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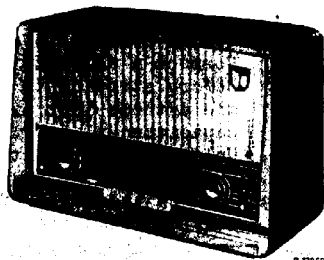
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SERVICE NOTES

for the receiver

B5X 68A



1957.

For A.C. mains supply

Waveranges

S.W. 2 :	19 - 40	m	(15,8 - 7,5	Mc/s)
S.W. 3 :	40 - 93	m	(7,5 - 3,2	Mc/s)
M.W. :	187,5 - 567	m	(1630 - 529	kc/s)
F.M. :	2,77 - 3,43	m	(108 - 87,5	Mc/s)

Controls

From left to right :

Bass control
Volume control
Tuning
Treble control

I.F.:

For A.M. 452 kc/s
For F.M. 10.7 Mc/s

Mains voltages

90; 110; 127; 145; 190; 220 V.

Push buttons

Mains switch
Pick-up switch
Push-button M.W. range
Push-button S.W. 3 range
Push-button S.W. 2 range
Push-button F.M. range

Consumption

Approx. 65 W.

Loudspeaker

AD3700 AM (Z = 800 Ω)

Valves

B1 : ECC85	B5 : EABC80
B2 : ECH81	B6 : EL84
B3 : EF89	B7 : EZ80
B4 : EF85	B8 : EM80
	B9 : EL86

Dimensions

Length	:	518 mm
Width	:	223 mm
Height	:	374 mm

Dial lamp

L1 : 8024 N-778
L2 : 8024 N-778

The alignment of the receiver.

The A.M. part

During trimming the rule is:

Volume control to maximum.

Connect a voltmeter to the additional loudspeaker sockets. Before starting to trim the station pointer should be adjusted on the extreme left trimming point (variable capacitor to minimum capacitance).

Unless otherwise stated all signals are applied to the aerial socket, via a normal dummy aerial.

Unscrew the cores of the I.F. circuits as far as possible.

S42, S43 likewise.

	Wave-range	Variable capacitor	Apply a signal of	Trim	Indication
I.F. band-pass filters	M.W.	At. min.	452 kc/s via 33000 pF g1B2	S33, S32 S28, S29, S32	Max. output
I.F. wave trap and absorber circuit	M.W.	At. max.	452 kc/s	S42, S43, S42	Min. output
R.F. and oscillator circuits	S.W.3	At. max.	3.15 Mc/s	S16, S7	Max. output
		At. min.	7.6 Mc/s	C17, C9	
	S.W.2	At. max.	7.4 Mc/s	S13, S5	Max. output
		At. min.	16.2 Mc/s	C15, C8	
	M.W.	610 kc/s	610 kc/s	S18, S8a	Max. output
		1500 kc/s	1500 kc/s	C19, C26	

F.M. Part

Adjustment with an A.M. Service oscillator.
The general rule is:

Volume control to maximum.

Connect a diodevoltmeter across C56 in series with O,1 MΩ.

Connect a voltmeter to the additional loudspeaker sockets.

The signals are unmodulated.

I.F. Band-pass filters (unscrew the cores of S21, S27, S31 and S36 as far as possible).

Variable capacitor to	Unmodulated signal	Connect an oscillator to	Trim	Indication
Max.	10.7 Mc/s	g1B4 via 1500 pF *	S34 S36-S36a	Max. D.V. Min. D.V.
Max.	10.7 Mc/s	g1B3 via 1500 pF **	S30 S31	Max. D.V. Max. D.V.
Max.	10.7 Mc/s	g1B2 via 1500 pF	S26 S27	Max. D.V. Max. D.V.
Max.	10.7 Mc/s	to aerial sockets	S58 S21	Max. D.V. Max. D.V.

* Connect in parallel to C56 two resistors of 220 kΩ (1%) connected in series.

Connect the D.V. between the point of junction of these resistors and the point of junction R22, C52.

** Remove the resistors of 220 kΩ and connect the D.V. again across C56.

R.F. circuits

Waverange	Pointer to	Unmodulated signal	Service oscillator	Trim	Indication
F.M.	87.5 Mc/s	87.5 Mc/s	FM \uparrow \downarrow ---	S55 S56-S57	Max. D.V. (first peak) Max. D.V.
	100 Mc/s	100 Mc/s	FM \uparrow \downarrow ---	C86 C89	Max. D.V. (first peak) Max. D.V.

Drive cords

The length and the path of the cords have been indicated in fig. 1
The variable capacitor has been drawn here in the position "maximum capacitance".

Transformers

If the original mains transformer gets defect, it should be replaced by the standard transformer mentioned in the list of parts.
For connections see fig.2.

LIST OF PARTS

When ordering always quote:

1. Code number and colour.
2. Description.
3. Type number of the set.

Description	Code number
Cabinet	A3 770 12.0
Push-button	A3 417 61.0
Knob (large)	A3 752 33.0
Knob (tone control)	A3 752 69.0
Spring (in knob large)	A3 522 08.2
Grommet (for fixing dial)	P5 420 03/08
Mains-switch	B1 590 18.0
Spring (for mains-switch)	A3 646 25.0
Cover (for mains-switch)	P5 280 25/08
Drum (for F.M. variable capacitor)	P4 505 45/02
Voltage adaptor	A3 228 85.0
Grommet (for fixing F.M. unit)	P5 420 09/31
Cover (for F.M. aerial)	P5 280 26/04
Plug (female, for additional loudspeaker)	A3 410 65.0
Dial (overseas)	A3 809 33.0
Dial (South)	A3 809 36.0

S1)			S53)		
S2)		A3 141 37.5	S54)		A3 119 79.0
S3)			S55)		
S4)		A9 999 21/13-	S58)		A3 127 82.0
S5)		21M	S59)		
S6)		A9 999 21/30-	C1	50 μ F	A9 999 13/M50+
S7)		90M	C1a	50 μ F	50+50
S8)		A3 118 35.0	C2	50 μ F	
S8a)			C3)		
S9)		WE 110 61.0	C4)		49 001 94.0
S10)			C5	6,8 pF	A9 999 04/6E8
S11)			C6	56 pF	A9 999 04/56E
S12)		A9 999 23/11-	C7	33 pF	A9 999 04/33E
S13)		25M	C8	22 pF	A9 999 08/22E
S14)			C9	22 pF	A9 999 08/22E
S15)		A3 127 32.0	C10	5000 pF	A9 999 05/5K
S16)			C11	47 pF	A9 999 04/47E
S17)		A3 125 93.0	C12	47 pF	A9 999 04/47E
S18)			C13	1600 pF	A9 999 05/1K6
S21)		A3 127 83.0	C14	71 pF	A9 999 05/56E+
C31)	15 pF		C15	30 pF	05/15E
S26)		A9 999 26/10,7	C16	113 pF	A9 999 08/30E
S27)			C17	22 pF	A9 999 05/56E
C34)	33 pF		C18	100 pF	A9 999 08/22E
C35)	33 pF		C19	60 pF	A9 999 04/100E
S28)		A9 999 25/4521	C20	455 pF	A9 999 08/60E
S29)			C21	68 pF	A9 999 05/390E+
C36)	110 pF		C22	56 pF	05/68E
C37)	195 pF		C23	10000 pF	A9 999 04/68E
S30)		A9 999 26/10,7	C24	470 pF	A9 999 04/56E
S31)			C25	10000 pF	A9 999 04/10K
C42)	33 pF		C26	30 pF	A9 999 04/470E
C43)	33 pF		C27	56 pF	A9 999 04/10K
S32)		A3 127 72.0	C28	56 pF	A9 999 08/30E
S33)			C29)	56 pF	A9 999 04/56E
C44)	195 pF		C30)	See coils	A9 999 04/56E
C45)	195 pF		C31)	voir bobines	
S34)			C32	33 pF	A9 999 04/33E
S35)			C33	4700 pF	A9 999 06/4K7
S36)		A3 127 01.0	C34)		
S36a)			C35)	see coils	
C53)	47 pF		C36)	voir bobinas	
C72)	22 pF		C37)	veanse bobinas	
S42)		A3 119 70.0	C38	4700 pF	A9 999 04/4K7
S43)			C39	560 pF	A9 999 04/560E
C29)	240 pF		C40	4700 pF	A9 999 04/4K7
C30)	5,6 pF		C41	6800 pF	A9 999 04/6K8
S50)		A3 119 72.0	C42)		
S51)			C43)	see coils	
S52)			C44)	voir bobinas	
			C45)	veanse bobinas	

C46	3 pF	A9 999 04/33E	R3	33000 Ω	A9 999 00/33K
C47	4 pF	A9 999 04/47E	R4	0,12 MΩ	A9 999 00/120K
C48	4700 pF	A9 999 04/4K7	R5	1,2 MΩ	A9 999 00/1M2
C49	10000 pF	A9 999 04/10K	R6	39000 Ω	A9 999 00/39K
C50	6800 pF	A9 999 04/6K8	R7	150 Ω	A9 999 00/150E
C51	4700 pF	A9 999 04/4K7	R8	47000 Ω	A9 999 00/47K
C52	1000 pF	A9 999 06/1K	R9	27000 Ω	A9 999 00/27K
C53)	see coils		R10	1000 Ω	E 001 AD/A1K
C72)	voir bobinas		R11	10000 Ω	E 999 00/10K
	veanse bobinas		R14	2200 Ω	E 001 AD/A2K2
C54	4700 pF	A9 999 04/4K7	R15	82000 Ω	A9 999 00/82K
C55	4700 pF	A9 999 04/4K7	R16	2200 Ω	E 001 AD/A2K2
C56	10 μF	A9 999 09/E10	R17	0,22 MΩ	E 999 00/220K
C57	10000 pF	A9 999 04/10K	R18	1,8 MΩ	A9 999 00/1M8
C58	15000 pF	A9 999 06/15K	R19	0,1 MΩ	A9 999 00/100K
C59	22000 pF	A9 999 06/22K	R20	0,12 MΩ	A9 999 00/120K
C60	2200 pF	A9 999 06/2K2	R21	15000 Ω	A9 999 00/15K
C61	10000 pF	A9 999 04/10K	R22	47000 Ω	A9 999 00/47K
C62	6800 pF	A9 999 06/6K8	R23	10000 Ω	A9 999 00/10K
C63	2200 pF	A9 999 06/2K2	R24	0,8 MΩ	} B1 638 19.0
C64	68000 pF	A9 999 06/68K	R25	0,1 MΩ	
C65	2200 pF	A9 999 06/2K2	R25a	0,1 MΩ	
C66	10000 pF	A9 999 04/10K	R26	33000 Ω	A9 999 00/33K
C67	3300 pF	A9 999 05/3K3	R27	68 Ω	A9 999 00/68E
C69	8 μF	A9 999 11/LB	R28	18 MΩ	A9 999 00/18M
C70	100 μF	A9 999 09/B100	R29	0,22 MΩ	A9 999 00/220K
C71	680 pF	A9 999 04/680E	R30	0,45 MΩ	} B1 639 48.0
C73	33000 pF	A9 999 06/33K	R31	0,05 MΩ	
C74	82 pF	A9 999 04/82E	R32	0,47 MΩ	A9 999 00/470K
C75	1800 pF	A9 999 06/1K8	R33	0,47 MΩ	A9 999 00/470K
C76	2200 pF	A9 999 04/2K2	R34	1,6 MΩ	} B1 639 49.0
C80	6,8 pF	A9 999 04/6E8	R35	0,4 MΩ	
C81	1500 pF	A9 999 04/1K5	R36	0,47 MΩ	A9 999 00/470K
C82	2,7 pF	A9 999 04/2E7	R38	10 Ω	A9 999 00/10E
C84)			R39	0,1 MΩ	A9 999 00/100K
C92)		49 002 12.0	R40	1000 Ω	A9 999 00/1K
C85	15 pF	A9 999 04/15E	R41	0,1 MΩ	A9 999 00/100K
C86	6 pF	A9 999 08/10E	R42	390 Ω	E 001 AK/A390E
C87	220 pF	A9 999 04/12E	R43	10 Ω	A9 999 00/10E
C88	12 pF	A9 999 04/12E	R44	47000Ω	A9 999 00/47K
C89	6 pF	A9 999 08/10E	R45	150 Ω	48 767 05/150E
C90	2200 pF	A9 999 04/2K2	R46	100 Ω	B1 636 25.0
C91	933 pF	A9 999 05/910E+	R47	0,68 MΩ	A9 999 00/680K
		05/22E	R48	2,7 MΩ	A9 999 00/2M7
C93	10000 pF	A9 999 04/10K	R49	3,9 MΩ	A9 999 00/3M9
C94	12 pF	A9 999 04/12E	R50	1000 Ω	A9 999 00/1K
C95	2200 pF	B1 664 25.0	R51	12 MΩ	A9 999 00/12M
C96	2200 pF	B1 664 25.0	R52	22 MΩ	A9 999 00/22M
C97	2200 pF	B1 664 25.0	R53	100 Ω	A9 999 00/100E
C98	100 pF	A9 999 04/100E	R54	0,1 MΩ	A9 999 00/100K
R1	270 Ω	E 001AK/A270E	R55	3900 Ω	A9 999 00/3K9
R2	600 Ω	A9 999 00/1K2 (2x par.)	R56	20 Ω	A9 999 00/10E
			R57	180 Ω	A9 999 00/180E
			R58	0,1 MΩ	A9 999 00/100K
			R59	1500 Ω	E 001/A1K5

R60 R61 R62	180 Ω 56 Ω 1 MΩ	A9 999 00/180Ω A9 999 00/56Ω A9 999 00/1M	R63 R64	2200 Ω 10000 Ω	E 001 AD/A2K2 E 001 AD/A10K GS/JG
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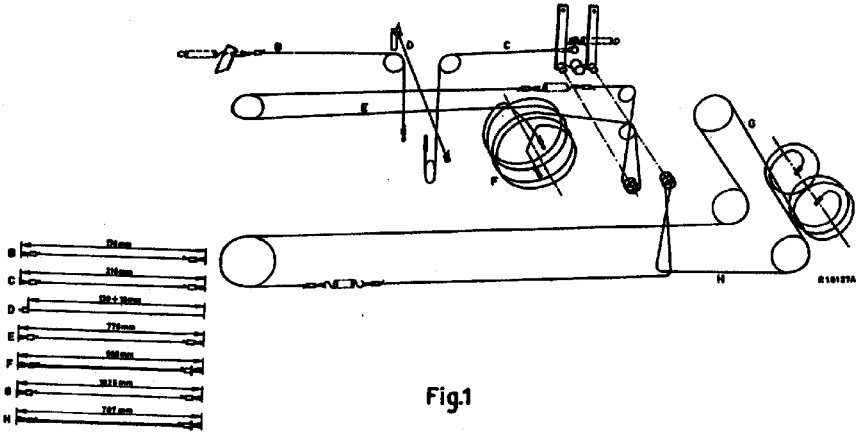


Fig.1

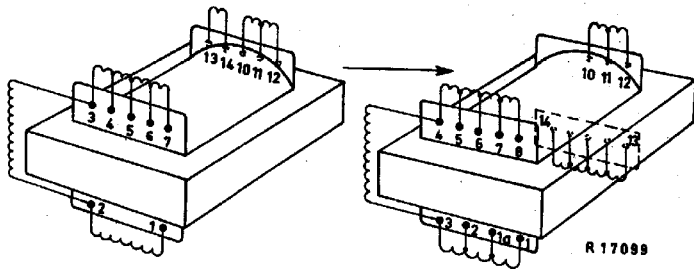


Fig.2

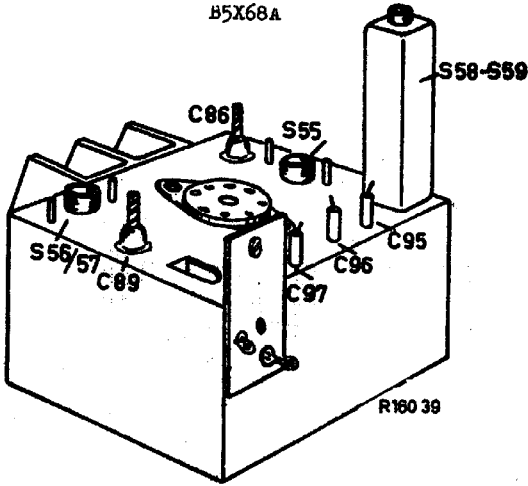


Fig.3

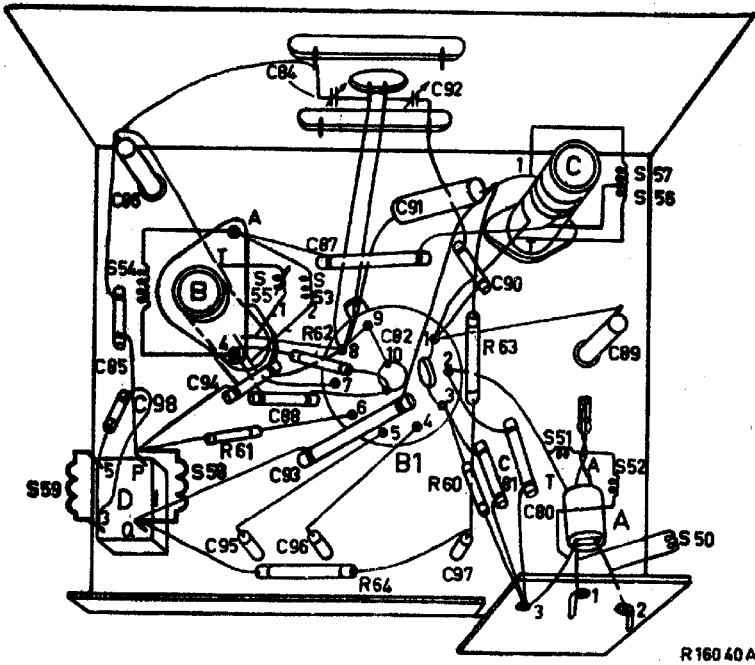


Fig.4

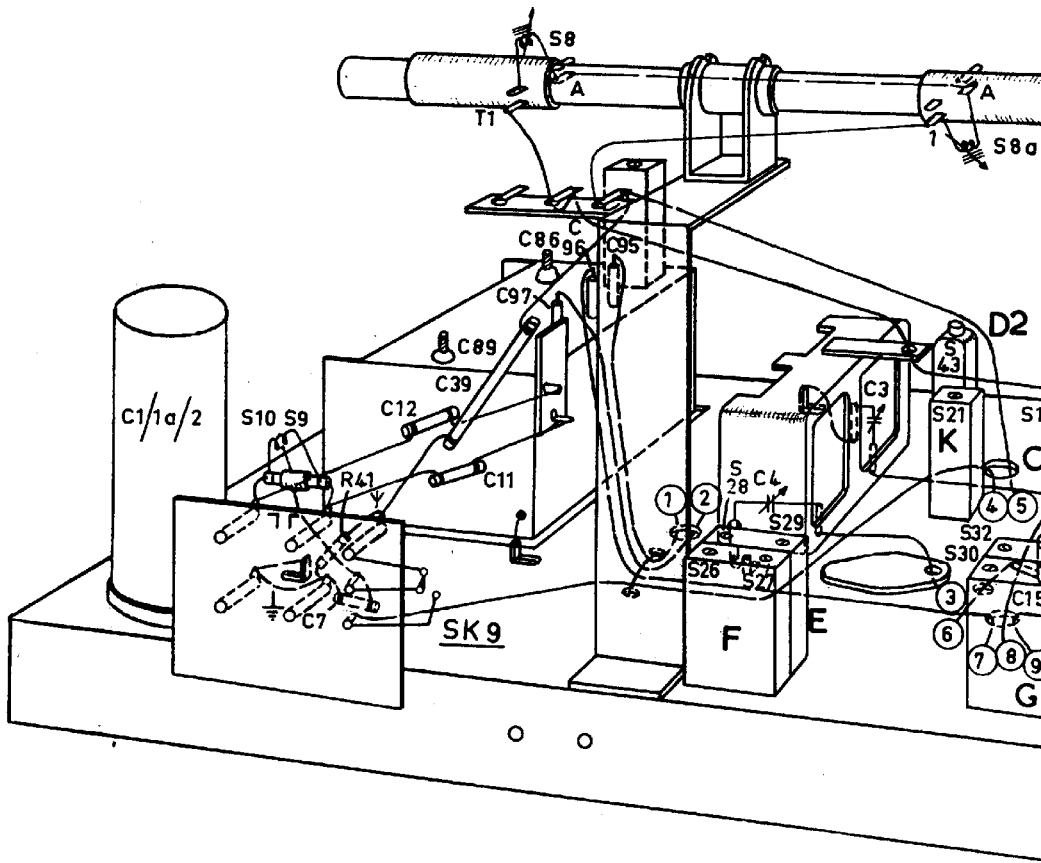
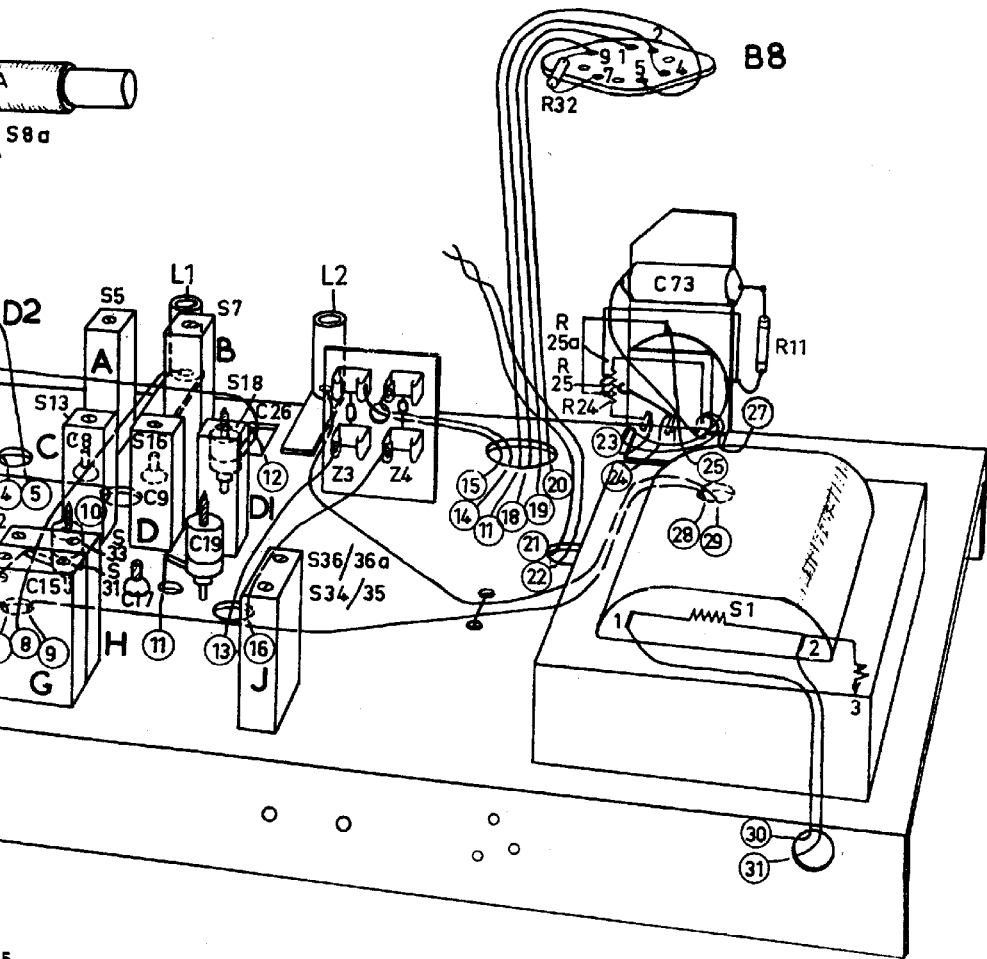


Fig.5

X68A



R 17100

5

S	3	1.	2.											19a.	J.	DT.	D. B.H.G.			
C	69.	62.63.71.60.65.	59. 70.	64.	75.	76.	33.57.74.56.58.66.54.52.55.51.											50.61.4.8.20.46.17.47.32.9.2		
R	34. 35.	36. 44. 54. 55. 33. 56	4.8. 29. 50. 4.7. 42.											57. 26. 28.	10. 23.	22. 27.	51.53.58. 20. 21.	38. 52. 19. 16. 49		

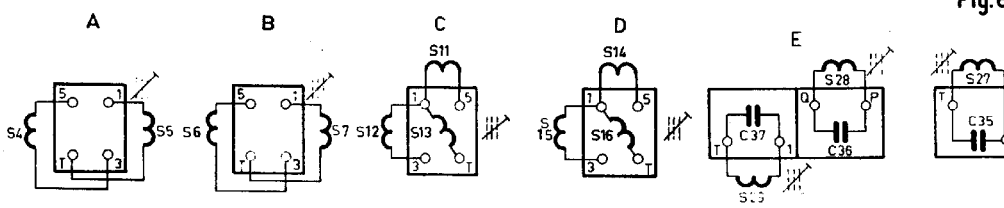
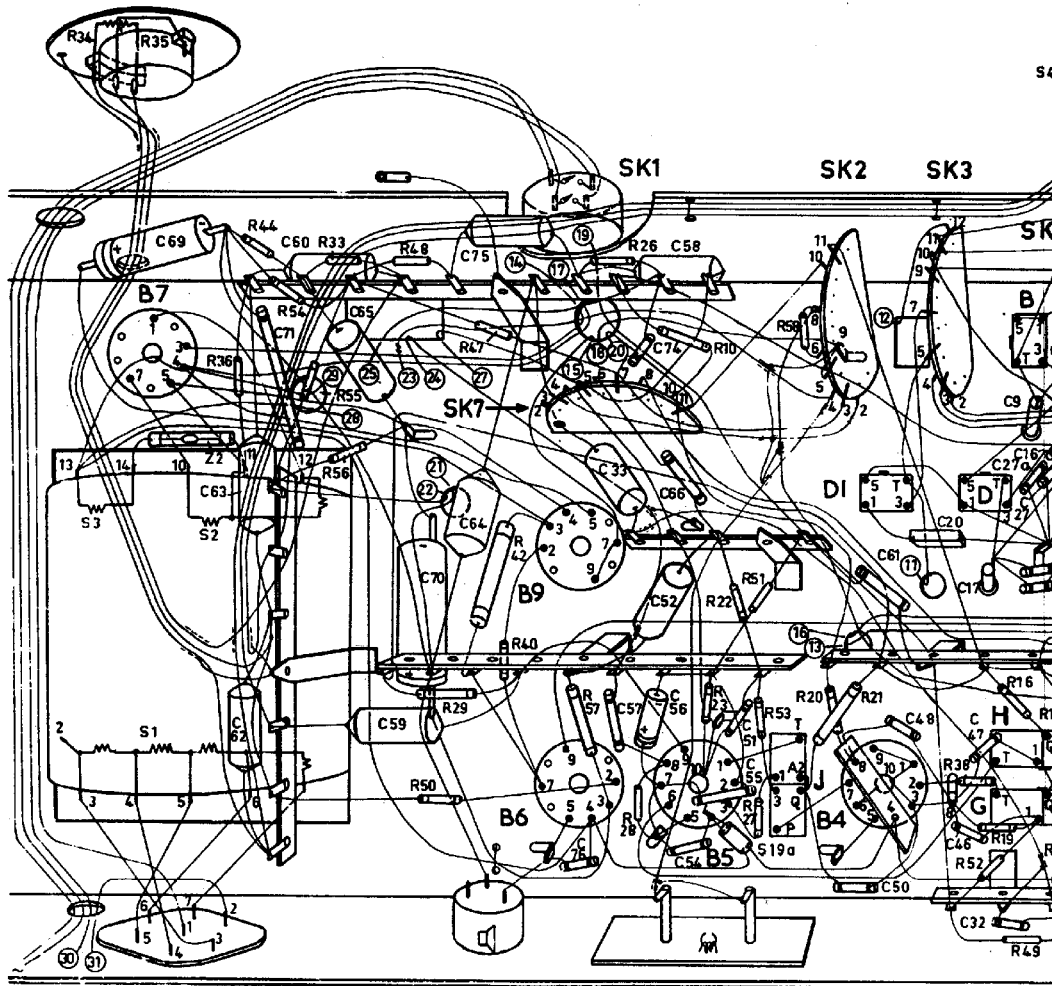


Fig. 6

B. H. G.	C.	A.	19. K.	E. F. D2.
32. 9.	28. 28 a.	16. 27 a.	27. 22. 14. 4. 1. 3.	8. 4. 0. 4. 9. 10. 6. 24. 21. 5. 18. 23. 25. 38. 67.
16. 49. 39.	4. 15 a.	15. 18. 17.	9 a. 9.	43. 7. 8. 5. 3. 14. 6. 2 a. 30. 31. 59. 2. 1. 4. 5. 4. 6.

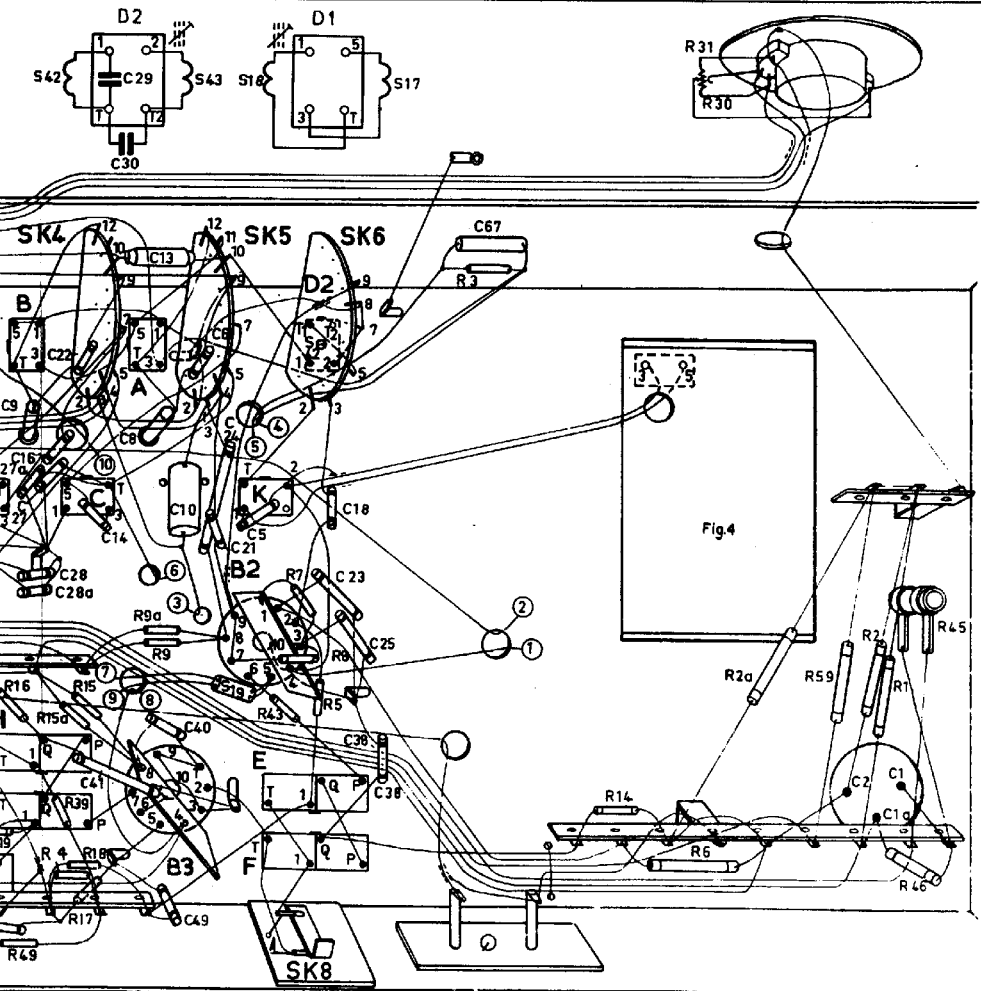
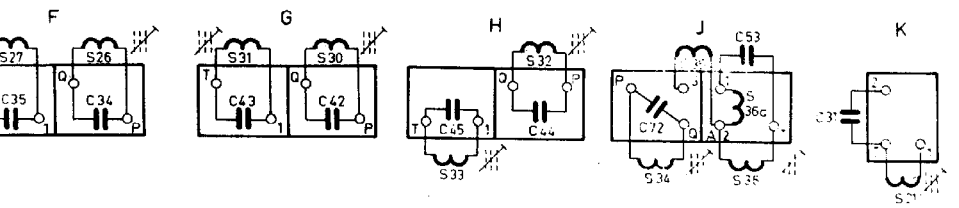


Fig. 6

R 17101



R 17055

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120

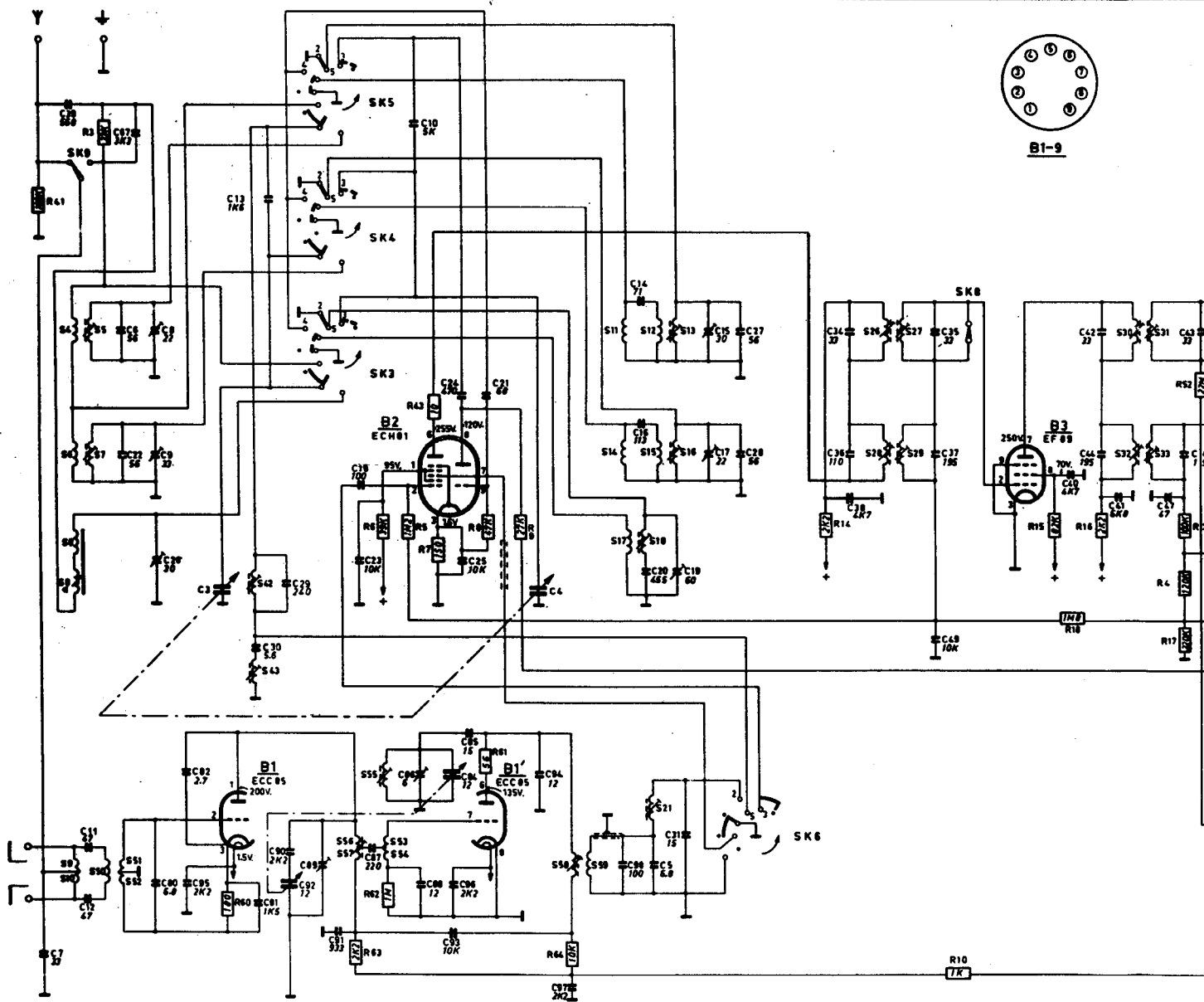


Fig.7

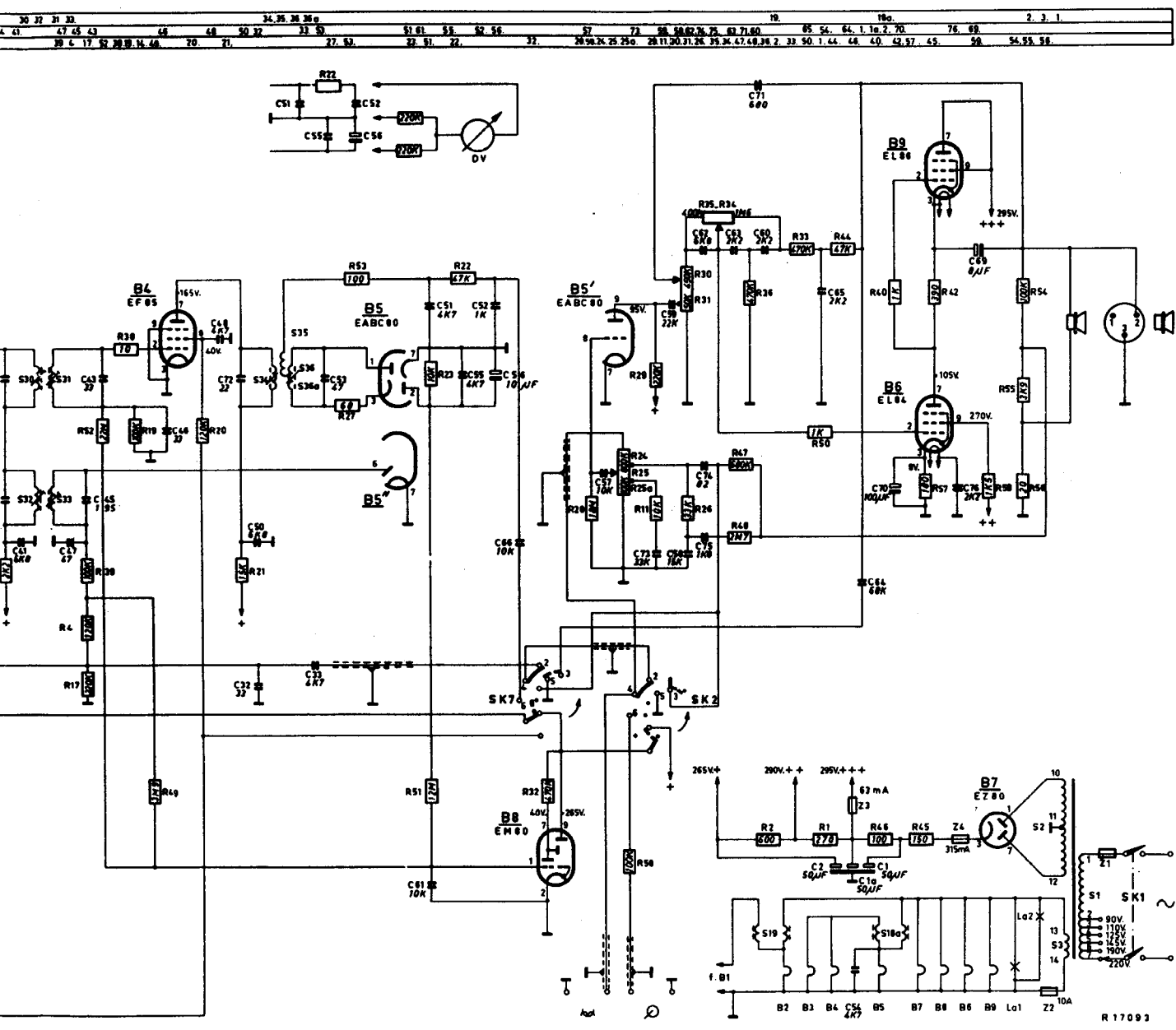


Fig.7

R 1709 3