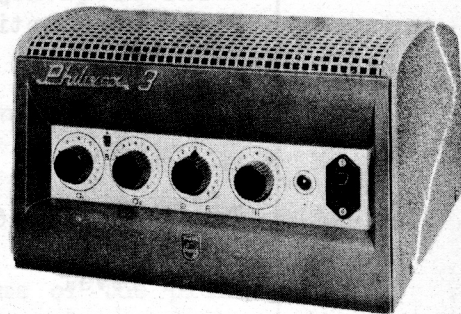


PHILIPS *Service*

40 W amplifier

EL 6411



C30989

With the Compliments of ...

RADIO WHOLESALERS LTD.
P.O. Box 527
INVERCARGILL



VERSIONS

- EL 6411/00 Amplifier 40 W with rectifiers in a horizontal position.
- EL 6411/01 As /00.
- EL 6411/06 As /01, however with the rectifiers in vertical position and in Swedish version.
- EL 6411/07 As /01, however destined for mounting in EL 5320.
- EL 6411/08 As /01, however in Swedish version.
- EL 6411/71 As /01, however without cap.

GENERAL

The EL 6411/00 has been designed for public address purposes. The amplifier is provided with four inputs: 2 for microphone (Q1 and Q2), 1 for pick-up (Q) and 1 for radio (R).

It is possible to mix: a) Q1 and Q2 Q
 b) Q1 and R or Q
 c) Q2 and R or Q
 d) Q1, Q2 and R or Q

Mixing of Q and R is not possible.

DIMENSIONS

Length : 335 mm
 Width : 245 mm
 Height : 190 mm

LIST OF DIAGRAMS

- Fig. 1 Circuit diagram.
- Fig. 2 Top view.
- Fig. 3 Bottom view.
- Fig. 4A-B-C. Frequency response curves.
- Fig. 5 Distortion curve.
- Fig. 6 Measuring circuit.
- Fig. 7 Transformer connections.

WEIGHT

Complete with valves : 10.7 kg.

VALVES

See Electrical Parts List.

FUSES

VL1 (200-245 V) 1A - 974/V1000
 (110-145 V) 2A - 974/V2000

SIGNAL LAMP

La1 - 8008 V

SERVICE INFORMATION	Eb8	Eb15	Eb20	Eb47	Eb58	Eb78	Eb86		
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Elektrische stuklijst

T1	V3 621 22				
T2	V3 616 63				
Gr1	SR 250 B 100				
Gr2	SR 250 B 100				
Gr3	SR 250 B 100				
Gr4	SR 250 B 100				
C1	906/L15K	15 000	pF	125	V
C2	906/L15K	15 000	pF	125	V
C3	906/22K	22 000	pF	400	V
C4	906/22K	22 000	pF	400	V
C5	906/1K5	1 500	pF	400	V
C6	906/1K5	1 500	pF	400	V
C7	906/L15K	15 000	pF	125	V
C8	905/820E	820	pF		
C9	906/L15K	15 000	pF	125	V
C10	906/68K	68 000	pF	400	V
C11	906/68K	68 000	pF	400	V
C12	906/68K	68 000	pF	400	V
C13	906/68K	68 000	pF	400	V
C14	906/39K	39 000	pF	400	V
C15	C435AL/H40	40	μF	64	V
C16	912/P50+50	50+50	μF	350	V
C17	912/P50+50	50+50	μF	350	V
R1	915/L75K+275K	0,35	MΩ		
R2	915/L75K+275K	0,35	MΩ		
R3	B1 639 79	2X0,5	MΩ		
R4	915/L75K+275K	0,35	MΩ		
R5	902/10M	10	MΩ	0,5	W
R6	902/10M	10	MΩ	0,5	W
R7	902/47K	47 000	Ω	0,5	W
R8	902/47K	47 000	Ω	0,5	W
R9	901/100K	0,1	MΩ	0,5	W
R10	901/100K	0,1	MΩ	0,5	W
R11	902/180K	0,18	MΩ	0,5	W
R12	902/180K	0,18	MΩ	0,5	W
R13	902/270K	0,27	MΩ	0,5	W
R14	902/270K	0,27	MΩ	0,5	W
R15	902/270K	0,27	MΩ	0,5	W
R16	902/8M2	8,2	MΩ	0,5	W
R17	902/470K	0,47	MΩ	0,5	W
R18	902/1M	1	MΩ	0,5	W
R19	902/1K	1 000	Ω	0,5	W
R20	902/1K	1 000	Ω	0,5	W
R21	902/1M	1 000	Ω	0,5	W
R22	901/100K	0,1	MΩ	0,5	W

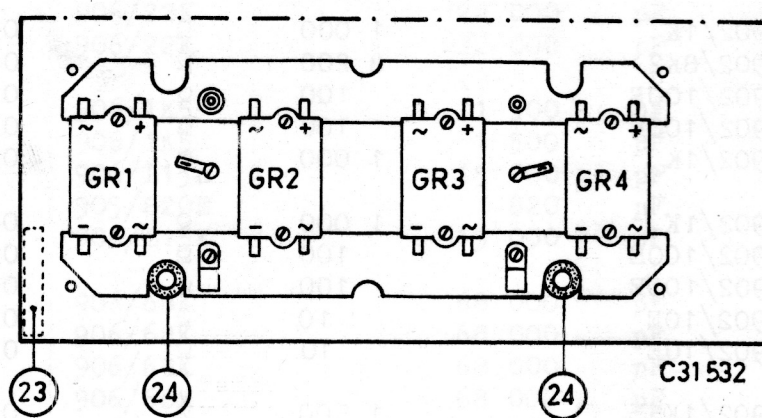
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R23	902/100K	0,1	MΩ	0,5	W
R24	902/1M	1	MΩ	0,5	W
R25	902/120K	0,12	MΩ	0,5	W
R26	902/1K6	1 600	Ω	0,5	W
R27	902/47K	47 000	Ω	0,5	W
R28	902/47K	47 000	Ω	0,5	W
R29	902/47K	47 000	Ω	0,5	W
R30	902/470K	0,47	MΩ	0,5	W
R31	902/470K	0,47	MΩ	0,5	W
R32	902/1K	1 000	Ω	0,5	W
R33	902/1k	1 000	Ω	0,5	W
R34	902/8k2	8 200	Ω	0,5	W
R35	902/100E	100	Ω	0,5	W
R36	902/100E	100	Ω	0,5	W
R37	902/1k	1 000	Ω	0,5	W
R38	902/1K	1 000	Ω	0,5	W
R39	902/100E	100	Ω	0,5	W
R40	902/100E	100	Ω	0,5	W
R41	902/10E	10	Ω	0,5	W
R42	902/10E	10	Ω	0,5	W
R43	902/1K5	1 500	Ω	0,5	W
R44	902/6K8	6 800	Ω	0,5	W
R45	902/39E	39	Ω	0,5	W
R46	901/10K	10 000	Ω	1	W
R47	901/15K	15 000	Ω	1	W
R48	902/10E	10	Ω	0,5	W
B1	EF86				
B2	EF86				
B3	ECC40				
B4	ECC40				
B5	EL81				
B6	EL81				
B7	EL81				
B8	EL81				
B9	0A55				

HJ/GK

Remarks

- With too low an output it is recommended to replace the valves EL81 by other valves of the same type, however with the marks 5C , 5D .
- For obtaining the various anode and screen grid voltages a selenium rectifier (Gr1 - Gr2 - Gr3 - Gr4) is used. Thus two more cells than mentioned in the text.
The 4 cells are fixed on the outer side of the bottom plate. They are accessible by removing the screen cap (4 screws).



- For regions where great mains tension variations occur, it is recommended to replace possible defective selenium cells type SR250B100 by type SR300B100.
- In the text of this documentation, the valve type EF 40 is mentioned. This valve has been replaced by the valve type EF86. The valve type EF86 has the same extreme values of measurements as the valve type EF40.
- In case of complaints about output tubes becoming red, it is advised to replace the coupling capacitors C11 and C12 by rupaco capacitors. Code number 906/V68K.

R: 5 7 9 11 13 16 4 18 19.22.21 23.20 24 26.25 28.27 30.31 37.32.33.38 39.35.36.40

R:	5, 7	9	11, 1	13	16	4	18	19, 22, 21	23, 20	24	26, 25	28, 27	34, 29	30, 31	37, 32, 33, 38	39, 35, 36, 40
R:	6, 8	10	12, 2, 3	14, 15	17		47, 46	45	44	43				41, 42		48
C:	1, 2		3, 4		5, 6	7, 8, 17	9	16	10	15, 11			13	12		

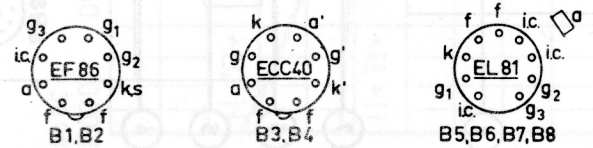
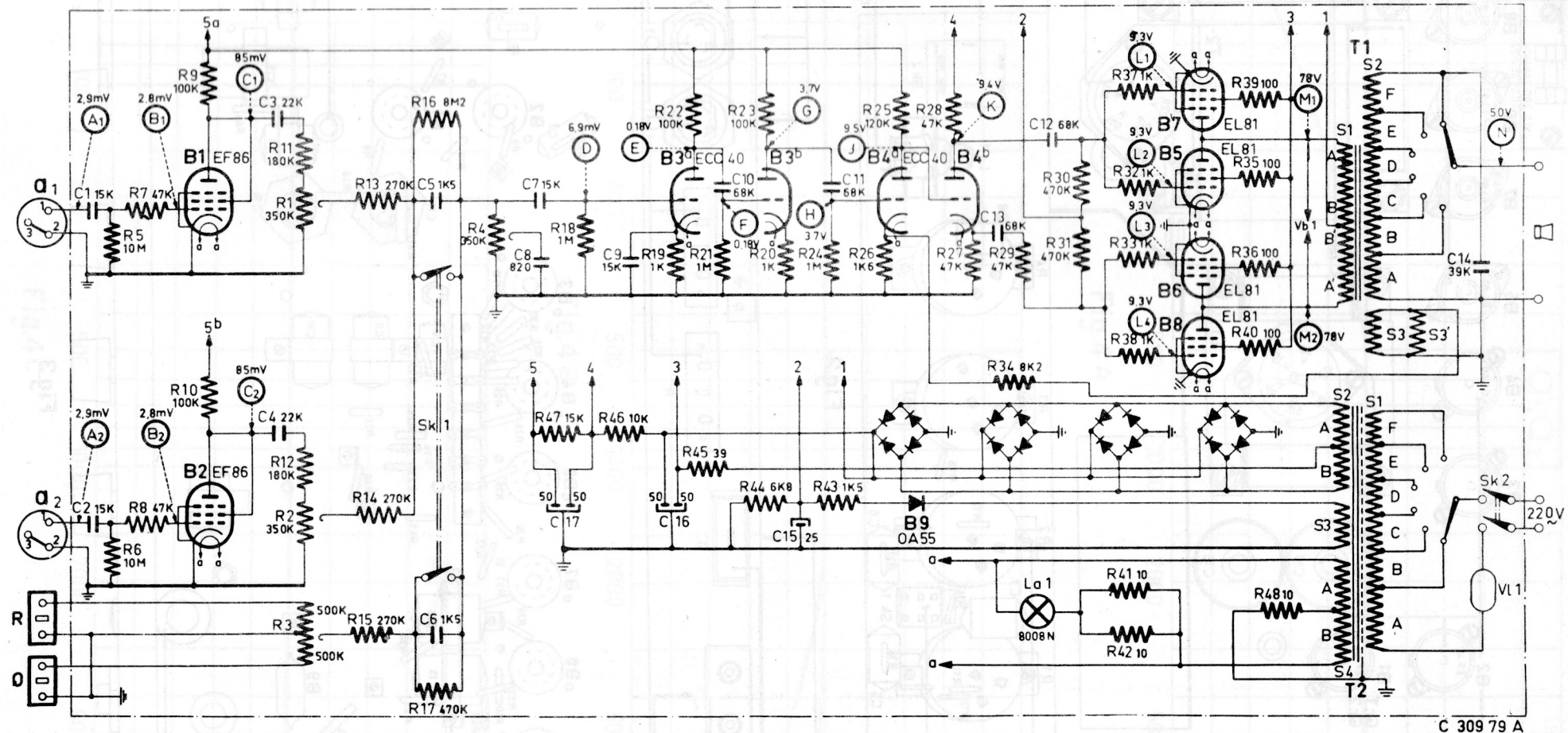
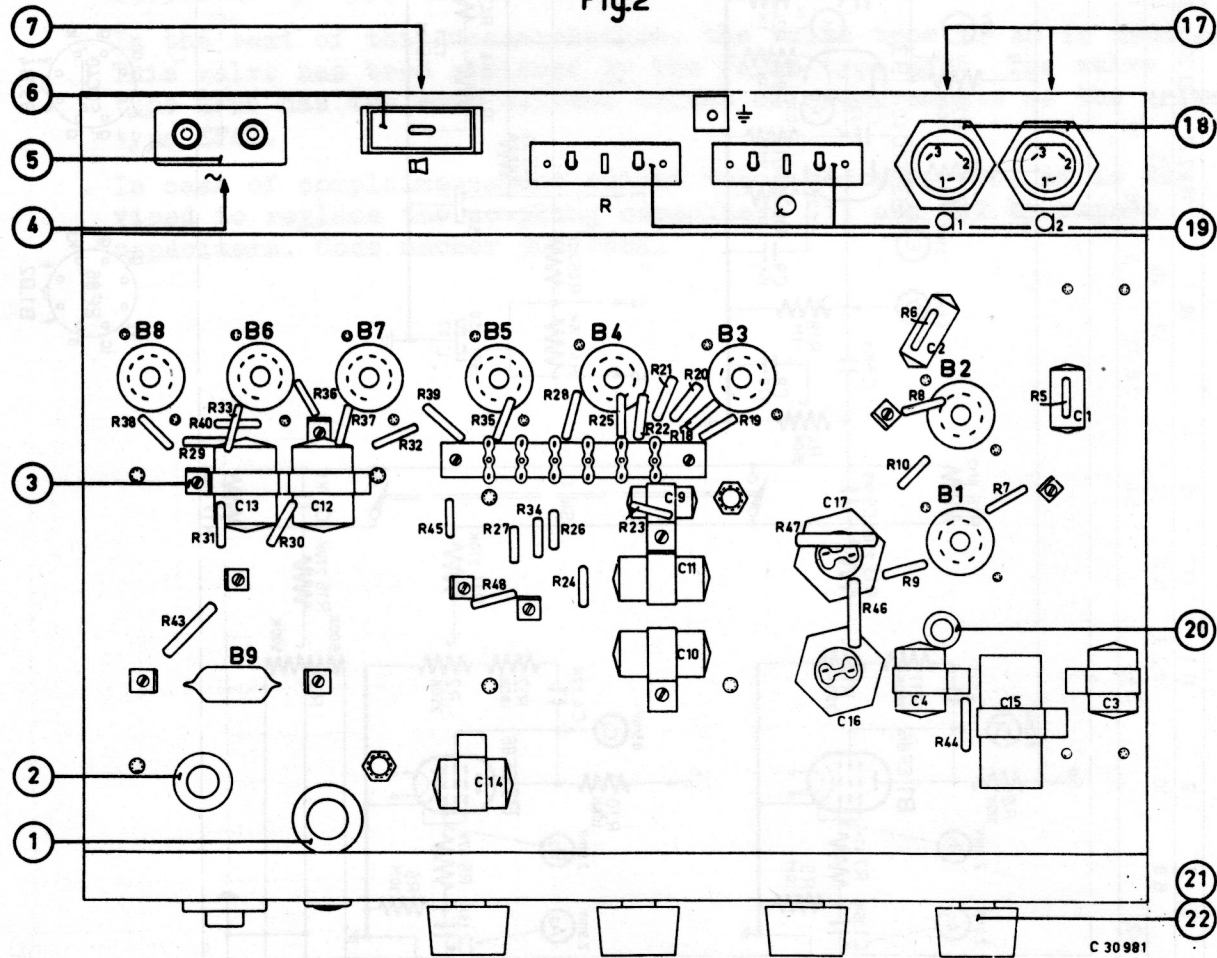
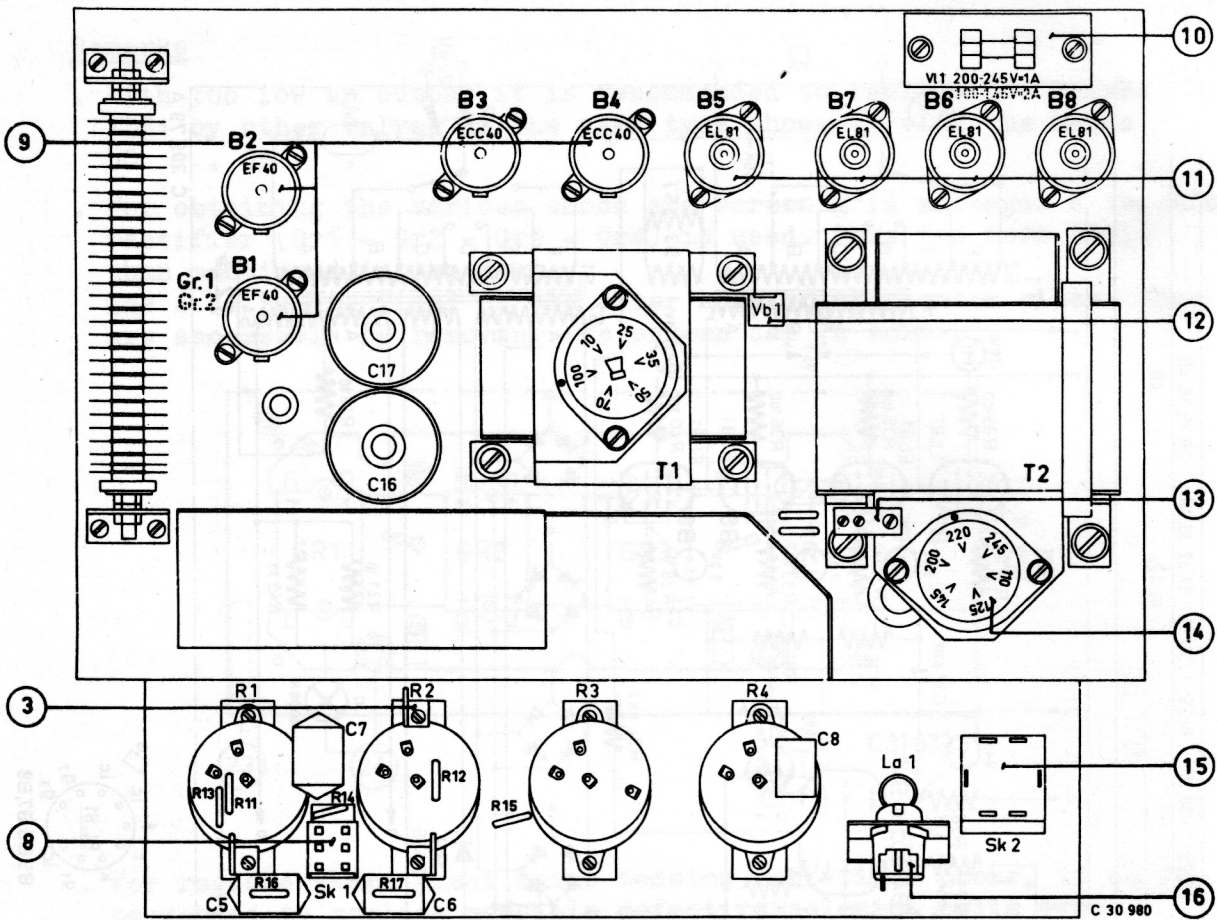


Fig.1

EL 6411



dB	
20	
10	
0	+B, +H
-10	
-20	-B, +H
25	
dB	
20	
10	
0	
-10	
-20	
25	
dB	
20	
10	
0	+H
-10	
-20	
25	