

Dual

Service Instructions P 50 / P 52 / P 1010 F H 50 / H 52 / H 50 N / H 52 N



Edition 1 E TV 71

Technical Data

Record changer:

Power line:

Power line voltage:

Power consumption:

Turntable speeds:

Cartridge:

Frequency response, cartridge:

Amplifier:

Complement:

Loudspeaker:

Fuses:

P 50 / H 50 / H 50 N

Dual 410

50 or 60 Hz, AC

(adaptable to both frequencies by changing idler)

110 / 150 / 220 V switchable

approximately 25 VA

78, 45, 33 $\frac{1}{3}$ and 16 $\frac{2}{3}$ rpm

Dual stereo crystal system

CDS 630 with Dual sapphire needle, type DN 5

30 Hz to 16 kHz

4-stage transistor amplifier with 6-watt
push-pull output stage

selenium rectifier B 30 C 400

transistors: BC 172 C, BC 108 C,

AC 181 L VII / AC 180 L VII matched

silicon diode BA 170

6 watt special speaker

220 V: 125 mA slow-blow

110 / 150 V: 250 mA slow-blow

Weight:

Dimensions:

P 50 6,6 kg

373 x 350 x 160 mm

H 50 / H 50 N 6,6 kg

373 x 352 x 160 mm

P 1010 F / P 52 / H 52 / H 52 N

Dual 1010 F

50 or 60 Hz, AC

(adaptable to both frequencies by changing idler)

110 / 150 / 220 V switchable

approximately 25 VA

78, 45 and 33 $\frac{1}{3}$ rpm

Dual stereo crystal system

CDS 630 with Dual sapphire needle, type DN 5

30 Hz to 16 kHz

4-stage transistor amplifier with 6-watt
push-pull output stage

selenium rectifier B 30 C 400

transistors: BC 172 C, BC 108 C,

AC 181 L VII / AC 180 L VII matched

silicon diode BA 170

6 watt special speaker

220 V: 125 mA slow-blow

110 / 150 V: 250 mA slow-blow

Weight:

Dimensions:

P 1010 F 6,7 kg

375 x 330 x 180 mm

P 52 9,3 kg

373 x 415 x 160 mm

H 52 / H 52 N 9,3 kg

373 x 417 x 160 mm

Description of operation, as well as repair and adjustment instructions for Dual 410 record player and Dual 1010 F record changer are contained in the respective Service manuals.

DUAL GEBRÜDER STEIDINGER · 7742 ST. GEORGEN/SCHWARZWALD

V 447 engl. 3/169 H

dualcan

Printed in Germany

Fig. 1 Schematic of transistor-amplifier TV 71 for P 50 / P 52 / P 1010 F / H 50 / H 52 / H 50 N / H 52 N

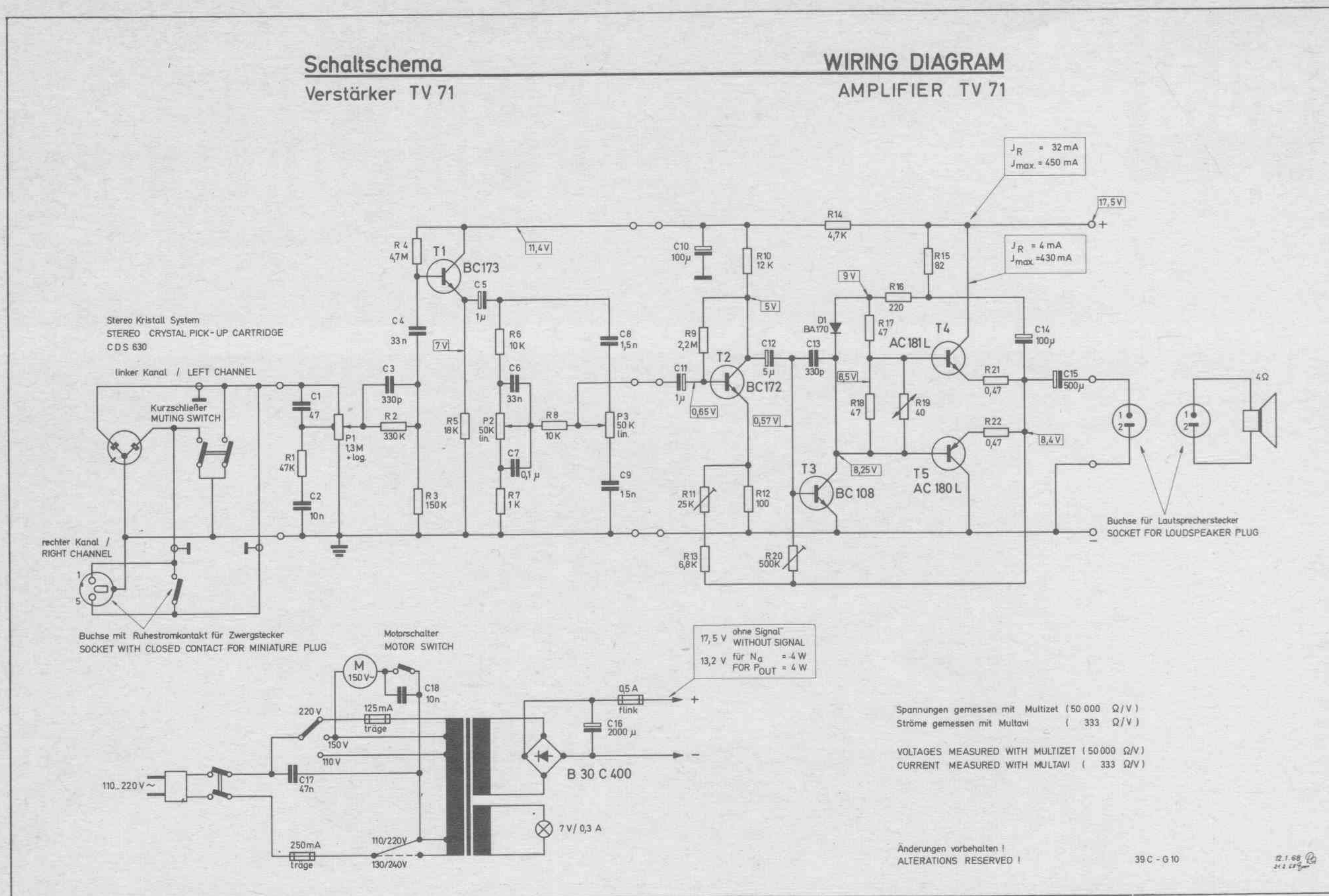


Fig. 2 Transistor-amplifier TV 71 complete

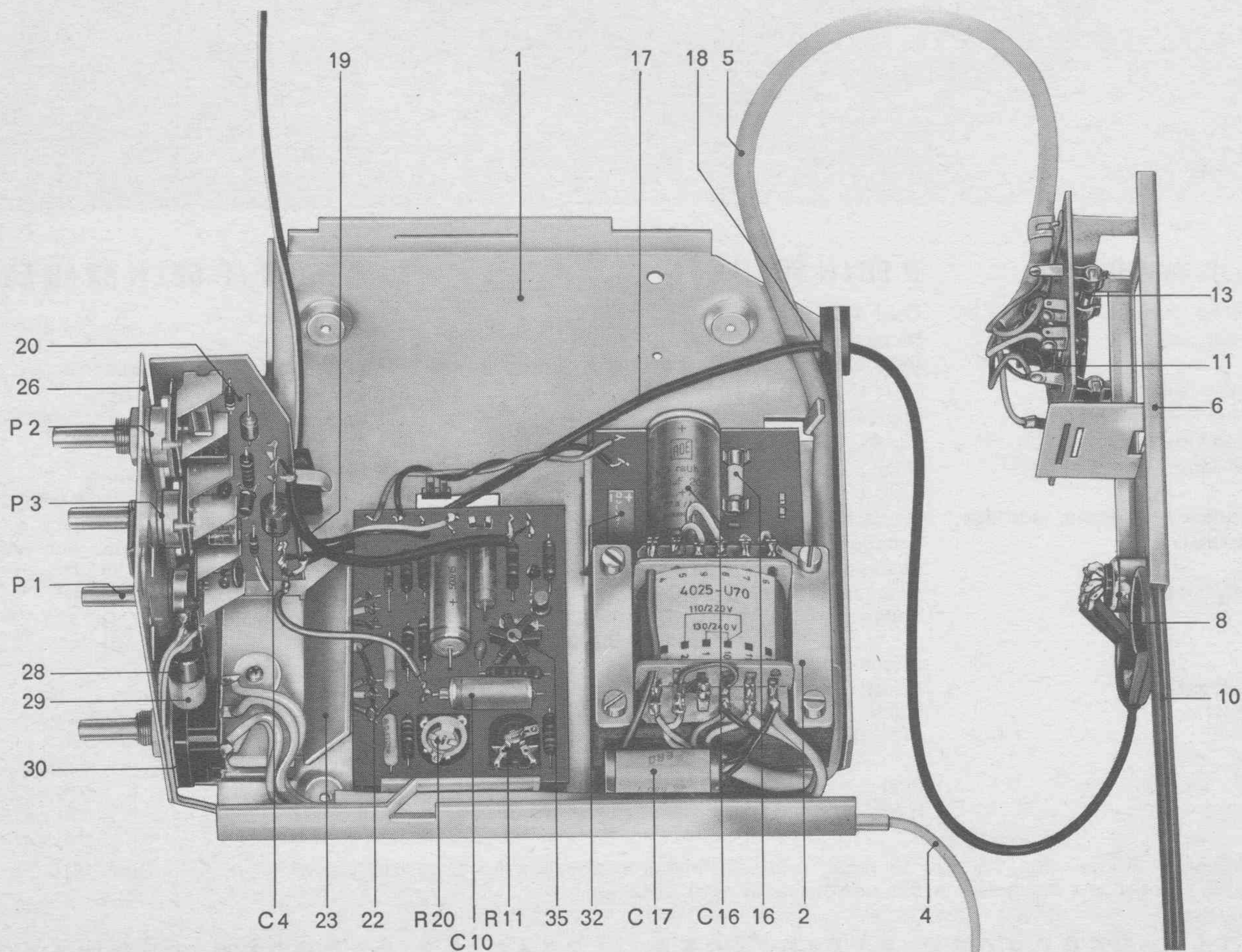
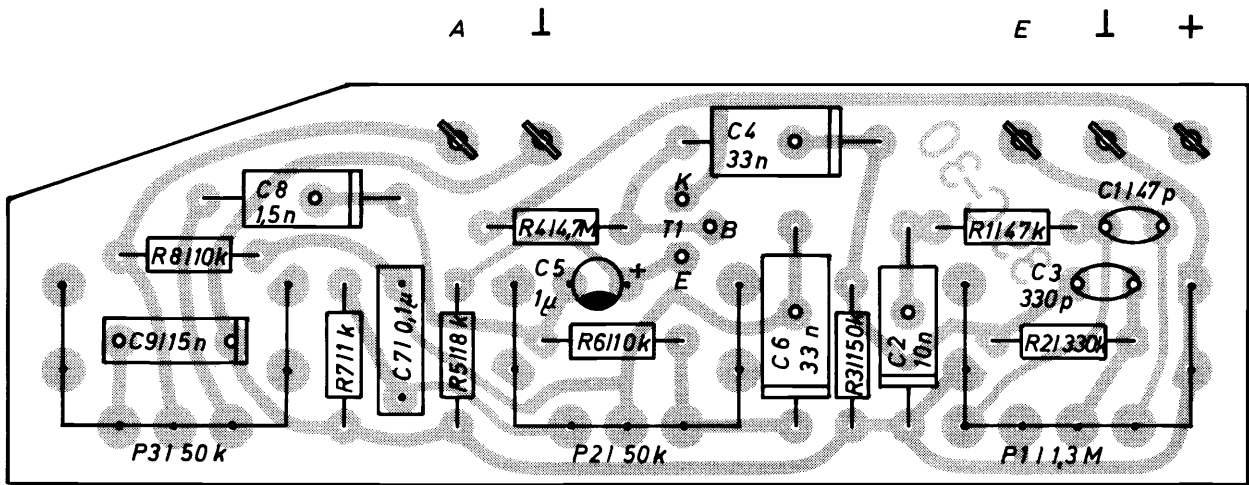


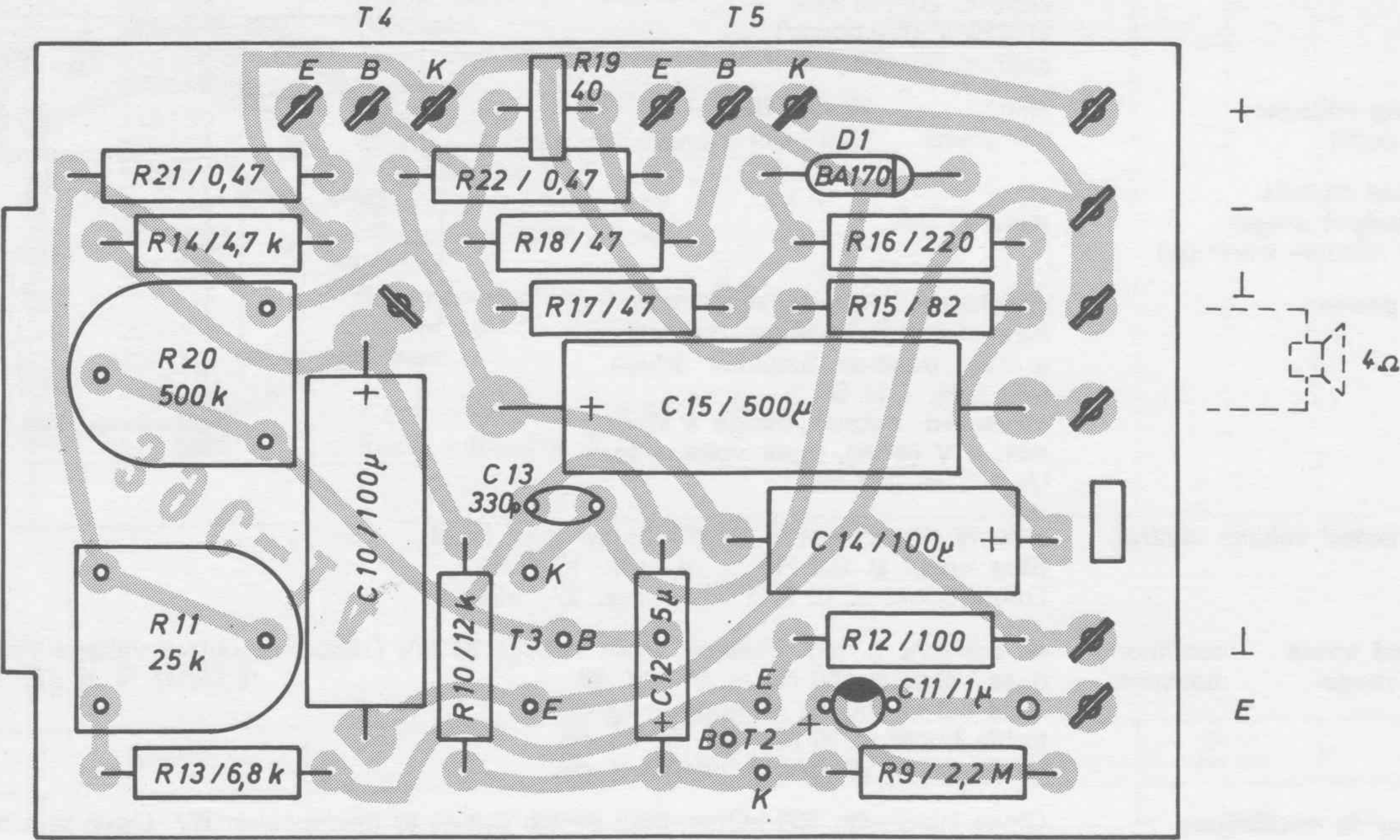
Fig. 3 Ätzschaltplatte Regelverstärker



Ersatzteilliste Regelverstärker

Pos.-Nr.	Art.-Nr.	Bezeichnung	Anzahl pro Gerät	
20	213 871	Regelverstärker kpl.	1	
P 1	213 179	Potentiometer 1,3 MOhm pos. log.	1	
P 2	213 180	Potentiometer 50 kOhm lin.	2	
P 3	213 180	Potentiometer 50 kOhm lin.	2	
T 1	209 863	Transistor BC 173 C	1	
C 1	211 082	Keramik-Kondensator 47 pF	1	
C 2	210 919	Folien-Kondensator 10 nF	1	
C 3	203 474	Keramik-Kondensator 680 pF	1	
C 4	210 946	Folien-Kondensator 33 nF	1	
C 5	211 101	Tantal-Elyt-Kondensator 1 µF	1	
C 6	210 946	Folien-Kondensator 33 nF	1	
C 7	210 954	Folien-Kondensator 0,1 µF	1	
C 8	213 509	Folien-Kondensator 1,5 nF	1	
C 9	210 928	Folien-Kondensator 15 nF	1	
R 1	211 228	Schicht-Widerstand 47 kOhm	1	
R 2	213 497	Schicht-Widerstand 330 kOhm	1	
R 3	211 251	Schicht-Widerstand 150 kOhm	1	
R 4	213 492	Schicht-Widerstand 4,7 MOhm	1	
R 5	211 210	Schicht-Widerstand 18 kOhm	1	
R 6	211 202	Schicht-Widerstand 10 kOhm	1	
R 7	211 168	Schicht-Widerstand 1 kOhm	1	
R 8	211 202	Schicht-Widerstand 10 kOhm	1	

Fig. 4 Printed circuit board for power-amplifier unit



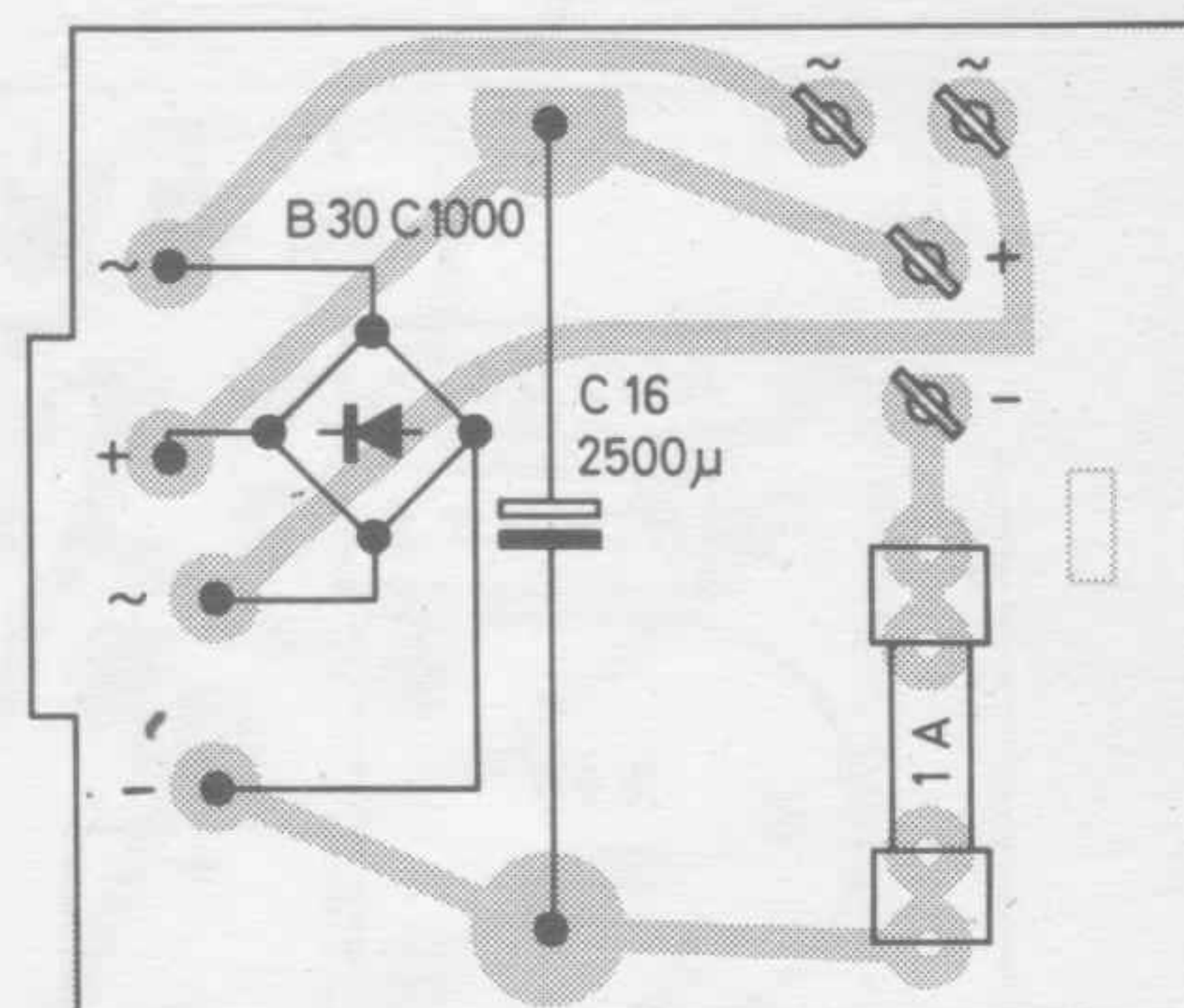
Parts for power-amplifier unit

Pos.-No.	Part No.	Description	Parts per set	
22	213 868	Power-amplifier unit, complete	1	
35	209 860	Heat sink for transistor T 3	1	
D 1	213 181	Silicon diode BA 170	1	
T 2	209 862	Transistor BC 172 C	1	
T 3	209 846	Transistor BC 108 C	1	
T 4/T 5	211 778	Complimentary transistor pair: AC 181 L VII and AC 180 L VII	1	
C 10	211 055	Electrolytic capacitor 100 μF	1	
C 11	211 101	Tantal capacitor 1 μF	1	
C 12	211 032	Electrolytic capacitor 5 μF	1	
C 13	213 501	Ceramic capacitor 330 pF	1	
C 14	211 054	Electrolytic capacitor 100 μF	1	
C 15	211 066	Electrolytic capacitor 500 μF	1	
R 9	211 275	Deposited carbon resistor 2,2 MOhm 0,3 W	1	
R 10	211 206	Deposited carbon resistor 12 kOhm 0,3 W	1	
R 11	213 177	Adjustable resistor 25 kOhm lin. 0,15 W	1	
R 12	211 126	Deposited carbon resistor 100 Ohm 0,3 W	1	
R 13	211 198	Deposited carbon resistor 6,8 kOhm 0,3 W	1	
R 14	211 192	Deposited carbon resistor 4,7 kOhm 0,3 W	1	
R 15	211 125	Deposited carbon resistor 82 Ohm 0,3 W	1	
R 16	211 144	Deposited carbon resistor 220 Ohm 0,3 W	1	
R 17	213 494	Deposited carbon resistor 47 Ohm 0,3 W	2	
R 18	213 494	Deposited carbon resistor 47 Ohm 0,3 W	2	
R 19	209 902	Heat compensating K 151, 40 Ohm	1	
R 20	213 178	Adjustable resistor 500 kOhm lin. 0,15 W	1	
R 21	211 279	Wire wound resistor 0,47 Ohm 1 W	2	
R 22	211 279	Wire wound resistor 0,47 Ohm 1 W	2	

Adjustment and test datas

Current consumption:	at 220 V (idling) approx. 20—40 mA at 220 V (full power) approx. 60—90 mA	
Operating voltage: (power pack)	idling 18 — 19 V full power 12,5 — 14 V	
Quiescent current, power output stage: (after 5 minutes warm-up)	max. 45 mA	
Output power:	conditions: 1000 Hz signal into input, tone and volume controls in max. position, amplifier driven into 10% T. H. D. measured: output voltage 4 Ohm min. 4 V (4 W), input voltage for U _a 1 V = 200 mV	
Compensated volume control:	Volume control set to 30 dB below max. level Bass boost at 100 Hz approx. 19.5 dB Treble boost at 10 kHz approx. 27 dB	
Bass and treble control range:	conditions: all controls in max. position, input voltage 20 mV (1000 Hz), output voltage 100 mV at 4 Ohm. measured: bass boost at 100 Hz = 10—14 dB bass cut at 100 Hz = approx. 13 dB treble boost at 10 kHz = 19—23 dB treble cut at 10 kHz = approx. 4 dB	
Tendency to oscillation:	Close input with 500 kOhm, than switch output to loudspeaker RV. Open volume control, open and close alternately bass- and treble controls over the full range. Making this test the pointer should not show any trimming on the RV (HF-oscillation) and no noise should be audible from the speaker.	
Voltage selector:	Adjust line voltage to 110 V, than set voltage selector by means of a special screwdriver (insulated) to the positions 220 V, 150 V and 110 V. The control lamp must gradually glow up brighter. Than switch voltage selector to 220 V again.	
Noise level:	Close amplifier input with 1 kOhm, open volume-, bass- and treble controls. The noise level at the output (4 Ohm real) may be 4.5 mV at maximum.	

Fig. 5 P. C. board for power pack



Parts for transistor amplifier Dual TV 71

Pos.-No.	Part No.	Description	Parts per set
1	213 162	Base plate	1
2	213 874	Power transformer complete (up to amplifier-No. 27 999)	1
3	213 286	Power transformer compl. (from amplifier-No. 28 000)	1
	210 512	Cylinder head screw AM 4 x 5	4
4	205 130	Power line cord with plug	1
5	213 850	Transformer cable, 7 leads (from amplifier-No. 28 000)	1
6	213 169	Transformer cable, 6 leads (up to amplifier-No. 27 999)	1
	213 160	Connector bracket complete	1
7	213 171	Cover plate	1
8	209 463	Plug-in connector 2-pole	1
9	210 019	Eyelet 3 x 0,3 x 4	2
10	213 170	Shielded cable, 2 x 1-pole (plug-in connector / phono-input)	1
11	212 228	Circuit board compl. with line voltage selector (from amplifier-No. 28 000)	1
	204 716	Circuit board compl. with line voltage selector (up to amplifier-No. 27 999)	1
12	205 161	Fuse cover	1
13	209 717	Line fuse 125 mA slow-blow (220 V)	1
14	209 734	Line fuse 250 mA slow-blow (110 / 150 V)	1
15	213 870	Printed circuit board compl. with rectifier and electrolytic capacitor	1
16	213 174	Fuse 0,5 amp. (fast blow)	1
17	213 182	Shielded cable 1 lead (plug-in connector / control amplifier)	1
18	202 710	Grommet	1
19	208 739	Shielded cable 1 lead (control amplifier / power amplifier unit)	1
20	213 871	Control amplifier, complete	1

Pos.-No.	Part No.	Description	Parts per set
22	213 868	Power amplifier, complete	1
23	213 164	Heat sink	1
24	213 176	Oval head sheet metal screw B 2,9 x 15	1
25	210 649	Washer	1
26	213 158	Front panel	1
27	210 283	Oval head sheet metal screw B 2,9 x 6,5	2
28	210 113	Lamp socket E 10	1
29	209 439	Incandescent bulb E 10, 7 V / 0,3 A	1
30	213 172	Power line switch 2-pole	1
31	204 722	Clamp	1
32	213 173	Selenium rectifier B 30 / C 400	1
33	209 977	Solder lug	1
34	210 639	Washer	1
C 16	213 490	Electrolytic capacitor 2000 μ F	1
C 17	210 956	Paper capacitor 50 μ F	1

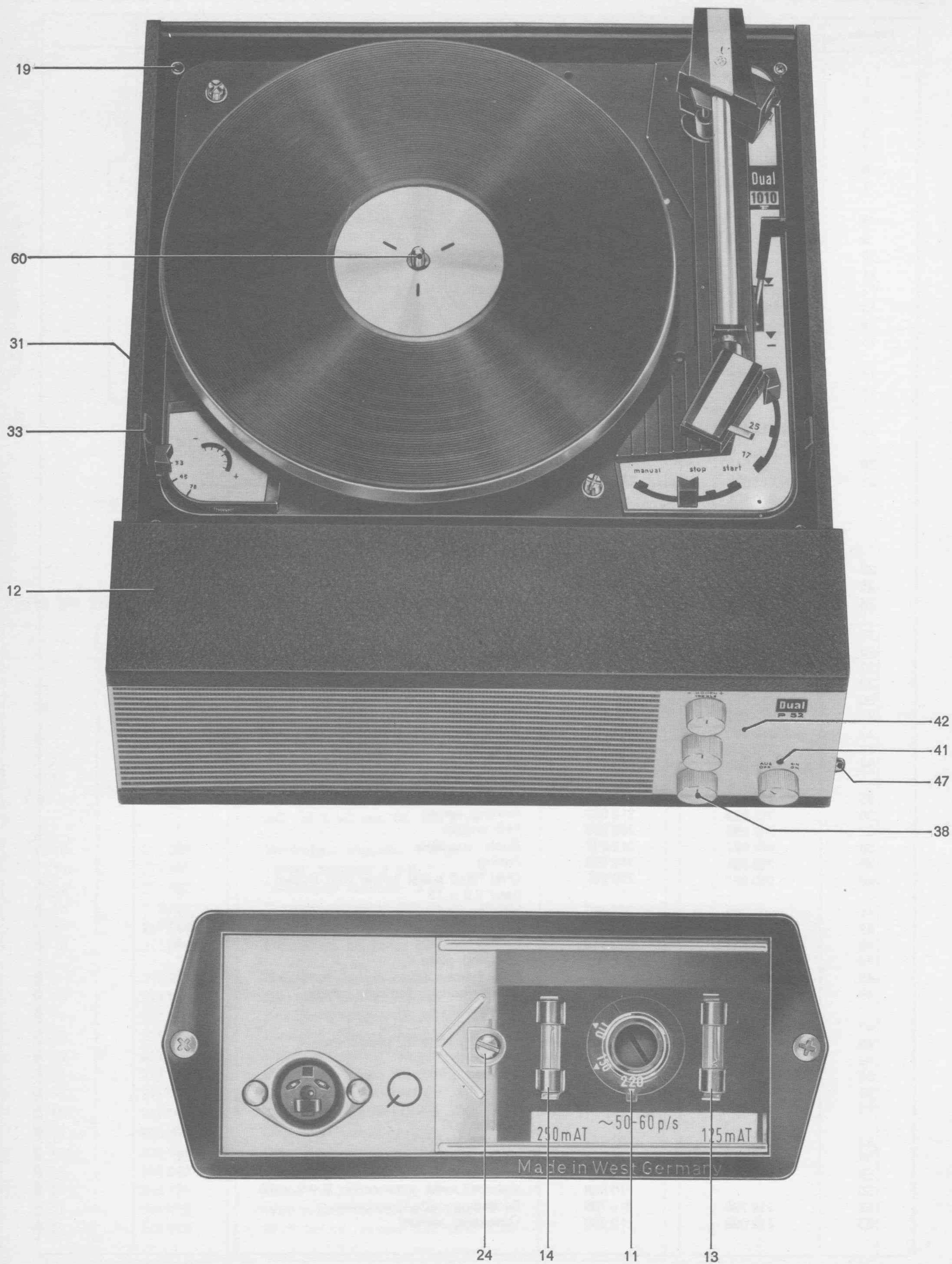
Parts for Dual P 1010 F

Pos.-No.	Part No.	Description	Parts per set
1	203 617	Dowel pin	2
2	212 873	Push button, complete	2
3	210 361	Hex nut M 3	7
4	203 589	Bottom nail	4
	210 215	Ornamental plate	1
5	202 371	Holder for record spindle	1
6	210 252	Round head wood screw 3 x 10	10
7	203 567	Bracket	2
8	214 802	Pressure plate	2
9	210 361	Hex nut M 3	7
10	202 762	Hinge	2
11	212 873	Push button, complete	2
12	203 589	Bottom nail	4
13	203 242	Washer, embossed	4
14	210 337	Oval head wood screw 3 x 30	4
15	212 881	Handle eye	2
16	212 882	Carrying handle	1
17	212 883	Spring for carrying handle	1
18	210 361	Hex nut M 3	7
19	212 885	Resting piece	2
20	212 889	Resting spring	2
21	213 603	Oval head metal screw B 2,9 x 9,5	2
22	210 252	Round head wood screw 3 x 10	10
23	206 192	Block for case bottom	3
24	210 054	Eyelet A 4 x 0,4 x 7	2
25	214 927	Bottom plate for phono chassis	1
26	203 589	Bottom nail	4
27	214 774	Type plate	1
28	214 928	Carrying case, empty, complete	1
29	210 252	Round head wood screw 3 x 10	10
30	202 762	Hinge	2
31	203 851	Clip, complete	1
32	202 678	Cable compartment, complete	1
33	202 682	Record holder	1
34	202 711	Sliding piece for cable compartment	1
35	202 710	Strain relief for line cable	1
36	203 243	Grill cloth, charcoal grey	
37	203 245	Grill cloth, white	
38	210 236	Round head wood screw 2,7 x 7 (for cable compartment)	2
39	210 334	Oval head wood screw 3 x 13 (for cable compartment)	2
40	210 425	Oval head self-cutting screw DM 4 x 15 (for clip)	1
41	210 537	Cylinder head sheet metal screw B 2,9 x 9,5	2
	210 639	Washer	1
42	210 216	Sink screw M 4	1
43	210 525	Cylinder head screw AM 4 x 25	1
44	202 938	Packaging carton, complete	1
45	212 380	Operating instructions	

Replacement parts for Dual P 50 and Dual H 50

Pos.-No.	Part No. P 50	Part No. H 50	Description	Parts per set
1	212 873	212 873	Push bottom, complete	2
2	210 538	210 538	Cylinder head sheet metal screw B 2,9 x 9,5	2
3	213 601	213 601	Cable compartment	1
4	212 896	212 896	Sliding door for cable compartment . .	1
6	202 710	202 710	Strain relief for power line cable . . .	1
7	210 334	210 334	Oval head wood screw with slotted head 3 x 13	2
8	210 236	210 236	Round head wood screw 2,7 x 7	2
9	213 333	213 333	Speaker	1
10	210 600	210 600	Washer	6
11	210 361	210 361	Hex nut M 3	7/4
12	213 600	213 644	Carrying case, empty, complete	1
13	210 409		Counter-sink screw 3 x 12	2
14		210 412	Counter-sink screw 3 x 18	4
15		213 471	Cylinder head sheet metal screw B 2,9 x 6,5	1
16	212 872	212 955	Lid for case, complete	1
17		210 284	Oval head metal screw with slotted head B 2,9 x 6,5	2
19	210 312	210 312	Oval head sheet metal screw with slotted head BZ 3,5 x 13	4
20	203 241	203 241	Washer, embossed	4
21	212 909	212 909	Bottom nail	3
	210 601		Washer	6
	203 722		Dodge-insert M 3 x 5	2
	203 473		Round head screw AM 3 x 6	2
	215 812		Pressure piece	1
22	203 315	203 315	Cover frame	1
23	203 317	203 317	Cover plate	1
24	210 344	210 344	Oval head sink screw with slotted head AM 3 x 15	7
25	210 586	210 586	Washer	5
26	210 271	210 271	Oval head screw M 3 x 4	1
27	210 554	210 554	Washer	1
28	212 880	212 880	Hinge, lower section	1
30	212 881	212 881	Eyelet for carrying handle	2
31	212 882	212 882	Carrying handle	1
32	212 883	212 883	Spring for carrying handle	1
33	212 885	212 885	Resting piece	2
34	213 603	213 603	Sheet metal screw with slotted head B 2,9 x 9,5	2
35	212 888	212 888	Hinge, upper section	1
36	212 889	212 889	Resting spring	2
37	203 239	203 239	Felt washer	4
38	212 897	212 897	Knob, complete	4
39	212 898	212 898	Facing	1
40	210 287	210 287	Oval head metal screw with slotted head 2,9 x 13	5
41	203 763	203 763	Lighting rod	1
42	213 426	213 432	Ornamental plate	1
43	200 444	200 444	Spring washer	1
44	212 907	212 907	Damping plate	1
45	204 144		Grid frame	2
46	212 908	212 908	Rubber bumper for case bottom	3
	212 910		Intermediary	1
47	212 909	212 909	Bottom nail	3
48	213 643	213 005	Mounting plate for phono chassis . . .	1
49	215 749		Grill cloth	
50		212 946	Wooden grill	1
51		212 947	Ledge	1
52	210 337	210 337	Oval head wood screw with slotted head 3 x 30	4
53	203 242	203 242	Washer embossed	4
54	212 894	212 948	Name plate	1
55	210 361		Hex nut M 3	7
56		210 538	Cylinder head metal screw B 2,9 x 9,5 .	2
57	214 798	214 798	Packaging carton, complete	1
63	212 899	212 899	Operating manual	

Fig. 6 Carrying case, operating controls and ornamental metal parts for Dual P 52



Replacement parts for Dual P 52 and Dual H 52

Pos.-No.	Part No. P 52	Part No. H 52	Description	Parts per set
1	212 873	212 873	Push button, complete	2
2	210 538	210 538	Cylinder head metal screw B 2,9 x 9,5	2
3	213 601	213 601	Cable compartment, complete	1
4	212 896	212 896	Sliding door for cable compartment	1
5	203 638	203 638	Power line cable	1
6	202 710	202 710	Grommet	1
7	210 334	210 334	Oval head wood screw with slotted head 3 x 13	2
8	210 236	210 236	Round head wood screw 2,7 x 7	2
9	203 777	203 777	Loudspeaker	1
10	210 601	210 601	Washer	6/4
11	210 361	210 361	Hex nut M 3	4
12	213 641	213 645	Case, complete, empty	1
13	210 409		Counter-sink screw 3 x 12	2
	210 411	210 411	Counter-sink screw 3 x 15	1
14	210 412	210 412	Counter-sink screw 3 x 18	2/4
15		213 471	Cylinder head metal screw B 2,9 x 6,5	1
	215 813	215 813	Pressure piece	3
		203 723	Dodge-insert M 3 x 6,5	3
		210 486	Cylinder head screw AM 3 x 8	3
16	212 829	212 995	Lid for case	1
17		210 284	Oval head metal screw with slotted head B 2,9 x 6,5	2
19	210 312	210 312	Oval head sheet metal screw with slotted head BZ 3,5 x 13	4
20	203 241	203 241	Washer, embossed	4
21	212 909	212 909	Bottom nail	3
22	203 315	203 315	Cover frame	1
23	203 317	203 317	Cover plate	1
24	210 344	210 344	Oval head sheet metal screw with slotted head AM 3 x 15	4
25	210 586	210 586	Washer	8/5
26	210 271	210 271	Oval head screw M 3 x 4	1
27	210 554	210 554	Washer	1
28	212 880	212 880	Hinge, lower section	1
29	210 216	210 216	Sink screw M 4	1/2
30	212 881	212 881	Eyelet for carrying handle	2
31	212 882	212 882	Carrying handle	1
32	212 883	212 883	Spring for carrying handle	1
33	212 885	212 885	Resting piece	2
34	213 603	213 603	Cylinder metal screw with slotted head B 2,9 x 9,5	2
35	212 888	212 888	Hinge, upper section	1
36	212 889	212 889	Resting spring	2
37	203 239	203 239	Felt washer	4
38	212 897	212 897	Knob complete	4
39	212 822	212 822	Facing	1
40	210 285	210 285	Oval head metal screw with slotted head 2,9 x 9,5	5
41	203 763	203 763	Lighting rod	1
42	213 428	213 433	Ornamental plate	1
43	200 444	200 444	Spring washer	1
45	204 144		Grid frame	2
46	212 908	212 908	Rubber bumper for case bottom	3
47	212 909	212 909	Bottom nail	3
	212 910		Intermediary	1
48	213 642	213 005	Bottom, mounting plate for phono chassis	1
49	215 749		Grill cloth	1
50		212 946	Wooden grill	1
51		212 947	Ledge	1
52	210 337	210 337	Oval head wood screw with slotted head 3 x 30	4
53	203 242	203 242	Washer, embossed	4
54	212 821	212 998	Name plate	1
55	210 361		Hex nut M 3	7
56		210 538	Cylinder head metal screw B 2,9 x 9,5	2
57	210 525	210 525	Cylinder head screw AM 4 x 25	1
58	210 638	210 638	Washer	1
59		210 251	Round head wood screw with slotted head 3 x 8	2
60	200 709	200 709	Record spindle	1
61	202 371	202 371	Holder for record spindle	1
62	214 797	214 797	Packaging carton, complete	1
63	212 823	212 823	Operating manual	

Replacement parts for Dual H 50 N and Dual H 52 N

Pos.-No.	Part No. H 50 N	Part No. H 52 N	Description	Parts per set
1	212 873	212 873	Push button, complete (for case lock)	2
2	210 538	210 538	Cylinder head metal screw B 2,9 x 9,5	1/6
3	213 601	213 601	Cable compartment, complete	1
4	212 896	212 896	Sliding door for cable compartment	1
5		203 638	Power line cable	1
6	202 710	202 710	Grommet	1
7	210 334	210 334	Oval head wood screw with slotted head 3 x 13	2
8	210 236	210 236	Round head wood screw 2,7 x 7	2
9	213 333	203 777	Loudspeaker, complete	1
10	210 601	210 601	Washer	4
11	210 361	210 361	Hex nut M 3	4
12	212 964	213 009	Case, empty, complete	1
14	210 412	210 412	Counter-sink screw 3 x 18	4
16	212 965	213 010	Lid for case	1
17	213 471	213 471	Cylinder metal screw B 2,9 x 6,5	1
19	210 312	210 312	Oval head metal screw with slotted head BZ 3,5 x 13	4
20	203 241	203 241	Washer, embossed	4
21	212 909	212 909	Bottom nail	3
22	203 315	203 315	Cover frame	1
23	203 317	203 317	Cover plate	1
24	210 344	210 344	Oval head screw with slotted head AM 3 x 13	2
25	210 586	202 041	Washer	5
26	210 271	210 271	Oval head screw M 3 x 4	1
27	210 554	210 554	Washer	1
28	212 880	212 880	Hinge, lower section	1
30	212 881	212 881	Eyelet for carrying handle	2
31	212 882	212 882	Carrying handle	1
32	212 883	212 883	Spring for carrying handle	1
33	212 885	212 885	Resting piece	2
34	213 603	213 603	Cylinder metal screw with slotted head B 2,9 x 9,5	2
35	212 888	212 888	Hinge, upper section	1
36	212 889	212 889	Resting spring	2
37	203 239	203 239	Felt washer	4
38	212 897	212 897	Knob, complete	4
39	212 898	212 822	Facing	1
40	210 286	210 286	Oval head metal screw with slotted head 2,9 x 9,5	5/2
41	203 763	203 763	Lighting rod	1
42	213 435	213 436	Ornamental plate, complete	1
43	200 444	200 444	Spring washer	1
44	212 907		Damping plate	1
46	212 908	212 908	Rubber bumper for case bottom	3
47	212 909	212 909	Bottom nail	3
48	212 956	213 005	Bottom, mounting plate for phono chassis	1
49	215 749	215 749	Grill cloth	
52	210 337	210 337	Oval head wood screw with slotted head 3 x 30	4
53	203 242	203 242	Washer, embossed	4
54	212 963	213 008	Name plate	1
	210 286		Oval head metal screw with slotted head B 2,9 x 9,5	5
60		200 709	Record spindle	1
61		202 371	Holder for record spindle, complete	1
		210 525	Cylinder head screw AM 4 x 25	1
		210 638	Washer	1
		210 216	Sink screw	1
62	214 798	214 797	Packaging carton, complete	1
63	212 899	212 823	Operating manual	

Modifications reserved



Dual Gebrüder Steidinger - 7742 St. Georgen/Schwarzwald