Hi-Fi TAP + Remote control 22AH888/00/22/29

Service
Service
Service

13329810

Service Manual

INHOUDSOPGAVE

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

CS 60 137

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

Subject to modification

NL

4822 725 12451

Printed in The Netherlands

PHILIPS

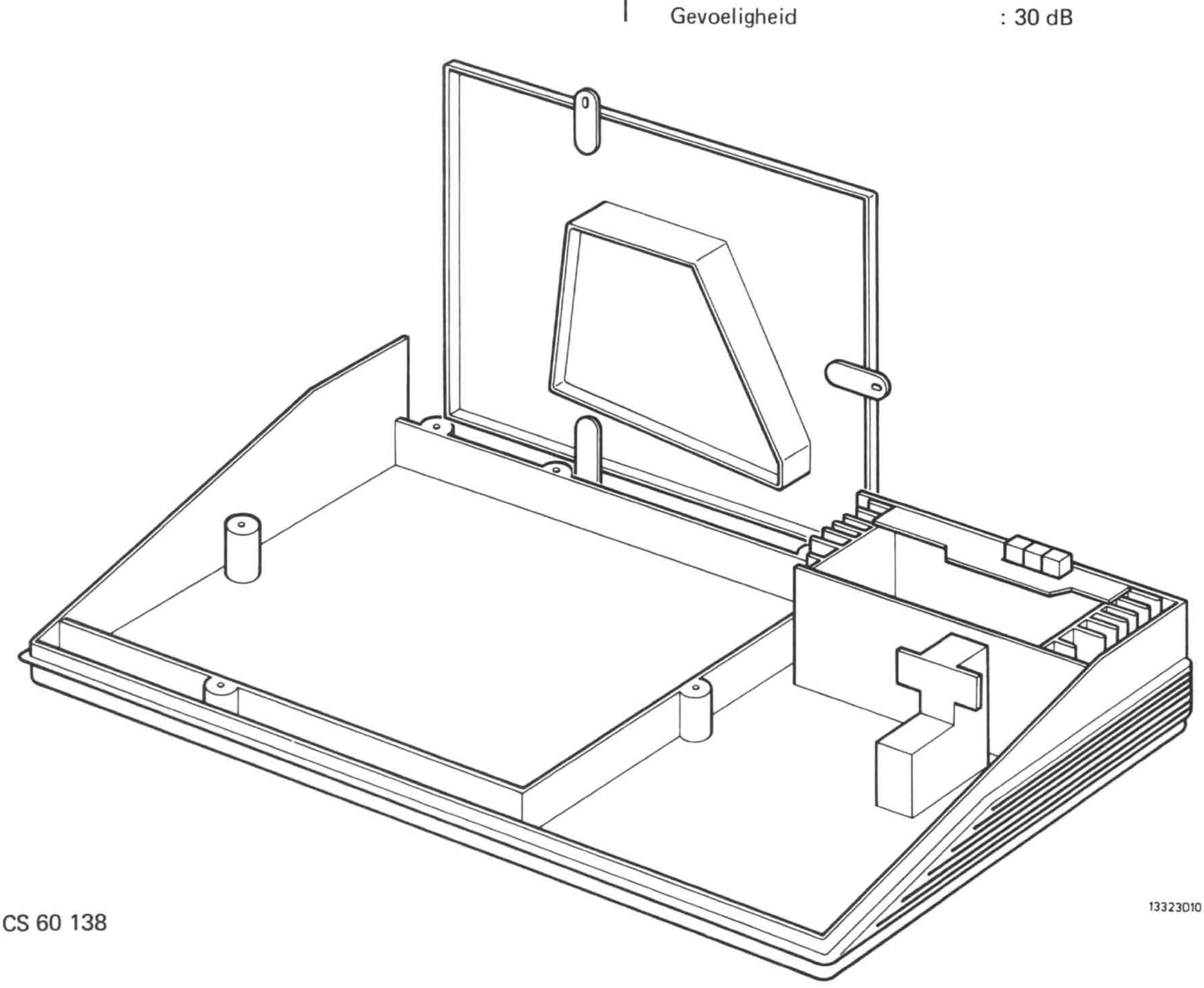
SPECIFICATIES

Versterkergedeelte

Uitgangsvermogen (4 Ω)	: 2 x 35 W
Harmonische vervorming 40 - 20.000 Hz 2 x 35 W	: D ⩽ 0,4 %
Intermodulatie vervorming (250 - 8.000 Hz 4 : 1)	: D ⩽ 0,4 %
Vermogensbandbreedte	: 20 - 50.000 Hz
Frequentiebereik	: 30 - 25.000 Hz ± 1.5 dB
Kanaalscheiding	: 40 dB - 1000 Hz 30 dB - 250 - 10.000 Hz
Lage toonregeling	: > 11 dB, < −14 dB bij 50 Hz
Hoge toonregeling	: > 10 dB, < −11 dB bij 10.000 Hz
Contourregeling (bij −40 dB)	: > 8,5 dB bij 100 Hz < 4 dB bij 10.000 Hz
Ingangen	
Tape 5-3	: 160 mV/50 kΩ
Tape 1-4	: 2 mV/kΩ
Hoofdtelefoonplug (Jack)	: 8 - 2000 Ω

Tunergedeelte

FM-tuner		
Frequentiegebied	: 87,5 - 104 MHz	
Gevoeligheid		
mono 26 dB S/N	: 2.0 µV	
stereo 46 dB S/N	: 71 µV	
Selectiviteit (300 kHz)	: 55 dB	
Frequentiebereik	: 11 - 12.500 Hz ± 3 dB	
Piloottoon-onderdrukking	: 30 dB - 19 kHz 50 dB - 38 kHz	
S/N verhouding	: 55 dB	
Kanaalscheiding 250 - 12.500 Hz	: 15 dB	
AM-onderdrukking	: 45 dB	
MF-onderdrukking	: 80 dB	
Image response	: 65 dB	
AM tuner		
Golfgebied	: M.G. 520-1605 kHz L.G. 150-345 kHz	
Gevoeligheid		
	: M.G.	L.G.
ext. antenne	200 µV	350 µV
ferroceptor	800 µV/m	1300 µV/m
Gevoeligheid	: 30 dB	



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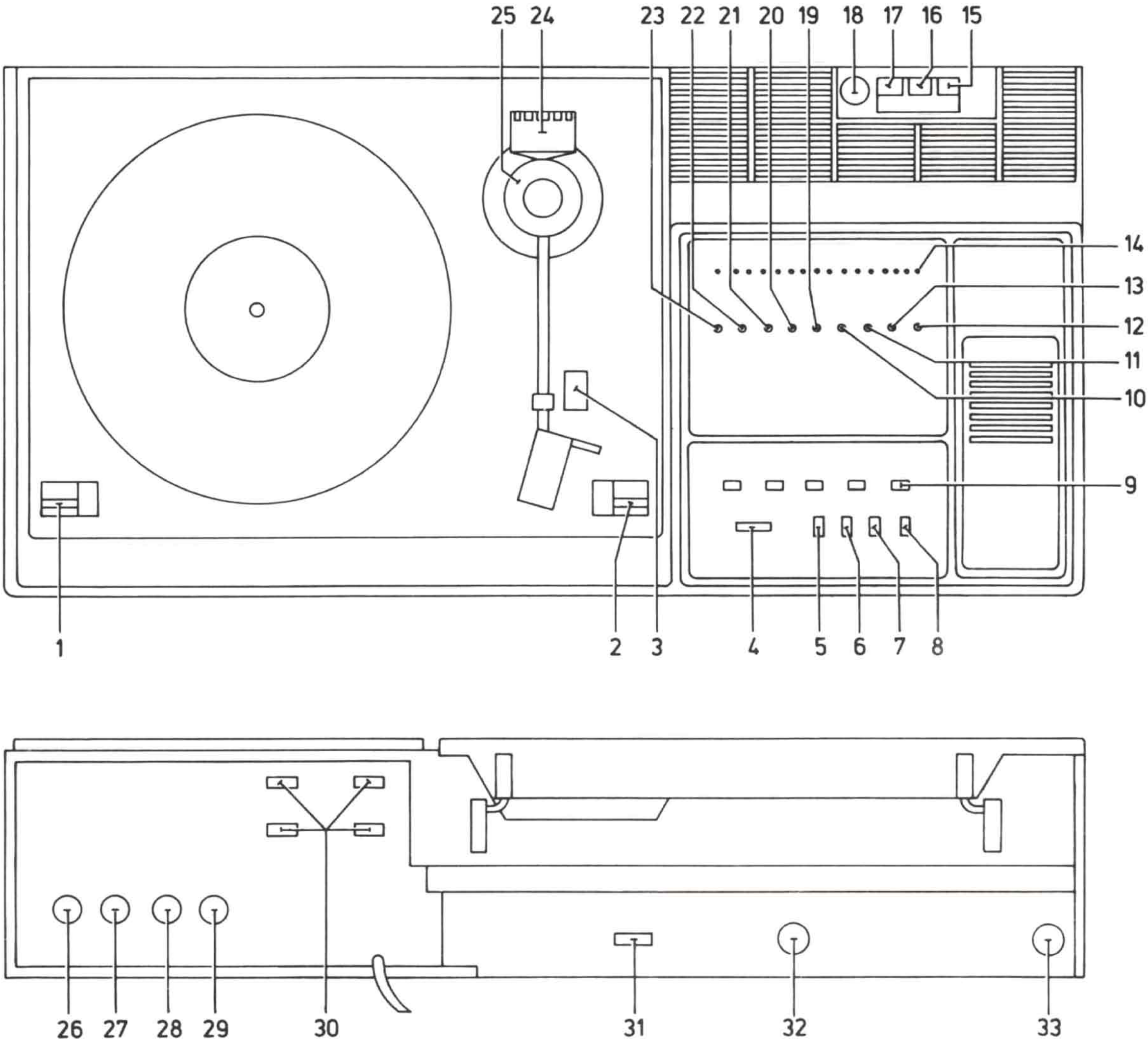
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23
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13
12
11
10
9
1
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30
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32
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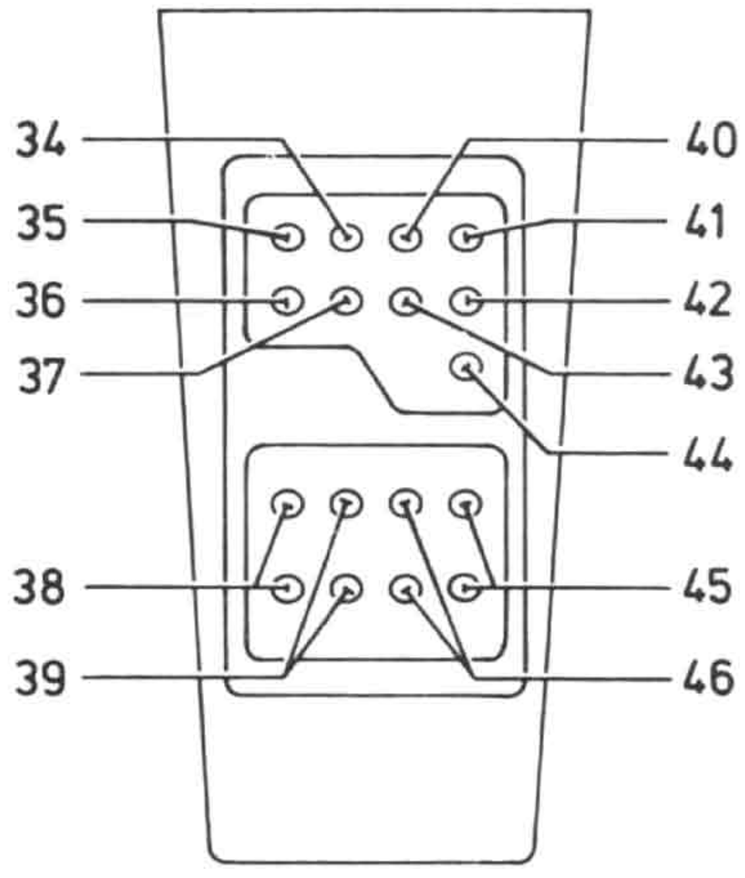
34
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46

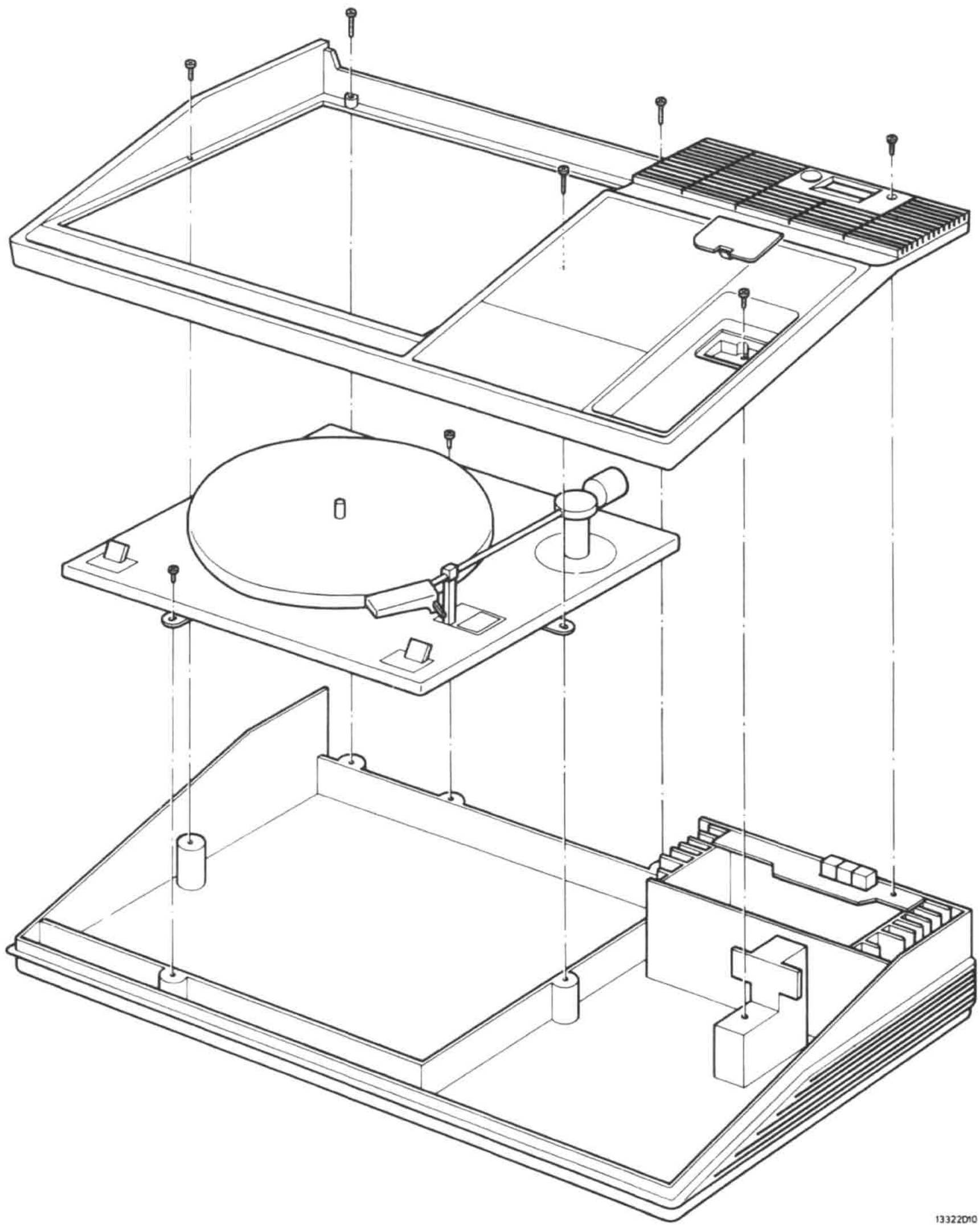
13771C12

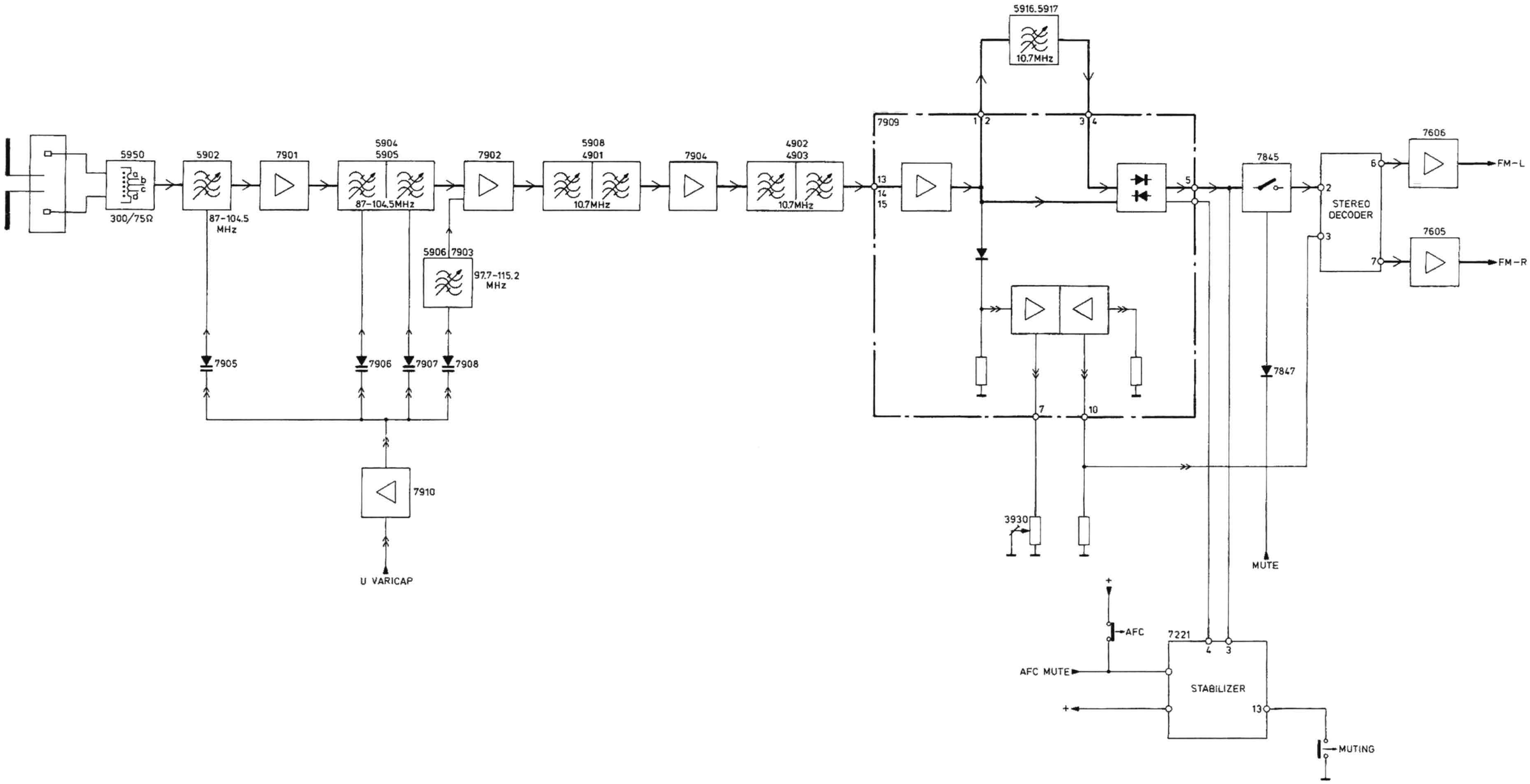
KNOPPENFUNKTIES

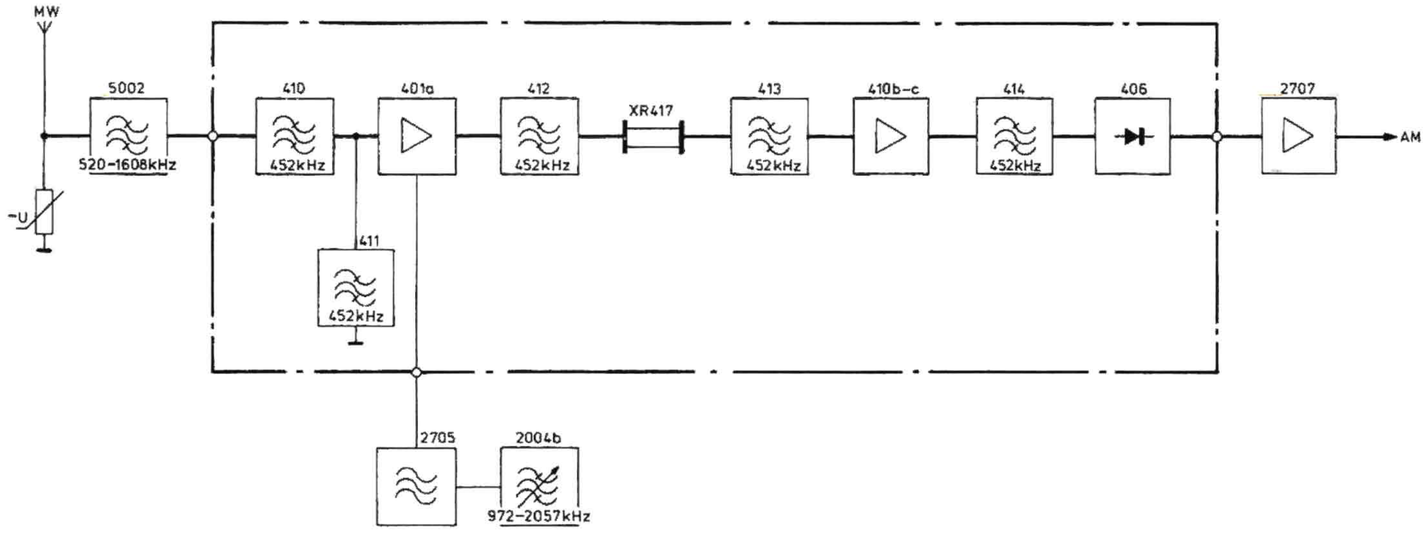
1	Snelheidskeuzeschakelaar	
2	Start/Lift/Stopschakelaar	
3	Naalddrukmeter	
4	AM-afstemknop	2004
5	Contourschakelaar	SK-D
6	AFC-schakelaar	SK-E
7	FM-Monoschakelaar	SK-F
8	Display-schakelaar	SK-G
9	Voorkeuze-instelling FM1...5	3019...3027
10	Indikator FM4	7135
11	Indikator FM5	7133
12	Stereo-indicator	7147
13	Indikator AM	7131
14	FM/Analoog display	7149...7179
15	Luidsprekerschakelaar 2	SK-C
16	Luidsprekerschakelaar 1	SK-B
17	Aan/uitschakelaar	SK-A
18	Hoofdtelefoon-aansluiting (Jack)	
19	Indikator FM3	7137
20	Indikator FM2	7139
21	Indikator FM1	7141
22	Indikator Tape	7143
23	Indikator P.U.	7145
24	Naalddrukinstelling	
25	Dwarsdrukcompensatie	
26	Luidspreker 2R aansluiting	
27	Luidspreker 2L aansluiting	
28	Luidspreker 1R aansluiting	
29	Luidspreker 1L aansluiting	
30	Zekeringen	1401-1404
31	AM-antenne-aansluiting	
32	Tape-aansluiting	
33	FM-antenne-aansluiting	

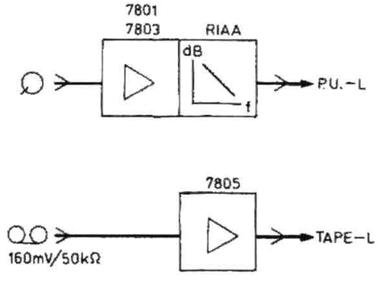
Zender

34	Tape-functie	
35	P.U.-functie	
36	FM-3-functie	
37	FM-4-functie	
38	Volume +/— functie	
39	Balans R/L-functie	
40	FM-1-functie	
41	FM-2-functie	
42	AM-functie	
43	FM-5-functie	
44	Mute-functie	
45	Treble +/— functie	
46	Bass +/— functie	




5950
300/75Ω
5902
87–104.5 MHz
7901
5904
5905
87–104.5MHz
7902
5908
4901
10.7MHz
7904
4902
4903
10.7MHz
5906 7903
97.7–115.2 MHz
7905
7906
7907
7908
7910
U VARICAP
5916.5917
10.7MHz
7909
1
2
3
4
13
14
15
5
7
10
7845
7847
MUTE
3930
2
3
6
7
STEREO DECODER
7606
7605
FM–L
FM–R
+
AFC
7221
4
3
AFC MUTE
STABILIZER
13
MUTING


MW
5002
520–1608kHz
-U
410
452kHz
401a
412
452kHz
XR417
413
452kHz
410b–c
414
452kHz
406
2707
AM
411
452kHz
2705
2004b
972–2057kHz


7801
7803
RIAA
dB
f
P.U.–L
7805
160mV/50kΩ
TAPE–L

13782E12

TRANSMITTER

7001
DATAWORD

7002a.b
1
20kHz

7002c

7005
7006

RECEIVER

5002
2002

7003
7020
7024

6032
7036
2038

7042
7048

6002

7205
60kHz

7201

RESET

FUNCTION DECODER

SELECTION

ANALOOG

MUTE

7229
7231
1...64

7225
7227
1...64

7233···7241
1...64

7203a
&

7207a.b
1.25Hz

7211
7237···7246
1.25Hz

7125
7127
ABCD DECODER

7812
7814
7823
7825
7827
7829
7817
7818 7819
&

FM-L
PU-L
TAPE-L
AM
TAPE

7807

7215
7217
7217
7219
7219
7257
7259
MUTE

CONTOUR

7501
7503
7505
7507
7513
7515
7517
7523
7511
7519
7521

A
B
C
1
MUTE
AFC MUTE

AC
DC

7209
LATCH

7207c
B
C

FM SCALE

7213
DECODER

U VARICAP

7129
MATRIX
A
B
C
D
E
F
G
H
11
15
16
14

7149···7179

13783E12

SK . . . Wave range	Signal to	◇	ℂ	Indication
FM (87.5-104 MHz) 3			R3611	(via 10 MΩ) 76 kHz ± 300 Hz at 7IC401
	S (L = -R = 5 kHz) 27 mV~	◇F	S5601	◇5 4
	Multiplex Right 1 kHz 27 mV~		R3617	↕ ◇4 minimum
	Multiplex Right 5 kHz 27 mV~		R3621	
	Pilot 19 kHz 18 mV~		R3605	ℂ maximum clockwise
			R3605	ℂ anti-clockwise till IND is lit

↕ Repeat - Herhalen - Répéter - Wiederholen

GB

3 First set S5601-R3611-R3621 and R3617 to mid-position. Turn the wiper of R3605 anti-clockwise as far as possible.

4 Connect an oscillograph. Adjust the S-signal to maximum (1) so that a well-defined zero passage is obtained (2).
The envelopes of the L and R signals should intersect on the zero-axis (2), (see figure).

NL

3 S5601-R3611-R3617 en R3621 vooraf in de middenstand plaatsen. De loper van R3605 maximaal linksom draaien.

4 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 figuur).

F

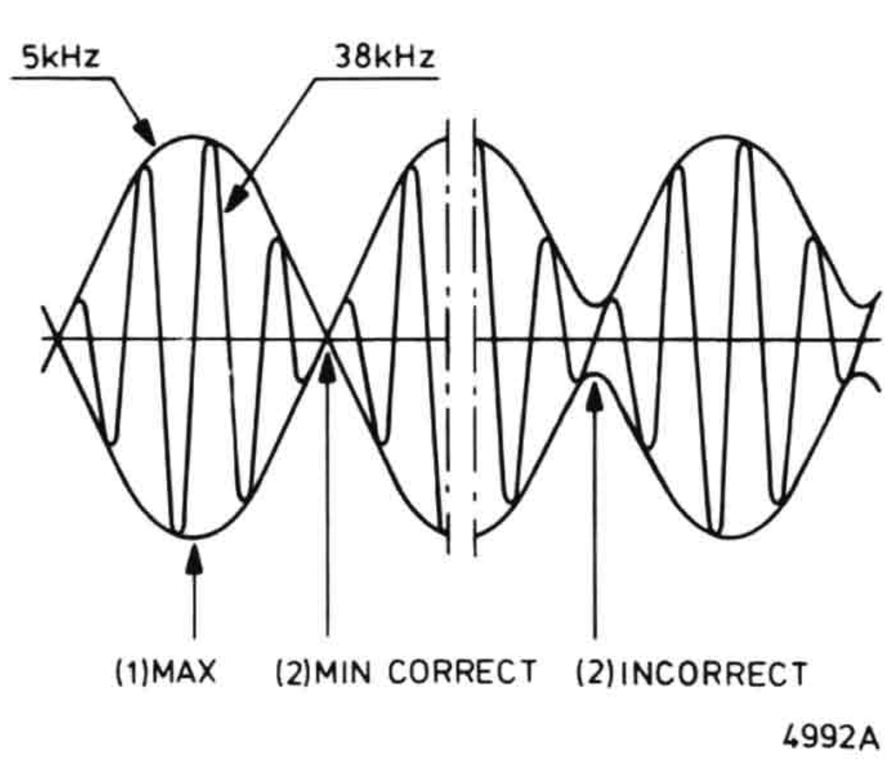
3 Mettre S5601-R3611-R3617 et R3621 au préalable, en position médiane. Tourner le curseur de R3605 à fond vers la gauche.

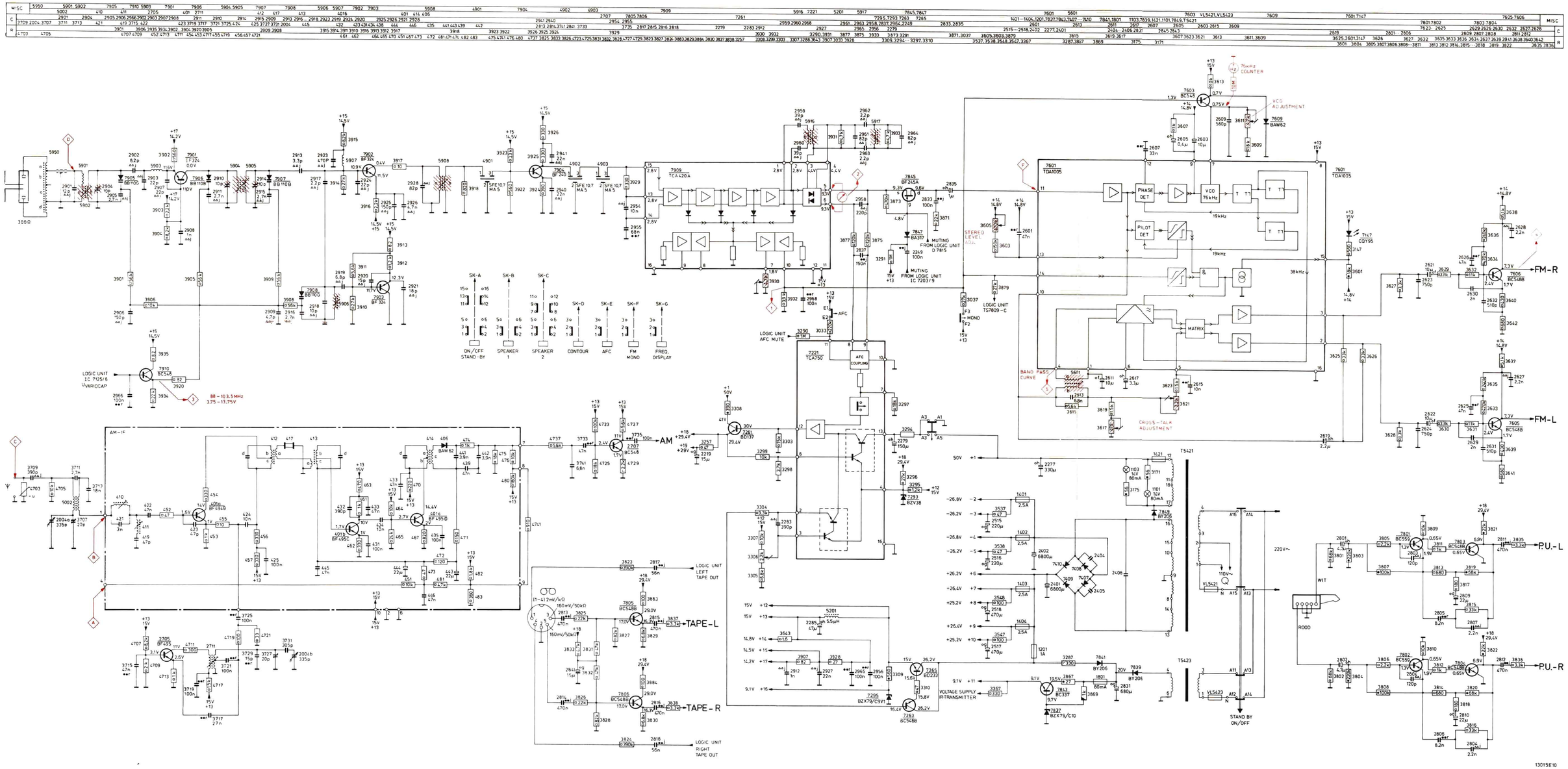
4 Brancher un oscillographe. Régler le signal-S sur maximum (1) pour que le passage du zéro soit précis (2).
Les enveloppes du signal L et R doivent s'entre-couper sur l'axe du zéro (2), voir figure.

D

3 S5601-R3611-R3617 und R3621 zuvor in die Mittelstellung bringen. Den Schleifer von R3605 bis zum linken Anschlag drehen.

4 Einen Oszillografen anschliessen, dass S-Signal auf Maximum (1) justieren; und zwar so, dass ein scharfer Nulldurchgang erhalten wird. Die Umhüllungskurven des L- und des R-Signals sollen sich auf der Nullachse schneiden (2). Siehe Abbildung.




LOGIC UNIT IC 7125/6 VARICAP
88 – 103,5MHz 3,75 – 13,75V
AM-IF
AM
TAPE-L
TAPE-R
LOGIC UNIT LEFT TAPE OUT
LOGIC UNIT RIGHT TAPE OUT
LOGIC UNIT AFC MUTE
ON/OFF STAND-BY
SPEAKER 1
SPEAKER 2
CONTOUR
AFC
FM MONO
FREQ. DISPLAY
SK-A
SK-B
SK-C
SK-D
SK-E
SK-F
SK-G
7809 TCA 420 A
7845 BF 245 A
MUTING FROM LOGIC UNIT D 7815
MUTING FROM LOGIC UNIT IC 7203/9
LOGIC UNIT TS7809-C
7221 TCA 750
AFC COUPLING
7601 TDA 1005
PHASE DET
PILOT DET
VCO 76 kHz
19kHz
38kHz
MATRIX
STEREO LEVEL ADJ.
BAND PASS CURVE
CROSS-TALK ADJUSTMENT
75kHz COUNTER
VCO ADJUSTMENT
VOLTAGE SUPPLY IR-TRANSMITTER
STAND BY ON/OFF
220V~
110V~
WIT
ROOD
T5421
T5423
VL5421
VL5423
FM-R
FM-L
PU.-L
PU.-R

13015E10

MISC.	7909 4903 4902 7910 7904 7802 7801 7804 7903 7803 4901 7805 7908 7902 7907 7806 7905 7901 7906 1801 7843 7839 7837 7841	SK-C SK-F 7221 7261 7293 SK-E SK-D 7265 7263	MISC
MISC.	7831 7833 7603 7609 7821 7814 7601 7809 7830 7829 7819 7823 · · 7826 7828 7813 7818 7812 7811 7605 · 7808 7827 7817 7847 7845 7815		MISC
S	5601 5916 5917 5906 5907 5908 5901 · · · 5905	5201	S
C	2956 2968 3951 2955 2958 · 2966 2941 2940 3803 · 2808 2923 2918 · · · 2921 2926 2925 2809 · · 2813 2815 2909 · · 2917 2901 · · · 2908 2814 2816 2831		C
C	2611 2613 2619 2827 2829 2825 2621 · · · 2624 2617 2823 2615 2609 2605 2603 2607 2601 2820 2625 · · · 2632 2819 2818 2817 2835 2839 2837 2833	2281 2279 2283 2285 2215 2257 2277 2243 2244	C
R	3928 · · 3933 3809 · 3801 3922 · · 3926 3935 3934 3810 · · 3822 3907 · · · 3918 3884 3883 3823 · 3833 3901 · · · 3906 3869 3867	3019 3015 3017 3009 3035 3007 3021 3033 3011 3029 3013 3031 3001 3023 3025 3027	R
R	3617 3619 3615 3613 3623 3625 · · 3631 3609 3611 3607 3605 3601 3603 3648 3631 · · · 3637 3639 · · 3643 3823 · · 3833 3901 · · 3906 3287	3301 3302 3297 3298 3305 3303 3306 3307 3308 3295 3296 3299 3294 3304 3311 3310 3365 3366	R
R	3859 3865 3885 3855 3847 3851 3879 3853 3844 3845 3857 3858 3861 · 3864 3835 · · · 3843 3848 3877 3875 3873 3871		R

13178E10

SK Wave range	Signal to	◇	Trimming point	Detune			
FM 88.0 - 103.5 MHz			1	2904 2910 2914			
					3930	◇1 min. 1.0 V⎓ max. 1.5 V⎓	
					5916-a	◇2 min. V⎓	
103.5 MHz 1 kHz		◇D				◇3 13.75 V⎓	
					5906	◇2 min. V⎓	◇4 max. 1 kHz
88.0 MHz 1 kHz						◇3 3.75 V⎓	
					5906	◇2 min. V⎓	◇4 max. 1 kHz
					5902 5904 5905		◇4 max. 1 kHz
103.5 MHz 1 kHz					2904 2910 2914		
					5908		◇4 max. 1 kHz
			2		5916-a	◇2 min. V⎓	
103.5 MHz 1 kHz		◇D			5917		◇4 min. 1 kHz
88 MHz 20 µV					3930	◇1 0.8 V⎓	

GB

1 Set C2904-2910-2914 to mechanical mid-position.

2 Tune the set so that at ◇3 13.75 V d.c. is measured.

F

1 Placer C2904-2910-2914 en position médiane.

2 Syntoniser de façon à mesurer 13,75 V ⎓ sur ◇3.

NL

1 C2904-2910-2914 in de mechanische middenstand zetten.

2 Afstemmen en wel zo dat op ◇3 13,75 V ⎓ gemeten wordt.

D

1 C2904-2910-2914 in mechanische Mittelstellung bringen.

2 So abstimmen, dass an ◇3 13,75 V ⎓ gemessen wird.

* NOR-GATE

INPUT			OUTPUT
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

** NAND-GATE

INPUT			OUT
0	0	0	1
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	0

*** BINARY COMPARATOR

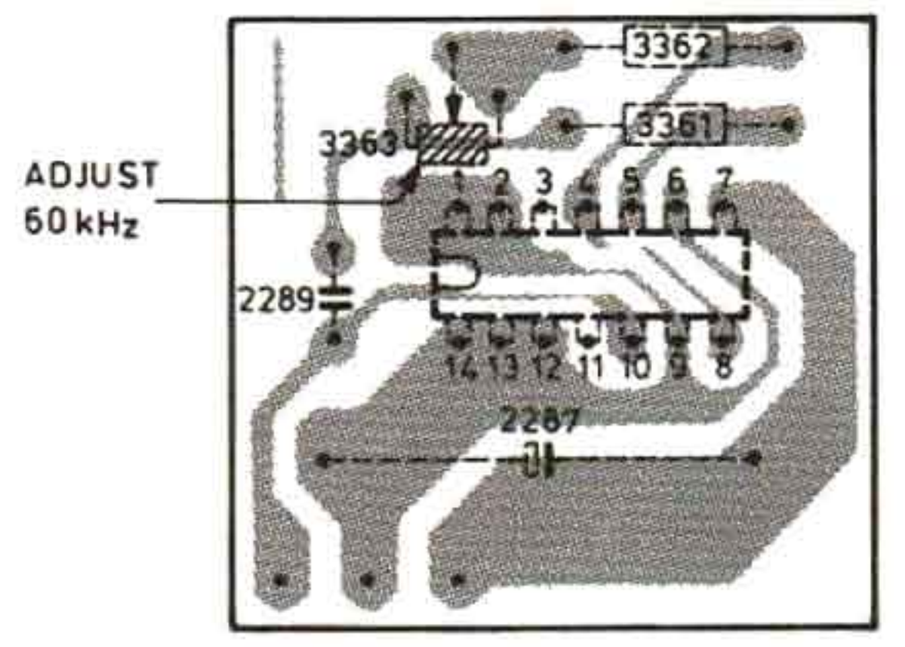
INPUT		OUT
0	0	1
0	1	0
1	0	0
1	1	1

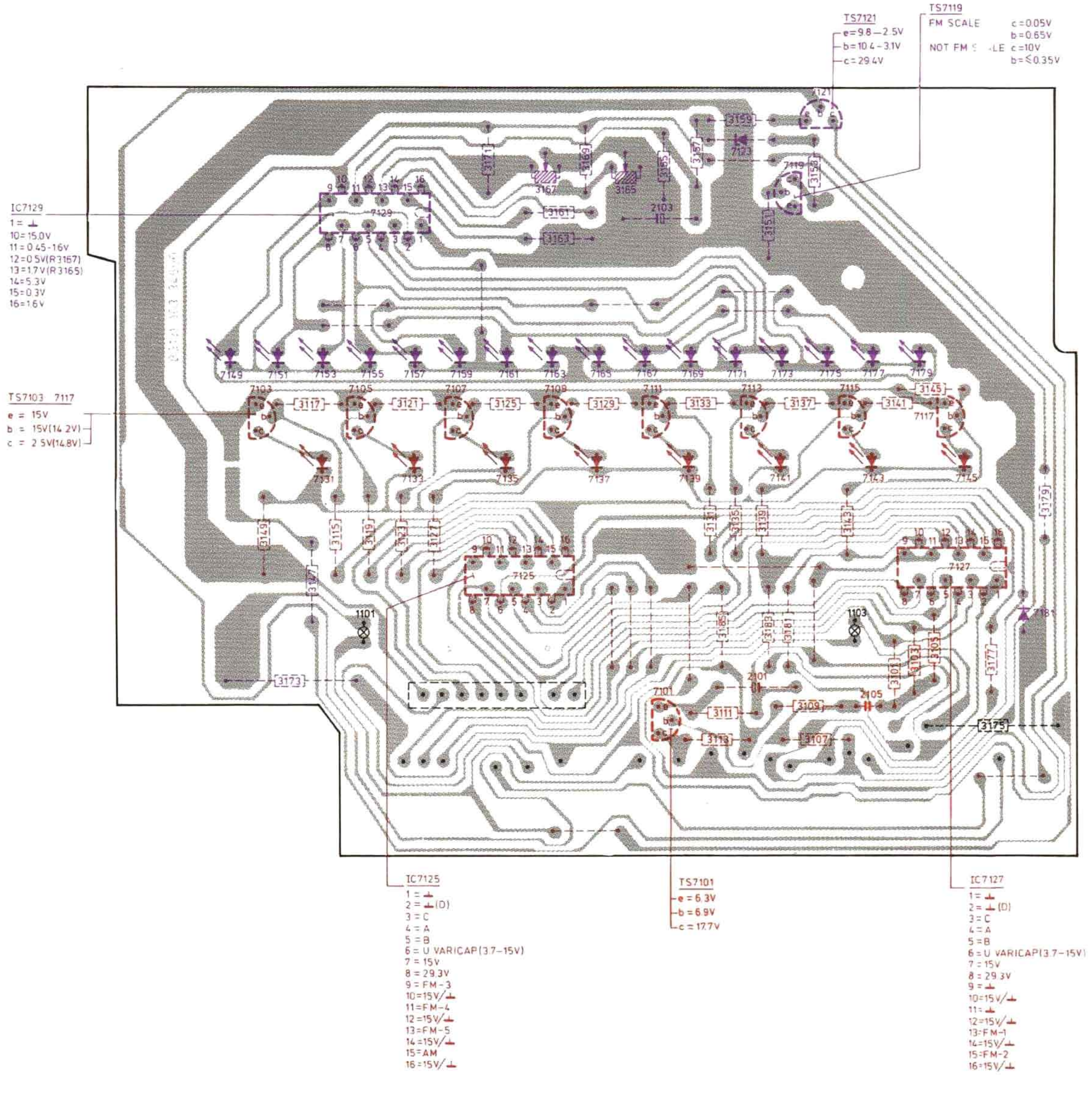
	SELECTION BINF				ANALOGUE SELF			
	A	B	C	D	a	b	c	d
PU	0	0	0	0	1	1	1	1
TAPE	1	0	0	0	1	1	1	1
FM 1	0	1	0	0	1	1	1	1
FM 2	1	1	0	0	1	1	1	1
FM 3	0	0	1	0	1	1	1	1
FM 4	1	0	1	0	1	1	1	1
FM 5	0	1	1	0	1	1	1	1
AM	1	1	1	0	1	1	1	1
BASS	X	X	X	X	0	0	1	1
TREBLE	X	X	X	X	0	1	0	1
VOLUME	X	X	X	X	0	0	0	1
BASS	X	X	X	X	1	0	1	1
TREBLE	X	X	X	X	1	1	0	1
VOLUME	X	X	X	X	1	0	0	1
MUTE	X	X	X	X	0	1	1	0
BALANCE L	X	X	X	X	0	0	1	0
BALANCE R	X	X	X	X	1	0	1	0

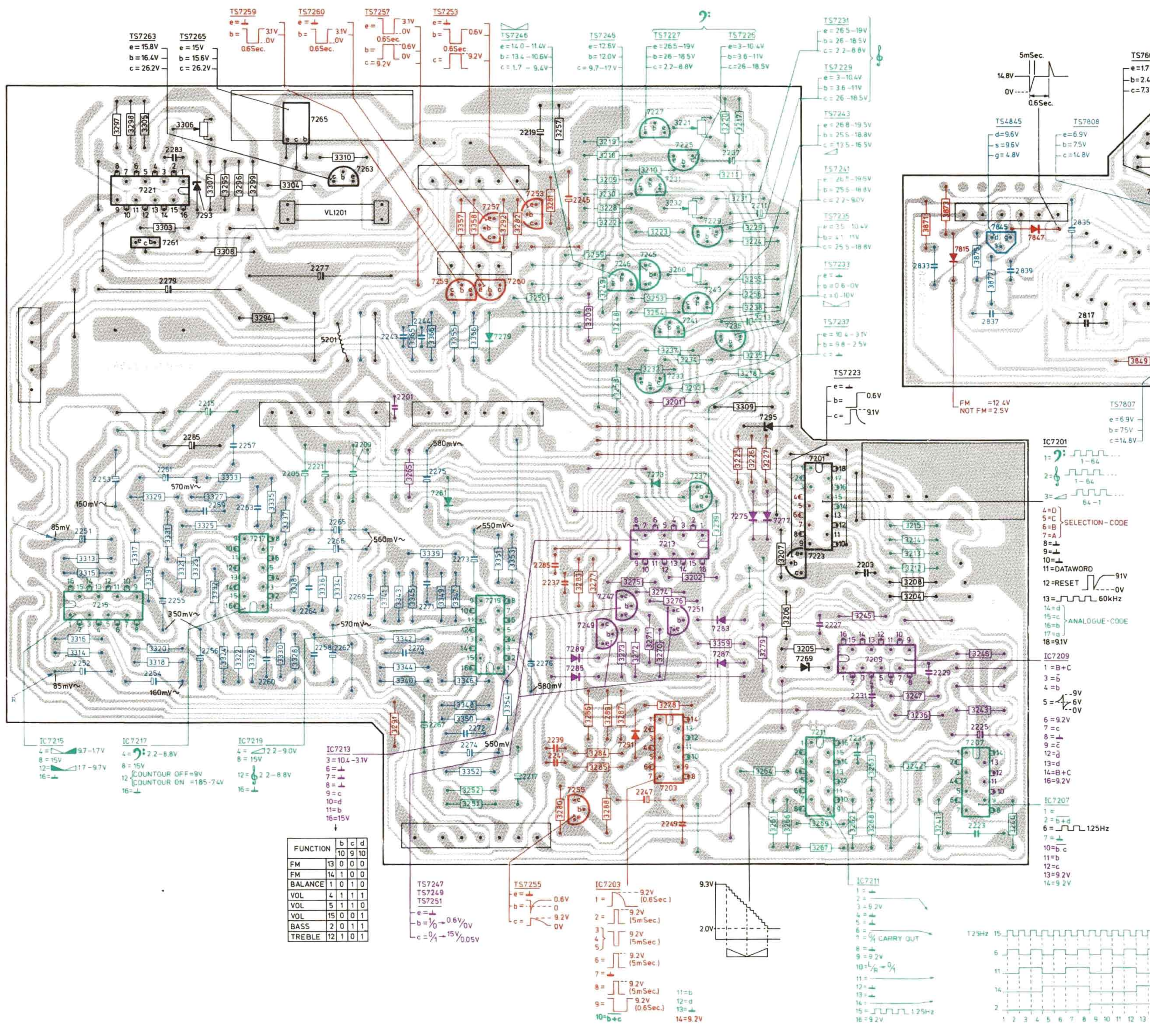
FUNCTION		b	c	d
		11	9	10
FM	13	0	0	0
FM	14	1	0	0
BALANCE	1	0	1	0
VOL	4	1	1	1
VOL	5	1	1	0
VOL	15	0	0	1
BASS	2	0	1	1
TREBLE	12	1	0	1

	19	20	21

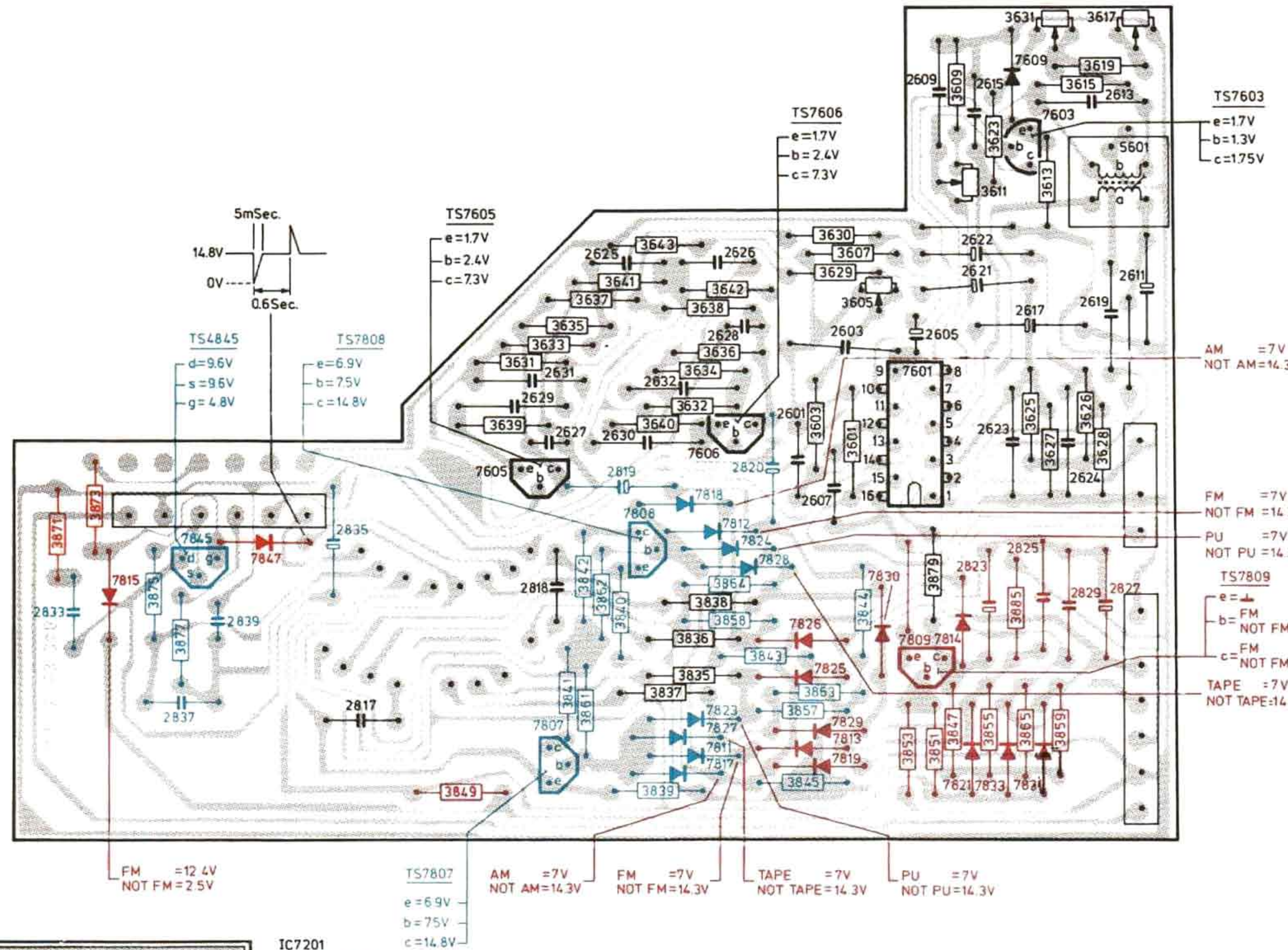
	Components
MISC	7149 7151 7153 7155.7129 7157 7159 7161 7163 7165 7167 7169 7171.7123.7173.7119.7121.7175.7177 7179 7221.7261 7293 7265 VL1201 5201.7263 7259.7257.7260.7279.7253 7246.7245.7231.7233.7227.7241.7225.7243.7229.7235.7295 7605 7808 7818 7812 7606 7601 7609 7603 5601
MISC	7147 7103 7131.7105.1101 7133 7101 7135.7125 7109.7137 7111.7101.7139 7113.7141 7115.1103.7143 7117.7127.7145 7181 7215 7217 7281 7219 7255.7289.7285.7249.7247.7291.7273.7213.7203.7251.7237.7283.7287. 7275 7277.7223.7269.7201.7211 7209 7815 7207 7845 7847 7807 7811.7817.7823···7830.7813.7819.7809.7821.7814.7833.7831
C	2289 2281 2103 2279.2283.2285.2215. 2257 2205.2277.2221 2201 2243.2244 2219 2245 2207.2213.2211 2629 2631 2625 2632 2626 2628 2603.2609.2605.2622.2621.2615.2617.2619.2613.2611
C	2101 2105 2251.2252.2253.2254.2255.2261.2256.2259 2260.2262···2266.2258 2209.2269.2201.2270.2267.2271···2275.2274.2217.2276.2239.2241.2237 2285 2247 2249 2227 2235 2203 2231 2833 2229 2223 2225 2837.2839 2835 2817 2818 2627 2630 2819 2820 2601 2607 2823 2623 2825 2624.2829.2827
R	3363 3362.3361 3171.3167.3161.3163.3169 3165 3155 3157 3159.3151 3153 3297.3298.3303.3305···3308.3294···3296.3299.3304 3310 3357.3358.3292.3282.3281.3257 3259.3216.3249.3209···3211.3219···3224.3260.3228···3232 3217. 3255.3256.3258 3631···3643 3603.3630.3629.3607.3605.3601.3609.3631.3623.3613.3615.3625···3628.3617.3619
R	3149 3117 3115.3119.3123.3121.3127 3125 3129 3133.3131.3135.3139 3137 3143 3141.3145 3179 3314···3321 3322···3328 3265.3365.3366.3355.3356 3368 3250.3202.3248.3258.3253.3254.3237.3233···3235.3201.3293.3309.3218.3225···3227 3871 3873 3875 3877 3849 3835···3843.3861···3864 3857.3845.3844.3853.3879.3851.3847.3855.3885.3865.3859
R	3173.3147 3185.3111.3113.3183.3181.3109.3107 3101.3103.3105 3177.3175 3291.3339···3354.3251.3252 3280.3283···3289.3270···3279.3202.3239.3359. 3261···3264. 3266···3269.3204···3208. 3245.3247.3212···3215.3236.3240···3243.3246 3367







FUNCTION		b	c	d
		10	9	10
FM	13	0	0	0
FM	14	1	0	0
BALANCE	1	0	1	0
VOL	4	1	1	1
VOL	5	1	1	0
VOL	15	0	0	1
BASS	2	0	1	1
TREBLE	12	1	0	1



	DATA BIT					SELECTION BINF				ANALOGUE SELF			
	B_0	B_1	B_2	B_3	B_4	A	B	C	D	a	b	c	d
PU	0	0	1	1	0	0	0	0	0	1	1	1	1
TAPE	0	0	0	1	0	1	0	0	0	1	1	1	1
FM1	0	0	1	0	0	0	1	0	0	1	1	1	1
FM2	0	0	0	0	0	1	1	0	0	1	1	1	1
FM3	0	1	1	1	0	0	0	1	0	1	1	1	1
FM4	0	1	0	1	0	1	0	1	0	1	1	1	1
FM5	0	1	1	0	0	0	1	1	0	1	1	1	1
AM	0	1	0	0	0	1	1	1	0	1	1	1	1
BASS	1	0	0	1	0	X	X	X	X	0	0	1	1
TREBLE	1	0	1	0	0	X	X	X	X	0	1	0	1
VOLUME	1	0	0	0	0	X	X	X	X	0	0	0	1
BASS	1	1	0	1	0	X	X	X	X	1	0	1	1
TREBLE	1	1	1	0	0	X	X	X	X	1	1	0	1
VOLUME	1	1	0	0	0	X	X	X	X	1	0	0	1
MUTE	1	0	1	1	1	X	X	X	X	0	1	1	0
BALANCE L	1	0	0	1	1	X	X	X	X	0	0	1	0
BALANCE R	1	1	0	1	1	X	X	X	X	1	0	1	0

* NOR-GATE (IC7203)

INPUT			OUTPUT
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

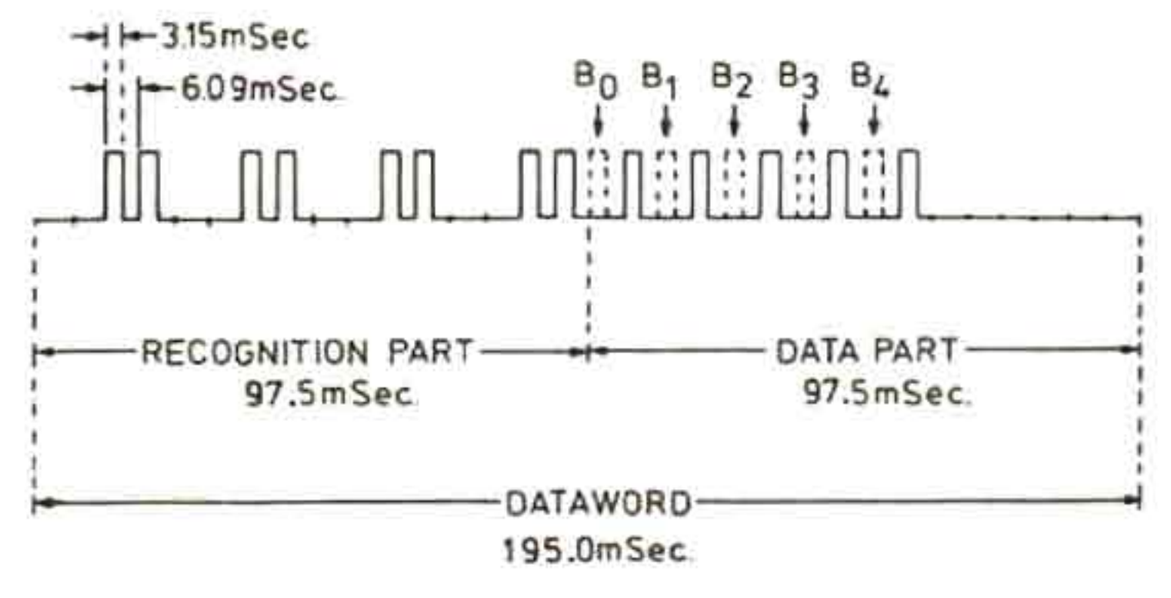
** NAND-GATE (IC7205-IC7207)

INPUT			OUTPUT
0	0	0	1
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	0

*** BINARY-COMPARATOR (IC7209)

INPUT		OUTPUT
0	0	1
0	1	0
1	0	0
1	1	1

13177 F10



CS 60 145

(GB) Adjusting the transmitter

If the battery voltage is under 7.5 V, the battery has to be replaced before making adjustments.

- Connect a frequency counter to point 7 of IC 7001, via a 1,5 pF capacitor.
  Depress one of the transmitter keys.
  Adjust the frequency to 20 kHz with C2002.
- In case a frequency counter is non-available, the following procedure may be followed.
  Connect an oscilloscope to point 4 of the plug on the infrared receiver unit.
  Depress one of the transmitter keys.
  If on the oscilloscope the oscillogram of Fig. 1 appears, the transmitter should be directed away from the receiver until the oscillogram of Fig. 2 appears.
  Next, adjust to maximum voltage with C2002, the position of transmitter and receiver may not be changed.

(D) Abgleichen des Senders

Ist die Batteriespannung < 7,5 V, dann muss man die Batterie ersetzen ehe man mit den Abgleicharbeiten beginnt.

- Einen Frequenzzähler über einen 1,5 pF-Kondensator an Punkt 7 von IC 7001 anschliessen.
  Einen der Knöpfe des Senders drücken.
  Mit C2002 die Frequenz auf 20 kHz.
- Steht kein Frequenzzähler zur Verfügung, so kann folgende Annäherungsmethode angewandt werden.
  Ein Oszilloskop an Punkt 4 der Buchse auf der Infrarot-Empfänger-Einheit.
  Einen der Knöpfe des Senders drücken.
  Erscheint am Oszilloskop das Oszillogramm nach Abb. 1 so muss man den Sender so vom Empfänger wegdrehen, dass das Oszillogramm nach Abb. 2 entsteht. Dann C2002 auf Maximumspannung einstellen, wobei sich die Position zwischen Sender und Empfänger nicht ändern soll.

(NL) Afregelen van de zender

Indien de batterijspanning < 7,5 V, dient men eerst de batterij te vervangen alvorens met afregelen te beginnen.

- Sluit een frequentieteller via een condensator van 1,5 pF aan op punt 7 van IC 7001.
  Druk één van de knoppen van de zender in.
  Regel met C2002 de frekwentie af op 20 kHz.
- Indien geen frekwentieteller voorhanden is, kan de volgende benaderingsmethode worden toegepast.
  Sluit een oscilloscoop aan op punt 4 van de plug op de infra-rood ontvanger unit.
  Druk één van de knoppen van de zender in.
  Indien op de oscilloscoop het oscillogram van Fig. 1 verschijnt, dient men de zender zodanig van de ontvanger weg te richten totdat het oscillogram van Fig. 2 ontstaat.
  Regel nu C2002 af op maximum spanning waarbij de positie tussen zender en ontvanger niet mag wijzigen.

(F) Réglage de l'émetteur

Si la tension de pile est < 7,5 V, il faudra d'abord procéder au remplacement de la pile avant d'effectuer le réglage.

- Brancher un fréquencemètre à travers un condensateur de 1,5 pF sur le point 7 du IC 7001.
  Presser un des boutons de l'émetteur.
  Régler la fréquence sur 20 kHz à l'aide de C2002.
- Si l'on ne possède pas de compteur de fréquence appliquer la méthode suivante.
  Brancher un oscilloscope sur le point 4 de la fiche de l'unité de réception par infra-rouge.
  Presser un des boutons de l'émetteur.
  Si l'on obtient l'oscillogramme de la Fig. 1, éloigner l'émetteur du récepteur jusqu'à l'obtention de l'oscillogramme de la Fig. 2.
  Régler à présent C2002 pour une tension maximum, la position entre l'émetteur et le récepteur doit être inchangée.

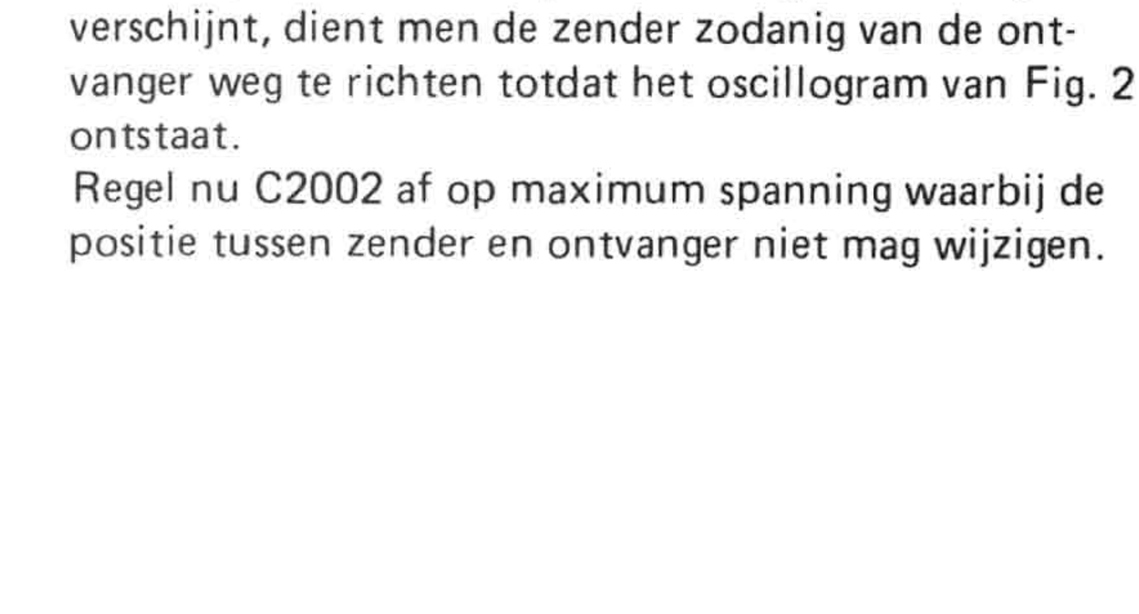
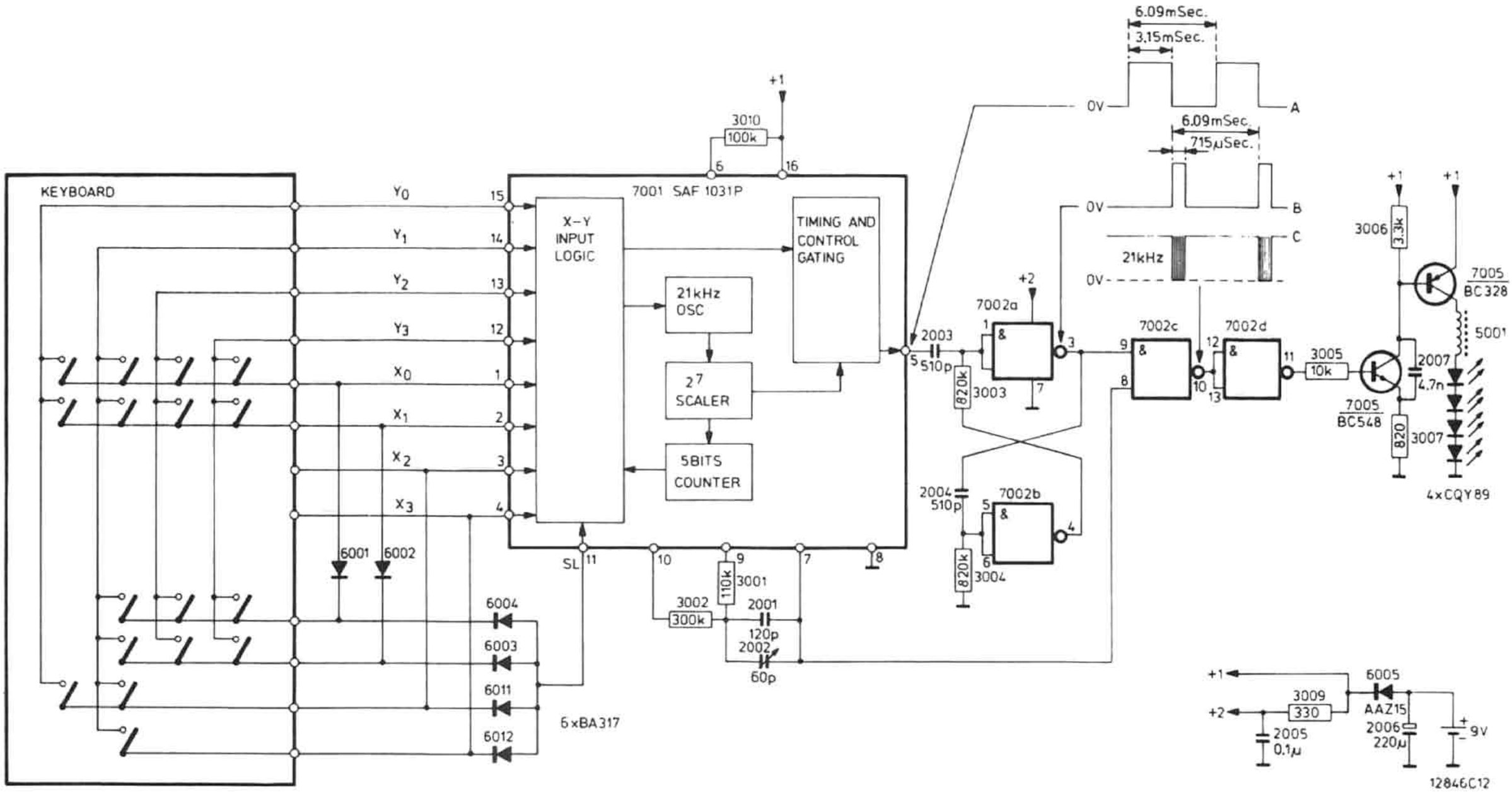
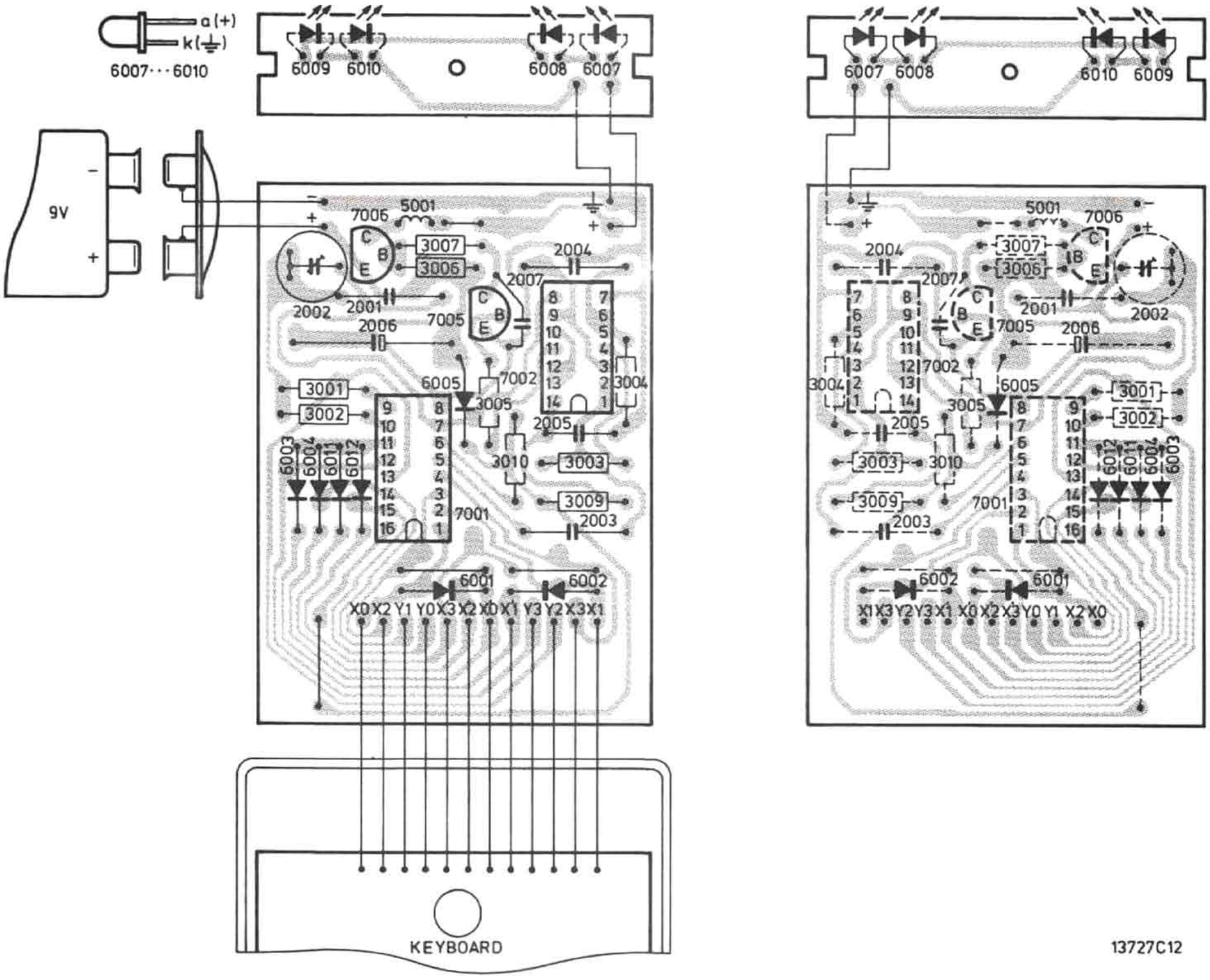
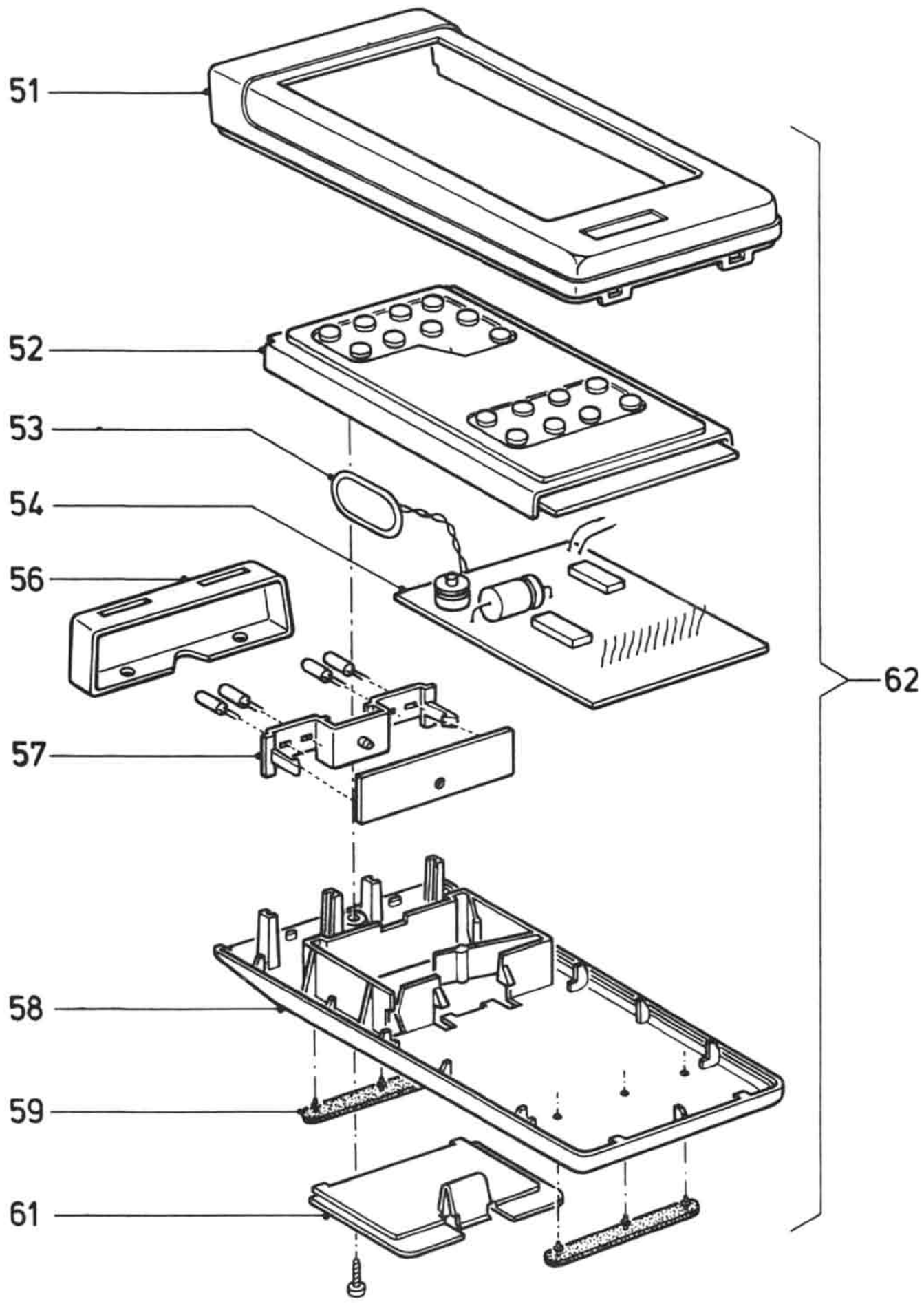


Fig. 1

Fig. 2


KEYBOARD
Y0
Y1
Y2
Y3
X0
X1
X2
X3
7001 SAF 1031P
X-Y INPUT LOGIC
21kHz OSC
2^7 SCALER
5BITS COUNTER
TIMING AND CONTROL GATING
3010 100k
6001 6002
6004 6003 6011 6012
6 x BA317
SL
3002 300k
110k 3001
2001 120p
2002 60p
2003 510p
2004 510p
820k 3003
820k 3004
7002a
7002b
7002c
7002d
6.09mSec.
3,15mSec.
715µSec.
21kHz
0V
A
B
C
3005 10k
7005 BC328
7005 BC548
2007 4.7n
3006 3.3k
3007 820
5001
4 x CQY89
+1
+2
3009 330
2005 0.1µ
6005 AAZ15
2006 220µ
9V
12846C12


a (+)
k (⏚)
6007 ··· 6010
6009 6010 6008 6007
9V
7006
5001
3007
3006
2004
2007
2002
2001
2006
7005
7002
6005
3005
3001
3002
3004
3010
3003
3009
2003
2005
6003 6004 6011 6012
7001
6001 6002
X0 X2 Y1 Y0 X3 X2 X0 X1 Y3 Y2 X3 X1
KEYBOARD
6007 6008 6010 6009
X1 X3 Y2 Y3 X1 X0 X2 X3 Y0 Y1 X2 X0
13727C12



51	4822 426 40134
52	4822 432 30035
53	4822 290 80013
54	4822 212 20389
56	4822 432 30034
57	4822 404 30264
58	4822 432 30032
59	4822 462 71082
61	4822 432 30033
62	4822 218 10117

7001	SAF1031p	4822 209 10006
7002	HEF4011	5322 209 14046
7005	BC548	4822 130 40938
7006	BC328	5322 130 44104
6001...6005		
6011-6012	BA317	4822 130 30847
6007-6010	CQ489	4822 130 30949

2001	Micropoco 120 pF	4822 121 50548
2002	Trimmer 60 pF	4822 125 50017
2003-2004	Micropoco 510 pF	5322 121 54055

3001	Met. film 56 Ω	5322 116 54701
3002	Met. film 300 kΩ	5322 116 54743

M	S 2711 TS 2705 TS2707	S2711 TS2705 TS 2707
C	3711 3709 3707 3729 3727 3731 3719 3733 3735 3743	3713 3728 3715 3717 3721 3741
C	3713 3728 3715 3717 3721 3741	3711 3709 3707 3729 3727 3731 3719 3733 3735 3743
R	4705 4703 4721 4729 4723	4713 4719 4711 4709 4725 4741 4729
R	4713 4719 4711 4709 4725 4741 4727	4703 4705 4721 4729 4723

CARBON RESISTOR E24 SERIES 0.125W 5%

CARBON RESISTOR E12 SERIES 0.5W 5%

PLATE CERAMIC CAPACITOR

FLAT FOIL POLYESTER CAPACITOR

MINIATURE ELECTROLYTIC CAPACITOR

∗ f = 25V

TS 2707

TS2705

10912C4

6750A12/B

Wave range		Inject		Detune	Adjust	Indicator
MW 520-1650 kHz	1 via 33 nF	A	Min. cap.	S412-413	S414	Max. V~on L.S. socket
					S413	
					S412	
		B			S411	Min. V~ on L.S. socket
					S410	
LW 150-345 kHz	MW 512 kHz LW 147 kHz	C Aerial inlet	Max. cap.		S2711	Max. V~ on L.S. socket
	MW 1635 kHz LW 352 kHz		Min. cap.		C3727	
	MW 550 kHz LW 157 kHz		Tune in		S5002	
	MW 1500 kHz LW 336 kHz				C3707	

GB

1 Determine the frequency of the ceramic resonator by varying the frequency of the HF-generator between 445 kHz and 470 kHz. The frequency at which the deflection of the ac-voltmeter is maximum, is the natural frequency of the resonator. This is the IF to which the set must be adjusted.

For the LW-version, the following components have been added or changed:
- Added C3723, plate cap. 27 pF ΔΔ
  C3723 is connected parallel to C3707.
- Added C3745, flat cap. 10 nF, service code number 4822 121 41134
  C3745 is located between the collector of TS2707 and chassis
- Changed C3713, flat cap. 33 nF, service code number 4822 121 41147.
- Changed C3729, plate cap. 100 pF ΔΔ
- Changed C3731, micropoco 180 pF, service code number 5322 121 54057.

F

1 Déterminer la fréquence du résonateur céramique en faisant varier la fréquence du générateur HF entre 445 kHz et 470 kHz. La fréquence à laquelle la pleine déviation est atteinte, est la propre fréquence du résonateur. Il s'agit-là de la FI à laquelle l'appareil doit être ajusté.

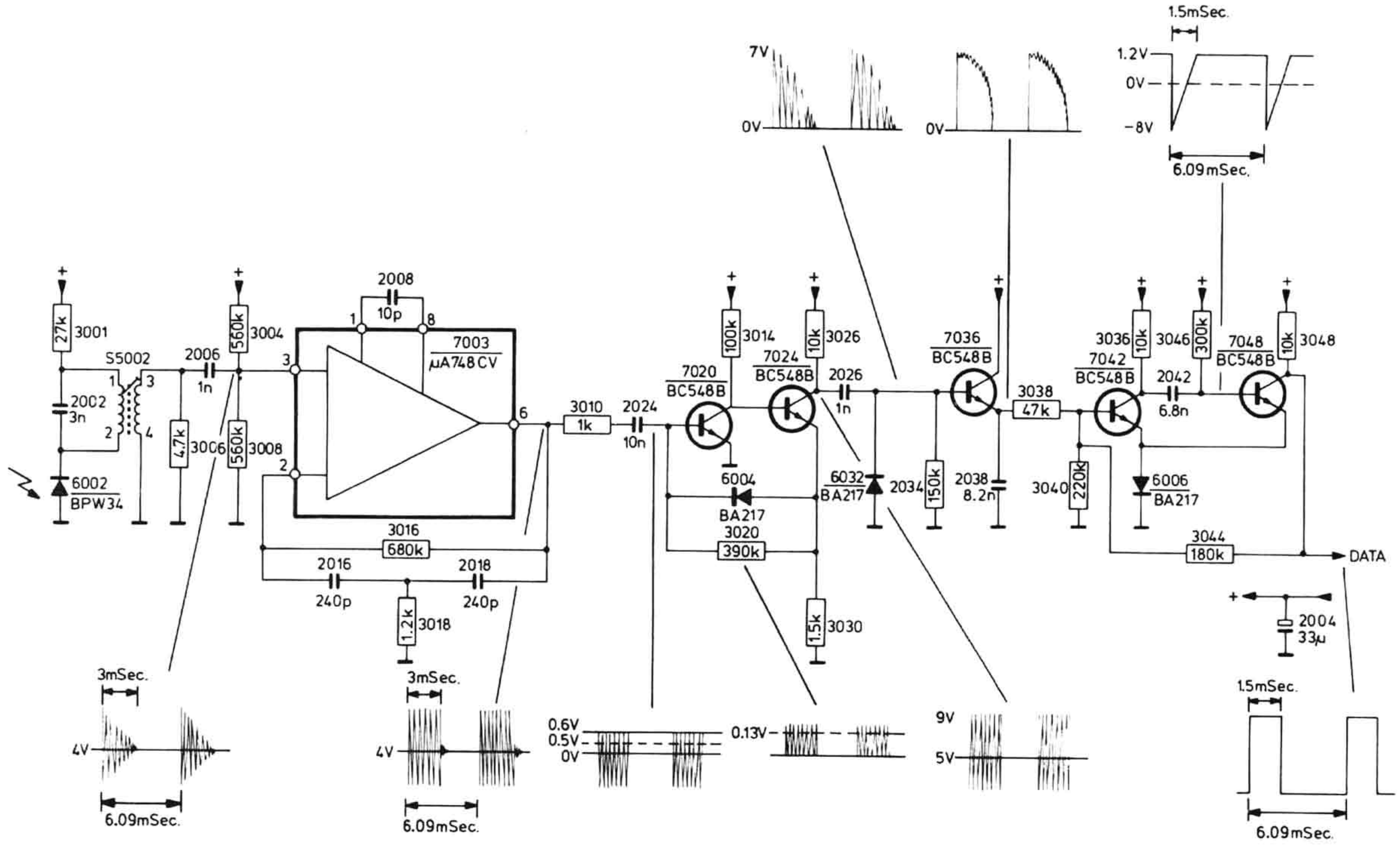
Pour la version G.O., les composants suivants ont été ajoutés ou modifiés:
- C3723, condens. plaquettes 22 pF ΔΔ ajouté
  C3723, branché en parallèle à C3707
- C3745, condens. plaquette, 10 nF, code 4822 121 41134 ajouté: il est monté entre le collecteur de TS2707 et la masse
- C3713, condens. plaquette, 33 nF, code 4822 121 41147
- C3729, condens. plaquette, 100 pF ΔΔ
- C3731, condens. micropoco, 180 pF, code 5322 121 54057.

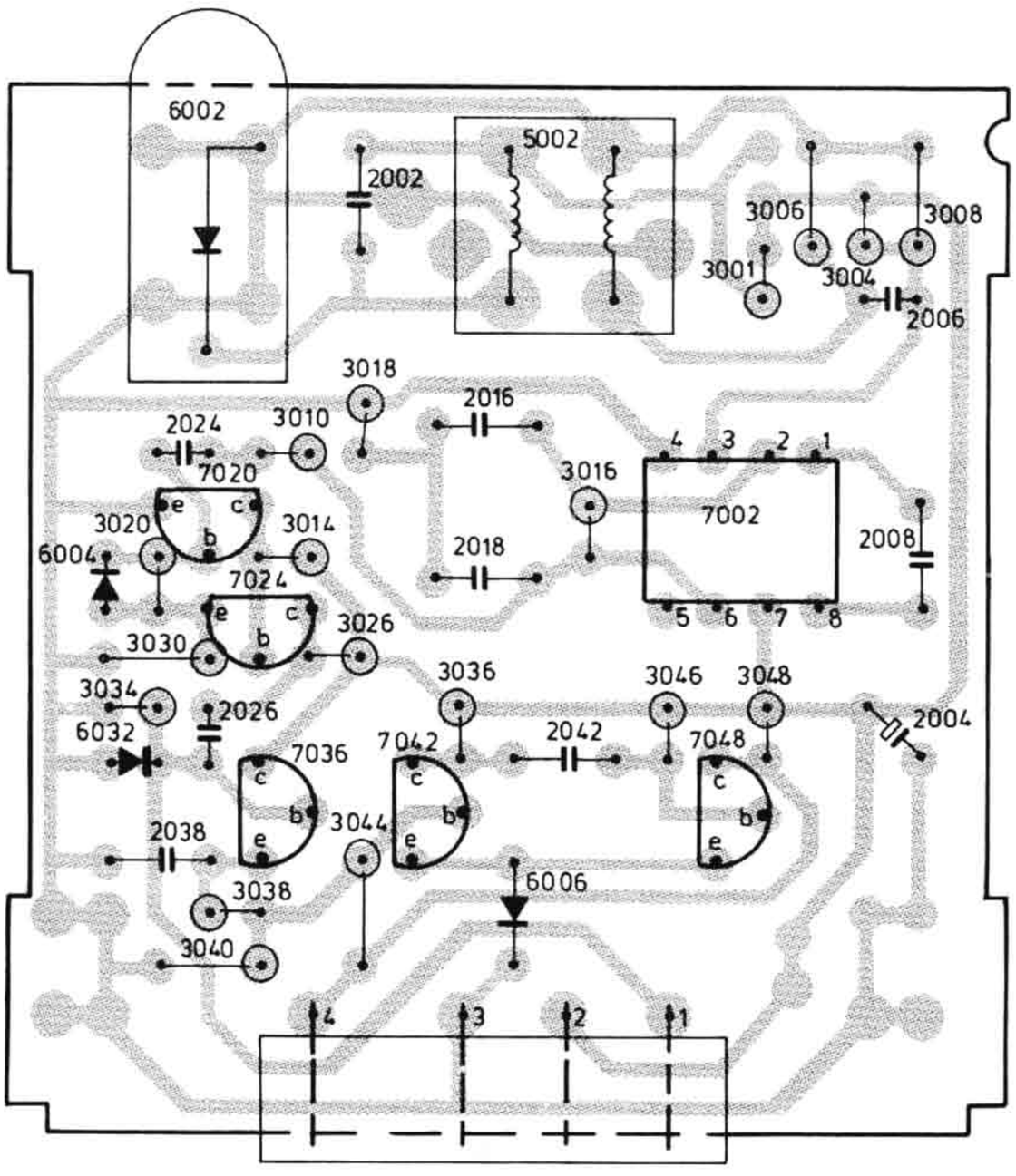
NL

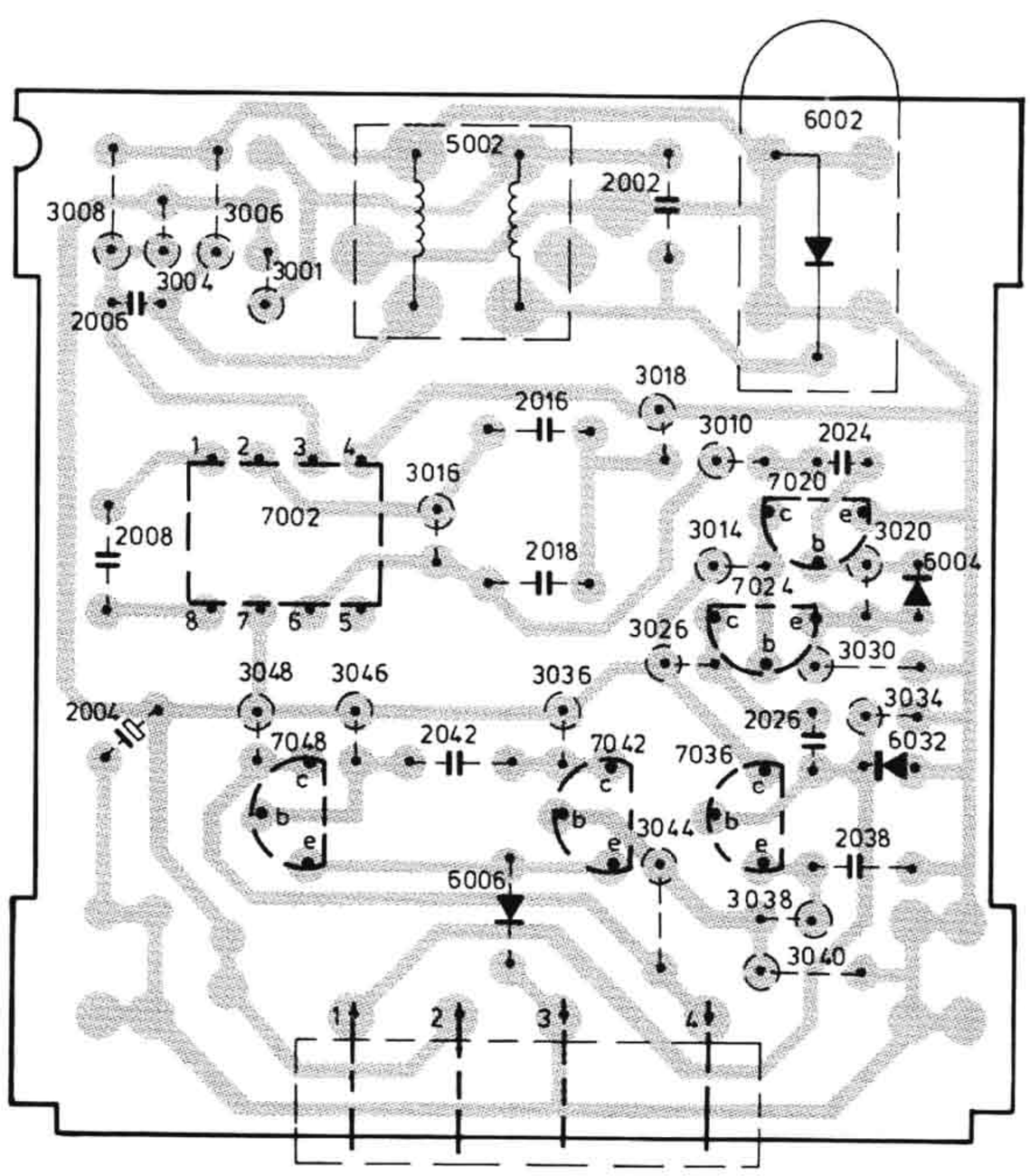
1 Bepaal de frekwentie van de keramische resonator, door de HF-generator te variëren tussen 445 kHz en 470 kHz. De frekwentie waarbij de uitslag van de meter maximaal is, is dan ook de MF waarop wordt afgeregeld.

D

1 Bestimme die Frequenz des keramischen Resonators durch Variieren des HF-Generators zwischen 445 kHz und 470 kHz. Die Frequenz, bei der der Messerausschlag maximal ist, ist die Eigenfrequenz des Resonators. Dies ist die ZF auf die justiert wird.

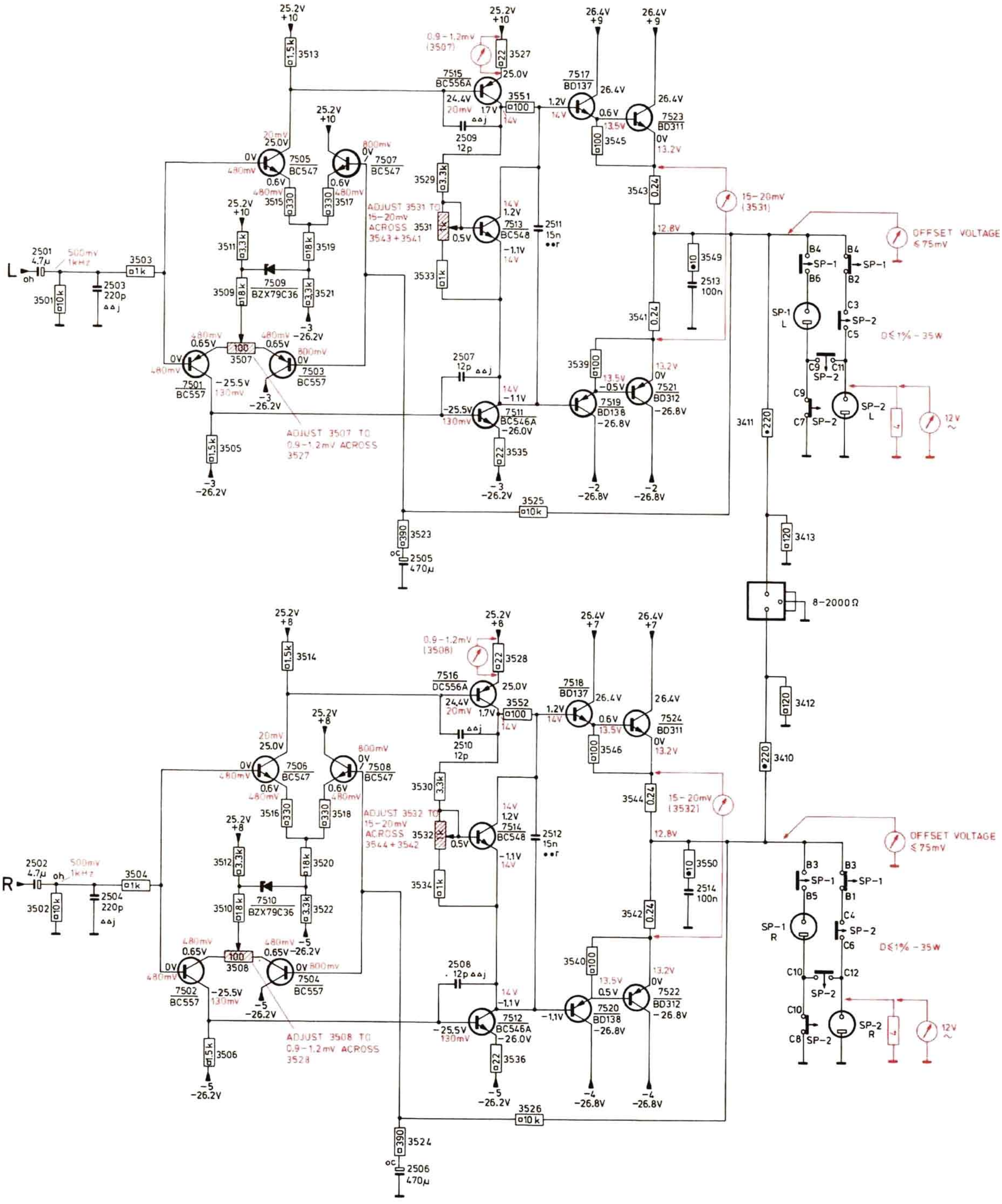

1.5mSec.
7V
0V
0V
1.2V
0V
-8V
6.09mSec.
27k
3001
S5002
2002
3n
6002
BPW34
2006
1n
560k
3004
4.7k
3006
560k
3008
2008
10p
7003
µA748CV
3016
680k
2016
240p
2018
240p
1.2k
3018
3010
1k
2024
10n
100k
3014
7020
BC548B
10k
3026
7024
BC548B
2026
1n
6004
BA217
3020
390k
1.5k
3030
6032
BA217
2034
7036
BC548B
150k
2038
8.2n
3038
47k
3036
10k
7042
BC548B
3046
300k
2042
6.8n
7048
BC548B
10k
3048
3040
220k
6006
BA217
3044
180k
DATA
2004
33µ
3mSec.
4V
6.09mSec.
3mSec.
4V
6.09mSec.
0.6V
0.5V
0V
0.13V
9V
5V
1.5mSec.
6.09mSec.
12835C12


6002
2002
5002
3006
3008
3001
3004
2006
3018
2016
2024
3010
7020
3016
7002
2008
3020
3014
6004
2018
7024
3030
3026
3034
2026
3036
3046
3048
2004
6032
7036
7042
2042
7048
2038
3044
6006
3038
3040
4
3
2
1
5
6
7
8
13693B2


6002
5002
2002
3008
3006
3004
3001
2006
3018
2016
3010
2024
3016
7020
7002
2008
3014
3020
6004
2018
7024
3026
3030
3048
3046
3036
3034
2004
2026
6032
7048
2042
7042
7036
2038
3044
6006
3038
3040
1
2
3
4
8
7
6
5
13694B2

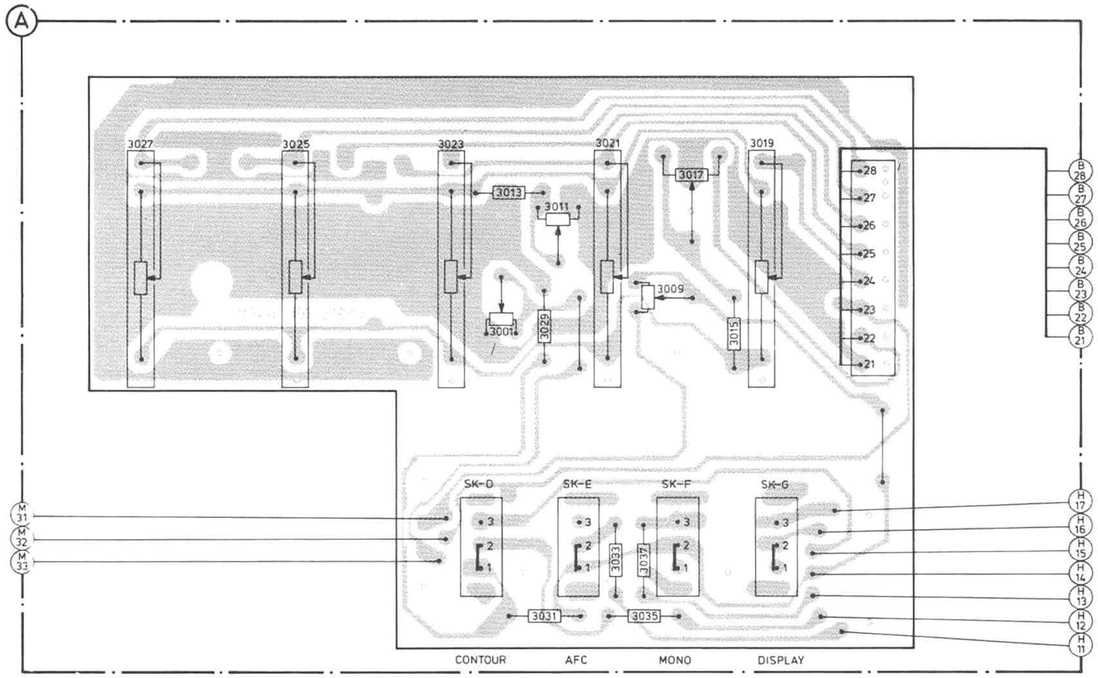
CS 60 148

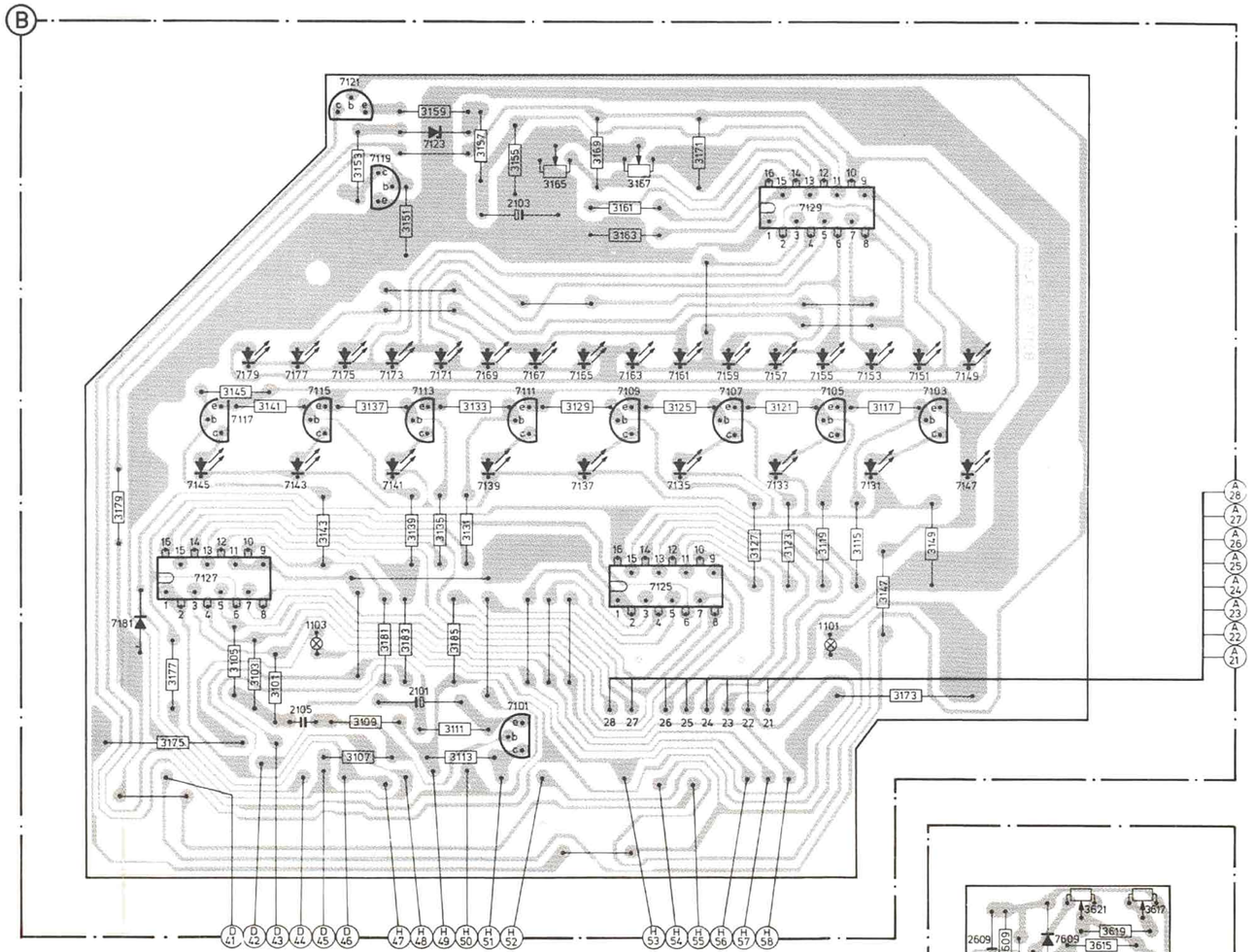
M				7501		7505	7509 7503		7507			7515	7513 7511		7517	7519	7523 7521								M
M				7502		7506	7510 7504		7508			7516	7514 7512		7518	7520	7524 7522								M
C	2501	2503									2505	2509 2507		2511					2513						C
C	2502	2504									2506	2510 2508		2512					2514						C
R	3501		3503		3505	3511 3509 3507	3513 3515 3517		3519 3521		3523	3529	3531	3533	3527	3535	3551	3525	3545	3539	3543	3541	3549	3411 3413	R
R	3502		3504		3506	3512 3510 3508	3514 3516 3518		3520 3522		3524	3530	3532	3534	3528	3536	3552	3526	3546	3540	3544	3542	3550	3410 3412	R

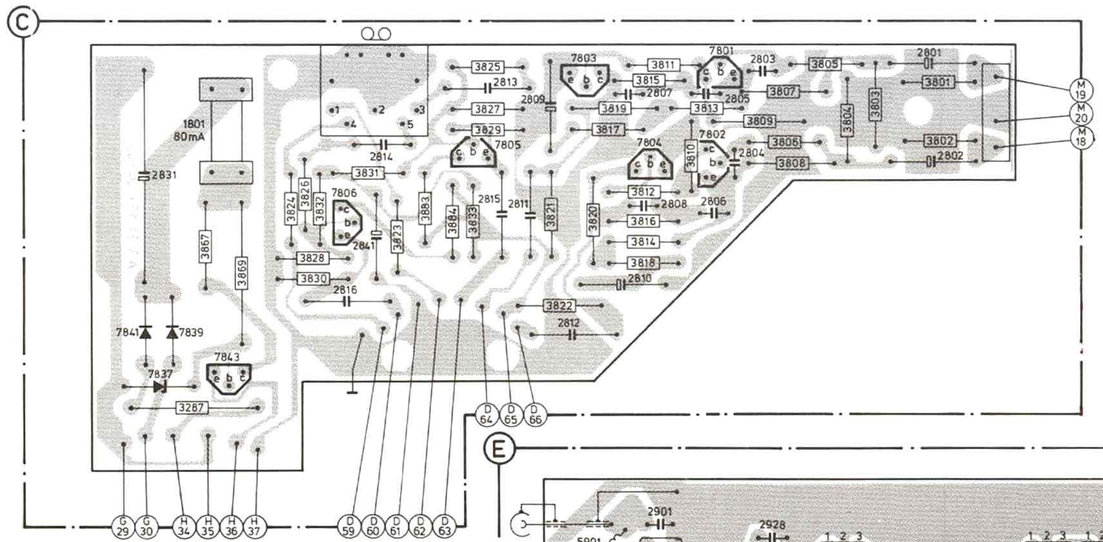


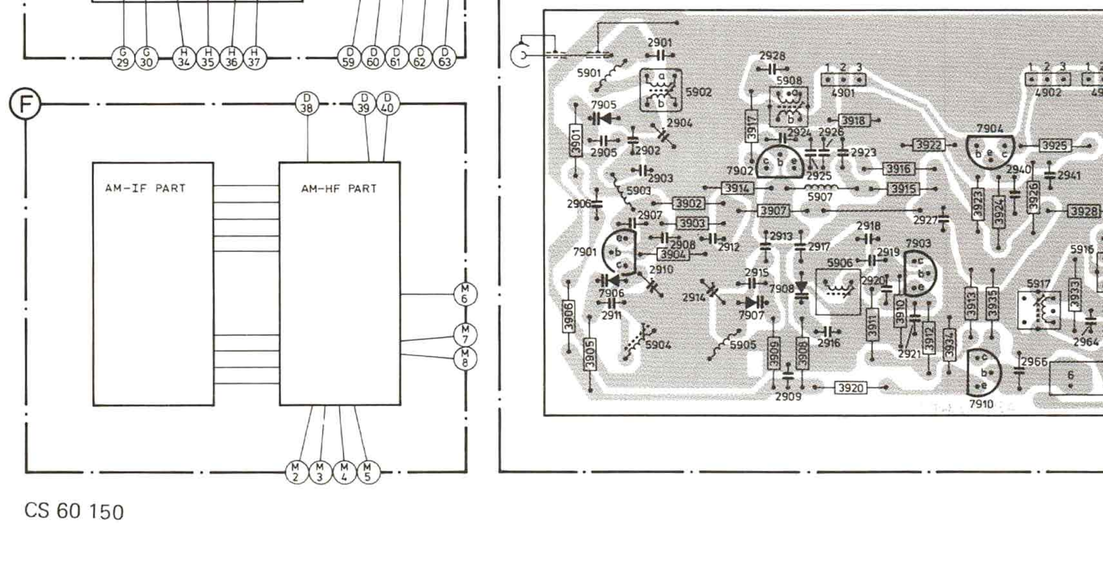
13016 D10

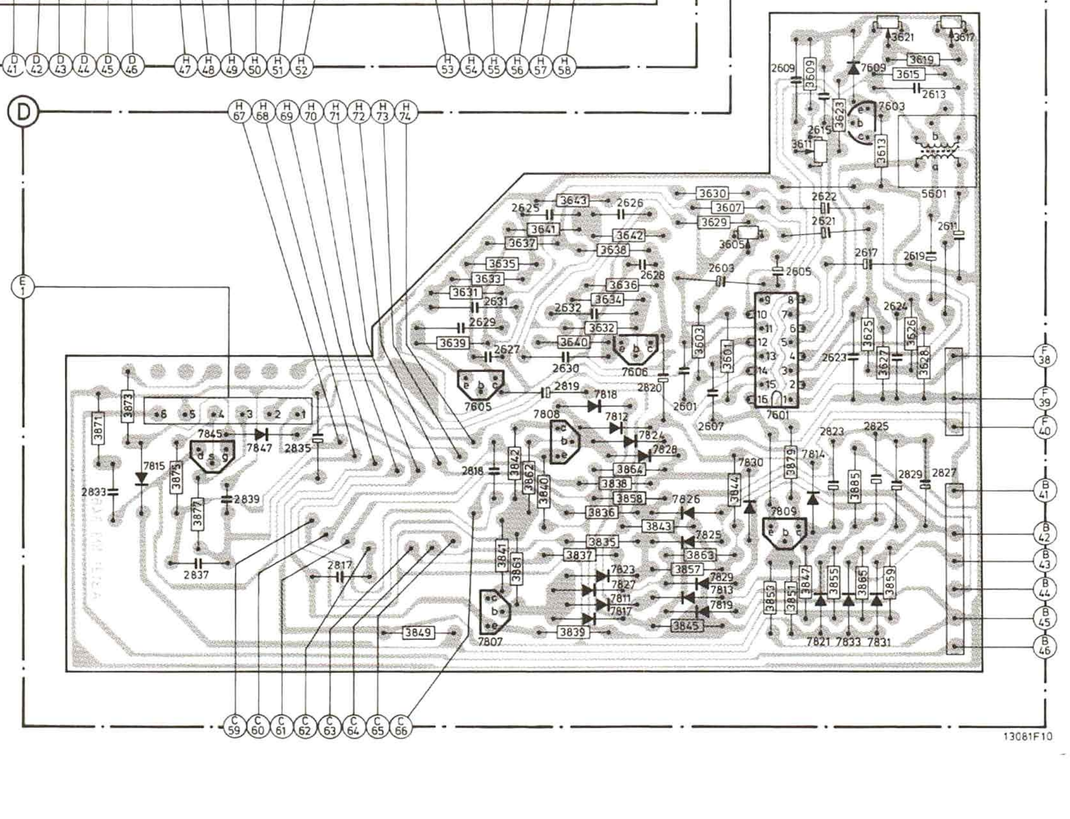
MISC	7841 7837 7839 7843 1801 7806 7805 7803 7804 7802 7801 7181.7145.7127.7117.7179.7177.7143.7115.7121.7175.7119.7173.7141.7113.7171.7123.7169.7139.7111.7167.7165.7137.7109.7163.7125.7161.7135.7159.7107.7157.7133.7129.1101.7155.7105.7131.7153.7151.7103.7147.7149
MISC	7905.7906.7901 7907.7902 7908 4901 7903 7910.7904 4902 4903 7909 1103. 7815 7845 7847 7101 7605 7807.7808.7606.7811 ··· 7814. 7817 ··· 7819 7823 ··· 7831 7601 7809 7821.7833.7609.7603
S	5901 ··· 5904 5905 ··· 5908 5917 5916 5601
C	2831 2816 2841.2814 2813. 2815.2811.2809. 2812.2810. 2803 ··· 2808 2801.2802 2105 2101 2103 2609.2615 2613
C	2901 ·· 2908. 2911.2910 2912 ··· 2921 2923 ··· 2928 2940.2966. 2941 2964 ··· 2959.2955.2958.2951.2968.2956.2965 2833 2837.2839 2835.2817 2818.2625 ··· 2632.2819 2820.2601 2607.2603 2605 2823.2621 ·· 2624.2825.2617.2629.2827.2619
R	3027 3025 3023.3001.3013.3031.3029.3011.3021.3033.3035.3037.3009.3017.3015.3019 3145.3141 3153.3137.3151.3159. 3133. 3157.3155 3165 3129.3169.3161.3163.3167.3125.3171 3127.3121.3123.3119.3115.3117.3147.3173.3149
R	3287.3867. 3869 3823 ··· 3833.3883.3884 3810 ··· 3822 3804 ··· 3809 3801 ··· 3803 3179.3175.3177 3105.3103.3101 3143 3107.3109.3181.3143.3139.3135.3111.3113.3185.3131 3631 ··· 3643 3630.3629.3607.3605. 3609.3611.3623.3613.3621.3615.3619.3617
R	3901 ··· 3906. 3914. 3917.3907 · 3909.3920.3918.3916.3915.3910 ··· 3913.3934.3935.3922 ··· 3926.3928 · · 3933 3871 3873.3875.3877 3849 3861.3862.3835 - 3843.3864.3858.3857.3845.3863.3603.3601.3844.3853.3879.3851.3847.3855.3885.3865.3859.3625. 3628





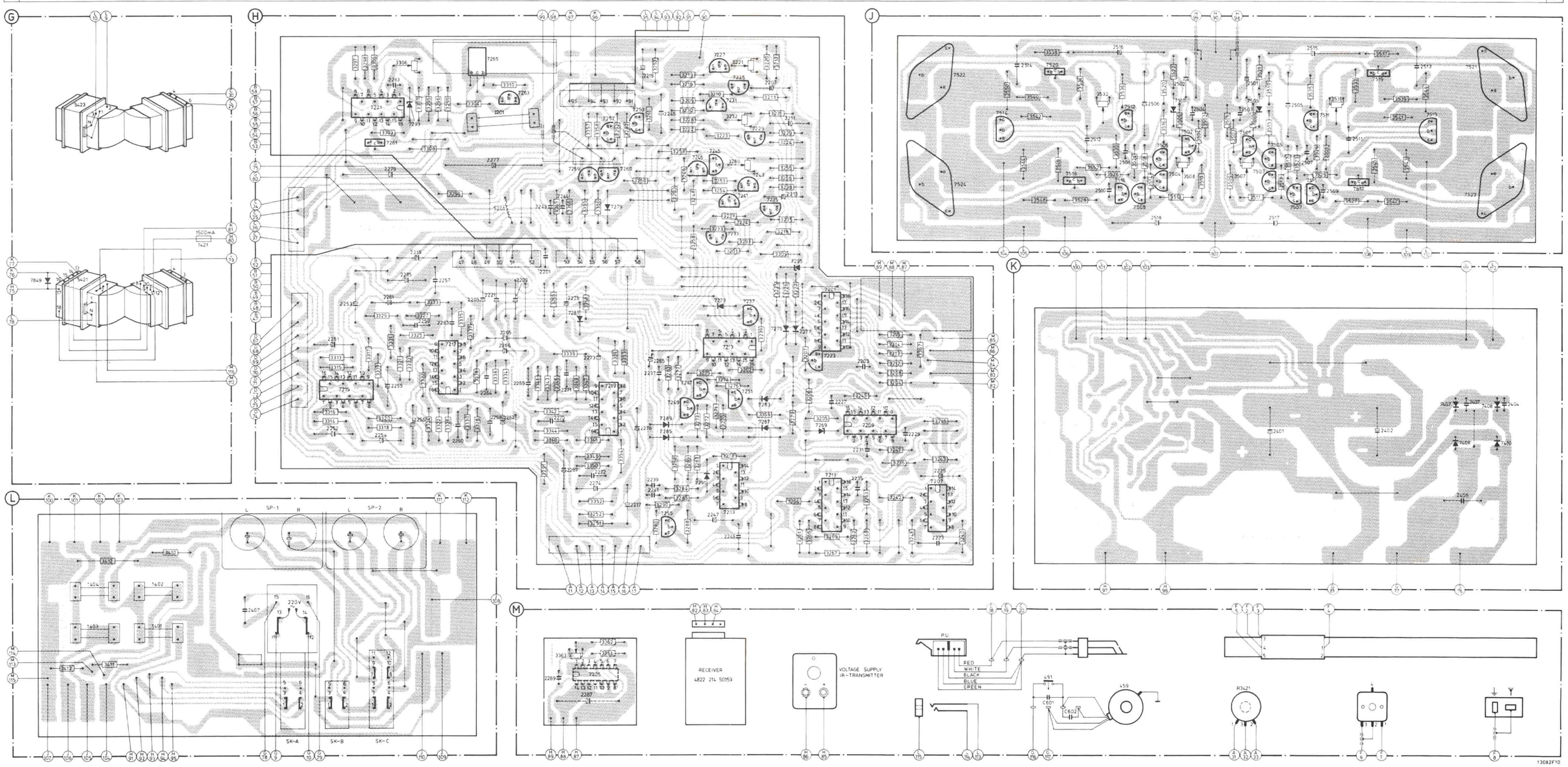






13081F10

MISC	5421 5423	1421	7221 7261	7293	7265 1201	5201 7263	7259 7257 7260 7279 7253	7246 7245 7231 7233 7227 7241 7225 7243 7229 7235 7295	7522 7524	7514	7520	7518	7516 7512 7508 7506 7501 7510 7502	7501 7509 7505 7503 7507 7511 7515	7517	7519	7513	7521 7523	MISC
MISC	7849	1404 1403	1402 1401	SK-A	7215 SK-B	SK-C	7217	7281 7205 7219 7265 7289 7285 7249 7247 7291 7273 7213 7203 7251 7237 7283 7287	7275 7277 7223 7269 7201 7211	7209	7207						7407 7409	7408 7410	MISC
C			2279 2283 2285 2295 2257		2205 2277 2221	2201 2243 2244	2219 2245		2207 2213 2211		2514		2512 2510 2516 2506 2506 2518	2502 2504	2503 2501	2517 2505 2507 2515 2509	2511	2513	C
C	2407		2251 2252 2253 2254 2255 2261 2256 2259		2260 2262	2266 2258	2209 2269 2289 2270 2267 2271	2275 2287 2217 2276 2239 2241 2237 2285	2247 2249	2227 2235 2203 2231	2229	2223 2225		2401			2402	2406 2407	2404	C
R			3297 3298 3303 3305	3308 3294	3296 3299 3304	3310	3357 3358 3292 3282 3281 3297 3295 3216 3249 3209	3211 3215	3214 3260 3228	3232 3217 3255 3256 3258		3590	3540 3542 3538	3534	3532	3536	3520 3516 3522 3506 3504 3502 3501 3503 3505 3521 3519 3515	3535	3531	3533	3537 3541 3539	3549	R
R			3314	3321	3322	3328	3265 3365 3366 3355 3356 3368	3250 3262 3248 3258 3253 3254 3237 3233	3235 3201 3293 3309 3298 3225	3227	3387		3544	3546	3546	3528 3552	3526 3510 3524 3518 3514 3512 3508 3510	3509 3507 3511 3513 3517 3523 3529 3525	3551	3527	3545	3547	3543	R
R	3413	3412 3411	3410				3291 3339	3354 3251 3252 3361 3363 3280 3283	3289 3270	3279 3263 3239 3359	3261	3244 3266	3269 3204	3208	3245 3247 3212	3215 3236 3240	3243 3246	3421					R



401 4822 426 60128
402 4822 426 40133
403 4822 459 50231
404 4822 522 31256
405 4822 492 51172

406 4822 522 20158
407 4822 522 20159
408 4822 277 20275
409 4822 522 31208

411 4822 333 50547*
412 4822 268 40092
413 4822 158 60376**
414 4822 462 40326

416 4822 426 60127
417 4822 256 30139
418 4822 264 40023
419 4822 267 40209

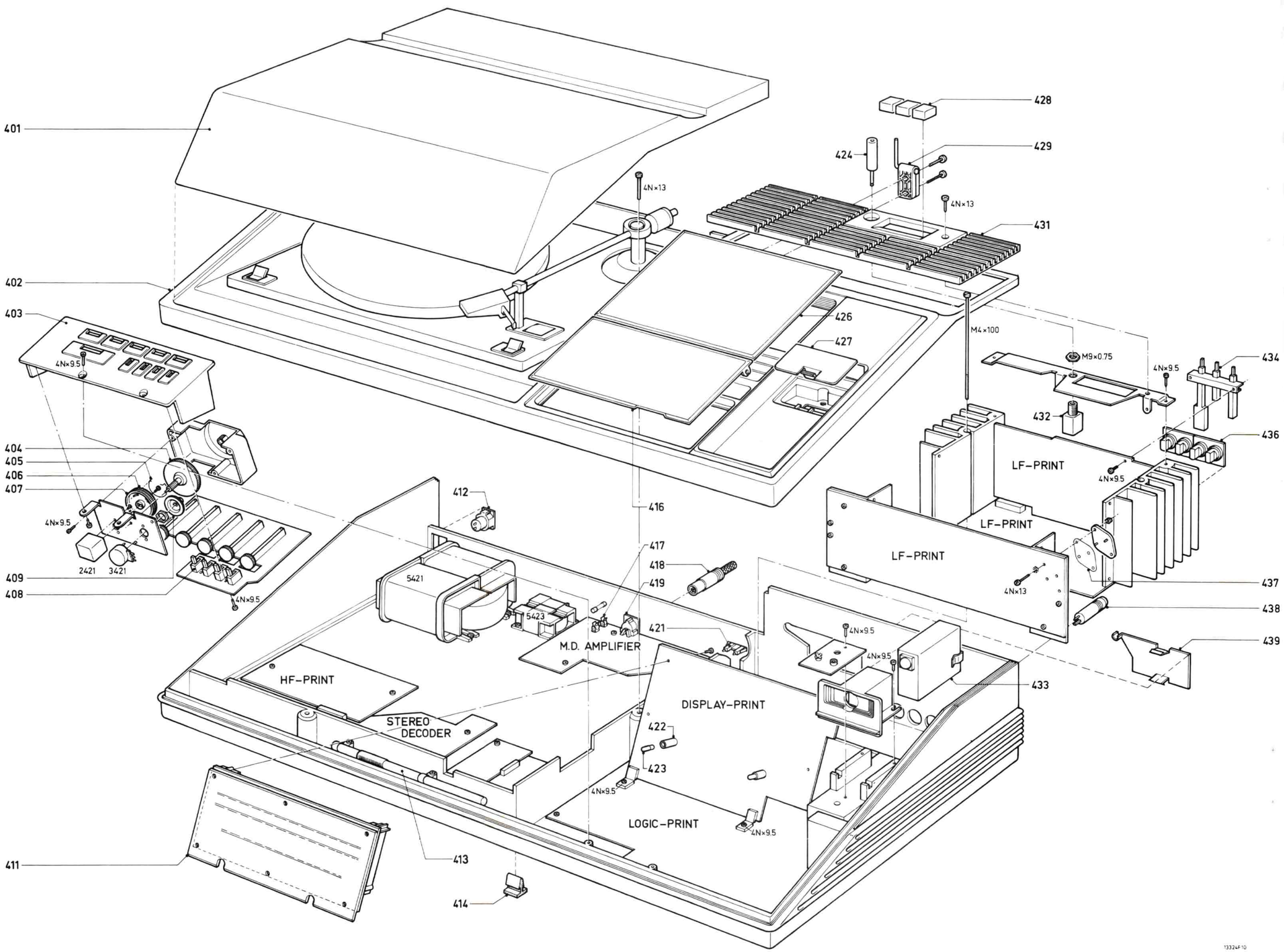
421 4822 267 30123
422 4822 255 30068
423 4822 134 40257
424 4822 264 30011

426 4822 459 40332
427 4822 426 60129
428 4822 410 21472
429 4822 417 10631

431 4822 426 20019
432 4822 267 20172
433 4822 214 50159
434 4822 276 30242

436 4822 267 30292
437 5322 466 90433
438 4822 264 30041
439 4822 426 50229

For /29
* 4822 334 40165
** 4822 158 30186



LOGIC PRINT

Diode		
7201	SAF1032p	4822 209 10008
7203	HEF4025p	5322 209 14052
7207	HEF4023p	5322 209 14065
7209	HEF4042	5322 209 14071
7211	HEF4029	5322 209 14057
7213	HEF4051p	5322 209 14212
7215...7219	TCA740	4822 209 80371
7221	TCA750	4822 209 80367
7223	BC548C	5322 130 44196
7225	BC547	5322 130 44257
7227	BC557	5322 130 44256
7229	BC547	5322 130 44257
7231	BC557	5322 130 44256
7233	BC548	4822 130 40938
7235	BC547	5322 130 44257
7237	BC558	4822 130 40941
7239	BC548	4822 130 40938
7241	BC557	5322 130 44256
7243...7246	BC558	4822 130 40941
7247...7255	BC548	4822 130 40938
7257...7260	BC548C	5322 130 44196
7261	BD137	5322 130 40664
7263	BC548B	4822 130 40937
7265	BD233	5322 130 44281
7269	BZX79/C7V6	5322 130 30666
7273...7291	BZV38	4822 130 30947
7295	BZX79/B9V1	4822 130 30862
Coil		
5201	Coil 5.5 µH	4822 158 10107
Resistor		
3221-3231	Trim potm. 4.7 kΩ	4822 100 10036
3250	MR25 12 kΩ	5322 116 50572
3251	MR25 820 kΩ	5322 116 54541
3255	MR25 5.6 kΩ	5322 116 54011
3256	MR25 1 kΩ	5322 116 54549
3258	MR25 12 kΩ	5322 116 50572
3260	Trim potm. 4.7 kΩ	4822 100 10036
3295	MR25 1.3 kΩ	5322 116 50526
3298	MR25 2.2 kΩ	5322 116 54574
3299	MR25 8.2 kΩ	5322 116 54558
3306	Trim potm. 2.2 kΩ	4822 100 10029

DISPLAY PRINT

Diode		
7101	BC547B	4822 130 40959
7103...7117	BC558	4822 130 40941
7119	BC548B	4822 130 40937
7121	BC547C	5322 209 84493
7123	BZX79/B5V6	5322 130 34173
7125	SN29771/AN	4822 209 80347
7127	SN29770/AN	4822 209 80346
7129	UAA170	4822 209 80312
7131...79	CQY54	4822 130 30914
7147	CQY95	4822 130 30923
Resistor		
3165	Trim potm. 22 kΩ	4822 100 10086
3167	Trim potm. 10 kΩ	4822 100 10024

PRESET PRINT

Resistor		
3001	Trimpotm. 22 kΩ	4822 100 10051
3009	Trimpotm. 10 kΩ	4822 100 10035
3011	Trimpotm. 330 Ω	5322 101 14111
3017	Trimpotm. 4.7 kΩ	4822 101 10026
3019...3027	Preset potm. 22 kΩ	4822 101 90082

AMPLIFIER

Diode		
7501...7504	BC557	5322 130 44256
7505...7508	BC547	5322 130 44257
7509...7510	BZX79/C36	5322 130 34098
7511-7512	BC546A	4822 130 41067
7513-7514	BC548	4822 130 40938
7515-7516	BC556a	5322 130 44462
7517-7518	BD137	5322 130 40664
7519-7520	BD138	5322 130 40665
7521-7522	BD312	4822 130 41083
7523-7524	BD311	4822 130 41082
7407-7408	BYX71	4822 130 30865
7409-7410	BYX71R	5322 130 34275
Capacitor		
2513-2514	Polyester cap. 100 nF 100 V	4822 121 40334
2403-2405	Cer. cap. 10 nF 500 V	4822 120 21134
2466	Polyester cap. 100 nF 100 V	4822 121 40334
Resistor		
3507-3508	Trim potm. 100 Ω	4822 100 10075
3531-3532	Trim potm. 1 kΩ	4822 100 10037
3541...3544	Wire res. 0.24 Ω 2 W	4822 113 60118

MISCELLANEOUS

1801	Fuse 80 mA	4822 253 20005
1101-1103	Lamp 14 V - 0.08 A	4822 134 40257
1401-1404	Fuse 2.5 A	4822 253 20024
2407	Rifa cap. 4700 pF	4822 121 40298
1421	Fuse 0.5 AT	4822 253 30017
2401-2402	Elco 6800 µF - 40 V	4822 124 40153
2421	Gang. cap. 2 x 335 pF	4822 125 20184
3421	Tuning potm. 100 kΩ lin.	4822 101 80037
5421	Mains trafo	4822 146 60084
5421/29	Mains trafo	4822 146 60086
5423	Memory trafo	4822 145 30127
5425	Ferroceptor MW	4822 158 60376
7421	BY206	4822 130 30839

UNITS

AM-IF	452 kHz	4822 212 40018
	460 kHz	4822 214 50122
	Infra red receiver	4822 214 50159

HF-print

7901-7903	BF324	5322 130 44396
7904	BF240	4822 130 40902
7905-7908	BB110G	5322 130 34196
7906-7907	BB110B	4822 130 30932
7909	TCA420A	4822 209 80278
7910	BC548	4822 130 40938

2904-2910 2914	Trimmer 10 pF	4822 125 50062

4901...4903	Ceram. filter	4822 242 70249

5901	Choke	4822 157 50835
5902	Aerial coil	4822 157 50896
5903	Choke	4822 157 50836
5904-5905	HF-coil	4822 157 50837
5906	Osc. coil	4822 157 50895
5907	Choke	4822 158 10138
5908-5916- 5917	IF-coil Toko	4822 156 30546

3930	Trim potm. 4.7 kΩ	4822 100 10036

Input selector

7601	TDA1005	4822 209 80315
7603	BC548	4822 130 40938
7605-7606	BC548B	4822 130 40937
7609	BAW62	5322 130 30613
7801-7802	BC559	4822 130 40963
7803...7808	BC548B	4822 130 40937
7809	BC548	4822 130 40938
7811...7833	1N4148	5322 130 30621
7835	BZX79/C11	5322 130 34488
7837	BZX79/C10	5322 130 34297
7839-7841	BY206	4822 130 30839
7843	BC337	4822 130 40855
7845	BF245a	5322 130 44499
7847	BA317	4822 130 30847

2603	Solid tand cap. 10µF-3V	5322 124 14084
2609	Micro poco 560 pF 1 %	4822 121 50576
2613	Micro poco 6800 pF 2 %	4822 121 50538
2623-2624	Micro poco 750 pF 5 %	5322 121 54116
2629-2630	Micro poco 2000 pF 5 %	4822 121 50472
2631-2632	Micro poco 510 pF 5 %	5322 121 54055
2843-2845	Pinup cap. 10 nF 20 %	4822 120 21134

3605	Trim potm. 470 kΩ	4822 100 10107
3611	Trim potm. 4.7 kΩ	4822 100 10036
3617	Trim potm. 470 Ω	4822 100 10038
3621	Trim potm. 2.2 kΩ	4822 100 10029

5601	Coil	4822 157 50894

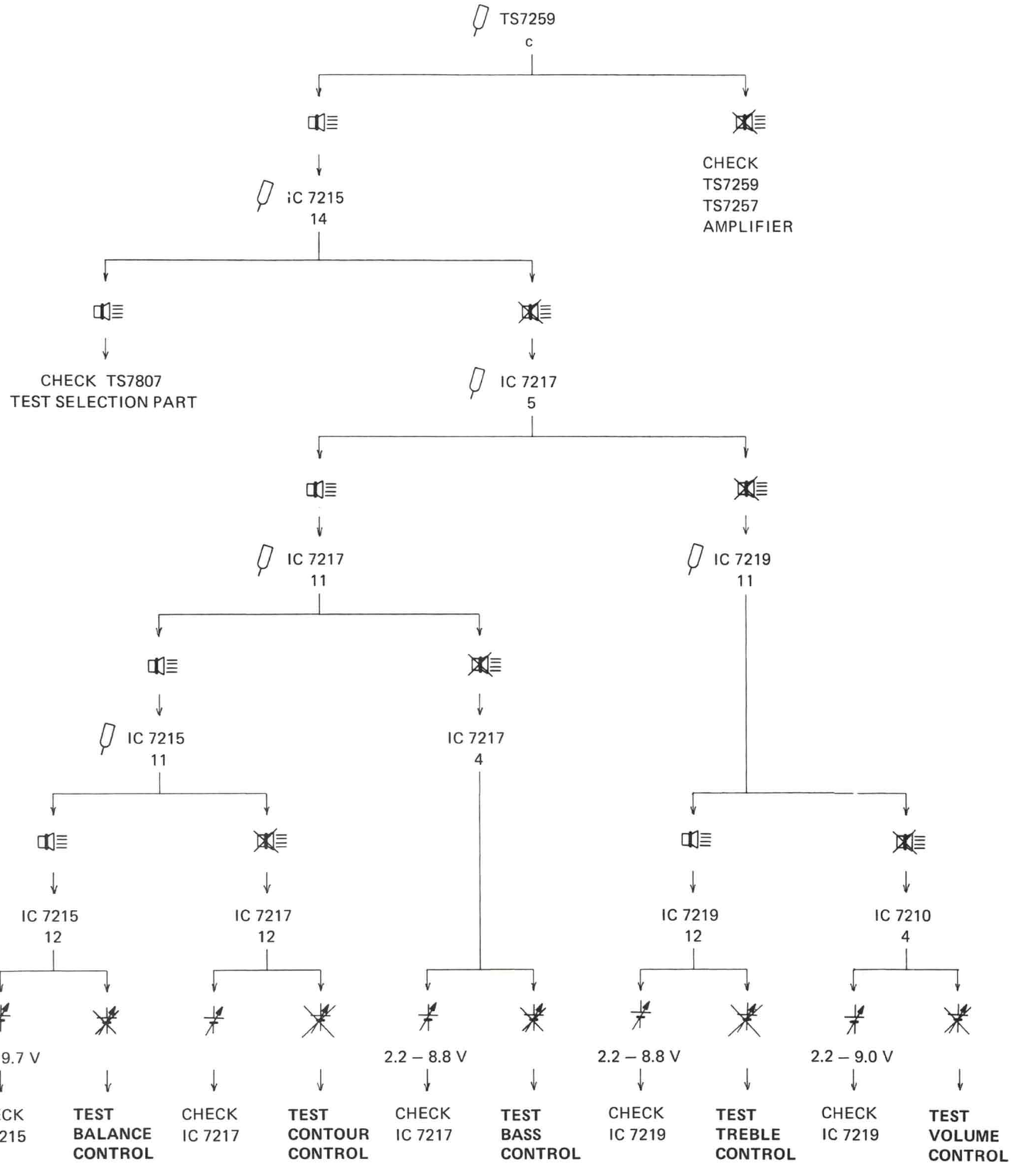
AM-print

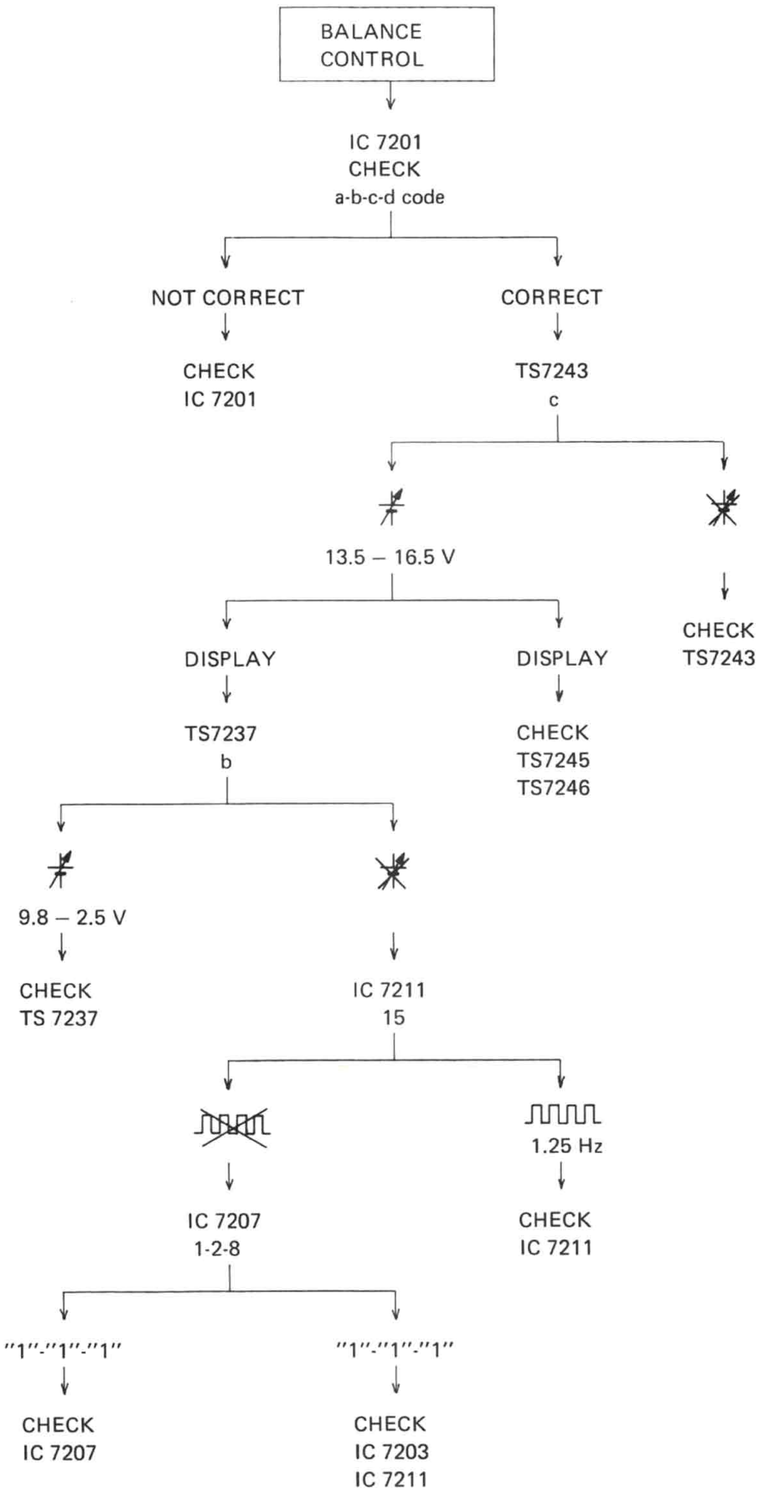
2705	BF495	4822 130 40947
2707	BC548	4822 130 40938
2709	BZX79/C15	5322 130 34281

2711	Osc. coil MW Toko	4822 156 30493
2711/29	Osc. coil LW Toko	4822 156 30494

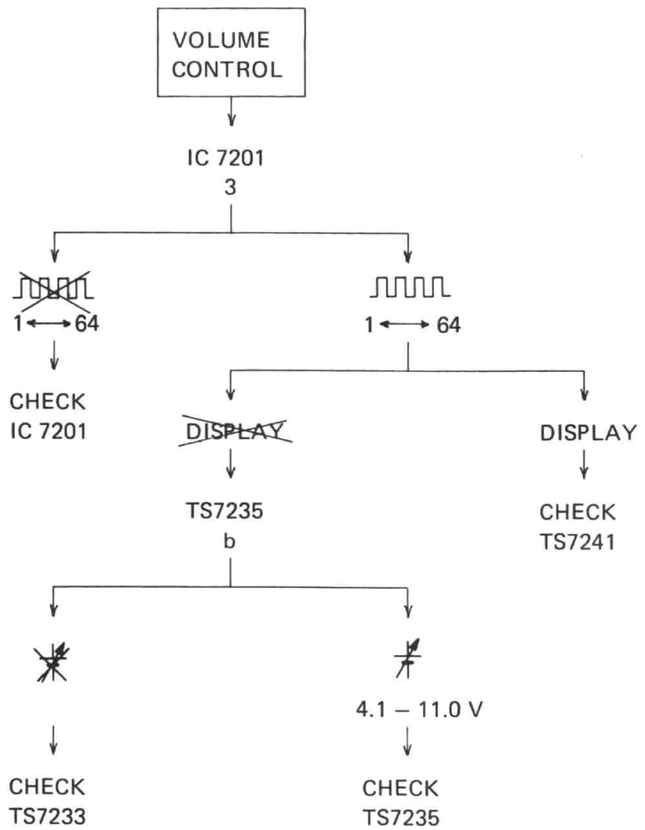
3707	Trimmer 20 pF	4822 125 50045
3711	Micro poco 2700 pF 5 %	5322 121 54065
3713	Flat cap. 18000 pF 10 %	4822 121 40314
3713/29	Flat cap. 3300 pF 10 %	4822 121 40411
3727	Trimmer 20 pF	4822 125 50045
3727/29	Trimmer 27 pF	4822 125 50088
3731	Styrol cap. 305 pF	4822 121 50579
3731/29	Micro poco 180 pF 1 %	4822 121 54057

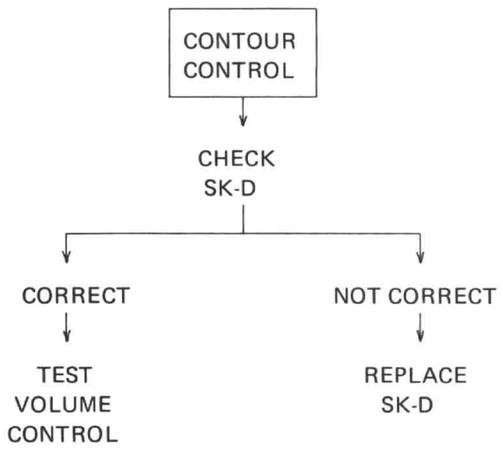
4703	VDR	4822 116 20073


TS7259
c
CHECK
TS7259
TS7257
AMPLIFIER
IC 7215
14
CHECK TS7807
TEST SELECTION PART
IC 7217
5
IC 7217
11
IC 7219
11
IC 7215
11
IC 7217
4
IC 7215
12
IC 7217
12
IC 7219
12
IC 7210
4
1.7 – 9.7 V
2.2 – 8.8 V
2.2 – 8.8 V
2.2 – 9.0 V
CHECK
IC 7215
TEST
BALANCE
CONTROL
CHECK
IC 7217
TEST
CONTOUR
CONTROL
CHECK
IC 7217
TEST
BASS
CONTROL
CHECK
IC 7219
TEST
TREBLE
CONTROL
CHECK
IC 7219
TEST
VOLUME
CONTROL

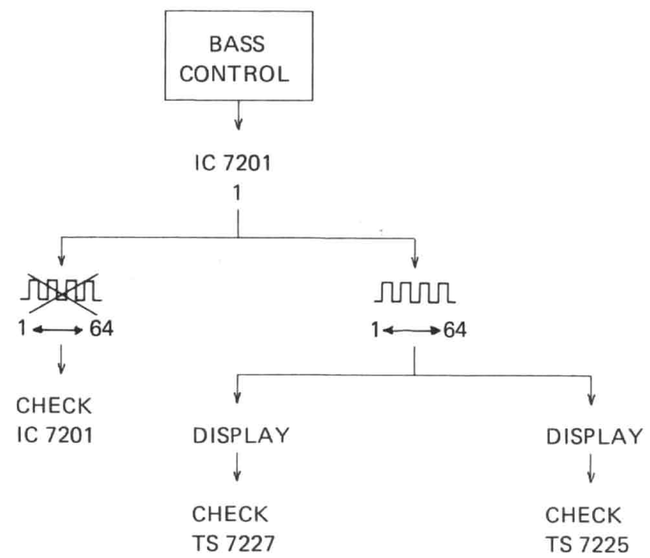

BALANCE
CONTROL
IC 7201
CHECK
a-b-c-d code
NOT CORRECT
CORRECT
CHECK
IC 7201
TS7243
c
13.5 – 16.5 V
CHECK
TS7243
DISPLAY
DISPLAY
TS7237
b
CHECK
TS7245
TS7246
9.8 – 2.5 V
IC 7211
15
CHECK
TS 7237
1.25 Hz
IC 7207
1-2-8
CHECK
IC 7211
"1"-"1"-"1"
"1"-"1"-"1"
CHECK
IC 7207
CHECK
IC 7203
IC 7211

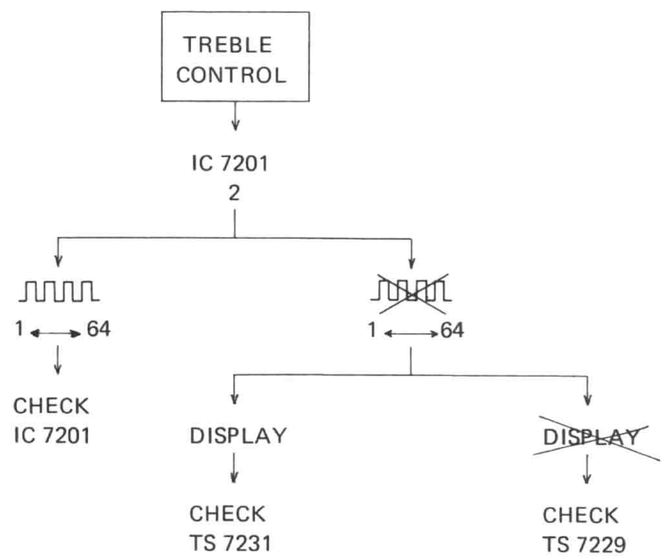
41


VOLUME CONTROL
IC 7201
3
1 ⟷ 64
1 ⟷ 64
CHECK IC 7201
DISPLAY
DISPLAY
TS7235
b
CHECK TS7241
4.1 – 11.0 V
CHECK TS7233
CHECK TS7235


CONTOUR CONTROL
CHECK SK-D
CORRECT
NOT CORRECT
TEST VOLUME CONTROL
REPLACE SK-D

42


BASS CONTROL
IC 7201
1
1 ⟷ 64
1 ⟷ 64
CHECK IC 7201
DISPLAY
DISPLAY
CHECK TS 7227
CHECK TS 7225


TREBLE CONTROL
IC 7201
2
1 ⟷ 64
1 ⟷ 64
CHECK IC 7201
DISPLAY
DISPLAY
CHECK TS 7231
CHECK TS 7229

SELECTION PART

Condition: ABC code is correct

AM
IC 7125
16
"0" → CHECK D7817 D7818 D7819
"1" → CHECK IC 7125

P.U.
IC 7127
10
"0" → CHECK D7823 D7824 D7825 D7826
"1" → CHECK IC 7127

TAPE
IC 7127
12
"0" → CHECK D7827 D7828 D7829 D7830
"1" → CHECK IC 7127

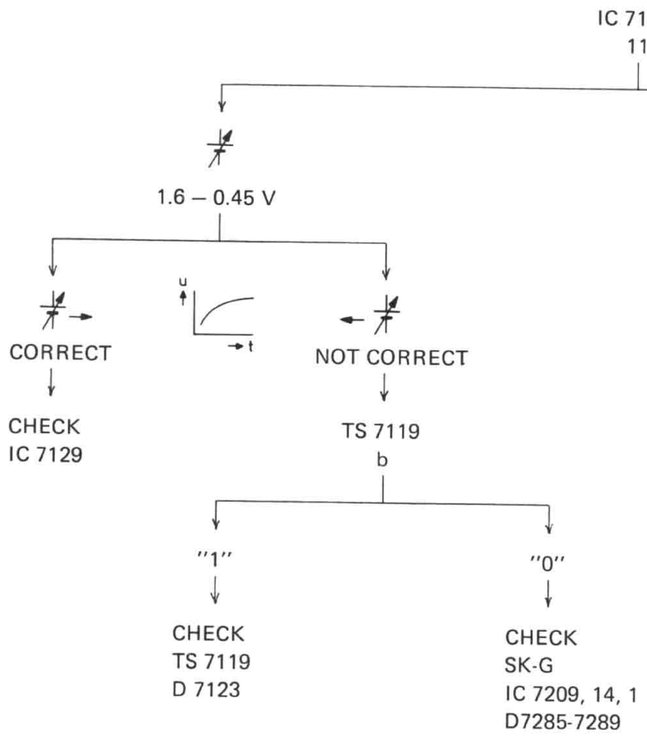
FM
TS7809
c
"0" → CHECK D7811 D7812 D7813 D7814
"1" → TS7809
b
"1" → CHECK TS7809
"0" → IC 7125 10-12 IC 7127 16
"0" → CHECK IC 7125 IC 7127
"1" → CHECK D7821 D7831 D7833

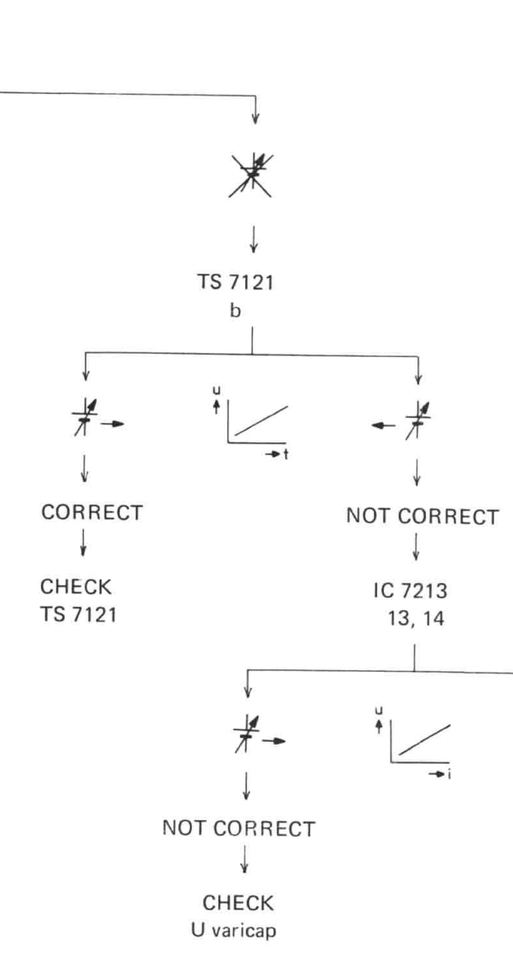
TEST MUTE CONTROL

MUTE CONTROL

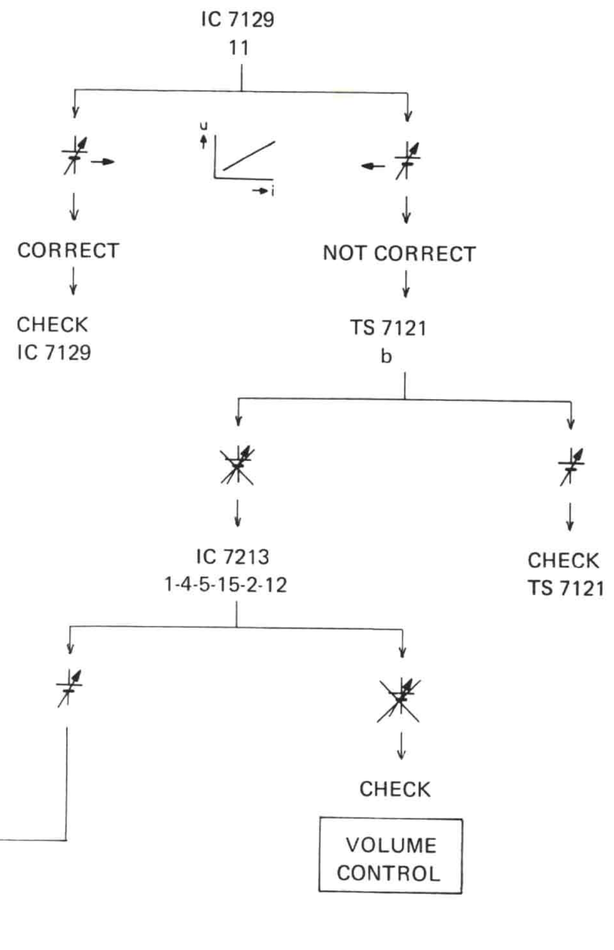
TS 7259
c
"0" (0 V)
TS7259
b
"0" (≈ 0 V) → CHECK TS7259
"1" (0.6 V) → TS7257
b
"1" (5.5 V) → TS7253
b
"0" (0 V) → CHECK IC 7203b-c TS7255
"1" (0.6 V) → CHECK TS7253
"0" (≈ 0 V) → CHECK TS7257

45

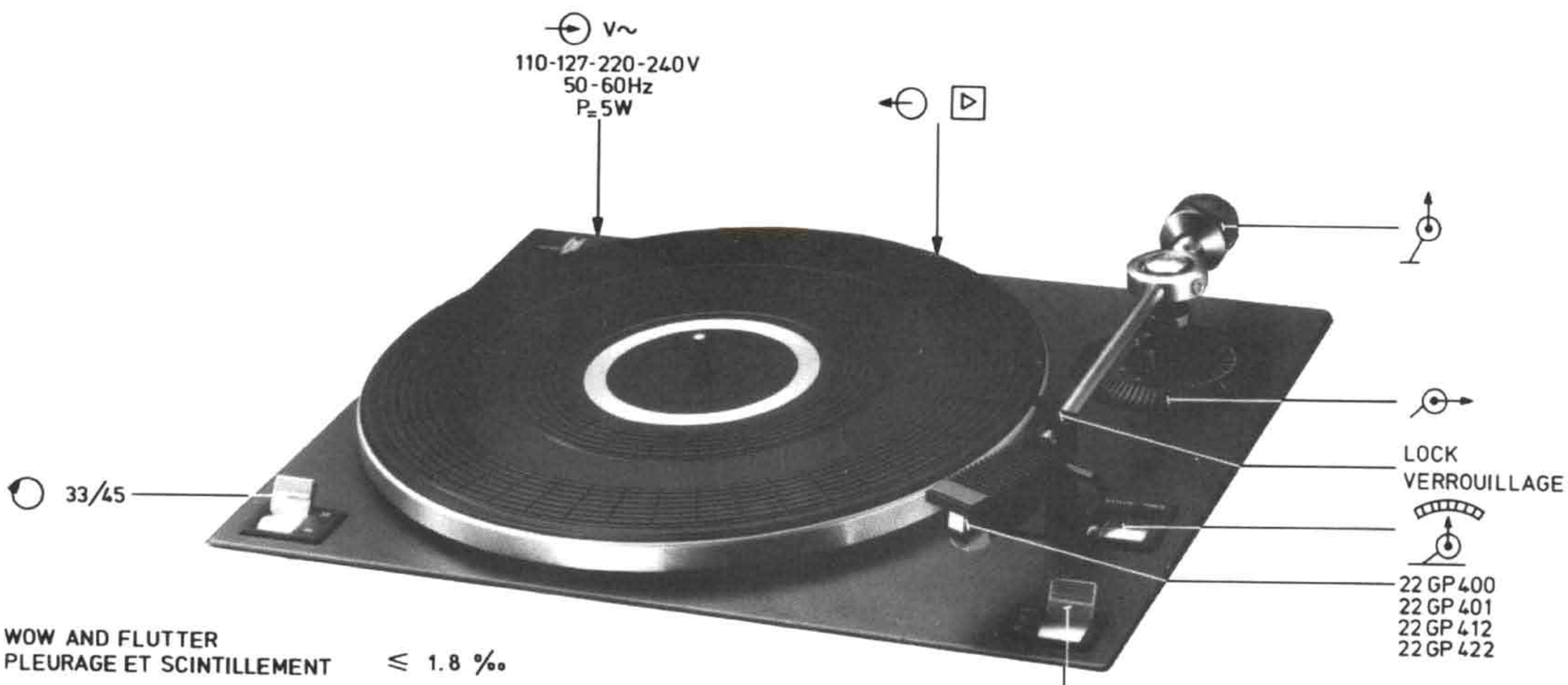

IC 7129
11
1.6 – 0.45 V
CORRECT
CHECK
IC 7129
NOT CORRECT
TS 7119
b
"1"
CHECK
TS 7119
D 7123
"0"
CHECK
SK-G
IC 7209, 14, 1
D7285-7289


TS 7121
b
CORRECT
CHECK
TS 7121
NOT CORRECT
IC 7213
13, 14
NOT CORRECT
CHECK
U varicap
CORRECT
CHECK
IC 7213
9-10-11
CODE
CORRECT
CHECK
TS 7213
CODE
NOT CORRECT
TS 7247-49-51
b
CODE
CORRECT
CHECK
TS 7247
TS 7249
TS 7251
CODE
NOT CORRECT
CHECK
IC 7209
3 - 9 - 12
CODE
CORRECT
CHECK
D 7283
D 7285
D 7287
D 7289
CODE
NOT CORRECT
CHECK
IC 7209
TS 7207-c
D 7275
D 7277

46


IC 7129
11
CORRECT
CHECK
IC 7129
NOT CORRECT
TS 7121
b
IC 7213
1-4-5-15-2-12
CHECK
TS 7121
CHECK
VOLUME
CONTROL

Hi-Fi record player 22GC037/00 /55 /56/57/58/59



WOW AND FLUTTER PLEURAGE ET SCINTILLEMENT		≤ 1.8 ‰
RUMBLE RONRONNEMENT	DIN. A: DIN. B:	≤ – 35 dB ≤ – 55 dB
MECHANICAL NOISE BRUIT MÉCANIQUE		≤ 33 dB
DIMENSION		385 x 315 mm

10991 B10

Subject to modification

4822 726 12008

Printed in The Netherlands

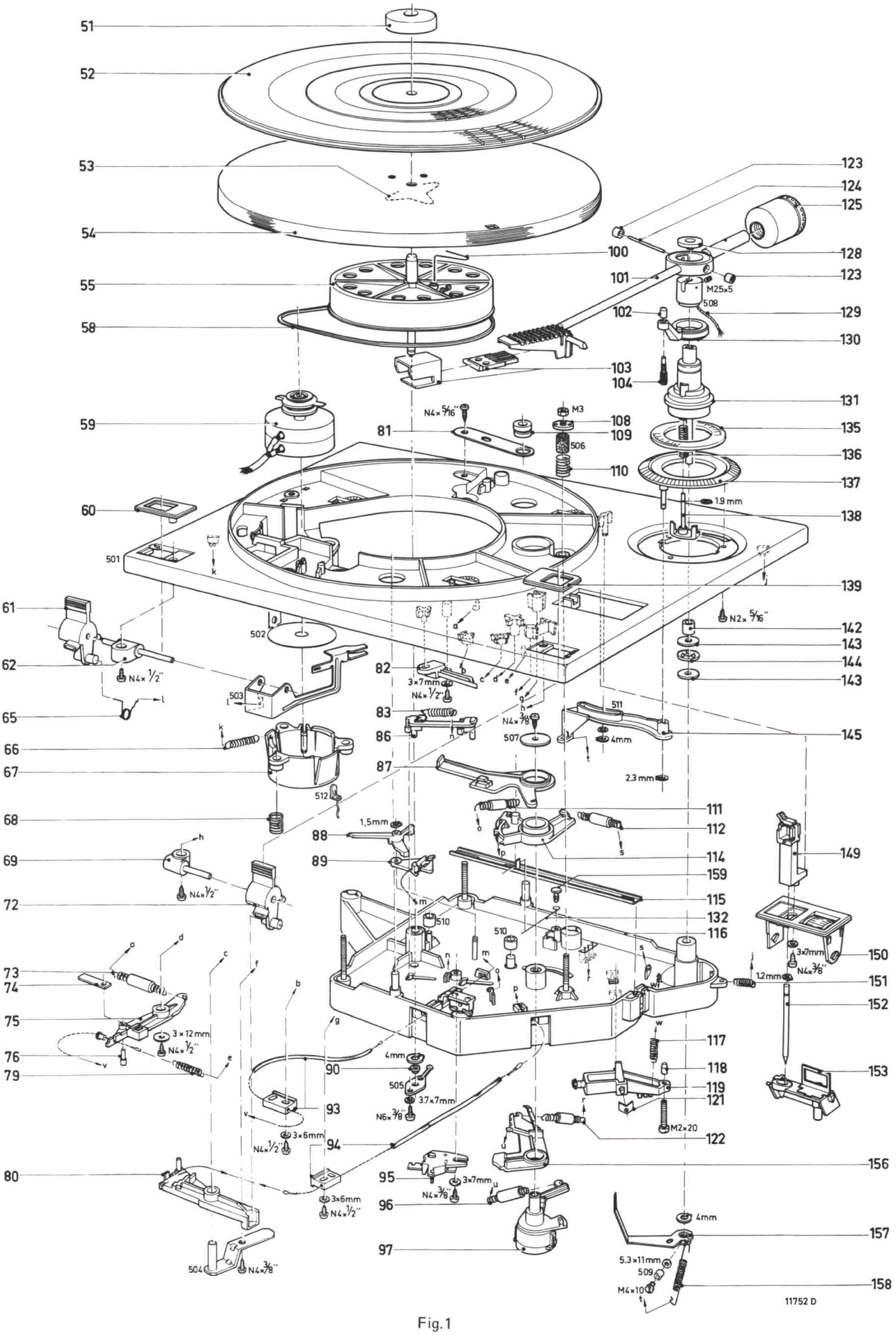


Fig.1

CS57681

TURNTABLE HEIGT
HAUTEUR DU PLATEAU

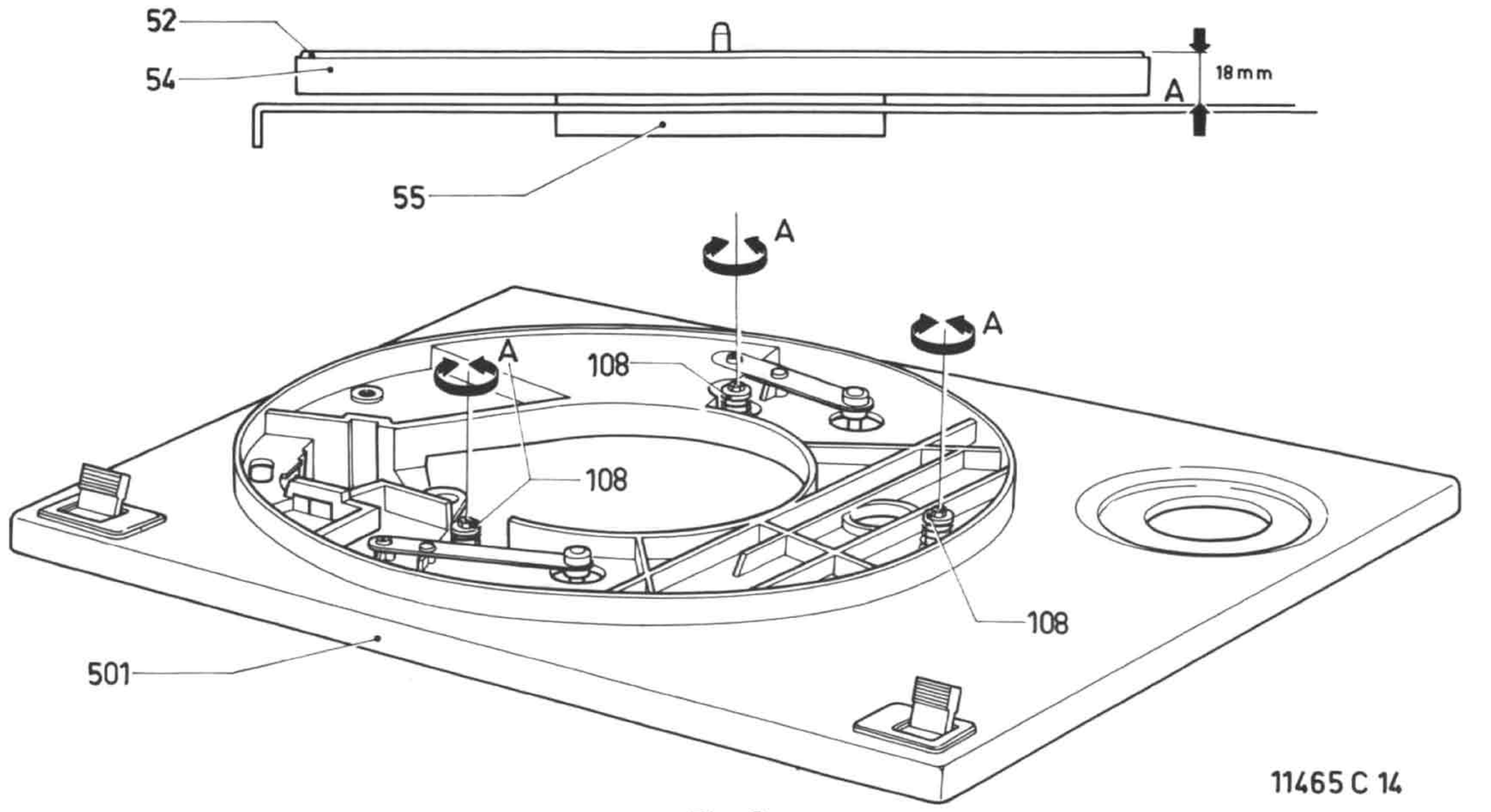


Fig. 2

AUTOMATIC STOP
ARRET AUTOMATIQUE

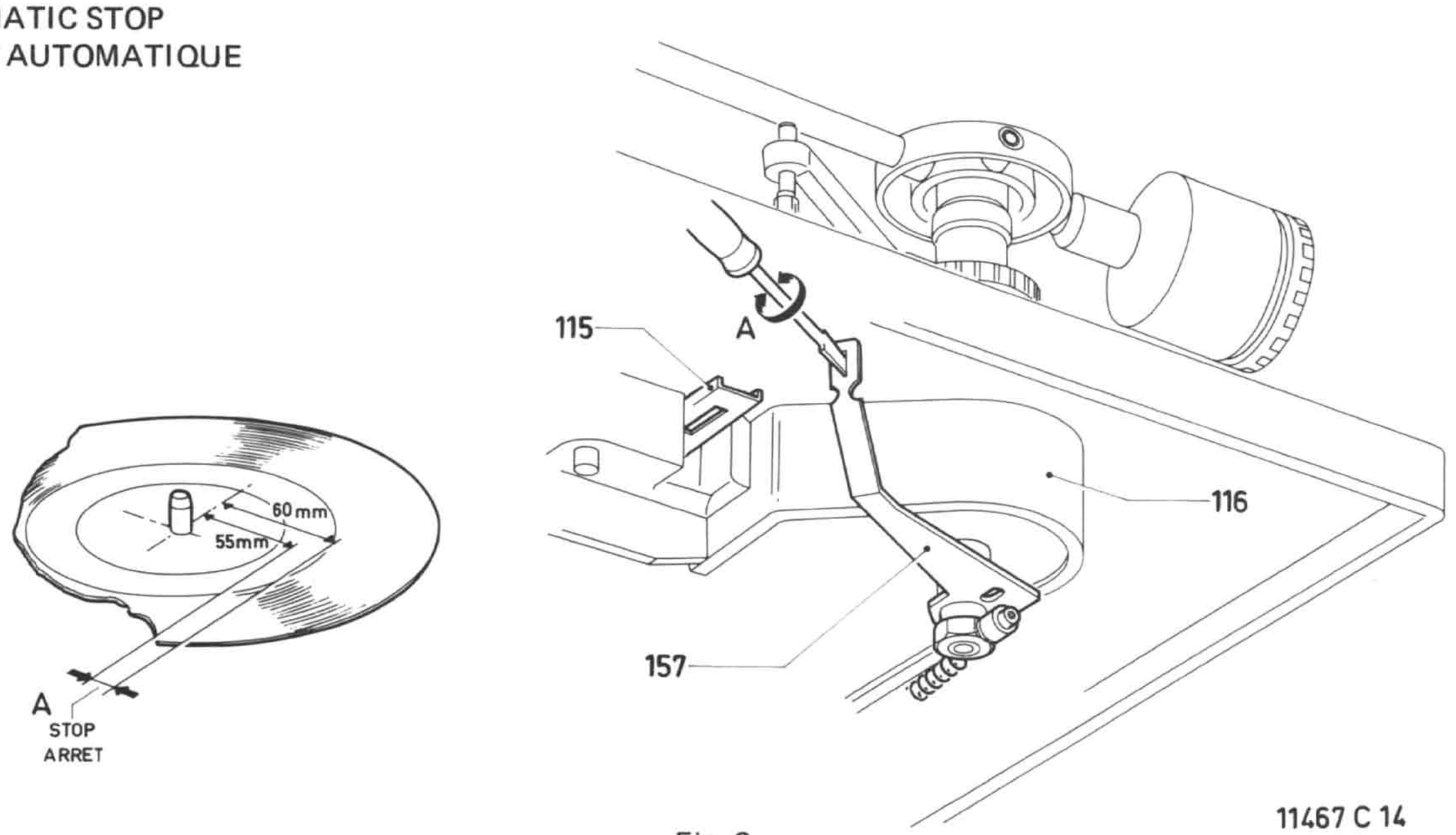


Fig. 3

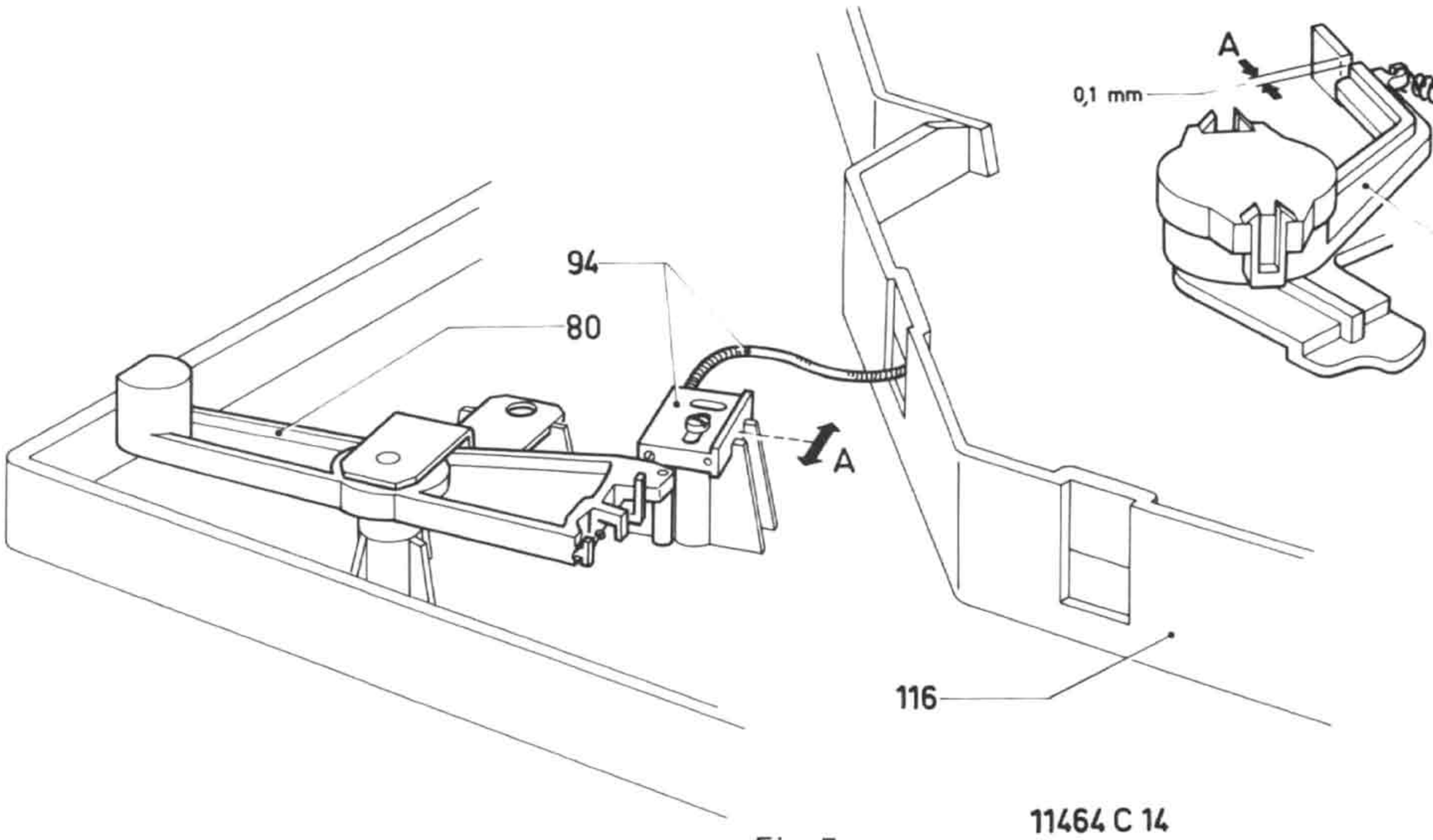
BOWDEN CABLE POS. 93
CABLE BOWDEN POS. 93

Fig. 4

CS57682

BOWDEN CABLE POS. 94
CABLE BOWDEN POS. 94

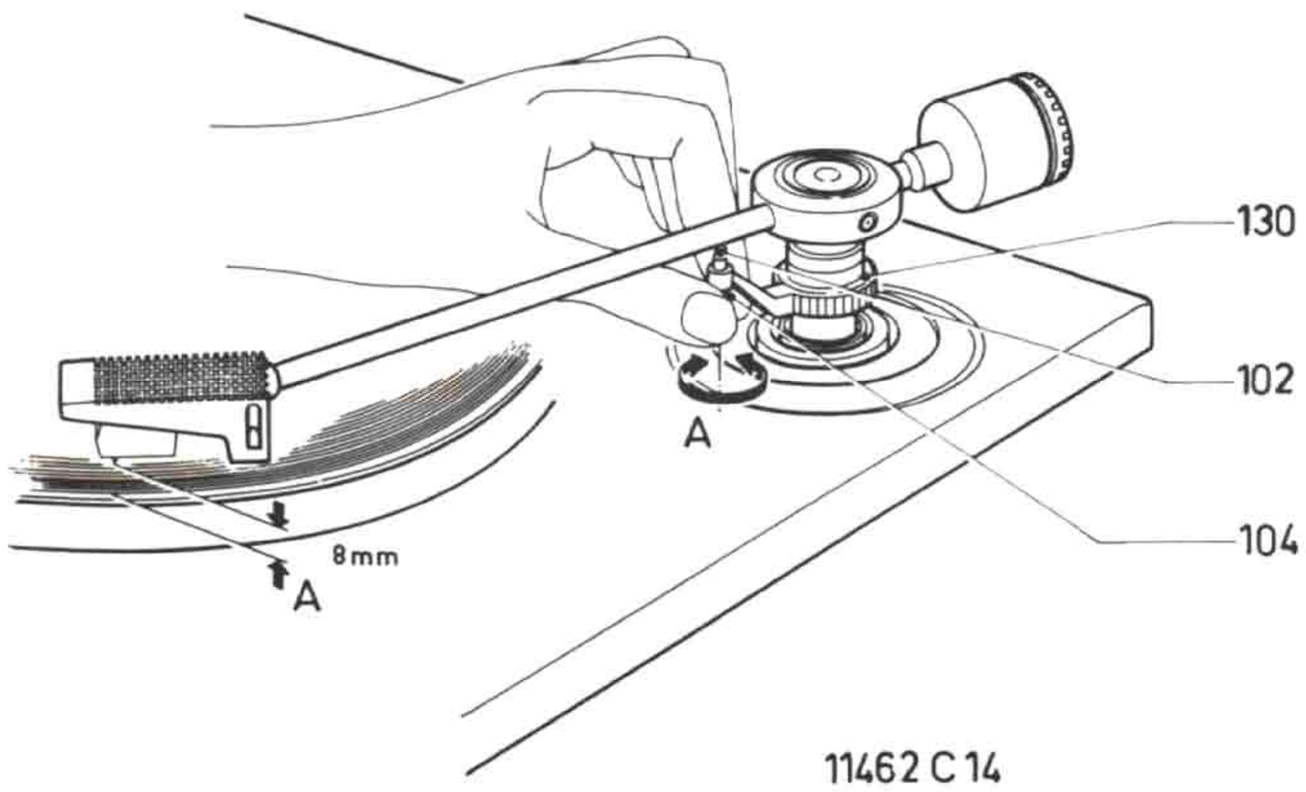
KNOB 72
BOUTON 72
POSITION ▼



11464 C 14

Fig. 5

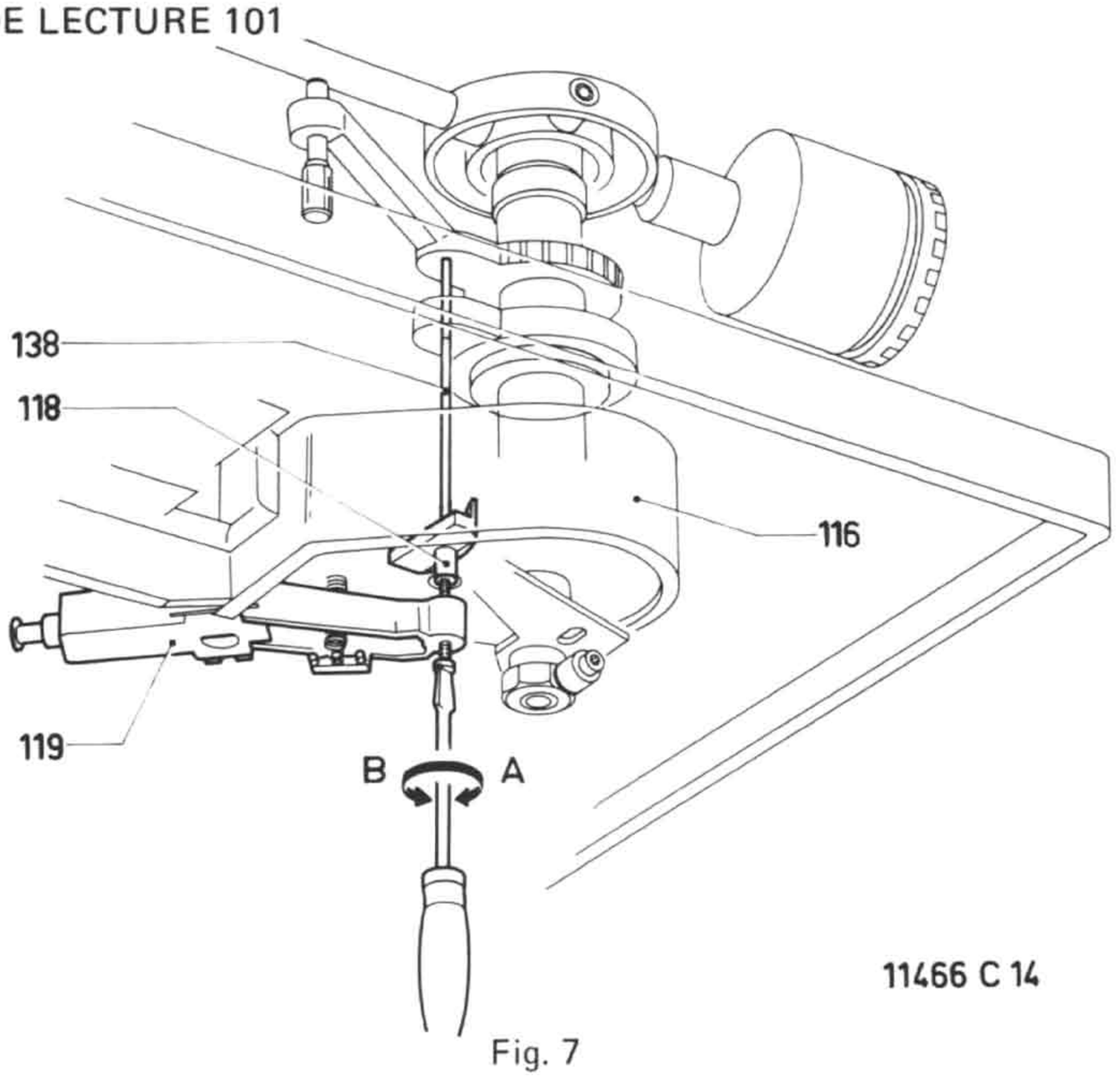
LIFT MANUAL
LEVIER MANUEL



11462 C 14

Fig. 6

FREE RUNNING PU ARM 101
LIBERATION DU BRAS DE LECTURE 101



SEE TEXT
VOIR TEXTE

11466 C 14

Fig. 7

SEE
VOIR Fig. 7

GB

1. Lift in position ▼
2. PU arm near PU arm support
3. Turn the screw with cap. 118 so far clockwise (A) that, by means of lift piece 138, the PU arm just starts lifting.
4. Turn the screw two revolutions counterclockwise (B).

NL

1. Lift in positie ▼
2. P.U. arm naast P.U. arm steun.
3. Schroef met dopje 118 zover rechtsom (A) draaien totdat d.m.v. liftstuk 138 de P.U. arm juist gaat liften.
4. Daarna de schroef twee hele omwentelingen linksom (B) terug draaien.

F

1. Commande de montée/des cente bras de lecture sur ▼
2. Bras de lecture à côté du support.
3. Tourner la vis avec capuchon 118 aussi loin dans le sens horaire (A) gue grâce à la pièce de levage 138, le bras de lecture se soulève à peine.
4. Resserer la vis de deux tours complets dans le sens anti-horaire (B).

D

1. Lift in Stellung ▼
2. Tonarm neben Tonarmstütze
3. Schraube mit Kappe 118 so weit linksherum - drehen (A), dass durch Liftstück 138, der Tonarm sich gerade anhebt.
4. Schraube zwei Umdrehungen linksherumdrehen (B).

I

1. Controllo devazione/discesa del braccio di lettura su ▼
2. Braccio di lettura accanto al suo supporto.
3. Allentare la vite col capuccio 118 il piu lontano possibile nel senso orario (A) fino a quando grazie al pezzo di elevazione 138, il braccio si solleva a peu apena.
4. Stringere la vite di due giri completi nel senso antiorario (B).

S

1. Tonarmslyften i läge. ▼
2. Tonarmen nära tonarmsstödet.
3. Vrid skruven med kåpa 118 så långt medurs (A) att tonarmen via stycke 138 precis börjar höjas.
4. Vrid skruven två varv moturs (B).

DK

1. Løft i stilling ▼
2. Pick-uparmen lidt væk fra pick-upstøtten.
3. Drej skruen med kappe 118 så meget højre om (A) at løftestykket 138 lige netop begynder at løfte pick-uparmen.
4. Drej skruen to omgange venstre om (B).

N

1. Løfteanordning i stilling ▼
2. PU-arm nær pu-arm støtte
3. Drei skrue med kappe 118 så langt med urviseren (A) at, med hjelp av løftestykke 138, pu-armen såvidt begynner å løfte.
4. Drei skruen to omdreininger mot urviseren (B).

SF

1. Nostolaite asennossa ▼
2. Äänivarsi lähelle äänivarren tukea.
3. Käännä ruuvia hattuineen 118 niin paljon myötäpäivään (A), että nosto-osan 138 avulla äänivarsi alkaa juuri ja jurri nousta.
4. Käännä ruuvia kaksi kierrosta vastapäivään (B).

C601	4700 pF ± 20% 400 V	4822 122 10113
C602 (50 Hz)	0,22 µF ± 10% 400 V	4822 121 40181
C602 (60 Hz)	0,18 µF ± 10% 400 V	4822 121 40011

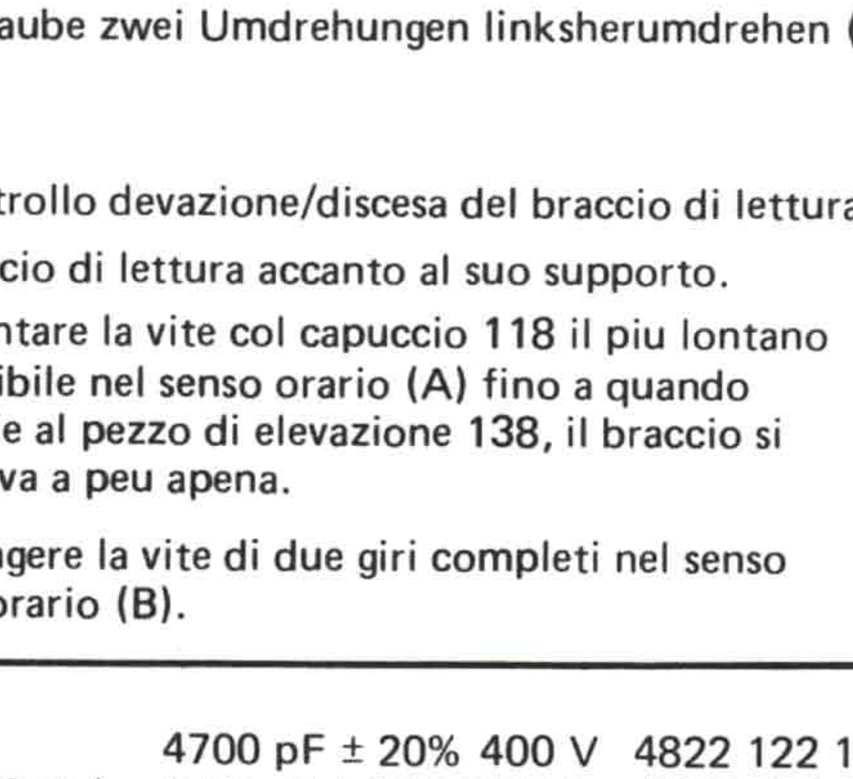


Fig. 8

Version /00

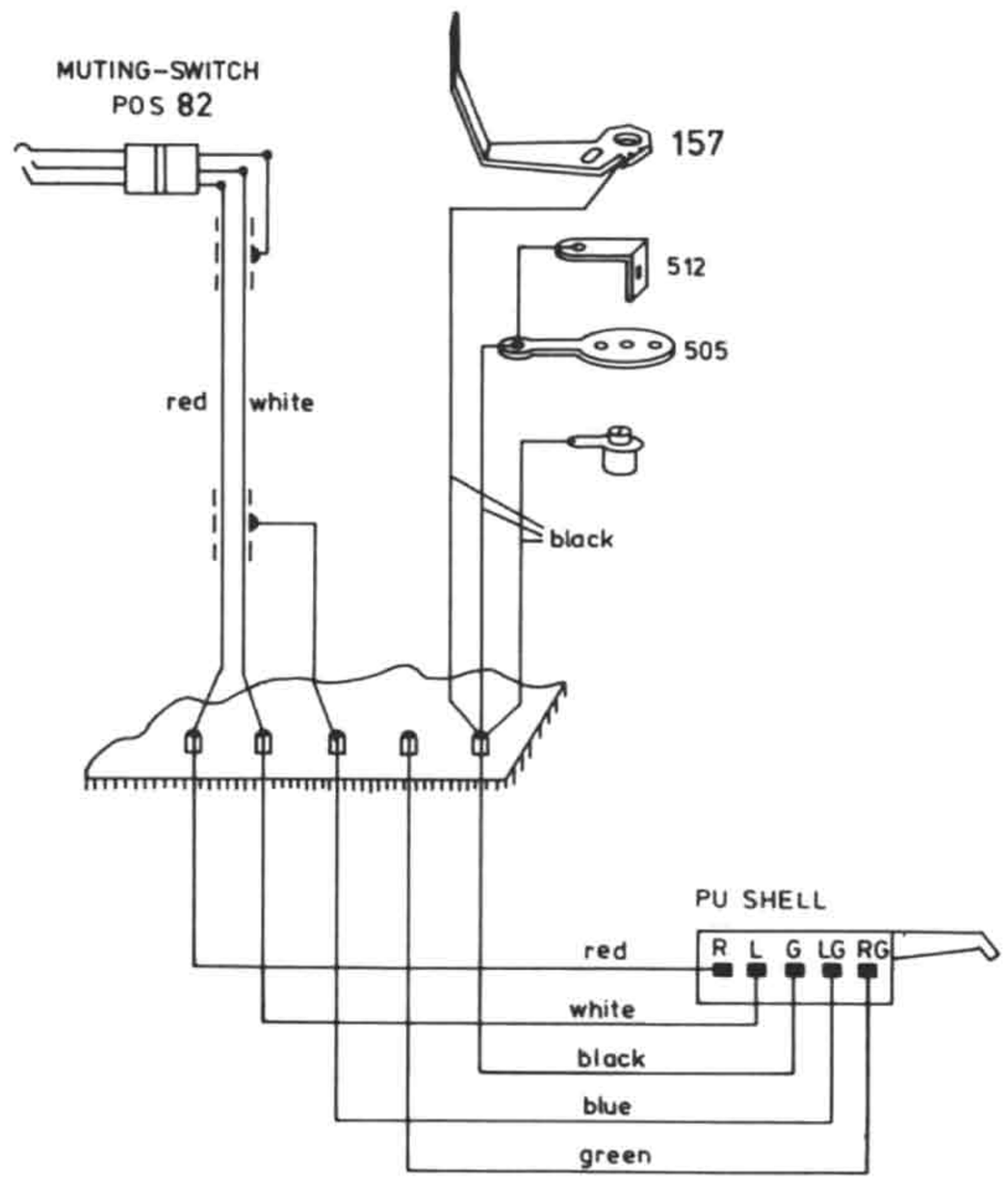


Fig. 9 11311A2

51		4822 532 60579
52		4822 466 50117
53		4822 492 61215
54		4822 528 10319
55		4822 528 90266
58		4822 358 30122
59	(50 Hz)	4822 361 70292
59	(60 Hz)	4822 361 70295
60		4822 454 30262
61	(silver, argent)	4822 411 50434
61	(black, noir)	4822 411 50439
62		4822 535 70512
65		4822 492 40686
66		4822 492 31367
67		4822 462 70913
68		4822 492 50845
69		4822 535 70513
72	(silver, argent)	4822 411 50434
72	(black, noir)	4822 411 50439
73		4822 492 31362
74		4822 492 62082
75		4822 402 30094
76		4822 535 91064
79		4822 492 31361
80		4822 402 60571
81		4822 402 60565
82		4822 278 90373
83		4822 492 31366
86		4822 402 60567
87		4822 402 30092
88		4822 402 60566
89		4822 402 60569
90		4822 520 10379
93		4822 321 30159
94		4822 321 30158
95		4822 277 60065
96		4822 492 31364
97		4822 402 60573
100		4822 492 40687
101+123+124 +128 +129+ 508		4822 251 70154
102		4822 462 71076
103		4822 444 30169
104		4822 535 80551
108		4822 532 10718
109		4822 325 80066
110		4822 492 31359
111		4822 492 31358
112		4822 492 31356
114		4822 402 30093
115		4822 402 60564
116		4822 464 50061
117		4822 492 31365
118		4822 462 71076
119		4822 535 70514
121		4822 492 40689
122		4822 492 31145
123		4822 462 50205
124		4822 535 60031
125		4822 691 30066
128		4822 460 20166
129		4822 323 50054
130		4822 402 60568
131+136+138		4822 402 60574
132		4822 492 40688
135		4822 454 30261
136		4822 492 31355
137		4822 413 10148
138		4822 535 70511
139		4822 454 30264
142		4822 532 10719
143		4822 532 10716
144		4822 520 10381
145		4822 402 50141
149		4822 402 60576
150		4822 454 30263
151		4822 492 31367
152		4822 535 60029
153		4822 691 30067
156		4822 402 60572
157		4822 402 60575
158		4822 492 31363
159		4822 462 71079

GB

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

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.

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.

DK

Myndighedernes sikkerheds- og radiostøjbestemmelser kraever, 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.

NL

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

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.

S

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

N

Sikkerhetsbestemmelser kreves at apparatet blir gjennopprettet til orignial 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 määräämiä alkuperäisvaraosia.

CS57683

Version /55/56/57/58/59

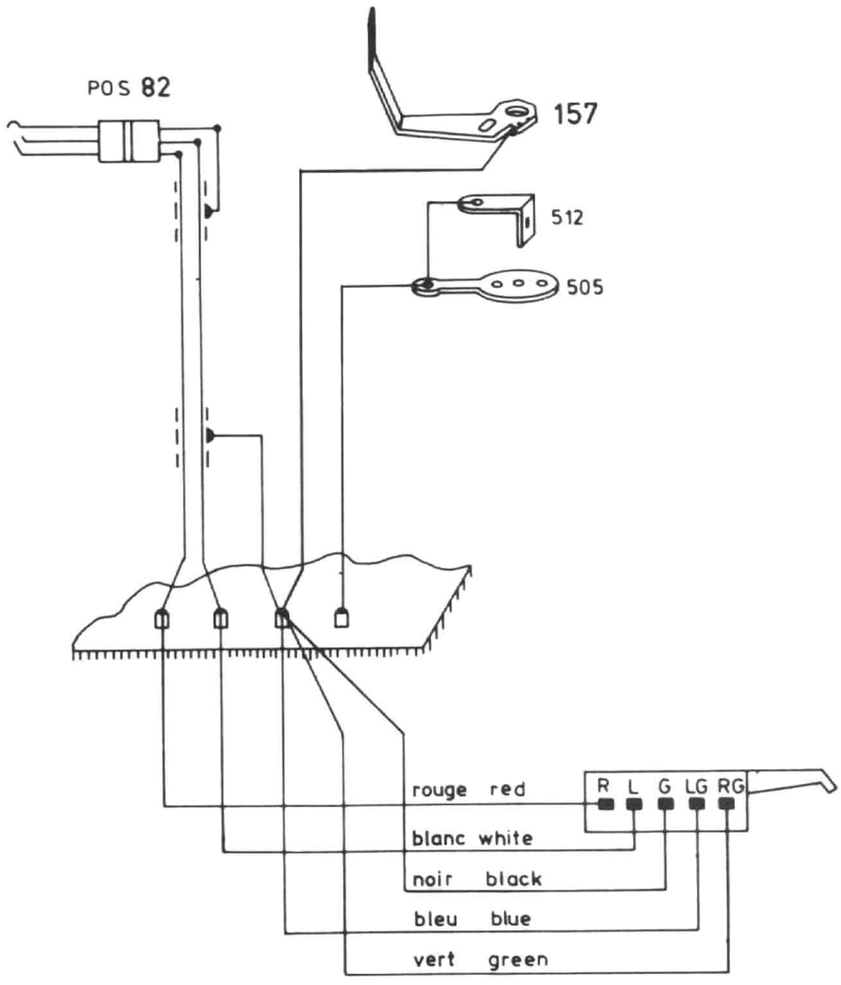


Fig. 10 12105A2

NOTE: From LF01 on, V-plate 116, bearing bush 142 and the 2 washers 143 have been changed.
For service purposes, we supply the changed V-plate only, under the old codenumber 4822 464 50061.

Codenumber new bearing bush 142 : 4822 532 20667
Codenumber new washers 143 : 4822 532 10724

When V-plate 116 is exchanged in sets marked LF00 and up, also the new bearing bush 142 and the new washers 143 have to be fitted.