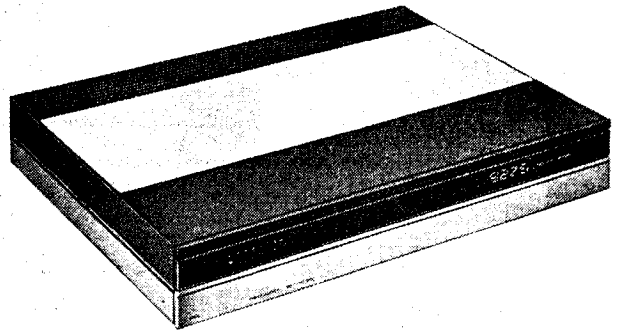


Bang & Olufsen



BEOCORD 5000

**Type 4921-4922-4923-
4924-4925-4926-4927**

For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon OX9 4QY
Tel: 01844-351694 Fax: 01844-352554
Email: enquiries@mauritron.co.uk

**SERVICEANVISNING
SERVICE MANUAL**



- 1 Signal and Control
- 2 Dolby
- 3 Transformer and Power Supply
- 4 PPM
- 6 Keyboard
- 22 Tape Deck

MÅLEBETINGELSER

Alle DC spændinger er målt i forhold til stel, med voltmeter med en indgangsmodstand 10 Mohm. Oscillogrammer og AC spændinger er målt i forhold til stel med oscilloskop eller voltmeter med en indgangsmodstand på 1 Mohm.
 Spændinger: Stilling gengive (333 Hz 250 pWb mm).
 AC spændinger opgivet i millivolt (mV). Eks. 733 mV.
 DC spændinger opgivet i volt (V). Eks. 0,7 V.
 Signalvejen i optage position er vist i venstre kanal, og gengive position er vist i højre kanal.

MEASURING CONDITIONS

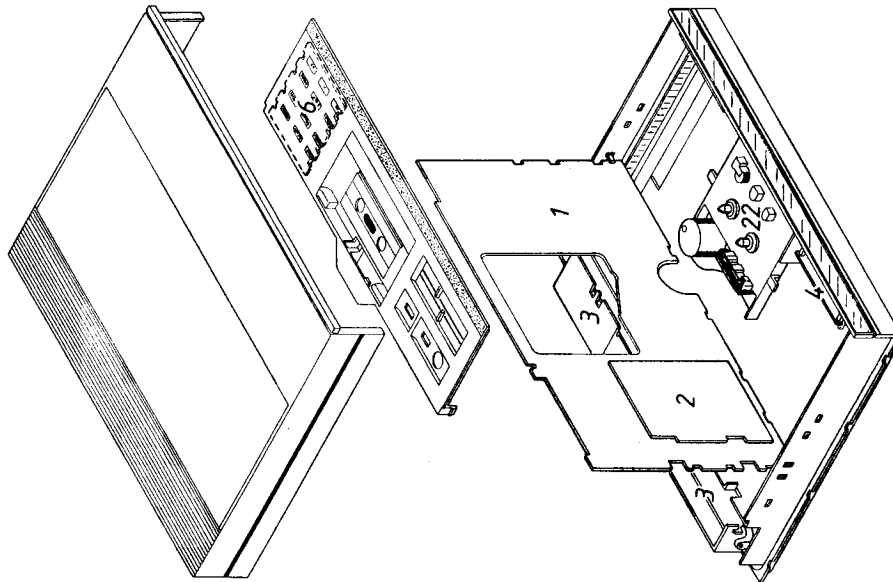
All DC voltages have been measured in relation to ground with voltmeter with an input resistance of 10 Mohms.
 Oscillograms and AC voltages have been measured in relation to ground with oscilloscope or voltmeter with an input resistance of 1 Mohm.
 Voltages: Position play back (333 Hz 250 pWb).
 AC voltages stated in millivolts (mV). Ex: 733 mV.
 DC voltages stated in volts (V). Ex: 0.7 V.
 The signal path in recording pos. is shown in left channel, and replay pos. is shown in right channel.

MESSEBEDINGUNGEN

Alle DC Spannungen sind im Verhältnis zu Masse, mit Voltmeter mit ein Eingangswiderstand von 10 Mohm gemessen.
 Oscillogramme und AC Spannungen sind im Verhältnis zu Masse, mit Oszilloskop oder Voltmeter mit einem Eingangswiderstand von 1 Mohm gemessen.
 Spannungen: Position Wiedergabe (333 Hz 250 pWb).
 AC Spannungen in Millivolt (mV) aufgegeben, z.B.: 733 mV.
 DC Spannungen in Volt (V) aufgegeben, z.B.: 0,7 V.
 Der Signalweg in Aufnahme position ist im linken Kanal gezeigt, und die Wiedergabe position ist im rechten Kanal gezeigt.

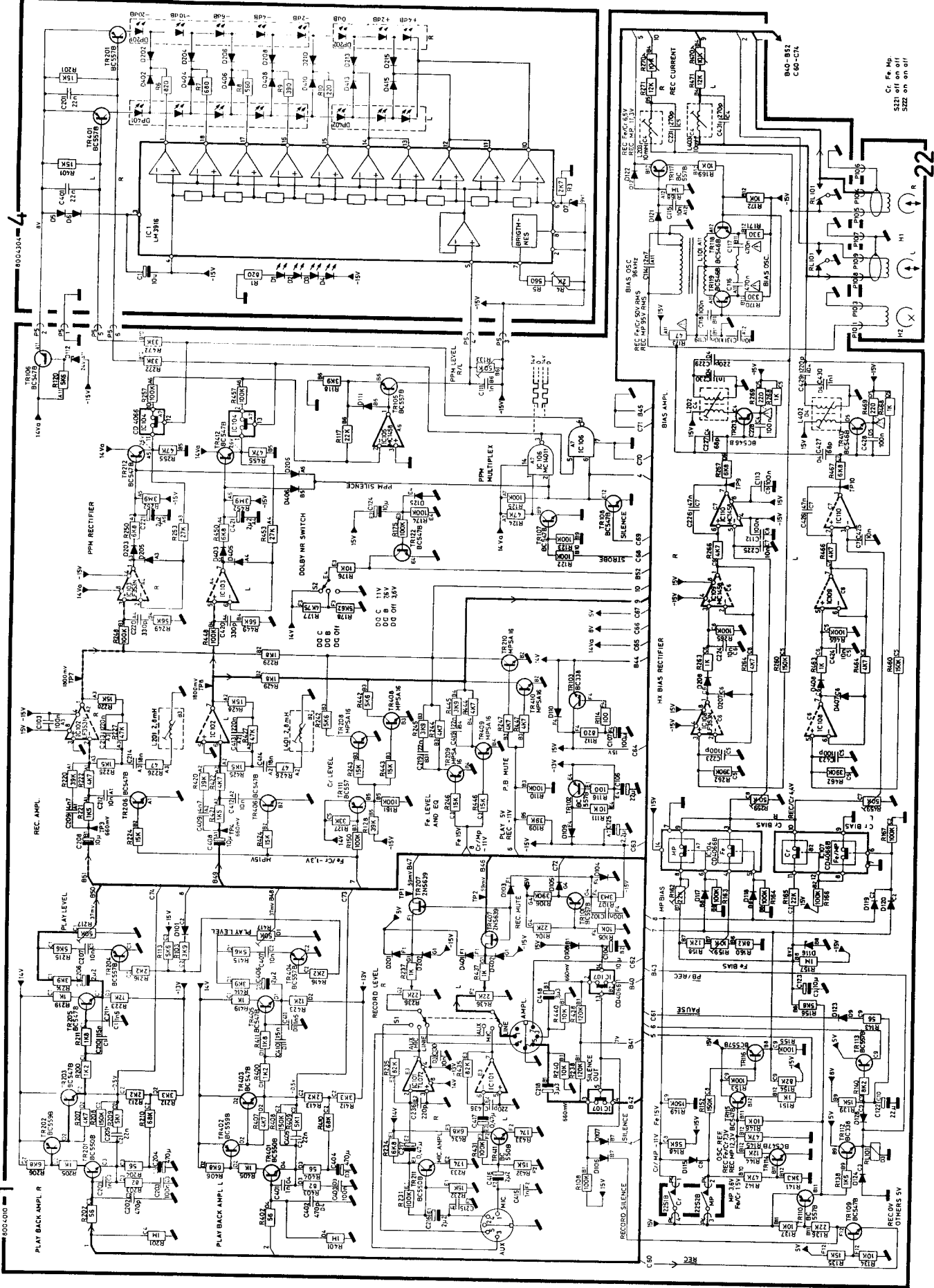
CONDITIONS DE MESURE

Toutes les tensions en courant continu (CC) sont mesurées par rapport à la masse à l'aide d'un voltmètre avec une résistance interne de 10 Mohms. Les oscillogrammes et les tensions en courant alternatif (CA) sont mesurés par rapport à la masse à l'aide d'un oscilloscope ou d'un voltmètre avec une impédance d'entrée de 1 Mohm.
 Tensions: Position reproduction (333 Hz 250 pWb mm) les tensions CA sont indiquées en millivolt (mV), par exemple 733 mV.
 Les tensions CC sont indiquées en volt (V), par exemple 0,7 V.
 La trajectoire du signal en position enregistrement est indiquée dans le canal gauche, et en position reproduction dans le canal droit.



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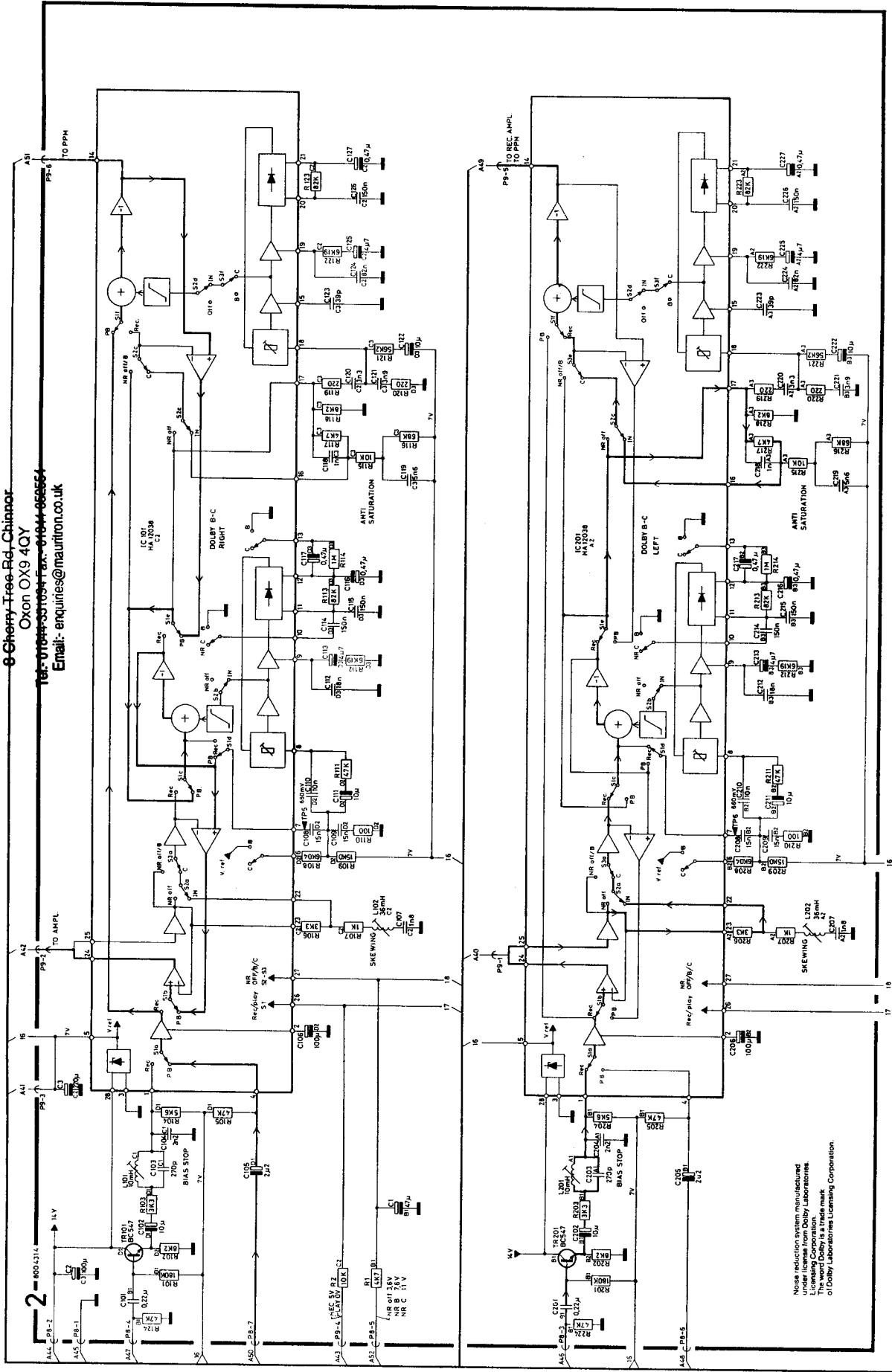
DIAGRAM A



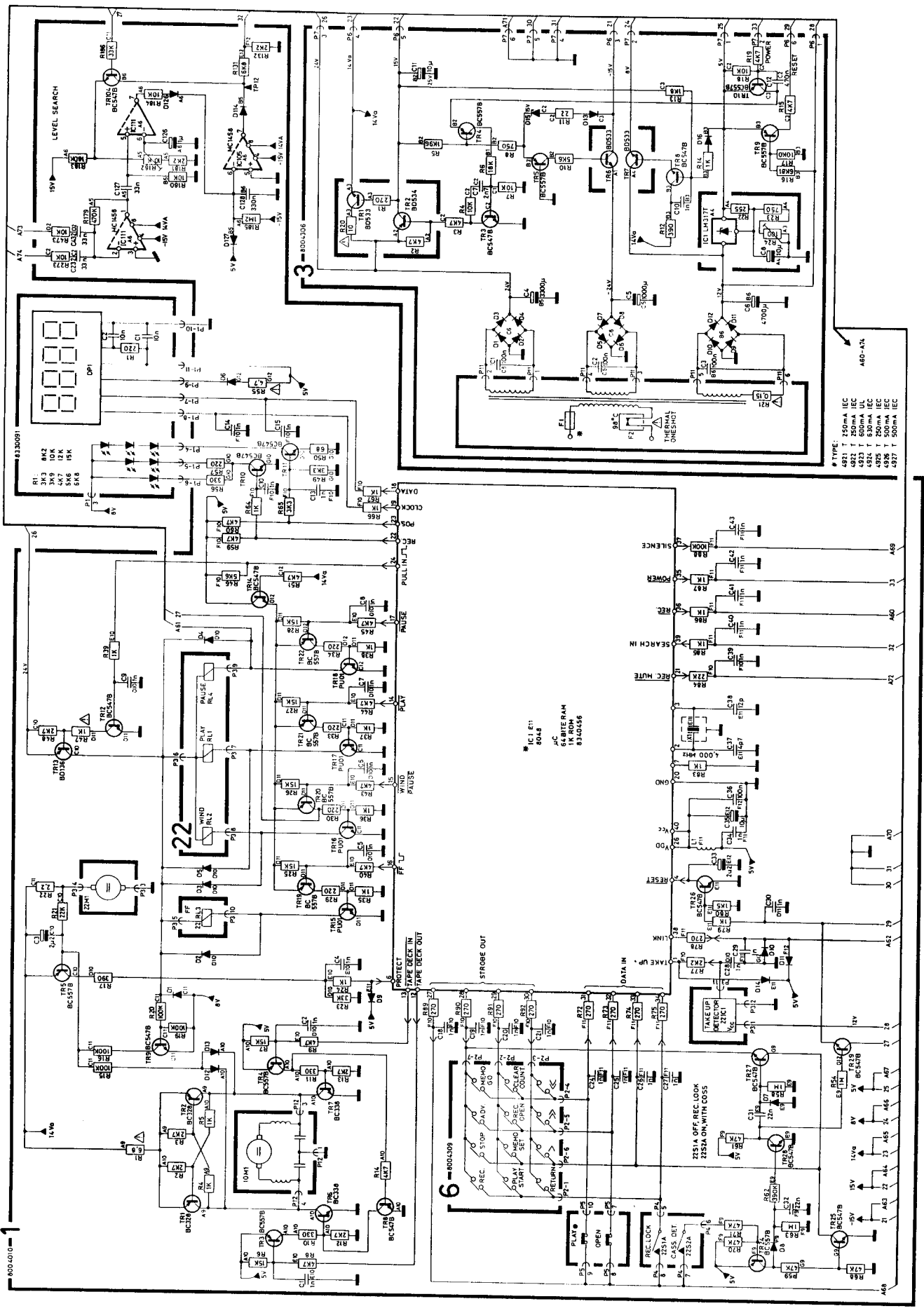
Ct. For Amp.
Size on an 800

800-010-1
800-010-4

For Service Manuals Contact
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8 Cherry Tree Rd, Chispor
Oxon OX9 4QY
Tel: 01844 331034 Fax: 01494 66654
Email: enquiries@mauritron.co.uk



Noise reduction system manufactured
under license from Dolby Laboratories.
The word Dolby is a trade mark
of Dolby Laboratories Licensing Corporation.



FUNCTION TABLE IIC1

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 Email:- enquiries@mauritron.co.uk

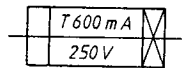
Pause (pin 17)	FF (pin 16)	Wind (pin 15)	Play (pin 14)	Stop → Play	Stop → Rec. Pause	Rec. Pause → Recording	Recording → Rec. Pause	Stop → Advance	Play → Advance	Stop → Return	Play → Return
1	1	1	1	0	0			0	1	0	1
1	1	1	0	1		1	0		0	1	0/2
1	1	0	1								
1	1	0	0					3.	4.	2.	3.
1	0	1	0					1.	2.		
1	0	0	0					2.	3.		
0	1	1	1		1						
0	1	1	0		2.		1.				
0	1	0	0		3.	0.	2.				

0 = Start

1.-2.-3.~ The order in which the levels change within the actual function.

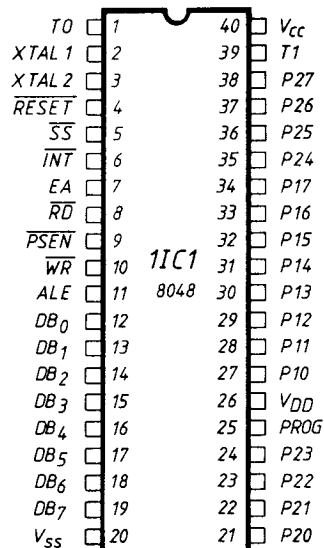
Explanation of the fuse symbols used in the set:

Explanation des symboles du fusible utilisés dans l'appareil:



Replace with same type 600 milliamperes 250 volts slow acting fuse.

Remplacer par un fusible de meme type retardé et de 600 milliamperes 250 volts.



DIAGRAMFORKLARING

På diagrammet er der angivet typenumre på transistorer og IC'er i de tilfælde hvor typenummeret er entydigt for komponentes placering i kredsløbet - f.eks. TR20/BC 557B.

Hvis positionsnummeret er efterfulgt af en stjerne skal reservedelsnummeret benyttes, da denne komponent er specielt udvalgt - f.eks. TR102*.

Koordinatsystem

De største printplader er forsynet med et koordinatsystem. Komponenterne på disse printplader er på diagrammet forsynet med en koordinatbetegnelse, som fortæller i hvilket felt på printpladen de er placeret (mindre skrifttype end positionsnummeret - f.eks. B3).

Styrekredsløb

I visse styrekredsløb er den aktive tilstand angivet med en bogstavsbetegnelse (Cr = High med CrO₂ bånd). Hvis betegnelsen er forsynet med negationstegn er den aktive tilstand LOW ($\bar{C}r$ = LOW med CrO₂ bånd).

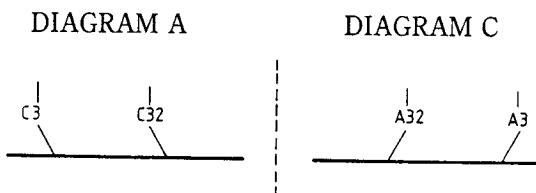
Ledningsforbindelser

Ledningsforbindelserne på diagrammet er samlet i »bundter«. De enkelte ledninger er forsynet med koder, der fortæller hvortil de går.

INTERN FORBINDELSE
PÅ EN DIAGRAMSIDEINTERNAL CONNECTION
ON ONE DIAGRAM PAGE

Interne forbindelser på en diagramside angives med et tal. Knækket på ledningen viser i hvilken retning den anden ende af ledningen findes.

Internal connections on a diagram page are indicated by a number. The bend of the wire indicates in which direction the other end of the wire may be found.

FORBINDELSE TIL EN ANDEN
DIAGRAMSIDECONNECTION TO ANOTHER
DIAGRAM PAGE

Forbindelsen til en anden diagramside angives med et tal, samt bogstav indikation på det diagram forbindelsen går til.

Connections to another diagram page are indicated by a number, as well as by a letter of the diagram to which the connections lead.

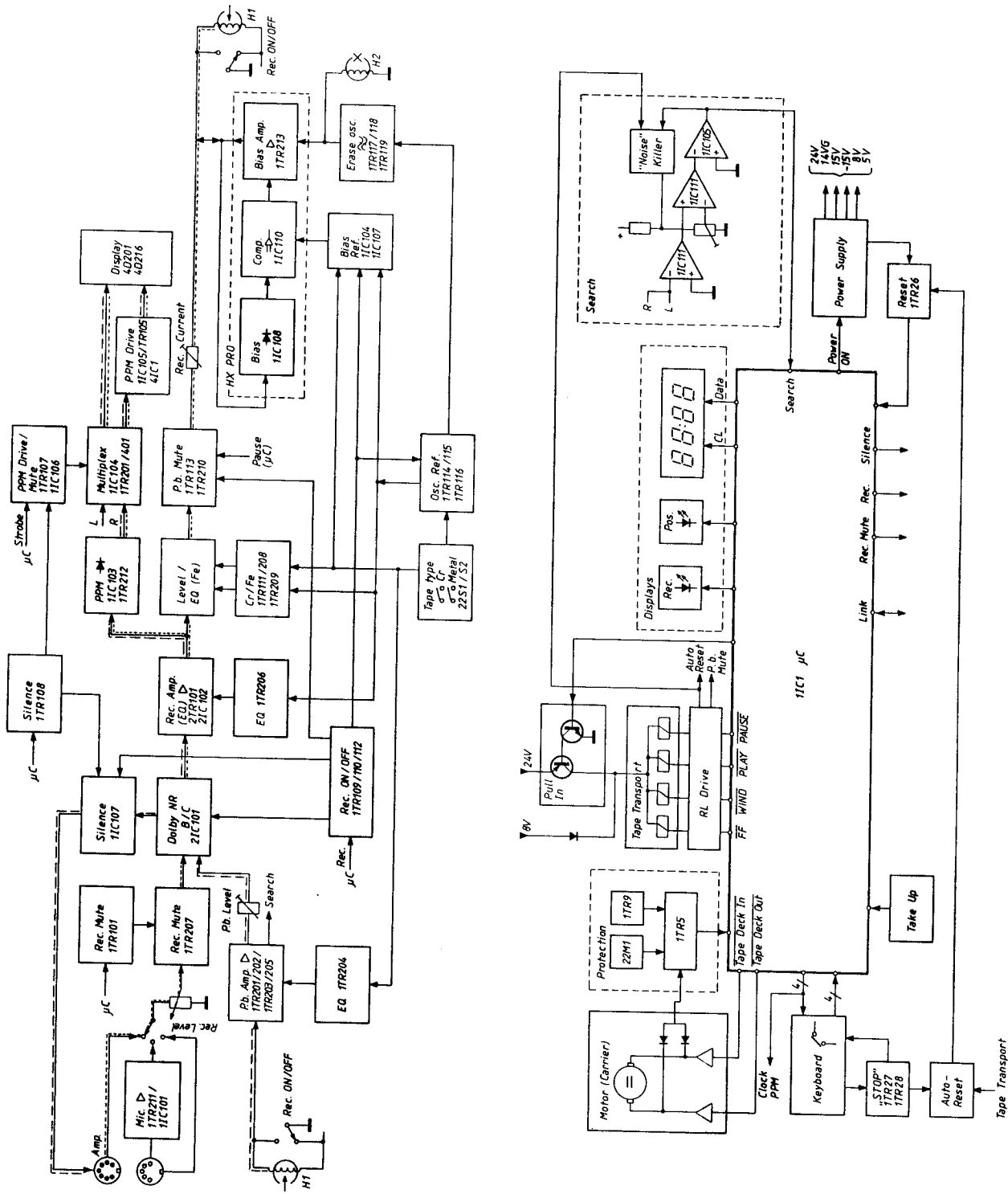
Symbol for sikkerhedskomponenter

Ved udskiftning af komponenter med dette symbol skal der anvendes komponenter med samme reservedelsnummer. Den nye komponent skal monteres på samme måde som den udskiftede.

Symbol for Safety Components



When replacing components with this symbol components with identical part numbers are to be used. The new component must be fitted in the same way as the one replaced.



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17	19	20	24	31	32	33	102
103	105	111	124	125	209	215	217
230							

Transistors

1TR1-2	8320331	20	BC 32B-25/18	1TR116-	8320152	20	BC 557B 18
1TR3-5	8320152	20	BC 557B 18	1TR117			
1TR6-7	8320329	20	BC 33B-25/18	1TR118-	8320237	20	BC 546B
1TR8-	8320097	20	BC 547B	1TR119			
1TR12							
1TR13	*8320240	32	BD 136/W	1TR122	8320152	20	BC 557B 18
1TR14	8320097	20	BC 547B	1TR401	*8320344	20	BC 550B
1TR15-	8320422	19	92 PU01		20	BC 384 B-N	
1TR18							
1TR19-	8320152	20	BC 557B 18	1TR402	*8320069	20	BC 559B
1TR22							
1TR24							
1TR25-	8320097	20	BC 547B	1TR403	8320097	20	BC 547B
1TR29							
1TR101-	8320152	20	BC 557B 18	1TR404	8320152	20	BC 557B 18
1TR102							
1TR103	8320329	20	BC 33B-25/18	1TR405-	8320097	20	BC 547B
1TR104	8320097	20	BC 547B	1TR406			
1TR105	8320152	20	BC 557B 18	1TR407	*8320396	24	MPF 4392
1TR106-	8320097	20	BC 547B		24	2N 5639	
1TR109							
1TR110-	8320152	20	BC 557B 18		24	2N 4392	
1TR111							
1TR112	8320329	20	BC 33B-25/18	1TR408-	8320366	19	MPS A16
1TR113	8320152	20	BC 557B 18	1TR410			
1TR114-	8320097	20	BC 547B	1TR411	*8320344	20	BC 550B
1TR115							
					20	384 B-N	
				1TR412	8320097	20	BC 547B
				1TR413	8320237	20	BC 546B
				2TR201	8320097	20	BC 547B
				3TR1	8320368	31	BD 533
					33	BD 539A	
				3TR2	8320369	31	BD 534
					33	BD 540A	

Diodes

3TR3	8320097	20	BC 547B	1D1-6	8300023	209	1N4002
3TR4-5	8320152	20	BC 557B 18		209	1N4003	
3TR6-7	8320368	31	BD 533	1D7-14	8300058	209	1N 4148
	33	BD 539A		1D101-	217	SFD 184	
3TR8	8320097	20	BC 547B	1D109	215	1N 4148	
3TR9-10	8320152	20	BC 557B 18	1D110	8300023	209	1N 4002
4TR401	8320152	20	BC 557B 18		209	1N 4003	
IC's							
1IC1Δ	8340456	124	UPD 8048C	1D111-	8300058	209	1N 4148
1IC101Δ	8340224	*03	TL072 CP	1D115	217	SFD 184	
1IC102-Δ	8340456	124	UPD 8048C		215	1N 4148	
1IC103							
1IC104Δ	8340202	*02	HEF 4066BP	1D116	8300173	209	ZPD 8.2V 5%
	102	CD4066 BCN			209	BZX 79C 8V2	
	102	MC14066 BCP			209	BZX 83C 8V2	
1IC105	8340048	*03	MC 1458P	1D123	8300058	209	1N 4148
	103	MC 1458 CP1			217	SFD 184	
	103	MC 1458 N			215	1N 4148	
	103	SFC 2458 DC		3D1-	8300023	209	1N 4002
	102	CD4011 BCN		3D12	209	1N 4003	
1IC106Δ	8340109	*02	CD4011 BCP	3D13	8300058	209	1N 4148
	102	MC14011 BCP			217	SFD 184	
1IC107Δ	8340202	*02	HEF4066 BP		215	1N 4148	
	102	CD4066 BCN		3D15	8300053	209	ZPD 15V 5%
	102	MC14066 BCP			209	BZX 79C 15V	
1IC108Δ	8340456	124	UPD 8048C		209	BZX 83 C15V	
1IC109-	8340048	*03	MC 1458P	3D16	8300058	209	1N 4148
1IC111	103	MC1458 CP1			217	SFD 184	
	103	MC 1458 N			215	1N 4148	
	103	SFC 2458 DC		4D1-4	8330075	230	V33HPA
2IC201	8340506	125	HA 12038		LT	9292A	
3IC1	8340065	105	LM 340-05				
4IC1	8340457	111	LM 3916N				

Δ betyder at statisk elektricitet kan ødelægge komponenten.
 Δ indicates that static electricity may destroy the component.
 Δ betyder, daß statische Elektrizität die Komponente zerstören kann.
 Δ signifie que électricité statique peut détruire le composant.

* Special udvalgt eller bearbejdet eksemplar.
 * Specially selected or adapted sample
 * Speziell ausgewähltes und bearbeitetes Exemplar.

LIST OF ELECTRICAL PARTS

Signal and Control, 8004010, PCB1

Resistors not mentioned are 5% 1/4 W carbon film.

Table with columns R1-R178 and values for resistors, including part numbers and specifications like 5010682, 2.2 Q ±5% 1/4W.

Table with columns C1-C114 and values for capacitors, including part numbers and specifications like 4010035, 1 nF ±10% 63V.

Table with columns L1-L401 and values for inductors, including part numbers and specifications like 8020342, 10 µH.

Table with columns RL101 and values for relays, including part number 7600074 and specification Relay 4.5 V.

Table with columns P2-P5 and values for plug pins, including part numbers and specifications like 7220253, Plug 7 pins.

Table with columns S1-S2 and values for switches, including part numbers and specifications like 7400232, AUX/MIC switch.

Table with column X1 and values for frequency components, including part number 8090003 and specification 4.00 MHz ±200 PPM.

Table with columns R208-R212 and values for resistors, including part numbers and specifications like 5020222, 6.04 kQ ±1% 1/4W.

Table with columns C1-C212 and values for capacitors, including part numbers and specifications like 4200516, 47 µF ±20% 16V.

Table with columns L201-L202 and values for inductors, including part numbers and specifications like 8022111, 10 mH.

Table with columns P8-P9 and values for plug pins, including part numbers and specifications like 7220247, Plug 7 pins.

Power Supply, 8004306, PCB3

Table with columns R5-R20 and values for resistors, including part numbers and specifications like 5020651, 1.96 kQ ±2% 1/4W.

Table with columns C1-C6 and values for capacitors, including part numbers and specifications like 4130179, 100 nF ±20% 63V.

Table with columns F1-F2 and values for fuses, including part numbers and specifications like 6600000, 250 mA, type 4921.

Table with columns P6-P7 and values for plug pins, including part numbers and specifications like 7220147, Plug 6 pins.

PPM, 8004304, PCB4

Table with columns R4 and values for resistors, including part number 5370213 and specification 2.2 kQ ±20% 0.1W.

Table with columns C1 and values for capacitors, including part number 4200342 and specification 10 µF -10+50% 63V.

Display, 8330091, 10DPI

Table with columns C16 and values for capacitors, including part number 4010041 and specification 10 nF -20+80% 40V.

MEKANISK STYKLISTE/
LIST OF MECHANICAL PARTS

1001	2043011 Skruer AM4 x 8, sort	Screw AM4 x 8, black
1002	2622304 Skive	Washer
1003	2391059 Låsestykke	Locking piece
1004	3413900 Kabinet, alum.	Cabinet, alu.
	3413901 Kabinet, teak	Cabinet, teak
	3413903 Kabinet, palis.	Cabinet, rosewood
	3413904 Kabinet, eg	Cabinet, oak
	3413905 Kabinet, hvid	Cabinet, white
1005	2039027 Skruer AM3 x 6, sort	Screw AM3 x 6, black
1006	2039908 Skruer AM3 x 8	Screw AM3 x 8
1007	2039908 Skruer AM3 x 8	Screw AM3 x 8
1008	3152356 Ledningsholder	Wire holder
1009	2039034 Skruer AM3 x 12, sort	Screw AM3 x 12, black
1010	2530438 Skimme Komplet	Rail complete
1011	2794094 Styrenulle	Steering cylinder
1012	2390046 E-ring	E-ring
**1013	3035026 Gldesko	Plastic foot
1014	3454294 Bund	Bottom
1015	3168347 Betjeningspanel	Control panel
1016	2013094 Skruer M2,9 x 6,5, sort	Screw M2,9 x 6,5, black
1020	2700030 Tandstang	Toothed bar
1021	2039026 Skruer AM3 x 4, sort	Screw AM3 x 4, black
1022	2775868 Knap	Button
1023	3151209 Holder f. PCB	Holder for PCB
1024	3454299 Dækplade	Cover plate
1025	3152314 Holder	Holder
1026	2039026 Skruer AM3 x 4, sort	Screw AM3 x 4, black
1027	2390046 E-ring	E-ring
1028	2794094 Styrenulle	Steering cylinder
1029	2036201 Skruer AM2,6 x 3	Screw AM2,6 x 3
1030	2816198 Bladfjeder	Leafspring
1031	2530437 Skimme Komplet	Rail complete
1032	2722039 Remskive	Pulley
1033	2732059 Rem	Belt
1034	2834080 Aksel	Shaft
1035	3150055 Servicebøjle	Service clamp
1036	3152356 Ledningsholder	Wire holder
1037	2013203 Skruer M2,9 x 13	Screw M2,9 x 13
1038	3112285 Skuffe	Drawer
1041	2039006 Skruer AM3 x 5	Screw AM3 x 5
1042	3112276 Vinkel	Bracket
1043	8004310 PCB, ON/OFF-EJECT	PCB, ON/OFF-EJECT
1044	7500148 Kontakt fjeder	Contact spring
1045	8004310 PCB, ON/OFF-EJECT	PCB, ON/OFF-EJECT
1046	7500148 Kontakt fjeder	Contact spring
1047	3151209 Holder f. PCB	Holder for PCB
1048	2039027 Skruer AM3 x 6, sort	Screw AM3 x 6, black
1049	2039028 Skruer AM3 x 8, sort	Screw AM3 x 8, black
1050	2622306 Skive	Washer
1051	2390001 E-ring	E-ring
1052	3114221 Profil m. glas	Profile with glass
1053	2380011 Metrik	Nut
1054	2622306 Skive	Washer
1055	2568704 Profil	Profile
1056	3168346 Front panel	Front panel
1057	2013094 Skruer M2,9 x 6,5, sort	Screw M2,9 x 6,5, black
1058	2645039 Juster vinkel 0,5 mm	Adjustment bracket 0.5 mm
	2645041 Juster vinkel 0,4 mm	Adjustment bracket 0.4 mm
	2645042 Juster vinkel 0,3 mm	Adjustment bracket 0.3 mm
	2645043 Juster vinkel 0,2 mm	Adjustment bracket 0.2 mm
	2645043 Juster vinkel 0,2 mm	Adjustment bracket 0.2 mm
	2775969 Knapset	Set of buttons
1059	2380011 Metrik	Nut
1060	2622304 Skive	Washer
1061	2622304 Skive	Washer
1062	2645039 Juster vinkel 0,5 mm	Adjustment bracket 0.5 mm
	2645041 Juster vinkel 0,4 mm	Adjustment bracket 0.4 mm
	2645042 Juster vinkel 0,3 mm	Adjustment bracket 0.3 mm
	2645043 Juster vinkel 0,2 mm	Adjustment bracket 0.2 mm
1063	3152363 Transportsikring	Transit protection device
1064	3152279 Ledningsholder	Wire holder
1065	2620078 Filt	Filt
1066	3170214 Isolationsstykke	Insulation piece
	3170211 Isolationsstykke type 4923	Insulation piece type 4923

10DP1 8330091 Display
*10M1 8400094 Motor m. remskive

01Modul 8004010	PCB, signal og styring	PCB, Signal and Control	
0106	Vinkel f. service	Bracket for service	
0107	Vinkel	Bracket	
0108	Vinkel f. service	Bracket for service	
0109	Ledningsholder	Wire holder	
01P1	Båndkabel m/fatning 9 pol.	Flat cable w/socket 9 pol.	
01P6	Båndkabel m/fatning 6 pol.	Flat cable w/socket 6 pol.	
01P7	Båndkabel m/fatning 6 pol.	Flat cable w/socket 6 pol.	
01P8	Båndkabel m/fatning 7 pol.	Flat cable w/socket 7 pol.	
01P9	Båndkabel m/fatning 7 pol.	Flat cable w/socket 7 pol.	
02Modul 8004314	PCB, Dolby	PCB, Dolby	
0201	Vinkel f. service	Bracket for service	
03Modul 8054091	Nettdel	Power supply	
0301	6271115	Netledning type 4921, 4922, 4926, 4927	
	6370251	Netledning type 4923	
	6271119	Netledning type 4924	
	6271091	Netledning type 4925	
0302	2938210	Ledningsholder	
	2938204	Ledningsholder type 4925	
03T1	8013281	Transformator, 220 V type 4921	
	8013282	Transformator, 240 V type 4922	
	8013283	Transformator, 120 V type 4923 USA	
	8013284	Transformator, 100 V type 4924 JAP	
	8013285	Transformator, 240 V type 4925 AUS	
	8013286	Transformator, 114 V type 4926	
	8013287	Transformator, 127 V type 4927	
04Modul 8004304	PCB, PPM	PCB, PPM	
04P5	6274058	Båndkabel m/fatning 10 pol	Flat cable w/socket 10 pol
06Modul 8004309	PCB, tastatur	PCB, keyboard	
0602	7500148	Kontakt fjeder	Contact spring
06P2	6274057	Båndkabel m/fatning 7 pol.	Flat cable w/socket 7 pol
22P3	6275020	Ledning m/fatning 11 pol.	Leads w/socket 11 pol
22P4	6275019	Ledning m/fatning 8 pol.	Leads w/socket 8 pol
22P10	6275044	Ledning m/fatning 8 pol.	Leads w/socket 8 pol
	3152394	Kabelbinder	Cable binder

** efter individ nr. 779015 bruges 3035119 **after part no. 779015 3035119 is used

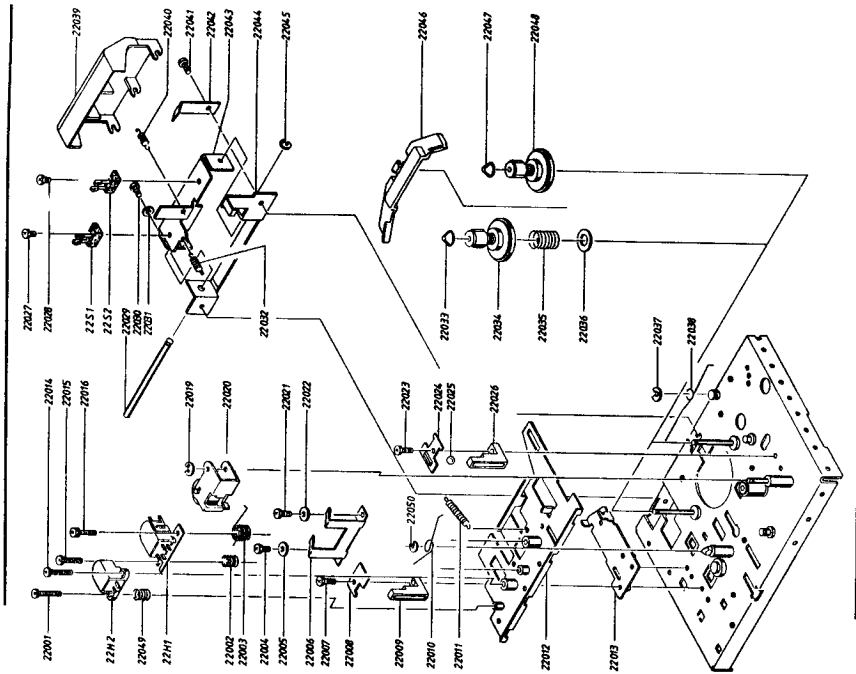
* Løs remskive til 10M1 kan leveres under reservedelsnummer 2722040.

Af og påmontering af remskive skal foretages med forsigtighed for at motoren ikke beskadiges. Remskiven klippes af med en skærbider. Ved montering af ny remskive skal motorens bundleje presses mod et hårdt underlag. Remskiven limes med IS12 nr. 3980033.

* Pulley for 10M1 is available separately, it has order no. 2722040.

Mounting and dismantling of pulley must be carried out cautiously to avoid damage of the motor: The pulley is cut off with a pair of side-cutting pliers. When mounting pulley the bottom bearing of the motor must be pressed against a hard foundation. The pulley is glued with IS12, no. 3980033.

For Service Manuals Contact
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- 22001 2034068 Skruer 2 x 5
- 22002 2812800 Fjeder
- 22003 2818000 Fjeder
- 22004 2036019 Skruer 2,6 x 4
- 22005 2622357 Skive
- 22006 2816281 Bladfjeder
- 22007 2039050 Skruer 2,6 x 6
- 22008 2816280 Profil
- 22009 3010000 Arm
- 22010 2819181 Fjeder
- 22011 2810146 Fjeder
- 22012 3112293 Chassis
- 22013 3112186 Vinkel
- 22014 2034063 Skruer 2 x 5
- 22015 2034068 Skruer 2 x 5
- 22016 2036042 Skruer 2 x 5, sort
- 22019 2390073 E-ring
- 22020 2794099 Trykkrulle komplet
- 22021 2036019 Skruer 2,6 x 4
- 22022 2622357 Skive
- 22023 2039050 Skruer 2,6 x 6
- 22024 2816207 Bladfjeder
- 22025 2917020 Kugle
- 22026 3010000 Arm
- 22027 2034067 Skruer 2 x 4
- 22028 2034067 Skruer 2 x 4
- 22029 2831000 Stift
- 22030 2039039 Skruer 3 x 4
- 22001 2034068 Skruer 2 x 5
- 22002 2812800 Fjeder
- 22003 2818000 Fjeder
- 22004 2036019 Skruer 2,6 x 4
- 22005 2622357 Skive
- 22006 2816281 Bladfjeder
- 22007 2039050 Skruer 2,6 x 6
- 22008 2816280 Profil
- 22009 3010000 Arm
- 22010 2819181 Fjeder
- 22011 2810146 Fjeder
- 22012 3112293 Chassis
- 22013 3112186 Vinkel
- 22014 2034063 Skruer 2 x 5
- 22015 2034068 Skruer 2 x 5
- 22016 2036042 Skruer 2 x 5, sort
- 22019 2390073 E-ring
- 22020 2794099 Trykkrulle komplet
- 22021 2036019 Skruer 2,6 x 4
- 22022 2622357 Skive
- 22023 2039050 Skruer 2,6 x 6
- 22024 2816207 Bladfjeder
- 22025 2917020 Kugle
- 22026 3010000 Arm
- 22027 2034067 Skruer 2 x 4
- 22028 2034067 Skruer 2 x 4
- 22029 2831000 Stift
- 22030 2039039 Skruer 3 x 4

- 22031 2622358 Skive
- 22032 2810148 Fjeder
- 22033 3164547 Dæksel
- 22034 2726002 Spøletallerken
- 22035 2812096 Fjeder
- 22036 2622343 Skive
- 22037 2390090 E-ring
- 22038 2819183 Fjeder
- 22039 3164548 Hus
- 22040 2810149 Fjeder
- 22041 2039039 Skruer 3 x 4
- 22042 2816208 Vinkel
- 22043 2548205 Vinkel
- 22044 2548206 Vinkel
- 22045 2390056 E-ring
- 22046 2851134 Arm
- 22047 3164547 Dæksel
- 22048 2725002 Spøletallerken
- 22049 2812000 Fjeder
- 22050 2390064 E-ring
- 22H1 8600068 Tonehoved
- 22H2 8600055 Slettehoved
- 22S1 7400286 Omskifter
- 22S2 7400286 Omskifter

- 22060 2794098 Kobling
- 22061 2750000 Kobling
- 22062 2819182 Fjeder
- 22063 2390090 E-ring
- 22064 3014005 Arm
- 22065 2732000 Rem
- 22066 2542620 Vinkel
- 22067 2036022 Skruer 2,6 x 5, sort
- 22068 2038063 Skruer 3 x 5, sort
- 22069 2622132 Skive
- 22070 2036022 Skruer 2,6 x 5, sort
- 22071 2812152 Fjeder
- 22072 2530466 Vinkel
- 22073 2038063 Skruer 3 x 5, sort
- 22074 2039043 Skruer 3 x 4
- 22075 2039043 Skruer 3 x 4
- 22076 2039043 Skruer 3 x 4
- 22077 2851135 Arm
- 22078 2622293 Skive
- 22079 2390053 E-ring
- 22080 2851136 Arm
- 22081 2810147 Fjeder
- 22082 2390073 E-ring
- 22083 2851137 Arm
- 22084 2390073 E-ring
- 22085 2810150 Fjeder
- 22086 2851131 Arm
- 22087 2819184 Fjeder
- 22088 2530468 Vinkel
- 22089 2038063 Skruer 3 x 5, sort
- 22090 2038063 Skruer 3 x 5, sort
- 22091 2039051 Skruer 2,6 x 5
- 22092 2622296 Skive
- 22094 2732039 Rem
- 22095 2812097 Fjeder
- 22096 2724070 Hjul
- 22097 2700037 Drivhjul
- 22099 2851138 Arm
- 22100 2039049 Skruer 3 x 5
- 22101 2810151 Fjeder
- 22102 2390073 E-ring
- 22103 2851133 Arm
- 22104 2700038 Drivhjul
- 22105 2039049 Skruer 3 x 5
- 22106 2390073 E-ring
- 22108 2812097 Fjeder
- 22109 2804000 Hjul
- 22110 2831047 Stift
- 22111 2812150 Fjeder
- 22113 2851132 Vinkel
- 22114 2039051 Skruer 2,6 x 5
- 22060 2794098 Kobling
- 22061 2750000 Kobling
- 22062 2819182 Fjeder
- 22063 2390090 E-ring
- 22064 3014005 Arm
- 22065 2732000 Rem
- 22066 2542620 Vinkel
- 22067 2036022 Skruer 2,6 x 5, sort
- 22068 2038063 Skruer 3 x 5, sort
- 22069 2622132 Skive
- 22070 2036022 Skruer 2,6 x 5, sort
- 22071 2812152 Fjeder
- 22072 2530466 Vinkel
- 22073 2038063 Skruer 3 x 5, sort
- 22074 2039043 Skruer 3 x 4
- 22075 2039043 Skruer 3 x 4
- 22076 2039043 Skruer 3 x 4
- 22077 2851135 Arm
- 22078 2622293 Skive
- 22079 2390053 E-ring
- 22080 2851136 Arm
- 22081 2810147 Fjeder
- 22082 2390073 E-ring
- 22083 2851137 Arm
- 22084 2390073 E-ring
- 22085 2810150 Fjeder
- 22086 2851131 Arm
- 22087 2819184 Fjeder
- 22088 2530468 Vinkel
- 22089 2038063 Skruer 3 x 5, sort
- 22090 2038063 Skruer 3 x 5, sort
- 22091 2039051 Skruer 2,6 x 5
- 22092 2622296 Skive
- 22094 2732039 Rem
- 22095 2812097 Fjeder
- 22096 2724070 Hjul
- 22097 2700037 Drivhjul
- 22099 2851138 Arm
- 22100 2039049 Skruer 3 x 5
- 22101 2810151 Fjeder
- 22102 2390073 E-ring
- 22103 2851133 Arm
- 22104 2700038 Drivhjul
- 22105 2039049 Skruer 3 x 5
- 22106 2390073 E-ring
- 22108 2812097 Fjeder
- 22109 2804000 Hjul
- 22110 2831047 Stift
- 22111 2812150 Fjeder
- 22113 2851132 Vinkel
- 22114 2039051 Skruer 2,6 x 5

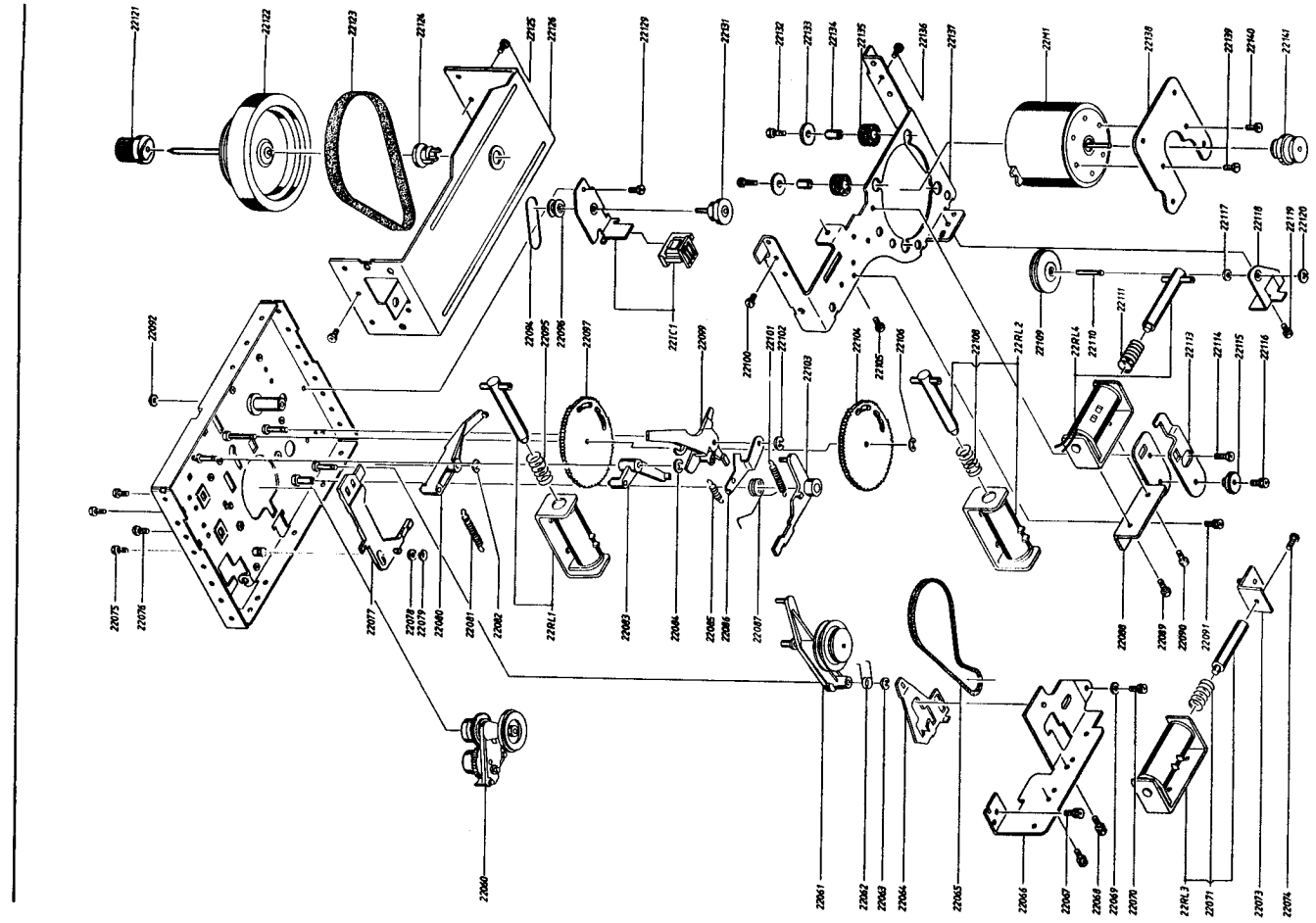
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- 22115 2932114 Bøsning
- 22116 2036043 Skruer 2,6 x 6, sort
- 22117 2622299 Skive
- 22118 2530467 Vinkel
- 22119 2036022 Skruer 2,6 x 5, sort
- 22120 2390056 E-ring
- 22121 2700036 Tandhjul
- 22122 2794096 Springhjul
- 22123 2732064 Rem
- 22124 2905078 Lås
- 22125 2039049 Skruer 3 x 5
- 22126 3112295 Vinkel
- 22129 2039049 Skruer
- 22131 3356044 Hjul samlet
- 22132 2036044 Skruer 2,6 x 10, sort
- 22133 2622282 Skive
- 22134 2932048 Bøsning
- 22135 2932000 Gummibøsning
- 22136 2039049 Skruer 3 x 5
- 22137 3112294 Vinkel
- 22138 3122054 Vinkel
- 22139 2036021 Skruer 2,6 x 3
- 22140 2036021 Skruer 2,6 x 3
- 22141 2722028 Remskive

- 22RL1 6840023 Sugespole, play
- 22RL2 6840023 Sugespole, wind
- 22RL3 6840027 Sugespole, FF
- 22RL4 6840030 Sugespole, pause

- 22IC1 8004007 IC m/holder

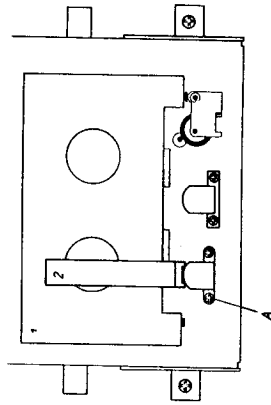
- 22M1 8400000 Motor



Ikke viste dele/
Parts not shown

- 6270062 Signalledning m/ledn. holder
- 3391251 Ydereske
- 3397443 Skumemballage sæt
- 3414040 Kabinets finer sæt, aluminium
- 3414041 Kabinets finer sæt, teak
- 3414043 Kabinets finer sæt, palis.
- 3414044 Kabinets finer sæt, eg
- 3414045 Kabinets finer sæt, hvid
- 3391576 Emb. til 01 Modul
- 3391574 Emb. til 02 Modul
- 3391575 Emb. til 03 Modul
- 3504260 Betjeningsanvisning, DK
- 3504261 Betjeningsanvisning, S
- 3504262 Betjeningsanvisning, SF
- 3504263 Betjeningsanvisning, GB
- 3504264 Betjeningsanvisning, D
- 3504265 Betjeningsanvisning, F
- 3504266 Betjeningsanvisning, NL
- 3504267 Betjeningsanvisning, USA

- Connector w/wire holder
- Outer carton
- Foam packing set
- Cabinet's veneer set, aluminium
- Cabinet's veneer set, teak
- Cabinet's veneer set, rosewood
- Cabinet's veneer set, oak
- Cabinet's veneer set, white
- Pack for 01 Module
- Pack for 02 Module
- Pack for 03 Module
- Operating Manual, DK
- Operating Manual, S
- Operating Manual, SF
- Operating Manual, GB
- Operating Manual, D
- Operating Manual, F
- Operating Manual, NL
- Operating Manual, USA



Højde slettehoved justering foretages med justerværktøj 1 og 2 fra justerværktøjsæt 3624020. Justerværktøj lægges i kasseteholderen som vist på skitsen.

Tonehovedbroen presses forsigtigt ind mod værktøj 2. Med skruen A justeres til båndstyret går ind over værktøj 2. Højden på tonehovedet kontrolleres ligeledes med værktøj 2.

Der kan korrigeres for højdefejl v.h.a. skiver under opspændingerne til tonehovedet. Følgende skiver kan benyttes:

2624052	0.1 mm
2624053	0.2 mm
2624054	0.3 mm

Adjust the height of the erase head by means of the adjustment tools 1 and 2 from the adjustment tool kit 3624020.

Position the adjustment tools in the cassette tray holder as shown in the diagram. Press with due care the tape head bridge against tool 2.

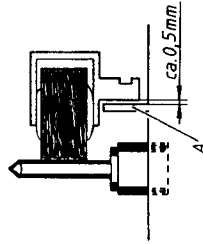
Adjust with the screw A until the tape guide starts to overlap tool 2. The tape head height is also controlled with tool No. 2.

It is possible to correct faulty height setting by means of washers under the tape head fixtures. The following washers are applicable:

2624052	0.1 mm
2624053	0.2 mm
2624054	0.3 mm

Frigang trykrulle

Tonehovedbroen trykkes i bund. Afstanden mellem tappen A på tonehovedbroen og trykrullerarmen skal da være ca. 0,5 mm. Justering foretages ved at bukke tappen A.



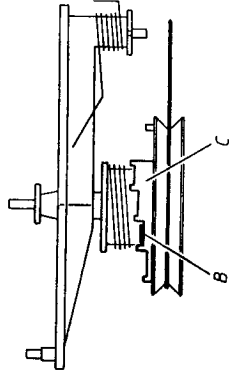
Press the tape head bridge until it bottoms. The distance between the pin A on the tape head bridge and the pressure roller arm should now be approx. 0.5 mm. Make the adjustment by bending the pin A.

Opsamløblemoment

Opsamløbekoblingen position 22061 afmonteres.

Take-up moment

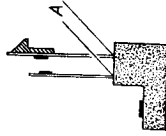
Remove the take-up clutch, position 22061.



Justering foretages med messingsringen B. Opsamløblemomentet skal ligge indenfor 30-80p cm. Er momentet for lavt, trækkes messingsringen B op fra remskiven og drejes op ad trappetrinene C. Er momentet for højt, drejes messingsringen ned ad trappetrinene.

Make the adjustment with the brass ring B. The take-up moment should be within 30-80p cm. In case the moment is too low, pull the brass ring B up from the pulley and turn it up the steps C. If the moment is too high, turn the brass ring down the steps.

Mikrosvitche



Micro-switches

De fire mikrosvitche på løbeværkets bagkant kan justeres til sikkert skift, ved lægning og udtagning af en kassette, ved at bukke switchene forsigtigt i punkterne A.

The four microswitches at the rear edge of the drive unit can be adjusted to perform positive switching when loading or removing a cassette by, with due care, bending the switches at the points A.

Play sugespole

Når ankeret på 22RL1 trykkes i bund, skal det øverste kurvehjul 22097 gå i indgreb, sker dette ikke foretages følgende justering:

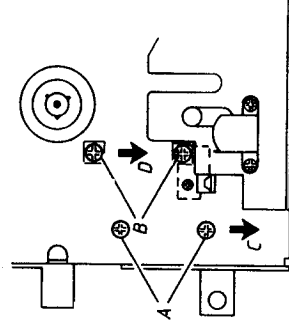
Skruerne A løsnes, og sugespolen 22RL1 trækkes frem i pilen C's retning. Sugespolen holdes fast, og ankeret trykkes i bund, derefter trækkes sugespolen forsigtigt tilbage indtil det øverste kurvehjul 22097 går i indgreb.

Play solenoid

When the armature of 22RL1 is pressed all the way down, the top cam wheel 22097 shall mesh.

Should this not be the case, make the following adjustments:

Loosen the screws A and pull the solenoid 22RL1 forward in the direction of the arrow C. Hold the solenoid firmly and press the armature down until it bottoms. Now pull the solenoid carefully rearwards until the top cam wheel 22097 is meshing.



Wind sugespole

Når ankeret på 22RL2 trykkes i bund, skal det nederste kurvehjul 22104 gå i indgreb, sker dette ikke foretages følgende justering:

Skruerne B løsnes, og sugespolen 22RL2 trækkes frem i pilen D's retning. Sugespolen holdes fast, og ankeret trykkes i bund, derefter trækkes sugespolen forsigtigt tilbage indtil det nederste kurvehjul 22104 går i indgreb.

Wind solenoid

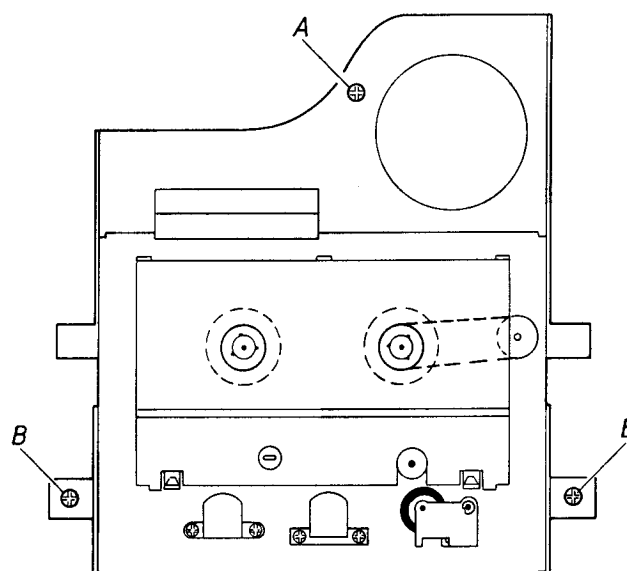
When the armature of 22RL2 is pressed all the way down, the bottom cam wheel 22104 shall mesh. Should this not be the case, make the following adjustments:

Loosen the screws B and pull the solenoid 22RL2 forward in the direction of the arrow D. Hold the solenoid firmly and press the armature down until it bottoms. Now pull the solenoid carefully rearwards until the bottom cam wheel 22104 is meshing.

Løbeværk montering og centrering

Fitting and centre alignment of drive unit

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 8 Cherry Tree Rd, Chinnor
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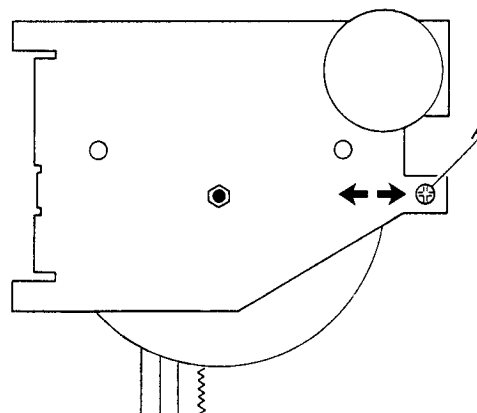


Løbeværket stilles ned på de tre søjler i skuffebunden.
 Betjeningspanelet monteres på skuffen.
 Løbeværket centrerer efter hullerne i dækpladen for løbeværket.
 Skruen A monteres.
 Betjeningspanelet afmonteres og skrue B monteres.

Place the recorder drive unit on the three columns at the bottom of the drawer.
 Fit the control panel on to the drawer.
 Align the recorder drive unit centrally with the holes in the drive unit cover plate.
 Fit the screw A.
 Remove the control panel and fit the screws B.

Tandstangsdrev

Toothed rack drive

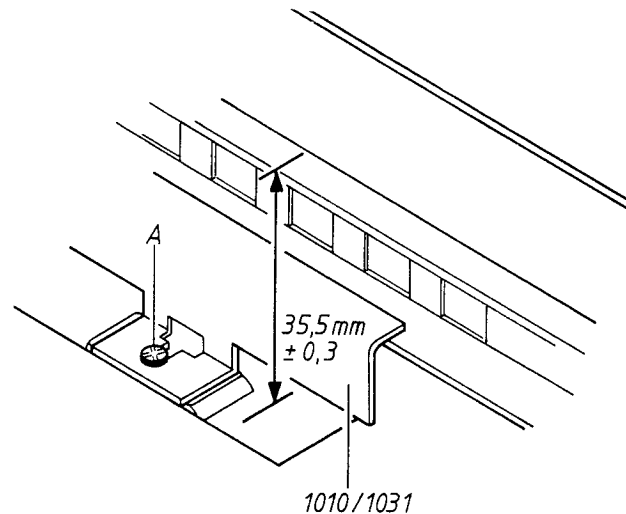


Skruen A løsnes.
 Vinkel med tandhjul skubbes forsigtigt i en af pilenes retninger, indtil der er 1-2 mm slør mellem tandhjulet og tandstangen.

Loosen the screw A.
 Push carefully the bracket with the toothed wheel in either direction of the arrows until there is a play of 1-2 mm between the toothed wheel and the toothed rack.

Skuffe højde front

Drawer height (front)



Afstanden fra bundpladen til overkanten af skinnen, som er svejset på skuffesiderne skal være $35,5 \pm 0,3$ mm.

Justering kan foretages ved at løsne skinnerne 1010 (venstre side) og 1031 (højre side) med skrue A, og indlægge skiver mellem skinnerne og bundpladen.

Skiverne skal indlægges ved skrue A og kun i forkanten.

Der skal indlægges ens skiver i begge sider.

Indlægsskiver med dette udseende kan leveres under følgende nr.

0,2 mm	2645043
0,3 mm	2645042
0,4 mm	2645041
0,5 mm	2645039

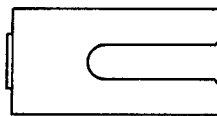
The distance from the bottom plate to the top edge of the rails which are welded on to the drawer sides must be 35.5 ± 0.3 mm.

This distance is adjustable by loosening the rails 1010 (left-hand side) and 1031 (right-hand side) by means of the screws A and by inserting shims between the rails and the bottom plate.

The shims must be inserted at the screws A and at the front edge only.

Always insert uniform shims at both sides.

Shims of this design are available under the following numbers:



Skuffehøjde bag

Afstanden mellem skuffebagkant B samt styretappene D og tandstangen C skal være min. 0,2 mm.

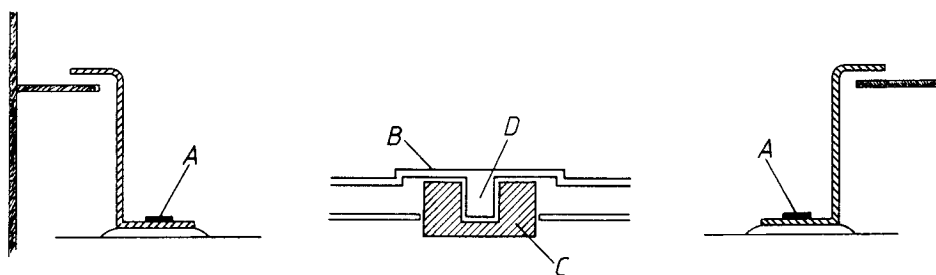
Afstanden gælder for hele skuffevandringen, justering kan foretages ved at løsne skrue A og indlægge de under forrige justering nævnte skiver mellem skinnerne og bundpladen.

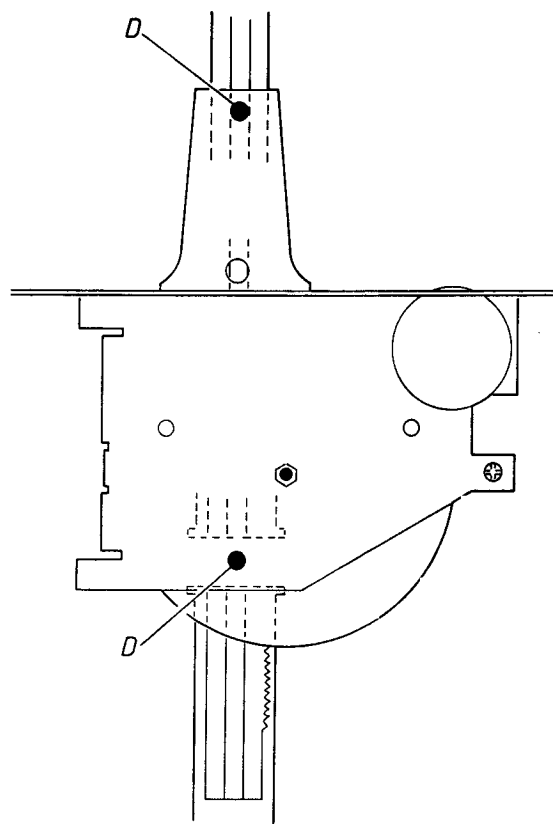
Der indlægges ens skiver i begge sider og kun i bagkanten.

Drawer height (rear)

The clearance between drawer rear edge B and the guide pins D and the toothed rack C must be min. 0.2 mm.

This clearance applies to the complete drawer travel, and the adjustment can be made by loosening the screws A and inserting the shims earlier mentioned between the rails and the bottom plate. Insert uniform shims at both sides and at the rear edge only.





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Smøring

Behovet for eftersmøring er minimalt, men ved større eftersyn og ved udskiftning af vigtige mekaniske dele, bør disse retningslinier følges.

Lubrication

The need for lubrication is negligible, but the directions given below should be followed during overhauls and when replacing major mechanical components.

<p>Tonehovedbro 22012: Glideflader mod tappe i topchassis, vinkel 22013 og kugle 22025. Kobling 22060: Glideflade mod vinkel 22066 og vinkel 22064. Kurvehjul 22097 og 22104: Glideflade mod aksel i topchassis.</p>	<p>Tape head bridge 22010: Fase slidings against taps in top chassis, bracket 22013 and ball 22025. Clutch 22060: Fase sliding against bracket 22066 and bracket 22064. Cam lifting wheel 22097 and 22104: Fase sliding against shaft in top chassis.</p>	<p>3984216 Rocol MTS 1000</p>
<p>Trykrulle 22020: Glideflade mod aksel. Svinghjul 22122: Glideflade mod bundleje 22124.</p>	<p>Pressure wheel 22020: Fase sliding against shaft. Flywheel 22122: Fase sliding against bottom bearing 22124.</p>	<p>3984021 Eprohon grease</p>
<p>Spoletallerkener 22034 og 22048: Glideflader mod aksler i topchassis og ring 22036. Berøringsflader mellem aksel 22029, vinkel 22044 og vinkel 22043.</p>	<p>Shafts for turntables 22034 and 22048: Fase slidings against shafts in top chassis and ring 22036. Surfaces of contact between shaft 22029, bracket 22044 and bracket 22043.</p>	<p>3984022 Floil GB-TS-1</p>

ELEKTRISKE JUSTERINGER

Henvisningerne er for højre kanal, (henvisningerne i parentes er for venstre kanal).

Koordinat betegnelse er angivet efter positionsnumre.

Elektriske justeringer foretages uden DOLBY NR hvis andet ikke er nævnt.

Ved justeringer hvor der skal benyttes tonegenerator, tilsluttes denne AUX indgangen.

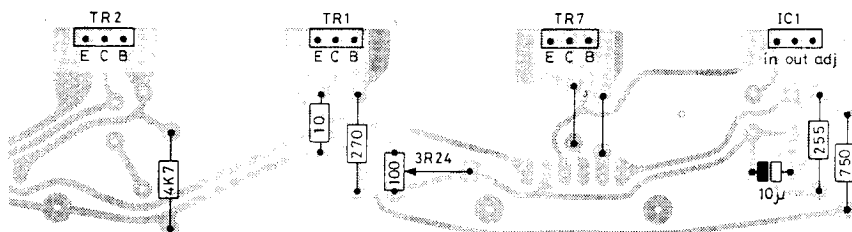
ELECTRICAL ADJUSTMENTS

The references apply to the RH channel (the references in parentheses apply to the LH channel). The co-ordinate denomination is indicated after the position numbers.

If not otherwise instructed, always make the electrical adjustments without DOLBY NR.

In cases where a tone generator is needed, it must be connected to the AUX socket.

+5 Volt



DC voltmeter tilsluttes med + på 1R55G12 og stel ved microcomputeren evt. 1C33E12.

Apparatet stilles i stilling STOP og CLEAR COUNTER.

3R24 justeres til +5 V.

+5 Volt

Connect a DC voltmeter to + on 1R55G12 and chassis at the microcomputer, possibly 1C33E12.

Set the recorder in mode STOP and CLEAR COUNTER.

Adjust 3R24 to +5 V.

Azimut

Tonehoved og slettehoved afmagnetiseres.

LF voltmeter tilsluttes 1TP3B1 (1TP4A2).

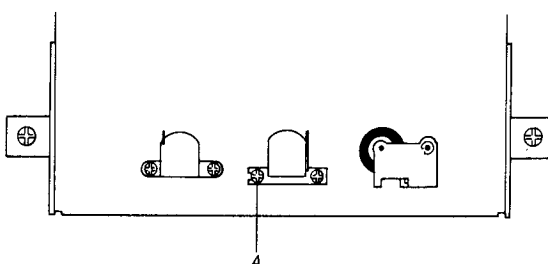
Azimut bånd 6780036 ilægges.

Azimuth

Demagnetize the recording and erase head.

Connect an AF voltmeter to 1TP3B1 (1TP4A2).

Load azimuth tape 6780036.



Skruen A justeres til max. i begge kanaler og til ens output for venstre og højre kanal (middelværdi i 1TP3 (1TP4)).

Adjust the screw A to max. in both channels and to uniform outputs for the LH and RH channels (mean value in 1TP3 (1TP4)).

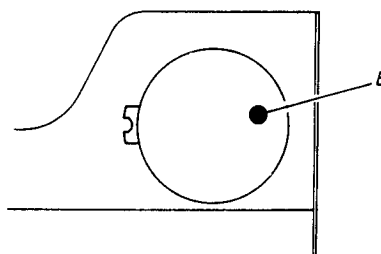
Hastighed

Wow bånd 6780037 ilægges.

Med potentiometer B i motoren justeres til korrekt hastighed aflæst på et wow meters drift meter.

Justeringen foretages midt på båndet.

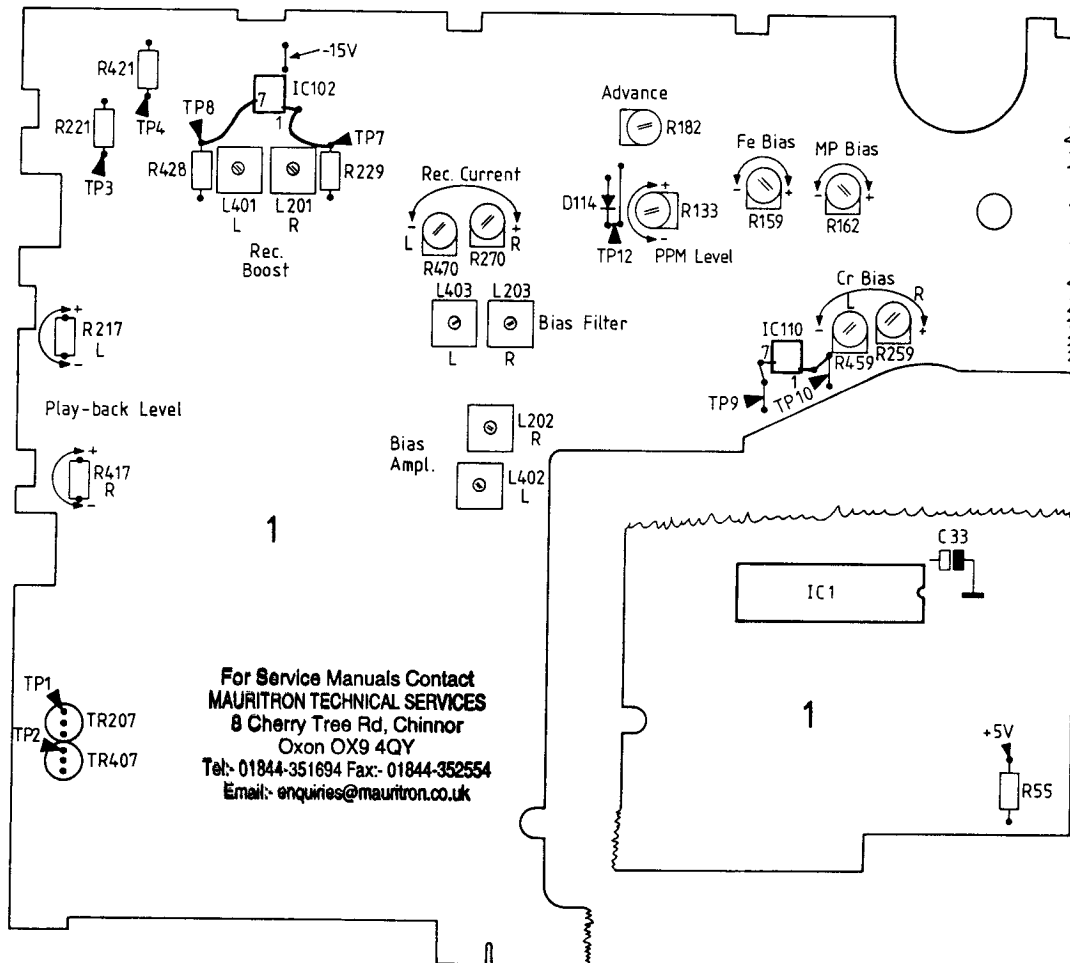
Speed



Load wow tape 6780037.

Adjust, by means of the potentiometer B in the motor, for correct speed as read on the driftmeter of a wow meter.

Make the adjustment in a centre position on the tape.



Gengiveniveau

Justering af gengiveniveau er her beskrevet efter to norm bånd.

- 1: DIN standard, 250 pWb mm.
- 2: Dolby level, 200 pWb mm.

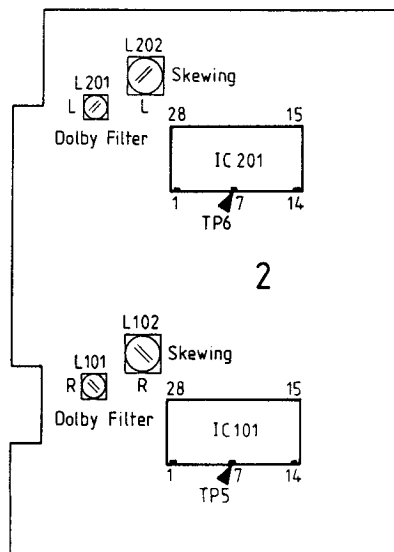
- 1: Pegel bånd 6780035 ilægges.
 LF voltmeter tilsluttes 2TP5D2 (2TP6B2).
 1R217C1 (1R417D1) justeres til der måles
 660 millivolt i 2TP5 (2TP6).
- 2: Dolby level calibration bånd MTT-150A ilægges.
 LF voltmeter tilsluttes 2TP5D2 (2TP6B2).
 1R217C1 (1R417D1) justeres til der måles
 580 millivolt i 2TP5 (2TP6).

Playback level

Adjustment instructions for the playback level are given below according to two types of level tape:

- 1: DIN standard, 250 pWb mm.
- 2: Dolby level, 200 pWb mm.

- 1: Load level measuring tape 6780035.
 Connect an AF voltmeter to 2TP5D2 (2TP6B2).
 Adjust 1R217C1 (1R417D1) until a reading of
 660 millivolt is obtained in 2TP5 (2TP6).
- 2: Load Dolby level calibration tape MTT-150A.
 Connect an AF voltmeter to 2TP5D2 (2TP6B2).
 Adjust 1R217C1 (1R417D1) until a reading of
 580 millivolt is obtained in 2TP5 (2TP6).



Optagehæv

Denne justering skal være meget nøjagtig.
CrO₂ bånd ilægges.

Tonegenerator indstilles til at afgive 333 Hz og ca. 30 millivolt.

LF voltmeter tilsluttes 1TP7A3 (1TP8A2).

Record pause aktiveres. (Record open, derefter Record).

Record potentiometrene indstilles til der måles 100 millivolt i 1TP7 (1TP8).

LF voltmeter tilsluttes 1TP3A1 (1TP4A2).

Spændingen i 1TP3 (1TP4) aflæses og noteres.

Tonegeneratorens frekvens ændres til 19 kHz.

Record potentiometrene reguleres således, at spændingen i 1TP3 (1TP4) er nøjagtig den samme ved 19 kHz som ved 333 Hz.

LF voltmeter tilsluttes 1TP7A3 (1TP8A2).

Med 1L201B3 (1L401B2) justeres til der måles 1,4 volt i 1TP7 (1TP8) (svarer til +23 dB ved 19 kHz i forhold til 333 Hz).

PPM

Tonegenerator indstilles til at afgive 333 Hz og ca. 300 millivolt.

LF voltmeter tilsluttes 2TP5D2 (2TP6B2).

Record pause aktiveres.

Record potentiometrene indstilles til der måles 660 millivolt i 2TP5 (2TP6).

1R133B6 justeres indtil den første røde lysdiode netop tænder.

4R4:

4R4 skal kun justeres ved udskiftning af 4IC1, 4R4 eller 4R5.

Tinkortslutningen A afbrydes.

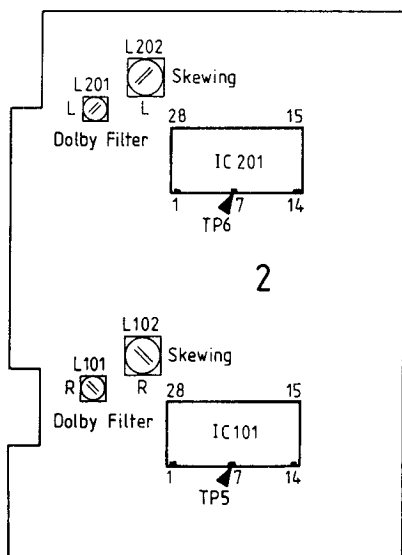
Milliamperemeter tilsluttes de to kortslutningspunkter.

Tonegenerator indstilles til at afgive 333 Hz og ca. 300 millivolt.

Record pause aktiveres.

Record potentiometrene indstilles til der er lys i både L og R PPM.

4R4 justeres indtil der måles 14 milliampere.



Record boost

This adjustment must be very accurate.

Load a CrO₂ tape.

Set a tone generator to yield 333 Hz and approx. 30 millivolt.

Connect an AF voltmeter to 1TP7A3 (1TP8A2).

Activate Record pause (Record open, then Record).

Adjust the Record potentiometers until a reading of 100 millivolt is obtained in 1TP7 (1TP8).

Connect an AF voltmeter to 1TP3A1 (1TP4A2).

Take a reading of the voltage in 1TP3 (1TP4) and make a note.

Alter the frequency of the tone generator to 19 kHz.

Adjust the Record potentiometers until the voltage in 1TP3 (1TP4) is exactly the same at 19 kHz as at 333 Hz.

Connect an AF voltmeter to 1TP7A3 (1TP8A2).

Adjust with 1L201B3 (1L401B2) until a reading of 1.4 volt is obtained in 1TP7 (1TP8) - (corresponding to +23 dB at 19 kHz in relation to 333 Hz).

PPM

Set the tone generator to yield 333 Hz and approx. 300 millivolt.

Connect an AF voltmeter to 2TP5D2 (2TP6B2).

Activate Record pause.

Adjust the Record potentiometers until a reading of 660 millivolt is obtained in 2TP5 (2TP6).

Adjust 1R133B6 until the first red LED is just beginning to glow.

4R4:

4R4 only needs adjustment if 4IC4, 4R4 og 4R5 have been replaced.

Disconnect the tin short-circuit A.

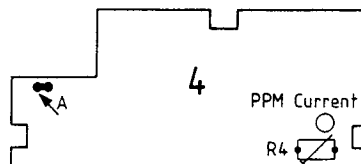
Connect a milliammeter to the two short-circuit points.

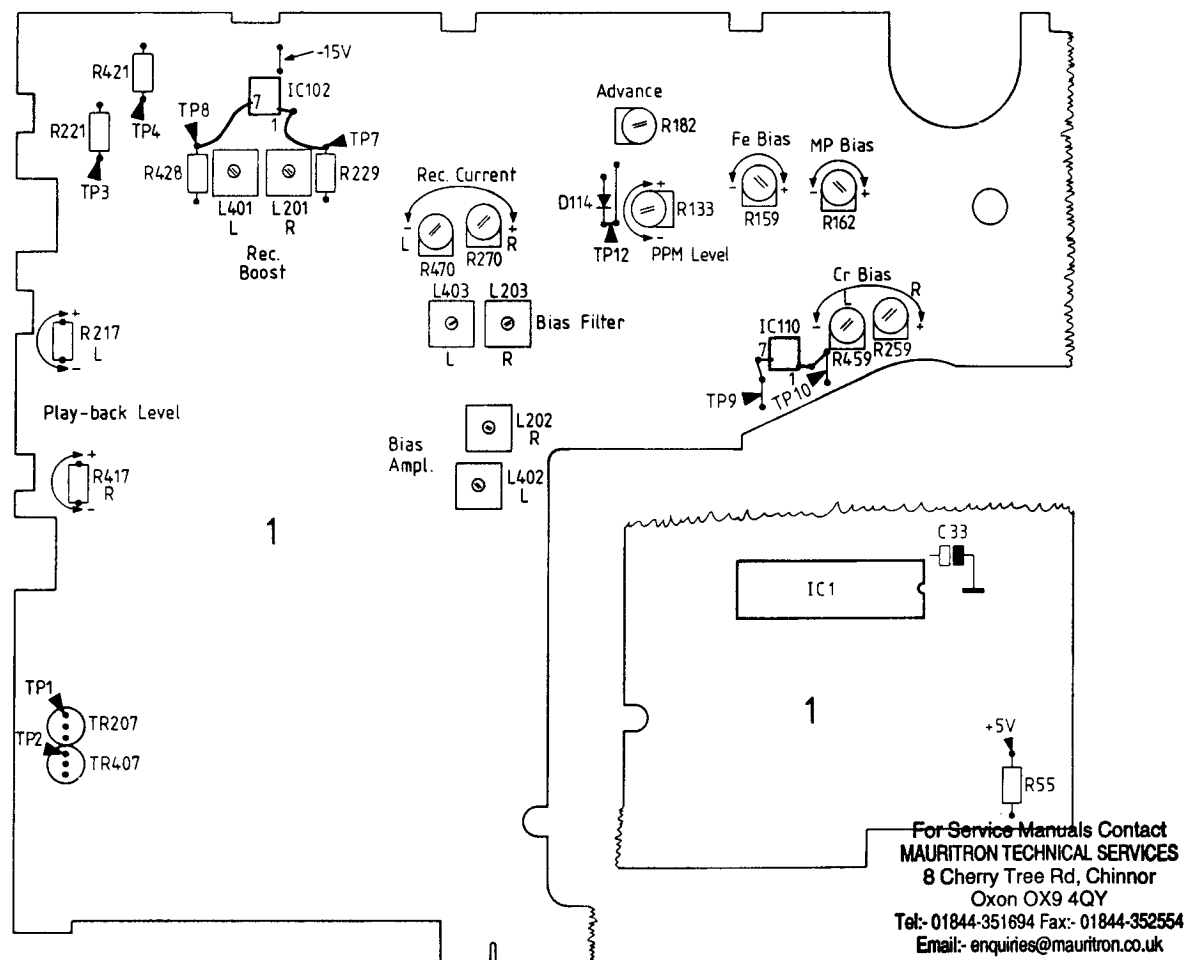
Set the tone generator to yield 333 Hz and approx. 300 millivolt.

Activate Record pause.

Set the Record potentiometers until light is visible in both L and R PPM.

Adjust 4R4 until a reading of 14 milliampere is obtained.



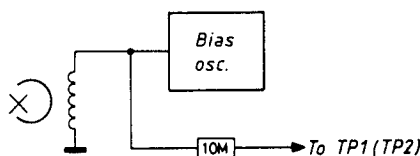


Dolby filter

Der monteres en modstand på 10 Mohm fra slettehovedet til 1TP1F1 (1TP2F1).

Dolby filter

Fit a resistor of 10 Mohm between the erase head and 1TP1F1 (1TP2F1).



LF voltmeter tilsluttes 2TP5D2 (2TP6B2).
Record aktiveres (uden LF signal tilført).
Record potentiometrene stilles i midterstilling.
2L101C1 (2L201A1) justeres til minimum spænding målt i 2TP5 (2TP6).
10 Mohm afmonteres.

Connect an AF voltmeter to 2TP5D2 (2TP6B2).
Activate Record (with no AF signal applied).
Set the Record potentiometers in centre position.
Adjust 2L101C1 (2L201A1) until the minimum reading is obtained in 2TP5 (2TP6).
Remove the 10 Mohm resistor.

Skewing

Dolby NR omskifteren stilles i stilling NR C.
Tonegenerator indstilles til at afgive 19,9 kHz. (± 200 Hz) og 300 millivolt.
LF voltmeter tilsluttes 2TP5D2 (2TP6B2).
REC aktiveres.
Record potentiometrene indstilles til der måles 300 millivolt i 2TP5 (2TP6).
2L102C2 (2L202A2) justeres til minimum udslag på LF voltmeteret i 2TP5 (2TP6).

Skewing

Set the Dolby NR switch at NR C.
Set a tone generator to yield 19.9 kHz (± 200 Hz) and 300 millivolt.
Connect an AF voltmeter to 2TP5D2 (2TP6B2).
Activate REC.
Adjust the Record potentiometers until a reading of 300 millivolt is obtained in 2TP5 (2TP6).
Adjust 2L102C2 (2L202A2) until minimum deflection is obtained on the AF voltmeter in 2TP5 (2TP6).

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Bias og optagestrøm

1R270B4 (1R470B4) stilles i midterstilling.
1R259C8 (1R459C7) stilles 3/4 mod højre.

Bias forstærker og filter

Der måles med DC voltmeter i 1TP9C7 (1TP10C7) i forhold til -15 volt forsyning.
Record aktiveres (uden LF signal tilført).
1L202C4 (1L402D4) og 1L203C4 (1L403C4) justeres til minimum udslag på DC voltmeteret.

Optagestrøm

CrO₂ norm bånd 6780066 ilægges.
Tonegenerator indstilles til at afgive 333 Hz og ca. 300 millivolt.
LF voltmeter tilsluttes 2TP5D2 (2TP6B2).
Record pause aktiveres.
Record potentiometrene indstilles til der måles 200 millivolt i 2TP5 (2TP6).
Ved henholdsvis at optage og gengive justeres 1R270B4 (1R470B4) indtil der måles 200 millivolt under såvel optage som gengive.

CrO₂ bias

CrO₂ norm bånd 6780066 ilægges.
Tonegenerator indstilles til at afgive 333 Hz og ca. 30 millivolt.
LF voltmeter tilsluttes 2TP5D2 (2TP6B2).
Record potentiometrene indstilles til der måles ca. 20 millivolt i 2TP5 (2TP6).
Ved henholdsvis at optage og gengive 333 Hz og 15 kHz, justeres 1R259C8 (1R459C7) indtil niveauet ved 15 kHz er det samme som niveauet ved 333 Hz. (Mindre bias giver diskant hævede. Mere bias giver diskant fald).
Optagestrøm kontrolleres.

***Fe₂O₃ bias**

CrO₂ bias **skal** være justeret, og tonegenerator og record potentiometre skal have samme indstilling som ved CrO₂ bias.
Fe₂O₃ norm bånd 6780067 ilægges.
Ved henholdsvis at optage og gengive 333 Hz og 15 kHz, justeres 1R159B7 indtil niveauet ved 15 kHz er det samme som niveauet ved 333 Hz målt med LF voltmeter i 2TP5.

Bias and recording current

Set 1R270B4 (1R470B4) in its centre position.
Set 1R259C8 (1R459C7) 3/4 turned to the right.

Bias amplifier and filter

Measure with a DC voltmeter in 1TP9C7 (1TP10C7) in relation to the -15 volt supply.
Activate Record (with no AF signal applied).
Adjust 1L202C4 (1L402D4) and 1L203C4 (1L403C4) until minimum deflection on the DC voltmeter is obtained.

Recording current

Load the CrO₂ level measuring tape 6780066.
Set a tone generator to yield 333 Hz and approx. 300 millivolt.
Connect an AF voltmeter to 2TP5D2 (2TP6B2).
Activate Record pause.
Adjust the Record potentiometers until a reading of 200 millivolt is obtained in 2TP5 (2TP6).
Adjust, while recording and playing-back respectively, 1R270B4 (1R470B4) until a reading of 200 millivolt is obtained both during recording and playing-back.

CrO₂ bias

Load the CrO₂ level measuring tape 6780066.
Set a tone generator to yield 333 Hz and approx. 30 millivolt.
Connect an AF voltmeter to 2TP5D2 (2TP6B2).
Adjust the Record potentiometers until a reading of approx. 20 millivolt is obtained in 2TP5 (2TP6).
Adjust, while recording and playing-back 333 Hz and 15 kHz respectively, 1R259C8 (1R459C7) until the level at 15 kHz corresponds to that at 333 Hz (less bias will result in treble boost, while more bias will result in treble cut).
Check recording current.

***Fe₂O₃ bias**

CrO₂ bias **must** already have been adjusted and the tone generator and Record potentiometers must have the same settings as by CrO₂ bias.
Load the Fe₂O₃ level measuring tape 6780067.
Adjust, while recording and playing-back 333 Hz and 15 kHz respectively, 1R159B7 until the level at 15 Hz corresponds to that at 333 Hz as measured with an AF voltmeter in 2TP5.

MP bias

CrO₂ bias **skal** være justeret, og tonegenerator og optagepotentiometre skal have samme indstilling som ved CrO₂ bias.

MP testbånd 6780085 ilægges.

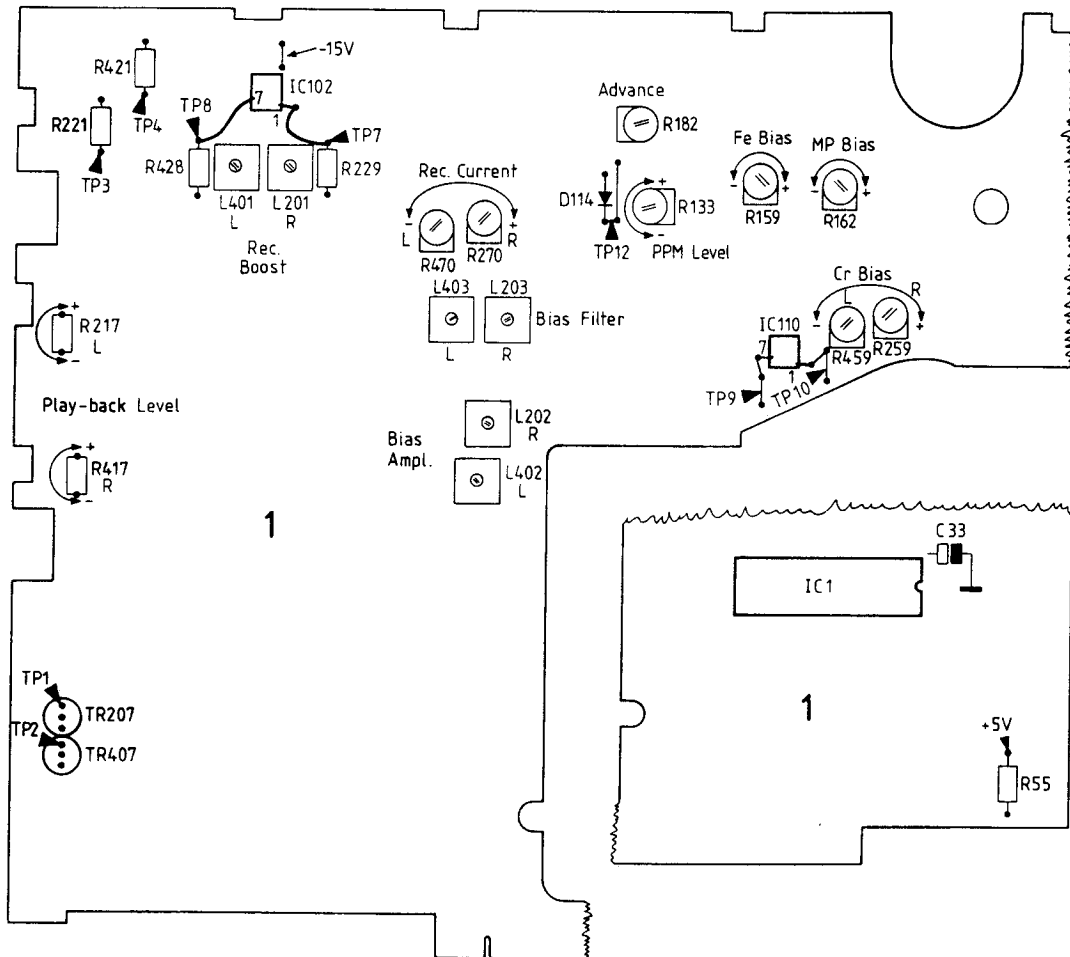
Ved henholdsvis at optage og gengive 333 Hz og 15 kHz, justeres 1R162B7 til niveauet ved 15 kHz er det samme som niveauet ved 333 Hz målt med LF voltmeter i 2TP5.

MP bias

CrO₂ **must** already have been adjusted, and the tone generator and recording potentiometers must have the same settings as for CrO₂ bias.

Load the MP level measuring tape 6780085.

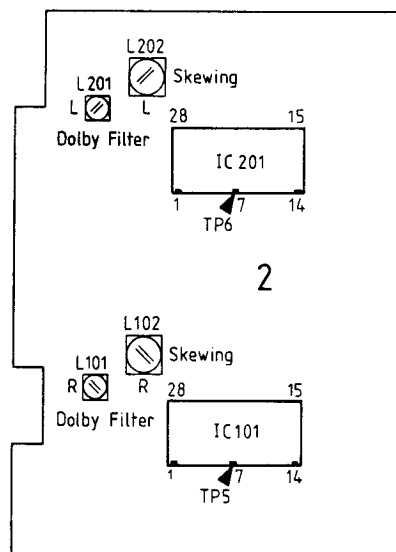
Adjust, while recording and playing-back 333 Hz and 15 kHz respectively, 1R162B7 until the level at 15 kHz corresponds to that at 333 Hz as measured with an AF voltmeter in 2TP5.



1

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2

Advance

CrO₂ bånd ilægges.

Tonegeneratoren indstilles til at afgive 333 Hz og ca. 300 millivolt.

Record pause aktiveres.

Record potentiometrene indstilles til den første røde lysdiode netop tænder.

Tonegeneratoren dæmpes 30 dB, og dens frekvens ændres til 2,5 kHz.

Der optages et stykke på båndet.

Oscilloscop i stilling DC tilsluttes 1TP12 (katoden af 1D114B5).

Der spoles tilbage til start af optagelse, og play aktiveres.

1R182A6 justeres indtil niveauet i 1TP12 skifter mellem 0 og 12 volt.

Advance

Load a CrO₂ tape.

Set the tone generator to yield 333 Hz and approx. 300 millivolt.

Activate Record pause.

Adjust the Record potentiometers until the first LED just starts to glow.

Dampen the tone generator by 30 dB and alter its frequency to 2.5 kHz.

Make a recording on the tape.

Connect an oscilloscope in the DC mode to 1TP12 (the cathode of 1D114B5).

Rewind to the start of the recording and activate Play.

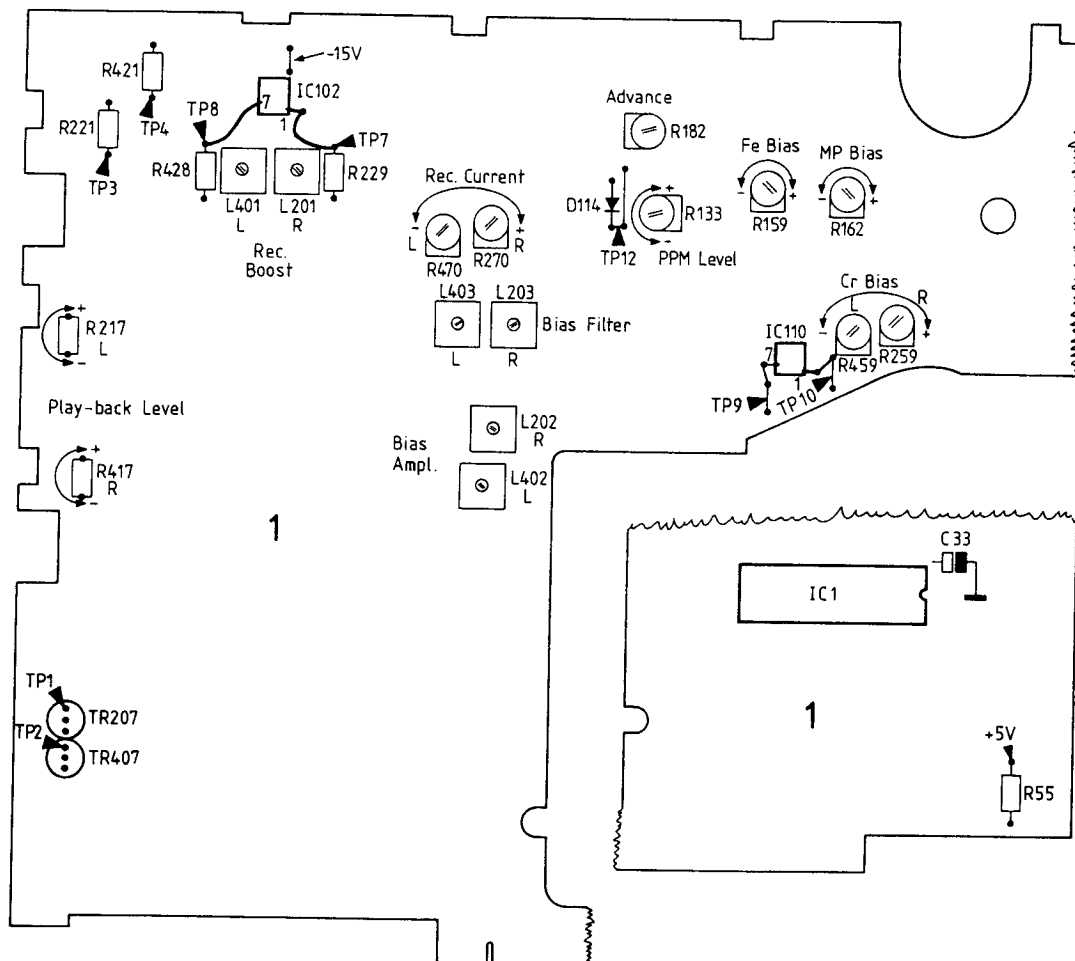
Adjust 1R182A6 until the level at 1TP12 is alternating between 0 and 12 volt.

*Det skal bemærkes, at der er solgt en del 6780067 kassetter, som kun er kodet for Fe₂O₃ i højre side af kassetten.

Da Fe₂O₃/CrO₂ omskifteren i type 49xx, (til forskel fra tidligere modeller) er placeret i venstre side af løbeværket, skal hullet i venstre side af kassetens bagkant lukkes for Fe₂O₃ indstilling af båndoptageren.

*The fact is pointed out that a number of 6780067 cassettes have been sold which have been coded for Fe₂O₃ in the right hand side of the cassette only.

Since the Fe₂O₃ switch in type 49xx (as different from earlier models) has been located to the left of the train drive, the hole to the left of the rear edge of the cassette must be blocked for Fe₂O₃ setting of the tape recorder.



TECHNICAL SPECIFICATIONS

Compact Cassette	C46-C60-C90-C120
Tape head	M&X
Recording system	HX PRO
Noise reduction system	Dolby B and C
Tape switch	Automatic ferro/chrom/metal
Wow and flutter DIN	<±0.13%
Wow and flutter WRMS	<0.078%
Speed deviation	<±1.5%
Fast forward and rewind C60	100 sec.
Frequency range chrom	30-18.000 Hz ±3 dB

Signal-to-noise ratio CCIR/ARM:

Metal Dolby NR	B: >64 dB, C: >73 dB TDK-MA
Chrom	B: >65 dB, C: >74 dB TDK-SA
Ferro	B: >63 dB, C: >72 dB BASF LH I

Signal-to-noise ratio IEC/DIN:

Metal	>56 dB TDK-MA
Chrom	>56 dB TDK-SA
Ferro	>55 dB BASF LH I
Maximum Output Level, metal	Better than -5 dB
Maximum Output Level, chrom/ferro	Better than -10 dB
Distortion ferro	<2%
Channel separation	>35 dB
Erasure	>70 dB
Erasure frequency	96 kHz
Radio input, LINE	60 mV/22 kohms
Microphone input	0.18 mV/3 kohms
AUX input	60 mV/22 kohms
Radio output	660 mV/200 ohms
Power supply	220 volts
Power frequency	50-60 Hz
Power consumption	Max. 35 watts
Dimensions W x H x D	42 x 7.5 x 32.5 cm
Weight	8.35 kg

Subject to change without notice

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ADSKILLELSE

Transportsikring

Før brug fjernes de fire transportlåse i bunden, og de placeres som beskrevet på bunden.

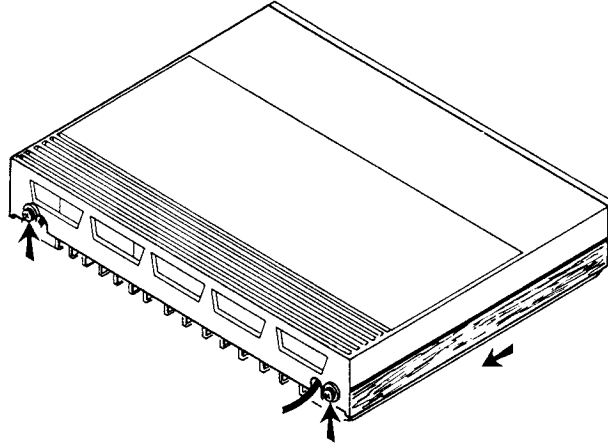
DISASSEMBLY

Protection during shipping

Remove the four shipping fasteners at the bottom before use and place them at the bottom, as described.

Kabinet

Cabinet

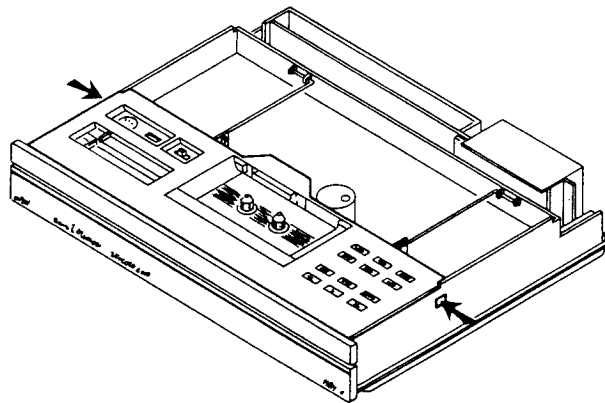


De to skruer i bagkanten løsnes og løftes op. Samtidig presses kabinettet ca. 1 cm bagud, og kan nu løftes af.

Loosen the two screws at the rear edge and press them upwards while simultaneously pushing the cabinet approx. 1 cm rearwards. It can now be removed.

Betjeningspanel

Control panel

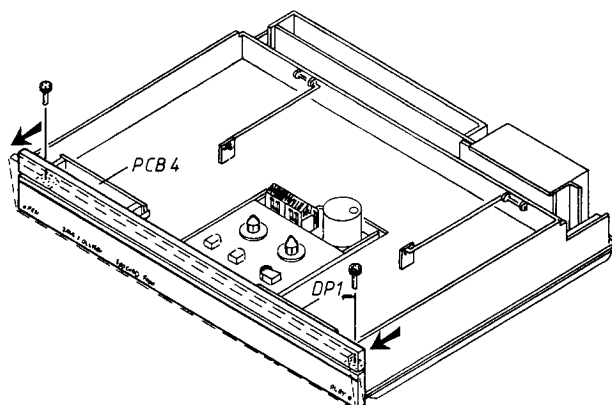


Pres låsetrappene i begge sider ind. Betjeningspanelet kan nu tages op. IP2 skal aftages hvis betjeningspanelet fjernes helt.

Press the retainer pins inwards at both sides. The control panel can now be removed. It is necessary to remove IP2, if the control panel is to be removed completely.

Frontpanel

Front panel

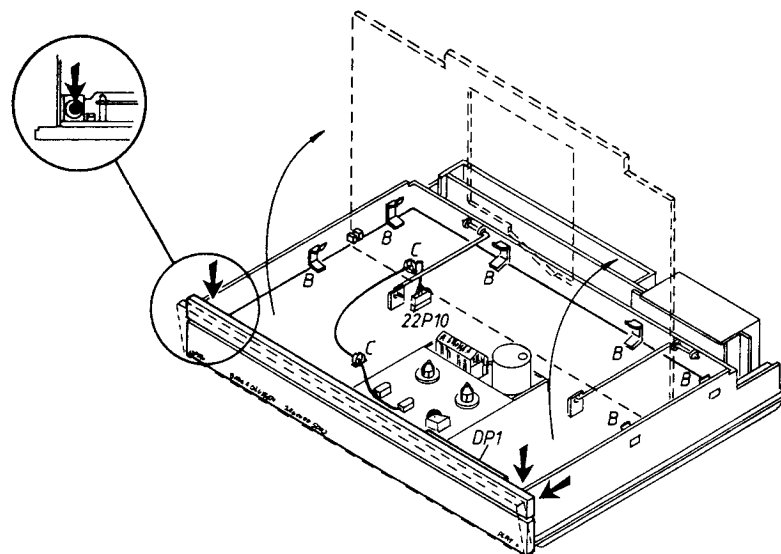


Afmonter de to viste skruer og DP1.
Frontpanelet vippes frem.
Afmonter PCB4 og kontakterne for PLAY og OPEN.

Remove the two screws, as shown, as well as DP1.
Tilt the front panel forwards.
Remove PCB4 and the switches for PLAY and OPEN.

PCB1

PCB1



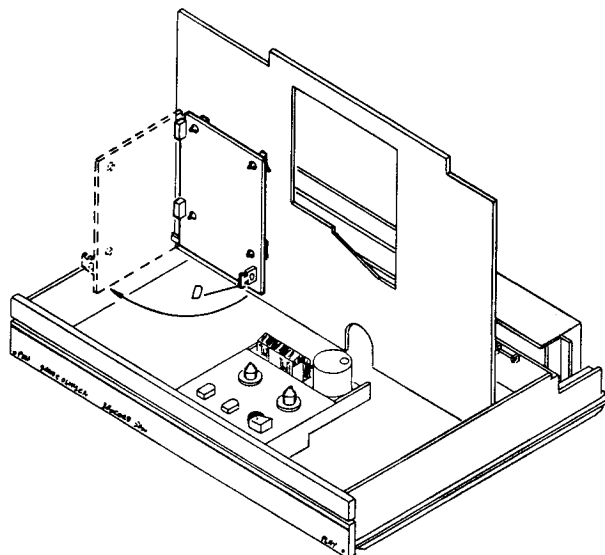
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De to skruer til frontpanel løsnes.
DP1 afmonteres.
Frontpanelet vippes ca. 1 cm frem.
Afmonter de seks PCB holdere (B).
Tonehovedledning frigøres fra ledningsholdere (C)
og servicebøjlen.
Servicebøjlen monteres igen.
22P10 skal ikke afmonteres.
PCB1 kan nu placeres i servicestilling mellem de to
metalfølge i skuffesiderne.

Loosen the two front panel screws.
Remove DP1.
Tilt the front panel approx. 1 cm forwards.
Remove the six PCB retainers (B).
Release the tape head wire from the wire clamps
(C) and the servicing support arm.
Refit the servicing support arm.
Do not remove 22P10.
It is now possible to place PCB1 in servicing
position between the two metal holders at the
drawer sides.

PCB2

PCB2



PCB1 sættes i servicestilling.

PCB2 løsnes fra de fire plast holdere, og svinges ud som vist.

Metalholder (D) kan sættes fast på skuffesiden.

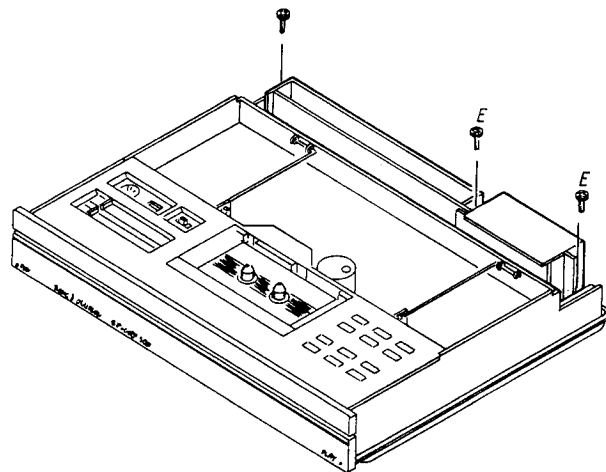
Set PCB1 into its servicing position.

Loosen PCB2 from the four plastic retainers and swing it outwards, as shown.

It is now possible to fit the metal retainer (D) on the drawer side.

Transformator

Transformer



For at aftage transformator afmonteres skrue E.

Remove the screws E to dismount the transformer.

Netdel

For at aftage transformator og netdel samtidig afmonteres de tre viste skrue.

Power supply

Remove the three screws shown with a view to dismounting the transformer and power supply as a sub-assembly.

ISOLATIONSTEST

Ethvert apparat **skal** isolationstestes efter at det har været adskilt. Testen udføres når apparatet igen er helt samlet og klar til udlevering til kunden.

Isolationstest for Beocord 5000

Isolationstesten udføres på følgende måde:
De to stikben på netstikket kortsluttes og tilsluttes en af terminalerne på isolationstesteren. Den anden terminal fra isolationstesteren tilsluttes stelbenet (ben 2) i signalkabelstikket.

OBS!

For at undgå beskadigelser på apparatet er det vigtigt, at begge terminaler fra isolationstesteren har virkelig god mekanisk kontakt.

Der drejes nu langsomt med spændingsreguleringen på isolationstesteren indtil en spænding på 1,5-2 kV er opnået. Her skal den holdes i 1 sekund, derefter drejes der langsomt ned for spændingen igen.

Der må ikke på noget tidspunkt under testen forekomme overslag.

INSULATION TEST

Each set **must** be insulation tested after dismantling. The test is to be performed when the set has been re-assembled and is ready for delivery to the customer.

Insulation test for Beocord 5000

Make the insulation test as follows: – Short-circuit the two plug pins of the mains plug and connect one of the terminals of the insulation tester. Connect the other terminal of the insulation tester to the chassis pin (pin 2) of the signal cable plug.

N.B.!

To avoid tuining the set, it is essential that both insulator test terminals are in really good mechanical contact.

Now turn slowly the voltage control of the insulation tester until a voltage of 1.5-2 kV is obtained. Hold it there for 1 second, then turn slowly the voltage down again.

At no point during the testing procedure any flash-overs are permissible.

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MODIFIKATIONER

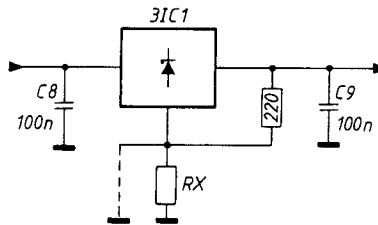
5 V netdel

I de først producerede apparater er 5 volt netdelen 3IC1 ikke justerbar (se nedenstående skitse).

MODIFICATIONS

5 V power supply

In the tape recorders first manufactured the 5 volt supply 3IC1 unit is not adjustable (cf. below diagram).



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Ved udskiftning af 3IC1 skal følgende procedure følges:

Efter montering af 3IC1 skal modstanden RX kortsluttes (i nogle få apparater er RX og 220 Ω ikke monteret men ground benet på 3IC1 er direkte til stel).

DC voltmeter tilsluttes med + på 1R55G12 (katode af 1D11G12) og stel ved microcomputeren evt. 1C33E12. Apparatet stilles i stilling STOP og CLEAR COUNTER.

Spændingen på DC voltmeteret aflæses og noteres. Ved hjælp af nedenstående skema udvælges størrelsen af RX. Kortslutningen på 3IC1 fjernes og RX monteres.

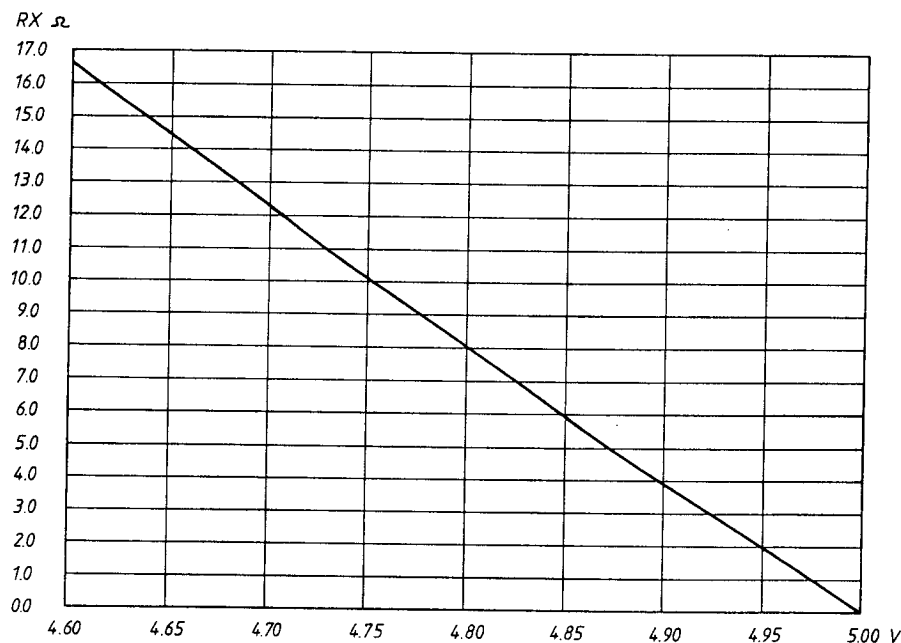
When replacing 3IC1 the following procedure must be followed:

After the fitting of 3IC1, **bridge** the resistor RX (in a few tape recorders the RX and 220 Ω are not fitted, but the ground pin on 3IC1 has a direct path to chassis).

Connect a DC voltmeter with + on 1R55G12 (cathode of 1D11G12) and chassis at the microcomputer, 1C33E12, in some cases.

Set the tape recorder in STOP and CLEAR COUNTER modes.

Read and take a note of the voltage on the DC voltmeter. By means of the below diagram, select the RX capacity. Remove the bridging on 3IC1 and fit RX.



Spændingen på 1R55 kontrolleres til at ligge mellem 4,9 – 5,1 V i stilling STOP og CLEAR COUNTER.

Check the voltage on 1R55 and adjust it to between 4.9 – 5.1 V in STOP and CLEAR COUNTER modes.

Wow frekvenser/ Wow frequencies	Frekvens/ Frequency	Fejlkilde	Source of Failure	Pos. nr. Pos. no.
	0.37 Hz	Remskive	Pulley	22096
	1.17 Hz	Trykrulle	Thrust roller	22020
	2.7 Hz	Spoletallerkener (midt op bånd)	Supply reels (middle of tape)	22034/ 22048
	3 Hz	Rem	Belt	22065
	4.2 Hz	Rem	Belt	22123
	6 Hz	Svinghjul	Flywheel	22122
	9.6 Hz	Opsamlekobling	Take-up cluth	22061
	12.7 Hz	Remskive	Pulley	22109
	36.7 Hz	Remskive	Pulley	22141

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