

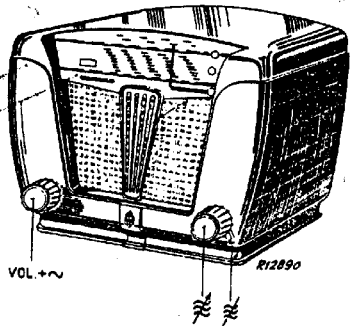
W. 8. 567

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SERVICE NOTES  
for the receiver

257U



1950 For A.C. and D.C. mains supplies

GENERAL

WAVE RANGES

SW 2: 13,5 - 28 m (22.2 - 10.7 Mc/s)  
SW 3: 30 - 90 m (10 - 3,34 Mc/s)  
MW : 187 - 565 m (1604 - 531 kc/s)

TRIMMING FREQUENCIES

21,6 Mc/s  
9,6 Mc/s  
1525 and 575 kc/s

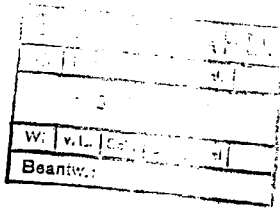
CONTROLS

Left: volume and mains switch  
Right: tuning and wave range switch.

I.F. : 452 kc/s

VALVES

B1 : UCH42  
B2 : UAF42  
B3 : UBC41  
B4 : UL41  
B5 : UY41



MAINS VOLTAGES.

Adaptable for 110/117 and 220 V $\approx$ . By short circuiting R4, suitable for 200V (position 220 V $\approx$ ).

DIAL LAMP

L1 : 8097D-00

CONSUMPTION

Approx. 45 W at 220 V  
Approx. 35 W at 117 V

DIMENSIONS

Length : 27.2 cm. } knobs  
Height : 20.5 cm. } included  
Depth : 16 cm. }

LOUDSPEAKER

type 9742X  
z = 5 Ohm (1000 c/s)

WEIGHT

3.2 kg. (including valves)

BANDWIDTH

The I.F. bandwidth (1:10) measured from the control grid g1 of B1 is about 12 kc/s. The "overall" bandwidth measured from the socket is 11.5 kc/s at 1000 kc/s.

ORIGINAL

### IMPORTANT

When repairing or trimming a set while it is connected to A.C. mains, a transformer has to be used with separate windings. The secondary winding must not be earthed, only one set may be connected to the transformer at a time. The chassis can then be earthed. The code number of a suitable type of transformer is given in the "List of Parts and Tools". When connecting the set to D.C. mains the connections must be made with the right polarity.

### SOME PARTICULARS ABOUT THE CIRCUIT DIAGRAM

This set has been provided with a frame-aerial which is very effective on M.W., while there is a capacitive aerial for the S.W. bands. When an outdoor aerial is used, both aerials remain connected to their circuits. If no outdoor-aerial is connected and thus the built-in frame-aerial on M.W. is used, C35 is automatically switched parallel to C6. This is to compensate for the influence of the outdoor-aerial capacity.

### TRIMMING

For trimming the set need not be uncased. Only the rear panel (4 screws) and the screening plate (3 screws), which covers the R.F. part, have to be removed. The latter can be pulled out between the side of the chassis and the cabinet. The location of the trimmers is shown in fig. 4. The oscillator frequency is higher than the signal frequency.

#### A. I.F. BANDFILTERS

1. Volume control to maximum.
2. Variable condenser to minimum capacity.
3. Earth chassis, taking into account the remarks above under "Important".
4. Connect outputmeter via trimming transformer to loudspeaker connections.
5. Apply I.F. signal of about 452 kc/s via a 33000 pF condenser to g1 of B2.
6. Determine the tuning of the 3rd and the 4th I.F. circuit.
7. Apply this signal to the control grid g1 of B1 via a condenser of 33000 pF and turn the cores of the 1st and 2nd I.F. circuit as far out as possible.
8. Trim successively to maximum output the 1st and 2nd I.F. circuit.
9. Seal the cores.

#### REMARK

The iron cores of the I.F. bandfilters are sealed with "vaseline compound" (for code number see "List of parts and tools"). When re-adjustment of the cores is necessary, the vaseline compound can be broken off with a screw-driver. Do not apply heat as this might damage the plastic core holder and make further adjustment impossible.

B. H.F. AND OSCILLATOR CIRCUITS

1. Volume control to maximum. Earth the chassis taking into account the remarks above under "Important".
2. Connect outputmeter via trimming transformer to loudspeaker connections.
3. Turn the variable condenser on minimum, adjust the pointer to the zeropoint on the dial. If necessary unscrew the fixing screw on the pointer and readjust the position of the pointer.
4. Waverangeswitch at M.W. Pointer on trimming point at 1525 kc/s ( $15^{\circ}$ ). Apply a modulated signal at 1525 kc/s to the aerial socket via dummy aerial. Trim respectively at maximum output C21 and C11. Pointer on trimming point at 575 kc/s (521.7 m), apply a modulated signal of 575 kc/s to the aerial socket via dummy aerial. Trim at maximum output C18. Pointer back on trimming point at 1525 kc/s ( $15^{\circ}$ ) and feed in a modulated signal of 1525 kc/s to the aerial socket. Adjust C21 for maximum output.
5. Waverangeswitch at S.W.3. Pointer on trimming point at 9,6 Mc/s ( $15^{\circ}$ ). Apply a modulated signal of 9,5 Mc/s to the aerial socket via dummy aerial. Trim C12 at maximum output.
6. Waverangeswitch at S.W.2. Apply a modulated signal of 21,6 Mc/s to the aerial socket via dummy aerial. When tuning the set to this signal, choose the peak involving the shorter wavelength.
7. Adjust the trimmer C10 to maximum output. During the alignment of C10 it might be necessary to retune the set slightly to compensate for the influence of C10 on the oscillator circuit.
8. Finally seal all the trimmers.

REPAIRS AND REPLACEMENTS OF PARTSUNCASING THE CHASSIS

1. Remove the rear panel.
2. Remove control knobs - tuning and volume control.
3. Unscrew pointer from driving cable.
4. Unsolder the loudspeaker connections and the connection to the capacitive aerial (above the loudspeaker).
5. Remove 2 screws at the bottom of the cabinet and 2 inside (either side of the gantry).
6. Draw the chassis out of the cabinet.

After having uncased the chassis, the lever knob of the wave-range switch can be taken out of the cabinet.

DRIVING CABLE

The path of the driving cable is shown in fig. 5. The variable condenser is shown in its minimum capacity position. The lengths of the driving cords are 670 mm and 680 mm.

LOUDSPEAKER

The loudspeaker cannot be repaired and if defective, has to be replaced.

CURRENTS AND TENSIONS

			Vf	Va	Vg2(4)	Vk	Ia	Ig2(4)
UCH42	B1	Triode	14	95	-	-	2,6	-
		Heptode		175	70	-	2,4	3,6
UAF42	B2		12,6	175	70	-	5	1,4
UBC41	B3		12,6	55	-	-	0,25	-
UL41	B4		45	180	175	9	50	10
UY41	B5		31	-	-	-	-	-
			V	V	V	V	mA	mA

VC1 : 200 V

VC2 : 175 V

The above mentioned values were measured with the GM 4257, the set switched to M.W., no signal applied to the aerial, mains tension 220 V.

In the circuit diagram the waverange switch is drawn in S.W.2 position. The sequence of switching is: S.W.2, S.W.3, M.W.

LIST OF REPLACEMENT PARTS AND TOOLS

When ordering always give:

1. Codenumber
2. Description
3. Type no. of receiver.

Fig.	Pos.	Description	Codenumber
6	1	Cabinet - 041	23 643 07.0
		Rear panel	A3 692 28.0
		Bracket for fixing rear panel	A3 467 62.1
6	2	Knob - tuning and volume (041) <i>1169290</i>	<del>23 608 28.0</del>
		Lever knob - waverangeswitch - 038	23 648 61.0
6	3	Fixing bracket - ccilcan	28 072 64.2
		Dial lampholder	A3 359 07.0
		Plug socket plate	A3 340 13.0
		Voltage adaptor plate	A3 227 70.0
		Knob for voltage adaptor plate (111)	A3 364 73.1
		Rubber grommet under variable condenser	49 922 26.2
		Tuning spindle	A3 333 01.3
		Volume control spindle	A3 426 80.2
		Grubscrew for same	A3 324 16.0
		Variable condenser with drum	49 001 29.0
		Tension spring in drum	A3 646 26.0
		Pointer	A3 691 75.0
		Tension spring (driving cable)	A3 646 35.0
		Dial (overseas)	A3 222 14.0
		Dial (South)	A3 222 12.0
Blade spring for waverange switch	A3 648 79.0		

TOOLS

Service oscillator	GM 2882
Universal measure apparatus	GM 4256 or
	GM 4257
Separating transformer	E4 848 03.0
Trimming transformer	09 992 22.0
Vaseline compound	X 007 14.0

WIERSTANDEN-RESISTANCES-RESISTANCES-WIDERSTÄENDE

R1	1000	ohm	48 427 10/LK	R13	47000	ohm	48 550 10/47K
R2	220	ohm	49 379 62.0	R14	0.45	Mohm	49 500 34.0
R3	430	ohm	49 364 63.0	R14a	0.05	Mohm	
R4	200	ohm					
R5	180	ohm		R15	6.8	Mohm	48 550 10/6MB
R6	10000	ohm	48 425 10/10K	R16	0.47	Mohm	48 426 10/47OK
R7	47000	ohm	48 550 10/47K	R17	0.82	Mohm	48 425 10/82OK
R9	22000	ohm	48 552 10/22K	R18	150	ohm	48 427 10/150E
R11	22000	ohm	48 552 10/22K	R19	1000	ohm	48 550 10/LK
R12	2.7	Mohm	48 426 10/2M7	R20			49 379 67.1
				R21	82	ohm	48 550 10/82E

CONDENSATOREN-CONDENSERS-CONDENSATEURS-KONDENSATOREN

C1	50	uF	48 317 58/50+50	C20	6.8	pF	48 601 20/6E8
C2	50	uF			C21	30	pF
C3	12-492	pF	49 001 29.0	C22	2400	pF	48 429 02/2K4
C4	12-492	pF			C23	390	pF
C5	1000	pF	48 757 20/LK	C24	115	pF	
C6	15	pF	48 601 20/15E	C25	115	pF	
C7	4700	pF	48 757 20/47K	C26	47000	pF	48 751 20/47K
C9	47000	pF	48 750 20/47K	C27	102	pF	
C10	25	pF	49 005 49.2	C28	102	pF	
C11	25	pF	49 005 49.2	C29	6800	pF	48 751 20/6K8
C12	25	pF	49 005 49.2	C30	82	pF	48 601 10/82E
C13	330	pF	48 601 05/330E	C31	390	pF	48 601 10/390E
C14	22000	pF	48 752 20/22K	C32	6800	pF	48 751 20/6K8
C15	82	pF	48 601 10/82E	C34	22000	pF	48 752 20/22K
C16	18000	pF	48 750 20/18K	C35	100	pF	48 601 10/100E
C17	220	pF	48 601 10/220E	C36	47	pF	48 605 10/47E
C18	400-575	pF	49 005 55.0				
C19	15	pF	48 601 05/15E				

SPOELEN-COILS-BOBINES-SPULE

S1	1.1	ohm	A3 122 96.0	S15	3	ohm	A3 121 94.1	
S2	1	ohm			S16	4.5		ohm
S3	3.8	ohm			S17	3		ohm
S4	1	ohm			S18	4.5		ohm
S5	48	ohm			C24			
S6	4.2	ohm			C25			
S7	1	ohm			S19	2.4		ohm
S8	1	ohm	A3 122 97.0	S20	9.5	ohm		
S9	1	ohm			S21	2.4	ohm	
S10	1	ohm			S22	9.5	ohm	
S11	1	ohm			C27			
S12	2.6	ohm			C28			
S13	6.8	ohm			S23	350	ohm	
					S24	1	ohm	
				S26	18	ohm		

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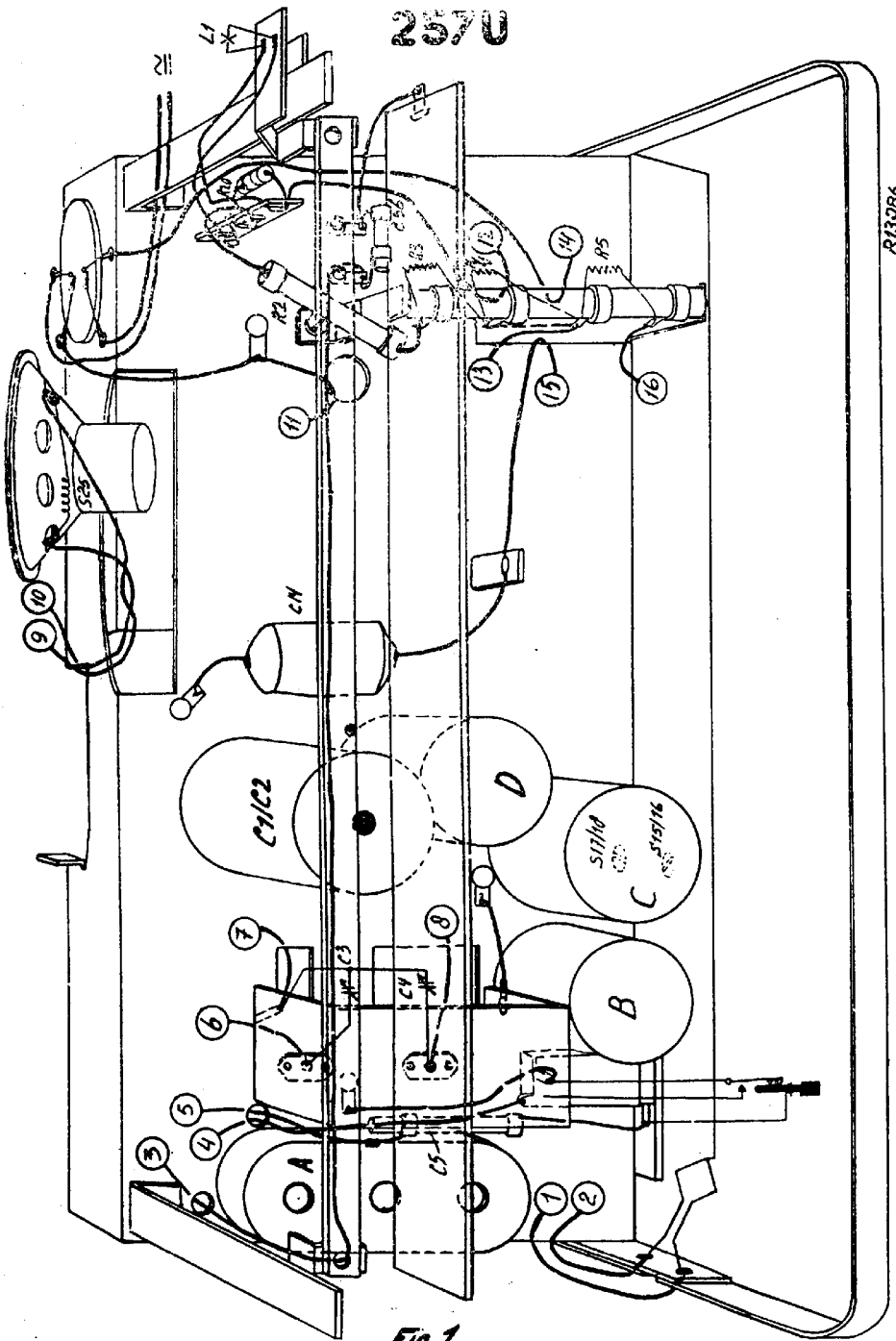
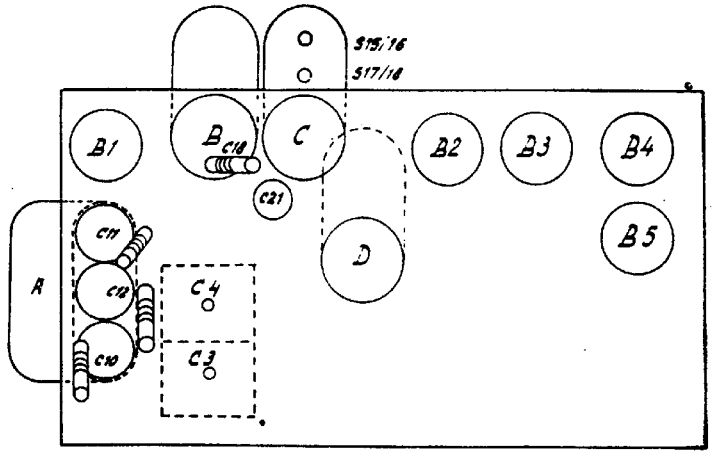


Fig. 1

R13286



R12076

Fig. 4



257 U

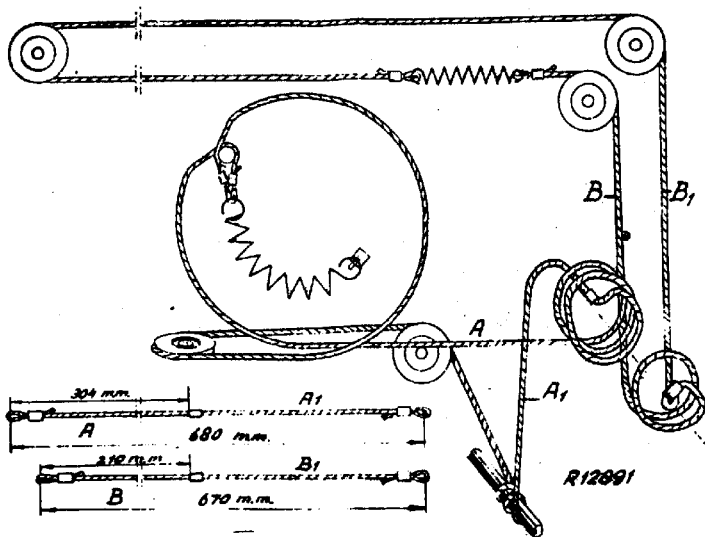


Fig. 5

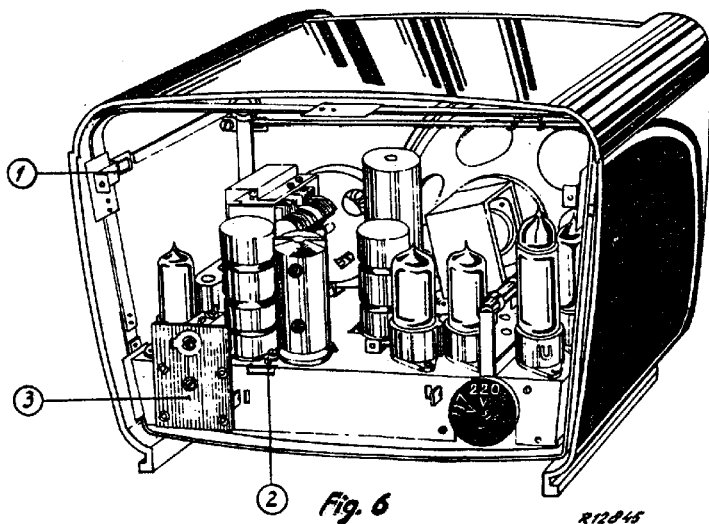
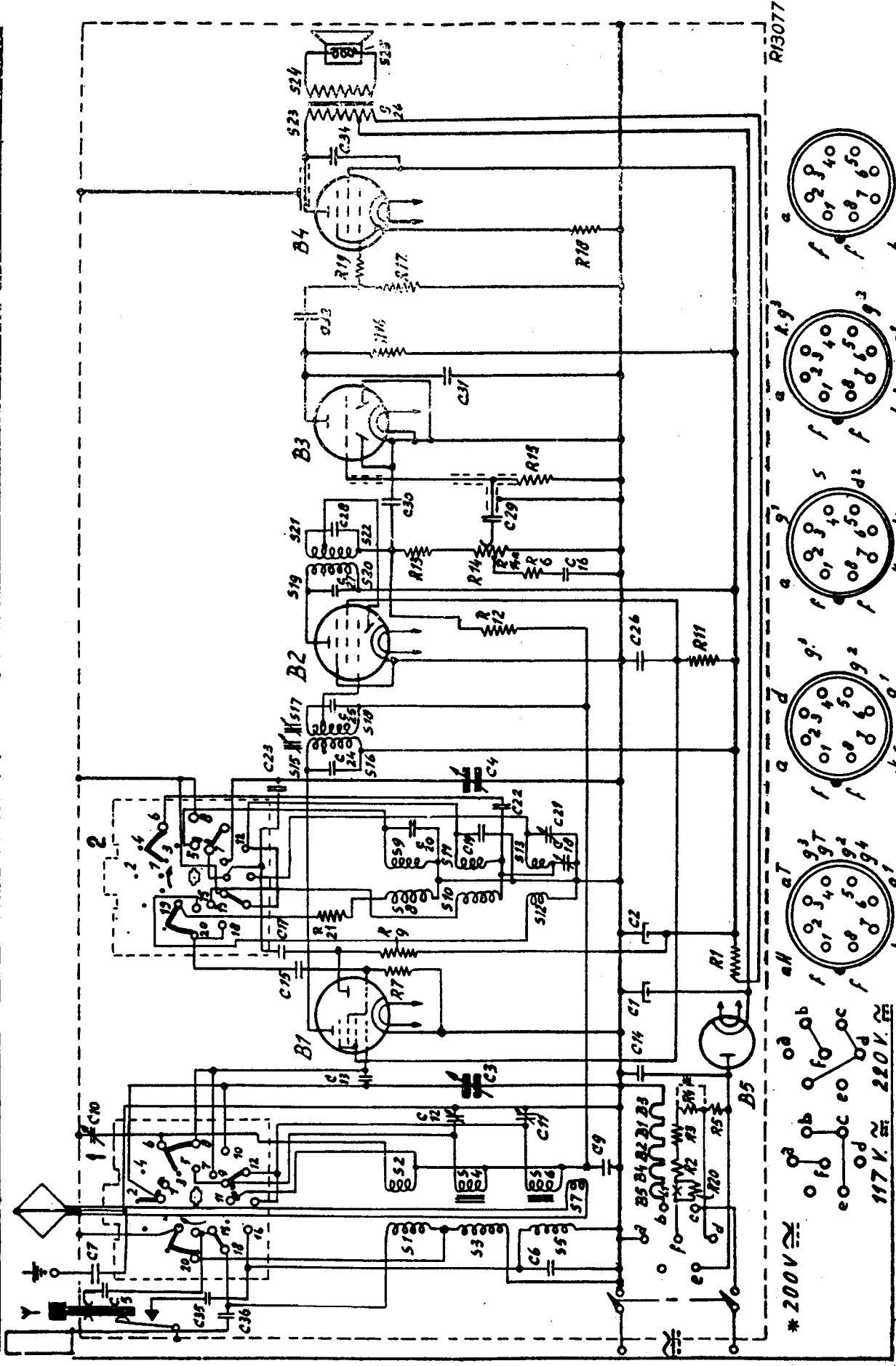


Fig. 6

R12845

# 257 U

S	1.3.5.2.4.6.7.	8.10.12.9.11.13.	15.16.17.18.	19.20.21.22.	23.24.25.26.
C	5.36.7.35.6.	9	10.11.12.3.13.14.	1.15.17.2.	16.18.20.21.22.23.24.25.
R	2.	3.9.20.4.5.	7.1.9.	21.	26.
					27.
					28.29.30.31.
					32.
					33.
					34.
					35.
					36.
					37.
					38.
					39.
					40.



R13077



B1: UCH 42  
 B3: UAF 42  
 B3: UBC 41  
 B4: UL 41  
 B5: UY 41

Fig. 2

S:					D.		C.
C: 29	16.	31,32.	30.	34.	29,26,1,2,9	7,15,21	
R: 14a,14,19	6, 15, 16.	18, 17.	13, 1.	12.	11.	21	

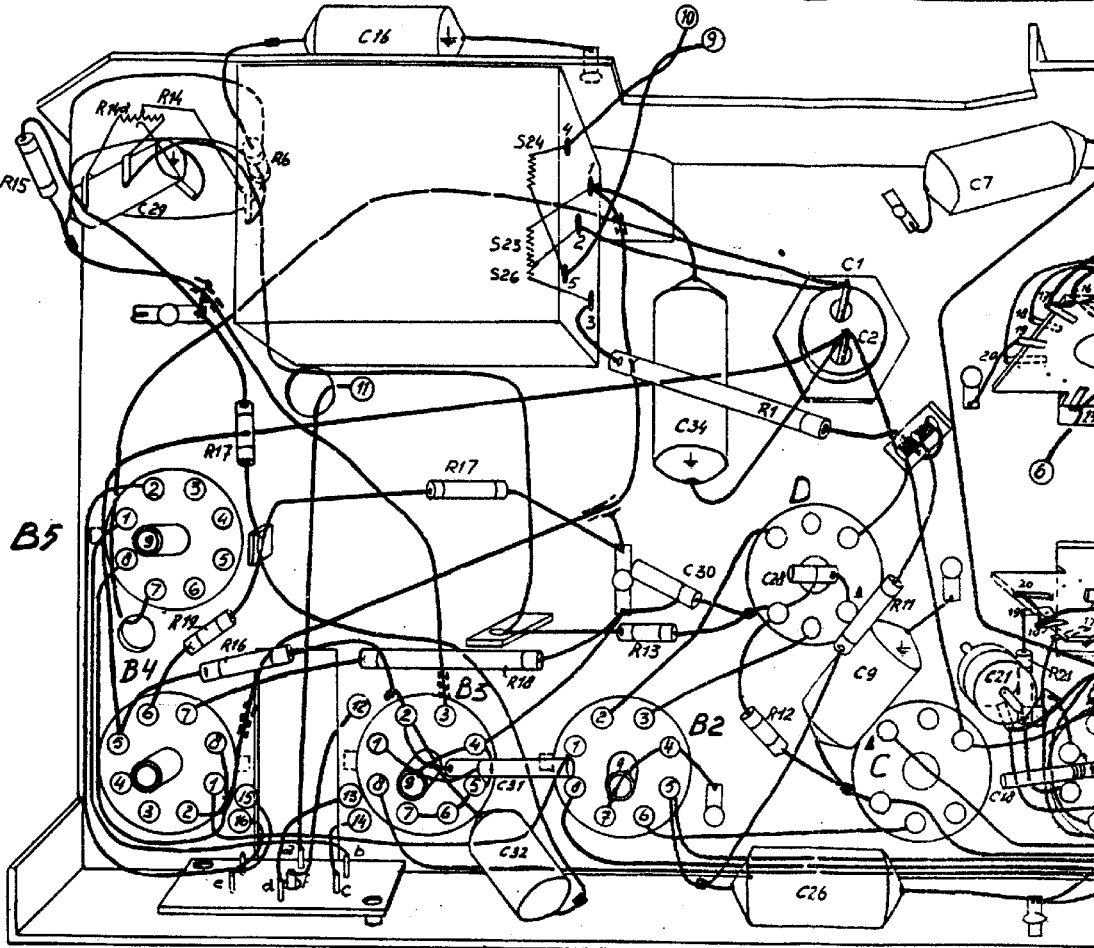
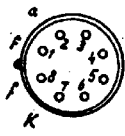


Fig 3



UY 41  
B5



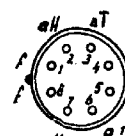
UL 41  
B4



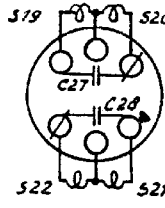
UBC 41  
B3



UAF 42  
B2



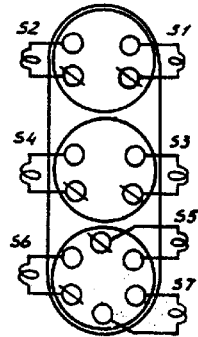
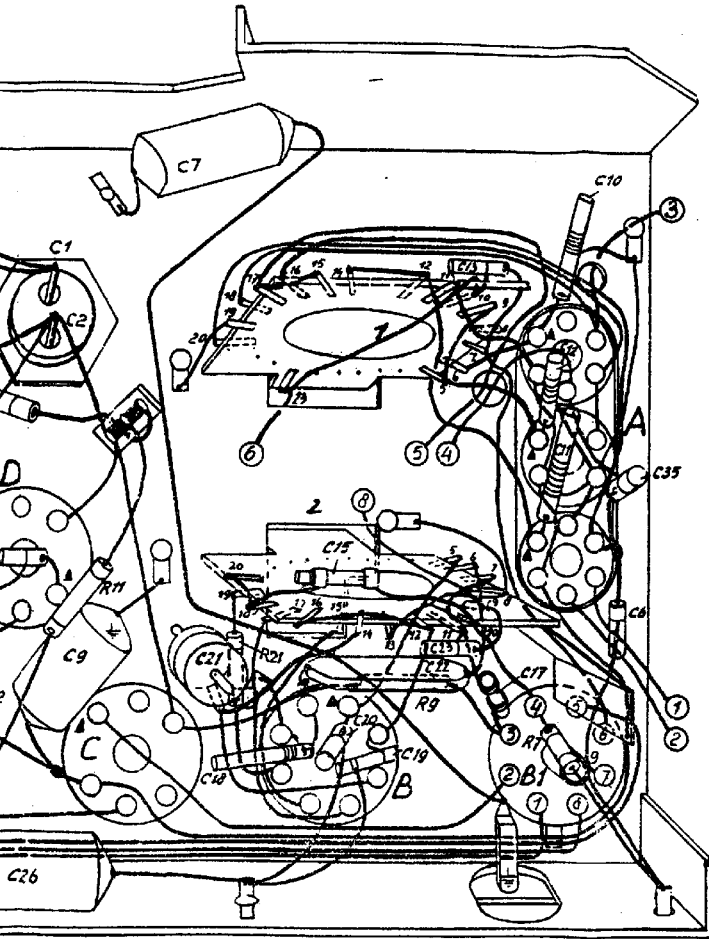
UCH 42  
B1



S19  
C27  
S22

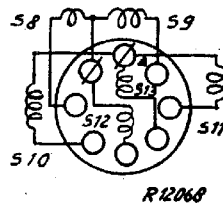
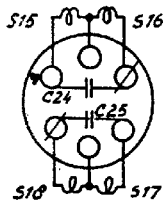
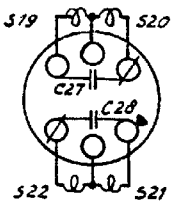
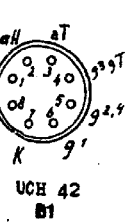
D	C	B	A
23, 26, 1, 2, 9	7, 15, 21	18, 10, 20, 22, 19, 23, 13, 17, 10, 12, 11, 35, 6	
11	21	9	7

257U



R13073

Fig 3



R12068