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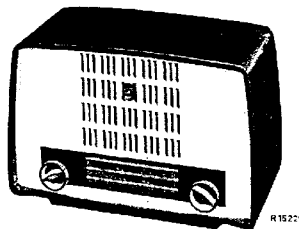
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PHILIPS

SERVICE NOTES

for the receivers

BX 135 B - 00 - 63 - 95



1954

For battery supply

GENERAL

Waverange

BX135B-00 : M.W. : 185 - 580 m (1622 - 517 kc/s)
BX135B-63 : S.W. : 16.66 - 63.28 m (18 - 4.74 Mc/s)
BX135B-95 : S.W. : 24.8 - 95 m (12.1 - 3.16 Mc/s)

Controls

Left : Volume control + battery switch
Right: Tuning

I.F. : 452 kc/s.

Valve combination

B1 = DK92
B2 = DF96
B3 = DAF96
B4 = DL94

Battery voltages

V_a = 90 V
V_f = 1.5V

Dimensions

Width : 27 cm) knobs
Height : 18 cm) in-
Depth : 14 cm) cluded

Consumption

I_a tot. = 10.5 mA
I_f = 200 mA

Weight : 2 kg.

Loudspeaker

9742 Z Z = 5 Ω
(cannot be repaired)

Bandwidth

The I.F. bandwidth
(1:10) measured from
g₃ of B1 is about 13
kc/s.

93 980 07.1.05

- Fig. 1 Cable drive.
- Fig. 2 Coil connections.
- Fig. 3 Circuit diagram. (BX135B-00)
- Fig. 4 Diagram of the R.F. parts (BX135B-63).
- Fig. 5 Diagram of the R.F. parts (BX135B-95).
- Fig. 6 Wiring diagram (under) BX135B-00.
- Fig. 7 Wiring diagram (under) BX135B-63.
- Fig. 8 Wiring diagram (under) BX135B-95.
- Fig. 9 Wiring diagram (above) BX135B-00.
- Fig. 10 Wiring diagram (above) BX135B-63-95.

TRIMMING THE RECEIVER

A. I.F. parts

1. Turn the volume control to maximum and the variable capacitor to minimum capacitance.
2. Connect a voltmeter via a trimming transformer to the loudspeaker terminals.
3. Screw the cores of the I.F. filters nearly full out.
4. Apply a modulated signal of 452 kc/s via a 33000 pF capacitor to g3 of B1.
5. Trim the I.F. circuits for maximum output voltage in the following order:

- 4th I.F. circuit S8-C15
- 3rd I.F. circuit S7-C14
- 1st I.F. circuit S5-C10
- 2nd I.F. circuit S6-C11
- 3rd I.F. circuit S7-C14

6. Seal the cores.

B. R.F. and oscillator circuits

Trimming is done with the aid of trimming points on the dial.
Trimming point 1 = extreme left trimming point on the dial.
Trimming point 2 = right trimming point on the dial.

Before starting to trim, check the adjustment of the pointer. With the variable capacitor at minimum, the pointer must be on trimming point 1. If not adjust it to the correct position. For all waveranges the following applies:

1. Volume control at maximum.
2. Connect a voltmeter via a trimming transformer to the loudspeaker terminals.
3. Apply the modulated signals via a dummy aerial to the aerial socket Y1.

Trim the receiver in accordance with the following table, strictly observing the order given:

BX135B:		-00	-63	-95
1	Turn the pointer to trimming point	2	-	2
2	Turn the gang capacitor to	-	max.	-
3	Apply a modulated signal of	547 kc/s	4.73 Mc/s	3.28 Mc/s
4	Trim for maximum output voltage	S3 S2	S3 S2	S3 S2
5	Turn the pointer to trimming point	1	1	1
6	Apply a modulated signal of	1630 kc/s	18.2 Mc/s	12.2 Mc/s
7	Trim for maximum output voltage	C7 C4	C7	C7
8	Repeat the points	1-8	2-8	1-8
9	Seal the trimmers and the cores	S3 S2 C7 C4	S3 S2 C7	S3 S2 C7

REPAIRS AND REPLACEMENTS OF PARTS

A. Removing the chassis from the cabinet.

1. Set the variable capacitor to maximum.
2. Remove the knobs.
3. Remove the rear panel.
4. Remove the loudspeaker brackets.
5. Unscrew the two screws which fasten the chassis to the cabinet and take the chassis carefully out of the cabinet.

B. Replacing the driving cord

The path and the length of the driving cord are indicated in fig. 1 for the position where the variable capacitor is set in the half-capacitance position.

VOLTAGES AND CURRENTS

	Valves	V _a	V _{g2}	V _{g4}	I _a	I _{g2}	I _{g4}
BX135B -00	B1 Heptode	82	32.5	66	0.8	1.5	0.15
	B2 Pentode	82	66	-	3.2	1.2	-
	B3 Diode-pentode	22	21	-	0.06	0.013	-
	B4 Pentode	78.5	82	-	4.6	0.95	-
-63	B1 Heptode	82	36	59	0.8	1.7	0.13
	B2 Pentode	82	64	-	3.2	1	-
	B3 Diode-pentode	22	21	-	0.06	0.013	-
	B4 Pentode	78.5	82	-	4.6	0.95	-
-95	B1 Heptode	82	32.5	59	0.8	1.5	0.13
	B2 Pentode	82	64	-	3.2	1	-
	B3 Diode-pentode	22	21	-	0.06	0.013	-
	B4 Pentode	78.5	82	-	4.6	0.95	-
		Volts	Volts	Volts	mA	mA	mA

VC22 = 82 V.

These values have been measured with the Measuring Instrument GM7635 and no signal applied to the aerial socket.

All voltages have been measured with respect to the chassis.

LIST OF PARTS AND TOOLS
(see also General Spare Parts List)

When ordering always quote:
1. Description and colour code.
2. Codenumber.
3. Typenumber of the receiver.

	Description	Code number
	Cabinet (Philite)	A3 738 50.0
	Speednut for fixing dial	O7 086 56.0
	Knob (Tuning)	A3 738 49.0
	Knob (Volume control)	A3 738 73.0
	Springclip for fixing coilcans	A3 652 58.3
	Rubber grommet (chassis)	A3 642 28.0
	Valve holders	B1 506 55.0
	Spindle for potentiometer	A3 432 93.0
	Spring	A3 646 57.0
	Dial (model -00) (overseas)	A3 225 38.1
	Dial (model -63) (overseas)	A3 225 66.0
	Dial (model -95) (overseas)	A3 741 80.0
	<u>Tools</u>	
	Service oscillator	GM2883 or GM2884
	Measuring Instrument	GM7635 or GM6004
	Vaseline compound	X 009 47.0
	 DJ/MZ	

BX 135B-00,-63,-95

BX 135B-00					
S1		A3 125 35.0	R1	0,1 MΩ	A9 999 00/100K
S2			R2	27000 Ω	A9 999 00/27K
S3		A3 125 72.0	R3	12000 Ω	A9 999 00/12K
S4			R4	33000 Ω	A9 999 00/33K
S5		A3 124 25.4	R5	1,5 MΩ	A9 999 00/1M5
S6			R6	12000 Ω	A9 999 00/12K
C10	110 pF	A3 124 25.4	R7	56000 Ω	A9 999 00/56K
C11	110 pF		R8	0,45 MΩ	48 900 00/
S7		A3 124 25.4	R9	0,05 MΩ	DL50K+450K
S8			R10	4,7 MΩ	A9 999 00/4M7
C14	110 pF	A3 124 25.4	R11	4,7 MΩ	A9 999 00/4M7
C15	110 pF		R12	1 MΩ	A9 999 00/1M
S9		A3 169 39.0	R13	1 MΩ	A9 999 00/1M
S10			R14	560 Ω	A9 999 00/560Ω
C1	100 μF	AC 5540Z/100	<u>BX 135B-63</u>		
C2	11-500 pF	49 001 56.1	S1-2		A3 125 29.0
C3	11-500 pF		S3-4		A3 125 61.0
C4	30 pF	28 212 36.4	C4	10 pF	A9 999 04/10E
C6	220 pF	A9 999 04/220E	C7	5 pF	49 627 50.1
C7	60 pF	49 005 58.0	C8	120 pF	A9 999 04/120E
C8	480 pF	49 005 55.2	C9	56 pF	A9 999 04/56E
C9	82 pF	A9 999 04/82E	C13	1,5 pF	A9 999 04/1E5
C10)	coils, Spulen,		C22-23	50+50 μF	48 317 59/50+50
C11)	bobines, bobinas		R4	27000 Ω	A9 999 00/27K
C12	47000 pF	A9 999 06/47K	R6	18000 Ω	A9 999 00/18K
C14)	Spulen, coils,		R16	0,18 MΩ	A9 999 00/180K
C15)	bobines, bobinas		<u>BX 135B-95</u>		
C16	47000 pF	A9 999 06/47K	S1,S2		A3 125 30.0
C17	56 pF	A9 999 04/56E	S3,S4,S4a		A3 125 63.0
C18	1000 pF	A9 999 06/1K	C4	4,7 pF	A9 999 04/4E7
C19	47000 pF	A9 999 06/47K	C5	100 pF	A9 999 04/100E
C20	2700 pF	A9 999 06/2K7	C7	5 pF	49 627 50.1
C21	4700 pF	A9 999 06/4K7	C8	116 pF	A9 999 04/120E
C22	10 μF	AC 5104/8	C13	1,5 pF	A9 999 04/1E5
			C22/23	50+50 μF	48 317 59/50+50
			C9	56 pF	A9 999 04/56E
			R3	1 MΩ	A9 999 00/1M
			R6	18000 Ω	A9 999 00/18K
			R16	0,18 MΩ	A9 999 00/180K

BX 135 B-00-63-95

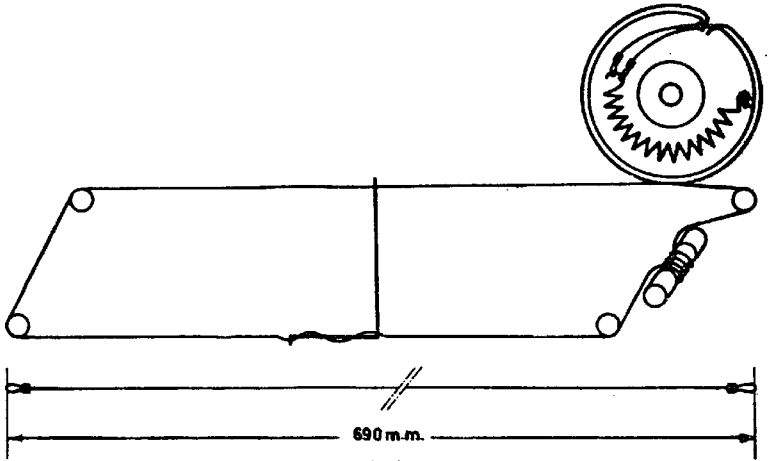
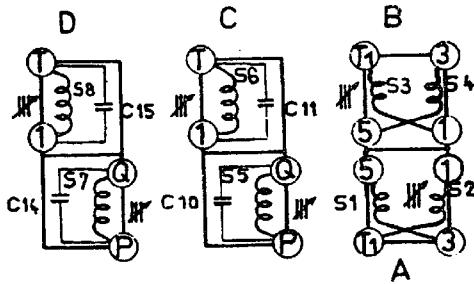


Fig.1

R14167

BX 135 B-00



BX 135 B-63-95

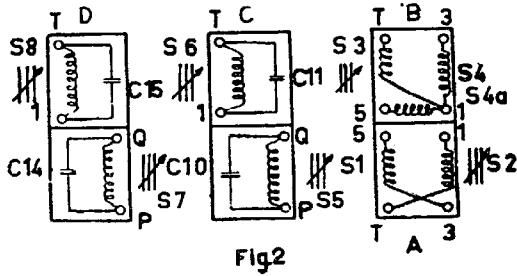


Fig.2

S	1, 2,	3,	4,	5,	6,	7,	8,	9,	10,	11,
C	1, 2, 4,	22, 9, 7, 3,	8,	6,	10,	11, 12,	16,	14,	15, 17, 18, 19,	20,
R	1,	14,	2,	4,	5,	6,	7, 8, 9,	10,	11, 12, 13,	21,

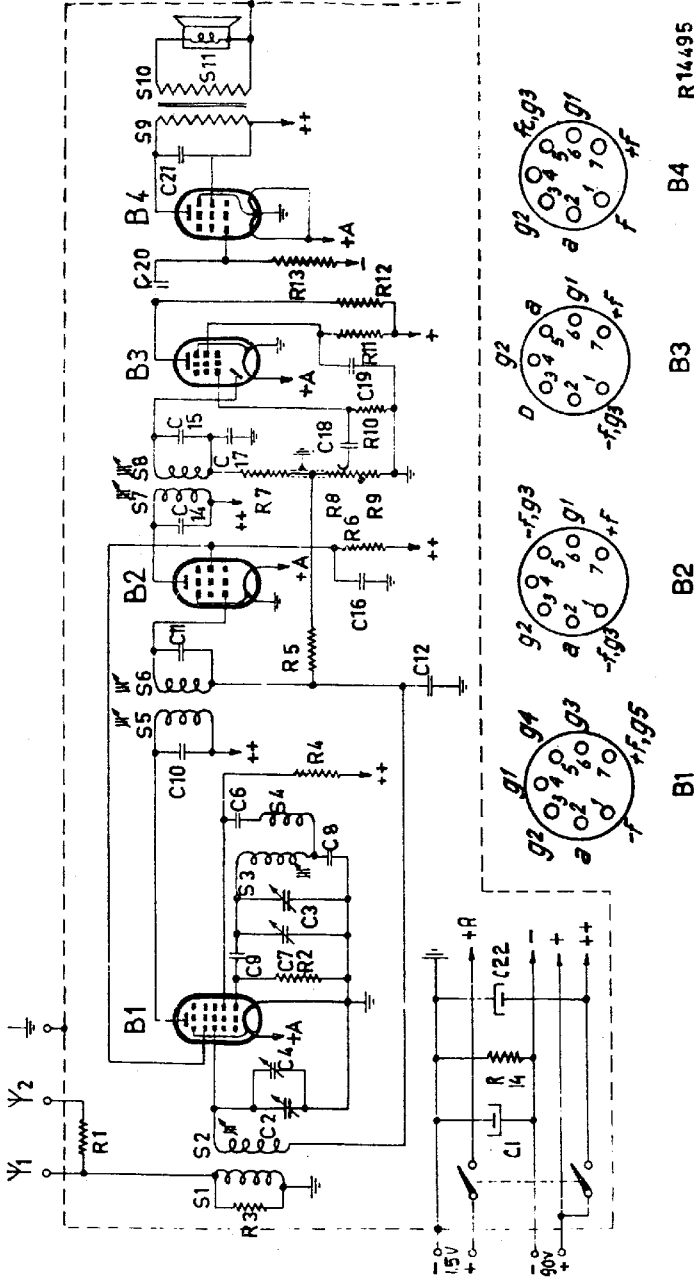


Fig.3

B1 B2 B3 B4 R1495

BX 135 B - 63 - 95

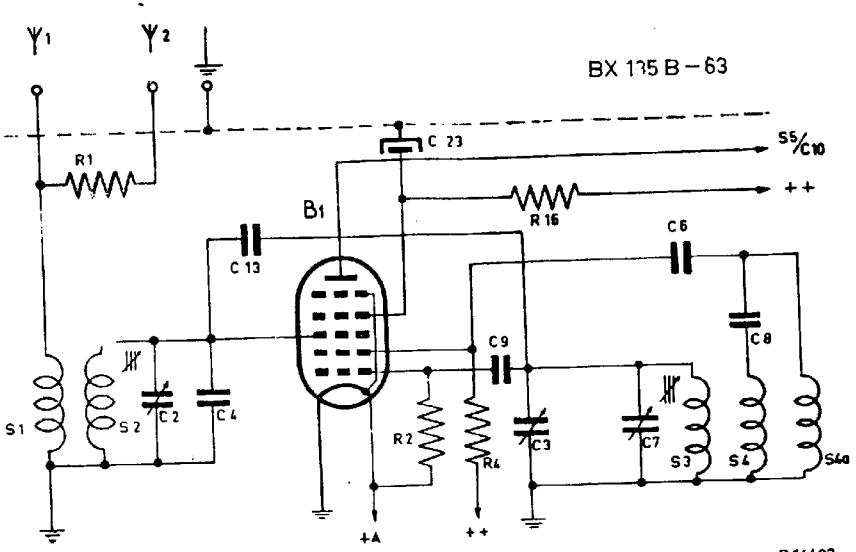


Fig.4

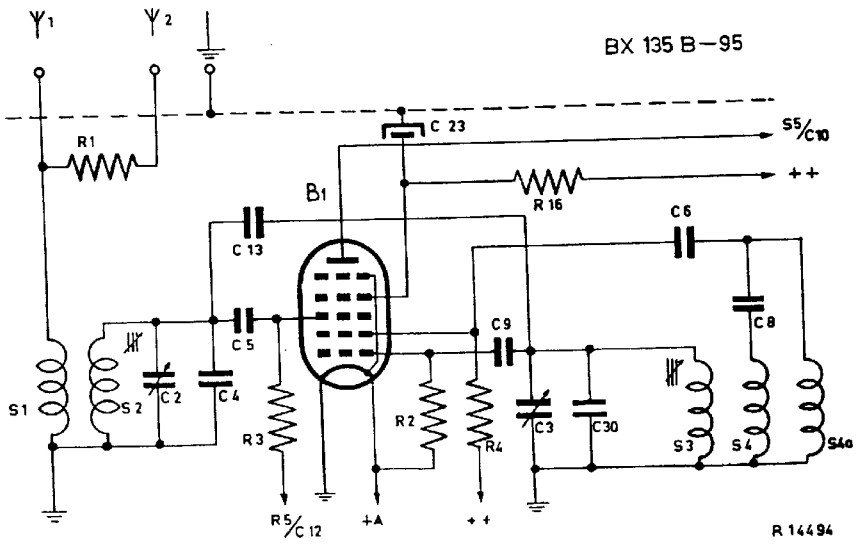


Fig.5

S	D	C	A, B
C	1, 2, 3	4, 5, 6, 7, 8, 9, 10, 11, 12	13, 14, 15, 16, 17, 18, 19, 20, 21, 22
R	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

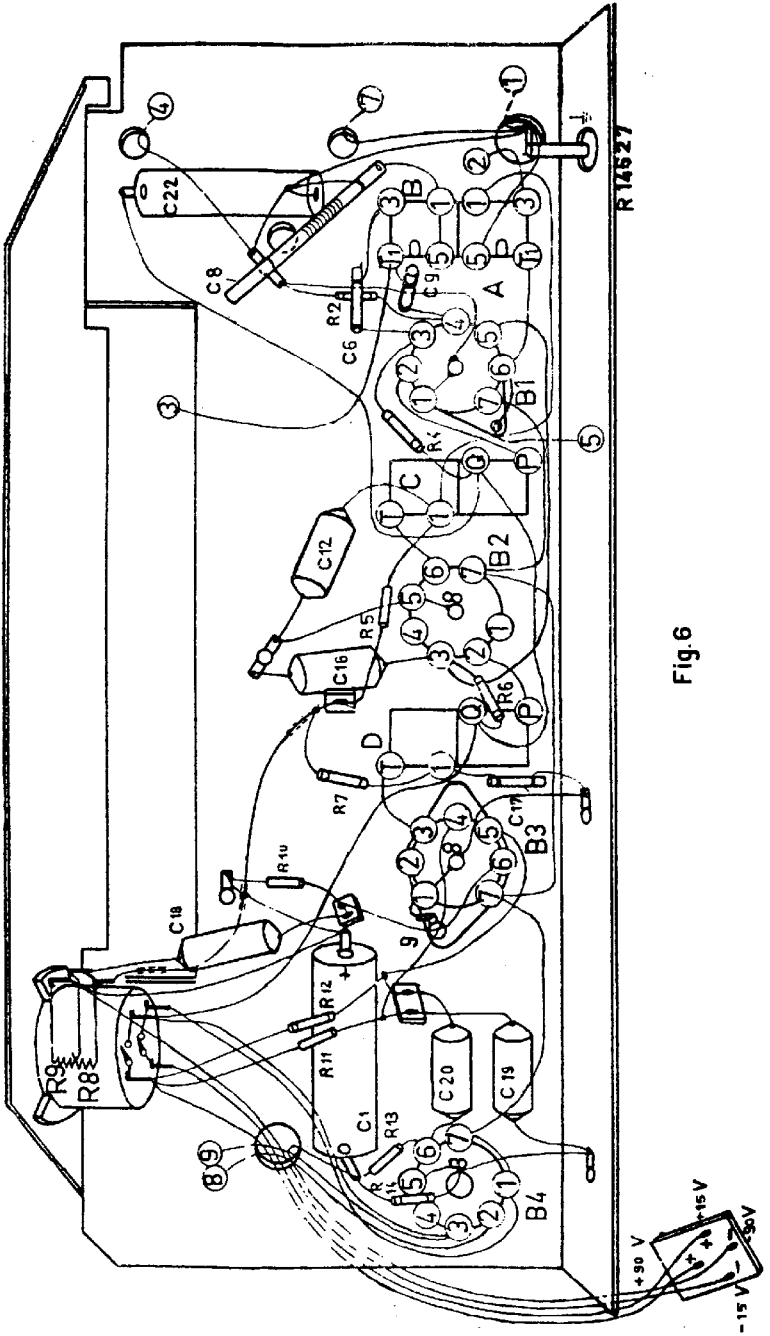


Fig. 6

BX 135B-63

S	D	C	B.A.
10201	17	12	7, 6, 9, 5, 8, 3
14, 13	16, 10, 7	5	4, 2

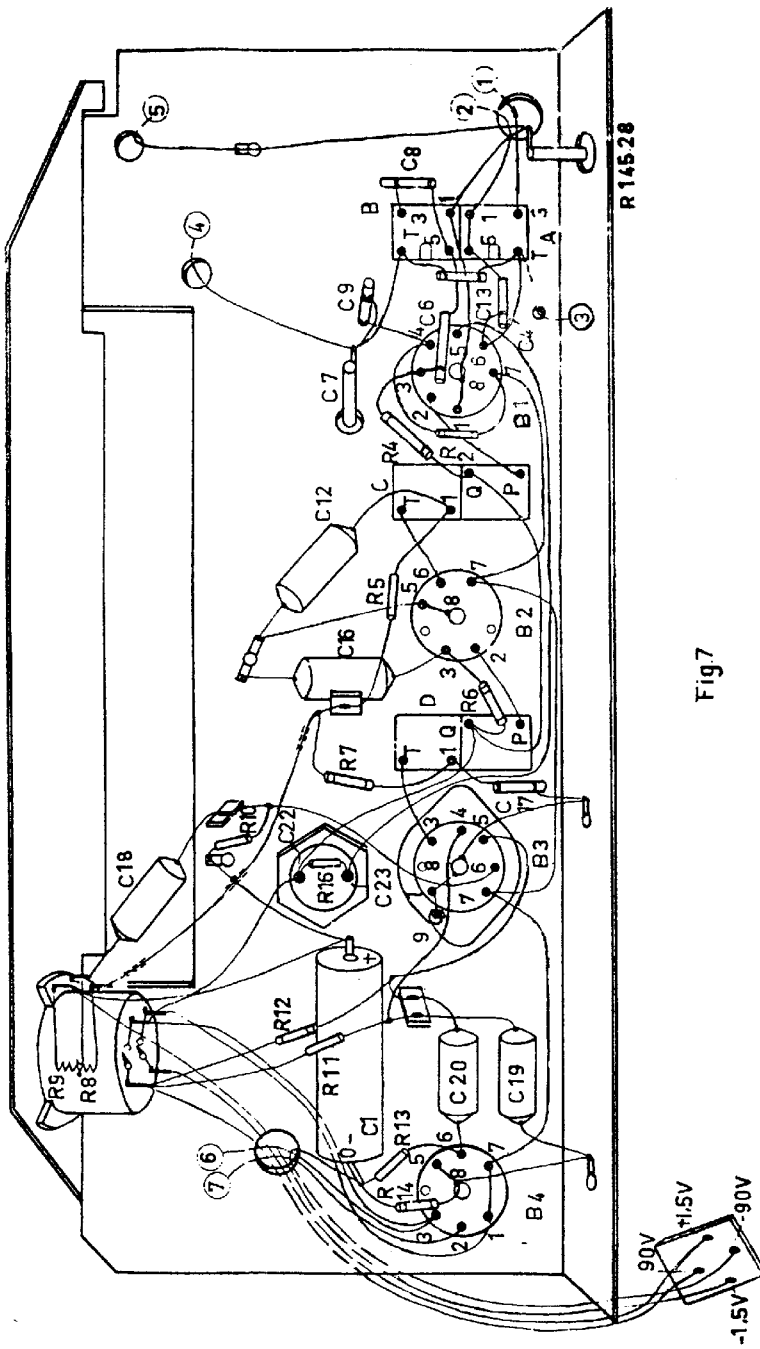


Fig. 7

S	18201	D	17	16	12	3	4E	B/A
C	2A, 112	1823, 22	7	6	5	3	4E	7, 5, 6, 9, 10, 13, 30
R	14, 13	16, 10	7	6	5	3	4E	

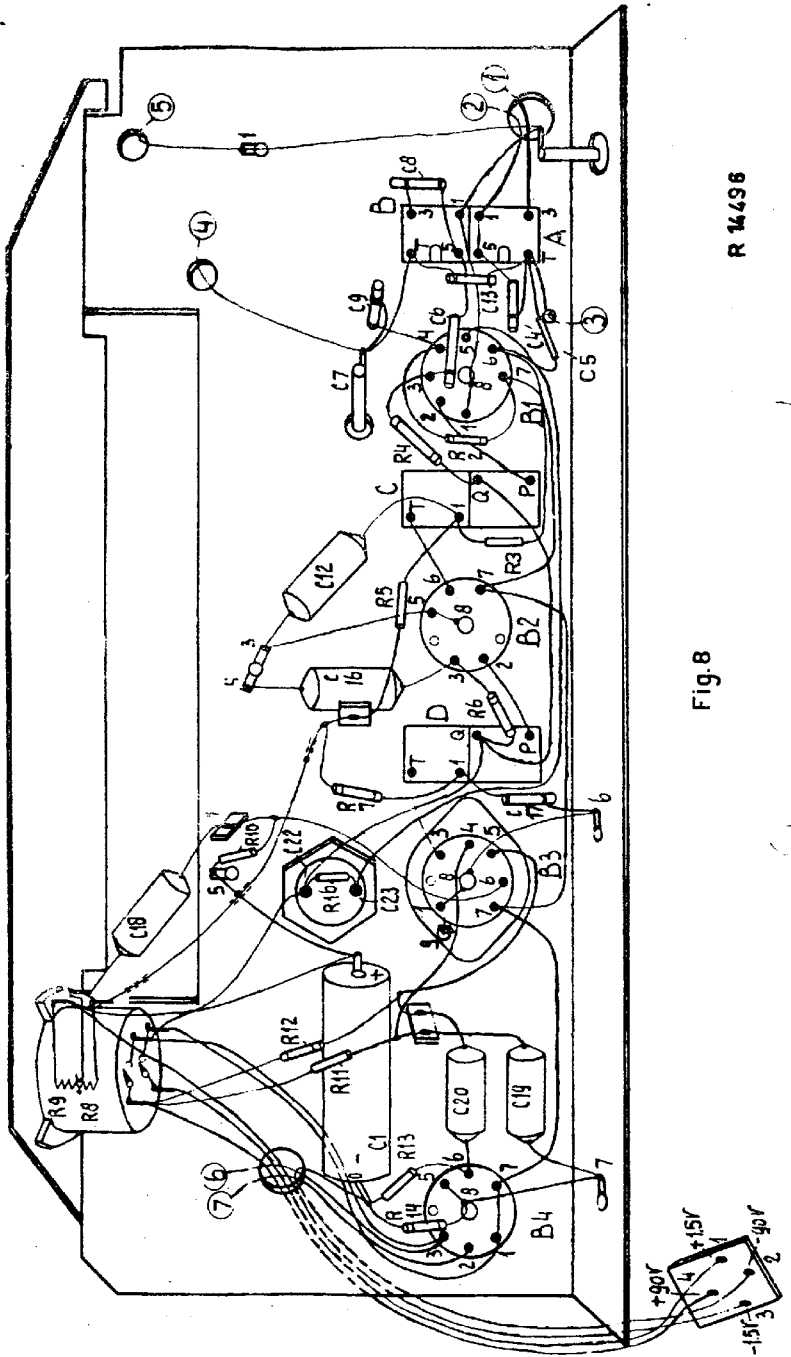


Fig. 8

R 14496

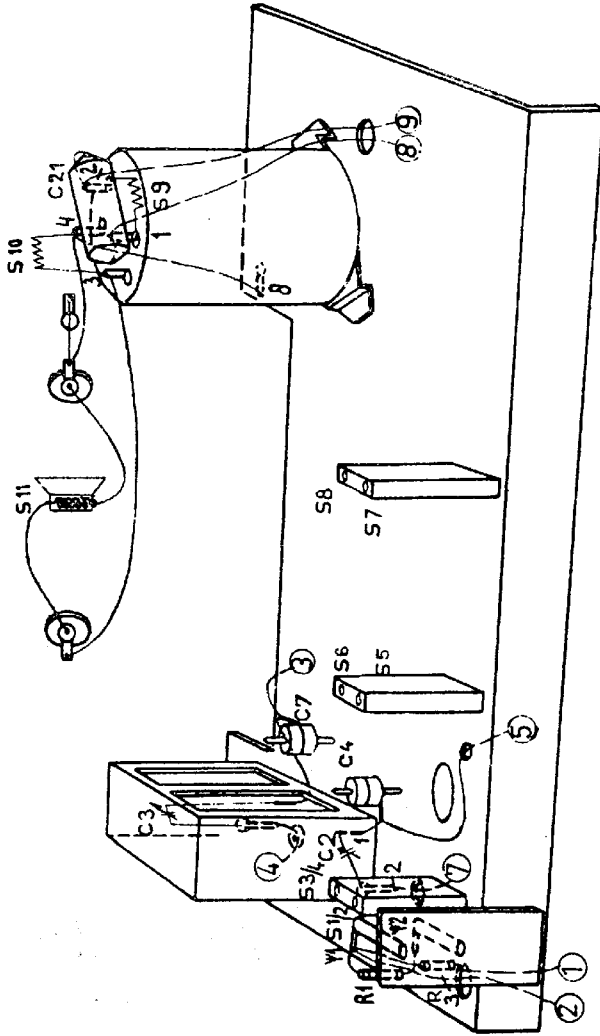


Fig. 8

R 14492

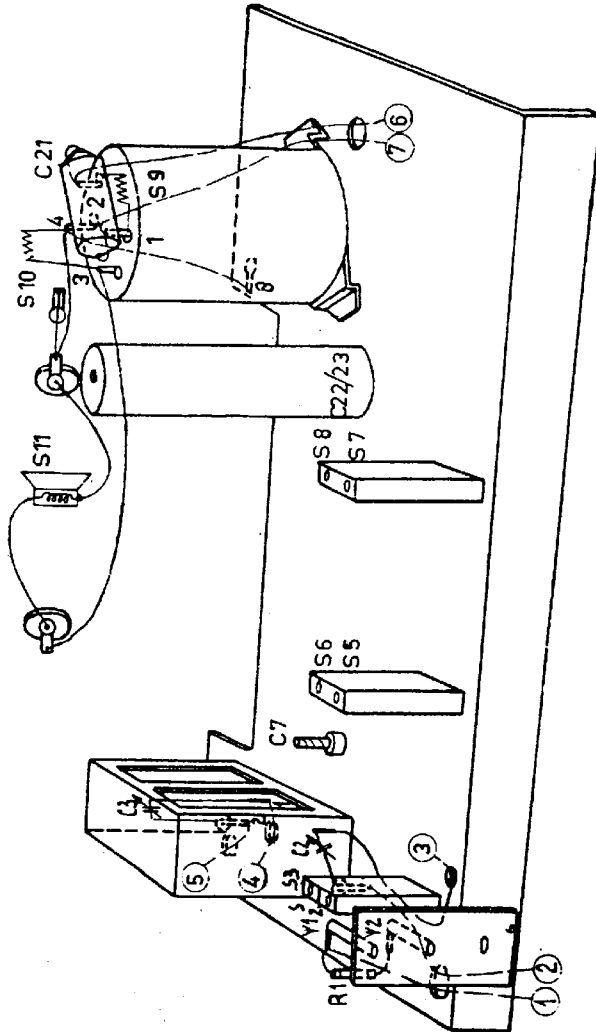


Fig.10

R 14491