A93-252

Service
Service
Service

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.

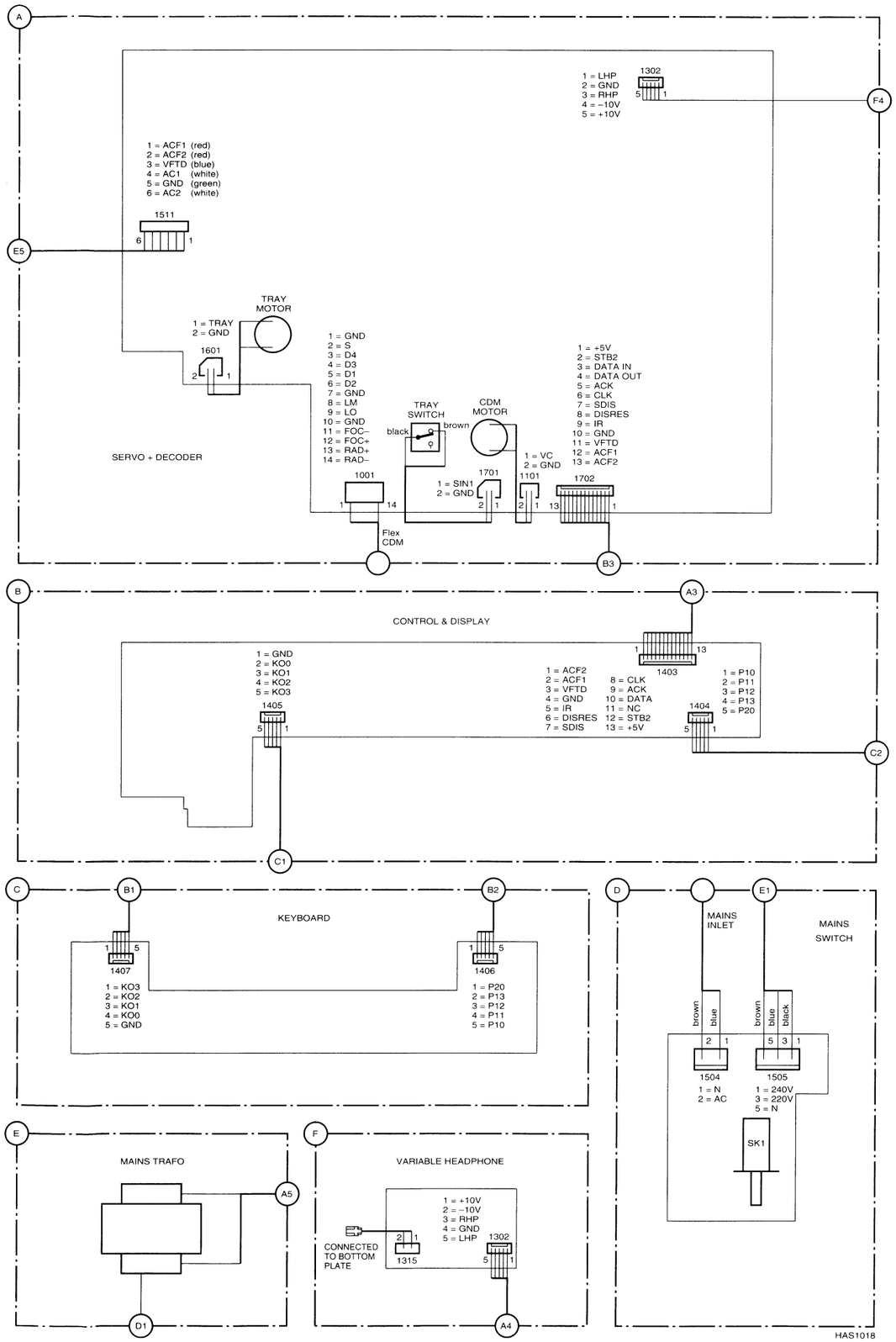
15-1, 16-1
17-1, 18-1
21-1, 22-1, 23-1
24-1, 25-1, 26-1
27-2, 28-2, 29-2
30-2, 31-2, 32-2
51b, 52b, 53b, 54a, 55a
56a

1993-06-02

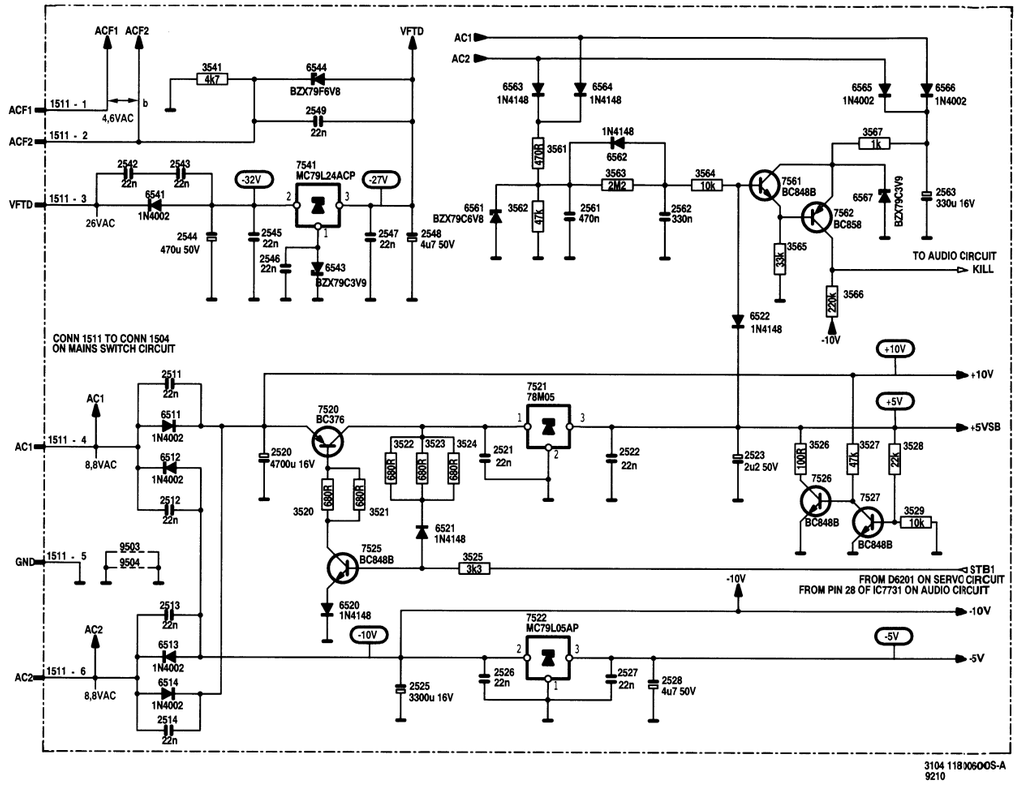
4822 725 24036

MC-Service

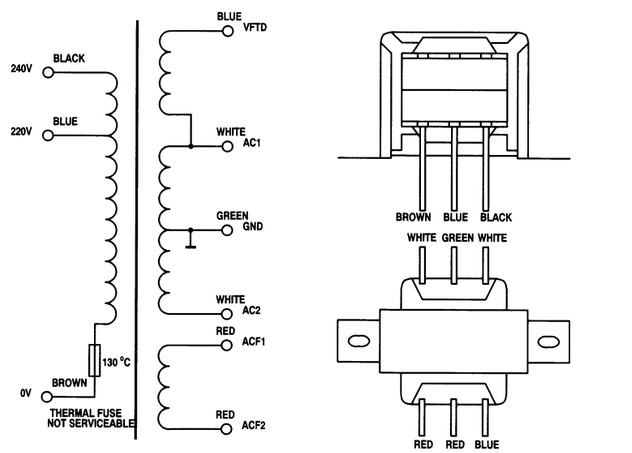
WIRING DIAGRAM II



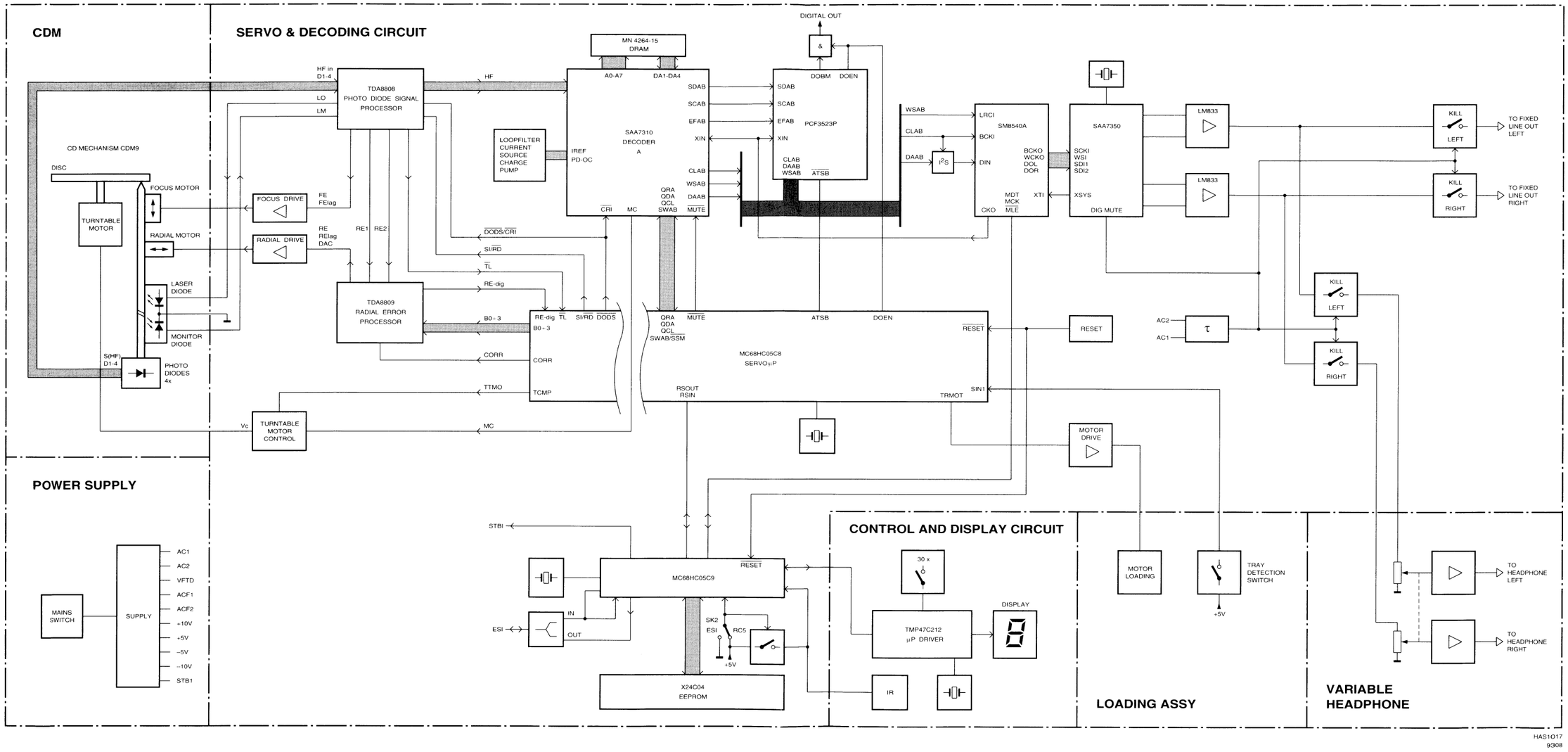
POWER SUPPLY



TRANSFORMER CONNECTIONS



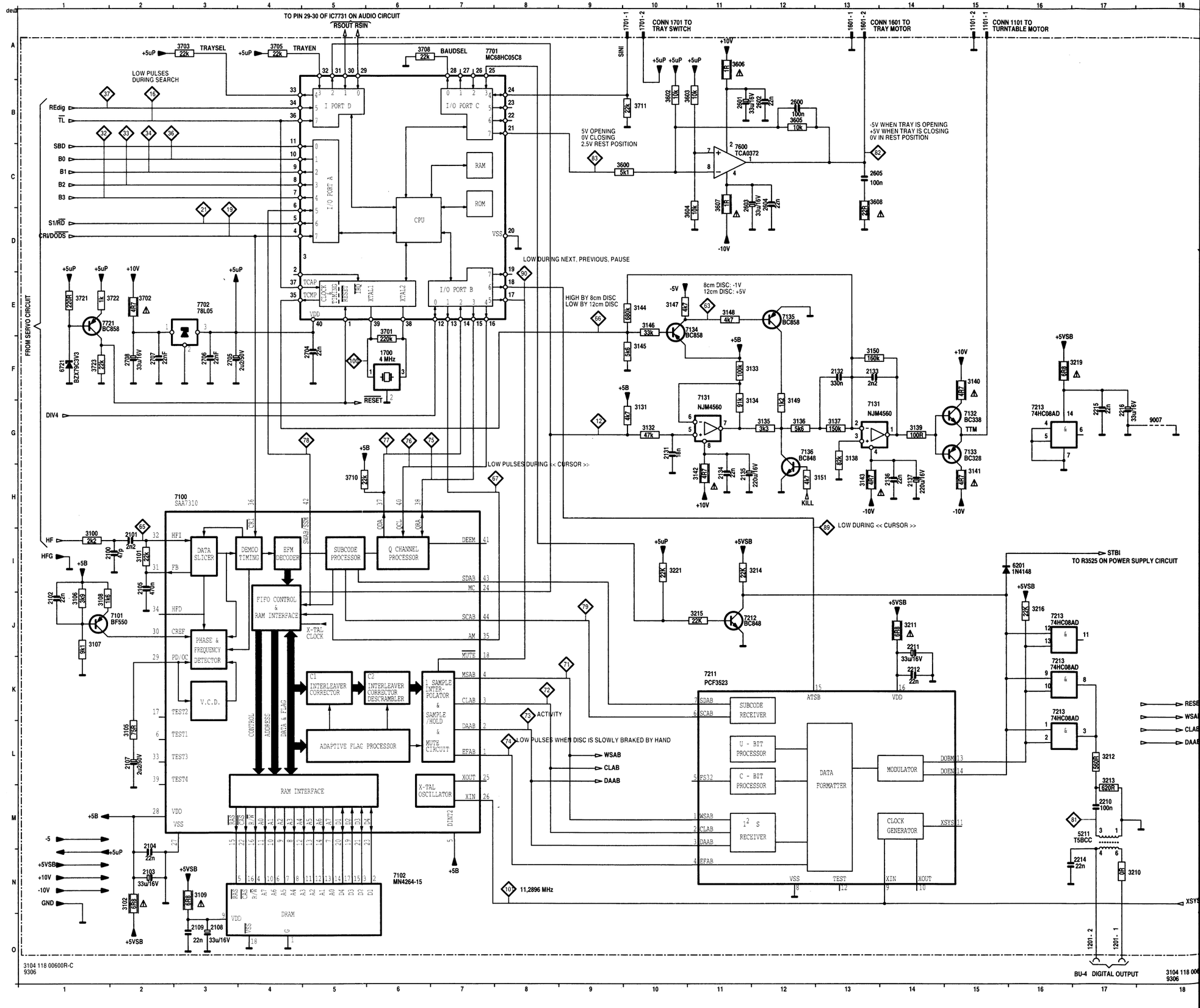
BLOCK DIAGRAM II



HAS1017
9308

DECODER CIRCUIT DIAGRAM II

MC-Service

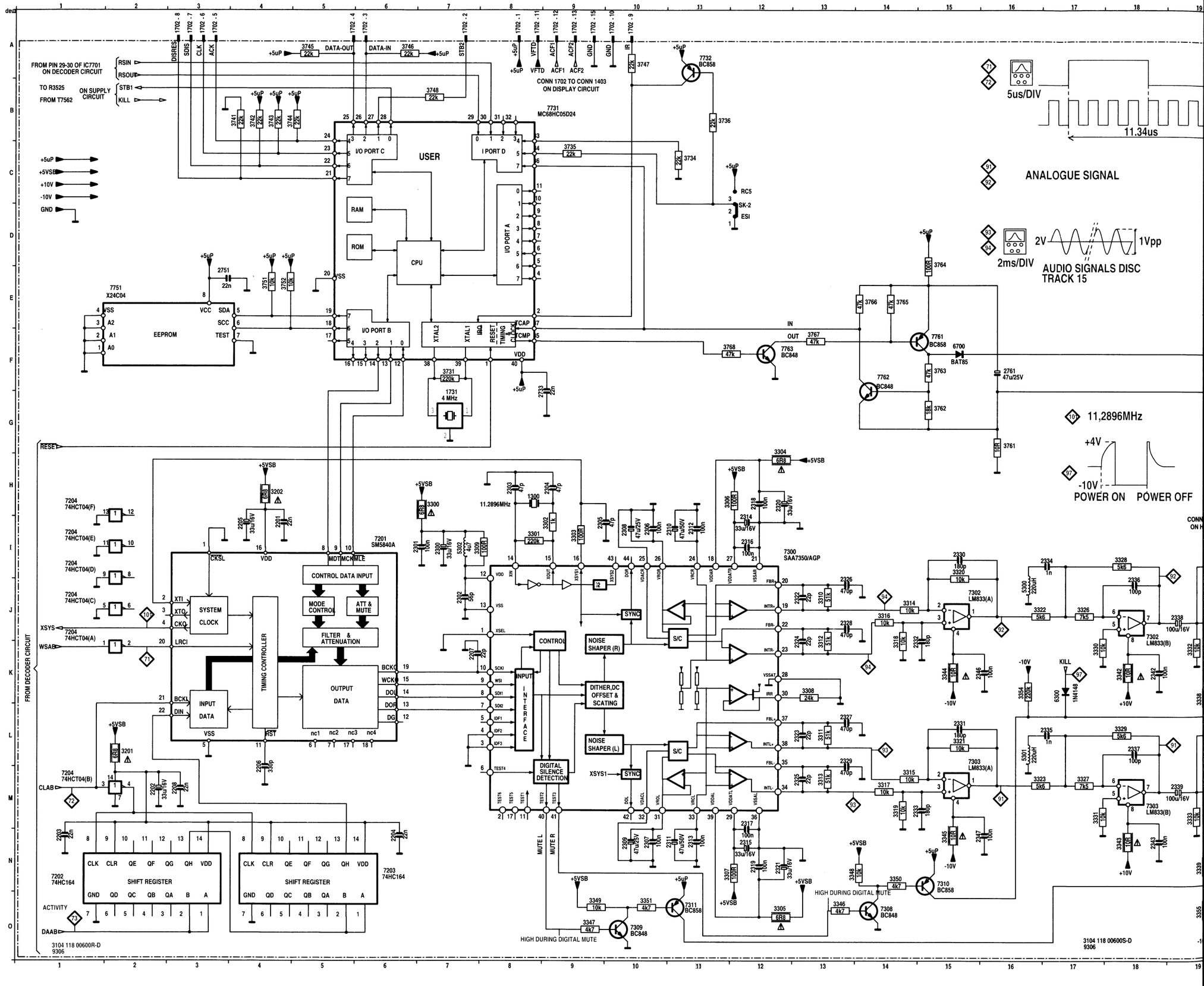


TO PIN 29-30 OF IC7731 ON AUDIO CIRCUIT
RSOUT RSIN
CONN 1701 TO TRAY SWITCH
CONN 1601 TO TRAY MOTOR
CONN 1101 TO TURNTABLE MOTOR
TRAYEN
BAUDSEL
7701 MC68HC05C8
I PORT D
I/O PORT C
I/O PORT A
I/O PORT B
CPU
RAM
ROM
VSS
VDD
TCAP
TCMP
CLOCK TIMING
RESET
XTAL1
XTAL2
1700 4 MHz
5V OPENING
0V CLOSING
2.5V REST POSITION
-5V WHEN TRAY IS OPENING
+5V WHEN TRAY IS CLOSING
0V IN REST POSITION
7600 TCA0372
LOW DURING NEXT, PREVIOUS, PAUSE
HIGH BY 8cm DISC
LOW BY 12cm DISC
8cm DISC: -1V
12cm DISC: +5V
7134 BC858
7135 BC858
7131 NJM4560
7132 BC338
7133 BC328
7136 BC848
7212 BC848
LOW PULSES DURING << CURSOR >>
LOW DURING << CURSOR >>
DEMOD TIMING
EFM DECODER
SUBCODE PROCESSOR
Q CHANNEL PROCESSOR
FIFO CONTROL & RAM INTERFACE
X-TAL CLOCK
C1 INTERLEAVER CORRECTOR
C2 INTERLEAVER CORRECTOR DESCRAMBLER
1 SAMPLE INTER-POLATOR & SAMPLE /HOLD & MUTE CIRCUIT
ADAPTIVE FLAC PROCESSOR
RAM INTERFACE
X-TAL OSCILLATOR
7102 MN4264-15
DRAM
11,2896 MHz
7211 PCF3523
SUBCODE RECEIVER
U - BIT PROCESSOR
C - BIT PROCESSOR
I2S RECEIVER
DATA FORMATTER
MODULATOR
CLOCK GENERATOR
ACTIVITY
LOW PULSES WHEN DISC IS SLOWLY BRAKED BY HAND
WSAB
CLAB
DAAB
XSYS
RESET
STBI
TO R3525 ON POWER SUPPLY CIRCUIT
TO AUDIO CIRCUIT
7213 74HC08AD
5211 T5BCC
BU-4 DIGITAL OUTPUT
3104 118 00600S-C
9306

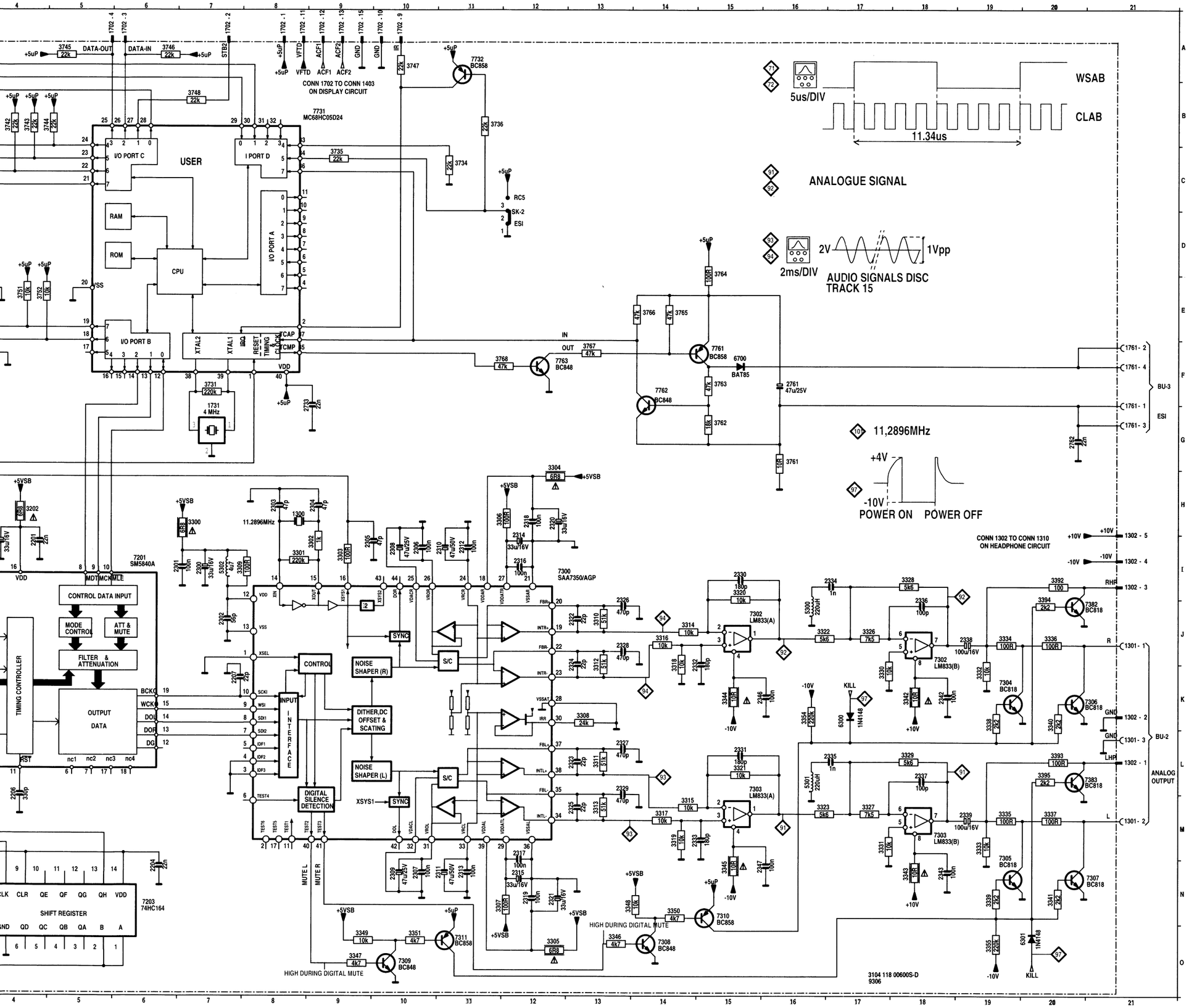
MC SIGNAL
bus/DIV
stand by
start up
play mode
1ms/DIV
number depends on search speed
STARTING up
start
1ms 10ms
eyepattern
0,5us/DIV
5us/DIV
11.34us
10ms/DIV
asynchronous uP dependent
14 X 8 bits
0.2ms/DIV
continue data
50us/DIV 136us
50us/DIV 136uS
5us/DIV

MC-Service

AUDIO CIRCUIT DIAGRAM II

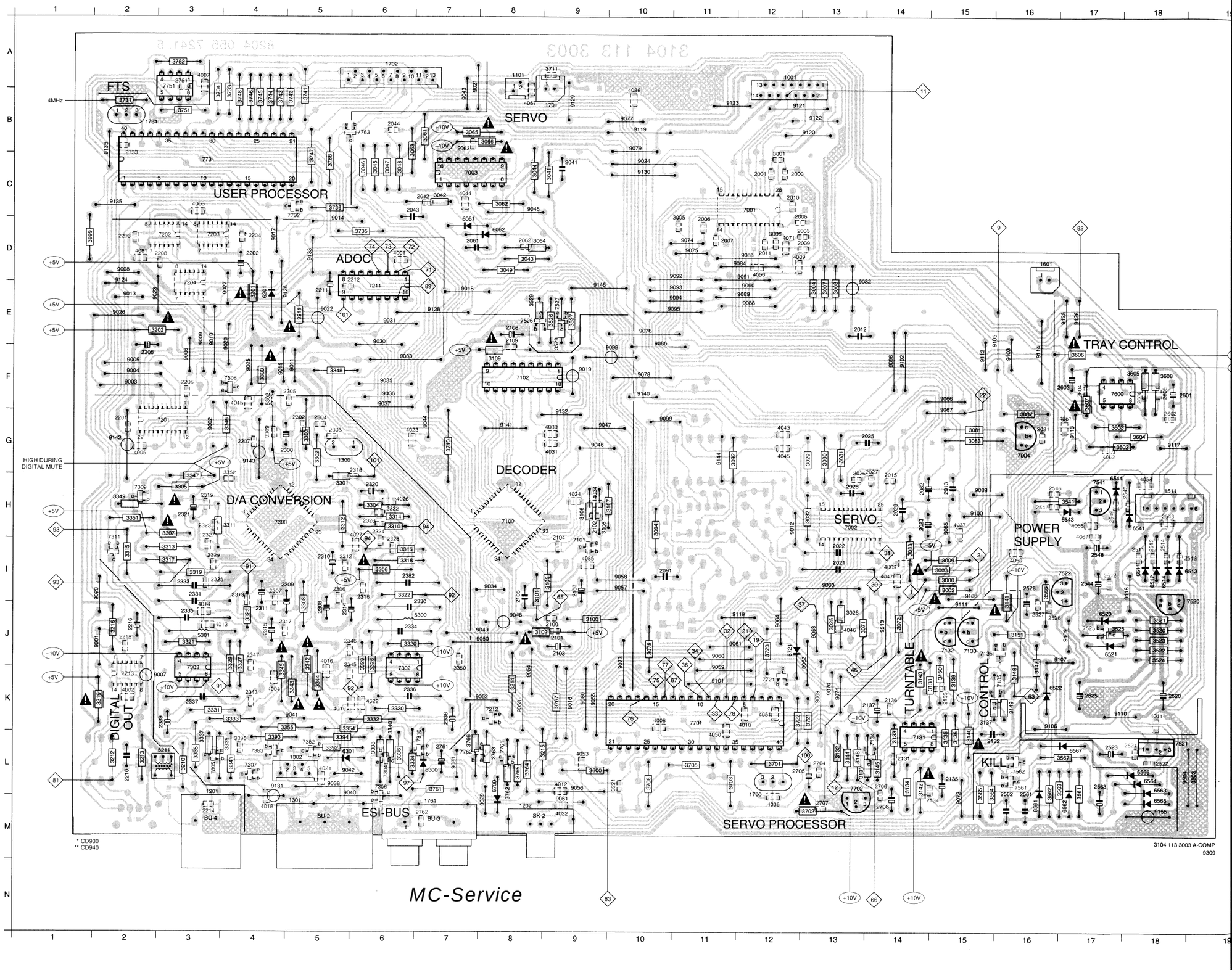


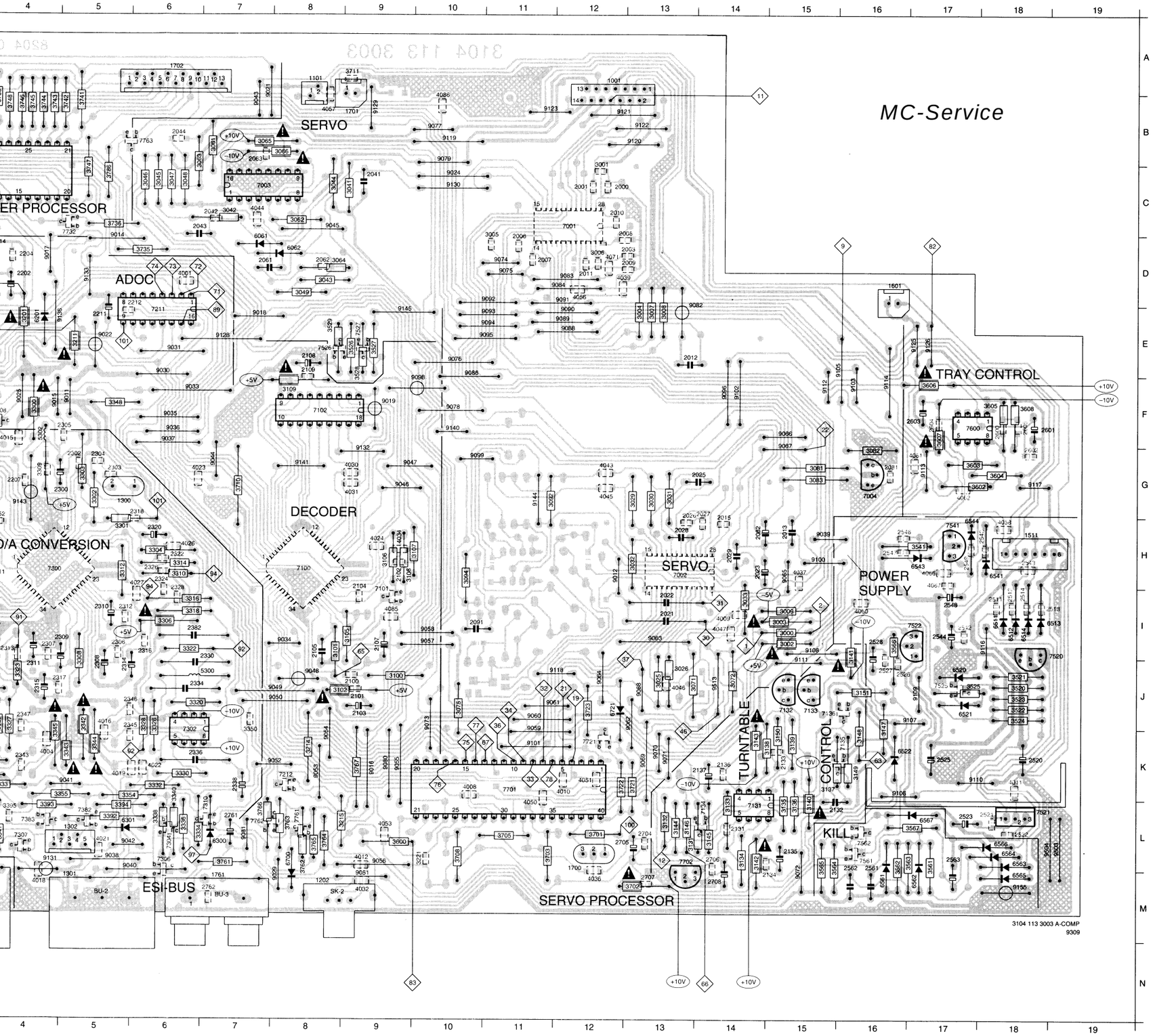
MC-Service


CONN 1702 TO CONN 1403
ON DISPLAY CIRCUIT
7731
MC68HC05D24
USER
I/O PORT C
I PORT D
I/O PORT A
I/O PORT B
RAM
ROM
CPU
11.2896MHz
WSAB
CLAB
5us/DIV
11.34us
ANALOGUE SIGNAL
AUDIO SIGNALS DISC
TRACK 15
2V
1Vpp
2ms/DIV
11,2896MHz
+4V
-10V
POWER ON
POWER OFF
7201
SM5840A
CONTROL DATA INPUT
MODE CONTROL
ATT & MUTE
FILTER & ATTENUATION
TIMING CONTROLLER
OUTPUT DATA
7203
74HC164
SHIFT REGISTER
7300
SAA7350/AGP
INPUT INTERFACE
CONTROL
NOISE SHAPER (R)
NOISE SHAPER (L)
DITHER,DC OFFSET & SCATING
DIGITAL SILENCE DETECTION
S/C
SYNC
7302
LM833(A)
7303
LM833(B)
CONN 1302 TO CONN 1310
ON HEADPHONE CIRCUIT
ANALOG OUTPUT
BU-3
BU-2
ESI
HIGH DURING DIGITAL MUTE
3104 118 00600S-D
9306

MC-Service

MAIN PANEL COMPONENT SIDE L5





1001	A12	2346	J5	3212	L2	3752	A3	7307	L4	9092	D10
1101	A8	2347	J4	3213	L2	3761	L7	7308	F4	9093	E10
1201	L3	2382	I6	3214	K8	3762	M8	7309	H2	9094	E10
1202	M6	2511	I18	3215	L9	3763	L8	7310	L7	9095	E10
1300	G5	2512	I18	3216	J2	3764	L8	7311	I2	9096	F14
1301	M5	2513	I18	3219	K2	3765	L8	7382	L5	9098	F9
1302	L5	2514	I18	3221	L10	3766	L7	7383	L4	9099	G10
1511	H18	2520	K18	3300	F4	3767	K9	7520	I19	9100	H15
1601	D16	2521	L18	3301	H5	3786	C5	7521	L18	9101	K11
1700	L12	2522	L18	3302	G5	3999	D1	7522	I16	9102	F14
1701	B9	2523	L17	3303	G5	4001	D6	7525	J17	9103	F16
1702	A6	2525	K17	3304	H6	4002	K2	7526	E8	9105	E16
1731	B2	2526	J16	3305	H3	4004	K4	7527	E9	9106	K16
1761	M7	2527	J16	3306	I6	4005	G2	7541	H17	9107	J16
2000	C12	2528	I16	3307	H3	4006	C3	7561	L16	9108	I15
2001	C12	2542	I17	3308	J5	4007	A3	7562	L16	9109	J17
2003	D12	2542	H18	3309	G4	4008	K10	7600	F17	9110	K17
2006	D11	2543	H18	3310	H6	4009	I14	7701	K11	9111	J15
2007	D11	2544	I17	3311	H4	4010	K12	7702	L13	9112	F15
2008	C12	2546	H16	3312	H5	4011	K18	7721	K12	9113	G17
2009	D12	2547	H16	3313	I3	4012	L9	7731	C3	9114	F16
2010	C12	2548	I17	3314	H6	4013	J3	7732	D5	9116	I18
2011	D12	2549	H17	3315	I2	4014	J3	7751	B3	9117	G18
2012	E13	2561	L16	3316	I6	4015	F4	7761	L8	9118	J11
2013	H15	2562	L16	3317	I3	4016	J5	7762	L7	9119	B10
2015	H14	2563	L17	3318	I6	4018	M4	7763	B6	9120	B13
2021	I13	2600	F18	3319	I3	4019	K5	9001	J2	9121	B12
2022	I13	2601	F18	3320	J6	4021	L5	9002	G3	9122	B13
2023	H14	2602	G18	3321	J3	4022	K6	9003	F2	9123	B11
2025	G13	2603	F16	3322	I6	4023	G6	9004	F2	9124	E2
2026	G13	2604	F17	3323	J4	4024	H9	9005	F2	9125	E17
2027	G14	2605	F18	3326	K6	4026	H6	9006	F3	9126	E17
2028	H13	2704	L13	3327	K4	4027	H5	9007	K2	9128	E7
2029	H14	2705	L12	3328	K6	4030	G9	9008	D2	9129	B9
2041	C9	2706	L14	3329	K4	4031	G9	9009	F3	9130	C10
2042	C7	2707	M13	3330	K6	4032	M9	9010	F3	9131	L4
2043	C6	2708	M14	3331	K3	4034	H9	9011	F5	9132	G9
2044	B6	2733	C2	3332	K6	4036	M12	9012	H12	9133	D5
2061	D7	2751	A3	3333	K4	4037	H15	9013	E2	9135	C2
2062	D8	2761	L7	3334	L7	4039	D12	9014	D5	9135	C2
2063	B7	2762	M7	3335	L3	4043	G12	9015	F4	9136	E5
2081	G16	3000	I15	3336	L6	4044	C7	9016	K9	9140	F10
2082	H14	3001	C12	3337	L3	4045	G12	9017	D4	9141	G8
2091	I10	3002	I15	3338	L6	4046	J13	9018	E7	9142	G2
2100	J9	3003	I15	3339	L4	4047	I14	9019	F9	9143	G4
2101	J9	3004	E13	3340	L6	4050	L11	9020	F4	9144	G11
2102	H9	3005	D10	3341	L4	4051	K12	9021	B7	9145	E9
2103	J9	3006	D12	3342	K5	4053	L9	9022	E5	9155	M18
2104	I9	3007	E13	3343	K5	4056	D12	9023	E2	9503	L19
2105	J8	3008	E13	3344	K5	4057	B8	9024	C10	9504	L19
2107	I9	3009	I15	3345	K4	4058	H18	9025	F4	9513	J14
2108	E8	3025	J13	3346	G4	4060	I16	9026	E2		
2109	E8	3026	J13	3347	H3	4061	G17	9027	E4		
2131	L14	3029	G13	3348	F5	4062	G17	9028	I2		
2132	L15	3030	G13	3349	H2	4066	H17	9029	M8		
2133	K15	3031	G13	3350	K7	4067	H17	9030	E6		
2134	M14	3032	H13	3351	H2	4071	D12	9031	E6		
2135	L15	3033	I14	3352	H4	4081	D2	9033	F6		
2136	K14	3041	C9	3354	K5	4085	I9	9034	I8		
2137	K13	3042	C7	3355	K4	4086	B10	9035	F6		
2201	G2	3043	D8	3392	L5	5211	L3	9036	F6		
2202	D4	3044	C8	3393	L4	5300	J7	9037	F6		
2203	D2	3045	C6	3394	L5	5301	J3	9038	L5		
2204	D4	3046	C6	3395	L4	5302	F4	9039	H15		
2205	F2	3047	C6	3520	J18	6061	D7	9040	L5		
2206	F3	3048	C6	3521	J18	6062	D8	9041	K5		
2207	G4	3049	D8	3522	J18	6201	E4	9042	L5		
2208	D2	3061	B7	3523	J18	6300	L7	9043	B7		
2210	L2	3062	C8	3524	J18	6301	L5	9044	G7		
2211	E5	3063	C6	3525	J17	6511	I18	9045	C8		
2212	E5	3064	D8	3526	E9	6512	I18	9046	G9		
2214	M3	3065	B7	3527	E9	6513	I18	9047	G9		
2215	J2	3066	B8	3528	F9	6514	I18	9048	J8		
2216	J2	3071	J14	3529	E8	6520	J17	9049	J7		
2300	G4	3072	J14	3541	H17	6521	J17	9050	J7		
2302	G5	3075	J10	3561	M17	6522	K16	9051	M9		
2303	G5	3081	G15	3562	M16	6541	H18	9052	K7		
2304	G5	3082	G16	3563	L17	6543	H17	9053	K8		
2305	F4	3083	G15	3564	M16	6544	H17	9054	K6		
2306	I5	3092	G11	3565	M15	6561	M16	9055	K9		
2307	I4	3094	H10	3566	I16	6562	M17	9056	L9		
2308	J5	3100	J9	3567	L16	6563	L18	9057	I10		
2309	I4	3101	J8	3600	L9	6564	L18	9058	I10		
2310	I5	3102	J8	3602	G17	6565	M18	9059	K11		
2311	J4	3105	I9	3603	G17	6566	L18	9060	J11		
2312	I5	3106	H9	3604	G18	6567	L17	9061	J11		
2313	I4	3107	H10	3605	F18	6700	L8	9062	K13		
2314	J5	3108	H9	3606	F17	6721	J12	9063	I13		
2315	J4	3109	F8	3607	F17	7001	C12	9064	J12		
2316	I6	3131	L13	3608	F18	7002	H13	9065	H15		
2317	J4	3132	L13	3701	L12	7003	C7	9066	F15		
2318	G5	3133	L14	3702	M13	7004	G16	9067	G15		
2319	H3	3134	L14	3703	L11	7100	H8	9068	J13		
2320	H6	3135	L15	3705	L11	7101	I9	9069	K13		
2321	H3	3136	L15	3708	L10	7102	F8	9070	K13		
2322	H6	3137	K15	3710	G7	7131	L14	9071	K13		
2323	H3	3138	K15	3711	A9	7132	J15	9072	M15		
2324	H6	3139	K15	3721	K13	7133	J15	9073	K10		
2325	I3	3140	L15	3722	K12	7134	L14	9074	D11		
2326	H6	3141	J16	3723	J12	7135	K16	9075	D11		
2327	I3	3142	L14	3731	B2	7136	J15	9076	E10		
2328	I6	3143	K14	3733	B4	7201	G2	9077	B10		
2329	I3	3144	L13	3734	B3	7202	D2	9078	F10		
2330	J6	3145	L14	3735	D6	7203	D3	9079	B10		
2331	I3	3146	L13	3736	C5	7204	E3	9080	K9		
2333	I3	3147	K16	3741	B5	7211	E6	9081	L7		
2334	J6	3148	K16	3742	B5	7212	K8	9082	E13		
2335	J3	3149	K16	3743	B4	7213	K2	9083	D12		
2336	K6	3150	K15	3744	B4	7300	H4	9084	D11		
2337	K3	3151	J16	3745	B4	7302	K6	9086	E10		
2338	K7	3201	E4	3746	B4	7303	K3	9088	E12		
2339	K3	3202	E2	3747	C5	7304	L6	9089	E12		
2343	K4	3210	L3	3748	B4	7305	L3	9090	E12		
2345	K5	3211	E5	3751	B3	7306	L6	9091	D12		

MAIN PANEL SOLDER SIDE L5

MC-Service

3104 113 3003

8204 055 7241.5

1001 | CDM
1 = GND
2 = S
3 = D4
4 = D3
5 = D1
6 = D2
7 = GND
8 = LM
9 = LO
10 = GND
11 = FOC–
12 = FOC+
13 = RAD+
14 = RAD–

1601 | TRAY MOTOR
1 = TRAY
2 = GND

7541
1 = –12V
2 = –32V
3 = –27V

1511 | POWER SUPPLY
1 = ACF1
2 = ACF2
3 = VFTD
4 = AC1
5 = GND
6 = AC2

7522
1 = 0V
2 = –11V
3 = –5V

7521
1 = +10V
2 = 0V
3 = +5V

1701 | TRAY SWITCH
1 = SIN1
2 = GND

1101 | CDM MOTOR
1 = VC
2 = GND

1702 | CONTROL&DISPLAY OUT
1 = +5V
2 = STB2
3 = DATA IN
4 = DATA OUT
5 = ACK
6 = CLK
7 = SDIS
8 = DISRES
9 = IR
10 = GND
11 = VFTD
12 = ACF1
13 = ACF2

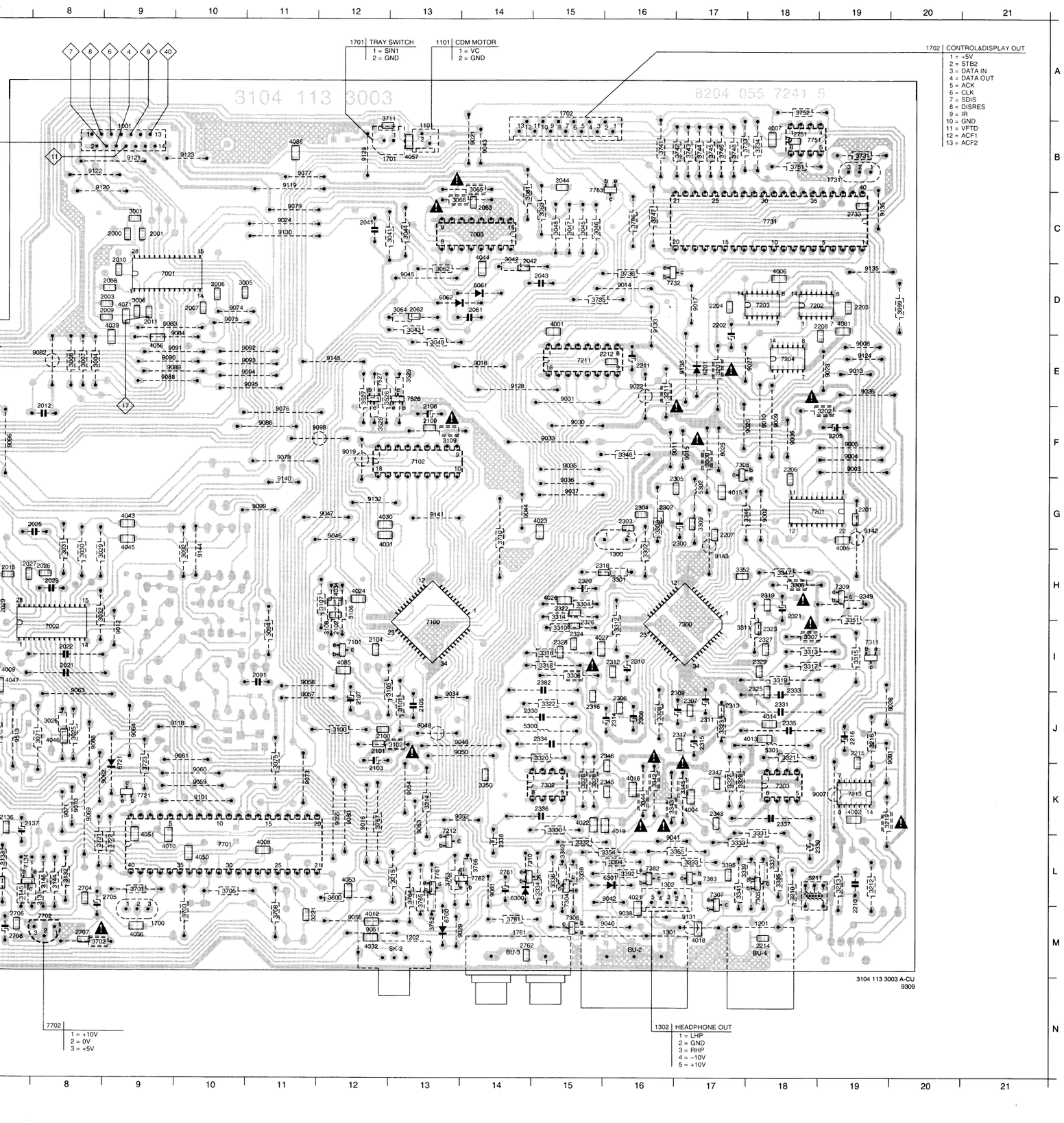
7702
1 = +10V
2 = 0V
3 = +5V

1302 | HEADPHONE OUT
1 = LHP
2 = GND
3 = RHP
4 = –10V
5 = +10V

BU-2
BU-3
BU-4
SK-2

* CD930
** CD940

3104 113 3003 A-CU
9309



1001	B9	2513	I2	3303	G16	4007	B18	7731	C18	9120	B8
1101	B13	2514	I3	3304	H15	4008	L11	7732	D16	9121	B9
1201	M18	2520	K3	3305	H18	4009	I7	7751	B18	9122	B8
1202	M13	2521	L3	3306	I15	4010	L9	7761	L13	9123	B10
1300	H16	2522	L3	3307	I18	4011	L3	7762	L14	9124	E19
1301	M16	2523	L4	3308	J16	4012	M12	7763	C15	9125	E5
1302	L16	2525	K4	3309	G17	4013	J17	9001	K20	9126	E4
1511	H3	2526	J5	3310	I15	4014	J18	9002	G18	9128	E14
1601	E5	2527	J5	3311	I17	4015	G17	9003	F19	9129	B12
1700	M9	2528	J5	3312	I16	4016	K16	9004	F19	9130	C11
1701	B12	2542	H4	3313	I18	4018	M17	9005	F19	9131	M17
1702	A15	2542	I4	3314	H15	4019	K16	9006	F18	9132	G12
1731	B19	2543	H3	3315	I19	4021	L16	9007	K18	9133	D16
1761	M14	2544	I4	3316	I15	4022	K15	9008	E19	9135	D19
2000	C9	2546	H5	3317	I18	4023	G15	9009	F18	9135	C19
2001	C9	2547	H5	3318	I15	4024	H12	9010	F18	9136	E17
2003	D8	2548	I4	3319	I18	4026	H15	9011	F17	9140	G11
2006	D10	2549	I4	3320	J15	4027	I15	9012	I9	9141	G13
2007	D10	2561	M5	3321	J18	4030	G12	9013	E19	9142	G19
2008	D9	2562	M5	3322	J15	4031	G12	9014	D16	9143	H17
2009	D8	2563	M4	3323	J17	4032	M12	9015	F17	9144	H10
2010	C9	2600	G3	3326	K15	4034	H12	9016	K12	9145	E12
2011	D9	2601	G3	3327	K17	4036	M9	9017	D17	9155	M3
2012	F8	2602	G3	3328	K15	4037	I6	9018	E14	9503	M2
2013	H6	2603	F4	3329	K17	4039	D9	9019	F12	9504	M3
2015	H7	2604	G4	3330	K15	4043	G9	9020	F18	9513	J7
2021	I8	2605	G3	3331	L18	4044	C14	9021	B14		
2022	I8	2704	L8	3332	L15	4045	H9	9022	E16		
2023	I7	2705	L9	3333	L17	4046	J8	9023	E19		
2025	G7	2706	M7	3334	L15	4047	I7	9024	C11		
2026	H8	2707	M8	3335	L18	4050	L10	9025	F17		
2027	H7	2708	M7	3336	L15	4051	L9	9026	E19		
2028	H8	2733	C19	3337	L18	4053	L12	9027	E18		
2029	H7	2751	B18	3338	L15	4056	E9	9028	J20		
2041	C12	2761	L14	3339	L18	4057	B13	9029	M14		
2042	D14	2762	M14	3340	L15	4058	H3	9030	F15		
2043	D15	3000	I6	3341	L17	4060	I5	9031	E15		
2044	B15	3001	C9	3342	K16	4061	G4	9033	F15		
2061	D14	3002	J6	3343	K16	4062	H4	9034	J13		
2062	D13	3003	I6	3344	K16	4066	I4	9035	F15		
2063	C14	3004	E8	3345	K17	4067	I4	9036	G15		
2081	G5	3005	D10	3346	G18	4071	D9	9037	G15		
2082	H7	3006	D9	3347	H18	4081	D19	9038	M16		
2091	I11	3007	E8	3348	F16	4085	I12	9039	H6		
2100	J12	3008	E8	3349	H19	4086	B11	9040	M15		
2101	J12	3009	I6	3350	K14	5211	L18	9041	L16		
2102	I12	3025	J8	3351	I19	5300	J14	9042	L16		
2103	K12	3026	J8	3352	H17	5301	J18	9043	B14		
2104	I12	3029	H9	3354	L15	5302	G17	9044	G14		
2105	J13	3030	H8	3355	L16	6061	D14	9045	D13		
2107	J12	3031	H8	3392	L16	6062	D13	9046	G12		
2108	F13	3032	I9	3393	L17	6201	E17	9047	G12		
2109	F13	3033	I7	3394	L16	6300	L14	9048	J13		
2131	L7	3041	C13	3395	L17	6301	L16	9049	J13		
2132	L5	3042	C14	3520	J3	6511	I3	9050	J13		
2133	K6	3043	D13	3521	J3	6512	J3	9051	M12		
2134	M6	3044	C13	3522	K3	6513	I2	9052	K13		
2135	M6	3045	C15	3523	J3	6514	J3	9053	L13		
2136	K7	3046	C15	3524	K3	6520	J4	9054	K13		
2137	K7	3047	C15	3525	J4	6521	K4	9055	K12		
2201	G19	3048	C15	3526	E12	6522	K5	9056	M12		
2202	D17	3049	E13	3527	E12	6541	I3	9057	J11		
2203	I19	3061	C14	3528	F12	6543	I4	9058	I11		
2204	D17	3062	D13	3529	E13	6544	H4	9059	K10		
2205	F19	3063	C15	3541	H4	6561	M5	9060	K10		
2206	F18	3064	D13	3561	M4	6562	M5	9061	J10		
2207	G17	3065	C14	3562	M5	6563	M3	9062	K9		
2208	D18	3066	C13	3563	M5	6564	M3	9063	J8		
2210	M19	3071	J8	3564	M6	6565	M3	9064	J9		
2211	E16	3072	J7	3565	M6	6566	L3	9065	I6		
2212	E15	3075	K11	3566	J5	6567	L4	9066	G6		
2214	M18	3081	G6	3567	L4	6700	M13	9067	G6		
2215	J19	3082	G5	3600	L12	6721	K9	9068	J8		
2216	J19	3083	G6	3602	G3	7001	D9	9069	K8		
2300	G16	3092	H10	3603	G4	7002	I8	9070	K8		
2302	G16	3094	I11	3604	G3	7003	C14	9071	K8		
2303	G16	3100	J12	3605	F3	7004	H5	9072	M6		
2304	G16	3101	J13	3606	F4	7100	I13	9073	K11		
2305	G16	3102	J13	3607	G4	7101	I12	9074	D10		
2306	J16	3105	J13	3608	F3	7102	F13	9075	D10		
2307	J17	3106	I12	3701	L9	7131	L7	9076	F11		
2308	J16	3107	H12	3702	M8	7132	K6	9077	B11		
2309	J16	3108	I12	3703	M10	7133	K6	9078	F11		
2310	I16	3109	F13	3705	L10	7134	L7	9079	C11		
2311	J17	3131	M8	3708	M11	7135	K6	9080	K12		
2312	I16	3132	L8	3710	G14	7136	K6	9081	L14		
2313	J17	3133	L7	3711	B12	7201	G18	9082	E8		
2314	J16	3134	M7	3721	L8	7202	D18	9083	D9		
2315	J17	3135	L6	3722	L9	7203	D18	9084	E9		
2316	J15	3136	L6	3723	K9	7204	E18	9086	F11		
2317	J16	3137	L6	3731	B19	7211	E15	9088	E9		
2318	H15	3138	K7	3733	B18	7212	K13	9089	E9		
2319	H18	3139	K6	3734	B18	7213	K19	9090	E9		
2320	H15	3140	L6	3735	D15	7300	I17	9091	E9		
2321	H18	3141	J5	3736	D16	7302	K15	9092	E10		
2322	H15	3142	M7	3741	B16	7303	K18	9093	E10		
2323	I18	3143	K7	3742	B17	7304	M15	9094	E10		
2324	I15	3144	L8	3743	B17	7305	L18	9095	E10		
2325	I18	3145	L7	3744	B17	7306	M15	9096	F7		
2326	I15	3146	L8	3745	B17	7307	L17	9098	F11		
2327	I18	3147	K5	3746	B17	7308	F17	9099	G11		
2328	I15	3148	K5	3747	C16	7309	H19	9100	H6		
2329	I18	3149	K5	3748	B17	7310	L15	9101	K10		
2330	J14	3150	K6	3751	B18	7311	I19	9102	F7		
2331	J18	3151	J5	3752	A18	7382	L16	9103	F5		
2333	J18	3201	E17	3761	M14	7383	L17	9105	F6		
2334	J15	3202	F18	3762	M13	7520	J2	9106	L5		
2335	J18	3210	L18	3763	L13	7521	L3	9107	K4		
2336	K15	3211	E16	3764	L13	7522	I4	9108	J6		
2337	K18	3212	L19	3765	M13	7525	J4	9109	J4		
2338	L14	3213	L19	3766	L14	7526	E13	9110	L4		
2339	L19	3214	K13	3767	K12	7527	E12	9111	J6		
2343	K17	3215	L13	3786	C16	7541	H4	9112	F6		
2345	K15	3216	J19	3999	D20	7561	M5	9113	G4		
2346	J15	3219	K20	4001	D15	7562	L5	9114	F5		
2347	K17	3221	M12	4002	K19	7600	G4	9116	J4		
2382	I15	3300	F17	4004	K17	7701	L10	9117	G3		
2511	I3	3301	H16	4005	H19	7702	M8	9118	J9		
2512	I3	3302	H16	4006	D18	7721	K9	9119	B11		

MC-Service

3106	4822 050 23902	3k9 1% 0,6W
3107	4822 050 29102	9k1 1% 0,6W
3108	4822 050 21602	1k6 1% 0,6W
3109	4822 111 30846	6Ω8 5% 0,25W
3131	4822 050 24702	4k7 1% 0,6W
3132	4822 050 24703	47k 1% 0,6W
3133	4822 116 52234	100k 5% 0,5W
3134	4822 050 29103	91k 1% 0,6W
3135	4822 050 23302	3k3 1% 0,6W
3136	4822 050 15602	5k6 1% 0,4W
3137	4822 050 21504	150k 1% 0,6W
3138	4822 050 28203	82k 1% 0,6W
3139	4822 051 10101	100Ω 2% 0,25W
3140	4822 052 10478	4Ω7 5% 0,33W
3141	4822 052 10478	4Ω7 5% 0,33W
3142	4822 052 10478	4Ω7 5% 0,33W
3143	4822 052 10478	4Ω7 5% 0,33W
3144	4822 050 26804	680k 1% 0,6W
3145	4822 050 15602	5k6 1% 0,4W
3146	4822 050 13303	33k 1% 0,4W
3147	4822 050 24702	4k7 1% 0,6W
3148	4822 050 24702	4k7 1% 0,6W
3149	4822 051 10122	1k2 2% 0,25W
3150	4822 050 21604	160k 1% 0,6W
3151	4822 050 24702	4k7 1% 0,6W
3201	4822 111 30846	6Ω8 5% 0,25W
3202	4822 111 30846	6Ω8 5% 0,25W
3210	5322 116 51882	0Ω
3211	4822 111 30846	6Ω8 5% 0,25W
3212	4822 051 10561	560Ω 2% 0,25W
3213	4822 050 26201	620Ω 1% 0,6W
3214	4822 050 22203	22k 1% 0,6W
3215	4822 050 22203	22k 1% 0,6W
3216	4822 050 22203	22k 1% 0,6W
3219	4822 111 30846	6Ω8 5% 0,25W
3221	4822 050 22203	22k 5% 1/8W
3300	4822 111 30846	6Ω8 5% 0,25W
3301	4822 050 22204	220k 1% 0,6W
3302	4822 050 21002	1k 1% 0,6W
3303	4822 051 10101	100Ω 2% 0,25W
3304	4822 111 30846	6Ω8 5% 0,25W
3305	4822 111 30846	6Ω8 5% 0,25W
3306	4822 052 10101	100Ω 5% 0,33W
3307	4822 052 10101	100Ω 5% 0,33W
3308	4822 050 22403	24k 1% 0,6W
3309	4822 051 20101	100Ω 5% 0,1W
3310	4822 050 25103	51k 1% 0,6W
3311	4822 050 25103	51k 1% 0,6W
3312	4822 050 25103	51k 1% 0,6W
3313	4822 050 25103	51k 1% 0,6W
3314	4822 050 21003	10k 1% 0,6W
3315	4822 050 21003	10k 1% 0,6W
3316	4822 050 21003	10k 1% 0,6W
3317	4822 050 21003	10k 1% 0,6W
3318	4822 050 21003	10k 1% 0,6W
3319	4822 050 21003	10k 1% 0,6W
3320	4822 050 21003	10k 1% 0,6W
3321	4822 050 21003	10k 1% 0,6W
3322	4822 050 25602	5k6 1% 0,6W
3323	4822 050 25602	5k6 1% 0,6W
3326	4822 050 27502	7k5 1% 0,6W
3327	4822 050 27502	7k5 1% 0,6W
3328	4822 050 25602	5k6 1% 0,6W
3329	4822 050 25602	5k6 1% 0,6W
3330	4822 050 21003	10k 1% 0,6W
3331	4822 050 21003	10k 1% 0,6W
3332	4822 050 21003	10k 1% 0,6W
3333	4822 050 21003	10k 1% 0,6W
3334	4822 051 10101	100Ω 2% 0,25W
3335	4822 051 10101	100Ω 2% 0,25W
3336	4822 051 10101	100Ω 2% 0,25W
3337	4822 051 10101	100Ω 2% 0,25W
3338	4822 050 22202	2k2 1% 0,6W
3339	4822 050 22202	2k2 1% 0,6W
3340	4822 050 22202	2k2 1% 0,6W
3341	4822 050 22202	2k2 1% 0,6W
3342	4822 052 10109	10Ω 5% 0,33W
3343	4822 052 10109	10Ω 5% 0,33W
3344	4822 052 10109	10Ω 5% 0,33W
3345	4822 052 10109	10Ω 5% 0,33W
3346	4822 050 24702	4k7 1% 0,6W
3347	4822 050 24702	4k7 1% 0,6W
3348	4822 050 21003	10k 1% 0,6W
3349	4822 050 21003	10k 1% 0,6W
3350	4822 051 20472	4k7 5% 0,1W
3351	4822 050 24702	4k7 1% 0,6W
3354	4822 050 22204	220k 1% 0,6W
3355	4822 050 22204	220k 1% 0,6W
3392	4822 051 10101	100Ω 2% 0,25W
3393	4822 051 10101	100Ω 2% 0,25W
3394	4822 050 22202	2k2 1% 0,6W
3395	4822 051 20222	2k2 5% 0,1W
3520	4822 050 26801	680Ω 1% 0,6W
3521	4822 050 26801	680Ω 1% 0,6W
3522	4822 050 26801	680Ω 1% 0,6W
3523	4822 050 26801	680Ω 1% 0,6W
3524	4822 050 26801	680Ω 1% 0,6W
3525	4822 050 23302	3k3 1% 0,6W
3526	4822 051 10101	100Ω 2% 0,25W
3527	4822 050 24703	47k 1% 0,6W
3528	4822 050 22203	22k 1% 0,6W
3529	4822 050 21003	10k 1% 0,6W
3541	4822 050 24702	4k7 1% 0,6W
3561	4822 116 52224	470Ω 5% 0,5W
3562	4822 050 24703	47k 1% 0,6W
3563	4822 050 22205	2M2 1% 0,6W

3564	4822 050 21003	10k 1% 0,6W
3565	4822 050 13303	33k 1% 0,4W
3566	4822 050 22204	220k 1% 0,6W
3567	4822 050 21002	1k 1% 0,6W
3600	4822 050 25102	5k1 1% 0,6W
3602	4822 050 21003	10k 1% 0,6W
3603	4822 050 21003	10k 1% 0,6W
3604	4822 050 21003	10k 1% 0,6W
3605	4822 050 21003	10k 1% 0,6W
3606	4822 052 10108	1Ω 5% 0,33W
3607	4822 052 10108	1Ω 5% 0,33W
3608	4822 052 10229	22Ω 5% 0,33W
3701	4822 050 22204	220k 1% 0,6W
3702	4822 052 10478	4Ω7 5% 0,33W
3703	4822 050 22203	22k 1% 0,6W
3705	4822 050 22203	22k 1% 0,6W
3708	4822 050 22203	22k 1% 0,6W
3710	4822 050 22203	22k 1% 0,6W
3711	4822 051 20223	22k 5% 0,1W
3721	4822 050 22201	220Ω 1% 0,6W
3722	4822 050 21002	1k 1% 0,6W
3723	4822 050 22203	22k 1% 0,6W
3731	4822 050 22204	220k 1% 0,6W
3734	4822 050 22203	22k 1% 0,6W
3735	4822 050 22203	22k 1% 0,6W
3736	4822 050 22203	22k 1% 0,6W
3741	4822 050 22203	22k 1% 0,6W
3742	4822 050 22203	22k 1% 0,6W
3743	4822 050 22203	22k 1% 0,6W
3744	4822 050 22203	22k 1% 0,6W
3745	4822 050 22203	22k 1% 0,6W
3746	4822 050 22203	22k 1% 0,6W
3747	4822 050 22203	22k 1% 0,6W
3748	4822 050 22203	22k 1% 0,6W
3751	4822 050 21003	10k 1% 0,6W
3752	4822 050 21003	10k 1% 0,6W
3761	4822 052 10109	10k 5% 0,33W
3762	4822 050 21803	18k 1% 0,6W
3763	4822 050 24703	47k 1% 0,6W
3764	4822 051 10101	100Ω 2% 0,25W
3765	4822 050 24703	47k 1% 0,6W
3766	4822 050 24703	47k 1% 0,6W
3767	4822 050 24703	47k 1% 0,6W
3768	4822 050 24703	47k 1% 0,6W
4001	4822 051 10008	0Ω 5% 0,25W
4002	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
4007	4822 051 10008	0Ω 5% 0,25W
4008	4822 051 10008	0Ω 5% 0,25W
4009	4822 051 10008	0Ω 5% 0,25W
4010	4822 051 10008	0Ω 5% 0,25W
4011	4822 051 10008	0Ω 5% 0,25W
4012	4822 051 10008	0Ω 5% 0,25W
4013	4822 051 10008	0Ω 5% 0,25W
4014	4822 051 10008	0Ω 5% 0,25W
4015	4822 051 10008	0Ω 5% 0,25W
4016	4822 051 10008	0Ω 5% 0,25W
4018	4822 051 10008	0Ω 5% 0,25W
4019	4822 051 10008	0Ω 5% 0,25W
4021	4822 051 10008	0Ω 5% 0,25W
4022	4822 051 10008	0Ω 5% 0,25W
4023	4822 051 10008	0Ω 5% 0,25W
4024	4822 051 10008	0Ω 5% 0,25W
4026	4822 051 10008	0Ω 5% 0,25W
4027	4822 051 10008	0Ω 5% 0,25W
4030	4822 051 10008	0Ω 5% 0,25W
4031	4822 051 10008	0Ω 5% 0,25W
4032	4822 051 10008	0Ω 5% 0,25W
4034	4822 051 10008	0Ω 5% 0,25W
4036	4822 051 10008	0Ω 5% 0,25W
4037	4822 051 10008	0Ω 5% 0,25W
4039	4822 051 10008	0Ω 5% 0,25W
4043	4822 051 10008	0Ω 5% 0,25W
4044	4822 051 10008	0Ω 5% 0,25W
4045	4822 051 10008	0Ω 5% 0,25W
4046	4822 051 10008	0Ω 5% 0,25W
4047	4822 051 10008	0Ω 5% 0,25W
4050	4822 051 10008	0Ω 5% 0,25W
4051	4822 051 10008	0Ω 5% 0,25W
4053	4822 051 10008	0Ω 5% 0,25W
4056	4822 051 10008	0Ω 5% 0,25W
4057	4822 051 10008	0Ω 5% 0,25W
4058	4822 051 10008	0Ω 5% 0,25W
4060	4822 051 10008	0Ω 5% 0,25W
4061	4822 051 10008	0Ω 5% 0,25W
4062	4822 051 10008	0Ω 5% 0,25W
4066	4822 051 10008	0Ω 5% 0,25W
4067	4822 051 10008	0Ω 5% 0,25W
4071	4822 051 10008	0Ω 5% 0,25W
4081	4822 051 10008	0Ω 5% 0,25W
4085	4822 051 10008	0Ω 5% 0,25W
4086	4822 051 10008	0Ω 5% 0,25W

MC-Service

COILS

5211	4822 148 80281	DIG.OUT TRANSFORMER
5300	4822 157 51192	220µH
5301	4822 157 51192	220µH
5302	4822 157 51235	4,7µH

DIODES

6061	4822 130 30861	BZX79-C7V5
6062	4822 130 30861	BZX79-C7V5
6201	4822 130 30621	1N4148
6300	4822 130 30621	1N4148
6301	4822 130 30621	1N4148
6511	5322 130 30684	1N4002
6512	5322 130 30684	1N4002
6513	5322 130 30684	1N4002
6514	5322 130 30684	1N4002
6520	4822 130 30621	1N4148
6521	4822 130 30621	1N4148
6522	4822 130 30621	1N4148
6541	5322 130 30684	1N4002
6543	4822 130 31981	BZX79-C3V9
6544	4822 130 34278	BZX79-F6V8
6561	4822 130 34278	BZX79-F6V8
6562	4822 130 30621	1N4148
6563	4822 130 30621	1N4148
6564	4822 130 30621	1N4148
6565	5322 130 30684	1N4002
6566	5322 130 30684	1N4002
6567	4822 130 31981	BZX79-C3V9
6700	4822 130 31983	BAT85
6721	4822 130 80235	BZX79-C3V3

TRANSISTORS & IC's

7001	4822 209 73234	TDA8808T/C3
7002	4822 209 73235	TDA8809T/C2
7003	4822 209 72587	TCA0372DP2-
7004	5322 130 44349	BC635
7100	4822 209 61759	SAA7310GP/H5
7101	4822 130 42131	BF550
7102	4822 209 70422	MN4264-15
7131	4822 209 83274	NJM4560D
7132	4822 130 44121	BC338
7133	4822 130 44104	BC328
7134	5322 130 42012	BC858A
7135	5322 130 42012	BC858A
7136	4822 130 61207	BC848
7201	4822 209 30939	SM5840AS
7202	5322 209 12099	MC74HC164D
7203	5322 209 12099	MC74HC164D
7204	4822 209 30739	MC74HC04AD
7211	4822 209 62588	PCF3523P
7212	4822 130 61207	BC848
7213	4822 209 31284	MC74HC08AD
7300	4822 209 31356	SAA7350/AGP
7302	4822 209 83163	LM833N
7303	4822 209 83163	LM833N
7304	4822 130 42696	BC818-25
7305	4822 130 42696	BC818-25
7306	4822 130 42696	BC818-25
7307	4822 130 42696	BC818-25
7308	4822 130 61207	BC848
7309	4822 130 61207	BC848
7310	5322 130 42012	BC858
7311	5322 130 42012	BC858
7382	4822 130 42696	BC818-25
7383	4822 130 42696	BC818-25
7520	4822 130 60492	BC376
7521	4822 209 80891	MC78M05CT
7522	4822 209 73233	MC79L05ACP
7525	5322 130 41982	BC848B
7526	5322 130 41982	BC848B
7527	5322 130 41982	BC848B
7541	4822 209 62115	MC79L15ACP
7561	5322 130 41982	BC848B
7562	5322 130 42012	BC858
7600	4822 209 62059	TCA0372DP1
7701	4822 900 10388	MC68HC05C8P/S05 PROM
7702	4822 209 72042	MC78L05ACP
7721	5322 130 42012	BC858
7731	4822 209 31249	MC68HC05D24P/ZC410915
7732	5322 130 42012	BC858
7751	4822 209 62524	X24C16P
7761	5322 130 42012	BC858
7762	4822 130 61207	BC848
7763	5322 130 41982	BC848B

DISPLAY PANEL

MISCELLANEOUS

	4822 256 91848	DISPLAY HOLDER
1401	4822 242 72527	RESONATOR 4MHz
1402	4822 130 91073	DISPLAY CD930
1403	4822 267 50723	CONNECTOR 13P
1404	4822 267 40624	RFK5 CONNECTOR
1405	4822 267 40624	RFK5 CONNECTOR
1406	4822 267 40624	RFK5 CONNECTOR
1407	4822 267 40624	RFK5 CONNECTOR
1410	4822 276 13114	TACT SWITCH
1411	4822 276 13114	TACT SWITCH
1412	4822 276 13114	TACT SWITCH
1413	4822 276 13114	TACT SWITCH
1414	4822 276 13114	TACT SWITCH
1415	4822 276 13114	TACT SWITCH
1416	4822 276 13114	TACT SWITCH
1417	4822 276 13114	TACT SWITCH
1418	4822 276 13114	TACT SWITCH
1419	4822 276 13114	TACT SWITCH
1420	4822 276 13114	TACT SWITCH
1421	4822 276 13114	TACT SWITCH
1451	4822 214 51772	IR RECEIVER GP1U521X

CAPACITORS

2401	4822 122 10166	22nF	30%	16V
2404	5322 124 21643	22µF	20%	40V
2405	4822 122 10166	22nF	30%	16V
2406	5322 124 21643	22µF	20%	40V
2407	4822 122 10166	22nF	30%	16V
2408	4822 122 10166	22nF	30%	16V
2409	4822 122 10177	10nF	20%	25V
2451	5322 124 21643	22µF	20%	40V
2452	4822 122 10166	22nF	30%	16V

RESISTORS

3401	4822 052 10478	4Ω7	5%	0,33W
3402	4822 050 22204	220k	1%	0,6W
3403	4822 050 22203	22k	1%	0,6W
3404	4822 050 22203	22k	1%	0,6W
3405	4822 050 21002	1k	1%	0,6W
3406	4822 050 22203	22k	1%	0,6W
3407	4822 050 22203	22k	1%	0,6W
3408	4822 050 22203	22k	1%	0,6W
3409	4822 050 22203	22k	1%	0,6W
3411	4822 052 10109	10Ω	5%	0,33W
3412	4822 116 52234	100k	5%	0,5W
3414	4822 051 10101	100Ω	2%	0,25W
3415	4822 116 52234	100k	5%	0,5W
3417	4822 051 10101	100Ω	2%	0,25W
3418	4822 116 52234	100k	5%	0,5W
3420	4822 051 10101	100Ω	2%	0,25W
3421	4822 116 52234	100k	5%	0,5W
3422	4822 051 10101	100Ω	2%	0,25W
3423	4822 116 52234	100k	5%	0,5W
3425	5322 111 90473	8x10k	2%	NETWORK
3426	4822 052 10478	4Ω7	5%	0,33W
3427	4822 052 10478	4Ω7	5%	0,33W
3428	4822 050 24702	4k7	1%	0,6W
3429	4822 050 24703	47k	1%	0,6W
3430	4822 050 23302	3k3	1%	0,6W
3431	4822 050 23302	3k3	1%	0,6W
3432	4822 050 23302	3k3	1%	0,6W
3451	4822 052 10478	4Ω7	5%	0,33W
3452	4822 050 24702	4k7	1%	0,6W

DIODES

6401	4822 130 30621	1N4148
6402	4822 130 30621	1N4148
6403	4822 130 30621	1N4148

TRANSISTORS & IC'S

7401	4822 209 30249	TMP47C212AN
7402	4822 209 30733	74HC164N
7403	4822 209 60886	UDN-2580A
7405	4822 130 40941	BC558
7406	4822 130 40938	BC548
7407	4822 130 40938	BC548
7408	4822 130 40938	BC548
7409	4822 130 40938	BC548

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KEYBOARD PANEL

MISCELLANEOUS

1422	4822 276 13114	TACT SWITCH
1423	4822 276 13114	TACT SWITCH
1424	4822 276 13114	TACT SWITCH
1425	4822 276 13114	TACT SWITCH
1426	4822 276 13114	TACT SWITCH
1427	4822 276 13213	SWITCH
1428	4822 276 13213	SWITCH
1429	4822 276 13213	SWITCH
1430	4822 276 13213	SWITCH
1431	4822 276 13213	SWITCH
1432	4822 276 13213	SWITCH
1433	4822 276 13114	TACT SWITCH
1434	4822 276 13114	TACT SWITCH
1435	4822 276 13213	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

DIODES

6404	4822 130 30621	1N4148
6405	4822 130 30621	1N4148
6406	4822 130 30621	1N4148
6407	4822 130 30621	1N4148
6408	4822 130 30621	1N4148

HEADPHONE PANEL

MISCELLANEOUS

BU-5	4822 267 31453	HEADPHONE SOCKET
1310	4822 267 40624	RFK5 CONNECTOR

CAPACITORS

2382	4822 122 10166	22nF	30%	16V
2383	4822 122 10166	22nF	30%	16V

RESISTORS

3381	4822 102 10398	10k LOG POTMETER		
3382	4822 116 52244	15k	5%	0,5W
3383	4822 116 52244	15k	5%	0,5W
3384	4822 050 21003	10k	1%	0,6W
3385	4822 050 21003	10k	1%	0,6W
3386	4822 050 21201	120Ω	1%	0,6W
3387	4822 050 21201	120Ω	1%	0,6W
3388	4822 051 10101	100Ω	2%	0,25W
3389	4822 051 10101	100Ω	2%	0,25W
3390	4822 052 10228	2Ω2	5%	0,33W
3391	4822 052 10228	2Ω2	5%	0,33W

IC

7380	4822 209 82362	NJM4556D

MISCELLANEOUS

SK-1	4822 276 13216	MAINS SWITCH
21	4822 256 30274	FUSE HOLDER
1010	4822 277 21366	VOLTAGE SELECTOR
1010	4822 462 41505	COVER
1010	5322 256 34058	FUSE HOLDER
1010	5322 462 44478	FUSE CAP
1501	4822 070 31251	FUSE 125mA
5001	4822 146 31045	MAINS TRANSFORMER
5001	4822 146 31153	MAINS TRAFO /01
5502	4822 214 51841	MAINS FILTER

Modifications with A92-255

Page	Reason
Frontpage	/01S added.
2a	/01S added.
4a	Warning Class 3B Laser product added.
19a	Voltage selector added.
20a	Oscillogram of eyepattern adapted.
21a,22a,23a	R3151, R3221, R3210 added; R3150 adapted.
	D6201 added; oscillograms of eyepattern, WSAB,CLAB adapted.
24a,25a,26a	R3309, C2301, L5302, D6700 added.
27-1,28-1,29-1	Main panel: lay-out L3 introduced in week 9226 with printlabel H for /00S and
30-1,31-1,32-1	with printlabel B for /05S and /01S.
44a,45a	Position 99 added.
46a	Clamping piece and CDM 9 changed.
49a	C2210, C2301 added; C2302, C2310, C2311 adapted.
50a	R3094 correction.
51a	R3151, R3210, R3221, R3309 added; R3150 adapted.
52a	L5302 added; D6201 added.
53a	D6700 added;T7136 added; T7213,T7763 adapted.
55a	Voltage selector,cover, fuse holder, fuse cap, mains transfo /01S added.
56	Modifications A92-255 added

Modifications with A93-252

1. Tray detection switch connected to +5V instead of ground, introduced with Lay-out .4 of main panel from production week 9304 onwards.
   The following components have been added with L4: R3151, R3711, D6700, T7136, wire bridge 9129
   The following component has been deleted: R3709

2. Introduction of digital silence detection circuit together with the modification of IC7300 from SAA7350 to SAA7350/AGP. The latter is the latest version of this IC and is compatible with all earlier versions. It can only be replaced by the same version to guarantee a good performance of the digital mute.
   The digital mute circuit consists of the following components: R3346, R3347, T7308, T7309.
   The following components have been deleted: R3352, wirebridges 9510 and 9511.

   This modification has been introduced from production week 9326 onwards.
   The label on the modified sets reads as follows: **AH02** for CD930/00S/05S/01S
   AH01 for CD930/06S/13S

Page	Reason
15-1, 16-1	Tray detection switch connected to +5V and digital mute added
17-1	Wiring of tray switch changed
18-1	D6544 changed to F6V8 to avoid flickering of the display.
21-1, 22-1, 23-1	R3711 added, R3709 deleted, connector 1701 pin 2 connected to +5V.
24-1, 25-1, 26-1	IC7300 changed; R3346, R3347, T7308, T7309 added; R3352, wire bridges 9510, 9511 deleted.
27-2, 28-2, 29-2	Main panel L5(is the same as L4 apart from extra cupper around the cinch sockets)
30-2, 31-2, 32-2	Main panel L5 solder side(= L4)
51b	R3346, R3347 added; R3352 deleted
52b	R3711 added; R3709 deleted.
53b	D6544, IC7300 changed; T7308, T7309 added.
56a	Modifications A93-252 added

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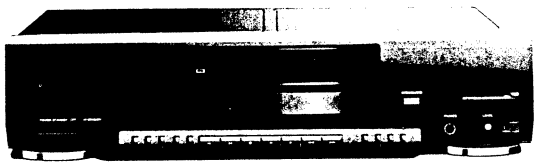
Service



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The following mechanical parts are different:

ITEM 1	4822 444 40551	ALU FRONT /00S/01S/06S
	4822 444 40629	ALU FRONT /13S
ITEM 13	4822 444 40549	FRONT /00S/01S/06S
	4822 444 40739	FRONT /13S
ITEM 71	4822 444 30482	TRAY FRONT
ITEM 283	4822 532 60948	CORD BUSHING /00S
	4822 325 60329	CORD BUSHING /01S/06S/13S
ITEM 300	4822 321 10809	MAINS CORD /00S
	4822 321 10845	MAINS CORD /01S
ITEM 304	4822 321 10917	MAINS CORD /13S
ITEM 305	4822 321 10919	MAINS CORD /06S
ITEM 306	4822 263 50179	SOCKET ADAPTER MAINS /13S
ITEM 340	4822 736 21961	INSTRUCTIONS FOR USE /00S
	4822 736 22031	INSTRUCTIONS FOR USE /01S
	4822 736 22029	INSTRUCTIONS FOR USE /06S
	4822 736 21961	INSTRUCTIONS FOR USE /13S

For difference of electrical parts, see modified circuit diagrams, Main Panel drawing and electrical parts list.

Power supply: changed: D6543, D6544.
Servo: added: R3069,3070,3071; IC7005; T7088.(fast search)
Decoder: R3110,3111,3112,3113,3114,3115,3221,3222,3223,3224,3225 changed into wire bridge.
added: C2205,2216,2217; R3217,3226,3227.
changed: IC7202,7203,7204,7211.
Audio: deleted: SK-2.
added: C2256; R3253,3732; socket 1705(BU-3).
changed: sockets 1201(BU-4),1301(BU-2),1704(BU-3), IC 7302,7303.
General: All elcaps of 33µF 16V are changed into 47µF.

4822 725 24055

PHILIPS

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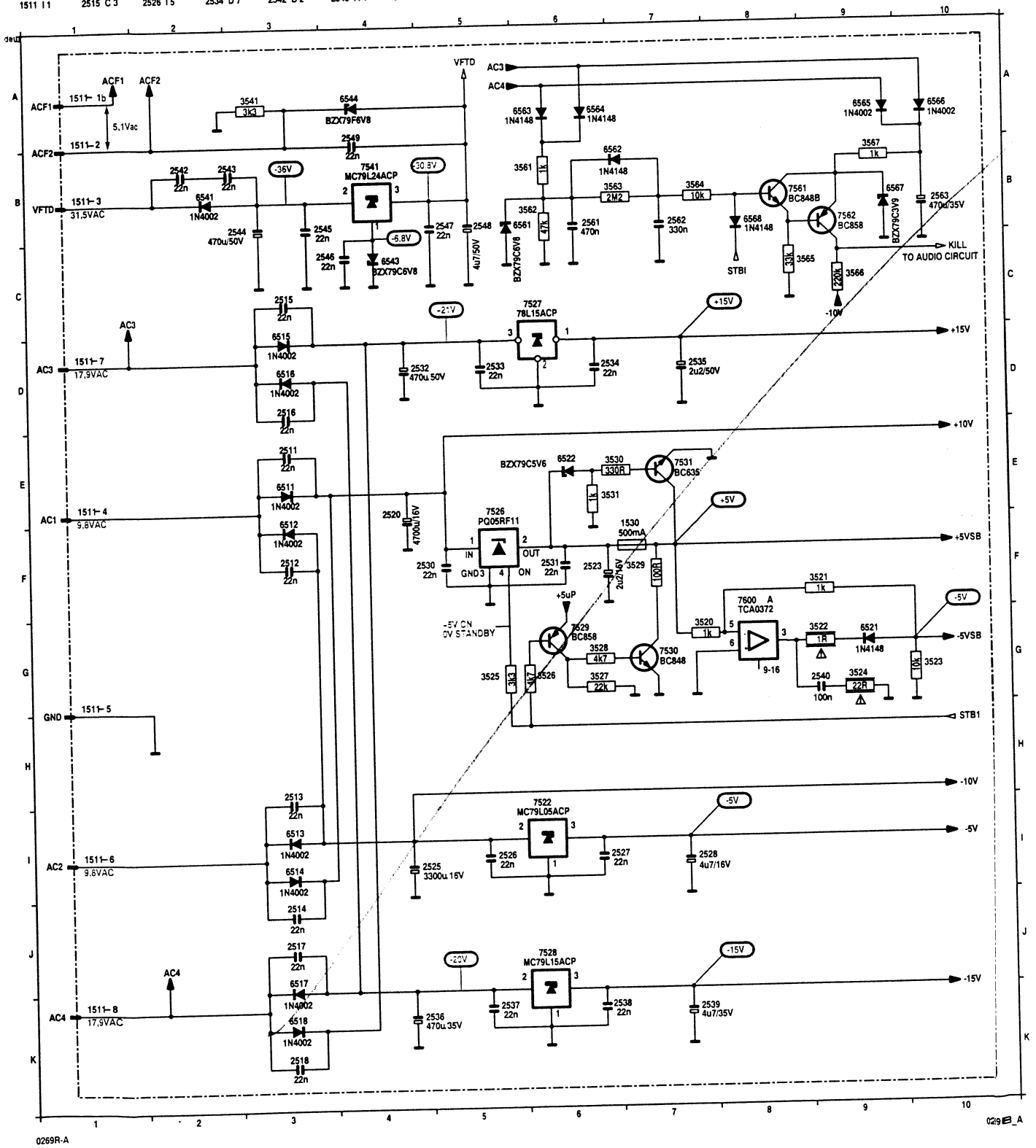
POWER SUPPLY CD951

1511 K1	1511 G1	2516 D3	2527 I7	2535 D7	2543 B3	2561 B6	3524 G9	3531 E6	3566 C9	6516 D3	6544 A4	6567 B10	7530 G7
1511 E1	1530 F7	2517 J3	2528 I7	2536 K5	2544 B3	2562 B7	3525 G5	3541 A3	3567 B9	6517 J3	6561 B6	6568 B8	7531 E7
1511 D1	2511 E3	2518 K3	2530 F5	2537 K5	2545 B4	2563 B10	3526 G6	3561 B6	6511 E3	6518 K3	6562 B7	7522 I6	7541 B4
1511 B1	2512 F3	2520 E4	2531 F6	2538 K7	2546 C4	3520 G7	3527 G6	3562 B6	6512 F3	6521 G9	6563 A6	7526 E5	7561 B8
1511 A1	2513 H3	2523 F6	2532 D5	2539 K7	2547 B5	3521 F9	3528 G6	3563 B7	6513 I3	6522 E6	6564 A6	7527 C5	7562 B9
1511 A1	2514 J3	2525 I5	2533 D5	2540 G9	2548 B5	3522 G9	3529 F7	3564 B7	6514 I3	6541 B2	6565 A9	7528 J6	7600 F8
1511 I1	2515 C3	2526 I5	2534 D7	2542 B2	2549 A4	3523 G10	3530 E7	3565 C9	6515 D3	6543 C4	6566 A10	7529 G6	



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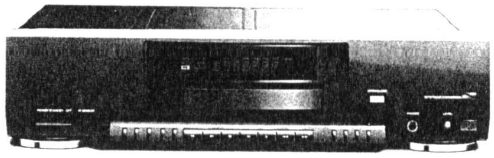

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TECHNICAL SPECIFICATIONS

General

1.Mains voltage	/00S	:	230V (+6 -10%)
	/05S/10S	:	240V (±10%)
	/17S	:	117V (±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

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 ± 1,5dB
3. Unbalance left-right	:	max. 0,2dB
4. Output resistance	:	200Ω
5. Amplitude linearity	:	max. ± 0,2dB from 20 Hz to 20 kHz
6. Phase non-linearity	:	max. ± 1,5° from 20 Hz to 20 kHz
7. Signal to noise ratio	:	min. 105dB from 20 Hz to 20 kHz
8. Dynamic range (-60dB)	:	min. 92dB from 20 Hz to 20 kHz
9. Total harmonic distortion + noise	:	min. 90dB from 20 Hz to 20 kHz
10. Intermodulation distortion	:	min. 90dB from 20 Hz to 20 kHz
11. Out-band attenuation	:	min. 55dB (above 24,2 kHz)
12. Channel separation	:	min. 105dB (1 kHz)
13. Automatic switched de-emphasis with time constants	:	15/50 µs
14. Non-linearity on -90dB	:	± 1dB

Variable headphone

1. Output voltage	:	max. 5 Vrms ± 2dB
2. Unbalance left-right	:	max. ± 0,6dB
3. Output resistance	:	120Ω
4. Load impedance range	:	32Ω to 600Ω load
5. Output power	:	0 to 50 mW into 30Ω load
	:	0 to 90 mW into 120Ω load
	:	0 to 50 mW into 600Ω load
Audio specs in case of 600Ω load at 4 Vrms voltage output		
6. Signal to noise ratio	:	min 95 dB
7. Dynamic range	:	min 90 dB (20 Hz -20 kHz)
8. Total harmonic distortion	:	min 88 dB (20 Hz - 20 kHz)
9. Intermodulation distortion	:	min 88 dB (20 Hz - 20 kHz)
10. Channel separation	:	min 70 dB (1 kHz)
	:	min 65 dB (31,5 Hz - 16 kHz)

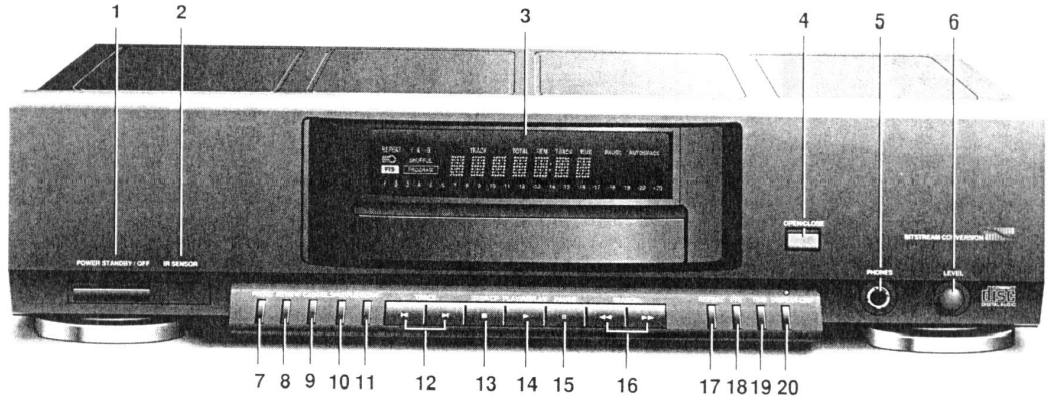
Dimensions and weight

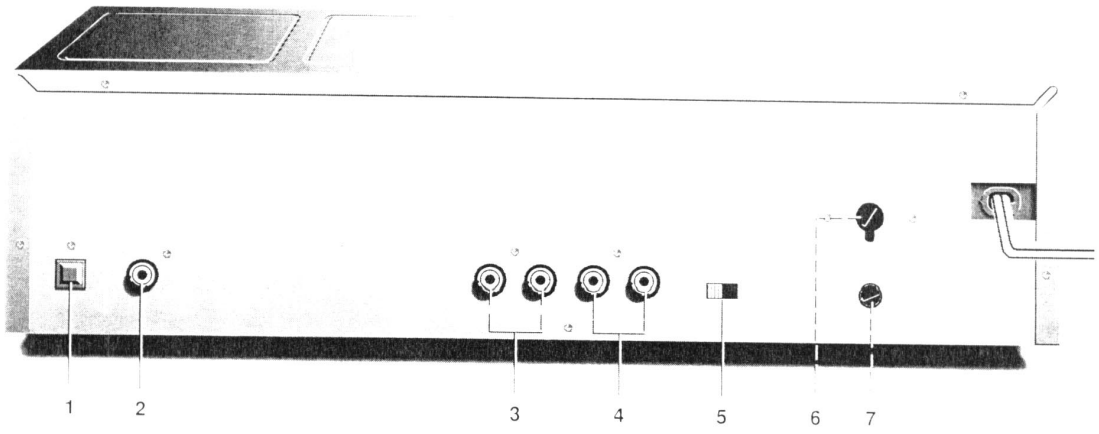
1. Apparatus tray closed	:	WxDxH 435 x 300 x 90/106 mm
2. Apparatus tray open	:	WxDxH 435 x 445 x 90/106 mm
3. Weight	:	4 kg

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 & CONNECTIONS





CONTROLS

Indication on App.	Indication in diagram
1. POWER STANDBY/OFF	SK-1
2. I(nfra)R(ed)SENSOR	1451
3. Display	1402
3. OPEN/CLOSE	1426
5. PHONES	BU-5
6. LEVEL	3381
7. PROG(ram)	1413
8. REVIEW	1411
9. CANCEL	1410
10. SHUFFLE	1412
11. SCAN	1416
12. < TRACK >	1414 1415
13. STOP/CP	1417
14. PLAY/REPLAY	1421
15. PAUSE	1420
16. << SEARCH >>	1419 1418
17. REPEAT	1422
18. FTS	1425
19. TIME	1424
20. DISPLAY OFF	1423

CONNECTIONS

Indication on App.	Indication in diagram
1. DIGITAL OUT OPTICAL	BU-6
2. DIGITAL OUT	BU-4
3. ANALOG OUT	BU-2
4. ESI BUS	BU-3
5. IR SENSOR OFF ON	SK-2
6. Voltage selector(not all versions)	
7. Mains fuse holder(not all versions)	

(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 decharges statiques (ESD).
Leur longevité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise a leur manipulation.
Lors de reparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de securite.
Veiller à ce que les composants ainsi que les outils que l'on utilise soient egalement a 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.

(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 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.

S Varning!

Osynlig laserstralning när apparaten är öppnad och spärrenär urkopplad.
Betrakta ej strålen.

SF Varo!

Avatussa laitteessa ja suojalukituksen ohitettaessa olet alttiina näkymättömälle laserisateilylle.Älä katso säteeseen!

DK Advarsel!

Usynlig laserstraling ved abning. Undga unsaettelse for straling.

DANGER
Invisible laser radiation when open.
Avoid direct exposure to beam

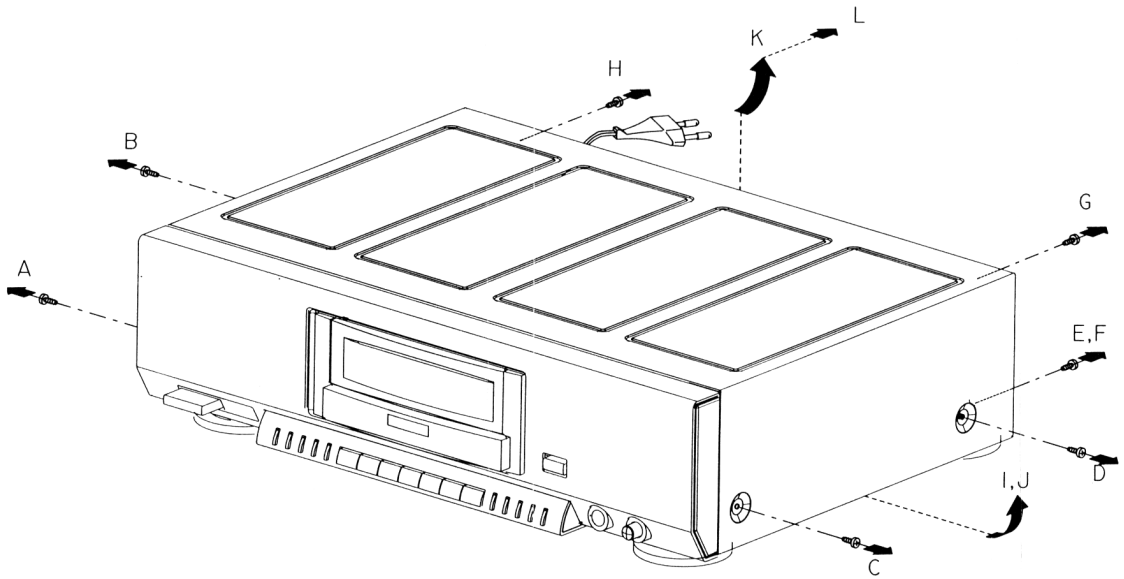
CAUTION
Invisible laser radiation when open.
Avoid exposure to beam.

CLASS 1
LASER PRODUCT
3122 110 03420

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

DISMANTLING INSTRUCTIONS

DEMOUNTING OF COVER



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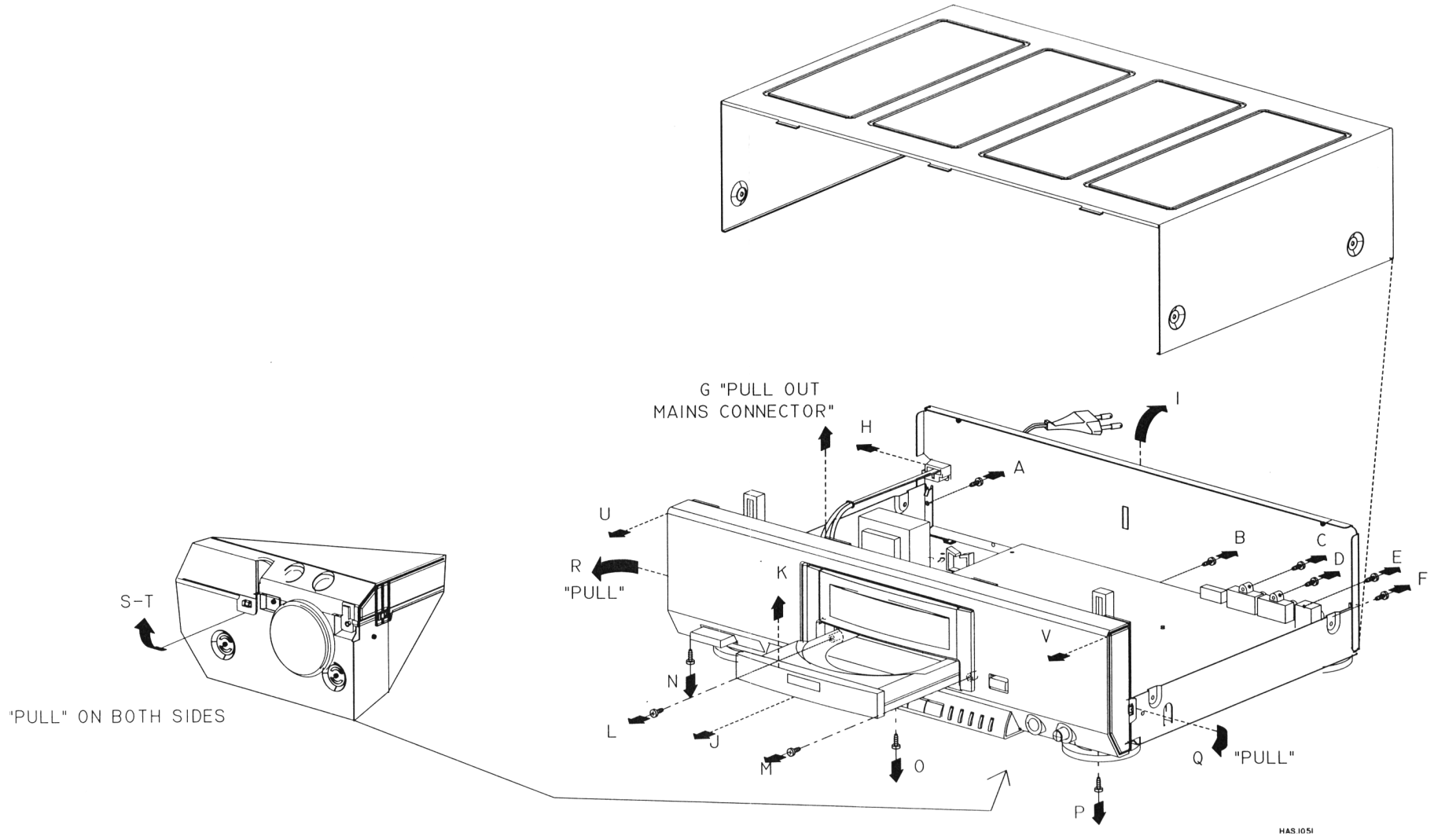
DEMOUNTING OF BACKPLATE AND FRONT



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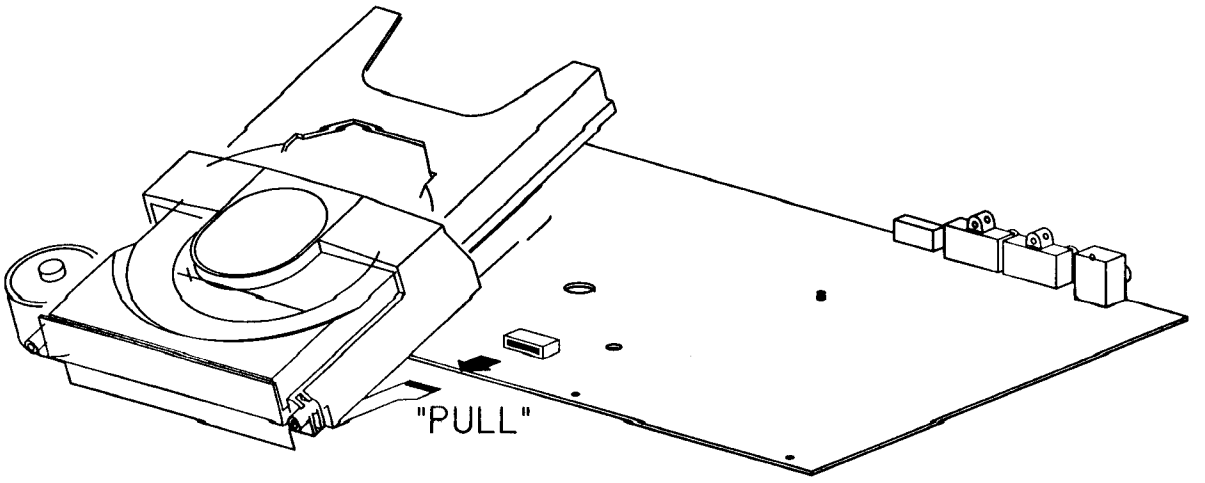
REMOVING FLEX FROM CONNECTOR



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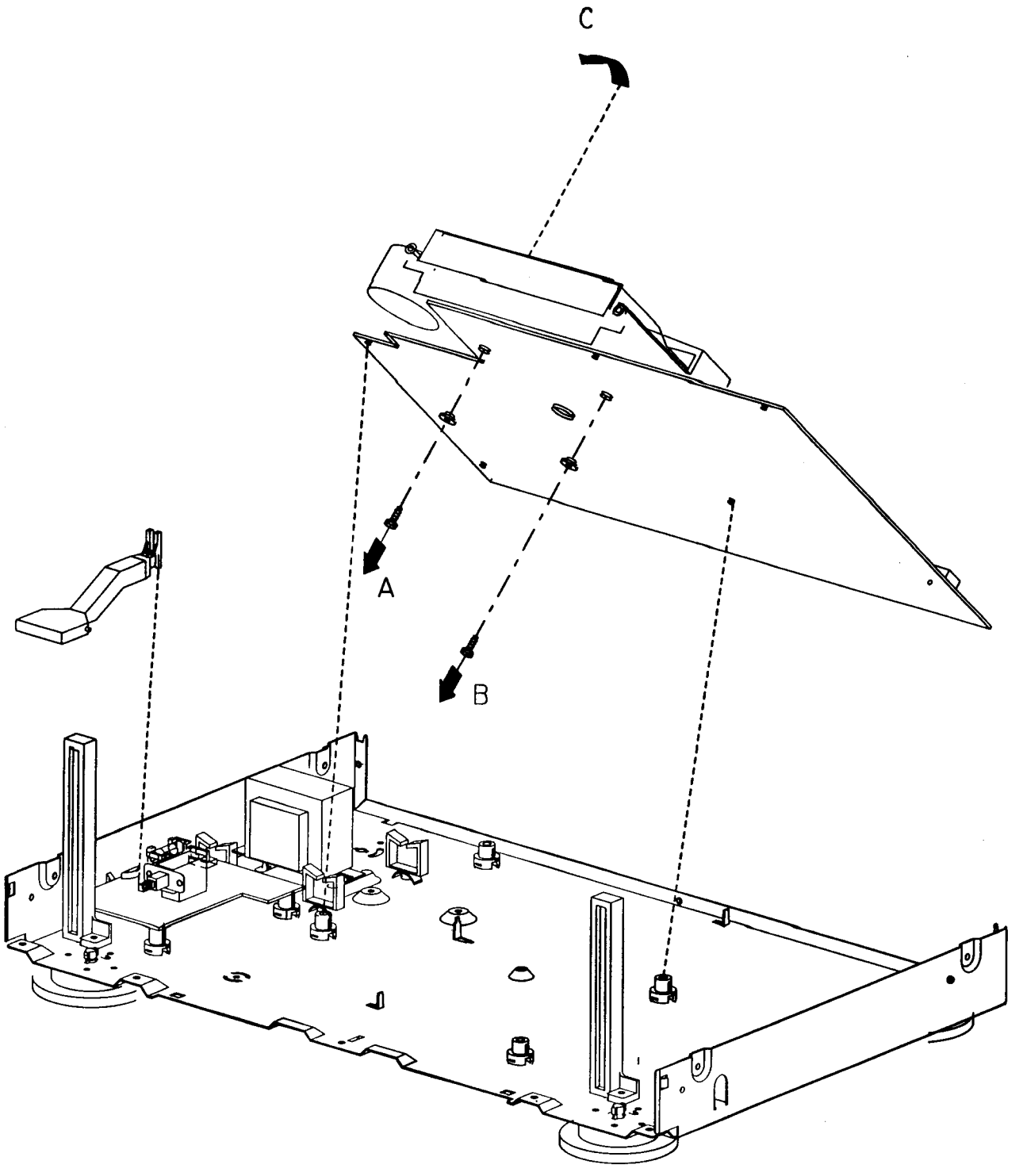
DEMOUNTING OF LOADER



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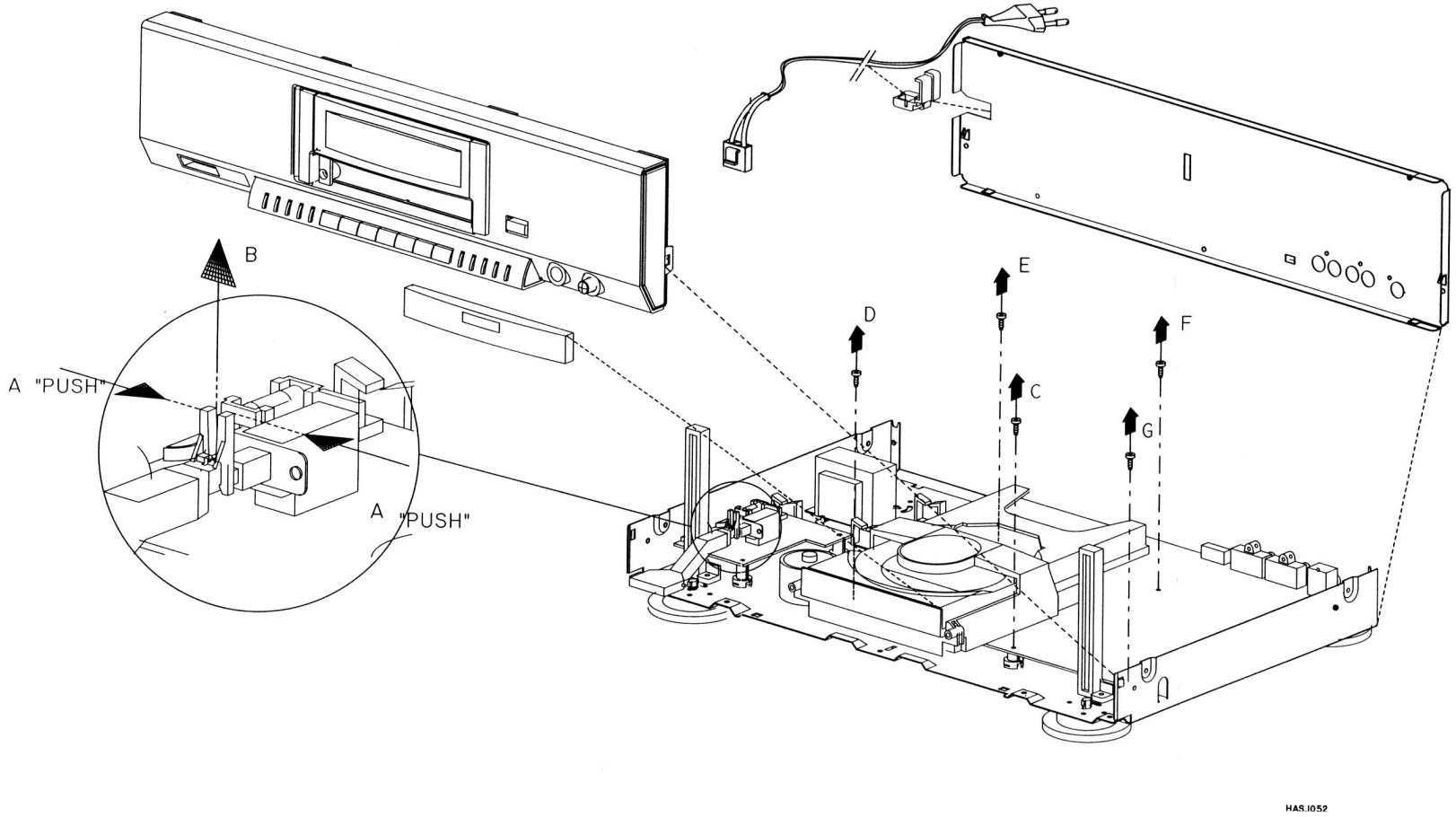
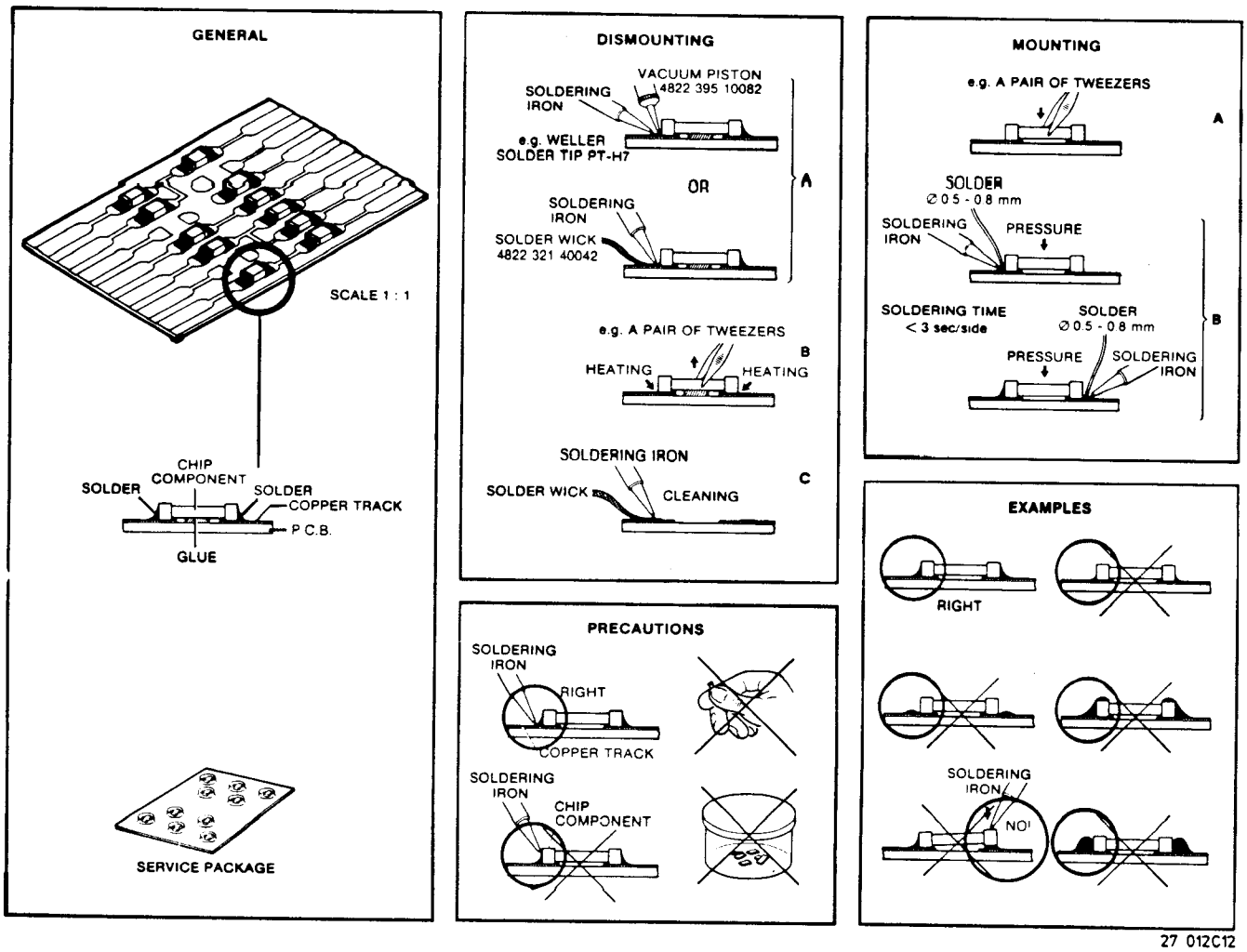
MC-Service

DEMOUNTING OF POWERROD AND MONOBOARD



SERVICING HINTS

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



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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
Service cable (4p)	4822 321 21284
Service flexfoil (14p)	4822 322 40066
Service connector (14p)	4822 267 50676
Green LED CQY G11	5322 130 32182
Infra red remote control e.g.	4822 218 10324

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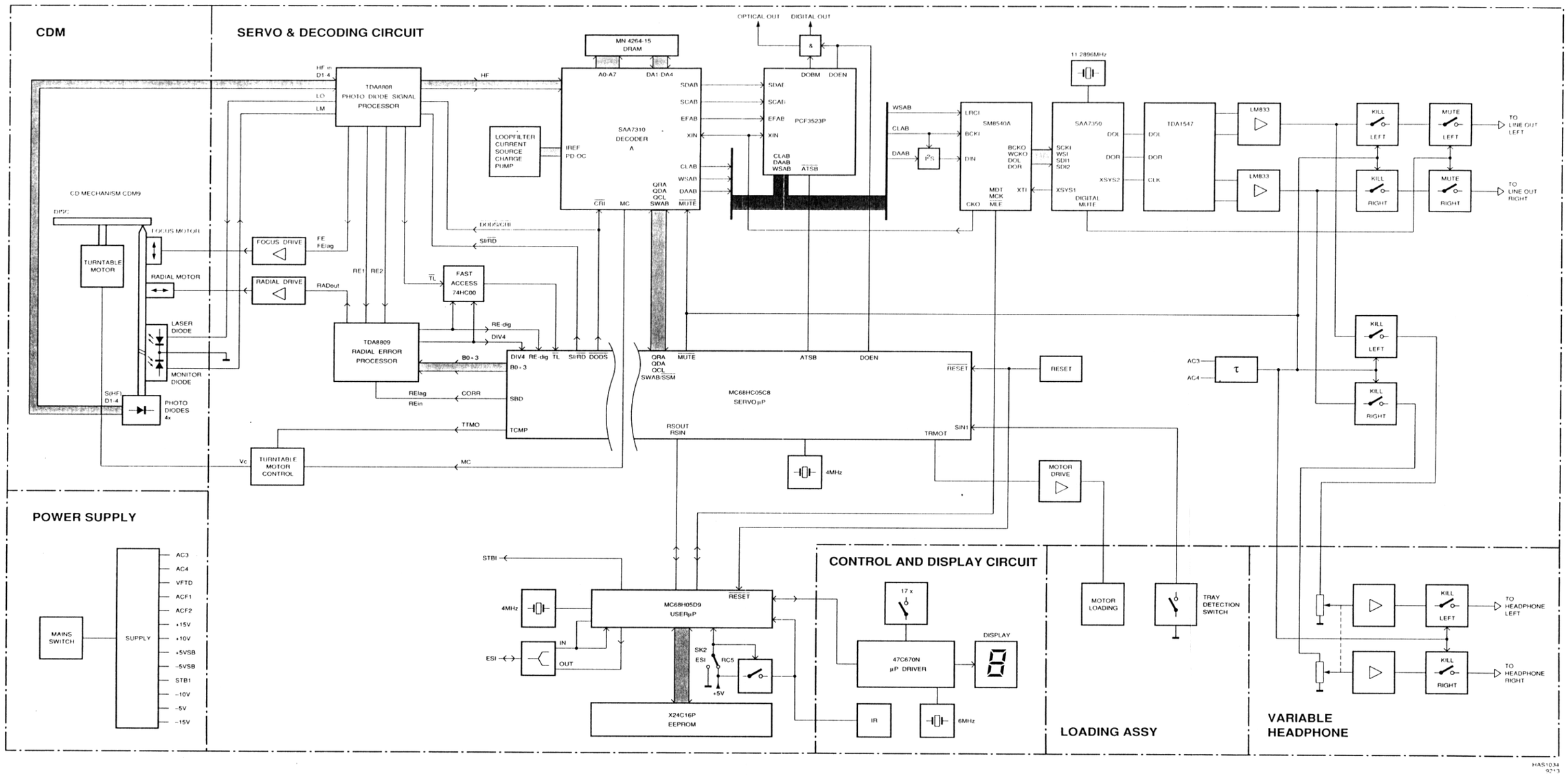
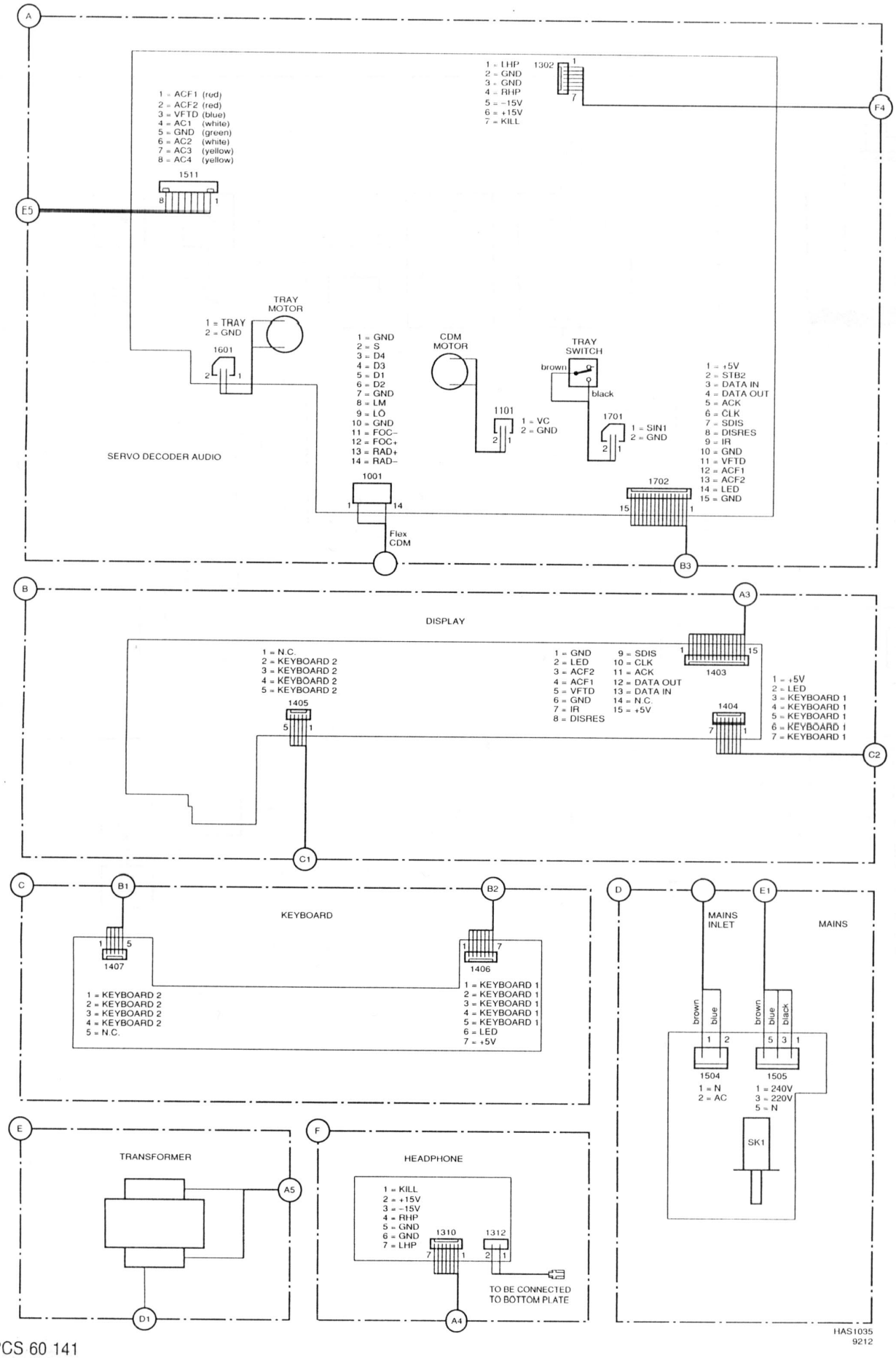
AGC - Automatic Gain Control
AM - Additional mute
ATSB - Attenuation of Audio level in Search position
ATT - Attenuation
B0-B3 - Control bits for radial circuit
BEQ - Equalizer reference current input
BCKI - Input data bit clock
BCKO - Output data bit clock
BGC - DC and LF gain control reference input
BSW - Bandwidth switch turntable motor circuit
CD ROM - Digital Data information in disc signal switch
CEFM - Clock Eight-to-Fourteen Modulator
CKO - Oscillator output clock
CKSL - Clock frequency
CLAB - Clock signal Detector-A to Filter-B
CLBD - Clock signal Filter-B to DAC
CLI - I²S serial bit clock input
CORR - 1/2 bit DAC
Cosc1 - Capacitor wobble oscillator
Cosc2 - Capacitor wobble oscillator
CREF - Reference current
CRI - Counter Reset Inhibit
DAAB - Data signal Decoder-A to Filter-B
DABD - Data signal Filter-B to DAC
DAI - I²S serial data input
DAO - I²S serial data output
DEC - Decoupling input internal bypass
DEEM - Deemphasis
DET - HF detector voltage input
DIN - Input data
DIV4 - Divide by 4 input
DMUTE - Digital mute
DOBM - Digital out signal
DOEN - Digital out enable
DODS - Drop out detector suppression
D1-4 - Photodiode currents
DOL - Left channel data output
DOR - Right channel data output
EFAB - Error flag Decoder-A to Filter-B
FBL+ - - Feedback for left positive (negative) switched capacitor integrator
FBR+ - - Feedback for right positive (negative) switched capacitor integrator
FE - Focus error signal
FE lag - Focus error signal for LAG network
HF - HF output for DEMOD
HFD - HF detector output for DEMOD
HF-in - HF current input to HF amplifier
HF-out - HF amplifier and equalizer voltage output
IDF1-3 - Input data format
ITL+ - - Output from left positive (negative) switched capacitor integrator
ITR+ - - Output from right positive (negative) switched capacitor integrator
LM - Laser monitor diode input
LO - Laser amplifier current output
LRCI - Input data word clock
MC - Motor control signal
MCES - Motor speed control
MCK - Mode set bit clock
MDT - Mode set serial data input
MLE - Mode set latch enable
MUSB - Soft mute signal
MUTE - Mute signal

OUTDL - Output from the left positive switched capacitor DAC;feedback connection for the left positive OPAMP
OUTDNL - Output from the left negative switched capacitor DAC;feedback connection for the left negative OPAMP
OUTDR - Output from the right positive switched capacitor DAC;feedback connection for the right positive OPAMP
OUTDNR - Output from the right negative switched capacitor DAC;feedback connection for the right negative OPAMP
OUTOPAL - +Output of the switched capacitor OPAMP
OUTNOPAL - -Output of the switched capacitor OPAMP
OUTOPAR - +Output of the switched capacitor OPAMP
OUTNOPAR - -Output of the switched capacitor OPAMP
PD/OC - Phase detector - oscillator control
PLLH - PLL on hold reset
QCL - Q-channel clock signal
0QDA - Q-channel data signal
QRA - Q-channel request aknowledge
RADout - Output of RE2-RE1 input
RE - Radial errer signal (Amplified RE2-RE1 currents)
Rosc - Resistor wobble oscillator
Rwob - Wobble generator input
RE1 - Radial error signal 1
RE2 - Radial error signal 2
RE dig - Radial error digital
RE lag - Radial error signal for LAG network
RST - Device reset
SBD - Single Bit Deviation correction
Sc - Starting up capacitor input
SCAB - Subcode clock Decoder-A to Filter-B
SCKI - Bit clock input for serial input interface
SDAB - Subcode data Decoder-A to Filter-B
SDI1-2 - Serial data input
SIN_ - Tray switch
Si/RD - On/off control for laser supply and focus circuit. Ready signal. Starting up procedure succesfull
SWAB/SSM - Subcode word/start-stop motor signal
TL - Track loss output signal
TRMOT - Tray motor drive
TTM+ - Control voltage for turntable motor
TTM- - Control voltage for turntable motor
TTMO - Motor offset and bandwidth switch
VDACL-R - Reference voltage supply left(right) channel DAC
Vext+ - Supply connection
Vext- - Supply connection
VRCL-R - High impedance voltage refence for left (right) channel inputs
VROL-R - Left (right) channel voltage reference output
WCKO - Output word clock
WSAB - Word select Decoder-A to Filter-B
WSBD - Word select Filter-B to DAC
WSI - I²S word select input
WSO - I²S word select output
XIN - Oscillator signal input
XOUT - Oscillator output
XSEL - Crystal frequency select
XSYS - Oscillator signal
XTI - Crystal oscillator input
XTO - Crystal oscillator output

BLOCK DIAGRAM



WIRING DIAGRAM



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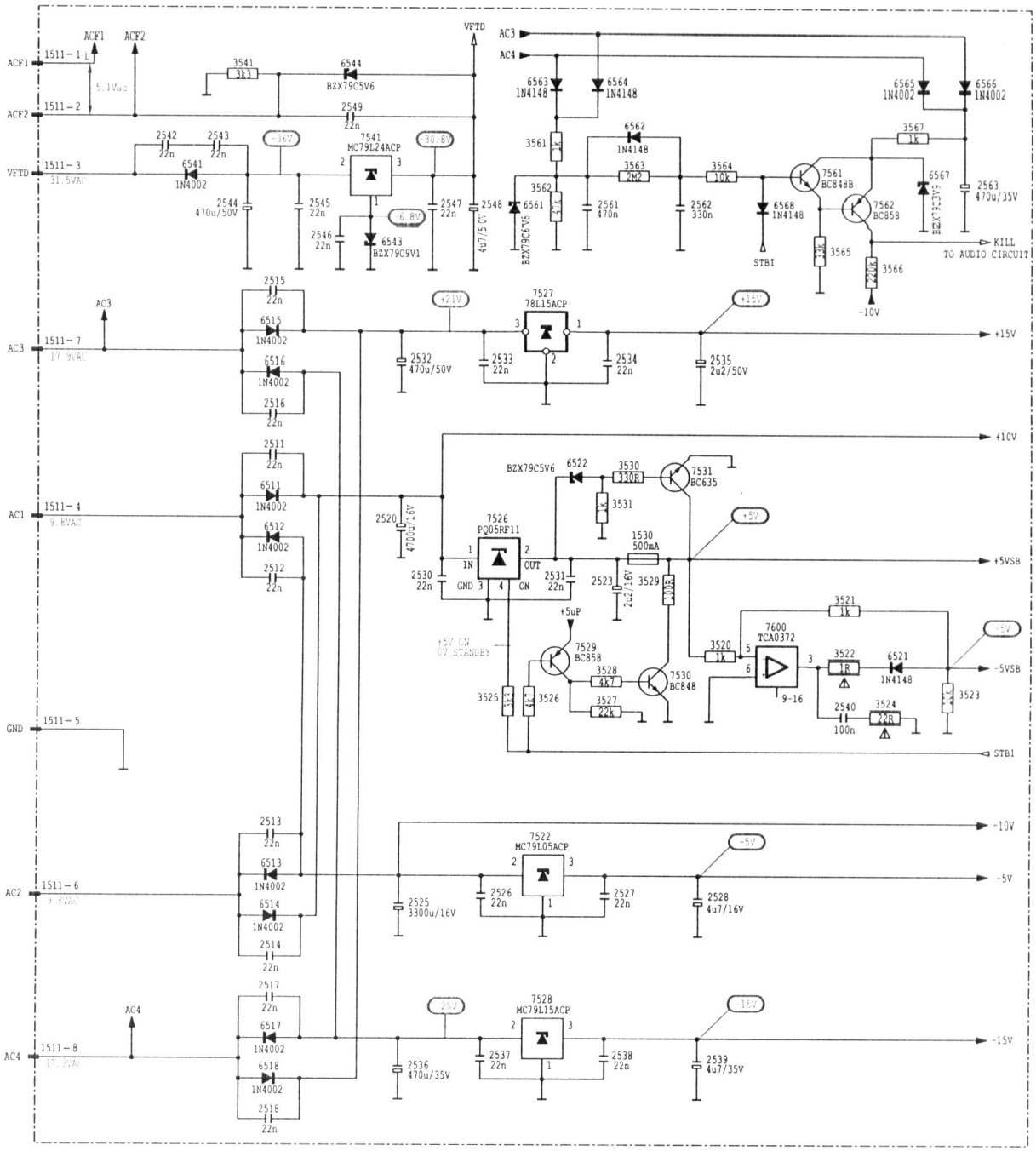
POWER SUPPLY



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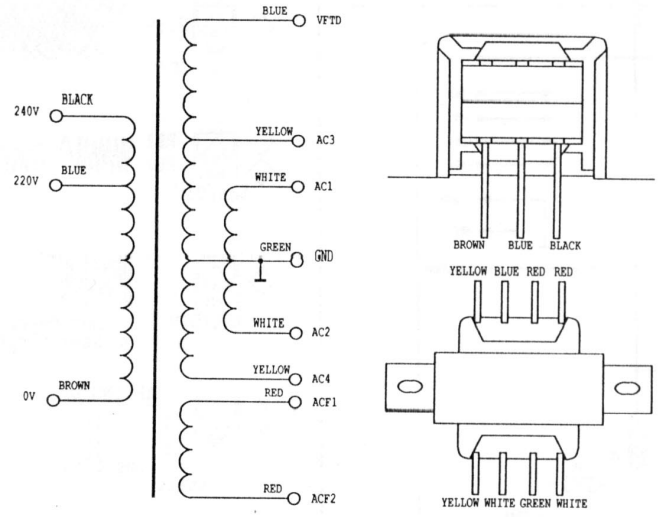
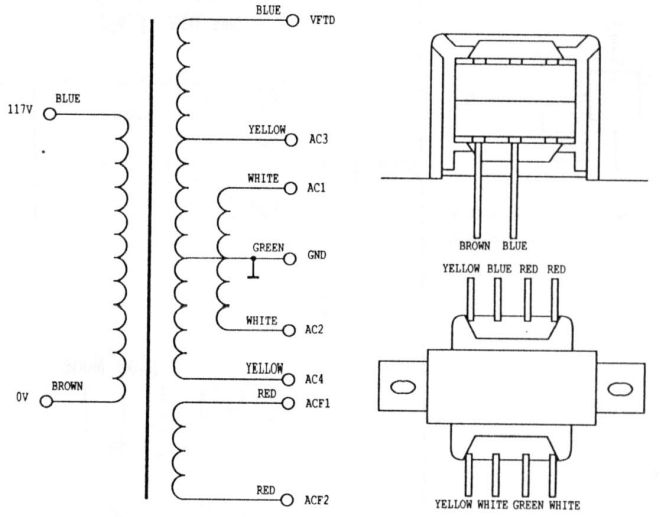
TRANSFORMER CONNECTIONS





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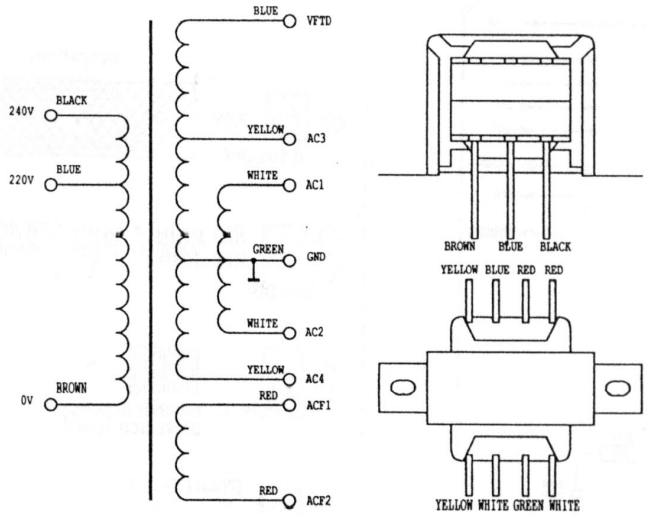
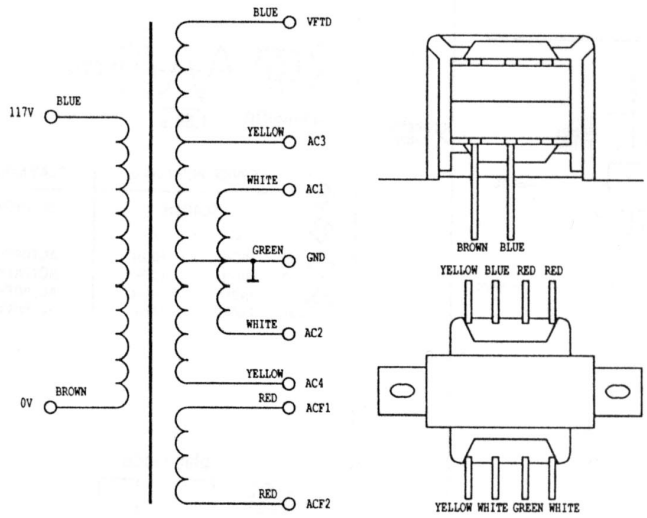
TRANSFORMER CONNECTIONS





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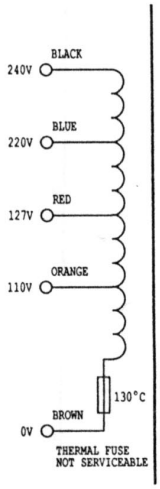
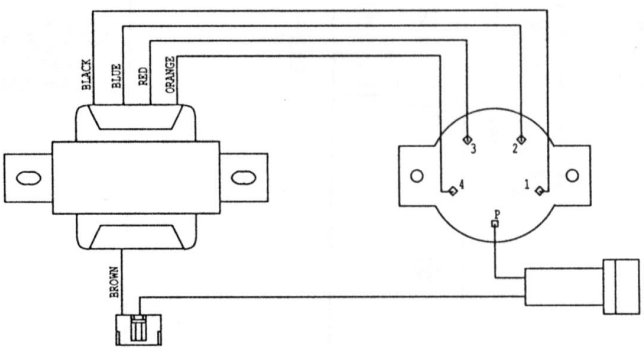
VOLTAGE SELECTOR





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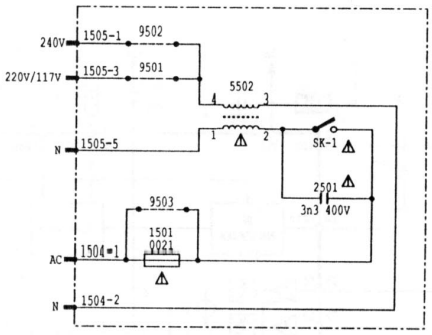
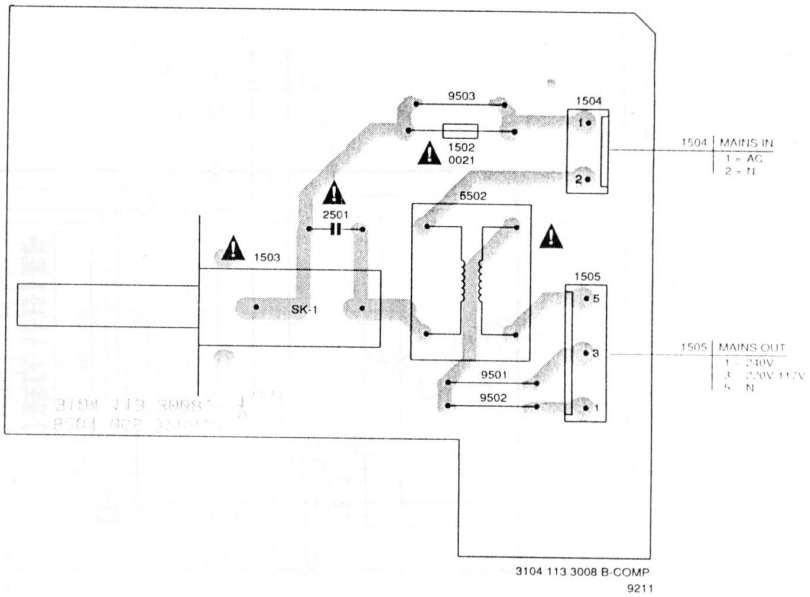
MAINS SWITCH DIAGRAM



CD950/	00S	01S	05S	10S	17S
0021	X		X	X	X
1501	125mA	var.	125mA	125mA	200mA
9501	X	X			X
9502			X	X	
9503		X			

3104 118 00641S-E
9212

MAINS SWITCH PANEL



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9211