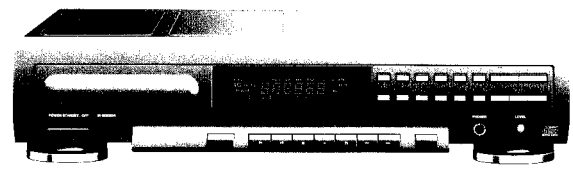
Compact disc player CD910/00S/01S/05S/10S/17S

CD920/00S/01S/05S/10S/17S

Service
Service
Service



ServiceManual

TABLE OF CONTENTS **PAGE**

Published by Consumer Electronics Printed in The Netherlands

4822 725 24005

PHILIPS

PHILIPS

PCS 60 253

TECHNICAL SPECIFICATIONS

General

1.Mains voltage	/00S	: 230V (+6 -10%)
	/05S/10S	: 240V (±10%)
	/17S	: 117V (±10%)
	/01S	: Selected by voltage selector
2.Mains frequency		: 50-60 Hz
3.Mains voltage selection		: See circuit diagram Power Supply
4.Power consumption mains,operated		: 10W

External ESI BUS connection

Specification:	V-in Low	: from -2,0V to +1,6V
	V-in High	: from +3V to +7,5V
	R-in	: from 47kOhm to 68kOhm

Line output

1.Number of channels	: 2
2.Output voltage	: 2 Vrms ± 3dB
3.Unbalance left-right	: max. ± 1,2dB at 1 kHz
4.Output resistance	: 1 kΩ
5.Signal to noise ratio	: min. 84dB from 20 Hz to 20 kHz
	: typ. 89dB
6.Total harmonic distortion + noise	: min. 72dB at 1 kHz
	min. 70dB from 20 Hz to 20 kHz
	typ. 75dB at 1kHz
7.Channel separation	: typ. 90dB at 1kHz
	min. 70dB from 20 Hz to 20 kHz
8.Frequence response	: ± 1dB from 20 Hz to 20 kHz
	: typ. ± 0,3dB from 20 hz to 20 kHz
9.Frequence response with de-emphasis	: ± 2dB
10.Automatic switched deemphasis with time constants 15/50 µs	
11.Dynamic range 20Hz-20kHz	: min. 70dB
12.Non-linearity at -90dB	: min. ± 2dB
	: typ. ± 1dB

Variable headphone (low end)

1.Output voltage	: max. 5 Vrms ± 3dB
2.Unbalance left-right	: max. ± 1,2dB
3.Output resistance	: 120 Ohm
4.Load impedance range	: 32 Ohm to 600 Ohm load
5.Output power	: 0 to 30 mW into 30 Ohm load
	: 0 to 50 mW into 150 Ohm load
	: 0 to 30 mW into 600 Ohm load
Audio specs in case of 600 Ohm load at 4 Vrms voltage output	
6.Signal to noise ratio	: typ. 80 dB
7.Dynamic range	: min. 70 dB (20 Hz -20 kHz)
8.Total harmonic distortion	: min. 60 dB (20 Hz - 20 kHz)
9.Channel separation	: min. 70 dB (1 kHz)
	: min. 65 dB (31,5 Hz - 16 kHz)

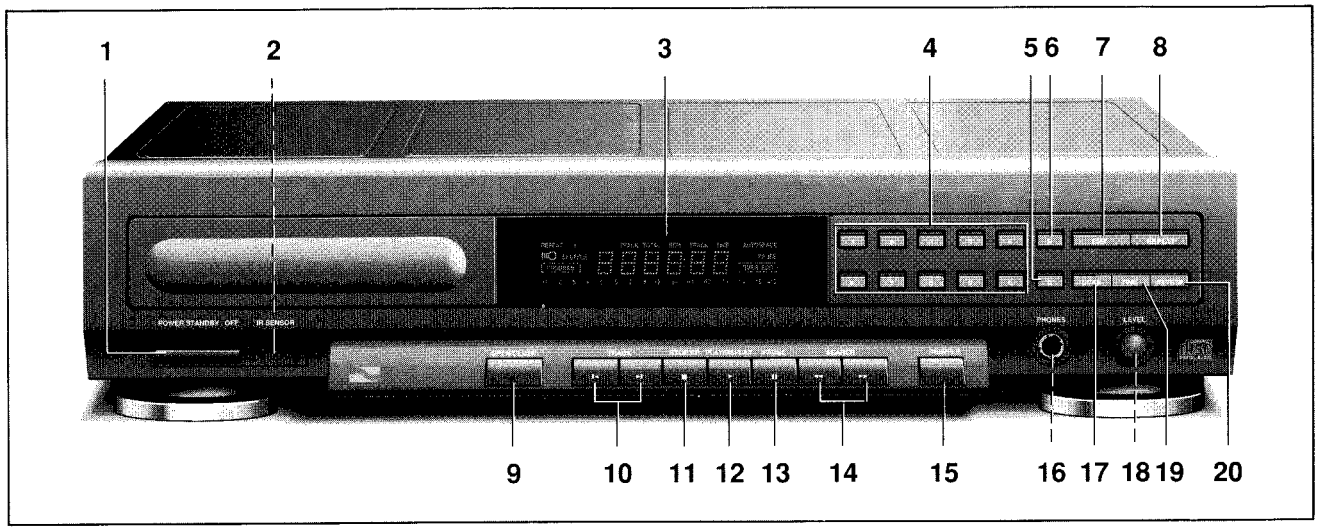
Dimensions and weight

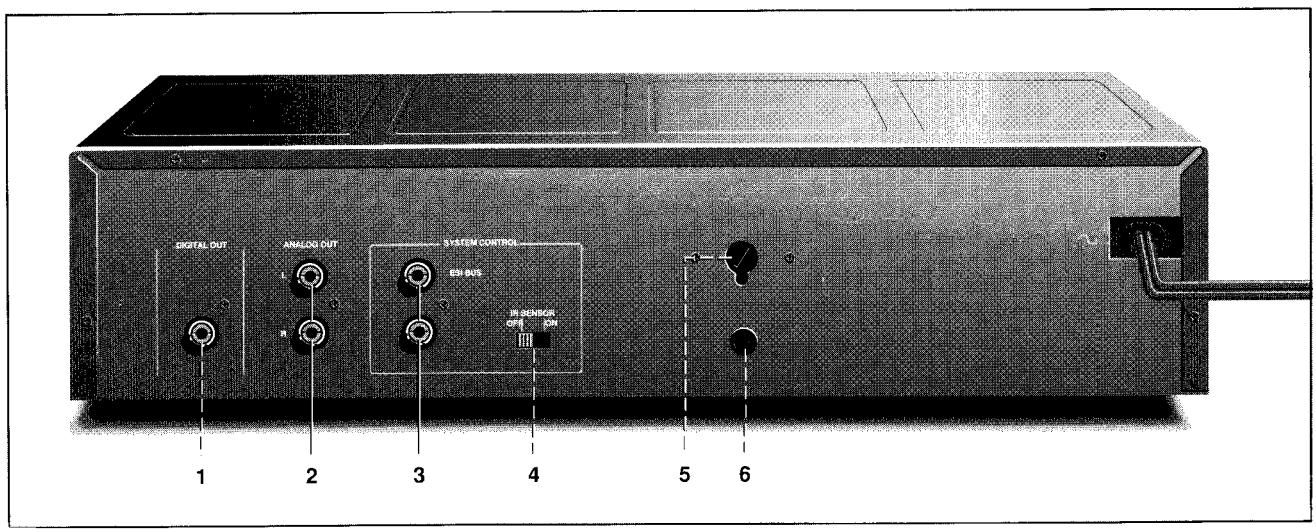
1.Apparatus tray closed	: WxDxH 435 x 300 x 90/106 mm
2.Apparatus tray open	: WxDxH 435 x 445 x 90/106 mm
3.Weight	: 4 kg

Optical read-out system

1.Laser type	: Semiconductor AlGaAs
2.Wavelength	: 780 nm ± 20 nm
3.Light output (c.w.)	: max. 0,5 mW

CONTROLS AND CONNECTIONS





CONTROLS

Indication on App.	Indication in diagram
1. POWER ON/OFF	SK-1
2. IR SENSOR	1461(only CD920)
3. Display	1450
4. 1-0 digit keys	1420,1421,1422,1427,1428, 1434,1435,1441,1442,1443
5. C(ancel)	1436
6. P(rogram)	1429
7. EDIT	1423
8. REPEAT	1430
9. OPEN/CLOSE	1426
10. < TRACK >	1425 1440
11. STOP/CP	1433
12. PLAY/REPLAY	1432
13. PAUSE	1439
14. << SEARCH >>	1438 1445
15. SHUFFLE	1446
16. PHONES	BU-5
17. SCAN	1444
18. LEVEL	3370
19. TIME	1437
20. REVIEW	1431

CONNECTIONS

Indication on App.	Indication in diagram
1. DIGITAL OUT(only CD920)	BU-4
2. ANALOG OUT	BU-2
3. ESI BUS	BU-3
4. IR SENSOR ON OFF(only CD920)	SK-2
5. Voltage selector(/01S)	5001
6. Mains fuse holder(/01S)	287,288

ESD

(GB) **WARNING**

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

(NL) **WAARSCHUWING**

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

(F) **ATTENTION**

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).
Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité.
Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

(D) **WARNUNG**

Alle ICs und viele andere Halbleiter sind empfindlich gegen elektrostatische Entladungen (ESD).
Unsorgfältige Behandlung bei der Reparatur kann die Lebensdauer drastisch vermindern.
Sorgen sie dafür, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand mit dem Massepotential des Gerätes verbunden sind. halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

(I) **AVVERTIMENTO**

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione.
Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

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

(D)
Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden für Reparaturen sind Original-Ersatzteile zu verwenden.

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

(I)
Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati pezzi di ricambiago identici a quelli specificati.

(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.

CLASS 3B
LASER PRODUCT

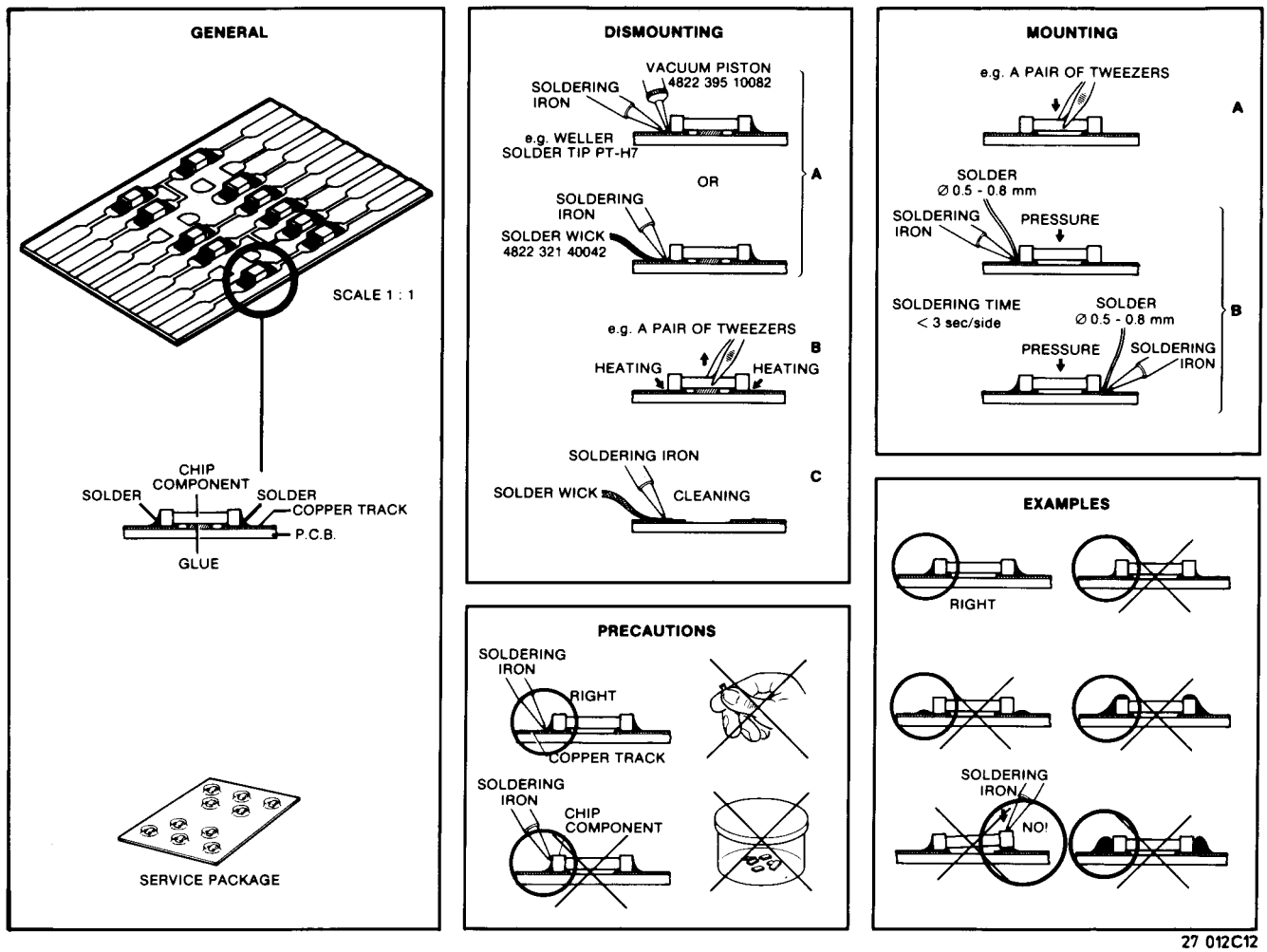
CAUTION INVISIBLE LASER RADIATION WHEN OPEN AVOID EXPOSURE TO BEAM
VARO! AVATTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASER SÄTTEILYLLE ÄLÄ KATSO SÄTEESEN
VARNING OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD BETRAKTA EJ STRÅLEN
ADVERSEL USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UNSAETTELSE FOR STRÅLING
DANGER INVISIBLE LASER RADIATION WHEN OPEN AVOID DIRECT EXPOSURE TO BEAM
VORSICHT UNSICHTBARE LASERSTRAHLUNG WENN ABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETSEN

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne"

CLASS 1
LASER PRODUCT
3122 110 03420

SERVICING HINTS

In the set chip components have been applied. For disassembly and assembly of chip components see the figure below.



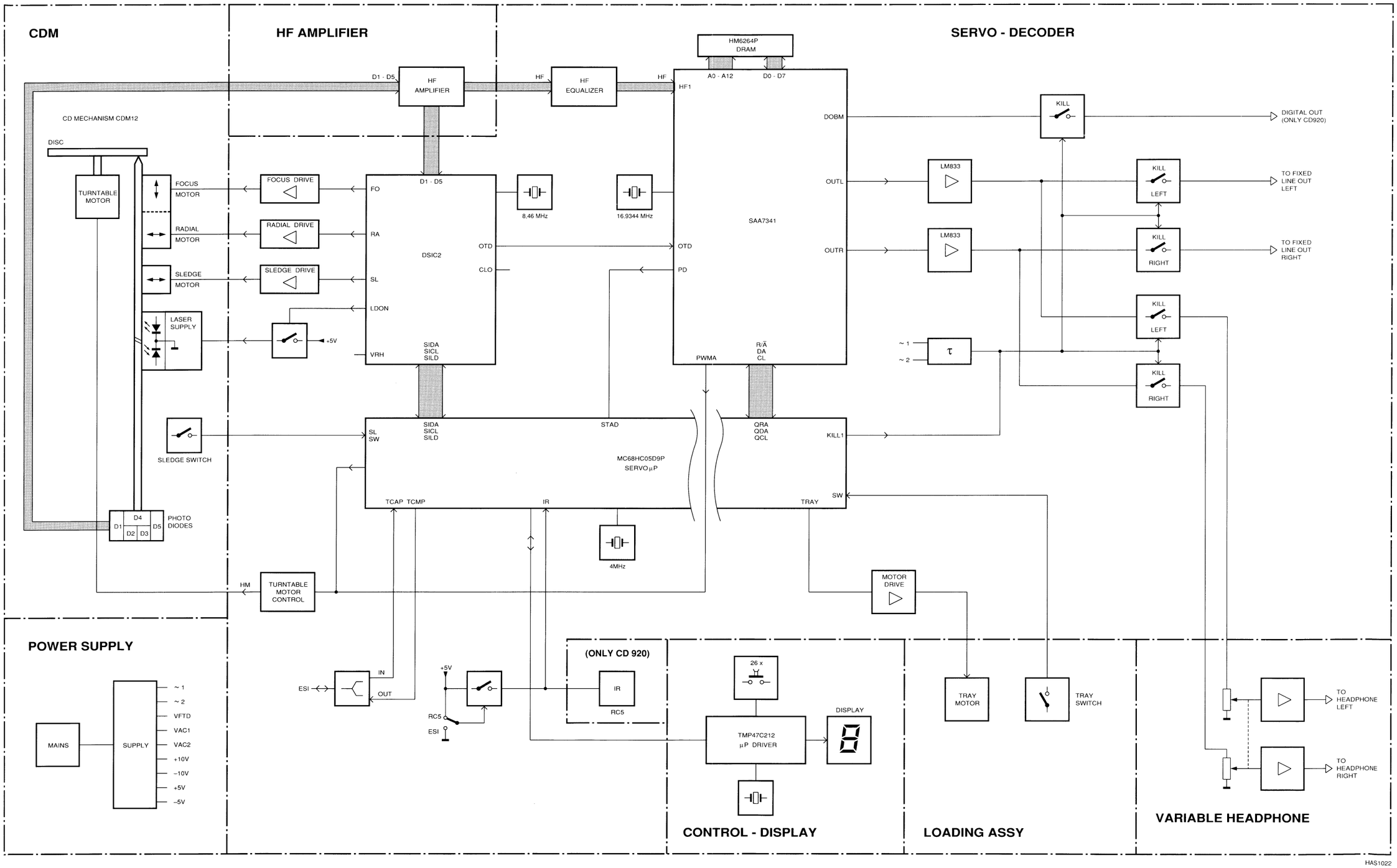
27 012C12

SERVICE TOOLS

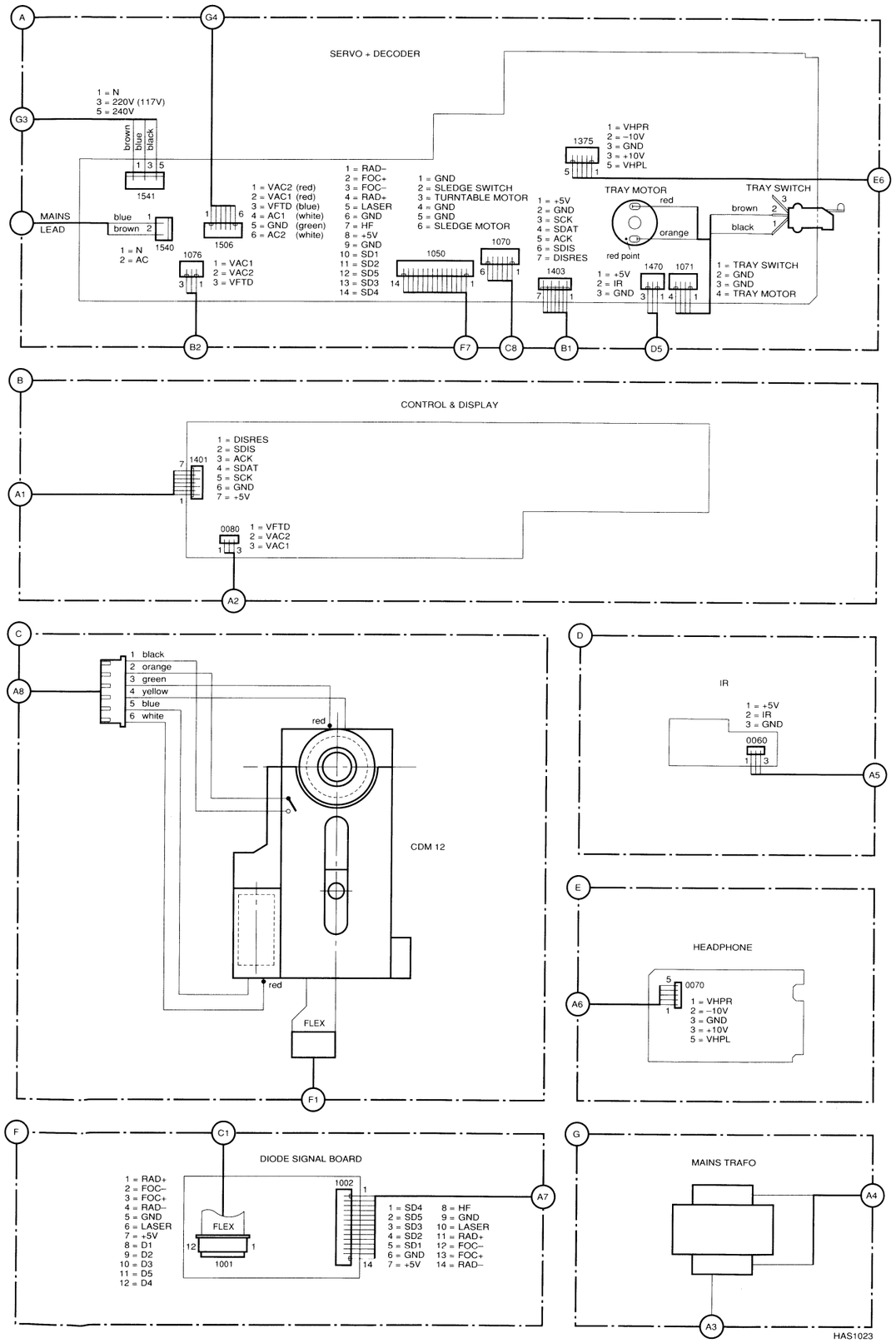
Audio signal disc	4822 397 30184
Disc without errors (test disc 5) + disc with DO errors, black spots and fingerprints (test disc 5A	4822 397 30096
Disc (65 min 1kHz)without pause	4822 397 30155
Max. diameter disc (58.0 mm)	4822 397 60141
Torx screwdrivers	
Set (straight)	4822 395 50145
Set (square)	4822 395 50132
13th order filter	4822 395 30204

A0-A12 - Address outputs to external RAM
AM - Additional mute
CFB - Data slicer feedback output to capacitor
CL - Microprocessor interface clock input
CLO - Clock output
D0-D7 - Data inputs/outputs to external RAM
D1-D4 - Central diode signal input
DA - Microprocessor interface data input/putput line
DE1L - Pin 1 for external de-emphasis capacitor and resistor
DE1R - Pin 1 for external de-emphasis capacitor and resistor
DE2L - Pin 2 for external de-emphasis capacitor and resistor
DE2R - Pin 2 for external de-emphasis capacitor and resistor
DEEM - Output for external de-emphasis switches
DOBM - Digital audio output
ESI - Enhanced System Intelligence
FO - Focus actuator output
HFD - High-frequency detector
HFI - Inverting data slicer input
HFI - Non-inverting data slicer input
HM - Motor control signal
IREF - Current reference output
KO - Kill out
KTC - Kill time capacitor connection
LDON - Laser drive on
MACC - Motor accelerate signal
MBRA - Motor brake signal
MHAL - Hall effect detector for motor
NRST - Reset input
OC - VCO control
OTD - Off track detector
OUTL - Left channel output
OUTR - Right channel output
PD - Phase detector
PWMA - Pulse width modulated motor control acceleration
PWMB - Pulse width modulated motor control brake signal
R/A - Request/acknowledge
R1-R2 - Satellite diode signal input
RA - Radial actuator output
SD1-5 - Photodiode signals
SICL - Serial interface clock
SIDA - Serial interface data
SILD - Serial interface load
SL - Sledge output
ST - Standby mode
TS1-TS2 - Test input
VddA - Power supply analog part
VddD - Power supply digital part
VddD - Power supply digital part
VRH - Reference input for A/D converter
VRL - Reference input for A/D converter
VssA - Ground analog part
VssD - Ground digital part
WE - Write enable
XIN - Crystal oscillator input
XOUT - Output to clock crystal
XTLI - Oscillator input
XTLO - Oscillator output
XTLR - Oscillator reference

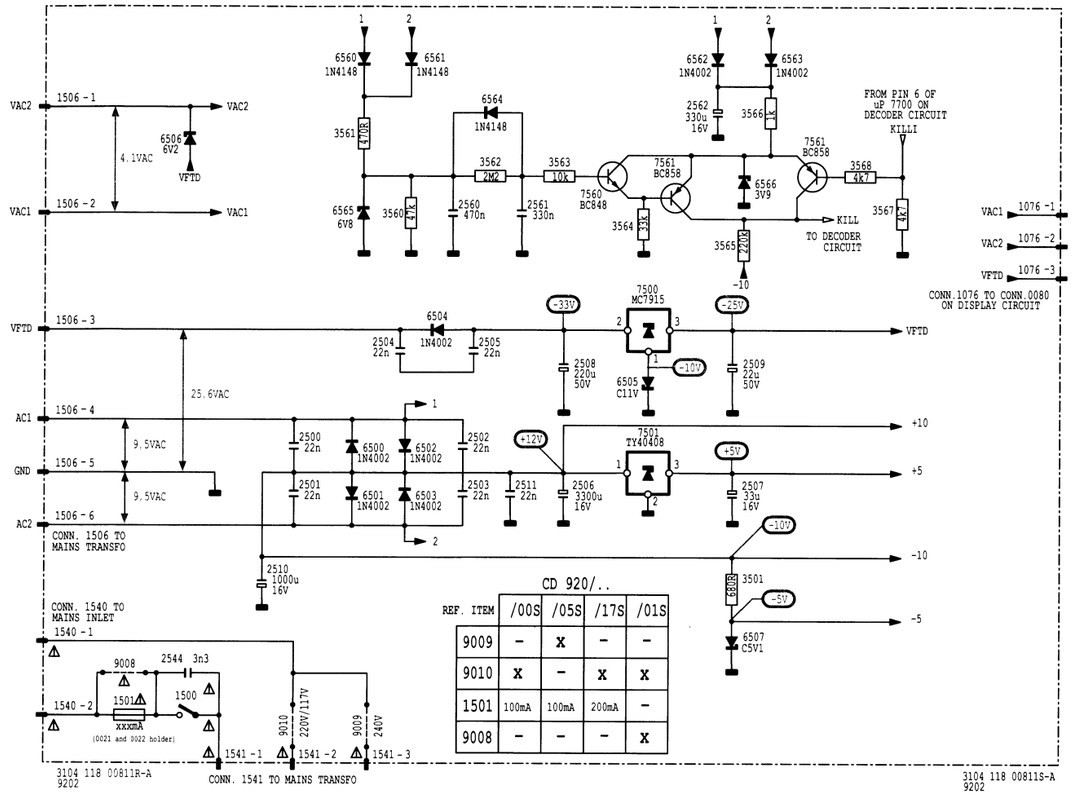
BLOCK DIAGRAM



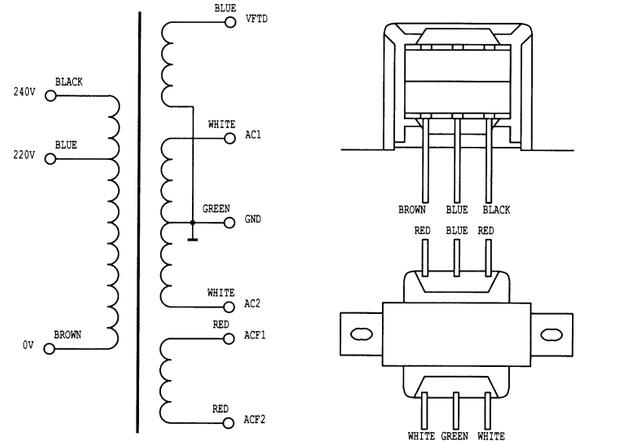
WIRING DIAGRAM



POWER SUPPLY DIAGRAM

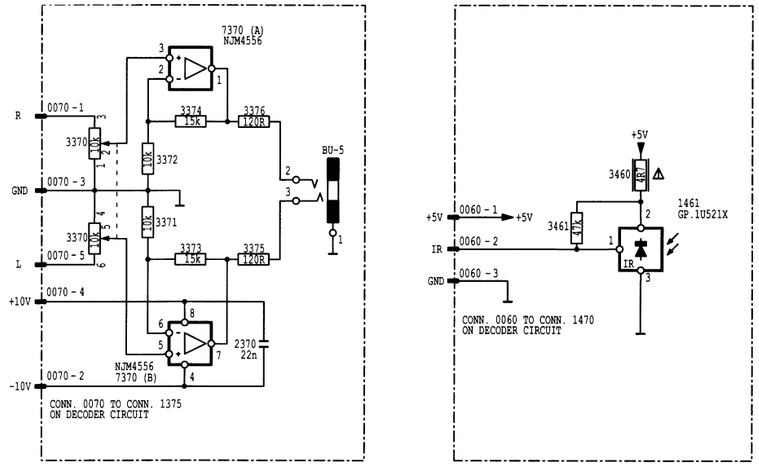


TRANSFORMER CONNECTIONS



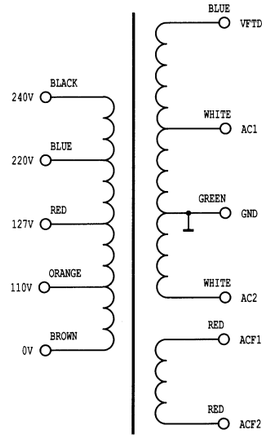
HAS1024
9202

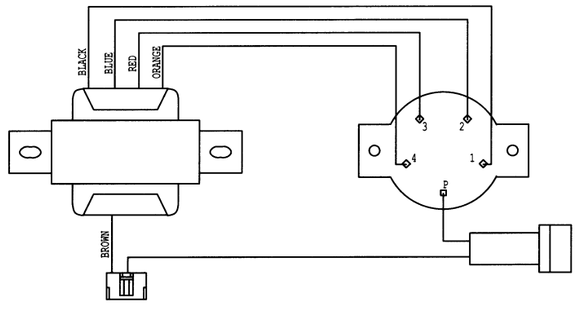
HEADPHONE & IR CIRCUIT DIAGRAM



3104 118 00811S-E
9202

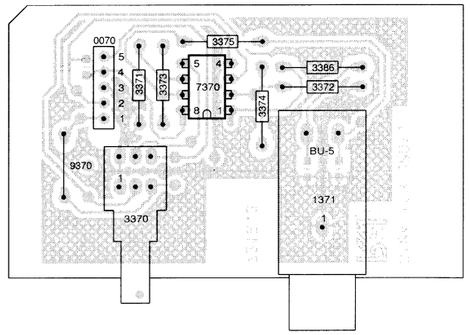
VOLTAGE SELECTOR





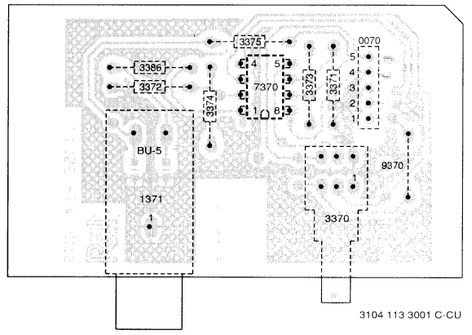
HAS1055
9213

HEADPHONE PANEL
COMPONENT SIDE



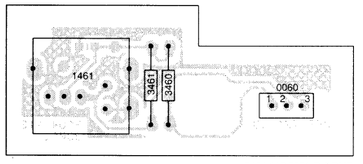
3104 113 3001 C-COMP

SOLDER SIDE



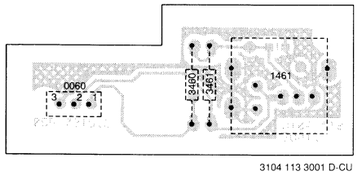
3104 113 3001 C-CU

IR PANEL
COMPONENT SIDE



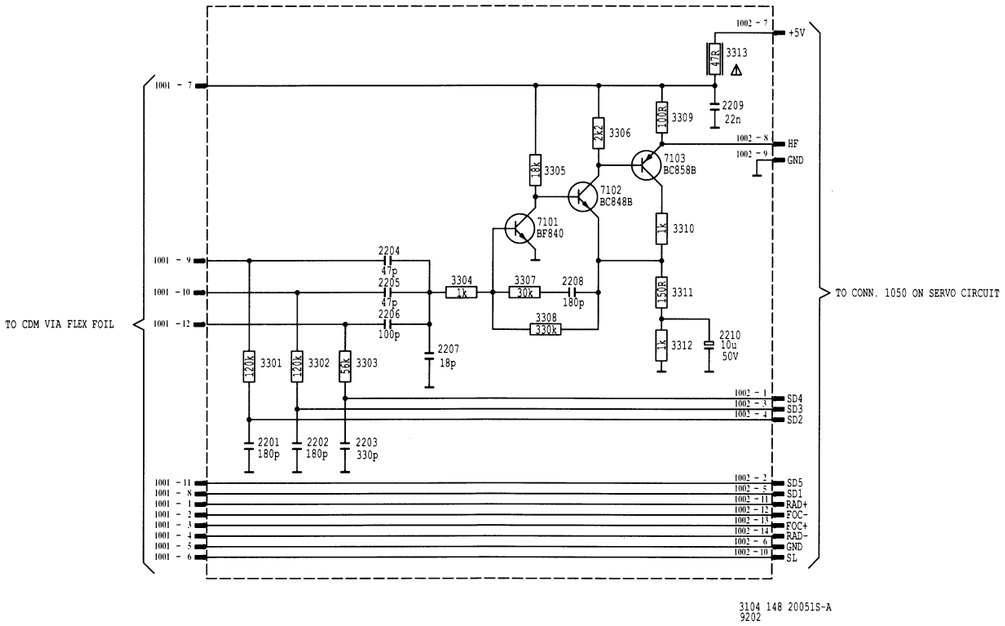
3104 113 3001 D-COMP

SOLDER SIDE



3104 113 3001 D-CU

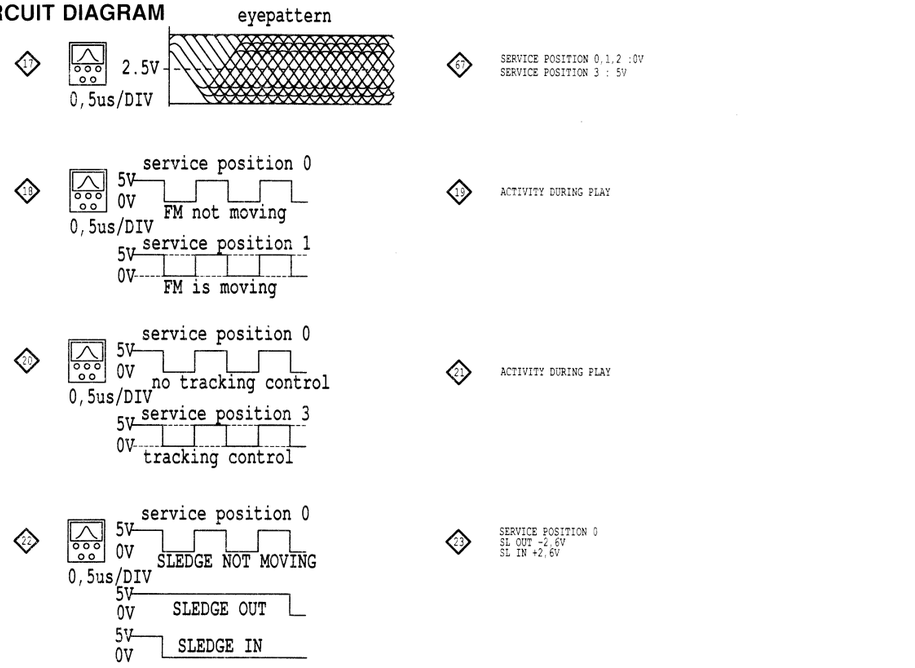
HF CIRCUIT DIAGRAM



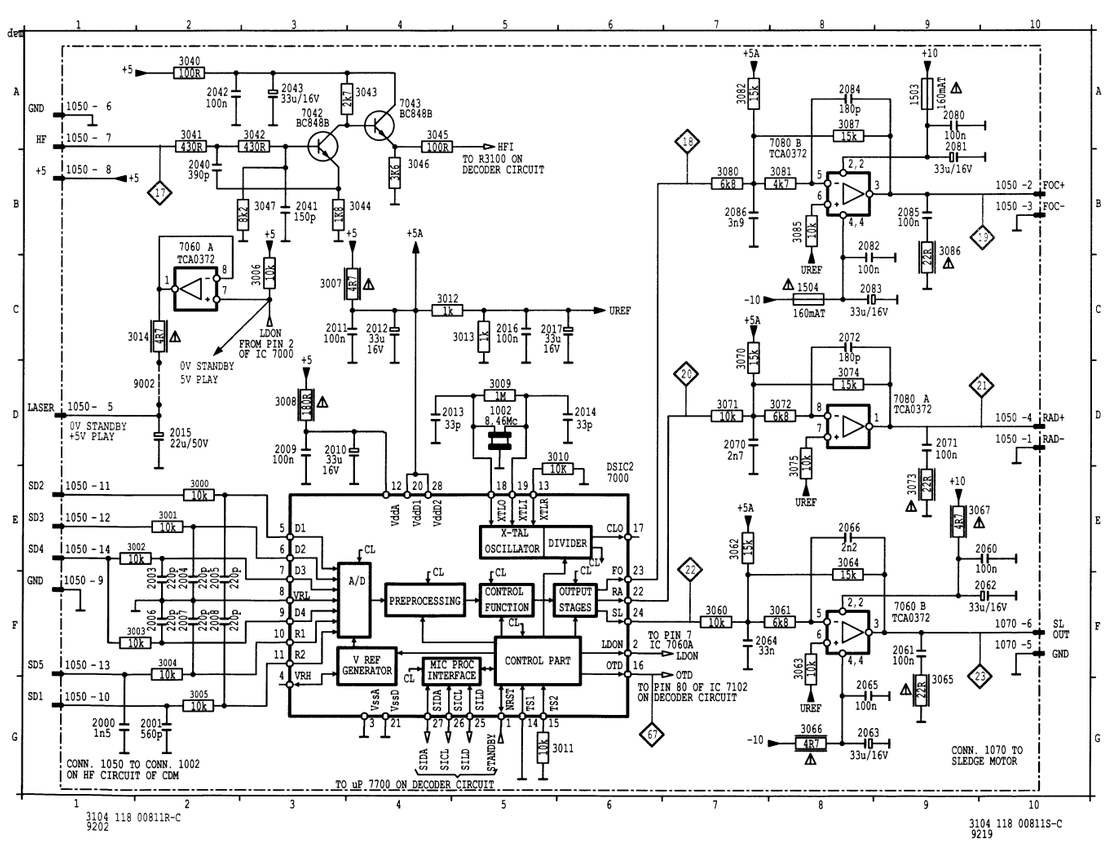
3104 148 20051S-A
9202

HF PANEL CAN BE ORDERED WITH SERVICE CODE 4822 214 51946

SERVO CIRCUIT DIAGRAM



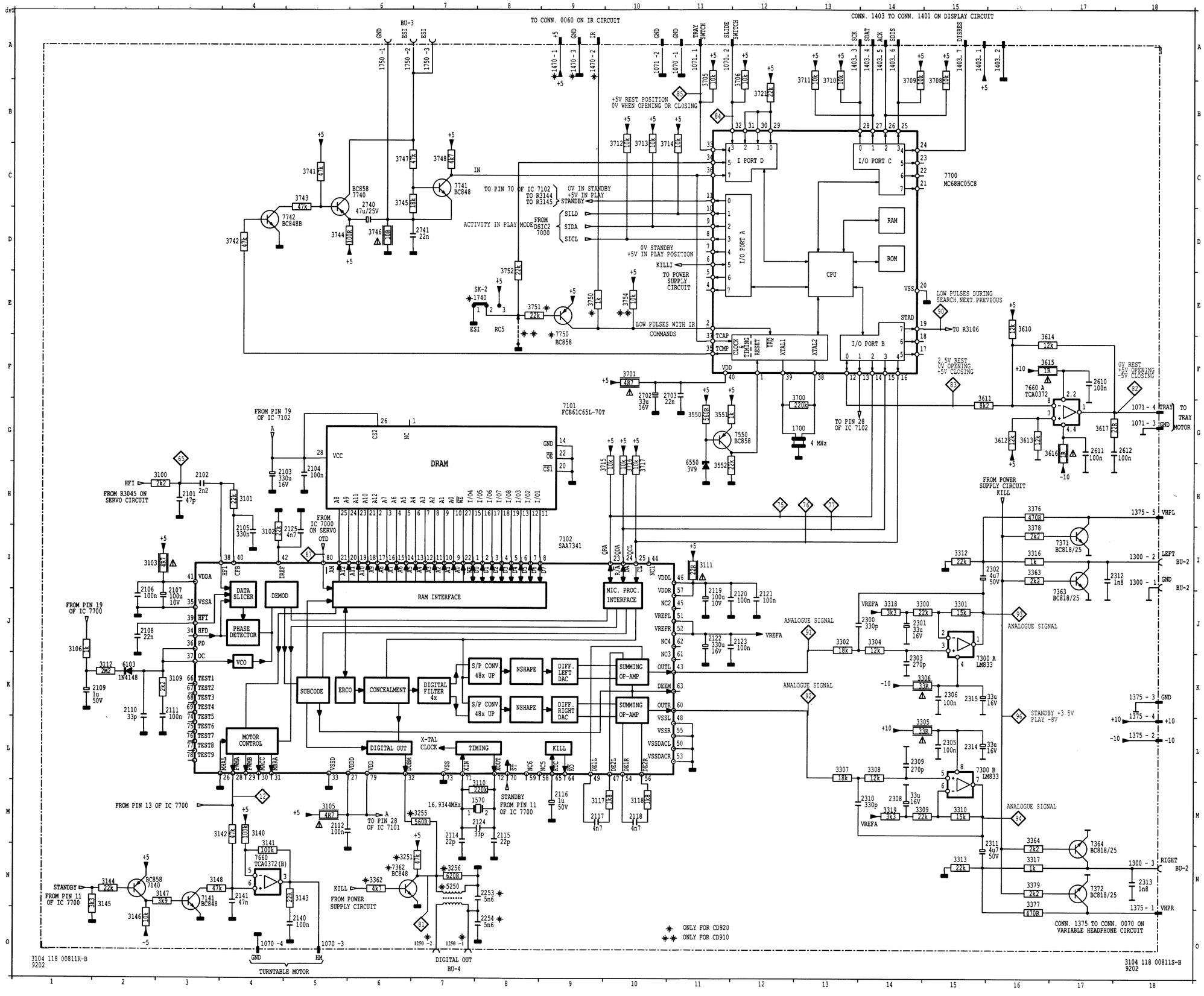
1002 D 5 1050 E 1 1070 F10 2006 F 2 2014 D 6 2060 E10 2071 D 9 2086 B 7 3007 C 3 3040 A 2 3060 F 7 3070 C 7 3082 A 7 7060 F 9
1050 D 1 1050 F 1 1503 A 9 2007 F 2 2015 D 2 2061 F 9 2072 C 8 3000 E 2 3008 D 3 3041 A 2 3061 F 8 3071 D 7 3085 B 8 7080 A 7
1050 B 1 1050 F 1 1504 C 8 2008 F 2 2016 C 5 2062 F10 2080 A 9 3001 E 2 3009 D 5 3042 A 2 3062 F 7 3072 D 8 3086 B 9 7080 D 9
1050 A 1 1050 D10 2000 G 1 2009 D 3 2017 C 5 2063 G 8 2081 B 9 3002 E 2 3010 D 6 3043 A 4 3063 F 8 3073 E 9 3087 A 8 9002 D 2
1050 A 1 1050 D10 2001 G 2 2010 D 3 2040 B 2 2064 F 7 2082 B 8 3003 F 2 3011 G 6 3044 B 4 3064 E 8 3074 D 8 7000 A 6
1050 G 1 1050 B10 2003 F 2 2011 C 3 2041 B 3 2065 G 8 2083 C 8 3004 F 2 3012 C 4 3045 A 4 3065 G 9 3075 D 8 7042 A 3
1050 F 1 1050 B10 2004 F 2 2012 C 4 2042 A 2 2066 E 8 2084 A 8 3005 G 2 3013 C 5 3046 B 4 3066 G 8 3080 B 7 7043 A 4
1050 E 1 1070 F10 2005 F 2 2013 D 5 2043 A 3 2070 D 7 2085 B 9 3006 C 3 3014 C 2 3047 B 3 3067 E10 3081 B 8 7060 B 2

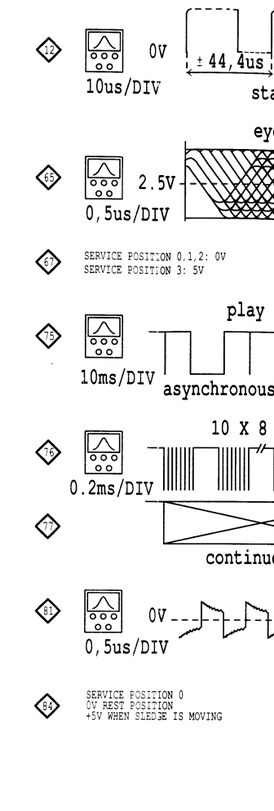


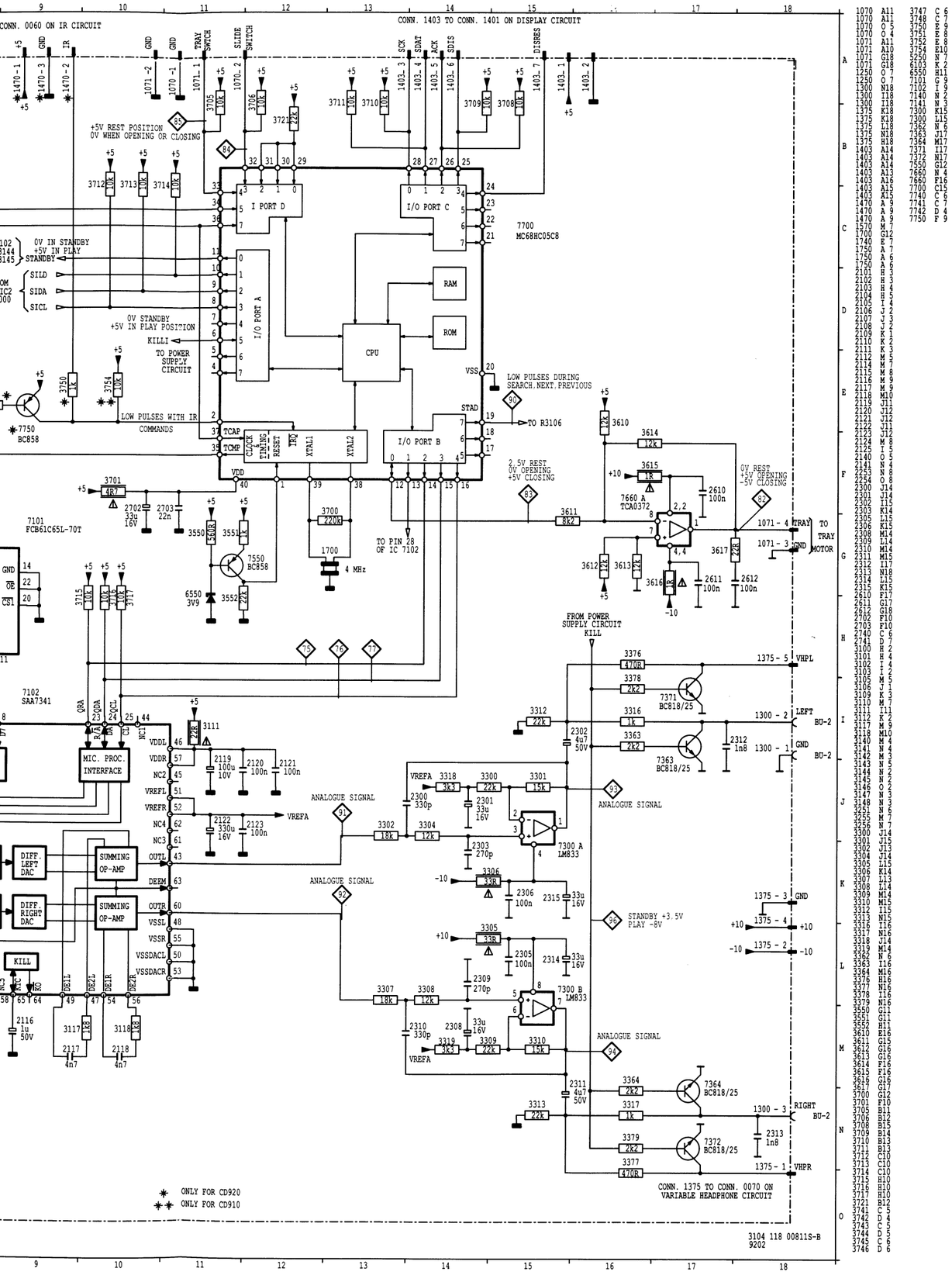
3104 118 00811R-C
9202

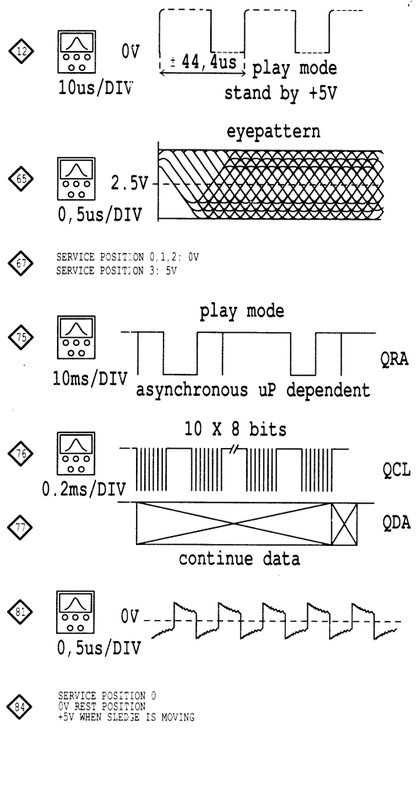
3104 118 00811S-C
9219

DECODER CIRCUIT DIAGRAM

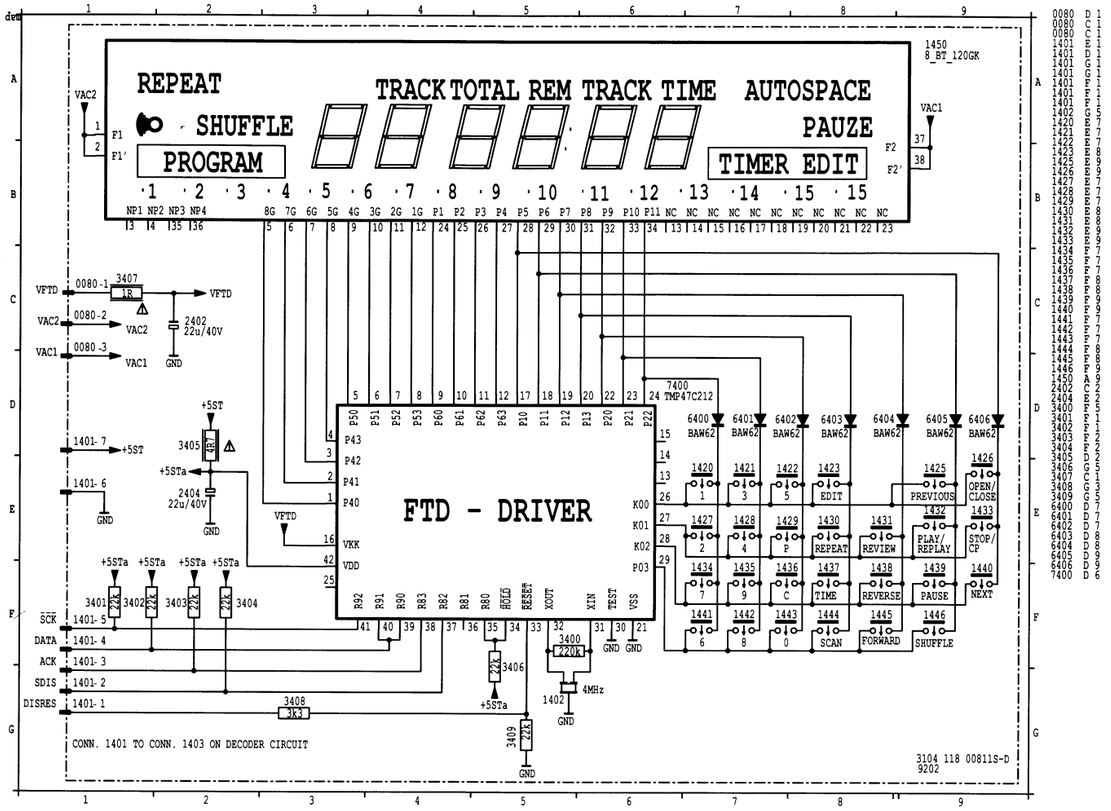




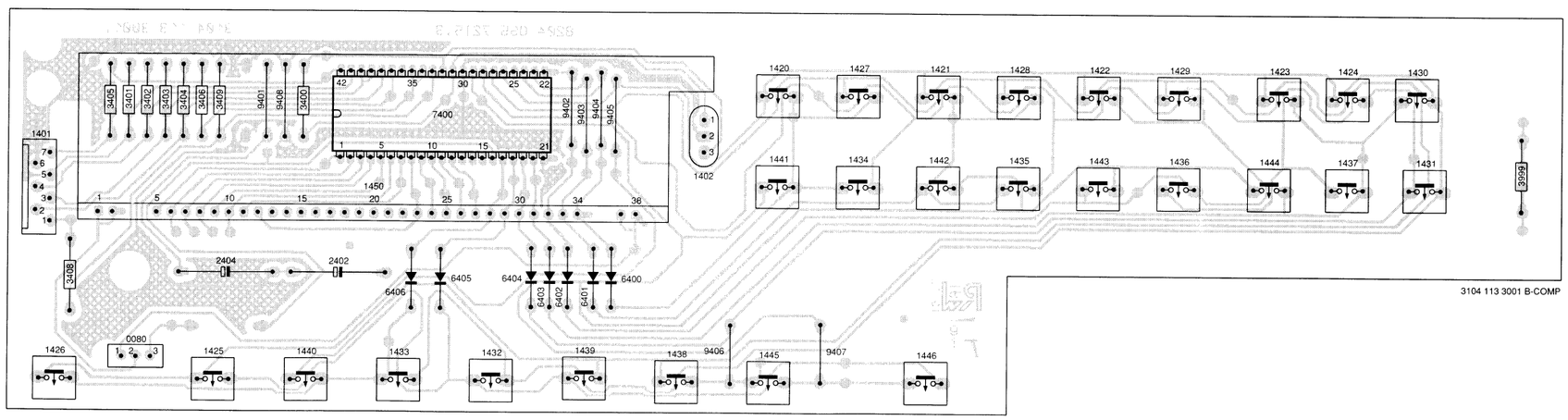

CONN. 0060 ON IR CIRCUIT
CONN. 1403 TO CONN. 1401 ON DISPLAY CIRCUIT
+5REST POSITION 0V WHEN OPENING OR CLOSING
I PORT D
I/O PORT C
7700 MC68HC05C8
I/O PORT A
RAM
ROM
CPU
VSS
I/O PORT B
0V IN STANDBY +5V IN PLAY
STANDBY
SILD
SIDA
SICL
0V STANDBY +5V IN PLAY POSITION
KILLI
TO POWER SUPPLY CIRCUIT
LOW PULSES WITH IR COMMANDS
7750 BC858
LOW PULSES DURING SEARCH, NEXT, PREVIOUS
TO R3106
TCAP
TCMP
CLOCK TIMING
RESET
XTAL1
XTAL2
VDD
2,5V REST 0V OPENING +5V CLOSING
0V REST +5V OPENING -5V CLOSING
7660 A TCA0372
TO TRAY MOTOR
7101 FCB61C65L-70T
4 MHz
TO PIN 28 OF IC 7102
FROM POWER SUPPLY CIRCUIT KILL
7102 SAA7341
QRA
QDA
QCL
MIC. PROC. INTERFACE
ANALOGUE SIGNAL
VREFA
DIFF. LEFT DAC
DIFF. RIGHT DAC
SUMMING OP-AMP
7300 A LM833
7300 B LM833
STANDBY +3.5V PLAY -8V
KILL
7371 BC818/25
7372 BC818/25
7363 BC818/25
7364 BC818/25
LEFT
RIGHT
VHPL
VHPR
GND
BU-2
CONN. 1375 TO CONN. 0070 ON VARIABLE HEADPHONE CIRCUIT
ONLY FOR CD920
ONLY FOR CD910
3104 118 00811S-B 9202


12
0V
10us/DIV
± 44,4us
play mode
stand by +5V
eyepattern
65
2.5V
0,5us/DIV
67
SERVICE POSITION 0,1,2: 0V
SERVICE POSITION 3: 5V
play mode
75
10ms/DIV
QRA
asynchronous uP dependent
10 X 8 bits
76
0.2ms/DIV
QCL
77
QDA
continue data
82
0V
0,5us/DIV
84
SERVICE POSITION 0
0V REST POSITION
+5V WHEN SLEDGE IS MOVING

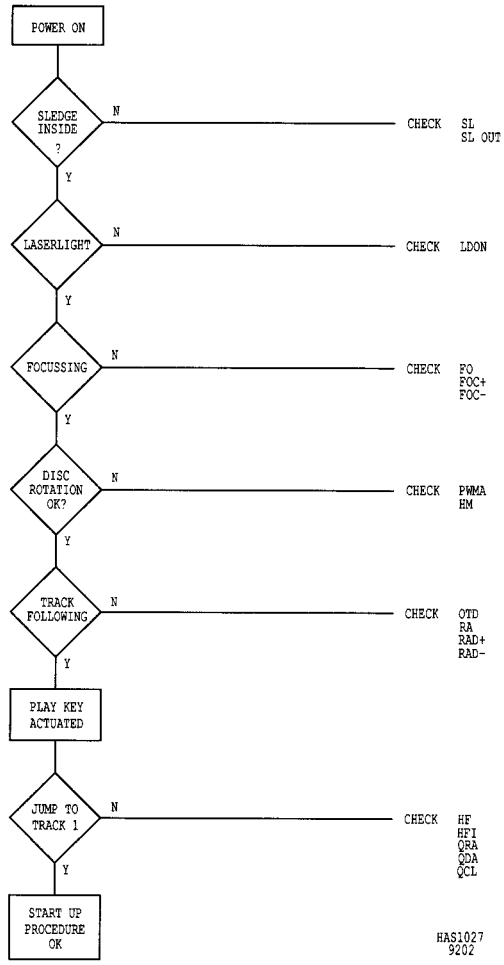
CONTROL & DISPLAY CIRCUIT DIAGRAM



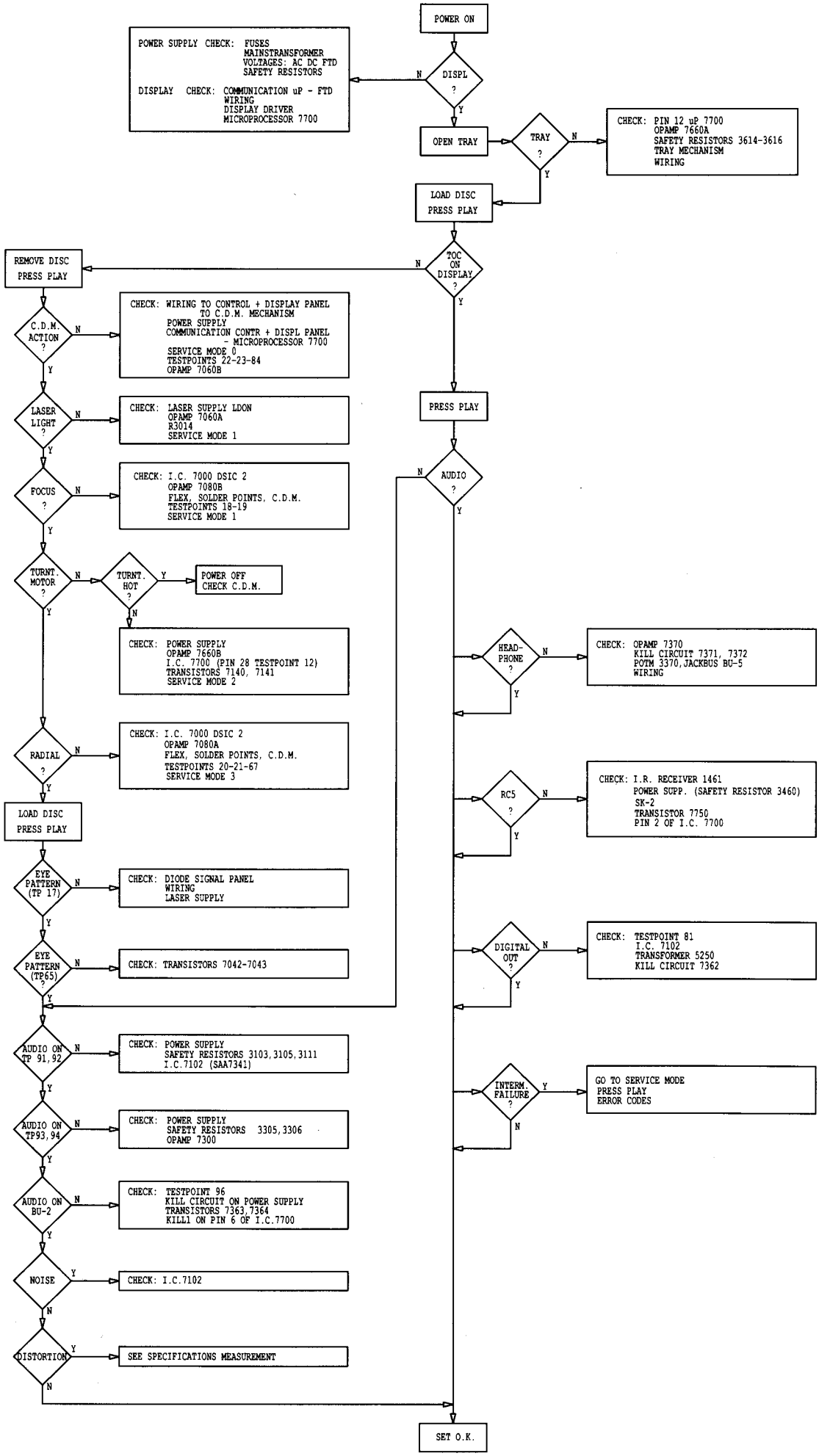
CONTROL & DISPLAY PANEL



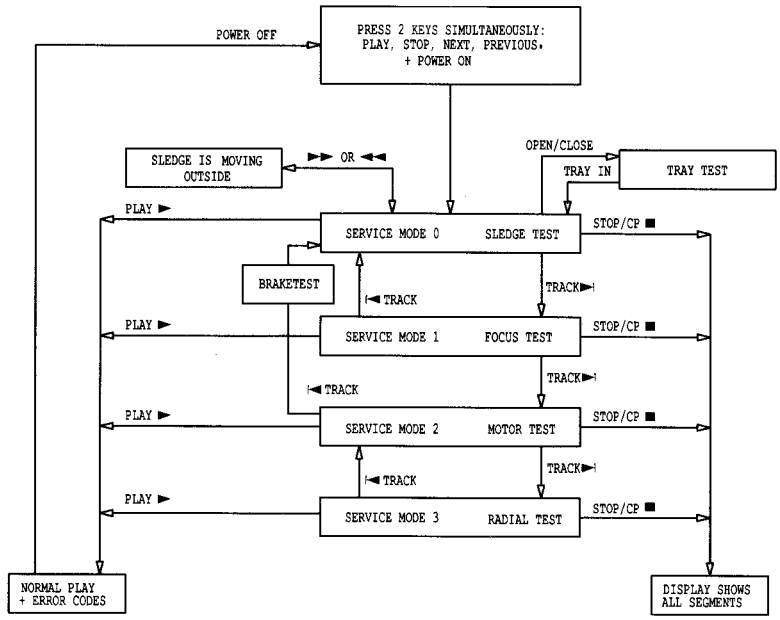
START UP PROCEDURE



FAULTFINDING GUIDE



SERVICE TEST PROGRAM



HAS1025
9202

ERROR CODE TABLE

SYSTEM ERRORS

ERROR 02	Focus error
ERROR 07	Subcode error
ERROR 08	TOC error
ERROR 09	CD4 error
ERROR 10	Radial error
ERROR 11	Non fatal sledge error
ERROR 12	Fatal sledge error
ERROR 13	Turntable motor error
ERROR 31	Search time out error
ERROR 32	Binary search time out error
ERROR 33	Index not found
ERROR 34	Relative time not found

OPERATING ERROR MESSAGES

ERROR 40	" GO INTO STOP "
ERROR 41	" GO INTO PLAY "
ERROR 42	" NO PROGRAM "
ERROR 43	" PRESS REVIEW "
ERROR 44	" EDIT ACTIVE "
ERROR 45	" CD DUBBING ACTIVE "
ERROR 46	" PROGRAM CANCELLED "
ERROR 47	" USE 0-9 "
ERROR 48	" WRONG TRACK "
ERROR 49	" WRONG TIME "
ERROR 50	" NO EDIT POSSIBLE "

CLASS 3B
LASER PRODUCT

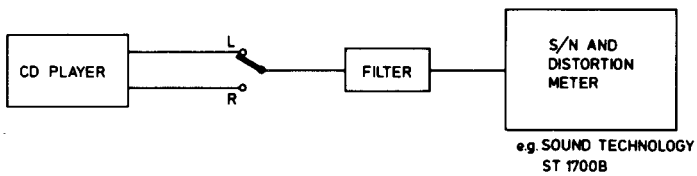
CAUTION INVISIBLE LASER RADIATION WHEN OPEN AVOID EXPOSURE TO BEAM
VARO! AVATTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASER SÄTEILYLLE ÄLÄ KATSO SÄTEESEN
VARNING OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD BETRAKTA EJ STRÅLEN
ADVERSEL USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UNSAETTELSE FOR STRÅLING
DANGER INVISIBLE LASER RADIATION WHEN OPEN AVOID DIRECT EXPOSURE TO BEAM
VORSICHT UNSICHTBARE LASERSTRAHLUNG WENN ABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETSEN

SPECIFICATIONS MEASUREMENT

Signal	Mode	◇			Remarks
BU2-L	Test disc 3, play, total harmonic distorsion	filter output	See technial data		See drawing 30459A12
BU2-R	Test disc 3, play, total harmonic distorsion	filter output	See technial data		See drawing 30459A12
BU2-L	Test disc 3, play signal-to-noise ratio	filter output	See technial data		See drawing 30459A12
BU2-R	Test disc 3, play signal-to-noise ratio	filter output	See technial data		See drawing 30459A12

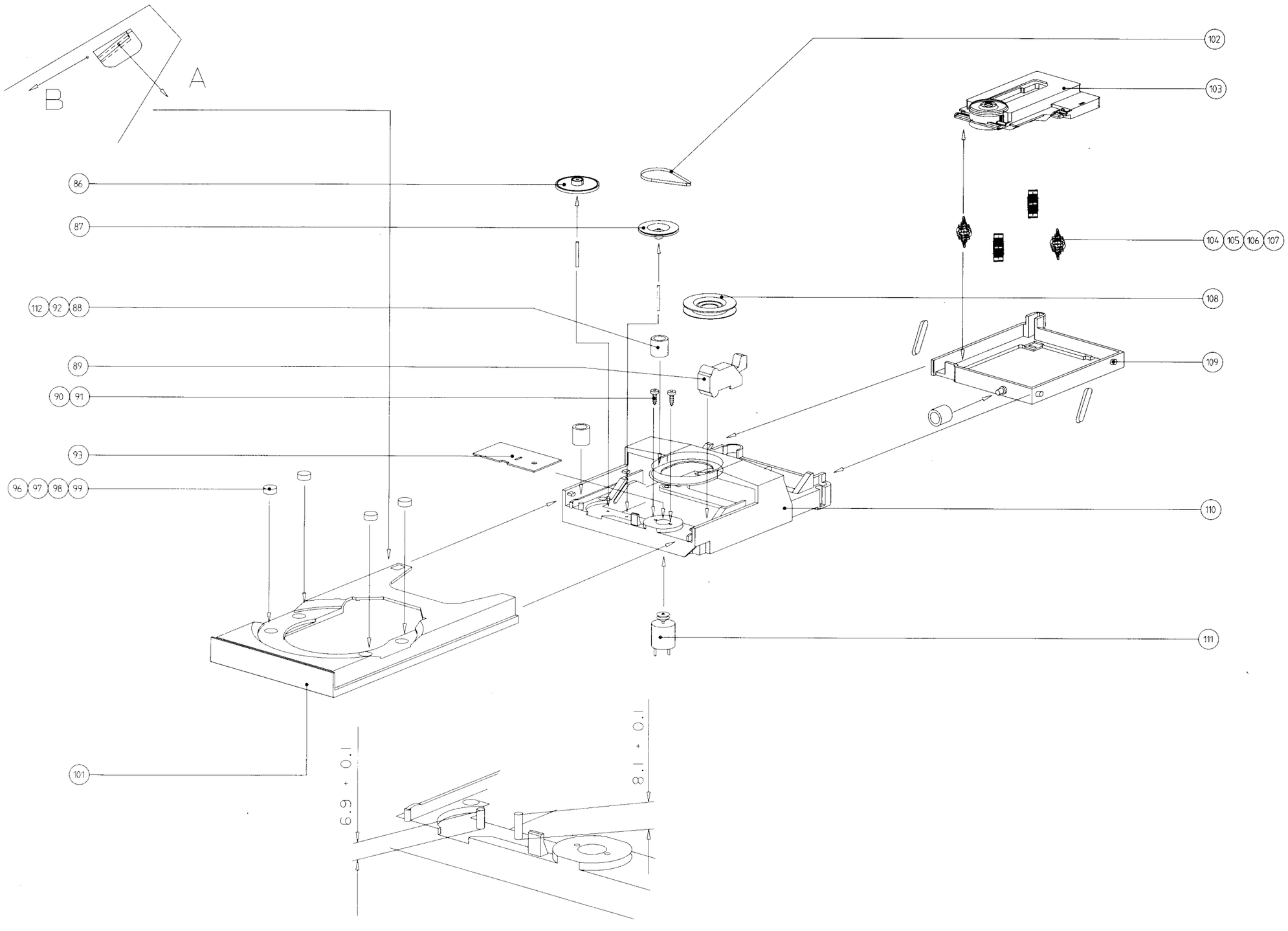
T-23366M

Filter = 13th order filter 4822 395 30204



30 459 A12

LOADER


DETAIL I
A
B
86
87
112
92
88
89
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91
93
96
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98
99
101
102
103
104
105
106
107
108
109
110
111
6.9 + 0.1
8.1 + 0.1

MECHANICAL PARTSLIST

Partslist cabinet

1	4822 444 40532	FRONT CD920
1	4822 444 40529	FRONT CD910
15	4822 410 61788	KNOBUNIT(NOSE)
16	4822 410 61789	KNOBUNIT(TEN KEY)
22	4822 450 61843	WINDOW
23	4822 450 61831	IR WINDOW (CD920)
52	4822 535 93291	POWER ROD
53	4822 413 41705	VOLUME KNOB
54	4822 462 71808	POWER BUTTON
71	4822 444 40531	TRAY FRONT
251	4822 462 41888	FOOT
255	4822 462 41887	FELT
283	4822 532 60948	BUSHING
287	5322 256 34085	FUSE HOLDER (/01S)
288	5322 462 44478	FUSE CAP (/01S)
300	4822 321 10809	MAINS FLEX /00S/01S
301	4822 321 10811	MAINS FLEX /05S
302	4822 321 10849	MAINS FLEX /17S
303	4822 321 10828	MAINS FLEX /10S
308	4822 321 22832	CINCH CABLE SBC1072
340	4822 736 21343	INSTRUCTION FOR USE
340	4822 736 21491	INSTRUCTION FOR USE /17S
365	4822 218 10446	RD6835/00 (CD920)

Partslist loading

86	4822 528 81464	DRIVE PINION
87	4822 528 81465	PULLEY
88	4822 325 60379	DAMPING GROMMET
89	4822 276 13222	SWITCH
93	4822 444 60816	COVER PLATE
96	4822 462 41902	ORNAMENTAL TULE
101	4822 444 50679	SLIDE
102	4822 358 31168	BELT
103	4822 691 30278	CDM12
104	4822 325 50215	SUSPENSION
108	4822 402 61412	CLAMPER ASSY
109	4822 464 50895	SUBCHASSIS
110	4822 464 50896	CHASSIS
111	4822 361 21492	MOTOR

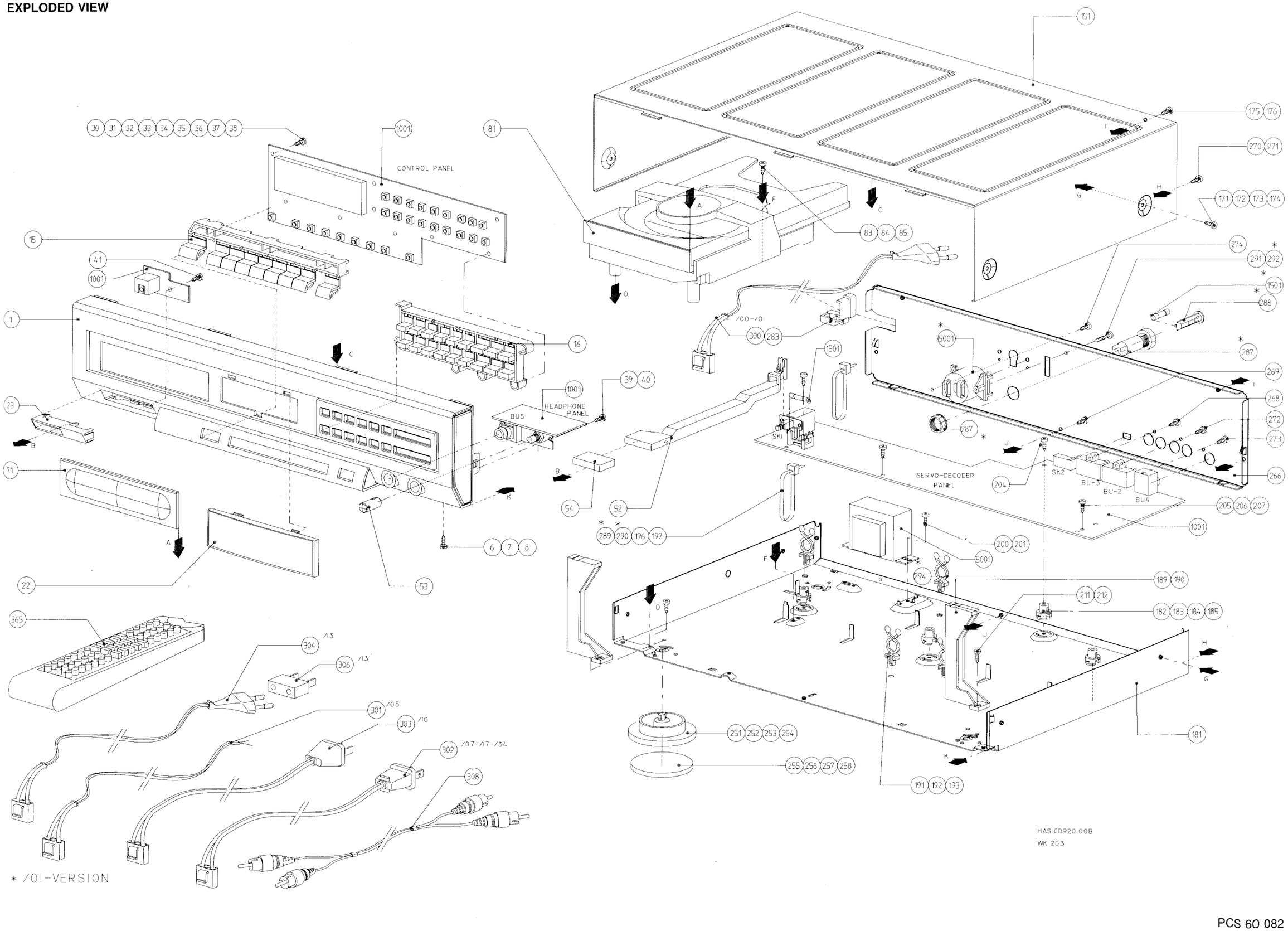
The following parts are only available during production period on special request.

151	Cover
181	Frame
189,190	Support bracket
266	Back plate

Screws

Taptite	M3x6:	6,7,8 83,84,85 171,172,173,174 175,176 200,201 211,212 269, 270,271,274
Taptite	M3x16:	204,205,206,207
Plastite	M3x10:	259,260,261,262 268,272,273
Plastite	M3x12:	30,31,32,33,34,35,36,37,38 39,40,41

EXPLODED VIEW



ELECTRICAL PARTSLIST

SERVO & DECODER PANEL

MISCELLANEOUS

BU-2	4822 265 20553	ANALOG OUT SOCKET
BU-3	4822 265 20542	ESI SOCKET
BU-4	4822 267 31457	DIGITAL OUT SOCKET
SK-1	4822 276 13231	POWER SWITCH
SK-2	4822 276 12339	RC5 SWITCH
1002	4822 242 73557	RESONATOR 8,46Mhz
1570	4822 242 81151	CRYSTAL 16,9344Mhz
1700	4822 242 72527	RESONATOR 4Mhz

CAPACITORS

2000	5322 122 31865	1,5nF 10% 63V
2001	5322 116 80853	560pF 5% 63V
2003	4822 122 32575	220pF 10% 500V
2004	4822 122 32575	220pF 10% 500V
2005	4822 122 32575	220pF 10% 500V
2006	4822 122 32575	220pF 10% 500V
2007	4822 122 32575	220pF 10% 500V
2008	4822 122 32575	220pF 10% 500V
2009	4822 122 33496	100nF 10% 63V
2010	4822 124 40272	33µF 20% 16V
2011	4822 122 33496	100nF 10% 63V
2012	4822 124 40272	33µF 20% 16V
2015	4822 124 41596	22µF 20% 50V
2016	4822 122 33496	100nF 10% 63V
2017	4822 124 40272	33µF 20% 16V
2040	4822 122 33172	390pF 5% 50V
2041	5322 122 33538	150pF 5% 63V
2042	4822 122 33496	100nF 10% 63V
2043	4822 124 40272	33µF 20% 16V
2060	4822 122 33496	100nF 10% 63V
2061	4822 122 33496	100nF 10% 63V
2062	4822 124 40272	33µF 20% 16V
2063	4822 124 40272	33µF 20% 16V
2064	4822 122 33342	33nF 10% 63V
2065	4822 122 33496	100nF 10% 63V
2066	4822 122 33175	2,2nF 20% 50V
2070	4822 122 33339	4,7nF 10% 50V
2071	4822 122 33496	100nF 10% 63V
2072	4822 126 10326	180pF 5% NP0
2080	4822 122 33496	100nF 10% 63V
2081	4822 124 40272	33µF 20% 16V
2082	4822 122 33496	100nF 10% 63V
2083	4822 124 40272	33µF 20% 16V
2084	4822 126 10326	180pF 5% NP0
2085	4822 122 33496	100nF 10% 63V
2086	5322 126 10465	3,9nF 10% 63V
2101	5322 122 32452	47pF 5% 50V
2102	4822 122 33175	2,2nF 20% 50V
2103	4822 124 40849	330µF 20% 16V
2104	4822 122 33496	100nF 10% 63V
2105	5322 121 42661	330nF 5% 63V
2106	4822 122 33496	100nF 10% 63V
2107	4822 124 41584	100µF 20% 10V
2108	5322 122 32654	22nF 10% 63V
2109	4822 124 40242	1µF 20% 63V
2110	4822 122 32659	33pF 10% 500V
2111	5322 121 42386	100nF 5% 63V
2112	4822 122 33496	100nF 10% 63V
2114	5322 122 32658	22pF 5% 50V
2115	5322 122 32658	22pF 5% 50V
2116	4822 124 40242	1µF 20% 63V
2117	4822 122 33339	4,7nF 10% 50V
2118	4822 122 33339	4,7nF 10% 50V
2119	4822 124 41584	100µF 20% 10V
2120	4822 122 33496	100nF 10% 63V
2121	4822 122 33496	100nF 10% 63V
2122	4822 124 40849	330µF 20% 16V
2123	4822 122 33496	100nF 10% 63V
2124	5322 122 32659	33pF 5% 50V
2125	4822 122 33339	4,7nF 10% 50V
2140	4822 122 33496	100nF 10% 63V
2141	4822 122 32542	47nF 10% 63V
2253	4822 122 32646	5,6nF 10% 50V
2254	4822 122 32646	5,6nF 10% 50V
2300	5322 122 31863	330pF 5% 50V
2301	4822 124 40272	33µF 20% 16V
2302	4822 124 41577	4,7µF 20% 50V
2303	4822 122 33216	270pF 10% 500V
2305	4822 122 33496	100nF 10% 63V
2306	4822 122 33496	100nF 10% 63V
2308	4822 124 40272	33µF 20% 16V
2309	4822 122 33216	270pF 10% 500V
2310	5322 122 31863	330pF 5% 50V
2311	4822 124 41577	4,7µF 20% 50V
2312	4822 122 33219	1,8nF 10% 50V
2313	4822 122 33219	1,8nF 10% 50V
2314	4822 124 40272	33µF 20% 16V
2315	4822 124 40272	33µF 20% 16V
2500	5322 122 32654	22nF 10% 63V
2501	5322 122 32654	22nF 10% 63V
2502	5322 122 32654	22nF 10% 63V
2503	5322 122 32654	22nF 10% 63V
2504	5322 122 32654	22nF 10% 63V
2505	5322 122 32654	22nF 10% 63V
2506	4822 124 40784	3300µF 20% 16V
2507	4822 124 40272	33µF 20% 16V
2508	5322 124 22094	220µF 20% 50V
2509	4822 124 41596	22µF 20% 50V
2510	4822 124 40201	1000µF 20% 16V

2511	5322 122 32654	22nF 10% 63V
2544	4822 126 10454	3,3nF 20% 400V
2560	4822 121 51252	470nF 5% 63V
2561	5322 121 42661	330nF 5% 63V
2562	4822 124 40849	330µF 20% 16V
2610	4822 122 33496	100nF 10% 63V
2611	4822 122 33496	100nF 10% 63V
2612	4822 122 33496	100nF 10% 63V
2702	4822 124 40272	33µF 20% 16V
2703	5322 122 32654	22nF 10% 63V
2740	4822 124 40433	47µF 20% 25V
2741	5322 122 32654	22nF 10% 63V

RESISTORS

3000	4822 050 21003	10k 1% 0,6W
3001	4822 050 21003	10k 1% 0,6W
3002	4822 050 21003	10k 1% 0,6W
3003	4822 050 21003	10k 1% 0,6W
3004	4822 050 21003	10k 1% 0,6W
3005	4822 050 21003	10k 1% 0,6W
3006	4822 050 21003	10k 1% 0,6W
3007	4822 052 10478	4Ω7 5% 0,33W
3008	4822 052 10478	4Ω7 5% 0,33W
3009	4822 051 20105	1M0 5% 0,1W
3010	4822 051 20103	10k 5% 0,1W
3011	4822 050 21003	10k 1% 0,6W
3012	4822 050 21002	1k 1% 0,6W
3013	4822 050 21002	1k 1% 0,6W
3014	4822 052 10478	4Ω7 5% 0,33W
3040	4822 051 10101	100Ω 2% 0,25W
3041	4822 050 24301	430Ω 1% 0,6W
3042	4822 050 24301	430Ω 1% 0,6W
3043	4822 116 52263	2k7 5% 0,5W
3044	4822 051 20182	1k8 5% 0,1W
3045	4822 051 10101	100Ω 2% 0,25W
3046	4822 051 20362	3k6 5% 0,1W
3047	4822 051 20822	8k2 5% 0,1W
3060	4822 050 21003	10k 1% 0,6W
3061	4822 051 20682	6k8 5% 0,1W
3062	4822 116 52244	15k 5% 0,5W
3063	4822 051 20103	10k 5% 0,1W
3064	4822 116 52244	15k 5% 0,5W
3065	4822 052 10229	22Ω 5% 0,33W
3066	4822 052 10478	4Ω7 5% 0,33W
3067	4822 052 10478	4Ω7 5% 0,33W
3070	4822 116 52244	15k 5% 0,5W
3071	4822 050 21003	10k 1% 0,6W
3072	4822 050 26802	6k8 1% 0,6W
3073	4822 052 10229	22Ω 5% 0,33W
3074	4822 116 52244	15k 5% 0,5W
3075	4822 050 21003	10k 1% 0,6W
3080	4822 050 26802	6k8 1% 0,6W
3081	4822 050 24702	4k7 1% 0,6W
3082	4822 116 52244	15k 5% 0,5W
3083	4822 052 10478	4Ω7 5% 0,33W
3084	4822 052 10478	4Ω7 5% 0,33W
3085	4822 050 21003	10k 1% 0,6W
3086	4822 052 10229	22Ω 5% 0,33W
3087	4822 116 52244	15k 5% 0,5W
3100	4822 050 22202	2k2 1% 0,6W
3101	4822 051 20223	22k 5% 0,1W
3102	4822 050 22203	22k 1% 0,6W
3103	4822 052 10478	4Ω7 5% 0,33W
3105	4822 052 10478	4Ω7 5% 0,33W
3106	4822 050 21002	1k 1% 0,6W
3109	4822 050 22202	2k2 1% 0,6W
3110	4822 051 20224	220k 5% 0,1W
3111	4822 052 10229	22Ω 5% 0,33W
3112	4822 051 20225	2M2 5% 0,1W
3117	4822 051 20182	1k8 5% 0,1W
3118	4822 051 20182	1k8 5% 0,1W
3140	4822 116 52234	100k 5% 0,5W
3141	4822 116 52234	100k 5% 0,5W
3142	4822 050 24703	47k 1% 0,6W
3143	4822 052 10229	22Ω 5% 0,33W
3144	4822 050 22203	22k 1% 0,6W
3145	4822 050 23302	3k3 1% 0,6W
3146	4822 050 21003	10k 1% 0,6W
3147	4822 050 23902	3k9 1% 0,6W
3148	4822 050 24703	47k 1% 0,6W
3251	4822 050 24703	47k 1% 0,6W
3255	4822 051 10561	560Ω 2% 0,25W
3256	4822 050 26201	620Ω 1% 0,6W
3300	4822 050 22203	22k 1% 0,6W
3301	4822 116 52244	15k 5% 0,5W
3302	4822 050 21803	18k 1% 0,6W
3304	4822 050 21203	12k 1% 0,6W
3305	4822 052 10339	33Ω 5% 0,33W
3306	4822 052 10339	33Ω 5% 0,33W
3307	4822 050 21803	18k 1% 0,6W
3308	4822 050 21203	12k 1% 0,6W
3309	4822 050 22203	22k 1% 0,6W
3310	4822 116 52244	15k 5% 0,5W
3312	4822 050 22203	22k 1% 0,6W
3313	4822 050 22203	22k 1% 0,6W
3316	4822 050 21002	1k 1% 0,6W
3317	4822 050 21002	1k 1% 0,6W
3318	4822 050 23302	3k3 1% 0,6W
3319	4822 050 23302	3k3 1% 0,6W
3362	4822 050 24702	4k7 1% 0,6W
3363	4822 050 22202	2k2 1% 0,6W
3364	4822 050 22202	2k2 1% 0,6W
3376	4822 116 52224	470Ω 5% 0,5W
3377	4822 116 52224	470Ω 5% 0,5W
3378	4822 050 22202	2k2 1% 0,6W
3379	4822 050 22202	2k2 1% 0,6W

CONTROL & DISPLAY PANEL

MISCELLANEOUS

	4822 256 91876	FTD HOLDER
1402	4822 242 72527	CRYSTAL 4Mhz
1420	4822 276 13114	CONTROL SWITCH
1421	4822 276 13114	CONTROL SWITCH
1422	4822 276 13114	CONTROL SWITCH
1423	4822 276 13114	CONTROL SWITCH
1425	4822 276 13213	SWITCH
1426	4822 276 13213	SWITCH
1427	4822 276 13114	CONTROL SWITCH
1428	4822 276 13114	CONTROL SWITCH
1429	4822 276 13114	CONTROL SWITCH
1430	4822 276 13114	CONTROL SWITCH
1431	4822 276 13114	CONTROL SWITCH
1432	4822 276 13213	SWITCH
1433	4822 276 13213	SWITCH
1434	4822 276 13114	CONTROL SWITCH
1435	4822 276 13114	CONTROL SWITCH
1436	4822 276 13114	CONTROL SWITCH
1437	4822 276 13114	CONTROL SWITCH
1438	4822 276 13213	SWITCH
1439	4822 276 13213	SWITCH
1440	4822 276 13213	SWITCH
1441	4822 276 13114	CONTROL SWITCH
1442	4822 276 13114	CONTROL SWITCH
1443	4822 276 13114	CONTROL SWITCH
1444	4822 276 13114	CONTROL SWITCH
1445	4822 276 13213	SWITCH
1446	4822 276 13213	SWITCH
1450	4822 130 91085	DISPLAY 8-BT-120GK

CAPACITORS

2402	5322 124 21643	22µF 20% 40V
2404	5322 124 21643	22µF 20% 40V

RESISTORS

3400	4822 050 22204	220k 1% 0,6W
3401	4822 050 22203	22k 1% 0,6W
3402	4822 050 22203	22k 1% 0,6W
3403	4822 050 22203	22k 1% 0,6W
3404	4822 050 22203	22k 1% 0,6W
3405	4822 052 10478	4Ω7 5% 0,33W
3406	4822 050 22203	22k 1% 0,6W
3407	4822 052 10108	1Ω 5% 0,33W
3408	4822 050 23302	3k3 1% 0,6W
3409	4822 050 22203	22k 1% 0,6W

DIODES

6400	4822 130 30613	BAW62
6401	4822 130 30613	BAW62
6402	4822 130 30613	BAW62
6403	4822 130 30613	BAW62
6404	4822 130 30613	BAW62
6405	4822 130 30613	BAW62
6406	4822 130 30613	BAW62

IC

7400	4822 209 30249	TMP47C212AN

HEADPHONE PANEL

BU-5	4822 267 31453	HEADPHONE SOCKET
2370	5322 122 32654	22nF 10% 63V
3370	4822 102 10398	10k LOG POTMETER
3371	4822 050 21003	10k 1% 0,6W
3372	4822 050 21003	10k 1% 0,6W
3373	4822 116 52244	15k 5% 0,5W
3374	4822 116 52244	15k 5% 0,5W
3375	4822 050 21201	120Ω 5% 0,6W
7370	4822 209 82362	NJM4556D

IR PANEL

1461	4822 214 51772	IR RECEIVER GP1U521X
3460	4822 052 10478	4Ω7 5% 0,33W
3461	4822 050 24703	47k 1% 0,6W

MISCELLANEOUS

1501	4822 070 31001	FUSE 100mA
1503	4822 071 51601	FUSE 160mA
1504	4822 071 51601	FUSE 160mA
5001	4822 146 31063	TRANSFORMER /00S/05S
5001	4822 146 31135	TRANSFORMER /17S
5001	4822 146 31154	TRANSFORMER /01S
5002	4822 277 21366	VOLTAGE SELECTOR /01S
5003	4822 462 41505	SELECTOR COVER /01S

3386	4822 050 21201	120Ω 1% 0,6W
3501	4822 050 26801	680Ω 1% 0,6W
3550	4822 051 10561	560Ω 2% 0,25W
3551	4822 050 21002	1k 1% 0,6W
3552	4822 050 22203	22k 1% 0,6W
3560	4822 051 20473	47k 5% 0,1W
3561	4822 116 52224	470Ω 5% 0,5W
3562	4822 051 20225	2M2 5% 0,1W
3563	4822 051 20103	10k 5% 0,1W
3564	4822 051 20333	33k 5% 0,1W
3565	4822 051 20224	220k 5% 0,1W
3566	4822 051 10102	1k 2% 0,25W
3567	4822 050 22203	22k 1% 0,6W
3568	4822 050 24702	4k7 1% 0,6W
3610	4822 050 21203	12k 1% 0,6W
3611	4822 116 52303	8k2 5% 0,5W
3612	4822 050 21203	12k 1% 0,6W
3613	4822 050 21203	12k 1% 0,6W
3614	4822 050 21203	12k 1% 0,6W
3615	4822 052 10108	1Ω 5% 0,33W
3616	4822 052 10108	1Ω 5% 0,33W
3617	4822 052 10229	22Ω 5% 0,33W
3700	4822 051 20224	220k 5% 0,1W
3701	4822 052 10478	4Ω7 5% 0,33W
3705	4822 051 20103	10k 5% 0,1W
3706	4822 051 20103	10k 5% 0,1W
3708	4822 050 21003	10k 1% 0,6W
3709	4822 051 20103	10k 5% 0,1W
3710	4822 051 20103	10k 5% 0,1W
3711	4822 050 21003	10k 1% 0,6W
3712	4822 050 21003	10k 1% 0,6W
3713	4822 050 21003	10k 1% 0,6W
3714	4822 050 21003	10k 1% 0,6W
3715	4822 050 21003	10k 1% 0,6W
3716	4822 050 21003	10k 1% 0,6W
3717	4822 050 21003	10k 1% 0,6W
3721	4822 051 20223	22k 5% 0,1W
3741	4822 050 24703	47k 1% 0,6W
3742	4822 050 24703	47k 1% 0,6W
3743	4822 050 24703	47k 1% 0,6W
3744	4822 051 20101	100Ω 5% 0,1W
3745	4822 051 20183	18k 5% 0,1W
3746	4822 052 10109	10Ω 5% 0,33W
3747	4822 050 24703	47k 1% 0,6W
3748	4822 050 24702	4k7 1% 0,6W
3750	4822 050 21002	1k 1% 0,6W
3751	4822 050 22203	22k 1% 0,6W
3752	4822 050 22203	22k 1% 0,6W
4001	4822 051 10008	0Ω 5% 0,25W
4002	4822 051 10008	0Ω 5% 0,25W
4003	4822 051 10008	0Ω 5% 0,25W
4004	4822 051 10008	0Ω 5% 0,25W
4005	4822 051 10008	0Ω 5% 0,25W
4006	4822 051 10008	0Ω 5% 0,25W

5250	4822 148 80281	HF TRANSFORMER

DIODES

6103	4822 130 30621	1N4148
6500	5322 130 30684	1N4002
6501	5322 130 30684	1N4002
6502	5322 130 30684	1N4002
6503	5322 130 30684	1N4002
6504	5322 130 30684	1N4002
6505	4822 130 34488	BZX79-C11
6506	4822 130 34167	BZX79-C6V2
6507	4822 130 34233	BZX79-C5V1
6550	4822 130 31981	BZX79-C3V9
6560	4822 130 30621	1N4148
6561	4822 130 30621	1N4148
6562	5322 130 30684	1N4002
6563	5322 130 30684	1N4002
6564	4822 130 30621	1N4148
6565	4822 130 34278	BZX79-F6V8
6566	4822 130 31981	BZX79-C3V9

TRANSISTORS & IC's

7000	4822 209 31064	TDA1301T/N1
7042	5322 130 41982	BC848B
7043	5322 130 41982	BC848B
7060	4822 209 72587	TCA0372DP2-
7080	4822 209 72587	TCA0372DP2-
7101	4822 209 63925	FCB61C65L-70T
7102	4822 209 30388	SAA7341GP
7140	5322 130 42012	BC858
7141	4822 130 61207	BC848
7300	4822 209 83163	LM833N
7362	4822 130 61207	BC848
7363	4822 130 42696	BC818-25
7364	4822 130 42696	BC818-25
7371	4822 130 42696	BC818-25
7372	4822 130 42696	BC818-25
7500	5322 209 86361	MC7915CT
7501	4822 209 71579	TY40408
7550	5322 130 42012	BC858
7560	4822 130 61207	BC848
7561	5322 130 42012	BC858
7562	5322 130 42012	BC858
7660	4822 209 72587	TCA0372DP2-
7700	4822 209 31063	MC68HC05D9P/MONO P145
7740	5322 130 42012	BC858
7741	4822 130 61207	BC848
7742	5322 130 41982	BC848B
7750	5322 130 42012	BC858

Modifications with A92-154

Page	Reason
Frontpage	/01S /17S added
2a	/01S and /17S added
3a	Indications for CD920 added
4a	Warning Class 3B Laser product added
14a	ESI added
15a-16a	Variable headphone also for CD910
19a	Voltage selector added
22a	MP 17 Eyepattern adapted, R3047 added
29a-30a-31a	Variable headphone also for CD910
36a	Warning Class 3B laser product added
40a	Mains flex and I.F.U. for /17S added, fuse holder and cap added
43a	1002, 1570, 1700: name adapted
44a	R3047 added
45a	Microprocessor 7700: ZC400015 changed to MONO P145
46a	5001 Transformer,5002 voltage selector and 5003 cover added
47	Modifications A92-154 added

Service
Service
Service

A92-154

Product Service Group CE Audio

Service Information

(GB)

To adapt the service manual the following sheets have been added/changed.

(NL)

Voor het aanpassen van de service manual zijn de onderstaande pagina's toegevoegd/gewijzigd.

(F)

Afin de pouvoir adapter le "manual service" les feuillets suivants ont été soit modifiés, soit ajoutés.

(D)

Zür anpassung des Service Manual sind die nachstehenden Seiten hinzugefügt/geändert.

(I)

Le seguenti pagine sono state cambiate/aggiunte allo scopo di adattare il Manuale di Servizio.

Frontpage
2a
3a
4a
14a
15a-16a
19a
22a
29a-30a-31a
36a
40a
43a-44a-45a-46a
47

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