

**STRENG VERTROUWELIJK**

ALLEEN VOOR PHILIPS  
SERVICE HANDELAREN

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# PHILIPS

## SERVICE DOCUMENTATIE

voor het apparaat

# 206 A

VOOR AANSLUITING OP WISSELSTROOMNETTEN

**GOLFBEREIKEN:**

K.G. bereik: 16,7— 51 m ( 18— 5,88 Mc)

M.G. bereik: 186 — 585 m (1613—513 Kc)

L.G. bereik: 708 —2000 m ( 424—150 Kc)

**BEDIENINGSKNOPPEN** (van links naar rechts):  
Volumeregelaar, afstemming, golfbandschakelaar.

**LUIDSPREKER:** Type 9648.

**GEWICHT:** 6,35 Kg.

**AFMETINGEN:** breed:40 cm } De knoppen meegerekend.  
                                  hoog: 25 cm }  
                                  diep: 21 cm }

**BANDBREEDTE:**

M.F.:Vanaf rooster 1 van buis 1 bedraagt de bandbreedte (1:10) ongeveer 10 Kc.

**OVERALL BANDBREEDTE:**

M.G.-BEREIK: Vanaf de antenne-bus bedraagt de bandbreedte (1 : 10) ongeveer 9 Kc.

L.G.-BEREIK: Vanaf de antenne-bus bedraagt de bandbreedte (1 : 10) ongeveer 8 Kc.

**HET TRIMMEN VAN DE ONTVANGER**

De middenfrequentie is 473 Kc. De plaats van de trimmers is aangegeven in fig. 3 en 4.

**A. M.F.-KRINGEN.**

1. Golfengteschakelaar in stand M.G., variabele condensator op minimum en de volumeregelaar op maximum zetten.
2. Output meter, via een trimtransformator, op de luidspreker aansluiten.
3. Via een condensator van 33000 pF. een gemoduleerd M.F. signaal van 473 Kc. aan het eerste rooster (top) van L1 toevoeren.
4. S19-S25 met een condensator van 80 pF verstemmen (Fig. 4). S20, S21 op max. output afregelen.
5. Daarna S21 verstemmen en S19-S25 afregelen.
6. S17 verstemmen, S18 afregelen.
7. S18 verstemmen, S17 afregelen.
8. De spoelkernen verzegelen.

**B. H.F.- EN OSCILATOR KRINGEN**

**M.G.-BAND**

1. Golfbandschakelaar op middengolf plaatsen. Volumeregelaar op maximum plaatsen.
2. Outputmeter, via een trim-transformator op de luidspreker aansluiten.

3. 15° mal aanbrengen.
4. Gemoduleerd signaal van 1550 Kc. via de normale kunstantenne, aan het apparaat toevoeren.
5. C12 en C8 op maximum output trimmen.
6. Trimmers aflakken en 15° mal verwijderen.

**L.G.-BAND**

Het trimmen van deze band geschiedt op dezelfde wijze als bij de M.G.-band. De trimfrequentie bedraagt echter 400 Kc, en alleen C6 wordt afgeregeld, terwijl het apparaat op L.G. geschakeld is.

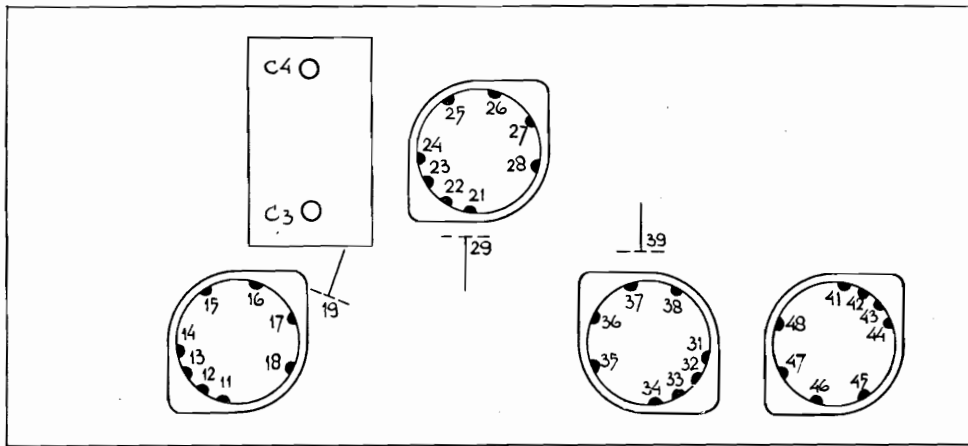
**SCHAAL INSTELLING.**

1. Gemoduleerd signaal van 857 Kc. via een normale kunstantenne aan het apparaat toevoeren.
2. De ontvanger nauwkeurig op deze frequentie afstemmen.
3. Wijzer langs het aandrijfkoord precies op 350 m. instellen.

**H.F.- EN OSCILLATOR SPOELN**

Deze zijn alle tesamen met de golfbandschakelaar tot één unit vereenigd. (Zie fig. 6). Reparaties zijn zeer gemakkelijk aan de spoeleneenheid uit te voeren.

MEETTABEL



R533

WEERSTAND

| 12 | 11  | 12/13 | 21  | 22/23 | 32/33 | 42/43 | 2 x Y |      | 3 x C3 |      |        | C4   |  |  |  |  |
|----|-----|-------|-----|-------|-------|-------|-------|------|--------|------|--------|------|--|--|--|--|
|    |     |       |     |       |       |       | K.G.  | M.G. | K.G.   | M.G. | L.G.   | K.G. |  |  |  |  |
|    | 10  | 10    | 10  | 10    | 10    | 10    | 90    | 360  | 15     | 155  | 400    | 10   |  |  |  |  |
| 11 | 14  | 18    | 24  | 25    | 28    | 34    | 38    | 45   | 48     | Y    | 2 x C4 |      |  |  |  |  |
|    |     |       |     |       |       |       |       |      |        | L.G. | M.G.   | L.G. |  |  |  |  |
|    | 285 | 450   | 460 | 450   | 450   | 385   | 400   | 275  | 270    | 245  | 500    | 500  |  |  |  |  |
| 10 | 15  | 16    | 17  | 27    |       |       |       |      |        |      |        |      |  |  |  |  |
|    | 200 | 150   | 260 | 110   |       |       |       |      |        |      |        |      |  |  |  |  |
| 9  | 19  | 29    | 35  | 36    | 39    |       |       |      |        |      |        |      |  |  |  |  |
|    | 55  | 50    | 220 | 135   | 130   |       |       |      |        |      |        |      |  |  |  |  |

CAPACITEIT

| 12 |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|----|-----|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|    |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 | 27  | 29  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    | 185 | 115 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9  |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |     |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

De nummering van de contacten komt overeen met de nummering in fig. 2 en 4. 9 is de topaansluiting.

**LIJST VAN ONDERDEELEN EN GEREEDSCHAPPEN**

Bij bestelling gelieve men steeds te vermelden:

1. Codenummer
2. Omschrijving
3. Type nummer van het apparaat

| Fig. | Pos. | Omschrijving                                       | Codenummer  | Prijs |
|------|------|----------------------------------------------------|-------------|-------|
| 5    | 1    | Kast (kleur 041) . . . . .                         | 23 661 06.0 |       |
| 5    | 2    | Luidsprekerdoek . . . . .                          | 06 601 29.0 |       |
| 5    | 3    | Knop (kleur 041) . . . . .                         | 23 612 54.1 |       |
| 5    | 4    | Knop (kleur 041) . . . . .                         | 23 610 90.1 |       |
| 5    | 5    | Stationschaal . . . . .                            | A1 893 15.1 |       |
| 5    | 6    | Wijzer . . . . .                                   | A1 349 28.0 |       |
|      |      | Schakelsegment . . . . .                           | 49 543 63.1 |       |
|      |      | Plaat van de spanningsomschakelaar . . . . .       | A1 355 01.0 |       |
|      |      | Achterwand . . . . .                               | A1 341 81.0 |       |
|      |      | Merkschijf . . . . .                               | 28 713 27.1 |       |
|      |      | As (afstemming) . . . . .                          | A1 436 84.2 |       |
|      |      | Trekveer in de aandrijftrommel . . . . .           | A1 975 10.2 |       |
|      |      | Verlichtingslamphouder . . . . .                   | 08 515 27.1 |       |
|      |      | Bout voor luidsprekerbevestiging . . . . .         | 07 558 17.0 |       |
|      |      | Gummitulle voor de variabele condensator . . . . . | 28 725 52.0 |       |
|      |      | Ring (14 mm) . . . . .                             | 07 027 13.0 |       |
|      |      | Ring (10 mm) . . . . .                             | 28 453 96.0 |       |
|      |      | <b>LUIDSPREKER</b><br>Type 9648                    |             |       |
|      |      | Conus met spoeltje . . . . .                       | 28 220 69.0 |       |
|      |      | Felsring . . . . .                                 | 25 873 41.0 |       |
|      |      | Papieren ring . . . . .                            | 28 452 69.0 |       |
|      |      | <b>GEREEDSCHAPPEN</b>                              |             |       |
|      |      | Universeel meetapparaat . . . . .                  | GM 4256     |       |
|      |      | Service oscillator . . . . .                       | GM 2880F    |       |
|      |      | Trimdopsleutel 6 mm . . . . .                      | 23 685 66.0 |       |
|      |      | 15° mal . . . . .                                  | 09 992 44.0 |       |
|      |      | Geisoleerde schroevendraaier . . . . .             | M646 38.2   |       |

**SPOELEN**

|     | Weerstand | Codenummer  | Prijs |
|-----|-----------|-------------|-------|
| S1  |           |             |       |
| S2  | 480 Ohm   | A1 055 52.1 |       |
| S3  | <1 Ohm    |             |       |
| S4  | <1 Ohm    |             |       |
| S5  | 2 Ohm     |             |       |
| S6  | <1 Ohm    | A1 000 59.0 |       |
| S7  | 23 Ohm    |             |       |
| S8  | 4 Ohm     | A1 000 56.0 |       |
| S9  | 170 Ohm   |             |       |
| S10 | 45 Ohm    |             |       |
| S11 | <1 Ohm    |             |       |
| S12 | 1 Ohm     | A1 000 55.0 |       |
| S13 | 7 Ohm     |             |       |
| S14 | 2 Ohm     | A1 000 58.0 |       |
| S15 | 16 Ohm    |             |       |
| S16 | 2.5 Ohm   | A1 000 57.0 |       |
| S17 | 7 Ohm     |             |       |
| S18 | 7 Ohm     | A1 035 83.0 |       |
| C17 | 103 pF    |             |       |
| C18 | 97 pF     |             |       |
| S19 | 3 Ohm     |             |       |
| S25 | 4 Ohm     | 28 573 90.1 |       |
| S20 | —         |             |       |
| S21 | 3.5 Ohm   |             |       |
| C22 | 103 pF    |             |       |
| C23 | 103 pF    | A1 089 73.0 |       |
| S22 | 700 Ohm   |             |       |
| S23 | <1 Ohm    | 28 220 69.0 |       |
| S24 | 2 Ohm     |             |       |

**WEERSTANDEN**

|     | Waarde     | Codenummer  | Prijs |
|-----|------------|-------------|-------|
| R1  | 0.47 M.Ohm | 49 375 56.0 |       |
| R2  | 270 Ohm    | 49 375 17.0 |       |
| R3  | 47.000 Ohm | 49 375 44.0 |       |
| R4  | 1.800 Ohm  | 49 356 30.0 |       |
| R5  | 82 Ohm     | 49 375 11.0 |       |
| R6  | 1.000 Ohm  | 49 375 77.0 |       |
| R7  | 27.000 Ohm | 49 377 41.0 |       |
| R8  | 1.200 Ohm  | 49 375 25.0 |       |
| R9  | 68.000 Ohm | 49 376 46.0 |       |
| R10 | 47.000 Ohm | 49 375 44.0 |       |
| R11 | 0.5 M.Ohm  | 49 500 11.0 |       |
| R12 | 1 M.Ohm    | 49 375 60.0 |       |
| R13 | 1.5 M.Ohm  | 49 375 62.0 |       |
| R14 | 220 Ohm    | 49 376 16.0 |       |
| R15 | 470 Ohm    | 49 377 20.0 |       |
| R17 | 1.8 M.Ohm  | 49 375 63.0 |       |
| R18 | 1 M.Ohm    | 49 375 60.0 |       |
| R19 | 39.000 Ohm | 49 377 43.0 |       |
| R20 | 33.000 Ohm | 49 377 42.0 |       |
| R21 | 2.7 M.Ohm  | 49 376 65.0 |       |
| R22 | 2.7 M.Ohm  | 49 376 65.0 |       |

De bedrading van het spoelensysteem is in fig. 6 aangegeven.

**CONDENSATOREN**

|     | Waarde      | Codenummer    | Prijs |
|-----|-------------|---------------|-------|
| C1  | 50 $\mu$ F  | 49 029 01.0   |       |
| C2  | 15 $\mu$ F  |               |       |
| C3  | 11-490 pF   | 28 212 52.0   |       |
| C4  | 11-490 pF   |               |       |
| C5  | 39 pF       | 49 055 23.0   |       |
| C6  | 32 pF       | 28 212 06.1   |       |
| C7  | 100 pF      | 49 055 28.0   |       |
| C8  | 2.5-20 pF   | 49 005 03.0   |       |
| C9  | 47.000 pF   | 49 127 61.0   |       |
| C10 | 56 pF       | 49 055 25.0   |       |
| C11 | 470 pF      | 49 055 53.0   |       |
| C12 | 2.5-20 pF   | 49 005 03.0   |       |
| C13 | 200 pF      | 28 212 08.1   |       |
| C14 | 418 pF      | 49 081 54.0   |       |
| C15 | 39 pF       | 49 055 23.0   |       |
| C17 | 103 pF      | zie „Spoelen” |       |
| C18 | 97 pF       |               |       |
| C19 | 47.000 pF   | 49 127 61.0   |       |
| C20 | 47.000 pF   | 49 127 61.0   |       |
| C21 | 47.000 pF   | 49 128 61.0   |       |
| C22 | 103 $\mu$ F | zie „Spoelen” |       |
| C23 | 103 pF      |               |       |
| C24 | 25 $\mu$ F  | 28 182 24.1   |       |
| C25 | 3.9 pF      | 49 055 11.0   |       |
| C26 | 22.000 pF   | 49 127 59.0   |       |
| C27 | 100 pF      | 49 055 28.0   |       |
| C28 | 56 pF       | 49 055 25.0   |       |
| C29 | 4.700 pF    | 49 126 54.0   |       |
| C30 | 18 pF       | 49 055 19.0   |       |
| C31 | 10 pF       | 49 055 16.0   |       |
| C32 | 47.000 pF   | 49 128 61.0   |       |
| C33 | 0.1 $\mu$ F | 49 127 63.0   |       |
| C34 | 47.000 pF   | 49 127 22.0   |       |

**BUIZEN**

| L1    | L2   | L3    | L4   |
|-------|------|-------|------|
| ECH 3 | EF 9 | EBL 1 | AZ 1 |

Schaalverlichtingslampje 8045 D-00.

**STROOMEN EN SPANNINGEN**

|    | Va         | Vg2(4) | Vcath | Ia  | Ig2(4) |
|----|------------|--------|-------|-----|--------|
| L1 | triode 110 | —      | —     | 2.8 | 1.9    |
|    | hexode236  | 97     | 2.4   | 3.3 | —      |
| L2 | 230        | 120    | 25    | 5.5 | 1.6    |
| L3 | 265        | 240    | 22    | 24  | 3.4    |
|    | Volt       | Volt   | Volt  | mA  | mA     |

VC<sub>1</sub> = 276 V  
VC<sub>2</sub> = 238 V

Ia totaal = 46 mA  
Primair verbruik 43 Watt.

5012

|    |                       |                    |        |      |              |                        |     |                  |                            |     |     |
|----|-----------------------|--------------------|--------|------|--------------|------------------------|-----|------------------|----------------------------|-----|-----|
| S: | 1.2.3.4.5.6.7.8.9.10. | 11.12.13.14.15.16. | 17.    | 18.  | 19.25.20.21. | 22.23.24.              |     |                  |                            |     |     |
| C: | 5.15.                 | 31                 | 3.7.8. | 1.9. | 2.10.30.6.   | 4.11.12.13.14. 32, 17. | 18. | 19.20.33, 24.22. | 34,23,25,26,27,28.         | 24. | 29. |
| R: | 1.                    | 2.                 | 3.4.   | 7.   | 19,20,       | 5.                     | 17, | 8.9.             | 21,22, 10.11.12.13.14.15,6 | 18. |     |

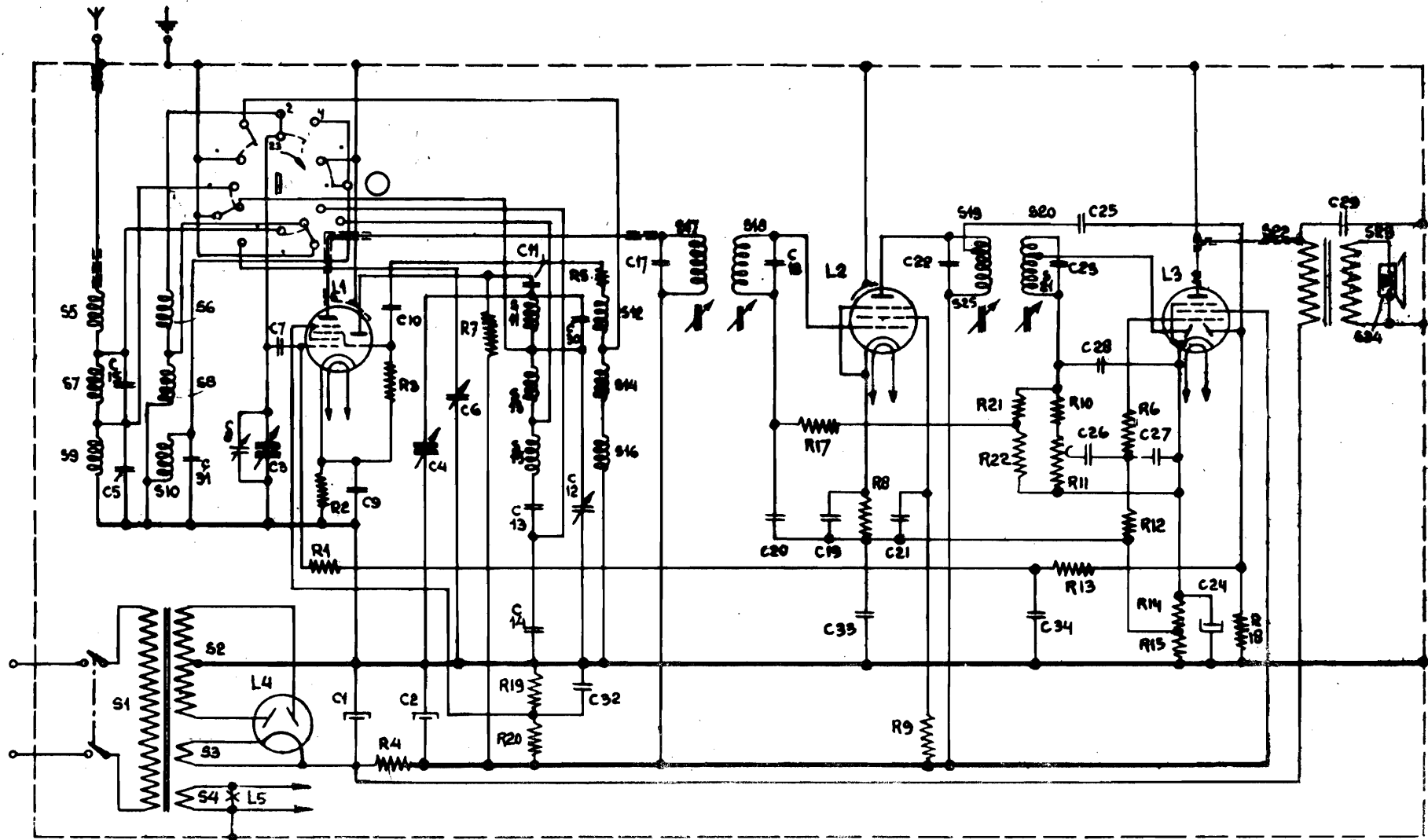


fig.1

R527

206A

5013

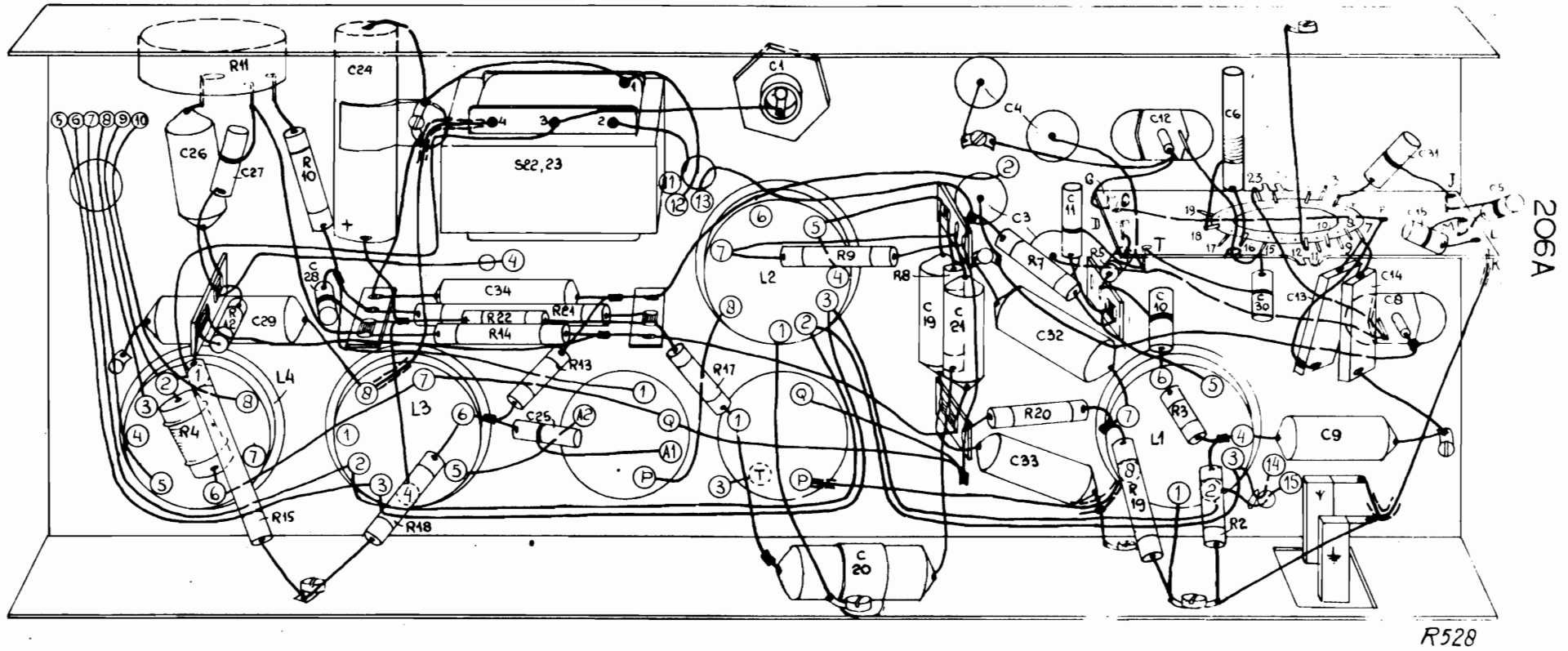
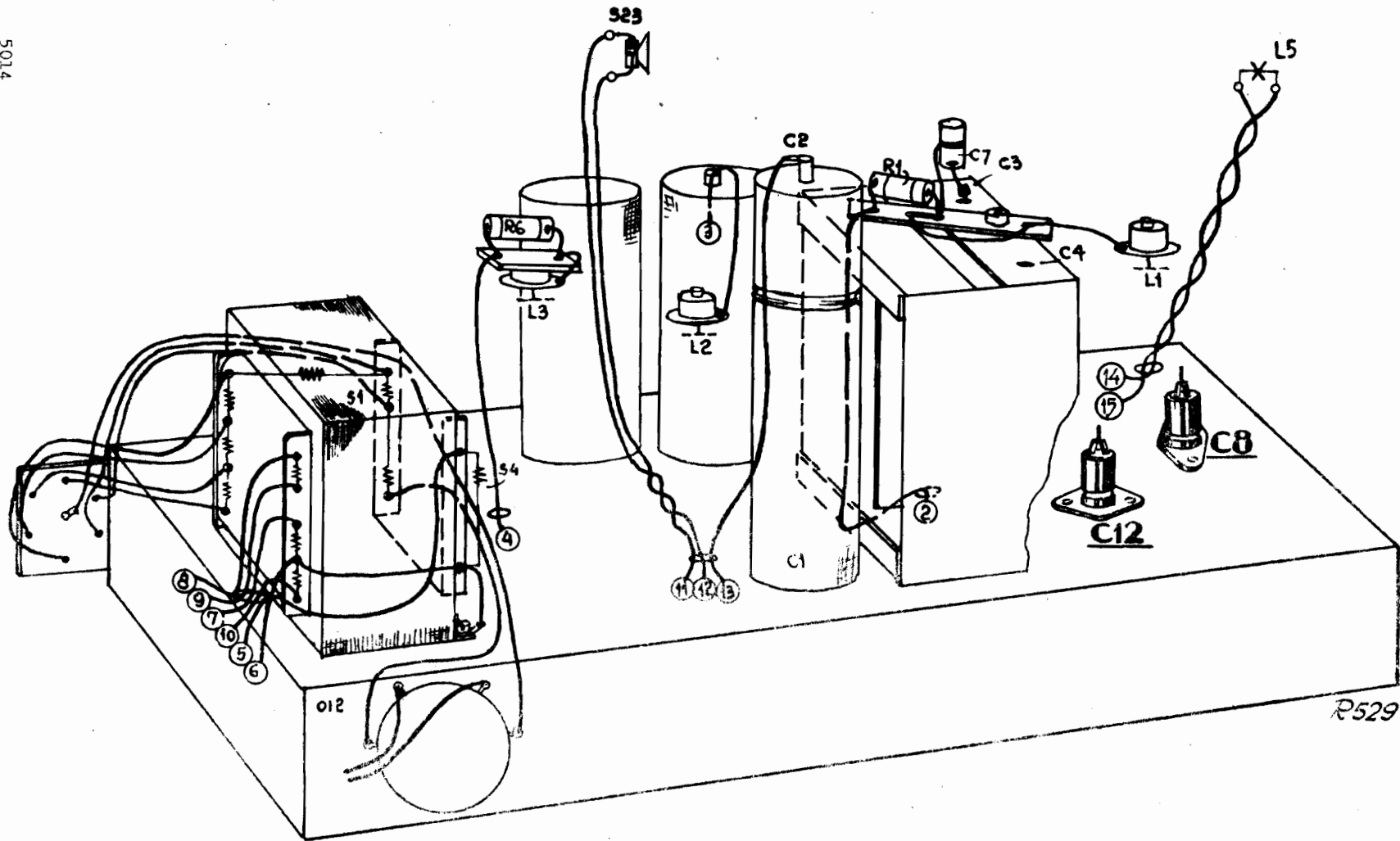


fig.2

5014

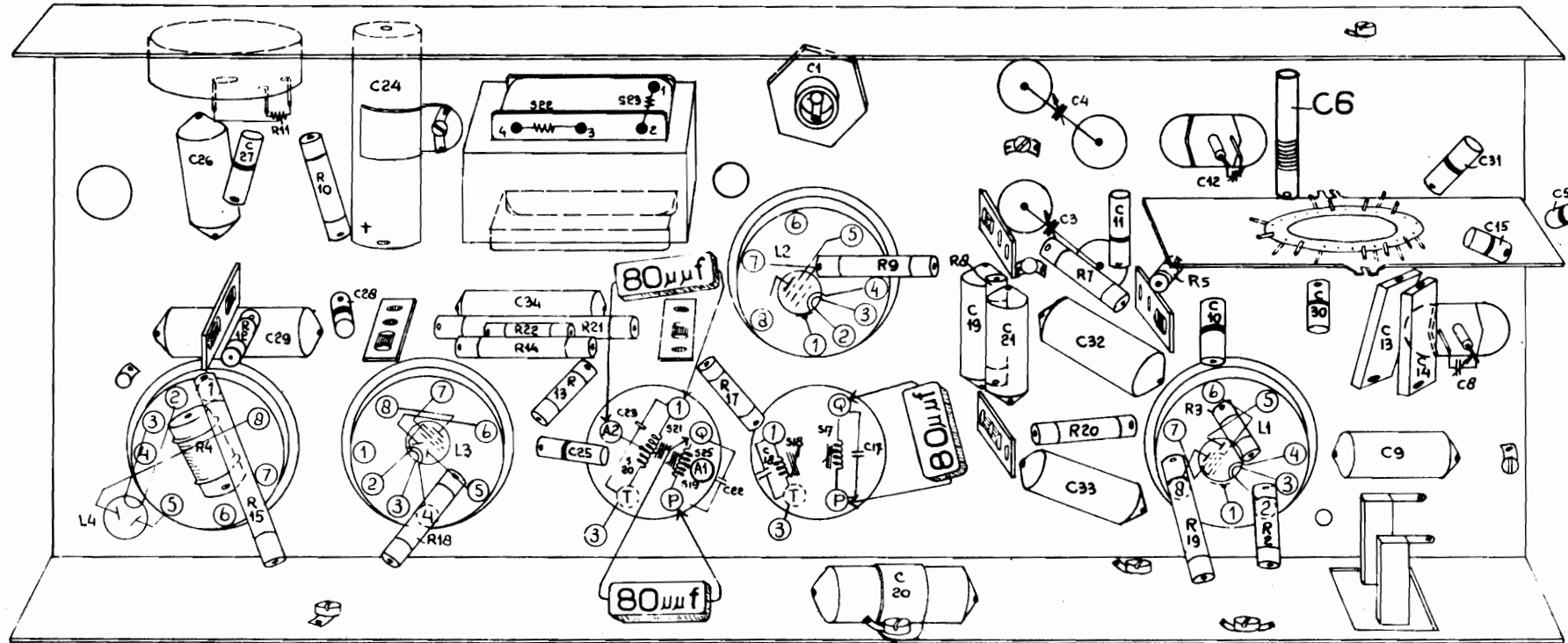


206A

fig.3

5015

|   |     |             |         |     |         |         |     |        |         |         |                   |                     |         |     |               |        |   |
|---|-----|-------------|---------|-----|---------|---------|-----|--------|---------|---------|-------------------|---------------------|---------|-----|---------------|--------|---|
| S |     |             |         |     |         |         |     |        |         |         | 22,               | 23, 20, 21, 19, 25, | 18, 17, |     |               |        |   |
| C | 26, | 27, 29,     | 28, 24, |     | 34,     | 25, 23, | 22, | 18, 1, | 17, 20, | 19, 21, | 33, 3, 4, 32, 11, | 10, 12,             | 6,      | 30, | 9, 13, 14, 8, | 31, 15 | 5 |
| R | 4,  | 12, 15, 11, | 10,     | 18, | 22, 14, | 13, 21, | 17, |        | 9,      | 8,      | 20, 7,            | 19, 35,             | 2,      |     |               |        |   |



206A

R530

fig4



206A

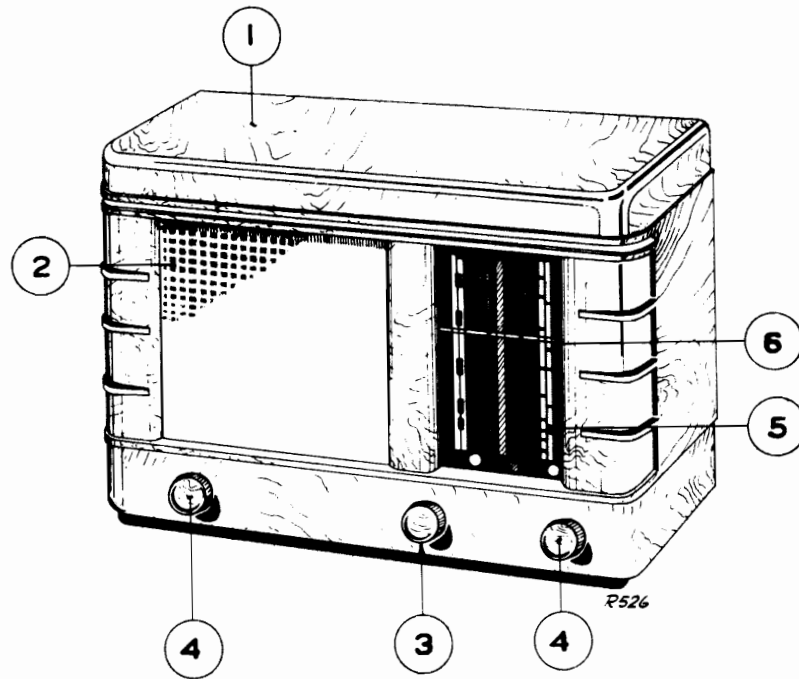


fig.5

206 A

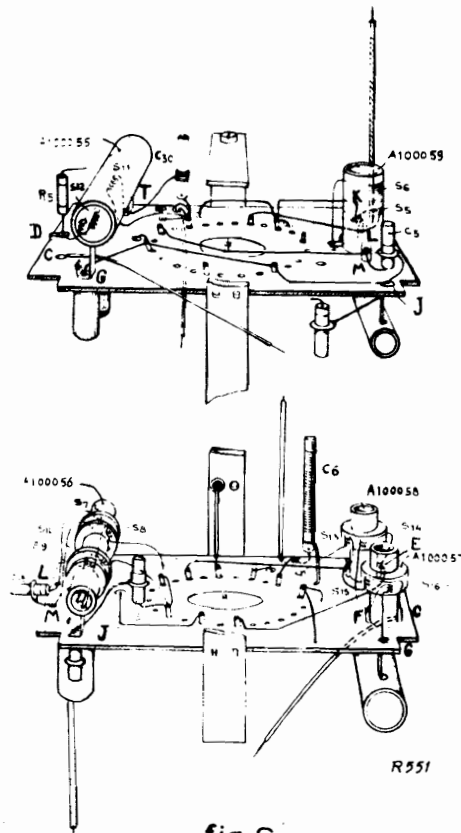


fig.6

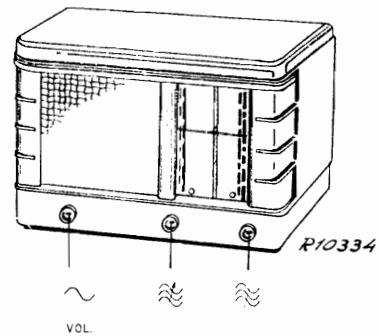
16,7-51 m  
136-585 m  
708-2000 m

473 kc/s  
A-13 464 kc/s  
A-19 468 kc/s

9648 Z = 2,5 Ω  
A-12 9678 Z = 5 Ω

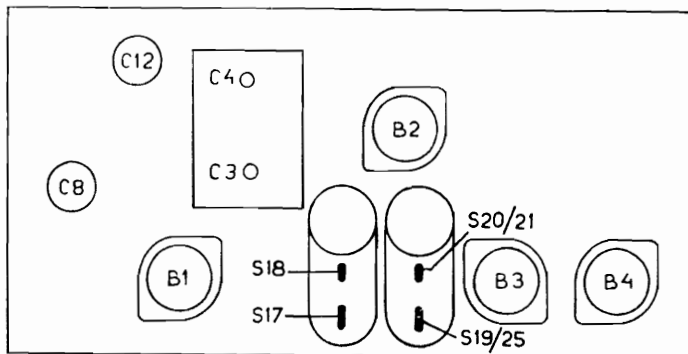
110 V, 125 V, 145 V  
200 V, 220 V, 245 V

45 W



| 16,7-51 m                                                                                                                                                                                                                        | 136-585 m I                                                                                                                     | 136-585 m III                                                                                                               | 136-585 m V                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| VOL max.<br>473 kc/s-33000 pF-g1B1<br>464 kc/s (A-13)<br>468 kc/s (A-19)<br>S19,S25-82 pF<br>S20,S21 max.<br>S19,S25<br>S20,S21-82 pF<br>S19,S25 max.<br>S20,S21<br>S17-82 pF<br>S18 max.<br>S17<br>S18-82 pF<br>S17 max.<br>S18 | VOL max.<br>C3, C4 ± 15°<br>1550 kc/s-Υ<br>C12, C18 max.<br>708-2000 m III<br>VOL max.<br>C3, C4 ± 15°<br>400 kc/s-Υ<br>C6 max. | max.<br>C3, C4 ± 15°<br>1550 kc/s-Υ<br>C12, C18 max.<br>708-2000 m III<br>VOL max.<br>C3, C4 ± 15°<br>400 kc/s-Υ<br>C6 max. | 857 kc/s-Υ<br>C3, C4 857 kc/s<br>350 m |

15' 09 992 44.0



R10335

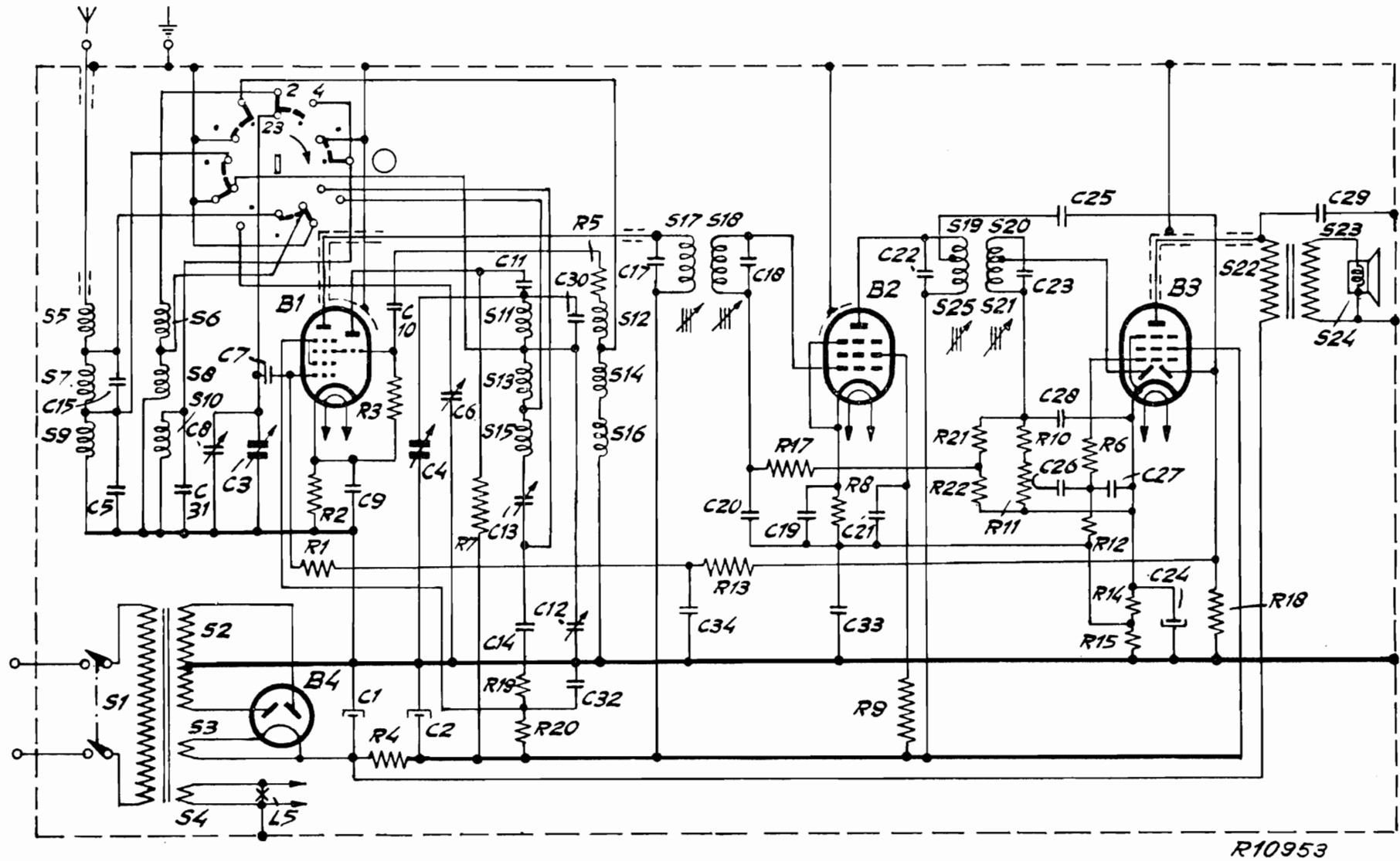
|     |         |                |     |           |                |
|-----|---------|----------------|-----|-----------|----------------|
| R1  | 0,47 MΩ | 48 425 10/470K | C1  | 50 μF     | 49 029 01.0    |
| R2  | 270 Ω   | 48 425 10/270E | C2  | 15 μF     |                |
| R3  | 47000 Ω | 48 425 10/47K  | C3  | 11-490 pF | 28 212 52.0    |
| R4  | 1800 Ω  | 48 467 10/1K8  | C4  | 11-490 pF |                |
| R5  | 82 Ω    | 48 425 10/82E  | C5  | 39 pF     | 48 406 10/39E  |
| R6  | 1000 Ω  | 49 375 77.0    | C6  | 32 pF     | 28 212 06.2    |
| R7  | 27000 Ω | 48 425 10/27K  | C7  | 100 pF    | 48 406 10/100E |
| R8  | 1200 Ω  | 48 425 10/1K2  | C8  | 2,5-20 pF | 48 005 05.2    |
| R9  | 68000 Ω | 48 425 10/68K  | C9  | 47000 pF  | 48 750 20/47K  |
| R10 | 47000 Ω | 48 425 10/47K  | C10 | 56 pF     | 48 406 10/56E  |
| R11 | 0,5 MΩ  | 49 500 11.0    | C11 | 470 pF    | 48 406 20/470E |
| R12 | 1 MΩ    | 49 375 60.0    | C12 | 2,5-20 pF | 49 005 05.2    |
| R13 | 1,5 MΩ  | 49 375 62.0    | C13 | 200 pF    | 28 212 08.2    |
| R14 | 220 Ω   | 48 426 10/220E | C14 | 418 pF    | 48 429 01/418E |
| R15 | 470 Ω   | 48 427 10/470E | C15 | 39 pF     | 48 406 10/39E  |
| R17 | 1,8 MΩ  | 49 375 63.0    | C17 | 103 pF    |                |
| R18 | 1 MΩ    | 49 375 60.0    | C18 | 97 pF     |                |
| R19 | 39000 Ω | 48 427 10/39K  | C19 | 47000 pF  | 48 750 20/47K  |
| R20 | 33000 Ω | 48 427 10/33K  | C20 | 47000 pF  | 48 750 20/47K  |
| R21 | 2,7 MΩ  | 49 376 65.0    | C21 | 47000 pF  | 48 750 20/47K  |
| R22 | 2,7 MΩ  | 49 376 65.0    | C22 | 103 pF    |                |
|     |         |                | C23 | 103 pF    |                |
|     |         |                | C24 | 25 μF     | 28 182 24.1    |
|     |         |                | C25 | 3,9 pF    | 48 406 99/3E9  |
|     |         |                | C26 | 22000 pF  | 48 750 20/22K  |
|     |         |                | C27 | 100 pF    | 48 406 10/100E |
|     |         |                | C28 | 56 pF     | 48 406 10/56E  |
|     |         |                | C29 | 4700 pF   | 48 758 20/4K7  |
|     |         |                | C30 | 22 pF     | 48 406 10/22E  |
|     |         |                | C31 | 10 pF     | 48 406 99/10E  |
|     |         |                | C32 | 47000 pF  | 48 750 20/47K  |
|     |         |                | C33 | 0,1 μF    | 48 750 20/100K |
|     |         |                | C34 | 47000 pF  | 48 750 10/47K  |

|        | B1               | B2   | B3    | B4   |    |
|--------|------------------|------|-------|------|----|
|        | ECH3             | EF 9 | EBL 1 | AZ 1 |    |
| Va     | aT 110<br>aH 236 | 230  | 265   |      | V  |
| Vg2(4) | 97               | 120  | 240   |      | V  |
| Vk     | 2,4              | 25   | 22    |      | V  |
| Ia     | aT 2,8<br>aH 3,3 | 5,5  | 24    |      | mA |
| Ig2(4) | 1,9              | 1,6  | 3,4   |      | mA |

|                 |             |                    |             |
|-----------------|-------------|--------------------|-------------|
| S1, S2, S3, S4  | A1 055 52.1 | S17, S18, C17, C18 | A1 035 83.2 |
| S5, S6          | A1 000 59.0 | S19, S25, S20, S21 |             |
| S7, S8, S9, S10 | A1 000 56.1 | C22, C23           | 23 573 90.1 |
| S11, S12        | A1 000 55.0 | S22, S23           | A1 080 73.0 |
| S13, S14        | A1 000 58.0 | S24                | 28 220 69.0 |
| S15, S16        | A1 000 57.0 |                    |             |

Vc1 = 276 V  
Vc2 = 238 V

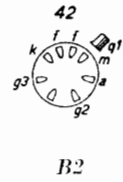
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Imprimé en Hollande



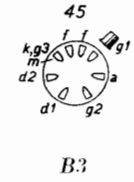
R10953



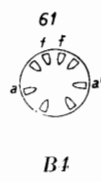
B1



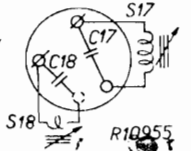
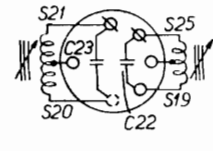
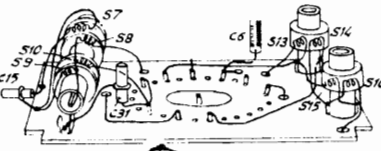
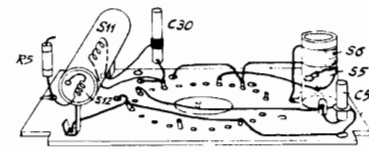
B2



B3



B4



R10955