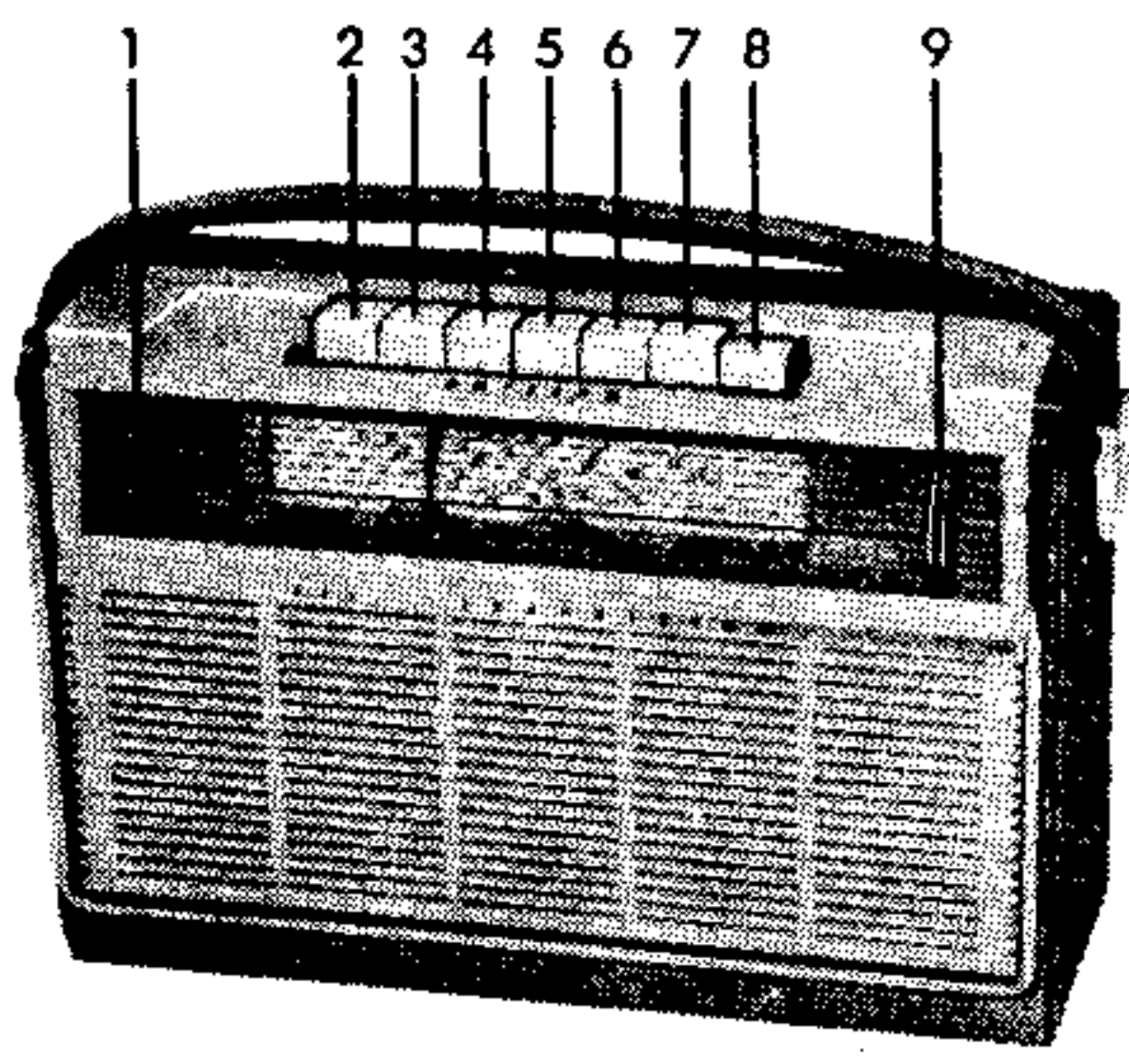


Met dank aan Ruud Jansen

### notes

#### SPECIFICATIONS

Battery .....	9V (6 x 1½V cells)
Tuning Range .....	517-1622 kc/s (580-185M) 1.6-3.9 Mc/s (187-77M) 4.65-9.9 Mc/s (64.5-30.5M) 11.6-21.85 Mc/s (26-13.8M)
Intermediate Frequency ...	452 kc/s
Cabinet .....	Wood leatherette covered
Dimensions .....	12¼" x 8¾" x 4"
Battery Consumption .....	25-30mA (no signal condition)
Output .....	1W



#### SEMI-CONDUCTORS AND FUNCTIONS

Function	No.	Type	
Frequency Converter	TR1	OC170	Transistor
1st I.F. Amplifier	TR2	OC45	"
2nd I.F. Amplifier	TR3	OC45	"
1st Audio Amplifier	TR4	OC75	"
2nd Audio Amplifier	TR5	OC75	"
Power Output Stage	TR6 } TR7 }	OC74	"
Demodulator and A.V.C.	X1	OA79	Germanium diode
Limiting Diode	X2	OA85	Germanium diode
Discharge Lamp	B1	GL8	Neon lamp
Dial Lamp	LA1	7994N	

#### CONTROL FUNCTIONS

- 1 — Volume control
- 2 — Dial Illumination
- 3 — Tone switch
- 4 — Tuning range switch (580-185M) B/C
- 5 — Tuning range switch (187-77M) SW3
- 6 — Tuning range switch (64.5-30.5M) SW2
- 7 — Tuning range switch (26.0-13.8M) SW1
- 8 — Battery on/off switch
- 9 — Tuning control

#### CHASSIS REMOVAL.

Component service changes on the printed circuit boards may be effected by removing the two bottom clip retaining screws and detaching the clips. The two boards may now be eased from their locating slots in the front of the cabinet and withdrawn to the extent of the connecting leads. For service to all other parts of the receiver, complete chassis removal is required.

of chassis) and the screw and bracket securing bottom end of switch panel and unsolder the two frame aerial connections (one each top corner bracket of cabinet front). The complete chassis comprising top chassis assembly, printed circuit boards and bottom half of battery case, may now be lifted out to the extent of the loudspeaker leads.

#### TO REMOVE CHASSIS COMPLETE.

Release printed circuit boards (as described above) detach battery top cover and remove batteries. Withdraw the two chassis retaining screws (one either end

The two control knobs (tuning and volume) are retained to their spindles by grub screws. When replacing volume control knob, ensure that the grub screw faces towards the back of the receiver as lateral adjustment may be required when receiver is refitted into cabinet.

### CAPACITORS

C.No.	Description	V.W.	Tol.±%	Type or Code No.
1,2	2 gang tuning			49.002.37
3	440pF Styroflex	500	1	C.285.AB/D440E
4	18pF ceramic, N750		5	C.304.GH/B18E
5	350pF Styroflex	500	1	C.285.AB/D350E
6	60pF air trimmer			908/60E
7	60pF air trimmer			908/60E
8	30pF air trimmer			908/30E
9	540pF Styroflex	500	1	C.285.AB/D540E
10	30pF air trimmer			908/30E
11	1,800pF Styroflex	500	1	C.285.AB/D1K8
12	47nF Polyester	125	10	C.296.AA/A47K
13	390pF Styroflex	500	1	C.285.AB/D390E
14	30pF air trimmer			908/30E
15	2.2nF ceramic, Hi-K		-20+50	C.301.GA/H2K2
16	30pF air trimmer			908/30E
17	10nF ceramic, Hi-K		-20+50	C.301.GB/H10K
18	30pF air trimmer			908/30E
19	1770pF Styroflex	500	1	C.285.AB/D1K77
20	30pF air trimmer			908/30E
21	470pF Styroflex	500	1	C.285.AB/D470E
22	30pF air trimmer			908/30E
23	Part of 1st I.F.T.			
24 )	Part of 2nd I.F.T.			
25 )				
26	22pF ceramic N.P.O.		5	C.304.GB/B22E
27	4μF electrolytic	64		C.425.AL/H4
28	0.1μF Polyester	125	10	C.296.AA/A100K
29	6.8nF ceramic, Hi-K		-20+50	C.301.GA/H6K8
30	0.1μF Polyester	125	10	C.296.AA/A100K
31	22pF ceramic, N.P.O.		5	C.304.GB/B22E
32 )	Part of 3rd I.F.T.			
33 )				
34	2.2nF ceramic, Hi-K		-20+50	C.301.GA/H2K2
35	0.1μF Polyester	125	10	C.296.AA/A100K
36	4μF electrolytic	64		C.425.AL/H4
37	2.2nF ceramic, Hi-K		-20+50	C.301.GA/H2K2
38	22nF Polyester	125	10	C.296.AA/A22K
39	33nF Polyester	125	10	C.296.AA/A33K
40	320μF electrolytic	2.5		C.426.AM/A320
41	25μF electrolytic	25		C.426.AM/F25
42	320μF electrolytic	10		C.426.AM/D320
43	320μF electrolytic	10		C.426.AM/D320
44	320μF electrolytic	10		C.426.AM/D320
45	0.68μF Polyester	125	10	C.296.AA/A680K
46	10nF ceramic, Hi-K		-20+50	C.301.GB/H10K
47	47nF Polyester	125	10	C.296.AA/A47K
48	3.9nF Polyester	125	10	C.296.AA/A3K9
49	200μF electrolytic	6.4		C.426.AM/G200
50	15pF ceramic, N750		10	C.304.GH/A15E
51	100pF ceramic, N.P.O.		1	C.304.GB/D100E
52	10nF ceramic, Hi-K		-20+50	C.301.GB/H10K
53	2.2nF ceramic, Hi-K		-20+50	C.301.GA/H2K2
54	10nF ceramic, Hi-K		-20+50	C.301.GB/H10K
60	0.1μF Polyester	125	10	C.296.AA/A100K
61	6.8pF ceramic, N750		1pF	Ducon CBT

R.No.	Description	W	Tol.±%	Type or Code No.
1	10,000 Ω cracked carbon	½	5	BB.305.05B/10K
2	3,300 Ω cracked carbon	½	5	BB.305.05B/3K3
3	2,700 Ω cracked carbon	½	5	BB.305.05B/2K7
4	0.18M Ω cracked carbon	½	5	BB.305.05B/180K
6	10,000 Ω cracked carbon	½	5	BB.305.05B/10K
8	680 Ω cracked carbon	½	5	BB.305.05B/680E
9	3,900 Ω cracked carbon	½	5	BB.305.05B/3K9
10	22,000 Ω cracked carbon	½	5	BB.305.05B/22K
11	1,000 Ω cracked carbon	½	5	BB.305.05B/1K
12	390 Ω cracked carbon	½	5	BB.305.05B/390E
13	15,000 Ω cracked carbon	½	5	BB.305.05B/15K
14	22,000 Ω cracked carbon	½	5	BB.305.05B/22K
15	12,000 Ω cracked carbon	½	10	BB.305.05A/12K
16	33,000 Ω cracked carbon	½	10	BB.305.05A/33K
17	1,500 Ω cracked carbon	½	10	BB.305.05A/1K5
18 )	20,000 Ω carbon potentiometer tapped 4,000 Ω (volume)			E.098.AG/00B25
19 )				
20	2,200 Ω cracked carbon	½	10	BB.305.05A/2K2
21	1,200 Ω cracked carbon	½	10	BB.305.05A/1K2
22	10 Ω cracked carbon	½	10	BB.305.05A/10E
23	1,500 Ω cracked carbon	½	10	BB.305.05A/1K5
25	5,600 Ω cracked carbon	½	10	BB.305.05A/5K6
26	8,200 Ω cracked carbon	½	10	BB.305.05A/8K2
27	1,200 Ω cracked carbon	½	10	BB.305.05A/1K2
28	220 Ω cracked carbon	½	10	BB.305.05A/220E
29	270 Ω cracked carbon	½	10	BB.305.05A/270E
31	12 Ω cracked carbon	½	5	BB.305.05B/12E
32	12 Ω cracked carbon	½	5	BB.305.05B/12E
34	3,300 Ω cracked carbon	½	10	BB.305.05A/3K3
35	47 Ω cracked carbon	½	5	BB.305.05B/47E
36	12 Ω cracked carbon	½	5	BB.305.05B/12E
37	12 Ω cracked carbon	½	5	BB.305.05B/12E
39	3,300 Ω cracked carbon	½	10	BB.305.05A/3K3
40	1,800 Ω cracked carbon	½	5	BB.305.05B/1K8
41	1,800 Ω cracked carbon	½	5	BB.305.05B/1K8
42	500 Ω carbon potentiometer (bias adjustment)			E.097.AC/500E
43	47 Ω cracked carbon	½	5	BB.305.05B/47E
44	39 Ω cracked carbon	½	10	BB.305.05A/39E
45	820 Ω cracked carbon	½	10	BB.305.05A/820E
46	1M Ω cracked carbon	½	10	BB.305.05A/1M
47	0.33M Ω cracked carbon	½	10	BB.305.05A/330K
51	39 Ω cracked carbon	½	10	BB.305.05A/39E

NOTE: Wattage ratings quoted for "cracked carbon" resistors are at a temperature maximum of 70°C.

### INDUCTORS

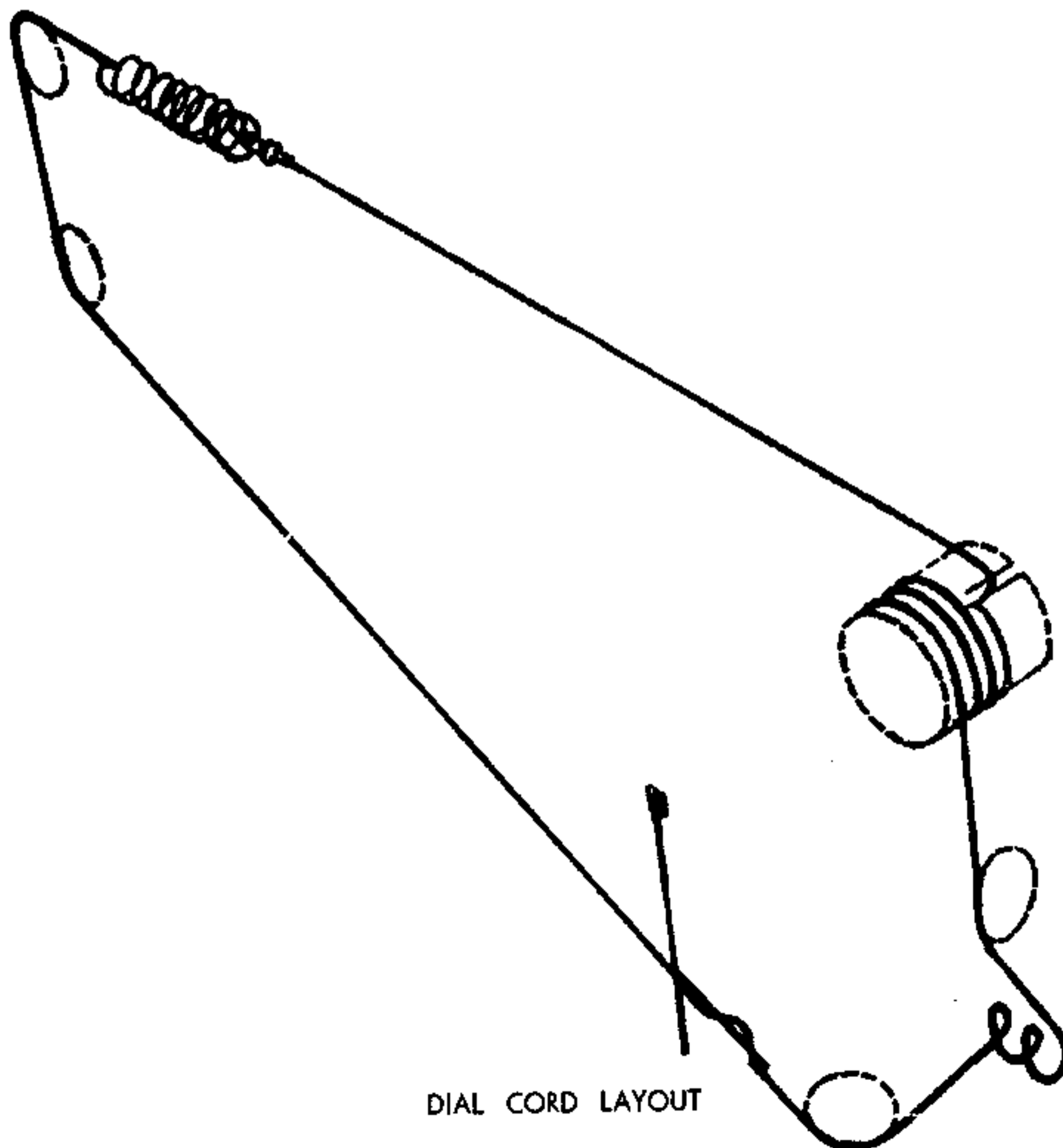
S.No.	Description	Band	Code No.
1,2	Aerial Coil	21.85 - 11.6 Mc/s	A3.986.99
3,4	Aerial Coil	9.9 - 4.65 Mc/s	A3.804.90
5,6 )	Ferroceptor	3.9 - 1.6 Mc/s and Broadcast )	A3.804.86
7,8 )			
9	Frame Aerial		A3.749.93
10,11,12	Oscillator Coil	21.85 - 11.6 Mc/s and 9.9 - 4.65 Mc/s	A3.804.91
13,14,15	Oscillator Coil	3.9 - 1.6 Mc/s	A3.804.92
16,17,18	Oscillator Coil	Broadcast	A3.129.32
19,19a )	1st I.F.T.		A3.129.35
20,21 )			
22,23,24, )	2nd I.F.T.		A3.129.34
25,26 )			
27,28,29 )	3rd I.F.T.		A3.129.33
30,31 )			
32,33,34	Driver Transformer		A3.162.11
35,36	Output Transformer		A3.154.32
38	Loudspeaker	25 Ω V/C	AD3500HWZ
45	Choke		CZ.324.353

NOTE: nF = nanofarad, i.e. 10<sup>-9</sup> farad

may or may not be paralleled on C26 or C31

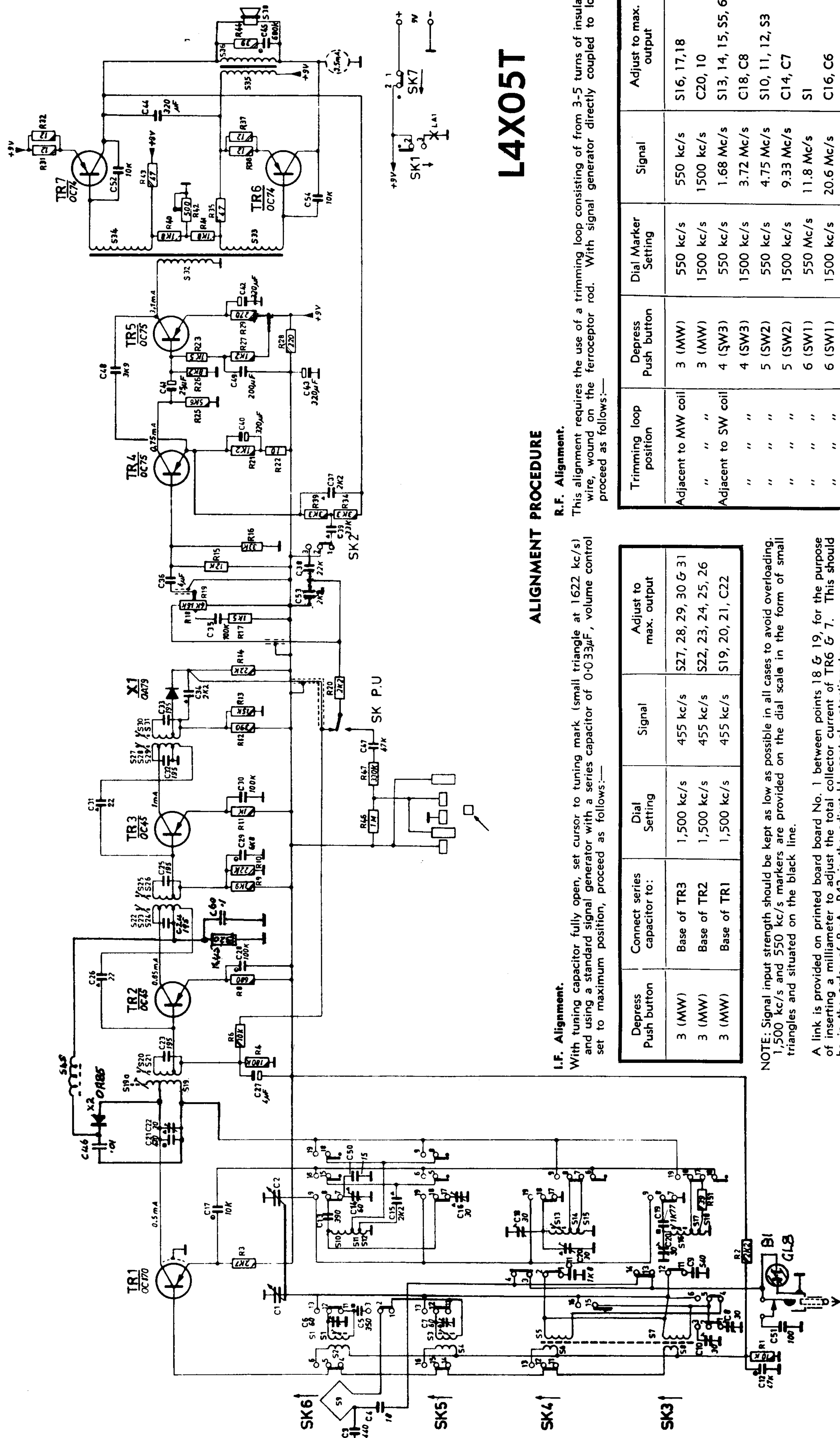
## MISCELLANEOUS COMPONENTS

<u>DESCRIPTION</u>	<u>CODE NO.</u>	<u>DESCRIPTION</u>	<u>CODE NO.</u>
Battery holder, lower	A3.788.15	Assy. of push buttons with tone, dial lamp and on/off banks only	A3.298.46
Battery holder, upper	A3.788.16	Bowden cable, 4x, 5.29/32" each	965/KA07
Cabinet (beige) case with rear grille and sockets, escutcheon only	A3.009.01	Cable clamp, 8x	964/2.6x4
Case complete with front grille and aerial	CR.570.726	Cable ferrule, 8x	964/3x8.2
Cabinet mounting foot, 4x	P5.192.13/723	Cable casing, 4x, 4 1/8" each	965/RW1.5
Cabinet handle	A3.358.78		
Dial cursor assembly	CR.480.680	<u>Switch Bank Parts</u>	
Dial cord, 28 3/4"		Contact lip (fixed contact) all switch positions	971/79
Dial drum	A3.327.81	Contact spring (moving contact) switch positions 2, 3, and 8	971/77
Dial scale	A3.938.85	Contact spring (moving contact) switch positions 4, 5, 6, and 7	971/112
External aerial socket	A3.356.59	Contact strip (fixed micarta) switch positions 2, 3, and 8	971/101
External aerial plug	978/3x40	Contact strip (fixed micarta) switch positions 4, 5, 6, and 7	971/134
Front grille-cabinet	P5.210.20/159LX	Contact slide (moving micarta) switch position 3	971/102
Grille - cabinet rear, 5 1/8" long	CS.430.706	Contact slide (moving micarta) switch positions 2 and 8	971/103
Grille - cabinet rear, 8 3/4" long	P5.350.70	Contact slide (moving micarta) switch positions 4, 5, 6, and 7	971/133
Knob, tuning and volume	A3.784.51		
Push button, 6x	P5.420.22/139FX		
Push button, on/off	A3.666.58		
Pickup socket and switch	979/F5x1		
Pickup plug	978/M5x1		
Screw - battery holder, 2x	A3.712.66		
Screw - cabinet rear, 2x	A3.715.39		
Spring - dial cord	964/6x17		
<u>Switches &amp; Switch Parts</u>			
Complete switch assembly incl. push button assembly, W/C, tone, dial lamp and on/off banks with actuating Bowden wires	A3.791.93		



DIAL CORD LAYOUT

59 2 4.6.8. 1.3.5.7 10-18 19.19 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



# L4X05T

## ALIGNMENT PROCEDURE

### I.F. Alignment.

With tuning capacitor fully open, set cursor to tuning mark (small triangle at 1622 kc/s) and using a standard signal generator with a series capacitor of 0.033μF, volume control set to maximum position, proceed as follows:—

Depress Push button	Connect series capacitor to:	Dial Setting	Signal	Adjust to max. output
3 (MW)	Base of TR3	1,500 kc/s	455 kc/s	S27, 28, 29, 30 & 31
3 (MW)	Base of TR2	1,500 kc/s	455 kc/s	S22, 23, 24, 25, 26
3 (MW)	Base of TR1	1,500 kc/s	455 kc/s	S19, 20, 21, C22

### R.F. Alignment.

This alignment requires the use of a trimming loop consisting of from 3-5 turns of insulated wire, wound on the ferroceptor rod. With signal generator directly coupled to loop, proceed as follows:—

Trimming loop position	Depress Push button	Dial Marker Setting	Signal	Adjust to max. output
Adjacent to MW coil	3 (MW)	550 kc/s	550 kc/s	S16, 17, 18
"	3 (MW)	1500 kc/s	1500 kc/s	C20, 10
Adjacent to SW coil	4 (SW3)	550 kc/s	1.68 Mc/s	S13, 14, 15, S5, 6
"	4 (SW3)	1500 kc/s	3.72 Mc/s	C18, C8
"	5 (SW2)	550 kc/s	4.75 Mc/s	S10, 11, 12, S3
"	5 (SW2)	1500 kc/s	9.33 Mc/s	C14, C7
"	6 (SW1)	550 Mc/s	11.8 Mc/s	S1
"	6 (SW1)	1500 kc/s	20.6 Mc/s	C16, C6

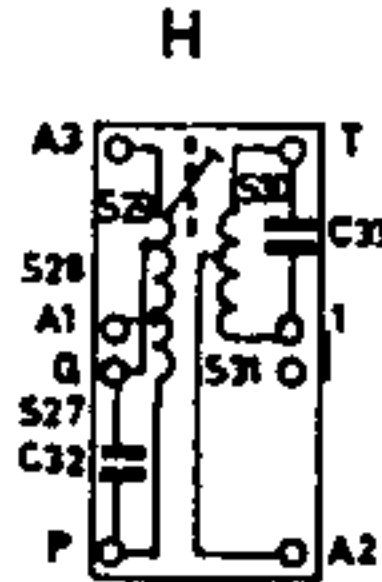
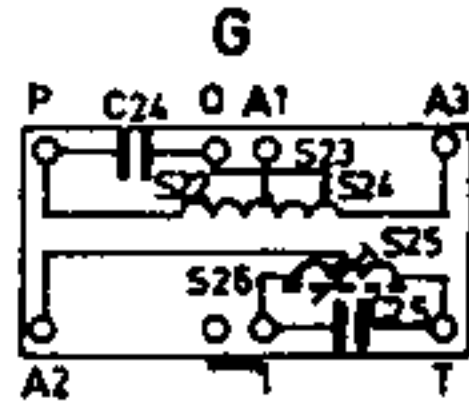
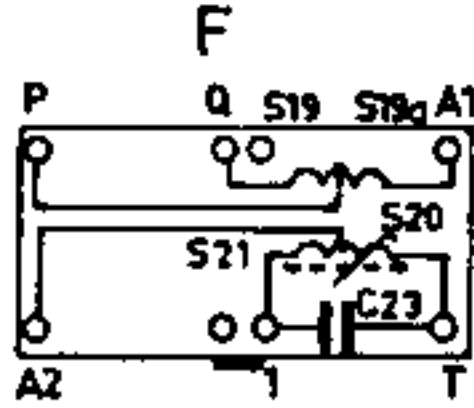
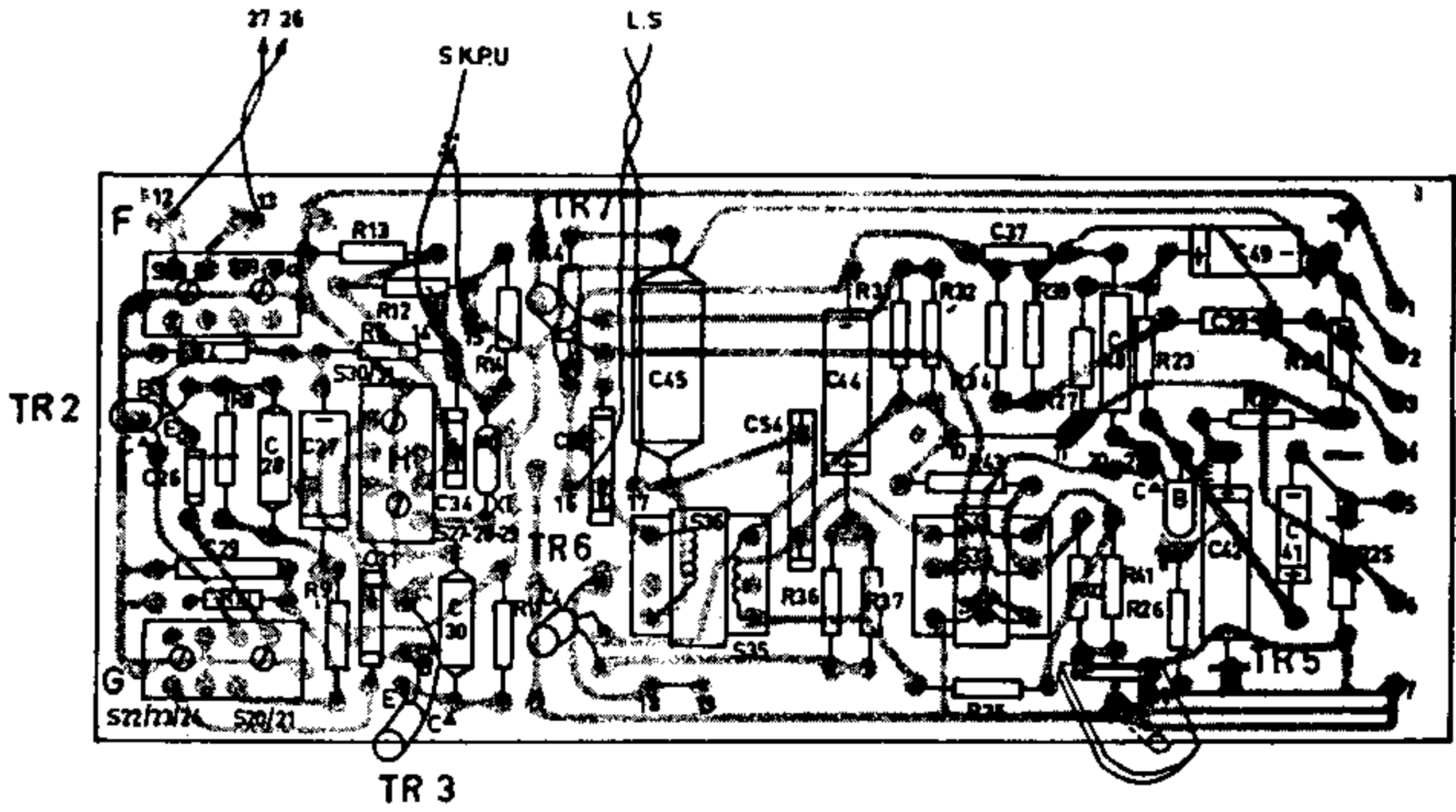
NOTE: Signal input strength should be kept as low as possible in all cases to avoid overloading. 1,500 kc/s and 550 kc/s markers are provided on the dial scale in the form of small triangles and situated on the black line.

A link is provided on printed board No. 1 between points 18 & 19, for the purpose of inserting a milliammeter to adjust the total collector current of TR6 & 7. This should be in the order of 8mA, R42 is the adjustable control potentiometer.

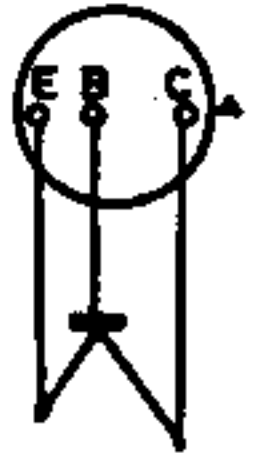


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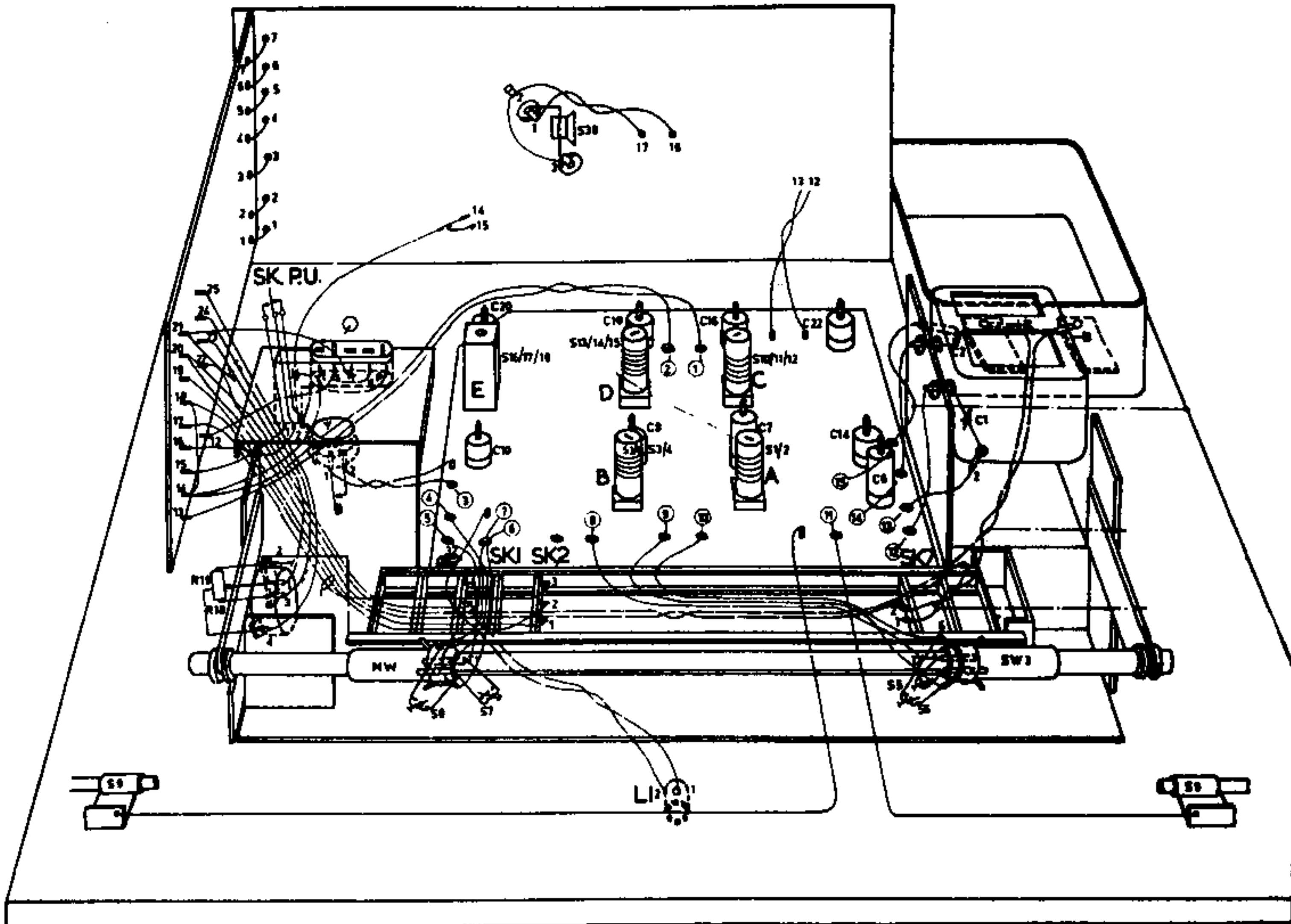
## SERVICE DATA



TR2-TR7



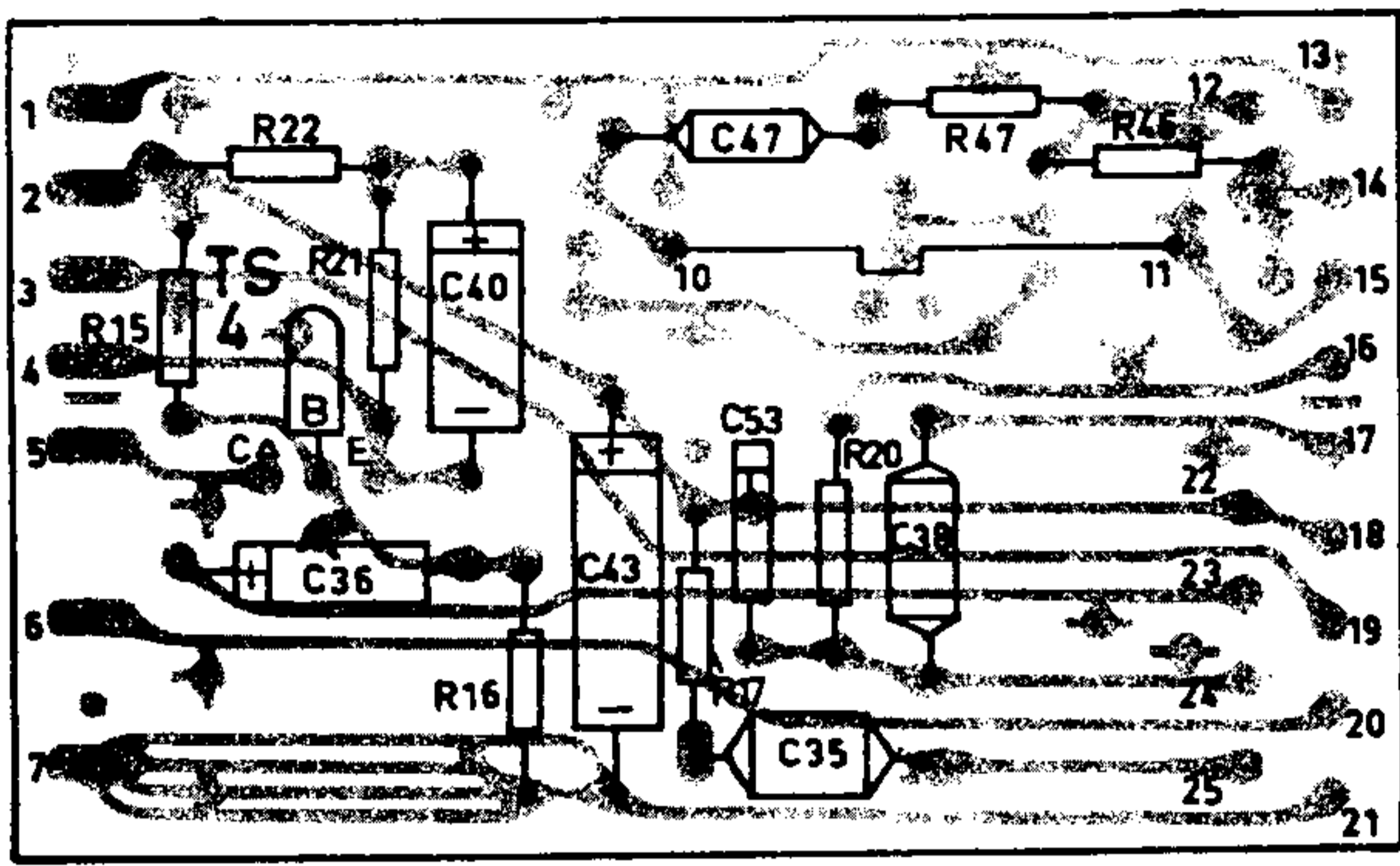
PRINT BOARD 1



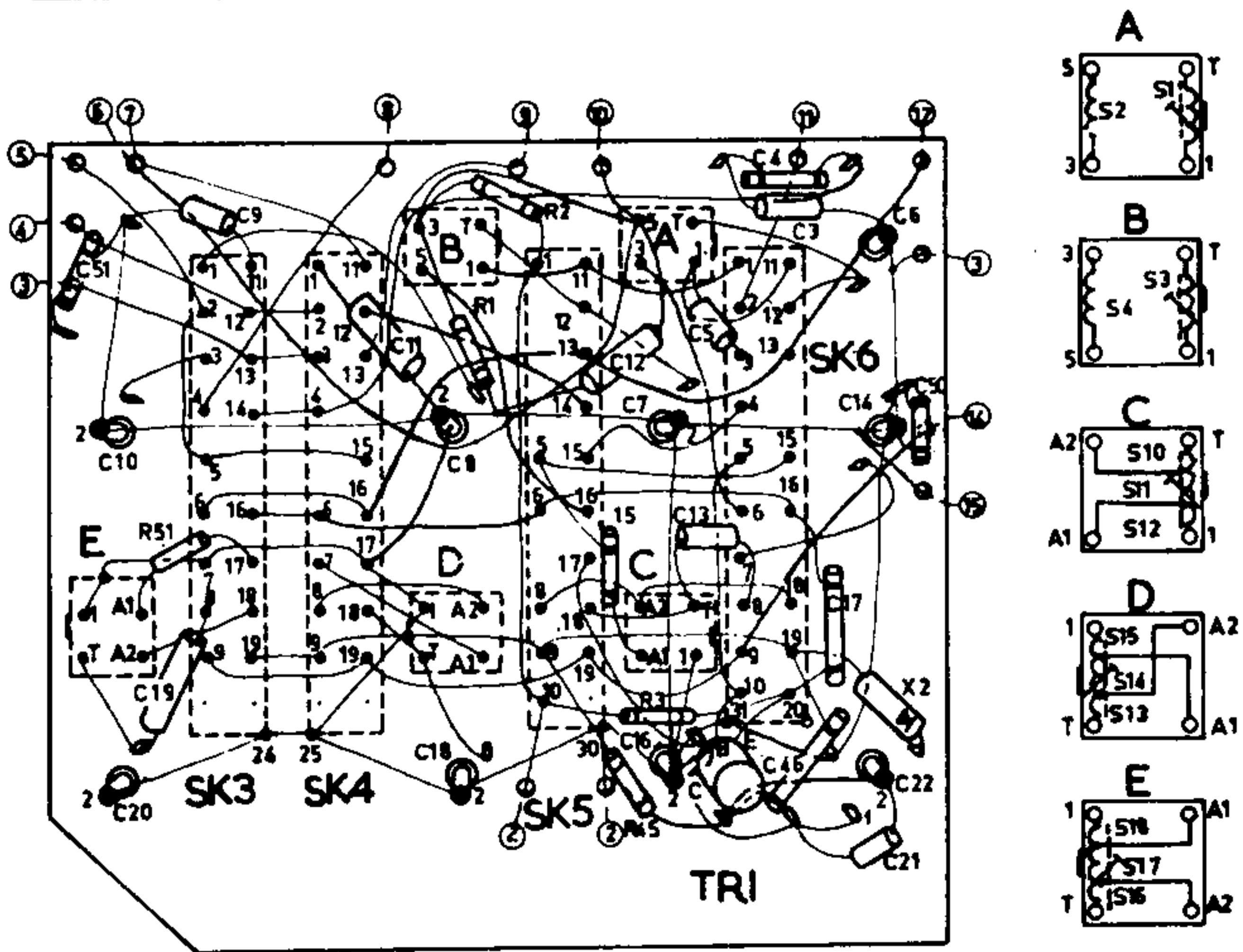
INTERIOR VIEW

# L4X05T

## SERVICE DATA



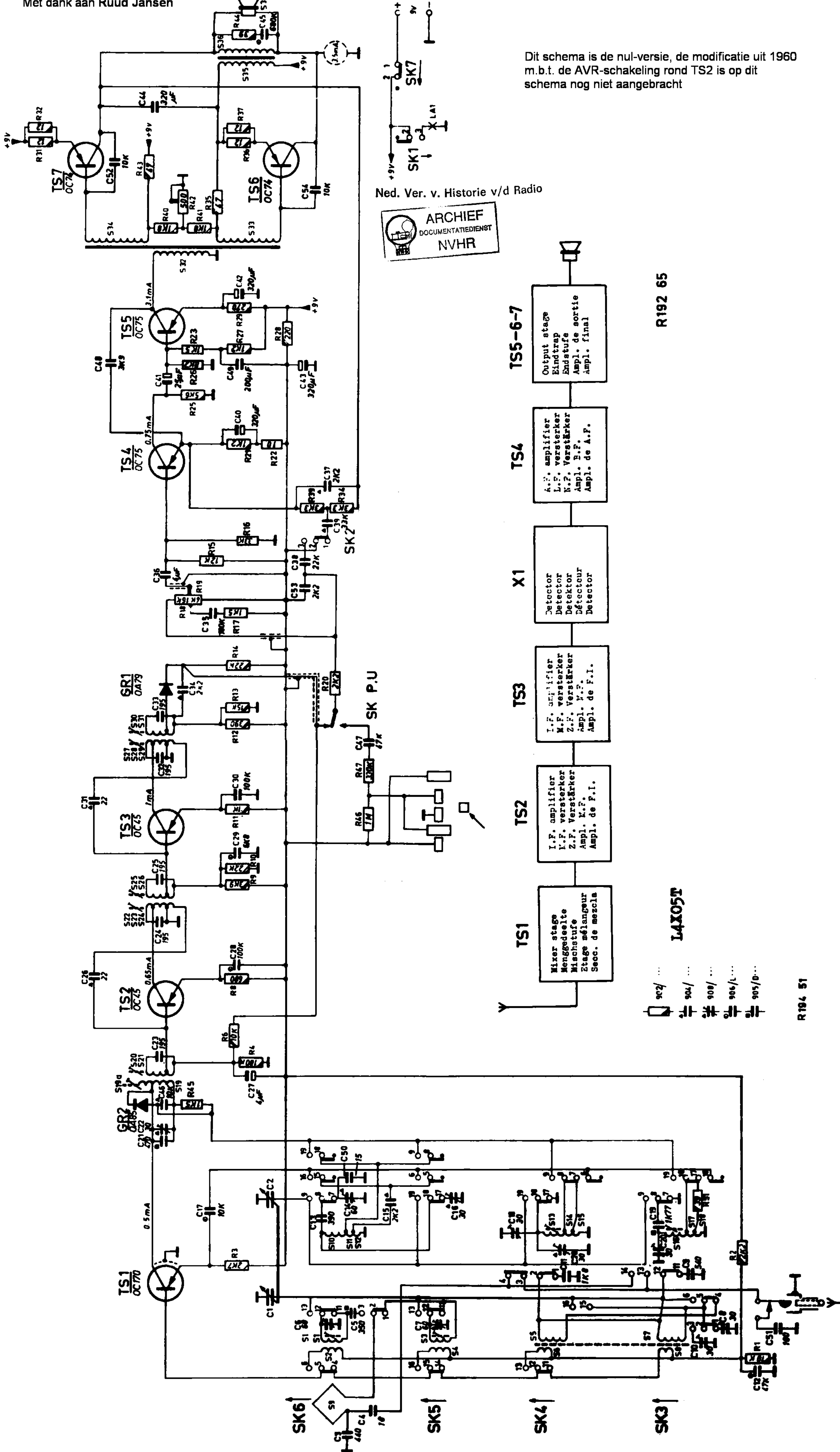
S	E.	B.D.	A.C.
C	51, 10, 20, 19, 9,	11, 8, 10,	15, 12, 7, 16, 13, 5, 4, 3, 46, 17, 6, 14, 22, 21, 50.
R	51.	1, 2.	45, 3.



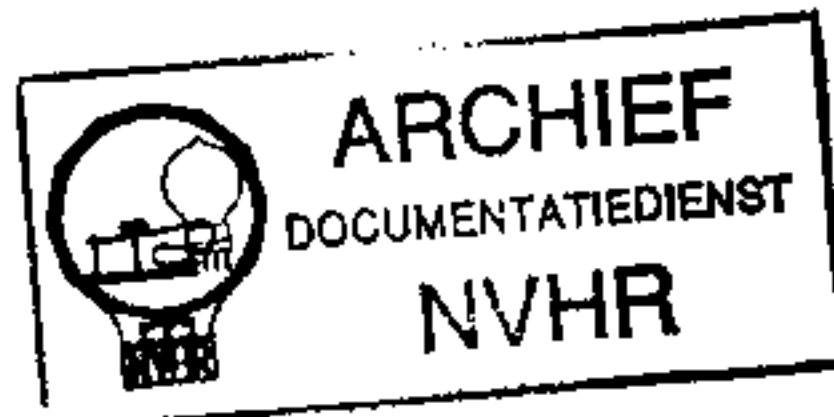
PRINT BOARD 3

S: 9 2.4.6.8.13.57 10-110 19 190 20.71 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

Met dank aan Ruud Jansen

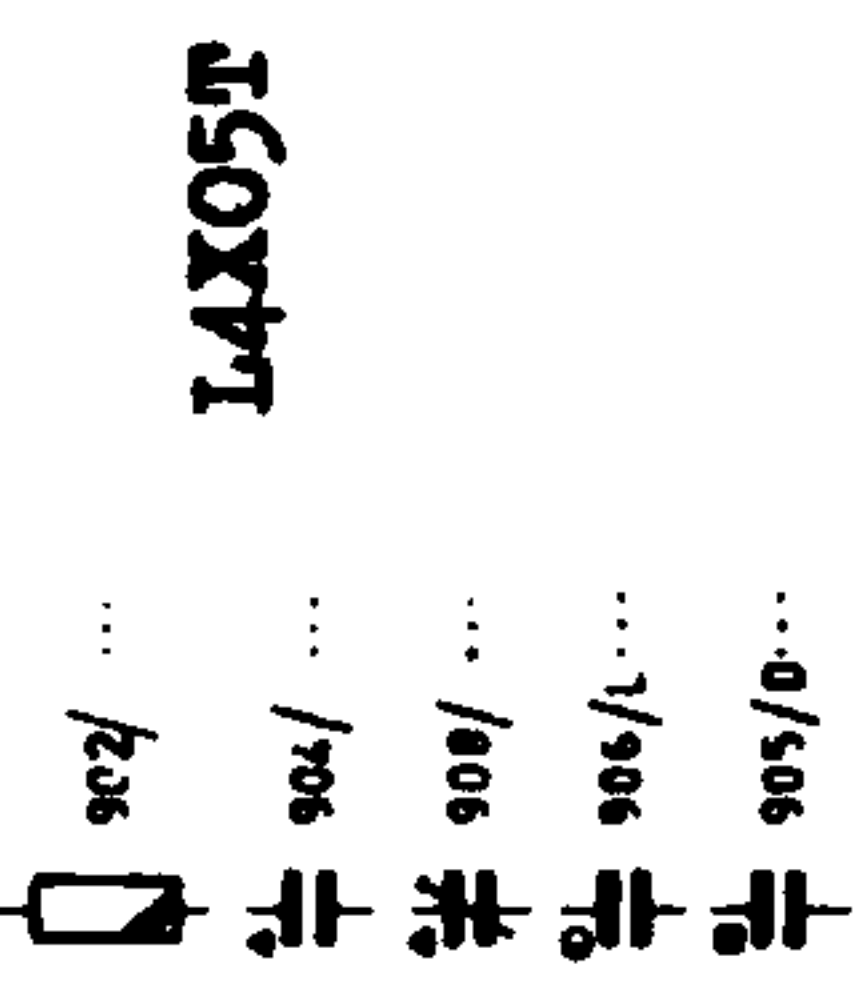


Ned. Ver. v. Historie v/d Radio



Dit schema is de nul-versie, de modificatie uit 1960 m.b.t. de AVR-schakeling rond TS2 is op dit schema nog niet aangebracht

- TS1 Mixer stage  
Mengedeelte  
Mischstufe  
Etage mélangeur  
Secc. de mezcla
- TS2 I.F. amplifier  
I.F. versterker  
Z.F. Verstärker  
Ampl. K.F.  
Ampl. de F.I.
- TS3 I.F. amplifier  
I.F. versterker  
Z.F. Verstärker  
Ampl. K.F.  
Ampl. de F.I.
- X1 Detector  
Detector  
Detector  
Détecteur  
Detector
- TS4 A.F. amplifier  
L.F. versterker  
N.F. Verstärker  
Ampl. E.F.  
Ampl. de A.F.
- TS5-6-7 Output stage  
Eindtrap  
Endstufe  
Ampl. de sortie  
Ampl. final



LAX05T

R192 65

R194 51