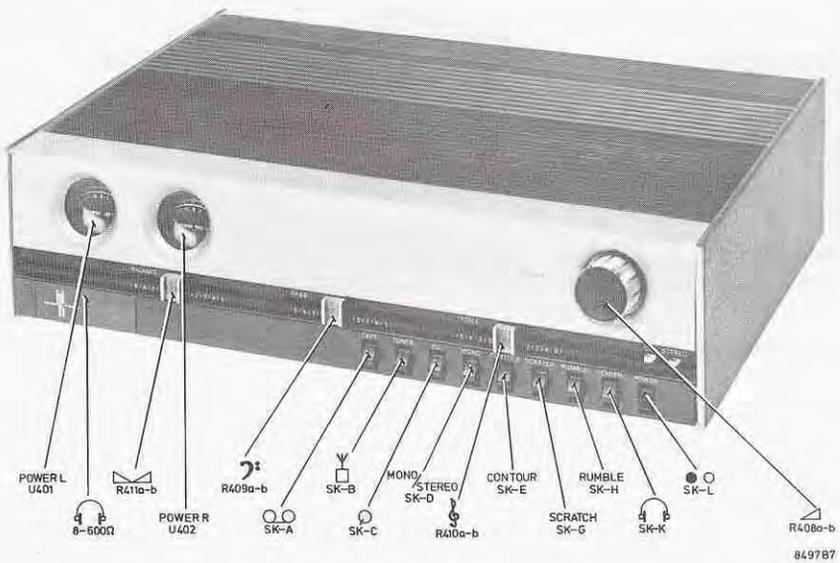


Service  
Service  
Service

# Service Manual

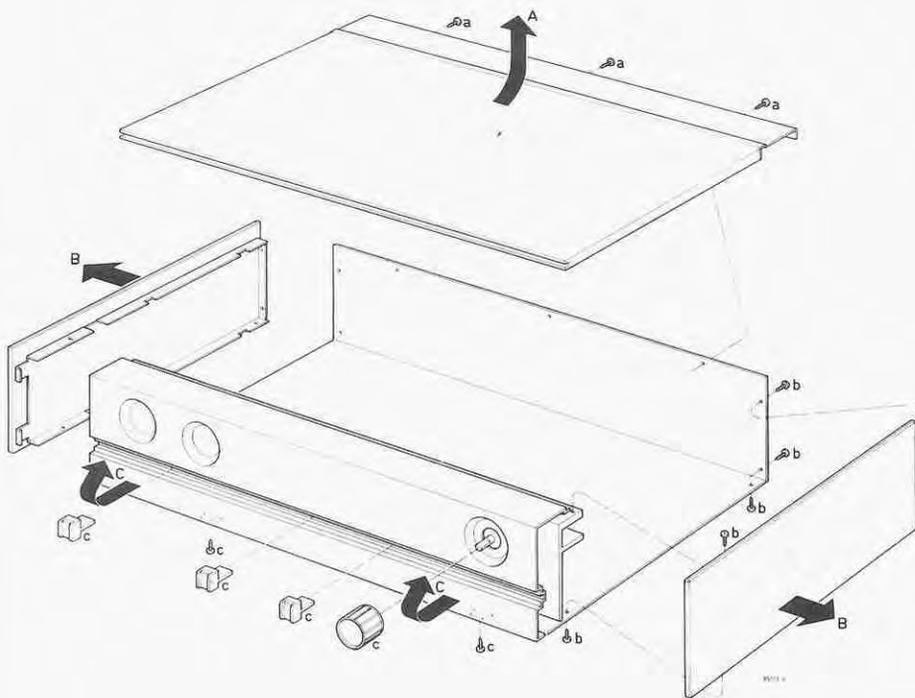
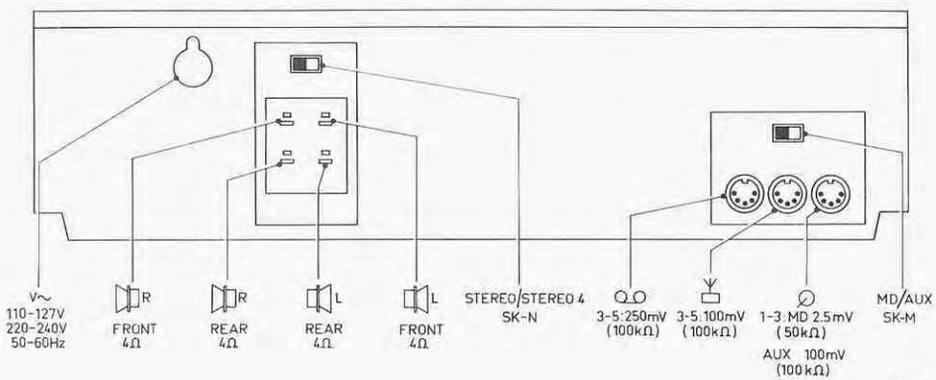


Documentation Technique Service Dokumentation Documentazione di Servizio Huolto-Ohje Manual de Servicio Manual de Servicio

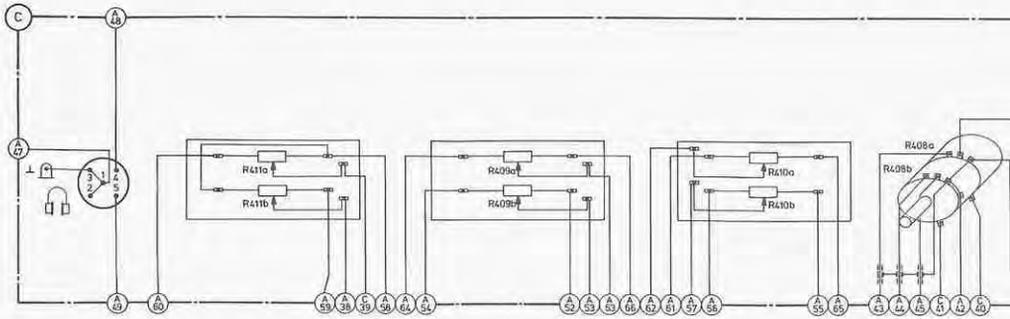
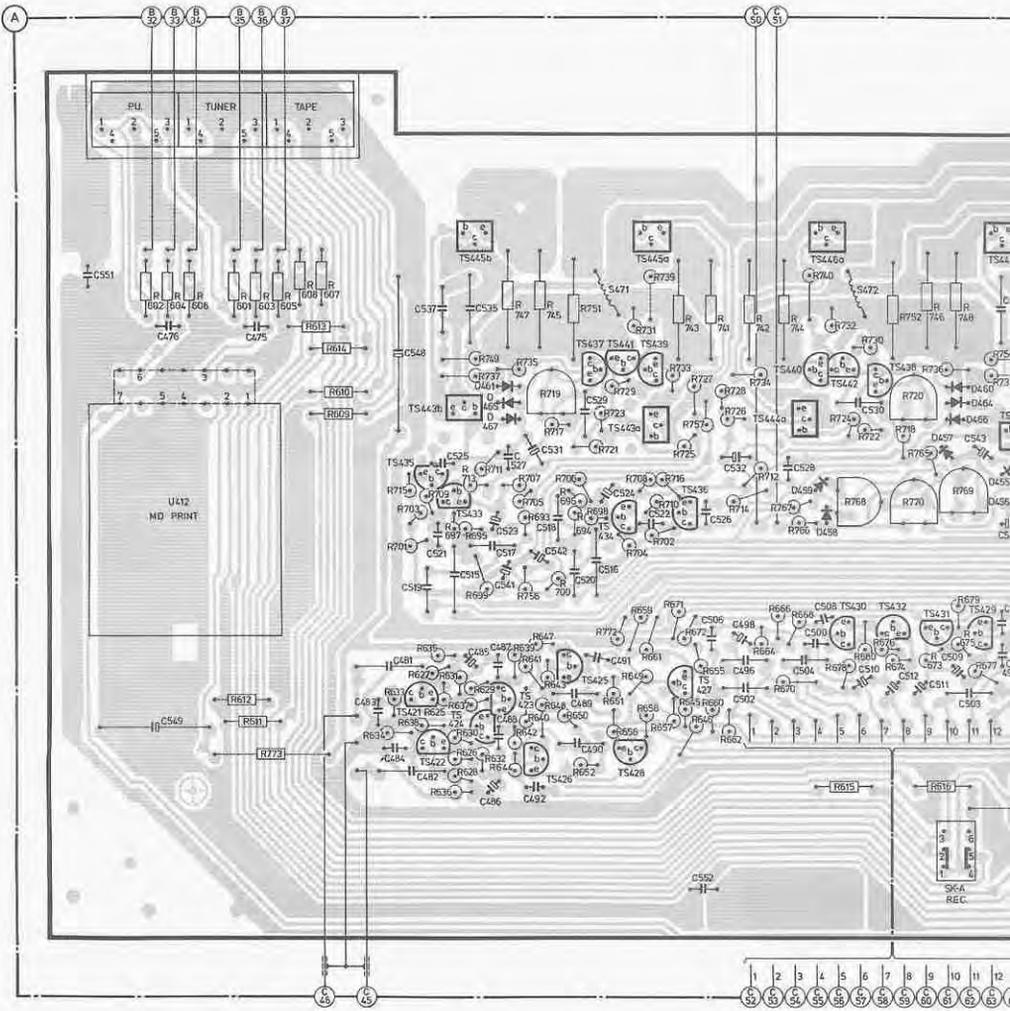


Subject to modification  
4822 725 11942  
Printed in The Netherlands

**PHILIPS**



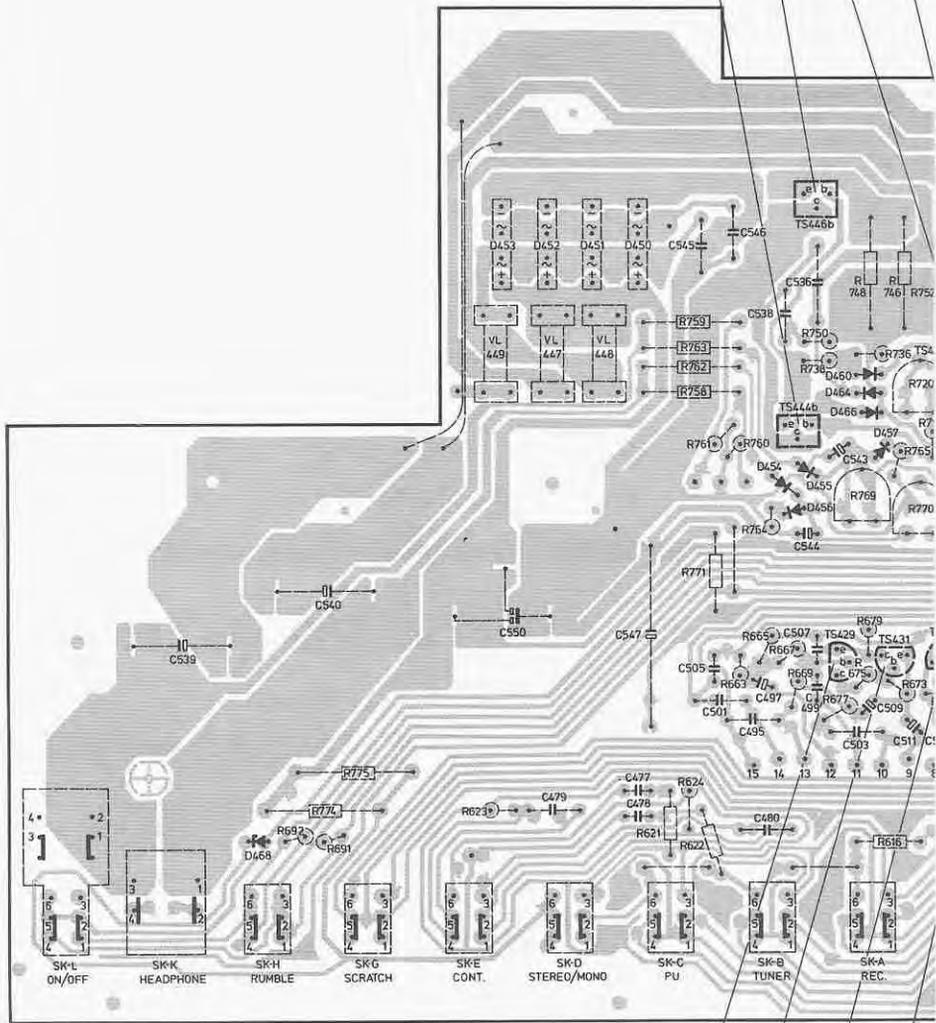
R	601-614	411a 411b	703 713 725 719 825-638 693-700 409a	409b 639-662 723 721 725-729 710	702 712 420a 410b	724 730 720 TS2 74 409a	409b 750 616
R		773	701 709 711 74 9 756 715-717 747 745	751 772 744-700 731 738 659-662 757 732-734 740-744 74 722 718 736	766-771 84 738 663-660		409 497
C		476	481-484	485	486-492		458 496
C	551	549	548 537 535 541	542	515-527 529 531		552 506 502 532
MSC		U412	TS433 TS442b TS445b D461 D465 D467 S471 TS445a TS443a TS421-TS428 TS424-TS442 TS444a TS446a	S 472 D459 D458 TS430 TS432 D460 TS430 D464 D457 SKA TS446b TS			





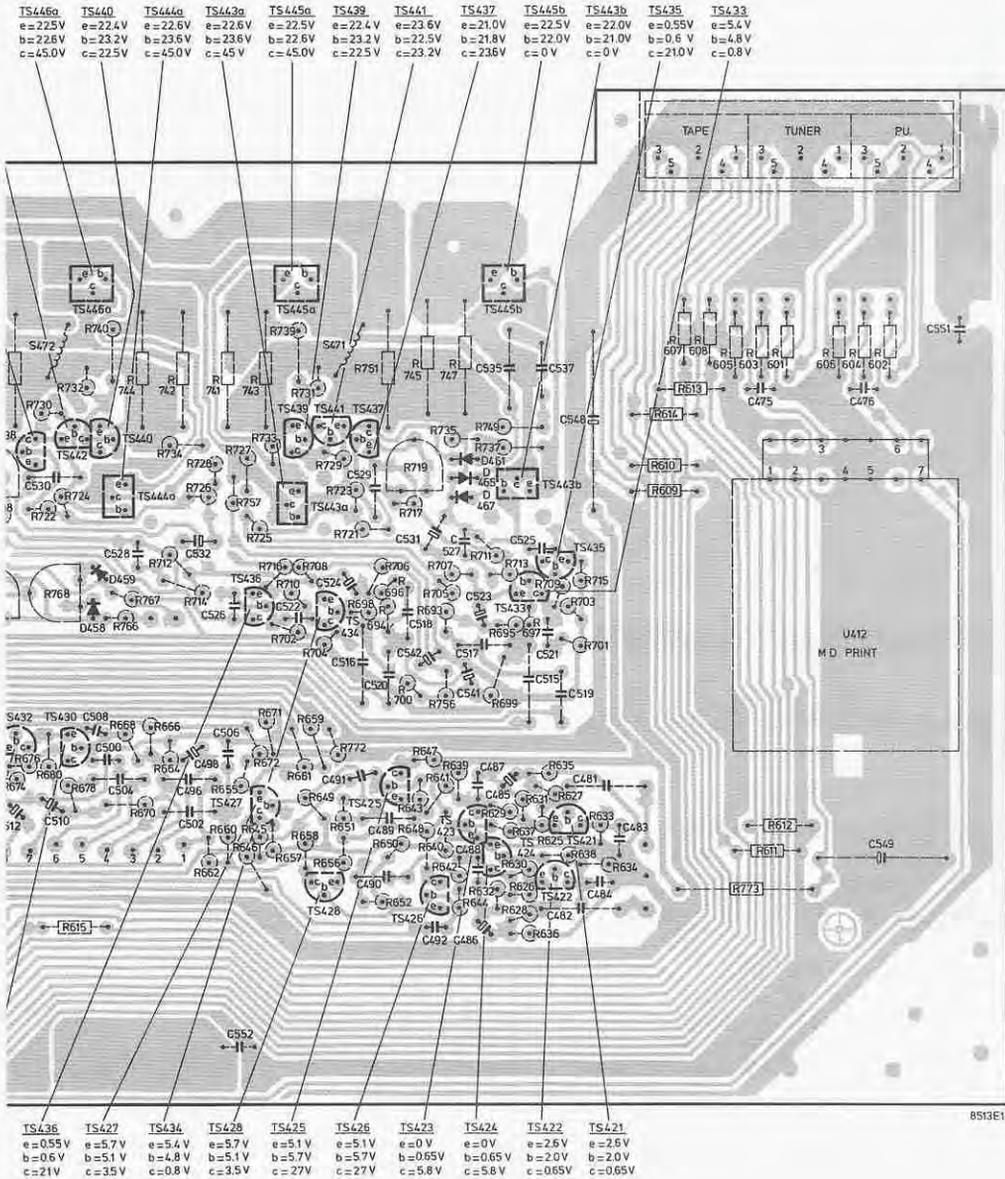
R					621-624		616	750	748	752	7								
R					775-776	692	691												
C								758	759		738	746	760-771	736					
C								477-479		480	495	497	499						
C								539	540		550								
MISC	SK-L	SK-K	D468	SK-H	SK-G	VL447-VL449	SK-E	D450-D456	SK-D	SK-C	D466	TS429	SK-B	TS444b	TS446b	SK-AD	457	D464	T

TS444b	TS446b	TS438	TS442
e = 22.0V	e = 22.5V	e = 21.0V	e = 23.6V
b = 21.0V	b = 22.0V	b = 21.8V	b = 22.5V
c = 0V	c = 0V	c = 23.6V	c = 23.2V



TS429	TS431	TS432	TS430
e = 0.3V	e = 6.9V	e = 0.3V	e = 0.3V
b = 0.8V	b = 6.2V	b = 6.2V	b = 0.8V
c = 6.1V	c = 0.3V	c = 6.9V	c = 6.1V

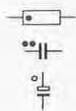
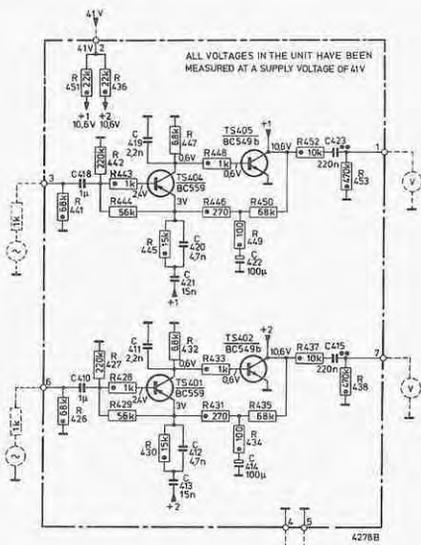
20	730	724	740=744	712	702	710	725=729	721	723	639-652	693=700	625=638	719	735	737	713	703	601-614	
718	722	714	732=734	757	739	731	704=708	772	751	745	747	715=717	756	749	711	709	701	773	
		528	496	498	526			529	527	486=492		485	481=484				475	476	
510	530	508	500	504	532	502	506	552		531	515=525	542	541	535	537	548		549	551
S431	D460	TS432	TS430	D458	D459	S472	TS446a	TS444a	TS443a	TS445a	TS439	TS441	TS437	TS445b	TS443b	TS435	TS433	U412	MISC



TS446a	TS440	TS444a	TS443a	TS445a	TS439	TS441	TS437	TS445b	TS443b	TS435	TS433
e=225V	e=224V	e=22.6V	e=22.6V	e=22.5V	e=22.4V	e=23.6V	e=21.0V	e=22.5V	e=22.0V	e=0.55V	e=5.4V
b=22.6V	b=23.2V	b=23.6V	b=23.6V	b=22.6V	b=23.2V	b=22.5V	b=21.8V	b=22.0V	b=21.0V	b=0.6V	b=4.8V
c=45.0V	c=22.5V	c=45.0V	c=45V	c=45.0V	c=22.5V	c=23.2V	c=23.6V	c=0V	c=0V	c=21.0V	c=0.8V

TS436	TS427	TS434	TS428	TS425	TS426	TS423	TS424	TS422	TS421
e=0.55V	e=5.7V	e=5.4V	e=5.7V	e=5.1V	e=5.1V	e=0V	e=0V	e=2.6V	e=2.6V
b=0.6V	b=5.1V	b=4.8V	b=5.1V	b=5.7V	b=5.7V	b=0.65V	b=0.65V	b=2.0V	b=2.0V
c=21V	c=3.5V	c=0.8V	c=3.5V	c=27V	c=27V	c=5.8V	c=5.8V	c=0.65V	c=0.65V

# MD-PU PRE-AMPLIFIER



Carbon resistor E12 series 0.25 W 1 MΩ 5%  
 1 MΩ 10%

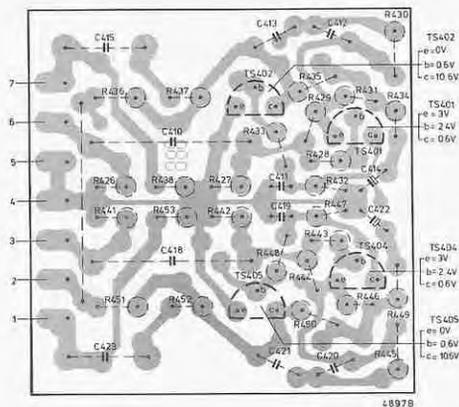
Flat-foil polyester capacitor

Miniature electrolytic capacitor

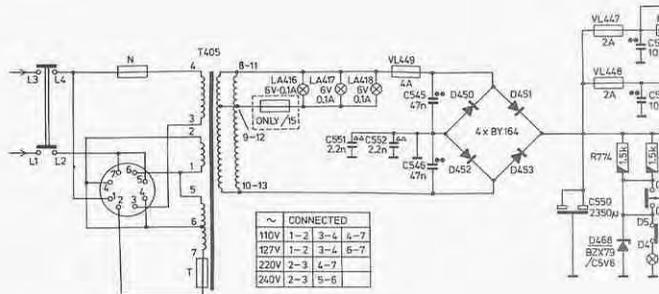
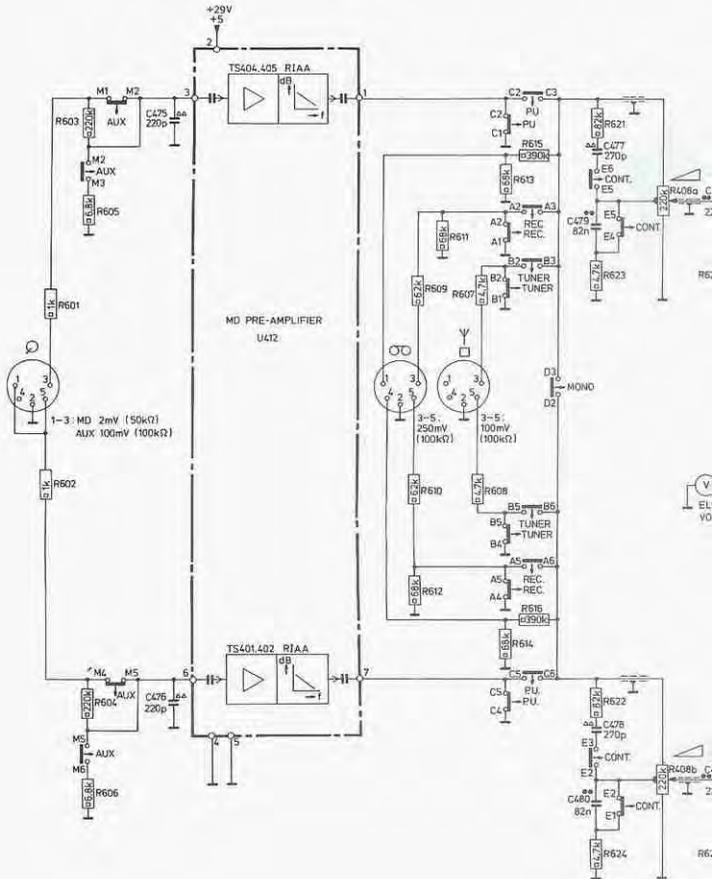


TS401, 402  
 404, 405

MSC	TS405, 402					TS401, 404				
C	415 423	410 418	413 411 419	421 412	414 422					
R	426 436	438 437	427 433	435 428	432 434					
R	441 451	453 452	442	448 450	443	447 449				

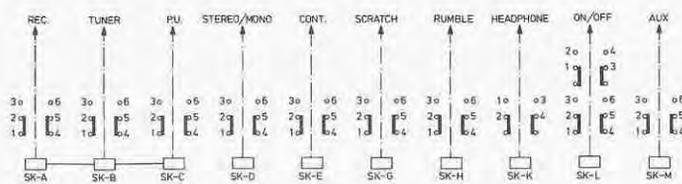
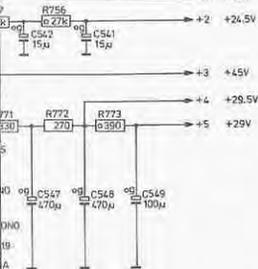
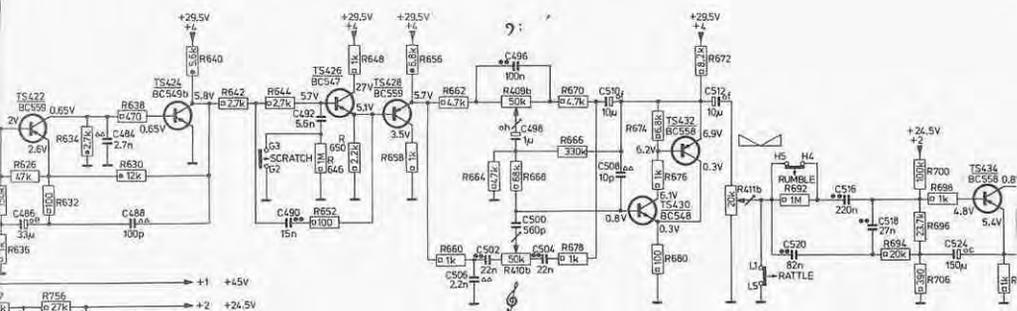
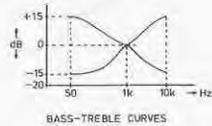
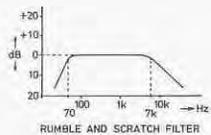
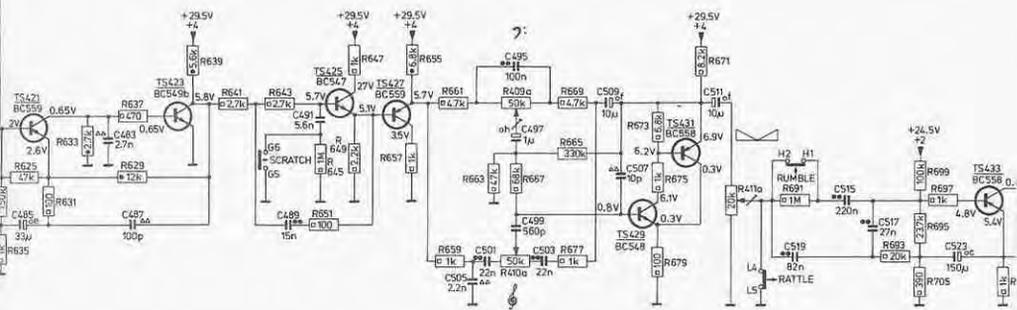


MISC.	U412 T405	LA416-418 VL449	D450-453	VL447,448 D468 L
C	475,476	551,552	545,546	477-480 550,536,535,48
R	601-606		607-616	621-624 408a,b,625-

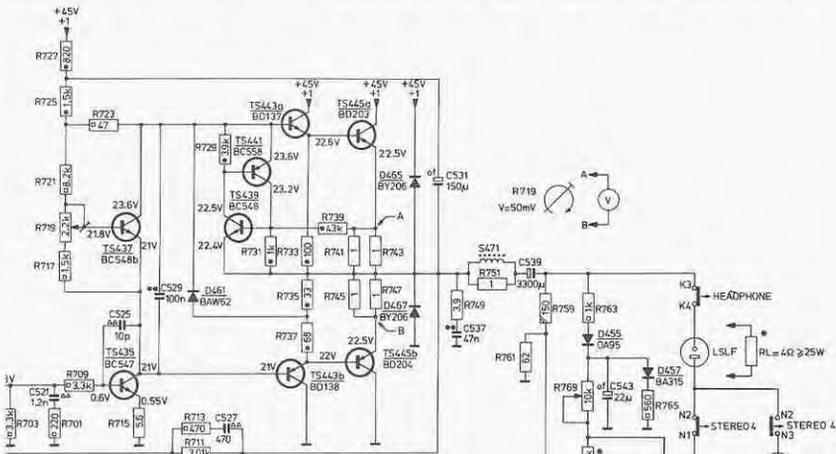


~	CONNECTED
110V	1-2 3-4 4-7
127V	1-2 3-4 5-7
220V	2-3 4-7
240V	2-3 5-6

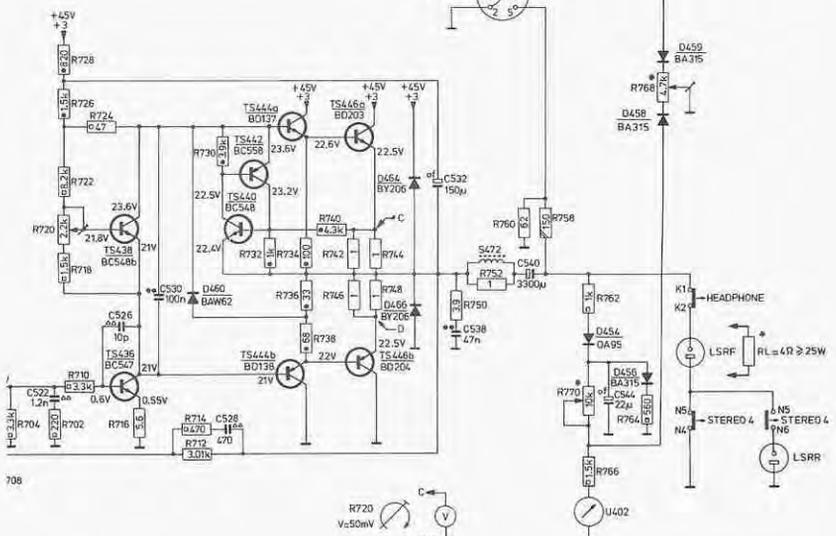
TS421-422	TS423-424	TS425-429	TS429-432	TS433-434
485-486,542,547-549,561,683,687,684,448	489-492	497-506	507-510	511-512
757,771-775,756,629-638	639-644	645-652	655-644	409a-410b
				665-670
				671-680
				411a,b
				691,692
				693-700
				703-708



TS435-438	D460-461	TS439-444b	TS445a-446b	D464-467	S471-472	D454-459	U401,402	MISC.
521-522	525-526	529,530,527,528		537-538	531-532	539-540	543-544	C
701,706,717-728,709-716	729-738		739-748		749-752	758-770	753-756	R



707



708



- CARBON RESISTOR E24 SERIES 0.125 W 5%
  - CARBON RESISTOR E12 SERIES 0.25 W 5%
  - CARBON RESISTOR E12 SERIES 0.5 W 5%
  - CARBON RESISTOR E12 SERIES 1 W 5%
  - PLATE CERAMIC CAPACITOR
  - FLAT FOIL POLYESTER CAPACITOR
  - MINIATURE ELECTROLYTIC CAPACITOR
- c = 5.3V  
 e = 16V  
 f = 25V  
 g = 40V  
 h = 63V

SIGNAL TO			
	1kΩ		U401
	R769		U402
$V_{RL} = 1.42V_{cc}$	R770		0.5W
$V_{RL} = 3.0V_{cc}$	R768		25W 35W

8179 F7

C855085



PUSH-PUSH

4822 276 10558

4822 276 10562

4822 276 10561



4822 276 10543

4822 276 10544

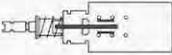
4822 276 10545

4822 276 10548

4822 276 10547



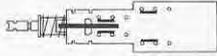
PUSH-PULL



4822 276 10538



4822 276 10559



4822 276 10541



4822 40L 10239  
bracket for transforming a push-pull  
switch into a push-push one

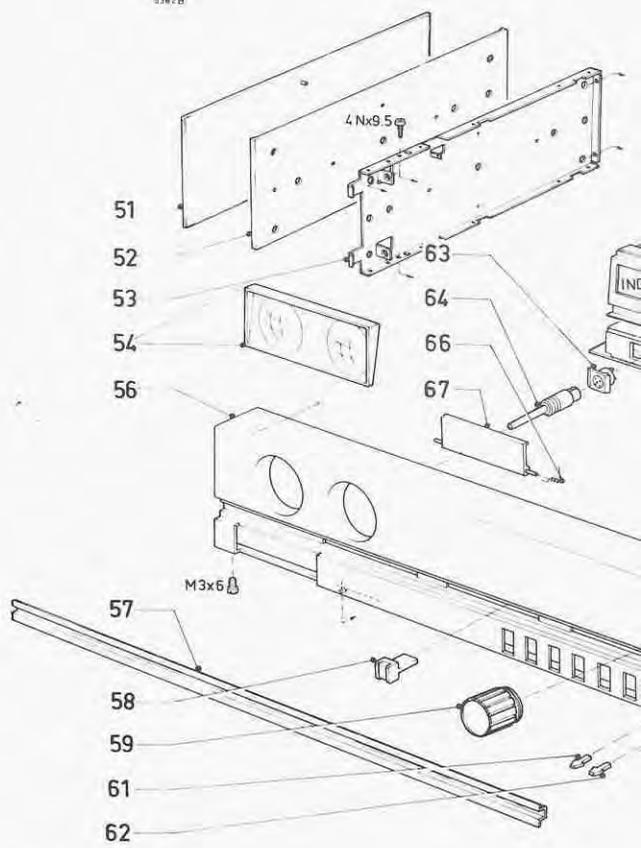
4822 40c 1023c

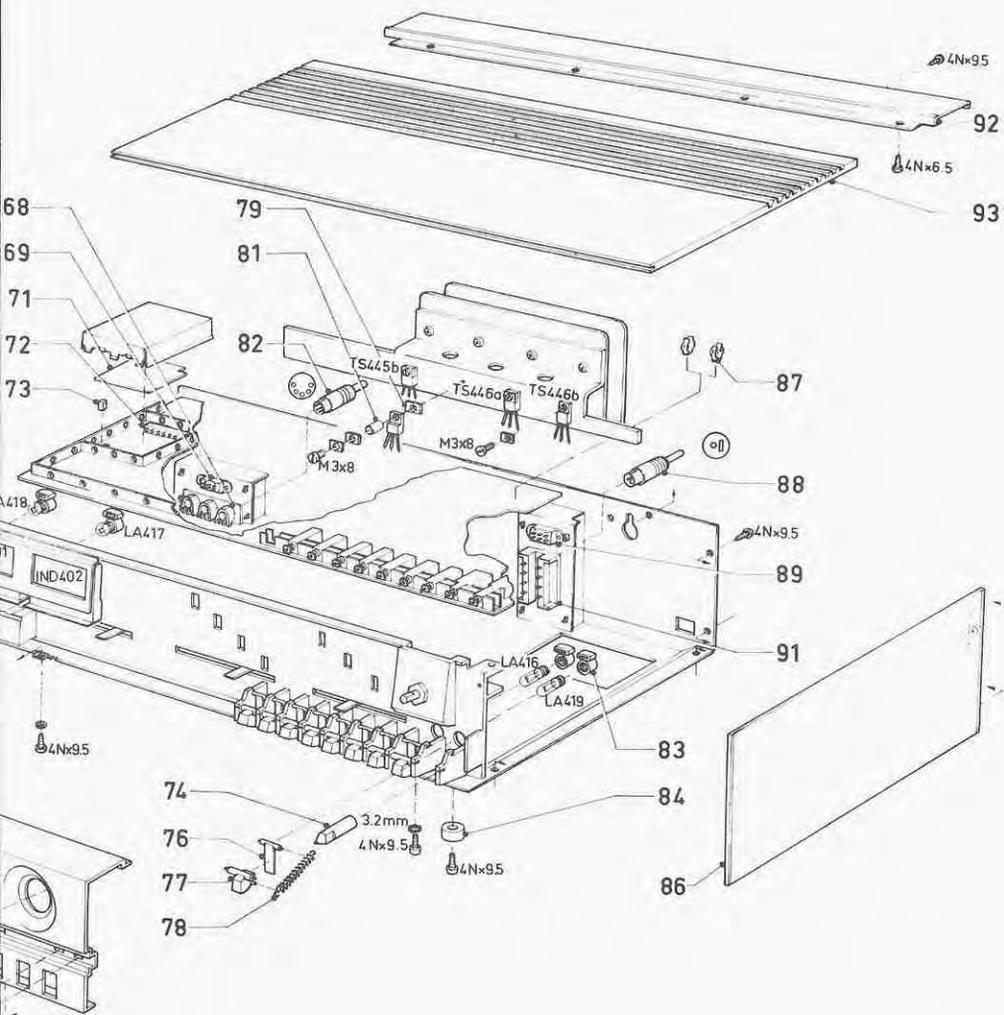


4822 276 10542

5382B1

- 51+52+ 4822 426 20018
- 53+86
- 52+53+ 4822 426 20018
- 86+51
- 53+86+ 4822 426 20018
- 51+52
- 54 4822 450 60101
- 56 4822 426 50194
- 57 4822 454 10342
- 58 4822 411 60243
- 59 4822 413 50807
- 61 4822 381 10385
- 62 4822 381 10384
- 63 4822 267 40125
- 64 4822 264 40092
- 66 4822 492 40589
- 67 4822 426 60095
- 68 4822 267 40209
- 69 4822 277 20091
- 71 4822 214 50127
- 72 5322 267 64027
- 73 4822 417 10645
- 74 4822 535 90931
- 76 4822 404 10206
- 77 4822 411 50277
- 78 4822 492 31088
- 79 4822 255 40112
- 81 4822 532 50991
- 82 4822 264 40023
- 83 4822 255 10007
- 84 4822 462 70869
- 86+51+ 4822 426 20018
- 52+53
- 87 4822 492 60063
- 88 4822 264 30041
- 89 4822 277 20091
- 91 4822 267 50194
- 92 4822 460 10372
- 93 4822 426 40068





8376C2

CS55087

-TS- 			-R- 		
421	BC559	4822 130 40963	695	Metal film 23.7kΩ $\pm$ 1%	5322 116 54646
422	BC559	4822 130 40963	696	Metal film 23.7kΩ $\pm$ 1%	5322 116 54646
423	BC548	4822 130 40938	699	Metal film 100kΩ $\pm$ 1%	5322 116 54696
424	BC548	4822 130 40938	700	Metal film 100kΩ $\pm$ 1%	5322 116 54696
425	BC547	5322 130 44257	707	Metal film 1 kΩ $\pm$ 1 %	5322 116 54549
426	BC547	5322 130 44257	708	Metal film 1 kΩ $\pm$ 1 %	5322 116 54549
427	BC559	4822 130 40963	711	Metal film 3.01kΩ $\pm$ 1%	5322 116 50524
428	BC559	4822 130 40963	712	Metal film 3.01kΩ $\pm$ 1%	5322 116 50524
429	BC548	4822 130 40938	715	Safety 5.6 Ω	4822 111 30435
430	BC548	4822 130 40938	716	Safety 5.6 Ω	4822 111 30435
431	BC558	4822 130 40941	771	Safety 330 Ω	4822 111 30458
432	BC558	4822 130 40941	772	Safety 330 Ω	4822 111 30458
433	BC558	4822 130 40941	753	Wire 2.2Ω, 5 W $\pm$ 10 %	4822 113 80196
434	BC558	4822 130 40941	754	Wire 2.2Ω, 5 W $\pm$ 10 %	4822 113 80196
435	BC547	5322 130 44257	755	Wire 2.2Ω, 5 W $\pm$ 10 %	4822 113 80196
436	BC547	5322 130 44257	756	Wire 2.2Ω, 5 W $\pm$ 10 %	4822 113 80196
437	BC548B	4822 130 40937	749	3.9 Ω, 1/4 W $\pm$ 5 %	4822 110 53043
438	BC548B	4822 130 40937	750	3.9 Ω, 1/4 W $\pm$ 5 %	4822 110 53043
439	BC548	4822 130 40938	719	Trimmer 2.2 kΩ	4822 100 10029
440	BC548	4822 130 40938	720	Trimmer 2.2 kΩ	4822 100 10029
441	BC558	4822 130 40941	768	Trimmer 4.7 kΩ	4822 100 10036
442	BC558	4822 130 40941	769	Trimmer 10 kΩ	4822 100 10035
443a-b	BD137/BD138	4822 130 40704	770	Trimmer 10 kΩ	4822 100 10035
444a-b	BD137/BD138	4822 130 40704	408	Volume 2x220 kΩ	4822 102 30222
445a-b	BD203/BD204	5322 130 30414	409	Bass 2x50 kΩ	4822 105 10043
446a-b	BD203/BD204	5322 130 30414	410	Treble 2x50 kΩ	4822 105 10043
			411	Balance 2x20 kΩ	4822 105 10044
-D- 			-Miscellaneous-		
450	BY164	5322 130 30414	S405	Mains transformer	4822 146 20514
451	BY164	5322 130 30414	S471		4822 157 50718
452	BY164	5322 130 30414	S472		4822 157 50718
453	BY164	5322 130 30414	IND401	Indicator left	4822 347 10138
454	OA95	5322 130 30191	IND402	Indicator right	4822 347 10139
455	OA95	5322 130 30191	U412	MD preamplifier	4822 214 50127
456	BA315	4822 130 30843	LA416	6 V - 100 mA	4822 134 40326
457	BA315	4822 130 30843	LA417	6 V - 100 mA	4822 134 40326
458	BA315	4822 130 30843	LA418	6 V - 100 mA	4822 134 40326
459	BA315	4822 130 30843	LA419	6.3 V - 44 mA	4822 134 40331
460	BAW62	5322 130 30613	VL447	2 A	4822 253 30025
461	BAW62	5322 130 30613	VL448	2 A	4822 253 30025
462	BAW62	5322 130 30613	VL449	4 A	4822 253 30028
463	BAW62	5322 130 30613			
464	BY206	4822 130 30839			
465	BY206	4822 130 30839			
466	BY206	4822 130 30839			
467	BY206	4822 130 30839			
468	BZY79/C5V6	5322 130 30759			
-C- 					
491	5600 pF $\pm$ 5 %	4822 121 50543			
492	5600 pF $\pm$ 5 %	4822 121 50543			
499	560 pF $\pm$ 2 %	4822 122 30126			
500	560 pF $\pm$ 2 %	4822 122 30126			
550	2350 $\mu$ F - 63 V	4822 124 70198			
539	3300 $\mu$ F - 40 V	5322 124 74036			
540	3300 $\mu$ F - 40 V	5322 124 74036			

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

Die Sicherheitsvorschriften erfordern, dass das Gerät sich nach der Reparatur in seinem originalen Zustand befindet und dass die benutzten Einzelteile den aufgeführten Teilen identisch sind.

SF

Korjatussa laitetta on turvallisuuksystistä ehdottomasti enetetävä oikein ja käytettävä tehtaan määäämiä alkuperäisvaraosia.

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 af föreskrivna reservdelar.

DK

Myndighedernes sikkerheds- og radiostøjbestemmelser kræver, at enhver reparation skal udføres korrekt m.h.t. overholdelse af originalplacering og monterning 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.