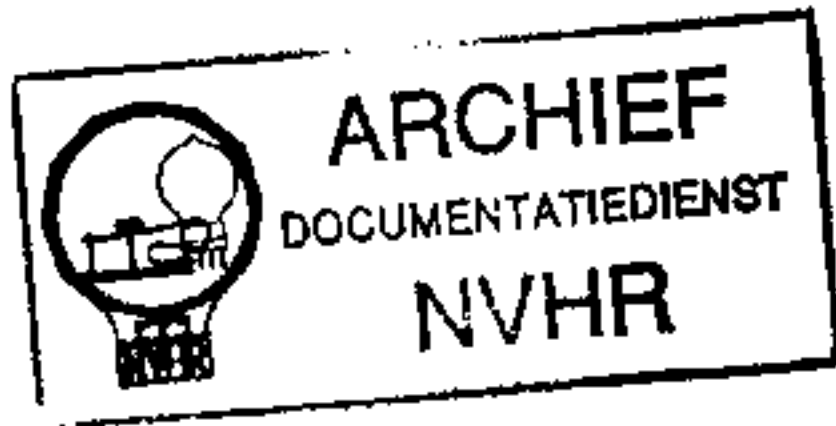


Service  
Service  
Service

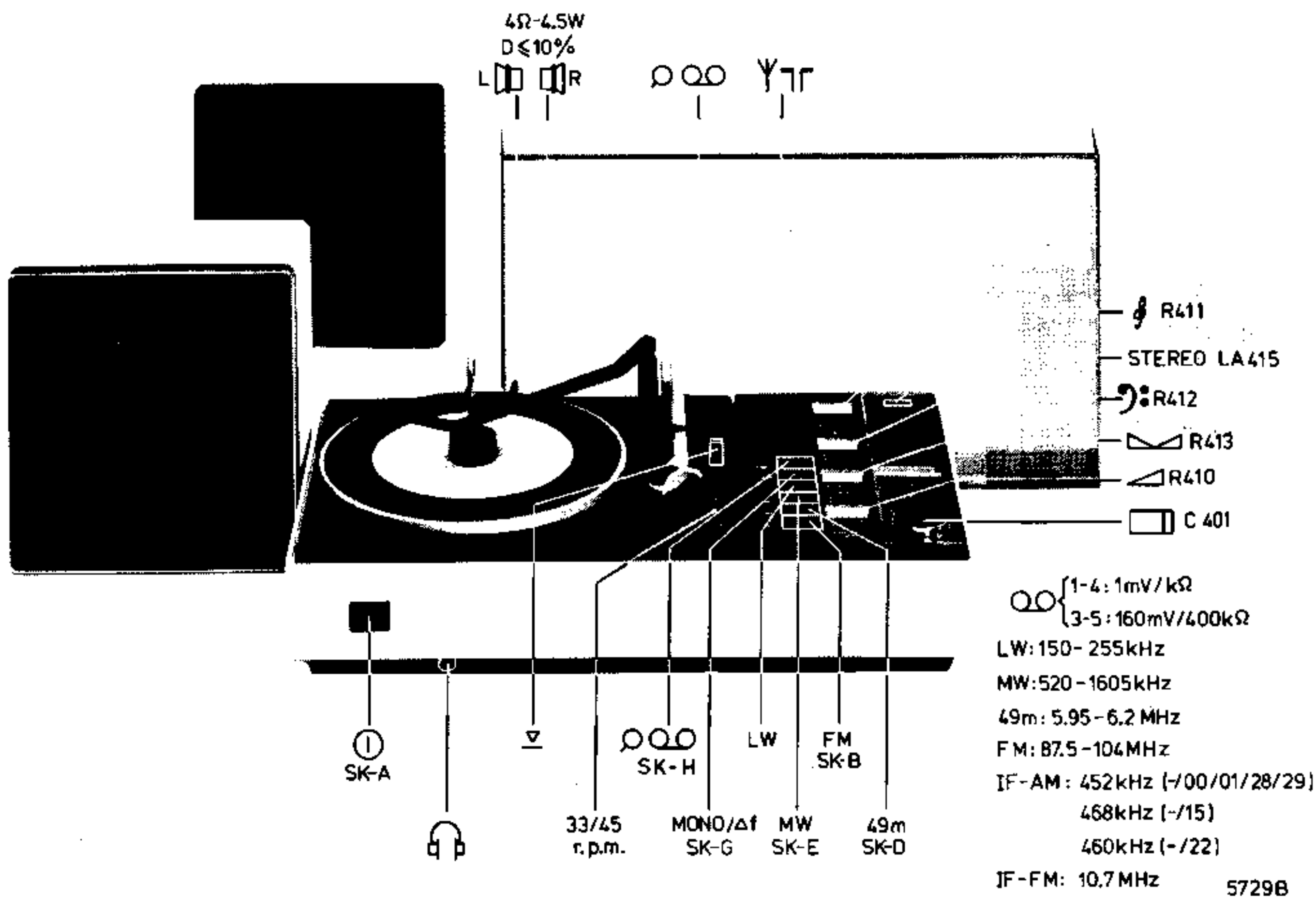
Met dank aan [www.radiomuseum-hengelo.nl](http://www.radiomuseum-hengelo.nl)

Ned. Ver. v. Historie v/d Radio



For record-changer: see Service Manual of GC051

# Service Manual



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

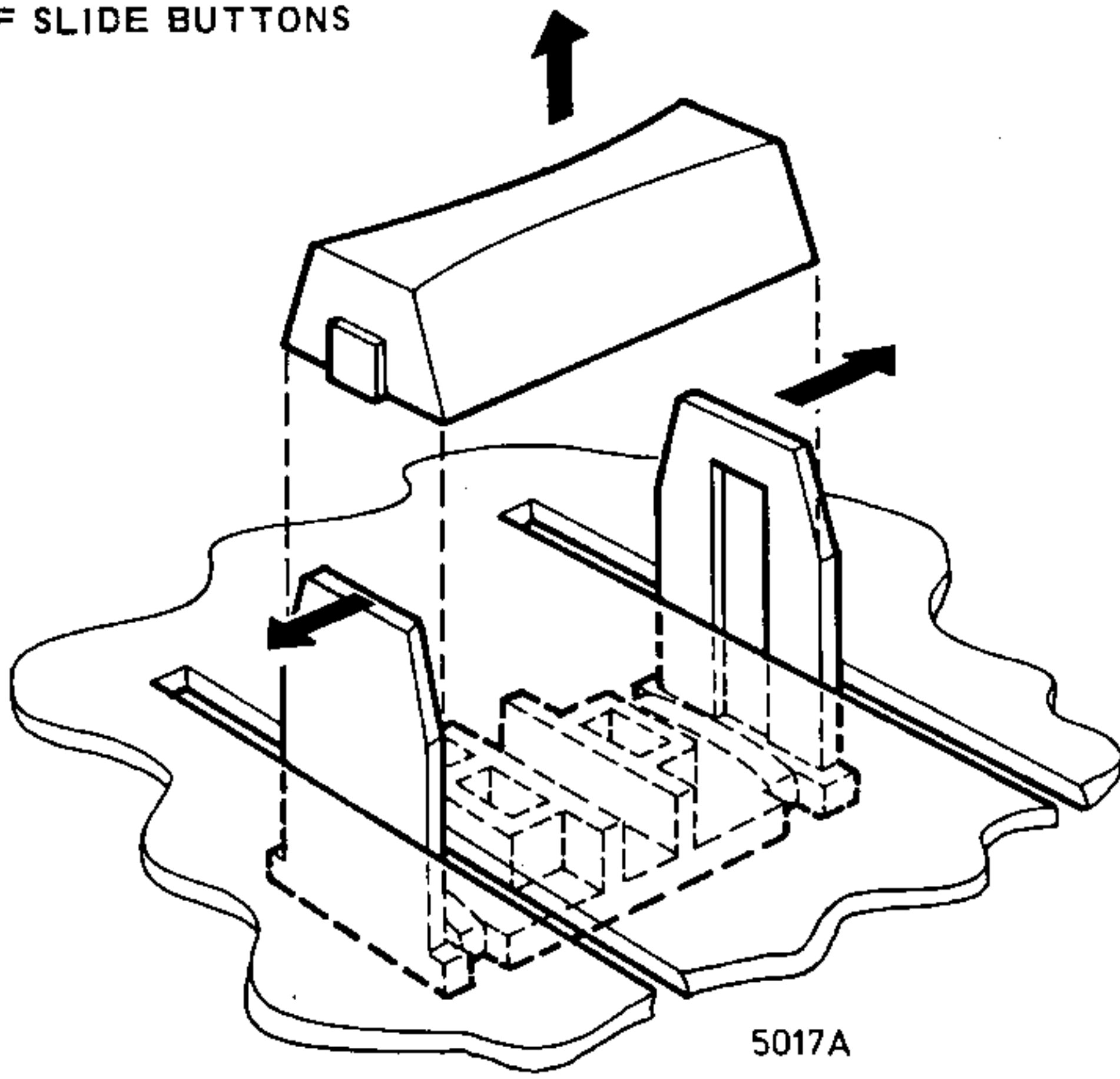
Documentation Technique Service Dokumentation Documentazione di Servizio Huolto-Ohje Manual de Servicio Manual de Servicio



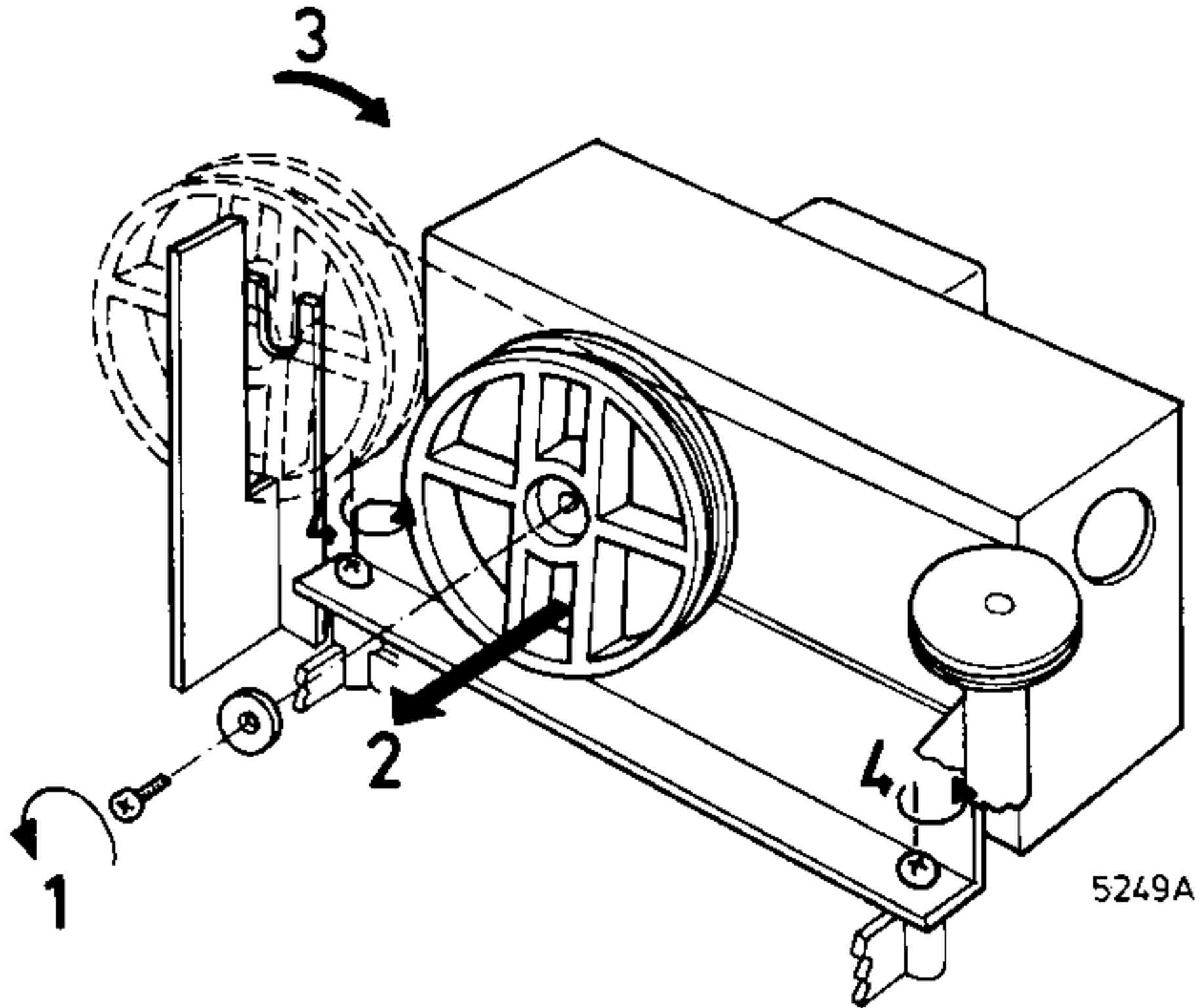
Subject to modification  
4822 725 11385  
Printed in The Netherlands

**PHILIPS**

## REPLACEMENT OF SLIDE BUTTONS



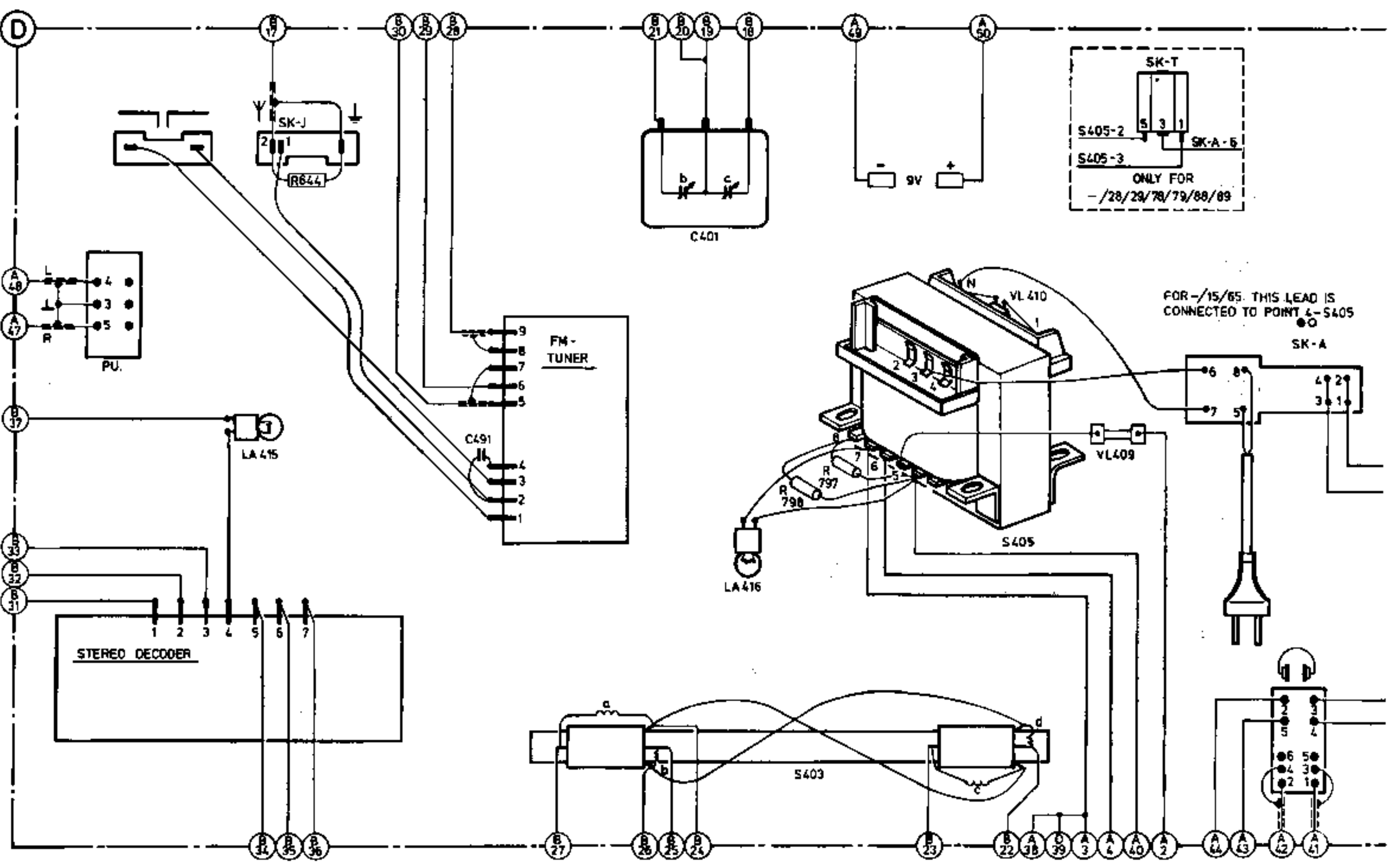
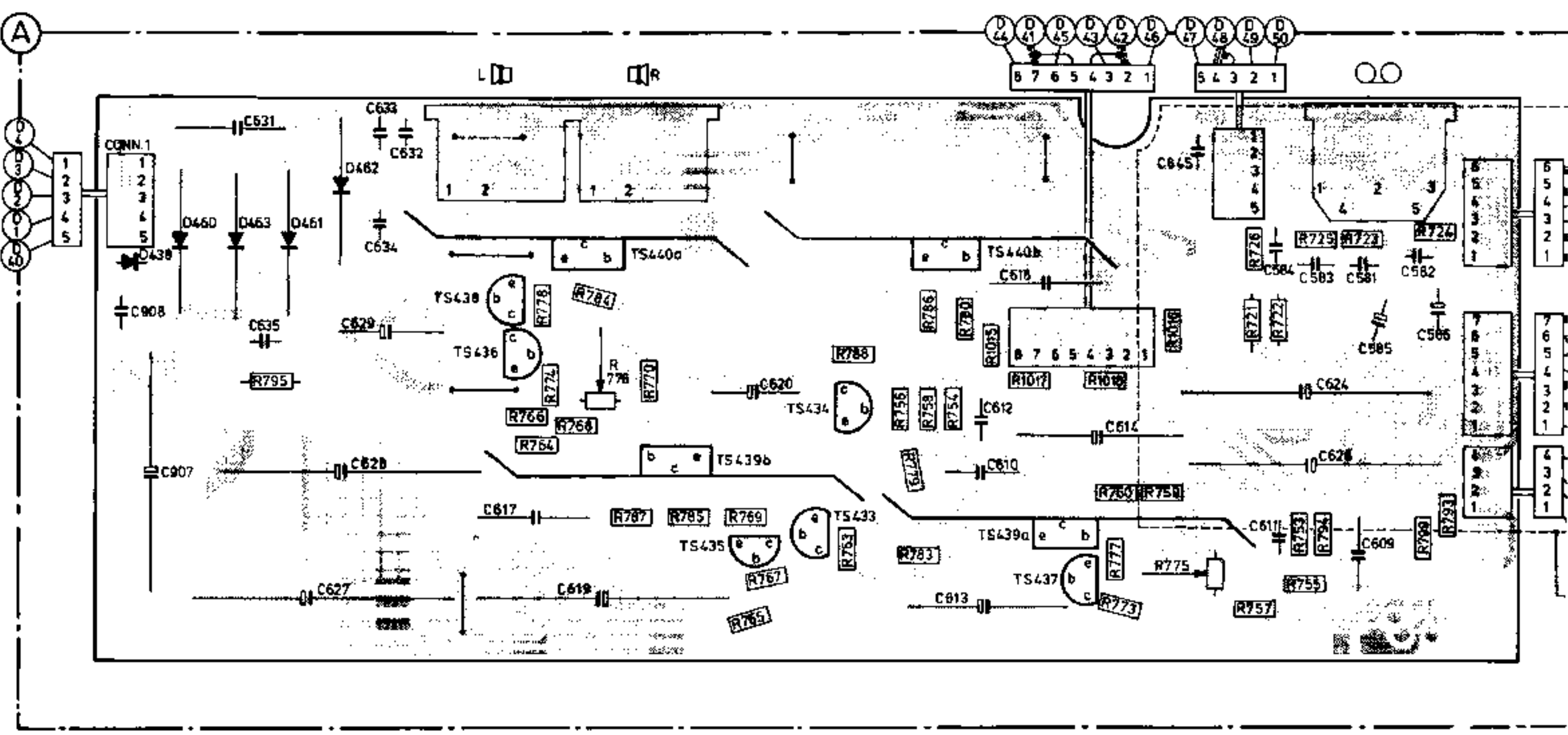
## SERVICE POSITION OF VAR.CAP. DRUM

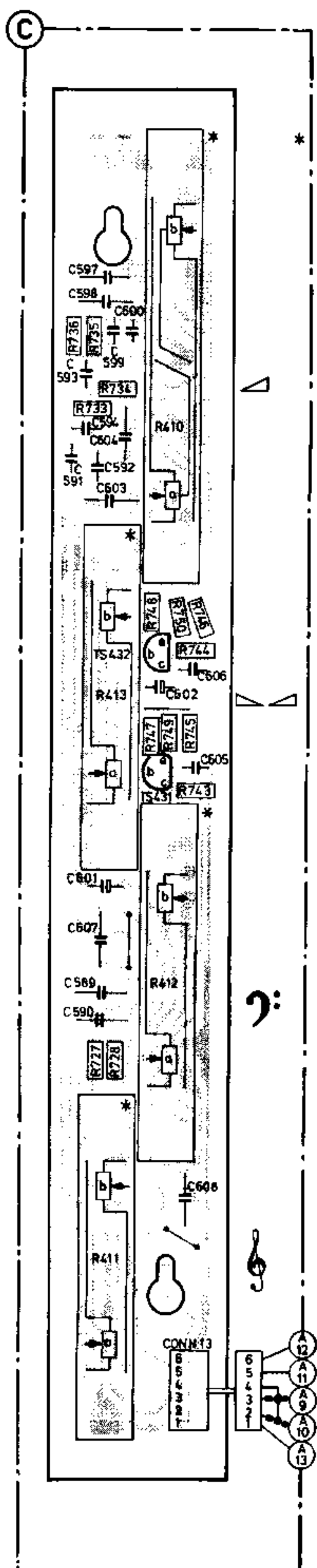
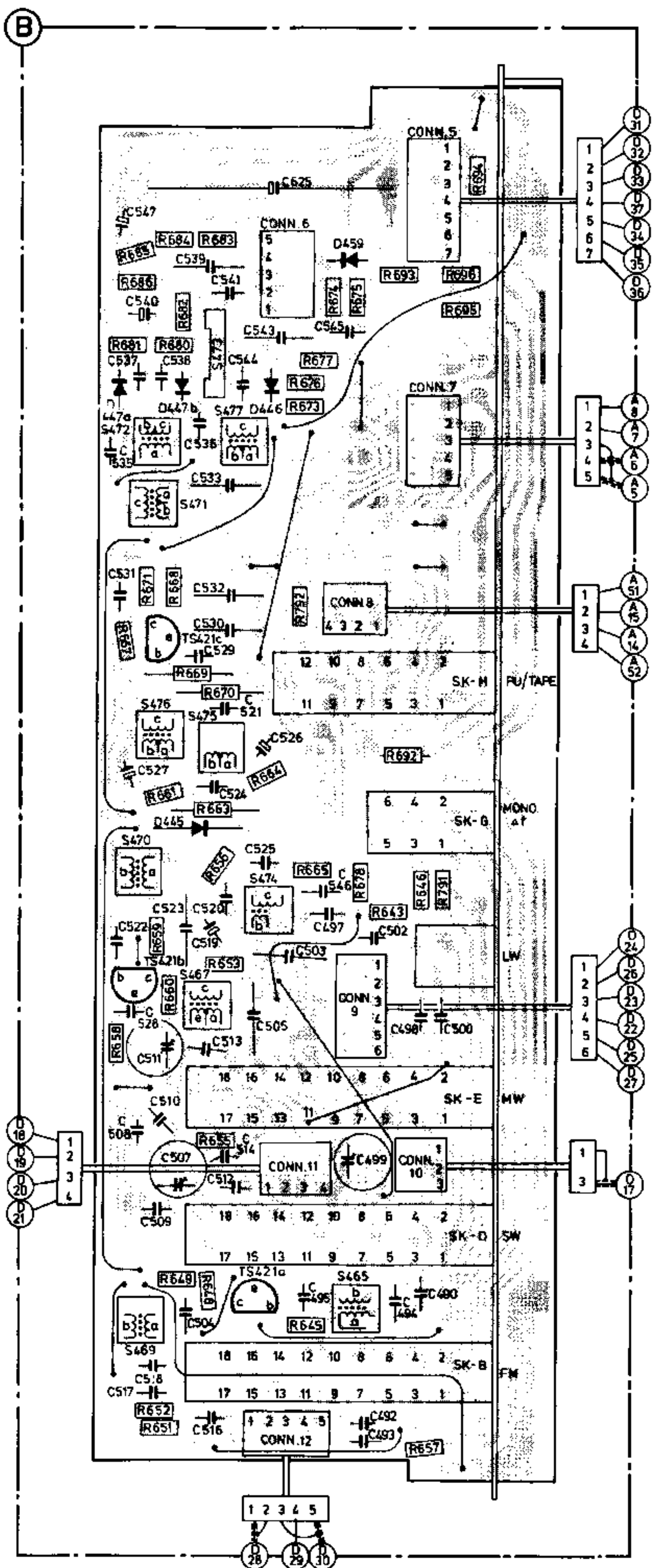


## ATTENTION: REPLACEMENT OF VAR.CAP.

Keep during the replacement of the var.cap.  
the pointer in the middle of the scale.

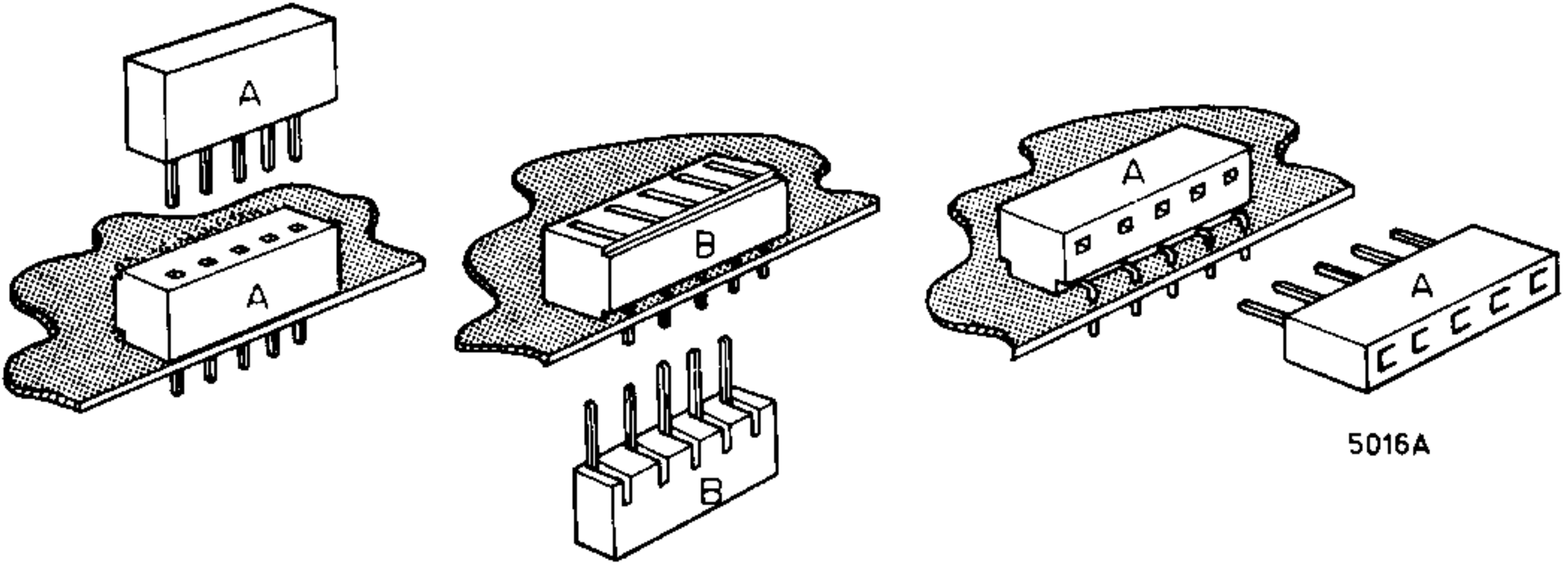
MISC.	D438	D480	D463	D461	LA415	SK-J	D462	TS438	TS436	TS440a	TS439b	TS435	S403	TS433	LA416	TS434	TS440b	S405	TS439a	TS437	VL410	VL409	SK-T	S405-2-3	SK-A-8	SK-A							
C	908	907	631	635	627	628	629	632+634	617	491	619	620	401	613	612	610	618	614	845	611	624	626	609	581+586									
R			795					766	778	774	768	784	776	770	788	756	786	758	754	780				721	726	722	725	723	724				
R					644			764			787	785	769	765	767	783	779	783	1015	1017	1018	1016	780	777	773	798	775	757	755	753	794	793	799
R																																	



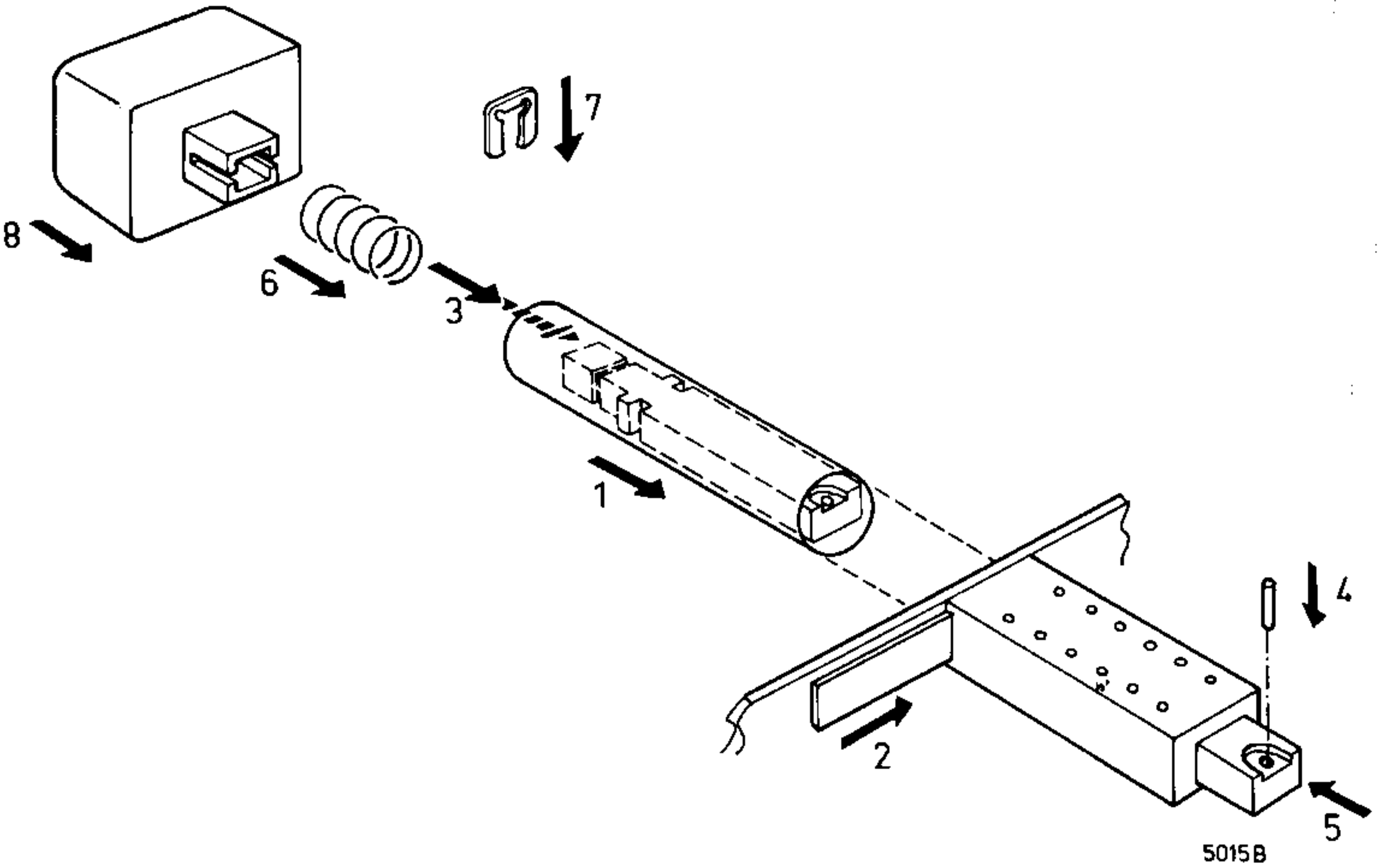
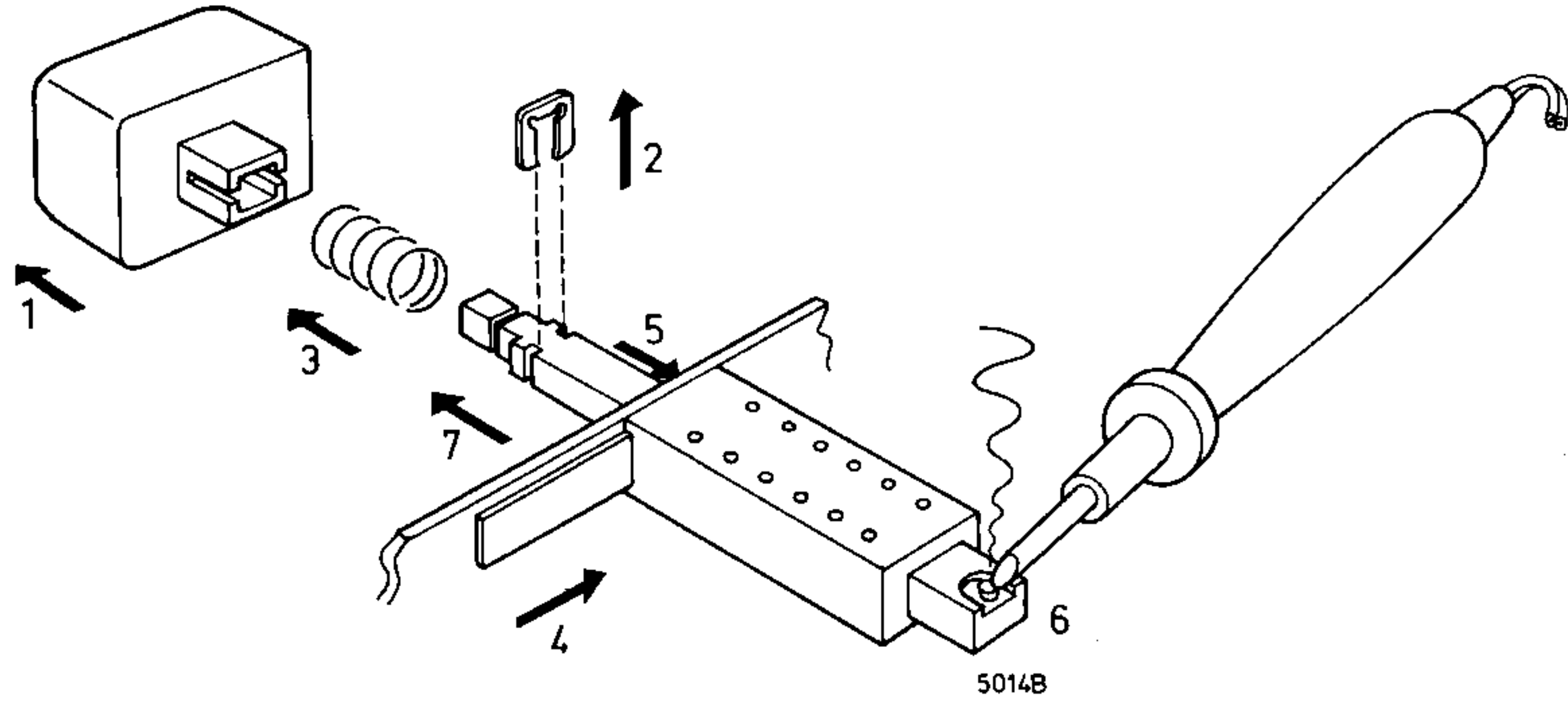


MISC.	C	C	R	R
		625		694
		547		684
				686
				683
D549	539	597		685
				693
				696
				674
				675
				695
				682
				681
				680
				677
				676
				673
S473	543			681
				680
				677
				676
				673
				610
				604
				591
				592
				603
				671
				668
				748
				750
				746
				792
				667
				744
				669
				667
				670
				606
				602
				670
				413
				747
				749
				745
				692
				664
				681
				743
				663
				656
				665
				678
				646
				491
				643
				659
				502
				522
				503
				589
				653
				660
				412
				500
				590
				498
				505
				513
				511
				656
				727
				728
				656
				655
				514
				608
				507
				512
				509
				411
				649
				648
				645
				645
				518
				517
				492
				652
				651
				657

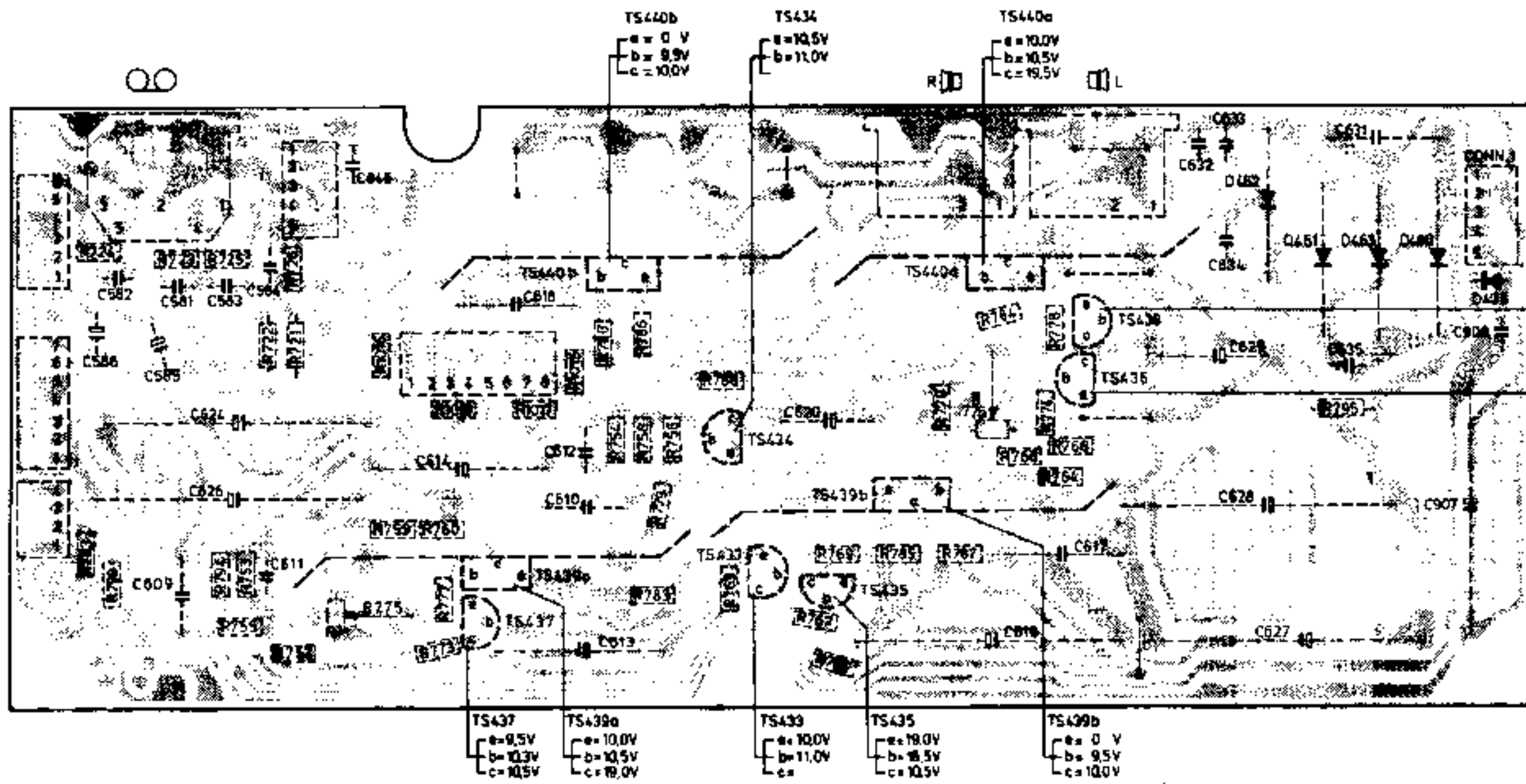
# POSITIONING OF CONNECTORS



# REPLACEMENT OF SLIDES OF WAVE RANGE SWITCHES

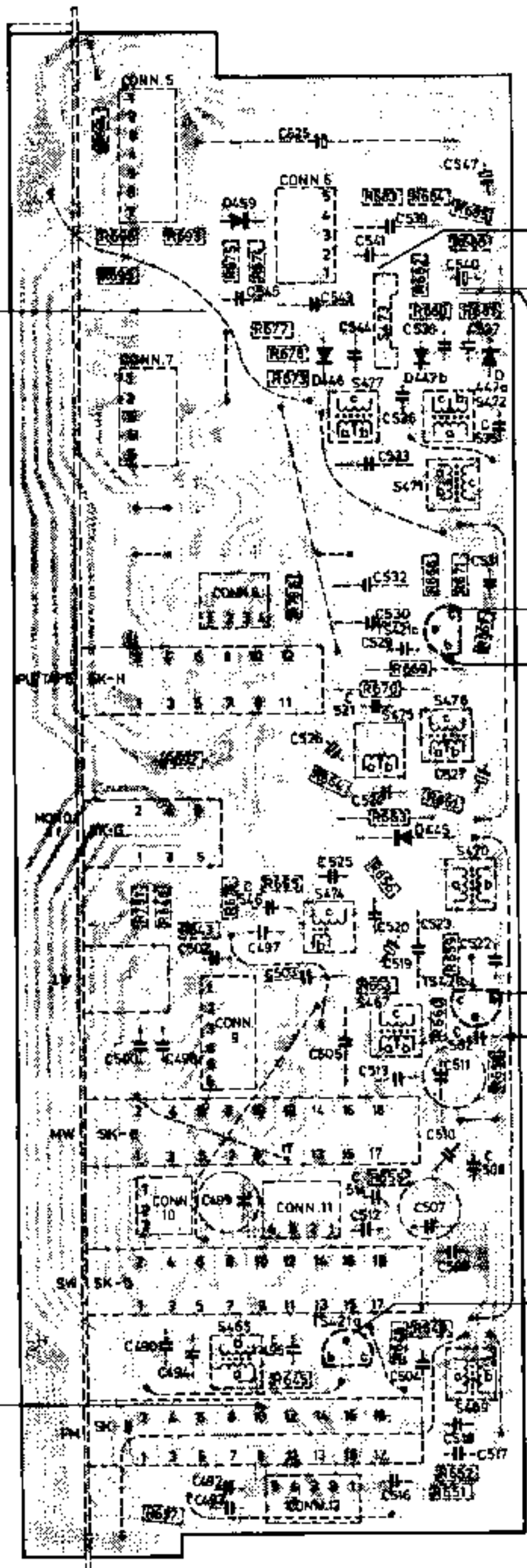


MISC	TS437	TS439a	TS440b	TS433+435	TS439b	TS440a	TS436	TS438	D480+463	D438
C	581-586	609 624 626 611	645	614 618 610 612 613	620	619	617	627+628	631+635	607 608
R	721-726			706 708 707 705	780 786	788	770 776 784	774 778	795	
R	783 788	784 783 785	787 775 789 780 773 777	754 758 756	779 783 787 785 789 785	787	788 784 786			



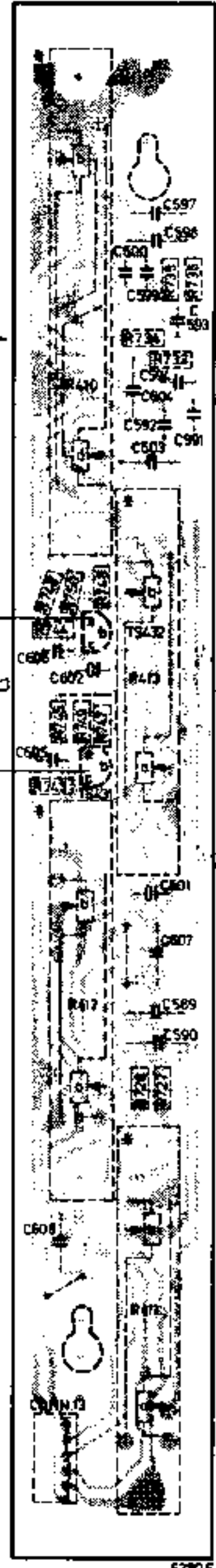
TS437	TS439a	TS433	TS435	TS439b
a=9.5V	a=10.0V	a=10.0V	a=19.0V	a=0 V
b=10.3V	b=10.5V	b=11.0V	b=8.5V	b=9.5V
c=10.5V	c=19.0V	c=	c=10.5V	c=10.0V

TS438	TS436
a=9.5V	a=19.0V
b=10.3V	b=16.5V
c=10.5V	c=10.5V

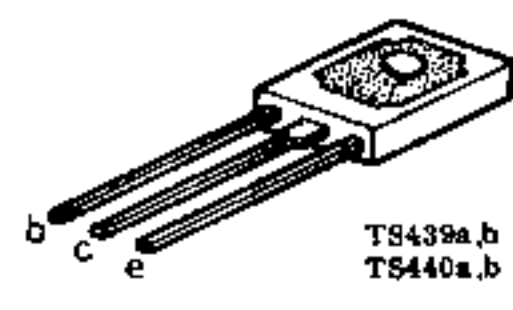
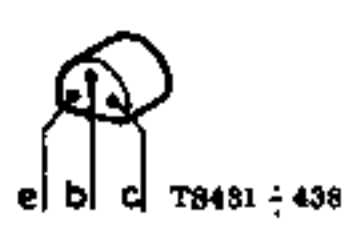


TS421c	TS421b	TS421a
a=1.5V	a=1.0V	a=1.1V
b=2.3V	b=1.7V	b=1.8V
c=7.5V	c=6.5V	c=7.5V

MISC	C	R	R
	628		
D459	539	597	684
	541	598	647
	540	596	683
	545	595	685
	543	580	686
	537	583	687
	544	577	735
	538	576	736
S473	593	673	
D466			
S477			
D477a	594	677	
D477b	594	677	
S472	536	604	410
	535	592	
	533	591	
	533	603	
S471			
	531	686	
	532	671	
	530	782	748
TS432	530	667	750
TS421c	529	667	744
SK-4	606	668	
S476	602	670	413
S475	521		745
	526		748
			747
TS431	527	605	682
			664
			681
SK-6	524		683
D445			685
S470	525		656
	546		678
S474	520	601	791
	523		646
	521		643
	522		658
	527		653
	503		
	502		
TS421b	509		612
S467	590		660
	562		
	505		
	500		658
	488		
	511		728
	513		727
SK-E	510		
	508		655
	514		
	498		
	572		
	507		
	508		
SK-D			411
TS421a	490		658
S465	485		648
	494		645
	504		
S460			
	516		
	517		652
SK-B	516		651
	492		657
	483		



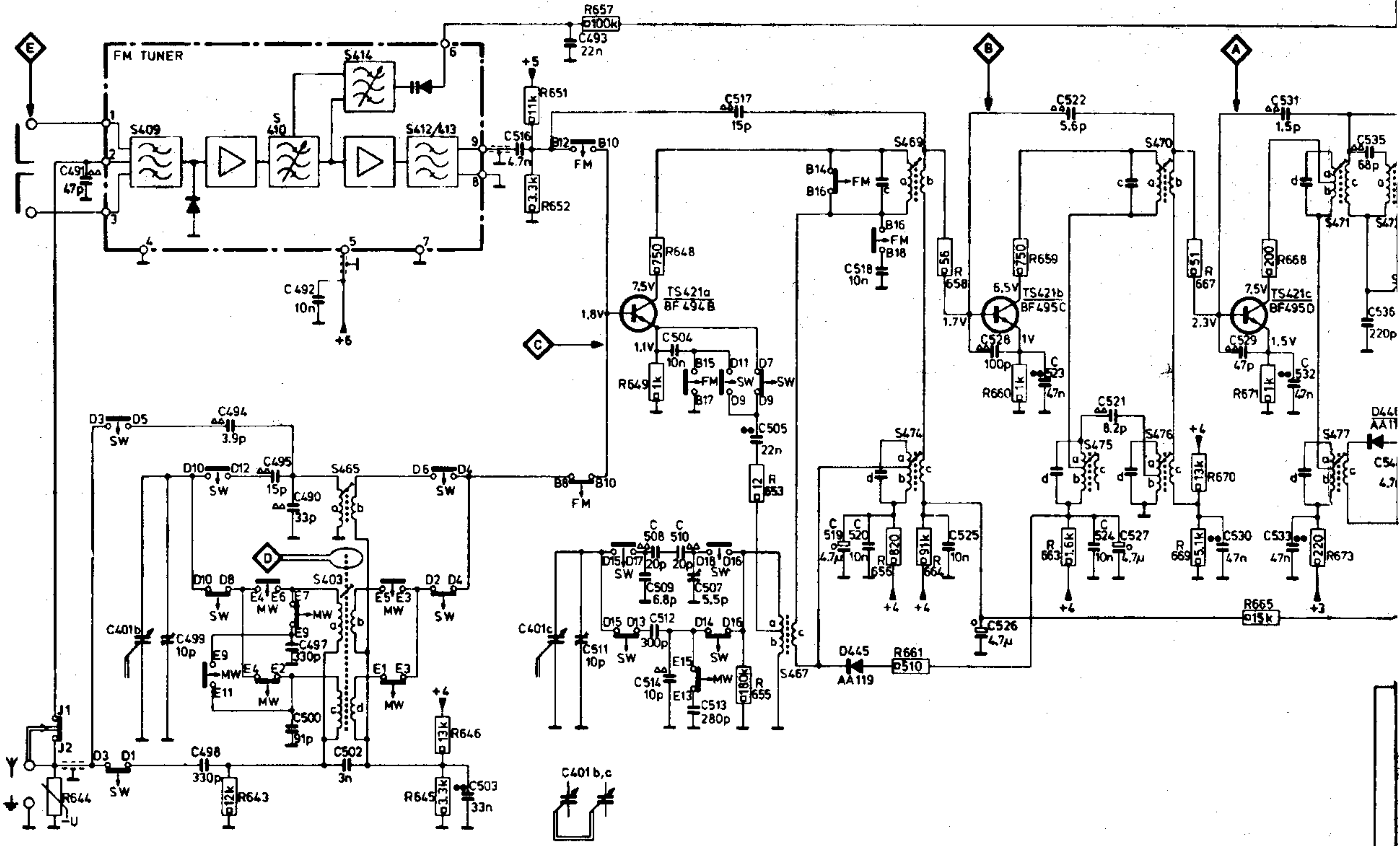
TS432	TS431
a=0.1V	a=0.1V
b=0.7V	b=0.7V
c=4.5V	c=4.5V



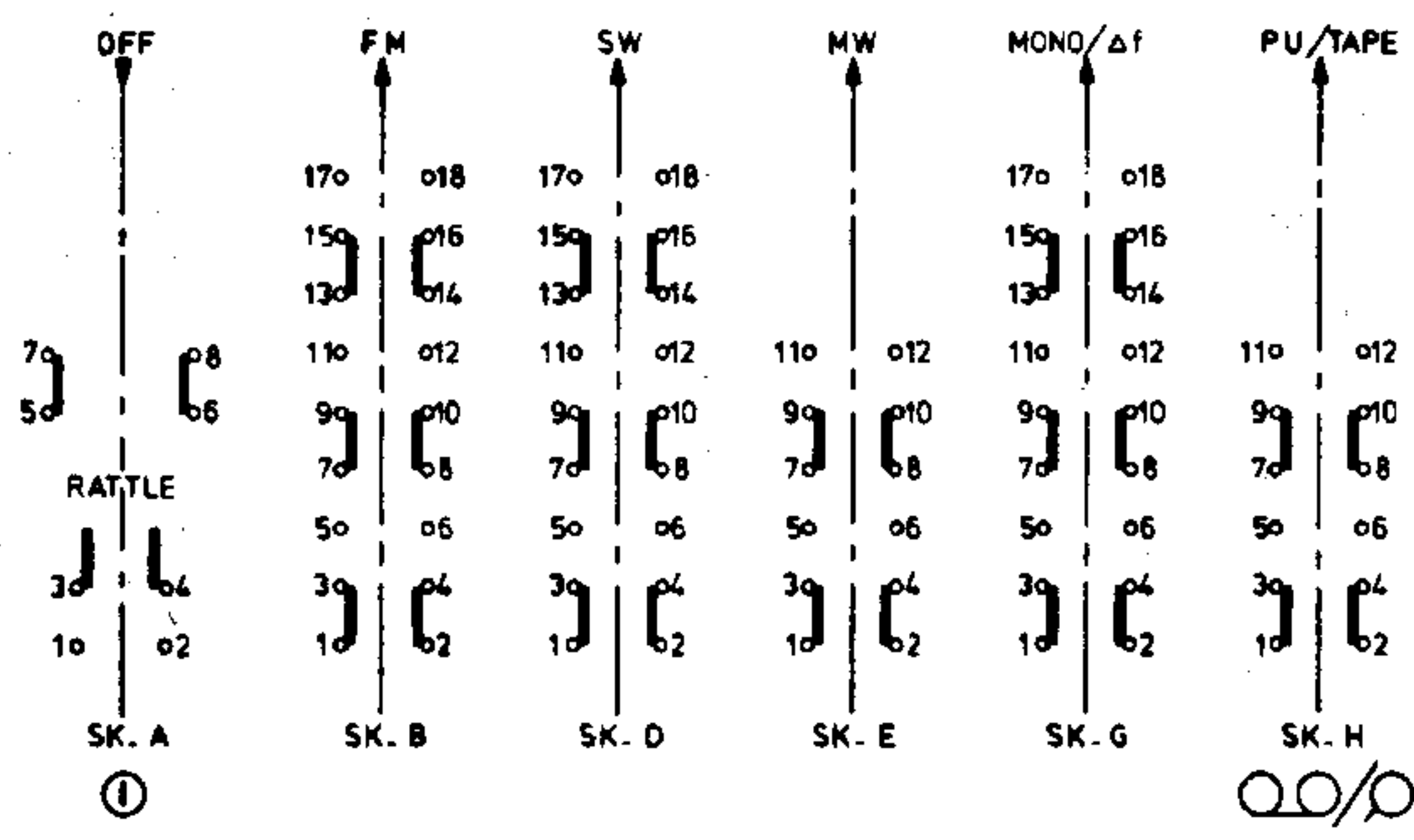
CS51913



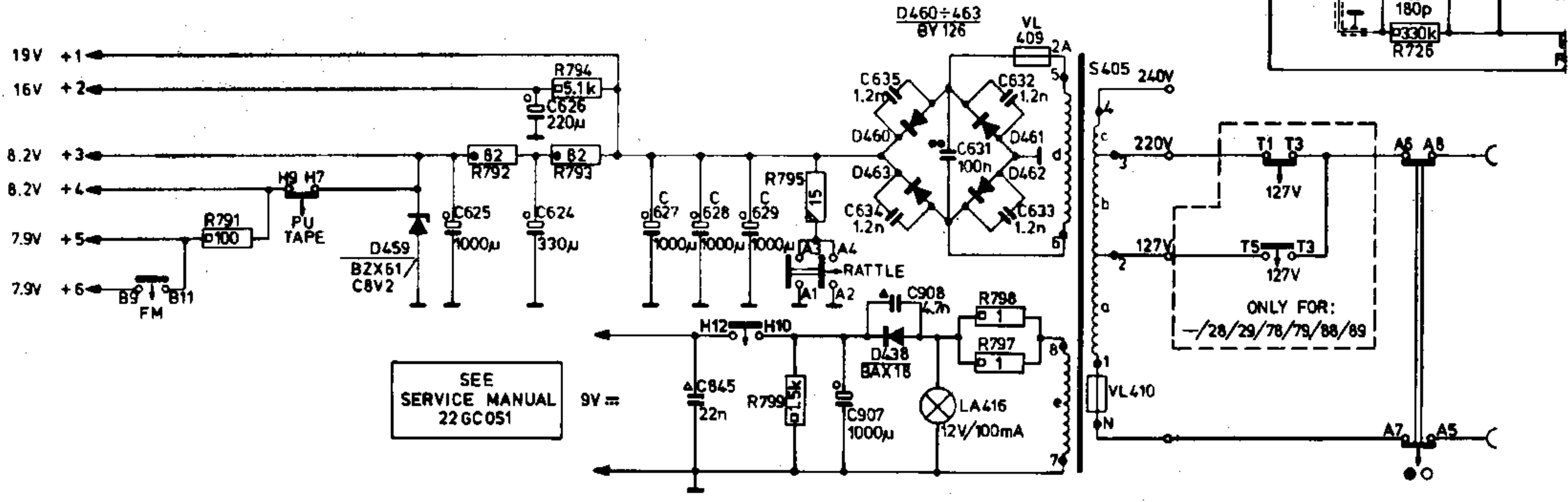
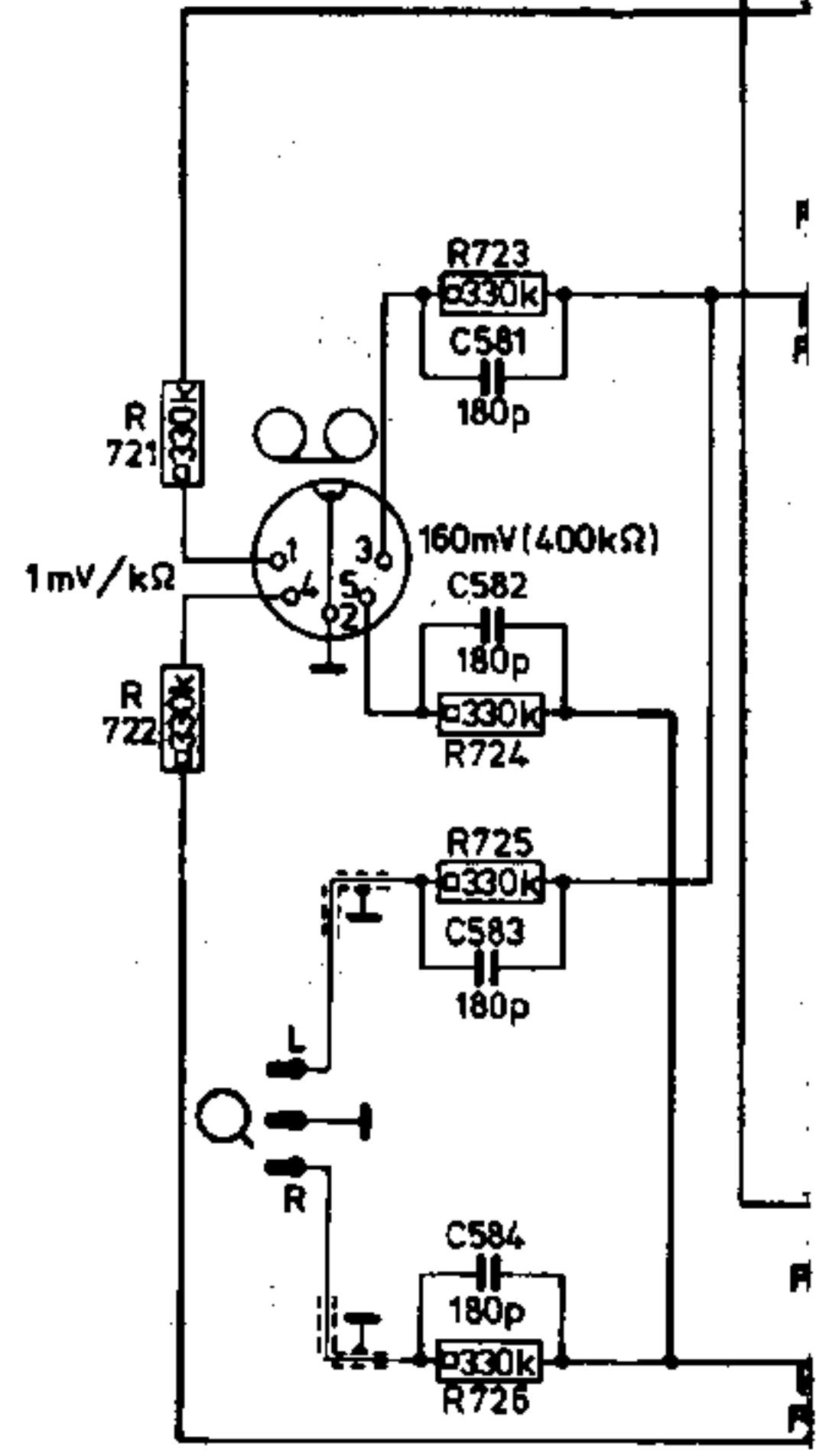
C	491.	492.	516.	493.	504. 510. 517.	518.	528.	523. 522.	529. 531. 532.
R	644.	643.	645. 646.	791.	792. 794. 793.	799. 795.	797. 798.	721+728.	673.
MISC.	S465. S403.		D459.		S467. D445. S474.		S475. S476.		S477. D44



DRAWN IN POSITION LW

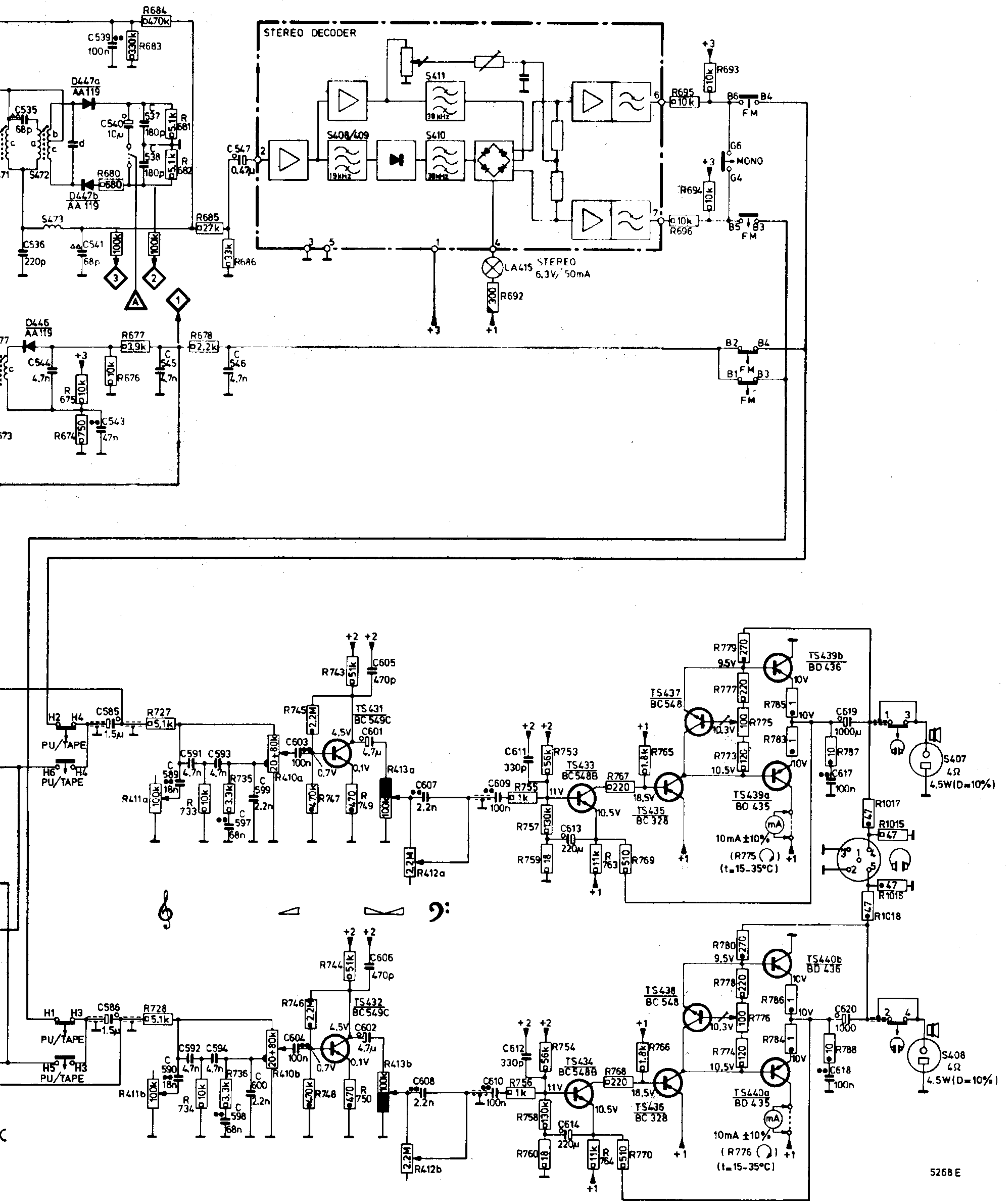


SK. J AERIAL

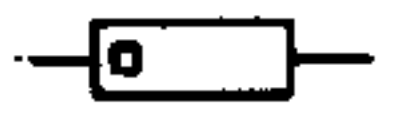








SEE SERVICE MANUAL 22GC051

535-541.	547.															
544.	585. 543.	589. 545.	591. 593.	546. 597. 599. 603.	601. 605.	607.	609. 611.	613.	617. 619.	C						
	586.	590.	592. 594.	598. 600. 604.	602. 606.	608.	610. 612.	614.	618. 620.							
	680-686.				692.				693-696.							
73.	674-677. 411a. 727.	723. 678.	735.	410a. 745.	747. 743.	749.	413a. 412a.	755. 757. 759. 753.	763. 767. 769.	765. 779. 777. 773. 775. 785. 783.	787. 1017. 1015.					
	411b. 728. 734.		736.	410b. 746.	748. 744.	750.	413b. 412b.	756. 758. 760. 754.	764. 768. 770.	766. 760. 778. 774. 776. 786. 784.	788. 1018. 1016.					
1. 5472. 5473.	D447a. b.				LA 415.											
77. D446.	TS431.			TS433.			TS435.		TS437.		TS439a.		TS439b.		S407. MISC.	
	TS432.			TS434.			TS436.		TS438.		TS440a.		TS440b.		S408	



5268 E

- |   |                            |         |          |      |   |                                  |       |
|---|----------------------------|---------|----------|------|---|----------------------------------|-------|
|  | Carbon resistor E24 series | 0.125 W |          | 5 %  |  | Plate ceramic capacitor          |       |
|  | Carbon resistor E12 series | 0.25 W  | < 1 MΩ   | 5 %  |  | Flat-foil polyester capacitor    | 500 V |
|  | Carbon resistor E12 series | 0.5 W   | < 1.5 MΩ | 5 %  |  | Miniature electrolytic capacitor |       |
|  | Carbon resistor E12 series | 1 W     | < 2.2 MΩ | 5 %  |   |                                  |       |
|   |                            |         | > 2.2 MΩ | 10 % |   |                                  |       |



SK.... (Wave range)	Signal to			(Detune)	Adjust				
MW (520-1605 kHz)	IF via 33 nF $\Delta f=200$ kHz (50 Hz)	A		S474,476	S477	1	1		
		B			S476				
		C			S475				
LW (150-255 kHz)	147 kHz	D	Max. cap.		S467	1			
MW (520-1605 kHz)	1635 kHz		Min. cap.		C511	1			
LW	155 kHz		Tune in			S403c-d		1	
MW	550 kHz					S403a-b			1
	1500 kHz					C499			1
49 m (5.95-6.2 MHz)	6.075 MHz				C507, S465				
FM (87.5-104 MHz)	10.7 MHz via 5 nF $\Delta f=200$ kHz (50 Hz)	A		S469,472 S413 5	S471	2	2		
		B			S470				
		C			S469				
	96 MHz via 5 nF $\Delta f=200$ kHz (50 Hz)	E	Tune in	96 MHz		S412	2	2	
					S413				
						S472	3	3	4
				C434	3	6	3	$V_{\text{rms}}=0 \pm 30$ mV	

↑ Repeat

\*Turn out the cores till about 3 mm above the rim.



### STEREO-DECODER

SK.... (Wave range)	Signal to		Adjust			
FM (87.5-104 MHz)	Pilot 19 kHz (pilot)	K	S409		5 max. via 1 M $\Omega$	
			S408			
			S410			6 max.
	S 5 kHz (S + 5 kHz)		7	S411	7	8
	Multiplex 1 kHz (pilot + right + 1 kHz)		8 min.	R458		
Multiplex 5 kHz (pilot + right + 5 kHz)	R459					

↑ Repeat



(.....) mentioned are the buttons to be pushed in on service-stereocoder PM 6455.

GB



- 1 Adjust for max. amplitude and symmetry.
- 2 Interrupt 
- 3 Close 
- 4 Adjust for max. slope and symmetry of the "S"-curve.

- 5 Adjust 0 V without sweep ( $\Delta f$  200 kHz).
- 6 Readjust for zero-axis crossing of the "S"-curve.
- 7 Signal intensity such that the stereo indicator acts.
- 8 Adjust "S" signal to max. and such that a well-defined zero-axis crossing is visible. (Fig. 1)



**NL**

- 1 Afregelen op max. hoogte en symmetrie.
- 2 Onderbreek  .
- 3 Sluit  .
- 4 Afregelen op max. steilheid en symm. van de "S"-kromme.
- 5 0 V instellen zonder zwaai ( $\Delta f$  200 kHz).
- 6 Naregelen op nuldoorgang van "S"-kromme.
- 7 Signaalsterkte zodanig dat stereoindicator werkt.
- 8 Het S-signaal afregelen op max. en zo dat een scherpe nuldoorgang zichtbaar is. (Fig. 1)



**D**

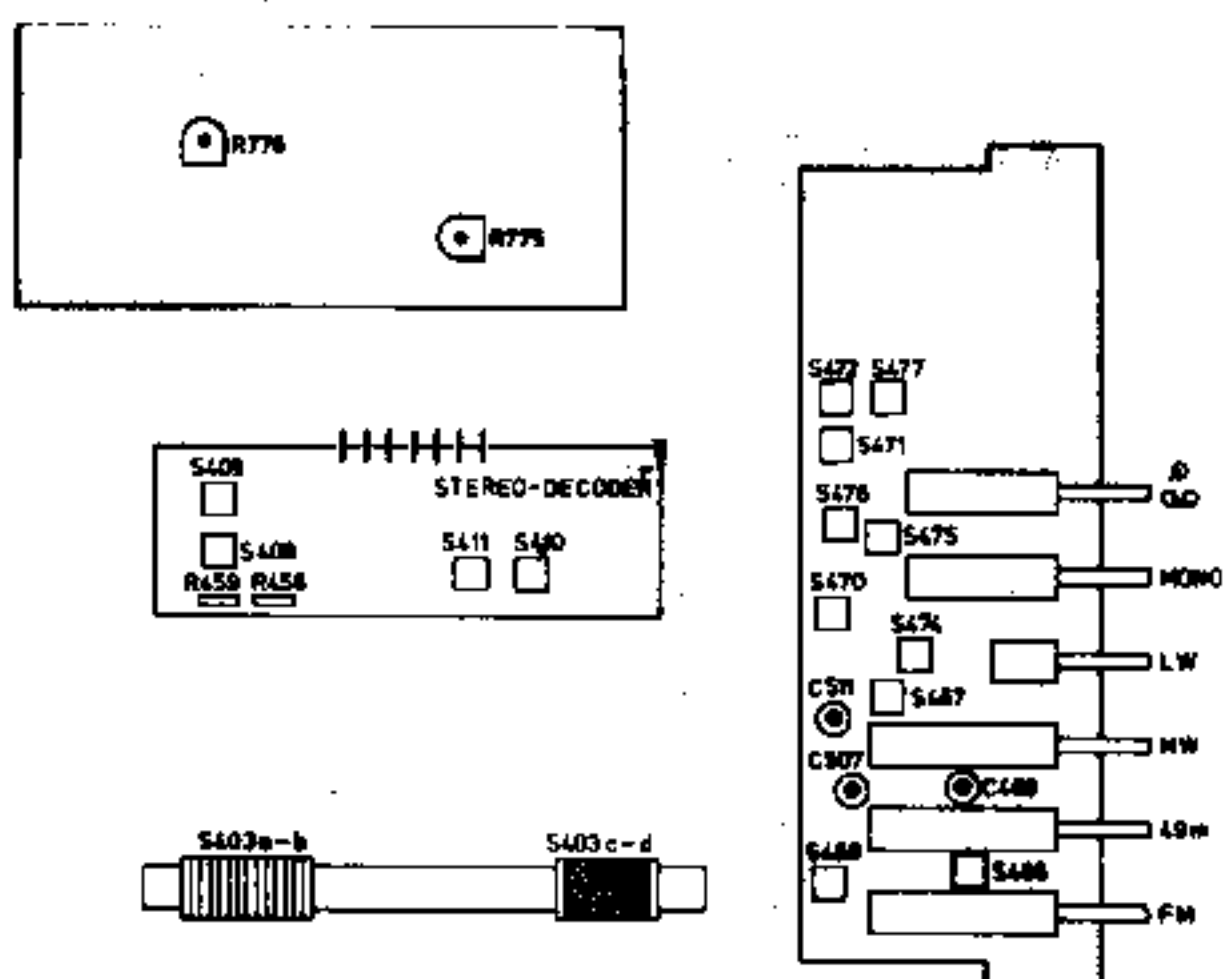
- 1 Justiere auf maximale Höhe und Symmetrie.
- 2 Unterbrich  .
- 3 Schliesse  .
- 4 Justiere auf maximale Schräge und Symmetrie der "S"-Kurve.
- 5 Stelle ohne Hub 0 Volt ein ( $\Delta f$  200 kHz).
- 6 Reguliere den Nulldruchgang der "S"-Kurve nach.
- 7 Die Signalstärke muss so sein, dass der Stereoindikator arbeitet.
- 8 Justiere das "S"-Signal auf Maximum, bis ein scharfer Nulldurchgang sichtbar ist. (Fig. 1)

**S**



- 1 Justera för max höjd och symmetri.
- 2 Bryt  .
- 3 Slut  .
- 4 Justera för max höjd och symmetri på S-kurvan.
- 5 Justera 0 V utan svep ( $\Delta f$  200 kHz).
- 6 Efterjustera S-kurvans nollgenomgang.
- 7 Signalvina sa att stereoindikatorn börjar arbeta.
- 8 Justera "S" signalen till max och sa att en väldefinierad nollgenomgang erhålls. (Fig. 1)

**N**



- 1 Juster til max. amplitude og symmetri.
- 2 Abn  .
- 3 Luk  .
- 4 Juster S-kurvan til max. stejthed og symmetri.
- 5 Juster 0-volt uden sweep ( $\Delta f = 200$  kHz).
- 6 Efterjuster S-kurvan til nul-aksekrydsning.
- 7 Forøg signalet saledes, at stereoindikatoren aktiveres.
- 8 Juster "S" - Signalet til max. saledes at en veldefineret nul-aksekrydsning er synlig. (Fig. 1)





**F**

- 1 Régler à la hauteur et la symétrie max.
- 2 Interrompre  .
- 3 Fermer  .
- 4 Régler à la pente et à la symétrie max. de la courbe "S".
- 5 Régler 0 V sans excursion ( $\Delta f$  200 kHz)
- 6 Réajuster sur passage de zéro de la courbe "S".
- 7 Intensifier de façon que l'indicateur stéréophonique fonctionne.
- 8 Régler le signal "S" sur max. de façon que le passage de zéro net soit visible. (Fig. 1)



**I**

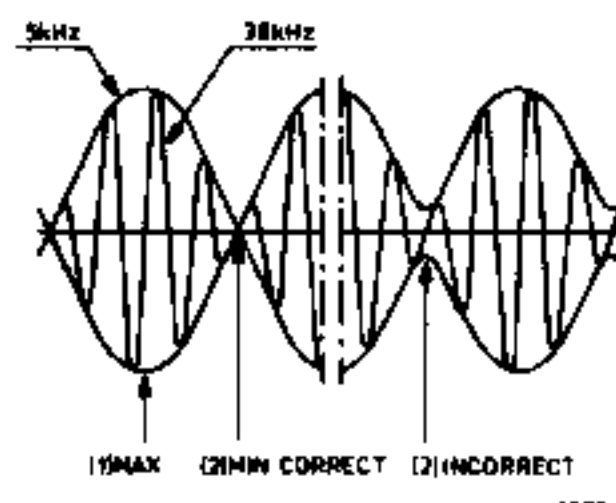
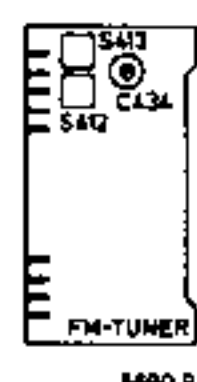
- 1 Regolare per altezza e simmetria massima.
- 2 Interrompere  .
- 3 Chiudere  .
- 4 Regolare per pendenza e simmetria massima della curva ad "S".
- 5 Regolare 0 V senza scarto ( $\Delta f$  200 kHz)
- 6 Regolare di nuovo per passaggio per lo zero della curva ad "S".
- 7 Intensificare in modo che l'indicatore stereofonico funzioni.
- 8 Regolare il segnale "S" per massimo in modo che il passaggio per lo zero nitido sia visibile

**DK**

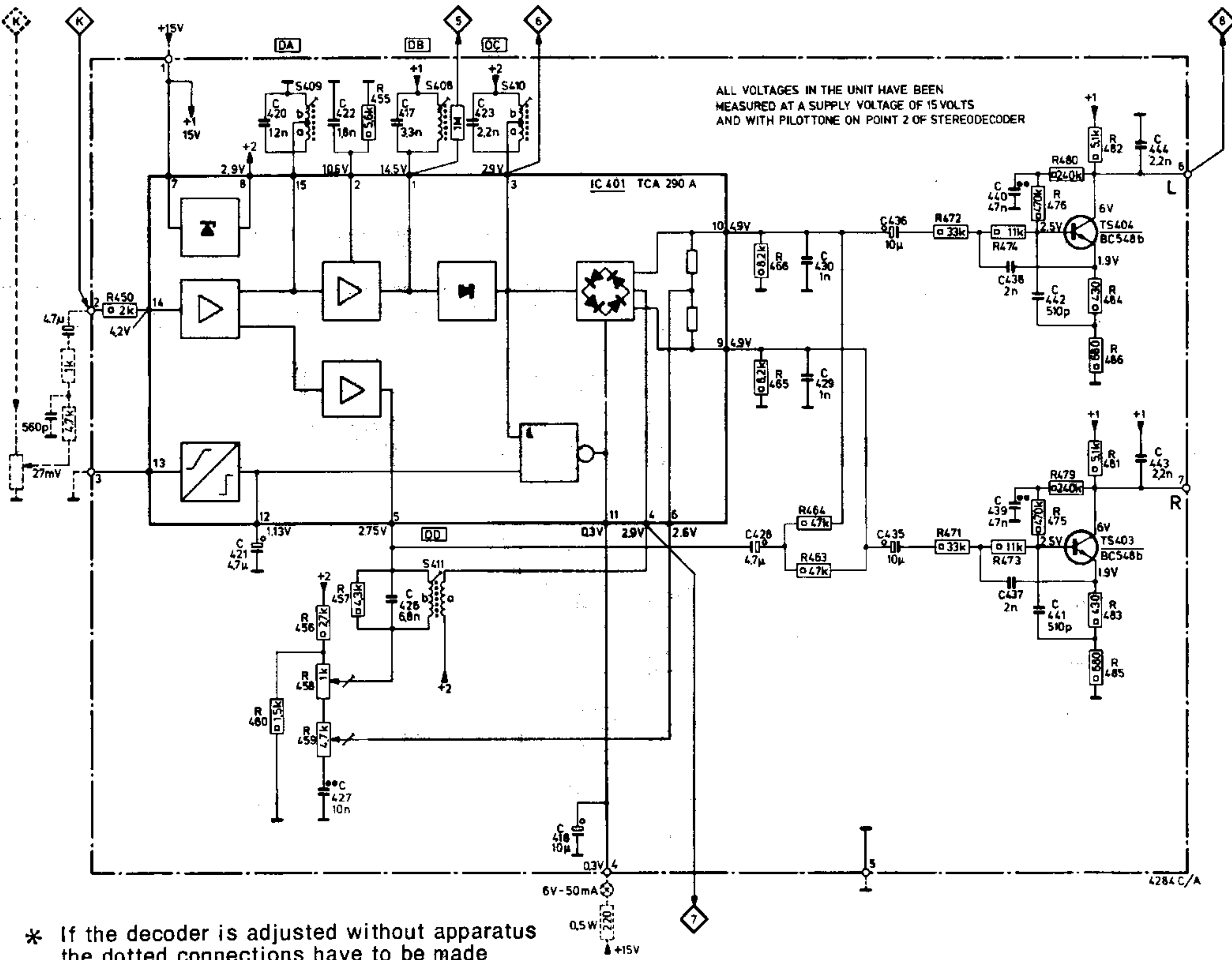
- 1 Justér til maks. amplitude og symmetri.
- 2 Bryt  .
- 3 Forbind  .
- 4 Justér til maks. helling og symmetri på "S"-kurve.
- 5 Justér 0 V uden sweep ( $\Delta f$  200 kHz).
- 6 Rejustér til 0-gjennomgang på "S"-kurve.
- 7 Signalstyrke slik at stereoindikatoren virker.
- 8 Justér "S"-Signal til maks, og slik at en veldefinert 0-gjennomgang er synlig. (Fig. 1)

**SF**

- 1 Säädä symmetriseksi ja amplituudi suurimmilleen.
- 2 Katkaise  .
- 3 Sulje  .
- 4 Säädä S-käyrän jyrkkyys ja symmetrisuus maksimiin.
- 5 Säädä 0 V ilman pyyhkäisyä ( $\Delta f$  200 kHz).
- 6 Säädä uudelleen S-käyrän 0-kohta.
- 7 Signaalin voimakkuuden tulee olla niin suuri, että stereoilmaisin toimii.
- 8 Säädä S-signaali maksimiinsa ja sellaiseksi, että 0-kohta näkyy selvästi. (Kuva 1)

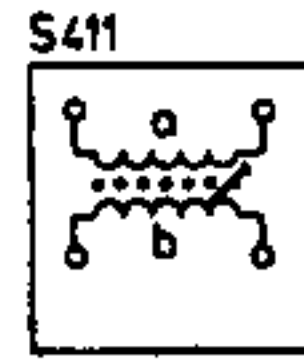
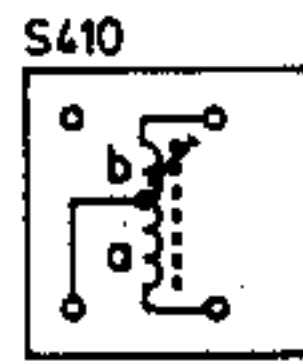
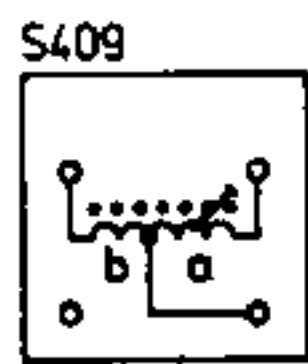
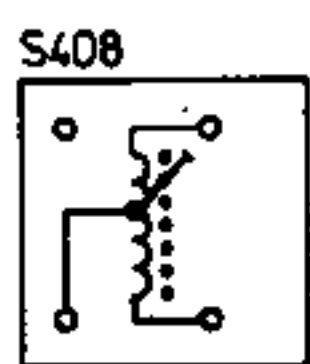


# STEREO-DECODER



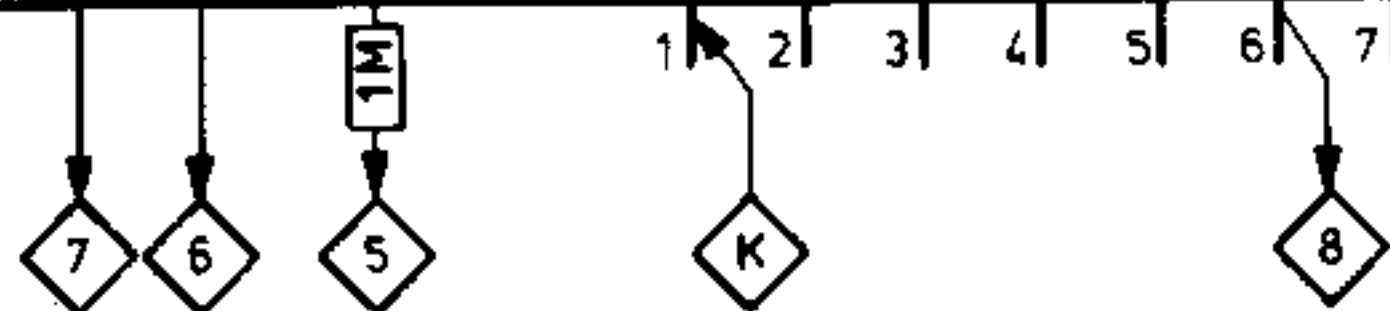
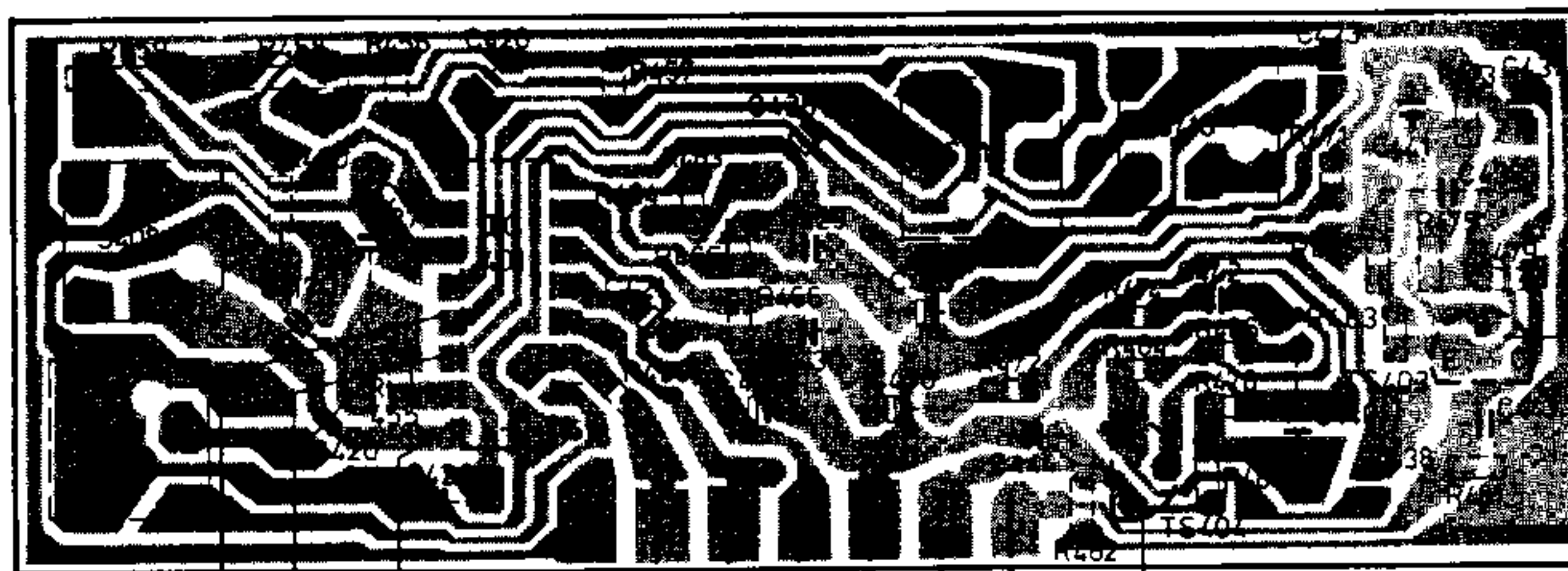
\* If the decoder is adjusted without apparatus the dotted connections have to be made

\*\* In the apparatus the supply voltage of the stereo decoder is 8.2 V



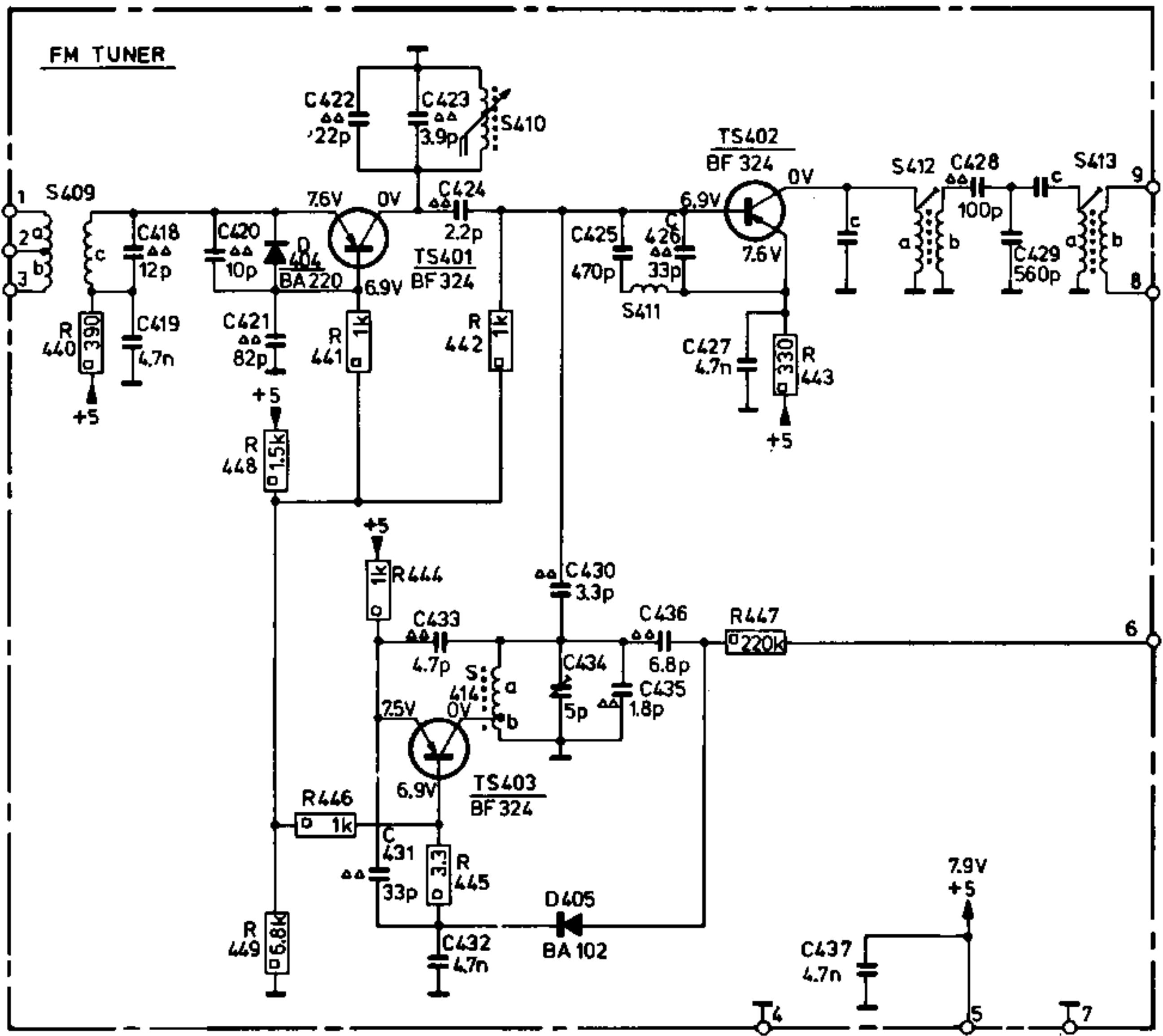
IC401

2.9V	8	9	4.9V
15V	7	10	4.9V
2.6V	6	11	0.3V
2.75V	5	12	1.13V
2.9V	4	13	
2.9V	3	14	4.2V
10.6V	2	15	0V
14.5V	1	16	



E = 1.9V  
B = 2.5V  
C = 6V

4482 B/A



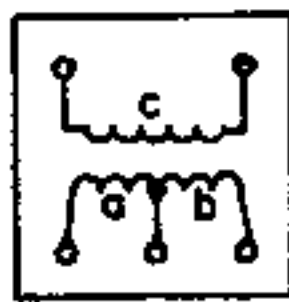
5050B

### FM TUNER

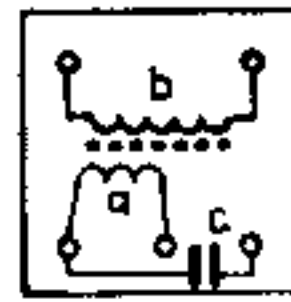


TS401, 402, 403

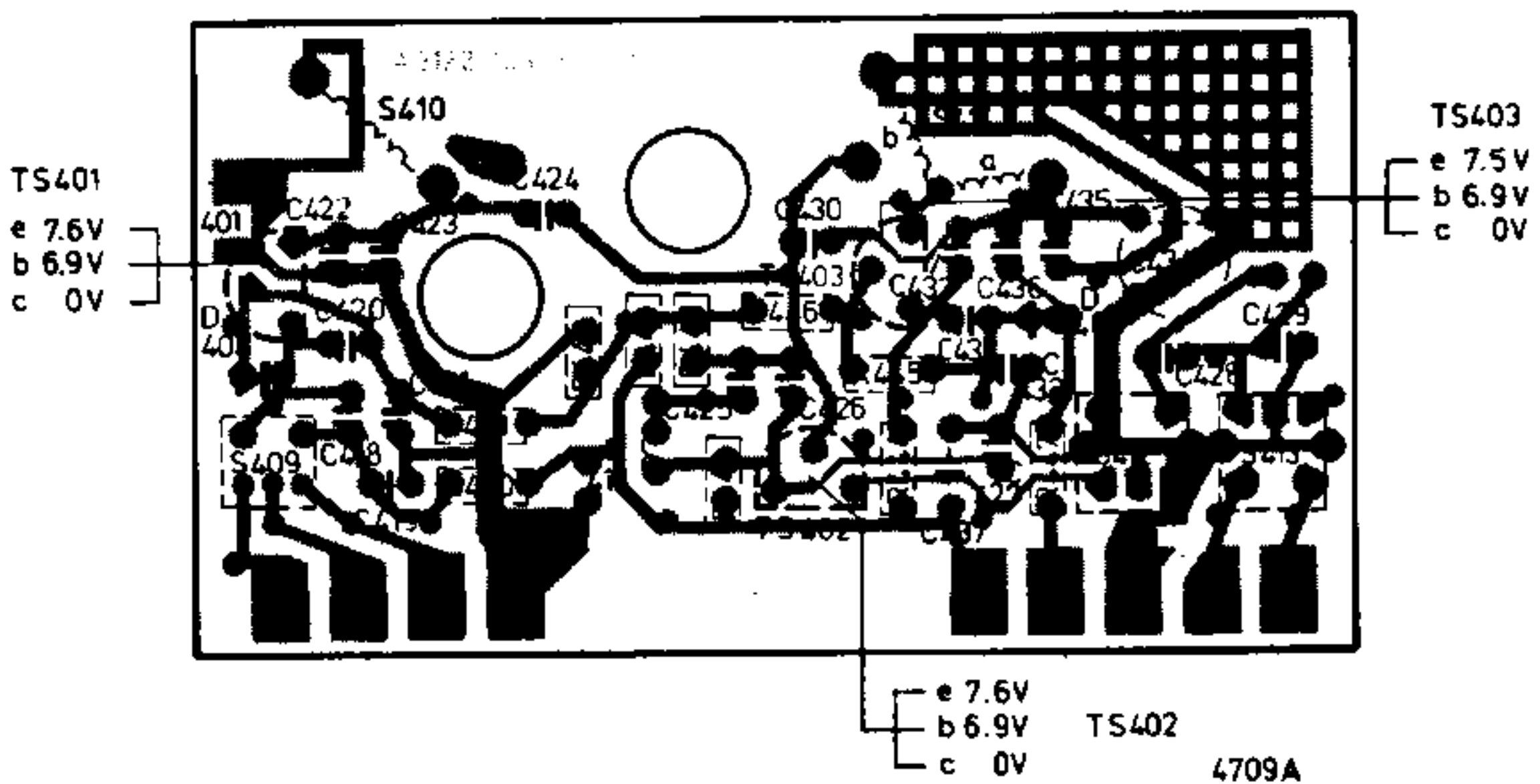
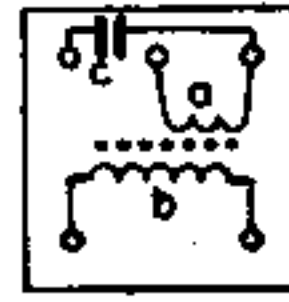
S409



S412



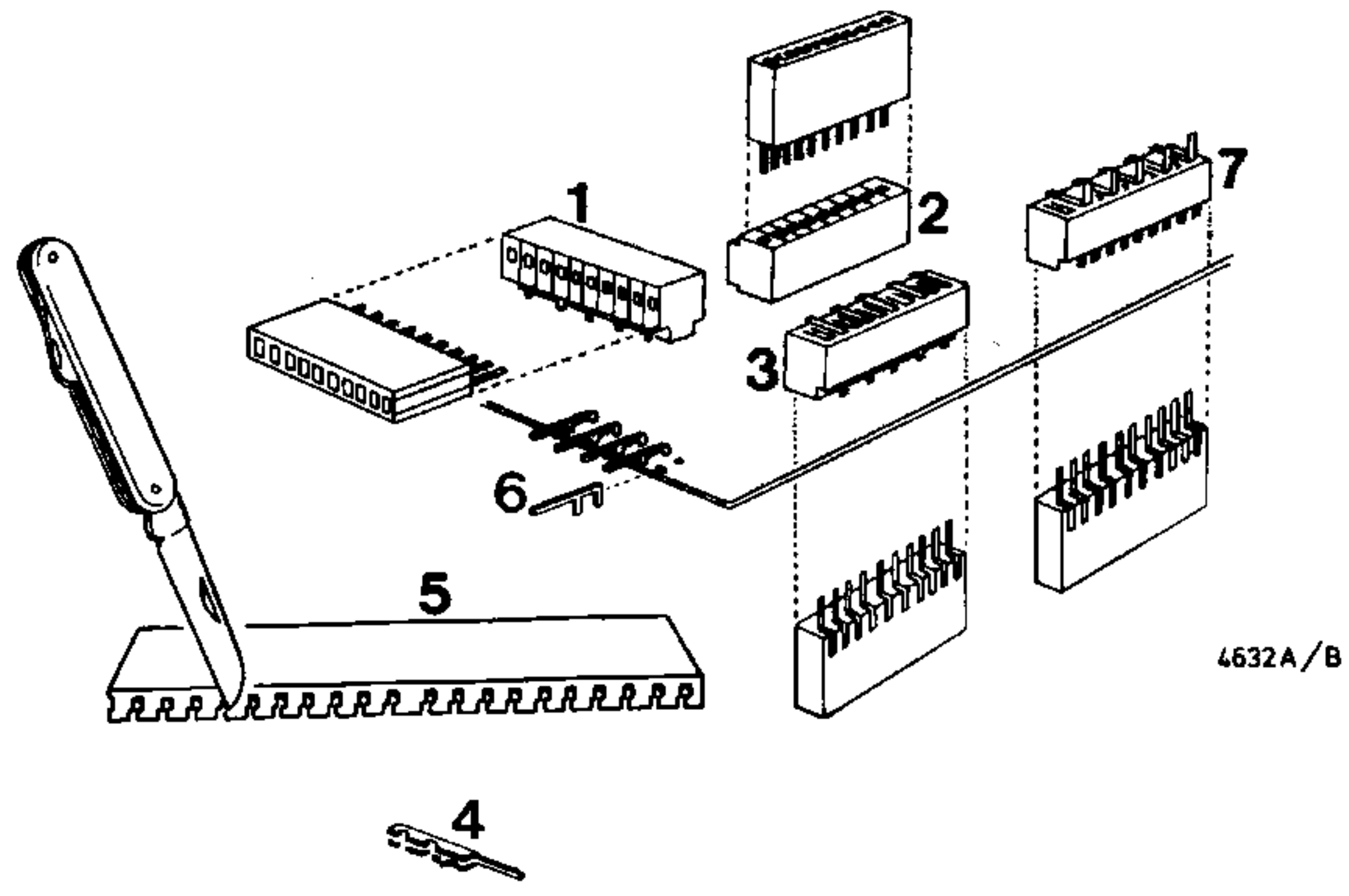
S413





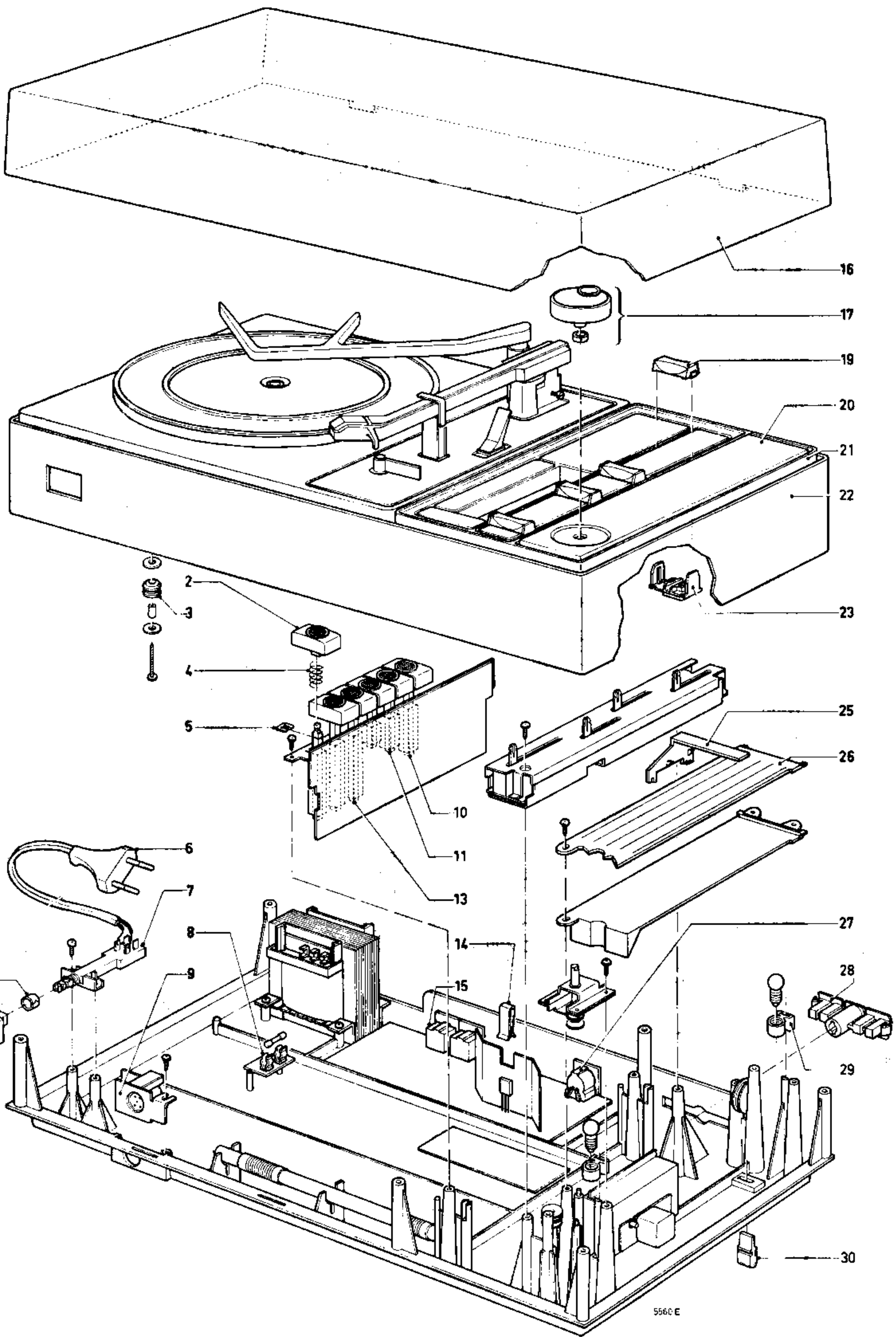
# MECHANICAL PARTSLIST






1	4822 492 62007	17	4822 413 50872
2	4822 410 21556	19	4822 411 60365
3	4822 462 71016	20	4822 450 60125
4	4822 492 51088 (325gf)	21	4822 426 40053
	4822 492 51087 (700gf)	22	4822 426 90026
5	4822 530 70287	23	4822 404 20153
6	4822 321 10084	25	4822 450 80415
7	4822 276 10557	26	4822 333 10031
8	4822 256 30117	27	4822 267 40209
9	4822 267 40155	28	4822 267 20155
10	4822 278 30103	29	4822 255 10007
11	4822 278 30097	30	4822 462 40245
13	4822 278 30104	31	4822 445 10046
14	4822 492 61976	32	4822 445 20007
15	4822 267 30198		4822 445 20008 (-/28)
16	4822 426 60082		

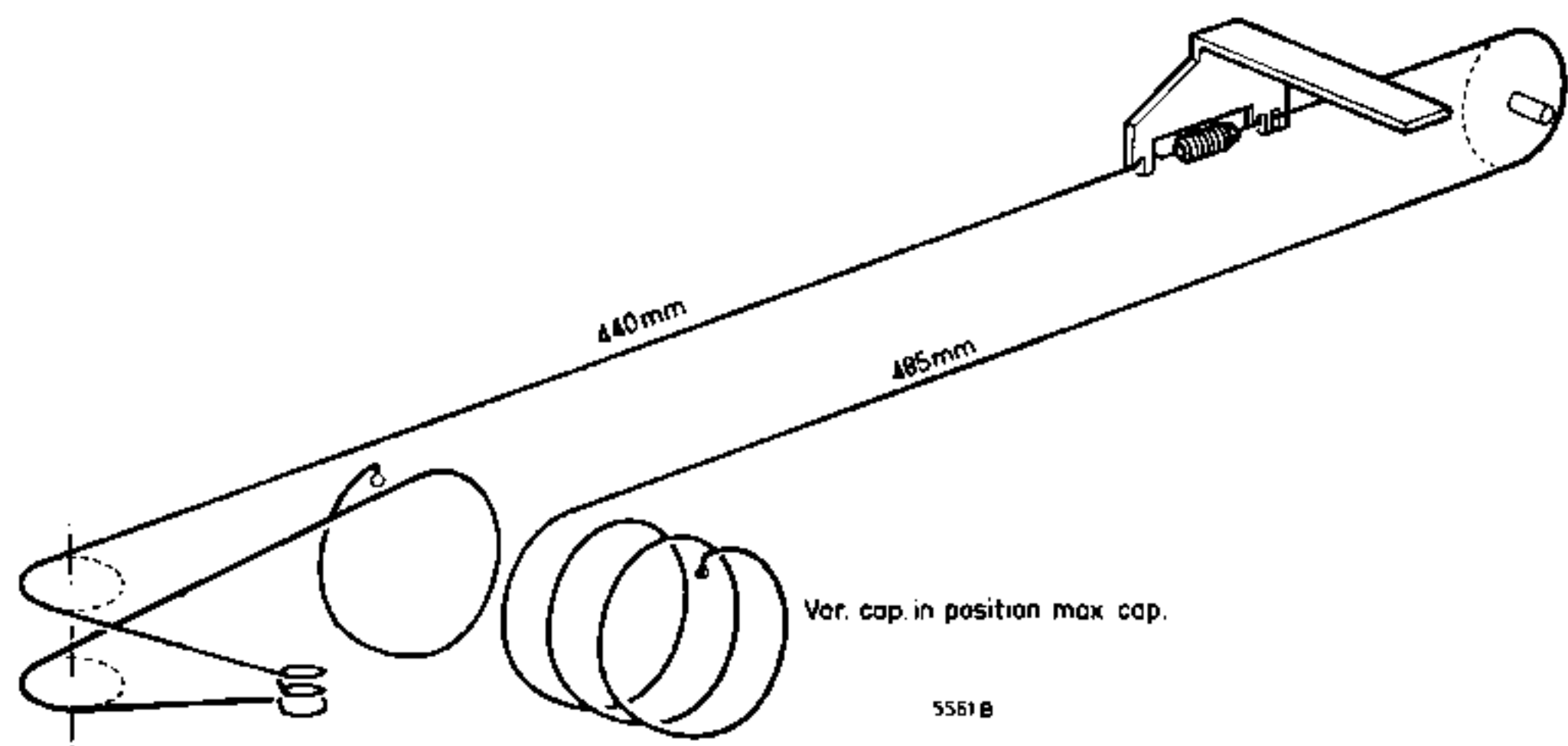


# AMP PARTSLIST

1	5322 267 64027 (10 p)
2	4822 267 50209 (10 p)
3	4822 267 50211 (10 p)
4	4822 268 10107
5	5322 267 64007 (20 p)
6	5322 264 54017 (strip)



-S-			-D-		
					
S403	Ferroceptor	4822 158 60371	D438	BAX18	5322 130 34121
S405	Mains transformer	4822 146 20505	D445	AA119	5322 130 40229
S407	Loudspeaker	4822 240 60036	D446	AA119	5322 130 40229
S408	Loudspeaker	4822 240 60036	D447	pair 2xAA119	4822 130 30312
S465	Aerial coil SW	4822 156 40616	D459	BZX61/C8V2	5322 130 34115
S467	Oscillator coil	4822 156 30505	D460	BY126	5322 130 30192
S469	FM, IF	4822 153 50205	D461	BY126	5322 130 30192
S470	FM, IF	4822 153 50206	D462	BY126	5322 130 30192
S471	FM, IF	4822 153 50207	D463	BY126	5322 130 30192
S472	FM, IF	4822 153 50208			
S473	Choke	4822 157 10007	-C-		
S474	AM, IF	4822 153 10292			
S475	AM, IF	4822 153 10292	C401a	Var.cap.	4822 125 20184
S476	AM, IF	4822 153 10292	C492	10 nF, 20 %	4822 122 30043
S477	AM, IF	4822 153 10293	C493	22 nF, 20 %	5322 122 30103
-R-			C497	330 pF, 2 %	4822 122 30055
			C498	330 pF, 2 %	4822 122 30055
R410	Slide potm. 80+20 k log.	4822 105 10166	C499	Trimmer 10 pF	4822 125 50062
R411	Slide potm. 100 k log.	4822 105 10167	C500	91 pF, 1 %	4822 121 50577
R412	Slide potm. 2M2 log.	4822 105 10168	C502	3000 pF, 1 %	4822 121 50414
R413	Slide potm. 100 k lin.	4822 105 10169	C504	10 nF, 20 %	4822 122 30043
R644	VDR	4822 116 20073	C507	Trimmer 5.5 pF	4822 125 50061
R775	Preset potm. 100 Ω	4822 100 10075	C511	Trimmer 10 pF	4822 125 50062
R776	Preset potm. 100 Ω	4822 100 10075	C512	300 pF, 1 %	4822 121 50086
R783	1 Ω, 1/4 W	4822 110 53027	C513	280 pF, 1 %	4822 121 50573
R784	1 Ω, 1/4 W	4822 110 53027	C516	4700 pF, 10 %	4822 122 30128
R785	1 Ω, 1/4 W	4822 110 53027	C518	10 nF, 20 %	4822 122 30043
R786	1 Ω, 1/4 W	4822 110 53027	C520	10 nF, 20 %	4822 122 30043
- Miscellaneous -			C524	10 nF, 20 %	4822 122 30043
VL409	2 A slow	4822 253 30025	C525	10 nF, 20 %	4822 122 30043
VL410	Trafo fuse	4822 252 20071	C536	220 pF, 10 %	4822 122 31173
L415	6 V, 50 mA	4822 134 40003	C537	180 pF, 10 %	4822 122 31172
L416	12 V, 100 mA	4822 134 40012	C538	180 pF, 10 %	4822 122 31172
U401	FM tuner	4822 210 10177	C544	4.7 nF, 10 %	4822 122 30128
U406	Stereo decoder	4822 210 30027	C545	4.7 nF, 10 %	4822 122 30128
-TS-			C546	4.7 nF, 10 %	4822 122 30128
			C581	180 pF, 10 %	4822 122 31172
TS421a,b,c	packet	4822 130 40949	C582	180 pF, 10 %	4822 122 31172
TS431	BC549C	5322 130 44216	C583	180 pF, 10 %	4822 122 31172
TS432	BC549C	5322 130 44216	C584	180 pF, 10 %	4822 122 31172
TS433	BC548b	4822 130 40937	C591	4.7 nF, 10 %	4822 122 30128
TS434	BC548b	4822 130 40937	C592	4.7 nF, 10 %	4822 122 30128
TS435	BC328	5322 130 44104	C593	4.7 nF, 10 %	4822 122 30128
TS436	BC328	5322 130 44104	C594	4.7 nF, 10 %	4822 122 30128
TS437	BC548	4822 130 40938	C599	2.2 nF, 10 %	4822 122 30114
TS438	BC548	4822 130 40938	C600	2.2 nF, 10 %	4822 122 30114
TS439	pair BD435/436	4822 130 40978	C605	470 pF, 10 %	4822 122 31177
TS440	pair BD435/436	4822 130 40978	C606	470 pF, 10 %	4822 122 31177
			C611	330 pF, 10 %	4822 122 31165
			C612	330 pF, 10 %	4822 122 31165
			C632	1200 pF, 10 %	4822 122 31171
			C633	1200 pF, 10 %	4822 122 31171
			C634	1200 pF, 10 %	4822 122 31171
			C635	1200 pF, 10 %	4822 122 31171



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