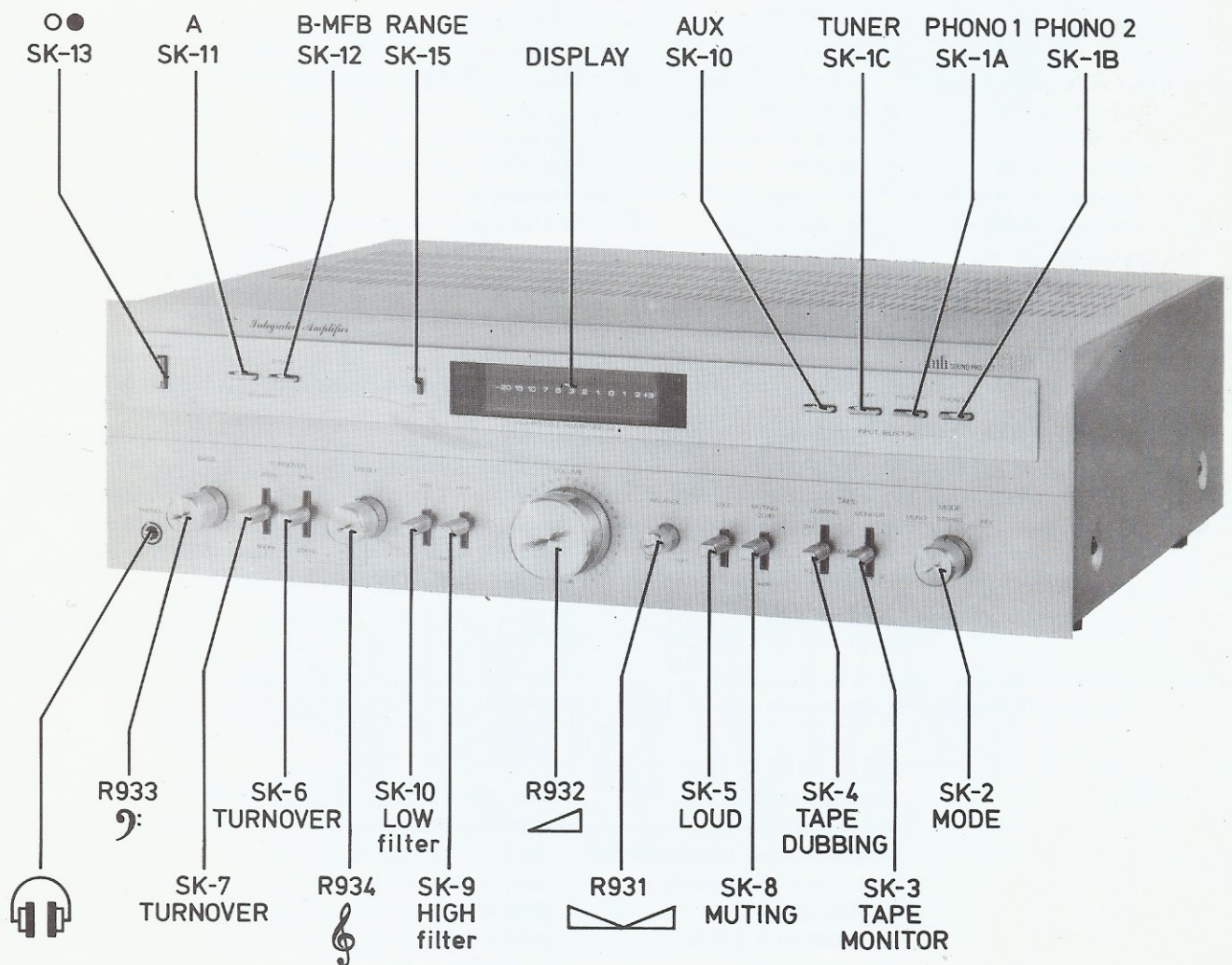


Service
Service
Service

Service Manual



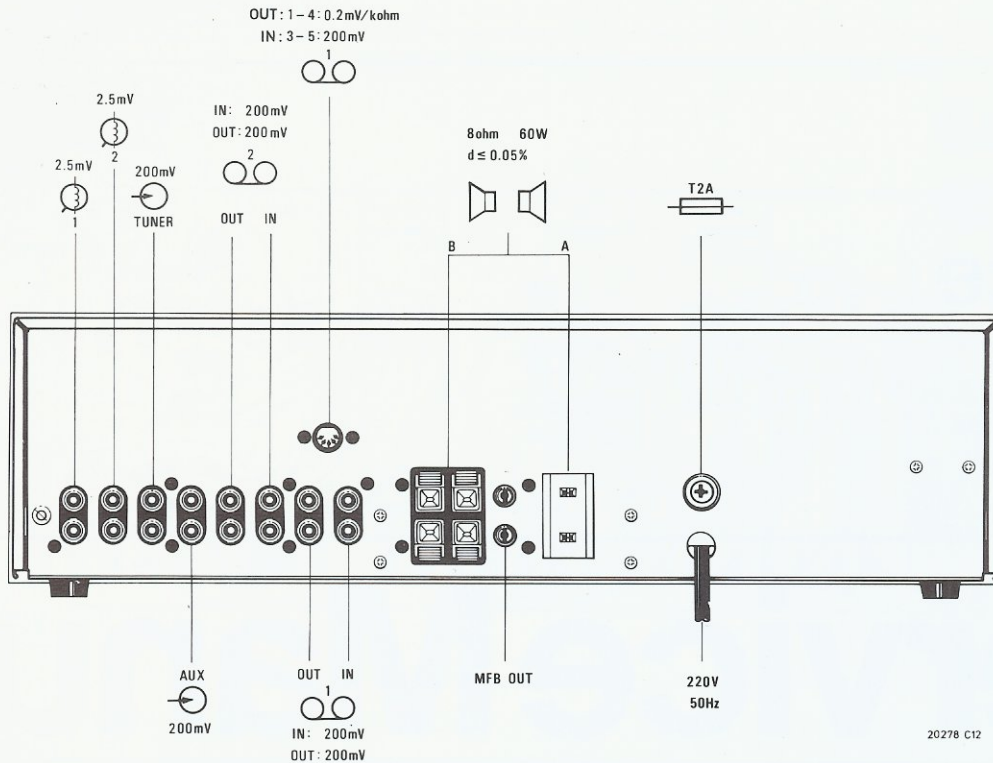
19944B12

Documentation Technique Service Dokumentation Documentazione di Servizio Huolte-Ohje Manual de Servicio Manual de Servicio

(GB) (NL) (F) 4822 725 13666 (D) (S)

Subject to modification

Printed in The Netherlands



(GB)

Supply voltage	: 110 - 220 V AC
Dimensions	: 450x132x330 mm
Input sensitivity phono 1+2	: 2.5 mV (47 kohm)
Tuner - Aux - Tape 1+2	: 200 mV (50 kohm)
Output IEC 581	: 2x65 W (8 ohm)
63-12.500 Hz D ≤ 0.7%	: 2x80 W (4 ohm)
Output impedance	: 4 - 16 ohm
Headphone impedance	: 8 - 600 ohm
MFB output	: 1 V

For more detailed technical specifications please consult commercial documentation

(F)

Tension d'alimentation	: 110 - 220 V AC
Encombrement	: 450x132x330 mm
Sensibilité d'entrée phono 1+2	: 2.5 mV (47 kohm)
Adaptateur-magnétophone-Aux-1+2	: 200 mV (50 kohm)
Sortie IEC 581	: 2x65 W (8 ohm)
63-12.500 Hz D ≤ 0.7%	: 2x80 W (4 ohm)
Impedance de sortie	: 4 - 16 ohm
Impedance casque d'écoute	: 8 - 600 ohm
MFB sortie	: 1 V

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

(S)

Matningsspänning	: 110 - 220 V AC
Dimensioner	: 450x132x330 mm
Ingångskänslighet Grammofon 1+2	: 2.5 mV (47 kohm)
Tuner - Aux - Bandspelare 1+2	: 200 mV (50 kohm)
Uteffect IEC 581	: 2x65 W (8 ohm)
63-12.500 Hz D ≤ 0.7%	: 2x80 W (4 ohm)
Utgångsimpedans	: 4 - 16 ohm
Hörtelefonimpedans	: 8 - 600 ohm
MFB Utgång	: 1 V

För mera detaljerade tekniska data se kommersiell dokumentation

(NL)

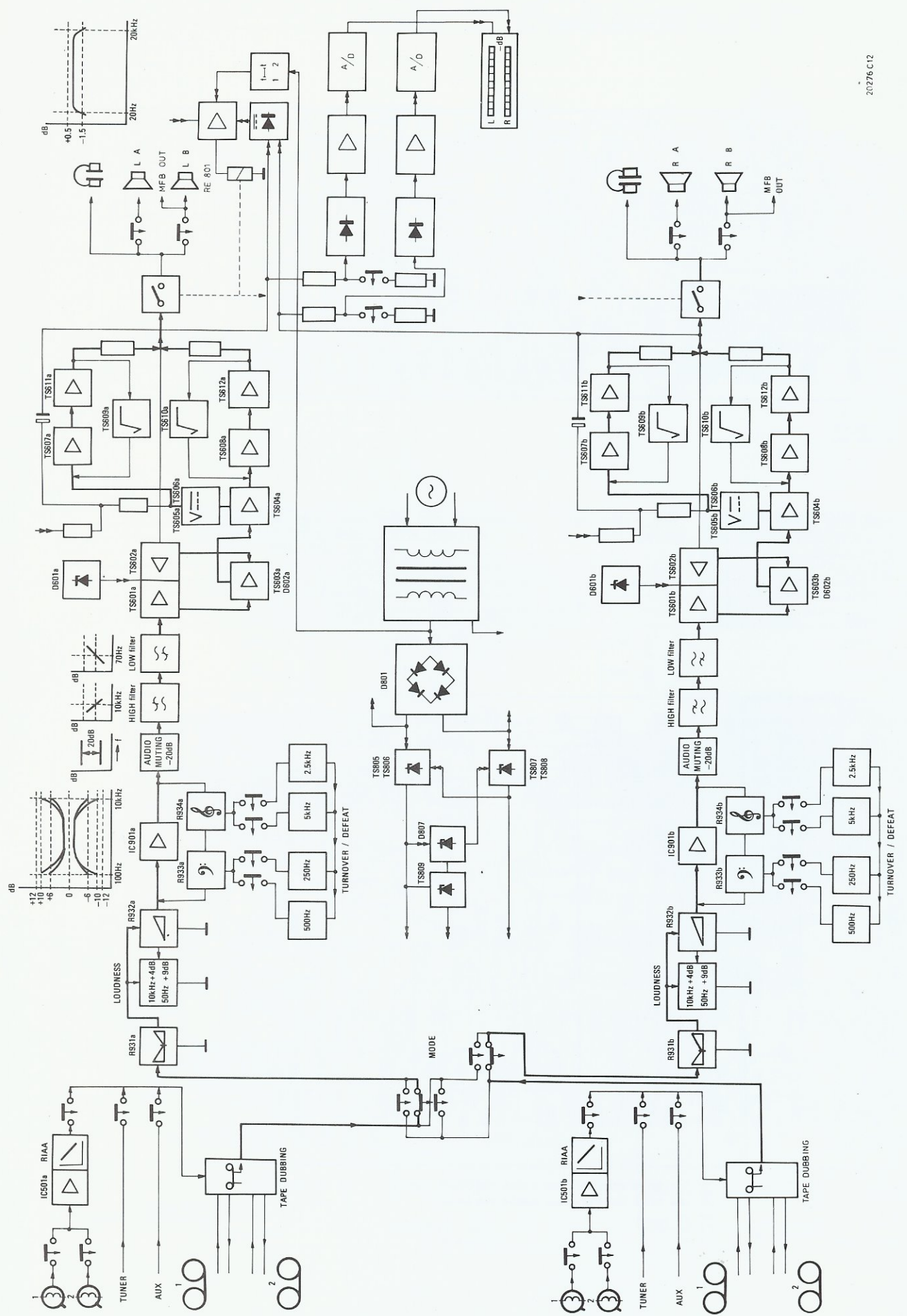
Voedingsspanning	: 110 - 220 V AC
Afmetingen	: 450x132x330 mm
Ingangsevoeligheid phono 1+2	: 2.5 mV (47 kohm)
Tuner - Aux - Tape 1+2	: 200 mV (50 kohm)
Uitgang IEC 581	: 2x65 W (8 ohm)
63-12.500 Hz D ≤ 0.7%	: 2x80 W (4 ohm)
Uitgangs impedantie	: 4 - 16 ohm
Hoofdtelefoon impedantie	: 8 - 600 ohm
MFB uitgang	: 1 V

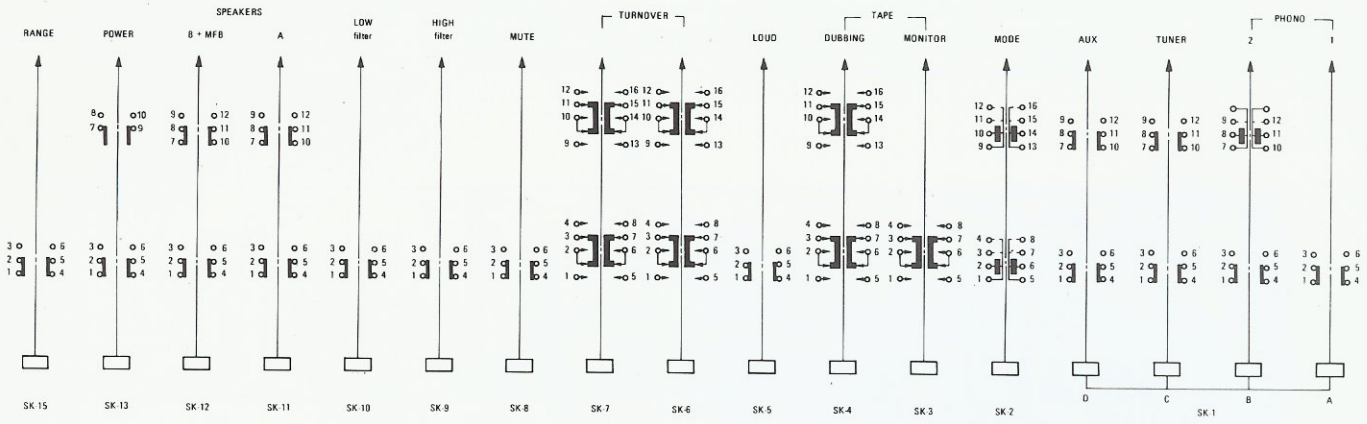
Voor meer uitgebreide technische specificaties gelieve de commerciële documentatie te raadplegen

(D)

Speisspannung	: 110 - 220 V AC
Abmessungen	: 450x132x330 mm
Eingangsempfindlichkeit Phono 1+2	: 2.5 mV (47 kohm)
Tuner - Aux - Tape 1+2	: 200 mV (50 kohm)
Ausgangsleistung IEC 581	: 2x65 W (8 ohm)
63-12.500 Hz D ≤ 0.7%	: 2x80 W (4 ohm)
Ausgangsimpedanz	: 4 - 16 ohm
Kopfhörer - Impedanz	: 8 - 600 ohm
MFB Ausgang	: 1 V

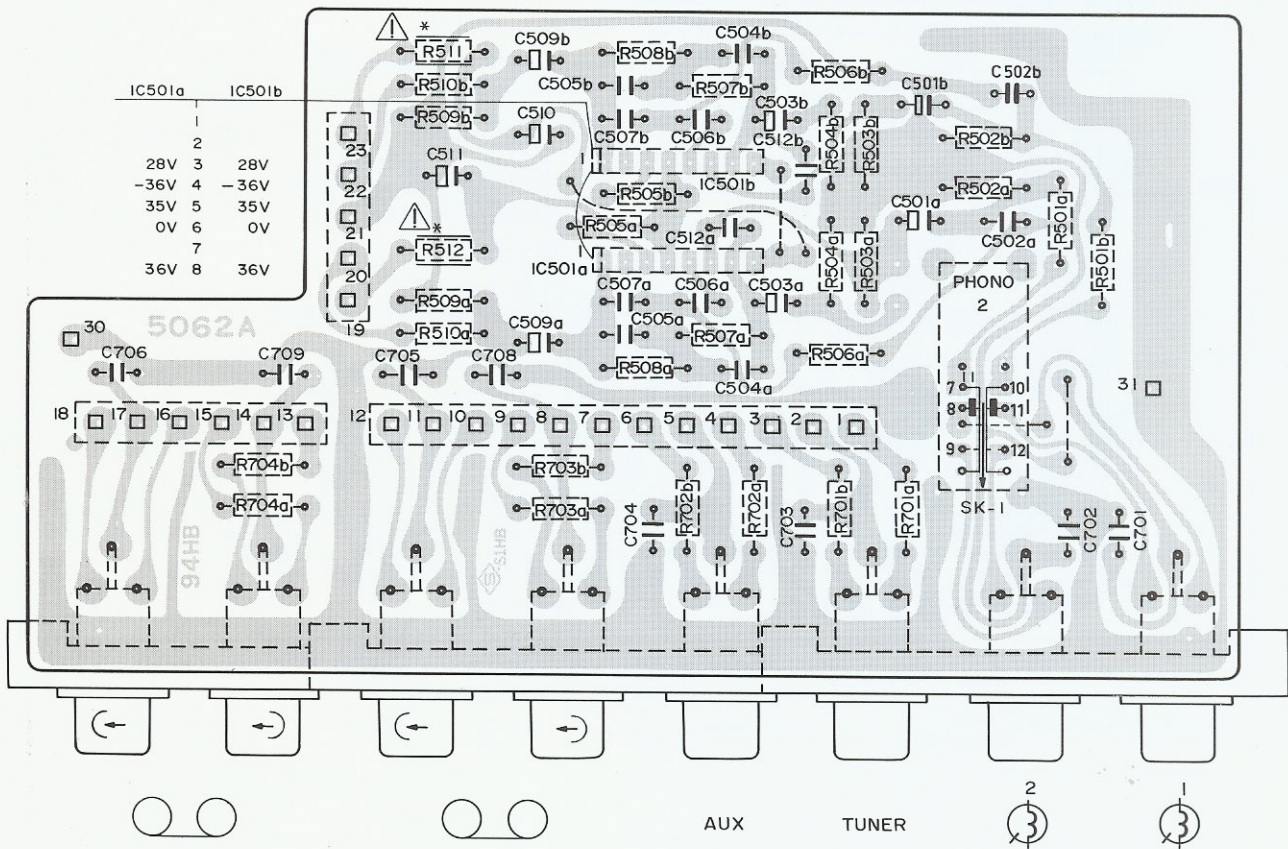
Für eine mehr detaillierte technische Spezifikation verweisen wir auf die kommerzielle Dokumentation





20279 C12

M	IC501a IC501b SK-1											M	
C	706	705 511			510 509b	503b - 507b			512b	501b	502 b		C
C	709		708		509a	704	503a - 507a		512a 703	501a	502a	702 701	C
R	704b		509b 510b 511		703b	508b 505b 702b	507b 701b 504b 503b	506b		502b	501b		R
R	704a		510a 509a 512		703a	505a 508a 702a 507a	701a 504a 506a 503a	502a		501a		R	

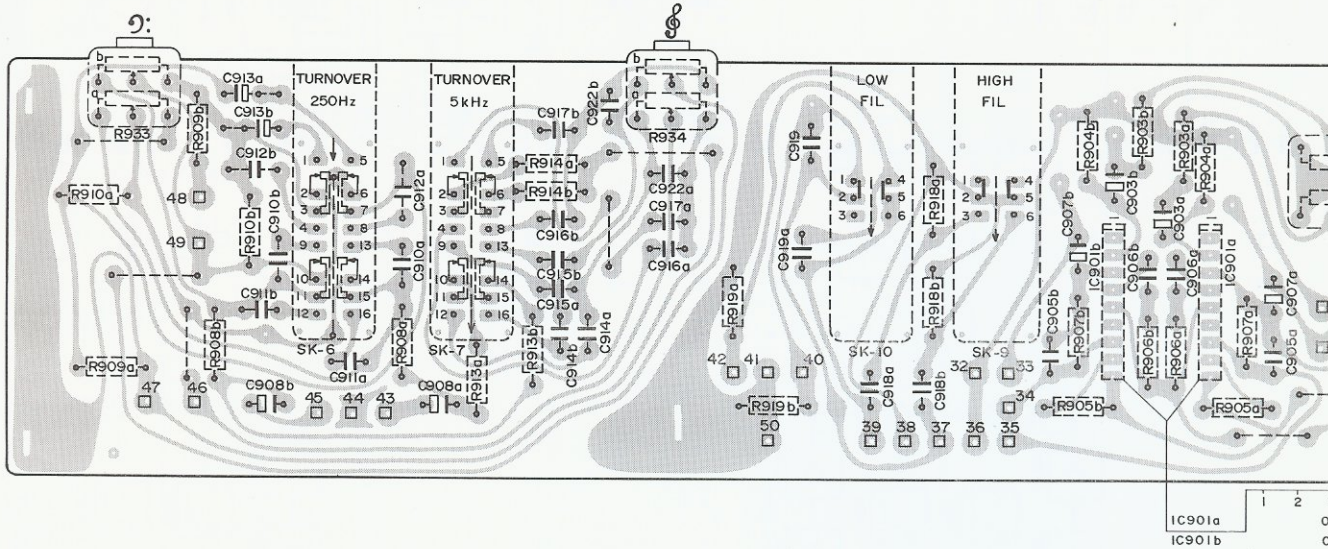


* TO BE MOUNTED 10mm ABOVE THE PRINT

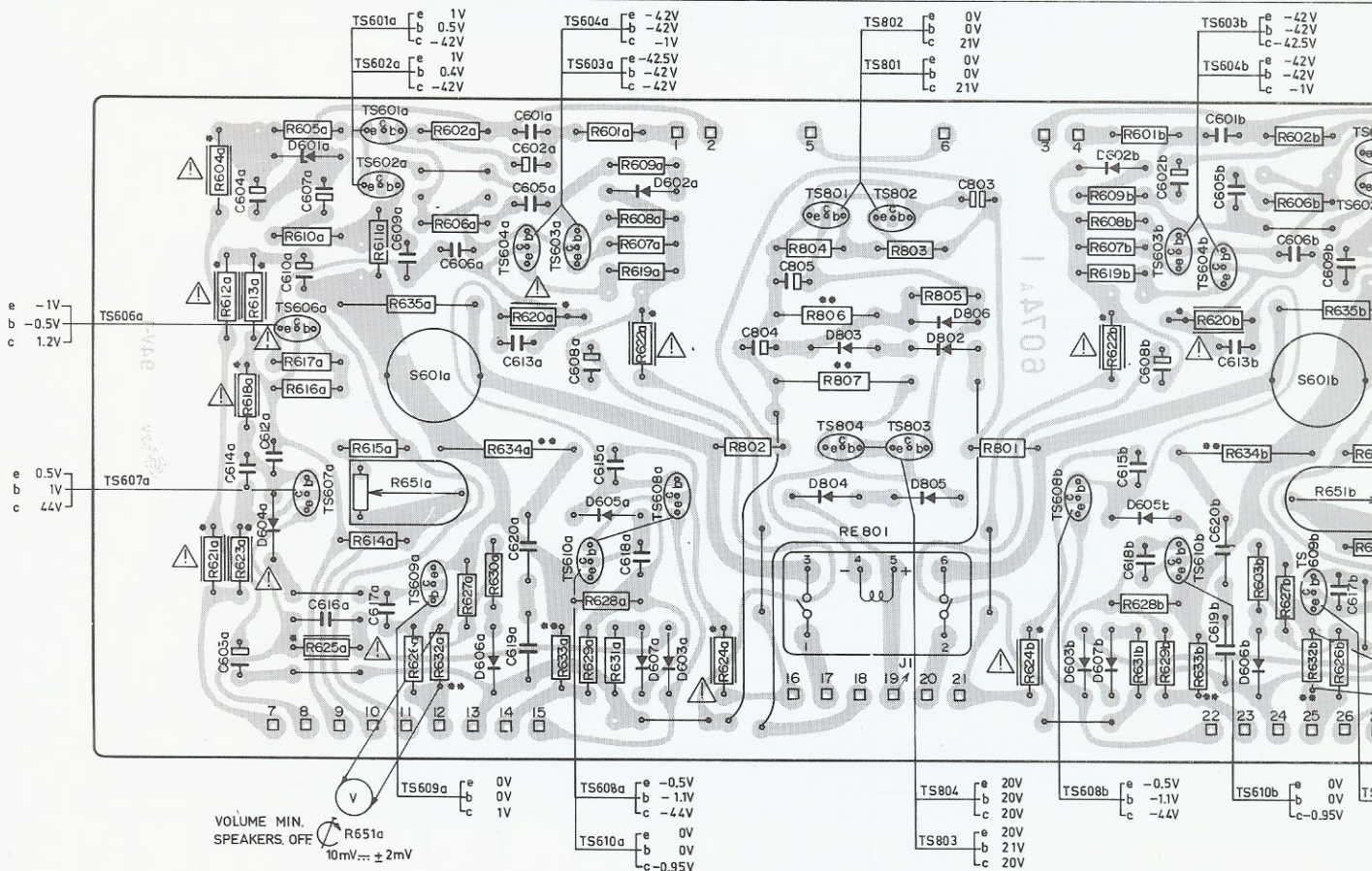
20280 C12

CS 70 907

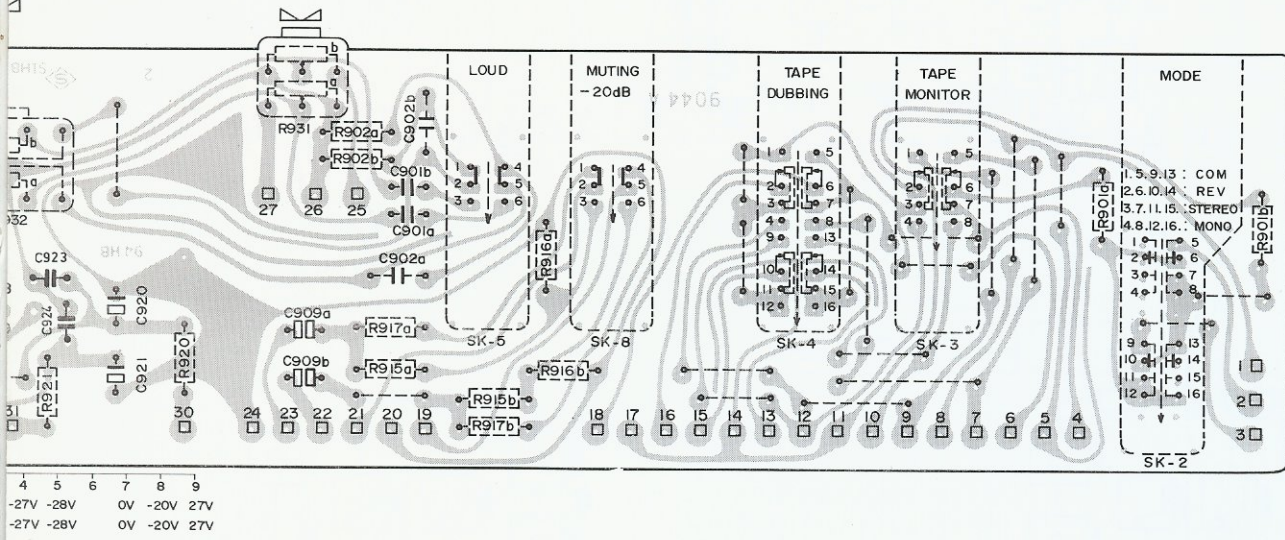
M	SK-6				SK-7				SK-10				SK-9				IC901b		IC901a					
C	910b-913b		908b 913a		910a-912a		908a		914b-917b		922b 914a-917a		922a		919a 919b		918a 918b		905b 907b-903b		906b 903a 906a		905a 907a	
R	910a 909a 933		909b 908b 910b		908a		913a 913b 914b 914a		934		919a 919b		918b 918a		903b-907b		903a-907a							



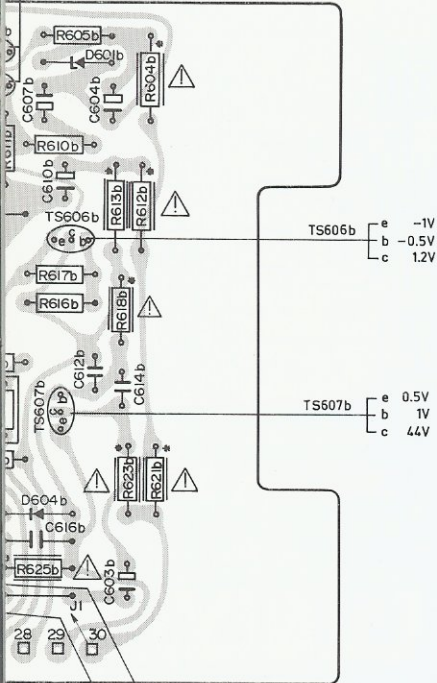
M	D601a TS606a TS601a		S601a		TS604a TS603a		D605a D602a TS608a		TS801- TS804		D806		TS608b D602b		TS603b TS604b		S601b TS609b	
M	D604a TS607a TS602a		TS609a		D606a		TS610a D607a D603a		RE801		D802- D805		D603b D607b D605b TS610b		D606b		TS609b TS608b	
C	604a 610a 607a		609a 606a		601a 602a								602b 601b 605b		606b 609b			
C	614a 612a				605a 613a 608a 615a				803-805				608b 613b					
C	603a 616a 617a				620a 619a 618a								615b 618b 620b 619b		617b			
R	604a 605a 610a		611a 602a 606a		620a 601a 607a-609a								607b-609b 601b		620b 602b 606b			
R	612a-618a		651a 633a-635a		619a				801-807				619b 633b-635b		651b			
R	621a 623a		625a-627a 628a-632a		622a 624a								624b 622b 628b-632b		625b			



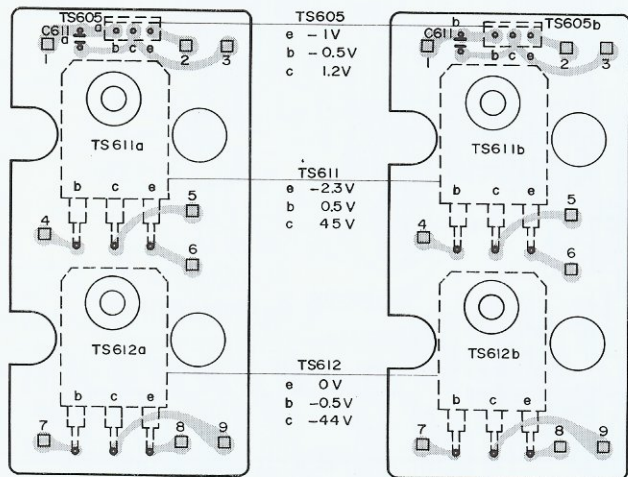
SK-5				SK-8				SK-4				SK-3				SK-2				M
923	924	921	920	909b	909a	902a	901a	901b	902b									C		
932	921	920	931	902b	902a	915a	917a	917b	915b	916a	916b	901a	901b					R		



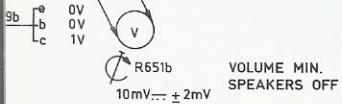
1b	D601b	TS606b	M	
2b	D604b	TS607b	M	
610b	604b		C	
607b	612b	614b	C	
616b	603b		C	
11b	610b	605b	604b	R
612b	618b			R
627b	623b	621b		R



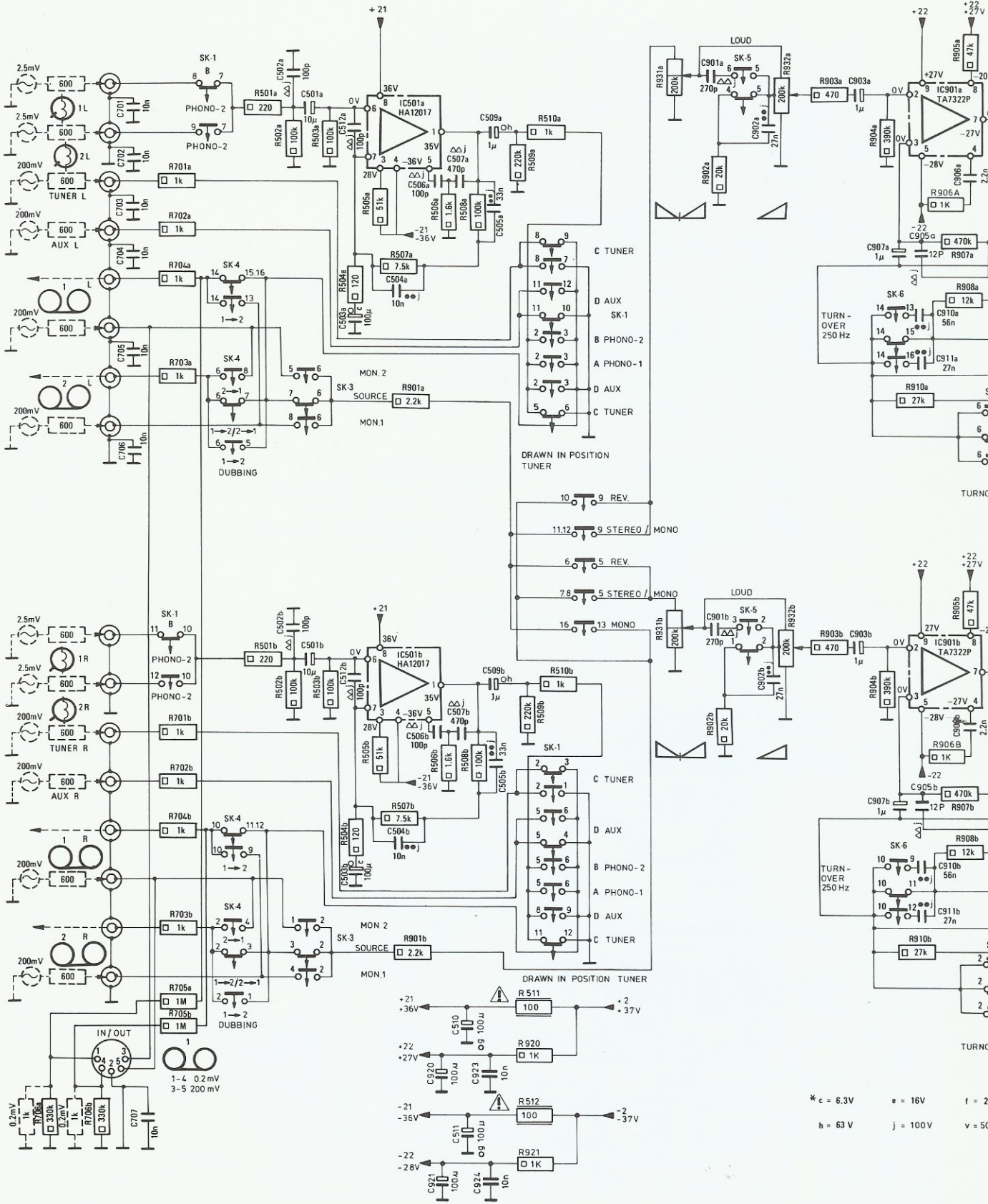
M	TS605a, TS611a, TS612a	TS605b, TS611b, TS612b	M
C	611a	611b	C



- TO BE MOUNTED 10mm A BOVE THE PRINT.
- TO BE MOUNTED 15mm A BOVE THE PRINT.

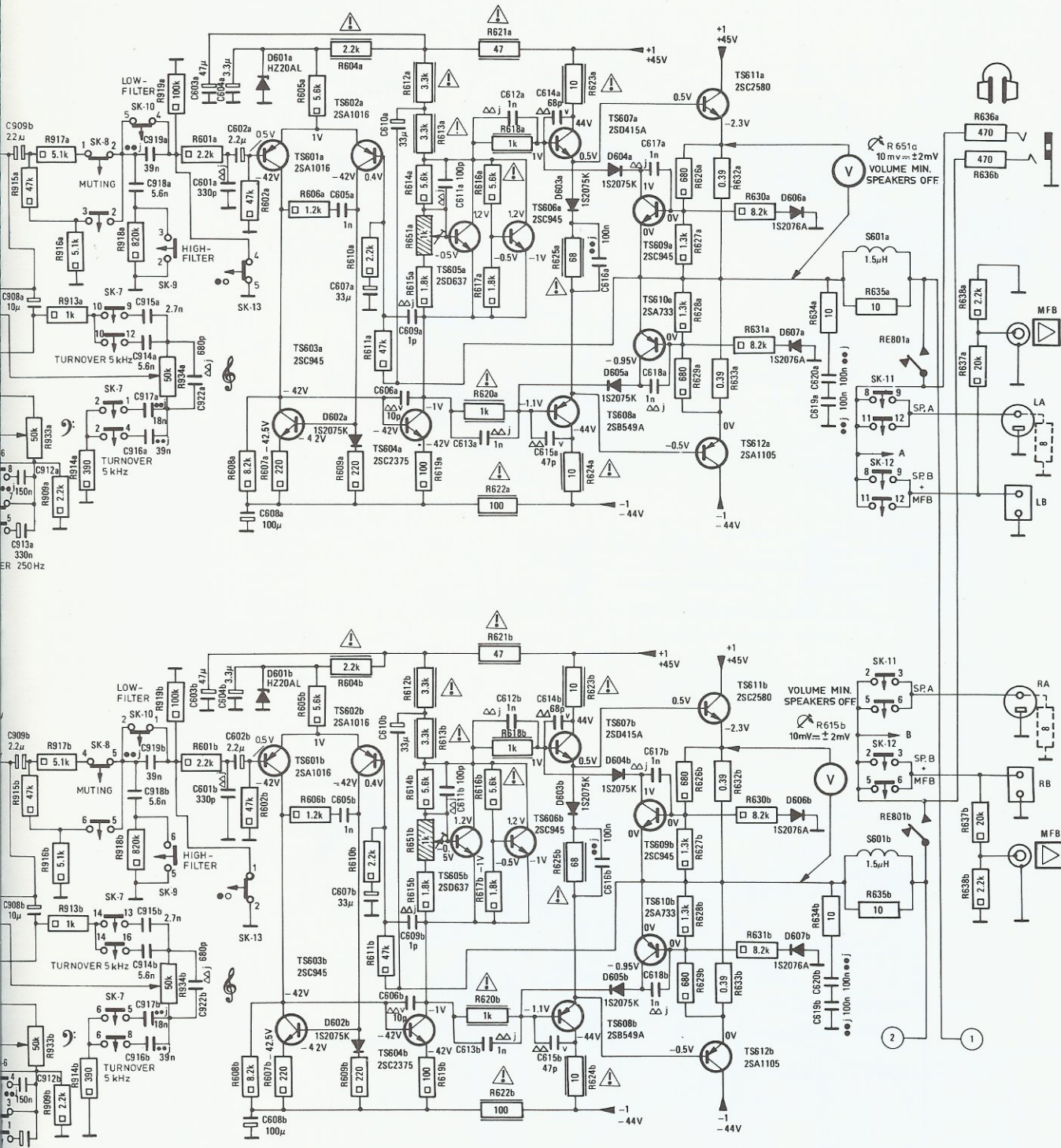


M	IC501a										IC901a						
M	IC501b										IC901b						
C	701 - 706	512a	501a - 507a	509a	510	511	901a - 903a			905a - 907a							
C	707	512b	501b - 507b	509b	921	923	924	920	901b - 903b			905b - 907b					
R	701a - 704a		501a - 508a	901a	509a	510a	511	512	931a	902a	932a	903a - 910a					
R	706a	706b	701b - 704b	705a	705b	501b - 508b	901b	509b	510b	921	920	931b	902b	932b	903b - 910b		

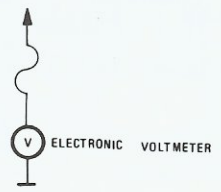


* c = 6.3V e = 16V f = 20V
 h = 63V j = 100V v = 50V

D601a	TS601a - TS606a	D602a	D603a - D605a	TS607a - TS612b	D606a	D607a	S601a	RE801a	M	
D601b	TS601b - TS606b	D602b	D603b - D605b	TS607b - TS612a	D606b	D607b	S601b	RE801b	M	
914a - 919a	922a	808a	601a - 605a	607a	606a	609a - 615a	616a - 618a	619a	620a	C
914b - 919b	922b	808b	601b - 605b	607b	606b	609b - 615b		619b	620b	C
933a	913a - 919a	934a	601a	602a	651a	604a - 625a	626a - 635a	636b	636a - 638a	R
933b	913b - 919b	934b	601b	602b	651b	604b - 625b	626b - 635b	637b	638b	R



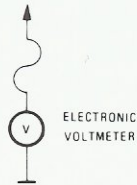
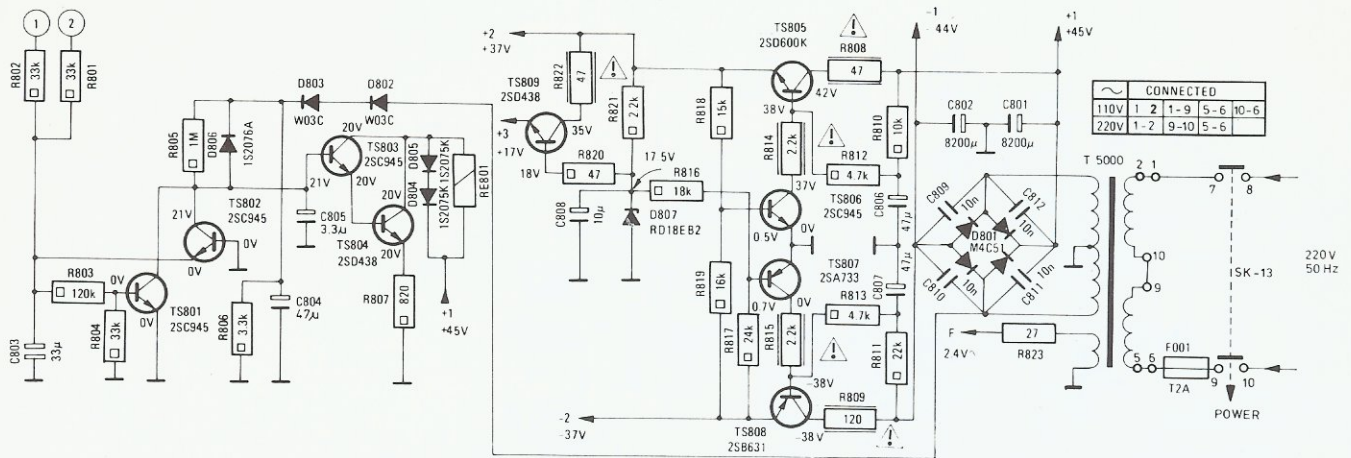
- CARBON RESISTOR E24 SERIES 0.125W 5%
- PLATE CERAMIC CAPACITOR
- MINIATURE ELECTROLYTIC CAPACITOR
- FLAT-FOIL POLYESTER CAPACITOR
- MINIATURE BIPOLAR ELECTROLYTIC CAPACITOR



g = 40V

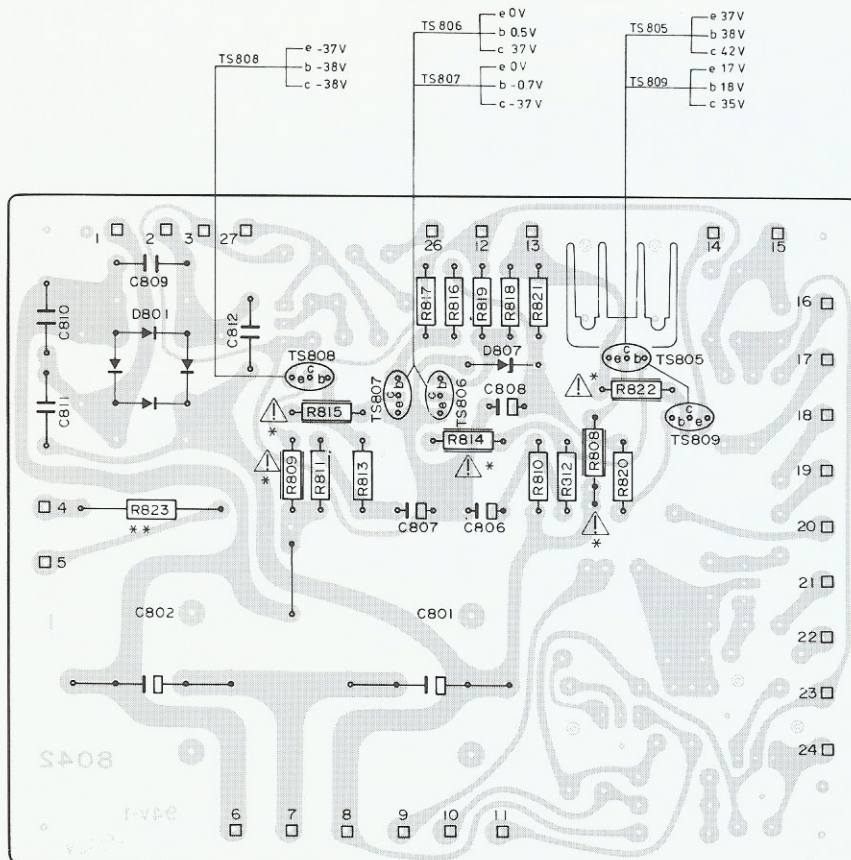
20273 E12

M		D806	TS801	TS804	D802	D804	RE801	TS809	D807	TS805	TS808	D801	TS800	F001	M		
C	803		804	805					808			806	807	801	802	809	812
R			801	807					814	822		808	813		823		



- * e = 16V
 - f = 25V
 - v = 500V
- CARBON RESISTOR E24 SERIES 0.125W 5%
 - PLATE CERAMIC CAPACITOR
 - MINIATURE ELECTROLYTIC CAPACITOR
 - MINIATURE BIPOLAR ELECTROLYTIC CAPACITOR

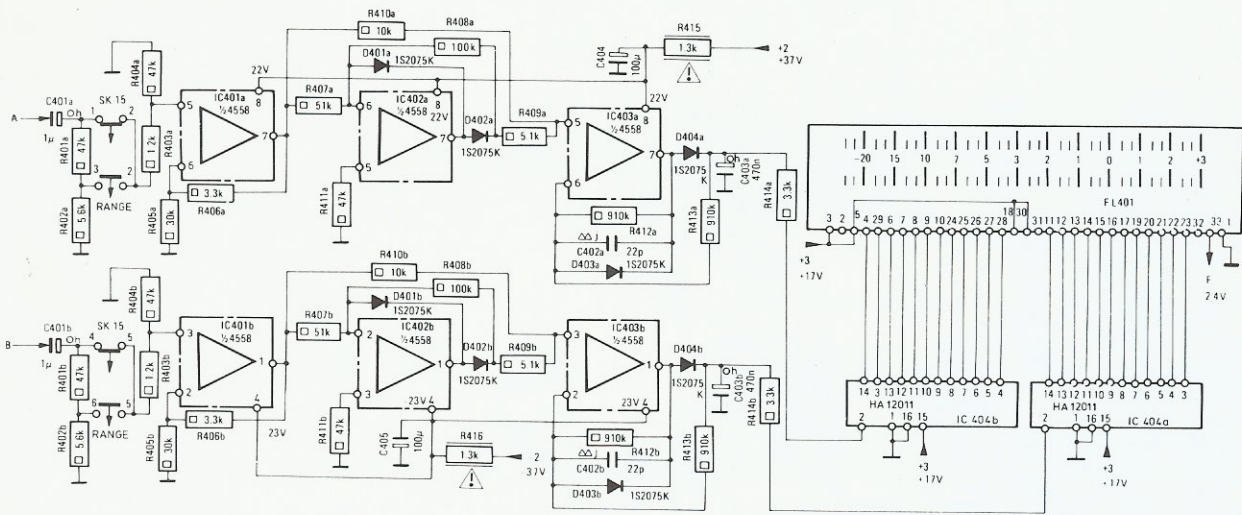
M		D801	TS808	TS807	TS806	D807	TS805	TS809	M	
C	810	811	812		806-808				C	
C		802			801				C	
R			815		816-819	821	822		R	
R		823	809	811	813	814	810	812	808	820



- * TO BE MOUNTED 10mm ABOVE THE PRINT
- ** TO BE MOUNTED 15mm ABOVE THE PRINT

20272 C12

M	IC401a	D401a	IC402a	D402a	IC403a	D403a	D404a	FL401	M
M	IC401b	D401b	IC402b	D402b	IC403b	D403b	D404b	IC404a	M
C	401a				402a	404	403a		C
C	401b		405		402b		403b		C
R	401a	406a		407a - 411a		412a	414a	415	R
R	401b	406b		407b - 411b	416	412b	414b		R

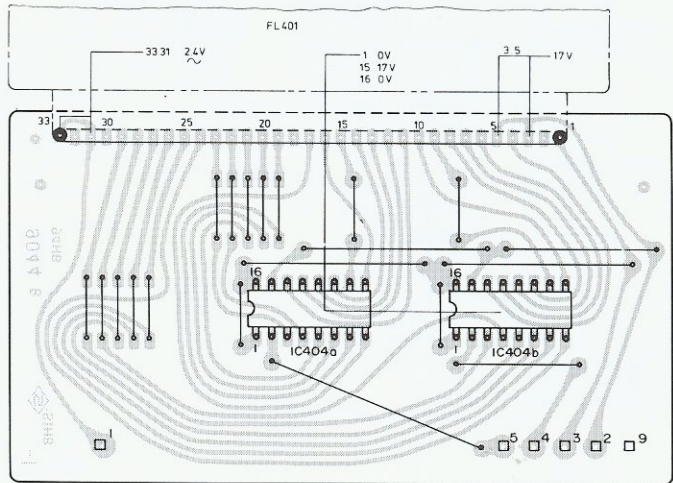
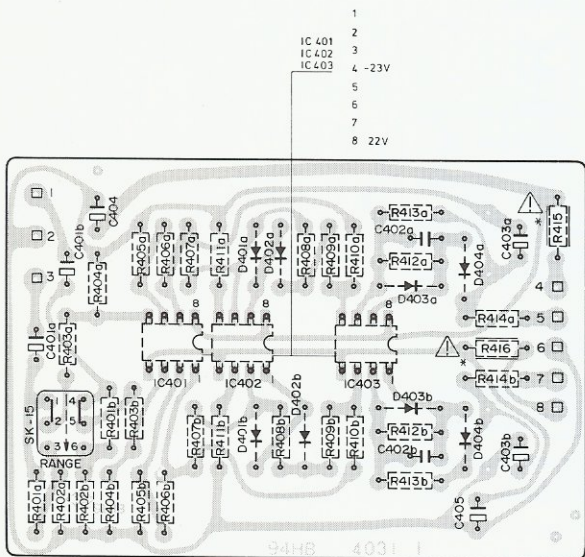


* e = 16V
f = 25V
h = 63V
j = 100V
v = 500V

- CARBON RESISTOR E24 SERIES 0125W 5%
- PLATE CERAMIC CAPACITOR
- MINIATURE ELECTROLYTIC CAPACITOR
- MINIATURE BIPOLAR ELECTROLYTIC CAPACITOR

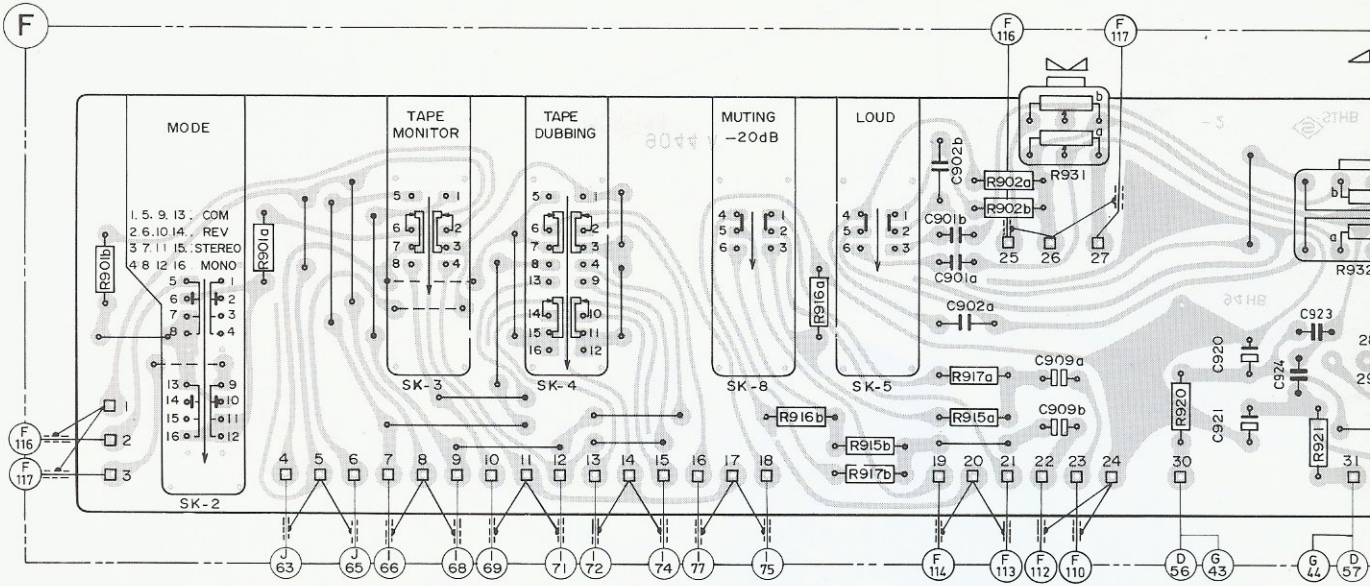
M	IC401	IC402	D401a	D402a	IC403	D403a	D404a	M					
M			D401b	D402b		D403b	D404b	M					
C	401a	401b	404			402b	402a	405	403a	403b	C		
R	401a	404a		405a-407a	411a		408a-410a	412a	413a		414a	415	R
R			401b-407b	411b		408b-410b	412b	413b		414b	416		R

M	FL-401	IC404a	IC404b	M
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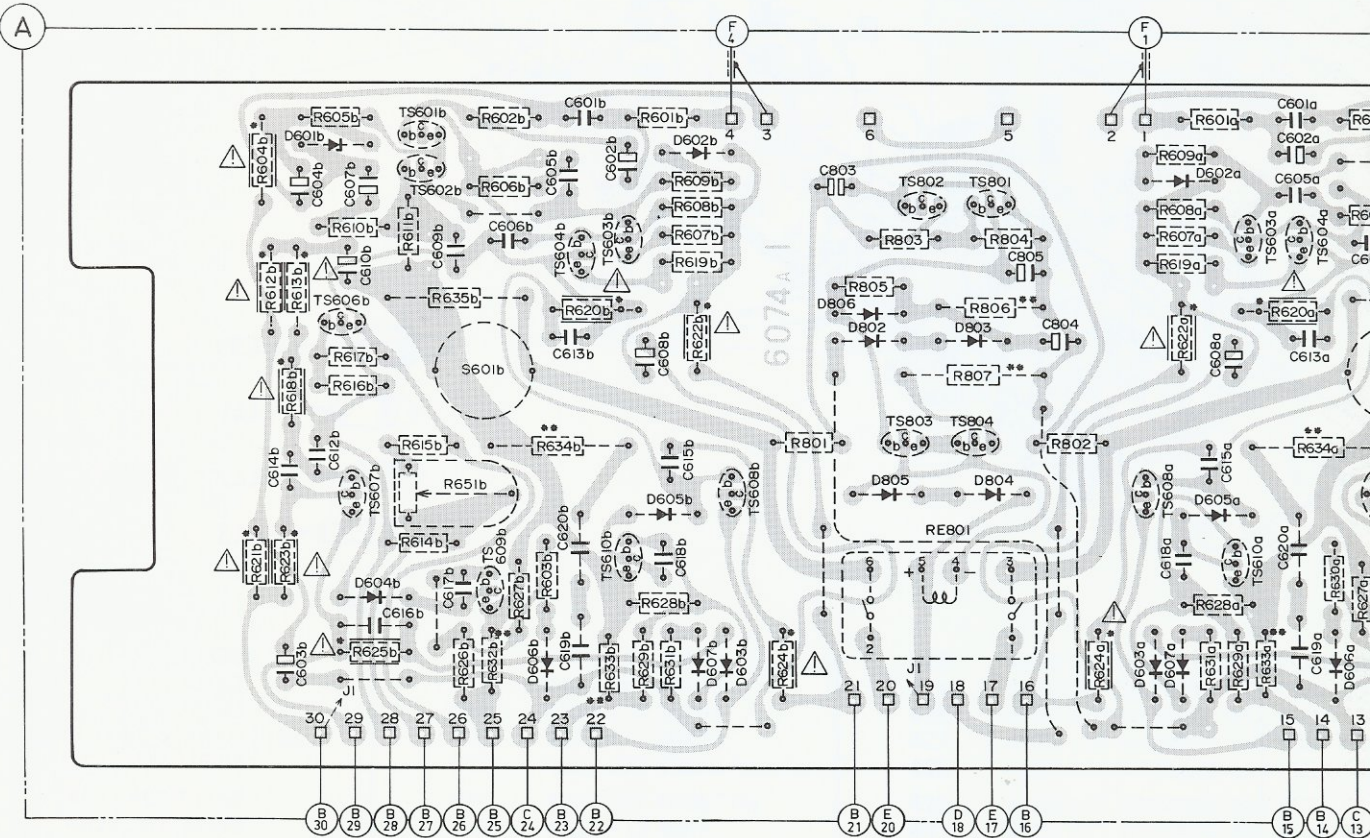


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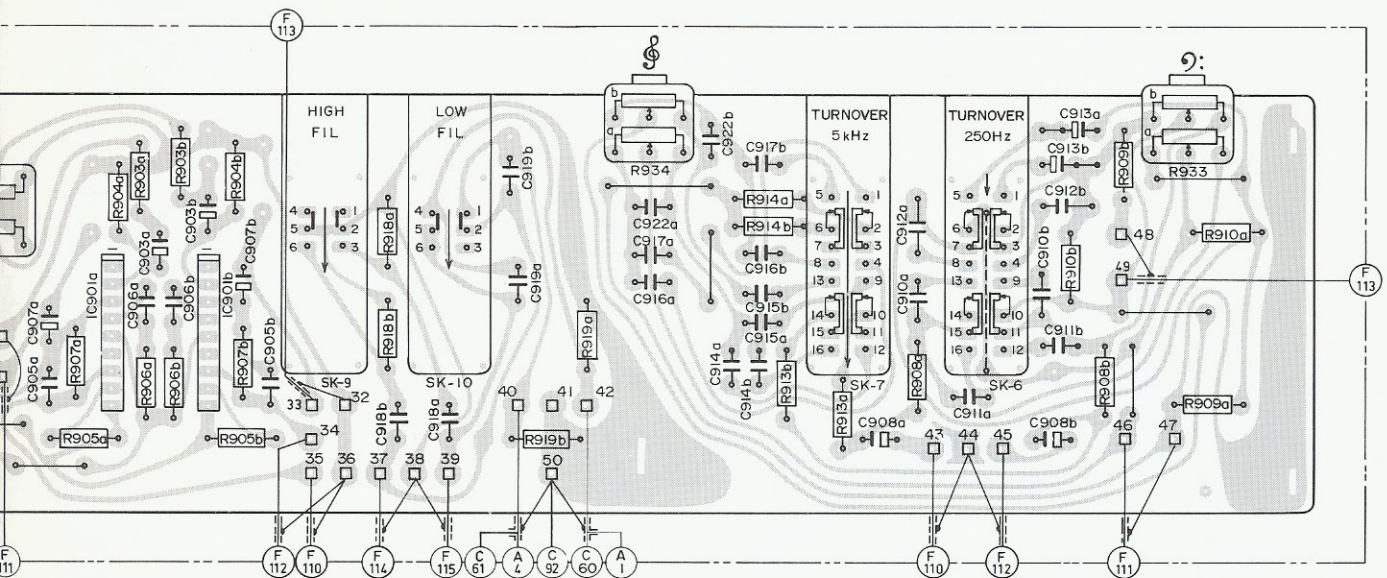
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C							
R	901b	901a		916b 916a 915b 917b	917a 915a 902a 902b 931		920 921 924 923



M	TS606b D601b	TS601b S601b	TS604b TS603b	D602b TS608b	D806	TS801 - TS804	TS608a D602a D605a	TS603a TS604a
M	TS607b D604b	TS602b TS609b	D606b TS610b	D605b D607b D603b	D802 - D805	RE801	D603a D607a	TS610a D606a
C	604b 610b	609b 606b	605b 601b 602b				602a 601a	600a
C	614b 612b 607b		613b 608b			803-805	615a 608a 613a 605a	600a
C	603b 616b	617b	619b 620b	618b 615b			618a 619a 620a	600a
R	604b	605b 610b 611b	606b 602b	620b	601b 607b-609b		607a-609a 601a	620a 606a
R		618b - 612b	651b	633b-635b	619b	801-807	619a	633a-635a
R	621b 623b	625b-627b	628b-632b	622b	624b		624a 622a	628a-632a

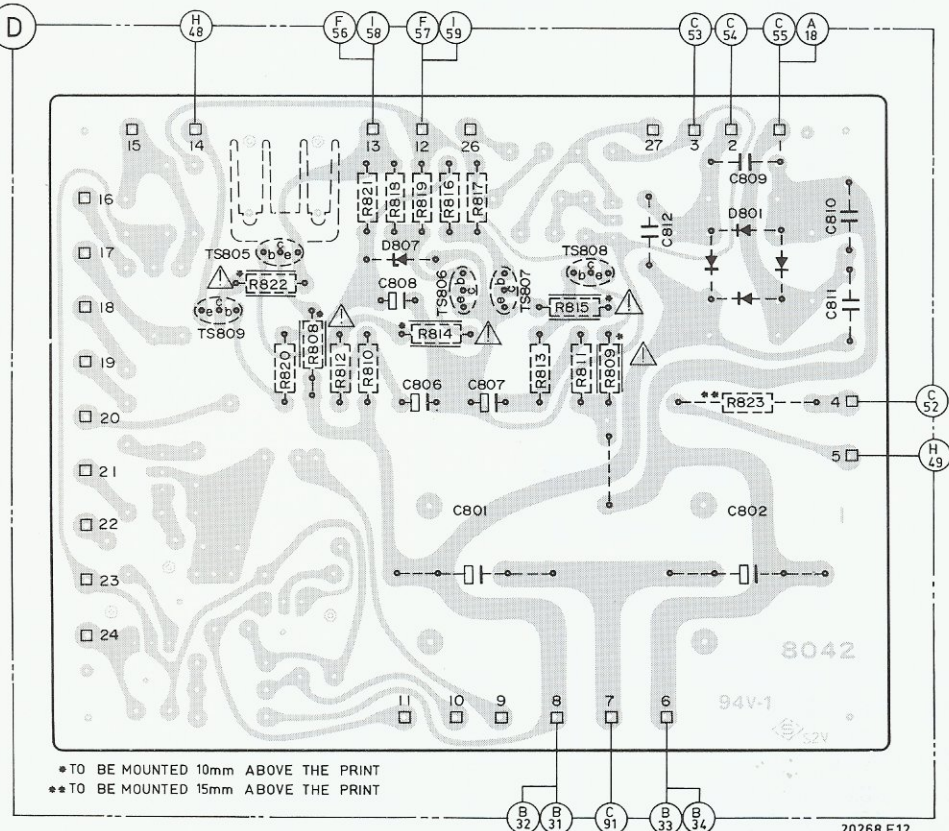
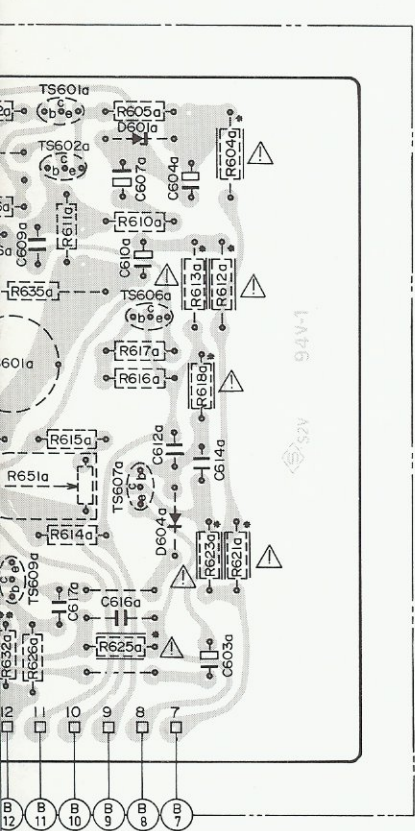


IC901a		IC901b		SK-9		SK-10		SK-7		SK-6		M																										
907a	905a	906a	903a	906b	903b	907b	905b	918b	918a	919b	919a	922a	914a-917a	922b	914b-917b	908a	910a-912a	913a	908b	910b-913b	C																	
903a-907a				903b-907b		918a		918b		919b		919a		934		914a		914b		913b		913a		908a		910b		908b		909b		933		909a		910a		R

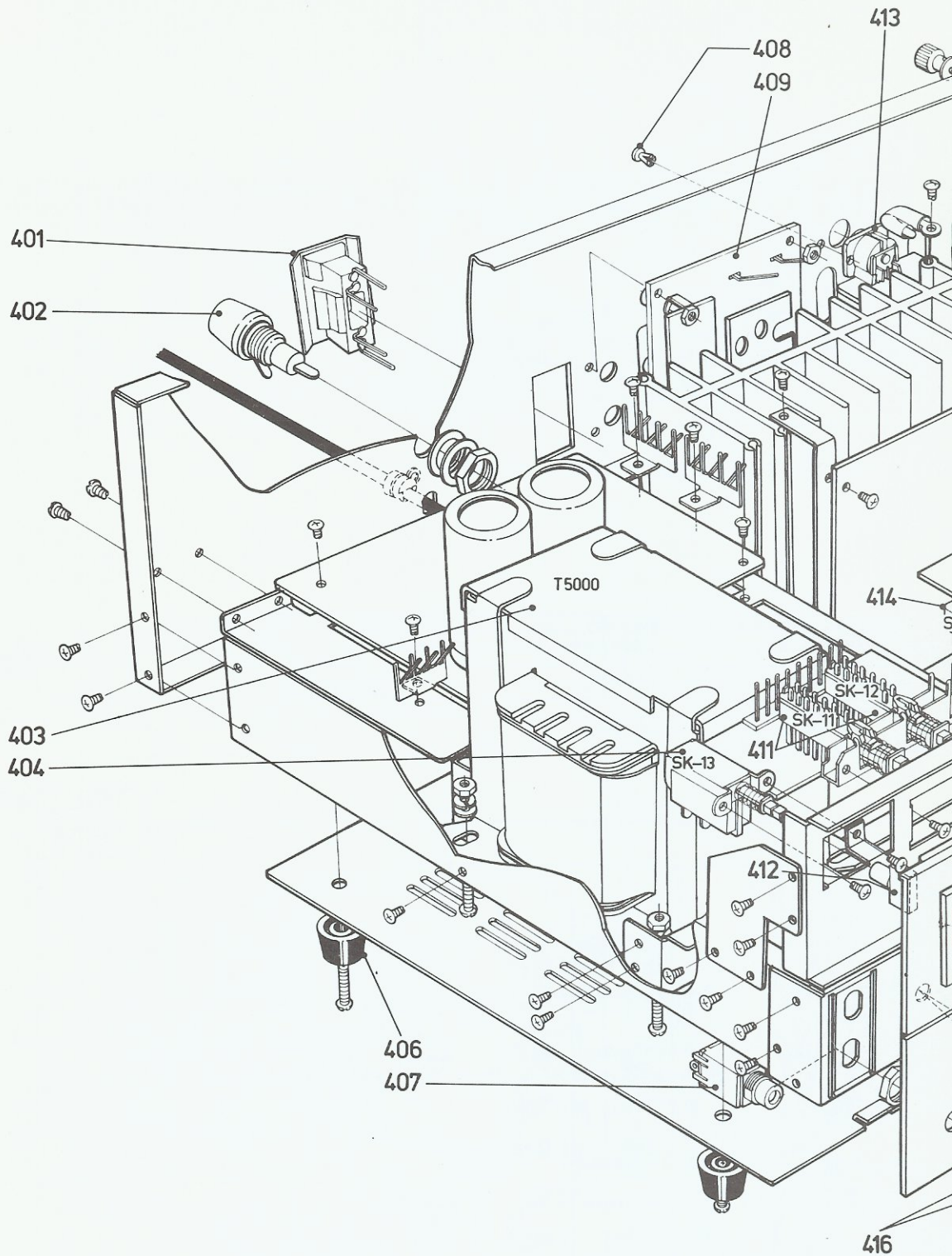


01a	TS601a	TS606a	D601a	M			
09a	TS602a	TS607a	D604a	M			
609a				607a	610a	604a	C
617a				616a	603a	C	
612a				614a	C		
617a				616a	603a	C	
302a	611a	610a	605a	604a	R		
651a				612a-618a	R		
625a-627a				623a	621a	R	

M	TS809	TS805	D807	TS806	TS807	TS808	D801	M			
C	806-808			812			809	811 810	C		
C	801						802	C			
R	822		821	816-819	815			R			
R	820		808	812	810	814	813	811	809	823	R



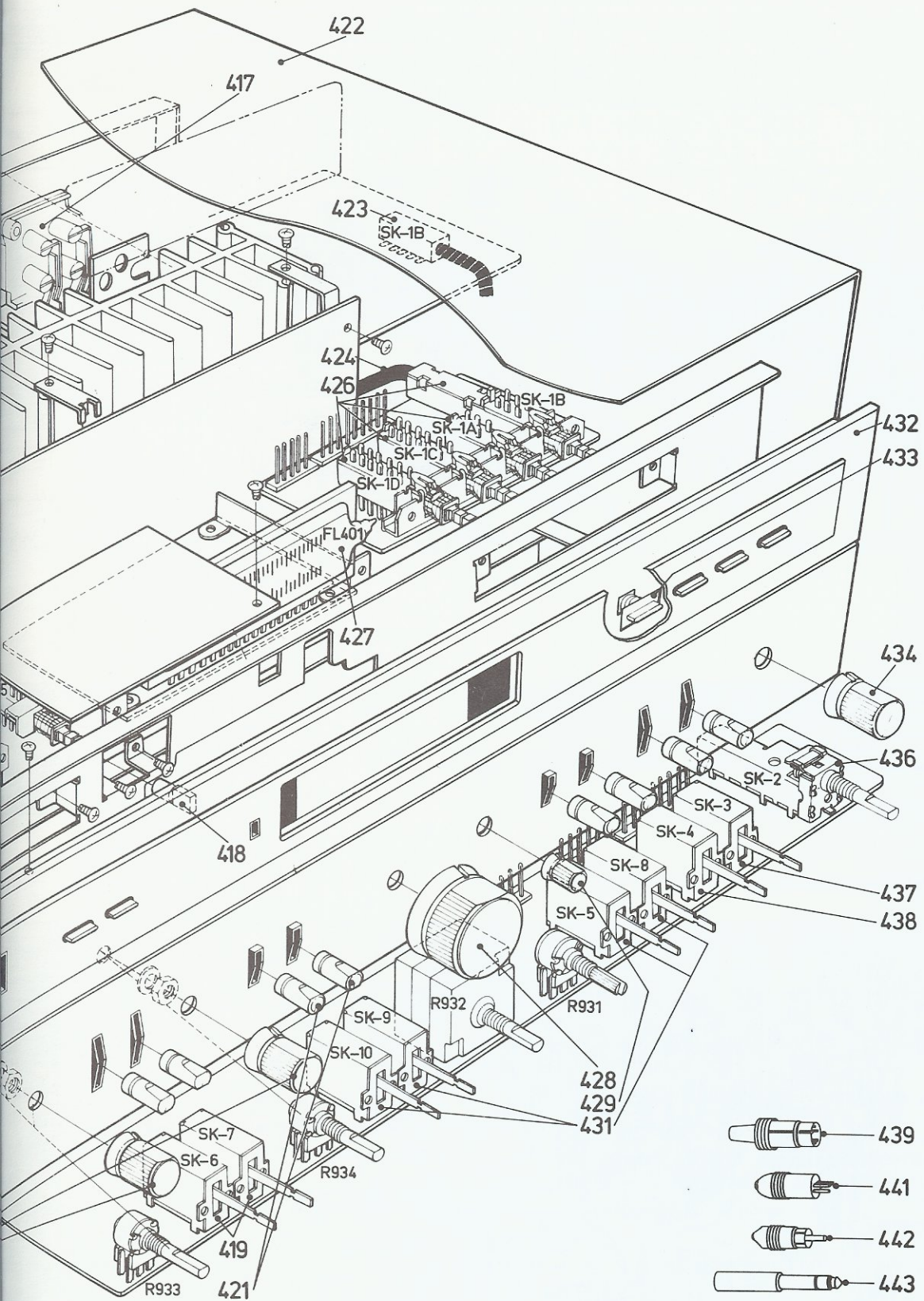
• TO BE MOUNTED 10mm ABOVE THE PRINT
 ** TO BE MOUNTED 15mm ABOVE THE PRINT



401	4822 267 30331
402	4822 256 30162
403	4822 146 20593
	4822 146 20603-15
404	4822 277 10507
406	4822 462 71166
407	4822 267 30329
408	4822 532 60719
409	4822 290 40155
411	4822 276 20264

412	4822 410 40165
413	4822 267 20179
414	4822 276 10784
416	4822 413 30876
417	4822 267 40358 4p
417	4822 267 40357 6p
418	4822 413 30877
419	4822 277 10523
421	4822 410 40166
422	4822 466 30091

423	4822 277 30641
424	4822 267 30347
426	4822 276 40254
427	4822 130 90036
428	4822 413 51071
429	4822 413 30875
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433	4822 413 30886
434	4822 413 30876



- 439
- 441
- 442
- 443

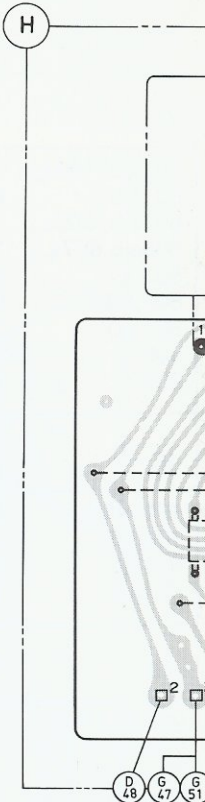
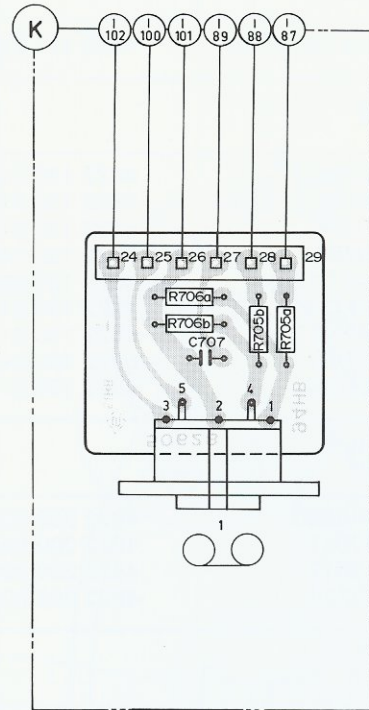
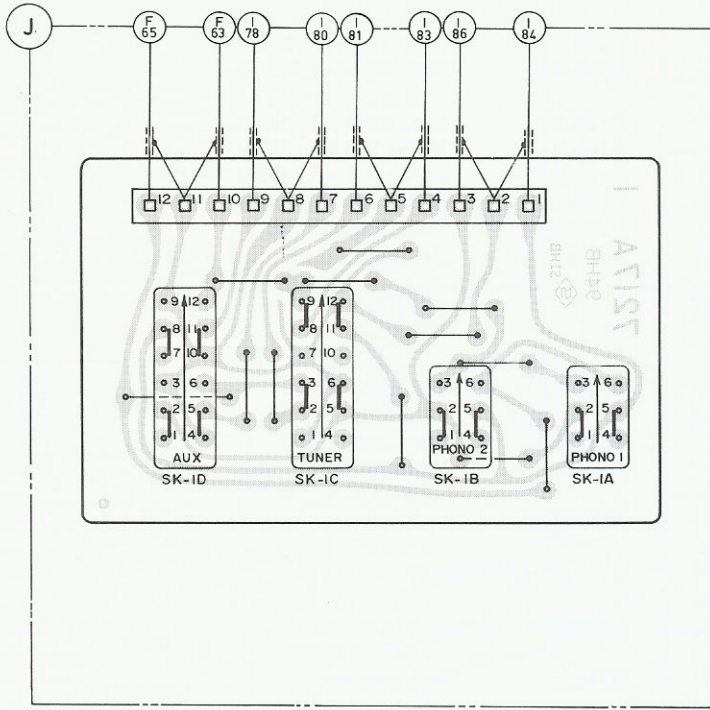
20275 E12

- 4822 273 30252
- 4822 277 10521
- 4822 277 10522
- 4822 264 40023
- 4822 264 30041
- 4822 264 30039
- 4822 264 30011

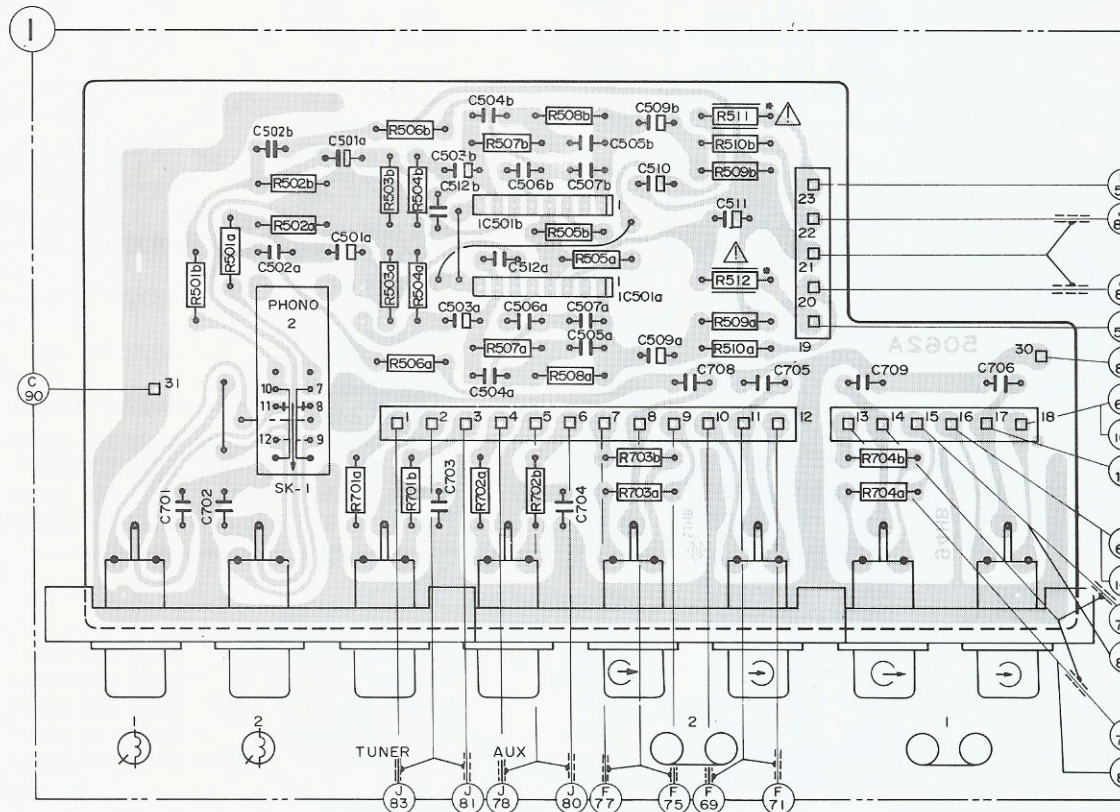
M	SK-1D	SK-1C	SK-1B	SK-1A	M
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C	707	C	
R	706a, 706b	705b, 705a	R

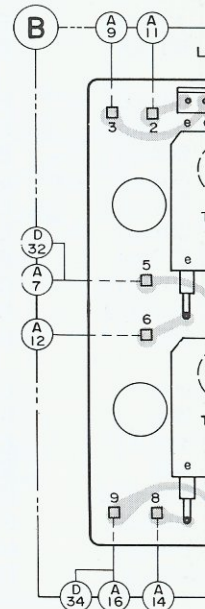
M		
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M	SK-1	IC501b	IC501a	M													
C	502b	501b	512b	503b-507b	509b	510	511	705	706	C							
C	701	702	502a	501a	703	512a	503a-507a	704	509a	708					C		
R	501b	502b	506b	503b	504b	701b	507b	702b	505b	508b	703b	511	510b	509b	R		
R		501a	502a	503a	506a	504a	701a	507a	702a	508a	505a	703a	512	509a	510a	704a	R

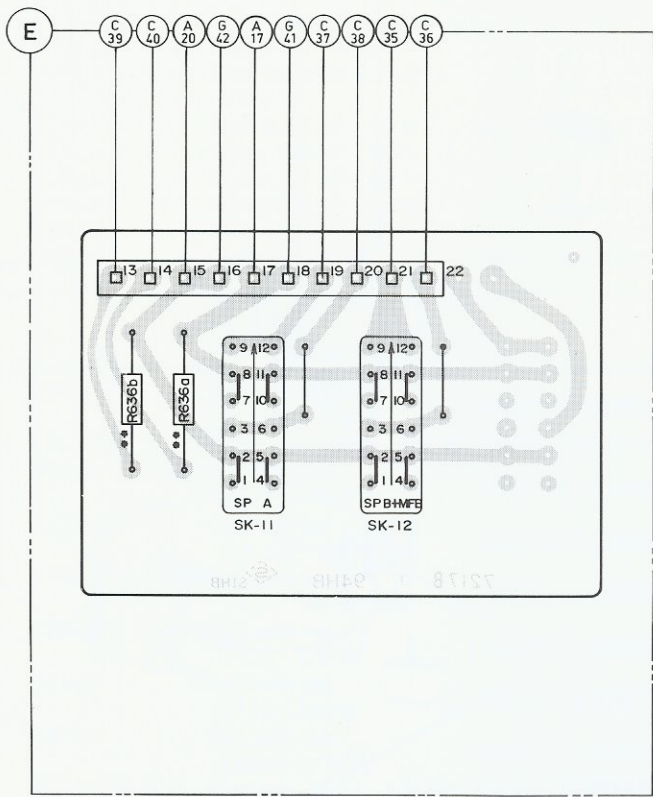
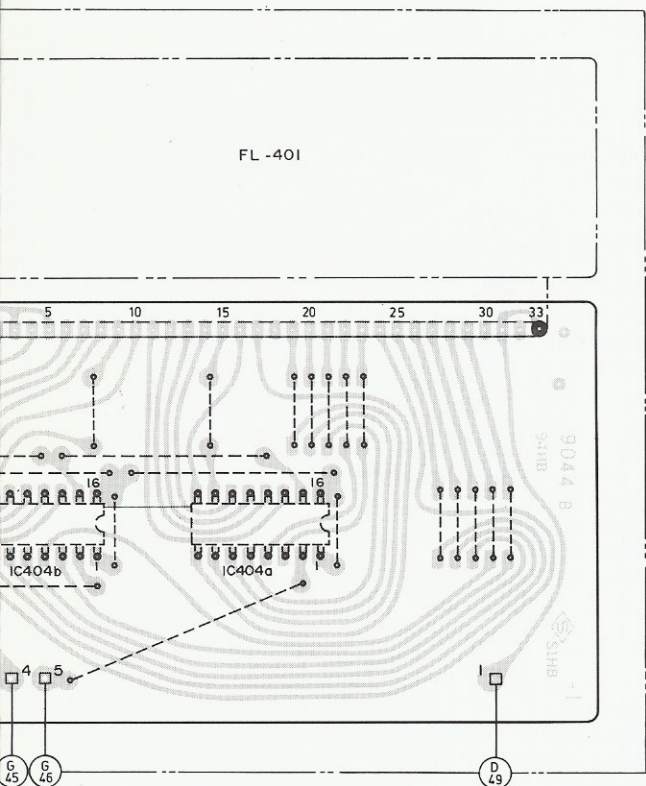


M	TS612a	TS
C		



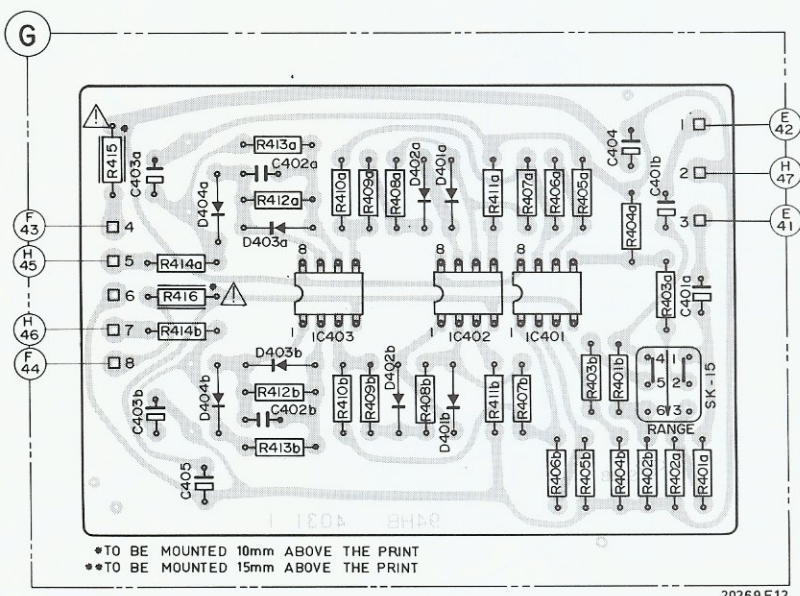
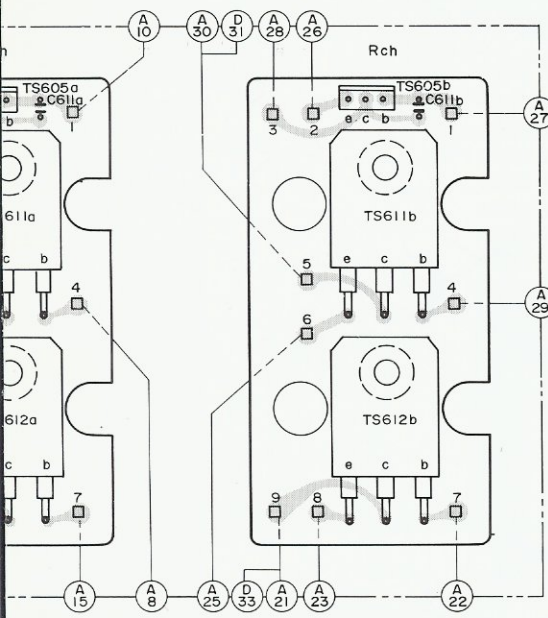
C404b IC404a FL-401 M

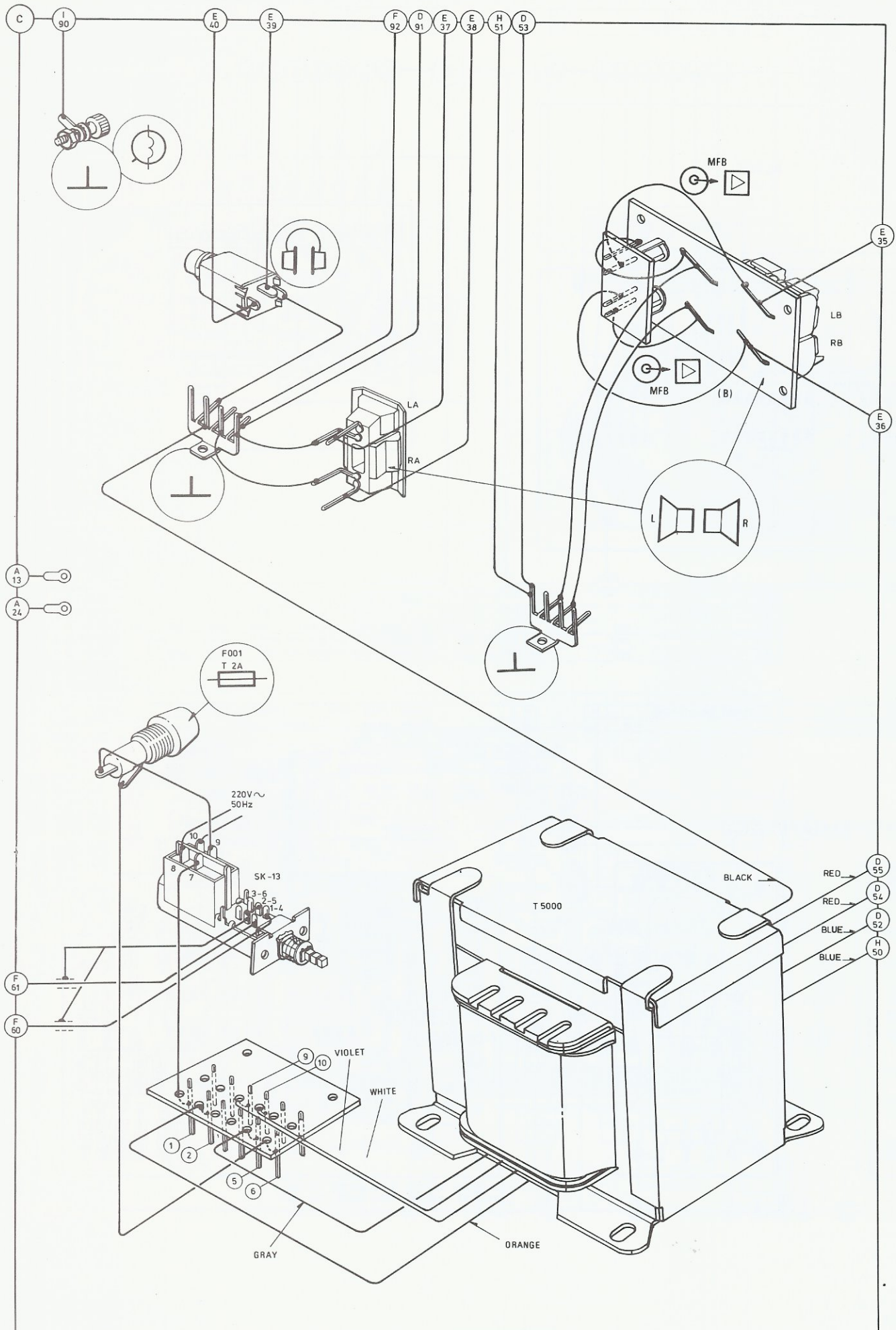
M SK-11 SK-12 M
R 636b 636a R










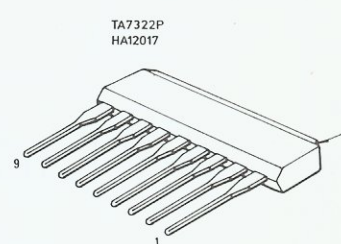
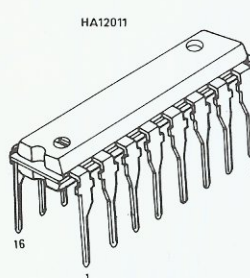
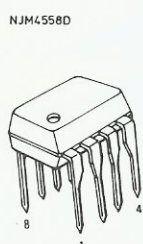
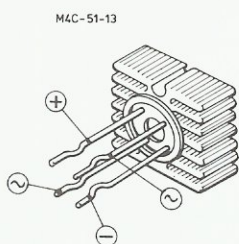
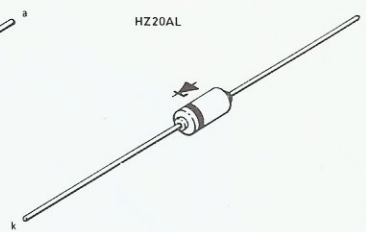
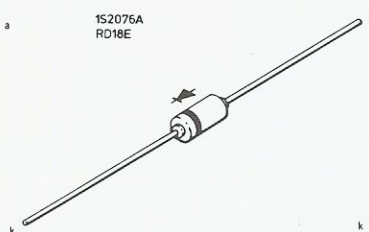
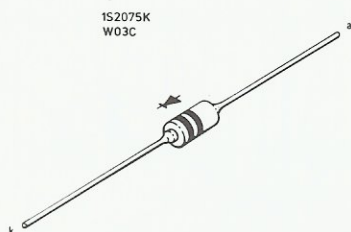
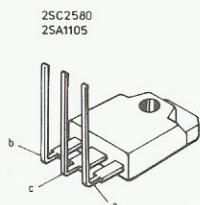
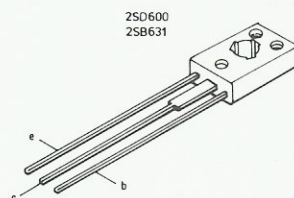
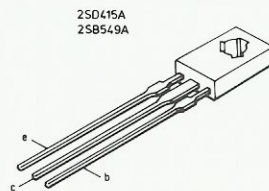
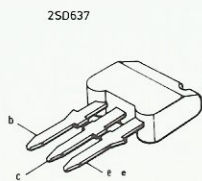
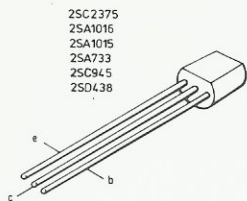
TS605a TS612b TS611b TS605b M
611a 611b C

M	D404a	D403a	IC403	D402a	D401a	IC402	IC401	SK-15	M
M	D404b	D403b		D402b	D401b				M
C	403b 403a	405	402a 402b				404 401b 401a		C
R	415	414a	413a 412a 408a-410a			411a 405a-407a	401a-404a		R
R		416 414b	413b 412b 408b-410b			411b	401b-407b		R





-S-			-C-		
601a,b	Choke coil 1.5 μ H	4822 157 90052	908a,b 909a,b	Elco 10 μ F - 16 V Elco Bipolair 2.2 μ F - 25 V	5322 124 14066 4822 124 20657
-D-			913a,b 914a,b 915a,b 918a,b 920,921 923,924	Elco 0.33 μ F - 50 V Mylar 5.6 nF - 50 V Mylar 2.7 nF - 50 V Mylar 5.6 nF - 50 V Elco 100 μ F - 25 V Cer. cap. 10 nF	4822 124 10238 4822 121 41186 4822 121 41184 4822 121 41186 4822 124 10233 5322 122 34072
401a,b÷404a,b 601a,b 602a,b÷605a,b 606a,b,607a,b 801 802,803 804,805 806 807	1S2075K HZ20AL 1S2075K 1S2076A M4C-51-13 W03B,C 1S2075K 1S2076A RD18EB2	4822 130 31026 4822 130 31285 4822 130 31026 5322 130 34792 4822 130 50325 4822 130 31004 4822 130 31026 5322 130 34792 4822 130 31024	-R-		
-IC-			415,416 511,512 604a,b 612,613 618a,b 620a,b 621a,b 622a,b 623a,b-624a,b 625a,b 632a,b-633a,b 634a,b-635a,b 636a,b 651a,b 806 807 808 809 814,815 822 823 931a,b 932a,b 933a,b 934a,b	Fail safe res. 1.3 k Ω - 1/4 W Fuse. res. 100 Ω - 1/4 W Fail safe res. 2.2 k Ω - 1/2 W Fail safe res. 3.3 k Ω - 1/2 W Fail safe res. 1 k Ω - 1/4 W Fail safe res. 1 k Ω - 1/2 W Fail safe res. 47 Ω - 1/4 W Fail safe res. 100 Ω - 1/4 W Fuse res. 10 Ω - 1/4 W Fail safe res. 68 Ω - 1/4 W Cement res. 0.39 Ω - 5W Metal res. 10 Ω - 2 W Metaloxide res. 470 Ω - 2 W Potm. 1 k Ω Metal oxide res. 3.3 k Ω - 1 W Metal oxide res. 820 Ω - 2 W Fail safe res. 47 Ω - 1/2 W Fail safe res. 120 Ω - 1/4 W Fail safe res. 2.2 k Ω - 1/4 W Fail safe res. 47 Ω - 1/4 W Metal oxide res. 27 Ω - 2 W Potm. 200 k Ω (balance) Potm. 200 k Ω (volume) Potm. 50 k Ω (bass) Potm. 50 k Ω (treble)	4822 111 30611 4822 115 90141 4822 111 30607 4822 111 30598 4822 111 30602 4822 111 30606 4822 111 30612 4822 111 50412 4822 115 90134 4822 111 30613 4822 113 80248 5322 116 54348 4822 116 60068 4822 100 10292 4822 116 60059 4822 116 60069 4822 111 30608 4822 111 30609 4822 111 30594 4822 111 30612 4822 116 60092 4822 101 20569 4822 101 20571 4822 101 20568 4822 101 20567
-TS-			-Miscellaneous-		
2SA733 P,Q 2SA1016 F,G 2SA1105 O,Y 2SB549A R,Q 2SB631K 2SC945 L-P 2SC2375 E,F 2SC2580 O,Y 2SD415A 2SD438 E,F 2SD600K 2SD637	NJM4558D HA12011 HA12017 TA7322P	4822 209 80401 4822 209 80669 4822 209 80695 4822 209 80648	RE801 FL401 F001 T5000	Relay 24 V Display Fuse T 2A Mains transformer	4822 280 50017 4822 130 90036 4822 253 30025 4822 146 20593 /15- 4822 146 20603
-C-					
404-405 501a,b 602a,b 603a,b 604a,b 605a,b 607a,b 608a,b 610a,b 701÷707 801,802 803 804 805 806,807 808 809÷812 903a,b 906a,b 907a,b	Elco 100 μ F - 16 V Elco Lo-leak - 10 μ F - 16 V Elco 2.2 μ F - 50 V Elco 47 μ F - 63 V Elco 3.3 μ F - 50 V Mylar 1 nF - 50 V Elco 33 μ F - 6.3 V Elco 100 μ F - 63 V Elco 330 μ F - 35 V Ceramic cap. 10 nF Elco 8200 μ F - 56V Elco Bipolair 33 μ F 16 V Elco 47 μ F - 50 V Elco 3.3 μ F - 50 V Elco 47 μ F - 35 V Elco 10 μ F - 25 V Cer.cap. 10 nF - 500 V Elco 1 μ F - 50 V Mylar 2.2 nF - 50 V Elco 1 μ F - 50 V	4822 124 10231 4822 124 20964 4822 124 10237 4822 124 10243 4822 124 10239 4822 122 31269 4822 124 10196 4822 124 10242 4822 124 10234 5322 122 34072 4822 124 40282 4822 124 20649 4822 124 10241 4822 124 10239 4822 124 10235 4822 124 10232 5322 122 50046 4822 124 10236 4822 121 41247 4822 124 10236			



20277 C12

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.

DK

Myndighedernes sikkerheds- og radiostøjbestemmelser kræver, at enhver reparation skal udføres korrekt m.h.t. overholdelse af originalplacering og montering af komponenter, ledningsbundter, etc. og ved anvendelse af de foreskrevne reservedele.

N

Sikkerhetsbestemmelser kreves at apparatet blir gjenopprettet til original utførelse og at deler som er identiske med de som er spesifisert, blir benyttet.

SF

Korjatessa laitetta on turvallisuussyistä ehdottomasti eneteltävä oikein ja käytettävä tehtaan määäämiä alkuperäisvaraosia.