TAP 22RH852

Service
Service
Service

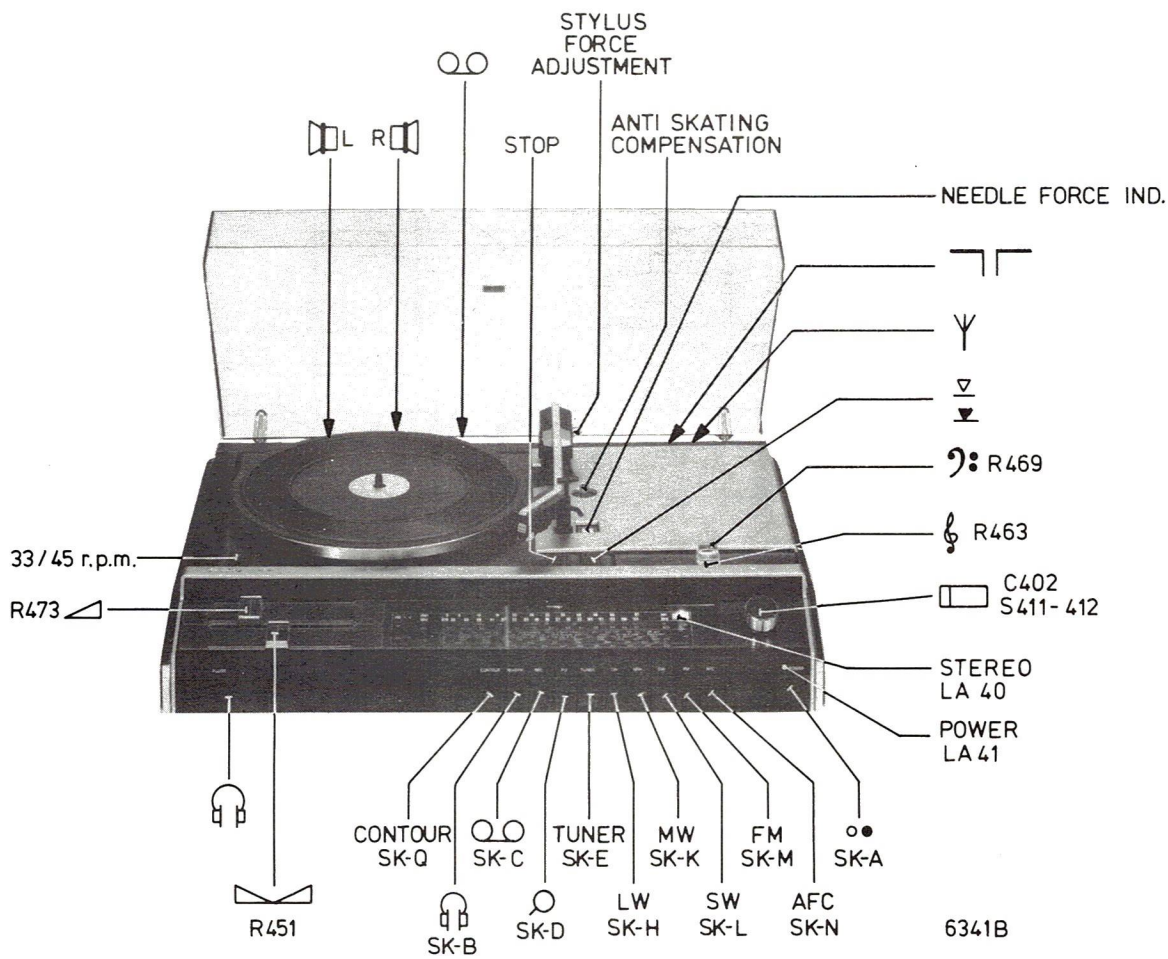
00/15/22/33

50/65/72/83

/50 = /00
/65 = /15
/72 = /22
/83 = /33

+2x22RH443

Service Manual



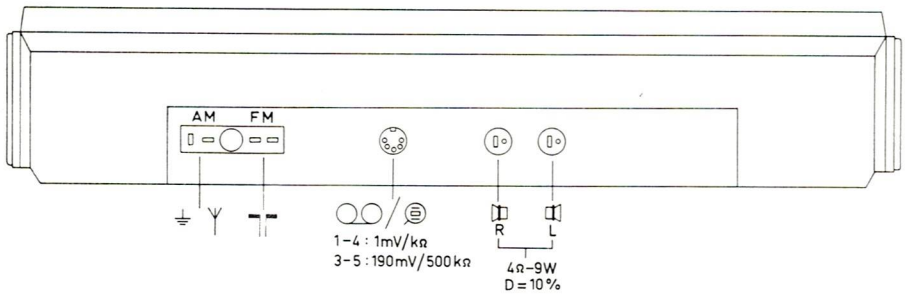
Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.

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

Subject to modification
4822 725 11422
Printed in The Netherlands

PHILIPS

REAR VIEW

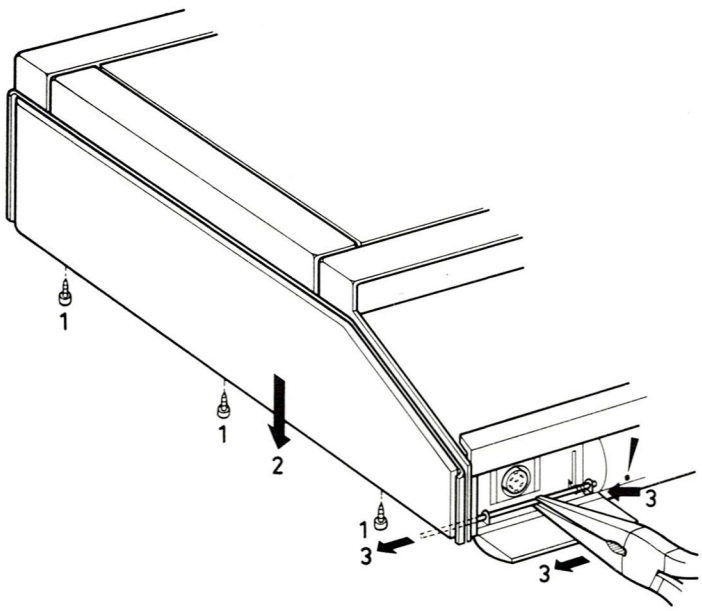


6136 C

Attention: Replacement var. cap.

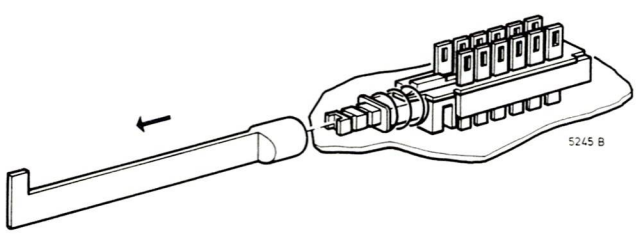
Keep during the replacement of the var.cap. the pointer in the middle of the scale

DISMOUNTING THE HEADPHONE-FLAP

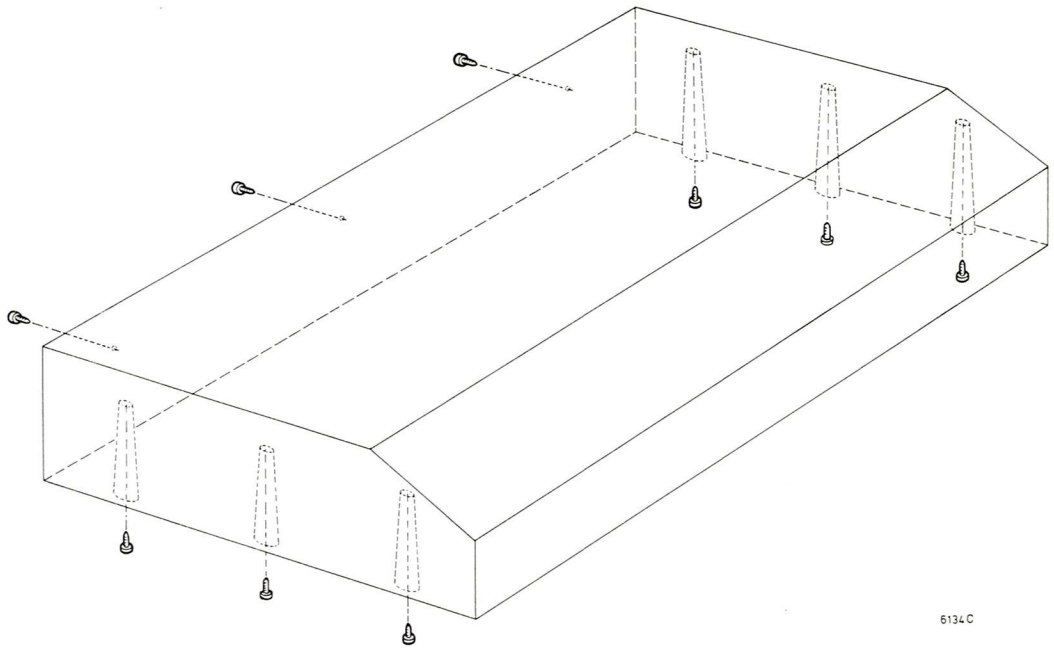


6138 C

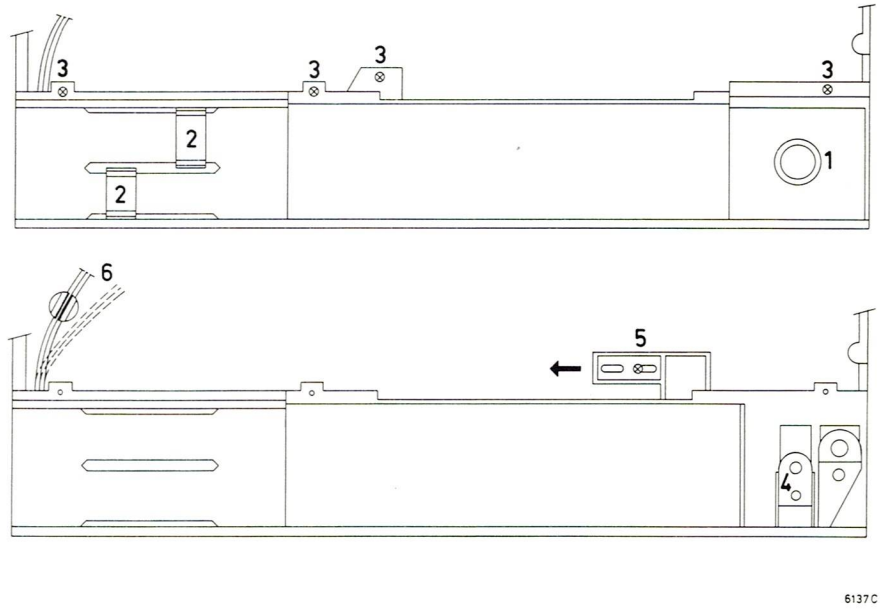
COUPLING PIECES



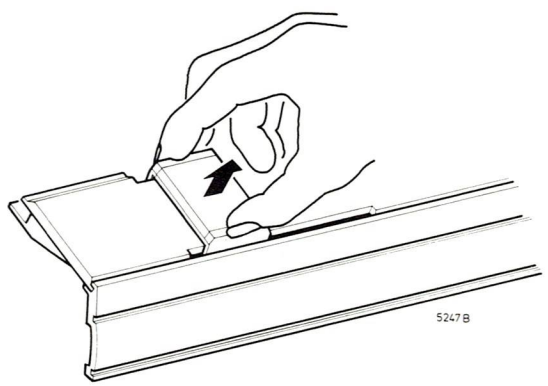
OPENING THE CABINET



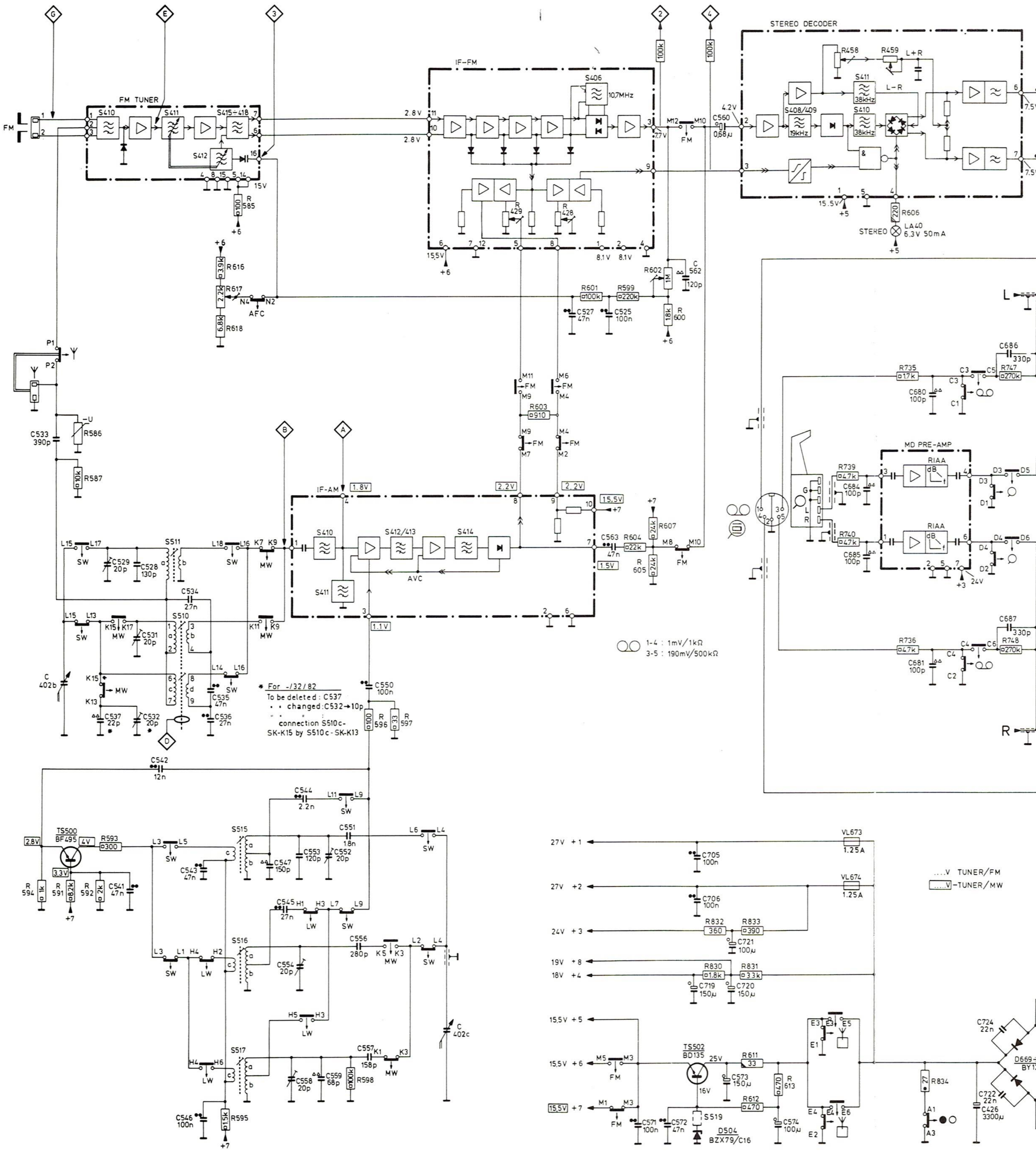
REMOVING THE FRONT-PART



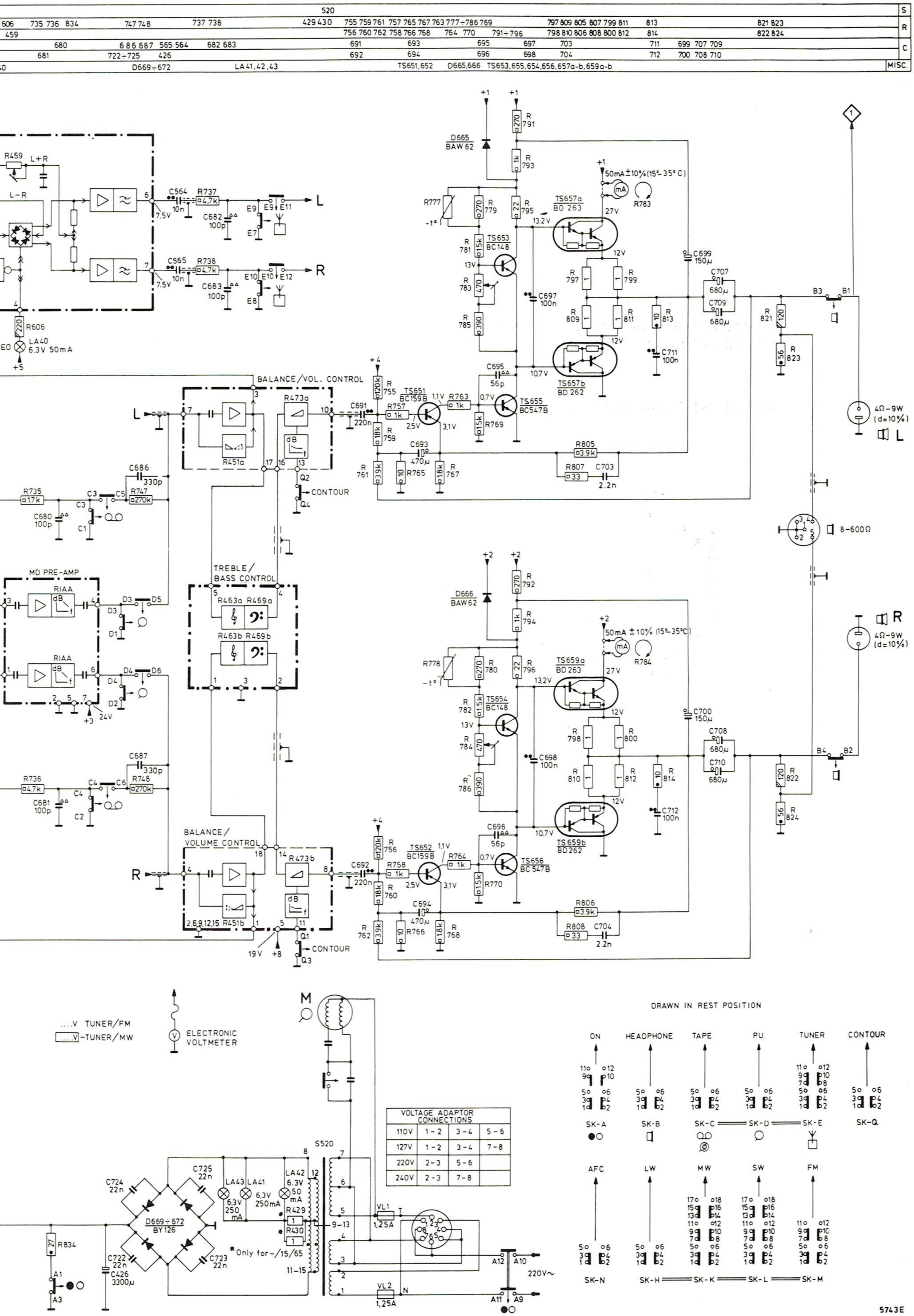
REMOVING THE SLIDE KNOBS



S	410 411 511 510 412 515 516 517 415÷418 410 411 412 413 414 406 519 408 409 411 410
R	587 586 616÷618 585 429 603 428 601 430 599 604 605 607 602 600 739 606 735 736 834 747 748
	594 591 592 593 595 598 596 597 830÷833 611÷613 458 459
C	533 537 529 528 531 532 534 535 536 550 527 525 563 562 560 684 680 686 687 56
	402b 541 542 543 546 547 545 551÷554 544 556÷559 402c 571 572 705 706 719÷721 573 574 685 681 722÷725 42
MISC.	TS500 TS502 D504 VL 673, 674 LA40 D669÷67



Carbon resistor E24 series	0.125 W		5 %
Carbon resistor E12 series	0.25 W	< 1 MΩ > 1 MΩ	5 % 10 %



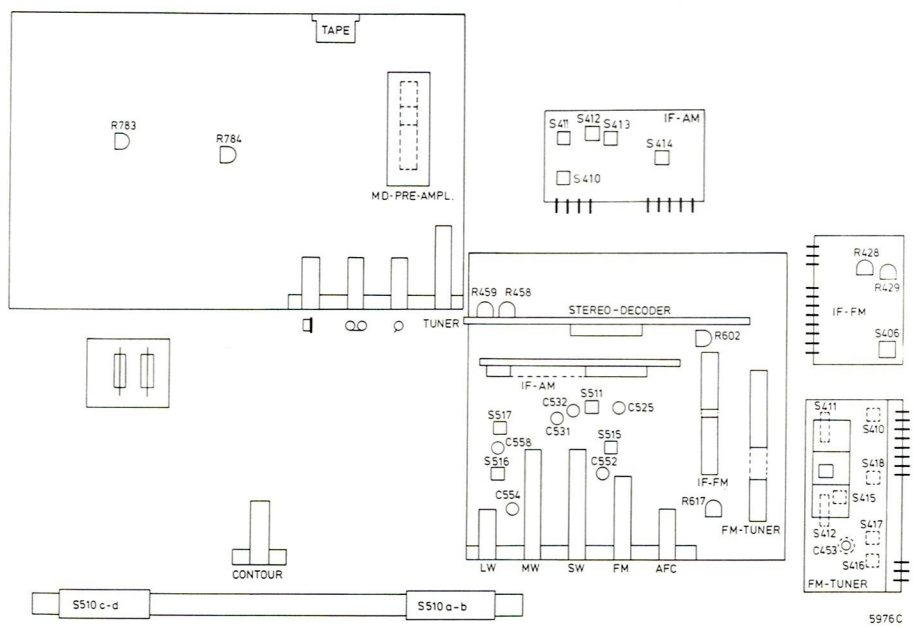
VOLTAGE ADAPTOR CONNECTIONS			
110V	1 - 2	3 - 4	5 - 6
127V	1 - 2	3 - 4	7 - 8
220V	2 - 3	5 - 6	
240V	2 - 3	7 - 8	

0,125 W 5 % — Plate ceramic capacitor

0,25 W < 1 MΩ 5 %, > 1 MΩ 10 % — Flat-foil polyester capacitor

SK.... Wave range	signal to			Adjust	unit		
Tuner/MW (520-1605 kHz)	[1] via 33 nF	Ⓐ	min. cap.	[2] S414	AM-IF	↕	① max. V~
				S413			
				S412			
		Ⓑ		S411			① min. V~
				S410			
Tuner/LW (150-345 kHz)	147 kHz	Ⓓ	max. cap.	S517		↕	① max. V~
	352 kHz		min. cap.	C558			
Tuner/MW (520-1605 kHz)	512 kHz		max. cap.	S516			
	1635 kHz		min. cap.	C554			
Tuner/SW (5.95-9.78 MHz)	5.83 MHz		max. cap.	S515			
	9.97 MHz		min. cap.	C552			
Tuner/LW (150-345 kHz)	157 kHz		tune in	S510c-d		↕	
	336 kHz			C532			
Tuner/MW (520-1605 kHz)	550 kHz			S510a-b			
	1500 kHz			C531			
Tuner/SW (5.95-9.78 MHz)	6.18 MHz			S511			
	9.78 MHz			C529			
Tuner/FM (87.5-104 MHz)	[3] 10.7 MHz Δf≈ 200 kHz (50 Hz) via 5 nF	Ⓔ	min. Ind.	S415	FM-tuner	↕ [4] [4]	
				S416			
				S417			
				S418			
				S406	IF-FM	[5] [2]	
Tuner/FM (87.5-104 MHz)	86.5 MHz	Ⓖ	max. Ind.	S412	FM-tuner	↕	① max V~
	105 MHz		min. Ind.	C453			
	96 MHz		tune in	S411			
Tuner/FM (87.5-104 MHz) + AFC	[6]		min. Ind.	R602			[7]
				R617			[8]

↕ Repeat



(GB)

1. Find the frequency of the ceramic resonator by varying the HF generator between 445 kHz and 477 kHz. The frequency at which the meter deflection is maximum, is also the IF to which the set must be adjusted.
2. Fully turn out the cores of S412, S413 (AM-IF unit)
3. Set the cores of S415...S418 in advance to mid-position.
4. Adjust for maximum height and symmetry of the response curve.
5. Connect a supply unit to ◇3 and connect in parallel to the supplying unit a voltmeter. Adjust supply unit for 9.5 V d.c. to be read on the voltmeter. Adjust for maximum slope and symmetry of the "S" curve.
6. Decouple the supply unit and the HF generator. Besides, switch off the HF generator.
7. Adjust R602 in such a way that the voltmeter at point ◇3 indicates the same voltage as was measured at point 5 (so adjust in combination with the IF-FM adjustment !)
8. Adjust R617 in such a way that the voltmeter at point 6 of SK-N indicates the same voltage as was measured at point 5

R428: serves to adjust the input level of the stereo decoder at which this decoder can start operating.
R429: serves to adjust a field-strength indicator

(F)

1. Déterminer la fréquence du résonateur céramique en faisant varier le générateur HF entre les 445 et les 477 kHz. La fréquence à laquelle la déviation d'aiguille est la plus forte est en même temps la fréquence intermédiaire sur laquelle il faut ajuster.
2. Extraire complètement les noyeaux de S412, S413 (bloc AM-FI).
3. Placer auparavant les noyaux de S415 à 418 en position médiane
4. Ajuster sur symétrie et hauteur maximale de la courbe de réponse.
5. Brancher sur ◇3 une unité d'alimentation et par dessus un voltmètre. Ajuster l'unité d'alimentation sur 9,5 V ⎓, lire le résultat sur le voltmètre. Ajuster sur une pente maximum et sur symétrie de la courbe en "S".
6. Débrancher l'unité d'alimentation et le générateur HF (déclencher aussi le générateur HF).
7. Régler R602 pour que le voltmètre sur le point ◇3 présente de nouveau la même tension que celle mesurée au 5 (donc, ajustage combiné avec l'ajustage FI-FM).
8. Régler R617 pour que le voltmètre sur le point 6 de SK-N présente de nouveau la même tension que celle mesurée au 5 .

R428: sert au réglage du niveau d'entrée du décodeur stéréo, mettant celui-ci en fonctionnement.
R429: sert au réglage d'un indicateur d'intensité de champ.

(I)

1. Determinare la frequenza del resonatore ceramico facendo variare la frequenza del generatore AF fra i 445 kHz e i 477 kHz. La frequenza alla quale è ottenuta la piena deviazione dello strumento di misura è massimale è anche la F! sulla qulae occorre regolare l'apparecchio.
2. Togliere completamente i nuclei de S412, S413 (unità AM-IF).
3. Quindi, posizionare i nuclei delle bobine S415 a 418 in posizione media.
4. Regolare per altezza e simmetria della curva di risposta.
5. Collegare su ◇3 un unità d'alimentazione e sopra di essa un voltmetro. Regolare l'unità di alimentazione su di 9,5 V ⎓ e leggere il risultato sul voltmetro. Regolare per pendenza massima e per simmetria della curva ad "S".

(NL)

1. Bepaal de frekwentie van de keramische resonator, door de HF-generator te variëren tussen 445 kHz en 477 kHz. De frekwentie waarbij de uitslag van de meter maximaal is, is dan ook de MF waarop wordt afgeregeld.
2. Kernen van S412, S413 (AM-IF unit) geheel uitdraaien
3. Vooraf de kernen van S415 t/m S418 in de middenstand plaatsen
4. Regel af op max. hoogte en symmetrie van de doorlaatkromme.
5. Sluit op ◇3 een PSA met daarover een voltmeter aan. PSA regelen op 9,5 V ⎓ af te lezen op de voltmeter. Afregelen op max. steilheid en symetrie van de "S" - kromme.
6. PSA en HF generator loskoppelen (schakel tevens HF generator uit).
7. R602 dusdanig regelen dat de voltmeter op punt ◇3 weer dezelfde spanning aangeeft als bij 5 gemeten werd. (Dus afregeling in combinatie met MF-FM afregeling !)
8. R617 dusdanig regelen dat de voltmeter op punt 6 van SK-N weer dezelfde spanning aangeeft als bij 5 gemeten werd.

R428: voor instelling van het ingangsniveau van de stereodecoder waarbij deze kan gaan werken.
R429: voor instelling van een veldsterkte-indikator.

(D)

1. Bestimme die Frequenz des keramischen Resonators durch Variieren des HF-Generators zwischen 445 kHz und 477 kHz. Die Frequenz, bei der der Messerausschlag maximal ist, ist die Eigenfrequenz des Resonators. Dies ist die ZF auf die justiert wird.
2. Drehe die Kerne von S412, S413 (AM/FM-Einheit) ganz heraus.
3. Setze zuerst die Kerne von S415...S418 in Mittelstellung
4. Justiere auf maximale Höhe und Symmetrie der Durchlasskurve.
5. Schliesse an ◇3 eine Speiseeinheit und parellel zu dieser Einheit ein Voltmeter an. Justiere die Speiseeinheit auf 9,5 V ⎓ (abzulesen am Voltmeter). Justiere auf maximale Steilheit und Symmetrie der "S"-Kurve
6. Entkopple die Speiseeinheit und den HF-Generator (Schalte ausserdem den HF-Generator ab).
7. Justiere R602 so, dass das Voltmeter an Punkt ◇3 wieder die gleiche Spannung anzeigt wie bei 5 gemessen wurde (Also justieren in Kombination mit der ZF-FM Justierung).
8. Justiere R617 so, dass das Voltmeter an Punkt 6 von SK-N wieder die gleiche Spannung anzeigt wie bei 5 gemessen wurde

R428: dient zum Einstellen des Eingangspegels des Stereodekoders, bei dem dieser Dekoder in Tätigkeit gesetzt wird.
R429: dient zum Einstellen eines Feldstärke-Indikators.

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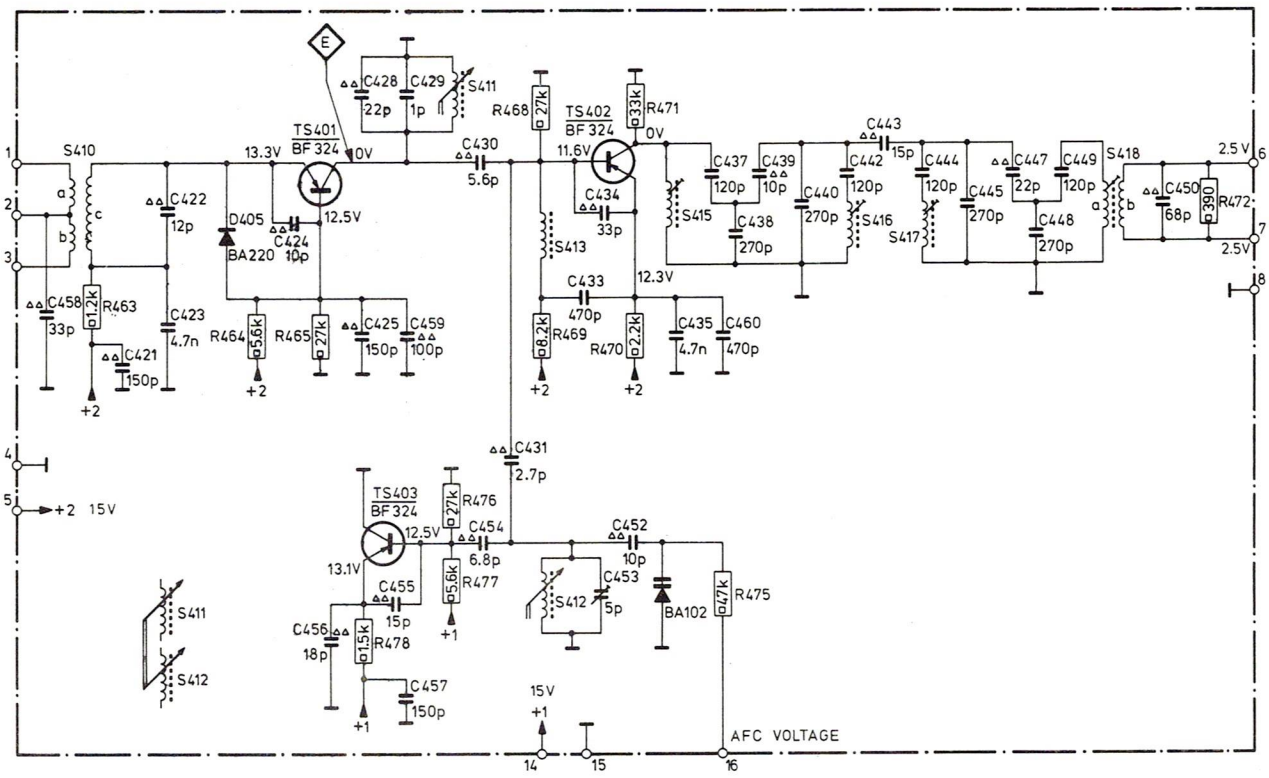
6. Scollegare l'unità di alimentazione e il generatore AF (mettere anche il generatore AF fuori servizio).
7. Regolare R602 perchè il voltmetro, sul punto ◇3 presenti di nuovo la stessa tensione che su 5 (quindi combinare la regolazione con quella di FI-AM).
8. Regolare R617 perchè il voltmetro, sul punto 6 SK-N presenti di nuovo la stessa tensione che su 5 .

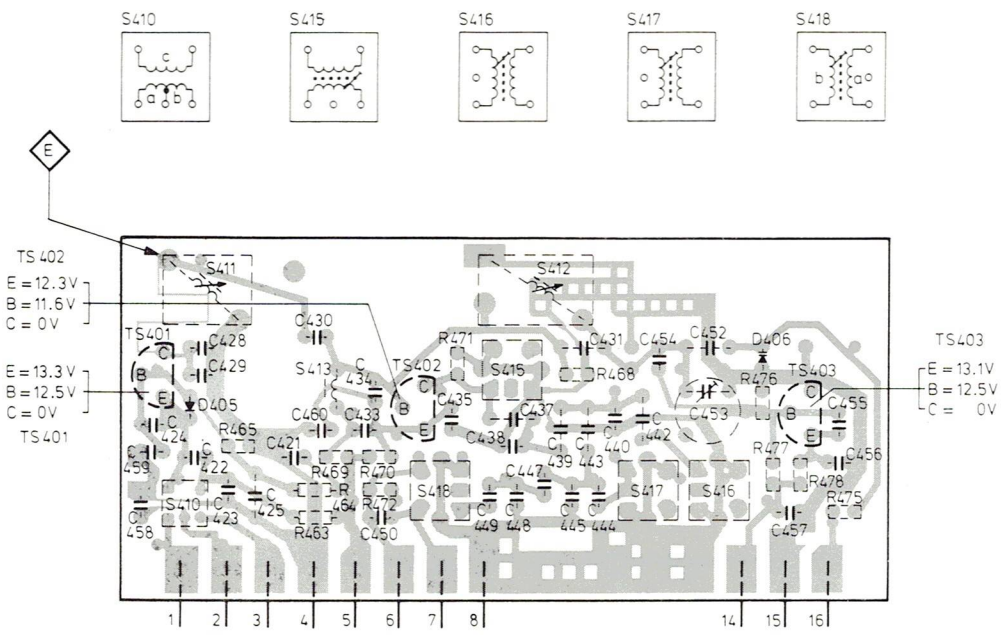
R428: serve alla regolazione del livello d'entrata del decodatore stereofonico mettendolo in funzionamento.
R429: serve alla regolazione di un indicatore d'intensià di campo.

FM-TUNER



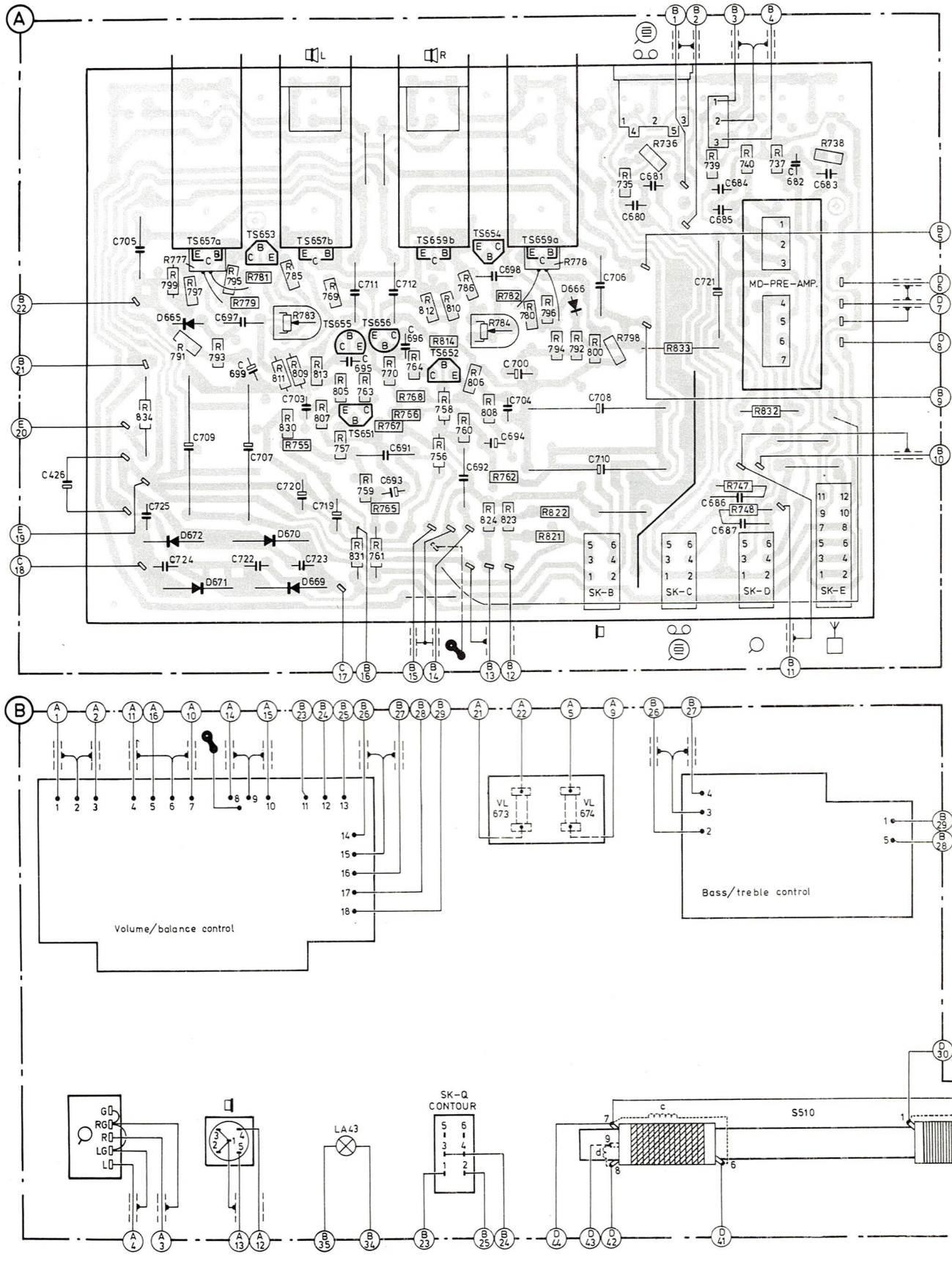
VOLTAGES HAVE BEEN MEASURED AT A SUPPLY VOLTAGE OF 15V

TS401/402
TS403

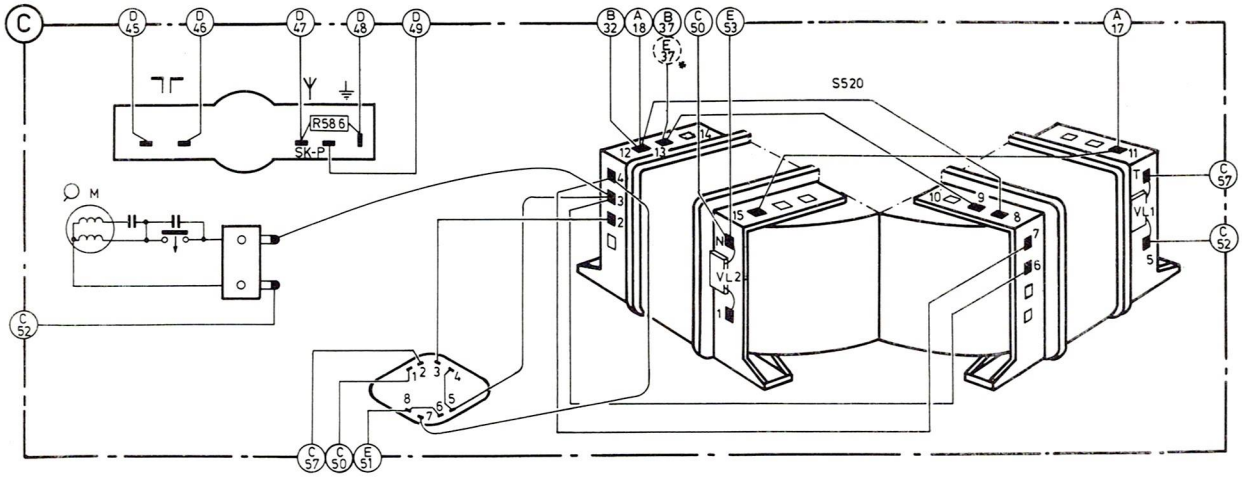


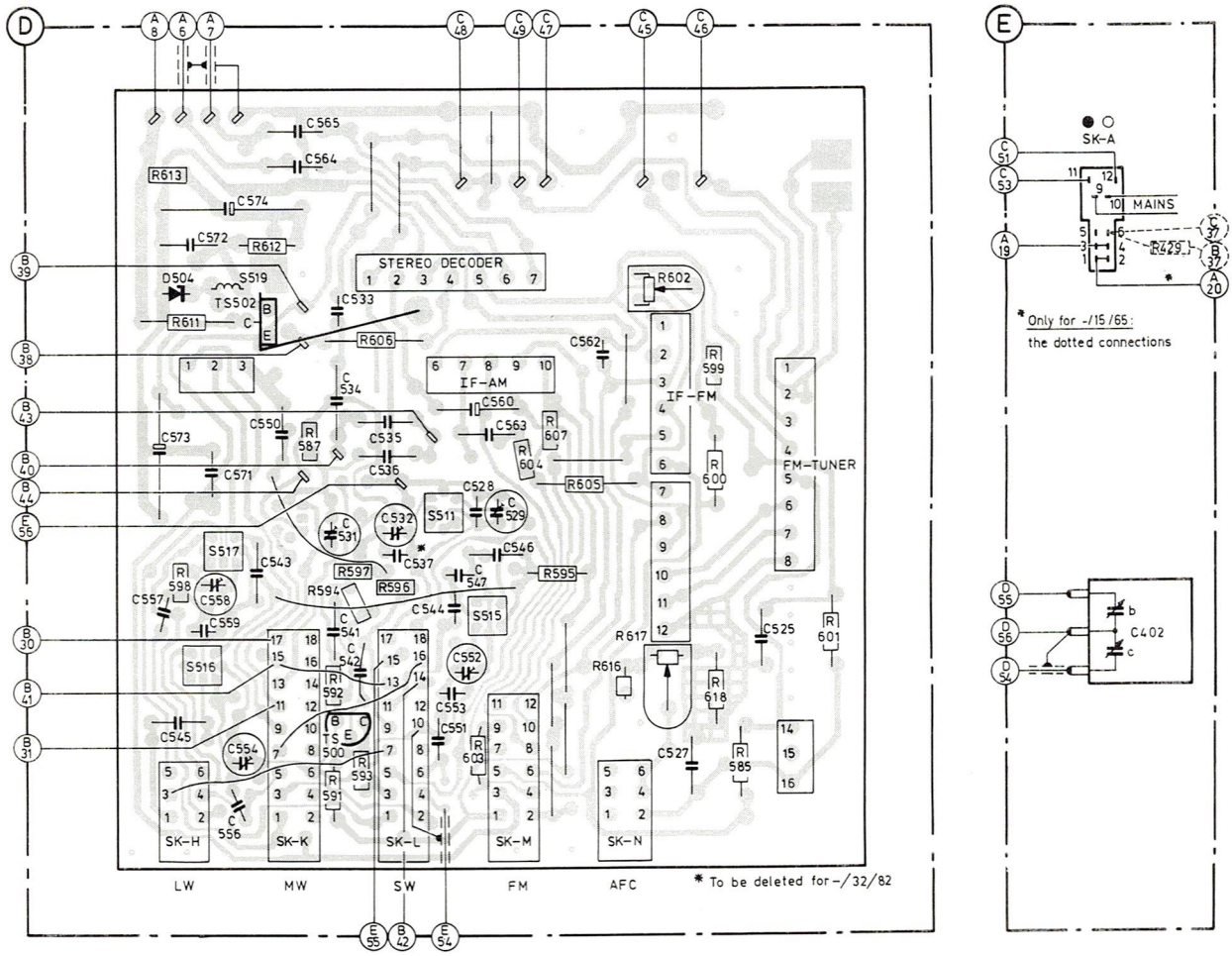
4487D/A

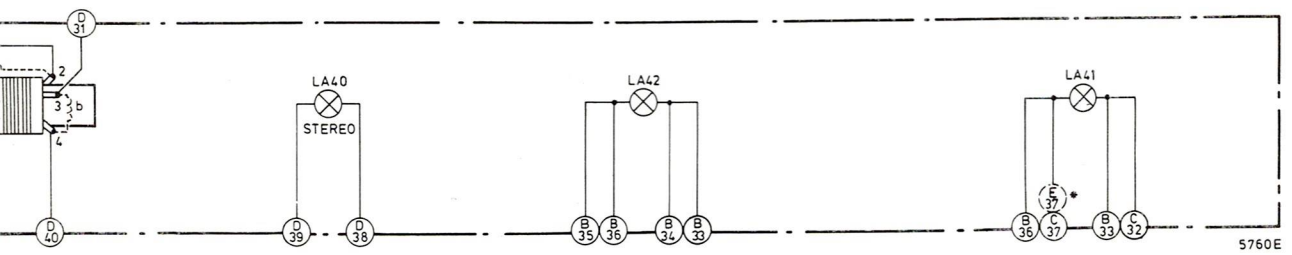
C	705 697 699 703 695 711 712 696 698 700 706 680 681 721 684 685 682 683
C	426 725 724 709 722 707 720 723 719 693 691 692 694 704 708 710 686 687
R	799 777 791 797 793 795 779 781 785 783 809 813 769 770 812 814 810 786 806 784 782 780 796 778 794 792 800 798 735 736 833 739 740 737 738
R	834 830 755 807 805 775 831 759 761 763÷768 756 758 760 808 762 821÷824 747 748 832
MISC	D665 TS657a TS653 TS657b TS655 TS656 TS659b, 652, 654 TS659a D666
MISC	D672, 671 D670, 669 LA43 TS651 VL 673 VL 674 S510



573 572 571 574 550 565 564 531÷536 528 560 563 529 562	C
557 545 558 559 556 554 543 541 542 537 544 551÷553 547 546 527 525 402	C
613 611 612 587 586 606 604 607 605 602 599 600 429	R
598 591÷594 597 596 603 595 616 617 618 585 601	R
D504 S519 TS502 S511 VL2 VL1	MISC
S516 S517 LA40 TS500 S515 LA42 S520 LA41	MISC

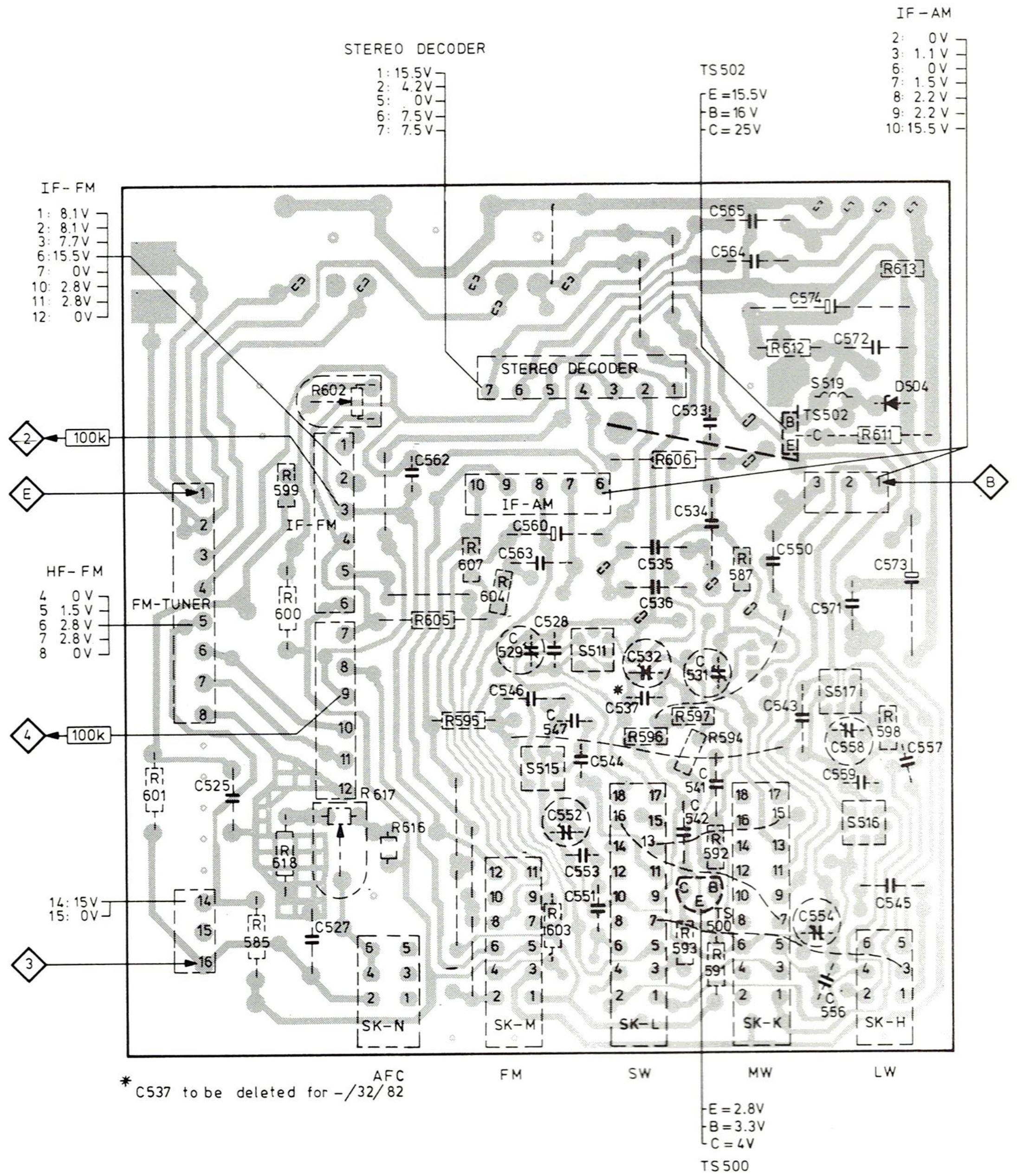




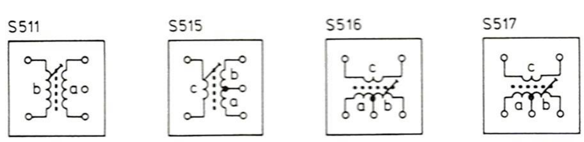


5760E

C	562 529 563 560 528 531÷536 564 565 550 574 571 572 573
C	525 527 546 547 551÷553 544 537 542 541 543,554,556,559,558,545 557
R	600 599 602 605 607 604 606 587 612 611 613
R	601 585 618 617 616 595 603 596 597 591÷594 598
MISC.	S515 S511 TS500 TS502,S516,517,519 D504



* C537 to be deleted for –/32/82



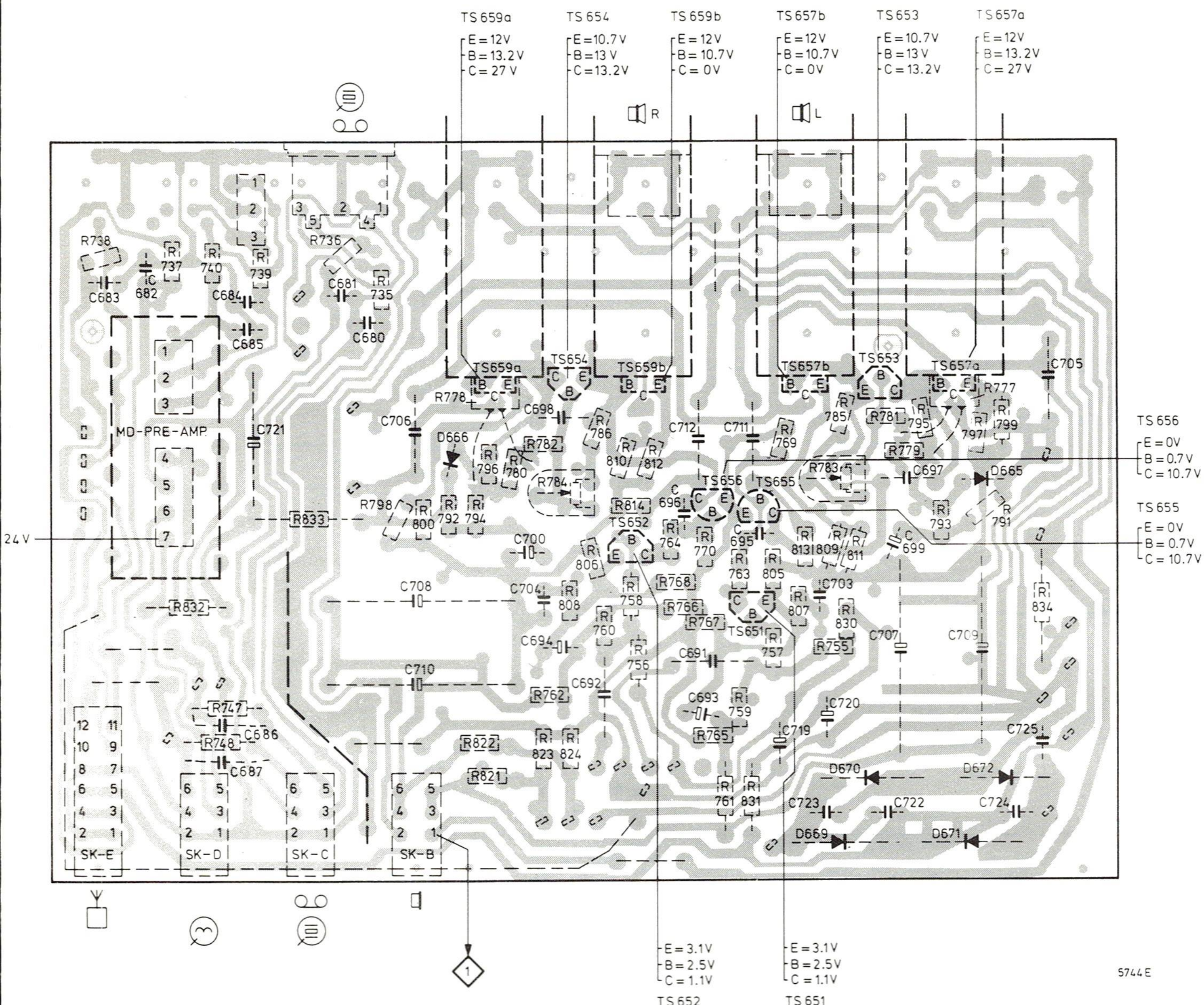
683 682 685 684 721 681 680 706 700 698 696 712 711 695 699 697 705

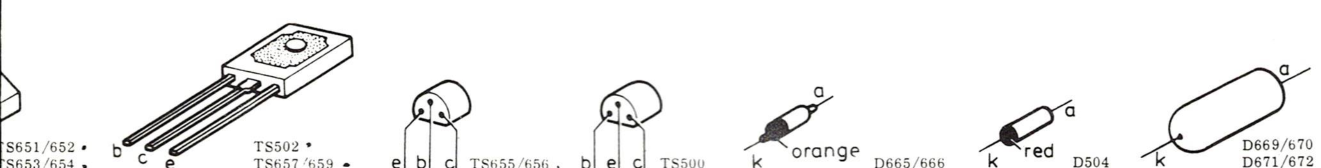
686 687 710 708 704 694 692 693 691 719 723 703 720 707 722 709 724 725

738 737 740 739.833.736.735.798.800.792.794.778.796.780.782.784.806.786.810.814.812 770.769.813.809.783.785.811.781.779.795.793.797.791 777.799

832 748 747 821÷824.762.808.760.758.756.763÷768.761.759.831.757.805.807.755.830 834

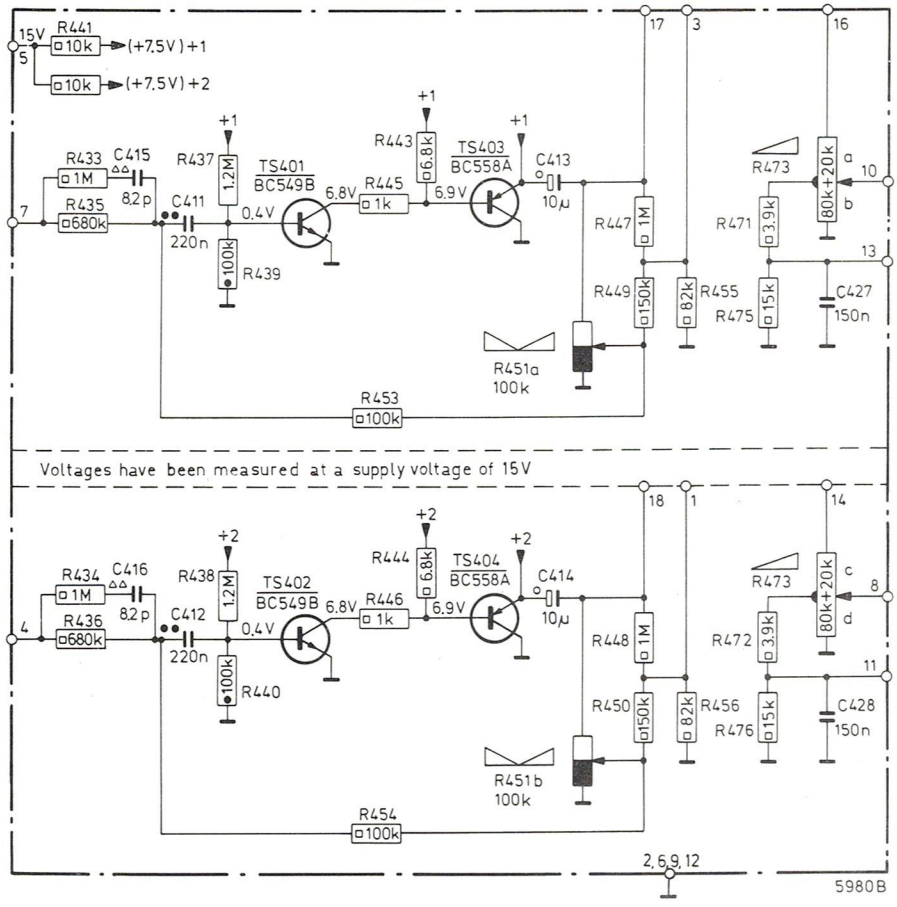
D666 TS659a TS654,652,659b TS656,651,655,657b. D669,670.TS653,657a.D671,672,665.



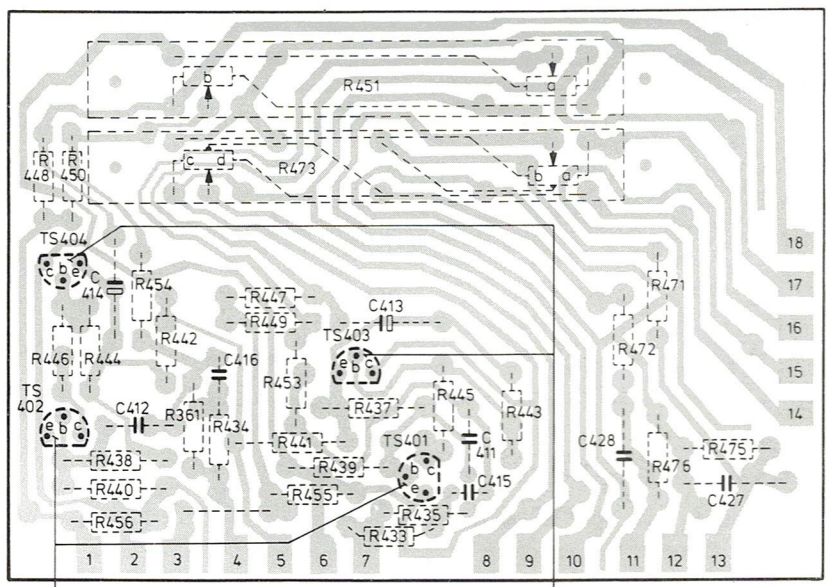


CS52304

VOLUME/BALANCE CONTROL

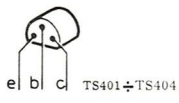


Carbon resistor E24 series	0.125 W		5 %	Plate ceramic capacitor
Carbon resistor E12 series	0.25 W	< 1 MΩ	5 %	Flat-foil polyester capacitor
		1 MΩ	10 %	
	0.5 W	< 1.5 MΩ	5 %	Miniature electrolytic capacitor
		> 1.5 MΩ	10 %	

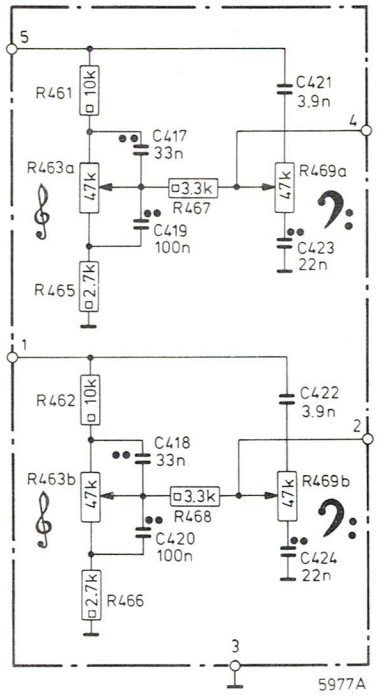


TS401,402
e= 0V
b=0.4V
c=6.8V

TS403,404
e=7.5V
b=6.9V
c= 0V

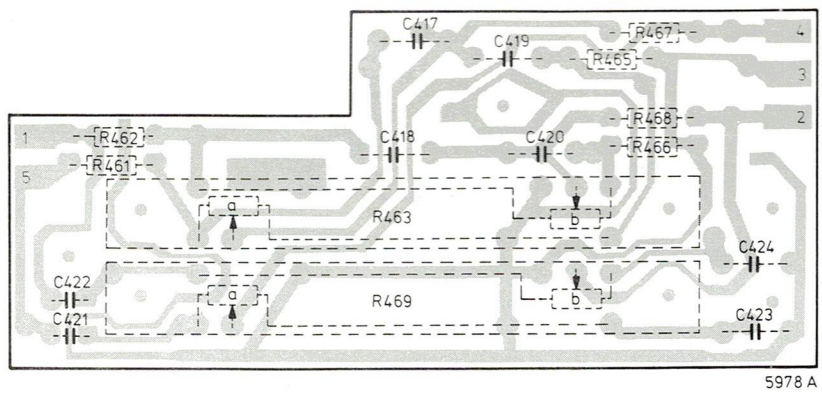


TONE CONTROL

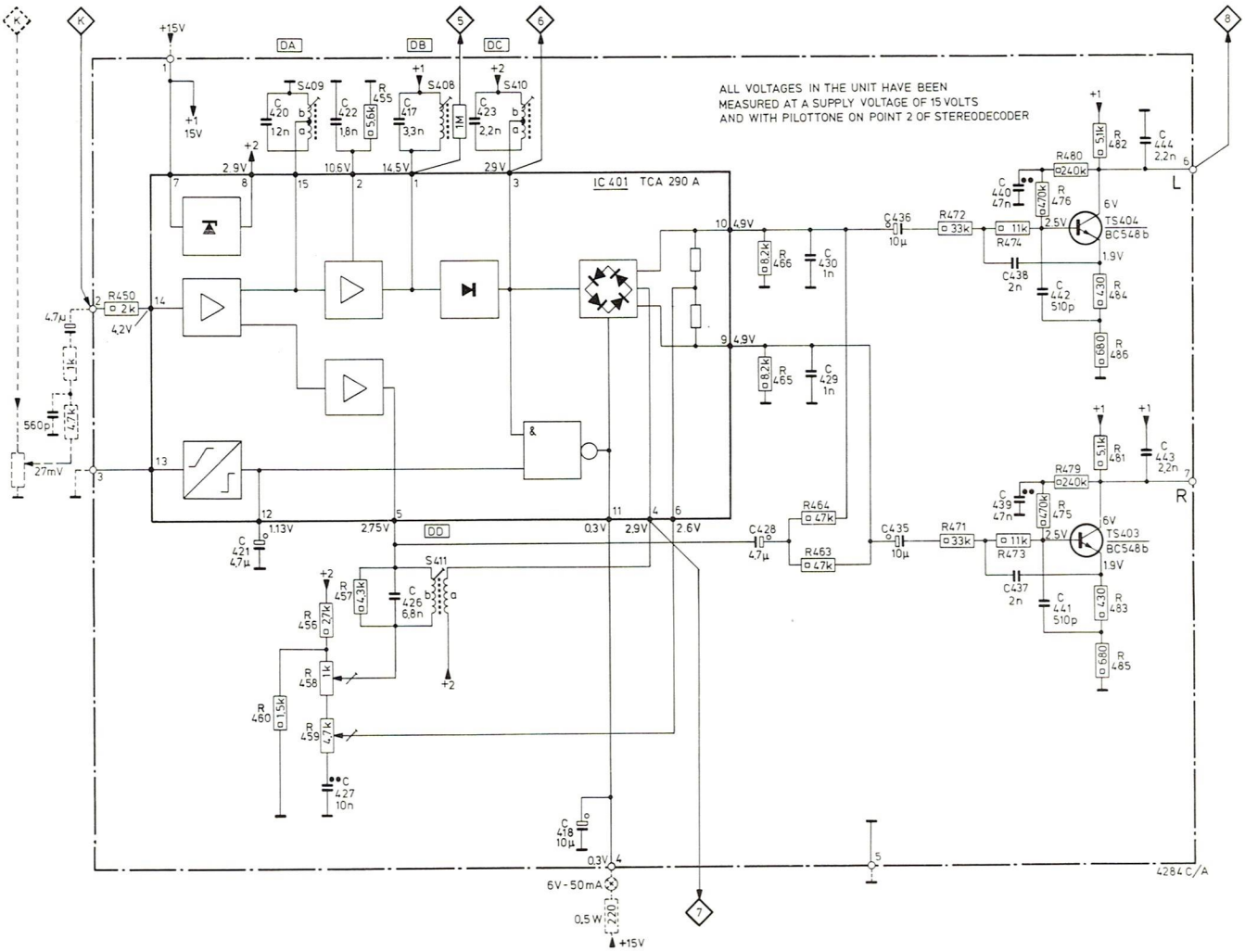


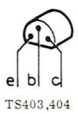
Carbon resistor E24 series 0.125 W 5%

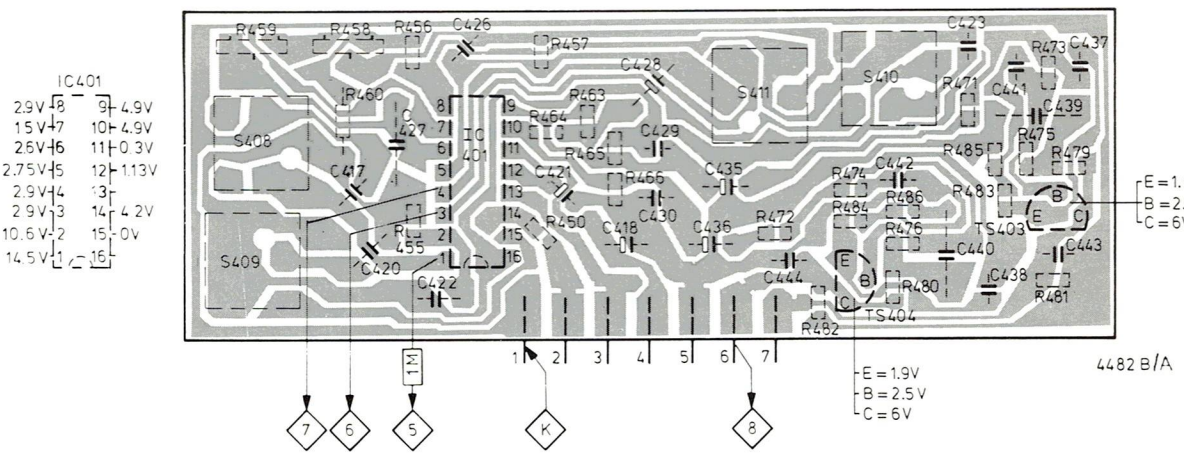
Flat-foil polyester capacitor



STEREO DECODER







SK.... Wave range	Signal to		Adjust	Indication
FM (87.5-104 MHz) [1]	Pilot 19 kHz ± 20 mV	K [2]	DA	via 1 MΩ ◇5 max
			DB	
			DC	◇6 max
	S (L = -R = 5 kHz)		DD	◇7 [3]
	Multiplex (M + S + Pilot) Right 1 kHz		R458	◇8 min
	Multiplex (M + S + Pilot) Right 5 kHz		R459	
Repeat - Herhalen - Répéter - Wiederholen - Ricomminciare - Repetera - Gentage - Gjentagelse - Toista				

GB

[1] If the unit cannot be adjusted in the apparatus, one should simulate with a separate unit the situation in which the apparatus contains the unit. The relevant data have been indicated by dotted lines in the figure.

[2] Connect point 3 of the stereo decoder to mass and apply a sufficient strong signal to enable the stereo indicator to function.

[3] Connect an oscilloscope. Adjust the S-signal for maximum (1) and so that a well-defined zero passage is obtained. The envelopes of the L and R signals should intersect on the x-axis (2) See fig. 1.

F

[1] Si le bloc ne peut être ajusté dans l'appareil, il faudra recréer la situation une fois l'unité extraite de l'appareil. Les données s'y rapportant sont représentées en pointillé dans le schema.

[2] Brancher le point 3 du décodeur stéréo à la masse et fournir un signal d'une telle intensité que l'indicateur stéréophonique se mette à fonctionner.

[3] Brancher un oscillographe. Régler le signal S sur maximum (1) pour que le passage du zéro soit précis (2). Les enveloppes du signal L et R doivent s'entrecouper sur l'axe du zéro (2), voir fig. 1.

I

[1] Se il blocco non può essere regolato nell'apparecchio, bisognerà ricreare le stesse condizioni con il blocco fuori dell'apparecchio. I dati che vi ci riferiscono vengono riprodotti con linea punteggiata nello schema.

[2] Collegare il punto 3 del decodatore stereofonico con massa e fornire un segnale di intensità tale da fare funzionare l'indicatore stereofonico.

[3] Collegare un oscillografo. Regolare gli involucri del segnale S su massimo (1) perchè il passaggio per lo zero sia preciso (2)
Gli involucri del segnale L e R debbono tagliarsi sull'asse dello zero (2), vedi fig. 1.

NL

[1] Indien de unit niet in het apparaat afgeregeld kan worden, moet bij de losse unit de situatie in het apparaat nagebootst worden. De gegevens hiervoor zijn gestippeld getekend.

[2] Punt 3 van de stereodecoder aan massa leggen en een dusdanig sterk signaal toevoeren dat de stereoindicator werkt.

[3] Sluit een oscillograaf aan. Het S-signaal op maximum (1) afregelen en zo dat een scherpe nuldoorgang verkregen wordt (2). De omhullenden van het L en R signaal moeten elkaar op de nulas snijden (2) (zie fig. 1)

D

[1] Wenn die Einheit nicht im Gerät justiert werden kann, muss man in der aus dem Gerät entfernten Einheit, die Situation im Gerät nachgeahnt werden. Die Daten sind in den Schaltbild mit gestrichelten Linien gezeichnet.

[2] Lege Punkt 3 des Stereodecoders an Masse und führe solch ein Signal zu,dass der Stereoindikator in Tätigkeit gesetzt wird.

[3] Schliesse einen Oszillografen an. Justiere das S-Signal auf Maximum (1), und so dass ein scharfer Nulldurchgang erhalten wird. Die Umhüllungskurven des L- und R-Signals sollen sich auf der Nullachse schneiden (2) Siehe Abb. 1.

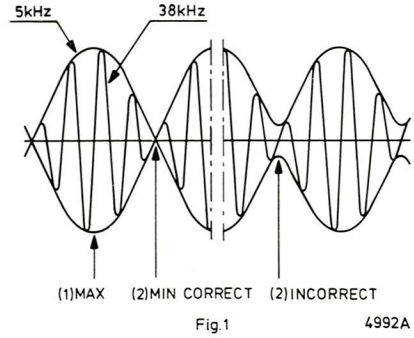
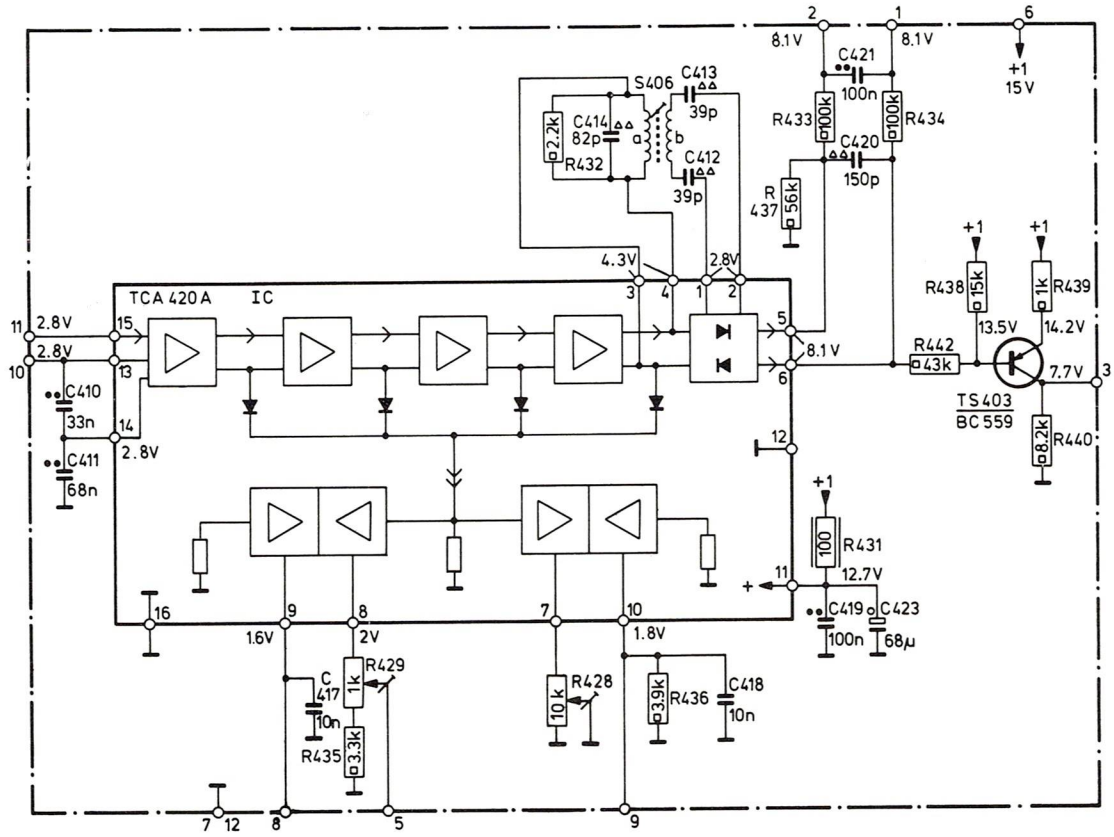
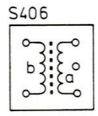


Fig.1 4992A

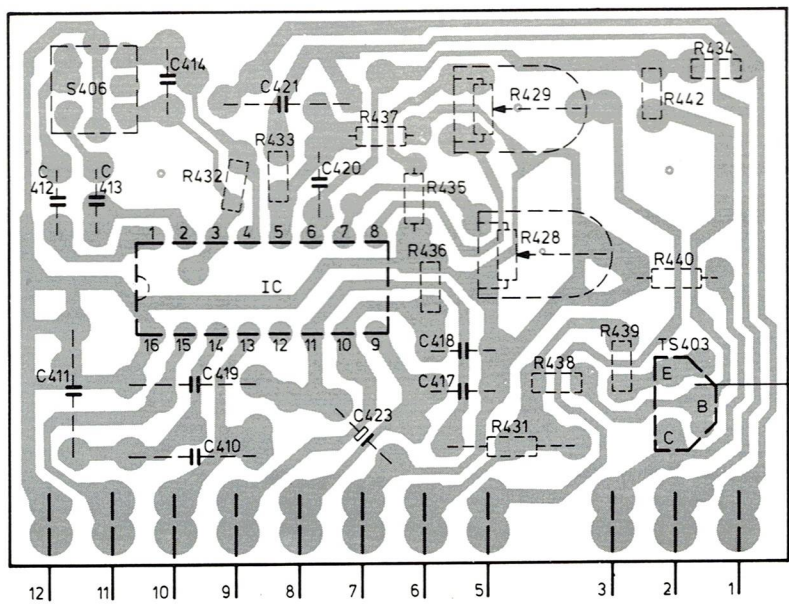
IF-FM UNIT



VOLTAGES HAVE BEEN MEASURED AT A SUPPLY VOLTAGE OF 15V

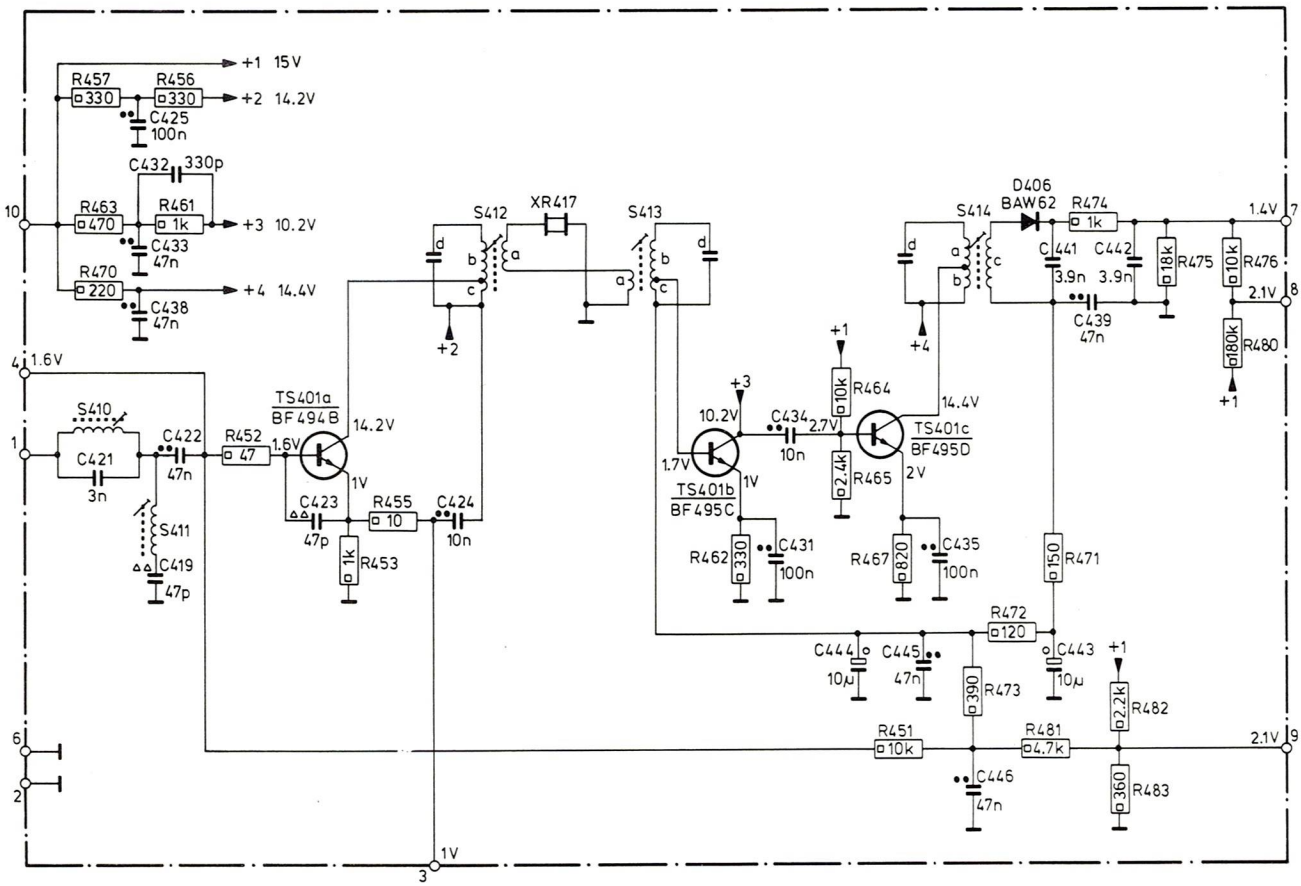


IC
1: 2.8 V
2: 2.8 V
3: 4.3 V
4: 4.3 V
5: 8.1 V
6: 8.1 V
8: 2 V
9: 1.6 V
10: 1.8 V
11: 12.7 V
12: 0 V
13: 2.8 V
14: 2.8 V
15: 2.8 V
16: 0 V



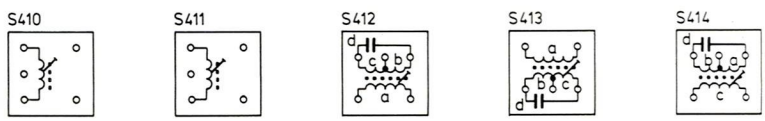
CS39948

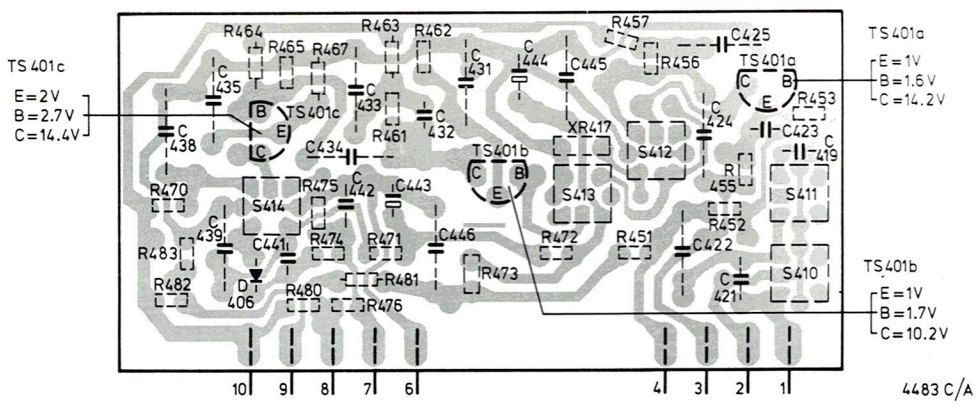
IF-AM UNIT



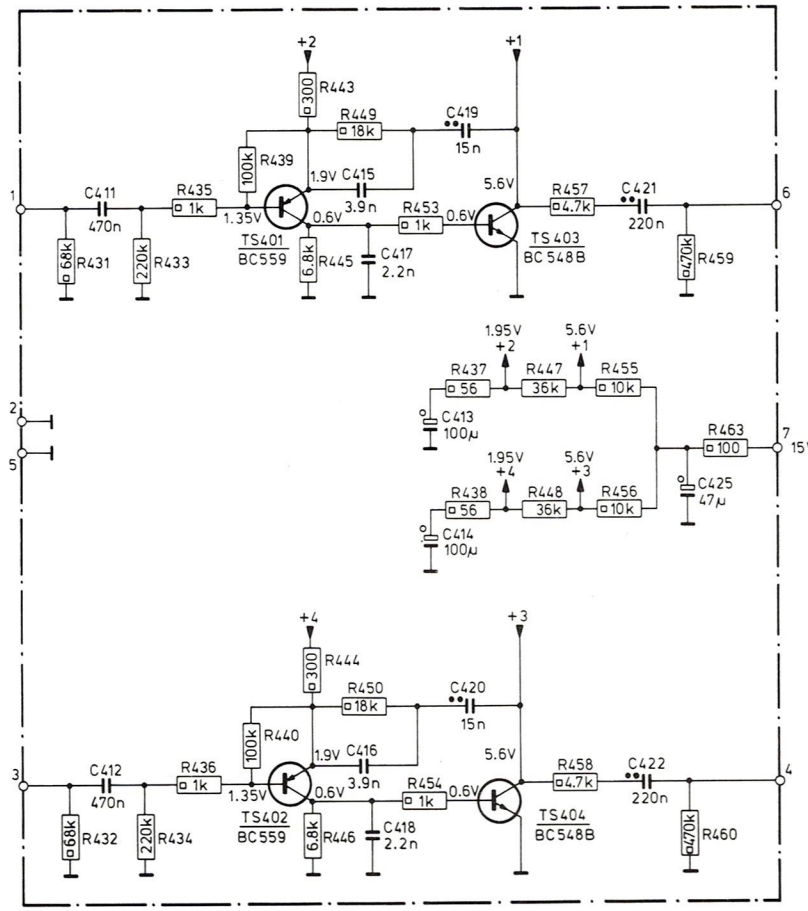
VOLTAGES HAVE BEEN MEASURED AT A SUPPLY VOLTAGES OF 15V

TS401a,b,c

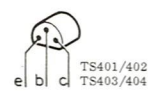


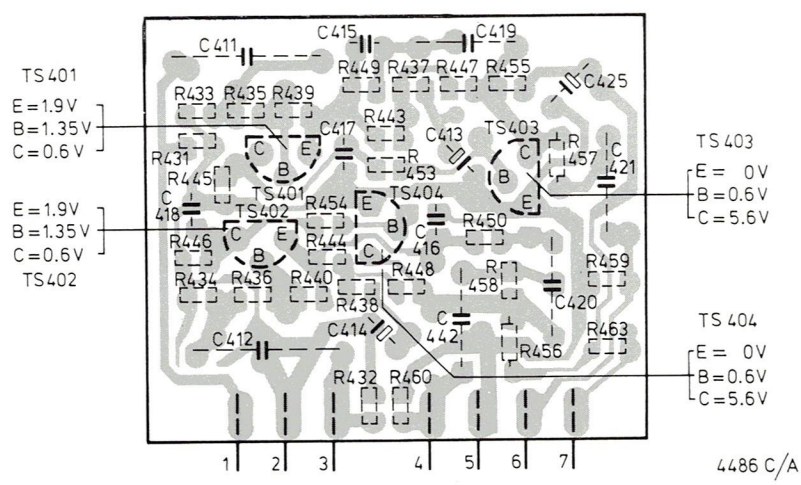


MD - PREAMPLIFIER



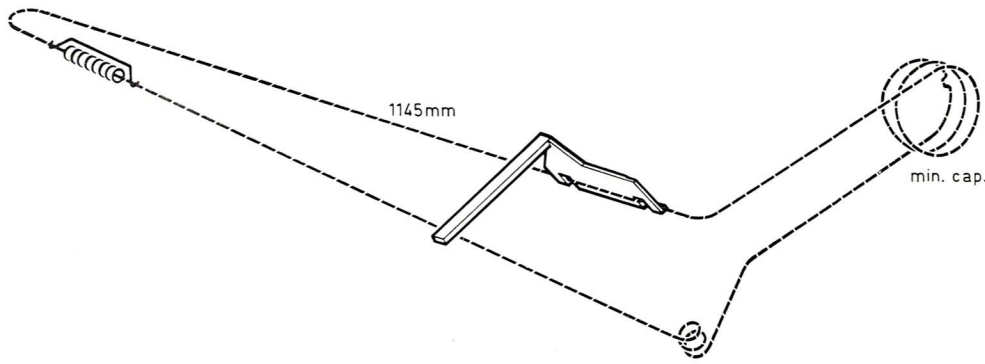
VOLTAGES HAVE BEEN MEASURED AT A SUPPLY VOLTAGE OF 15V



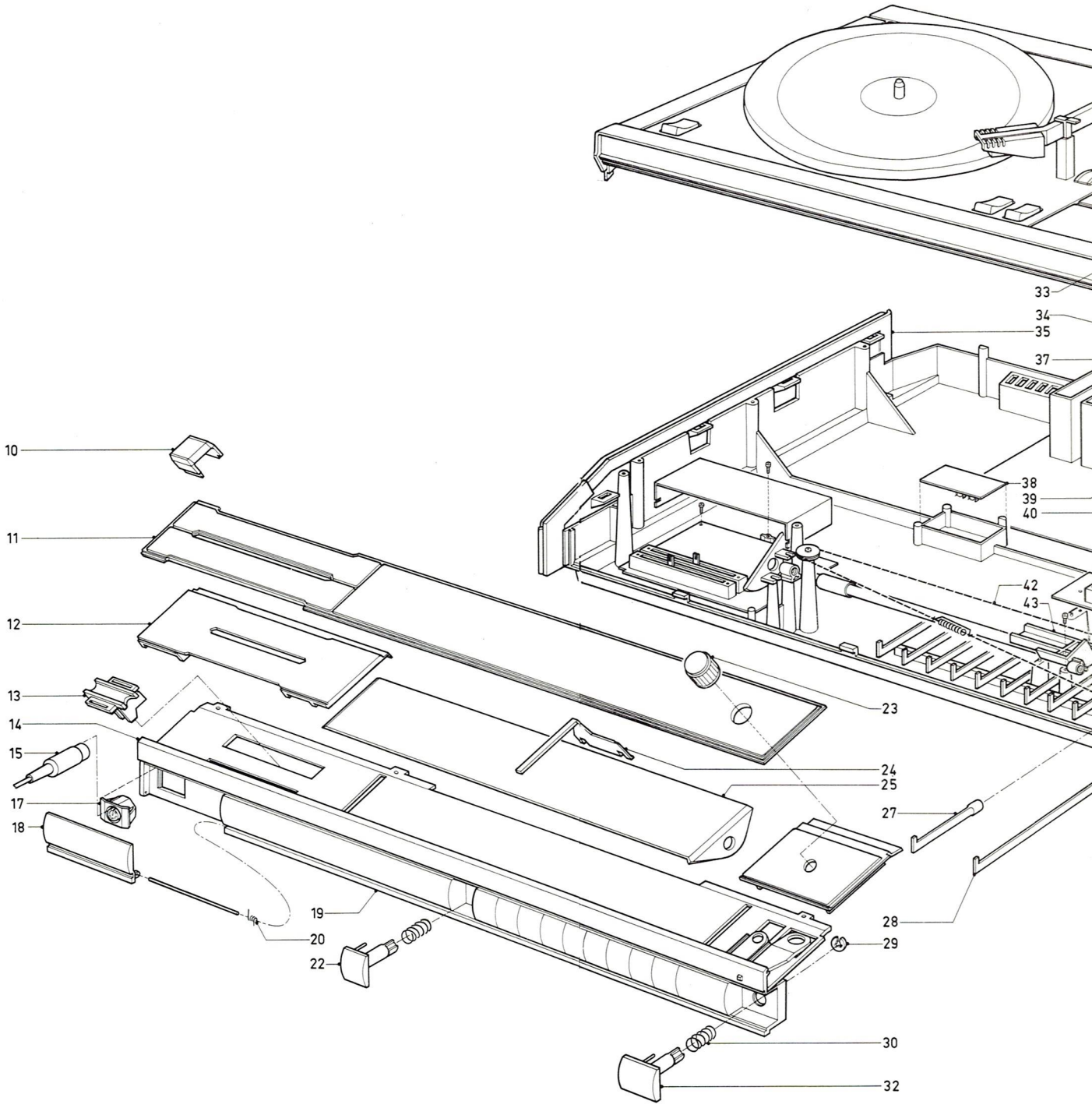


4486 C/A

DRIVE CORD RUN



6135C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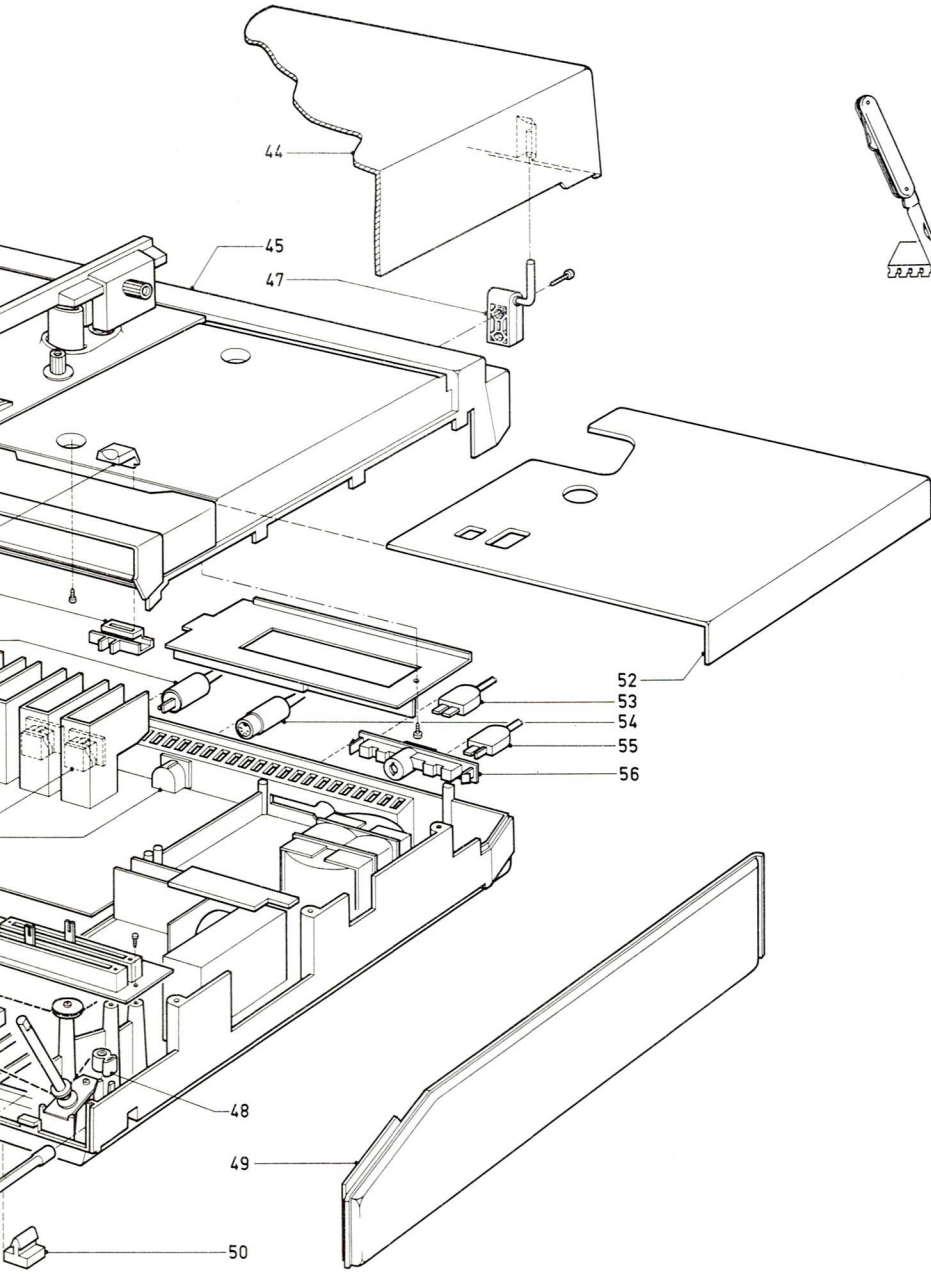
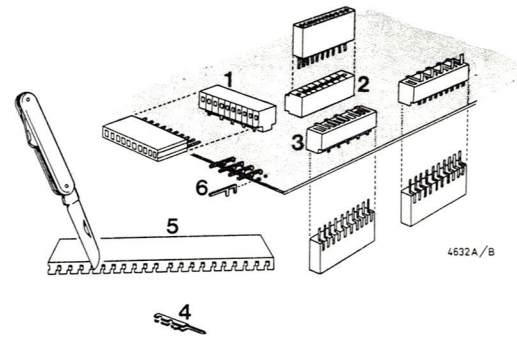
CS52307

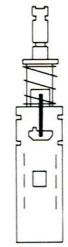




Item	Code number
1	5322 267 64027 (10p)
2	4822 267 50209 (10p)
3	4822 267 50211 (10p)
4	4822 268 10107
5	5322 267 64007 (20p)
6	5322 264 54017 (strip)

MECHANICAL PARTSLIST

Item	Codenumber
10	4822 411 60415
11	4822 459 40343
12	4822 462 71028
13	4822 404 20178
14	4822 426 50167
15	4822 264 40092
17	4822 267 40215
18	4822 426 60086
20	4822 492 40572
22	4822 410 21578
23	4822 413 40637
24	4822 450 80425
25	4822 333 50519
27	4822 404 10277
28	4822 404 20177
29	4822 530 70126
30	4822 492 51001
32	4822 410 40054
33	4822 411 60416
34	4822 404 20179
35	4822 426 30065
37	4822 264 30041
38	4822 492 60063
39	4822 267 30198
40	4822 267 40209
42	5322 321 34023
43	4822 256 90164
44	4822 444 30219
45	4822 426 40055
45 -/28	4822 426
47	4822 417 10631
48	4822 255 10007
49	4822 426 30064
50	4822 462 40326
52	4822 460 20146
53	4822 264 30043
54	4822 264 40023
55	4822 264 30042
56	4822 267 20155

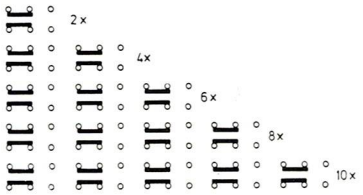


PUSH-PUSH

4822 276 10558

4822 276 10562

4822 276 10561



4822 276 10543

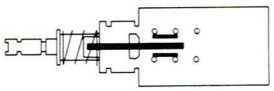
4822 276 10544

4822 276 10545

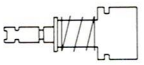
4822 276 10546

4822 276 10547

PUSH-PULL



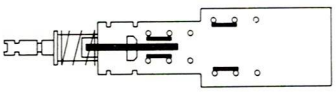
4822 276 10539



4822 276 10559

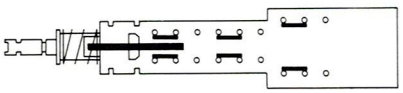
4822 404 10233

bracket for transforming a push-pull switch into a push-push one



4822 276 10541

4822 404 10234



4822 276 10542

6382B

ELECTRICAL PARTS

UNITS -U-

FM-tuner	104 MHz	4822 210 10176
FM-IF	10.7 MHz	4822 212 40017
AM-IF	452 kHz	4822 212 40018
AM-IF	460 kHz	4822 214 50122
AM-IF	470 kHz	4822 214 50134
Stereo decoder		4822 210 30027
MD-pre-amplifier		4822 212 40021

RF - PANEL

 -TS-  -D-		
TS500	BF495	4822 130 40947
TS502	BD135	5322 130 40645
D504	BZX79/C16	5322 130 34086
-S-		
S511	Aerial coil SW	4822 156 40613
S515	Osc. coil SW	4822 156 30492
S516	Osc. coil MW	4822 156 30493
S517	Osc. coil LW	4822 156 30494
S519	Ferroxc. bead	4822 157 40112
 -C-		
C528,553,562	120 pF, 2 %	4822 122 30093
C529,531,532, 552,554,558	20 pF, trimmer	4822 125 50045
C533	390 pF, 2 %	4822 122 30091
C534	2.7 nF, 5 %	4822 121 50474
C544	2.2 nF, 10 %	4822 122 30114
C551	1.8 nF, 2 %	5322 121 54044
C556	280 pF, 1 %	4822 121 50573
C557	158 pF, 1 %	4822 121 50581
 -R-		
R600	1.8 MΩ, 1/8 W	4822 110 61194
R602	1 MΩ, pot. meter	4822 100 10089
R617	2,2 kΩ pot. meter	4822 100 10029

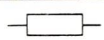
MISCELLANEOUS

-S-		
S510	Ferroceptor MW/LW	4822 158 60366
S520	Mains transformer	4822 146 20503
 -C-		
C402b,c	Var. cap. A.M.	4822 125 20184
C426	3300 μF, 40 V	4822 124 70237
 -L-		
LA40,42	6,3 V - 50 mA	4822 134 40003
LA41,43	6.3 V - 250 mA	4822 134 40007
 -VL-		
VL673,674	Fuse slow 1,25A	4822 253 30022
VL1,2	Fuse in S520	4822 252 20007

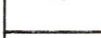
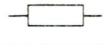
AF - PANEL

 -TS-  -D-		
TS651,652	BC159B	5322 130 40716
TS653,654	BC148	5322 130 40318
TS655,656	BC547B	4822 130 40959
TS657/659	BD262/263 pair	4822 130 41027
D665,666	BAW62	5322 130 30613
D669,670 671,672	BY126	5322 130 30192
 -C-		
C686,687	330 pF,5 %	5322 121 54077
C703,704	2.2 nF, 10 %	4822 122 30114
C722,723,724 725	22 nF	5322 122 30103
 -R-		
R777,778	NTC, 1.5 kΩ	4822 116 30087
R783,784	470 Ω, pot. meter	4822 100 10038
R797,798,799, R800,809,810, R811,812	1 Ω, 1/4 W	4822 110 53027
R832	360 Ω, 1/4 W	4822 111 30452
R834	27 Ω, 1/4 W	4822 111 30003

VOL/BAL. - CONTROL - PANEL

 -TS-		
TS401,402	BC549B	4822 130 40936
TS403,404	BC558A	4822 130 40962
 -C-		
C427,428	150 nF 10 %	4822 121 40404
 -R-		
R451	100 kΩ/100 kΩ	4822 105 10151
R473	80k/20k/80k/20 kΩ spec. semi log.	4822 105 10153

BASS/TREBLE CONTROL - PANEL

 -C-		
C421,422	3.9 nF 10 %	5322 122 30098
 -R-		
R463,469	47 kΩ/47 kΩ semi log.	4822 105 10152

 - R -		
R586	VDR	4822 116 20073