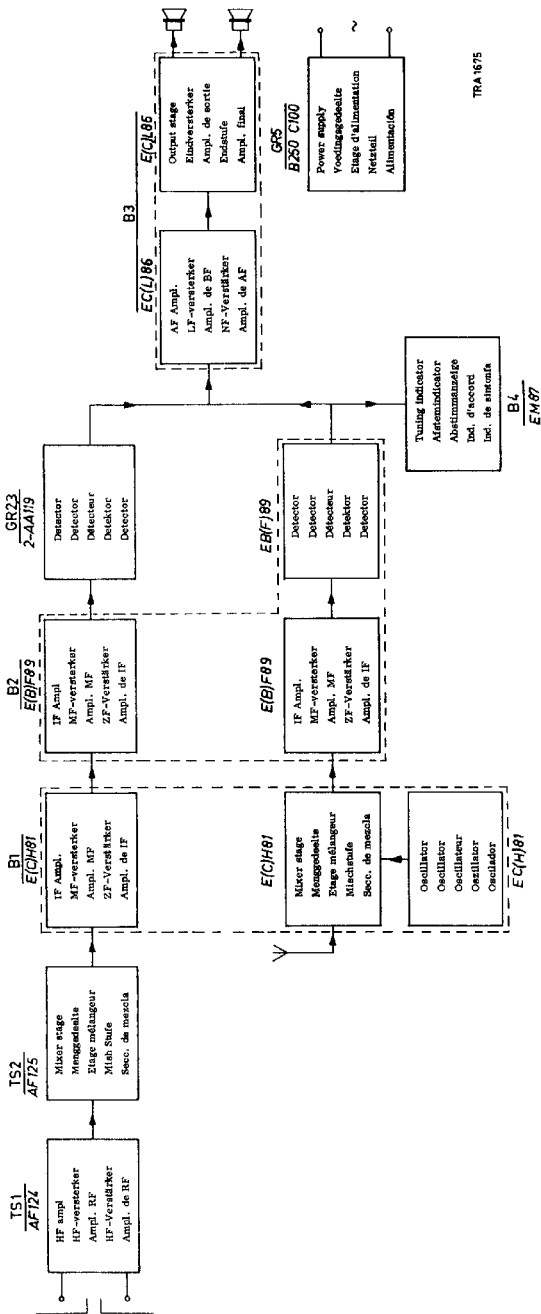
VALVES - BUizen - TUBES - ROEHREN - VALVULAS

B1 - ECH81  
B2 - EBF89  
B3 - ECL86  
B4 - EM87  
L1 - 8024D/71

DIODES - TRANSISTORS

GR1 - OA90  
GR2,3 - 2- AA119  
GR4 - BA102  
GR5 - B 250 C 100  
TS1 - AF124  
TS2 - AF125

SERVICE INFORMATION								
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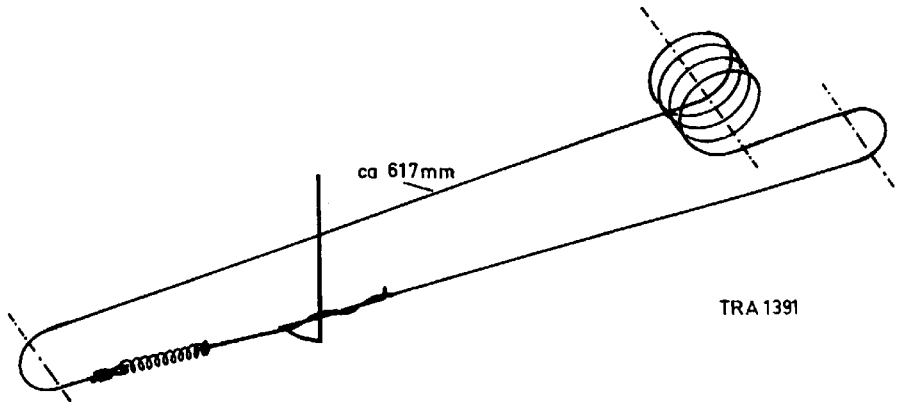
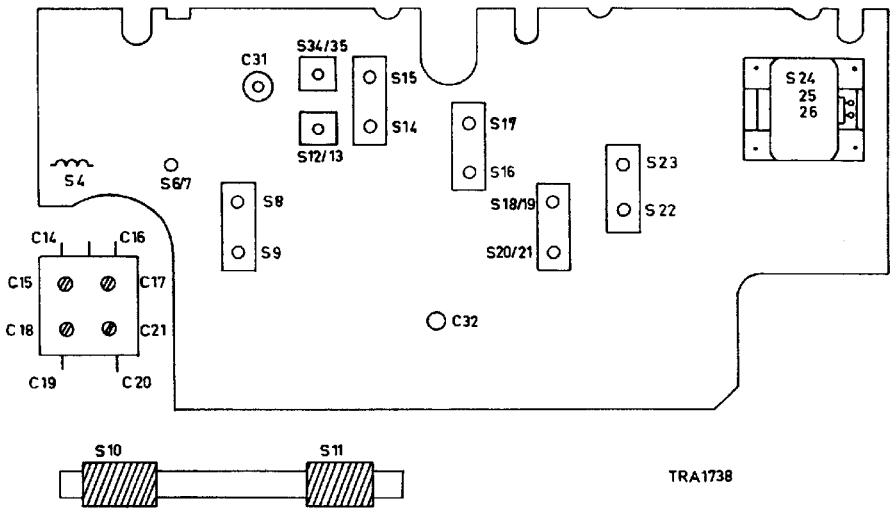


TRA 1675

Cabinet	4822 193 00861	Kest	Ebénisterie	4822 193 00881	Mueble
Cover on PU	4822 212 00965	Kaprip FM	Capri en PU	4822 212 00965	Caperusa de PU
Front plate	4822 193 00879	Frontplaat	Plaque frontal	4822 193 00879	Placa frontal
Ornamental strip below scale	4822 193 00882	Strasstrip onder schaal	Bandje ornamentaal au-dessus cadran	4822 193 00882	Banda ornamental arriba de cuadrante
Screw fix. scale	A3 156 92	Schroef bev. schaal	Vis fix. cadran	A3 156 92	Tornillo fij. cuadrante
Voltage adaptor	4822 193 00777	Spanningsomschakelaar	Carroussel de tension	4822 193 00777	Selector de tensión
Push button unit, tone	4822 193 00784	Knop 1,6	Bouton 1,6	4822 193 00784	Botón 1,6
Push button unit, tone	4822 193 00873	Druktoetsenheid, toon	Unité de touche pousseoir, ton	4822 193 00873	Unidad de pulsador, tono
Push button 7,8,9	4822 410 20195	Druktoets 7,8,9	Touche pousseoir 7,8,9	4822 410 20195	Pulsador 7,8,9
Push button 7,8,9	4822 193 00877	Druktoets 7,8,9	Touche pousseoir 7,8,9	4822 193 00877	Pulsador 7,8,9
Pulley (9 mm)	4822 208 00255	Veer (in knop 1,6)	Resort (dans bouton 1,6)	4822 208 00255	Resorte (en botón 1,6)
Spring in knob 1,6)	A3 818 38	Druktoets 3,4,5	Touche pousseoir 3,4,5	A3 818 38	Pulsador 3,4,5
Push button 3,4,5	4822 193 00823	Druktoets 2	Touche pousseoir 2	4822 193 00823	Pulsador 2
Push button 2	4822 193 00824	Hebfont netschakelaar	Levier comm. secteur	4822 193 00824	Falancas comm. de red
Mains switch	4822 072 00683	Netschakelaar	Commutateur secteur	4822 072 00683	Commutador de red
Tuning spindle with pulley	4822 193 00775	Afstemas met rol	Axe de synchronisation avec rouleau	4822 193 00775	Eje de sintonía con rollo
Socket aerial	4822 193 00782	Steckerbus antenne	Douille antenne	4822 193 00782	Hembra antena
Socket recorder	579/5x180	Kontrastekeer mag.	Fiche femelle enrég.	579/5x180	Enchufe hembra magn.
Socket LS	979/S2x4	Kontrastekeer LS	Fiche femelle h-p	979/S2x4	Enchufe hembra altavoz
Link for switch	4822 193 00776	Koppesstuk voor schuif	Ficbe de couplage pour tiroir	4822 193 00776	Pieza de acopló para deslizador
Lampholder	A3 311 15	Lampouder	Support de lampe	A3 311 15	Portalámpara
Slide switch MW	4822 193 00659	Schuifschakelaar MG	Comm. à glisser PO	4822 193 00659	Comm. deslizante OM
Slider MW	4822 193 00875	Schuf MG	Tiroir PO	4822 193 00875	Deslizador OM
Slide switch PW	4822 193 00812	Schuifschakelaar FM	Comm. à glisser FM	4822 193 00812	Comm. deslizante PM
Slider PW	4822 193 00813	Schuf FM	Tiroir FM	4822 193 00813	Deslizador PM
Slide switch LW	4822 193 00814	Schuifschakelaar LG	Comm. à glisser GO	4822 193 00814	Comm. deslizante OL
Slider LW	4822 193 00815	Schuf LG	Tiroir GO	4822 193 00815	Deslizador OL
Socket PU with switch	979/55x180	Kontrastekeer PU met schakelaar	Fiche femelle enrég. avec commutateur	979/55x180	Enchufe hembra PU y conmutador
Scale (/00/01/16)	4822 193 00884	Schaal (/00/01/16)	Cadran (/00/01/16)	4822 193 00884	Cuadrante (/00/01/16)

f. van  
HEB/PG

S1 } S2 } S3 } S5 }	4822 193 00789	Input coil FM Ingangsspoel FM Bobine d'entr�e FM UKW-Eingangsspule Bobina de entrada FM	S12 } S13 }	4822 193 00854	Oscillator coil MW-LW Oscillatortroepel MG-LG Bob. oscillatrice PO-GO Oszillatortroepule MW-LW Bob. de oscillator OM-OL	S22 } S27 } C2 } C22 }	IP band-pass filter AM MF-bandfilter AM Filtre passe-bande FI,AM ZF-Bandfilter AM Filtro pasabanda FI,AM	
S4	4822 193 00791	Coupling coil FM Koppelspoel FM Bob. de coupleage FM UKW-Kopplungsspule Bob. de acouplage FM	S14 } S15 } C22 } C27 } C36 }	4822 193 00727	IF band-pass filter FM MF-bandfilter FM Filtre passe-bande FI,FM ZF-Bandfilter UKW Filtro de pasabanda FI,FM	S24 } S25 } S26 } Z1 }	Luidspreker transformator Luidsprekertransformator Transformateur de h-p Lautsprechertransformator Transformador de altavoz	
S5	4822 193 00792	IF coil FM MF-spoel FM Bobine FI,FM ZF-Spoel UKW Bobina FI,FM	S16 } S17 } C37 } C38 }	A3 910 39	IP band-pass filter AM MF-bandfilter AM Filtre passe-bande FI,AM ZF-Bandfilter UKW Filtro de pasabanda FI,AM	S28 } S29 } S30 } S31 } S32 } S2 }	Maine transformator Nettransformator Nettransformateur Netztransformator Transformador de red	
S8 } S9 } C23 }	4822 193 00794	IF band-pass filter FM MF-bandfilter FM Filtre passe-bande FI,FM ZF-Bandfilter UKW Filtro de pasabanda FI,FM	S18 } S19 } S20 } S21 } C45 }	4822 193 00849	Ratio detector Ratiodetector D�tecteur de rapport Ratiodetektor Detector de razon	S24 } S25 }	Oscillator coil LW Oscillatortroepel LC Bob. de oscillatrice OC Oszillatortroepule LW Bob. de oscilador OL	
S10 } S11 }	4822 193 00816	Ferroreceptor MW-LW Ferroreceptor MG-LG Ferroreceptor PO-GO Ferroreceptor MW-LW Ferroreceptor OM-OL	S10 } S11 }	940/AD690M	LS	LS	Luidspreker Luidspreker Lautsprecher Lautsprecher Altavoz	
C4,5,11 C10 C12 C14-21 C25 C26 C29 C30 C34 C35 C37 C39,61	5000 PF 560 PF 82 PF 4700 PF 360 PF 240 PF 10 PF 39000 PF 10000 PF	4822 069 00627 4822 069 00575 4822 069 00343 4822 069 00544 4822 069 01022 4822 069 01024 909/410 309/225 4822 069 01097 4822 069 01093	660 C65 C62 C62 C75 E7 E9 R12 R17 R28 E31 E39	47000 PF 4 PF 6 PF 50-50 PF 20000 � 27000 � 10000 � 2200 � 120 � 47 �	25 V 250 V 250 V 250 V 0,25 W 0,25 W 0,25 W 0,25 W 0,25 W 0,25 W	R39a R40 R10 R22 R18 C54,55 R22 C49,50 R23,24 C46,47 L1 Z1,2	56 � 1200 � 100 � + 4700 PF 150 k�+2x150 PF 12 k�+2x1000 PF 2x12 k�+2x2200 PF	4822 070 00126 4822 220 00362 E 551 AA/24-44 4822 071 01049 4822 071 00867 4822 071 00868 955/36,3x320 A3 425 53



Serv-o-necum E-a-1 E-a-2 E-a-5	Wave range Golfgebied Gamme d'ondes Wellenbereich Rangos de ondas	Trimming point Trimpunt Point de réglage Trimpunkt Punto de ajusta	Signal Signaal Signal Signal Señal	Trim Afregeien Régler Abgleichen Ajustense	Indication Aanwijzing Indication Anzeige Indicación		
IP-MF-PI-ZF-PI (AM)	NW-MG-PO-MW-ON	1620 kc/s	460 kc/s - 2B1 via 35000 pP	S22,S23,S16,S17	Max. output		
RF-HF-HF-HF-RF (AM)	NW-MG-PO-MW-ON	510 kc/s	510 kc/s	S12,S13	Max. output		
		1620 kc/s	1620 kc/s	C21			
	LW-LG-GO-LW-OL	510 kc/s	147 kc/s	S34,S35			
		1620 kc/s	355 kc/s	C31			
	NW-MG-PO-MW-ON	550 kc/s	160 kc/s	S10			
		550 kc/s	550 kc/s	S11			
	LW-LG-GO-LW-OL	550 kc/s	160 kc/s	S11			
		1550 kc/s	340 kc/s	C32			
IP-MF-PI-ZF-PI (FM)	FM-UKW	97,2 Mc/s	1) 2B2	S18	3)		
			10,7 Mc/s via 1500 pP	2B1		S14,S15,S18	
RF-HF-HF-HF-RF (FM)	FM-UKW	97,2 Mc/s	87,2 Mc/s	S8,S9,S18	Max. DV 6)		
				58 122 S20,S21		4)	
				S6,S7			
				C17			
				S4			
RF-HF-HF-HF-RF (FM)	FM-UKW	97,2 Mc/s	87,2 Mc/s	S6,S7	Max. DV 6)		
				108,5 Mc/s		108,5 Mc/s	C17
				88,5 Mc/s		88,5 Mc/s	S4
				107,5 Mc/s		107,5 Mc/s	C15

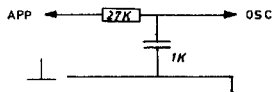
- 1) The signal to be applied is FM-modulated with 20 kc/s sweep.
- 2) Disconnect C48. Connect an oscilloscope to junction R24, R21, C47 via the accompanying network.
- 3) Adjust the response curve to maximum height and symmetry.
- 4) Connect C48. Shift the network to junction DF1, R41.
- 5) Adjust the S-curve to maximum height and symmetry.
- 6) Connect the DV across C48.

- 1) Het toe te voegen signaal is FM-gemoduleerd met zwaai van 20 kHz.
- 2) C48 losmaken. Sluit een oscillograaf aan via bijgaand netwerk op het knooppunt R24, R21, C47.
- 3) Afregelen op max. hoogte en symmetrie van de doorlaatkromme.
- 4) C48 vastmaken. Netwerk verleggen naar knooppunt DF1, R41.
- 5) Afregelen op max. hoogte en symmetrie van de S-kromme.
- 6) Sluit de DV aan over C48.

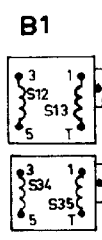
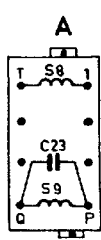
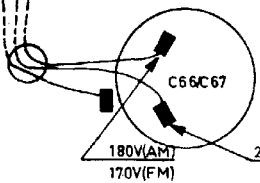
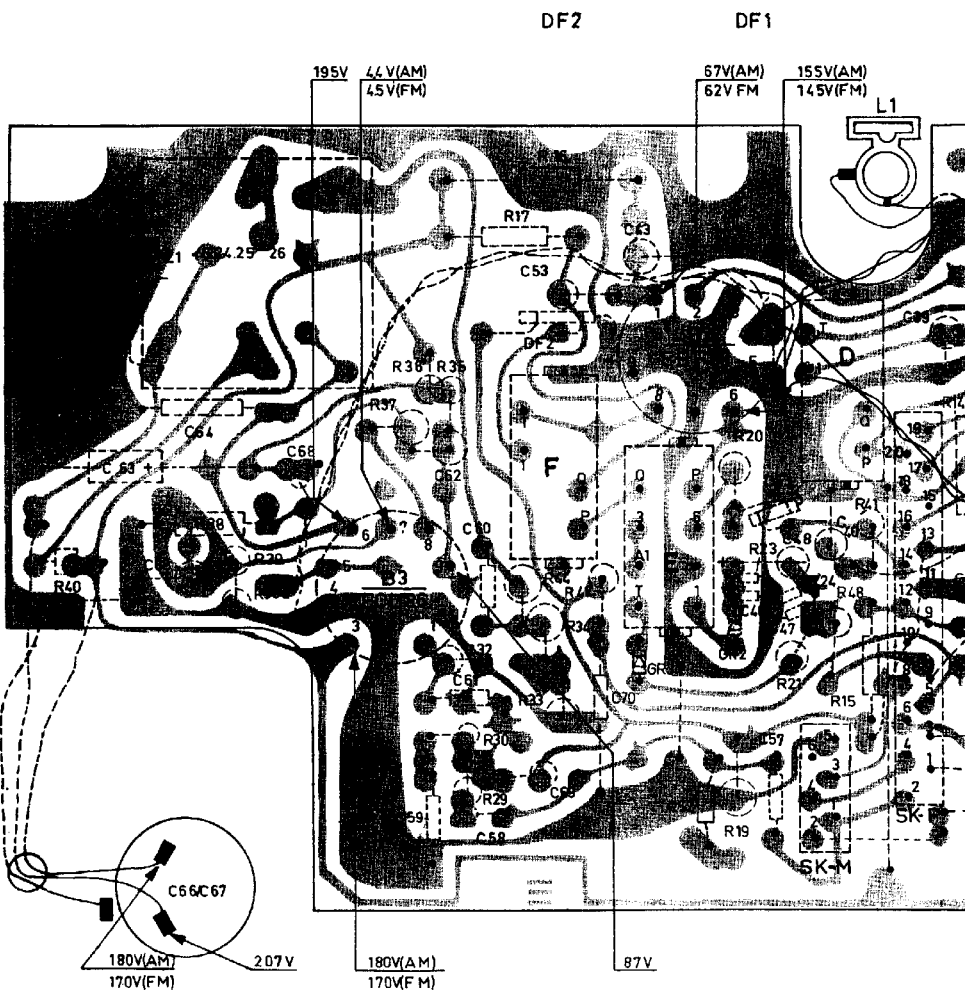
- 1) Le signal à appliquer est modulé en fréquence avec une excursion de 20 kHz.
- 2) Déconnecter C48. Connecter un oscilloscope au point nodal R24, R21, C47 via le réseau joint.
- 3) Ajuster à la hauteur et à la symétrie maximales de la courbe de réponse.
- 4) Connecter C48. Déplacer le réseau au point nodal DF1, R41.
- 5) Ajuster à la hauteur et à la symétrie maximales de la courbe S.
- 6) Connecter le voltètre à diode à travers C48.

- 1) Das zuzuführende Signal ist FM-moduliert mit einem Hub von 20 kHz.
- 2) C48 lösen. Einen Oszillografen über das beigefügte Netzwerk an den Knotenpunkt R24, R21, C47 anschliessen.
- 3) Auf maximale Höhe und Symmetrie der Durchlasskurve abgleichen.
- 4) C48 befestigen. Netzwerk nach Knotenpunkt DF1, R41 verlagern.
- 5) Auf maximale Höhe und Symmetrie der S-Kurve abgleichen.
- 6) Das Diodevoltmeter über C48 anschliessen.

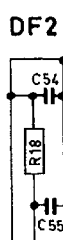
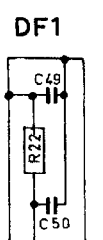
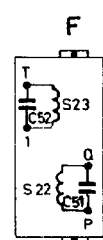
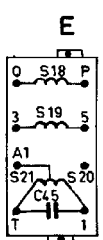
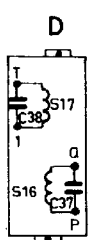
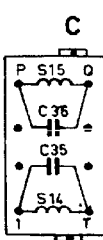
- 1) La señal a aplicar está modulada en frecuencia con una excursión de 20 kc/s.
- 2) Desconéctese C48. Conéctese un oscilógrafo a través de la red adyacente a la unión R24, R21, C47.
- 3) Ajustese a altura máxima y simetría de la curva de paso.
- 4) Fijese C48. Trasládesse la red a la unión DF1, R41.
- 5) Ajustese a altura máxima y simetría de la curva S.
- 6) Conéctese el voltímetro de diodo en paralelo a C48.



S	24252627			F			E			D		
R	40.	39a 38.	39. 31. 31'	37.	35. 36.	30. 29. 3 2.	33. 17.	16. 34.	44. 47.	52. 20. 19. 23.	21. 24.	48. 15. 41.
C	63.	66. 67. 6 5. 64.	71. 72.	68.	59. 62. 61. 58. 60.			53.	70	43.	57. 46. 47. 4. 8. 40.	

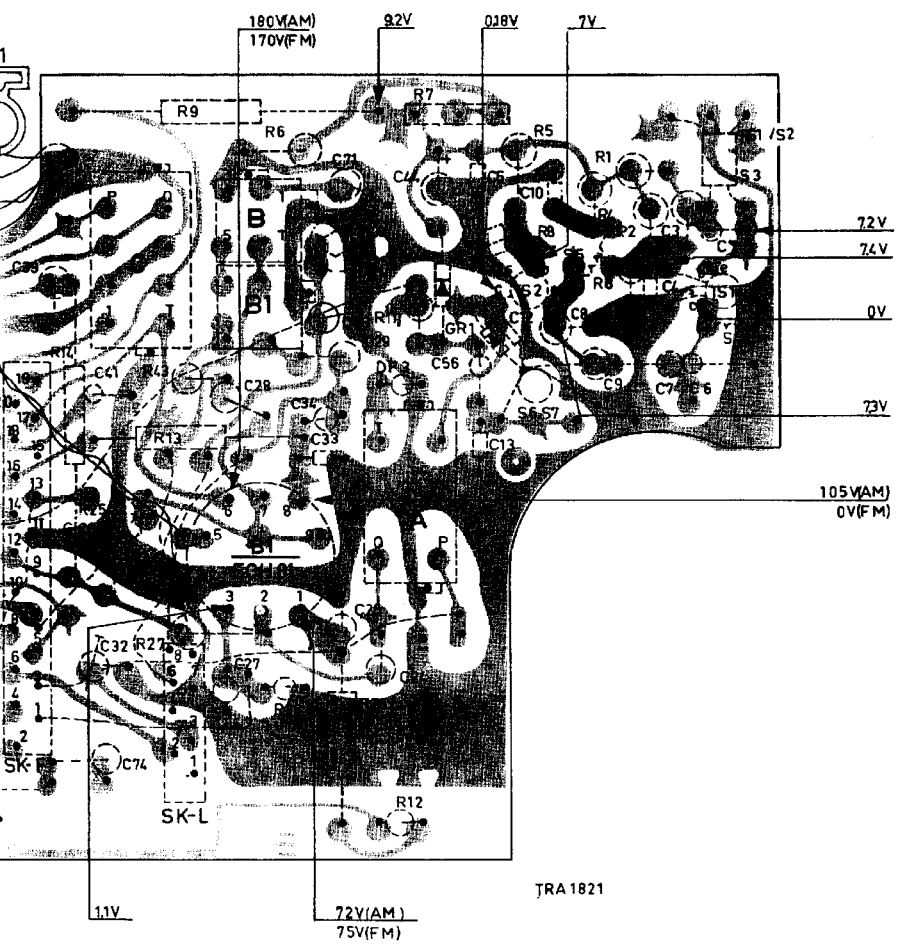


B

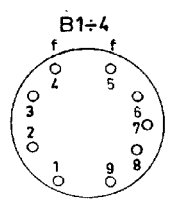
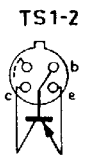
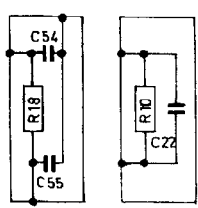


	C.	B.	A.	7. 6. 5.	3 2 1 4	S
1.	14.	13. 25. 27. 9.	43. 28. 6.	26. 12. 11. 42. 2.	5. 8. 4. 3. 1. 2.	R
	78. 39. 42. 74. 32. 41.	27. 24. 28 - 34. 26. 25.	44. 56. 13. 12. 11. 5. 10. 1. 8. 9.	7. 6. 4. 3. 2		C

DF3



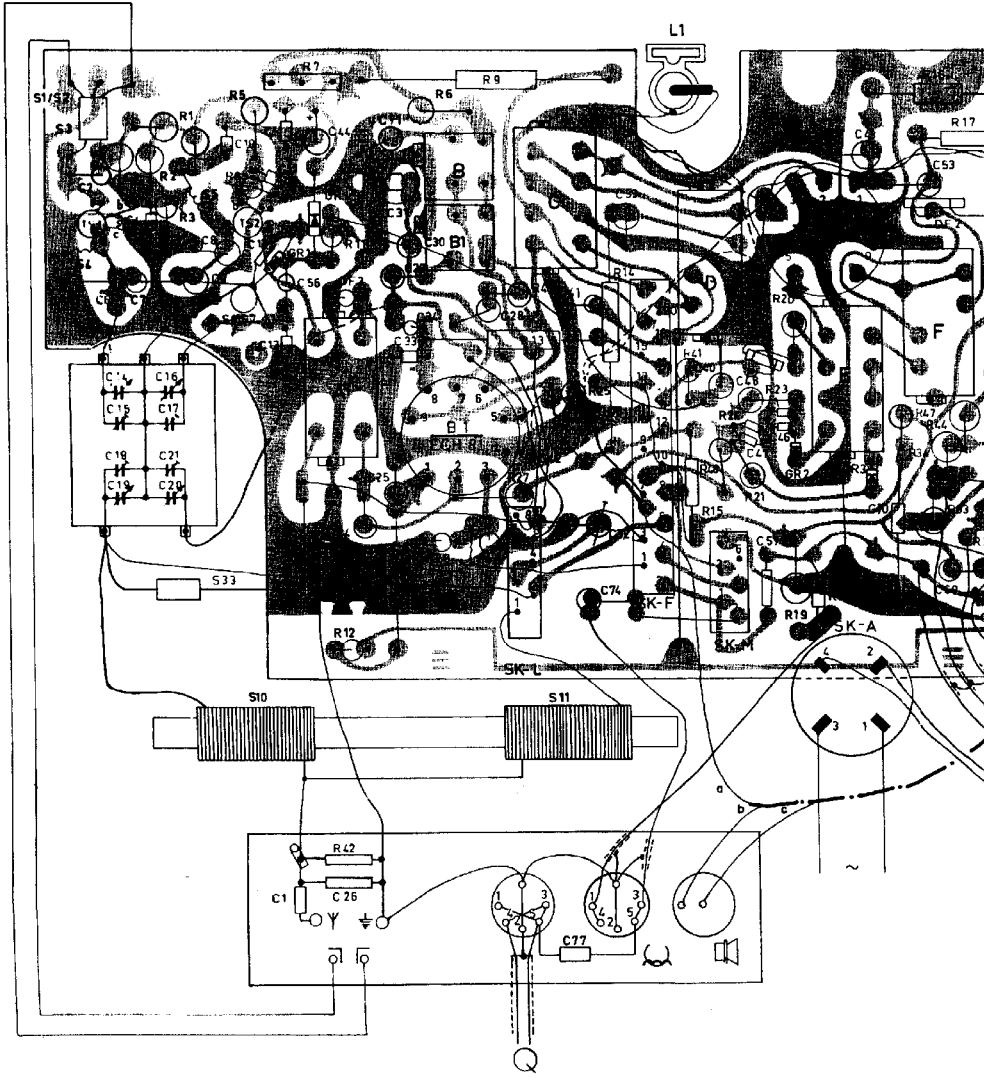
DF2 DF3



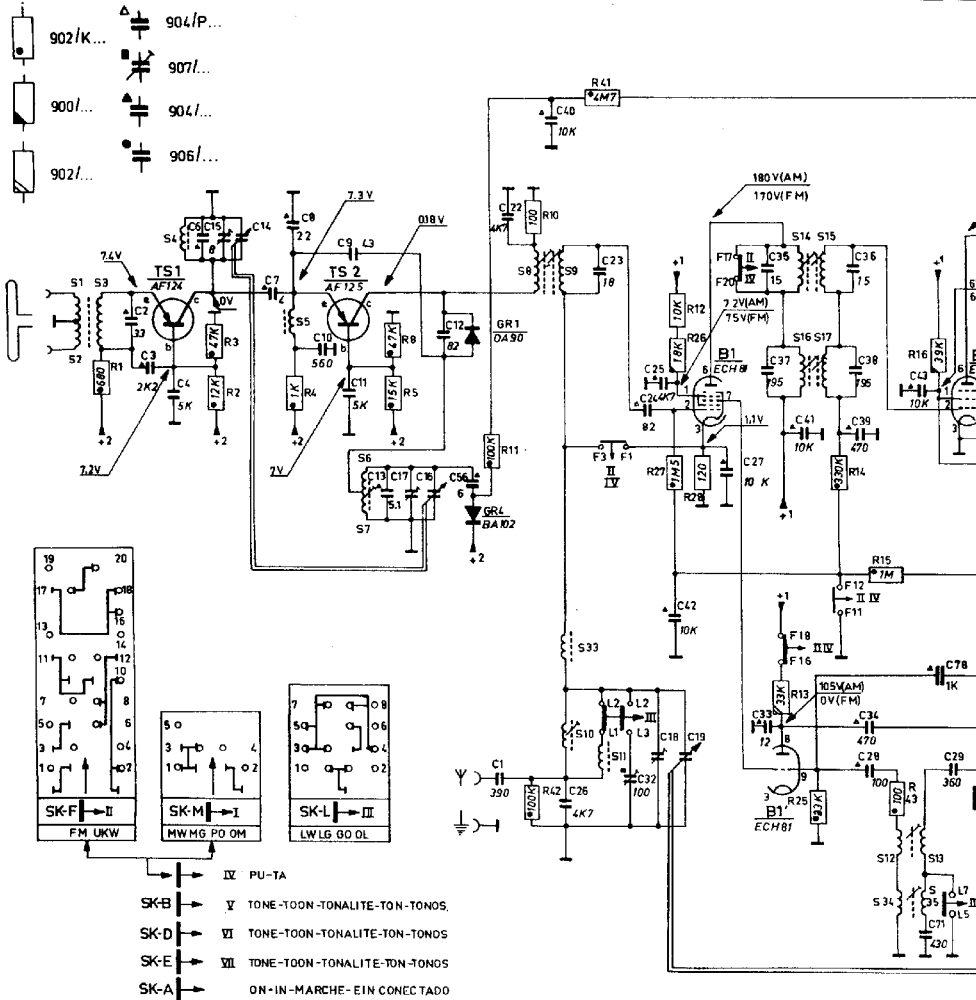
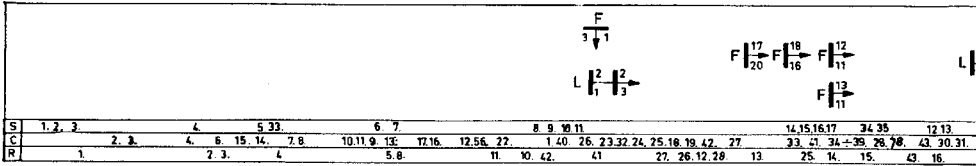


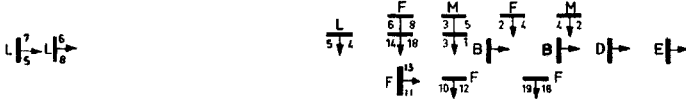
S	4, 1, 2, 3, 33, 10, 5, 6, 7	A	11, C	D	E	F
N	2, 1, 3, 4, 8, 5	7, 42, 11, 12, 26	6, 43, 28, 9	25, 13, 27, 14	41, 15, 48, 24, 21, 23, 52, 19, 25	47, 44, 34, 16, 33, 17
C	14, 15, 16, 17, 2, 4, 3, 6, 7, 18, 19, 20, 21, 9, 8	1, 10, 11, 5, 12, 13, 53	44, 26, 24, 25, 29 + 34, 28, 27, 77	41, 32, 42, 74, 39, 78	40, 9, 7, 6, 55	43, 70, 53, 69

DF3 DF1 DF2

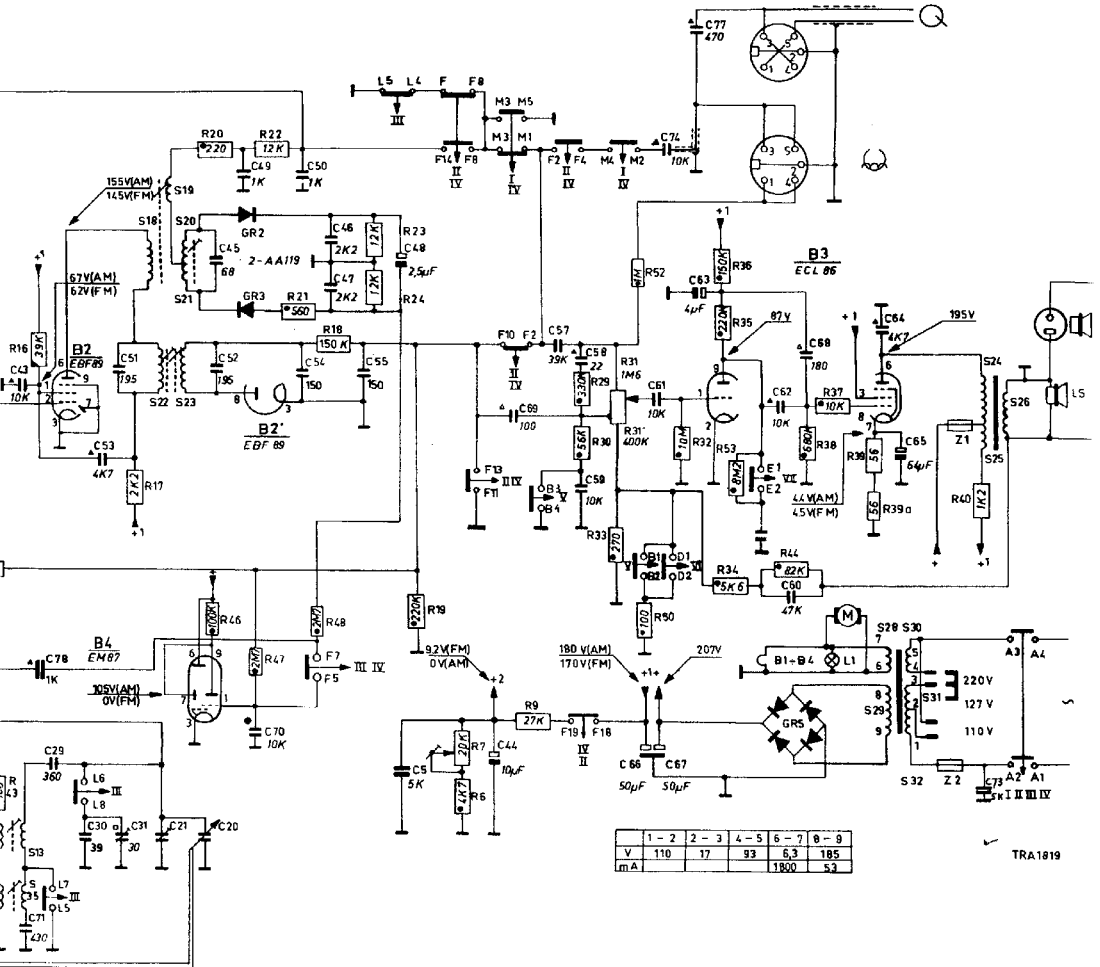








12, 13	18 + 23													28, 29, 30, 31, 32	24, 25, 26
9, 43, 30, 31	53, 29, 51, 20, 21	45, 52, 49	54, 50, 46, 47, 55, 48	5, 44	69, 67, 58	59	61, 74, 66, 67, 63, 77	72, 68, 62, 60	64, 65						
43, 16	17	20, 46, 47, 48	22, 21, 18, 23, 24	19, 6, 7	9, 30, 29, 31	31, 32, 54, 33, 32, 50	35, 36, 63	44	38, 37, 39, 39a, 40						



	1-2	2-3	4-5	6-7	8-9
V	110	17	93	63	185
mA			1800	53	

TRA 1819