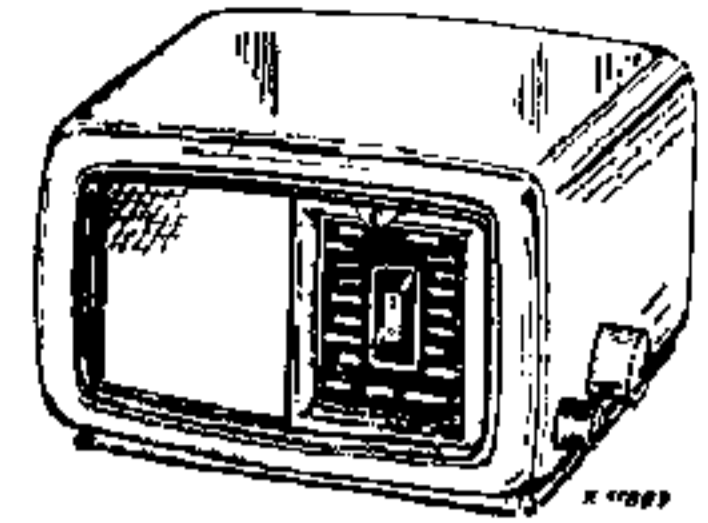


15-51 m  
192-575 m

9668 Z = 5Ω  
110 V - 200 V  
125 V - 220 V

452 kc/s

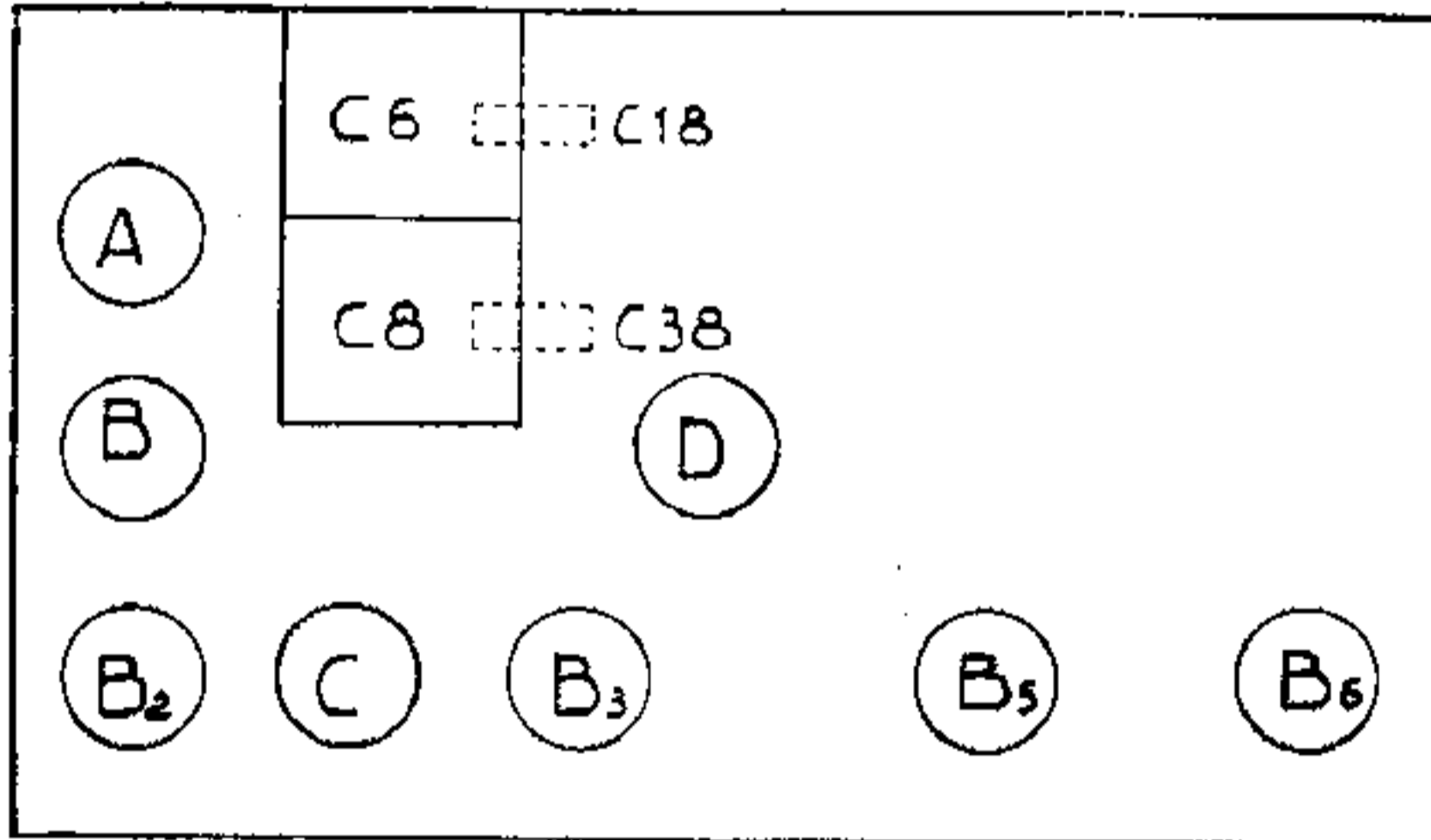
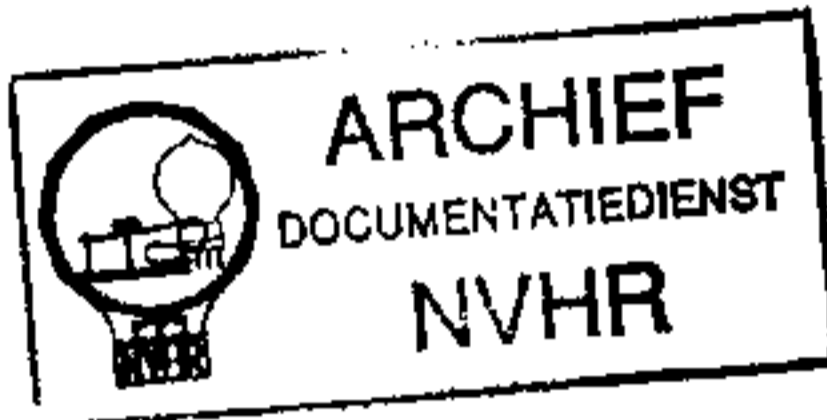
110 V = 25,5 W    110 V ~ 26,5 W  
125 V = 29,5 W    125 V ~ 31 W  
220 V = 39,5 W    220 V ~ 42 W



192-575 m III	15-51 m III	V
VOL max C6, C8 + 15° 1500 kc/s - Y C38, C 18 max	VOL max 15,2 Mc/s - Y C14 max	C6, C8, max 180°

15° = 09 992 80,0

Ned. Ver. v. Historie v/d Radio



R 11865

	B2	B3	B5	B6	
	UCH21	UCH21	UBL21	UY21	
Va	T80-H135	T40-H135	145		V
Vg2(4)	80	80	135		V
Vk	—	—	—		V
Ia	T1,8-H1,5	T1,7-H4,5	53		mA
Ig2(4)	4,15	2,9	7,2		mA

VC1 = 165 V; VC2 = 135 V

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N.V. Philips' Gloeilampenfabrieken, Eindhoven  
Imprimé en Hollande

1941/42

R1	1200 Ω	48 467 10/1K2	C1	50 μF	
R11	0,45 + 0,05 MΩ	49 500 11.0	C2	50 μF	49 031 01.0*
R31	0,82 MΩ	48 425 10/820K	C6	11-400 pF	49 000 53.3
R32	10000 Ω	48 426 10/10K	C8	11-400 pF	49 005 51.2
R33	68000 Ω	48 426 10/68K	C14	7½-100 pF	49 005 51.2
R34	1,5MΩ	48 426 10/1M5	C18	7½-100 pF	49 005 51.2
R35	6,8MΩ	48 427 10/6M8	C38	7½-100 pF	49 005 51.2
R36	0,68MΩ	48 551 10/680K	C50	395 pF	48 601 01/395B
R37	56000 Ω	48 425 10/56K	C51	103 pF	—
R38	55 Ω		C52	103 pF	—
R39	180 Ω	49 362 18.9	C61	103 pF	—
R40	620 Ω		C62	103 pF	—
R41	27000 Ω	48 425 10/27K	C75	100 μF	48 313 52/100
R42	10000 Ω	48 427 10/10K	C85	4700 pF	48 757 20/4K7
S75	220 Ω	48 427 10/220E	C100	1000 pF	48 757 20/1K
R81	270 Ω	48 427 10/270E	C101	100 pF	48 601 10/100E
	47000 Ω	48 551 10/47K	C102	470 pF	48 601 20/470E
			C103	82 pF	48 601 10/82E
			C104	47000 pF	48 751 20/47K
			C105	47000 pF	48 750 20/47K
			C106	6800 pF	48 751 20/68K
			C107	100 pF	48 601 10/100E
			C108	68 pF	48 601 20/68E
			C109	1000 pF	48 751 20/1K
			C110	22000 pF	48 758 20/22K
			C111	39 pF	48 601 10/39E

S13, S14, S17, S18 S33, S34, S37, S38, S100 S51, S52, S53 S54, C51, C52	A1.037.48.0 A1.037.49.0 A1.037.13.0	S61, S62, S63 S64, C61, C62 S76 S81, S82	A1.037.12.4 49.981.03.0 A3.151.61.1
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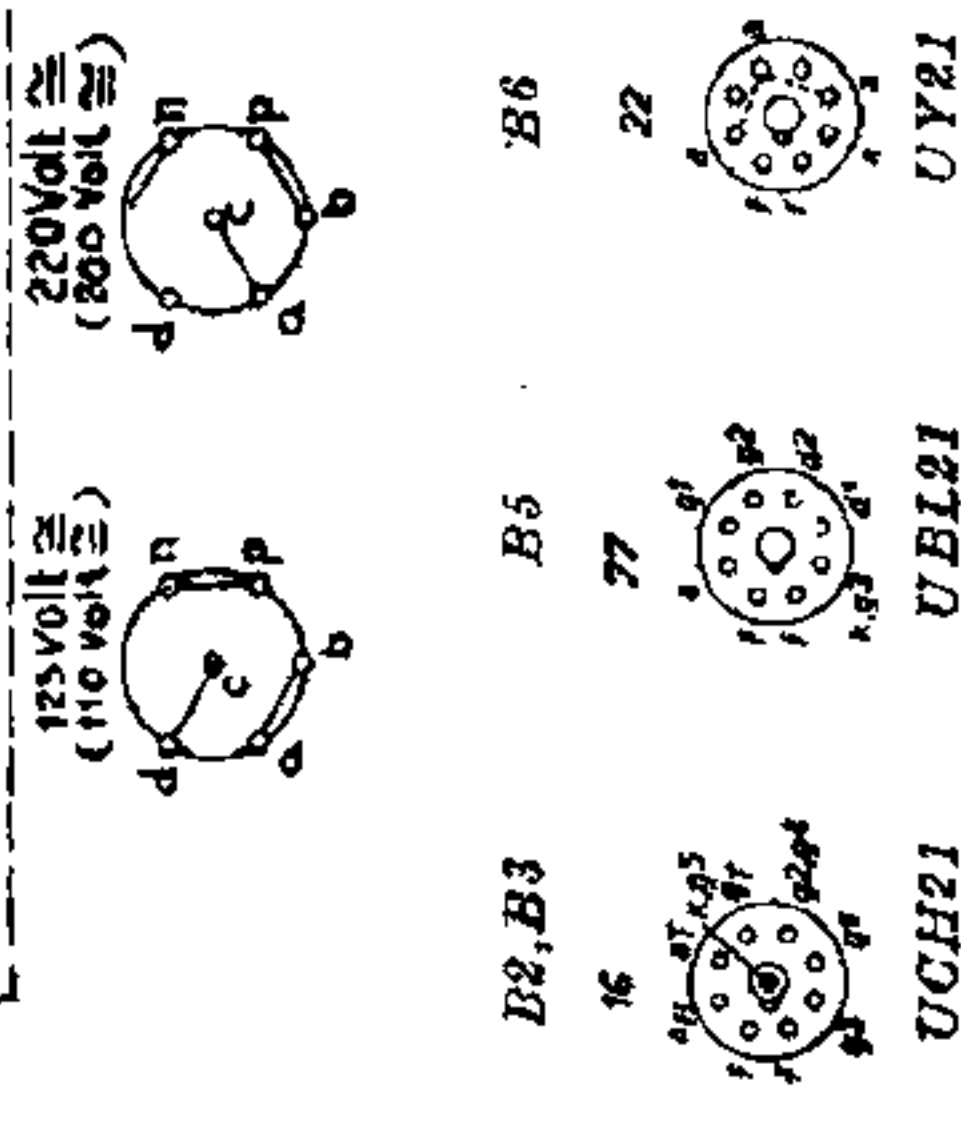
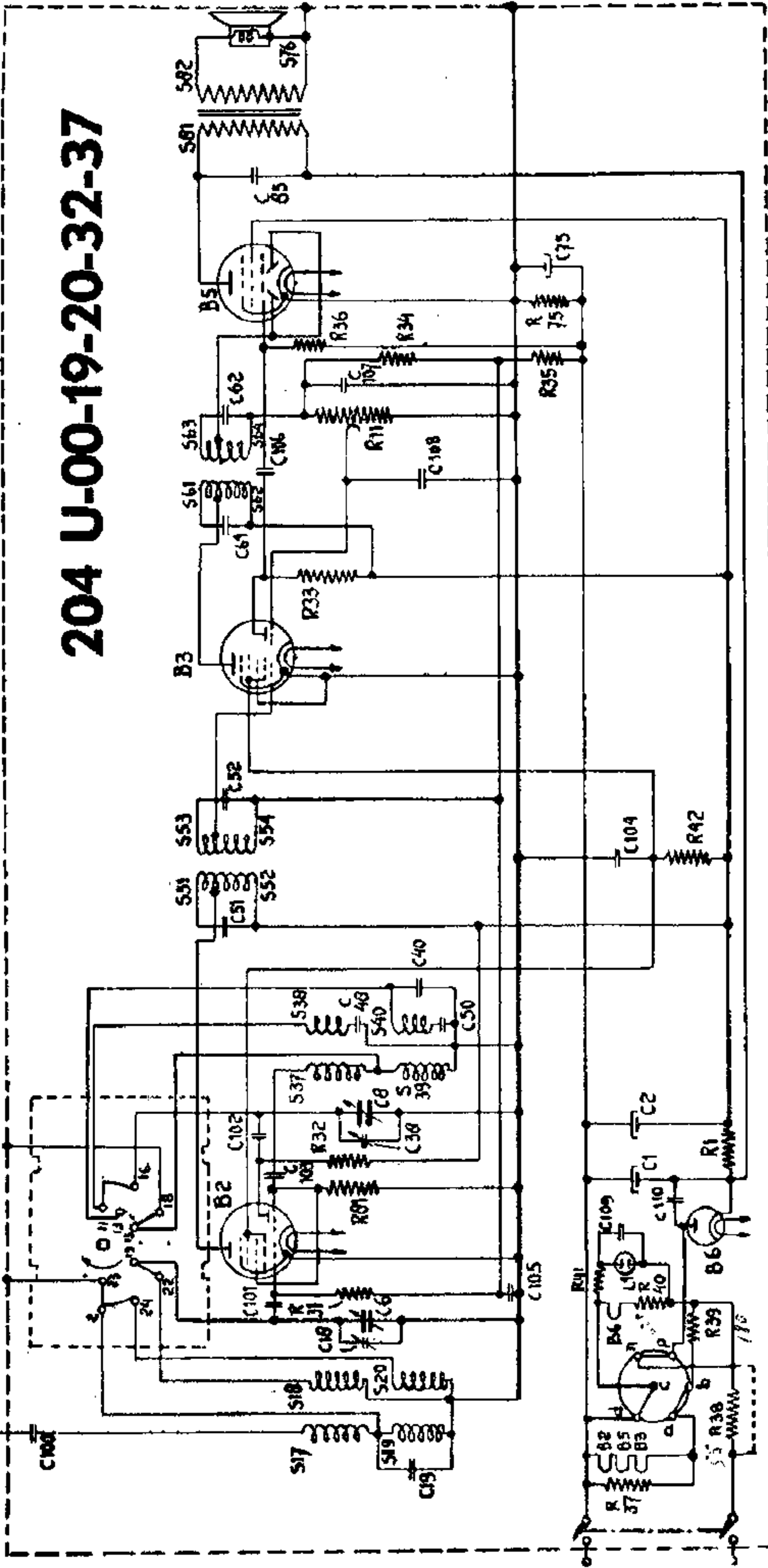
  

Z	600 mA	08 140 43.2 <sup>1</sup> )
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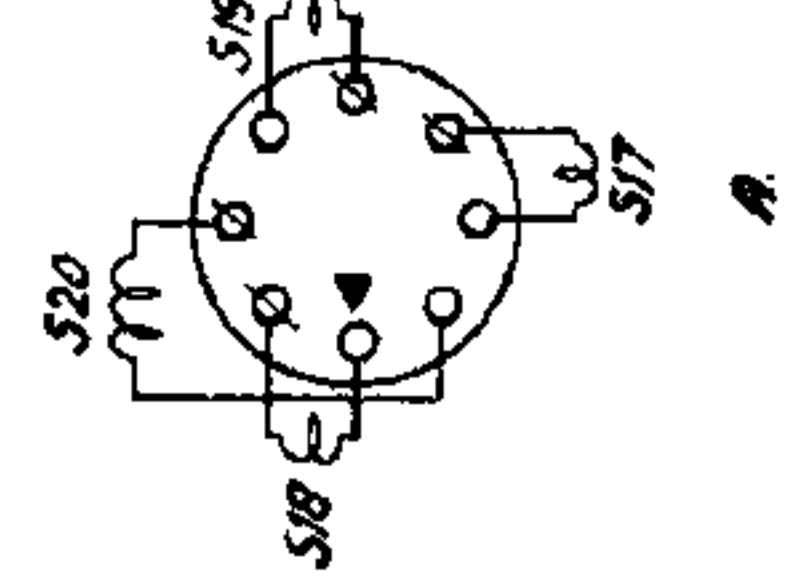
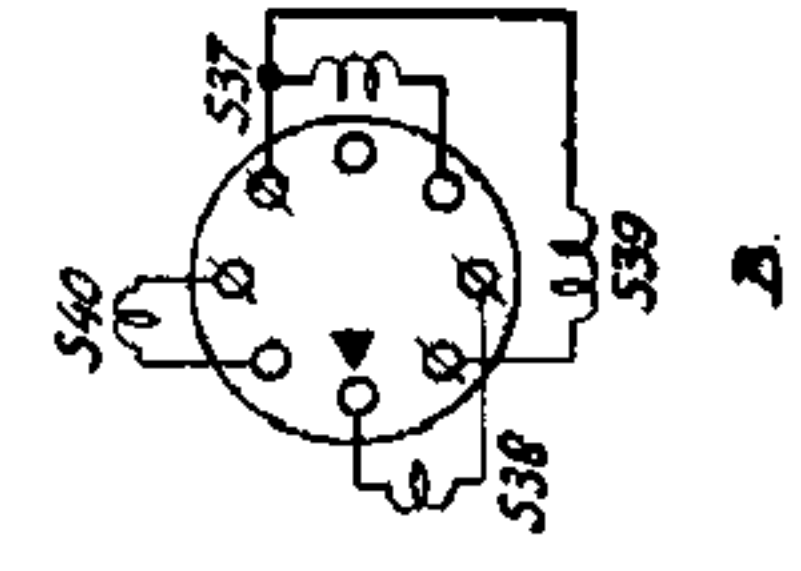
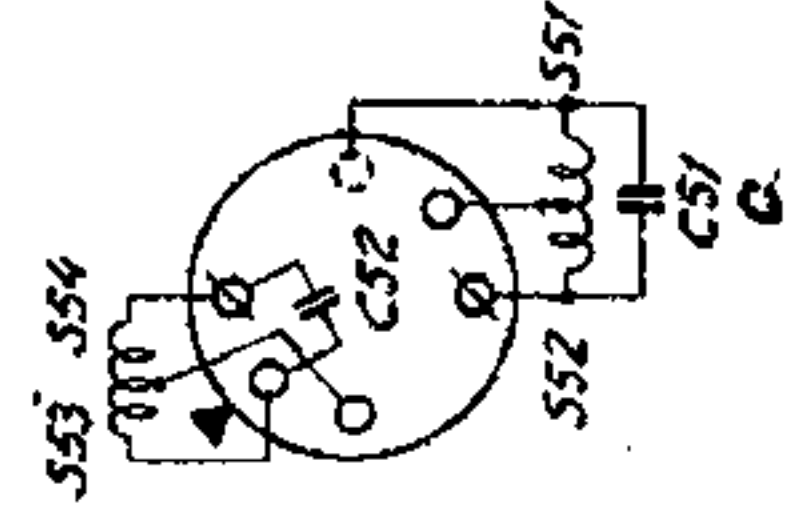
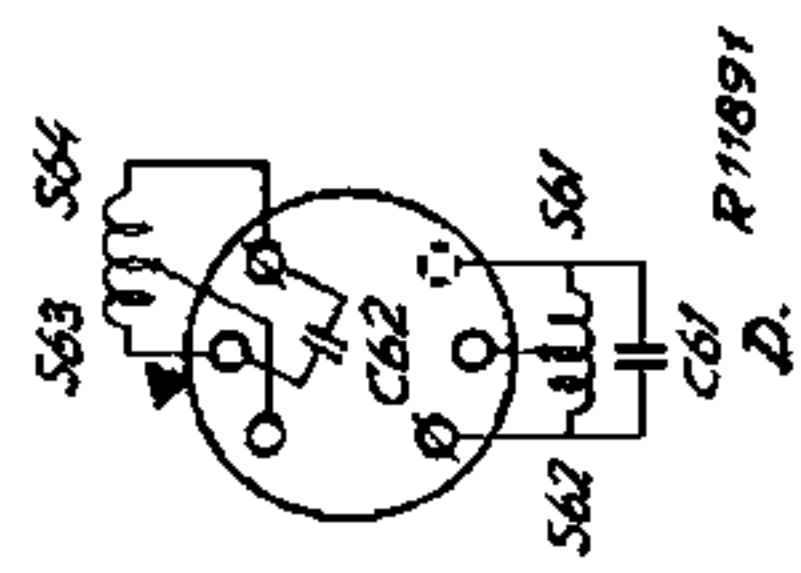
U-37

93 952 71.1

# 204 U-00-19-20-32-37



R11885



# PHILIPS

## SERVICE DOCUMENTATIE

VOOR HET ONTVANGTOESTEL

# 204 U

VOOR GELIJK EN WISSELSTROOMNETTEN

Voor gegevens die niet in deze documentatie voorkomen wordt verwezen naar de documentatie voor het apparaat 203U.

### CONDENSATOREN

#### GOLFBANDEN

15 - 51 m { 20 MHz - 5,88 MHz }  
192 - 575 m { 1563 kHz - 522 kHz }

#### AFREGELLEN VAN DE KG-BAND

1. Golfbandschakelaar op KG. Volumeregelaar op maximum.
2. Outputmeter via een trimtransformator aan de luidprekerkleppen op de uitgangstransformator aansluiten.
3. Gemoduleerd signaal van 15,2 MHz via de KG kunstantenne toevoeren aan de antennebus. Aarde en kunstantenne aan chassis.
4. Met behulp van de afstemknop het apparaat nauwkeurig op deze frequentie afstemmen (Eerste max. vanaf min.capaciteit).
5. C14 (zie fig.4) op maximum output afregelen.
6. C14 aflakken.

#### LIJST VAN ONDERDEELLEN

Bij het bestellen van onderdelen steeds vermelden:

1. Codenummer
2. Omschrijving
3. Typenummer van het apparaat

Nr.	Waarde	Codenummer	Prijs
C1	50 pF	49 031 01.0	
C2	50 pF		
C6	11-400 pF	49 000 53.1	
C8	11-400 pF		
C14	32 pF	28 212 06.1	
C18	32 pF	28 212 06.1	
C38	32 pF	28 212 06.1	
C50	400 pF	49 057 42.0	
C75	100 pF	49 020 10.0	
C85	4700 pF	49 129 82.0	
C100	1000 pF	49 129 80.0	
C101	100 pF	49 055 28.0	
C102	470 pF	49 055 53.0	
C103	82 pF	49 055 27.0	
C104	47000 pF	49 128 61.0	
C105	47000 pF	49 127 61.0	
C106	6800 pF	49 128 56.0	
C107	100 pF	49 055 28.0	
C108	68 pF	49 055 48.0	
C109	1000 pF	49 128 51.0	
C110	22000 pF	49 129 90.0	
C111	39 pF	49 055 23.0	
<u>WEEERSTANDEN</u>			
R32	10000 Ohm	49 376 36.0	2

Omschrijving	Codenummer	Prijs
Kast (kleur 041)	23 657 76.0	
Stationsnamenschaal	A1 897 47.1	
Schakelsegment	49 545 67.2	

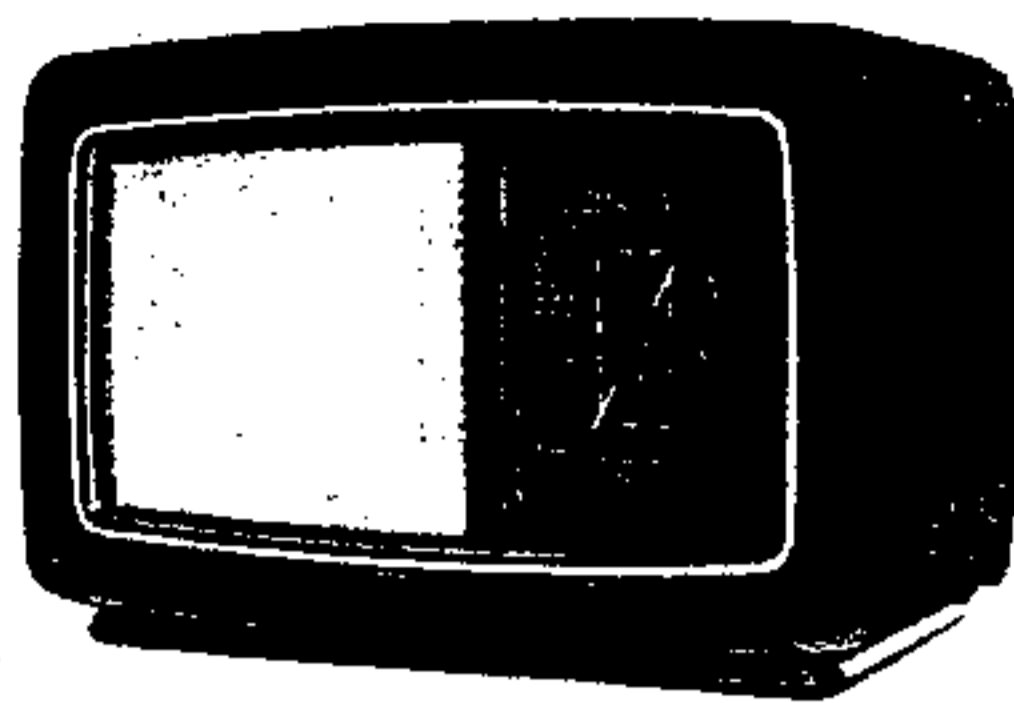
#### SPOELEN

Nr.	Waarde	Codenummer	Prijs
S13	2,5 Ohm	A1 037 48.0	
S14	< 1 Ohm		
S17	43 Ohm		
S18	7,5 Ohm		
S33	< 1 Ohm	A1 037 49.0	
S34	< 1 Ohm		
S37	3,5 Ohm		
S38	7,5 Ohm		
S100	2,5 Ohm		

## 1.2 PŘIJÍMAČE TRPASLIČÍ

### 1.201 Rozhlasový přijímač 204 U „PHILETA“

Výrobce: PHILIPS, akc. spol., nyní TESLA, n. p., Praha-Hloubětín



Rozhlasový přijímač 204U „PHILETA“, výroba 1944 až 46

#### Zapojení:

Šestiokruhový, 3 + 1 elektronkový superheterodyn k napájení ze střídavé i stejnosměrné sítě.

Vstupní okruh indukčně vázaný s anténou — trioda-heptoda jako směšovač a oscilátor — oscilátorový okruh s indukční zpětnou vazbou a nakmitávacím vinutím na krátkých vlnách — první dvouokruhový mf pásmový filtr s indukční vazbou — heptodová soustava druhé elektronky jako řízený mf zesilovač — druhý mf pásmový filtr — demodulace diodou koncové elektronky — nf zesílení triodovou částí druhé elektronky — odporová vazba s pentodovou částí koncové elektronky — jednocestné usměrnění anodového napětí — samočinné vyrovnávání citlivosti působící na dvě elektronky — indikace zapnutí doutnavkou — zadní stěna působí jako anténa.

#### Hlavní technické údaje:

Vlnové rozsahy: 2; 15 až 51 m (20 až 5,88 MHz), 192 až 575 m (1563 až 522 kHz)

Mezifrekvence: 452 kHz

Průměrná citlivost: krátké vlny 150  $\mu$ V, střední vlny 80  $\mu$ V

Průměrná šířka pásma: 12 kHz

Výstupní výkon: 1,8 W (0,6 W při 125 V $\sim$ )

Reproduktor: dynamický s permanentním magnetem, průměr membrány 135 mm, impedance kmitací cívky 5  $\Omega$

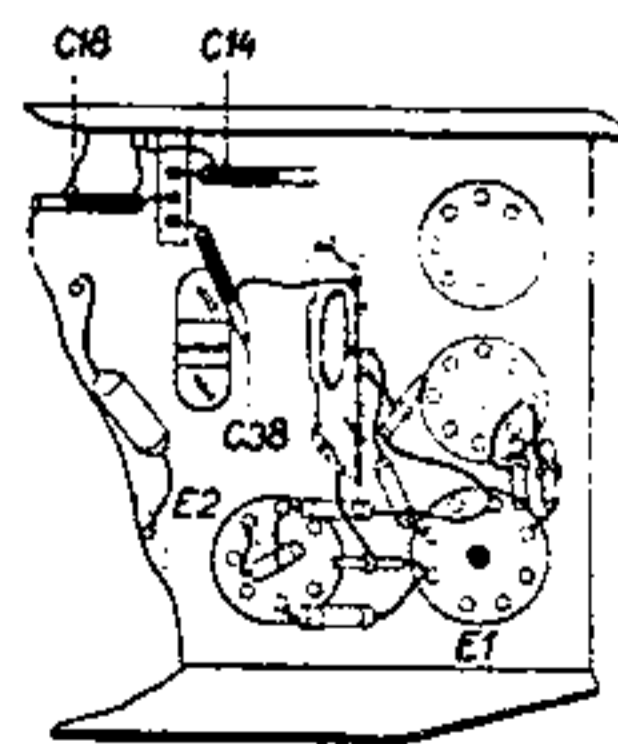
Napájení: stejnosměrným a střídavým proudem 30 až 100 Hz s napětím 125 a 220 V (na 110 a 200 V lze přepojit uvnitř)

Příkon: 42 W při 220 V $\sim$ ; 33 W při 125 V $\sim$

Sladování: Pozor! Šasi je spojeno přímo s napájecí sítí. Při opravách napájet ze střídavé sítě přes oddělovací transformátor a šasi uzemnit!

Mezifrekvenční okruhy pevně nastavené se neladí. Před sladováním vf obvodů seřídte kotouč náhonu kondenzátoru tak, aby ukazatel (barevný proužek) byl přesně ve vodorovné poloze, je-li kondenzátor nařizen na největší kapacitu.

P	Zkušební vysílač		Přijímač			Výstup
	Připojení	Kmitočet	Rozsah	Lad. kondenz.	Slad. část	
1	přes umělou anténu na anténní zdítku přijímače	1500 kHz	sv	vytočte 15°	C38, pak C18	max.
2	přes umělou anténu na řídicí mřížku elektronky E1	19 MHz	kv	na zavedený signál	—	max.
3	přes umělou anténu na anténní zdítku přijímače	19 MHz	kv	zůstává naladěno	C14	max.

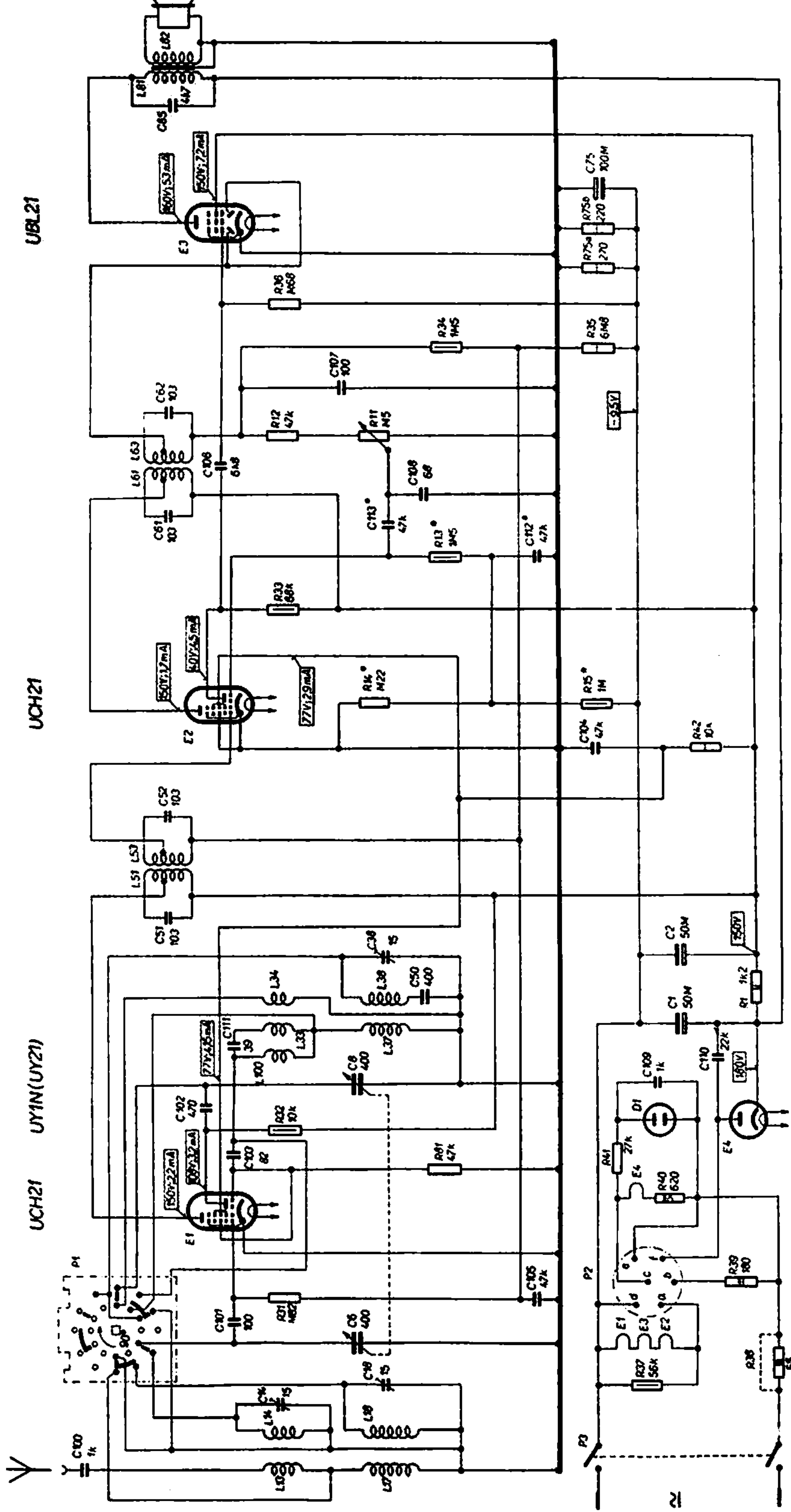


Sladovací prvky pod šasi

Změny v provedení: U přijímačů z první série odpadají prvky: C113, C112, R13, R14, R15 (v zapojení označeno\*).

Odvozené přístroje: 203U — vlnové rozsahy: střední a dlouhé vlny.

R	37, 38, 39, 40, 41, 42	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
C	100, 101, 102, 103, 104, 105	106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200
L	13, 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, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200



PŘEPÍNAČ P1

ROZSAHY	SPOJENÉ DOTYKY P1
KV	7-8, 10-11-12, 15-16, 17-18-20
SV	5-7, 9-10, 16-17

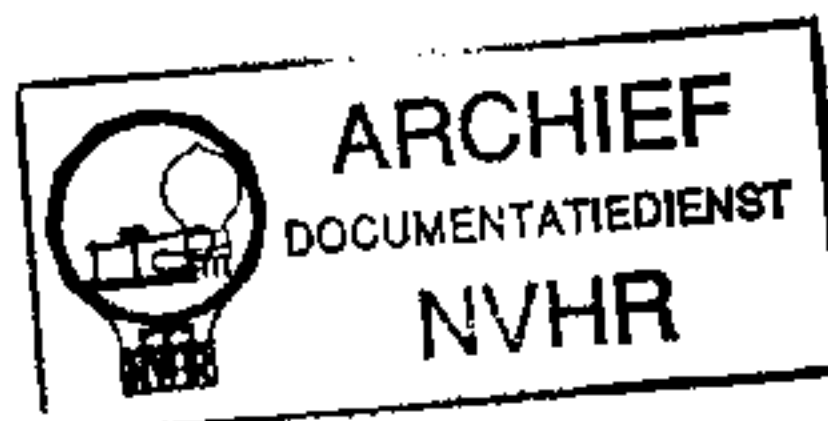
RAPĚTI	SPOJENÉ DOTYKY P2
125V(110V)~	a-b, c-d, e-f
220V(200V)~	a-c, b-f
PŘÍ 10V a 200V R.38	VYŘAZEN...

Zapojení přijímače 204U „PHILETA“

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# PHILIPS

## SERVICE MANUAL

for receiver

# 204 U

FOR A.C. AND D.C. MAINS

EXECUTIONS: U, U-19, U-32

### GENERAL REMARKS

#### WAVE RANGES

SW: 15 — 51 m ( 20 — 5.88 Mc)

MW: 192 — 575 m (1563 — 522 Kc)

#### KNOBS

Left side: Mains switch with volume control

Right side first: Tuning

second: Wave range switch

#### DIMENSIONS

Breadth: 28 cm	} with knobs
Height: 16 cm	
Depth: 13 cm	

#### WEIGHT

2,7 kg, with valves

#### BAND WIDTH

IF (1:10)  $\pm$  12 Kc from control grid (g1) of B2.

Overall band width (1:10)

from aerial socket: MW (1000 Kc):  $\pm$  11 Kc.

#### IMPORTANT

For every service operation to the receiver while under voltage i.e. during trimming, fault-finding, etc., the supply voltage must be taken from a transformer with a high insulation between primary and secondary windings. Only one set should be connected to this transformer at the same time.

### TRIMMING THE RECEIVER

For trimming the chassis has to be removed from the cabinet.

#### IF-CIRCUITS

These band filters are trimmed in the factory on a frequency of 452 Kc. Afterwards they can not be retrimmed.

#### HF- AND OSCILLATOR CIRCUITS

The oscillator frequency is on all wave lengths higher than the tuning frequency of the HF-circuit.

#### NOTE

Rough handling may cause the plates of the variable condenser to become loose. Therefore the variable condenser has to be carefully turned to min. after fixing the 15° trimming gauge.

#### OPERATIONS FOR TRIMMING

MW (196-575 m)

1. Switch wave range switch on MW and volume control on maximum.
2. Fix 15° template according to fig. 5 to the variable condenser (see remark above and turn variable to minimum).
3. Connect an output-indicator via a trimming transformer to the loudspeaker connections of the output transformer.
4. Apply a modulated signal of 1500 Kc via a standard artificial aerial to the aerial socket.

5. Connect the earth-pin of the artificial aerial to the chassis of the set.
6. Trim subsequently C38 and C18 for maximum output.
7. Seal trimmers.

SW-range (16,5—51 m).

1. Wave range switch on SW, volume control on maximum.
2. Connect output indicator to loudspeaker connections of output transformer via a trimming transformer.
3. Apply a modulated signal of 15,2 Mc via SW artificial aerial to aerial socket. Connect earth terminal of aerial with chassis.
4. Tune the receiver very accurately to this frequency (it is the maximum deflection on the output meter with smallest capacity of the variable.).  
Do not touch the variable condenser or tuning knob any more.
5. Trim C14 for maximum output and seal trimmer.

#### ADJUSTING TUNING SCALE

1. Turn variable condenser to maximum.
2. Loosen screw of driving drum.
3. Turn drum on spindle of variable condenser till the pointer is exactly between the two wave ranges (variable is kept in maximum position).
4. Fix screw in driving drum.

### REMOVING AND CHANGING OF PARTS

#### REMOVING THE CHASSIS FROM THE CABINET

1. Remove back-plate. Unsolder the connection to the aerial socket.
2. Remove knobs. The fixing screws of the knobs are attainable through holes in the bottom of the cabinet.
3. The connexions to the plate with neon lamp indicator have to be unsoldered. The neon-lamp with fixing plate is kept in the cabinet.

4. Remove clamping bracket from dial above in the cabinet.
5. Unscrew the two fixing screws at the rear side of the chassis.
6. Withdraw chassis from cabinet.

When re-placing the chassis in the cabinet take care that the fixing screws of the knobs do not touch the connections in order to prevent short circuits. Before placing the chassis into the cabinet it is necessary to turn the



spindles for the knobs in a position that the knob fixing screws are attainable through the holes in the bottom plate.

#### NOTE

When fixing the back plate take care that all screws are placed in their right place, as sometimes screws of different sizes are used. Using a screw on its wrong place may cause a crack in the cabinet.

#### NEON-INDICATOR LAMP

Neon-lamp with fixing plate is one spare part (see list of spare parts). When replacing a faulty one, the connections to the plate have to be unsoldered and lamp with plate renewed. For repairs on the set, plate and lamp are kept in the cabinet.

#### REPLACEMENT OF THE DIAL

1. Remove the chassis from the cabinet.
2. Unscrew dial with fixing bracket (two 3 mm screws).
3. Bend open the two clamping brackets of the dial holder.
4. Place a new dial in the holder and press the two clamping brackets.
5. Fix bracket with dial preliminary to the chassis.
6. Turn variable condenser in maximum position. The pointer should now be in an accurate horizontal position.
7. Move dial holder with dial slightly in such a way that the pointer is accurately between the two wave ranges and the dial perpendicular on the chassis.
8. Fix screw of the dial holder and replace the chassis into the cabinet.

#### DRIVING DRUM

The driving drum of the variable condenser should be adjusted in such a way that the pointer is in an accurate horizontal position between the two wave ranges when the condenser has its maximum value.

#### DRIVING CORD

The length of this cord is 320 mm between the two fixing points.

#### VOLUME CONTROL

Replacement of the volume control is as follows:

1. Remove the chassis from the cabinet.
2. Remove spindle from volume control (one 3 mm screw).
3. Unsolder the connections from volume control and mains switch.
4. Unsolder volume control from chassis. Unscrew the fixing strip from volume control.
5. Put new volume control on the chassis and fixing tag of chassis through one hole; screw fixing strip to the other side of volume control.
6. Fit spindle of volume control.
7. Press volume control in its proper position and solder fixing tag to volume control. Take care that it is a sound joint.

8. Re-solder the connections to volume control and mains switch.

9. Put chassis into cabinet.

#### WAVE RANGE SWITCH

This switch consists of only one unit, which has been clamped to the chassis. The rotor turns 90° from one position into another in contrast with our normal wave range switch, which turns 30°. This switch is in the wiring-diagram in the short-wave position.

#### REPLACEMENT OF SWITCH UNIT

1. Remove chassis from cabinet.
2. After pressing the two ends of the stop spring together, this spring can be thrown out of the chassis.
3. Unsolder the connections from the faulty switch unit.
4. Remove the faulty switch unit.
5. Remove spindle.
6. Make again rectangular the holes in which the switch unit is fixed to the chassis.
7. Put the spindle with stop plate in the new switch unit and press it in the chassis.
8. Fix the switch unit to the chassis in the same way as the faulty one.  
The fixing of the unit is done by bending the partition between the two holes by means of a screw driver.
9. Re-adjust the stop spring.
10. Solder connections to unit.
11. Put the chassis into the cabinet.

#### PLATE OF TENSION CHANGE OVER KNOB

1. Unsolder connection.
2. Remove faulty plate by cutting it to pieces.
3. File strips of the chassis so that the new plate fits properly.
4. Rivet the plate to the strips.
5. Solder the connections.

#### MAINS TENSION CHANGE OVER KNOB

The set is delivered for mains tensions of 125 V and 220 V or 110 V and 200 volts. In the second case the resistance R38 is shortcircuited in the factory. These sets can be made suitable for mains of 125 V and 220 V by taken away the short circuit of R38. The indication on the knob must now be changed also. For this purpose small circular papers are available, which have to be affixed to the knob (for code numbers see spare parts list).

#### OSCILLATOR ON SHORT WAVE

On short wave there is a difference with a normal oscillator circuit, viz. there are two coils in the grid circuit. An open circuit in S100 causes bad oscillation on max., while an open circuit of S33 causes bad oscillation on min. of this range.

COILS

CONDENSERS

Nr.	Value	Code number	Price
S13	2,5 Ohm	A1 037 48.0	
S14	<1 Ohm		
S17	42 Ohm		
S18	7,5 Ohm		
S33	<1 Ohm	A1 037 49.0	
S34	<1 Ohm		
S37	4,5 Ohm		
S38	6 Ohm		
S100	2,5 Ohm		
S51	5,5 Ohm	A1 037 13.1	
S52	7 Ohm		
S53	5,5 Ohm		
S54	7 Ohm		
C51	103 pF		
C52	103 pF		
S61	5,5 Ohm	A1 037 12.4	
S62	9,5 Ohm		
S63	5,5 Ohm		
S64	9,5 Ohm		
C61	103 pF		
C62	103 pF		
S76	3 Ohm	49 981 03.0	
S81	300 Ohm	A1 081 82.0	
S82	<1 Ohm		

Nr.	Value	Code number	Price
C1	50 $\mu$ F	49 031 01.0	
C2	50 $\mu$ F		
C6	11-400 pF	49 000 53.0	
C8	11-400 pF		
C14	32 pF	28 212 06.0	
C18	32 pF	28 212 06.0	
C38	32 pF	28 212 06.0	
C50	400 pF	49 057 42.0	
C51		see "Coils"	
C52			
C61	103 pF		
C62			
C75	100 $\mu$ F	49 020 39.0	
C85	4700 pF	49 129 82.0	
C100	1000 pF	47 129 80.0	
C101	100 pF	49 055 28.0	
C102	470 pF	49 055 53.0	
C103	82 pF	49 055 27.0	
C104	47000 pF	49 128 61.0	
C105	47000 pF	49 127 61.0	
C106	6800 pF	49 128 56.0	
C107	100 pF	49 055 28.0	
C108	68 pF	49 055 48.0	
C109	1000 pF	49 128 51.0	
C110	22000 pF	49 129 90.0	
C111	39 pF	49 055 23.0	

RESISTANCES

VALVE VOLTAGES AND CURRENTS

Nr.	Value	Code number	Price
R1	1200 Ohm	49 356 28.0	
R11	0,45 + 0,05 M.Ohm	49 500 11.0	
R31	0,82 M.Ohm	49 375 59.0	
R32	10000 Ohm	49 376 36.0	
R33	68000 Ohm	49 376 46.0	
R34	1,5 M.Ohm	49 376 62.0	
R35	6,8 M.Ohm	49 377 97.0	
R36	0,68 M.Ohm	49 375 58.0	
R37	56000 Ohm	49 376 45.0	
R38	55 Ohm	49 362 18.9	
R39	180 Ohm		
R40	620 Ohm		
R41	27000 Ohm	49 375 41.0	
R42	10000 Ohm	49 377 36.0	
R75	220 Ohm par.	49 377 16.0	
	270 Ohm 120 Ohm	49 377 17.0	
R81	47000 Ohm	49 375 44.0	

	Va	Vg2(4)	Vk	Ia	Ig2(4)
B2	triode	80		1,8	
	hexode	135	80	1,5	4,15
B3	triode	40		1,7	
	hexode	135	80	4,5	2,9
B5	145	135	0	53	7,2
	Volt	Volt	Volt	mA	mA

VC1 : 165 Volt  
VC2 : 135 Volt

Primary consumption:

110 V~ : 26,5 W	110 V — : 25,5 W
125 V~ : 31 W	125 V — : 29,5 W
220 V~ : 42 W	220 V — : 39,5 W

VALVES

B2	B3	B5	B6
UCH 21	UCH 21	UBL 21	UY 21

The voltages are measured with volt meters having a resistance of 2000 Ohms per volt. The receiver is switched on MW, variable condenser turned to maximum; no signal applied to the aerial socket and the set connected to A.C.-mains of 220 Volt.

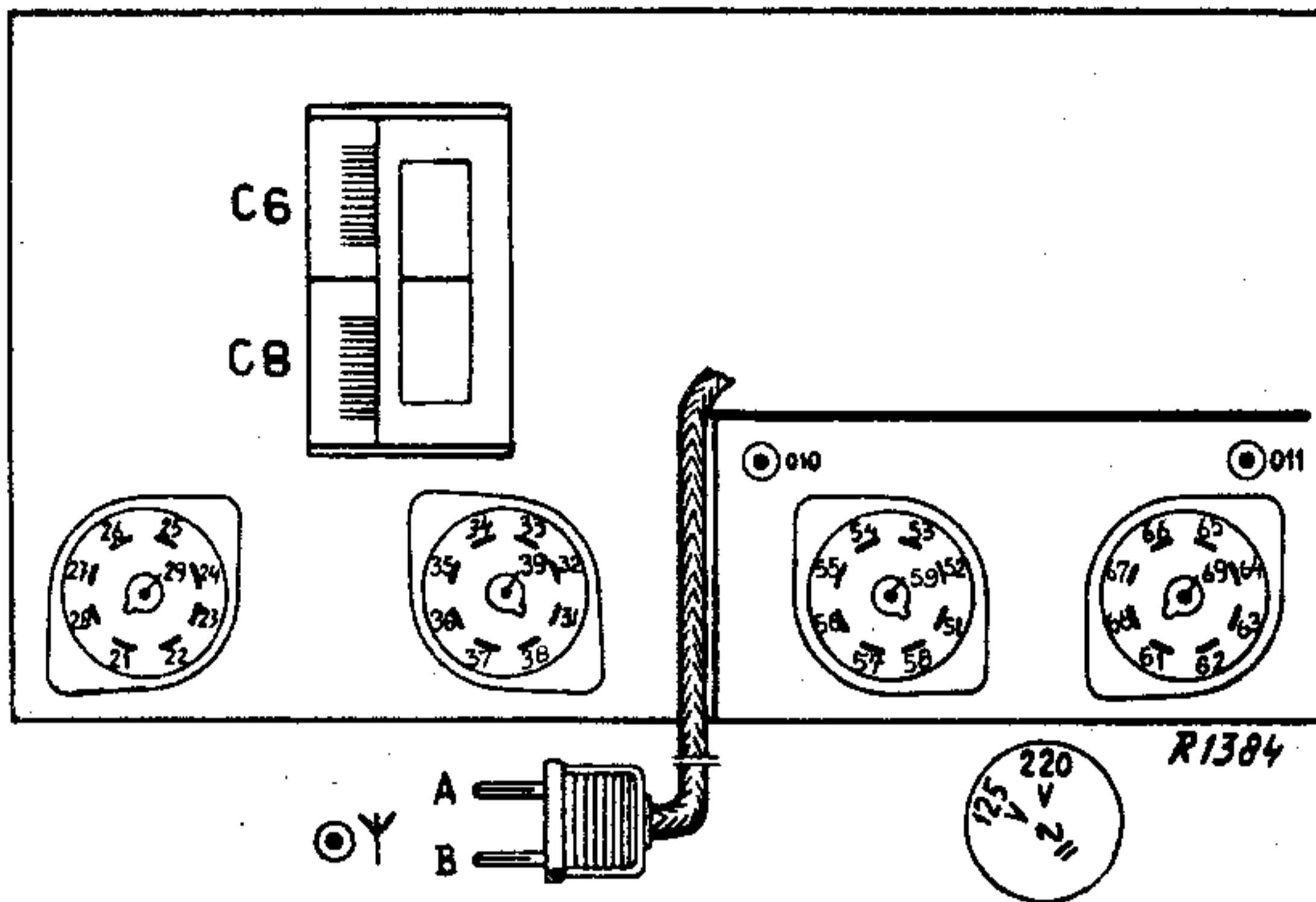


## LIST OF SPARE PARTS AND TOOLS

When ordering spare parts and tools it is always necessary to specify:

1. Code number
2. Description
3. Type number of the receiver

Fig.	Pos.	Description	Code number	Price
6	1	Cabinet (col. 041)	23 657	76.0
6	2	Loudspeaker cloth (p.m.)	06 601	71.0
6	3	Knob for volume control and tuning (041)	23 613	37.2
6	4	Knob for wave range switch (col. 041)	23 613	44.5
7	5	Scale	A1 897	47.1
		Scale Nederl.	A1 897	44.0
		„ (Norway)	A1 897	54.1
		„ (Sweden)	A1 897	53.2
		„ (Finland)	A1 897	55.1
		„ (South East Europe)	A1 897	52.1
		Bracket for scale	A1 478	423
		Back plate	A1 358	15.0
		Backplate (—U19)	A1 358	16.0
		Plate for mains connection U-19	A1 357	46.1
		Safety contact exec. —U19	A1 316	02.0
7	6	Valve holder (col 111)	49 231	31.2
7	7	Spring for driving drum	A1 975	10.2
7	8	Driving drum (col. 111)	23 687	26.3
7	9	Neonlamp with plate	A1 358	18.0
		Stop plate for wave range switch	A1 638	05.1
		Stop spring for wave range switch	A1 979	73.2
		Switch unit	49 545	67.2
7	11	Clamping ring for tuning spindle	A1 756	55.1
7	10	Plate for tension change over knob	A1 341	08.0
		Tension change over knob	23 613	351
		Circular paper for tension change over knob . . . . . 110—200 V	A1 873	45.0
		Circular paper for tension change over knob . . . . . 125—220 V	A1 873	83.0
		Fuse (—U32)	08 140	43.0
<b>LOUDSPEAKER TYPE 9668</b>				
		Clamping ring	25 871	80.0
		Paper ring	28 451	26.1
<b>TOOLS</b>				
		Service oscillator	GM 2880 or GM 2882	
		15° gauge (new execution) (2V 394 90.2)	09 992	80.0
		Transformer with high insulation	A9 862	15.0
		Centring gauge for loudspeaker	09 992	50.0



**R**

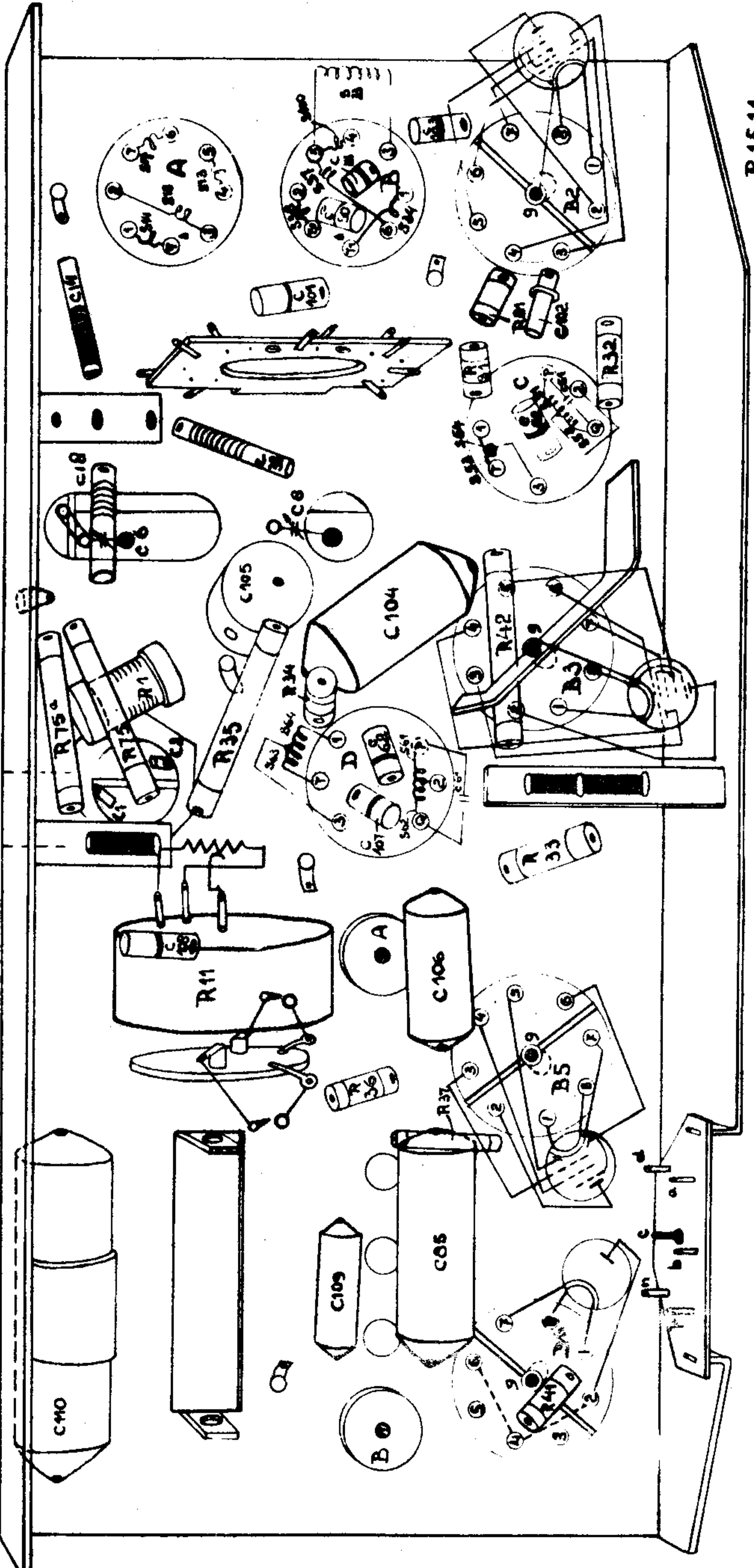
9	26	34	36	53	55	56												
	70	230	105	190	230	230												
10	23	24	25	27	33	35	38	61										
	330	150	340	150	110	340	130	130										
11	28	52	54/67	62/A	68/A													
	190	440	425	260	380													
12	22	32	37	39	57	C 6		21/58	31/51									
	235	135	10	10	10	M.W	K.W	10	10									
12																		

**C**

9	54	67	B							11	35	36						
	470	470	470								330	140						
10										12	33/53	62/67						
											180	360						

Volume control on max.

When measuring resistances, G2 of B5 (point 54) has to be connected with chassis.

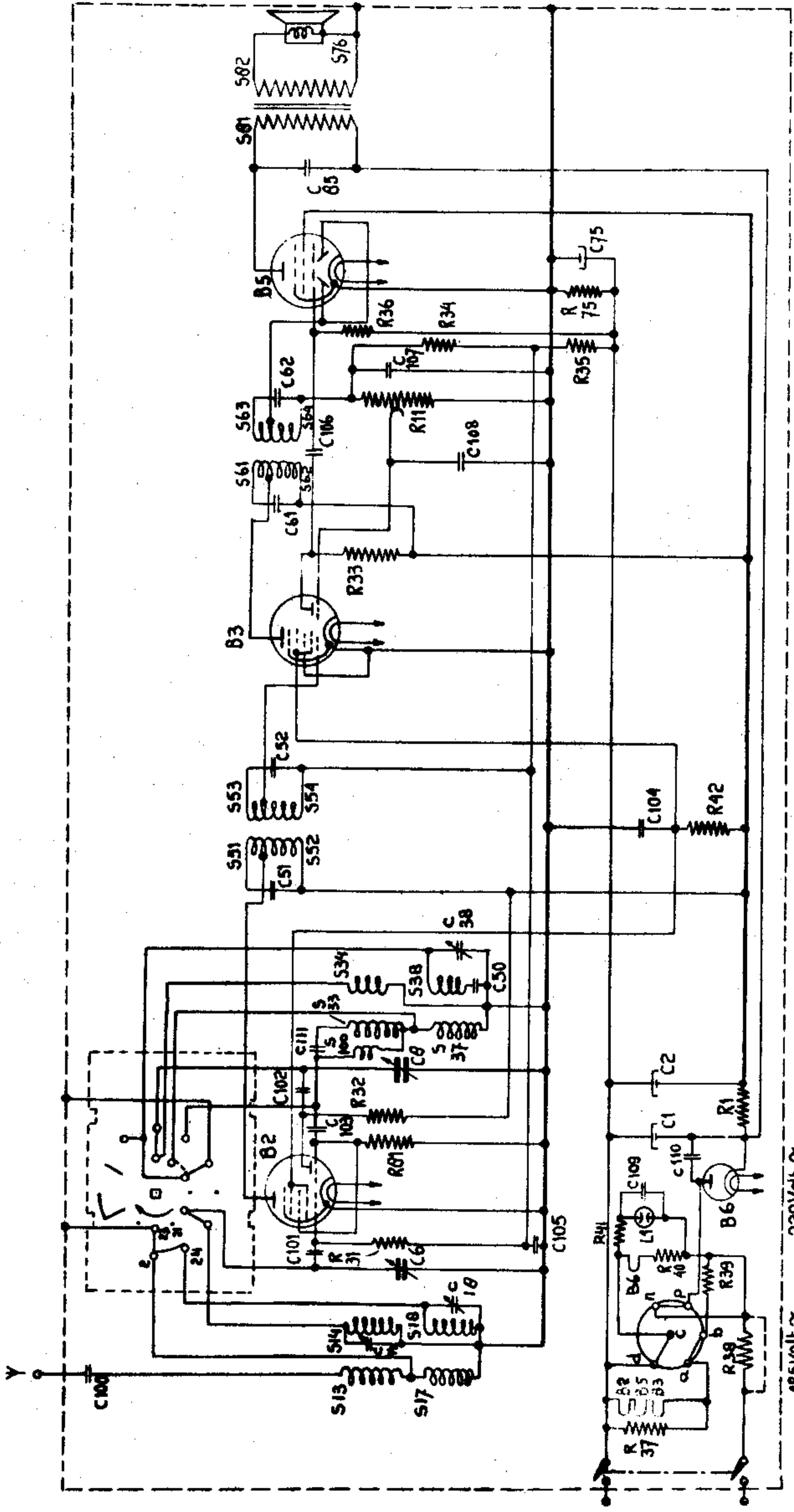


R1511

FIG. 2

# 204U

S:	13, 17, 14, 18,	100, 33, 37, 34, 38,	61, 62, 63, 64,	61, 62	76
C:	100, 101, 105, 109,	103, 1.2, 102 III, 0.110, 50,	61, 106, 108, 62, 107,	79	85.
R:	37, 38,	39, 31, 40, 41, 81, 32, 1	11, 35, 34, 36, 75,		



R 1510

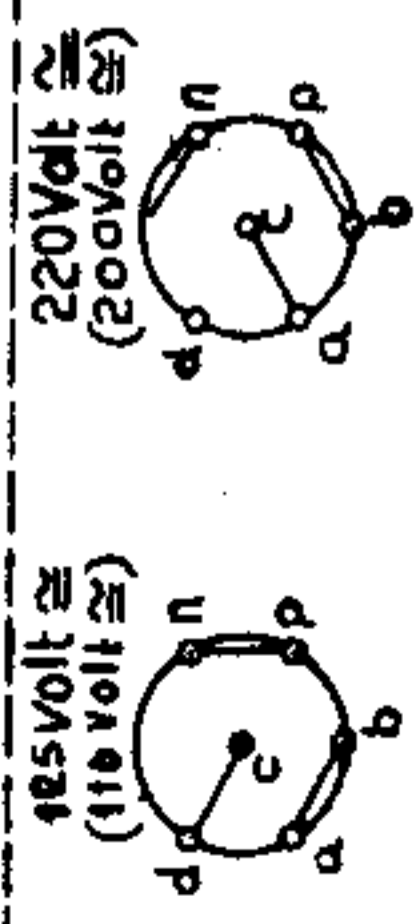


FIG. 1

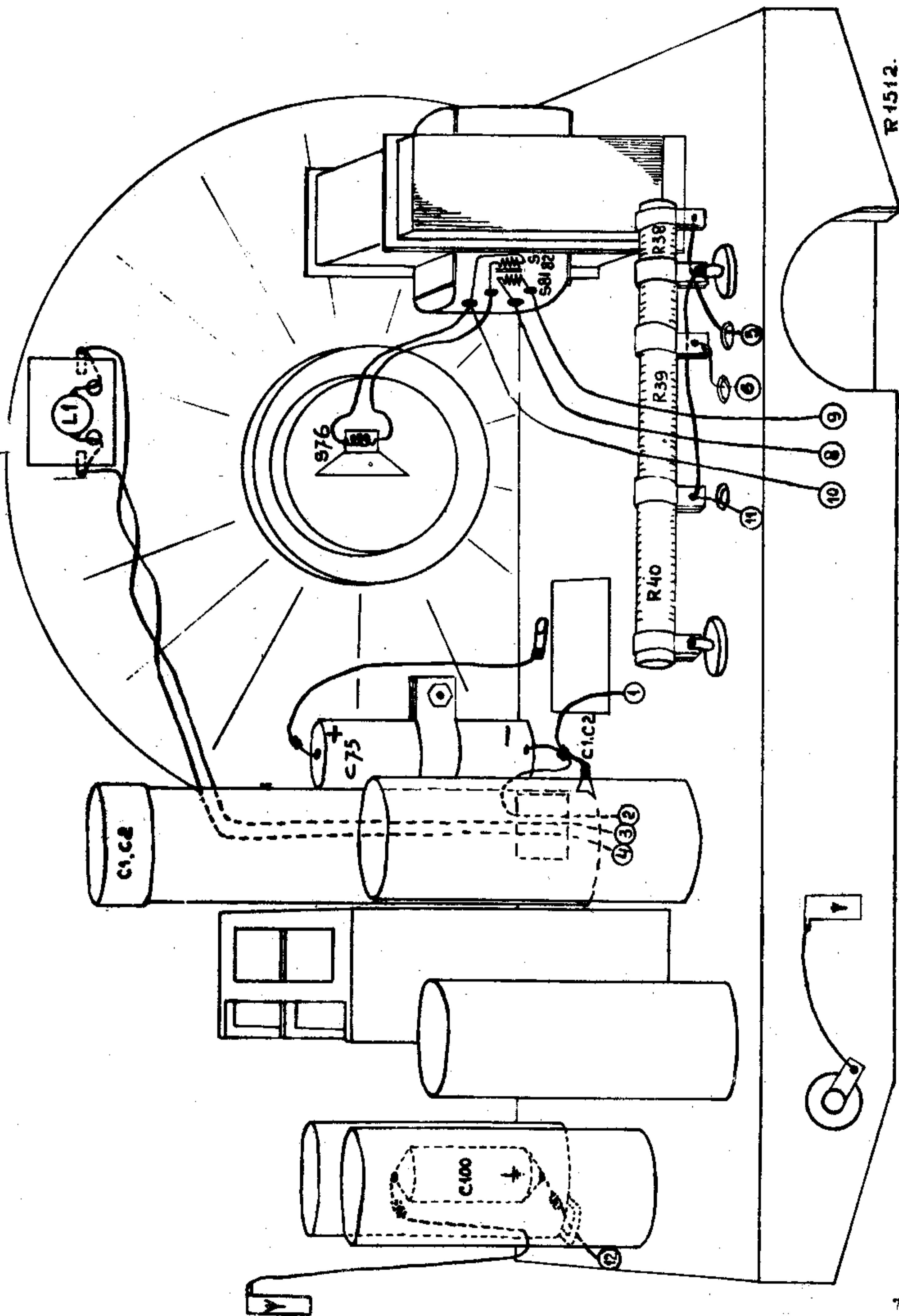
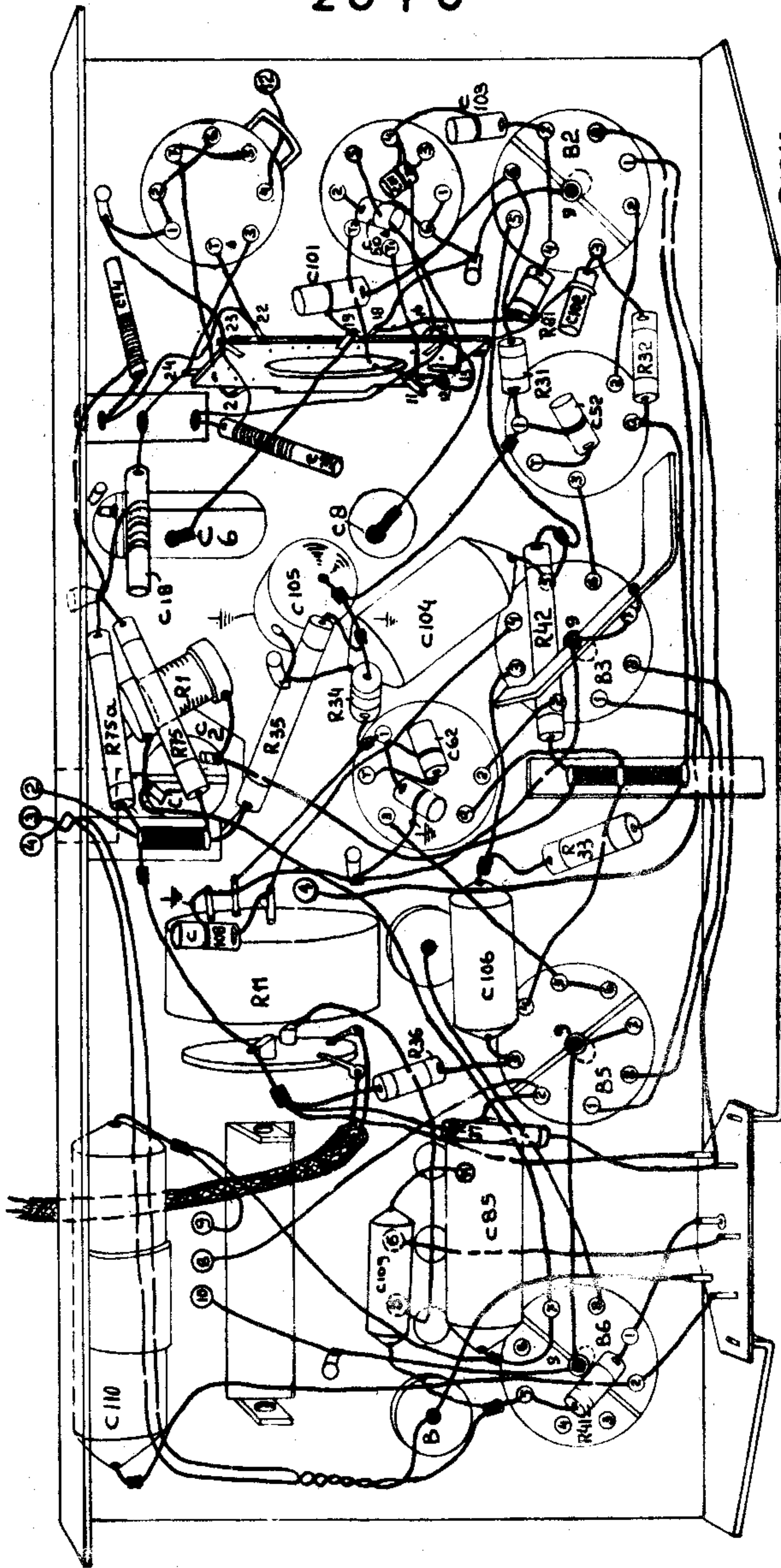


FIG. 3



S: 106. 108. 109. 85. 36. 33. 32.31.01. 102.101. 5048.100.103.  
 C: 110. 41. 16. 37. 36. 33. 75.750.35.34. 42. 105.104.6.18.8.38. 52.  
 R: 41. 16. 37. 36. 33. 75.750.35.34. 42. 105.104.6.18.8.38. 52. 32.31.01



R1513.

FIG. 4

204 U

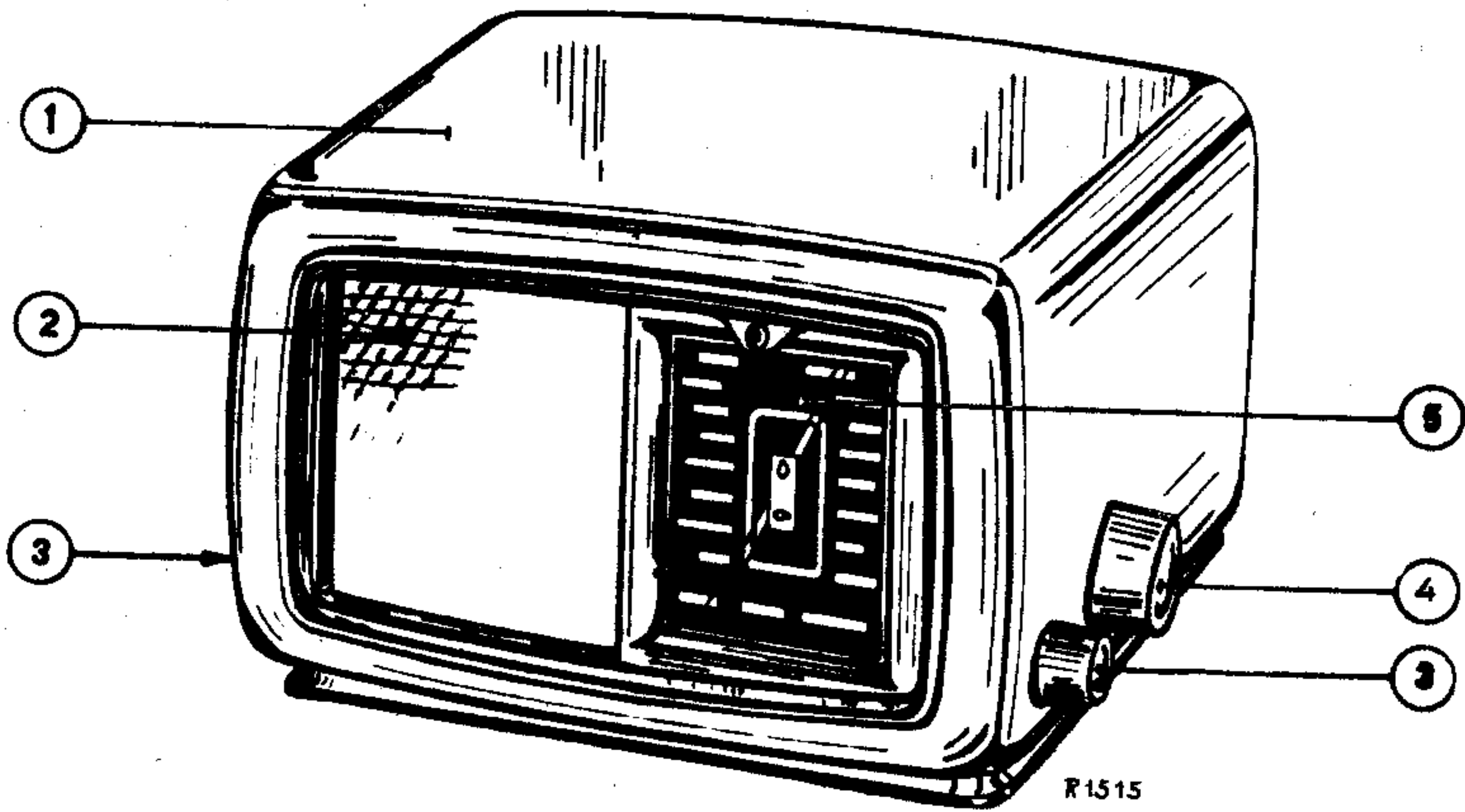


FIG. 6

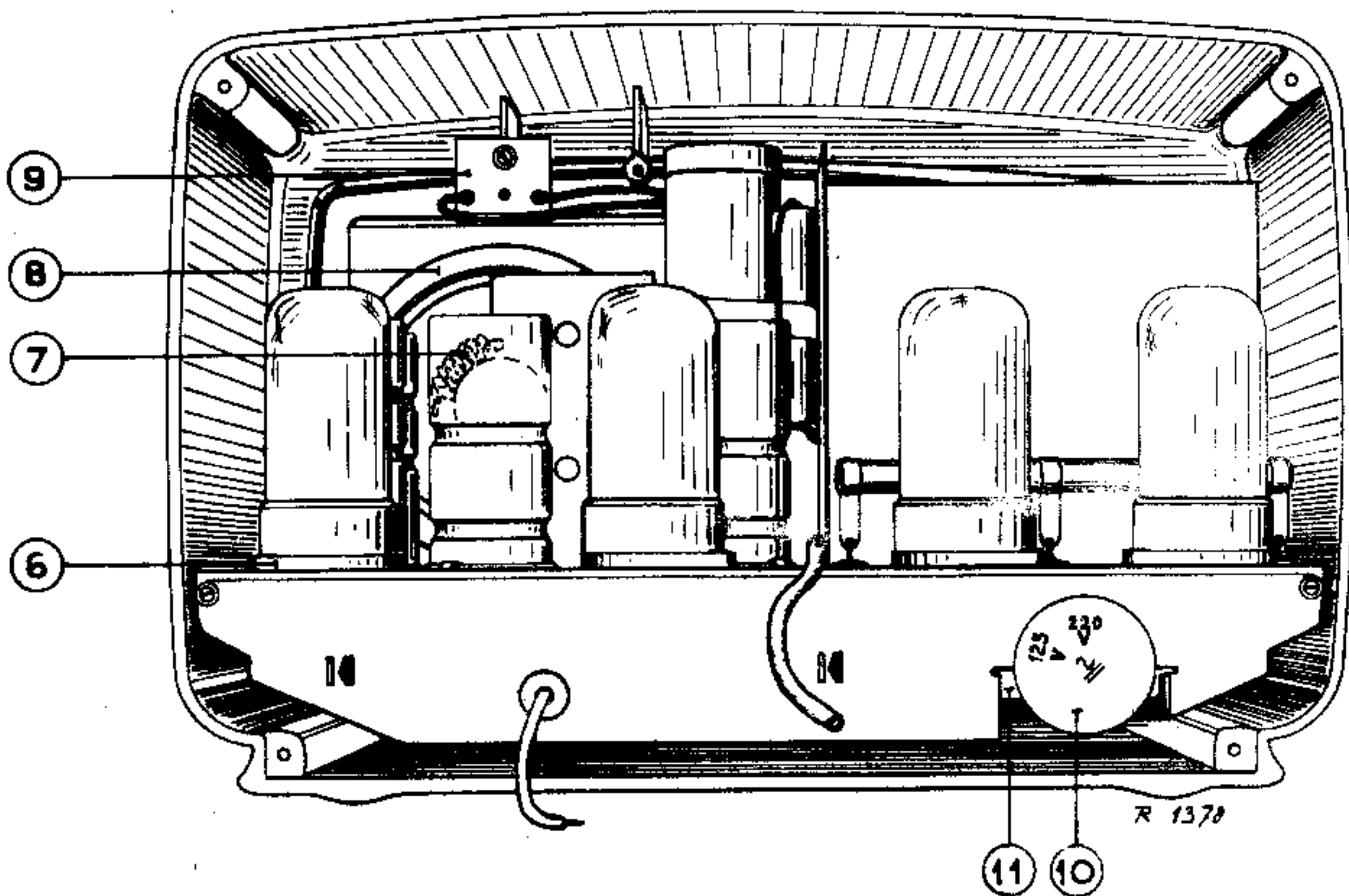


FIG. 7

204 U

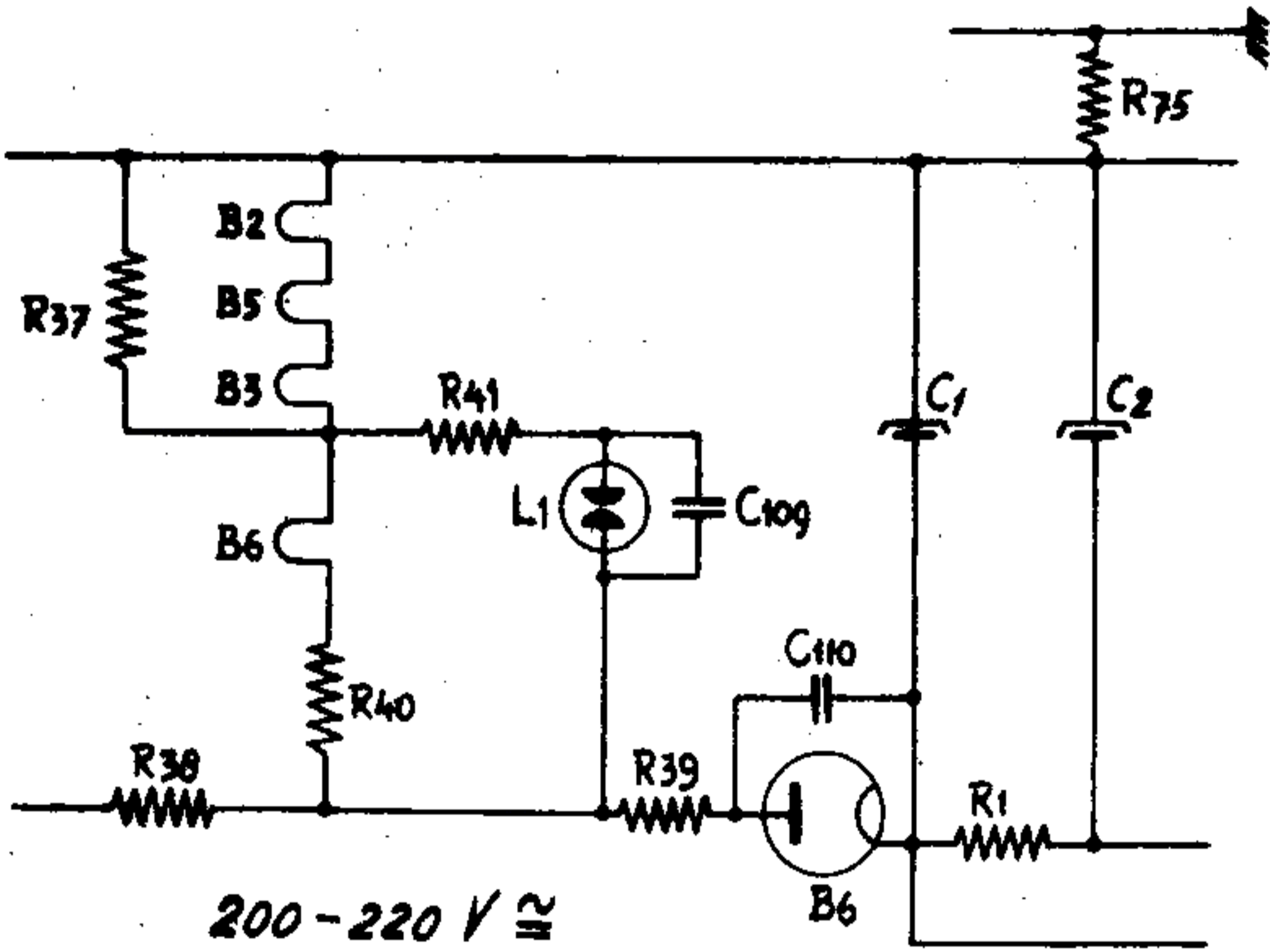
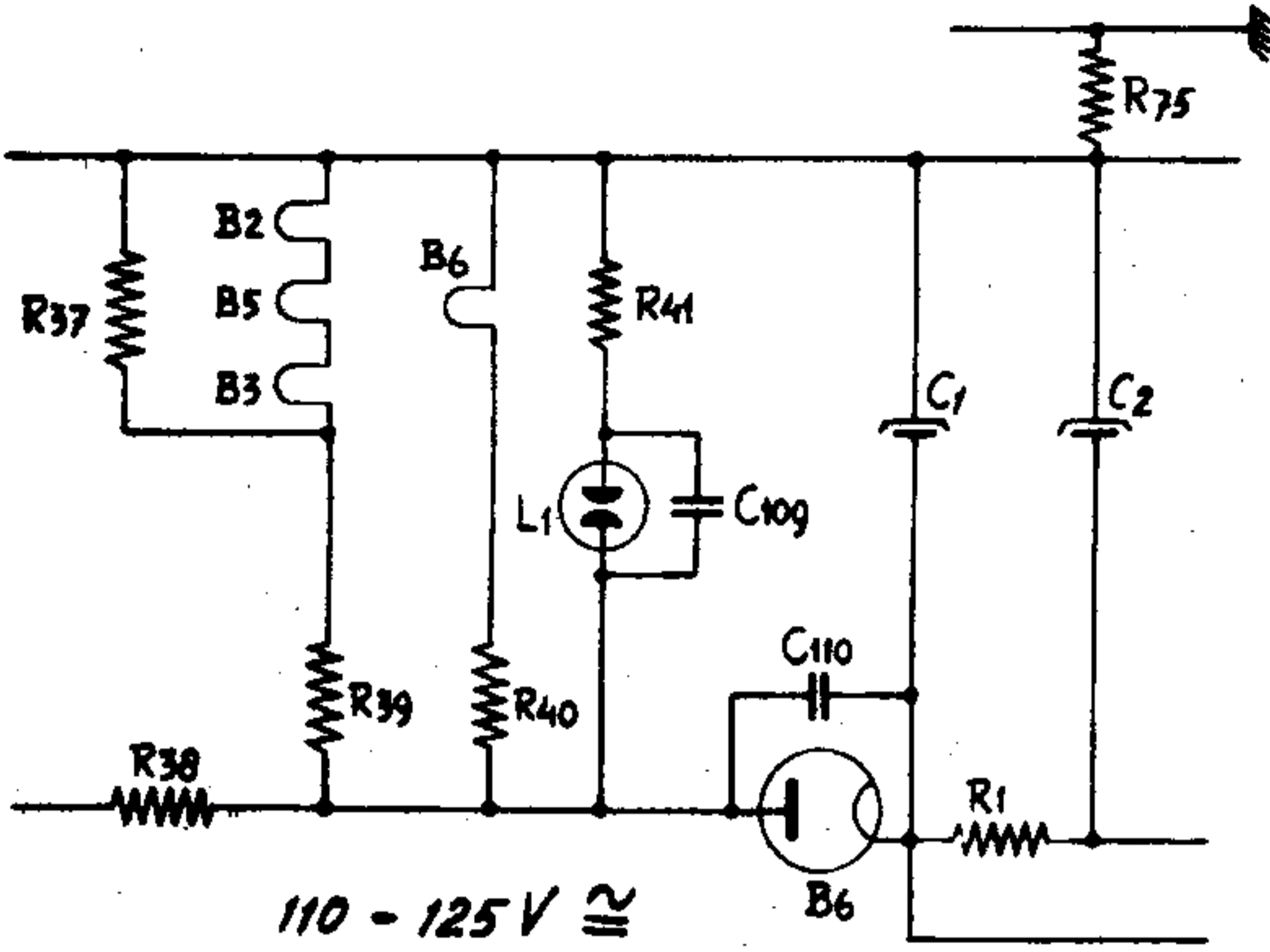


FIG. 8

R1393

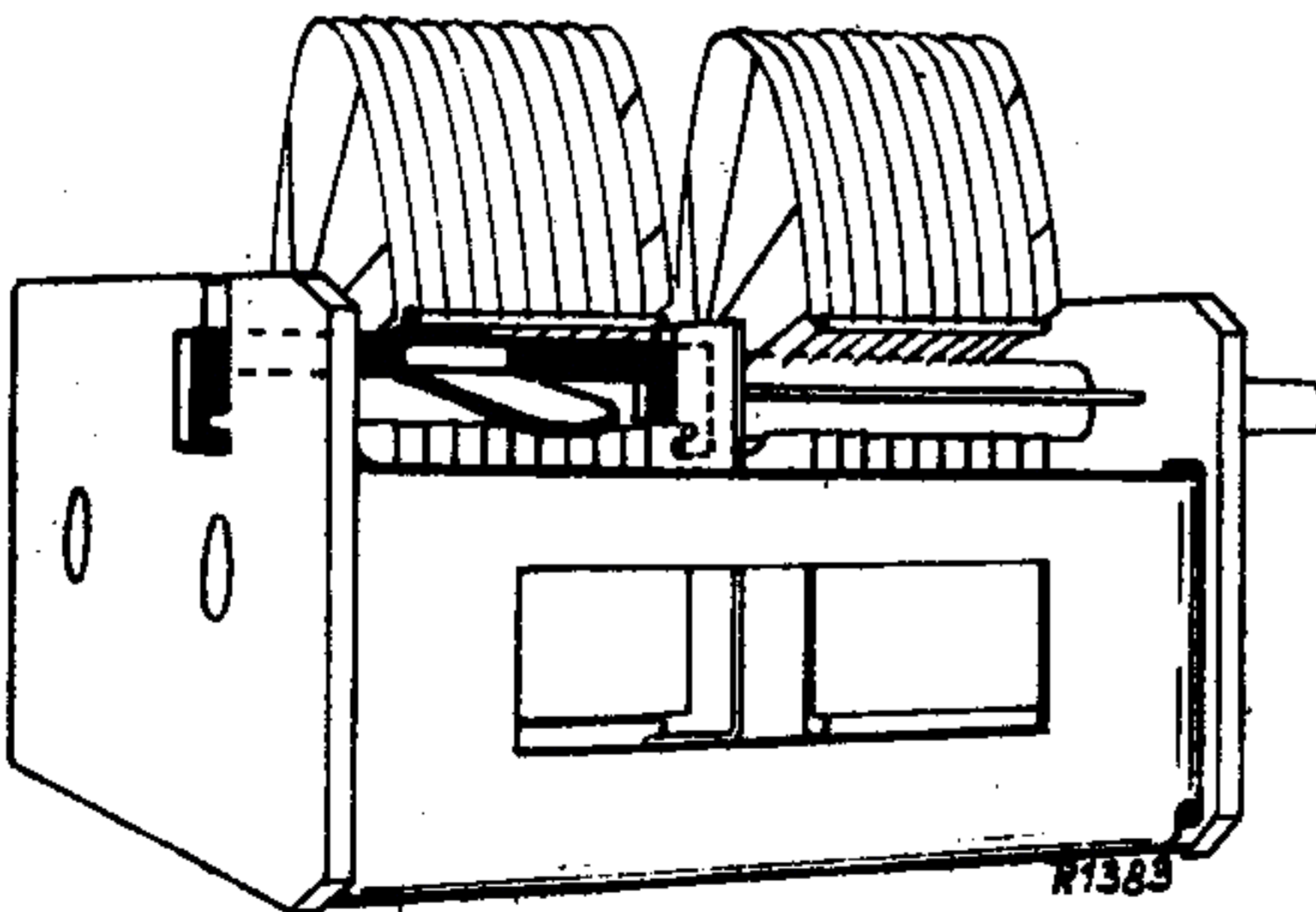
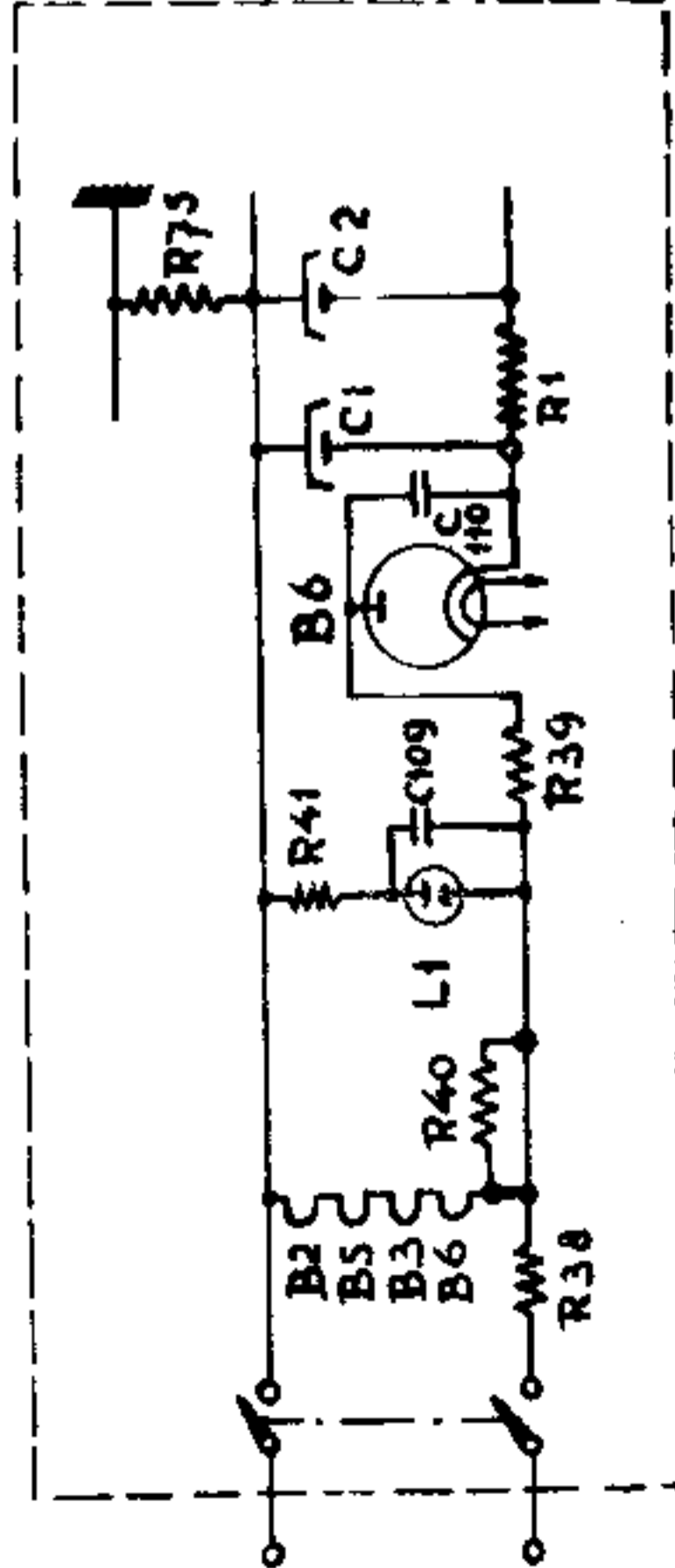
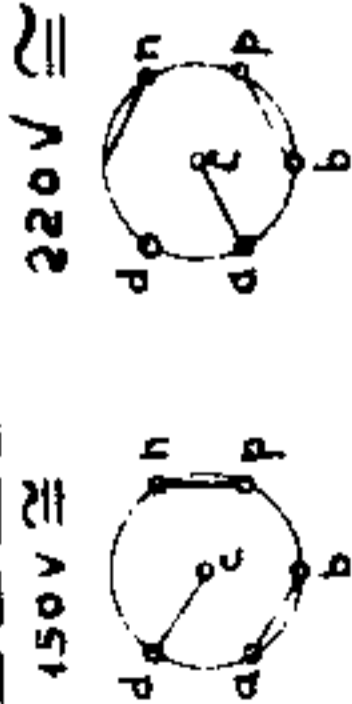
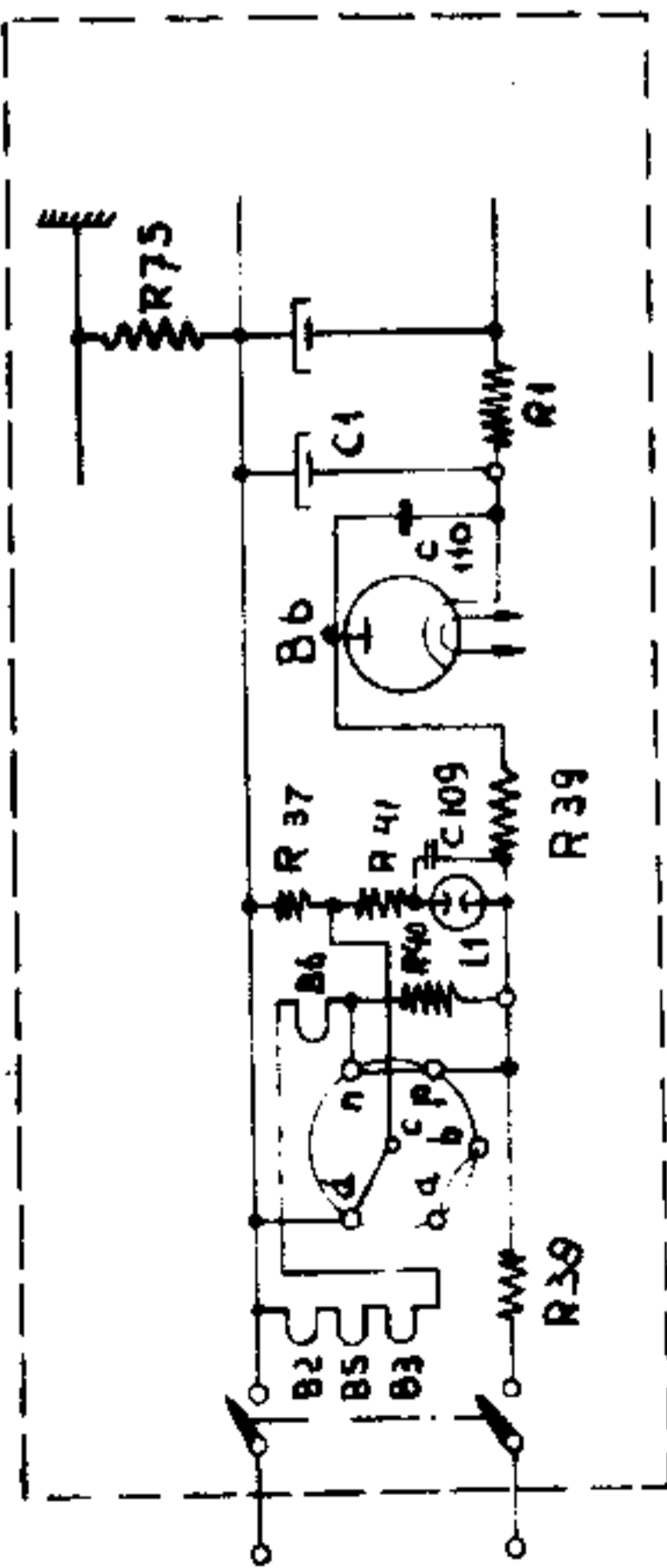
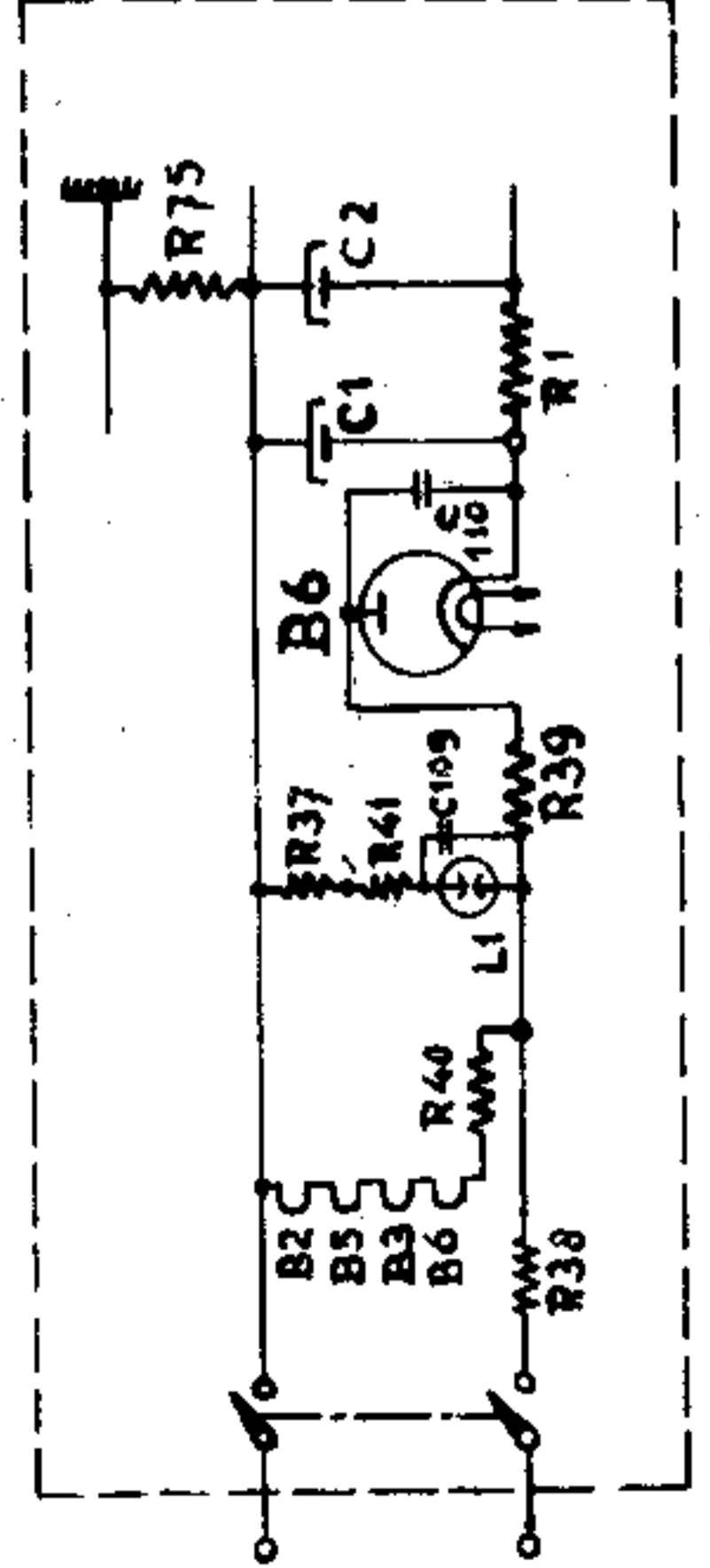


FIG. 5

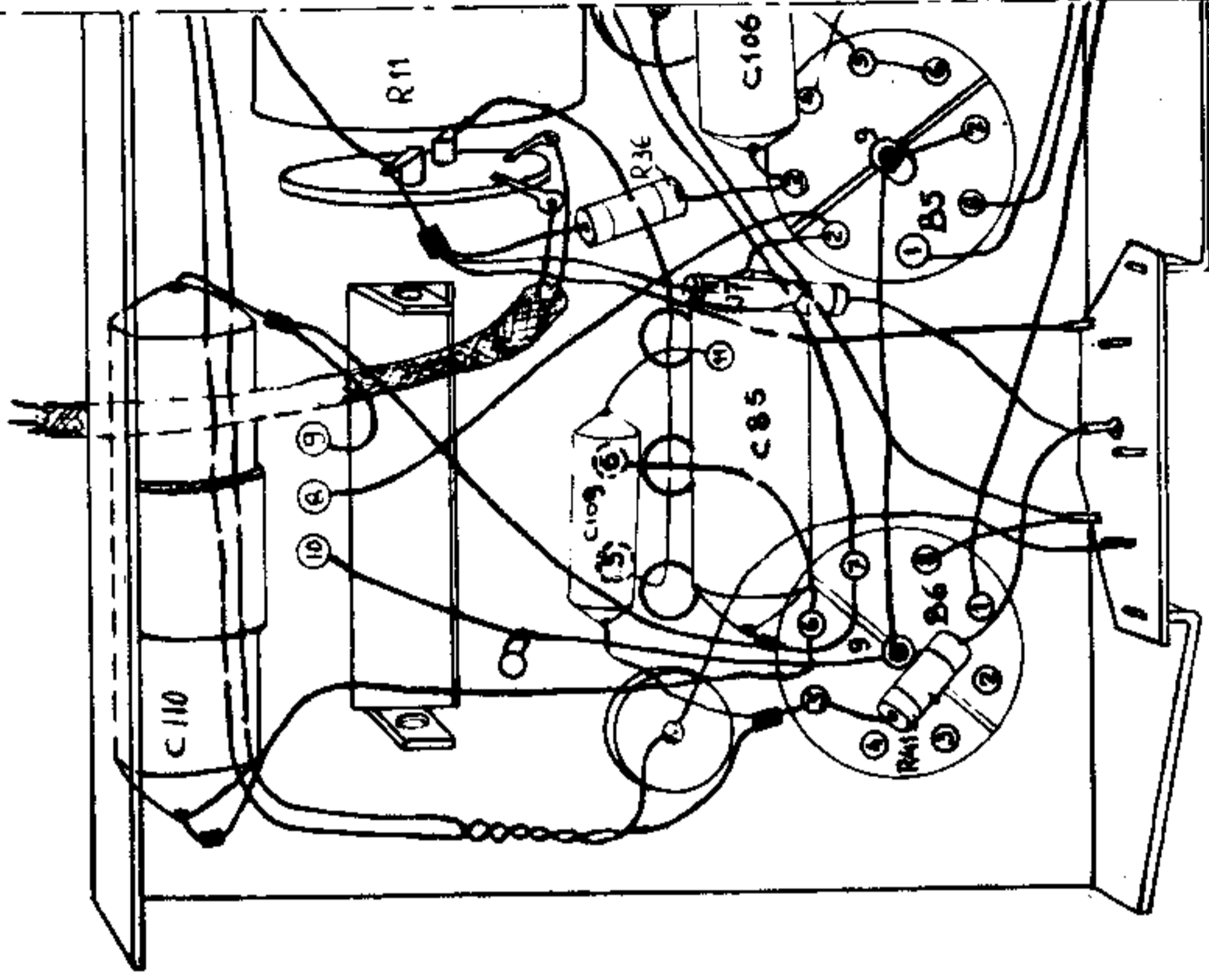


150 V  $\approx$



220 V  $\approx$

S	110	109	106
C	41	85	36
R	37	37	11



R1514

FIG. 9

