

Service
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Service Manual

TABLE OF CONTENTS	PAGE
1. Technical specifications	2a
2. Controls and connections	3
3. Warnings	4a
4. Dismantling instructions	5
5. Servicing hints	10
6. Block diagram	15
7. Wiring diagram	17
8. Circuit diagrams and printed boards	
8.1. Power supply	18
8.2. Servo circuit diagram	20a
8.3. Decoder circuit diagram	21a
8.4. Audio circuit diagram	24a
8.5. Servo & decoder panel component side	27
8.6. Servo & decoder panel solder side	30
8.7. Variable headphone	33
8.8. Display & control circuit diagram	35
8.9. Display & keyboard panel	37
9. Start up procedure	39
10. Faultfinding guide	40
11. Service testprogram	41
12. Electrical adjustments	42
13. Loader	44a
14. Mechanical partslist	46a
15. Exploded view	47
16. Electrical partslist	49a



2a

TECHNICAL SPECIFICATIONS**General**

1.Mains voltage	/00S	: 230V (+6 -10%)
	/05S	: 240V (±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 47kΩ to 68kΩ

Line output

1. Number of channels		: 2
2. Output voltage		: 2 Vrms ± 1,5dB
3. Unbalance left-right		: max. 0,6dB
4. Output resistance		: 200Ω
5. Amplitude linearity		: max. ± 0,2dB from 20 Hz to 20 kHz
6. Phase non-linearity		: max. ± 2° from 20 Hz to 20 kHz
7. Signal to noise ratio		: min. 95dB from 20 Hz to 20 kHz
8. Dynamic range (-60dB)		: min. 92dB from 20 Hz to 20 kHz
9. Total harmonic distortion + noise		: min. 88dB from 20 Hz to 20 kHz
10. Intermodulation distortion		: min. 88dB from 20 Hz to 20 kHz
11. Out-band attenuation		: min. 55dB (above 24,2 kHz)
12. Channel separation		: min. 100dB (1 kHz)
13. Automatic switched de-emphasis with time constants 15/50 μs		
14. Non-linearity on -90dB		: ± 2dB

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 80 dB
7. Dynamic range		: min 75 dB (20 Hz -20 kHz)
8. Total harmonic distortion		: min 70 dB (20 Hz - 20 kHz)
9. Intermodulation distortion		: min 67 dB (20 Hz - 20 kHz)
10. Channel separation		: min 70 dB (1 kHz) : min 65 dB (31,5 Hz - 16 kHz)

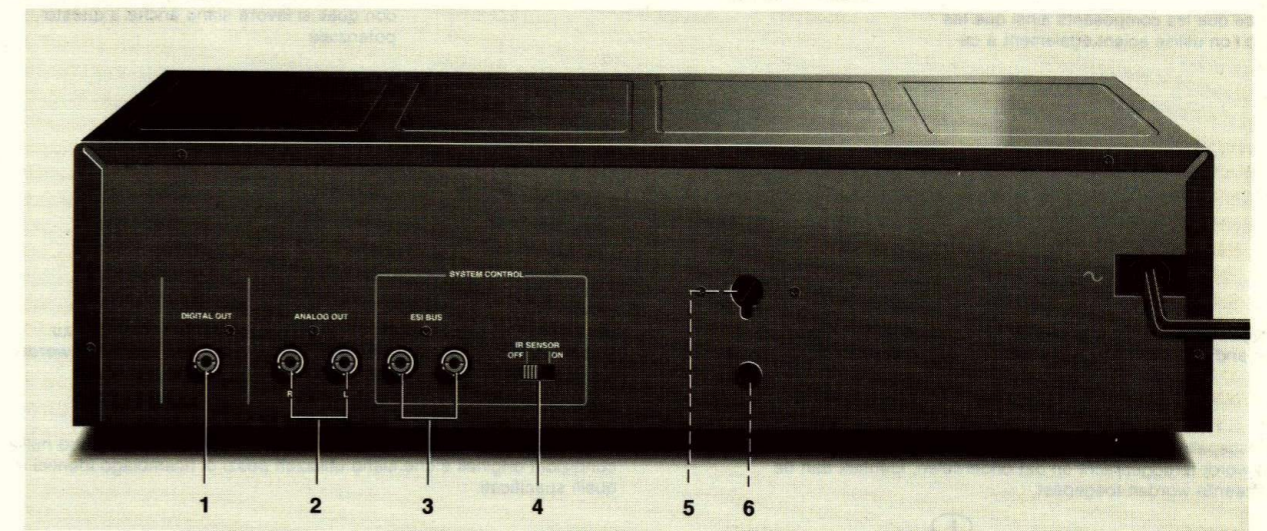
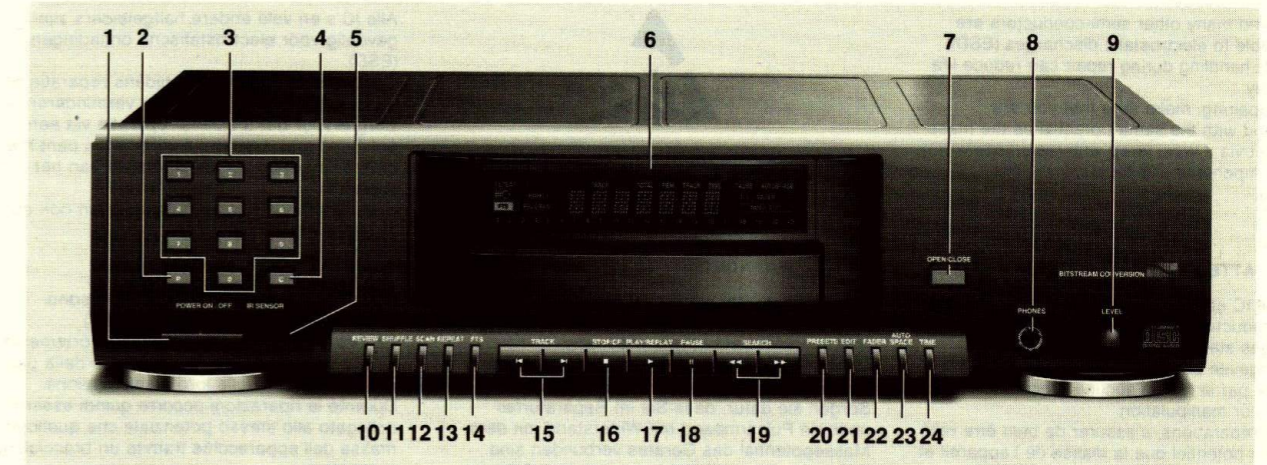
Dimensions and weight

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

3

CONTROLS & CONNECTIONS**CONTROLS**

Indication on App.	Indication in diagram
1. POWER ON/OFF	SK-1
2. P(rogramme)	1419
3. 1-0 digit keys	1410,1411,1412,1413,1414, 1415,1416,1417,1418,1420
3. C(ancel)	1421
5. IR SENSOR	1451
6. Display	1402
7. OPEN/CLOSE	1439
8. PHONES	BU-5
9. LEVEL	3381
10. REVIEW	1422
11. SHUFFLE	1425
12. SCAN	1423
13. REPEAT	1424
14. FTS	1426
15. < TRACK >	1431 1429
16. STOP/CP	1428
17. PLAY/REPLAY	1430
18. PAUSE	1427
19. << SEARCH >>	1432 1435
20. PRESETS	1433
21. EDIT	1434
22. FADER	1438
23. AUTO SPACE	1437
24. TIME	1436

CONNECTIONS

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

(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.

(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.

(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 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

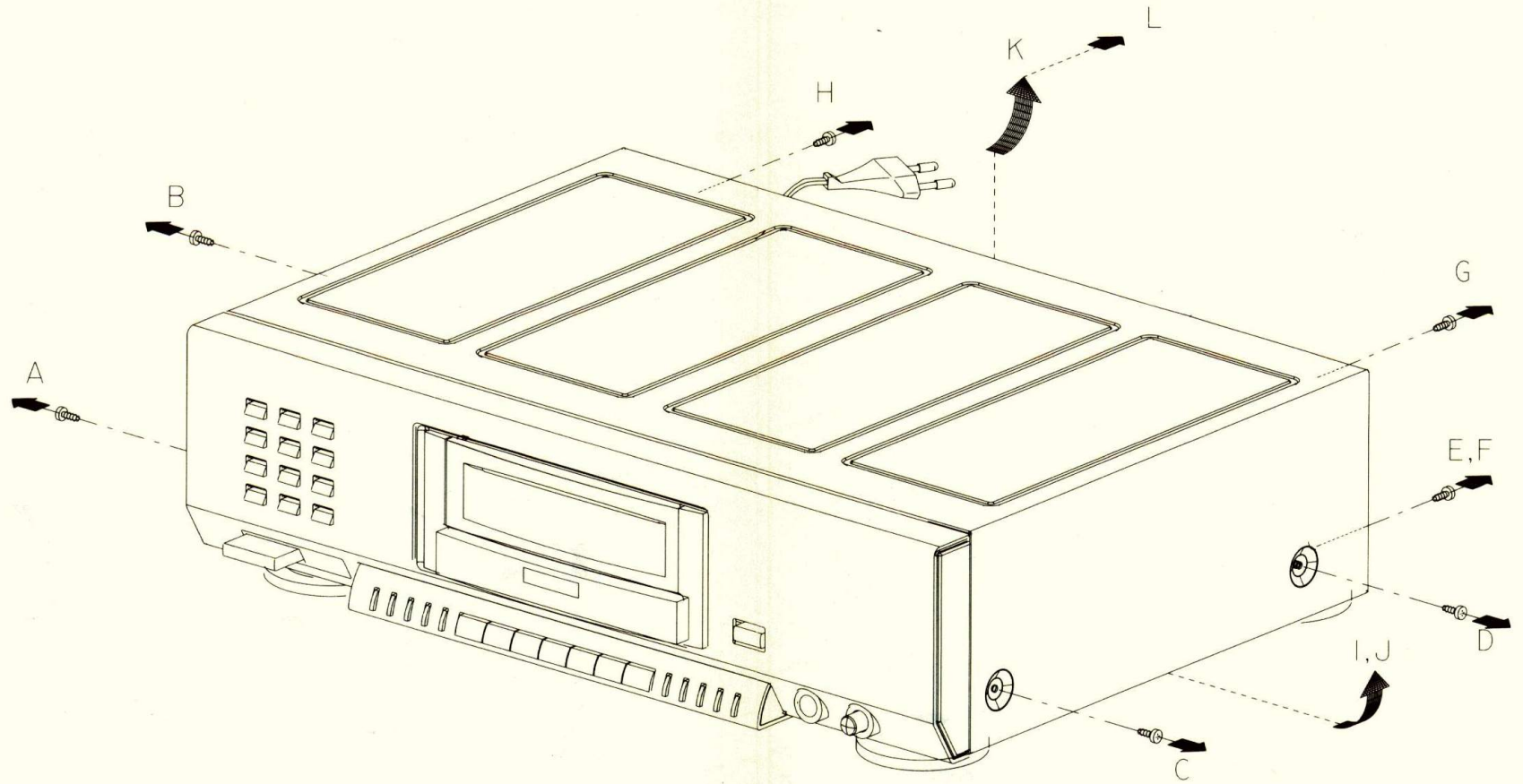
UNSICHTBARE LASERSTRAHLUNG WENN ABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETZEN

**CLASS 1
LASER PRODUCT**

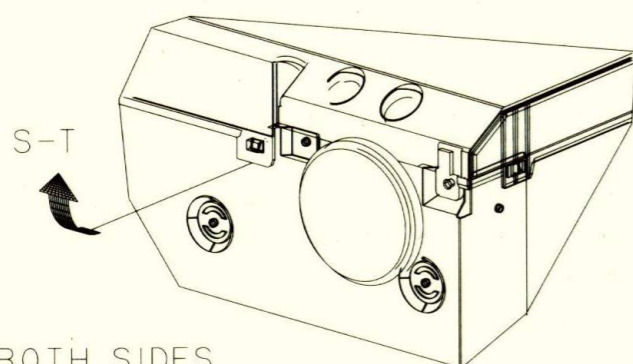
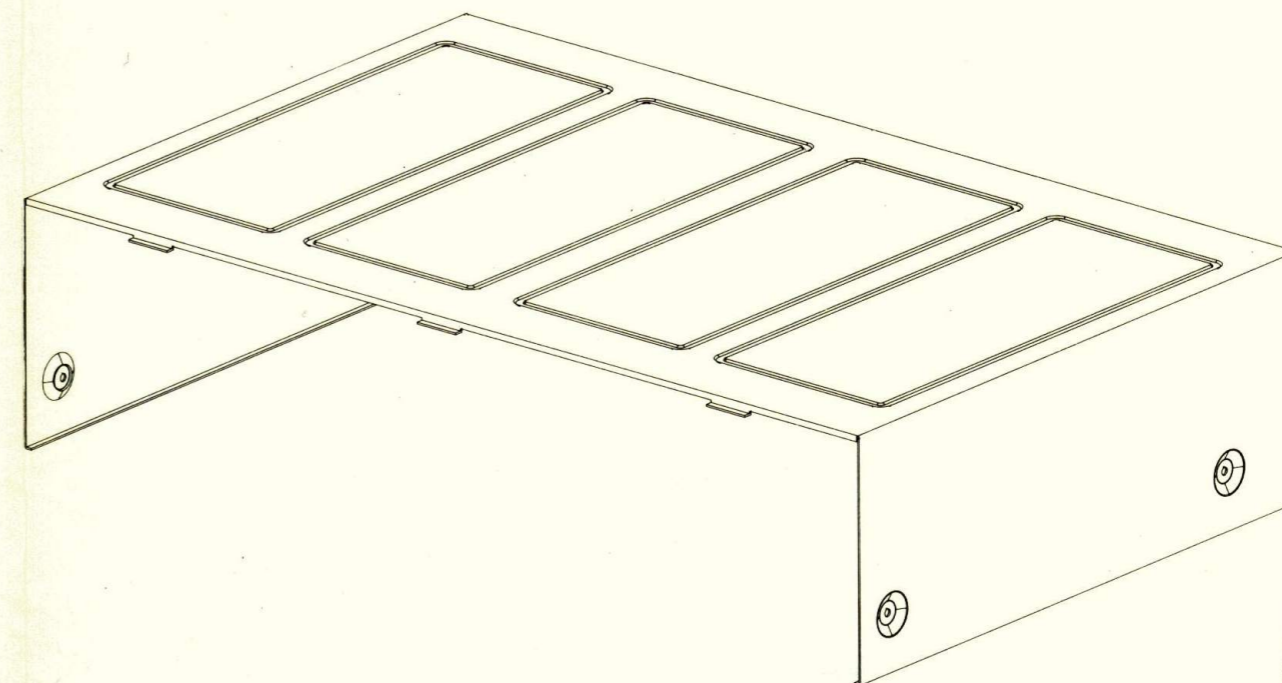
3122 110 03420

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

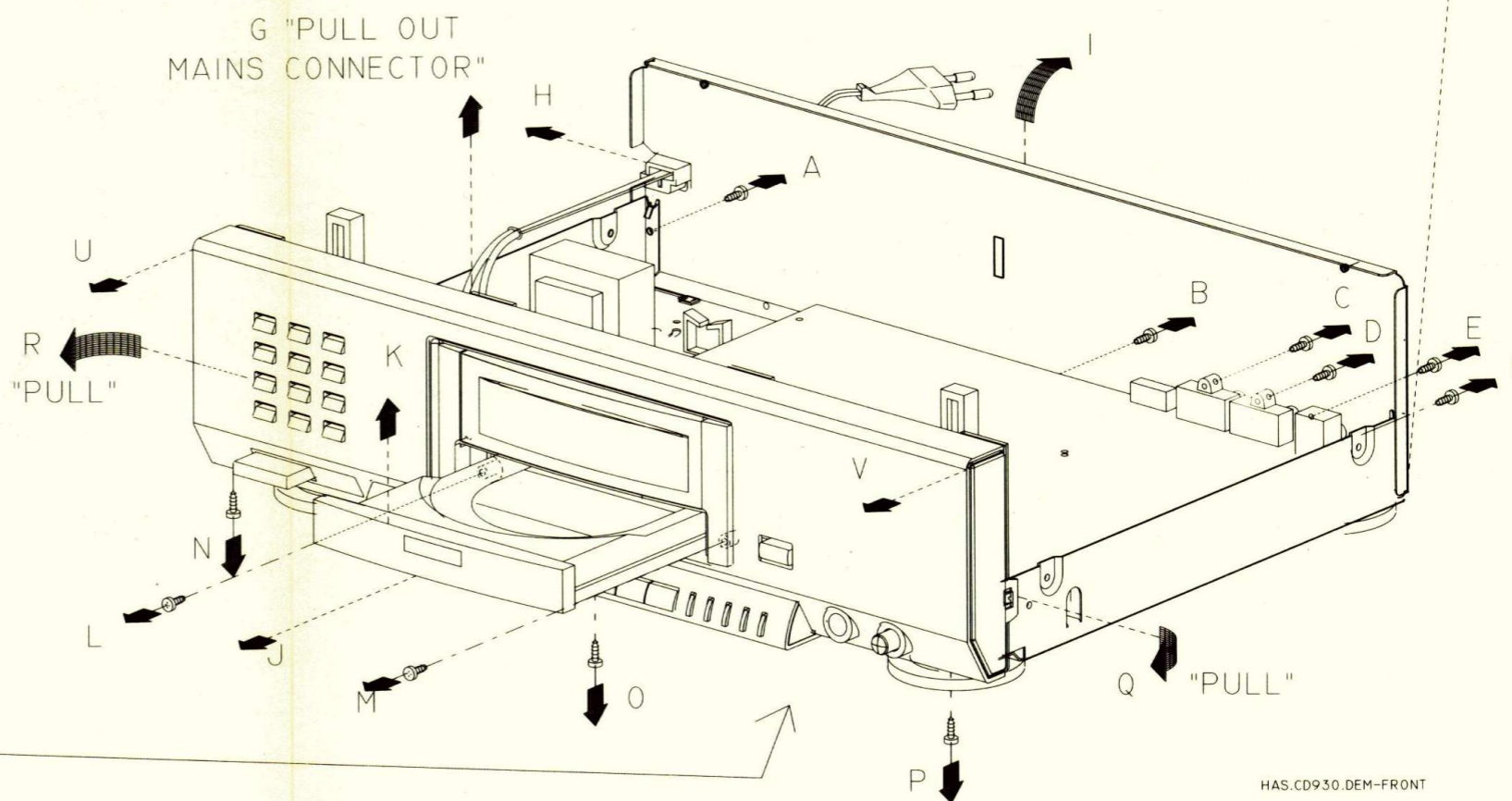
DISMANTLING INSTRUCTIONS
DEMOUNTING OF COVER



DEMOUNTING OF BACKPLATE AND FRONT

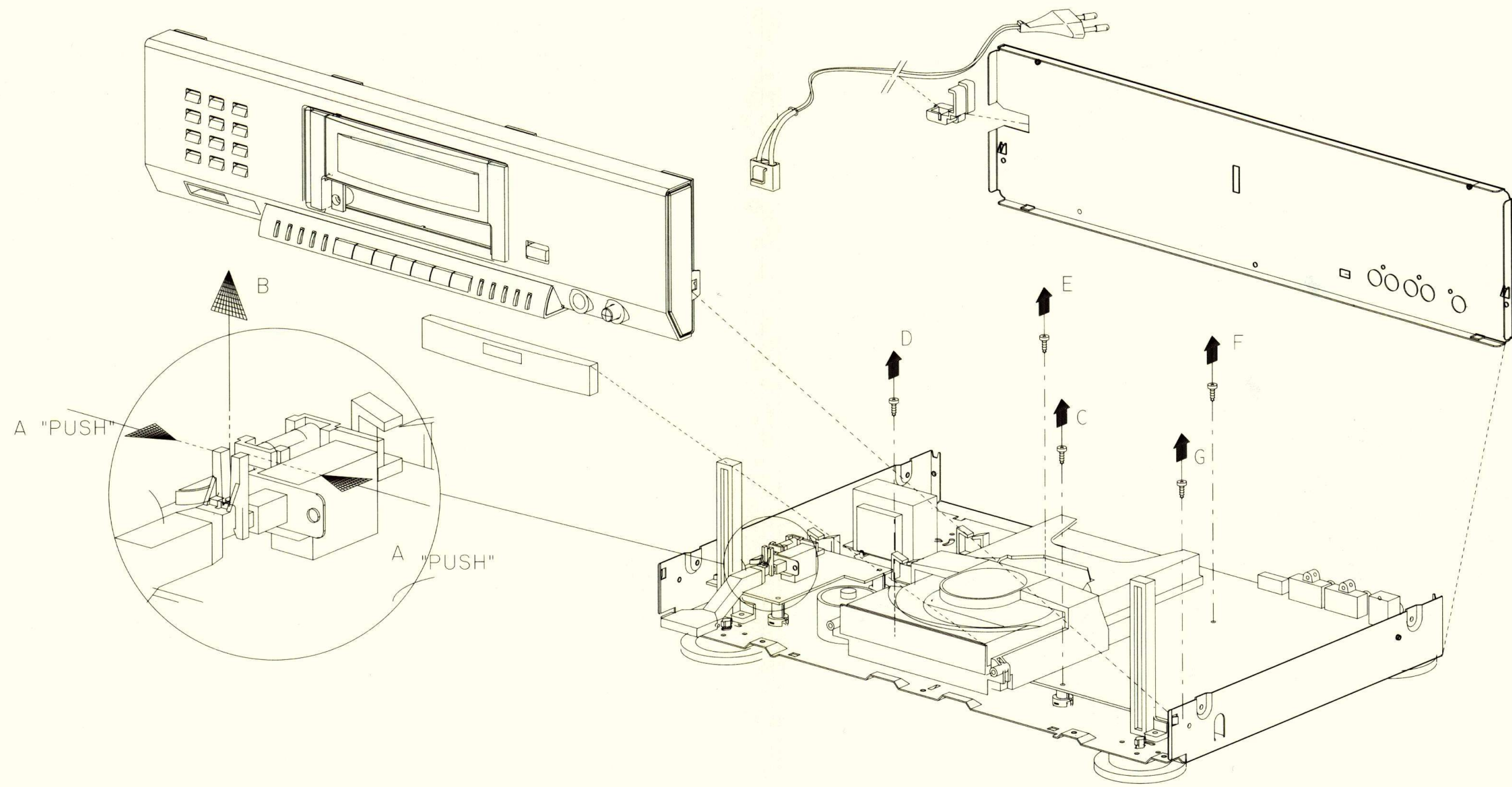


'PULL" ON BOTH SIDES



HAS.CD930.DEM-FRONT

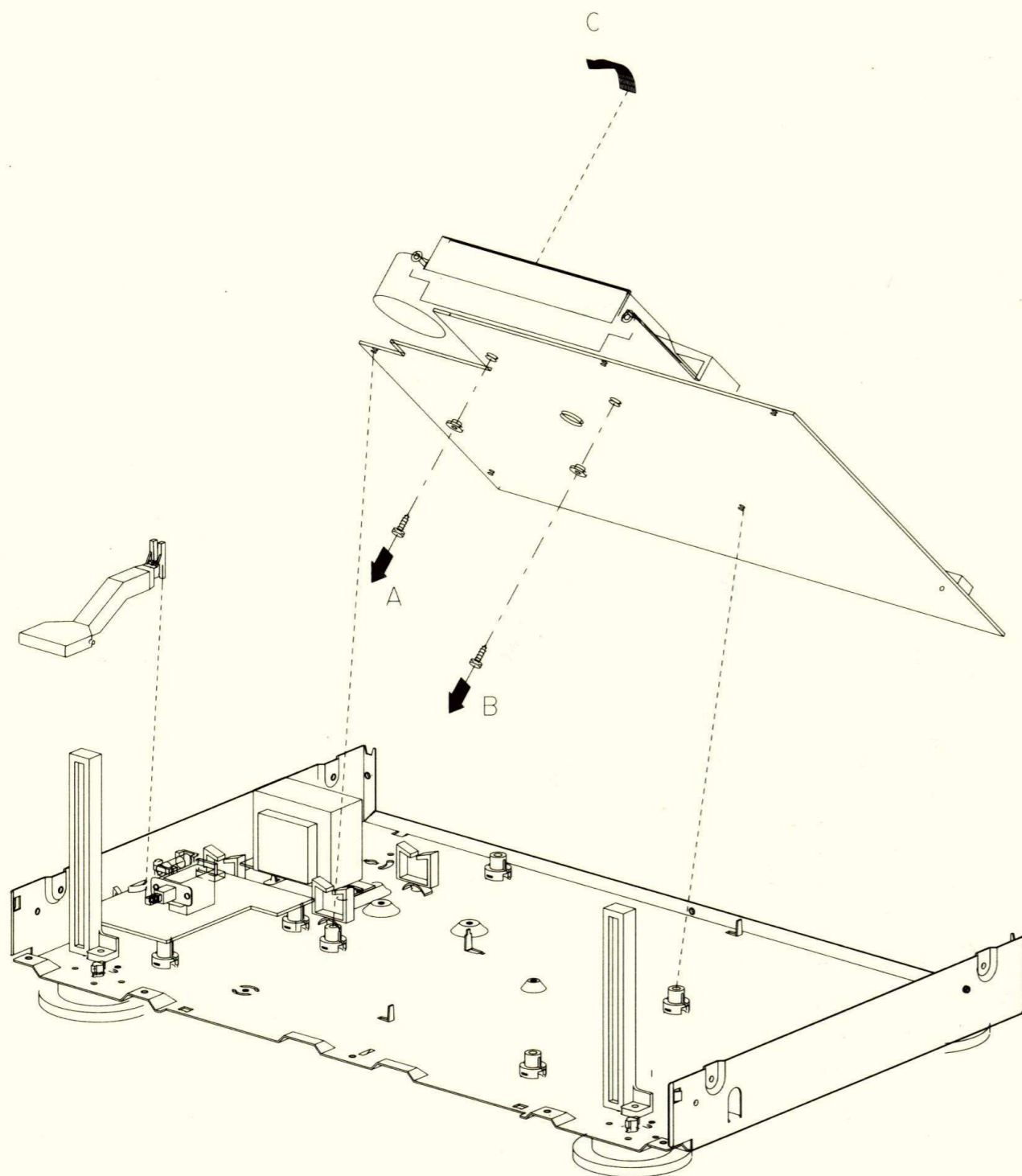
DEMOUNTING OF POWERROD AND MONOBOARD



HAS_CD930_DFM-MONORBOARD

DEMOUNTING OF LOADER

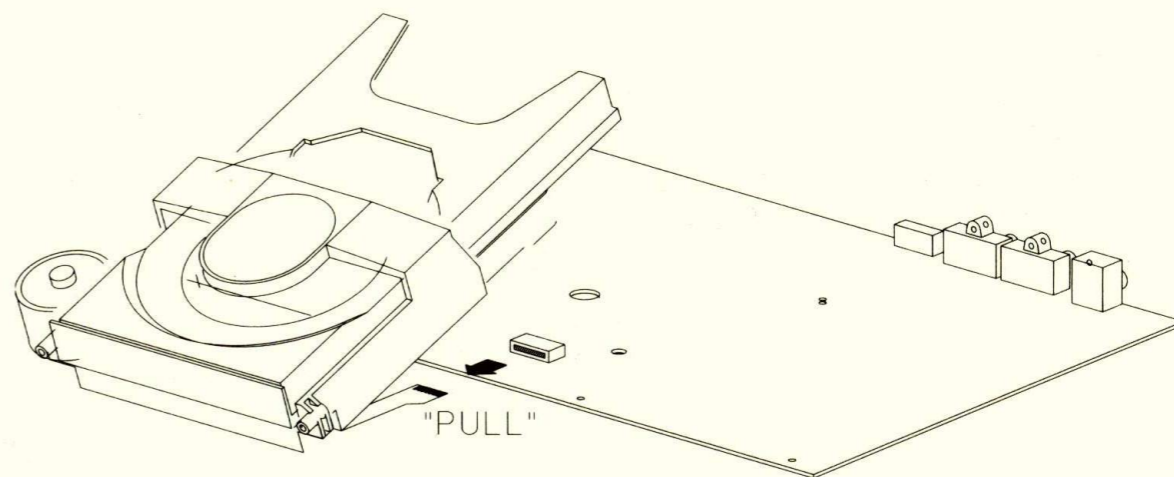
11



HAS_CD930_DFM-LOADING

REMOVING FLEX FROM CONNECTOR

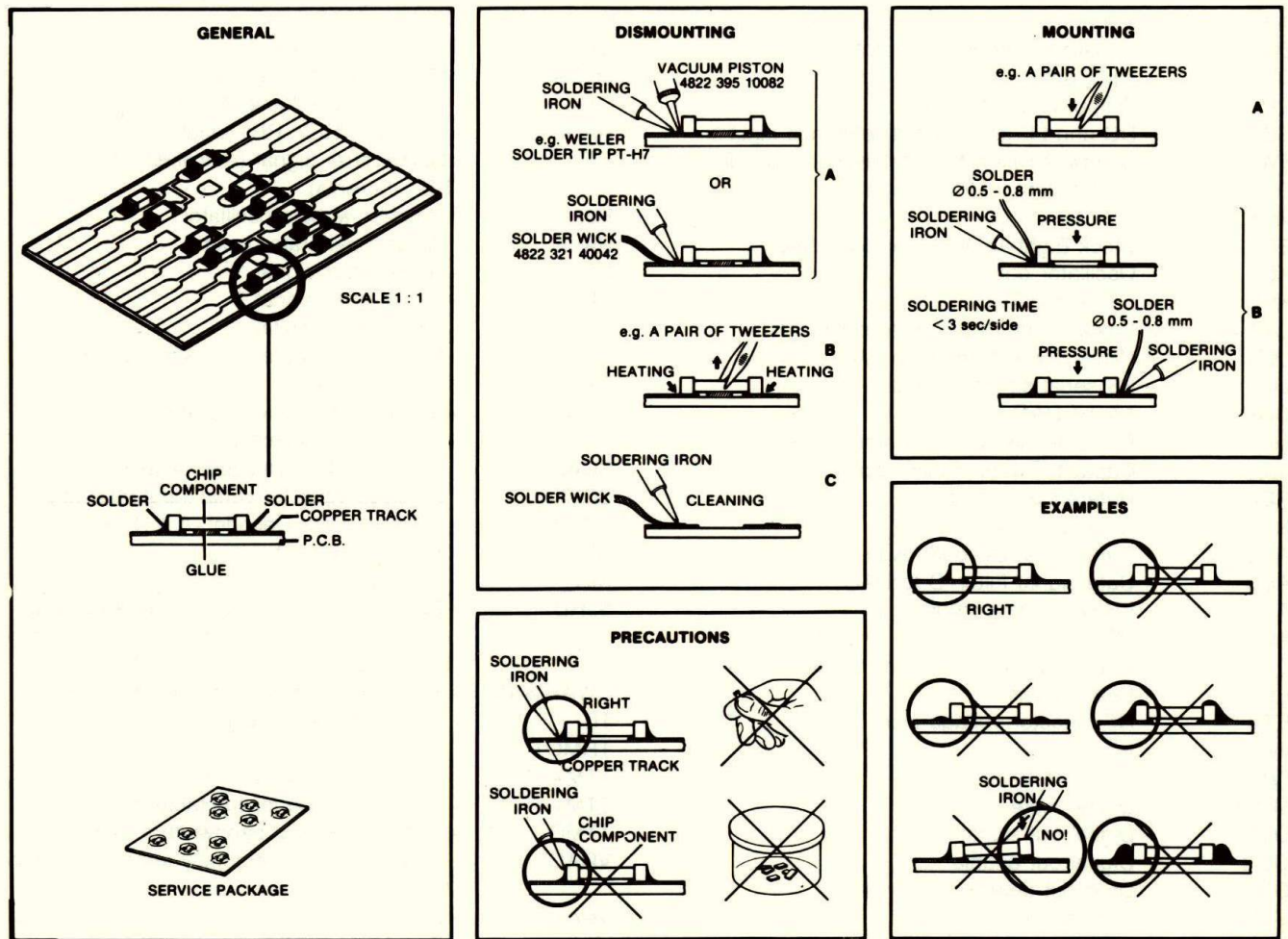
12



HAS_CD930_DFM-FLEX

SERVICING HINTS

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



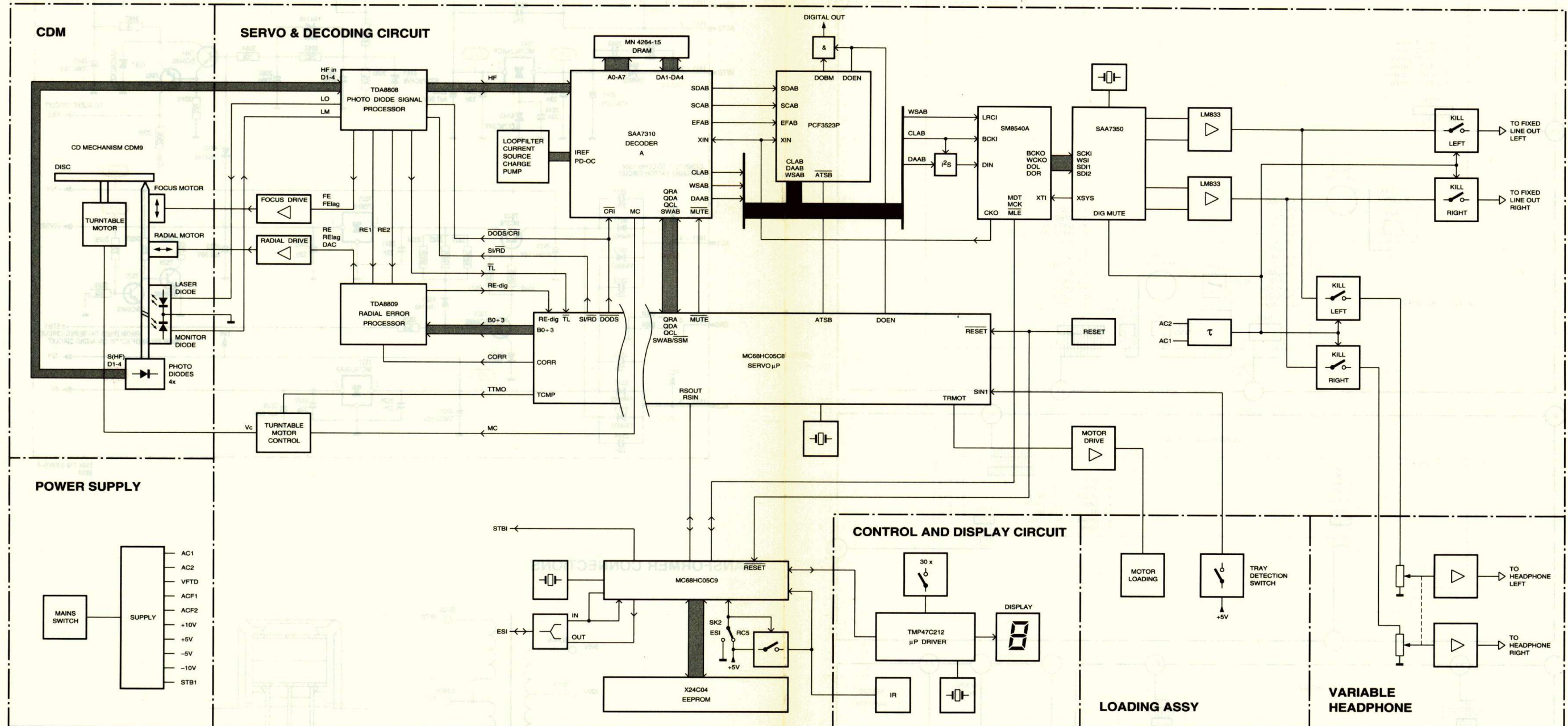
27 012C12

SERVICE TOOLS

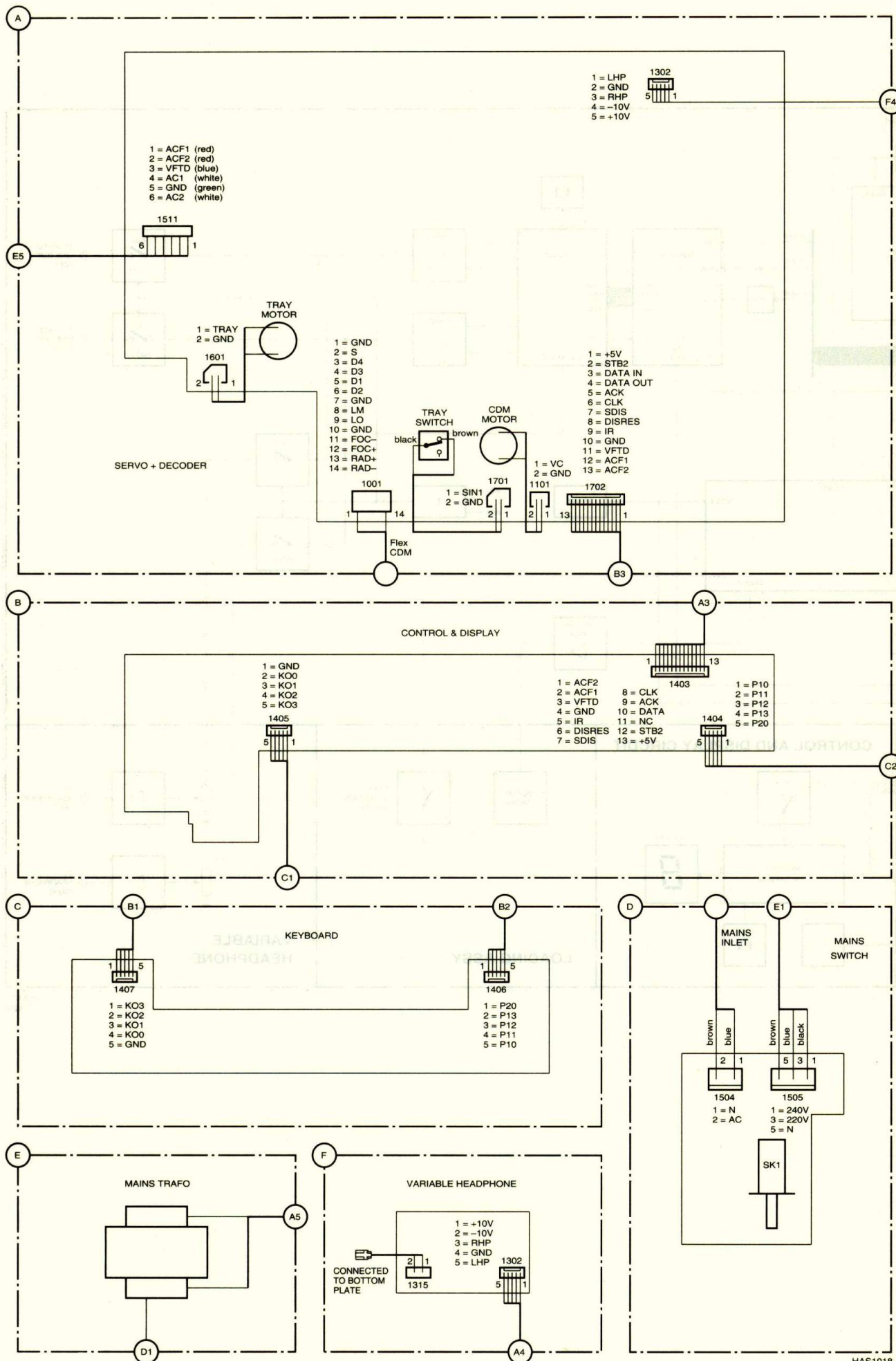
Audio signal disc	4822 397 30184
Disc without errors (test disc 5) + disc with DO errors, black spots and fingerprints (test disc 5A)	4822 397 30096
Disc (65 min 1kHz) without pause	4822 397 30155
Max. diameter disc (58.0 mm)	4822 397 60141
Torx screwdrivers	
Set (straight)	4822 395 50145
Set (square)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

<u>AGC</u>	- Automatic Gain Control	OALO	- Operational ampl. left output
AM	- Additional mute	OARO	- Operational ampl. right output
<u>ATSB</u>	- Attenuation of Audio level in Search	Offset IN-	- Offset control input
position		Offset OUT	- Offset control output
ATT	- Attenuation	PD/OC	- Phase detector - oscillator control
B0-B3	- Control bits for radial circuit	PLLH	- PLL on hold reset
BEQ	- Equalizer reference current input	QCL	- Q-channel clock signal
BCKI	- Input data bit clock	0QDA	- Q-channel data signal
BCKO	- Output data bit clock	QRA	- Q-channel request acknowledge
BGC	- DC and LF gain control reference input	RADout	- Output of RE2-RE1 input
BSW	- Bandwidth switch turntable motor circuit	RE	- Radial error signal (Amplified RE2-RE1 currents)
CD ROM	- Digital Data information in disc signal	Rosc	- Resistor wobble oscillator
switch		Rwob	- Wobble generator input
CEFM	- Clock Eight-to-Fourteen Modulator	RE1	- Radial error signal 1
CKO	- Oscillator output clock	RE2	- Radial error signal 2
CKSL	- Clock frequency	RE dig	- Radial error digital
CLAB	- Clock signal Detector-A to Filter-B	RE_lag	- Radial error signal for LAG network
CLBD	- Clock signal Filter-B to DAC	RST	- Device reset
CLI	- I ² S serial bit clock input	SBD	- Single Bit Deviation correction
CORR	- 1/2 bit DAC	Sc	- Starting up capacitor input
Cosc1	- Capacitor wobble oscillator	SCAB	- Subcode clock Decoder-A to Filter-B
Cosc2	- Capacitor wobble oscillator	SCKI	- Bit clock input for serial input interface
<u>CREF</u>	- Reference current	SDAB	- Subcode data Decoder-A to Filter-B
CRI	- Counter Reset Inhibit	SDI1-2	- Serial data input
DAAB	- Data signal Decoder-A to Filter-B	SIN_	- Tray switch
DABD	- Data signal Filter-B to DAC	Si/RD	- On/off control for laser supply and focus circuit. Ready signal. Starting up procedure succesfull
DAI	- I ² S serial data input	<u>SWAB/SSM</u>	- Subcode word/start-stop motor signal
DAO	- I ² S serial data output	TL	- Track loss output signal
<u>DEC</u>	- Decoupling input internal bypass	TRMOT	- Tray motor drive
DEEM	- Deemphasis	TTM+	- Control voltage for turntable motor
DET	- HF detector voltage input	TTM-	- Control voltage for turntable motor
DIN	- Input data	TTMO	- Motor offset and bandwidth switch
<u>DIV4</u>	- Divide by 4 input	VDACL-R	- Reference voltage supply left(right) channel DAC
DMUTE	- Digital mute	Vext+	- Supply connection
DOBM	- Digital out signal	Vext-	- Supply connection
DOEN	- Digital out enable	VRCL-R	- High impedance voltage refence for left (right) channel inputs
DODS	- Drop out detector suppression	VROL-R	- Left (right) channel voltage reference output
D1-4	- Photodiode currents	WCKO	- Output word clock
DOL	- Left channel data output	WSAB	- Word select Decoder-A to Filter-B
DOR	- Right channel data output	WSBD	- Word select Filter-B to DAC
EFAB	- Error flag Decoder-A to Filter-B	WSI	- I ² S word select input
FBL+ -	- Feedback for left positive (negative) switched capacitor integrator	WSO	- I ² S word select output
FBR+ -	- Feedback for right positive (negative) switched capacitor integrator	XIN	- Oscillator signal input
FE	- Focus error signal	XOUT	- Oscillator output
FE lag	- Focus error signal for LAG network	XSEL	- Crystal frequency select
HF	- HF output for DEMOD	XSYS	- Oscillator signal
HF _D	- HF detector output for DEMOD	XTI	- Crystal oscillator input
HF-in	- HF current input to HF amplifier	XTO	- Crystal oscillator output
HF-out	- HF amplifier and equalizer voltage output		
IDF1-3	- Input data format		
INTL+ -	- Output from left positive (negative) switched capacitor integrator		
INTR+ -	- 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		
<u>MCES</u>	- Motor speed control		
MCK	- Mode set bit clock		
<u>MDT</u>	- Mode set serial data input		
MLE	- Mode set latch enable		
<u>MUSB</u>	- Soft mute signal		
MUTE	- Mute signal		

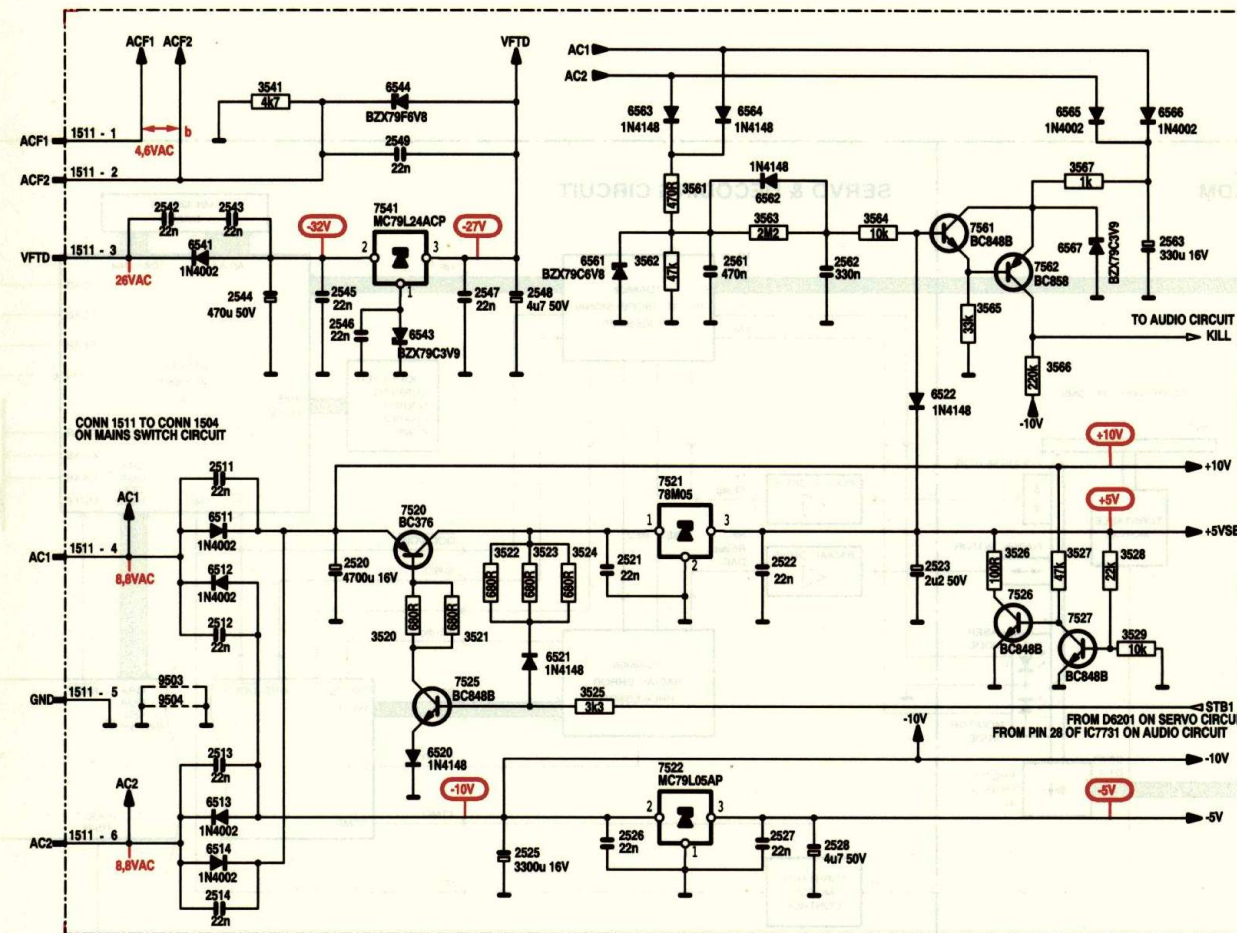
BLOCK DIAGRAM II



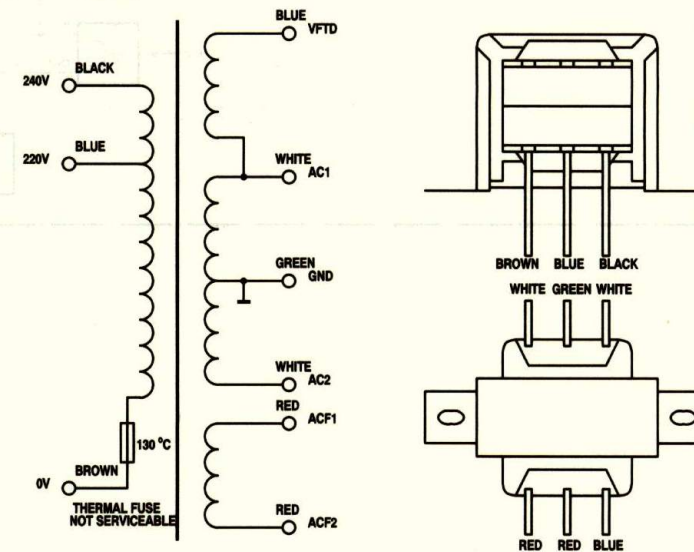
WIRING DIAGRAM II



POWER SUPPLY



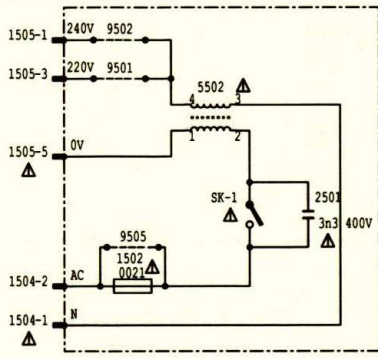
TRANSFORMER CONNECTIONS



HAS1038 9227

MAINS SWITCH DIAGRAM

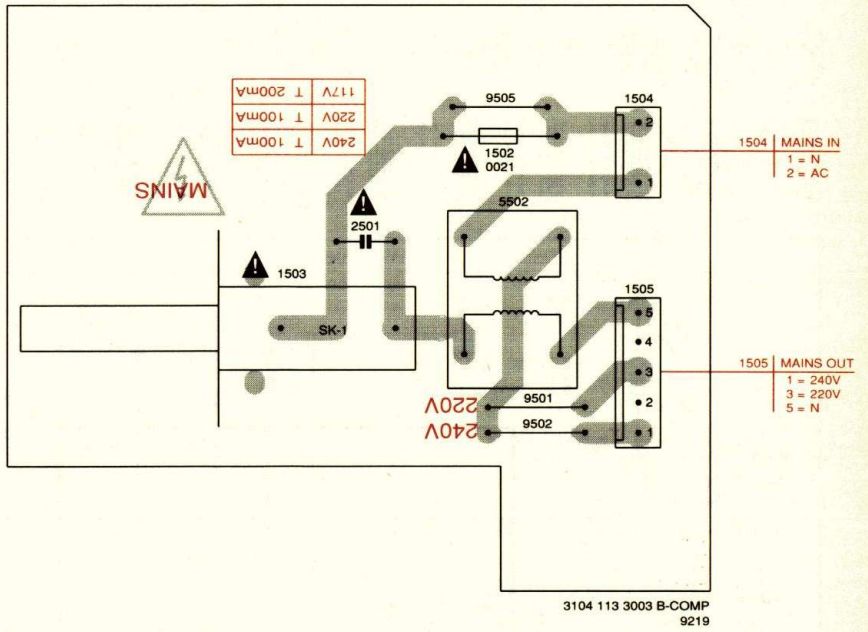
CONN 1504 TO CONN 1511
ON SUPPLY CIRCUIT DIAGRAM



CD930/	00S	01S	05S	10S	17S
Ref 0021	X		X	X	X
1502	100mA	var.	100mA	100mA	200mA
9501	X	X		X	X
9502			X		
9505		X			

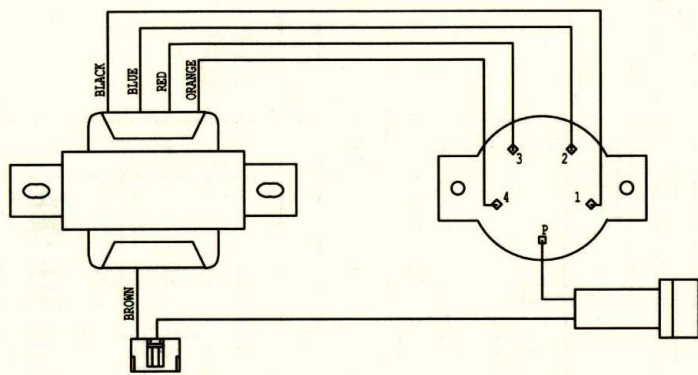
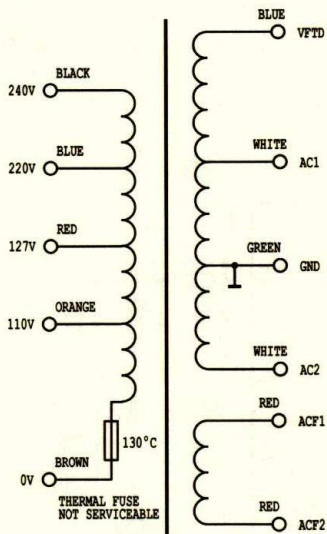
3104 118 00601S-E
9150

MAINS SWITCH PANEL



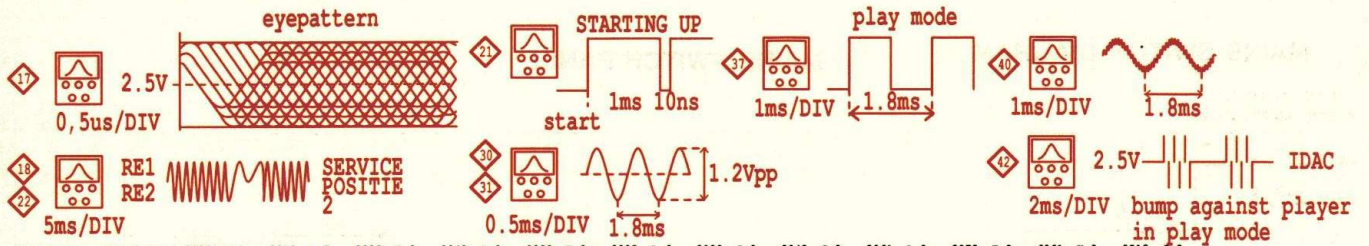
3104 113 3003 B-COMP
9219

VOLTAGE SELECTOR

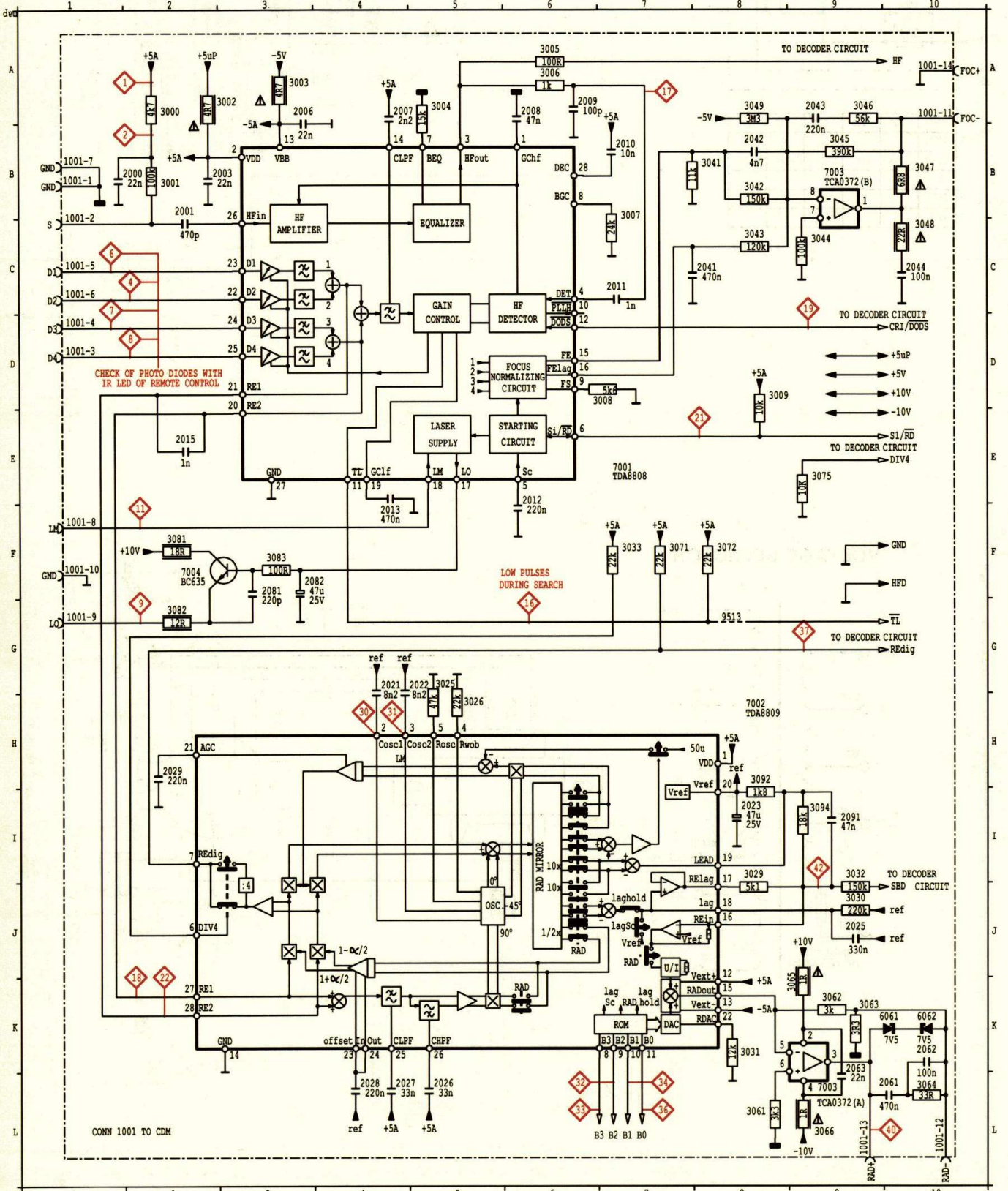


HAS1055
9234

SERVO CIRCUIT DIAGRAM



1001-1	B 1	1001-3	D 1	2000	B 1	2010	B 7	2023	I 8	2042	B 8	2082	F 3	3005	A 6	3029	I 8	3043	C 8	3061	L 8	3072	F 8	6061	K 9
1001-10	F 1	1001-4	D 1	2001	B 2	2011	C 7	2025	J 9	2043	A 9	2091	F 3	3006	A 6	3030	J 9	3044	C 8	3062	L 8	3075	F 8	6062	K 10
1001-11	A 10	1001-5	D 1	2003	B 2	2012	C 7	2026	J 9	2044	C 10	3000	A 2	3007	A 6	3031	K 10	3045	B 9	3063	L 8	3081	G 7	7001	H 8
1001-12	L 10	1001-6	C 1	2006	A 3	2013	E 2	2027	L 4	2061	L 9	3001	A 2	3008	D 6	3032	I 9	3046	A 9	3064	L 10	3082	G 7	7002	H 8
1001-13	L 9	1001-7	B 1	2007	A 4	2015	E 2	2028	L 4	2062	K 10	3002	A 3	3009	D 6	3033	F 7	3047	B 10	3065	L 10	3083	H 9	7003	H 8
1001-14	A 10	1001-8	F 1	2008	A 6	2021	G 4	2029	H 8	2063	K 9	3003	A 3	3012	G 5	3041	B 8	3048	C 10	3066	L 10	3084	H 9	7004	H 8
1001-2	C 1	1001-9	G 1	2009	A 6	2022	G 4	2041	C 8	2081	K 9	3004	A 5	3026	G 5	3042	B 8	3049	A 8	3071	L 10	3094	H 9	7004	H 8

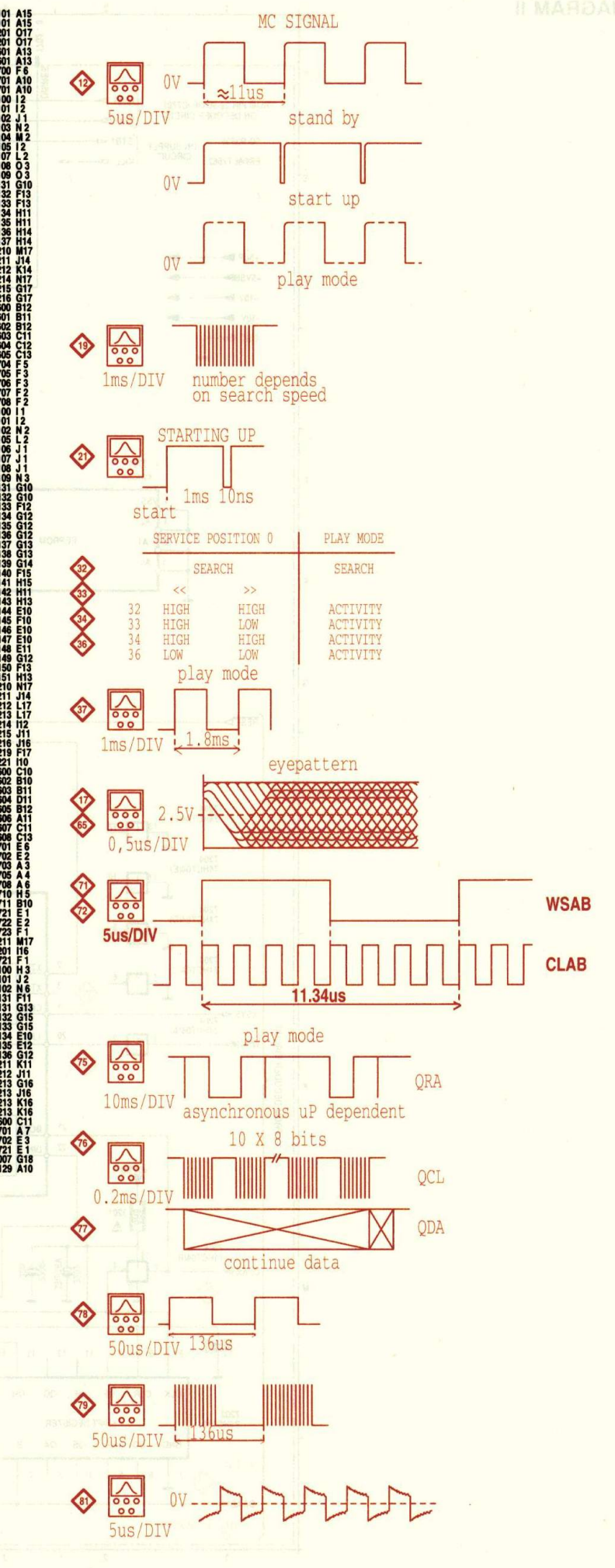
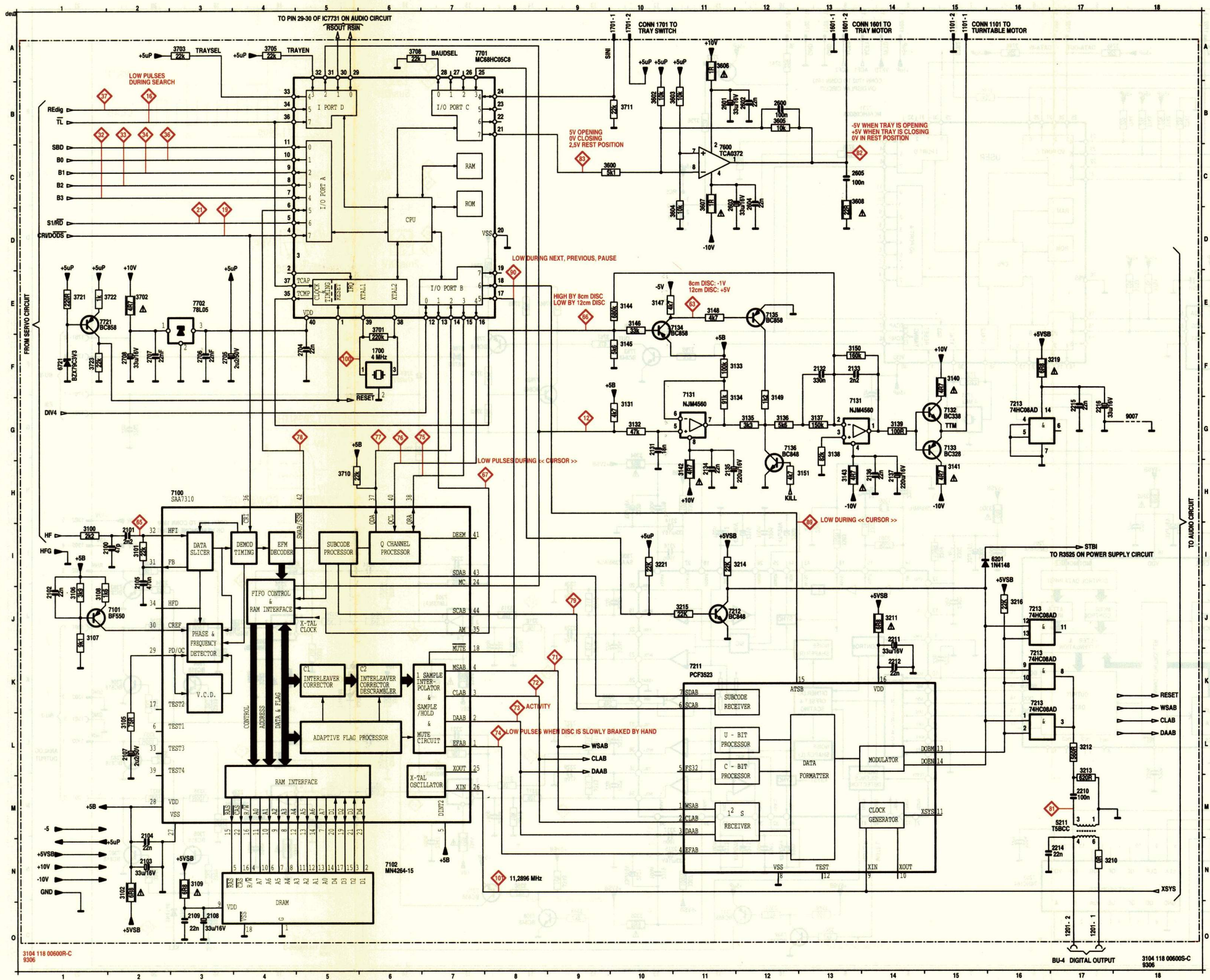


DECODER CIRCUIT DIAGRAM II

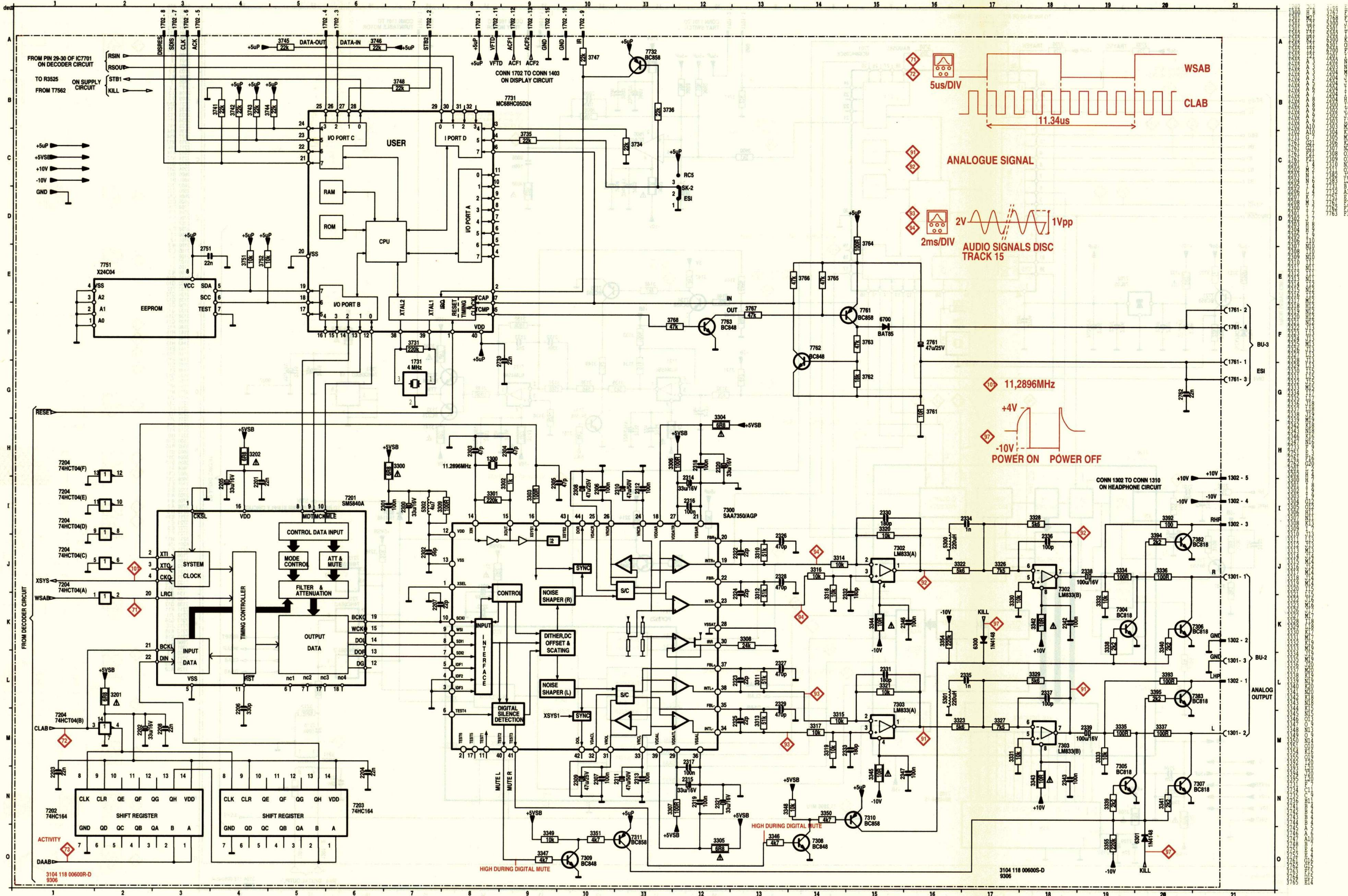
21-1

22-1

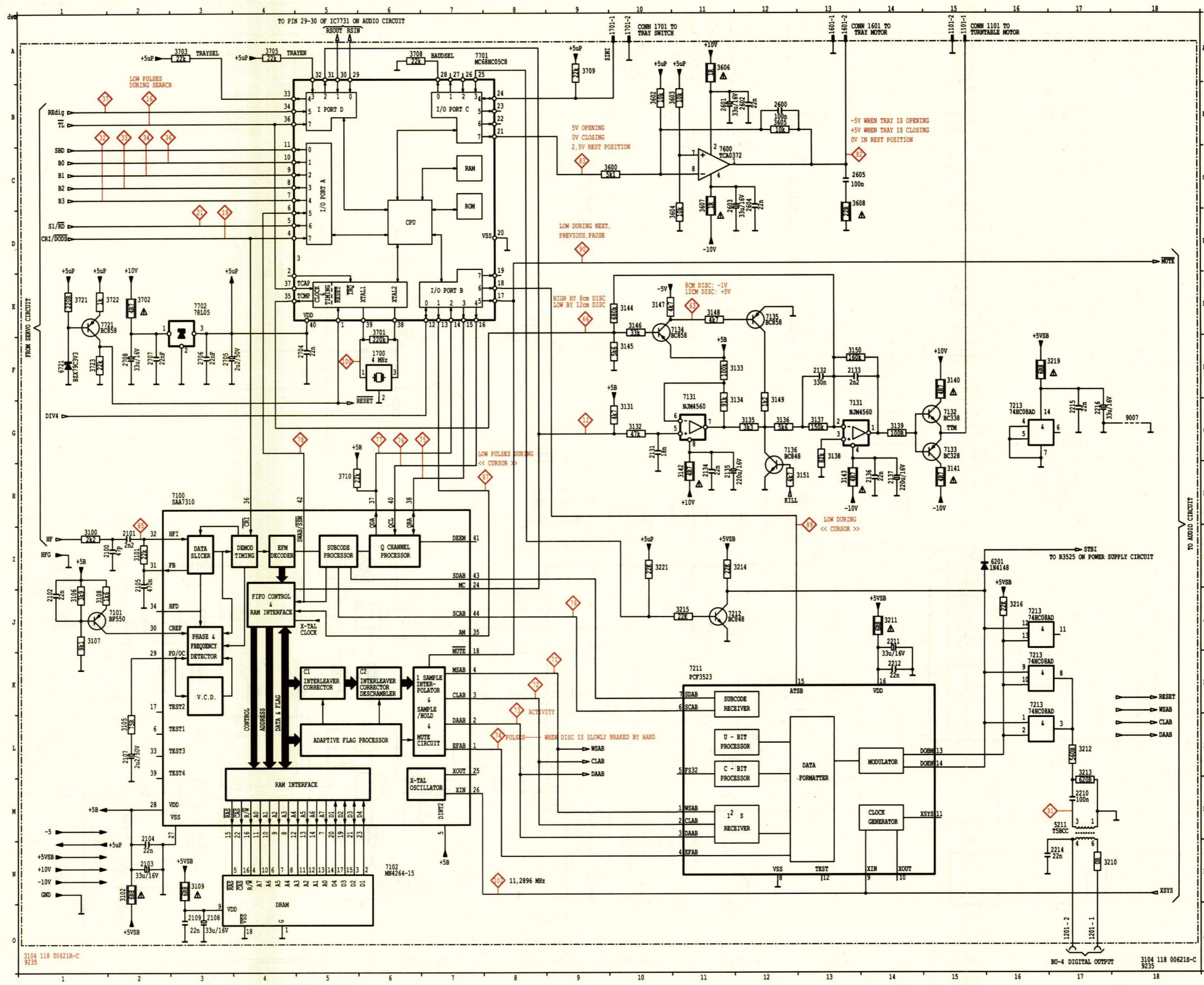
23-1



AUDIO CIRCUIT DIAGRAM II

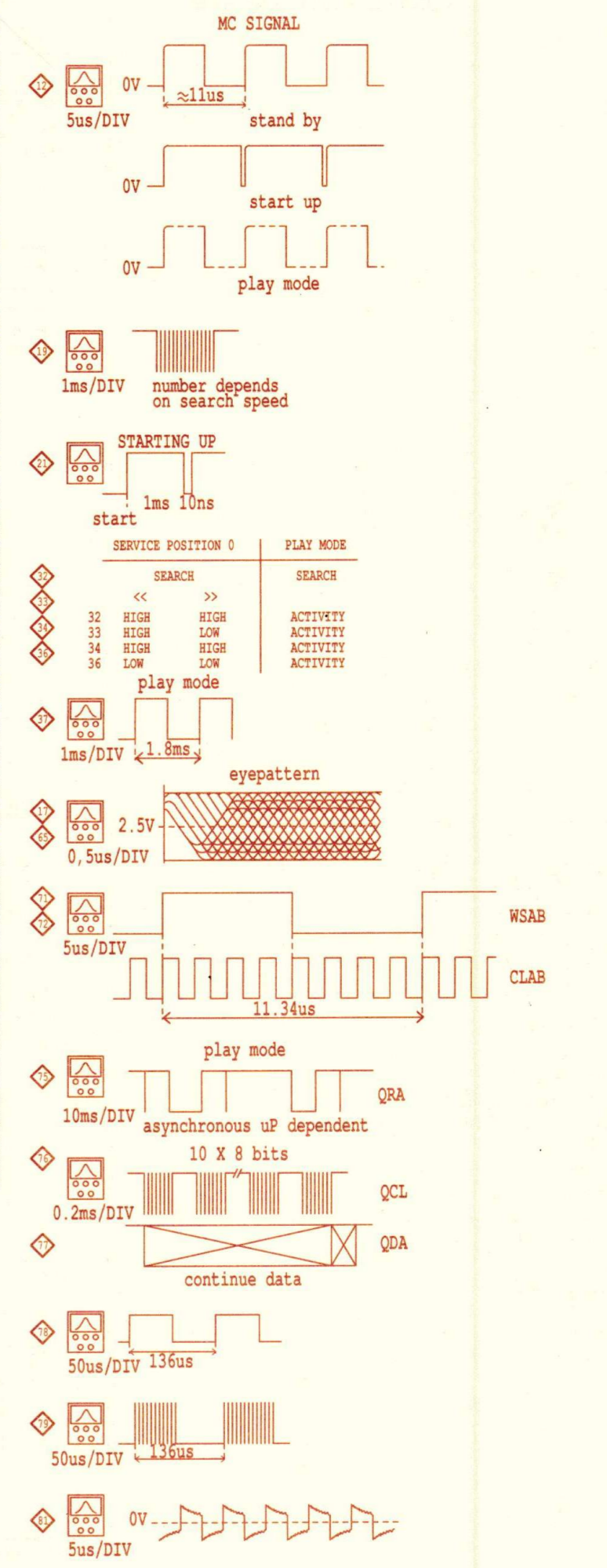


DECODER CIRCUIT DIAGRAM

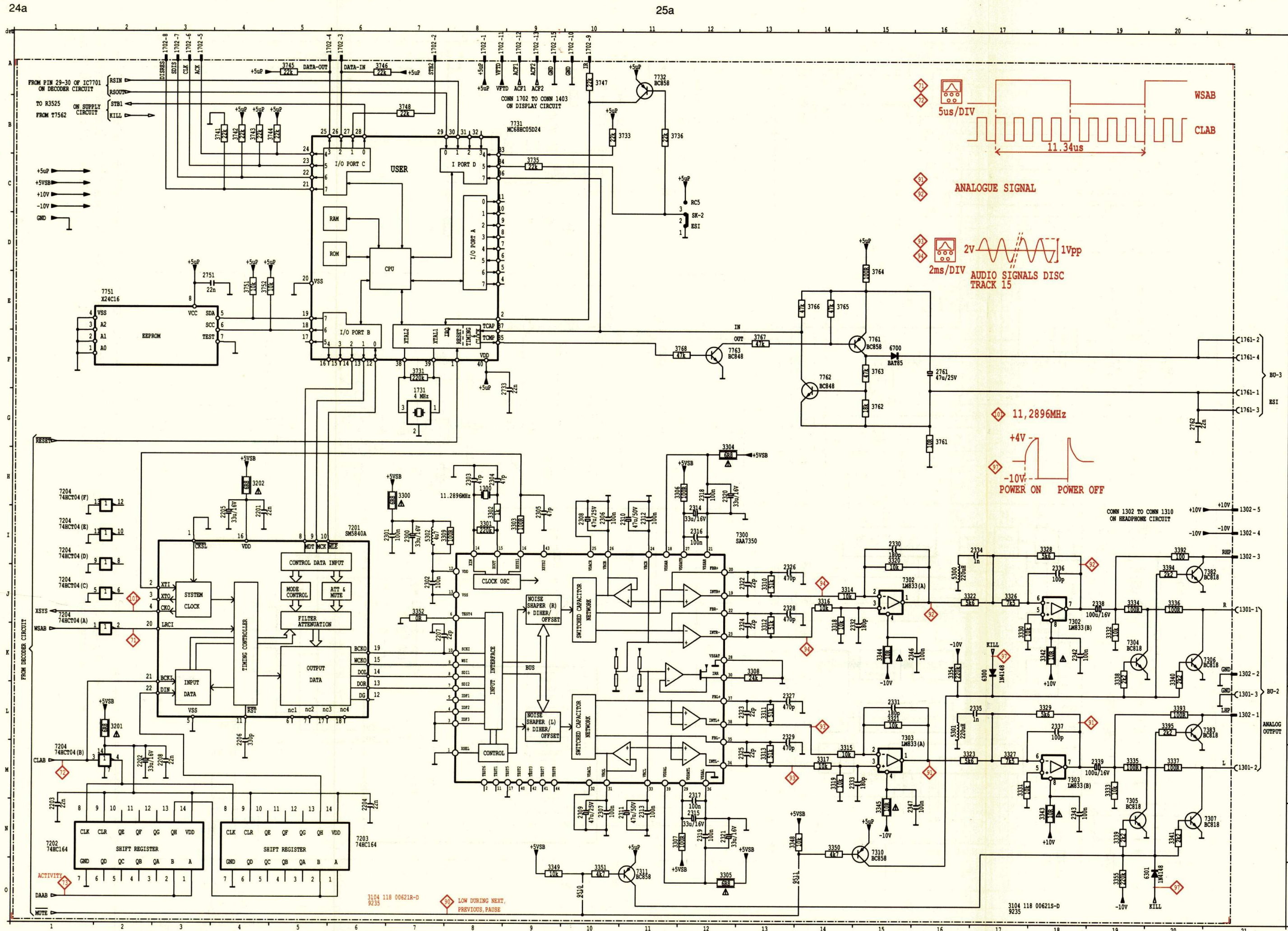


3104 118 00621R-C 9235

BU-4 DIGITAL OUTPUT 3104 118 00621S-C 9235

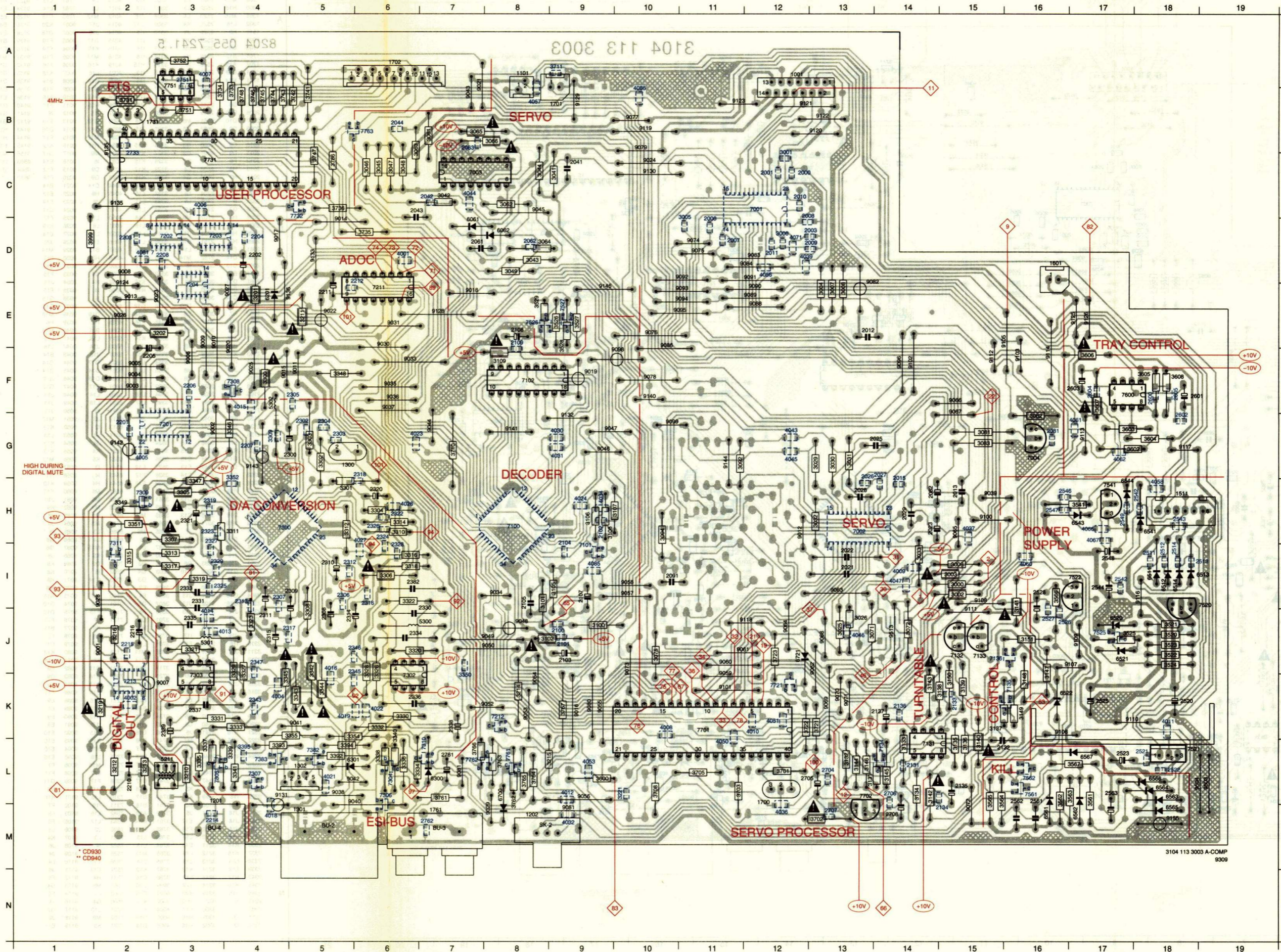


AUDIO CIRCUIT DIAGRAM



1202	D12	3767	F13
1301	F 8	3768	F16
1301	L21	3769	F16
1301	L22	3770	F16
1302	L23	3771	F16
1302	L24	3772	F16
1302	L25	3773	F16
1302	L26	3774	F16
1302	L27	3775	F16
1302	L28	3776	F16
1302	L29	3777	F16
1302	L30	3778	F16
1302	L31	3779	F16
1302	L32	3780	F16
1302	L33	3781	F16
1302	L34	3782	F16
1302	L35	3783	F16
1302	L36	3784	F16
1302	L37	3785	F16
1302	L38	3786	F16
1302	L39	3787	F16
1302	L40	3788	F16
1302	L41	3789	F16
1302	L42	3790	F16
1302	L43	3791	F16
1302	L44	3792	F16
1302	L45	3793	F16
1302	L46	3794	F16
1302	L47	3795	F16
1302	L48	3796	F16
1302	L49	3797	F16
1302	L50	3798	F16
1302	L51	3799	F16
1302	L52	3800	F16
1302	L53	3801	F16
1302	L54	3802	F16
1302	L55	3803	F16
1302	L56	3804	F16
1302	L57	3805	F16
1302	L58	3806	F16
1302	L59	3807	F16
1302	L60	3808	F16
1302	L61	3809	F16
1302	L62	3810	F16
1302	L63	3811	F16
1302	L64	3812	F16
1302	L65	3813	F16
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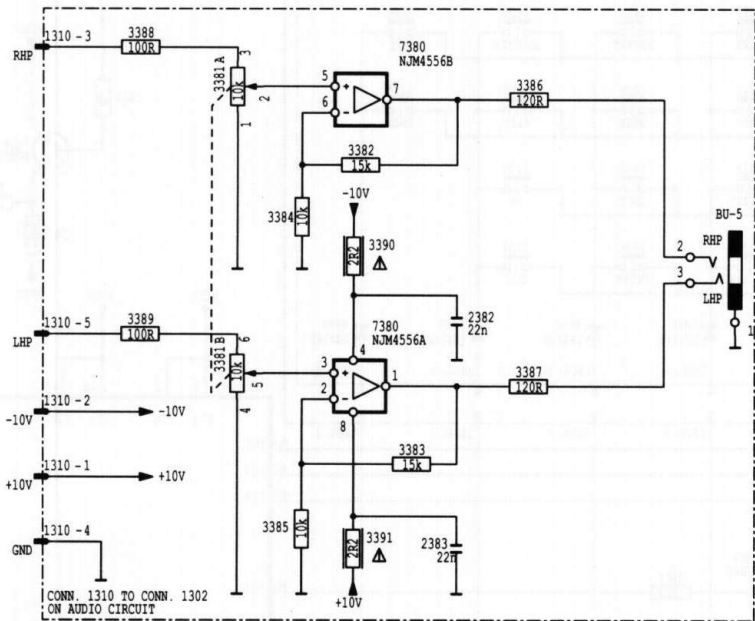
MAIN PANEL COMPONENT SIDE L5



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1201	L3	2392	H6	3214	H6	3762	M8	7309	H2	9094	E10
1300	G5	2512	H8	3215	L9	3763	L8	7310	L7	9095	E10
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1301	M5	2513	H8	3219	K2	3765	L8	7382	L5	9098	F9
1302	L5	2514	H8	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	3768	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	E9	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	H6	3307	H3	4006	C3	7561	L16	9108	I15
2001	C12	2542	H7	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	H17	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	H7	3314	H6	4013	J3	7732	D5	9116	H8
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	C5
2063	B7	2762	M7	3335	L3	4043	G12	9015	F4	9136	E2
2081	G16	3000	I15	3336	L6	4044	C7	9016	K9	9140	F10
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2100	J9	3003	L4	3339	L4	4047	I14	9019	F9	9143	G4
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2133	M15	3031	G13	3350	K7	4067	H17	9030	E6		
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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	I8		
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	D6	3522	J18	6201	E4	9042	L5		
2208	D2	3061	B7	3523	J18	6300	L7	9043	B7		
2210	L2	3062	J18	3524	J18	6301	L5	9044	G7		
2211	E5	3063	C6	3525	J17	6511	H8	9045	C8		
2212	E5	3064	D8	3526	I9	6512	H8	9046	G9		
2214	M3	3065	B7	3527	E9	6513	H8	9047	G9		
2215	J2	3066	B8	3528	F9	6514	H8	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	G6	3081	G15	3562	M16	6541	H18	9052	K7		
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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	H13		
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	3706	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		
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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	K6	9082	E13		
2335	J3	3149	K16	3743	B4	7213	K2	9083	D12		
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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		
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33

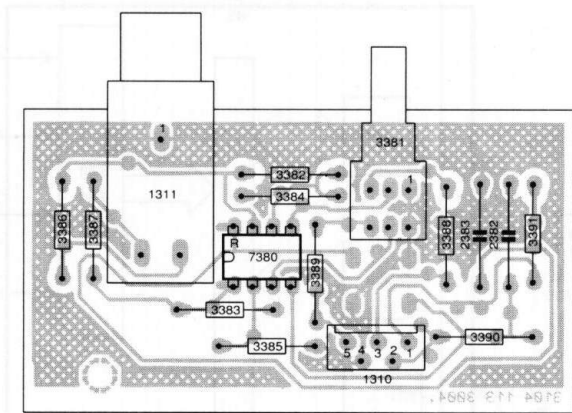
VARIABLE HEADPHONE CIRCUIT DIAGRAM



3104 118 00611S-B
9150

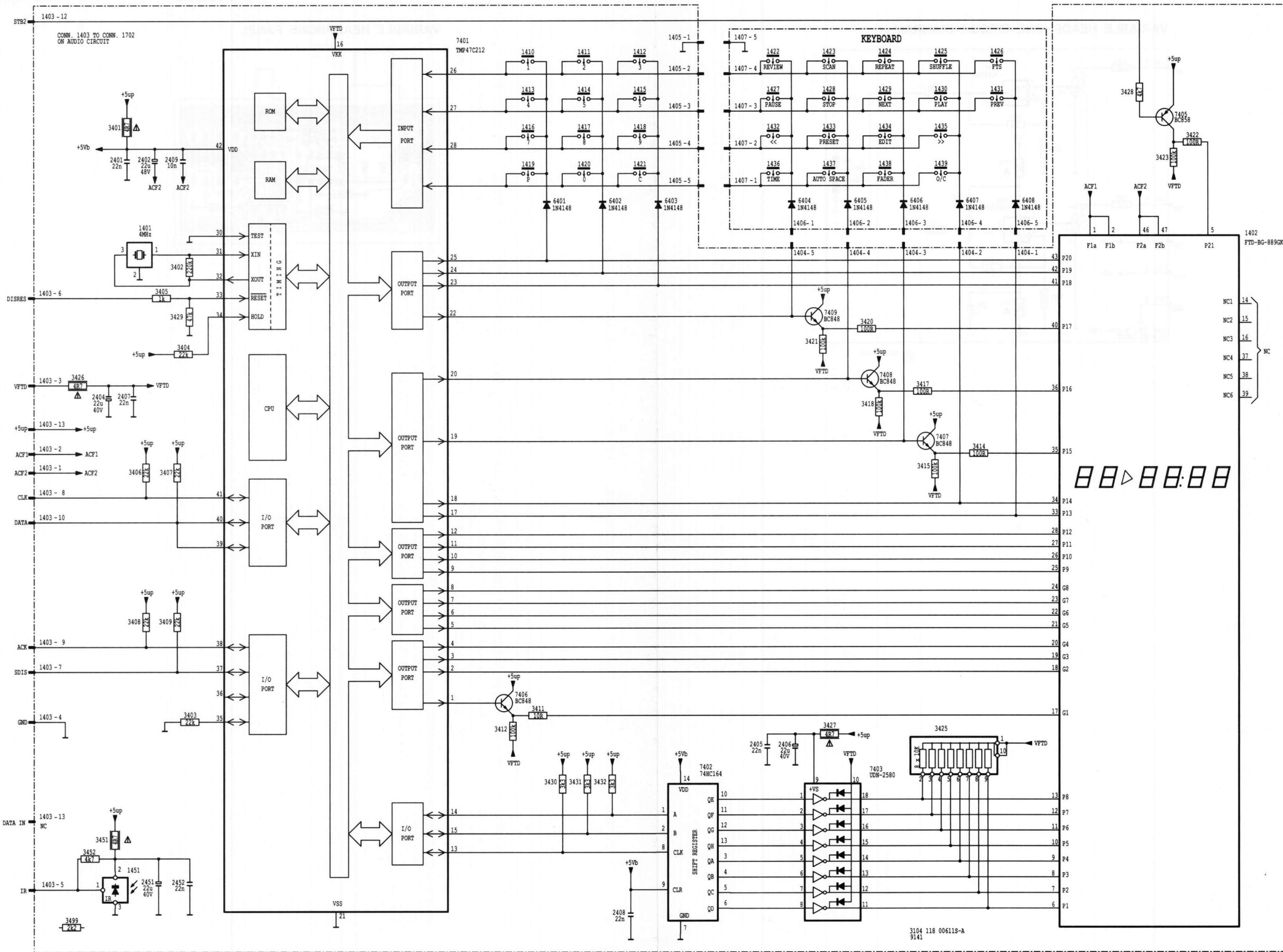
34

VARIABLE HEADPHONE PANEL

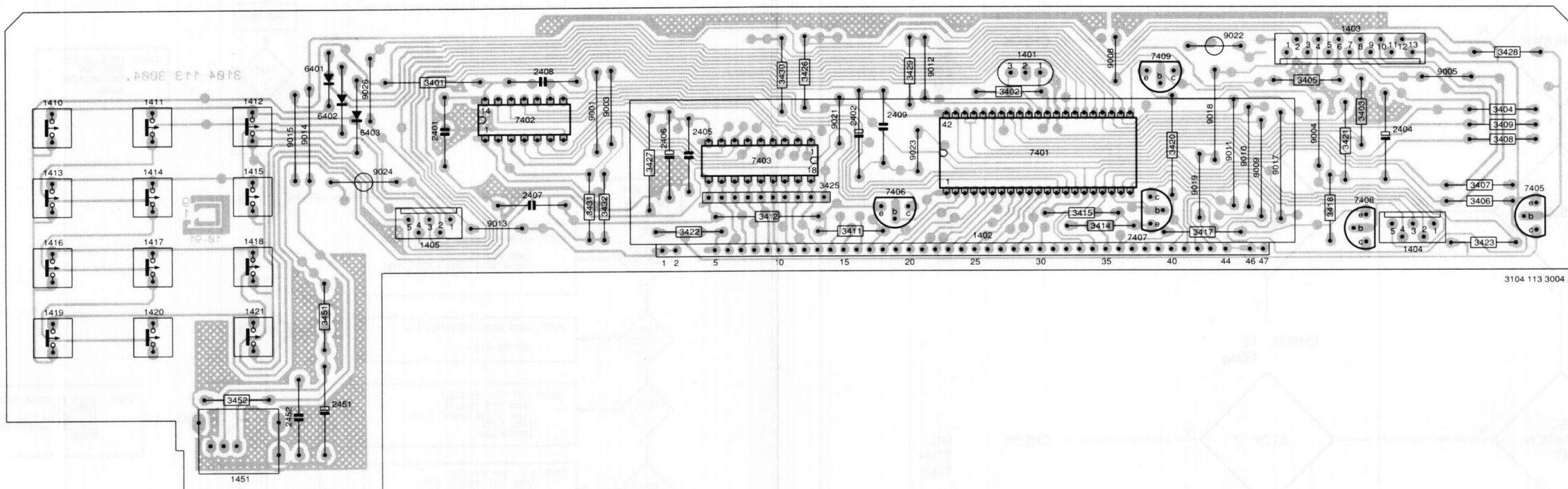


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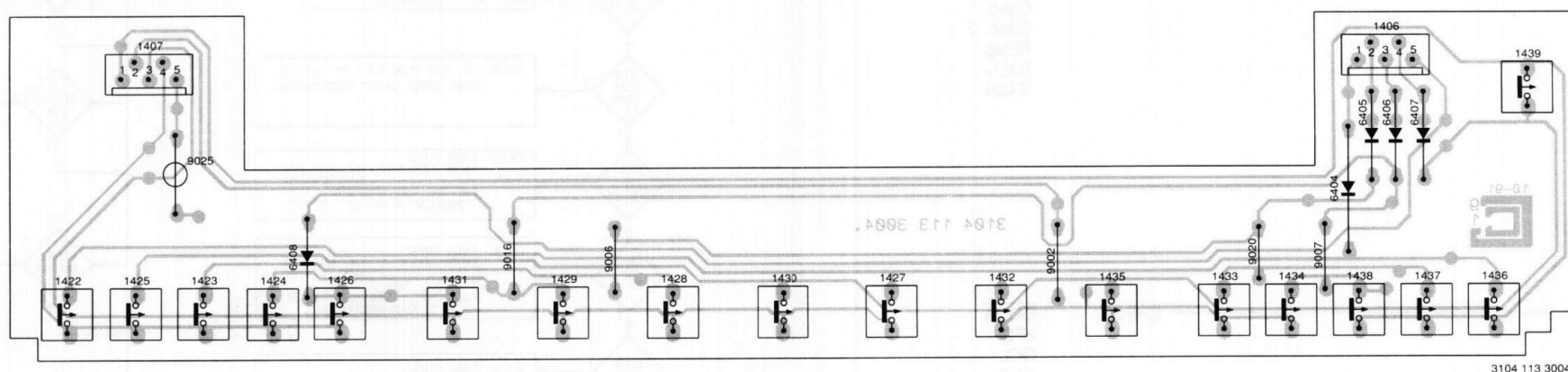
CONTROL & DISPLAY CIRCUIT DIAGRAM



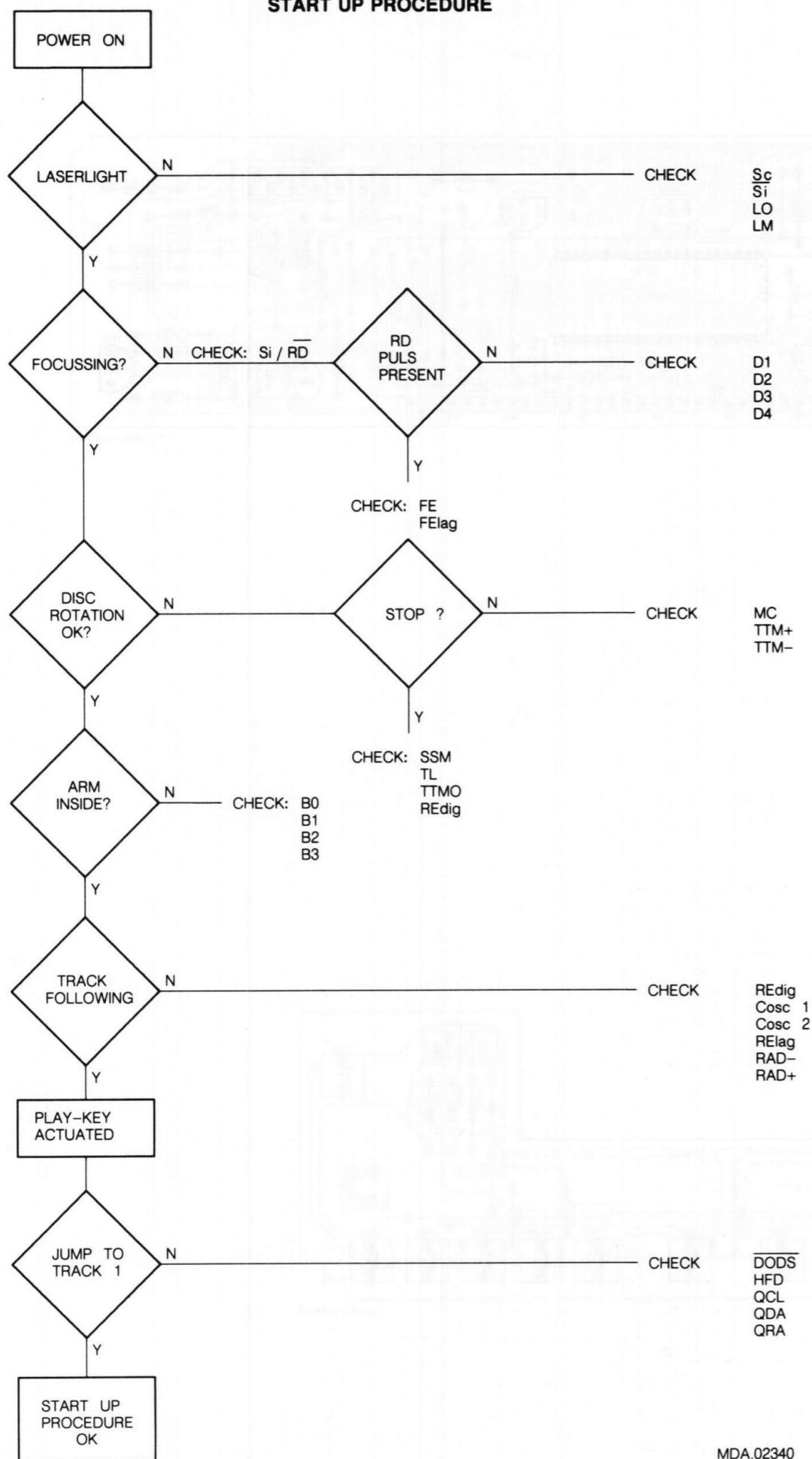
DISPLAY PANEL



KEYBOARD PANEL

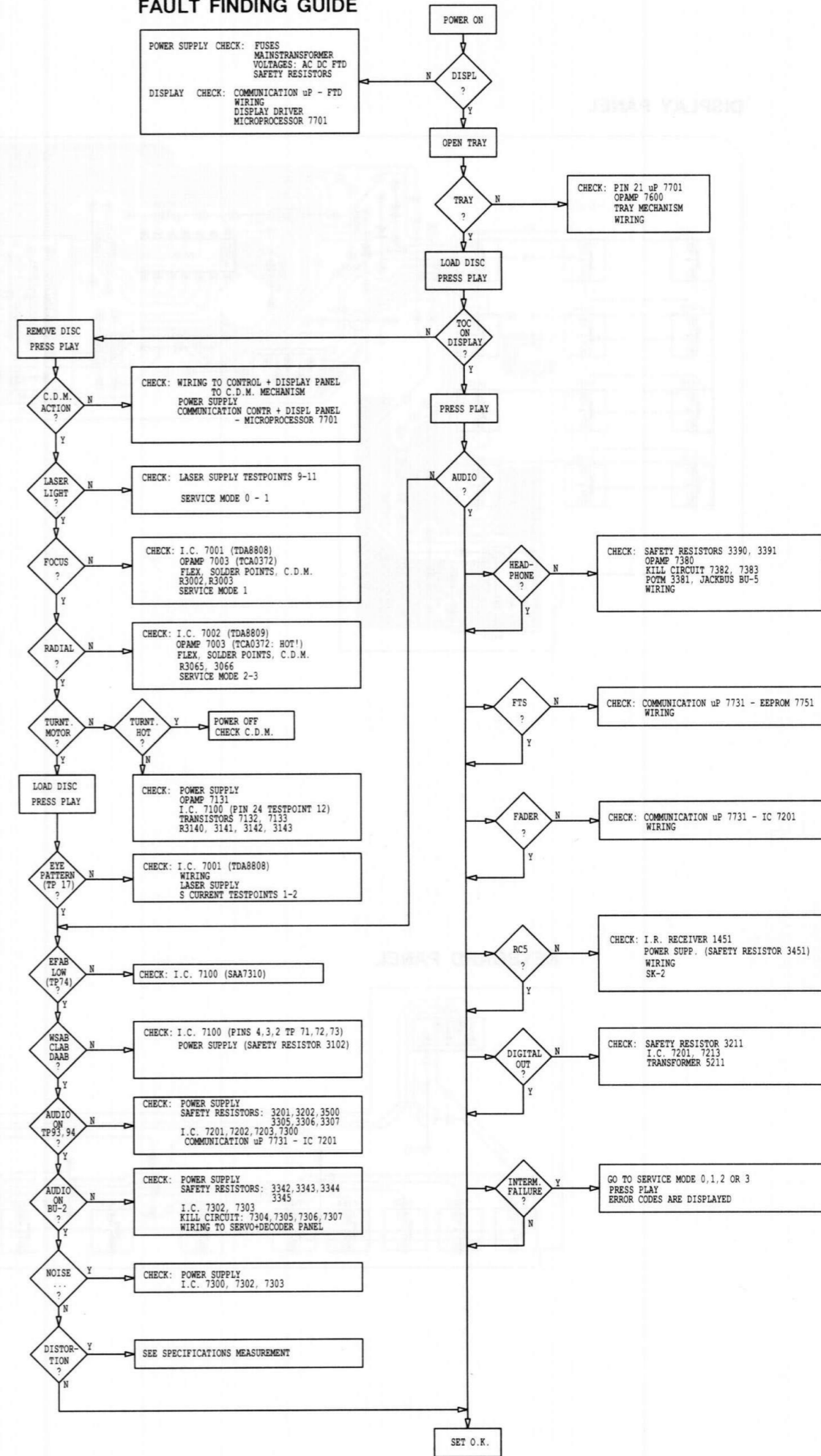


START UP PROCEDURE

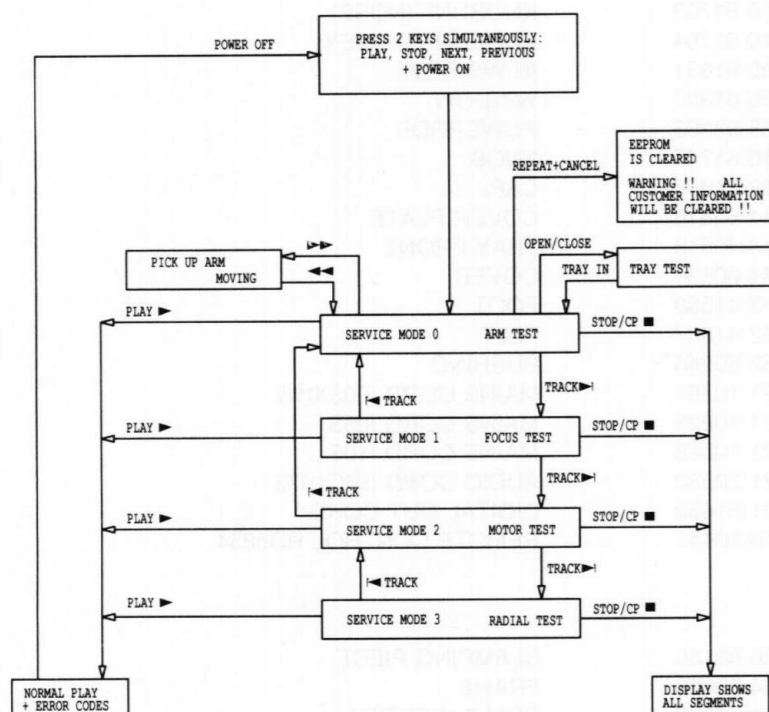


MDA.02340
T07-941

FAULT FINDING GUIDE



SERVICE TEST PROGRAM



ERROR CODE TABLE

SYSTEM ERRORS

- ER02 Focus error
- ER03 Radial error
- ER04 Too many TL
- ER05 TL low to long
- ER06 Jump error
- ER07 Subcode error
- ER08 TOC error
- ER60 EEPROM error during initialisation
- ER61 EEPROM error during read or write
- ER67 No or bad communication between SERVO and USER μ P

CHECK OF THE PHOTODIODES

Step	Signal	Mode					Remarks
1	D2	power on			-	-	Signal depends on Distance lens \leftrightarrow IR LED of remote control
	D1						
	D3						
	D4						

T-23366A

CHECK OF LASER SUPPLY

The laser, the lasersupply plus the monitor diode form a feedback system. A defect in the lasersupply may result in the destruction of the laser. If, in that case, the laser is replaced, (= complete C.D.M.-unit) the new laser will also become defective. However, it is impossible to check and repair a feedback system if a link is missing. For this reason the laser supply can be checked with the replacement circuit for laser assembly.

Step	Signal	Mode			Remarks
1	LO	serv. pos. 2			REPLACEMENT CIRCUIT FOR LASER ASSEMBLY 1.8 < V < 2.3
	LM	SK			
2	LO	serv. pos. 2			PRIS 06615 102/9020 The feedback system sees to it that the same amount of current flows through the LED. When SK is open and when SK is closed the LED emits little light.
	LM	SK			
3	LO	Power on			0V \pm 0.2V No light

T-23366B

After opening SK, the led will emit more light for a short moment.

CHECK OF CDM-9

Step	Signal	Mode		
1	S current = voltage across R3000	Test disc 5A play		

WARNINGS

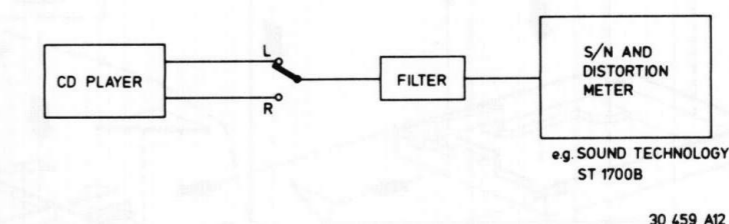
- Never disconnect flex when power is on.
- Laser power is adjusted during the production process and may not be readjusted.

SPECIFICATIONS MEASUREMENT

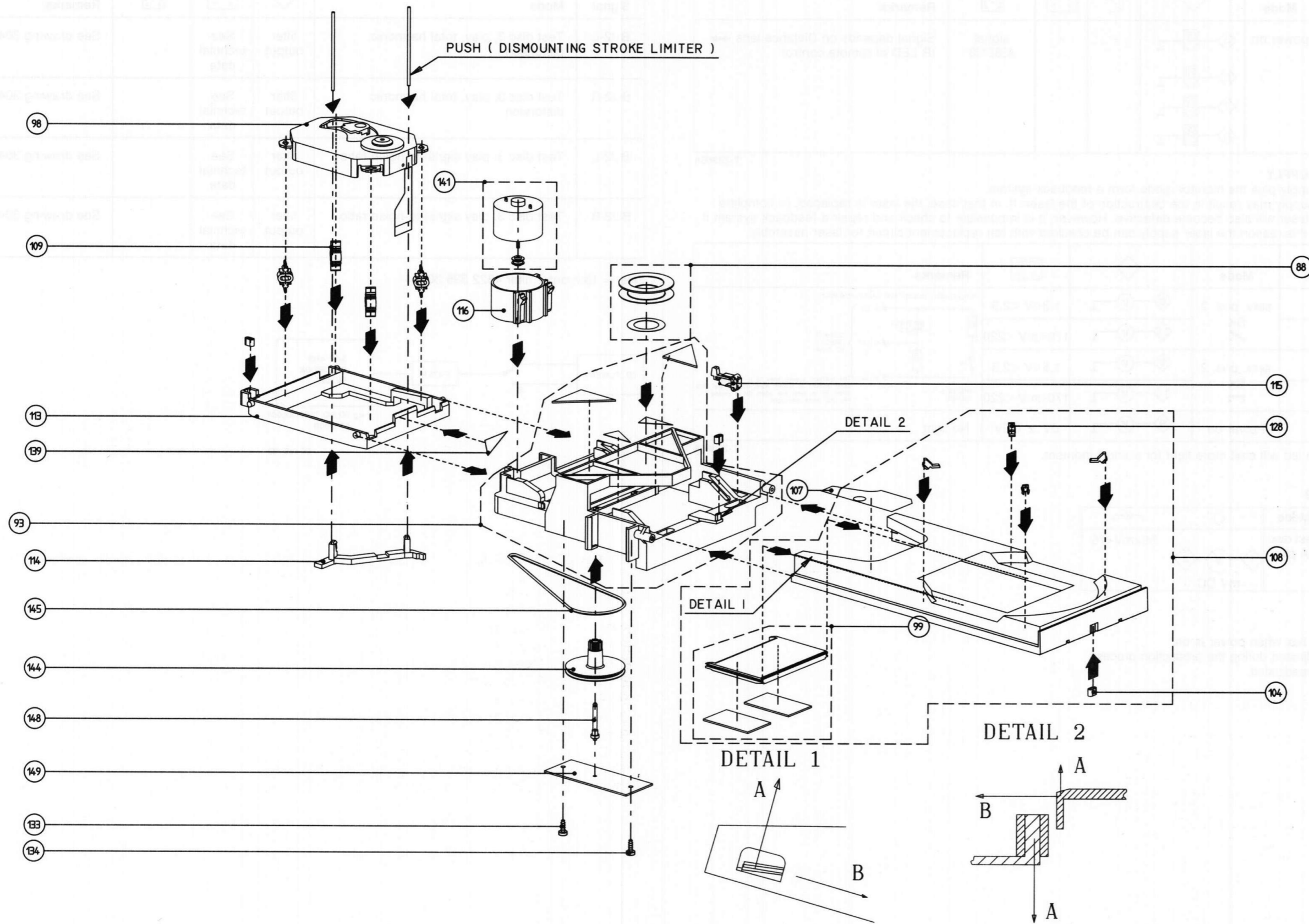
Signal	Mode				Remarks
BU2-L	Test disc 3, play, total harmonic distortion	filter output	See technical data		See drawing 30459A12
BU2-R	Test disc 3, play, total harmonic distortion	filter output	See technical data		See drawing 30459A12
BU2-L	Test disc 3, play signal-to-noise ratio	filter output	See technical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



LOADER



MECHANICAL PARTSLIST

Cabinet

2	4822 444 40517	FRONT
15	4822 410 61703	KNOBUNIT(NOSE)
16	4822 410 61704	KNOBUNIT(10-KEY)
23	4822 450 61831	IR WINDOW
51	4822 450 61833	WINDOW
52	4822 535 93283	POWERROD
53	4822 410 61705	KNOB
54	4822 462 71808	CAP
60	4822 444 60815	COVER PLATE
71	4822 444 40518	TRAY FRONT
151	4822 444 60837	COVER
251	4822 462 41888	FOOT
255	4822 462 41887	FELT
283	4822 532 60948	BUSHING
300	4822 321 10791	MAINS CORD /00S/01S
301	4822 321 10823	MAINS CORD /05S
303	4822 321 10828	MAINS CORD /10S
308	4822 321 22832	AUDIO CORD SBC1072
314	4822 321 61452	DIGITAL OUT CORD
365	4822 218 10441	REMOTE CONTROL RD6834

Loader

88	4822 466 93159	CLAMPING PIECE
93	4822 464 50886	FRAME
98	4822 691 30288	CDM-9 (NEXTEL)
99	4822 444 60808	COVER PLATE
104	4822 325 60379	DAMPING GROMMET
108	4822 444 30441	TRAY
109	4822 466 93065	SUSPENSION
113	4822 464 50884	CHASSIS
114	4822 466 93066	STROKE LIMITER
115	4822 271 30707	SWITCH
116	4822 464 50885	MOTOR FRAME
128	4822 460 20801	ORNAMENTAL PROFILE
141	4822 361 21423	MOTOR
144	4822 522 33192	GEAR WHEEL
145	4822 358 10115	BELT

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

SCREWS

Taptite M3x6:	6,7,8	Plastite M3x10:	34,35
	83		36,37,38,39,40
	211,212		41,42
			209,210
Taptite M3x10:	171,172,173,174		268
	175,176		272
	200,201		273
	204,205,206,207,208		
	259,260,261,262	Plastite M3x16:	30,31,32,33
	269,270,271		43
Taptite M3x15:	202,203		

MAIN PANEL		
MISCELLANEOUS		
BU-2	4822 492 63076	CLAMPING SPRING
BU-3	4822 267 31456	ANALOG OUT SOCKET
BU-4	4822 267 31455	ESI IN/OUT SOCKET
SK-2	4822 267 31457	DIGITAL OUT SOCKET
	4822 276 12339	SWITCH ESI ON/OFF
1101	4822 265 30525	RFK5 CONNECTOR
1302	4822 267 40624	RFK5 CONNECTOR
1702	4822 267 50723	CONNECTOR 13P
CRYSTAL		
1300	4822 242 71349	CRYSTAL 11,2896 MHz
1700	4822 242 72527	RESONATOR 4 MHz
1731	4822 242 72527	RESONATOR 4 MHz
CAPACITORS		
2000	4822 122 33809	22nF 20% 50V
2001	5322 122 32268	470pF 10% 50V
2003	4822 122 33809	22nF 20% 50V
2006	4822 122 33809	22nF 20% 50V
2007	4822 122 33175	2,2nF 20% 50V
2008	4822 122 32542	47nF 10% 63V
2009	5322 122 32531	100pF 5% 50V
2010	4822 122 33177	10nF 20% 50V
2011	5322 122 34123	1nF 10% 50V
2012	4822 121 42408	220nF 5% 63V
2013	4822 121 51252	470nF 5% 63V
2015	5322 122 34123	1nF 10% 50V
2021	4822 121 51321	8,2μF 1% 63V
2022	4822 121 51321	8,2μF 1% 63V
2023	4822 124 40433	47μF 20% 25V
2025	5322 121 42661	330nF 5% 63V
2026	4822 122 33342	33nF 10% 63V
2027	4822 122 33342	33nF 10% 63V
2028	4822 121 42408	220nF 5% 63V
2029	4822 121 42408	220nF 5% 63V
2041	4822 121 51252	470nF 5% 63V
2042	5322 126 10223	4,7nF 10% 63V
2043	4822 121 42408	220nF 5% 63V
2044	4822 122 33496	100nF 10% 63V
2061	4822 121 51252	470nF 5% 63V
2062	4822 122 33496	100nF 10% 63V
2063	4822 122 33809	22nF 20% 50V
2081	4822 122 32575	220pF 10% 500V
2082	4822 124 40433	47μF 20% 25V
2091	4822 121 43526	47nF 5% 100V
2100	5322 122 32452	47pF 5% 50V
2101	4822 122 33175	2,2nF 20% 50V
2102	4822 122 33809	22nF 20% 50V
2103	4822 124 40272	33μF 20% 16V
2104	4822 122 33809	22nF 20% 50V
2105	4822 121 51252	470nF 5% 63V
2107	4822 124 41576	2,2μF 20% 50V
2108	4822 124 40272	33μF 20% 16V
2109	4822 122 33809	22nF 20% 50V
2131	4822 122 33893	18nF 10% 63V
2132	5322 121 42661	330nF 5% 63V
2133	4822 122 33175	2,2nF 20% 50V
2134	4822 122 33809	22nF 20% 50V
2135	4822 124 40196	220μF 20% 16V
2136	4822 122 33809	22nF 20% 50V
2137	4822 124 40196	220μF 20% 16V
2201	4822 122 33809	22nF 20% 50V
2202	4822 124 40272	33μF 20% 16V
2203	4822 122 33809	22nF 20% 50V
2204	4822 122 33809	22nF 20% 50V
2205	4822 124 40272	33μF 20% 16V
2206	5322 122 31863	330pF 5% 50V
2207	5322 122 32658	22pF 5% 50V
2208	4822 122 33809	22nF 20% 50V
2210	5322 121 42386	100nF 5% 63V
2211	4822 124 40272	33μF 20% 16V
2212	4822 122 33809	22nF 20% 50V
2214	4822 122 33809	22nF 20% 50V
2215	4822 122 33809	22nF 20% 50V
2216	4822 124 40272	33μF 20% 16V
2300	4822 124 40272	33μF 20% 16V
2301	4822 122 33496	100nF 10% 63V
2302	4822 122 33496	100nF 10% 63V
2303	5322 122 32452	47pF 5% 50V
2304	5322 122 32452	47pF 5% 50V
2305	5322 122 32452	47pF 5% 50V
2306	4822 122 33496	100nF 10% 63V
2307	4822 122 33496	100nF 10% 63V
2308	4822 124 40433	47μF 20% 25V
2309	4822 124 40433	47μF 20% 25V
2310	4822 124 40433	47μF 20% 25V
2311	4822 124 40433	47μF 20% 25V
2312	4822 122 33496	100nF 10% 63V
2313	4822 122 33496	100nF 10% 63V
2314	4822 124 40272	33μF 20% 16V
2315	4822 124 40272	33μF 20% 16V
2316	4822 122 33496	100nF 10% 63V
2317	4822 122 33496	100nF 10% 63V
2318	4822 122 33496	100nF 10% 63V
2319	4822 122 33496	100nF 10% 63V
2320	4822 124 40272	33μF 20% 16V
2321	4822 124 40272	33μF 20% 16V
2322	5322 122 32658	22pF 5% 50V
2323	5322 122 32658	22pF 5% 50V

2324	5322 122 32658	22pF 5% 50V
2325	5322 122 32658	22pF 5% 50V
2326	5322 122 32268	470pF 10% 50V
2327	5322 122 32268	470pF 10% 50V
2328	5322 122 32268	470pF 10% 50V
2329	5322 122 32268	470pF 10% 50V
2330	4822 121 70074	180pF 1% 400V
2331	4822 121 70074	180pF 1% 400V
2332	4822 121 70074	180pF 1% 400V
2333	4822 121 70074	180pF 1% 400V
2334	4822 121 50591	1nF 1% 630V
2335	4822 121 50591	1nF 1% 630V
2336	4822 121 51288	100pF 630V
2337	4822 121 51288	100pF 630V
2338	4822 124 22339	100μF 16V
2339	4822 124 22339	100μF 16V
2342	4822 122 33496	100nF 10% 63V
2343	4822 122 33496	100nF 10% 63V
2346	4822 122 33496	100nF 10% 63V
2347	4822 122 33496	100nF 10% 63V
2501	4822 126 10454	3,3nF 20% 400V
2511	4822 122 33809	22nF 20% 50V
2512	4822 122 33809	22nF 20% 50V
2513	4822 122 33809	22nF 20% 50V
2514	4822 122 33809	22nF 20% 50V
2520	4822 124 23183	4700μF 20% 16V
2521	4822 122 33809	22nF 20% 50V
2522	4822 122 33809	22nF 20% 50V
2523	4822 124 41576	2,2μF 20% 50V
2525	4822 124 23268	3300μF 20% 16V
2526	4822 122 33809	22nF 20% 50V
2527	4822 122 33809	22nF 20% 50V
2528	4822 124 41577	4,7μF 20% 50V
2542	4822 122 33809	22nF 20% 50V
2543	4822 122 33809	22nF 20% 50V
2544	4822 124 23172	470μF 20% 50V
2545	4822 122 33809	22nF 20% 50V
2546	4822 122 33809	22nF 20% 50V
2547	4822 122 33809	22nF 20% 50V
2548	4822 124 41577	4,7μF 20% 50V
2549	4822 122 33809	22nF 20% 50V
2561	4822 121 51252	470nF 5% 63V
2562	5322 121 42661	330nF 5% 63V
2563	4822 124 40849	330μF 20% 16V
2600	4822 122 33496	100nF 10% 63V
2601	4822 124 40272	33μF 20% 16V
2602	4822 122 33809	22nF 20% 50V
2603	4822 124 40272	33μF 20% 16V
2604	4822 122 33809	22nF 20% 50V
2605	4822 122 33496	100nF 10% 63V
2704	4822 122 33809	22nF 20% 50V
2705	4822 124 41576	2,2μF 20% 50V
2706	4822 122 33809	22nF 20% 50V
2707	4822 122 33809	22nF 20% 50V
2708	4822 124 40272	33μF 20% 16V
2733	4822 122 33809	22nF 20% 50V
2751	4822 122 33809	22nF 20% 50V
2761	4822 124 40433	47μF 20% 25V
2762	4822 122 33809	22nF 20% 50V
RESISTORS		
3000	4822 050 24702	4k7 1% 0,6W
3001	4822 051 20104	100k 5% 0,1W
3002	4822 052 10478	4Ω7 5% 0,33W
3003	4822 052 10478	4Ω7 5% 0,33W
3004	4822 050 21503	15k 1% 0,6W
3005	4822 051 20101	100Ω 5% 0,1W
3006	4822 051 10102	1k 2% 0,25W
3007	4822 050 22403	24k 1% 0,6W
3008	4822 050 25602	5k6 1% 0,6W
3009	4822 050 21003	10k 1% 0,6W
3025	4822 050 24703	47k 1% 0,6W
3026	4822 050 22203	22k 1% 0,6W
3029	4822 050 25102	5k1 1% 0,6W
3030	4822 050 22204	220k 1% 0,6W
3031	4822 050 21203	12k 1% 0,6W
3032	4822 050 21504	150k 1% 0,6W
3033	4822 050 22203	22k 1% 0,6W
3041	4822 050 21103	11k 1% 0,6W
3042	4822 050 21504	150k 1% 0,6W
3043	4822 050 21204	120k 1% 0,6W
3044	4822 116 52234	100k 5% 0,5W
3045	4822 050 23904	390k 1% 0,6W
3046	4822 050 25603	56k 1% 0,6W
3047	4822 052 10279	27Ω 5% 0,33W
3048	4822 052 10229	22Ω 5% 0,33W
3049	4822 050 23305	3M3 1% 0,6W
3061	4822 050 23302	3k3 1% 0,6W
3062	4822 050 23002	3k 1% 0,6W
3063	4822 050 23308	3Ω3 1% 0,6W
3064	4822 052 10339	33Ω 5% 0,33W
3065	4822 052 10108	1Ω 5% 0,33W
3066	4822 052 10108	1Ω 5% 0,33W
3071	4822 050 22203	22k 1% 0,6W
3072	4822 050 22203	22k 1% 0,6W
3075	4822 050 21003	10k 1% 0,6W
3081	4822 052 10189	18Ω 5% 0,33W
3082	4822 052 10129	12Ω 5% 0,33W
3083	4822 051 10101	100Ω 2% 0,25W
3092	4822 050 21802	1k8 1% 0,6W
3094	4822 050 21803	18k 1% 0,6W
3100	4822 050 22202	2k2 1% 0,6W
3101	4822 050 22203	22k 1% 0,6W
3102	4822 111 30846	6Ω8 5% 0,25W
3105	4822 050 27509	75Ω 1% 0,6W

3106	4822 050 23902	3k9	1%	0,6W	3317	4822 050 21003	10k	1%	0,6W
3107	4822 050 29102	9k1	1%	0,6W	3318	4822 050 21003	10k	1%	0,6W
3108	4822 050 21602	1k6	1%	0,6W	3319	4822 050 21003	10k	1%	0,6W
3109	4822 111 30846	6Ω8	5%	0,25W	3320	4822 050 21003	10k	1%	0,6W
3131	4822 050 24702	4k7	1%	0,6W	3321	4822 050 21003	10k	1%	0,6W
3132	4822 050 24703	47k	1%	0,6W	3322	4822 050 25602	5k6	1%	0,6W
3133	4822 116 52234	100k	5%	0,5W	3323	4822 050 25602	5k6	1%	0,6W
3134	4822 050 29103	91k	1%	0,6W	3326	4822 050 27502	7k5	1%	0,6W
3135	4822 050 23302	3k3	1%	0,6W	3327	4822 050 27502	7k5	1%	0,6W
3136	4822 050 15602	5k6	1%	0,4W	3328	4822 050 25602	5k6	1%	0,6W
3137	4822 050 21504	150k	1%	0,6W	3329	4822 050 25602	5k6	1%	0,6W
3138	4822 050 28203	82k	1%	0,6W	3330	4822 050 21003	10k	1%	0,6W
3139	4822 051 10101	100Ω	2%	0,25W	3331	4822 050 21003	10k	1%	0,6W
3140	4822 052 10478	4Ω7	5%	0,33W	3332	4822 050 21003	10k	1%	0,6W
3141	4822 052 10478	4Ω7	5%	0,33W	3333	4822 050 21003	10k	1%	0,6W
3142	4822 052 10478	4Ω7	5%	0,33W	3334	4822 051 10101	100Ω	2%	0,25W
3143	4822 052 10478	4Ω7	5%	0,33W	3335	4822 051 10101	100Ω	2%	0,25W
3144	4822 050 26804	680k	1%	0,6W	3336	4822 051 10101	100Ω	2%	0,25W
3145	4822 050 15602	5k6	1%	0,4W	3337	4822 051 10101	100Ω	2%	0,25W
3146	4822 050 13303	33k	1%	0,4W	3338	4822 050 22202	2k2	1%	0,6W
3147	4822 050 24702	4k7	1%	0,6W	3339	4822 050 22202	2k2	1%	0,6W
3148	4822 050 24702	4k7	1%	0,6W	3340	4822 050 22202	2k2	1%	0,6W
3149	4822 051 10122	1k2	2%	0,25W	3341	4822 050 22202	2k2	1%	0,6W
3150	4822 050 21604	160k	1%	0,6W	3342	4822 052 10109	10Ω	5%	0,33W
3151	4822 050 24702	4k7	1%	0,6W	3343	4822 052 10109	10Ω	5%	0,33W
3201	4822 111 30846	6Ω8	5%	0,25W	3344	4822 052 10109	10Ω	5%	0,33W
3202	4822 111 30846	6Ω8	5%	0,25W	3345	4822 052 10109	10Ω	5%	0,33W
3210	5322 116 51882	0Ω			3348	4822 050 21003	10k	1%	0,6W
3211	4822 111 30846	6Ω8	5%	0,25W	3349	4822 050 21003	10k	1%	0,6W
3212	4822 051 10561	560Ω	2%	0,25W	3350	4822 051 20472	4k7	5%	0,1W
3213	4822 050 26201	620Ω	1%	0,6W	3351	4822 050 24702	4k7	1%	0,6W
3214	4822 050 22203	22k	1%	0,6W	3352	4822 051 10008	0Ω	5%	0,25W
3215	4822 050 22203	22k	1%	0,6W	3354	4822 050 22204	220k	1%	0,6W
3216	4822 050 22203	22k	1%	0,6W	3355	4822 050 22204	220k	1%	0,6W
3219	4822 111 30846	6Ω8	5%	0,25W	3392	4822 051 10101	100Ω	2%	0,25W
3221	4822 050 22203	22k	5%	1/8W	3393	4822 051 10101	100Ω	2%	0,25W
3300	4822 111 30846	6Ω8	5%	0,25W	3394	4822 050 22202	2k2	1%	0,6W
3301	4822 050 22204	220k	1%	0,6W	3395	4822 051 20222	2k2	5%	0,1W
3302	4822 050 21002	1k	1%	0,6W	3520	4822 050 26801	680Ω	1%	0,6W
3303	4822 051 10101	100Ω	2%	0,25W	3521	4822 050 26801	680Ω	1%	0,6W
3304	4822 111 30846	6Ω8	5%	0,25W	3522	4822 050 26801	680Ω	1%	0,6W
3305	4822 111 30846	6Ω8	5%	0,25W	3523	4822 050 26801	680Ω	1%	0,6W
3306	4822 052 10101	100Ω	5%	0,33W	3524	4822 050 26801	680Ω	1%	0,6W
3307	4822 052 10101	100Ω	5%	0,33W	3525	4822 050 23302	3k3	1%	0,6W
3308	4822 050 22403	24k	1%	0,6W	3526	4822 051 10101	100Ω	2%	0,25W
3309	4822 051 20101	100Ω	5%	0,1W	3527	4822 050 24703	47k	1%	0,6W
3310	4822 050 25103	51k	1%	0,6W	3528	4822 050 22203	22k	1%	0,6W
3311	4822 050 25103	51k	1%	0,6W	3529	4822 050 21003	10k	1%	0,6W
3312	4822 050 25103	51k	1%	0,6W	3541	4822 050 23302	3k3	1%	0,6W
3313	4822 050 25103	51k	1%	0,6W	3561	4822 116 52224	470Ω	5%	0,5W
3314	4822 050 21003	10k	1%	0,6W	3562	4822 050 24703	47k	1%	0,6W
3315	4822 050 21003	10k	1%	0,6W	3563	4822 050 22205	2M2	1%	0,6W
3316	4822 050 21003	10k	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
3709	4822 050 22203	22k 1% 0,6W
3710	4822 050 22203	22k 1% 0,6W
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
3733	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

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

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 34173	BZX79-C5V6
6561	4822 130 34278	BZX79-C6V8
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 31086	SAA7350
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
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 209 30938	MC68HC05C8P/ZC405027
7702	4822 209 72042	MC78L05ACP
7721	5322 130 42012	BC858
7731	4822 209 30984	MC68HC05D9P/ZC400014
7732	5322 130 42012	BC858
7751	4822 209 63244	X24C04P1
7761	5322 130 42012	BC858
7762	4822 130 61207	BC848
7763	5322 130 41982	BC848B

DISPLAY PANEL			
	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
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	4Ω 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
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	4Ω 5%	0,33W
3427	4822 052 10478	4Ω 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	4Ω 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	

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			
	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
	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
	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
	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	

KEYBOARD PANEL			
	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		
	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

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

KEYBOARD PANEL			RESISTORS		
MISCELLANEOUS			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
1422	4822 276 13114	TACT SWITCH	3386	4822 050 21201	120Ω 1% 0,6W
1423	4822 276 13114	TACT SWITCH	3387	4822 050 21201	120Ω 1% 0,6W
1424	4822 276 13114	TACT SWITCH	3388	4822 051 10101	100Ω 2% 0,25W
1425	4822 276 13114	TACT SWITCH	3389	4822 051 10101	100Ω 2% 0,25W
1426	4822 276 13114	TACT SWITCH	3390	4822 052 10228	2Ω2 5% 0,33W
1427	4822 276 13213	SWITCH	3391	4822 052 10228	2Ω2 5% 0,33W
1428	4822 276 13213	SWITCH	IC		
1429	4822 276 13213	SWITCH	7380	4822 209 82362	NJM4556D
1430	4822 276 13213	SWITCH	MISCELLANEOUS		
1431	4822 276 13213	SWITCH	SK-1	4822 276 13216	MAINS SWITCH
1432	4822 276 13213	SWITCH	21	4822 256 30274	FUSE HOLDER
1433	4822 276 13114	TACT SWITCH	1010	4822 277 21366	VOLTAGE SELECTOR
1434	4822 276 13114	TACT SWITCH	1010	4822 462 41505	COVER
1435	4822 276 13213	SWITCH	1010	5322 256 34058	FUSE HOLDER
1436	4822 276 13114	TACT SWITCH	1010	5322 462 44478	FUSE CAP
1437	4822 276 13114	TACT SWITCH	1501	4822 070 31251	FUSE 125mA
1438	4822 276 13114	TACT SWITCH	5001	4822 146 31045	MAINS TRANSFORMER
1439	4822 276 13114	TACT SWITCH	5001	4822 146 31153	MAINS TRAFO /01
DIODES			5502	4822 214 51841	MAINS FILTER
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			

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

- 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
- 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 copper 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