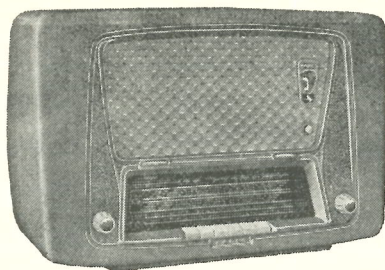
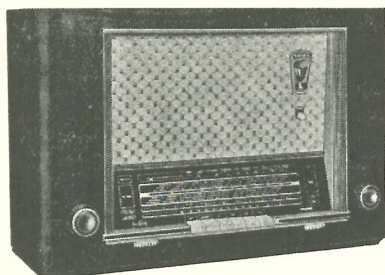


SERVICE MANUAL



KY 5461 KY 5471

Receiver for A.C.-supply



KY 5471 Suitable for connection to a 6 or 12 volts carbattery, with the aid of a vibrator-unit



ERRES RADIO

I. GENERAL DATA

- a. Waveranges: SW I 11.5 - 24 m
SW II 23.5 - 51 m
SW III 51 - 175 m
MW 185 - 585 m
- b. Valves: B 1 ECH 81 B 4 EL 84
B 2 EF 41 B 5 EM 80
B 3 EABC 80 B 6 EZ 80
- c. Circuits: Tuned HF circuits: 1 + 1
Tuned IF circuits: 2 + 2
- d. Intermediate frequency: Nominal AM 452 kc/s
- e. Sensitivity: Better than 10 μ V on SW I, SW II
" " 10 μ V on MW
- f. Output: 3.2 W at 10% distorsion, measured at 400 c/s
- g. Selectivity: 452 kc/s at a 10 fold attenuation
11 kc/s
- h. Mains voltages: Adjustable to mains voltages of 110 V, 125 V, 150 V, 200 V and 250 V.
- i. Controls: Volume control
Bass control
Pushbuttons for mains switch, gram. and 4 waveranges
Treble control
Tuning
- j. Dimensions cabinet: 563 x 216 x 361 mm (KY 5461)
560 x 219 x 363 mm (KY 5471)
- k. Weight: Gross 12.7 kgs; Net 9.8 kgs (KY 5461)
Gross 13 kgs; Net 10.2 kgs (KY 5471)
- l. Direct current: The set KY 5471 can be connected to a vibrator-unit of 6 or 12 volts.

II. V O L T A G E S A N D C U R R E N T S

| | B 1 ECH 81 | B 2 EF 41 | B 3 EABC 80 | B 4 EL 84 | B 5 EM 80 | |
|-----------|---------------|--------------|----------------|--------------|--------------|-------|
| Va | 245 | 235 | 70 | 255 | 240 | Volts |
| Vg screen | 110 | 95 | | 240 | 35 | Volts |
| Va triode | 93 | | | | | Volts |
| Vk | 2.25 | 1.9 | | 7.4 | | Volts |
| Ia | 3.5 | 4 | 0.55 | 40 | | mA |
| Ig screen | 4.5 | 1.4 | | 6 | | mA |
| Ig | 250 | | | | | μA |
| Ia triode | 4 | | | | | mA |
| Ik | 12 | 5.5 | | 46 | | mA |

$$V_{C17} = 275V \quad V_{C18} = 255V \quad V_{C21} = 240V$$

Measured at a mains tension of 220 V \sim

III. T R I M M I N G I N S T R U C T I O N S

Signal generator: Modulate 30% at 400 kc/s

Pointer adjustment: Turn variable condenser fully out
Set pointer at the beginning of the stroke

Trimming points: On the dial are marks for 0° - 62.5° - 65° -
 75.5° - 92° - 380° - 445.5° - 470° - 482° -
turning in the variable condenser

Adjusting: Final adjustment coil in medium position
Volume control on maximum
Treble and bass controls on maximum

| Range | Frequency | Position of condenser | Connection | Sequence of adjustment | |
|-----------|-----------|---------------------------------|--------------------------------------|------------------------------|------------|
| | | | | osc. circ. | aer. circ. |
| IF | 452 kc/s | 517.5° MW | via 22000 pF to g_1 B ₁ | Damp IF I S26-S25/S24-S23 | |
| IF filter | 452 kc/s | 517.5° MW | via 22000 pF to switch A1 | S20-S21-S20 | |
| SW I | 13 Mc/s | 445.5° 92° | via artificial aerial | S 11 | S 2 |
| | 24 Mc/s | | | C 25 | C 4 |
| SW II | 6.5 Mc/s | 380° 62.5° | ditto | S 13 | S 4 |
| | 12 Mc/s | | | C 26 | C 5 |
| SW III | 1.8 Mc/s | 482° 65° | ditto | S 15 | S 6 |
| | 5.5 Mc/s | | | C 27 | C 6 |
| MW | 550 kc/s | 470° 75.5° | ditto | S 17 | S 8 |
| | 1500 kc/s | | | C 28 | C 7 |

C o n d e n s e r s

| | | | | | |
|-----|-------------|---------------|-----|-------------|---------------|
| C 1 | | | C28 | 1.5-12.5 pF | 82754/12E5 |
| 2 | | | 29 | 300 pF | E 360 02/300E |
| 3 | 3000 pF | E 360 05/3K | 30 | 100 pF | E 360 02/100E |
| 4 | 3-30 pF | 7864/01 | 31 | 220 pF | E 360 02/220E |
| 5 | 6-25 pF | 82754/25E | 32 | 50000 pF | E 220 10/50K |
| 6 | 1.5-12.5 pF | 82754/12E5 | 33 | 10000 pF | E 112 50/10K |
| 7 | 1.5-12.5 pF | 82754/12E5 | 34 | 10000 pF | E 112 50/10K |
| 8 | 470 pF | E 103 10/470E | 35 | 10000 pF | E 112 50/10K |
| 9 | 300 pF | E 360 02/300E | 36 | 100 pF | E 360 02/100E |
| 10 | 10-540 pF) | GK 210 55 | 37 | 220 pF | E 360 02/220E |
| 11 | 9-524 pF) | | 38 | 5.6 pF | E 101 10/5E6 |
| 12 | 270 pF | E 360 05/270E | 39 | 2200 pF | E 201 10/2K2 |
| 13 | 12 pF | E 101 10/12E | 40 | 10000 pF | E 201 10/10K |
| 14 | 10000 pF | E 112 50/10K | 41 | 4700 pF | E 201 10/4K7 |
| 15 | 220 pF | E 103 10/220E | 42 | 10000 pF | E 112 50/10K |
| 16 | 10000 pF | E 112 50/10K | 43 | 22000 pF | E 200 10/22K |
| 17 | 50 μF) | GK 180 12 | 44 | 0.1 μF | E 201 10/100K |
| 18 | 50 μF) | | 45 | 220 pF | E 103 10/220E |
| 19 | 560 pF | E 361 10/560E | 46 | 100 pF | E 103 10/100E |
| 20 | 47 pF | E 103 10/47E | 47 | 10000 pF | E 201 10/10K |
| 21 | 16 μF | AC 5108/16 | 48 | 100 μF | AC 5713/100 |
| 22 | 100 pF | E 103 10/100E | 49 | 2200 pF | E 202 10/2K2 |
| 23 | 2000 pF | E 360 05/2K | 50 | 4700 pF | E 202 10/4K7 |
| 24 | 445 pF | E 360 01/445E | 51 | 47000 pF | E 200 10/47E |
| 25 | 1.5-12.5 pF | 82754/12E5 | 52 | 0.1 μF | E 200 10/100K |
| 26 | 6-25 pF | 82754/25E | 53 | 10000 pF | E 112 50/10K |
| 27 | 1.5-12.5 pF | 82754/12E5 | 54 | 10 pF | E 125 10/10E |

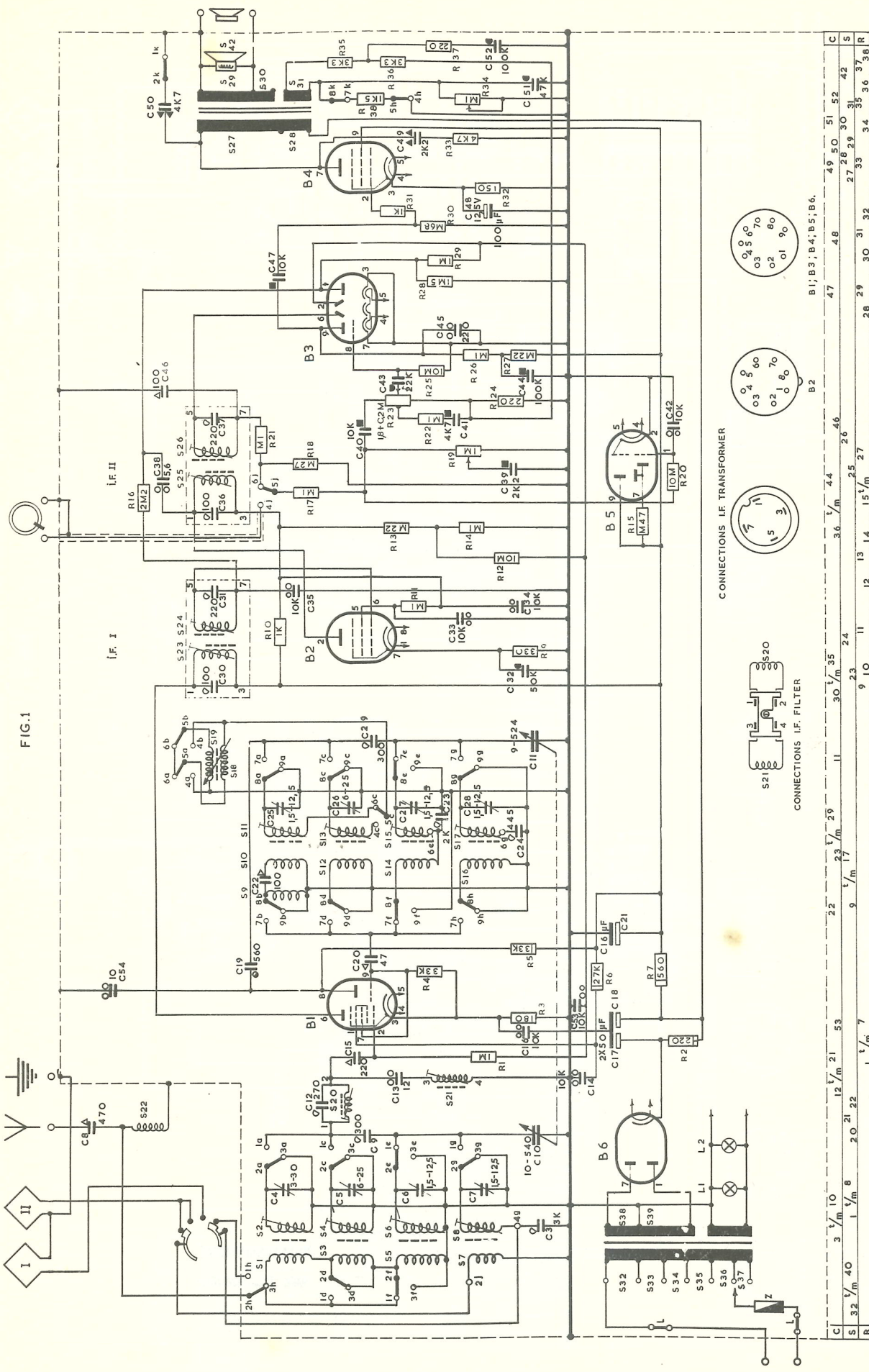
R e s i s t o r s

| | | | | | |
|-----|---------|----------------|-----|------------|----------------|
| R 1 | 1 MΩ | GK 776 10/1M | R20 | 10 MΩ | GK 776 10/10M |
| 2 | 220 Ω | 5496A/220E | 21 | 0.1 MΩ | GK 776 10/100K |
| 3 | 180 Ω | GK 776 10/180E | 22 | 0.1 MΩ | GK 776 10/100K |
| 4 | 33000 Ω | GK 776 10/33K | 23 | 1.8+0.2 MΩ | GK 809 26 |
| 5 | 33000 Ω | GK 777 10/33K | 24 | 220 Ω | GK 776 10/220E |
| 6 | 27000 Ω | GK 777 10/27K | 25 | 10 MΩ | GK 776 10/10M |
| 7 | 560 Ω | GK 777 10/560E | 26 | 0.1 MΩ | GK 776 10/100K |
| 8 | 68 Ω | GK 777 10/68E | 27 | 0.22 MΩ | GK 776 10/220K |
| 9 | 330 Ω | GK 776 10/330E | 28 | 1.5 MΩ | GK 776 10/1M5 |
| 10 | 1000 Ω | GK 776 10/1K | 29 | 1 MΩ | GK 776 10/1M |
| 11 | 0.1 MΩ | GK 776 10/100K | 30 | 0.68 MΩ | GK 776 10/680K |
| 12 | 10 MΩ | GK 776 10/10M | 31 | 1000 Ω | GK 776 10/1K |
| 13 | 0.22 MΩ | GK 776 10/220K | 32 | 150 Ω | GK 776 10/150E |
| 14 | 0.1 MΩ | GK 776 10/100K | 33 | 4700 Ω | GK 776 10/4K7 |
| 15 | 0.47 MΩ | GK 776 10/470K | 34 | 0.1 MΩ | GK 809 28 |
| 16 | 2.2 MΩ | GK 776 10/2M2 | 35 | 3300 Ω | GK 776 10/3K3 |
| 17 | 0.1 MΩ | GK 776 10/100K | 36 | 3300 Ω | GK 776 10/3K3 |
| 18 | 0.27 MΩ | GK 776 10/270K | 37 | 220 Ω | GK 776 10/220E |
| 19 | 1 MΩ | GK 809 27 | 38 | 1500 Ω | GK 776 10/1K5 |
| | | potm.log. | | | |

C o i l s a n d T r a n s f o r m e r s

| | | | | | | | |
|-----|---------|-------|-------------------------------|-----|--------|--------|---|
| S 1 | 30 W | <1 Ω | aer.coil | S27 | 2400 W | 610 Ω | output transf. GK 514 32 |
| 2 | 9 W | <1 Ω | SW I GK 568 07 | 28 | 70 W | 18 Ω | |
| 3 | 31 W | 1.8 Ω | aer.coil | 29 | 80 W | 1 Ω | supply transf. GK 514 29 (KY 5471) GK 514 09 (KY 5461) |
| 4 | 20 W | <1 Ω | SW II GK 568 09 | 30 | 8 W | 1 Ω | |
| 5 | 161.5 W | 11 Ω | aer.coil | 31 | 160 W | 39 Ω | |
| 6 | 38 W | <1 Ω | SW III GK 568 10 | 32 | 620 W | 16 Ω | |
| 7 | 11.5 W | <1 Ω | aer.coil | 33 | 107 W | 2.6 Ω | |
| 8 | 98 W | | MW GK 568 02 | 34 | 143 W | 3.3 Ω | |
| 9 | 15 W | <1 Ω | osc.coil | 35 | 300 W | 11.5 Ω | |
| 10 | 4 W | <1 Ω | SW I | 36 | 120 W | 4.5 Ω | |
| 11 | 6 W | <1 Ω | GK 568 11 | 37 | 190 W | 6.4 Ω | |
| 12 | 5 W | <1 Ω | osc.coil | 38 | 1620 W | 180 Ω | |
| 13 | 11 W | <1 Ω | SW II GK 568 13 | 39 | 1620 W | 195 Ω | |
| 14 | 8 W | <1 Ω | osc.coil | 40 | 41 W | <1 Ω | 42 Z= 5 Ω loudspeaker LS 21 12 11T |
| 15 | 27 W | 1.7 Ω | SW III GK 568 14 | 41 | 41 W | 1 Ω | |
| 16 | 21 W | 1.5 Ω | osc.coil | | | | |
| 17 | 90 W | 5.5 Ω | MW GK 568 15 | | | | |
| 18 | 4 W | <1 Ω | final ad- | | | | |
| 19 | 4 W | <1 Ω | justment coil GK 568 06 | | | | |
| 20 | 196 W | 9 Ω | IF filter | | | | |
| 21 | 802 W | 55 Ω | A3 126 85 | | | | |
| 22 | 645 W | <1 Ω | Hum filter GK 567 79 | | | | |
| 23 | 260 W | 7.4 Ω | IF transf. | | | | |
| 24 | 175 W | 4.5 Ω | I GK 567 95 | | | | |
| 25 | 260 W | 7.4 Ω | IF transf. | | | | |
| 26 | 175 W | 4.5 Ω | II GK 567 95 | | | | |

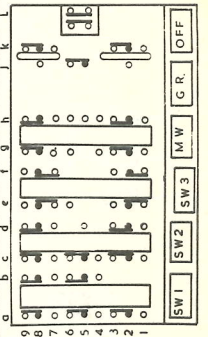
FIG. 1



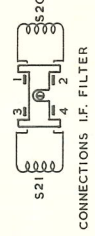
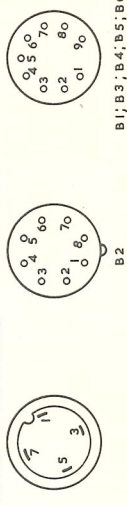
- B1 = ECH 81
 B2 = EF 41
 B3 = EABC 80
 B4 = EL 84
 B5 = EL 84
 B6 = EL 80

- CONDENSERS**
 CERAMIC: 250V, 350V, 500V
 PAPER: 125V, 400V, 250V
 STYROFLEX: 250V
RESISTORS
 1/2 W 1 W 1 1/2 W
 TRIMMER

WAVELENGTHS: SW1-SW2-SW3-MW.
 DRAWN IN POSITION: SW 3
 AERIAL SWITCH 3 POSITIONS (G I)
 OUTDOOR AERIAL 2 LOOPAERIAL I, 3 LOOPAERIAL II
 DRAWN IN POSITION OUTDOOR AERIAL



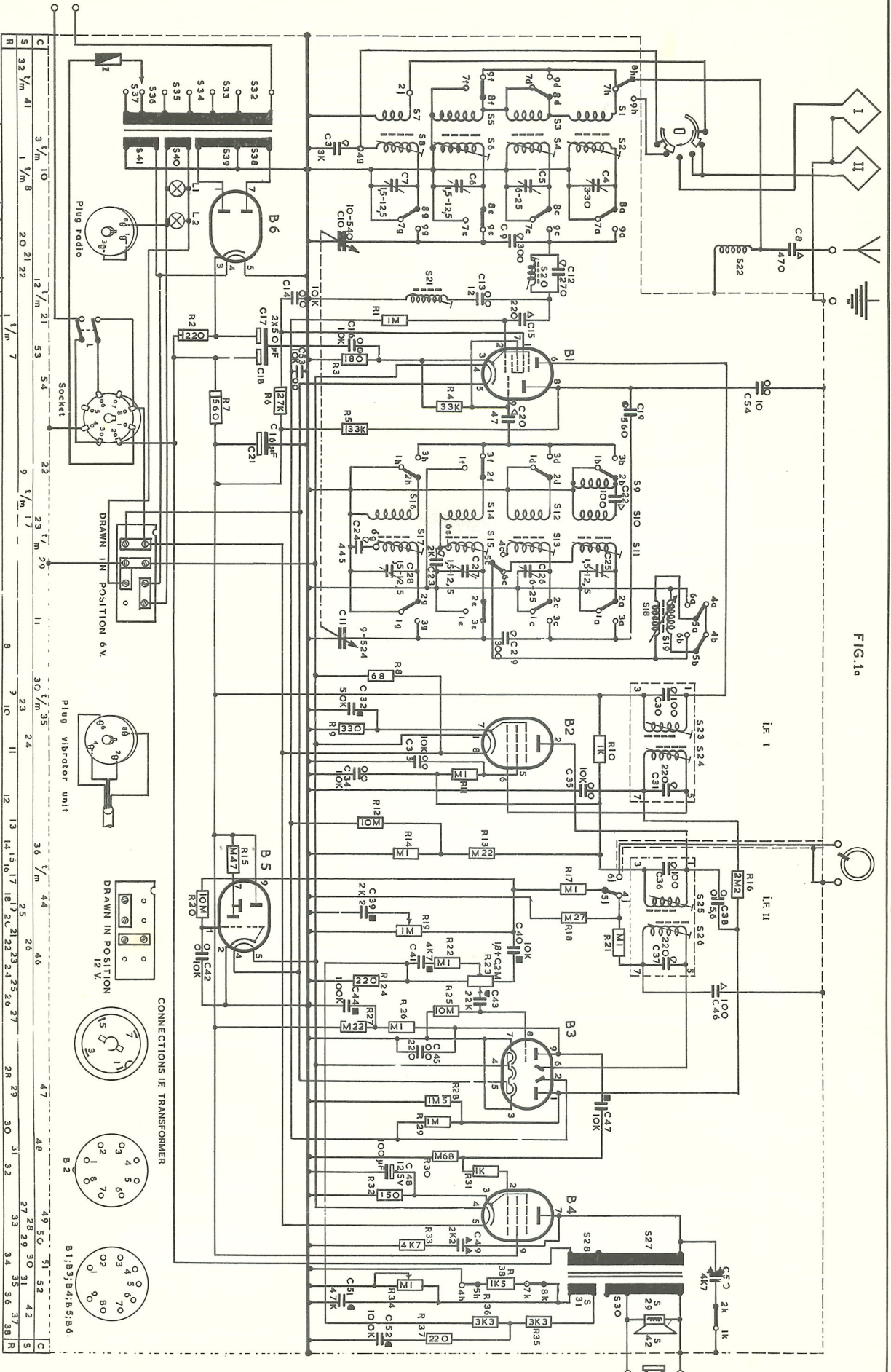
CONNECTIONS I.F. TRANSFORMER



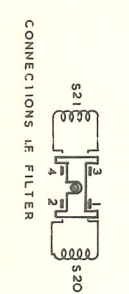
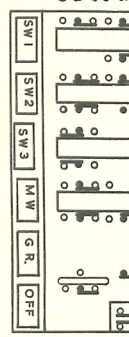
CONNECTIONS I.F. FILTER

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| C | 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 |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|

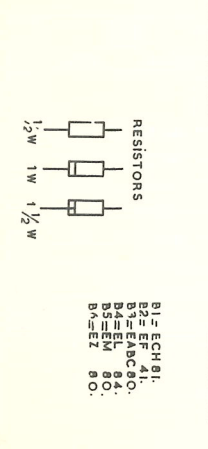
FIG.1a



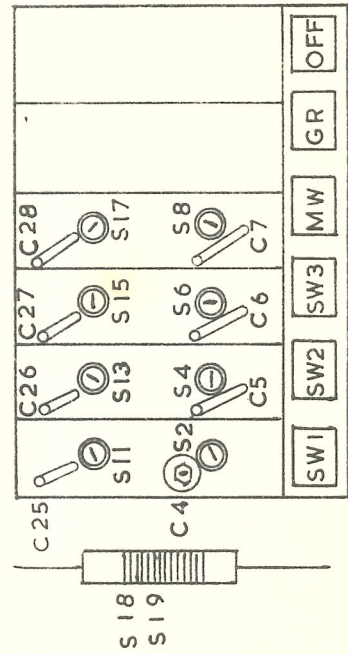
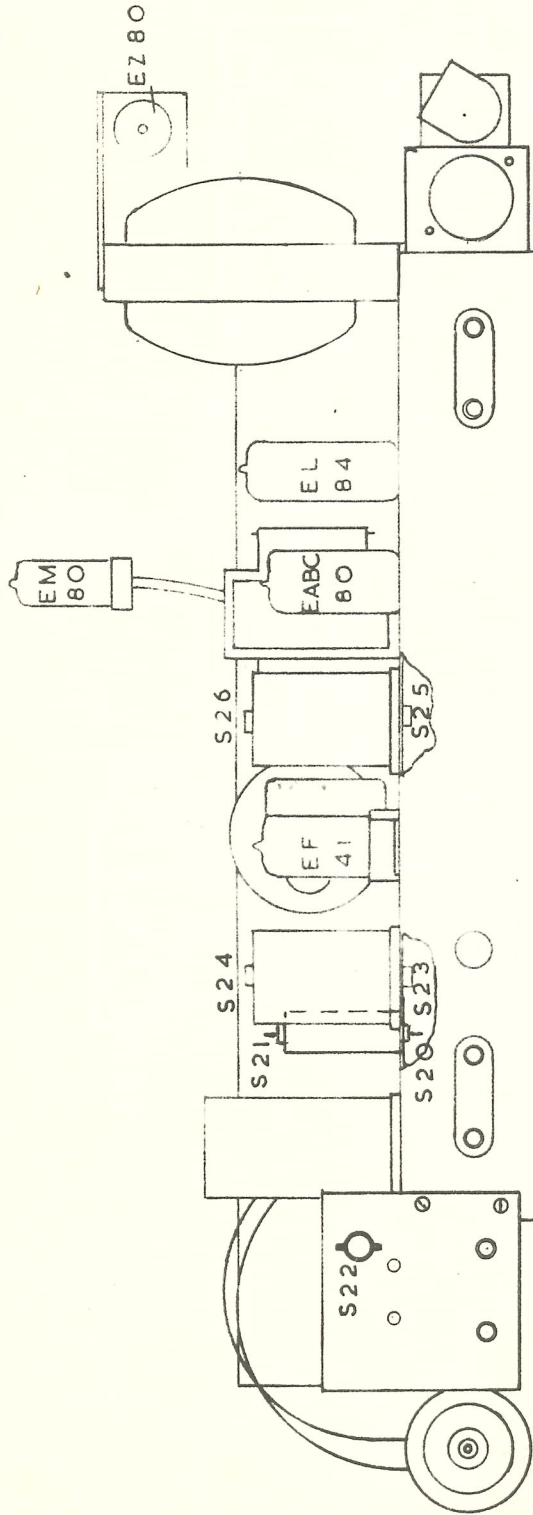
WAVERANGES: SW1-SW2-SW3-MW.
 DRAWN IN POSITION: SW 3
 AERIAL SWITCH 3 POSITION: (G) I
 OUTDOOR AERIAL, 2 LOOP AERIAL I,
 DRAWN IN POSITION OUTDOOR AERIAL.



- CONDENSERS
- CERAMIC: 250V, 350V, 500V
 - PAPER: 125V, 400V, 250V
 - STYROFLEX: 250V
- RESISTORS
- 1/2W, 1W, 1 1/2W

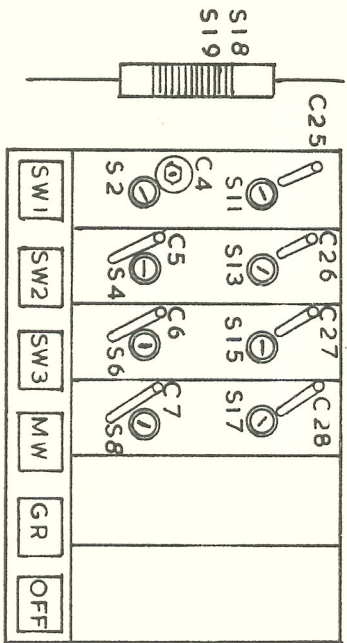
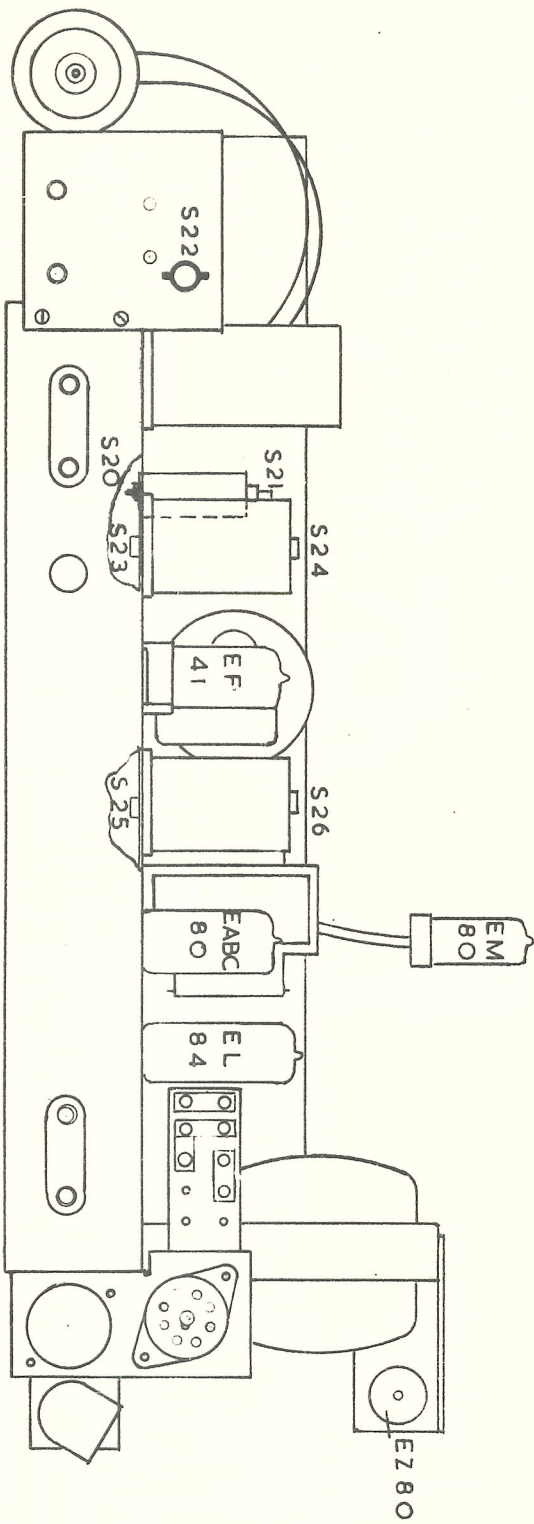


- CONNECTIONS I.E. TRANSFORMER
- B1: 81, 82, 83, 84, 85, 86, 87, 88, 89, 90
 - B2: 81, 82, 83, 84, 85, 86, 87, 88, 89, 90
 - B3: 81, 82, 83, 84, 85, 86, 87, 88, 89, 90
 - B4: 81, 82, 83, 84, 85, 86, 87, 88, 89, 90
 - B5: 81, 82, 83, 84, 85, 86, 87, 88, 89, 90
 - B6: 81, 82, 83, 84, 85, 86, 87, 88, 89, 90
 - B7: 81, 82, 83, 84, 85, 86, 87, 88, 89, 90



ADJUST DIAGRAM

FIG. 2



ADJUST DIAGRAM

FIG. 2a

Auteursrecht volgens de wet voorbehouden

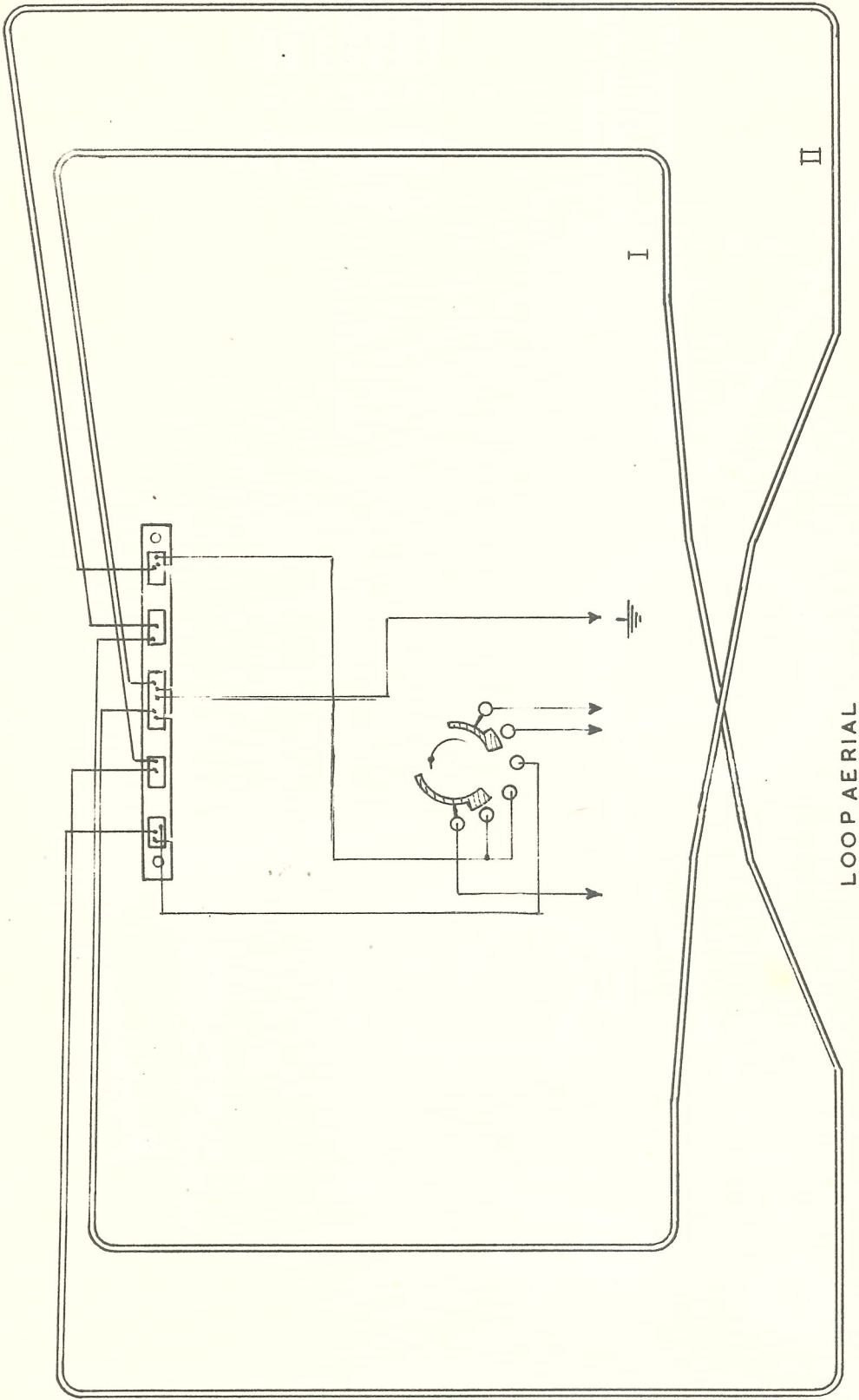


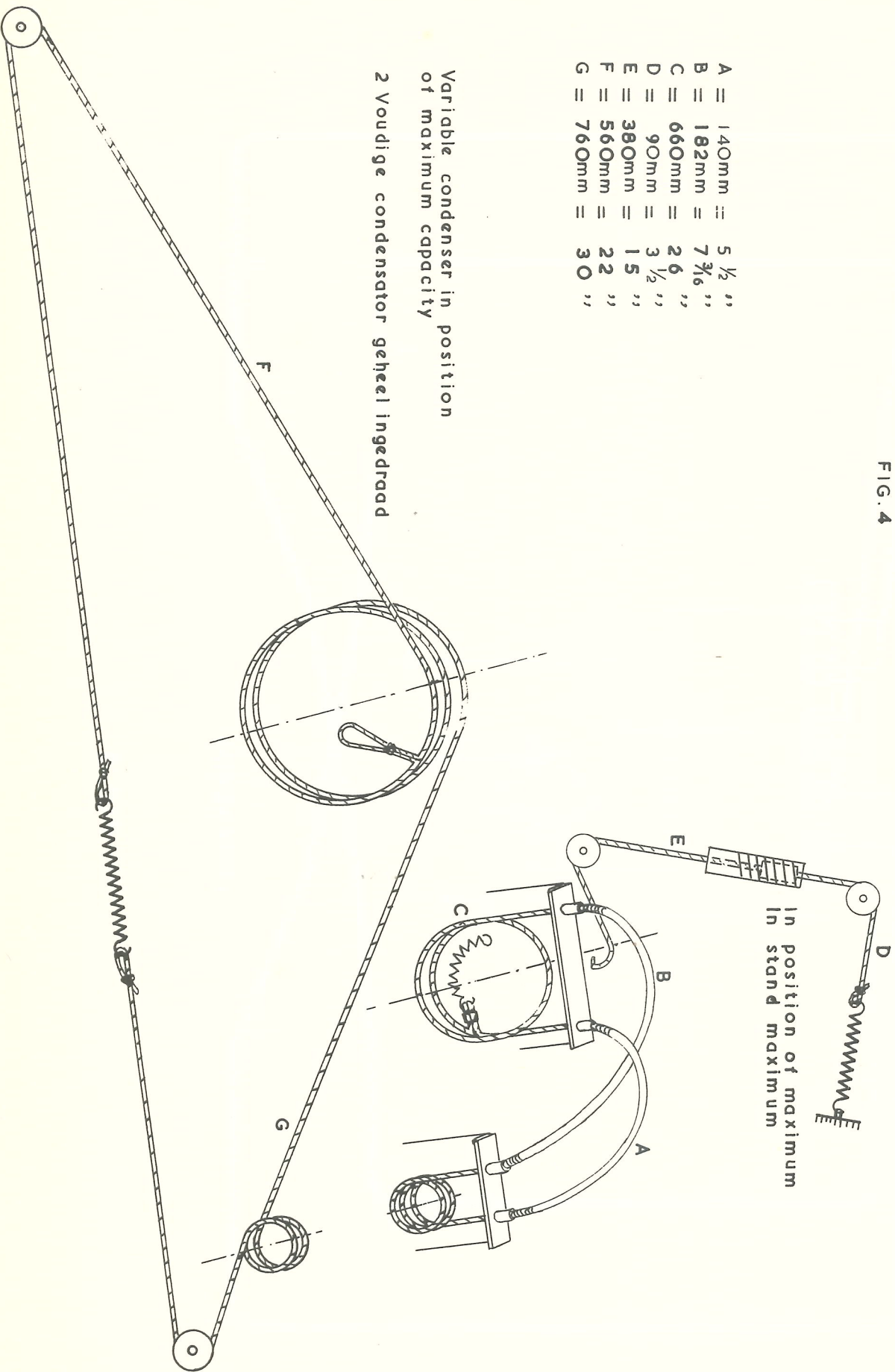
FIG. 3

FIG. 4

| | | |
|-----|---------|---------|
| A = | 140mm = | 5 1/2 " |
| B = | 182mm = | 7 3/6 " |
| C = | 660mm = | 2 6 " |
| D = | 90mm = | 3 1/2 " |
| E = | 380mm = | 1 5 " |
| F = | 560mm = | 2 2 " |
| G = | 760mm = | 3 0 " |

Variable condenser in position of maximum capacity

2 Voudige condensator geheel ingedraad



In position of maximum
In stand maximum