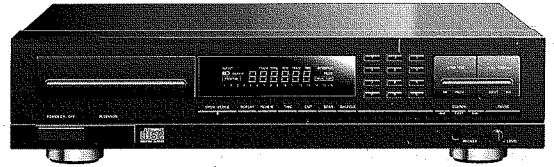


Service
Service
Service



Service Manual

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TECHNICAL SPECIFICATIONS

General

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

External RC-5 connection(only CD730)

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

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
- 6.Total harmonic distortion + noise
- : min. 70dB from 20 Hz to 20 kHz
- 7.Channel separation
- : min. 70dB from 20 Hz to 20 kHz
- 8.Frequency response
- : ± 1dB from 20 Hz to 20 kHz
- 9.Frequency response with de-emphasis
- : ± 2dB
- 10Automatic switched deemphasis with time constant
- : 15/50 μs
- 11.Dynamic range 20Hz-20kHz
- : min. 70dB from 20 Hz to 20 kHz
- 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 Ω
- 4.Load impedance range
- : 32 Ω to 600 Ω load
- 5.Output power
- : 0 to 30 mW into 30 Ω load
- : 0 to 50 mW into 150 Ω load
- : 0 to 30 mW into 600 Ω load

Audio specs in case of 600 Ω load at 4 Vrms voltage output

- 6.Signal to noise ratio
- : min. 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)

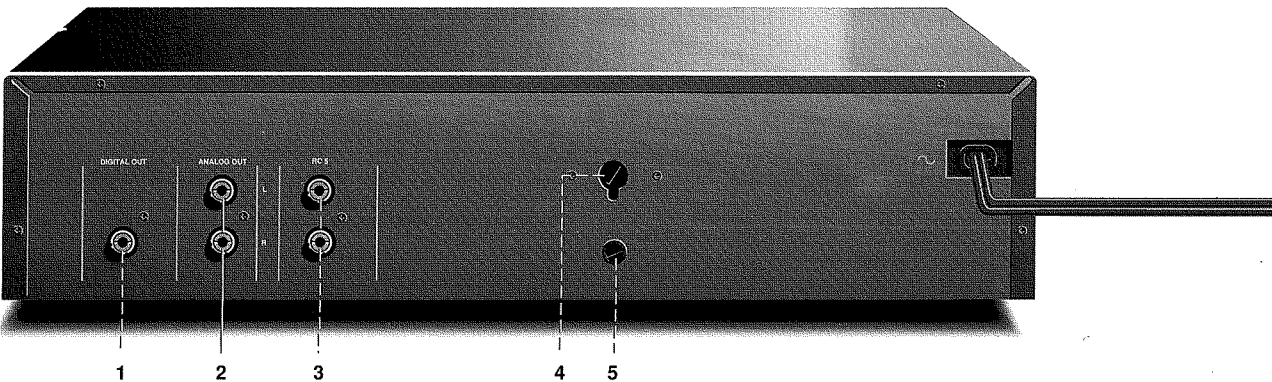
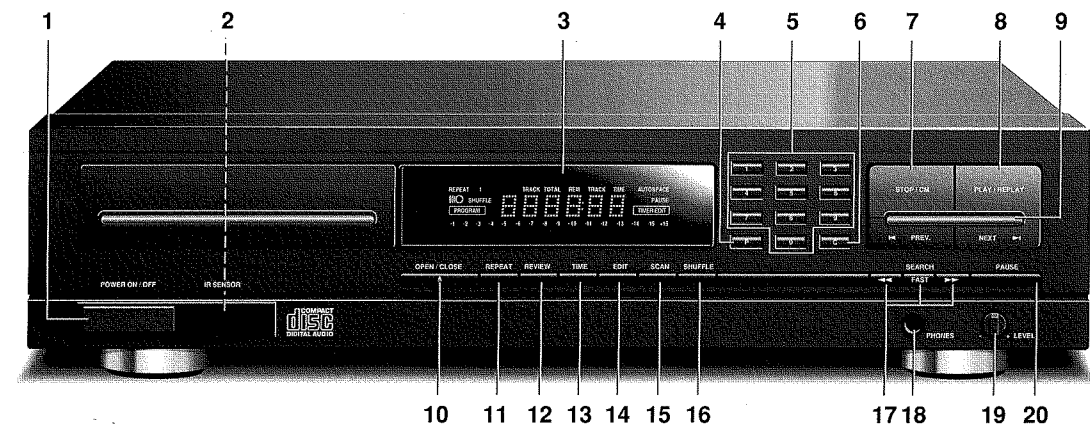
Dimensions and weight

- 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 Player	Indication in diagram
1. POWER ON/OFF	1500
2. IR SENSOR(CD732)	1461
3. Display	1450
4. PROG.	1429
5. 1-0 digit keys	1420,1421,1422,1427,1428,1434,1435,1441,1442,1443
6. CLEAR	1436
7. STOP/CM	1433
8. PLAY/REPLAY	1432
8. REPEAT	1430
9. <PREV(ious) NEXT>	1425 1440
10. OPEN/CLOSE	1426
11. REPEAT	1430
12. REVIEW	1431
13. TIME	1447
14. EDIT	1423
15. SCAN	1444
16. SHUFFLE	1446
17. << SEARCH >>	1438 1445
18. PHONES	BU-5
19. LEVEL	3370
20. PAUSE	1439

CONNECTIONS

Indication on Player	Indication in diagram
1. DIGITAL OUT(CD732 only)	BU-4
2. ANALOG OUT	BU-2
3. RC 5(CD730 only)	BU-3
4. Voltage selector(not all versions)	1010
5. Mains fuse holder(not all versions)	287

(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.

ESD**(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).
Unvorsichtige 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.

(NL)

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

(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.

(I)

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati pezzi di ricambio 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**VARO!****VARNING****ADVERSEL****DANGER****VORSICHT**

INVISIBLE LASER RADIATION WHEN OPEN AVOID EXPOSURE TO BEAM

AVATTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASER SÄTTEILYLLE ÄLÄ KATSO SÄTEESSEN

OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD BETRakta EJ STRÅLEN

USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UNSÆTTELSE FOR STRÅLING

INVISIBLE LASER RADIATION WHEN OPEN AVOID DIRECT EXPOSURE TO BEAM

UNSIHTBARE LASERSTRAHLUNG WENN ABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETZEN

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

**CLASS 1
LASER PRODUCT**

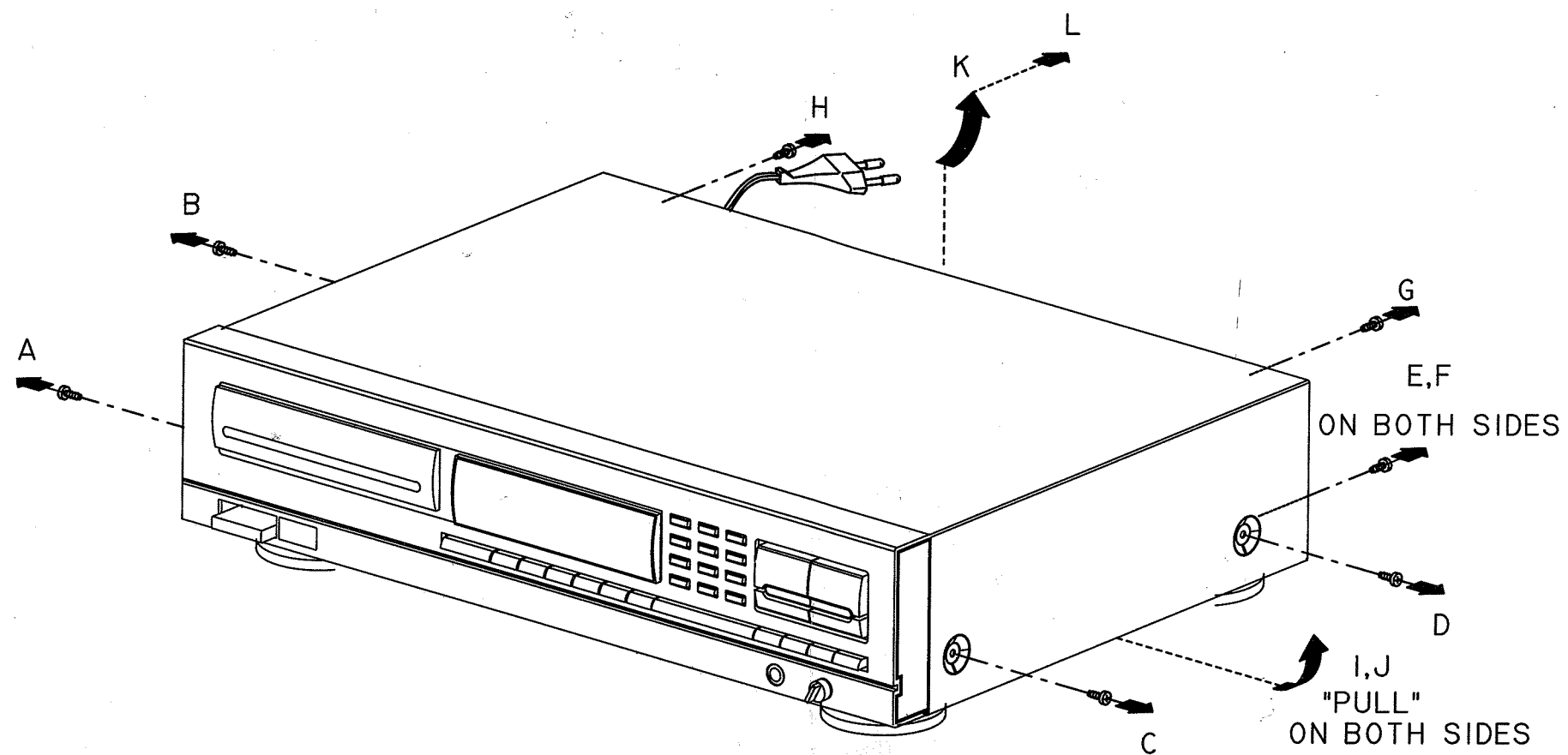
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DISMANTLING INSTRUCTIONS

DEMOUNTING OF COVER

5

6

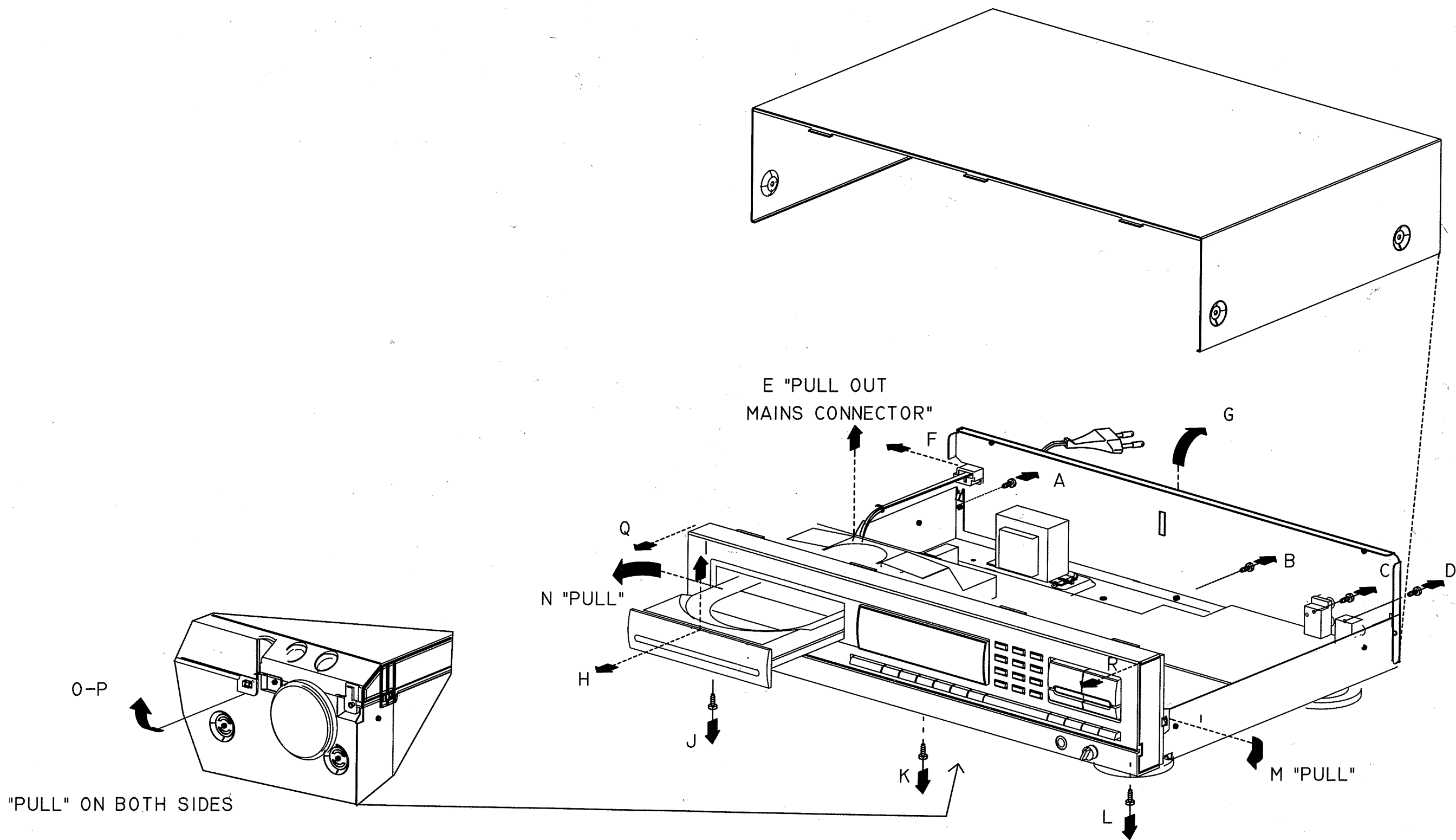


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DEMOUNTING BACKPLATE AND FRONT

7

8

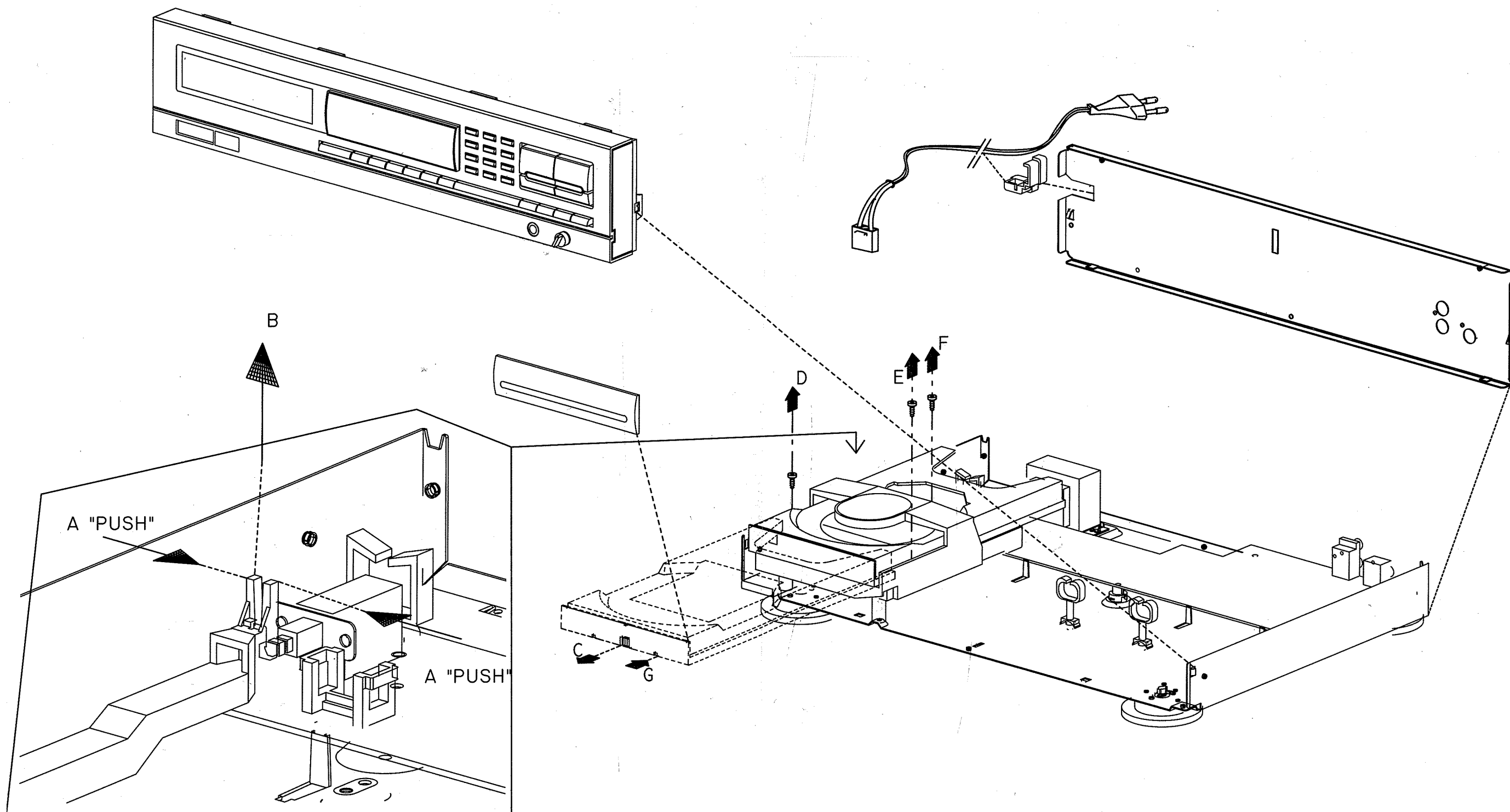


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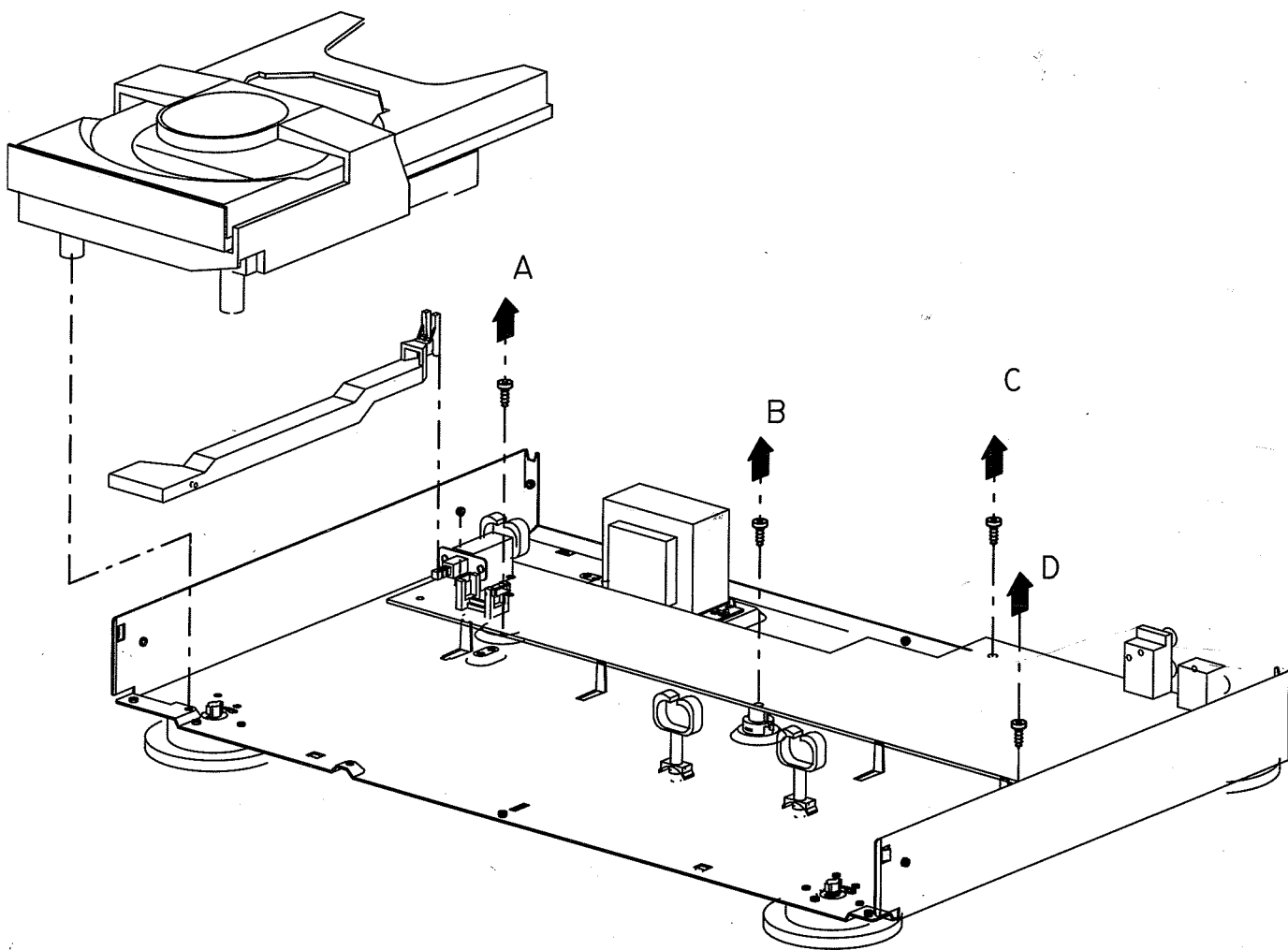
DEMOUNTING OF LOADER

9

10



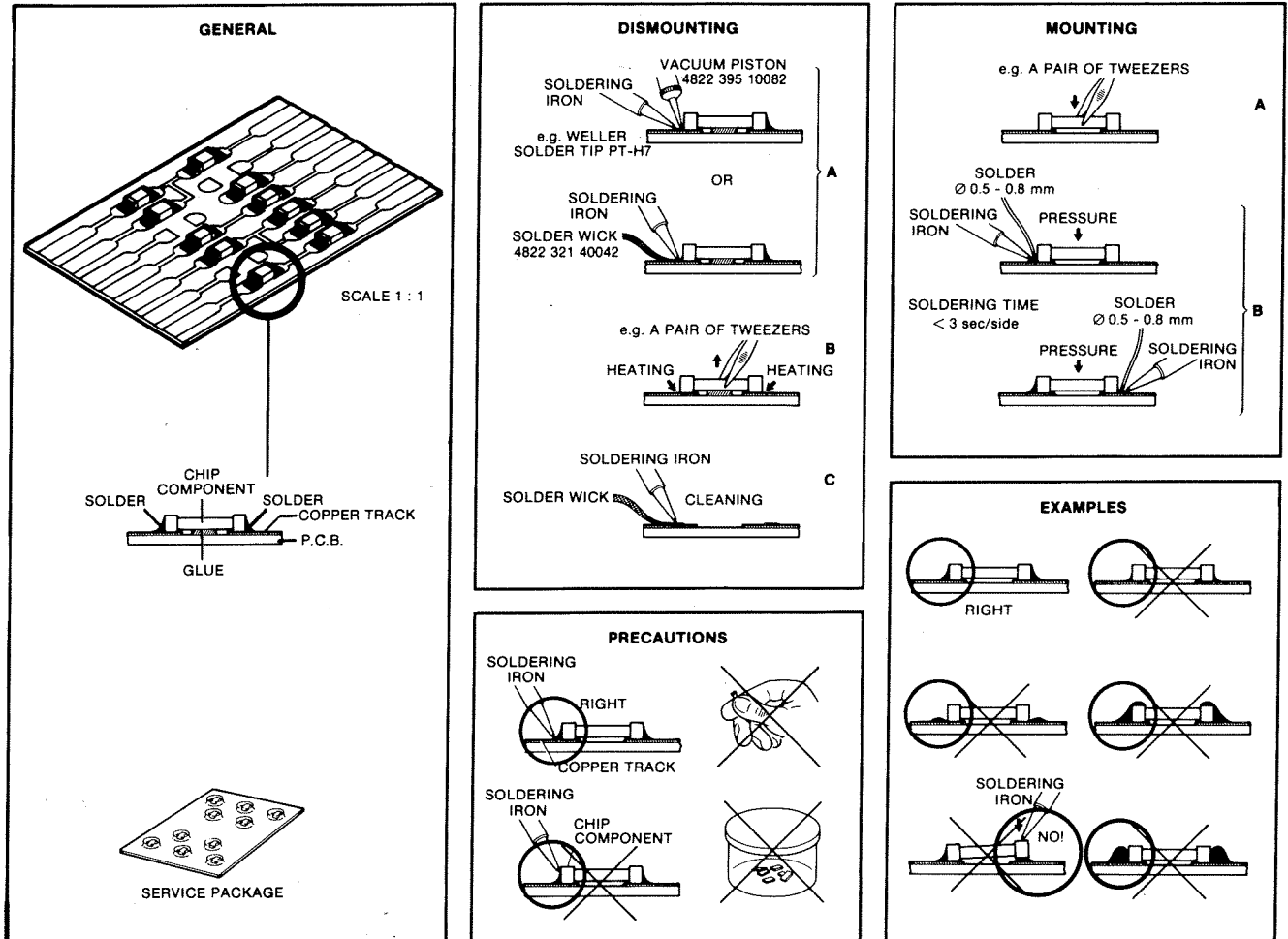
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HAS.1069

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
 Disc without errors (test disc 5) +
 disc with DO errors,
 black spots and fingerprints (test
 disc 5A)
 Disc (65 min 1kHz) without pause
 Max. diameter disc (58.0 mm)
 Torx screwdrivers
 Set (straight)
 Set (square)
 13th order filter

4822 397 30184

4822 397 30096

4822 397 30155

4822 397 60141

4822 395 50145

4822 395 50132

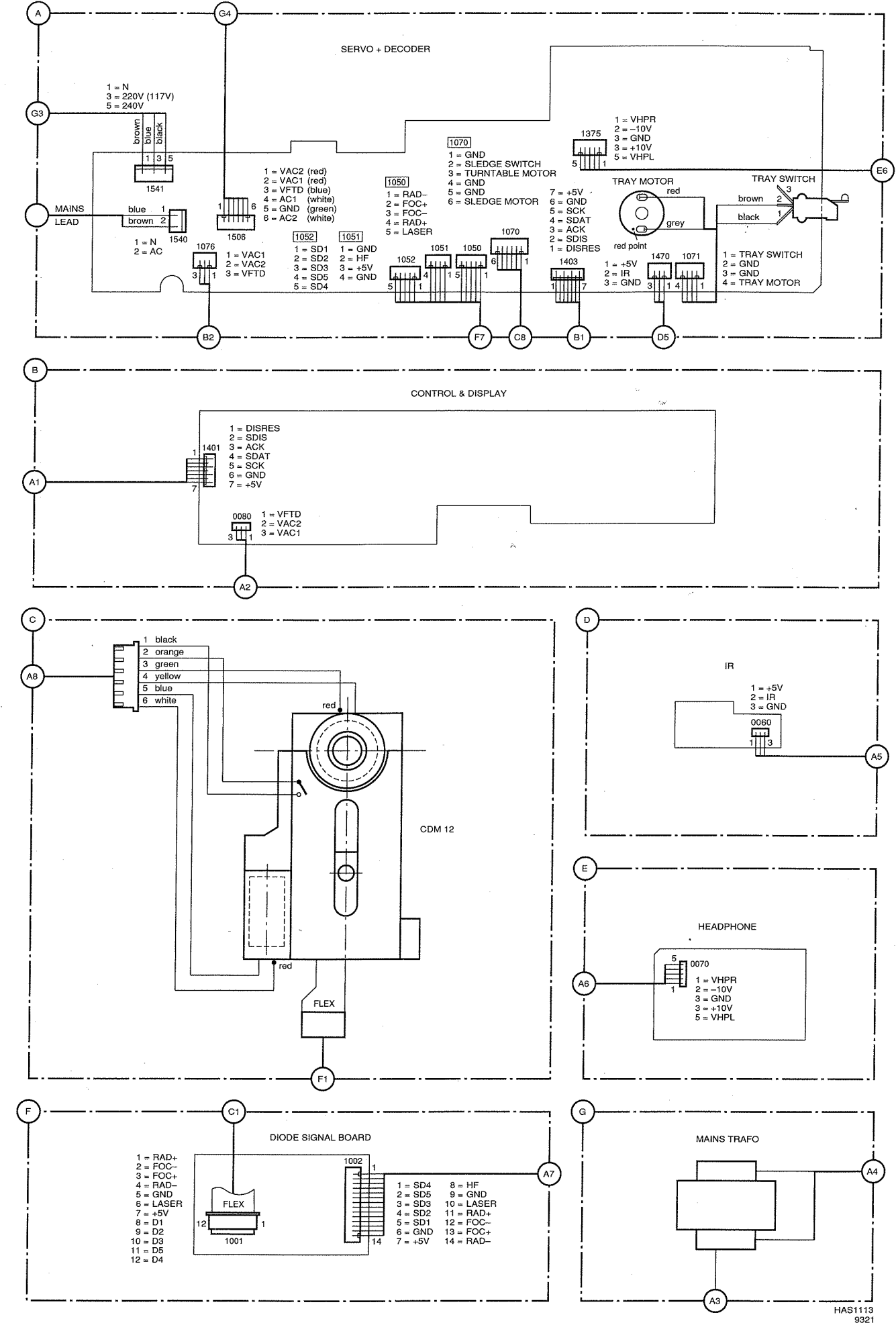
4822 395 30204

<u>A0-A12</u>	- 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/output 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
FO	- Focus actuator output
<u>HFD</u>	- High-frequency detector
HFI	- Inverting data slicer input
HFI	- Non-inverting data slicer input
HM	- Motor control signal
<u>IREF</u>	- 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
<u>SL</u>	- 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

[illegible]

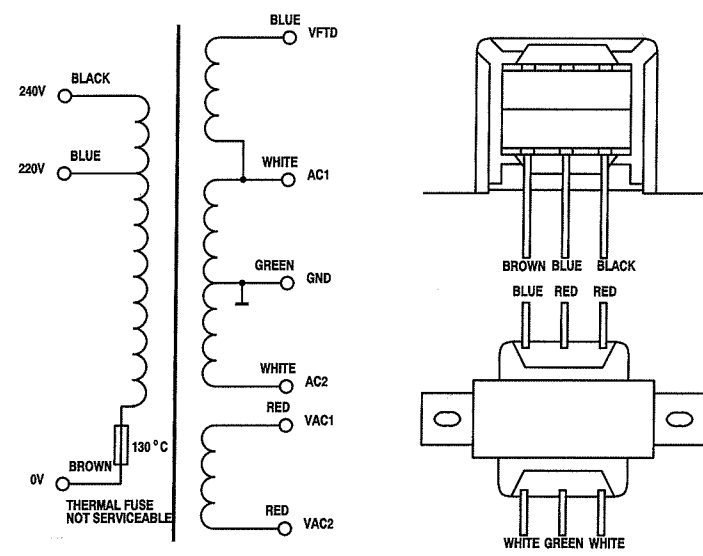
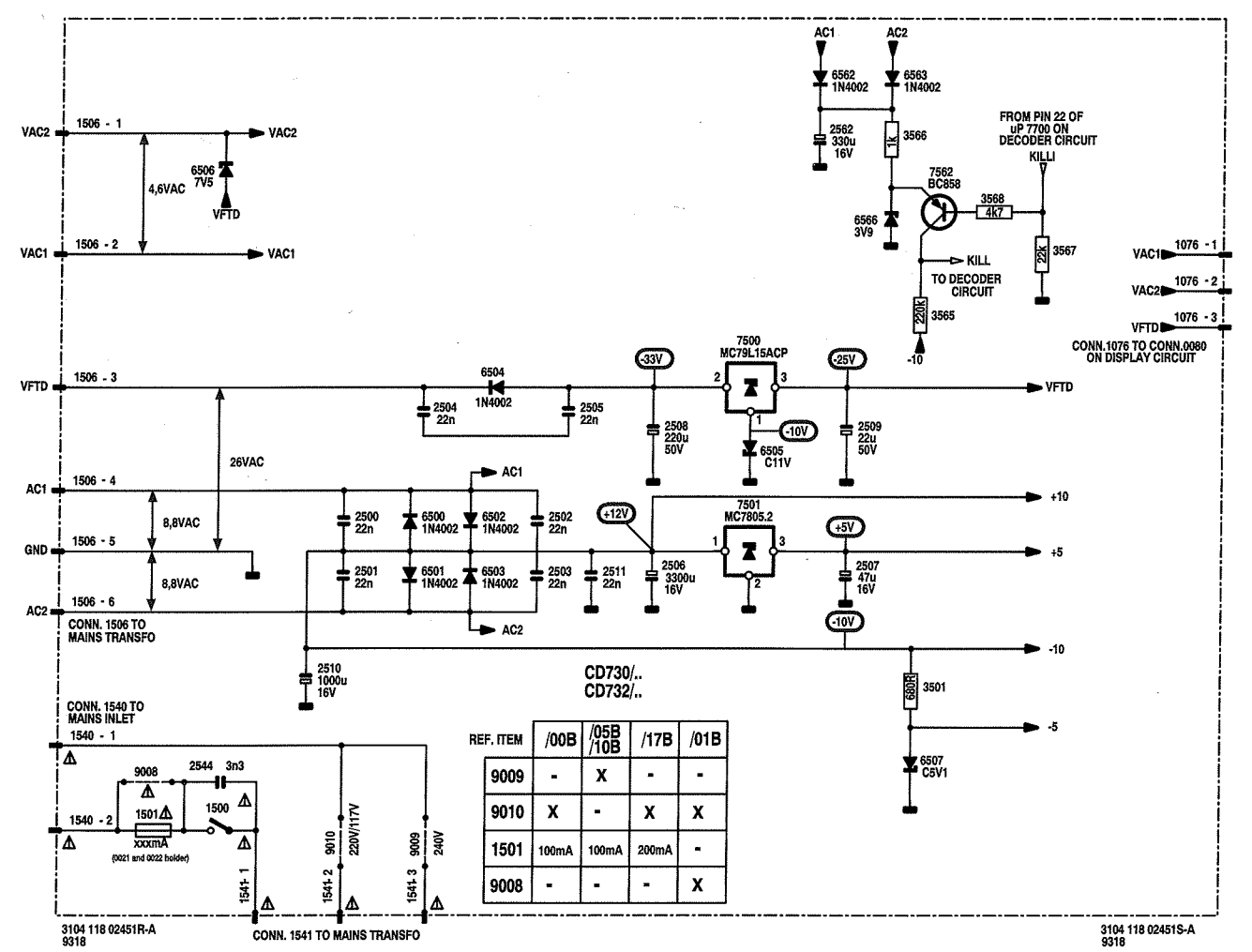
WIRING DIAGRAM

17



POWER SUPPLY DIAGRAM

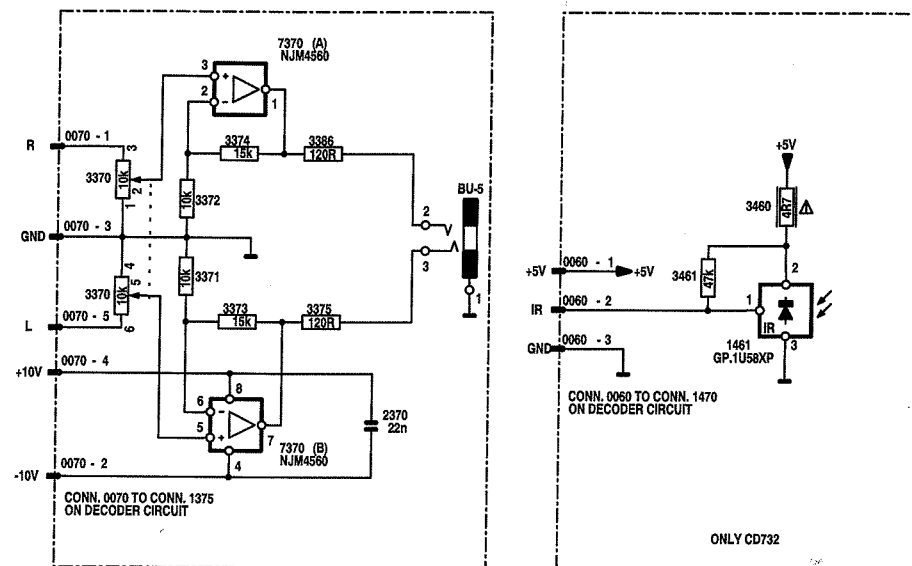
18



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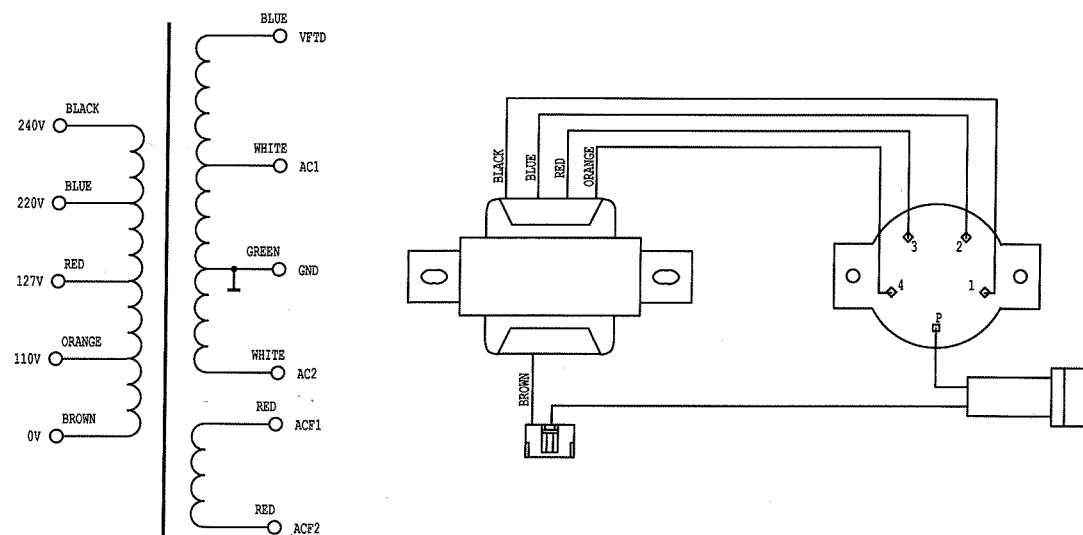
HAS1113
9321

HEADPHONE & IR CIRCUIT DIAGRAM



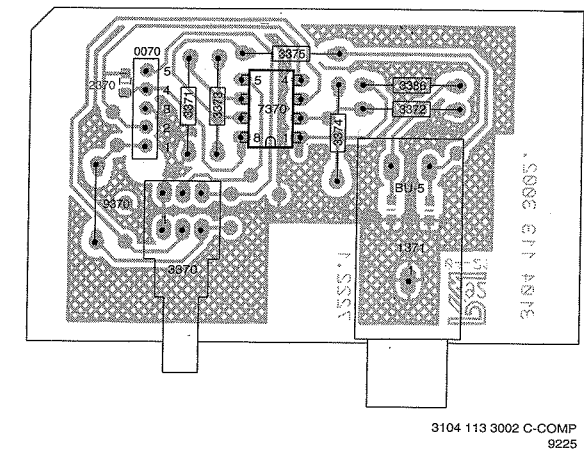
3104 118 02451S-E
9318

VOLTAGE SELECTOR

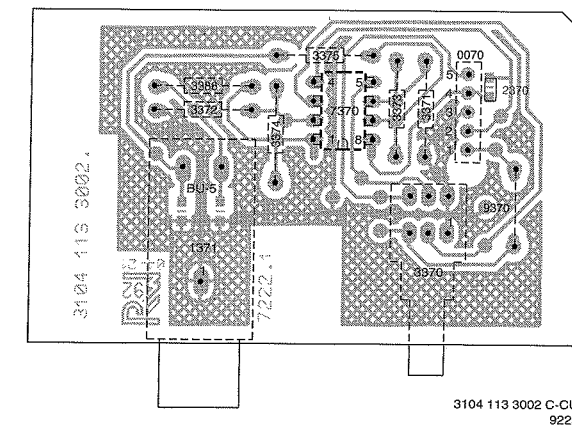


HAS1055
9213

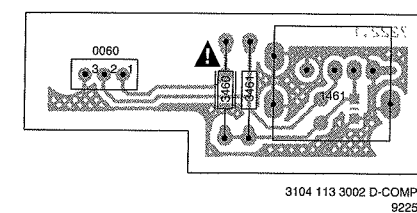
HEADPHONE PANEL COMPONENT SIDE



SOLDER SIDE.



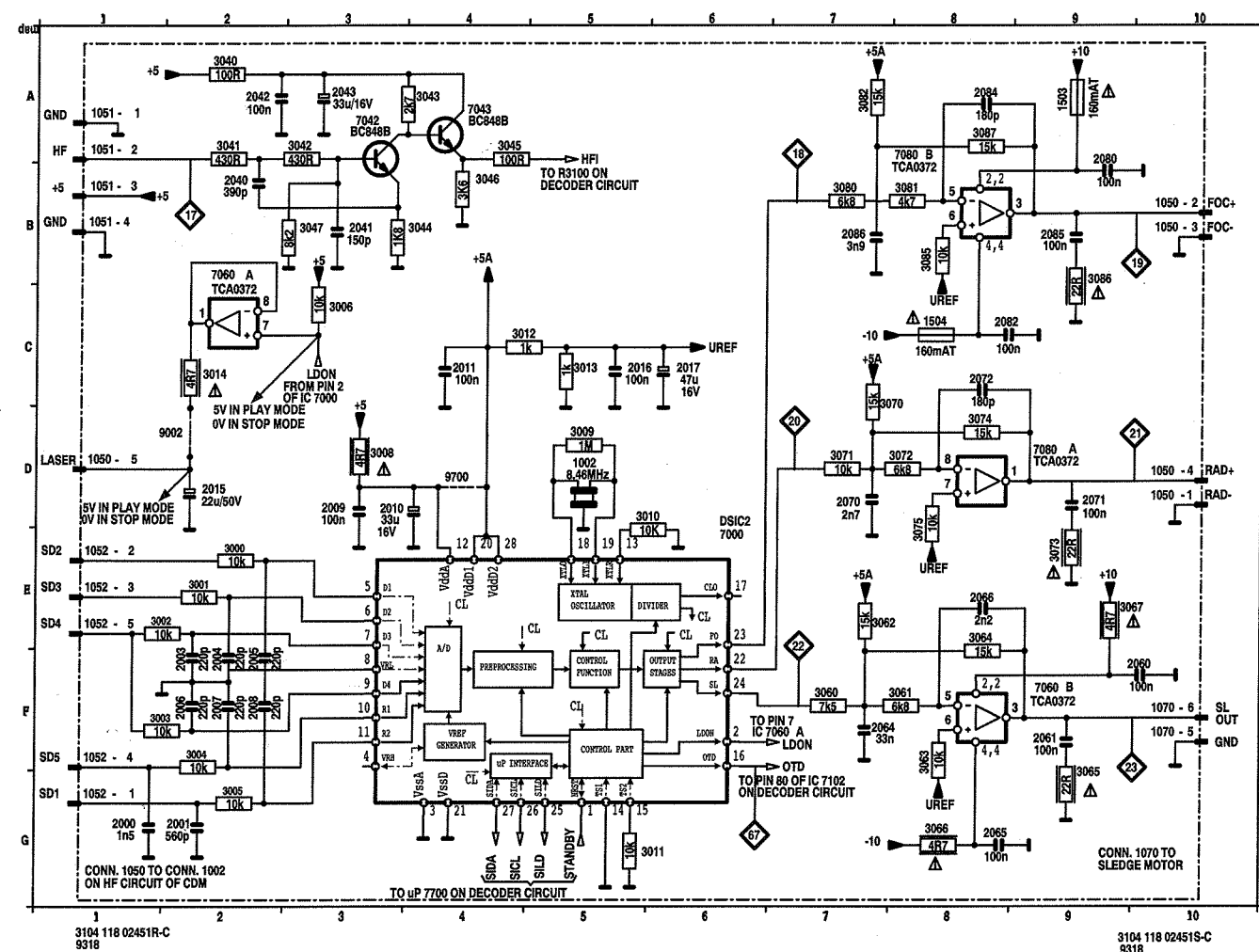
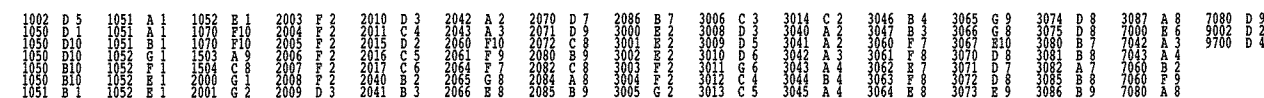
IR PANEL



21

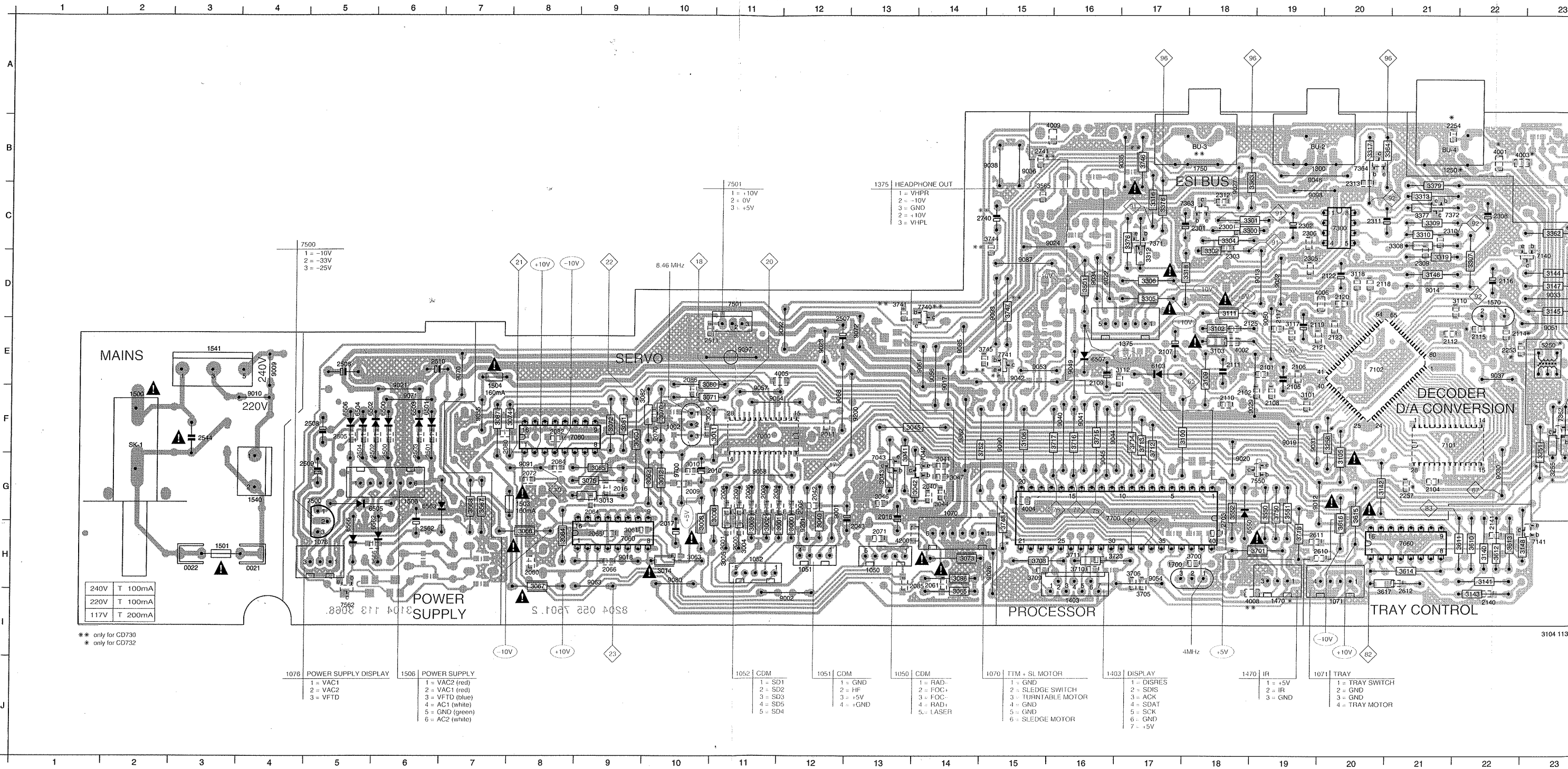


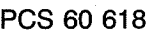
22



SERVO & DECODER PANEL SOLDER SIDE

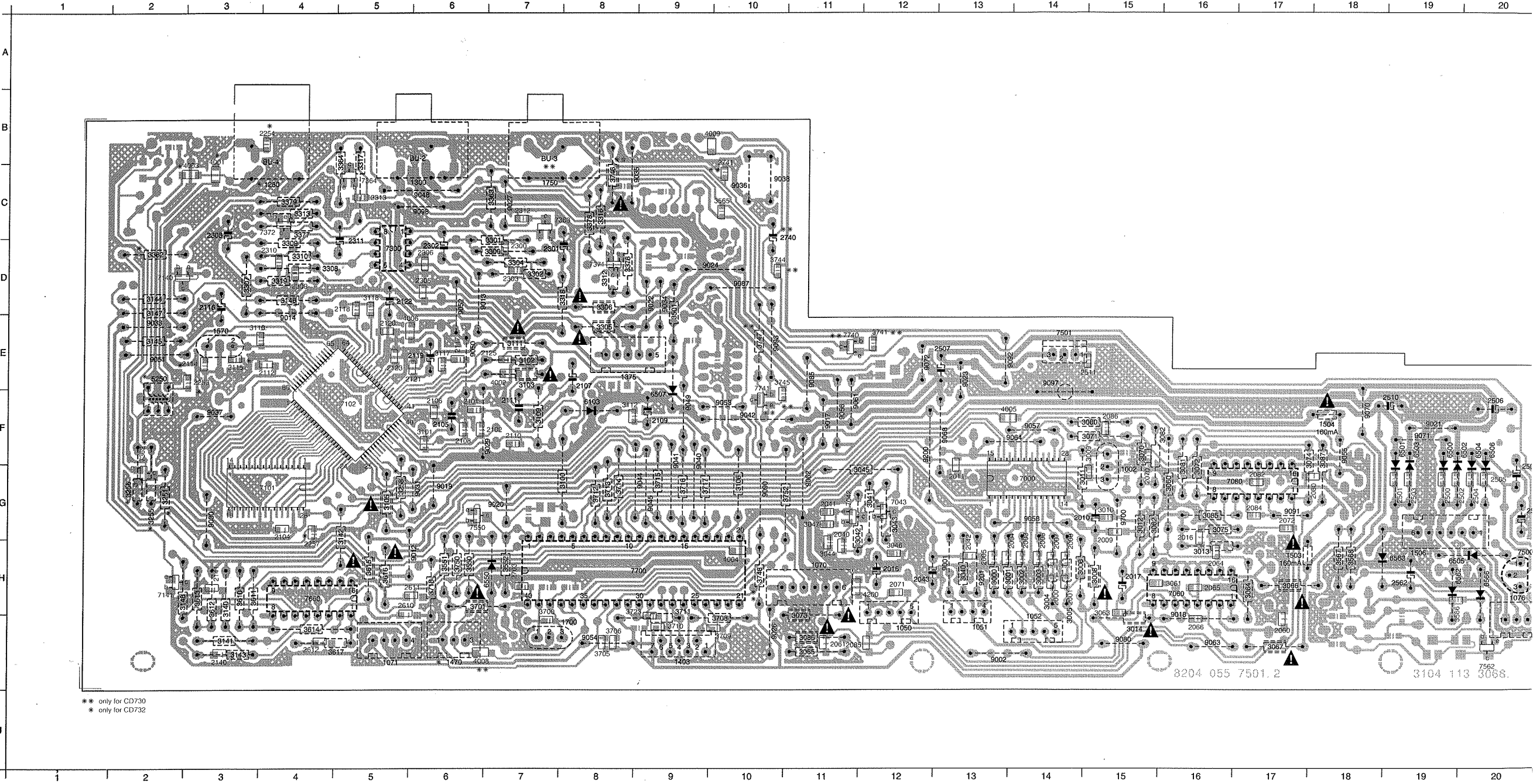
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1070	G14	1504	F7	2005	G12	2041	G14	2080	F7	2108	F19	2120	D20	2301	C18	2500	G6	2511	E10	3002	H11	3014	H10	3062	G10	3075	G9	3105	G20	3143	I22	3301	C18	3316	C17	3501	D16	3613	H22	3710	H16	3744	C14	4005	E11	6504	F5	7060	H9	7372	C21	9009	E4	9023	E12	9037	E22	9052	D19	9068	F12	9097	E11
1071	I20	1506	G6	2006	G11	2042	G12	2082	F8	2109	E16	2121	E19	2302	C18	2501	G6	2544	F3	3003	H11	3040	H12	3063	H10	3080	F10	3106	F15	3144	D23	3302	D18	3317	B20	3550	G19	3614	H21	3711	H16	3745	E14	4006	D19	6505	G5	7080	F8	7500	G5	9010	F4	9024	C15	9038	B14	9053	E15	9070	E7	9098	C19
1076	H5	1540	G4	2007	G11	2043	H13	2084	G8	2110	F18	2122	D20	2303	D18	2502	G5	2562	H6	3004	H11	3041	G13	3064	H8	3081	F9	3109	E18	3145	D23	3304	C18	3318	D18	3551	G19	3615	H20	3712	G17	3746	B17	4008	I18	6506	F5	7101	F21	7501	D11	9012	G19	9026	H15	9040	F16	9054	H17	9071	F6	9200	F13
1250	B21	1541	E3	2008	G11	2060	H8	2085	H13	2111	E18	2123	E20	2305	D19	2503	G6	2610	H19	3005	H11	3042	G14	3065	I14	3082	F10	3110	D21	3146	D21	3305	D17	3319	D21	3552	G18	3616	H20	3713	F17	3747	D15	4009	B15	6507	E16	7102	E20	7550	G18	9013	D19	9027	C18	9041	F16	9055	F7	9072	E13	9201	H12
1300	B19	1570	D22	2009	G10	2061	H14	2086	E10	2112	E21	2125	E20	2306	C19	2504	G5	2611	H19	3006	H11	3043	G13	3066	H8	3085	G9	3111	D18	3147	D23	3306	D17	3362	C23	3565	C15	3617	I20	3714	F17	3748	H15	4200	H13	6550	H19	7140	D23	7562	I5	9014	D21	9029	F19	9042	E15	9056	E14	9080	H10	9700	G10





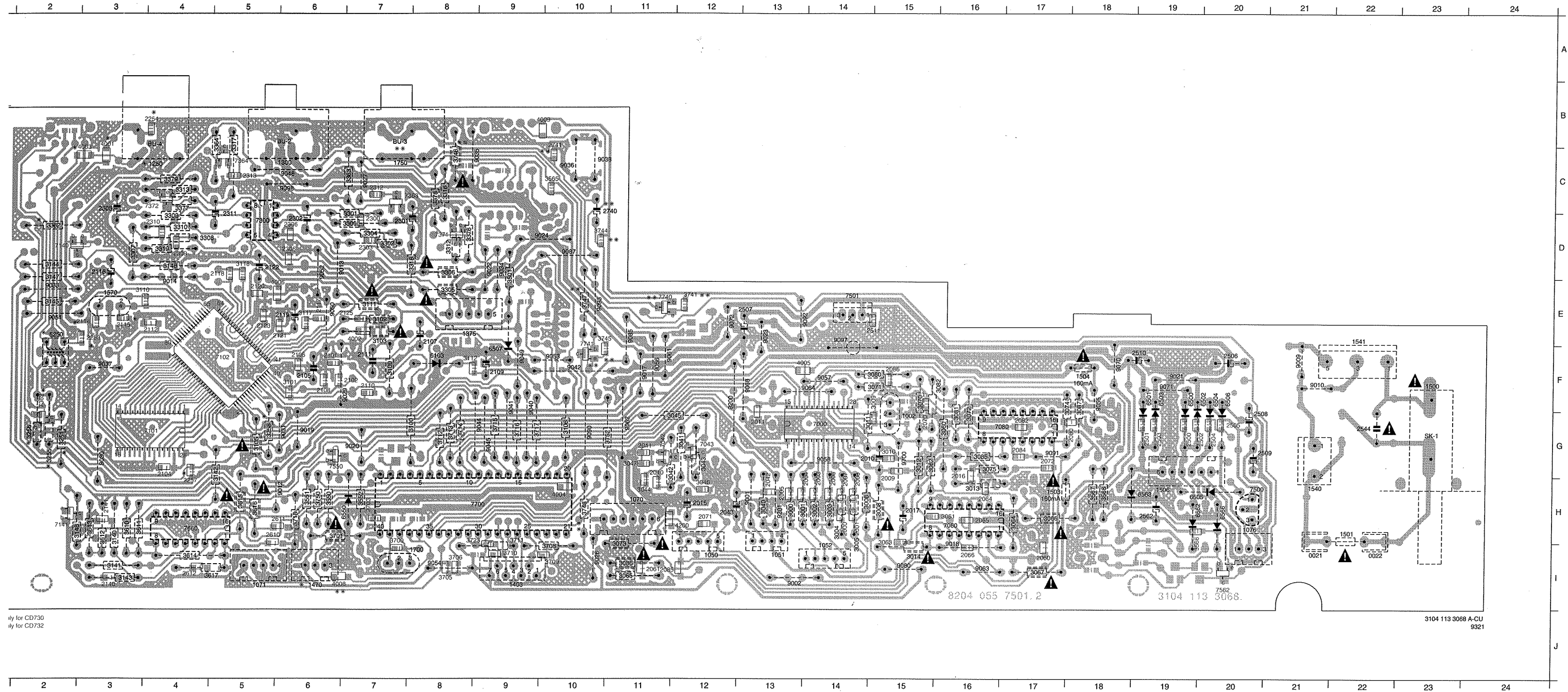
SERVO & DECODER PANEL COMPONENT SIDE

0021	I21	1375	E8	1700	I8	2010	G14	2084	H16	2101	F6	2114	E2	2140	I3	2308	C3	2505	G20	2612	I4	3008	H15	3044	H11	3067	I17	3086	I11	3112	F8	3148	H3	3307	D3	3363	C7	3566	I20	3700	I7	3715	G9	3750	H6	5250	E2	6562	H20	7141	H2	7660	H4	9017	F11	9030	G3		
0022	I22	1403	I9	1750	C7	2011	G13	2085	H16	2102	F7	2115	E3	2141	H3	2309	D4	2506	F20	2703	H7	3009	F15	3045	G11	3070	F15	3087	G18	3117	E6	3251	G2	3308	D4	3364	C5	3567	H18	3701	H6	3716	G9	3752	G11	6103	F8	6563	H19	7300	D5	7700	H8	9018	I16	9031	G6		
1002	G15	1470	I6	2000	H14	2015	H12	2066	I16	2104	H4	2116	D3	2253	E3	2310	D4	2507	E12	2740	D10	3010	G15	3046	H12	3071	F14	3100	G8	3118	D5	3255	G2	3309	D4	3376	D8	3568	H18	3705	I8	3717	G9	4001	C3	6500	F19	6566	H20	7362	F2	7740	F10	9019	G6	9033	E2		
1050	I12	1500	F23	2001	H14	2016	H16	2070	G15	2105	F8	2117	E8	2254	B3	2311	D5	2508	G20	2741	C10	3011	G15	3047	G11	3072	G16	3101	F6	3140	I3	3256	G2	3310	D4	3377	C4	3610	H3	3706	I8	3718	H6	4002	E7	6501	F19	7000	G14	7363	C7	7741	F10	9020	G7	9034	D9		
1051	I13	1501	H22	2003	H14	2017	H15	2071	H12	2106	F8	2118	D5	2257	H4	2312	C7	2509	G20	2742	C11	3012	G15	3060	G16	3072	I11	3102	E7	3141	I3	3258	G5	3312	D8	3378	C8	3611	H3	3708	I10	3723	I8	4003	C2	6502	F20	7042	G11	7364	C5	9001	H13	9021	F19	9035	C9		
1052	I14	1503	H17	2004	H14	2040	G11	2072	G17	2107	E8	2119	E5	2300	D7	2313	C5	2510	F18	2743	C12	3013	H16	3061	H16	3074	G18	3103	E7	3142	H5	3260	D6	3313	C4	3379	C4	3612	I3	3709	I10	3741	E12	4004	H10	6503	F19	7043	G12	7371	D8	9002	I13	9022	D9	9036	C1		
1070	H11	1504	F18	2005	H13	2041	G11	2080	G18	2108	F8	2120	E5	2301	D7	2500	G19	2511	E14	2744	C13	3014	I15	3062	G15	3075	G16	3105	G5	3143	I3	3261	D6	3316	C8	3501	E9	3613	H3	3710	I9	3744	D10	4005	F13	6504	F20	7080	H16	7372	C4	9009	F21	9023	E13	9037	F3		
1071	I5	1506	H19	2006	H14	2042	H13	2082	G17	2109	F9	2121	E5	2302	D8	2501	G19	2544	G22	2745	C14	3015	H13	3063	I15	3080	F14	3106	G10	3144	D2	3302	D7	3317	C5	3550	H6	3614	I4	3711	I9	3745	E10	4006	E5	6505	H19	7080	G16	7500	H20	9010	F21	9024	D9	9038	C1		
1076	H20	1540	H21	2007	H14	2043	H12	2084	G17	2110	F7	2122	D5	2303	D7	2502	G20	2562	H19	2746	C15	3016	H14	3041	G12	3064	H17	3081	G16	3109	F7	3145	E2	3304	D7	3318	D8	3551	H6	3615	H5	3712	G8	3746	C8	4008	I6	6506	F20	7101	G4	7501	E14	9012	H6	9026	I10	9040	G9
1250	C4	1541	E22	2008	H14	2080	I17	2085	F15	2111	F7	2123	E5	2305	D8	2503	G19	2610	H5	2747	C16	3017	H14	3042	G12	3065	H17	3082	F16	3110	E3	3146	D4	3305	E8	3319	D4	3552	H7	3616	H5	3713	G8	3747	E10	4009	B9	6507	F9	7102	F5	7500	G6	9013	D6	9027	C7	9041	G9
1300	C5	1570	E3	2009	H15	2081	I17	2086	F15	2112	E4	2125	E5	2306	D8	2504	G20	2611	H5	2748	C17	3018	H14	3043	G12	3066	H17	3085	G16	3111	E7	3147	E2	3306	D8	3362	D2	3565	C10	3617	I4	3714	G8	3748	H10	4200	H12	6550	H7	7140	D2	7562	I20	9014	E4	9029	F7	9042	F1

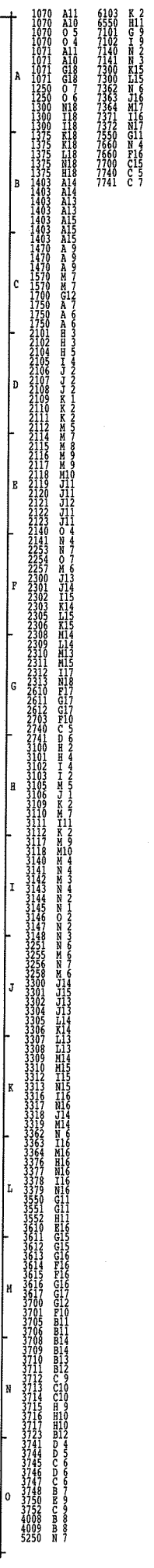


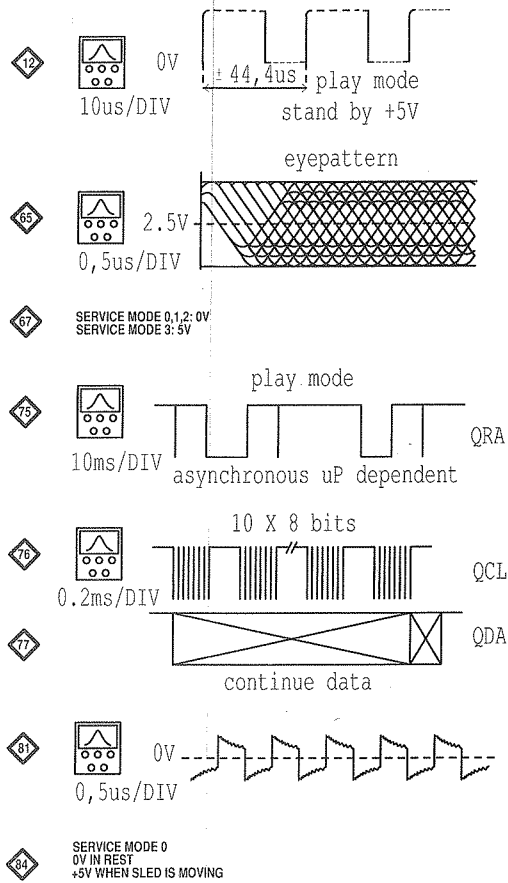
MPONENT SIDE

1700	I8	2010	G14	2084	H16	2101	F6	2114	E2	2140	I3	2308	C3	2505	G20	2612	I4	3008	H15	3044	H11	3067	I17	3086	I11	3112	F8	3148	H3	3307	D3	3363	C7	3566	I20	3700	I7	3715	G9	3750	H6	5250	E2	5562	H20	7141	H2	7660	H4	9017	F11	9030	G3	9044	G9	9057	F14	9085	E11
1750	C7	2011	G13	2085	H16	2102	F7	2115	E3	2141	H3	2309	D4	2506	F20	2703	H7	3009	F15	3045	G11	3070	F15	3087	G18	3117	E6	3251	G2	3308	D4	3364	C5	3567	H18	3701	H6	3716	G9	3752	G11	5103	F8	5563	H19	7300	D5	7700	H8	9018	H16	9031	G6	9045	G9	9058	G14	9087	D10
2000	H14	2015	H12	2086	I16	2104	H4	2116	D3	2253	E3	2310	D4	2507	E12	2740	D10	3010	G15	3046	H12	3071	F14	3100	G8	3118	D5	3255	G2	3309	D4	3376	D8	3568	H18	3705	I8	3717	G9	4001	C3	6500	F19	6566	H20	7362	F2	7740	E11	9019	G6	9033	E2	9048	C6	9061	F11	9080	G10
2001	H14	2016	H16	2070	G15	2105	F6	2117	E9	2254	E3	2311	D5	2508	G20	2741	C10	3011	G15	3047	G11	3072	G16	3101	F6	3140	I3	3255	G2	3310	D4	3377	C4	3610	H3	3706	I8	3718	H6	4002	E7	6501	F19	7000	G14	7363	C7	7741	F10	9020	G7	9034	D9	9049	F9	9062	G11	9091	G17
2003	H14	2017	H15	2071	H12	2106	F6	2118	D5	2257	H4	2312	C7	2509	G20	3000	H13	3012	G15	3050	G16	3073	I11	3102	E7	3141	I3	3258	G5	3312	D8	3378	C8	3611	H3	3708	I10	3723	I8	4003	C2	6502	F20	7042	G11	7364	C5	9001	H13	9021	F19	9035	C9	9050	E6	9063	I16	9092	E14
2004	H14	2040	G11	2072	G17	2107	E8	2119	E5	2300	D7	2313	C5	2510	F18	3001	H14	3013	H16	3061	H16	3074	G18	3103	E7	3142	H5	3300	D6	3313	C4	3379	C4	3612	I3	3709	I10	3741	E12	4004	H10	6503	F19	7043	G12	7371	D8	9002	I13	9022	D9	9036	C10	9051	E2	9064	F13	9093	E10
2005	H13	2041	G11	2080	G18	2108	F6	2120	E5	2301	D7	2500	G19	2511	E14	3002	H14	3014	I15	3062	G15	3075	G16	3105	G5	3143	I3	3301	D6	3316	C8	3501	E9	3613	H3	3710	I9	3744	D10	4005	F13	6504	F20	7060	H16	7372	C4	9009	F21	9023	E13	9037	F3	9052	E6	9068	F13	9097	E14
2006	H14	2042	H13	2082	G17	2109	F9	2121	E5	2302	D6	2501	G19	2544	G22	3003	H14	3040	H13	3063	I15	3080	F14	3106	G10	3144	D2	3302	D7	3317	C5	3550	H6	3614	I4	3711	I9	3745	E10	4006	E5	6505	H19	7080	G16	7500	H20	9010	F21	9024	D9	9038	C10	9053	F10	9070	F18	9098	C6
2007	H14	2043	H12	2084	G17	2110	F7	2122	D5	2303	D7	2502	G20	2562	H19	3004	H14	3041	G12	3064	H17	3081	G16	3109	F7	3145	E2	3304	D7	3318	D8	3551	H6	3615	H5	3712	G8	3746	C8	4008	I6	6506	F20	7101	G4	7501	E14	9012	H6	9026	I10	9040	G9	9054	I8	9071	F19	9200	F12
2008	H14	2080	I17	2085	I11	2111	F7	2123	E5	2305	D8	2503	G19	2610	H5	3005	I14	3042	H12	3065	I11	3082	F16	3110	E3	3146	D4	3305	E8	3319	D4	3552	H7	3616	H5	3713	G8	3747	E10	4009	B9	6507	F9	7102	F5	7550	G6	9013	D6	9027	C7	9041	G9	9055	G18	9072	E12	9201	H13
2009	H15	2081	I11	2086	F15	2112	E4	2125	E6	2306	D6	2504	G20	2611	H5	3006	H14	3043	G12	3066	H17	3085	G16	3111	E7	3147	E2	3306	D8	3362	D2	3555	C10	3617	I4	3714	G8	3748	H10	4200	H12	6550	H7	7140	D2	7562	I20	9014	E4	9029	F7	9042	F10	9056	F11	9080	I15	9700	G15

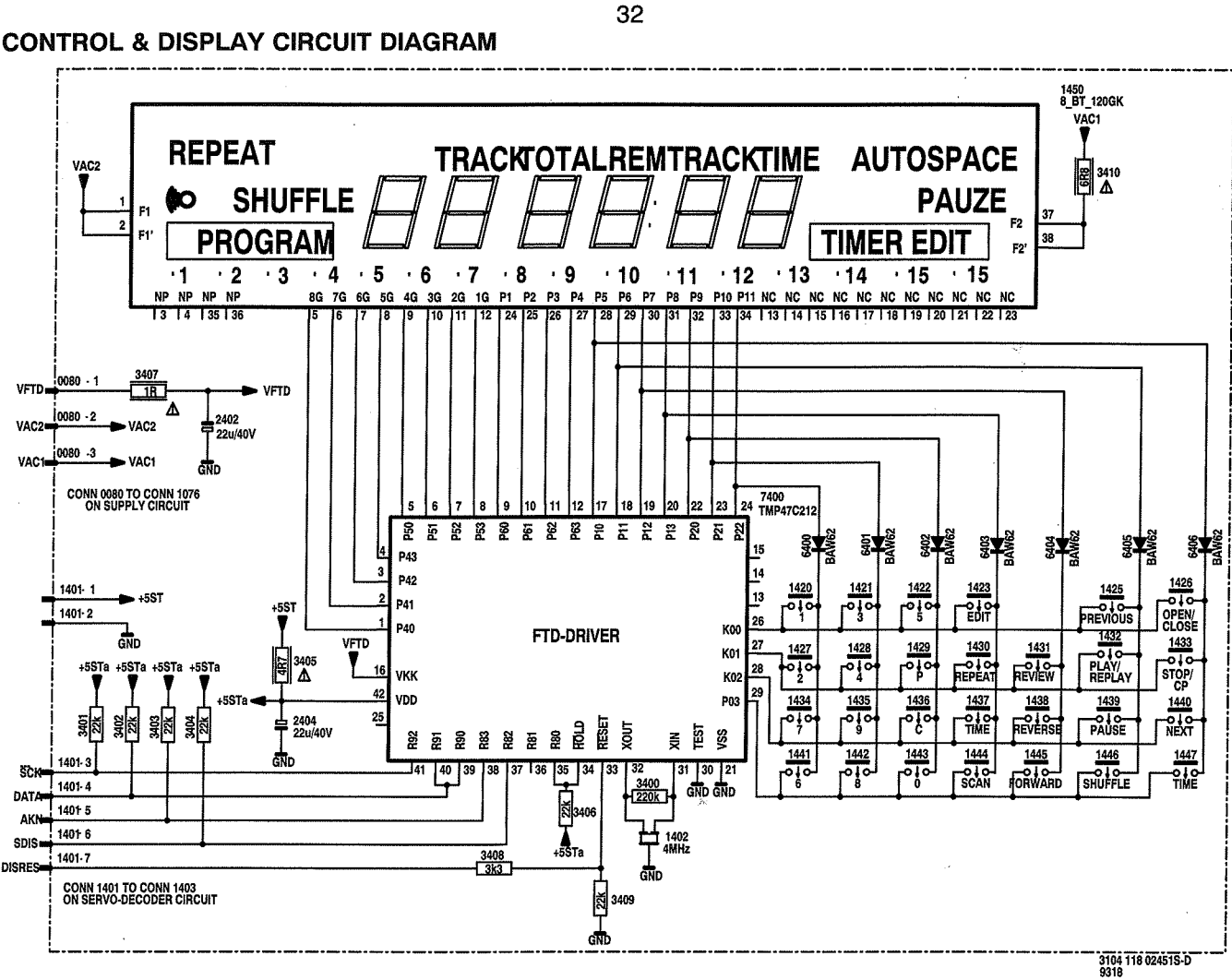


ily for CD730
ily for CD732

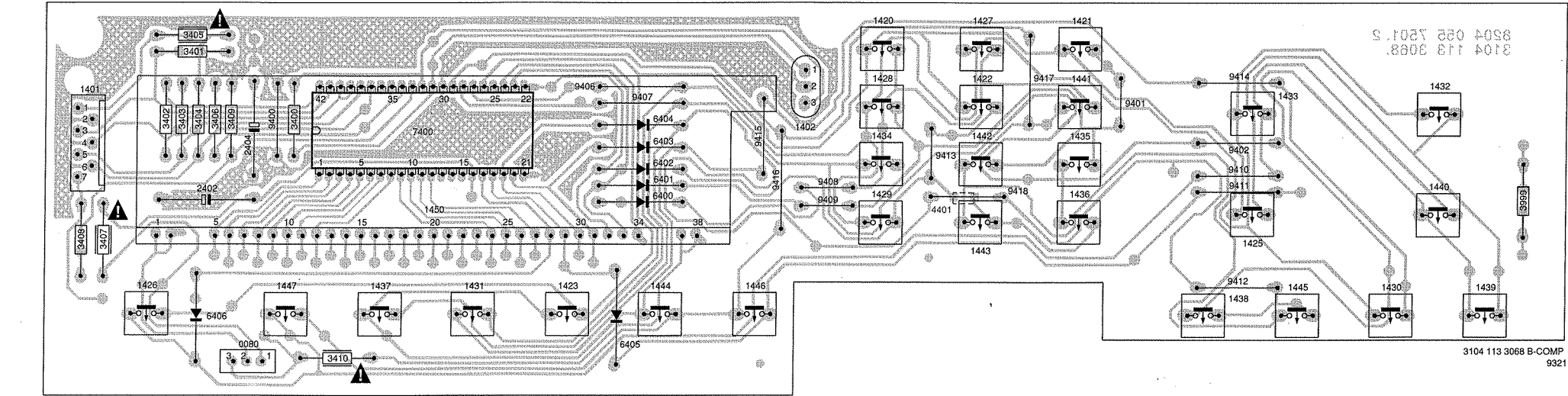




CONTROL & DISPLAY CIRCUIT DIAGRAM

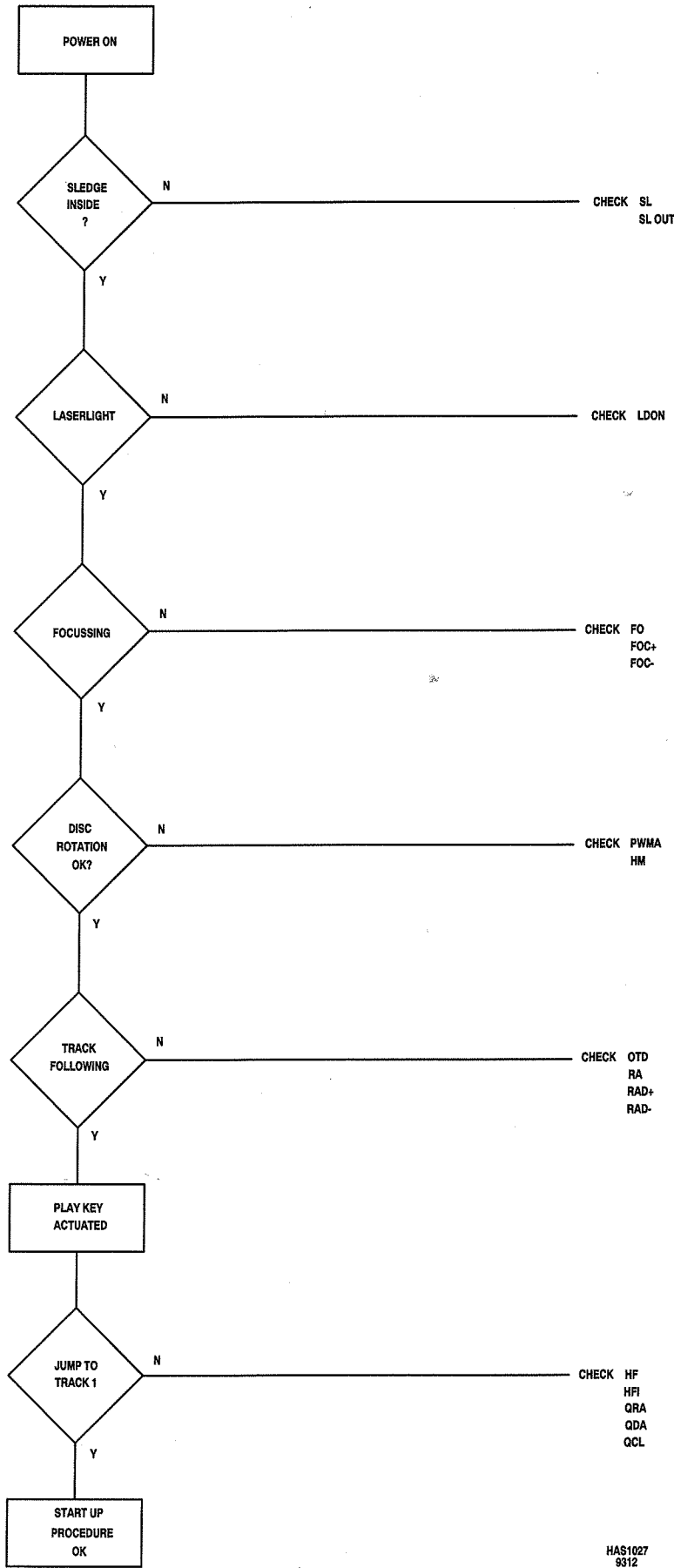


CONTROL & DISPLAY PANEL



START UP PROCEDURE

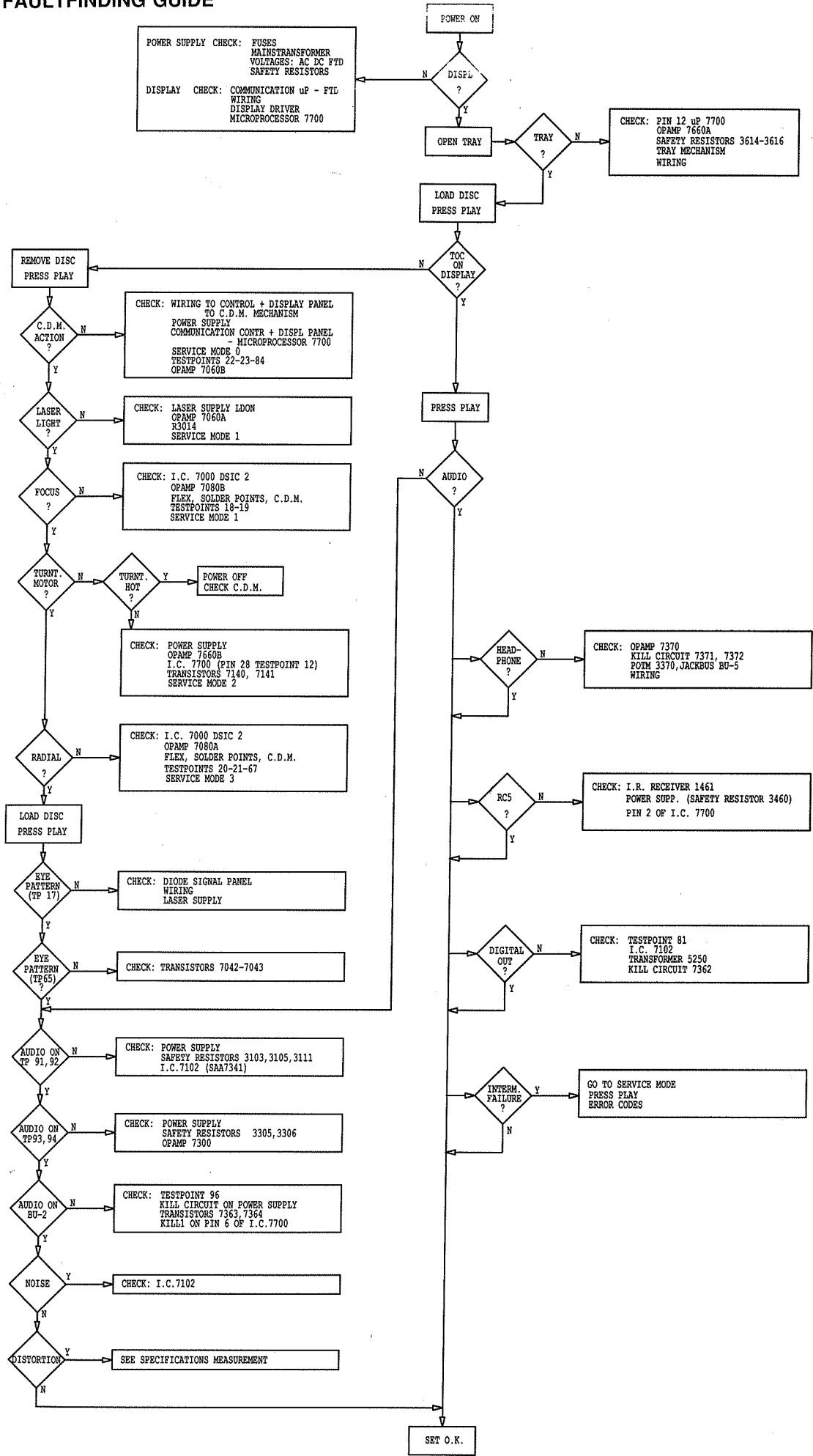
34



HAS1027
9312

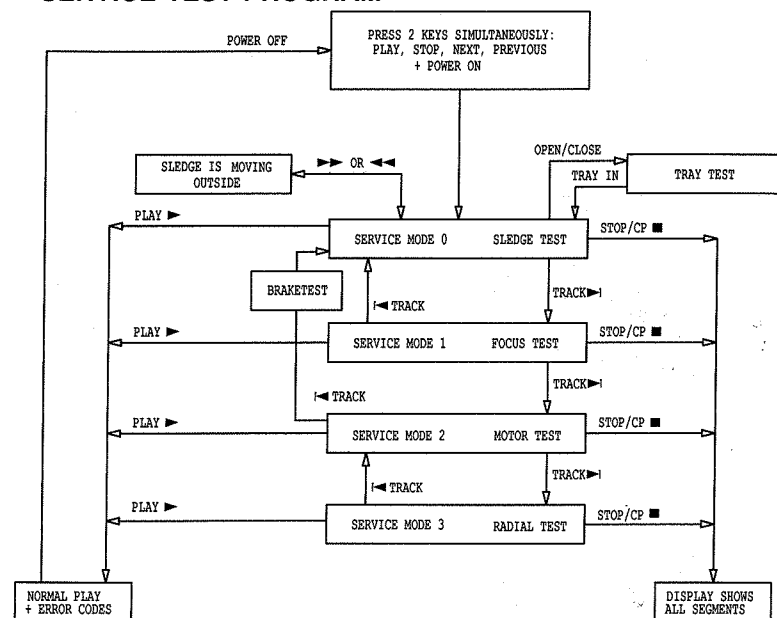
FAULTFINDING GUIDE

35



HAS1089
9226

SERVICE TEST PROGRAM

HAS1025
9202

ERROR CODE TABLE

SYSTEM ERRORS

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

OPERATING ERROR MESSAGES

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

CLASS 3B
LASER PRODUCTCAUTION
VARO!
VARNING
ADVERSEL
DANGER
VORSICHT

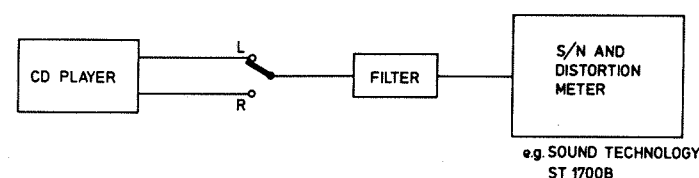
INVISIBLE LASER RADIATION WHEN OPEN AVOID EXPOSURE TO BEAM
AVATTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASER SÄTEILYLLE ÄLÄ KATSO SÄTEESEN
OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD BETRakta EJ STRÅLEN
USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UNSAETTELSE FOR STRÅLING
INVISIBLE LASER RADIATION WHEN OPEN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

SPECIFICATIONS MEASUREMENT

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

T-23366M

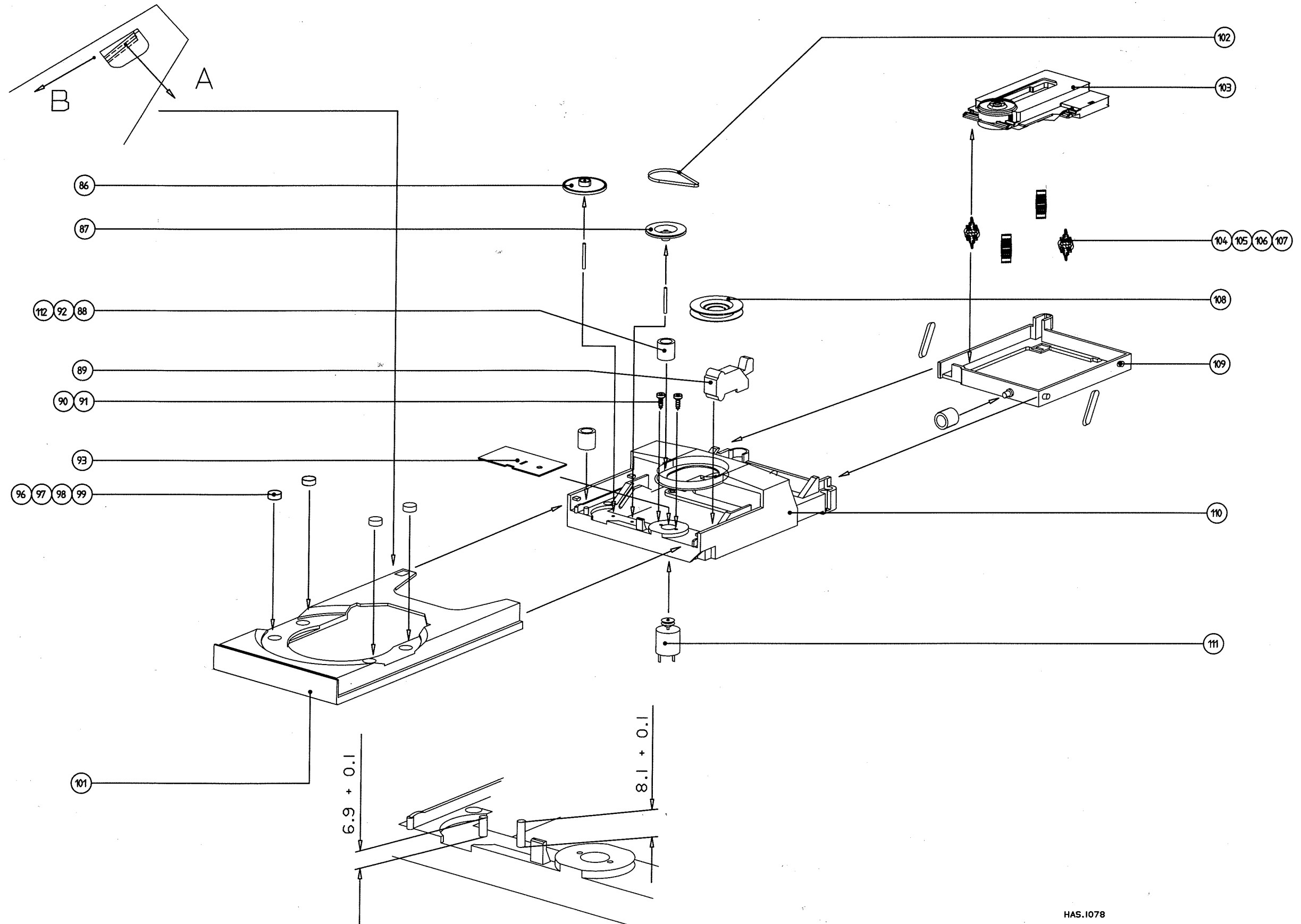
Filter = 13th order filter 4822 395 30204



30 459 A12

LOADER

DETAIL I



HAS.1078

MECHANICAL PARTSLIST**Partslist cabinet**

1	4822 444 40677	FRONT CD730
1	4822 444 40678	FRONT CD732
15	4822 410 61966	KNOBUNIT(NOSE)
16	4822 410 62736	KNOBUNIT(10-KEY)
17	4822 410 62737	KNOBUNIT
21	4822 459 10887	WORDMARK
22	4822 450 61895	WINDOW
23	4822 450 61894	IR WINDOW(only CD732)
51	4822 410 61965	KNOB
52	4822 535 93317	POWERROD
53	4822 413 41722	VOLUME KNOB
54	4822 462 71808	CAP
71	4822 444 40679	TRAY FRONT
151	4822 444 60843	COVER
251	4822 462 41715	FOOT
255	4822 462 41479	FELT
283	▲ 4822 532 60948	BUSHING
300	▲ 4822 321 10809	MAINS CORD /00B
301	▲ 4822 321 10811	MAINS CORD /05B
308	4822 321 22832	CINCH CABLE SBC1072
340	4822 736 21501	INSTRUCTION FOR USE
365	4822 218 10411	REM CONTR RD6830(only CD732)

Partslist loader

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 325 80511	ORNAMENTAL TULE
101	4822 444 50679	SLIDE
102	4822 358 31168	BELT
103	4822 691 30278	CDM12 MECHANISM
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

Not mentioned parts are only available during production period on special request.

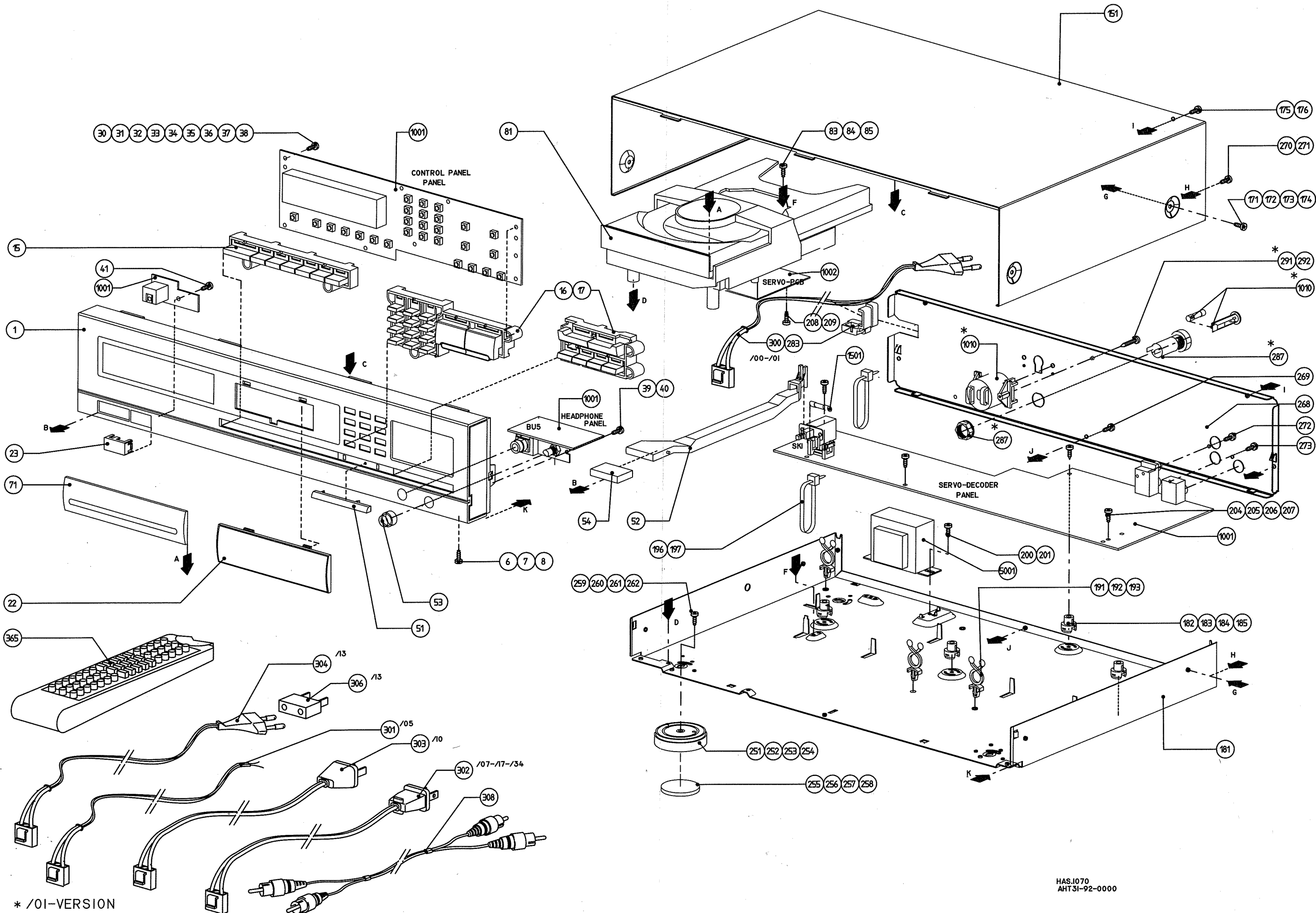
Screws

Taptite	M3x6:	6,7,8	Plastite	M3x10:	39,40
		83,84,85			41
		171,172,173,174			268
		175,176			273
		200,201			Plastite M3x12: 30,31,32,33,34,35,36,37,38
Taptite	M3x16:	269,270,271,272	Plastite	M3,5x8:	259,260,261,261
		204,205,206,207			

EXPLODED VIEW

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42



* /01-VERSION

HAS.1070
AHT31-92-0000

SERVO & DECODER PANEL			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	5322 122 32659	33pF 5% 50V
MISCELLANEOUS			2111	5322 121 42386	100nF 5% 63V
			2112	4822 122 33496	100nF 10% 63V
			2114	5322 122 32452	47pF 5% 63V
			2115	5322 122 32452	47pF 5% 63V
			2116	4822 124 40242	1µF 20% 63V
			2117	5322 126 10223	4,7nF 10% 63V
			2118	5322 126 10223	4,7nF 10% 63V
			2119	4822 124 40433	47µF 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
			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
			2257	5322 122 32661	56pF 5% 50V
			2300	5322 122 31863	330pF 5% 50V
			2301	4822 124 40272	33µF 20% 16V
			2302	4822 124 40246	4,7µF 20% 63V
			2303	4822 122 33216	270pF 5% 50V
			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 5% 50V
			2310	5322 122 31863	330pF 5% 50V
			2311	4822 124 40246	4,7µF 20% 63V
			2312	4822 122 33219	1,8nF 10% 50V
			2313	4822 122 33219	1,8nF 10% 50V
			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
			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
			2703	5322 122 32654	22nF 10% 63V
			2740	4822 124 40433	47µF 20% 25V
			2741	5322 122 32654	22nF 10% 63V
CAPACITORS			2000	5322 122 31865	1,5nF 10% 63V
			2001	5322 116 80853	560pF 5% 63V
			2003	4822 122 33575	220pF 10% 500V
			2004	4822 122 33575	220pF 10% 500V
			2005	4822 122 33575	220pF 10% 500V
			2006	4822 122 33575	220pF 10% 500V
			2007	4822 122 33575	220pF 10% 500V
			2008	4822 122 33575	220pF 10% 500V
			2009	4822 122 33496	100nF 10% 63V
			2010	4822 124 40272	33µF 20% 16V
			2011	4822 122 33496	100nF 10% 63V
			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
			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 32627	2,7nF 10% 50V
			2071	4822 122 33496	100nF 10% 63V
			2072	4822 126 10326	180pF 5% 63
			2080	4822 122 33496	100nF 10% 63V
			2082	4822 122 33496	100nF 10% 63V
			2084	4822 126 10326	180pF 5% 63V
			2085	4822 122 33496	100nF 10% 63V
			2086	5322 126 10465	3,9nF 10% 63V
			2101	5322 122 32452	47pF 5% 63V
			2102	4822 122 33175	2,2nF 20% 50V
			2104	4822 122 33496	100nF 10% 63V
			2105	5322 121 42661	330nF 5% 63V

RESISTORS					
3000	4822 116 52233	10k	5%	0,5W	
3001	4822 116 52233	10k	5%	0,5W	
3002	4822 116 52233	10k	5%	0,5W	
3003	4822 116 52233	10k	5%	0,5W	
3004	4822 116 52233	10k	5%	0,5W	
3005	4822 116 52233	10k	5%	0,5W	
3006	4822 116 52233	10k	5%	0,5W	
3008 ▲	4822 052 10478	4Ω7	5%	0,33W	
3009	4822 051 20105	1M	5%	0,1W	
3010	4822 051 20103	10k	5%	0,1W	
3011	4822 116 52233	10k	5%	0,5W	
3012	4822 050 11002	1k	1%	0,4W	
3013	4822 050 11002	1k	1%	0,4W	
3014 ▲	4822 052 10478	4Ω7	5%	0,33W	
3040	4822 116 52175	100Ω	5%	0,5W	
3041	4822 116 52223	430Ω	5%	0,5W	
3042	4822 116 52223	430Ω	5%	0,5W	
3043	4822 116 52263	2k7	5%	0,5W	
3044	4822 051 20182	1k8	5%	0,1W	
3045	4822 116 52175	100Ω	5%	0,5W	
3046	4822 051 20362	3k6	5%	0,1W	
3047	4822 051 20822	8k2	5%	0,1W	
3060	4822 050 27502	7k5	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 050 21503	15k	1%	0,6W	
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 116 52233	10k	5%	0,5W	
3072	4822 116 52296	6k8	5%	0,5W	
3073 ▲	4822 052 10229	22Ω	5%	0,33W	
3074	4822 116 52244	15k	5%	0,5W	
3075	4822 116 52233	10k	5%	0,5W	
3080	4822 116 52296	6k8	5%	0,5W	
3081	4822 116 52283	4k7	5%	0,5W	
3082	4822 116 52244	15k	5%	0,5W	
3085	4822 116 52233	10k	5%	0,5W	
3086 ▲	4822 052 10229	22Ω	5%	0,33W	
3087	4822 116 52244	15k	5%	0,5W	
3100	4822 116 52256	2k2	5%	0,5W	
3101	4822 051 20223	22k	5%	0,1W	
3102	4822 116 52257	22k	5%	0,5W	
3103 ▲	4822 052 10478	4Ω7	5%	0,33W	
3105 ▲	4822 052 10688	6Ω8	5%	0,33W	
3106	4822 050 11002	1k	1%	0,4W	
3109	4822 116 52256	2k2	5%	0,5W	
3110	4822 051 20105	1M	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 116 52284	47k	5%	0,5W	
3143 ▲	4822 052 10229	22Ω	5%	0,33W	
3144	4822 116 52257	22k	5%	0,5W	
3145	4822 116 52269	3k3	5%	0,5W	
3146	4822 116 52233	10k	5%	0,5W	
3147	4822 116 52276	3k9	5%	0,5W	
3148	4822 116 52284	47k	5%	0,5W	
3251	4822 116 52284	47k	5%	0,5W	
3255	4822 116 52226	560Ω	5%	0,5W	
3256	4822 116 52288	510Ω	5%	0,5W	
3258	4822 116 52175	100Ω	5%	0,5W	
3300	4822 116 52257	22k	5%	0,5W	
3301	4822 116 52244	15k	5%	0,5W	
3302	4822 116 52251	18k	5%	0,5W	
3304	4822 116 52238	12k	5%	0,5W	
3305 ▲	4822 052 10478	4Ω7	5%	0,33W	
3306 ▲	4822 052 10478	4Ω7	5%	0,33W	
3307	4822 116 52251	18k	5%	0,5W	
3308	4822 116 52238	12k	5%	0,5W	
3309	4822 116 52257	22k	5%	0,5W	
3310	4822 116 52244	15k	5%	0,5W	
3312	4822 116 52257	22k	5%	0,5W	
3313	4822 116 52257	22k	5%	0,5W	
3316	4822 050 11002	1k	1%	0,4W	
3317	4822 050 11002	1k	1%	0,4W	
3318	4822 116 52269	3k3	5%	0,5W	
3319	4822 116 52269	3k3	5%	0,5W	
3362	4822 116 52283	4k7	5%	0,5W	
3363	4822 116 52256	2k2	5%	0,5W	
3364	4822 116 52256	2k2	5%	0,5W	
3376	4822 116 52224	470Ω	5%	0,5W	
3377	4822 116 52224	470Ω	5%	0,5W	
3378	4822 116 52256	2k2	5%	0,5W	
3379	4822 116 52256	2k2	5%	0,5W	
3501	4822 116 52228	680Ω	5%	0,5W	
3550	4822 116 52226	560Ω	5%	0,5W	
3551	4822 050 11002	1k	1%	0,4W	
3552	4822 116 52257	22k	5%	0,5W	
3565	4822 051 20224	220k	5%	0,1W	
3566	4822 051 10102	1k	2%	0,25W	
3567	4822 116 52257	22k	5%	0,5W	
3568	4822 116 52283	4k7	5%	0,5W	
3610	4822 116 52238	12k	5%	0,5W	
3611	4822 116 52303	8k2	5%	0,5W	
3612	4822 116 52238	12k	5%	0,5W	
3613	4822 116 52238	12k	5%	0,5W	
3614	4822 116 52238	12k	5%	0,5W	
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 116 52233 10k 5% 0,5W 3709 4822 051 20103 10k 5% 0,1W 3710 4822 051 20103 10k 5% 0,1W 3711 4822 116 52233 10k 5% 0,5W 3712 4822 116 52233 10k 5% 0,5W 3713 4822 116 52233 10k 5% 0,5W 3714 4822 116 52233 10k 5% 0,5W 3715 4822 116 52233 10k 5% 0,5W 3716 4822 116 52233 10k 5% 0,5W 3717 4822 116 52233 10k 5% 0,5W 3723 4822 051 20223 22k 5% 0,1W 3741 4822 051 20473 47k 5% 0,1W 3742 4822 116 52284 47k 5% 0,5W 3743 4822 116 52284 47k 5% 0,5W 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 116 52284 47k 5% 0,5W 3748 4822 116 52283 4k7 5% 0,5W 3750 4822 050 11002 1k 1% 0,4W 3752 4822 116 52257 22k 5% 0,5W 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 4008 4822 051 10008 0Ω 5% 0,25W 4009 4822 051 10008 0Ω 5% 0,25W 4200 4822 051 10008 0Ω 5% 0,25W				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 30861 BZX79-C7V5 6507 4822 130 34233 BZX79-C5V1 6550 4822 130 31981 BZX79-C3V9 6562 5322 130 30684 1N4002 6563 5322 130 30684 1N4002 6566 4822 130 31981 BZX79-C3V9		
COILS 5250 4822 148 80281 DIG.OUT TRANSF.				TRANSISTORS & IC's 7000 4822 209 31064 TDA1301T/N1 7042 ▲ 5322 130 41982 BC848B 7043 ▲ 5322 130 41982 BC848B 7060 4822 209 72587 TCA0372 7080 4822 209 72587 TCA0372 7101 4822 209 32036 UM6264BM-10L 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 62115 MC79L15AC 7501 ▲ 4822 209 71579 MC 7805.2 7550 5322 130 42012 BC858 7562 5322 130 42012 BC858 7660 4822 209 72587 TCA0372 7700 4822 900 10353 MC 68HC05D9/P146 7740 5322 130 42012 BC858 7741 4822 130 61207 BC848		

CONTROL & DISPLAY PANEL**MISCELLANEOUS**

	4822 256 91876	FTD HOLDER
1402	4822 242 72527	RESONATOR 4 MHz
1420	4822 276 13114	TACT SWITCH
1421	4822 276 13114	TACT SWITCH
1422	4822 276 13114	TACT SWITCH
1423	4822 276 13114	TACT SWITCH
1425	4822 276 13114	TACT SWITCH
1426	4822 276 13114	TACT SWITCH
1427	4822 276 13114	TACT SWITCH
1428	4822 276 13114	TACT SWITCH
1429	4822 276 13114	TACT SWITCH
1430	4822 276 13114	TACT SWITCH
1431	4822 276 13114	TACT SWITCH
1432	4822 276 13114	TACT SWITCH
1433	4822 276 13114	TACT SWITCH
1434	4822 276 13114	TACT SWITCH
1435	4822 276 13114	TACT SWITCH
1436	4822 276 13114	TACT SWITCH
1437	4822 276 13114	TACT SWITCH
1438	4822 276 13114	TACT SWITCH
1439	4822 276 13114	TACT SWITCH
1440	4822 276 13114	TACT SWITCH
1441	4822 276 13114	TACT SWITCH
1442	4822 276 13114	TACT SWITCH
1443	4822 276 13114	TACT SWITCH
1444	4822 276 13114	TACT SWITCH
1445	4822 276 13114	TACT SWITCH
1446	4822 276 13114	TACT SWITCH
1447	4822 276 13114	TACT SWITCH
1450	4822 130 91085	DISPLAY 8-BT-120GK

CAPACITORS

2402	5322 124 21643	22 μ F 20% 40V
2404	5322 124 21643	22 μ F 20% 40V

RESISTORS

3400	4822 116 52258	220k 5% 0,5W
3401	4822 116 52257	22k 5% 0,5W
3402	4822 116 52257	22k 5% 0,5W
3403	4822 116 52257	22k 5% 0,5W
3404	4822 116 52257	22k 5% 0,5W
3405 ▲	4822 052 10478	4 Ω 5% 0,33W
3406	4822 116 52257	22k 5% 0,5W
3407 ▲	4822 052 10108	1 Ω 5% 0,33W
3408	4822 116 52269	3k3 5% 0,5W

3409	4822 116 52257	22k 5% 0,5W
3410 ▲	4822 052 10688	6 Ω 5% 0,33W
4401	4822 051 10008	0 Ω 5% 0,25W

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
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HEADPHONE PANEL

BU-5	4822 267 31453	HEADPHONE SOCKET
2370	5322 122 32654	22nF 10% 63V
3370	4822 101 21199	10kX2 20% 0,025W
3371	4822 116 52233	10k 5% 0,5W
3372	4822 116 52233	10k 5% 0,5W
3373	4822 116 52244	15k 5% 0,5W
3374	4822 116 52244	15k 5% 0,5W
3375	4822 116 52206	120 Ω 5% 0,5W
3386	4822 116 52206	120 Ω 5% 0,5W
7370	4822 209 82274	NJM4560D

IR PANEL

1461	4822 214 51772	IR RECEIVER
3460 ▲	4822 052 10478	4 Ω 5% 0,33W
3461	4822 116 52284	47k 5% 0,5W

MISCELLANEOUS

1501 ▲	4822 070 31001	FUSE 100MA
5500 ▲	4822 146 31045	MAINS TRAFO