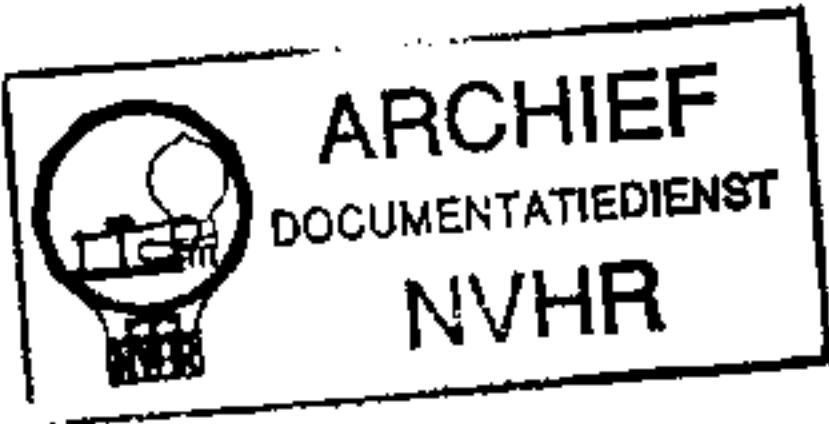
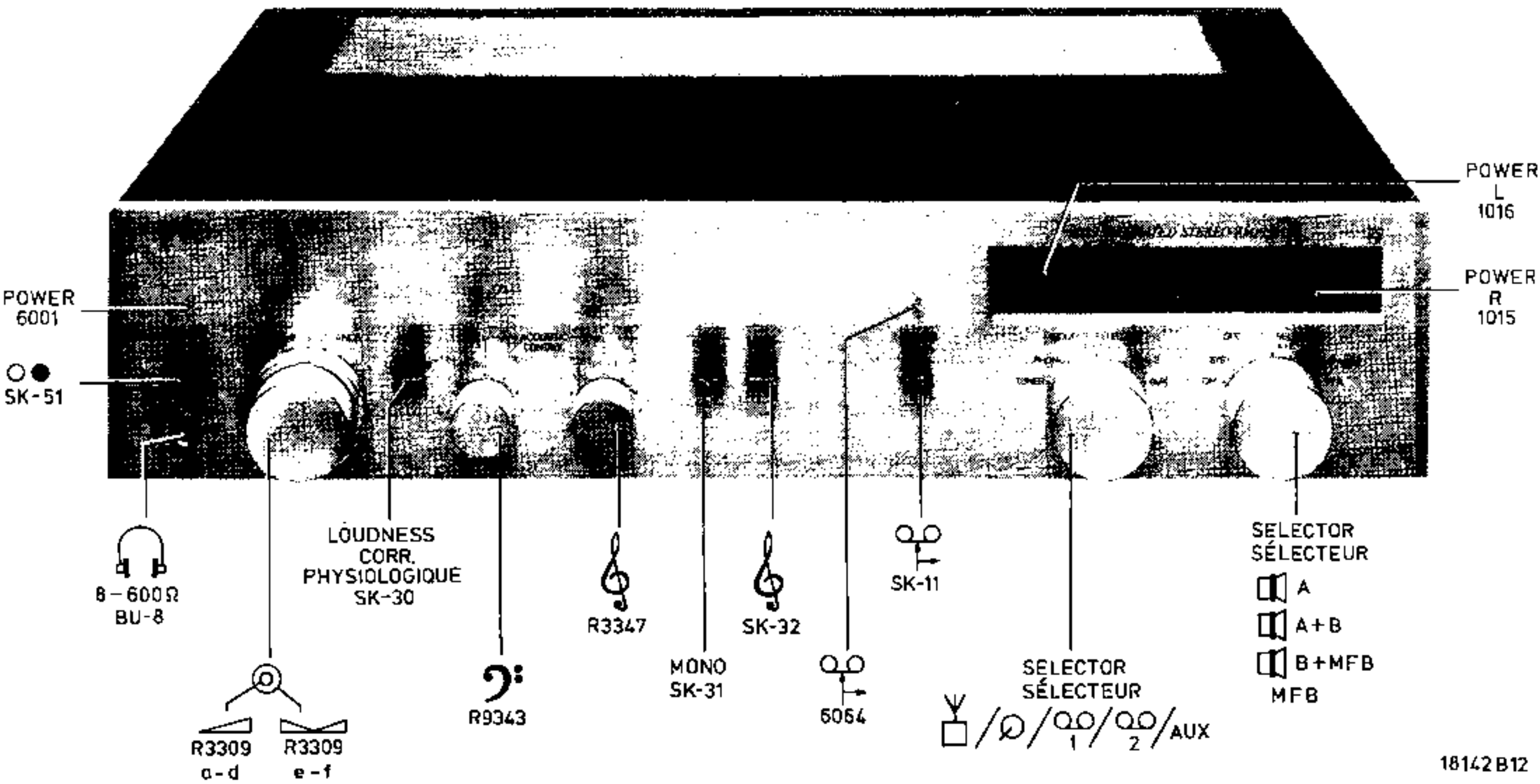


Service
Service
Service

Ned. Ver. v. Historie v/d Radio

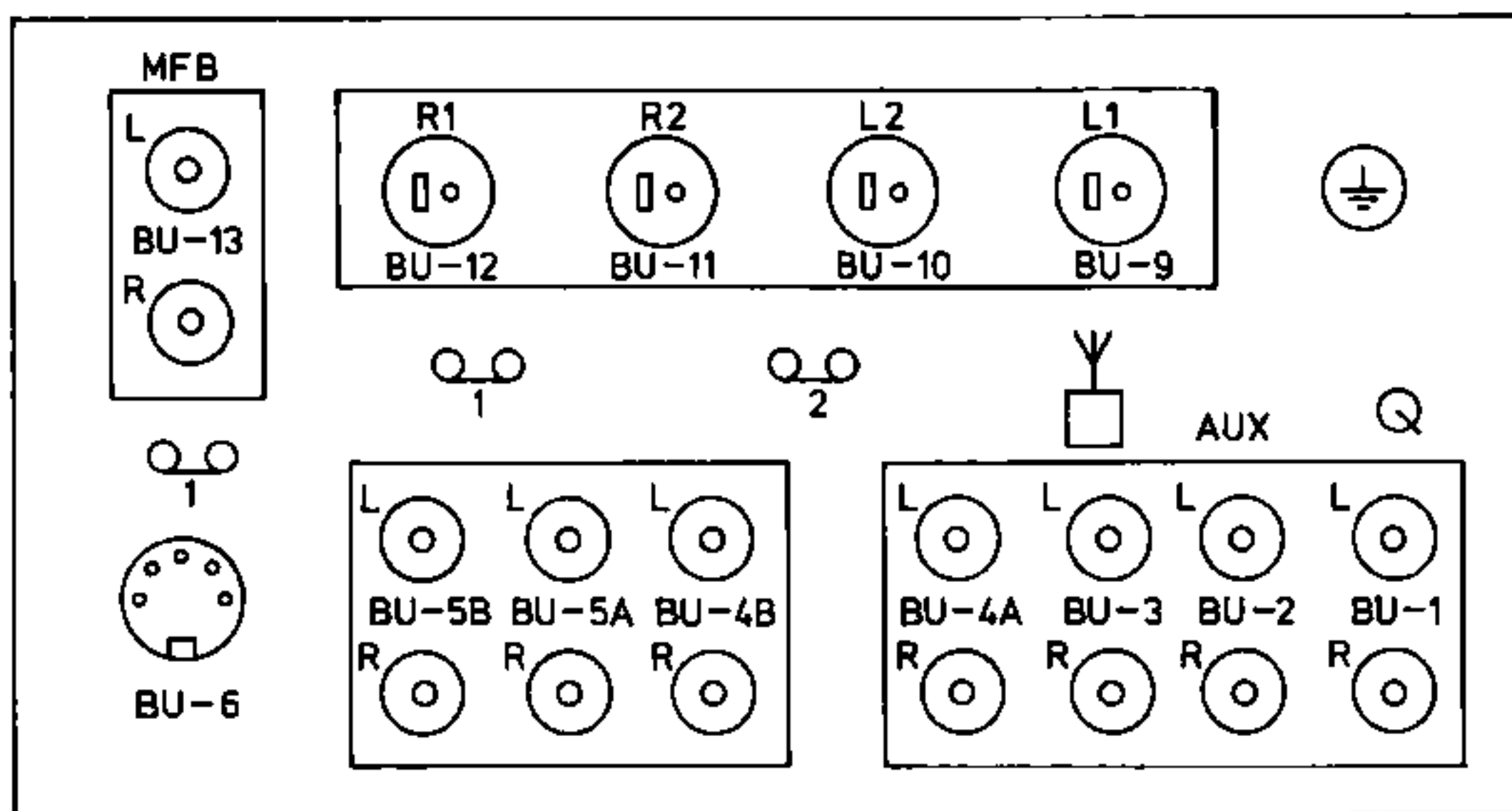


Service Manual



18142 B12





17976A12

BU-1	Q	⊖	2,5 mV	(47 kΩ)	BU-6	○_○ 1,4	⊖	0,25 mV/kΩ	(220 kΩ)
BU-2	AUX	⊖	150 mV	(500 kΩ)		3,5	⊖	150 mV	(100 kΩ)
BU-3	⊓	⊖	150 mV	(500 kΩ)	BU-8	⊓	⊖	350 mV	(8 Ω)
BU-4A	○_○	⊖	150 mV	(100 kΩ)				2,5 V	(1 kΩ)
BU-4B	○_○	⊖	150 mV	(2,5 kΩ)	BU-9	⊓	L1	⊖	45 W
BU-5A	○_○	⊖	150 mV	(2,5 kΩ)	BU-10	⊓	L2	⊖	
BU-5B	○_○	⊖	150 mV	(100 kΩ)	BU-11	⊓	R2	⊖	
					BU-12	⊓	R1	⊖	45 W
									(8 Ω)
					BU-13	⊓		⊖	2,5 V
									(1 kΩ)

GB

For more detailed technical specifications please consult commercial documentation.

F

Pour l'obtention de données techniques plus détaillées veuillez consulter la documentation commerciale.

I

In modo da ottenere dati tecnici piu particolareggiati, vi preghiamo di riferirvi alla documentazione commerciale.

NL

Voor meer uitgebreide technische specificaties gelieve de commerciële dokumentatie te raadplegen.

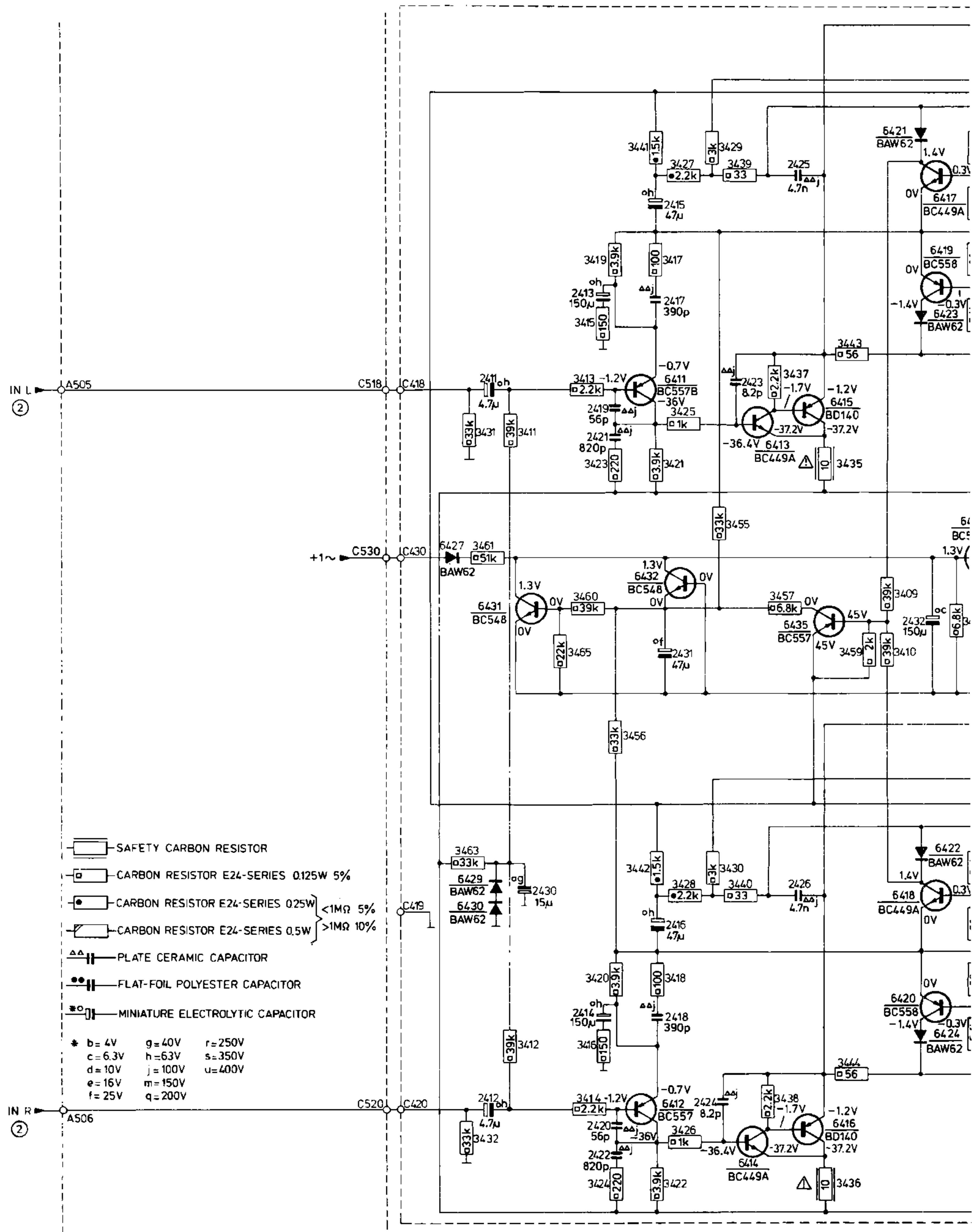
D

Für eine mehr detaillierte technische Spezifikation verweisen wir auf die kommerzielle Dokumentation.

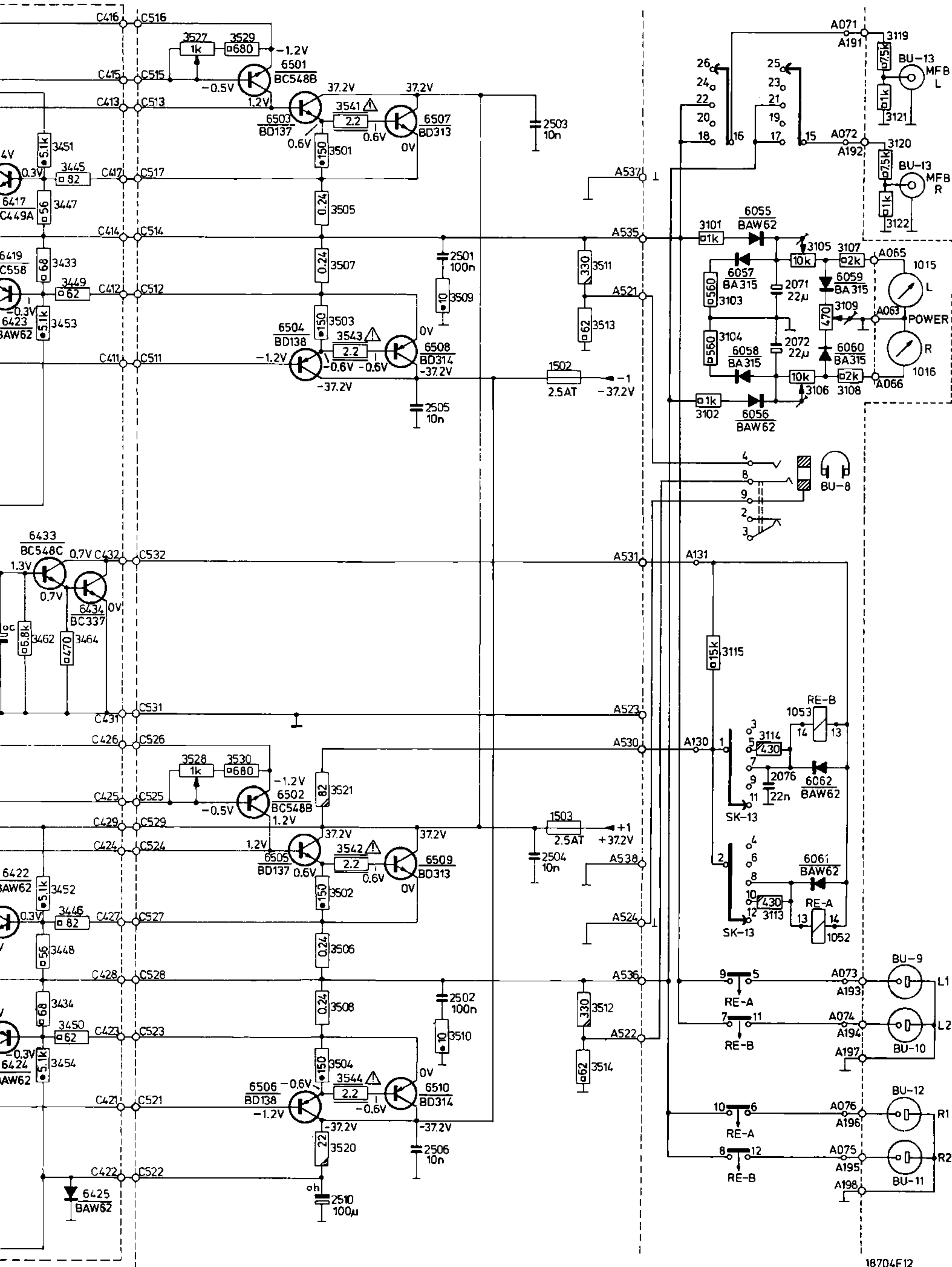
S

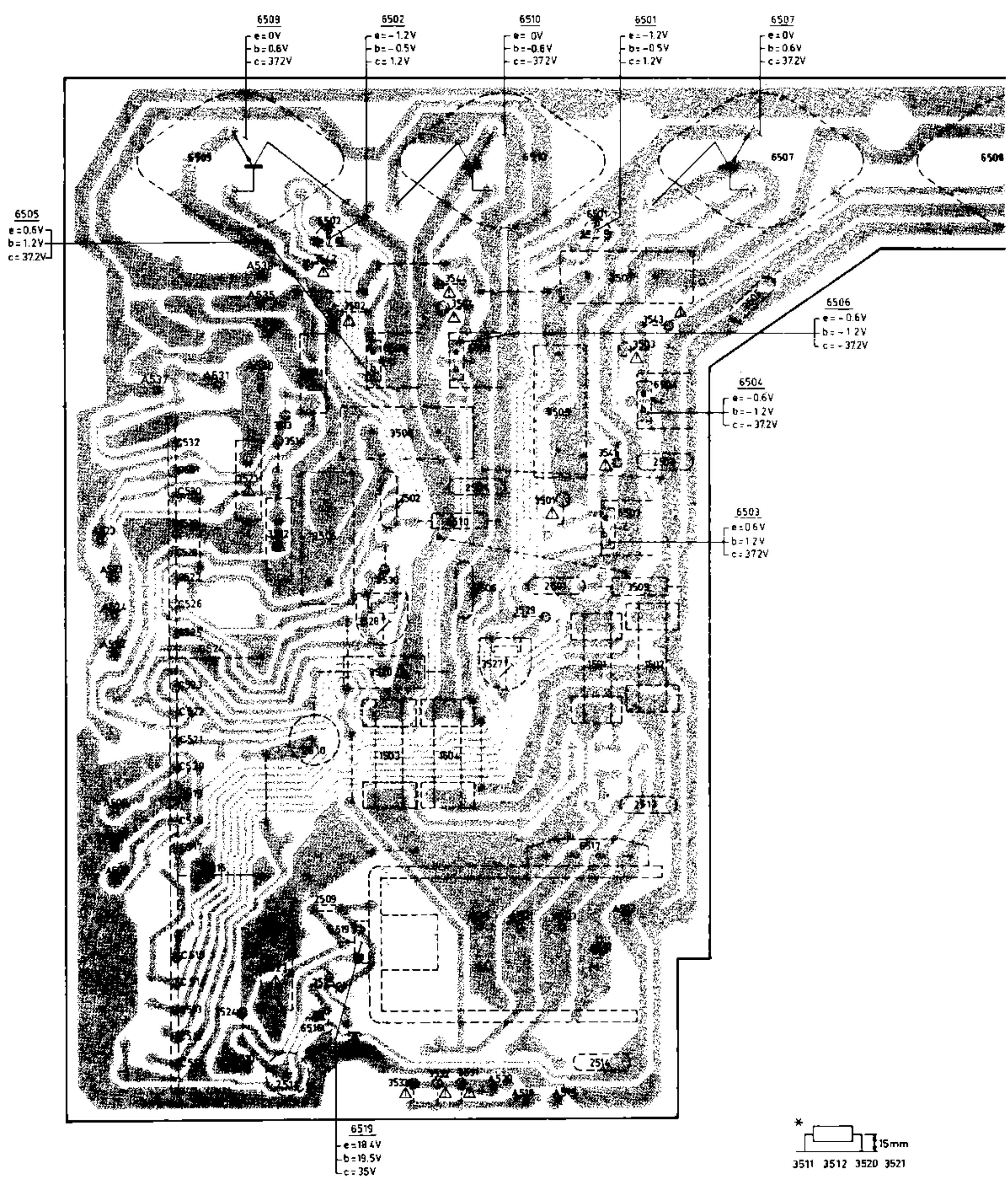
För mera detaljerade tekniska data se kommersiell dokumentation.

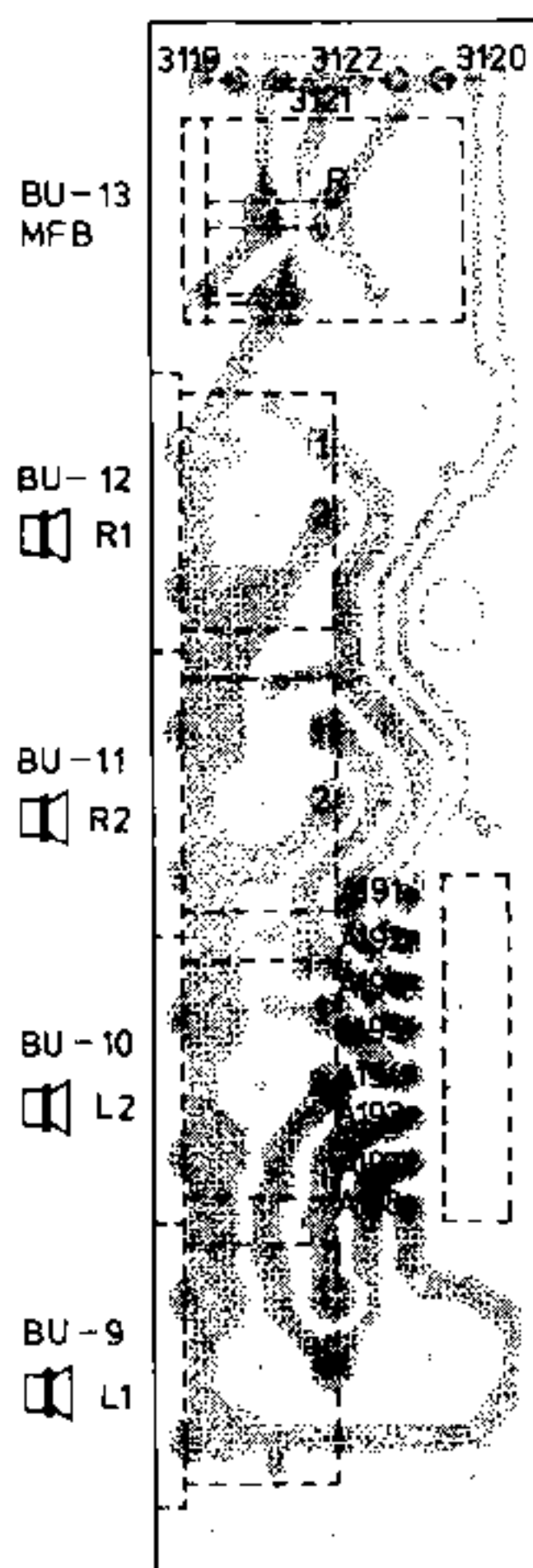
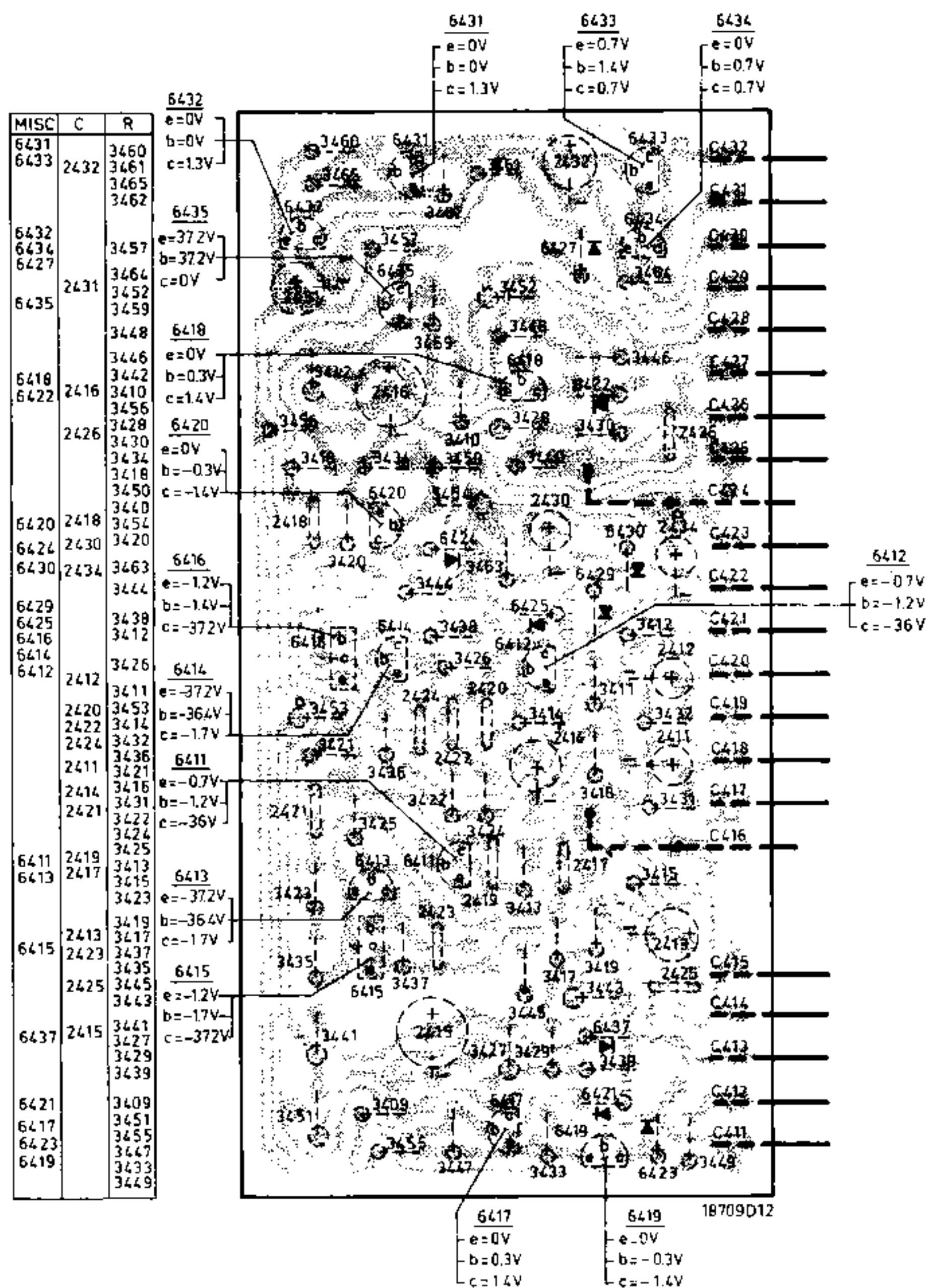
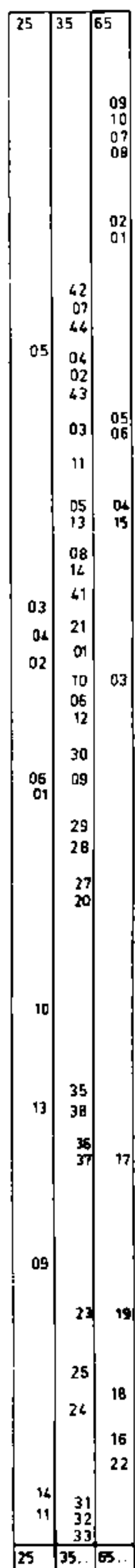
M	6427,6429,6430	6431	6411,6412,6432	6413÷6416	6435	6421-6425,6417-6420,6
C	2411,2412	2430	2413÷2422,2431	2423÷2426		2432
R	3463,3432,3431,3461,3465,3411÷3424,3460,3456	3455,3425÷3430,3436÷3444,3457,3459,3410,3409,3462	3445÷34			



6420.6433	6434	6501÷6506	6507÷6510	1502.1503	6055÷6058.1053.1052.6059÷6062
2		2510	2505.2506.2501.2502	2503.2504	2076.2071.2072
3445÷3454.3433.3434.3464	3527÷3530	3520.3521.3501÷3508.3541÷3544.3509.3510	3511÷3514	3101÷3104.3113÷3115.3105÷3109	3119÷3122







17558A12

1 kHz (< 250 mV)	BU-3	BU-9 (L) (BU-12) (R) 2,31 V	3105 (3106) 1015 (1016)
1 kHz (< 250 mV)	BU-3	BU-9 (L) BU-12 (R) 22 V	3109 1015, 1016

GB

Adjustment output amplifier

Direct current adjustment — Left (Right).

With the aid of R3527 (3523) adjust the quiescent current through the output transistors to $50 \text{ mA} \pm 5 \%$.
To be measured with a non-earthed mV-meter connected across the resistors 3505, 3507 (3506, 3508).

The deflection shall then be $24 \text{ mV} \pm 5 \%$.

Inspection DC protection

- Connect a resistor of $220 \text{ k}\Omega$ between the negative pole of C2411 and point +1 of the power supply.
The relay shall then be released.
- Connect a resistor of $180 \text{ k}\Omega$ between the negative pole of C2414 and point -1 of the power supply.
The relay shall then be released.

F

Réglage de l'amplificateur de sortie

Ajustage courant continu — gauche (droit).

Par action sur R3527 (3523) régler le courant de repos à travers les transistors de sortie pour avoir $50 \text{ mA} \pm 5 \%$.
A mesurer à l'aide d'un mV-mètre isolé de la terre, connecté aux bornes des résistances 3505, 3507 (3506, 3508).

La déviation doit être alors de $24 \text{ mV} \pm 5 \%$.

Contrôle de la protection contre le courant continu

- Connecter une résistance de $220 \text{ k}\Omega$ entre le pôle négatif de C2411 et le point +1 de l'alimentation.
Ceci fait, le relais doit se décoller.
- Connecter une résistance de $180 \text{ k}\Omega$ entre le pôle négatif de C2412 et le point -1 de l'alimentation.
Ceci fait, le relais doit se décoller.

I

Regolazione dell'amplificatore d'uscita

Regolazione della corrente di riposo canali sinistro (destro).

Per mezzo di R3527 (3523) regolare la corrente di riposo attraverso i transistor d'uscita a $50 \text{ mA} \pm 5 \%$.
Questa misura deve essere fatta con il mVoltmetro, senza il collegamento alla presa di terra, ai capi delle resistenze 3505, 3507 (3507, 3508).

La variazione può quindi essere di $24 \text{ mV} \pm 5 \%$.

Controllo del circuito di protezione in DC

- Collegare una resistenza di $220 \text{ k}\Omega$ tra il polo negativo di C2411 e il punto +1 dell'alimentazione.
il relè sarà quindi sganciato.
- Collegare una resistenza di $180 \text{ k}\Omega$ tra il polo negativo di C2412 e il punto -1 dell'alimentazione.
Il relè sarà quindi sganciato.

NL

Afregelen eindversterker

Gelijkstroominstelling — L(R).

De ruststroom door de eindtransistoren moet ingesteld worden met R3527 (3523) op $50 \text{ mA} \pm 5 \%$ te meten met een niet geaarde mV-meter aangesloten over de weerstanden 3505, 3507 (3506, 3508).
De uitslag moet dan $24 \text{ mV} \pm 5 \%$ zijn.

Controle DC beveiliging

- Sluit een weerstand van $220 \text{ k}\Omega$ aan tussen de — (min pool) van C2411 en de +1 voeding.
Het relais moet dan afvallen.
- Sluit een weerstand van $180 \text{ k}\Omega$ aan tussen de — van C2412 en de -1 voeding.
Het relais moet dan afvallen.

D

Abgleich des Endverstärkers

Gleichstromeinstellung — L(R).

Der Ruhestrom durch die Endtransistoren soll mit R3527 (3523) auf $50 \text{ mA} \pm 5 \%$ eingestellt werden; zu messen mit einem nicht-geerdeten mV-Meter, über die Widerstände 3505 und 3507 (3506 und 3508) angeschlossen.
Der Ausschlag soll dann $24 \text{ mV} \pm 5 \%$ sein.

Kontrolle der Gleichspannungssicherung

- Einen Widerstand von $220 \text{ k}\Omega$ zwischen Minusleiter von C2411 und +1-Stromversorgung anschliessen.
Das Relais soll dann abfallen.
- Einen Widerstand von $180 \text{ k}\Omega$ zwischen Minusleiter von C2412 und -1 Stromversorgung anschliessen.
Das Relais soll dann abfallen.

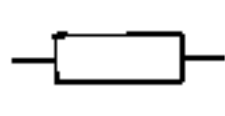
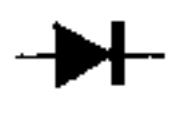
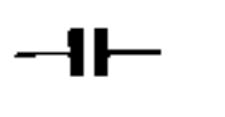
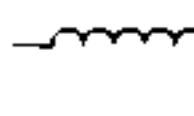
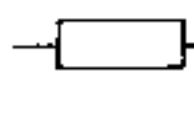
S

Inställning av slutsteg

Ställ in vilostömmen för vänster (höger) kanal med hjälp av R3527 (3523) så att den blir $50 \text{ mA} \pm 5 \%$ genom sluttransistorerna. Mät med en ickejordad mV-meter över resistorerna 3505, 3507 (3506, 3508). Spänningen skall vara $24 \text{ mV} \pm 5 \%$.

Kontroll av DC-skydd

- Anslut en resistor på $220 \text{ k}\Omega$ mellan den negativa polen på C2411 och +1 på nätspänningsaggregatet.
Härvid skall reläet lösa ut.
- Anslut en resistor på $180 \text{ k}\Omega$ mellan den negativa polen på C2412 och -1 på nätspänningsaggregatet.
Härvid skall reläet lösa ut.

-TS- 					
6051-6054	BC559B	4822 130 44358	3009	2x100+22K	4822 102 10145
6301,6302	BC559	4822 130 40963	3337,3338	Metal res. 330K-2%	4822 116 51207
6303,6304	BC548B	4822 130 40937	3339,3340	Metal res. 47K-2%	5322 116 54671
6305,6306	BC548	4822 130 40938	3343,3347	2x47K	4822 102 30313
6307,6308	BC558	4822 130 40941	3435,3436	Safety 10 Ω	4822 111 30405
6411,6412	BC557B	4822 130 44568	3443,3444	Safety 56 Ω	4822 111 30029
6413,14,17,18	BC546B	4822 130 41067	3501-3504	Safety 150 Ω	4822 111 30156
6415,6416	BD138	4822 130 40665	3505-3508	W.W.-3W-0.24 Ω	4822 115 40216
6419,6420	BC558	4822 130 40941	3511-3512	W.W.-4W-330 Ω	4822 110 43098
6431,6432	BC548	4822 130 40938	3521	Safety 130 Ω	4822 111 50405
6433	BC548C	4822 130 44196	3523	Safety 22E	4822 111 50346
6434	BC337	4822 130 40855	3527-3528	1K	4822 100 10037
6435	BC557	4822 130 44256	3532-3533	Safety 1 Ω	4822 111 30215
6501-6402	BC548B	4822 130 40937	3541-3544	Safety 5.6 Ω	4822 111 30435
6403-6506	BD137/138	4822 130 40704			
6507,6509	BD313	4822 130 41154			
6508,6510	BD314	4822 130 41155			
6519	BD677	5322 209 85451			
-D- 			-C- 		
6001		4822 130 31137	2001-2002	6800 μ F - 40 V	4822 124 70315
6055,6056			2071,2072	22 μ F - 40 V	4822 124 40223
6061,6062	BAW62	4822 130 30613	2076	22 nF	4822 122 30103
6057-6060	BA315	4822 130 30843	2321,2311	82 nF	4822 121 41158
6063-6068	GL-2AR-1	4822 130 31137	2335,2323	10 nF	4822 121 41134
6421-6430	BAW62	4822 130 30613	2419-2420	56 pF - 2%	4822 122 31074
6515	BAW62	4822 130 30613	2423-2424	8.2 pF - 2%	4822 122 31052
6516	BZX79/C20	5322 130 34499	2501-2502	100 n - 100 V	4822 121 40334
6517,6518	BY225/100	4822 130 30917	2503-2506	250 V - 47 n	4822 121 40239
6522	BZX79/C22	4822 130 34441	2512	100 n - 250 V	4822 121 40518
			2513-2514	470 n - 100 V	4822 121 40438
			-Miscellaneous-		
5001		4822 146 80086	1010-1011	6,3 V - 250 mA	4822 134 40007
			1015		4822 347 10244
			1016		4822 347 10245
			1051		4822 218 10124
			1054,1055	6,3 AT	4822 253 30031
			1501-1504	2 AT	4822 253 30025
			1052-1053	Relay	4822 280 70166
-R- 					
3105,3106	10K	4822 100 10035			
3109	470 Ω	4822 100 10038			
3110	Safety 56 Ω	4822 111 30412			
3116,3117	Safety 1,6 Ω	4822 111 30471			
3301	Safety 56 Ω	4822 111 30412			

GB

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.

NL

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

F

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

D

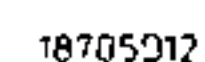
Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

I

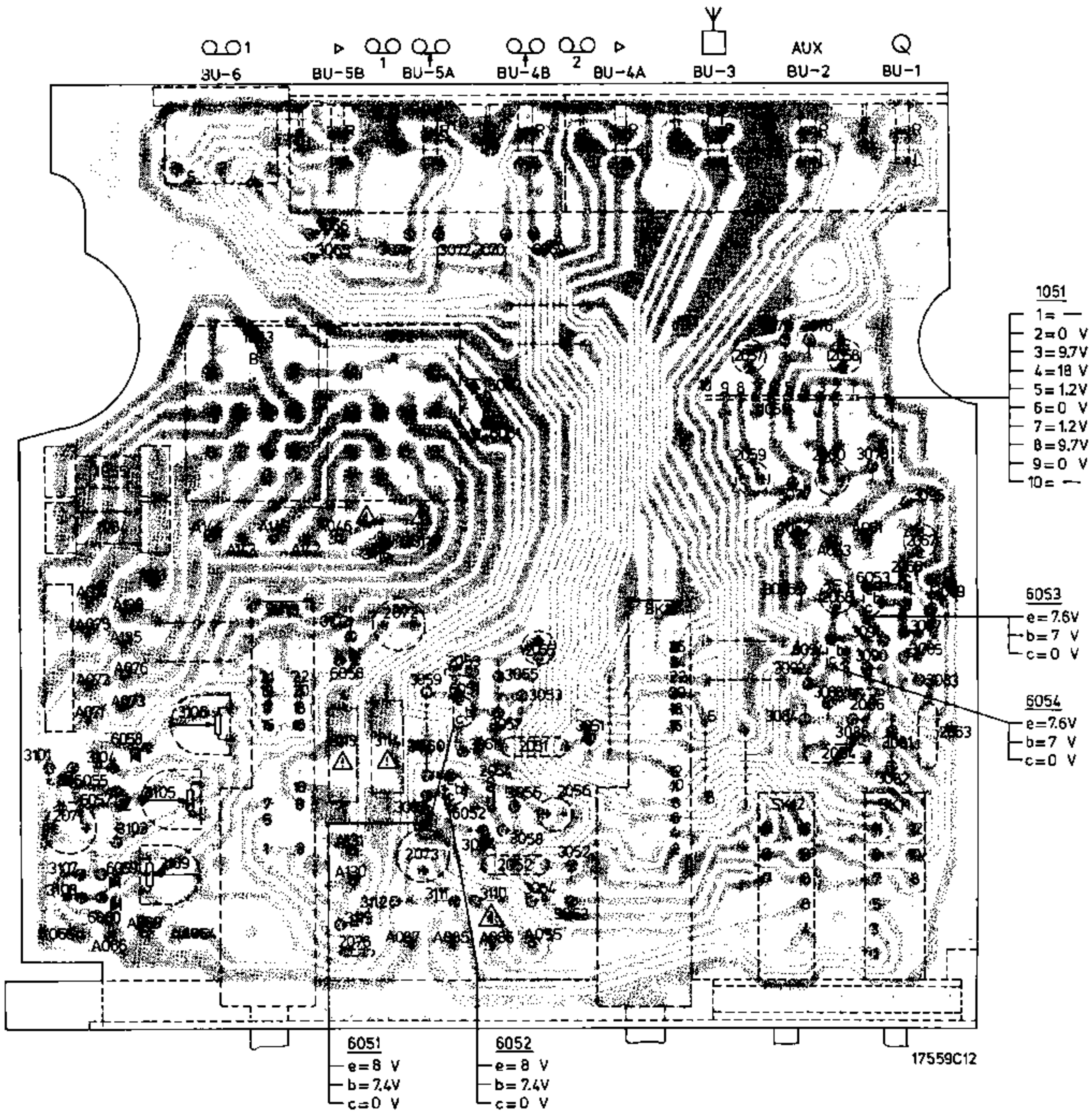
Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

S

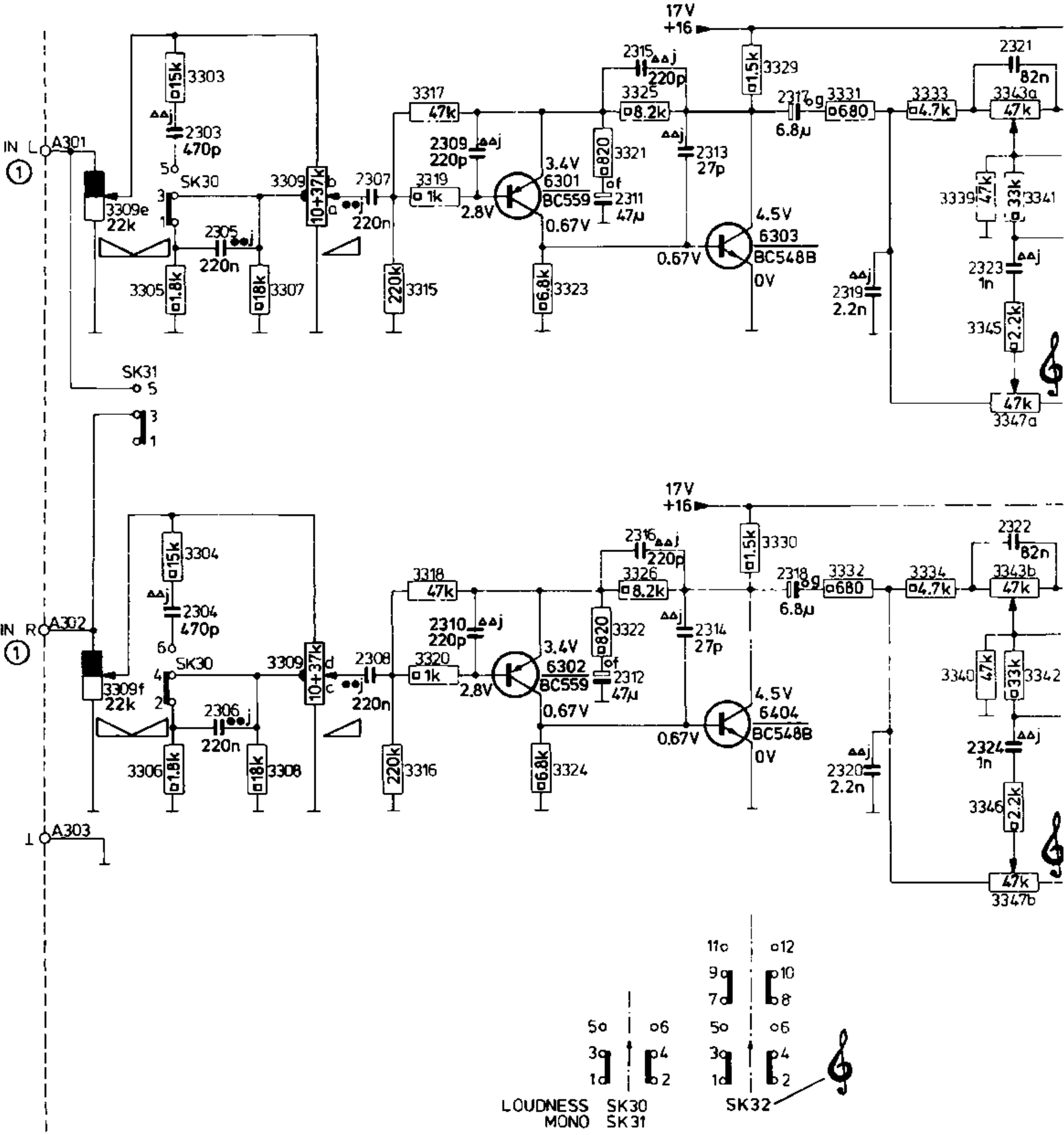
Säkerhetsbestämmelserna kräver att varje reparation skall utföras korrekt med hänsyn till ursprunglig placering av komponenter, ledningar etc. och med användning av föreskrivna reservdelar.



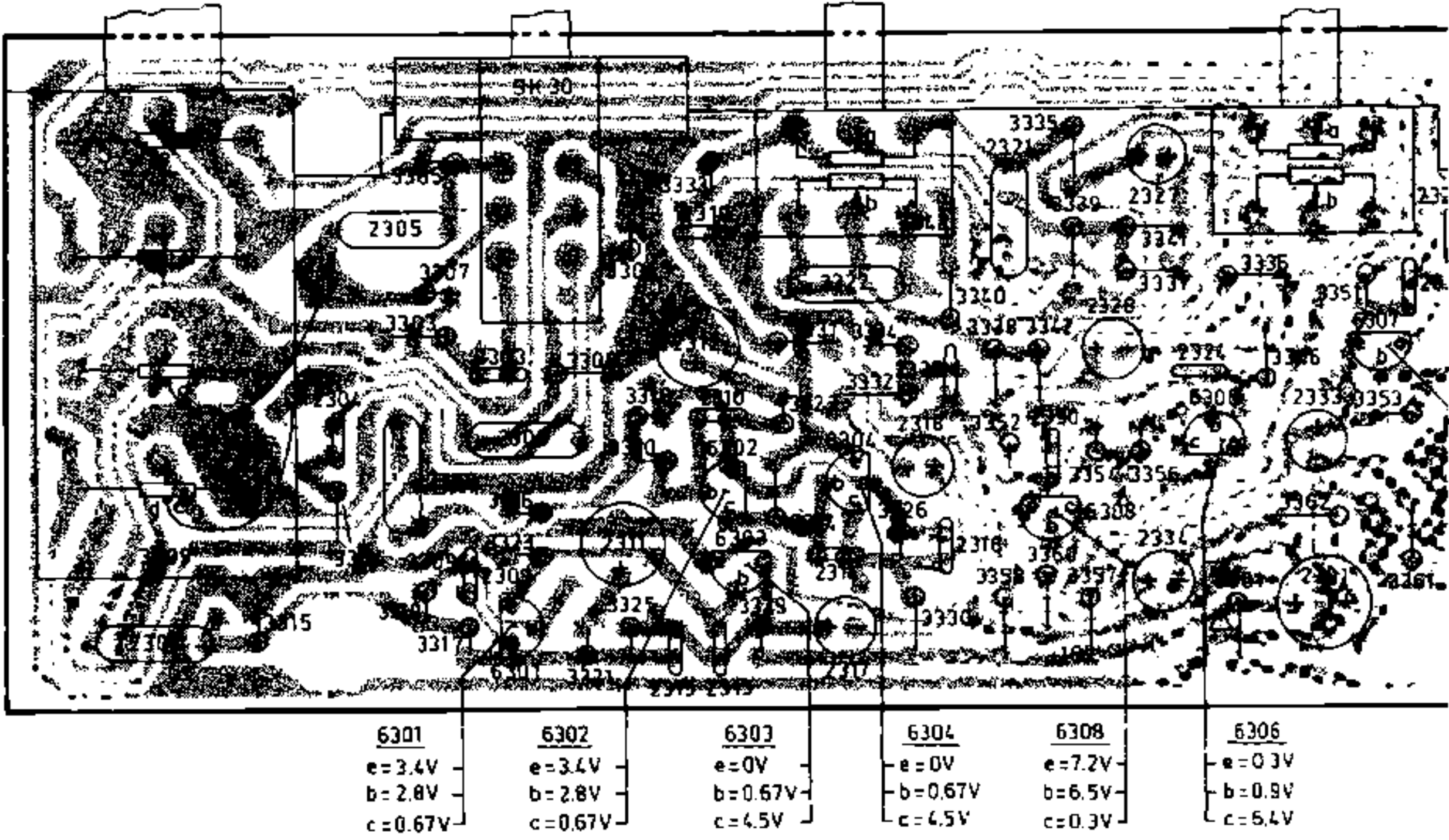
20	30	60
	66 71 70 65 3119 3121	72 69 3120 3122
57 58	75	76
		62
		61
59 60	77 95	78 68
67	3116	3117
65		67
68	96	89
72	87	3102
55	91	54
85	90	56
53	92	55
86	93	66
	59	51
	88	57
63	84	86
	81	51
51	61	58
64	3106	95
	3104	85
	60	57
54	3113	52
	714	
56	56	
	3105	
71	54	
	58	
73	3103	
52	3109	
	3107	
	52	59
	3108	64
	3110	60
	3112	
	3115	
75		
		63



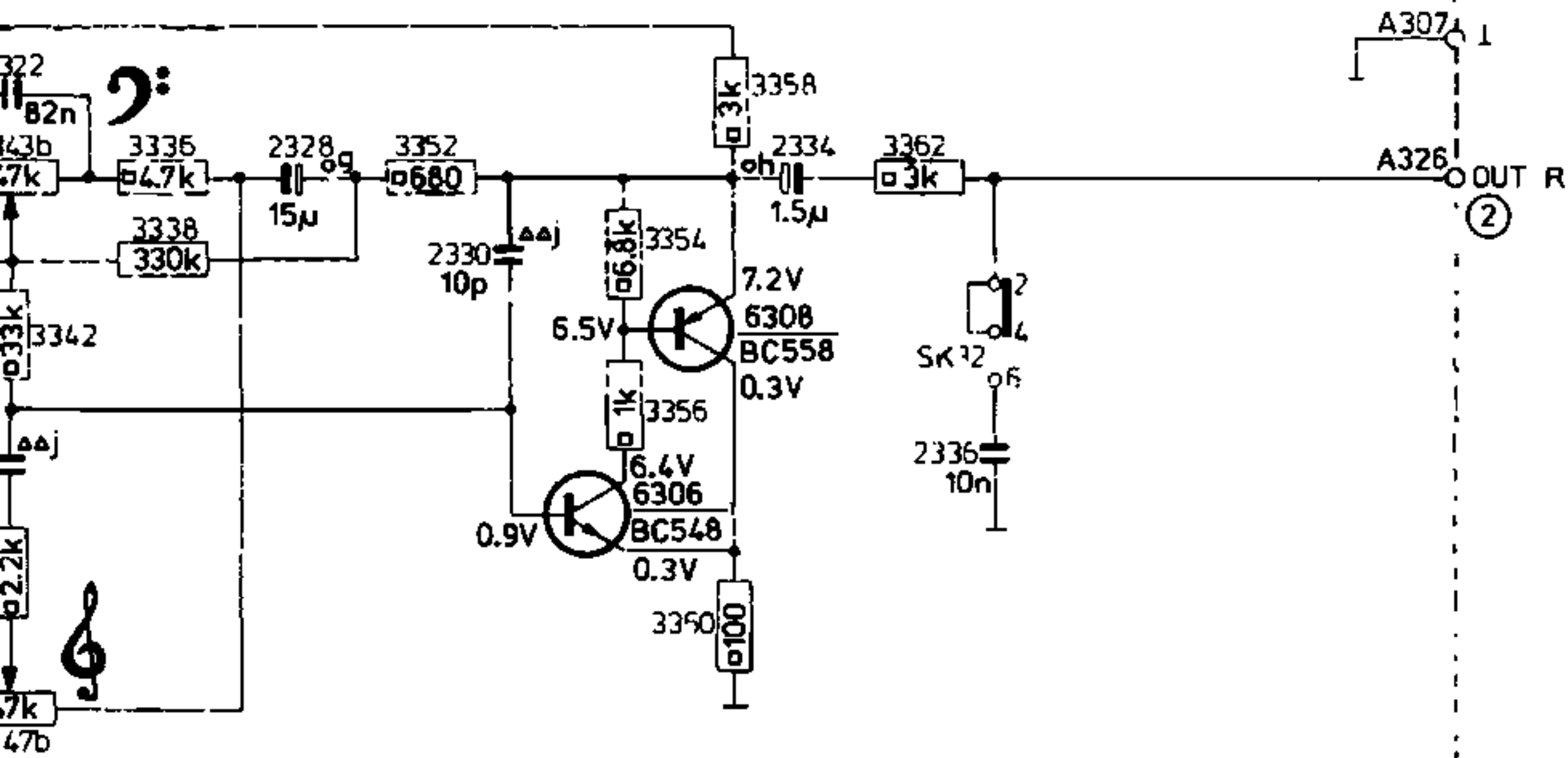
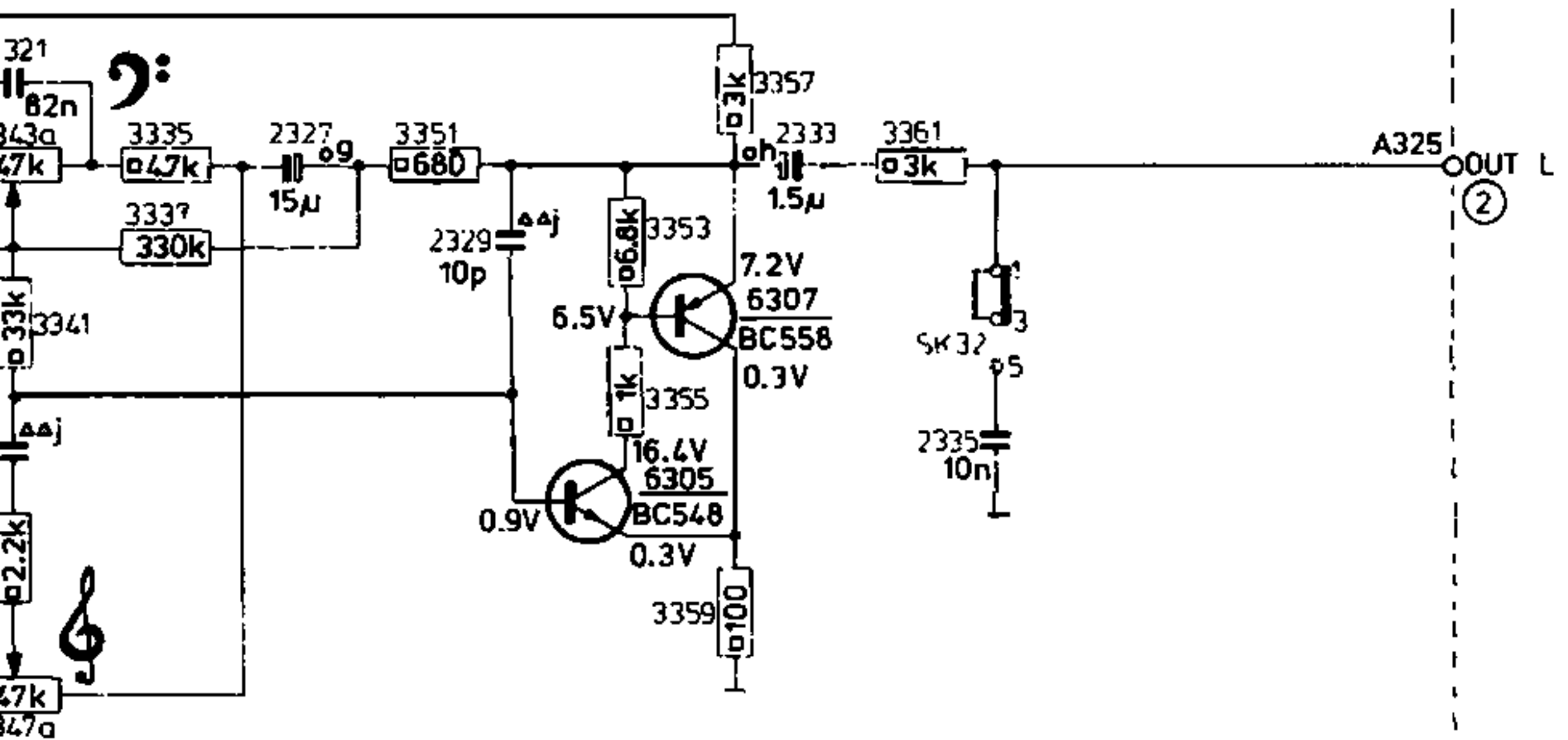
6301.6302		6305.6304	
2303÷2306	2307÷2310	2311÷2316	2317÷2320
3303÷3309	3315÷2320	3321÷3326	3329÷3332
			3345÷3347.3333÷3340.



MISC	6301. SK 30	6302. 6303	6304	6308	6305	6307
C	2305 2303	2312.2319.2310 2322	2320.2321	2328.2327 2324	2329	2329
C	2307	2304.2308.2309 2306.2311 2315	2313 2314 2316	2318	2330 2334	2301 2333
R	3309	3303.3307.3305 3308 3306	3331	3334.3343.3335 3337	3342 3336.3346.3347 3351 335	3353
R		3315 3304 3323 3316	3321.3325 3329 3324.3322 3326.3330.3352 3360 3356	3358.3354 3301 3362 3353		

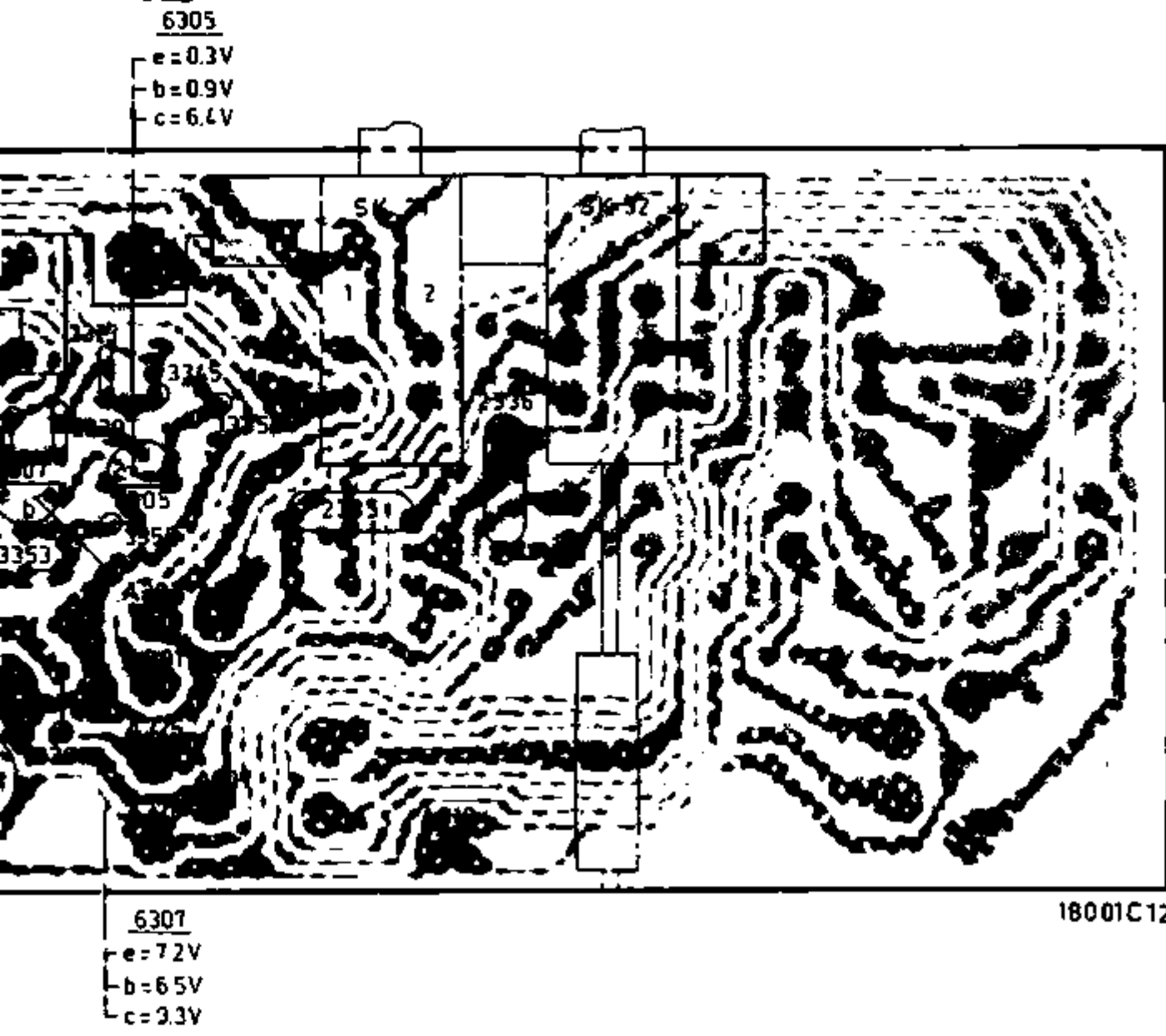


6305-6308			
1-2424	2327-2330	2333,2334	2335,2336
1-3340,3341-3345	3351-3356	3357-3362	

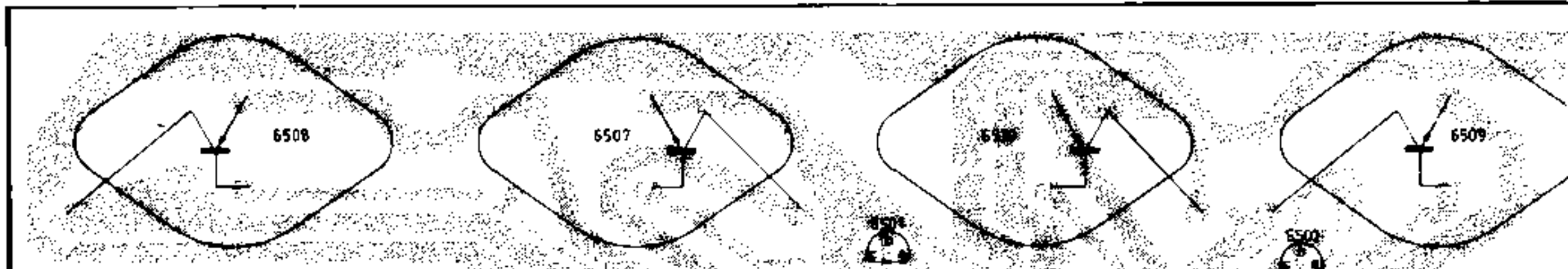


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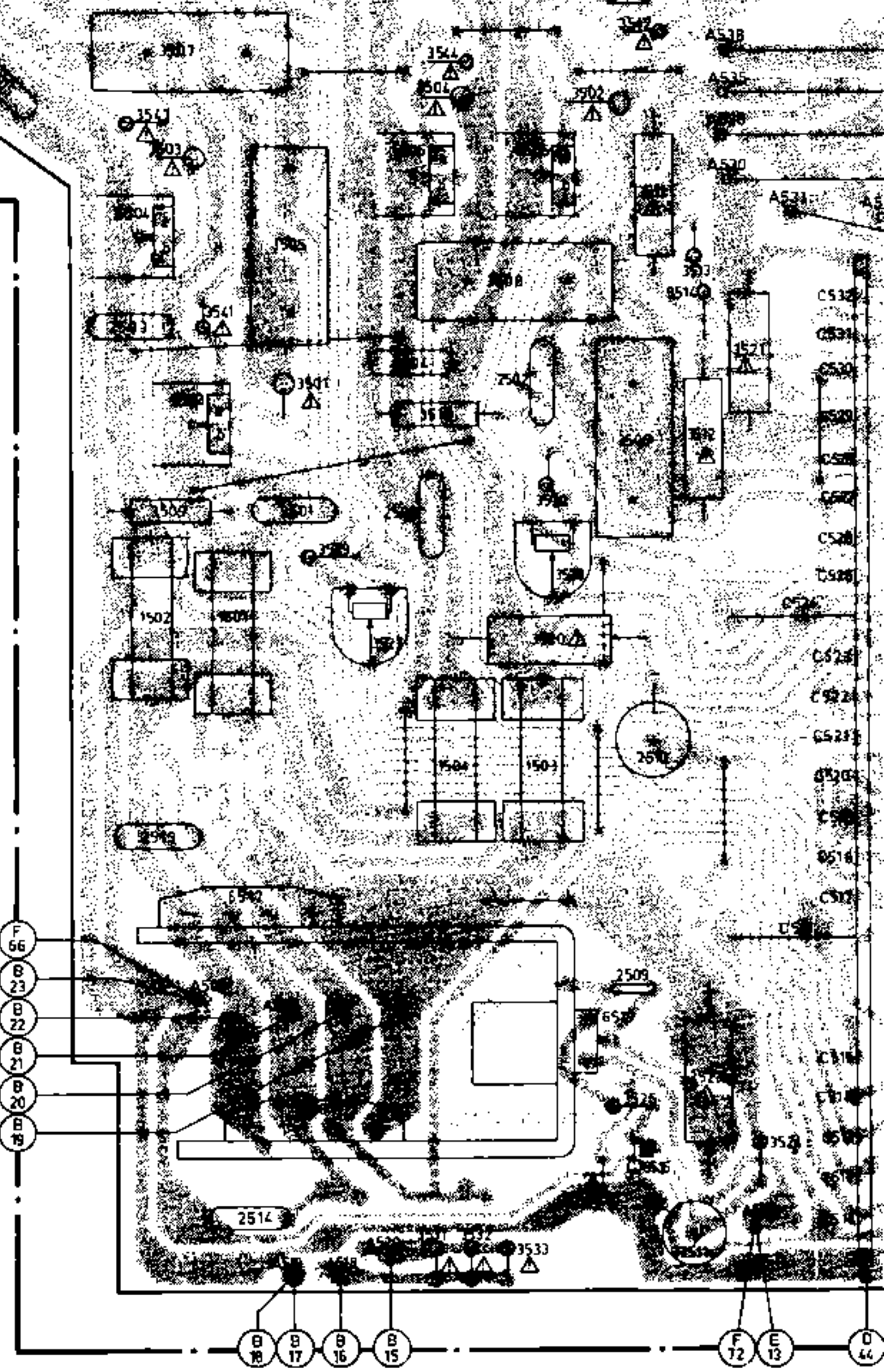
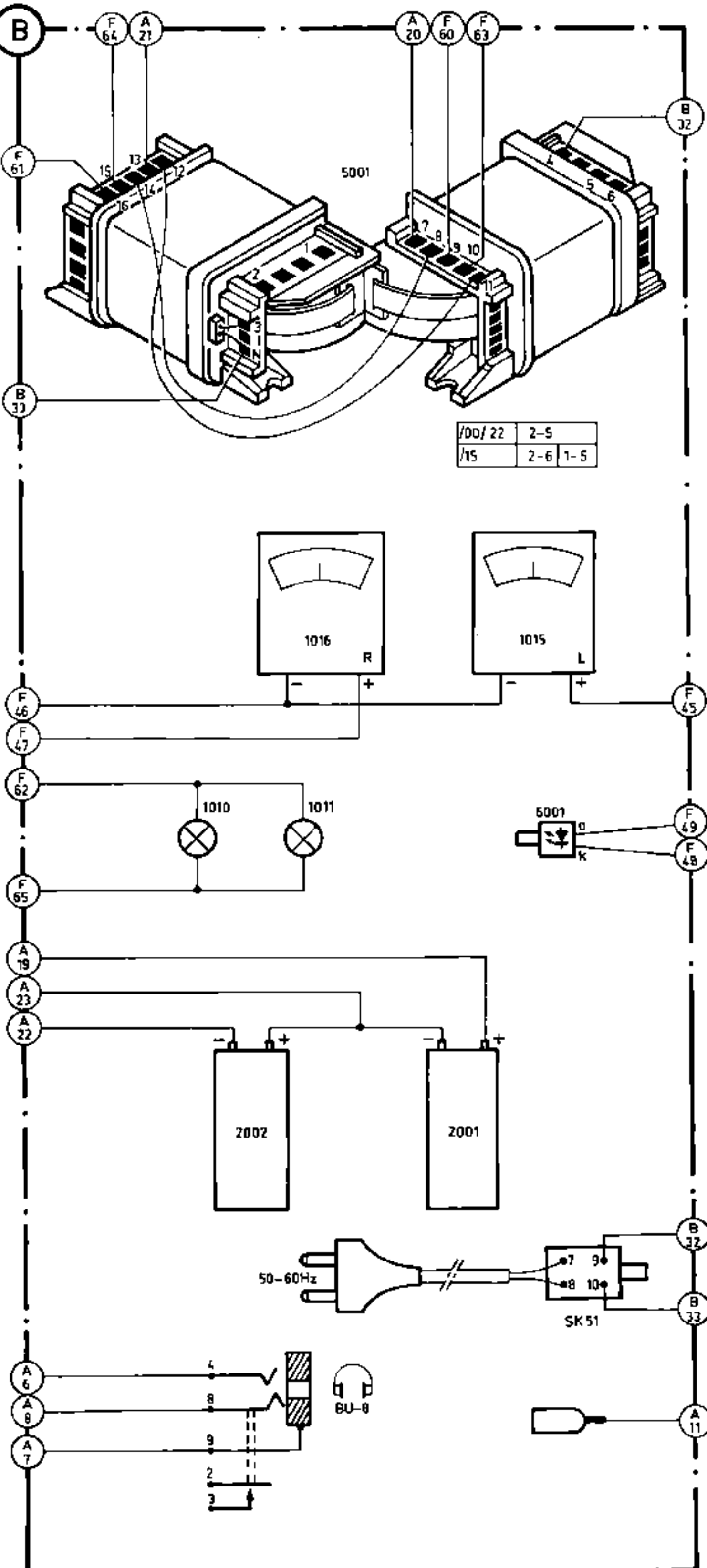
6307	6305	SK 31	SK 32	SK 33	SK 34
2329	2323	2335	2336	2337	2338
33					
3351	3355	3345	3359	3363	3364
3362	3353	3361			3365



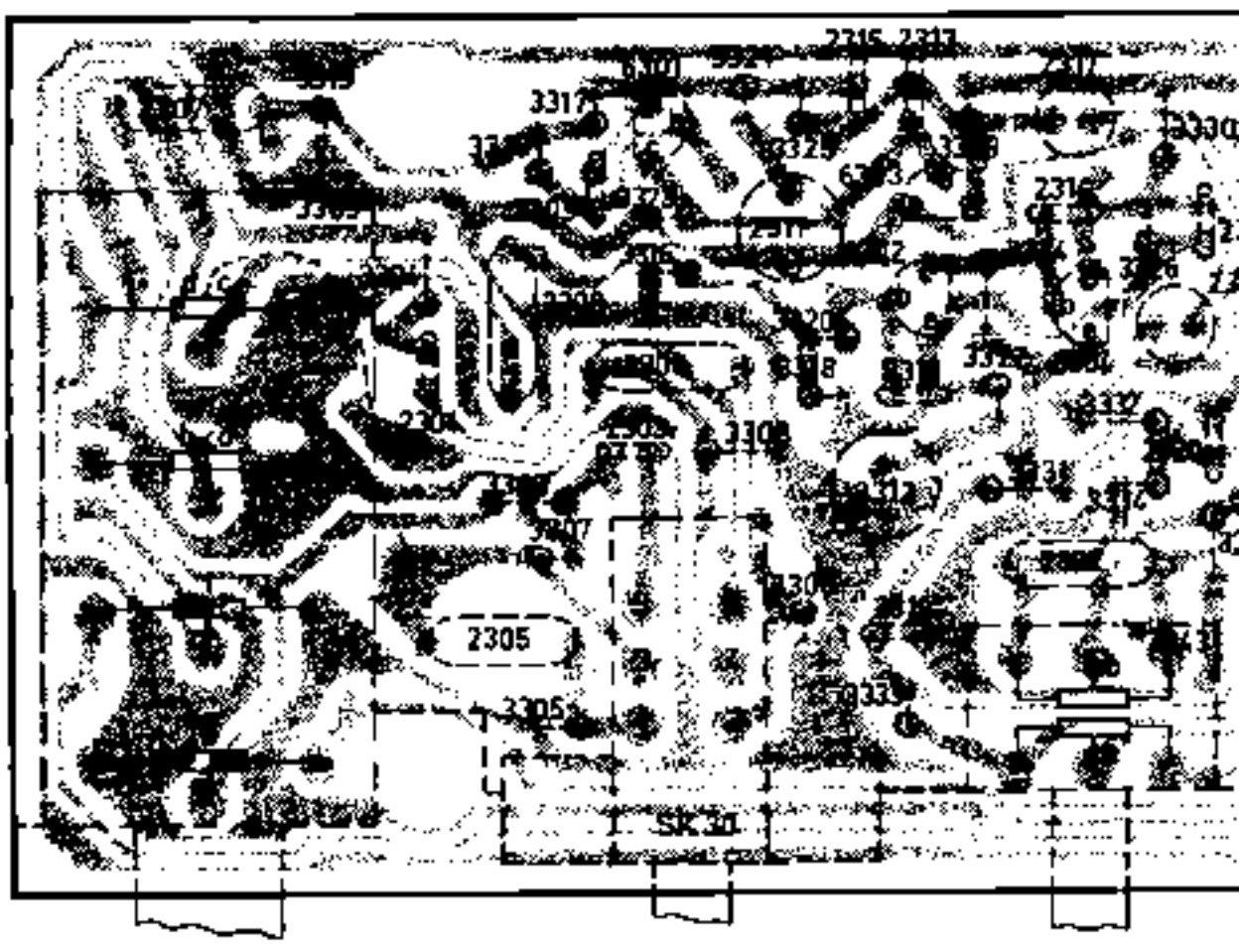
A



B



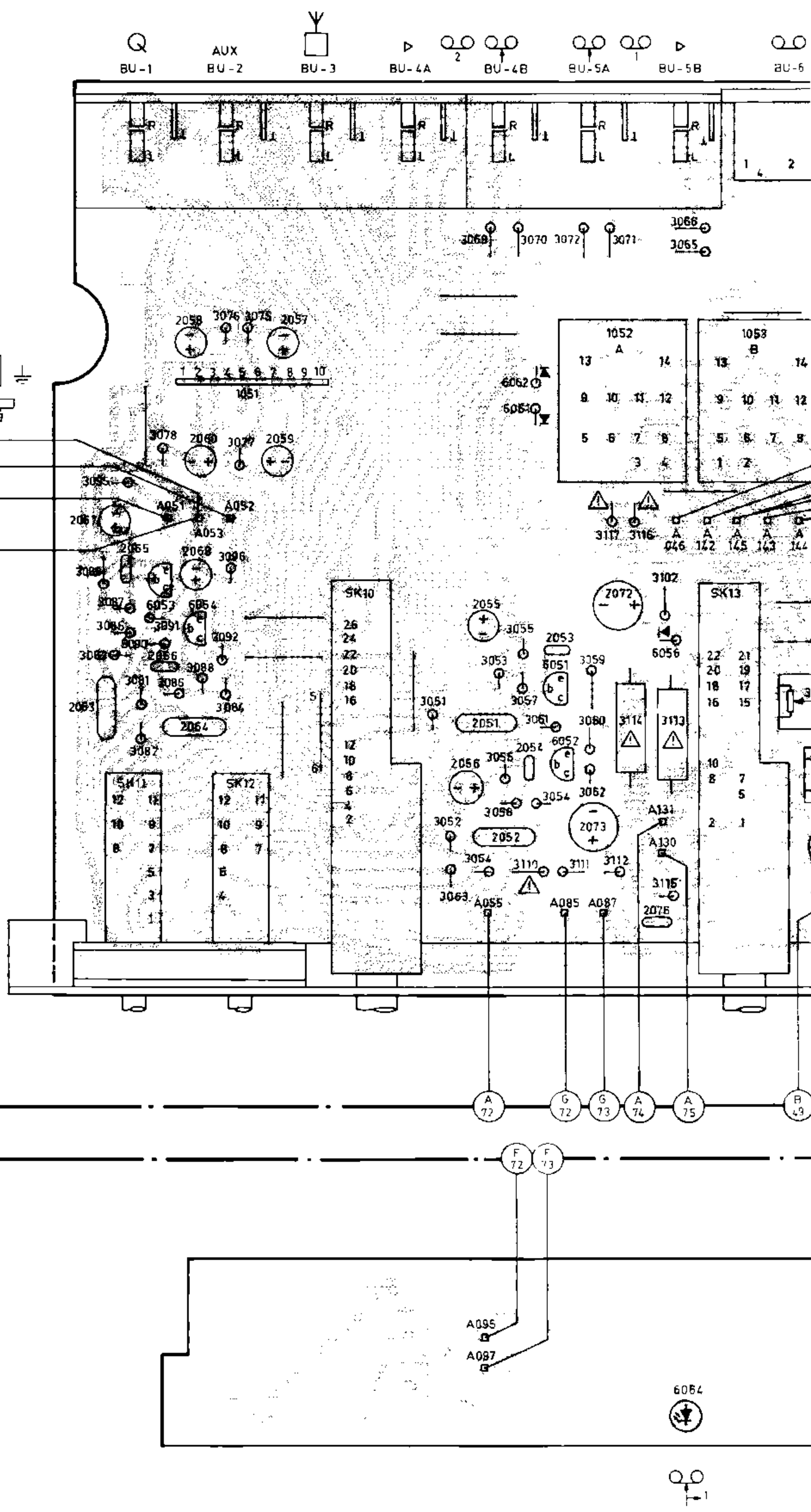
E

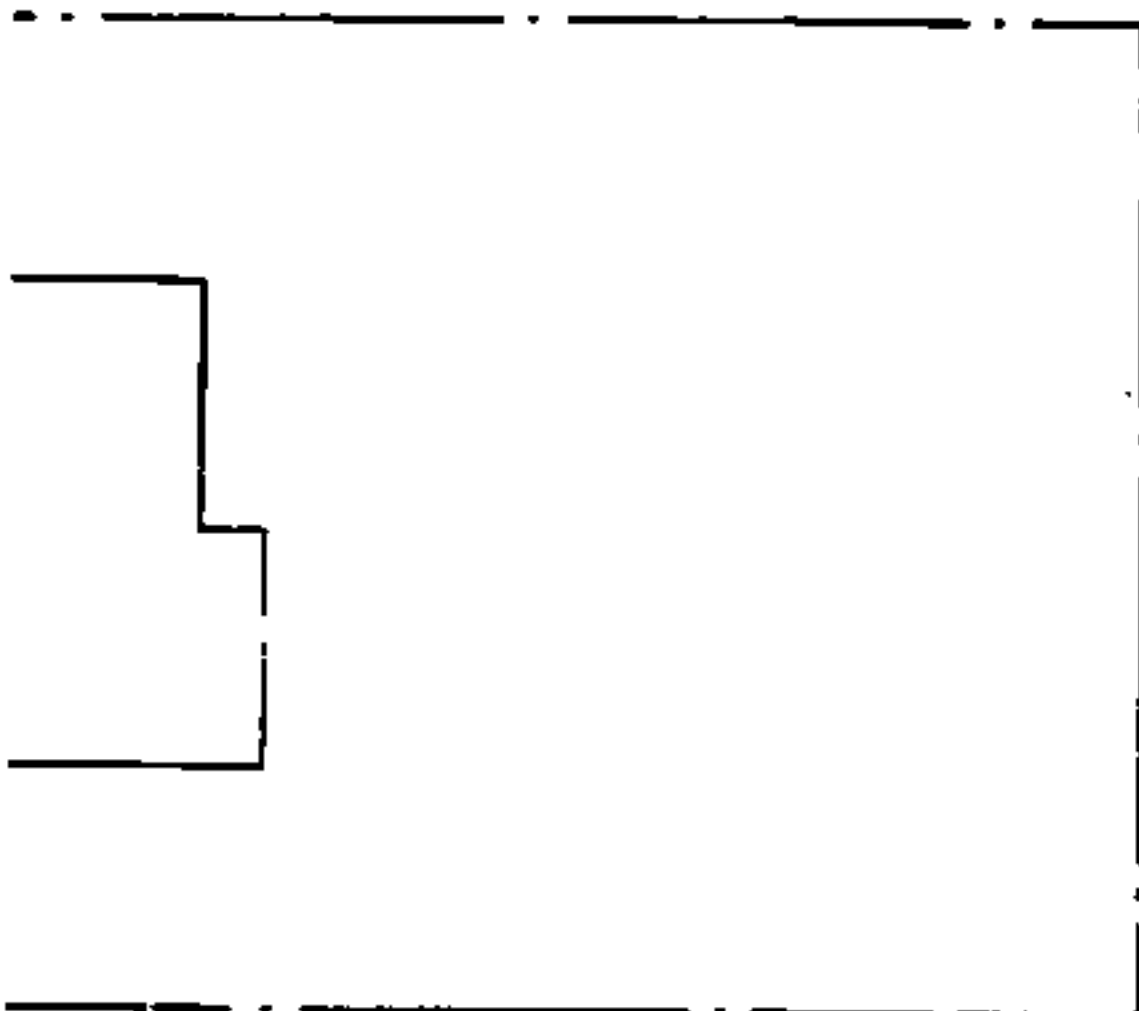


F

E 36
E 35
E 34

G



18707012

401	4822 256 90294
402	4822 466 70371
403	4822 255 10151
406	4822 466 70374
407	4822 426 50371
407/28	4822 426 50382
408	4822 413 51047
409	4822 413 51046
411	4822 413 40857
412	4822 413 40857
413	4822 413 51045
414	4822 413 51045
416	4822 276 10579
417	4822 267 30319
419	4822 410 22231
421	4822 505 10571
423	4822 492 40658
424	4822 276 10692
425	4822 410 22232
434	4822 276 10734
436	4822 273 80231
437	4822 277 30386
438	4822 410 22232
442	4822 410 30203
445	4822 492 61976
446	4822 426 40162
447	4822 492 62176
448	4822 492 60063
452	4822 532 60653
453	5322 466 90433
454	4822 267 30318
456	4822 267 30264
457	4822 267 30264
458	4822 267 30264
459	4822 267 30264
461	4822 462 71121
462	4822 267 30327
463	4822 267 40325
464	4822 267 50277
465	4822 492 60063

