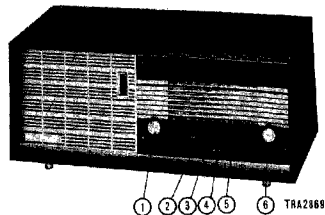


SERVICE NOTES

RADIO

3221A/00



- | | | | | | |
|---|------------------------------------|--|---|--|--|
| <p>① Volume control + tone switch
Volumeregelaar + toenschakelaar
Contrôle de volume + commutateur de tonalité
Lautstärkereglér + Klangschalter
Control de volumen + conmutador de tonalidad</p> <p>② Mains switch
Netschakelaar
Commutateur secteur
Netzschalter
Conmutador de red</p> | <p>R31</p> <p>SK-B</p> <p>SK-A</p> | <p>③ MW switch
MG-schakelaar
Commutateur PO
MW-Schalter
Conmutador OM</p> <p>④ FM switch
FM-schakelaar
Commutateur FM
UKW-Schalter
Conmutador FM</p> <p>③ PU switch
PU-schakelaar
Commutateur PU
TA-Schalter
Conmutador PU</p> | <p>SK-M</p> <p>SK-F</p> <p>SK-M
+</p> <p>SK-F</p> | <p>⑤ LW switch
LG-schakelaar
Commutateur GO
LW-Schalter
Conmutador OL</p> <p>⑥ Tuning
Afstemming
Sintonisation
Abstimmung
Sintonía</p> | <p>SK-L</p> <p>C14
C16
C19
C20</p> |
|---|------------------------------------|--|---|--|--|

Loudspeaker IF	AD 2700/06 (5 Ω) 452 kHz (AM) 10.7 MHz (FM)	Luidspreker MF	Haut-parleur FI	Lautsprecher ZF	AD 2700/06 (5 Ω) 452 kHz (AM) 10.7 Mc/s (FM)	Altavoz FI
Mains voltages	110-127-220 V ~	Netspanningen	Tensions de secteur	Netzspannungen	110-127-220 V ~	Tensiones de red
Consumption Output	32 W (220 V) 1.5 W	Verbruik Uitgangsvermogen	Consommation Puissance	Verbrauch Ausgangsleistung	32 W (220 V) 1.5 W	Consumo Tensión de salida
Dimensions	447x198x159 mm	Afmetingen	Dimensions	Abmessungen	447x198x159 mm	Dimensiones

Wave ranges - Golfgebieden - Gammes d'ondes - Wellenbereiche - Márgenes de ondas

MW - MG - PO - MW - OM	:	185 - 588 m	(1612 - 512 kc/s)
FM - FM - FM - UKW - FM	:	(104 - 87,5 Mc/s)	
LW - LG - GO - LW - OL	:	857 - 2000 m	(350 - 150 kc/s)

Valves - Bulzen - Tubes - Röhren - Valvulas

B1	-	ECH81
B2	-	EBF89
B3	-	ECL86
B4	-	EM87
L1	-	6,3 V-320 mA

Diodes - Transistors

GR1	-	OA90
GR2,3	-	2-AA119
GR4	-	BA102
GR5	-	B 250 V 100 mA
T81	-	AF124
T82	-	AF125

Index : CS5113, CS5117 ; CS6690 - CS6696.

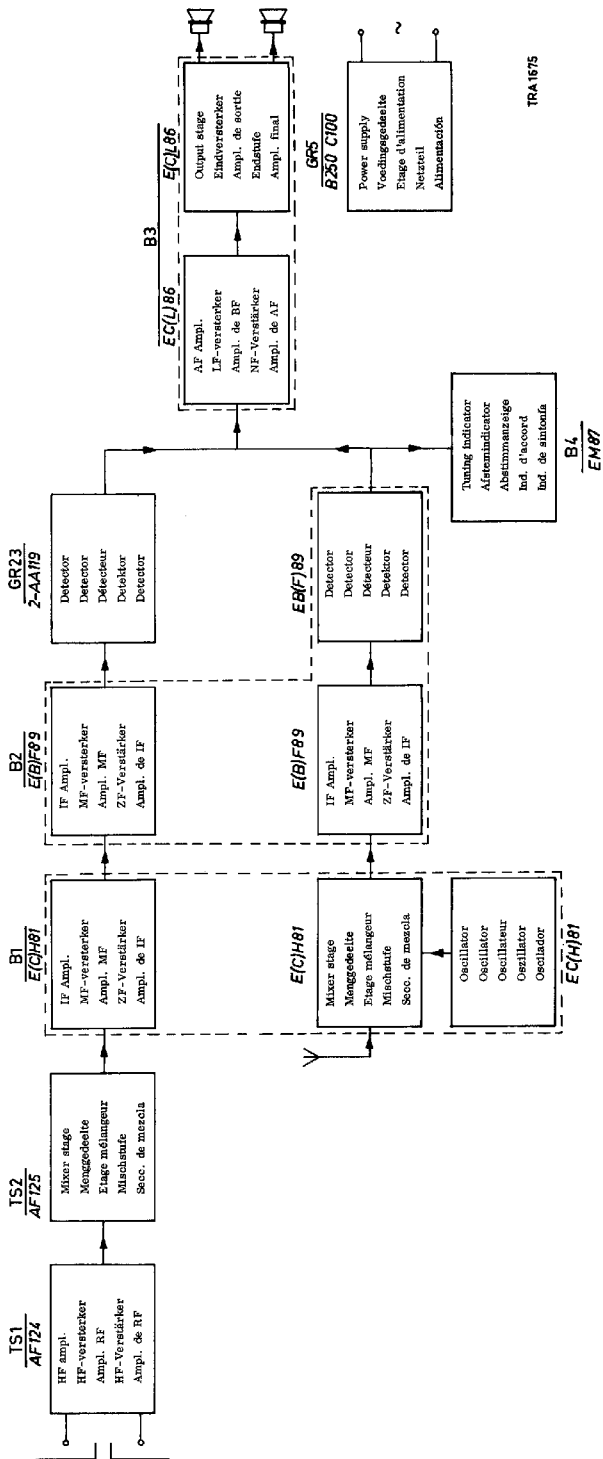
CS6690

SERVICE INFORMATION									
---------------------	--	--	--	--	--	--	--	--	--

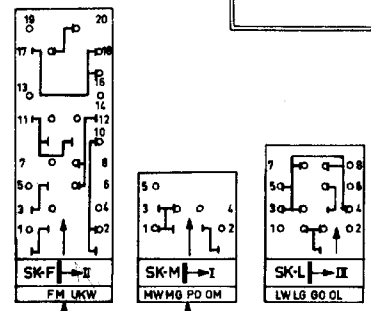
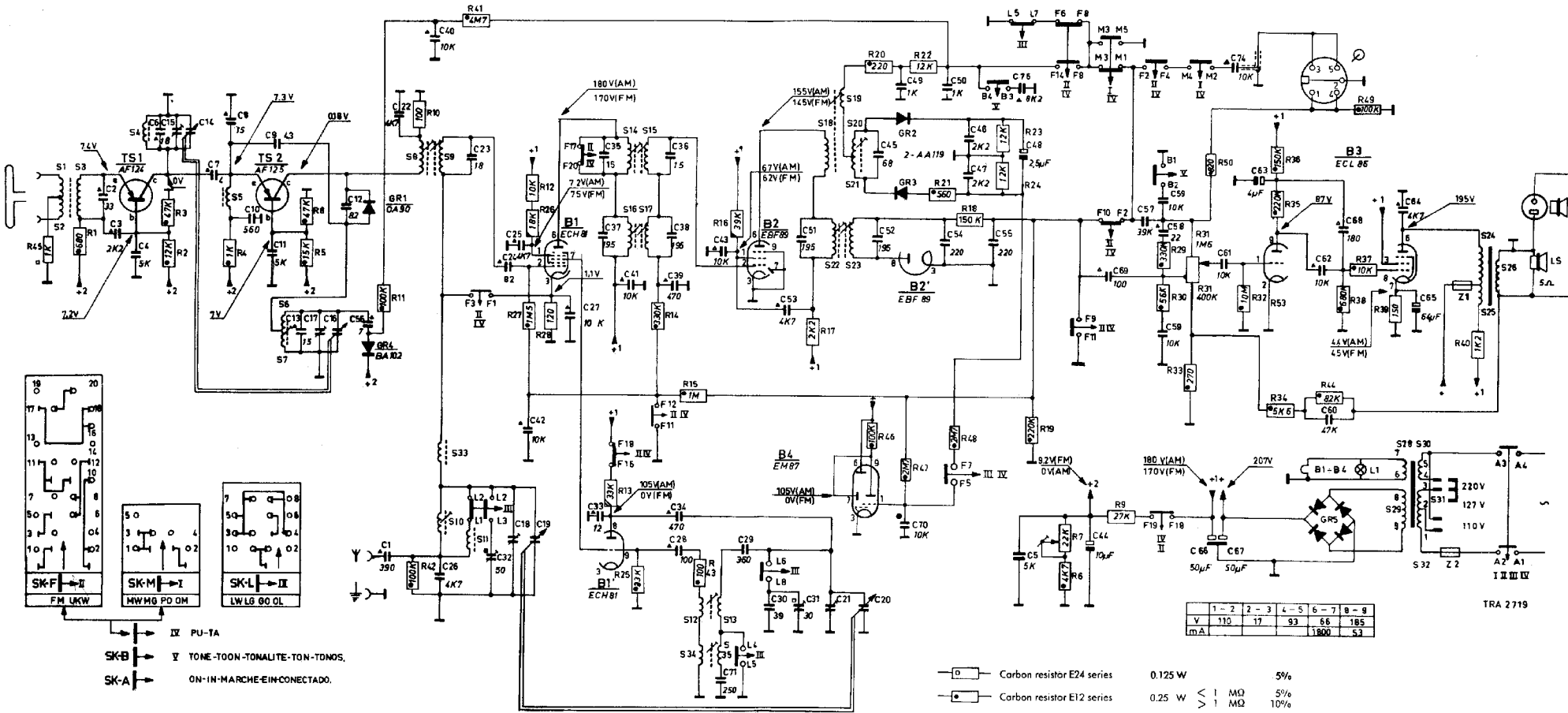
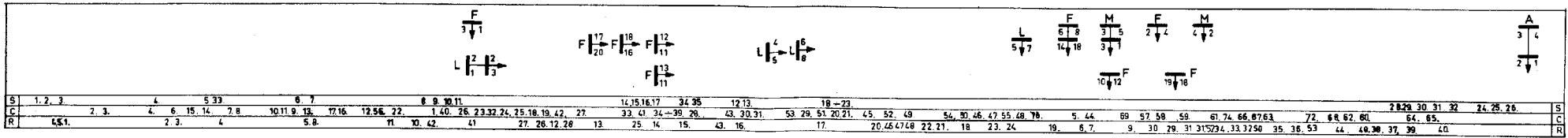
GB/SM

Copyright reserved. Confidential information for Service Dealers.

4822 725.1.0086



TRA 1675



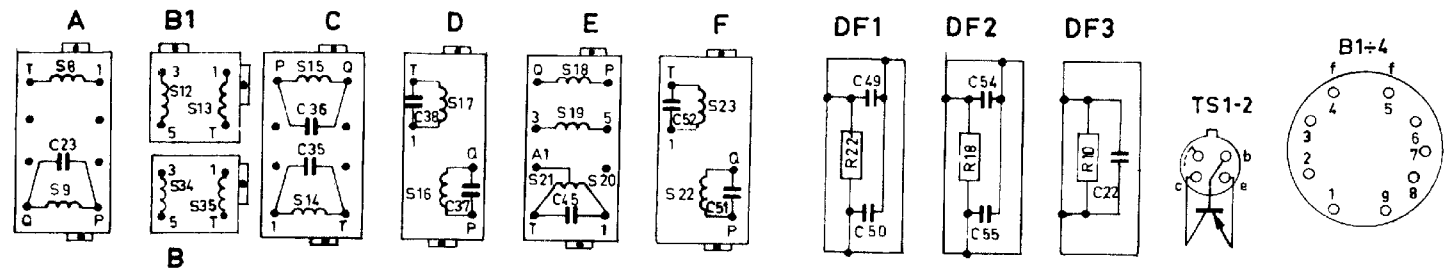
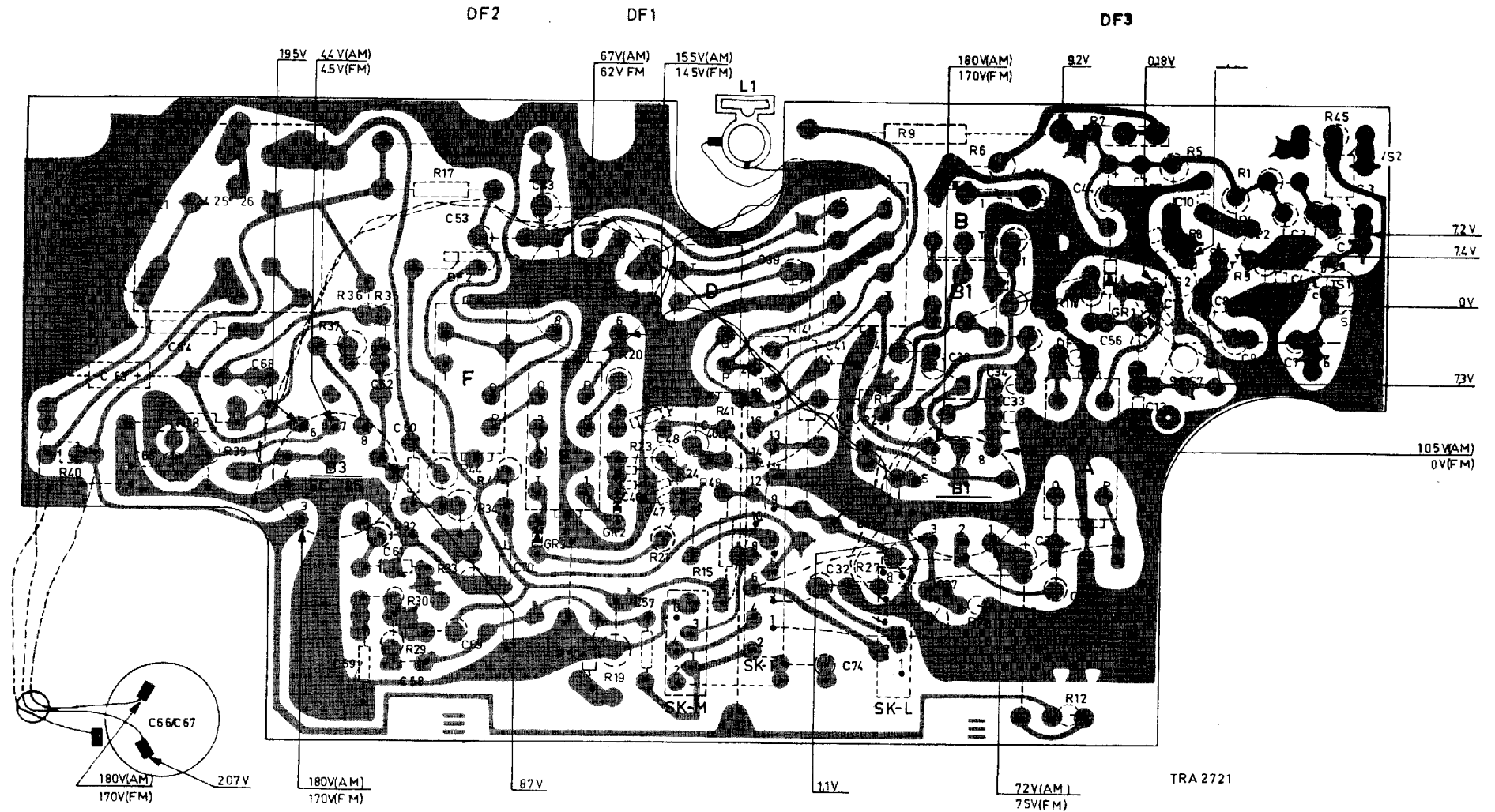
IX PU-TA
 SK-B → I TONE-TOON-TONALITE-TON-TONOS.
 SK-A → ON-IN-MARCHE-EIN-CONECTADO.

	1-2	2-3	4-5	6-7	8-9
V	110	17	93	66	185
mA			1800	53	

- Carbon resistor E24 series 0.125 W 5%
- Carbon resistor E12 series 0.25 W 1 MΩ 5%
1 MΩ 10%
- Carbon resistor E12 series 0.5 W 1.5 MΩ 5%
1.5 MΩ 10%
- Carbon resistor E12 series 1 W 2.2 MΩ 5%
2.2 MΩ 10%
- Tubular ceramic capacitor 500 V
- Ceramic capacitor "Pin-up" 500 V
- Stryflex capacitor 500 V
- Polyester capacitor 400 V
- Air gap trimmer (for printed circ.)
- Ceramic trimmer

TRA 2719

S	24252627										F	E					D	C					E	A	7.6.5					3.2.1.4	S																	
R	40.	38.	39.	31.	31'	37.	35.	36	30.	29.	3.2.	33.	17.	16.	34.	44.	47	50.	20.	19.	23	21	24.	40.	15.	41	14.	13.	25	27	9.	43	28.	6.	26.	12.	11.	42.	2.	5.	8.	4.	31.	2	45	R		
C	63	66	67	6	5.	64.	71.	72.	68	59.	62.	61.	58.	60.	53.	70	43.	57.	46.	47.	48	40.	39.	42.	74.	32.	41.	27.	24	28	34.	26.	25	4.5.6.	13.	12.	11.	5.	10.	1.	8.	9.	7.	6.	4.	3.	2	C

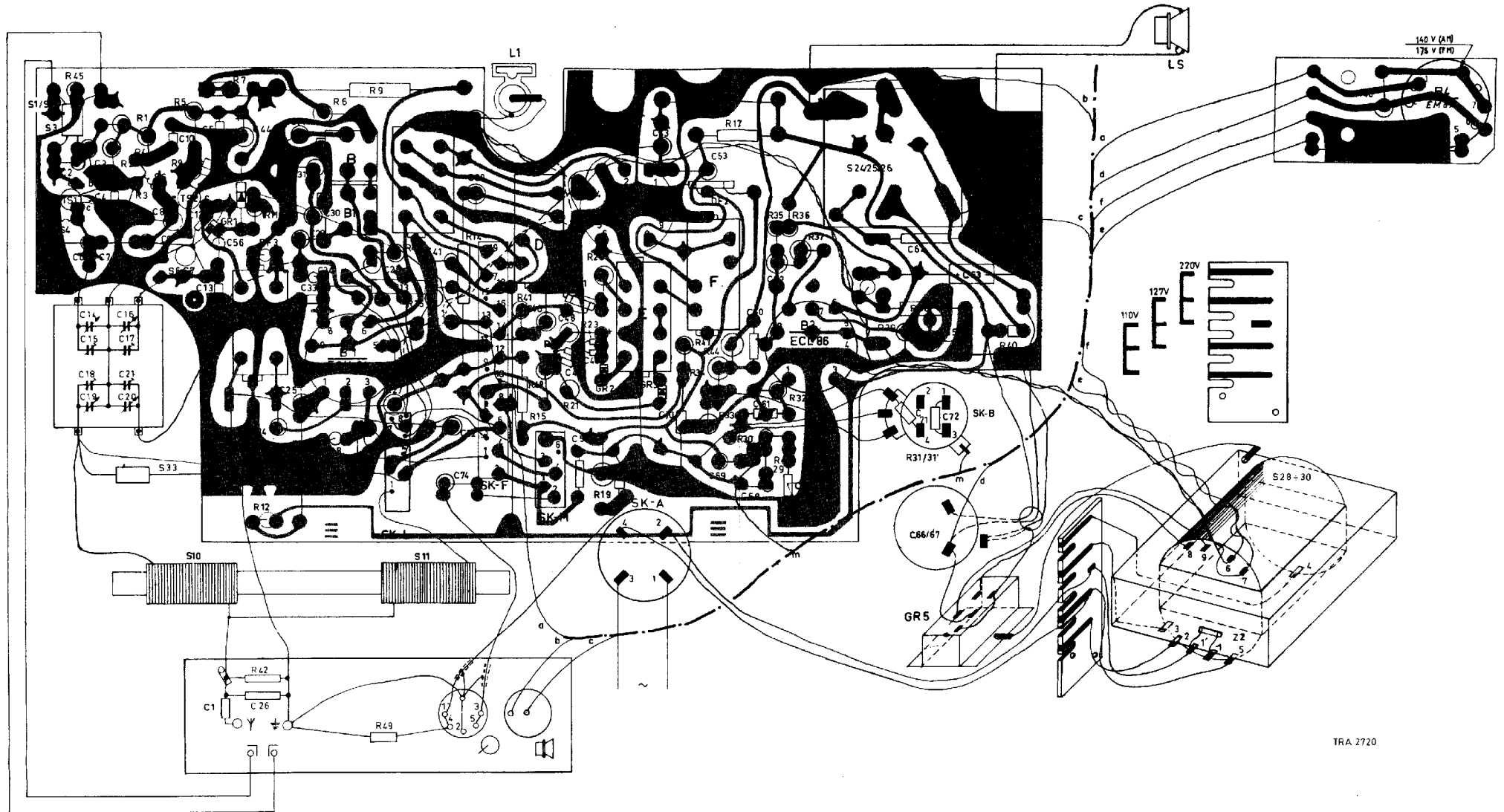


S	4, 1, 2, 3, 33, 10, 5, 6, 7	A	11, C	D	E	F	24, 27, 25, 26						
R	45	2, 1, 3, 4, 8, 5	7, 42, 11, 12, 26	6, 43, 28	9, 49, 25, 13, 27, 14	41, 15, 48, 24, 21, 23, 50, 19, 20	47, 44, 34, 16, 33, 17, 32, 29, 30, 36, 35, 37, 31, 31, 39, 38	40					
C	14, 15, 16, 17, 2, 4, 3, 6, 7, 18, 19, 20, 21, 9, 8	1, 10, 11, 5, 12, 13, 53	44, 26, 24, 25, 29, 34, 28, 27	41, 32, 42, 74, 39	40	8, 7, 6, 55	43, 70	51, 69, 60, 58, 61, 60, 5, 9	68	71, 72	64, 65	63, 66, 67	46, 50, 31, 31, 53

DF3

DF1

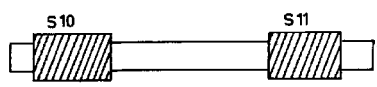
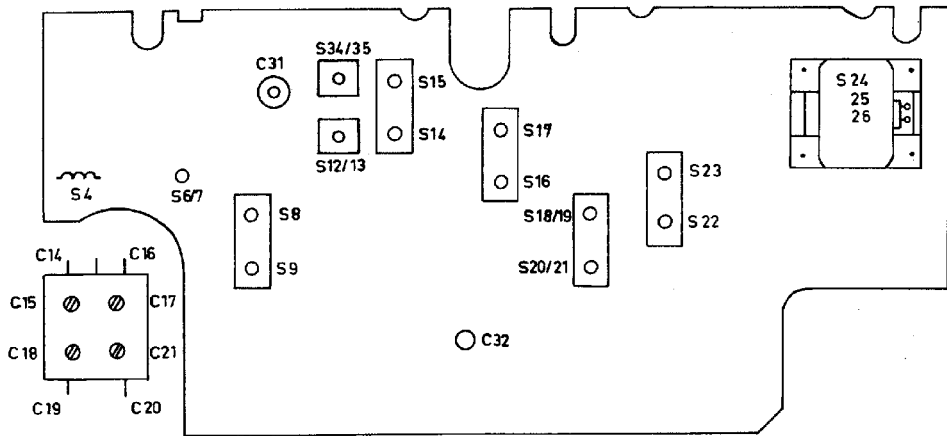
DF2



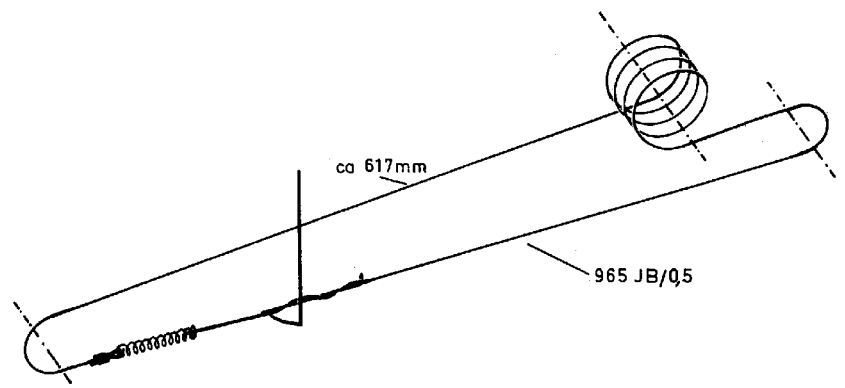
TRA 2720

Cabinet	4822 425 40104	Kaas	4822 425 40104	Celbuse	4822 425 40104	Mueble
Ornamental strip	4822 460 10016	Sierstrip	4822 460 10016	Zierstreifen	4822 460 10016	Tira ornamental
Push-button (3, 4, 5), with lever	4822 410 20613	Drukknop (3, 4, 5) met hefboom	4822 410 20613	Drucktaste (3, 4, 5) mit Hebel	4822 410 20613	Tecia (3, 4, 5) con palanca
Push-button (2), with lever	4822 410 20614	Drukknop (2) met hefboom	4822 410 20614	Drucktaste (2) mit Hebel	4822 410 20614	Tecia (2) con palanca
Mains switch	4822 276 10041	Netschakelaar	4822 276 10041	Netzschalter	4822 276 10041	Interrupcion de red
Lever mains switch	4822 404 20018	Hefboom netschakelaar	4822 404 20018	Levier rupteur secteur	4822 404 20018	Palanca de Interr. de red
Ornamental frame	4822 458 30108	Sierramkje	4822 458 30108	Zierramenen	4822 458 30108	Cuadro ornamental
Knob (1, 6)	4822 413 40309	Knop (1, 6)	4822 413 40309	Knopf (1, 6)	4822 413 40309	Boton (1, 6)
Funing spindle with roller	4822 522 30564	Afstermas met rol	4822 522 30564	Axe de syni. avec rouleau	4822 522 30564	Eje de sinton con rodillo
Voltage adapter knob	4822 263 30058	Spanningsomschak. knop	4822 263 30058	Spannungswählerknopf	4822 263 30058	Boton, selector de tensiones
Roller (9 mm)	4822 528 80112	Rol (9 mm)	4822 528 80112	Rolle (9 mm)	4822 528 80112	Rodillo (9 mm)
Lampholder	4822 255 10007	Lamphouder	4822 255 10007	Support de lampe	4822 255 10007	Soporte de lámpara
Socket aerial (AM)	4822 267 30065	Stekkerbus antenne (AM)	4822 267 30065	Steckerbusse Antenne (AM)	4822 267 30065	Enchufe antena (AM)
Socket Rec. -player	4822 267 40039	Stekkerbus PU	4822 267 40039	TA-Steckerbusch	4822 267 40039	Enchufe PU
Socket aerial (FM)	4822 267 30064	Stekkerbus antenne (FM)	4822 267 30064	Steckerbuschse Antenne (FM)	4822 267 30064	Enchufe antena (FM)
Socket loudspeaker	4822 267 40073	Stekkerbus LS	4822 267 40073	LS-Steckerbuschse	4822 267 40073	Enchufe L. S.
Slide switch MW	4822 277 30192	Schuifschakelaar MG	4822 277 30192	Schiebeschalter MW	4822 277 30192	Comm. corredizo OM
Slide MW	4822 272 20047	Schuif MG	4822 272 20047	Schieber MW	4822 272 20047	Corredera OM
Slide switch FM	4822 277 30191	Schuifschakelaar FM	4822 277 30191	Schiebeschalter FM	4822 277 30191	Comm. corredizo FM
Slide FM	4822 272 20046	Schuif FM	4822 272 20046	Schieber FM	4822 272 20046	Corredera FM
Slide switch LW	4822 277 30234	Schuifschakelaar LG	4822 277 30234	Schiebeschalter LW	4822 277 30234	Comm. corredizo OL
Slide LW	4822 278 20155	Schuif LG	4822 278 20155	Schieber LW	4822 278 20155	Corredera OL
Ornamental screw fix. scale	4822 500 10001	Sierschroef bev. schaal	4822 500 10001	Zierschraube für Skalen-	4822 500 10001	Tornillo orn. fij. cuadrante
Rear panel	4822 435 20047	Achterwand	4822 435 20047	befestigung	4822 435 20047	Panel posterior
Scale	4822 333 40079	Schaal	4822 333 40079	Skala	4822 333 40079	Cuadrante

S1)	Inout coil FM	S12)	Oscillator coil MW+LW				
S2)	Impedance coil FM	S13)	Oscillator coil MG+LG				
S3)	Bob. di circuit FM		Bob. oscillatrice PO+GO	4822 156 40221	4822 153 20054		IF band-pass filter AM MF-bandfilter AM Filtre passe-bande FI, AM ZF-Bandfilter AM Filtro de pasabanda FI, AM
	Engage-spule UKW		Bob. de oscilador OM+OL				
	Bob. de entrada FM						
S5	IF coil FM	S14)	IF band-pass filter FM				
	MF-special FM	S15)	MF-bandfilter FM				
	Bob. FI, FM	C35)	Filtre passe-bande FI, FM	4822 153 60038	4822 140 40102		Loudspeaker transformer Luidsprekerttransformator Transformateur de h-p Lautsprechertransformator Transformador de altavoz
	Bob. FI, FM	C36)	ZF-Spule UKW				
S8)	IF band-pass filter FM		Filtro de pasabanda FI, FM				
S9)	MF-bandfilter FM	S16)	MF-bandfilter FM				Mains transformator Nettransformator Transformateur secteur Netztransformator Transformador de red
C23)	Filtre passe-bande FI, FM	C37)	Filtre passe-bande FI, AM	4822 153 20034	4822 146 20229		
	ZF-Bandfilter UKW	C38)	ZF-Bandfilter AM				
	Filtro de pasabanda FI, FM		Filtro de pasabanda FI, AM				
S10)	Ferroreceptor MW+LW	S18)	Ratio detector				Choque
S11)	Ferroreceptor MG+LG	S19)	Ratodetector				Smoorespoel
	Ferroreceptor PO+GO	S20)	Déclencheur de rapport	4822 153 50084	4822 158 10038		Bobine d'arrêt
	Ferroreceptor MW-LW	S21)	Rapporteur				Drosselspule
	Ferroreceptor OM+OL	C45)	Détecteur de raison				Choque
		LS	Loudspeaker	4822 240 50007			
			Luidspoker				
			Heut-spreleur				
			Lautsprecher				
			Altavoz				
C4:5:11	5000 pF 25 V	C57	39000 pF 25 V	4822 121 40052	150 Ω ½ W	4822 111 30156	
C10	560 pF 25 V	C58)	10000 pF 25 V	4822 121 40047	1200 Ω	4822 115 90014	
C14:21	4700 pF 25 V	C60	47000 pF 25 V	4822 121 40055	2200 Ω	4822 101 10074	
C26	360 pF 125 V	C63)	4 μF 250 V	4822 124 20032	400 K + 1M6	4822 101 70008	
C29	39 pF 125 V		+4822 124 20032			4822 111 80004	
C30	360 pF 125 V	C65)	64 μF 10 V	4822 124 20076	100 Ω + 4700 pF	4822 111 30056	
C31	30 pF	C66,67)	50+50 μF	4822 125 60033	150 K + 2x220 pF	4822 111 30056	
C32	50 pF	R12	10000 Ω	4822 125 60005	12 K + 2x1000 pF	4822 111 80041	
C44	10 μF 16 V	R17	2200 Ω	4822 124 20077		4822 111 80042	
C48	2.5 μF 64 V	R28	120 Ω ½ W	4822 124 20095		4822 134 40008	



TRA1738



TRA 1391

Serv-o-ocumecum E-a-1 E-a-2 E-a-3	Wave range Golfgebied Gamme d'ondes Wellenbereich Margen de ondas	Trimming point Trimpunt Point de réglage Trimpunkt Punto de ajusta	Signal Signal Signal Signal Señal	Trim Aftregelen Réglage Abgleichen Ajustense	Indication Aanwijzing Indication Anzeige Indicación
IF-MF-FI-ZF-FI (AM)	MW-MG-PO-MW-OM	1620 kc/s	452 kc/s - 2B1 via 33000 pF	S22, S23, S16, S17	Max. output
RF-HF-HF-HF-RF (AM)	MW-MG-PO-MW-OM	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	
	MW-MG-PO-MW-OM	550 kc/s	160 kc/s	S10	
		550 kc/s	550 kc/s	S11	
	LW-LG-GO-LW-OL	1550 kc/s	1550 kc/s	C18	
		550 kc/s	160 kc/s	S10	
1550 kc/s	340 kc/s	C32			
IF-MF-FI-ZF-FI (FM)	FM-UKW	87,2 Mc/s	1) 10,7 Mc/s via 1500 pF	2B2 S18 2) 2B1 S14, S15, S18 S8, S9, S18 C22 S20, S21 4)	3) 5)
			87,2 Mc/s	87,2 Mc/s	S8, S7
RF-HF-HF-HF-RF (FM)	FM-UKW	104,5 Mc/s	104,5 Mc/s	C17	Max. DV 6)
		88,5 Mc/s	88,5 Mc/s	S4	
		103,5 Mc/s	103,5 Mc/s	C15	

- 1) The signal to be applied is FM-modulated with 20 Hz 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) Aftregelen op max. hoogte en symmetrie van de doorlaatkromme.
- 4) C48 vastmaken. Netwerk verleggen naar knooppunt DF1, R41.
- 5) Aftregelen 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 voltmètre à diode à travers C48.

- 1) Das zuzuführende Signal ist mit einem Hub von 20 kHz frequenzmoduliert.
- 2) C48 lösen. Einen Oszillografen über das beiliegende Netzwerk an 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) Diodenvoltmeter über C48 anschliessen.

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

