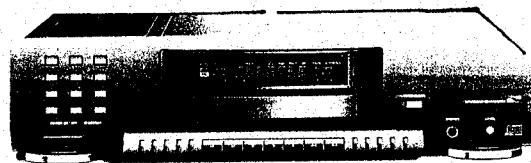


Service
Service
Service



Service Manual

The apparatus CD931/00S/01S/05S are identical to the apparatus CD930/00S/01S/05S.
Service Manual CD930/00S/01S/05S Order No. 4822 725 24004.
Difference: IR SENSOR switch SK-2 has been integrated in ESI BUS sockets 1761 and 1762.

Following mechanical parts are different:

Item 16	4822 410 62976	Knobunit 10-key
Item 71	4822 444 40703	Tray front
Item 340	4822 736 21904	Direction for use(multilanguage)

For difference of electrical parts see modified circuit diagrams, main panel drawing and electrical partslist.

Power supply circuit diagram:

Deleted: C2526, C2527, C2528; IC 7522.
added: R3530; D6530

Decoder circuit diagram:

deleted: R3109.
added: C2217, C2220, C2221; R3109, R3209, R3222, R3223, R3224, R3225.
changed: C2103, C2108, C2211, C2216, C2601, C2603, C2708, IC7211.

Audio circuit diagram:

deleted: SK-2; C2202.
added: R3737, SOCKET 1762.
changed: BU-2, BU-4, BU-3; C2205, C2300, C2314, C2315, C2320, C2321; IC7751.



PHILIPS



SI

Wichtig für die Werkstatt

Nummer: 52143

Datum: 05.10.1994

Sachgebiet: AG 52 CD

Service Information

Betrifft: CD-Spieler CD 931
Mute in CD-SYNC-Funktion
bei bestimmten Platten

Verteiler: INTERN UND EXTERN

Verschiedene CD's mit Potpourries, Medleys u. dergl. enthalten Musikprogramme, in denen die Tracknummern wechseln, obwohl die Musik selbst nicht unterbricht.

Wird solch eine CD in CD SYNC-Funktion von CD 931 auf DCC überspielt, dann gibt es in der Kopie immer dann eine Pause von ca. 0,5 sec., wenn auf der CD die Tracknummer sich ändert.

Normales Überspielen (mit REC PAUSE/REC) arbeitet einwandfrei.

Ursache für die o.g. Erscheinung ist eine Software-Eigenart beim CD 931.

Abhilfe ist möglich durch Ersatz des Prozessors Pos. 7731 (Programm "USER P136") durch eine neue Version mit Programm "USER P163.01".

Die Bestellnummer bleibt unverändert:

7731 4822 900 10355 MC68HC05D9P-P163.01

4812 829 52130



SI

Wichtig für die Werkstatt

Nummer: 52143

Datum: 05.10.1994

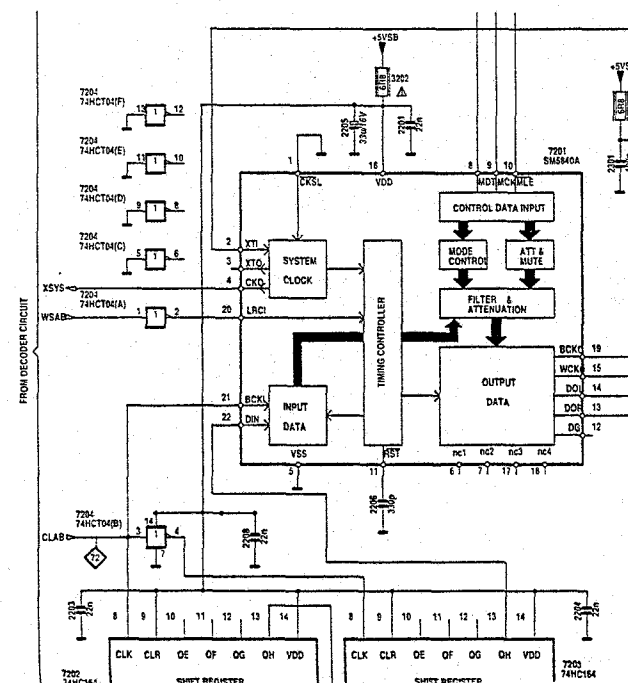
Sachgebiet: AG 52 CD

Service Information

Betrifft: CD-Spieler CD931
Korrekturen zum Service Manual

Verteiler: INTERN UND EXTERN

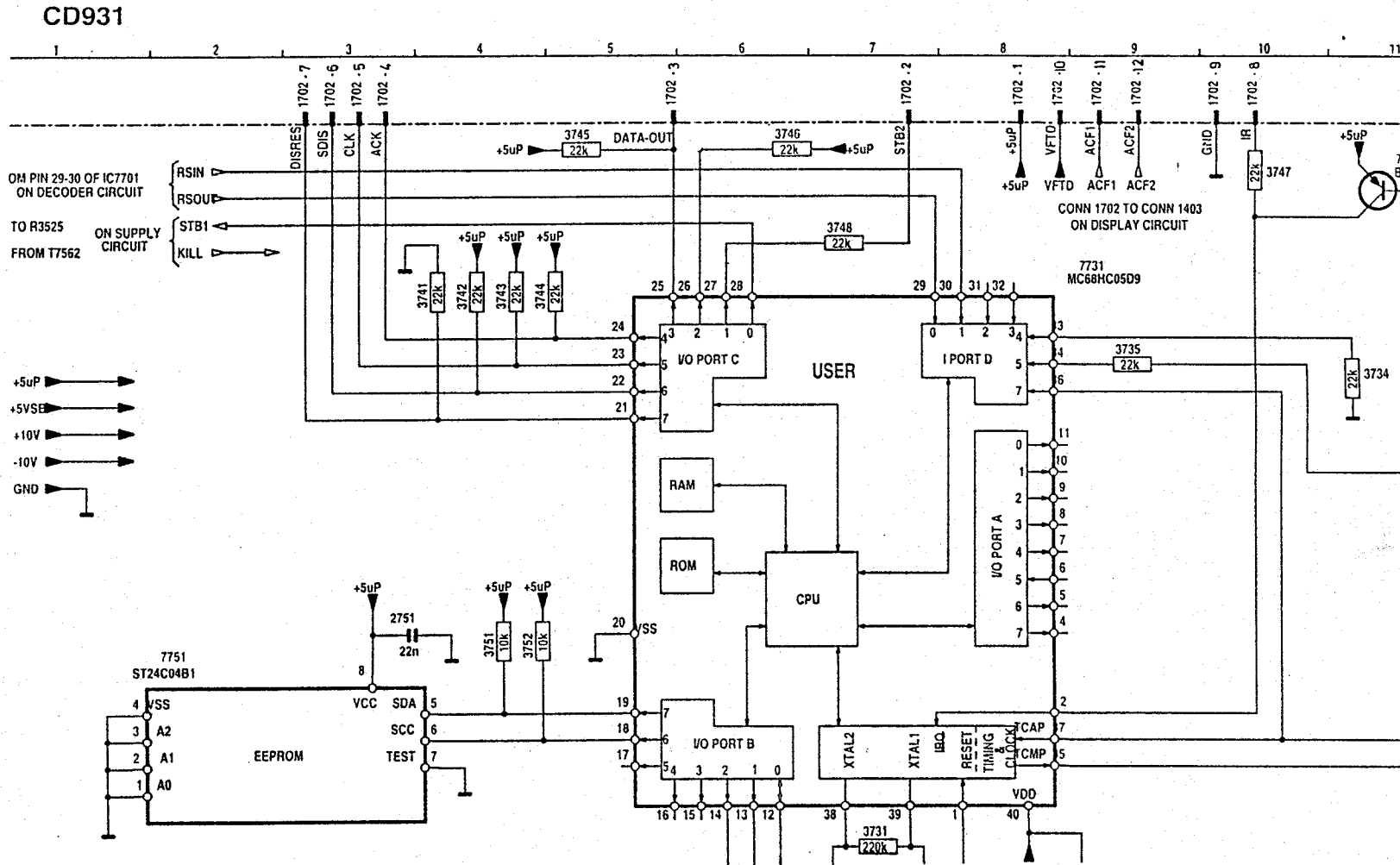
- Digital Filter SM5840A (Seite 24)
Durch ein Versehen sind in der Beschaltung des Dig. Filters SM5840A einige Bauteile doppelt gezeichnet:
- Widerstand 3202
- Kondensatoren 2201, 2205
Die folgende Abb. zeigt die richtige Schaltung.



4812 829 52143

2. Konnektor 1702

Im Schaltbild (Service Manual, S. 24) sind für den Konnektor 1702 irrtümlich 14 Kontakte dargestellt, obwohl nur 12 Kontakte vorhanden sind; außerdem ist die Pin-Numerierung falsch. Die folgende Zeichnung zeigt die richtige Anordnung.



TECHNICAL SPECIFICATIONS

General

1. Mains voltage	/00S	: 230V (+6 -10%)
	/05S	: 240V ($\pm 10\%$)
	/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 47k Ω to 68k Ω

Line output

1. Number of channels	: 2
2. Output voltage	: 2 Vrms ± 1.5 dB
3. Unbalance left-right	: max. 0,6dB
4. Output resistance	: 200 Ω
5. Amplitude linearity	: max. ± 0.2 dB from 20 Hz to 20 kHz
6. Phase non-linearity	: max. $\pm 2^\circ$ 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 μ s	
14. Non-linearity on -90dB	: ± 2 dB

Variable headphone

1. Output voltage	: max. 5 Vrms ± 2 dB
2. Unbalance left-right	: max. ± 0.6 dB
3. Output resistance	: 120 Ω
4. Load impedance range	: 32 Ω to 600 Ω load
5. Output power	: 0 to 50 mW into 30 Ω load 0 to 90 mW into 120 Ω load 0 to 50 mW into 600 Ω load

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

6. Signal to noise ratio	: min 80 dB
7. Dynamic range	: min 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)

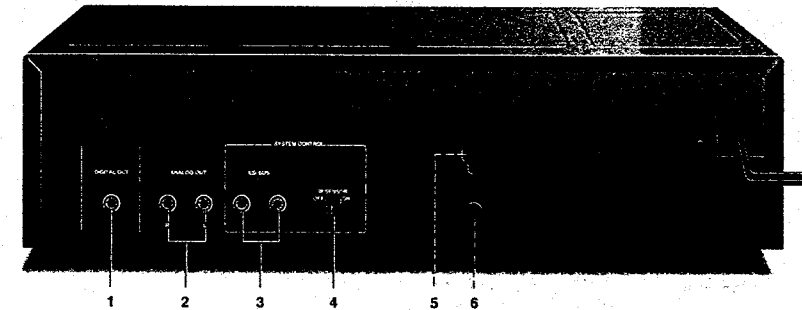
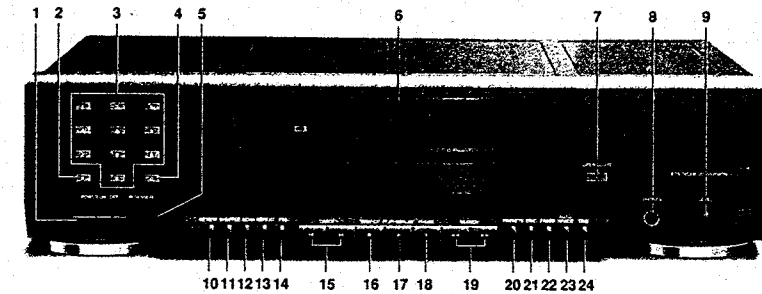
Dimensions and weight

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

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.

ESD**NL WAARSCHUWING**

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

F ATTENTION

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

D WARNUNG

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

I AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevità potrebbe essere fortemente ridotta 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!
WARNING
ADVERSEL
DANGER
VORSICHT

INVISIBLE LASER RADIATION WHEN OPEN AVOID EXPOSURE TO BEAM
AVATTAESSA OLET ALTIINA NÄKYMÄTTÖMÄLLE LASER SÄTEILYLLE ÄLÄ KATSO SÄTEESEN
OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD BETRÄKTA EJ STRÅLEN
USYNLIG LASERSTRÅLNING VED ÖPPNING. UNDÅ UNSÄTTELSE FÖR STRÅLING
INVISIBLE LASER RADIATION WHEN OPEN AVOID DIRECT EXPOSURE TO BEAM
UNSICHTBARE LASERSTRAHLUNG WENN ABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETZEN

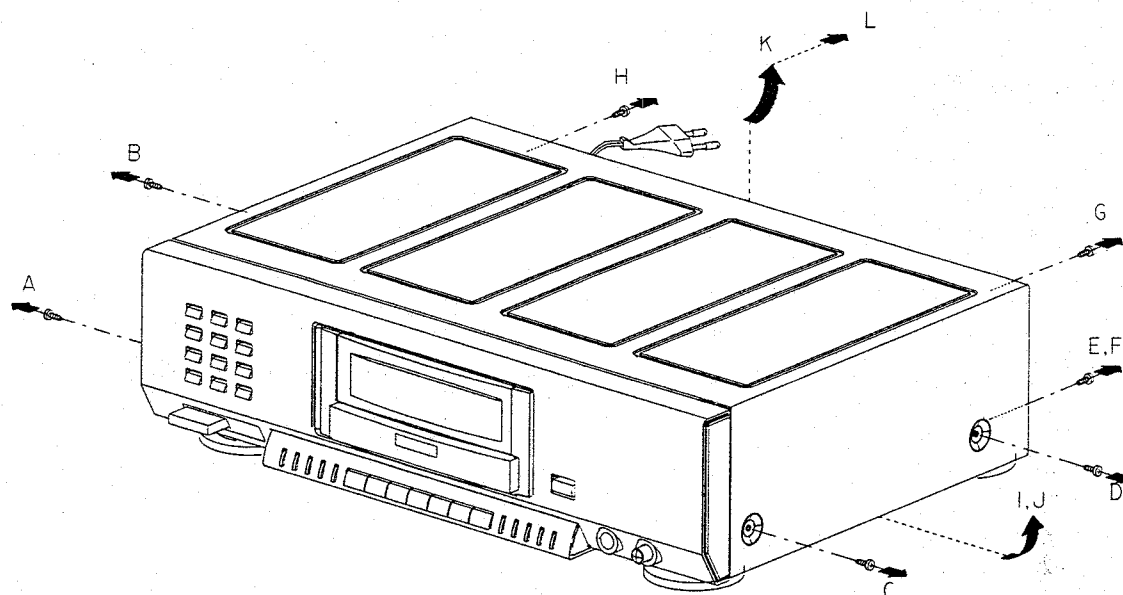
CLASS 1
LASER PRODUCT

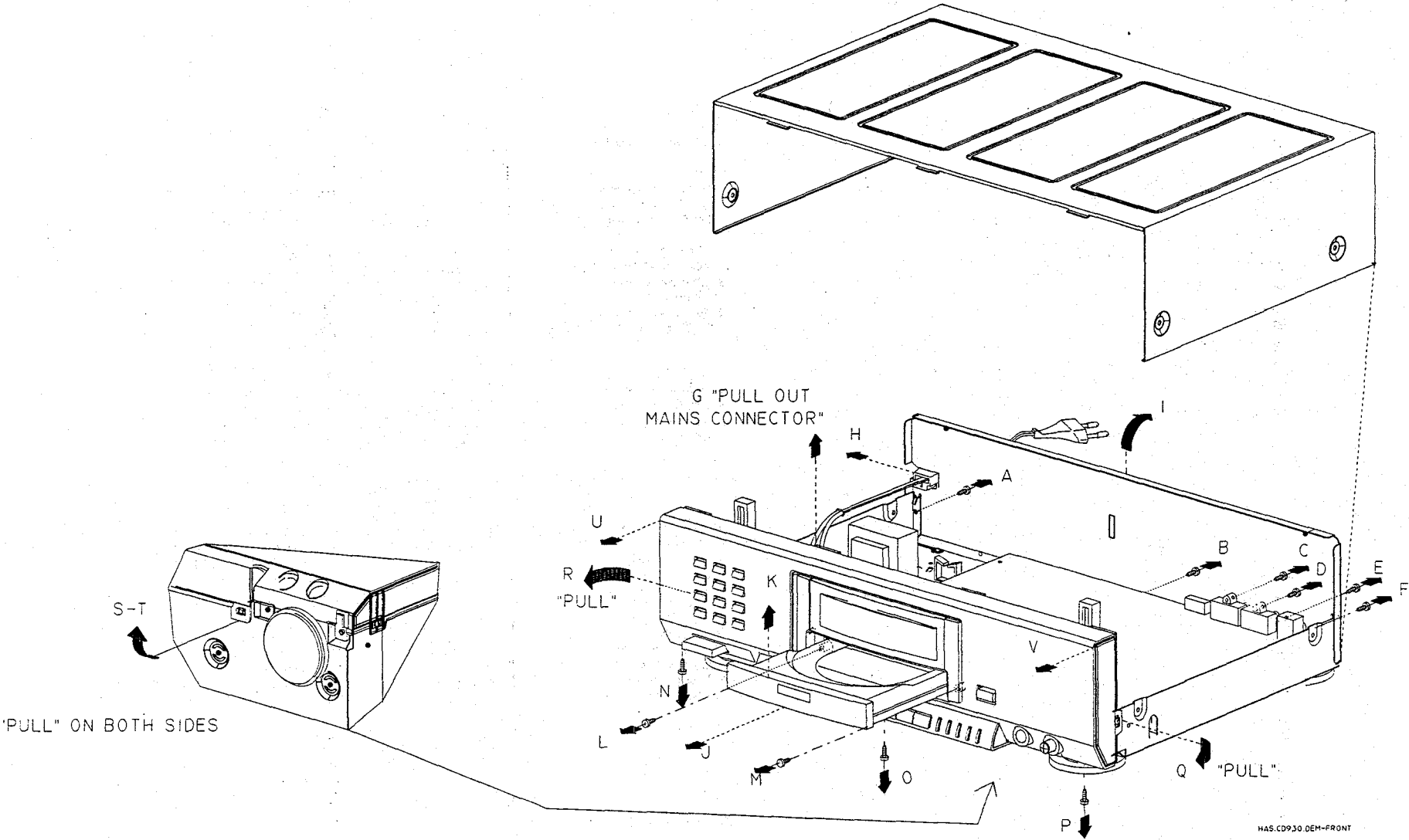
"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne"

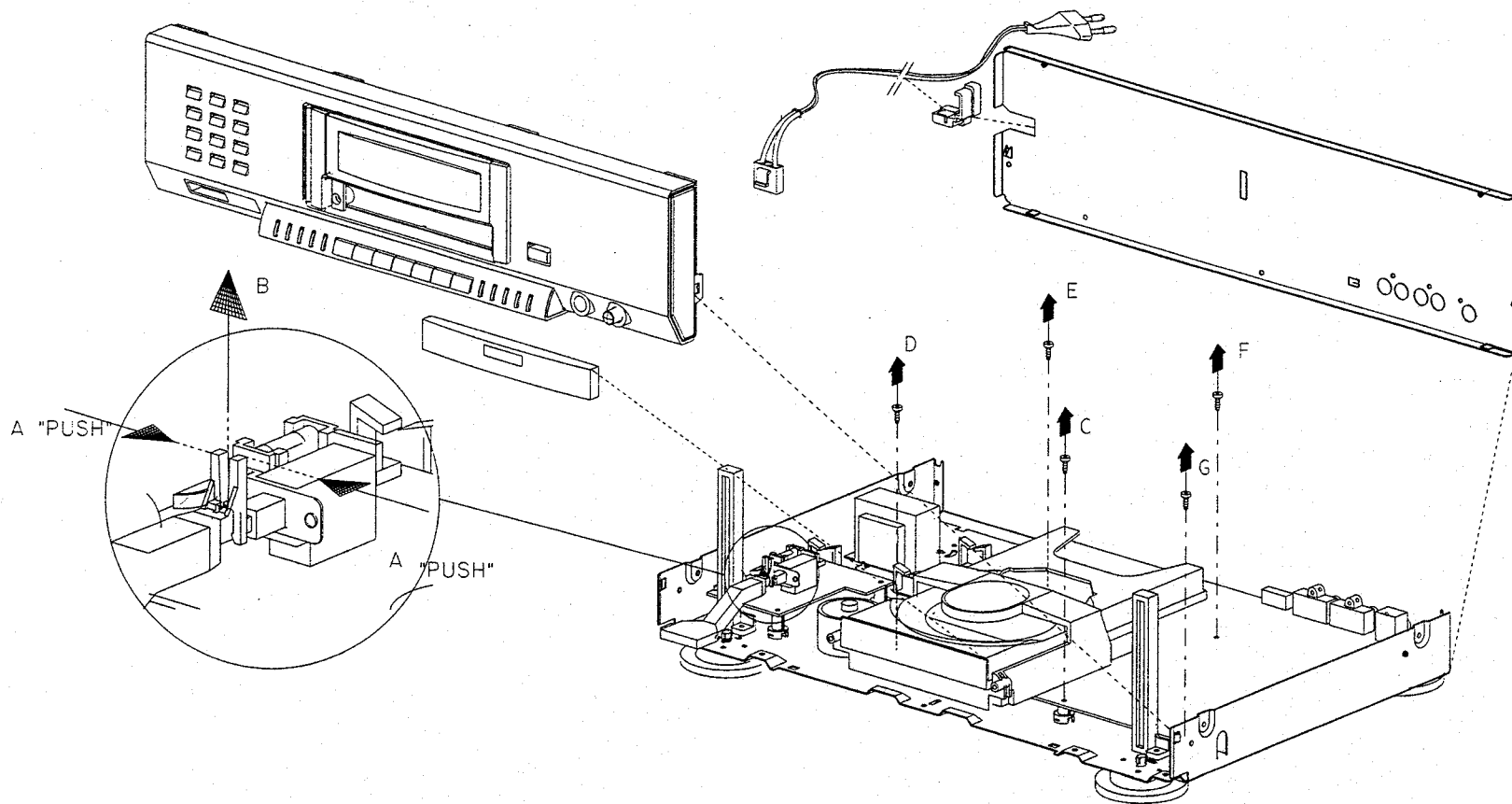
DISMANTLING INSTRUCTIONS
DEMOUNTING OF COVER

5

6



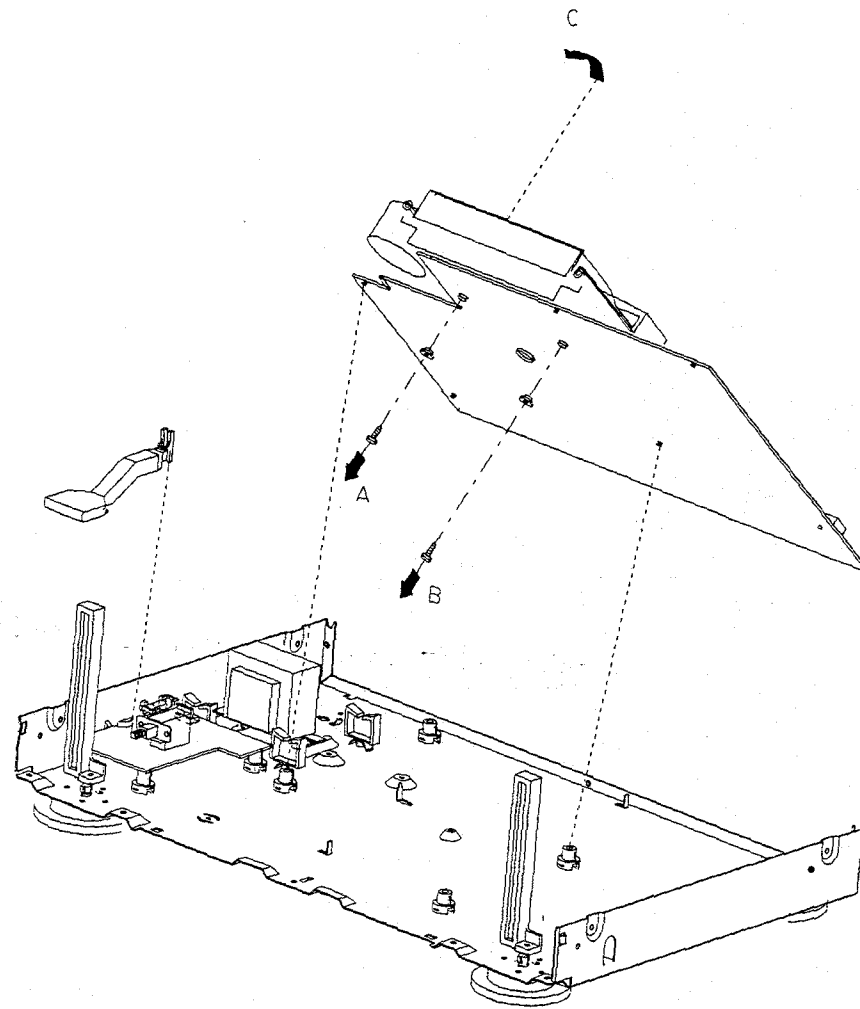




HAS CD30 DFM-MONORBOARD

DEMOUNTING OF LOADER

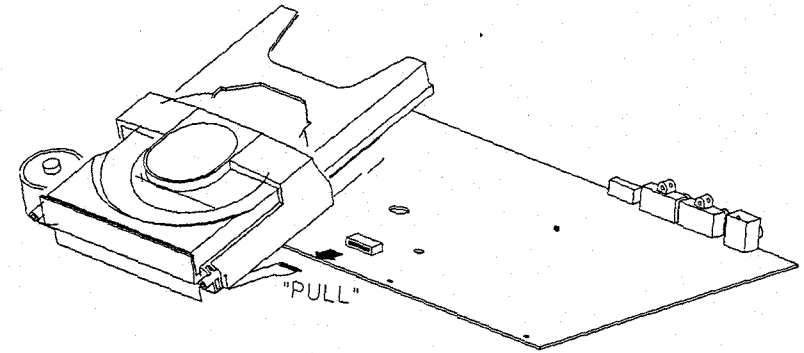
11



HAS CD950 DEM-LOADING

REMOVING FLEX FROM CONNECTOR

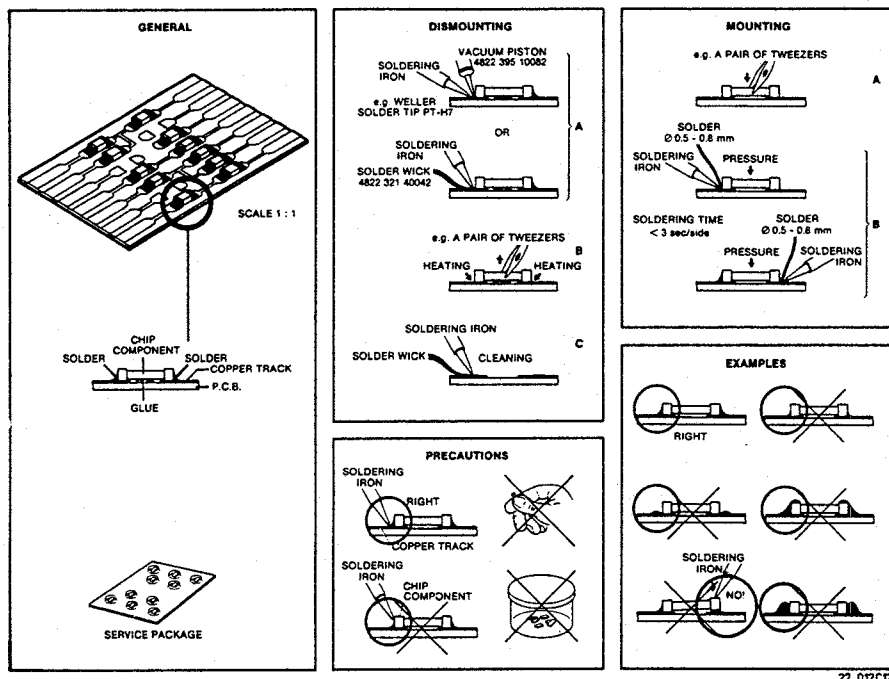
12



HAS CD950 DEM-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

AGC

AM

ATSB position

ATT

B0-B3

BEQ

BCKI

BCKO

BGC

BSW

CD ROM

switch

CEFM

CKO

CKSL

CLAB

CLBD

CLI

CORR

Coscl

Coscl2

CREF

CRI

DAAB

DABD

DAI

DAO

DEC

DEEM

DET

DIN

DIV4

DMUTE

DOBM

DOEN

DODS

D1-4

DOL

DOR

EFAB

FBL+ -

ched capacitor integrator

FBR+ -

ched capacitor integrator

FE

FE lag

HF

HFD

HF-in

HF-out

IDF1-3

INTL+ -

switched capacitor integrator

INTR+ -

ched capacitor integrator

LM

LO

LRCI

MC

MCES

MCK

MDI

MLE

MUSB

MUTE

- Automatic Gain Control

- Additional mute

- Attenuation of Audio level in Search

- Attenuation

- Control bits for radial circuit

- Equalizer reference current input

- Input data bit clock

- Output data bit clock

- DC and LF gain control reference input

- Bandwidth switch turntable motor circuit

- Digital Data information in disc signal

- Clock Eight-to-Fourteen Modulator

- Oscillator output clock

- Clock frequency

- Clock signal Detector-A to Filter-B

- Clock signal Filter-B to DAC

- PS serial bit clock input

- 1/2 bit DAC

- Capacitor wobble oscillator

- Capacitor wobble oscillator

- Reference current

- Counter Reset Inhibit

- Data signal Decoder-A to Filter-B

- Data signal Filter-B to DAC

- PS serial data input

- PS serial data output

- Decoupling input internal bypass

- Deemphasis

- HF detector voltage input

- Input data

- Divide by 4 input

- Digital mute

- Digital out signal

- Digital out enable

- Drop out detector suppression

- Photodiode currents

- Left channel data output

- Right channel data output

- Error flag Decoder-A to Filter-B

- Feedback for left positive (negative) swit

- Feedback for right positive (negative) swit

- Feedback for right positive (negative) swit

- Feedback for right positive (negative) swit

- Focus error signal

- Focus error signal for LAG network

- HF output for DEMOD

- HF detector output for DEMOD

- HF current input to HF amplifier

- HF amplifier and equalizer voltage output

- Input data format

- Output from left positive (negative)

- Output from right positive (negative) swit

- Output from right positive (negative) swit

- Output from right positive (negative) swit

- Laser monitor diode input

- Laser amplifier current output

- Input data word clock

- Motor control signal

- Motor speed control

- Mode set bit clock

- Mode set serial data input

- Mode set latch enable

- Soft mute signal

- Mute signal

OALO

OARO

Offset IN-

Offset OUT

PD/OC

PLLH

OCL

OODA

ORA

RADout

RE

Roscl

Rwob

RE1

RE2

RE dig

RE lag

RST

SBD

Sc

SCAB

SCKI

SDAB

SD11-2

SIN

SI/RD

SWAB/SSM

TL

TRMOT

TTM+

TTM-

TTMO

VDAcl-R

Vext+

Vext-

VRCL-R

VROL-R

WCKO

WSAB

WSBD

WSI

WSO

XIN

XOUT

XSEL

XSYS

XTI

XTO

- Operational ampl. left output

- Operational ampl. right output

- Offset control input

- Offset control output

- Phase detector - oscillator control

- PLL on hold reset

- Q-channel clock signal

- Q-channel data signal

- Q-channel request acknowledge

- Output of RE2-RE1 input

- Radial error signal (Amplified RE2-RE1 currents)

- Resistor wobble oscillator

- Wobble generator input

- Radial error signal 1

- Radial error signal 2

- Radial error digital

- Radial error signal for LAG network

- Device reset

- Single Bit Deviation correction

- Starting up capacitor input

- Subcode clock Decoder-A to Filter-B

- Bit clock input for serial input interface

- Subcode data Decoder-A to Filter-B

- Serial data input

- Tray switch

- On/off control for laser supply and focus circuit. Ready signal. Starting up procedure successful

- Subcode word/start-stop motor signal

- Track loss output signal

- Tray motor drive

- Control voltage for turntable motor

- Control voltage for turntable motor

- Motor offset and bandwidth switch

- Reference voltage supply left(right) channel DAC

- Supply connection

- Supply connection

- High impedance voltage reference for left (right) channel inputs

- Left (right) channel voltage reference output

- Output word clock

- Word select Decoder-A to Filter-B

- Word select Filter-B to DAC

- PS word select input

- PS word select output

- Oscillator signal input

- Oscillator output

- Crystal frequency select

- Oscillator signal

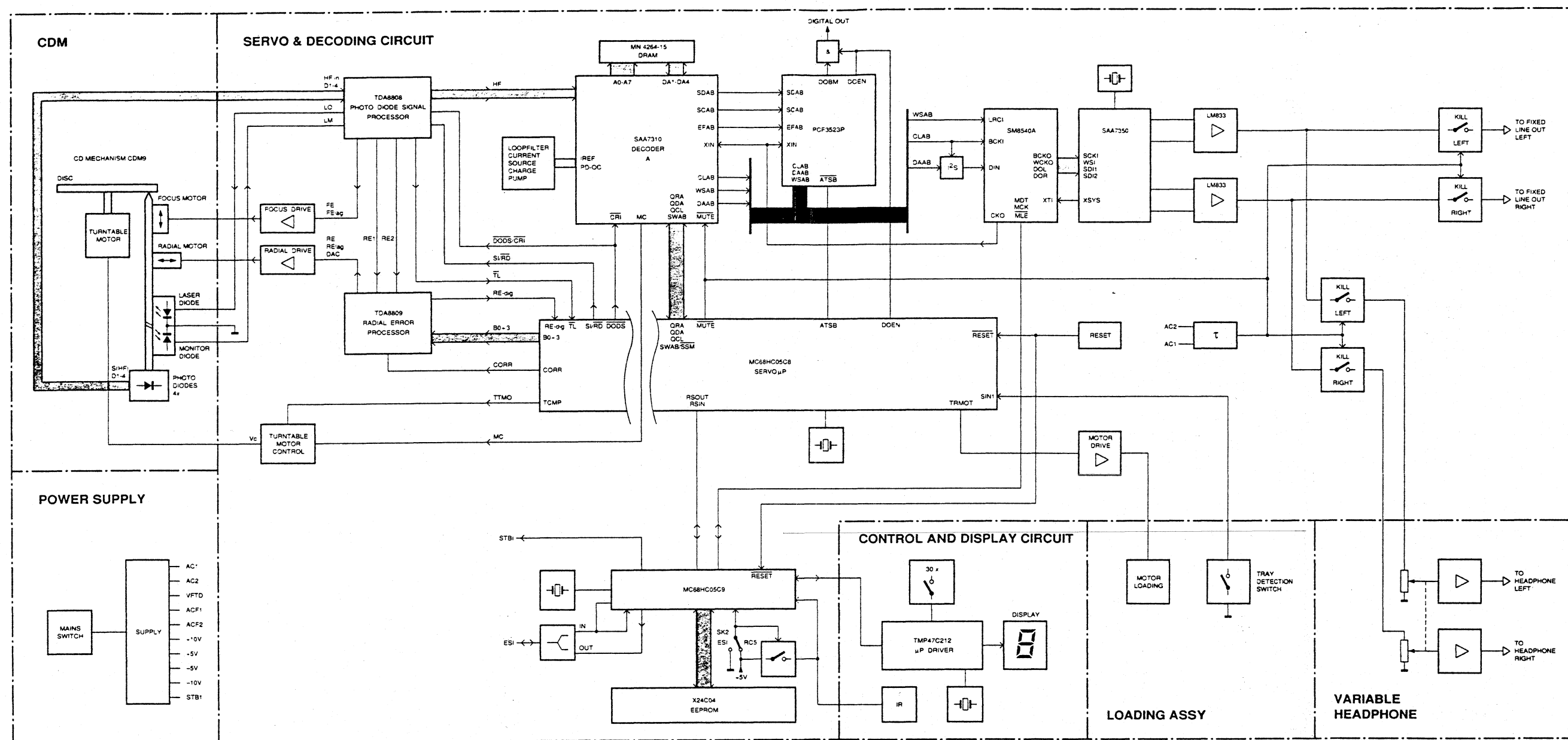
- Crystal oscillator input

- Crystal oscillator output

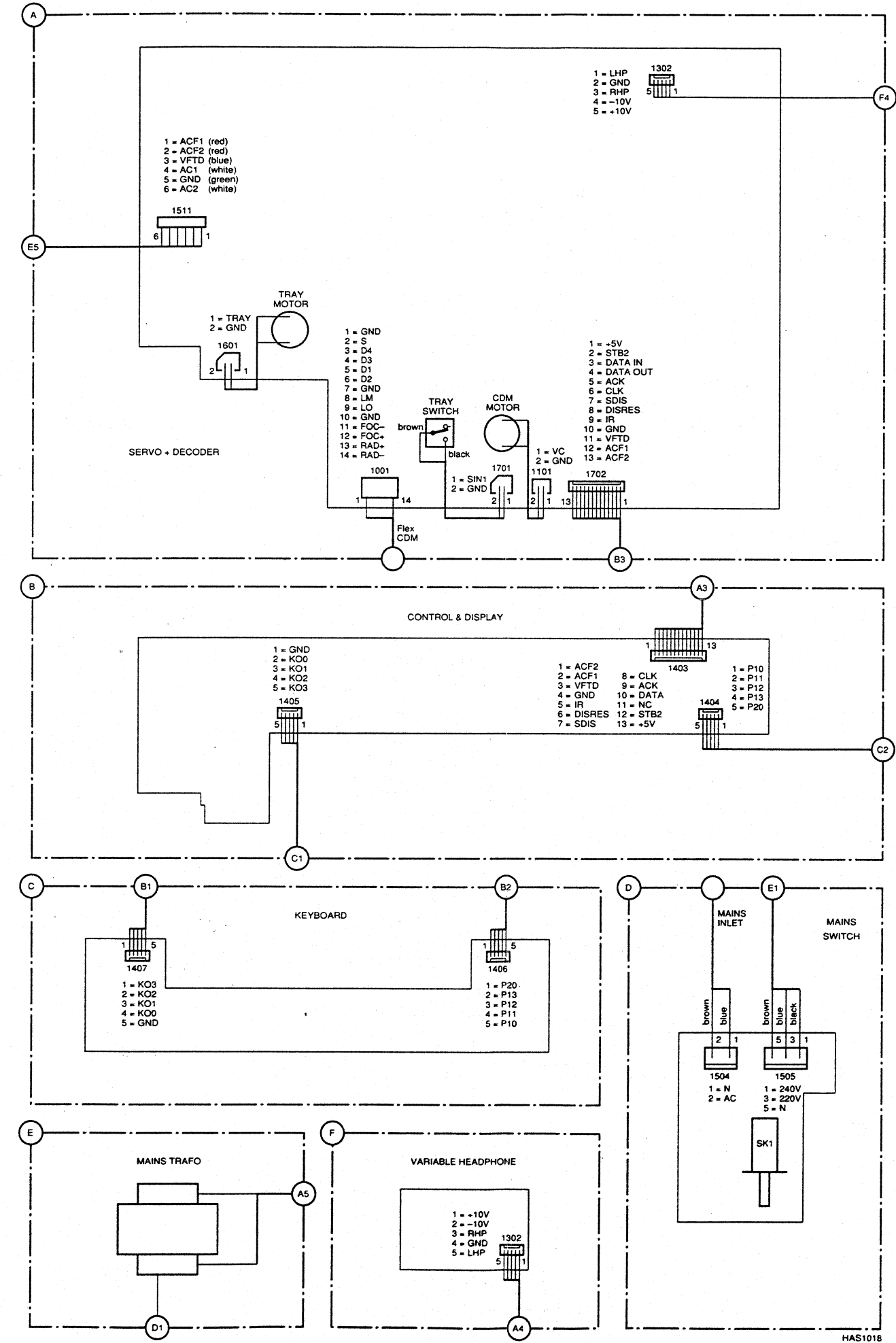
BLOCK DIAGRAM

15

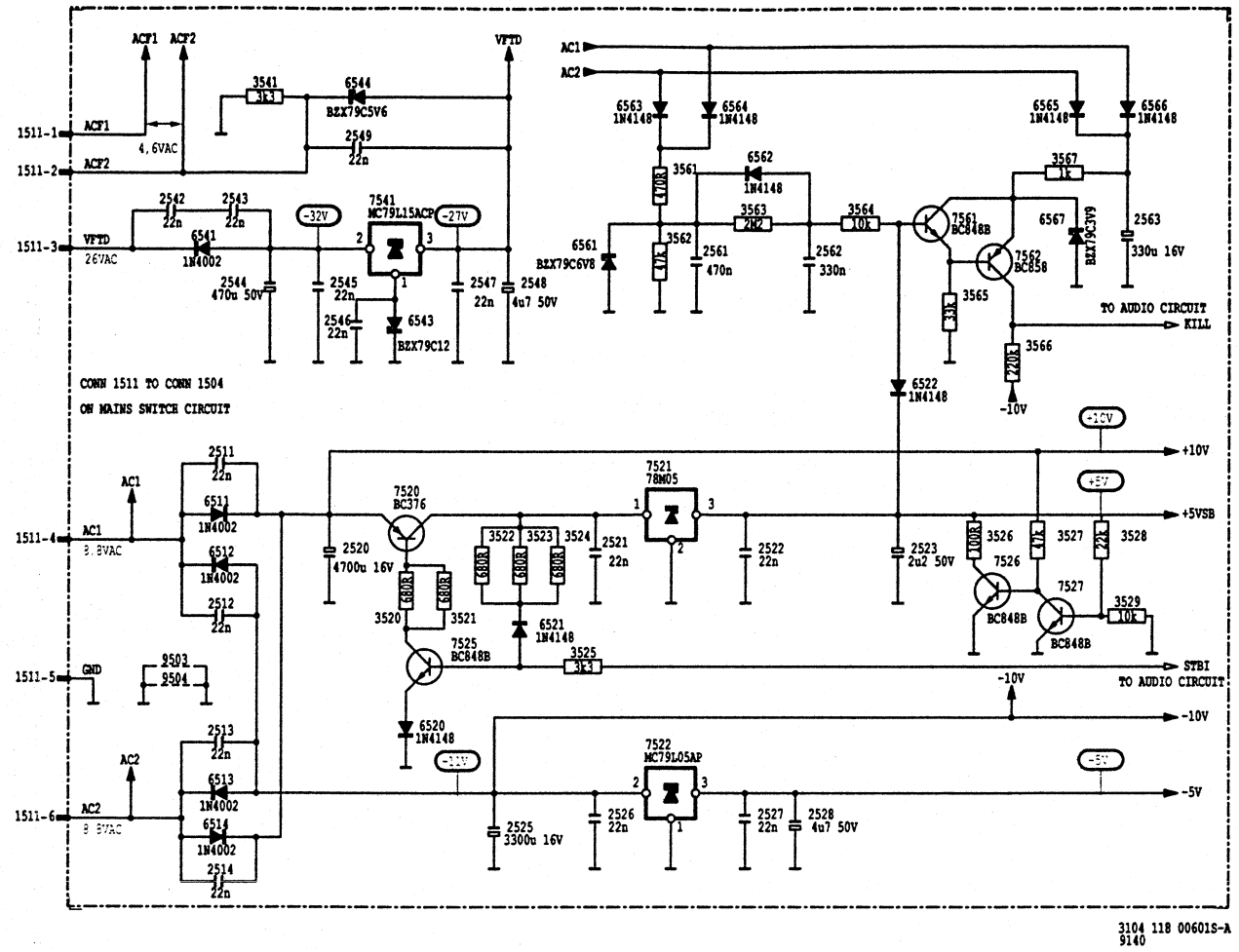
16



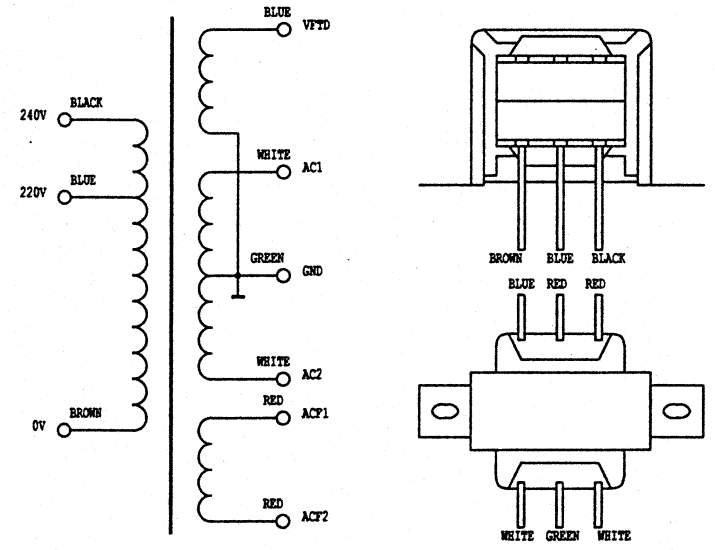
WIRING DIAGRAM



POWER SUPPLY

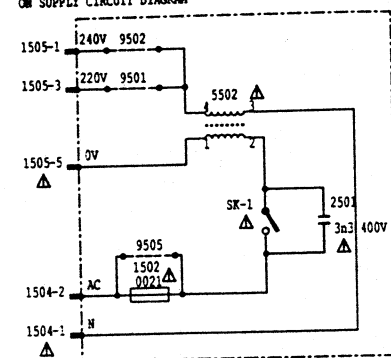


TRANSFORMER CONNECTIONS



HAS1021
9145

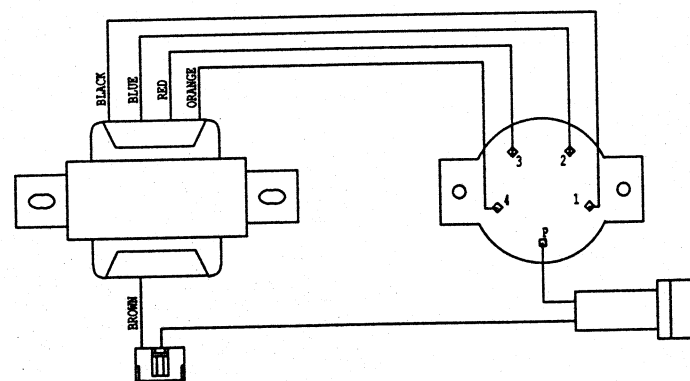
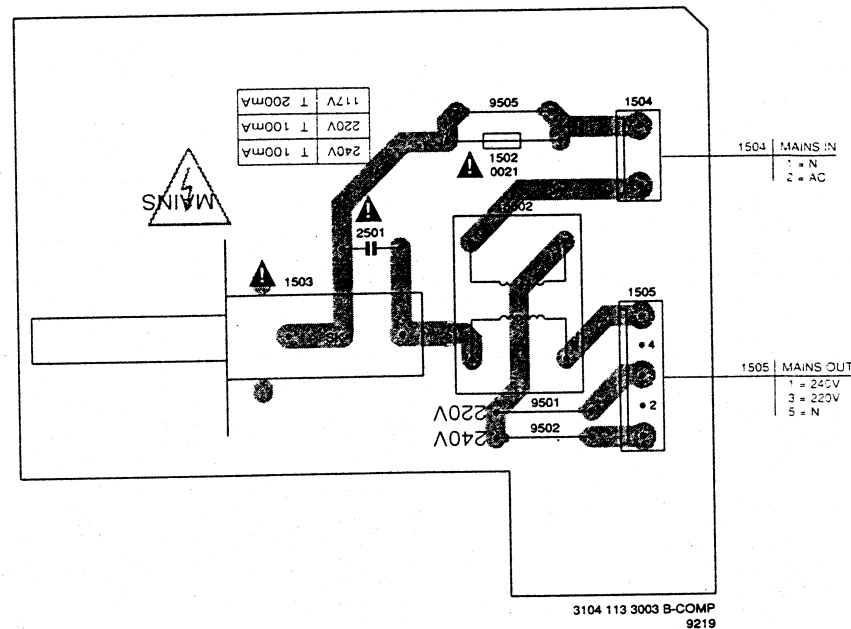
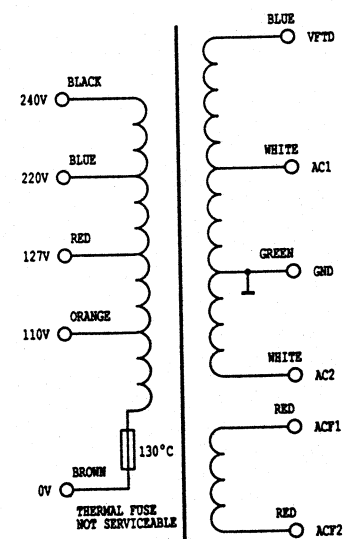
CONN 1504 TO CONN 1511
ON SUPPLY CIRCUIT DIAGRAM



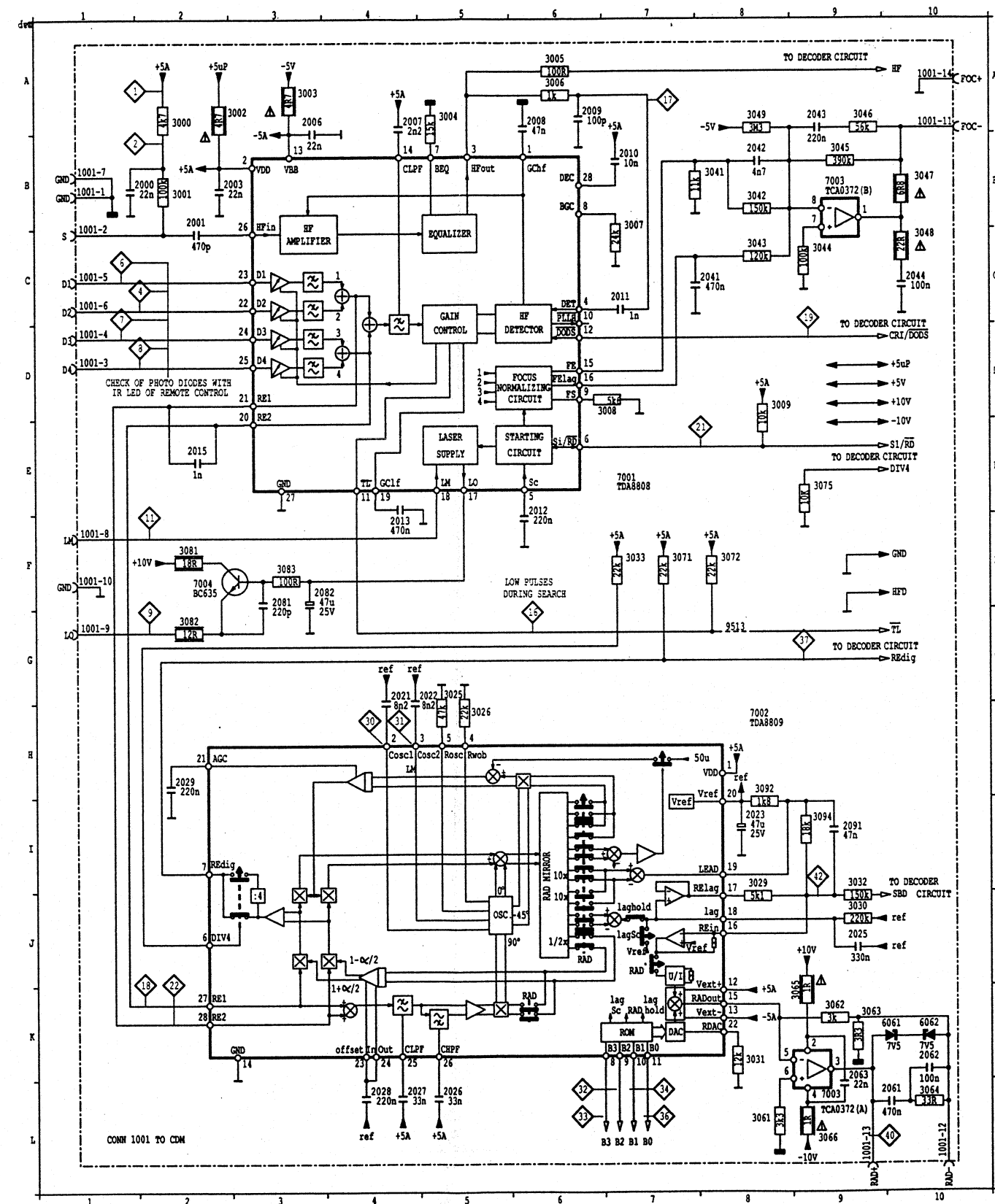
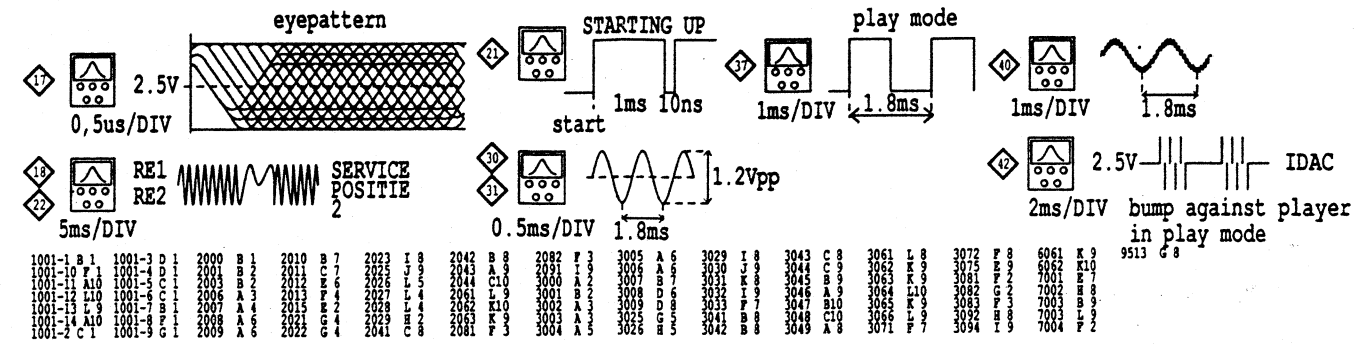
	CD930/	00S	01S	05S	10S	17S
Ref	0021	X		X	X	X
	1502	100mA	var.	100mA	100mA	200mA
	9501	X	X		X	X
	9502			X		
	9505		X			

3104 118 00601S-E
9150

VOLTAGE SELECTOR



HAS1055
9234



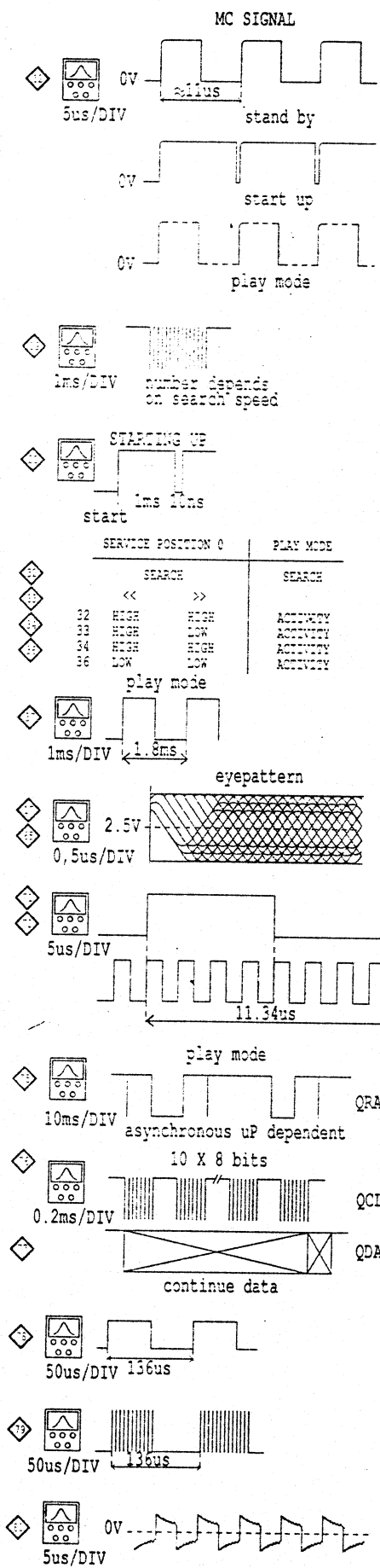
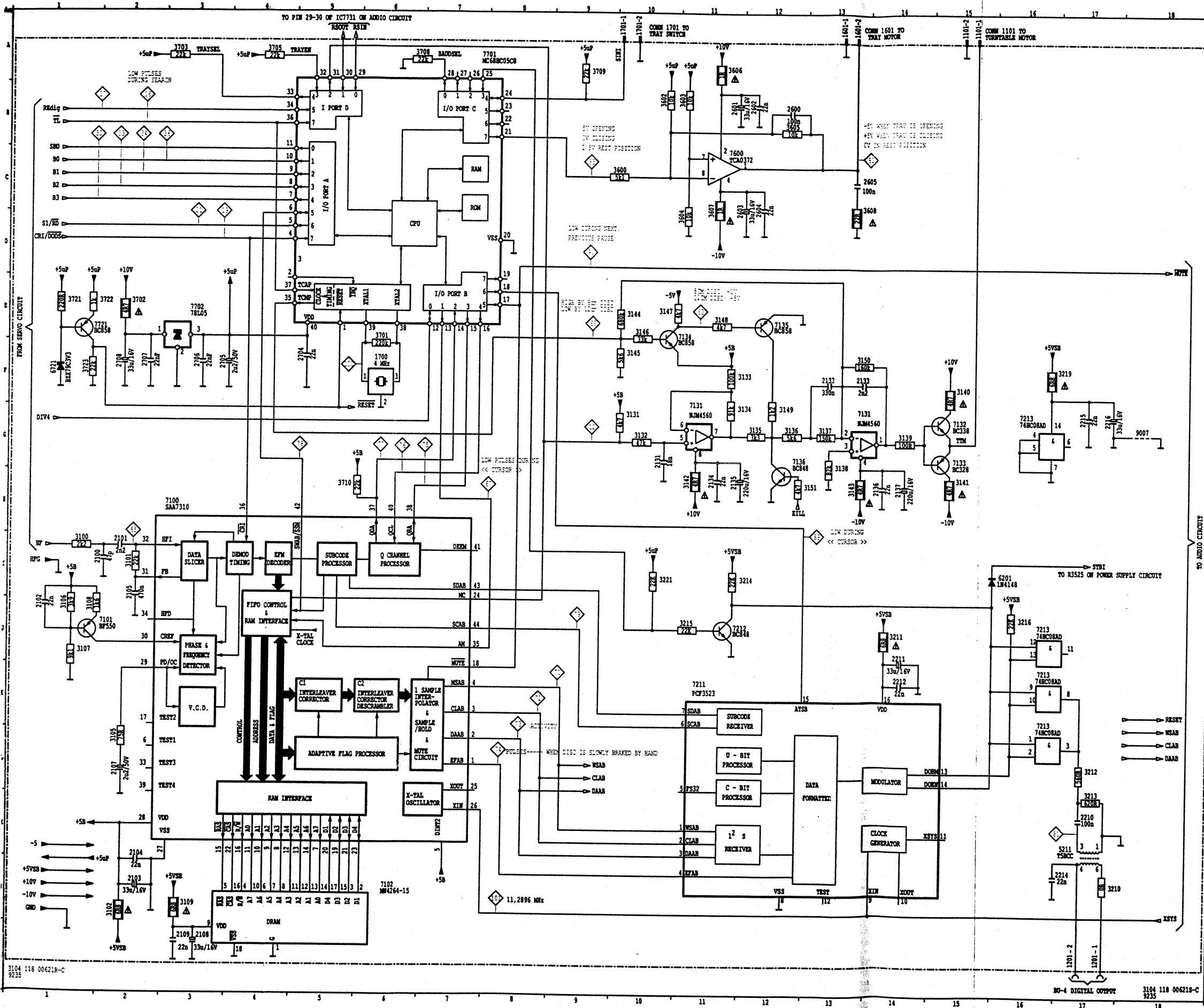
3104 118 00621S-B
9235

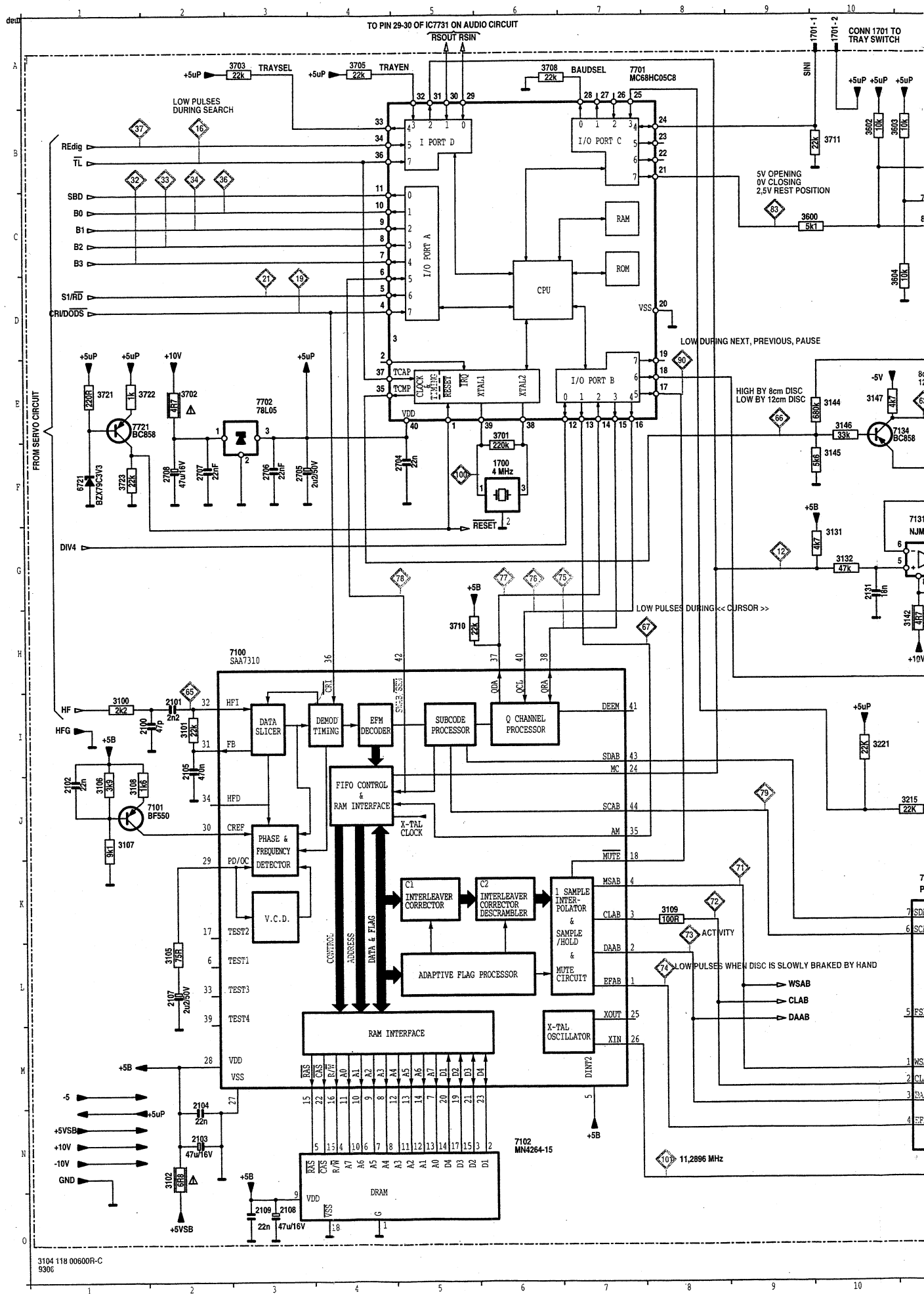
21a

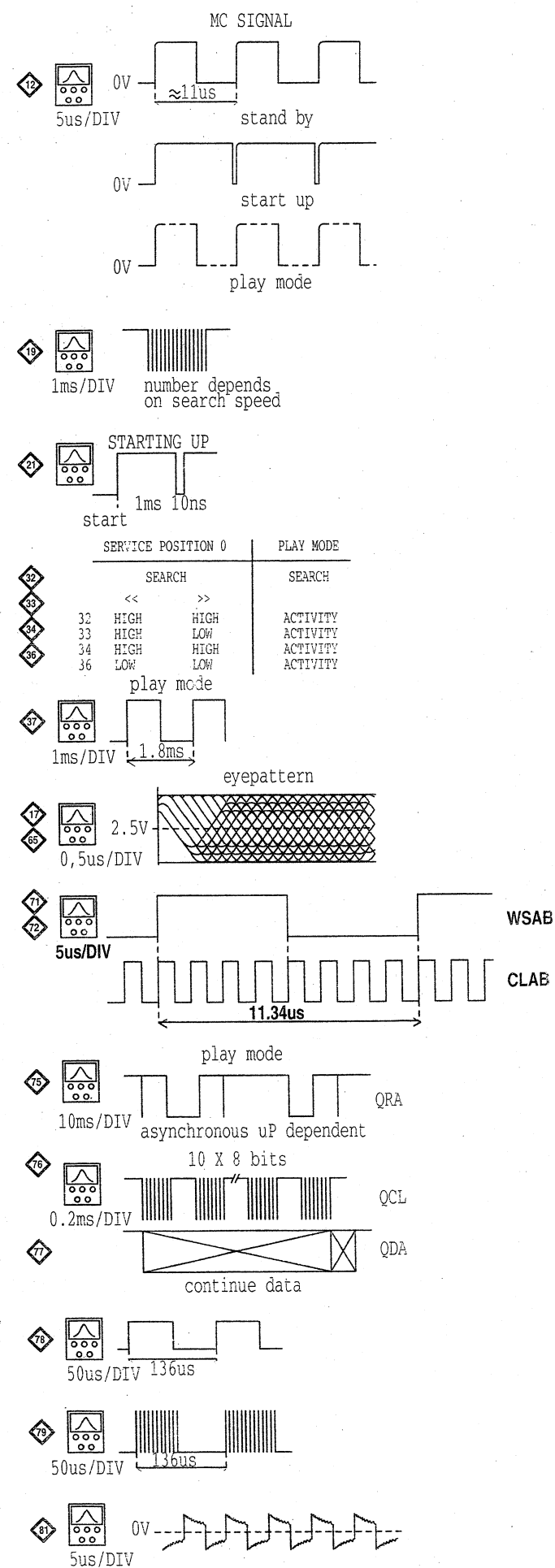
DECODER CIRCUIT DIAGRAM

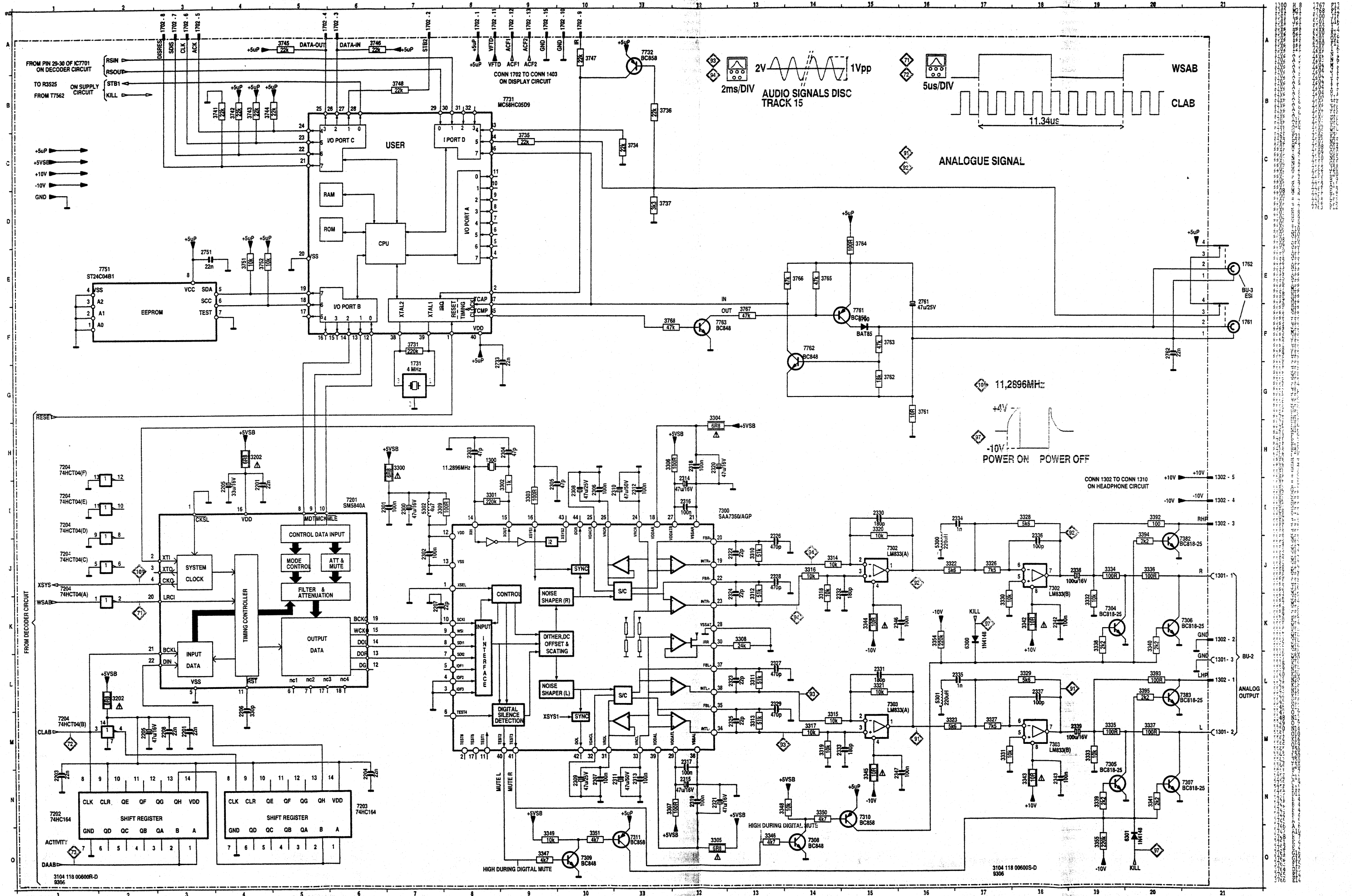
22a

23a







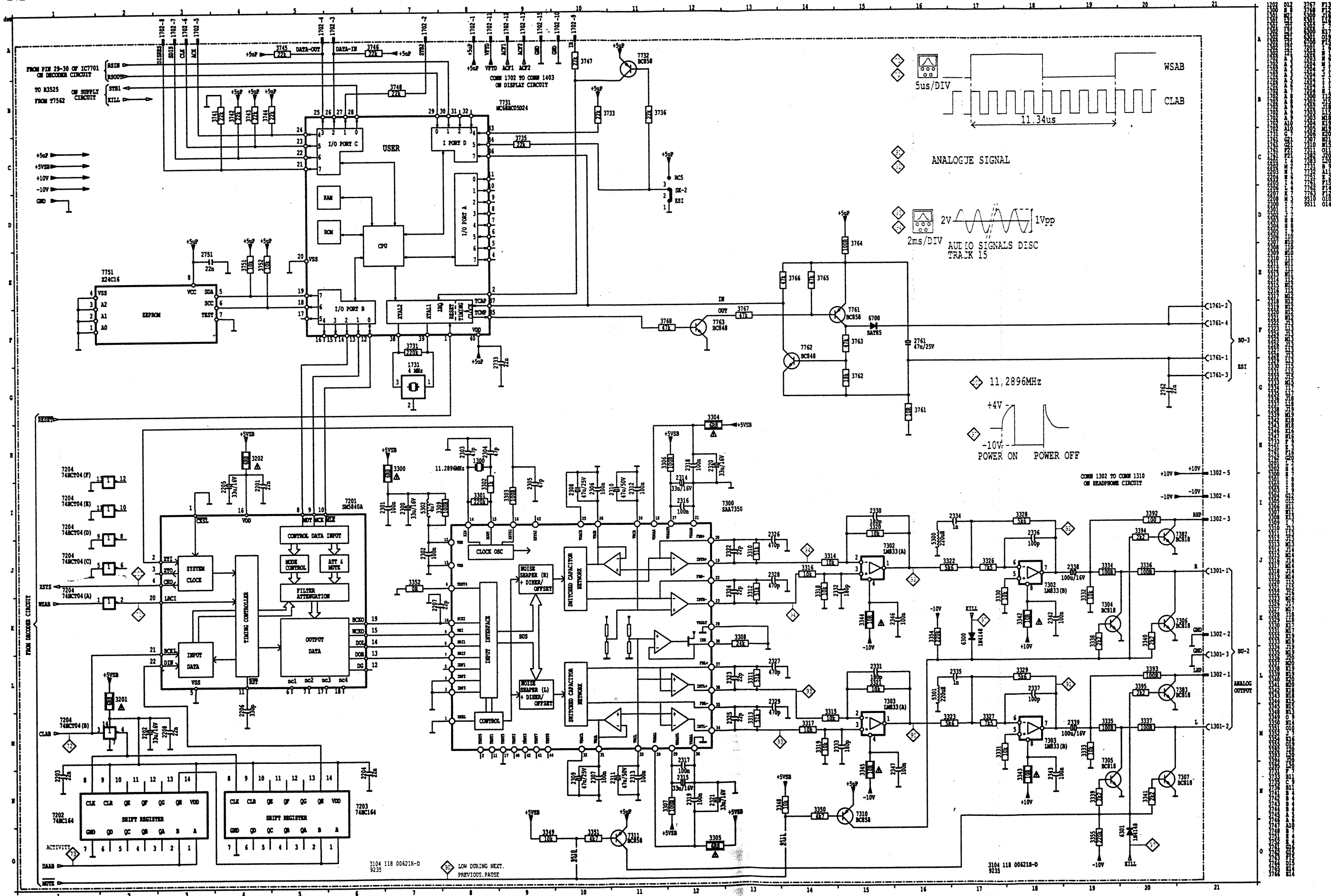


AUDIO CIRCUIT DIAGRAM

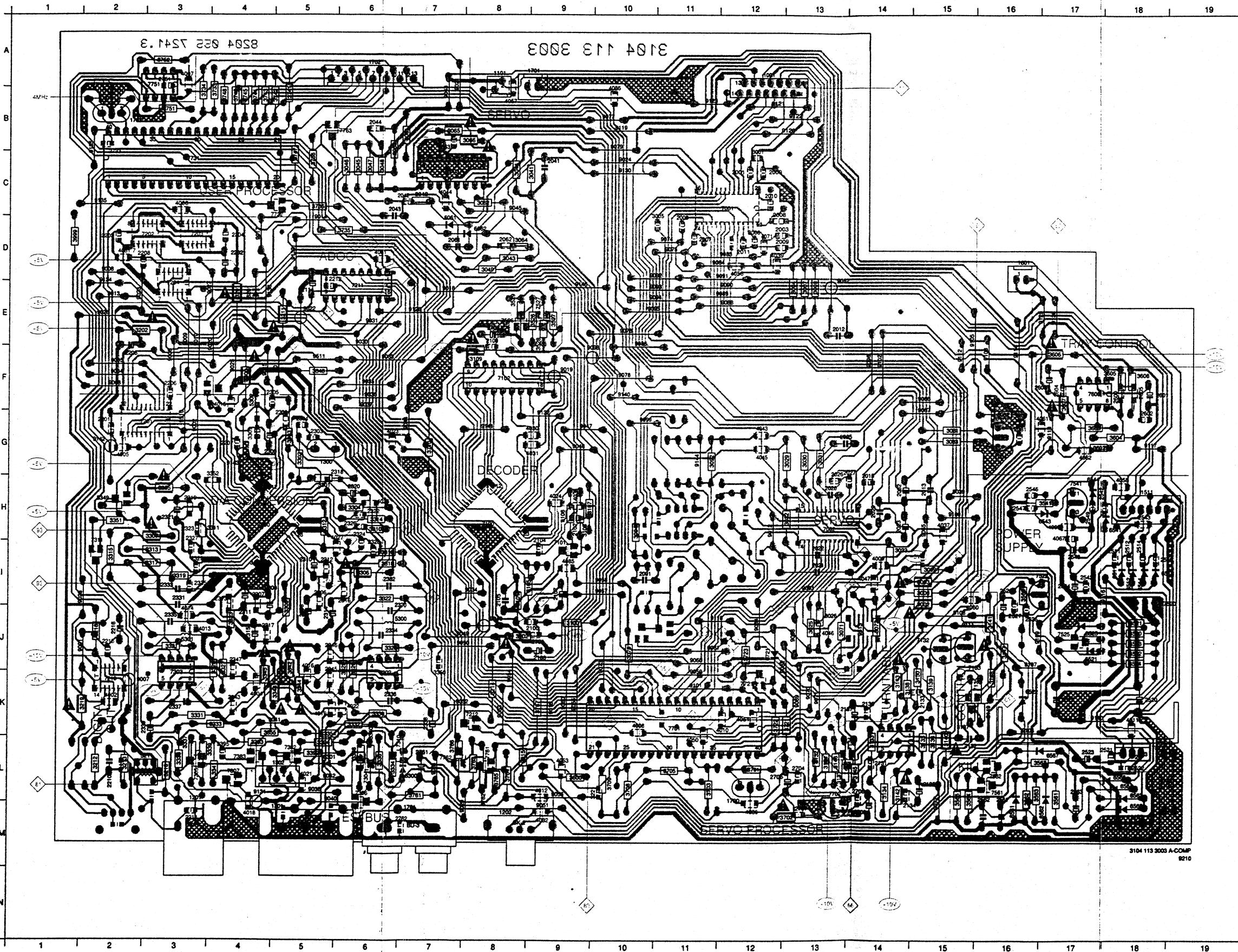
24a

25a

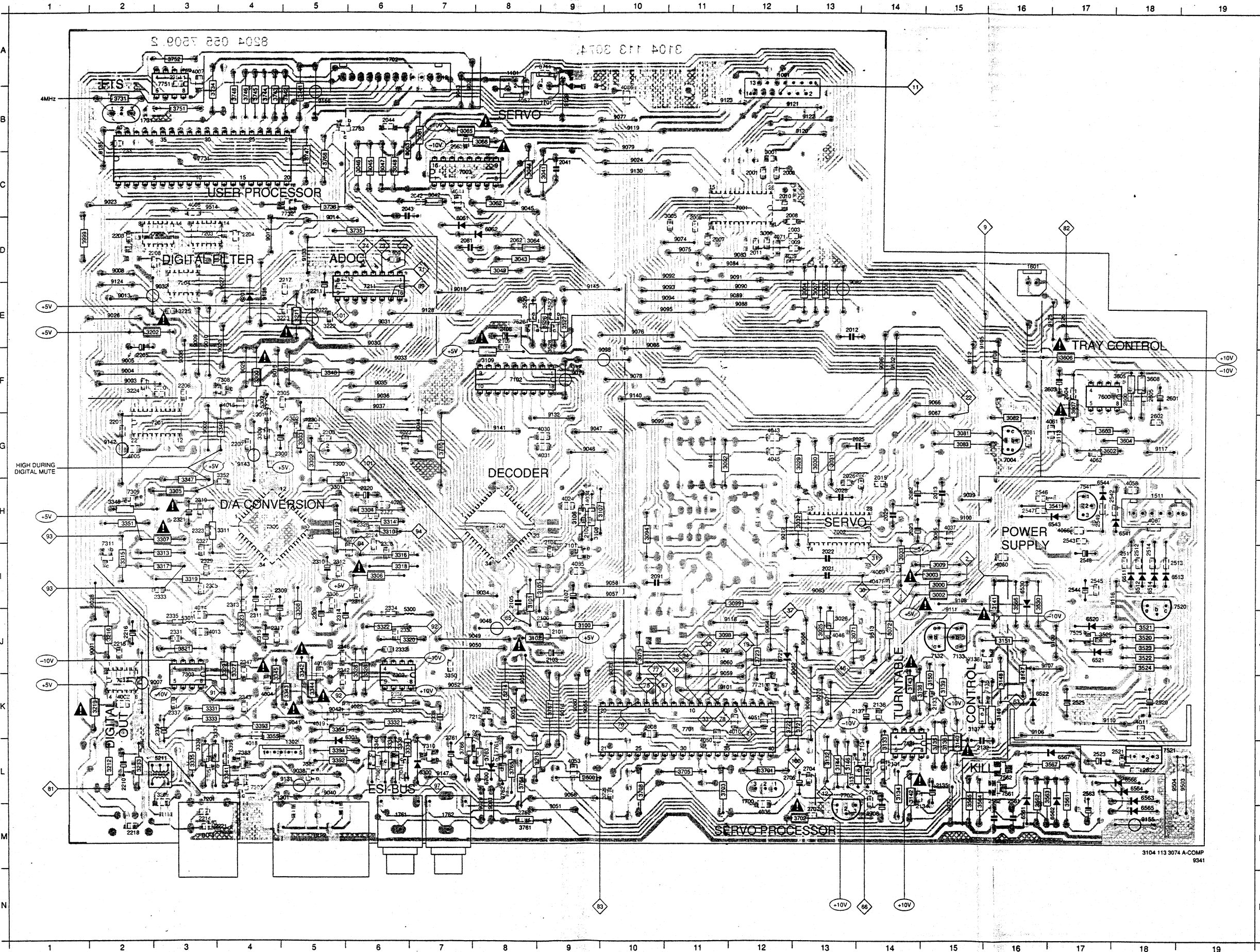
26a



MAIN PANEL COMPONENT SIDE L3

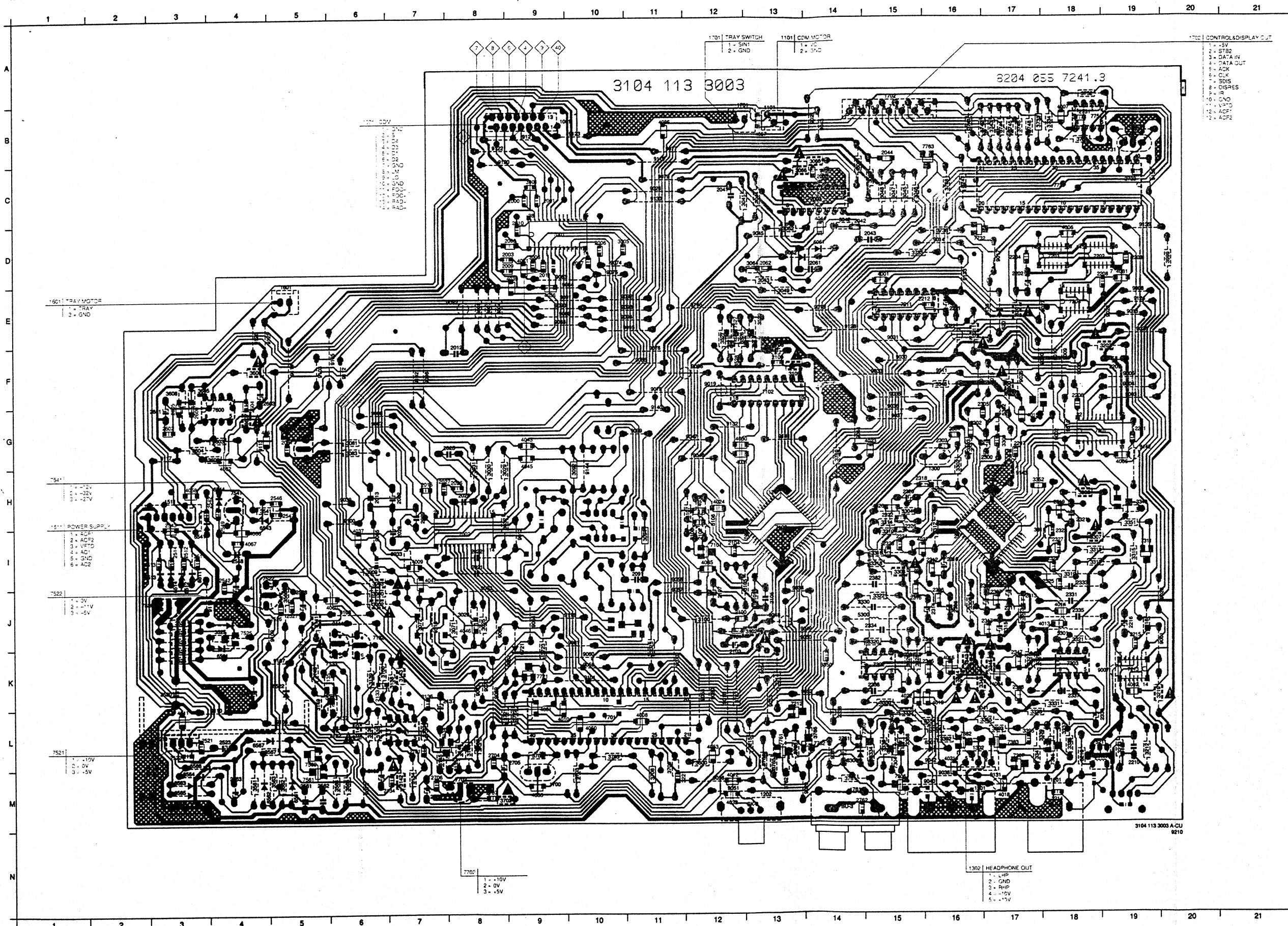


1001	A12	2346	J5	3213	L2	3763	L8	7520	H8	9100	H15
1101	A8	2347	J4	3214	K8	3764	L8	7521	L18	9101	K11
1201	L3	2382	K6	3215	L8	3765	L8	7522	H6	9102	F14
1202	M8	2511	H8	3216	J2	3766	L7	7523	J17	9103	F16
1300	G5	2512	H8	3219	K2	3767	K9	7526	E8	9105	E15
1301	M5	2513	H8	3221	L10	3768	C5	7527	E9	9106	K16
1302	L5	2514	H8	3300	F4	3999	D1	7541	H17	9107	J16
1511	H18	2520	K18	3301	H5	4001	D6	7561	L16	9108	J15
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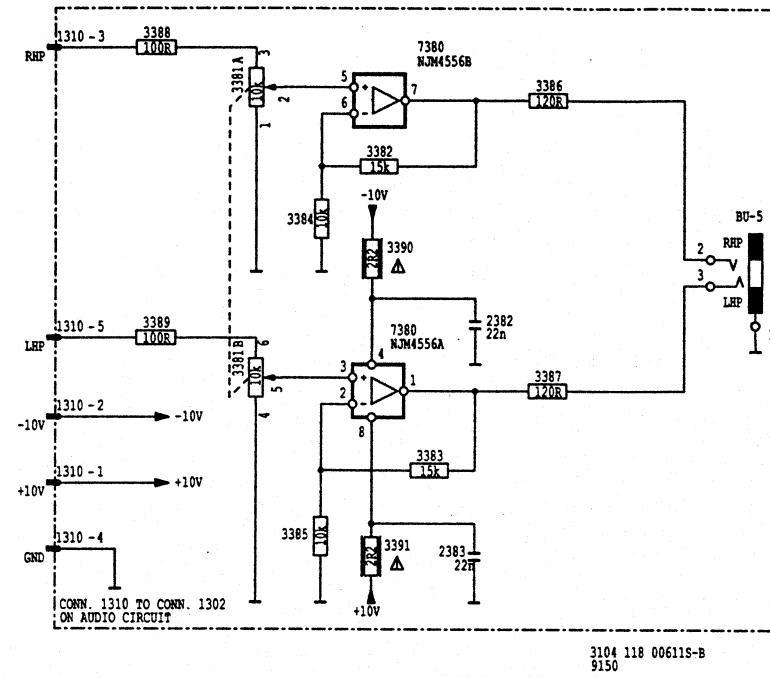
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2318	G5	3133	L14	3606	F17	7101	I9	9069	K13		
2319	H3	3134	L14	3607	F17	7102	F8	9070	K13		
2320	H6	3135	L15	3608	F18	7131	L14	9071	K13		
2321	H3	3136	L15	3701	L12	7132	J15	9072	M15		
2322	H6	3137	K15	3702	M13	7133	J15	9073	K10		
2323	H3	3138	K15	3703	L11	7134	L14	9074	D11		
2324	H6	3139	K15	3705	L11	7135	K16	9075	D11		
2325	I3	3140	L15	3708	L10	7136	J15	9076	E10		
2326	H6	3141	J16	3710	G7	7201	G2	9077	B10		
2327	I3	3142	L14	3711	A8	7202	D2	9078	F10		
2328	I6	3143	K14	3721	K13	7203	D3	9079	B10		
2329	I3	3144	L13	3722	K12	7204	E3	9080	K9		
2330	J6	3145	L14	3723	J12	7211	E6	9081	M8		
2331	J3	3146	L13	3731	B2	7212	K7	9082	E13		
2332	J6	3147	K16	3734	B3	7213	K2	9083	D12		
2333	I3	3148	K16	3735	D6	7300	H4	9084	D11		
2334	J6	3149	K16	3736	C5	7302	K6	9086	E10		
2335	J3	3150	K15	3741	B5	7303	K3	9088	E12		
2336	K6	3151	J16	3742	B5	7304	L5	9089	E12		

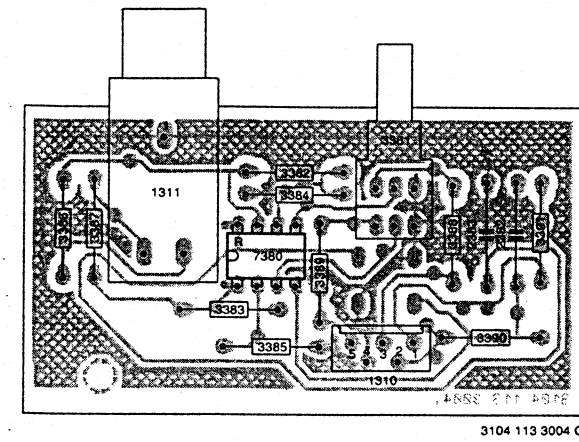


1001	B9	2511	I2	3304	H18	4010	L9	9003	G18	9128	E14
1101	B3	2514	I3	3305	H18	4011	L3	9002	F19	9130	F14
1201	M18	2520	K3	3306	I15	4012	M12	9004	F19	9131	M17
1202	M13	2521	L3	3307	I18	4013	J17	9005	F19	9132	G12
1300	H16	2522	L3	3308	J18	4014	J18	9006	F18	9133	D16
1301	M16	2523	L4	3309	G17	4015	G17	9007	K18	9135	D19
1302	L18	2525	K4	3310	I15	4018	K16	9008	E19	9135	C15
1511	H3	2528	J5	3311	I17	4018	M18	9009	E17	9136	E17
1601	H17	2527	J5	3312	M15	4017	K16	9010	F18	9140	G17
1700	M9	2528	J5	3313	I18	4021	L16	9011	F17	9141	G13
1701	B12	2542	H4	3314	H15	4022	K15	9012	I9	9142	G19
1702	A15	2542	L4	3315	I19	4023	G15	9013	E19	9143	H17
1731	B19	2543	H3	3316	I15	4024	H12	9014	D18	9144	H10
1781	M14	2544	L4	3317	I18	4028	H15	9015	F18	9145	E12
2000	C9	2546	H5	3318	I15	4027	I15	9016	K12	9155	M3
2007	C9	2547	H5	3319	I15	4028	G14	9017	K12	9156	M3
2008	D8	2548	L4	3320	I15	4031	G12	9018	E14	9504	M3
2008	D10	2549	L4	3321	J18	4032	M12	9019	F12	9505	G18
2007	D10	2581	M5	3322	J15	4034	H12	9020	F18	9511	F16
2008	D9	2582	M5	3323	J17	4036	M9	9021	B14	9515	J7
2009	D6	2583	M4	3326	K15	4037	I8	9022	E16		
2010	C9	2600	G3	3327	K17	4039	D9	9023	E16		
2011	D9	2601	G3	3328	K15	4043	G14	9024	G14		
2012	D9	2602	G3	3329	K15	4044	C14	9025	F17		
2013	H6	2603	F4	3330	K15	4045	H9	9026	E19		
2015	H7	2604	G4	3331	L18	4046	H8	9027	E18		
2021	H8	2605	G3	3332	L15	4047	I7	9028	J20		
2022	I8	2704	L8	3333	L17	4050	L10	9029	M14		
2023	I7	2705	L9	3334	L15	4051	L9	9030	F15		
2025	G7	2706	M7	3335	L18	4053	L12	9031	E15		
2026	H8	2707	M6	3336	L15	4054	L12	9032	E15		
2027	H7	2708	M7	3337	L18	4057	B13	9033	J13		
2028	H8	2733	C19	3338	L15	4058	H5	9035	F15		
2029	H7	2751	B18	3339	L18	4060	J5	9036	F15		
2041	C12	2781	L14	3340	L15	4061	G4	9037	F15		
2042	D14	2782	M14	3341	L17	4062	H4	9038	M16		
2043	D15	3000	J6	3342	K16	4066	I4	9039	H6		
2044	B15	3001	J9	3343	K16	4067	I4	9040	M15		
2045	D17	3002	J9	3344	L18	4068	D9	9041	M6		
2062	D13	3003	H8	3345	K17	4061	D19	9042	L16		
2063	C14	3004	E8	3348	F16	4085	I12	9043	B14		
2081	G5	3005	D10	3349	H19	4086	B11	9044	G14		
2082	H7	3006	D9	3350	K14	5211	L18	9045	D13		
2091	I11	3007	E8	3351	I19	5300	J14	9046	G12		
2100	J12	3008	E8	3352	H17	5301	J18	9047	G12		
2101	J12	3009	H8	3354	L15	5302	K12	9048	F15		
2102	H11	3025	J8	3355	L18	5001	D14	9049	J13		
2103	K12	3026	H8	3392	L16	6062	D13	9050	J13		
2104	I12	3029	H9	3393	L17	6201	E17	9051	M12		
2105	J13	3030	H8	3394	L16	6300	L14	9052	K13		
2107	J12	3031	H8	3395	L17	6301	L15	9053	L13		
2108	F13	3032	I9	3520	J3	6511	I3	9054	K13		
2109	F13	3033	I7	3521	J3	6512	J3	9055	K12		
2110	L17	3041	C13	3522	K9	6513	I2	9056	K12		
2112	L5	3042	C14	3523	J3	6514	J3	9057	J11		
2133	K6	3043	D13	3524	K3	6520	J4	9058	I11		
2134	M6	3044	C13	3525	J4	6521	K4	9059	K10		
2135	M6	3045	C15	3526	E12	6522	K5	9060	K10		
2136	K7	3046	C15	3527	E12	6541	I3	9061	J10		
2137	K7	3047	C15	3528	E12	6543	I4	9062	J9		
2201	G19	3048	C15	3529	F13	6544	H4	9063	J8		
2202	G19	3049	E13	3530	F13	6545	M5	9064	J9		
2203	D19	3061	C14	3561	M4	6562	M5	9065	I6		
2204	D17	3082	D13	3562	M5	6563	M3	9066	G6		
2205	F19	3083	C15	3563	M5	6564	M3	9067	G6		
2206	F18	3064	D13	3564	M6	6565	M3	9068	G6		
2207	G17	3065	C14	3565	M6	6566	L3	9069	K8		
2208	D18	3066	C13	3566	J5	6567	L4	9070	K8		
2210	I19	3071	J8	3567	L4	6571	K9	9071	F18		
2211	E17	3072	J7	3600	L12	7001	D9	9072	M11		
2212	E15	3075	K11	3602	K3	7002	I8	9073	K6		
2214	M18	3081	G6	3603	G4	7003	C14	9074	D10		
2215	F19	3082	G5	3604	G3	7004	H5	9075	D10		
2216	F19	3083	G6	3605	F3	7100	I13	9076	F11		
2300	G16	3092	H10	3606	F4	7101	I12	9077	B11		
2302	G16	3094	I11	3607	G4	7102	F13	9078	F11		
2303	G16	3100	J12	3608	K9	7103	L12	9079	C11		
2304	G16	3101	J13	3701	L8	7132	J5	9080	K12		
2305	G16	3102	J13	3702	M8	7133	K5	9081	L14		
2306	J16	3105	J13	3703	M10	7134	L7	9082	E8		
2307	J17	3106	I12	3705	L10	7135	K6	9083	D9		
2308	J16	3107	H12	3706	M11	7201	G18	9084	E9		
2309	J16	3108	I12	3709	M11	7202	D18	9086	F11		
2310	I16	3109	F13	3710	G14	7203	K9	9087	F11		
2311	H17	3131	M6	3721	L12	7204	E18	9089	E9		
2312	I16	3132	L8	3722	L9	7211	E15	9090	E9		
2313	J17	3133	L7	3723	K9	7212	K13	9091	E9		
2314	J16	3134	M7	3731	B19	7213	F19	9092	E10		
2315	J17	3135	L6	3733	B18	7300	I17	9093	E10		
2316	I15	3136	L6	3734	B18	7302	K15	9094	E10		
2317	J16	3137	L6	3735	D15	7303	K18	9095	E10		
2318	H15	3138	K7	3736	K17	7304	M5	9096	E10		
2319	H16	3139	K6	3741	B16	7305	M18	9098	F12		
2320	H15	3140	L8	3742	B17	7306	M15	9099	G11		
2321	H18	3141	J5	3743	B17	7307	L17	9100	H6		
2322	H15	3142	M7	3744	B17	7310	L15	9101	H6		
2323	I18	3143	K7	3745	B17	7311	I19	9102	F7		
2324	I15	3144	L8	3746	B17	7382	L16	9103	F5		
2325	I18	3145	L7	3747	G16	7383	L17	9105	F5		
2326	I15	3146	L8	3748	L17	7384	L17	9106	L5		
2327	I17	3147	K5	3751	B18	7521	L3	9107	K5		
2328	I15	3148	K5	3752	A18	7522	L4	9108	J6		
2329	I18	3149	K5	3761	M14	7525	J4	9109	J5		
2330	J14	3150	K6	3762	M13	7526	L13	9110	L4		
2331	J18	3201	E17	3763	L13	7527	E12	9111	L4		
2333	I18	3202	F18	3764	L13	7541	H4	9112	F6		
2334	J15	3210	L16	3765	M13	7546	M5	9113	F5		
2342	I15	3211	E18	3768	L17	7562	L5	9114	F5		
2336	I15	3212	L19	3767	K12	7600	G4	9116	J4		
2337	K18	3213	L19	3768	C16	7701	L10	9117	G3		
2338	L14	3214	K13	3969	D20	7702	M6	9118	J9		
2339	L19	3215	L13	4001	D15	7721	K9	9119	B11		
2343	K17	3216	J19	4002	K19	7731	C18	9120	B6		
2345	K15	3219	K19	4004	K17	7732	D18	9121	B9		
2346	I15	3221	M12	4005	M16	7733	L17	9122	B6		
2347	I15	3220	F17	4006	D18	7781	L13	9123	B10		
2382	I15	3301	H16	4007	B18	7782	L14	9124	E19		
2511	I3	3302	H16	4008	L11	7783	B16	9125	E4		
2512	I3	3303	G16	4009	I7	8001	K20	9126	E5		

VARIABLE HEADPHONE CIRCUIT DIAGRAM



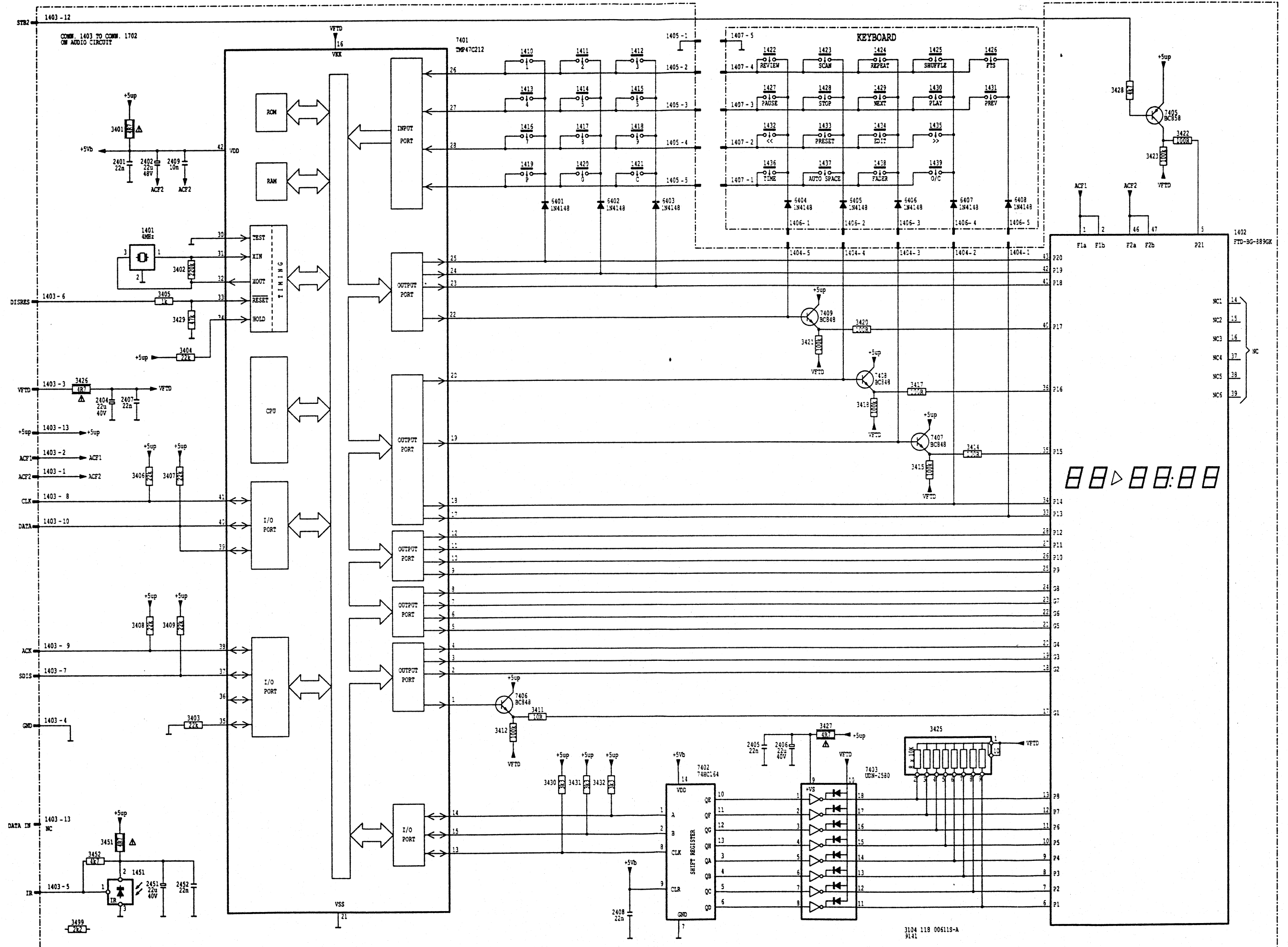
VARIABLE HEADPHONE PANEL



CONTROL & DISPLAY CIRCUIT DIAGRAM

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```

graph TD
    Start([START UP PROCEDURE]) --> PowerOn[POWER ON]
    PowerOn --> Laserlight{LASERLIGHT}
    Laserlight -- N --> Check1[CHECK]
    Laserlight -- Y --> Focussing{FOCUSSING?}
    Focussing -- N --> Check2[CHECK: Si / RD]
    Focussing -- Y --> DiscRotation{DISC ROTATION OK?}
    DiscRotation -- N --> Stop{STOP ?}
    DiscRotation -- Y --> ArmInside{ARM INSIDE?}
    ArmInside -- N --> Check3[CHECK: B0 B1 B2 B3]
    ArmInside -- Y --> TrackFollowing{TRACK FOLLOWING}
    TrackFollowing -- N --> Check4[CHECK]
    TrackFollowing -- Y --> PlayKey[PLAY-KEY ACTUATED]
    PlayKey --> JumpToTrack{JUMP TO TRACK 1}
    JumpToTrack -- N --> Check5[CHECK]
    JumpToTrack -- Y --> StartUpOK[START UP PROCEDURE OK]
    
    Check1 --- SgSiLoLm[Sg  
Si  
LO  
LM]
    Check2 --- D1D2D3D4[D1  
D2  
D3  
D4]
    Stop --- MC[MC  
TTM+  
TTM-]
    Check3 --- B0B1B2B3[B0  
B1  
B2  
B3]
    Check4 --- RedigCosc1Cosc2RElagRAD+RAD-[REdig  
Cosc 1  
Cosc 2  
RElag  
RAD-  
RAD+]
    Check5 --- DODSHFD OCL ODA QRA[DODS  
HFD  
OCL  
ODA  
QRA]

```

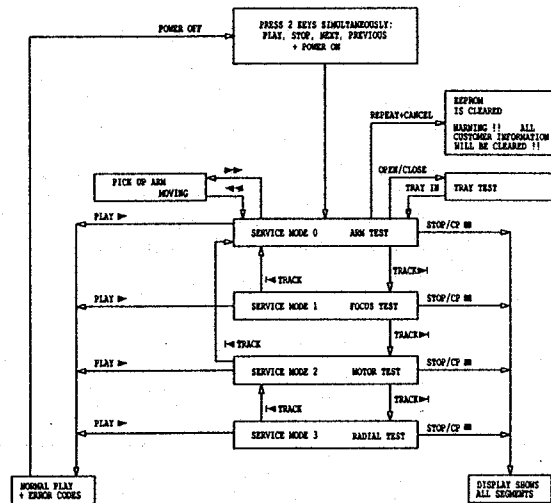
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FAULT FINDING GUIDE

```
graph TD
    Start([POWER ON]) --> Displ{DISPL ?}
    Displ -- N --> PowerSupply[POWER SUPPLY CHECK: FUSES  
MOTOR TRANSFORMER  
VOLTAGES AC DC FTD  
SAFETY RESISTORS]
    Displ -- Y --> OpenTray{OPEN TRAY}
    OpenTray --> Tray{TRAY ?}
    Tray -- N --> CheckTray[CHECK: PIN 21 -> 7701  
CRAMP 7450  
TRAY MECHANISM  
WIRING]
    Tray -- Y --> LoadDisc{LOAD DISC  
PRESS PLAY}
    LoadDisc --> Toc{TOC  
OR  
DISPLAY ?}
    Toc -- N --> RemoveDisc[REMOVE DISC  
PRESS PLAY]
    Toc -- Y --> PressPlay{PRESS PLAY}
    PressPlay --> Audio{AUDIO ?}
    Audio -- N --> CDM{C.D.M.  
ACTION ?}
    Audio -- Y --> Head{HEAD ?}
    CDM -- N --> CheckCDM[CHECK: WIRING TO CONTROL + DISPLAY PANEL  
TO C.D.M. MECHANISM  
POWER SUPPLY  
COMMUNICATION CONTR + DISPL PANEL  
MICROPROCESSOR 7701]
    CDM -- Y --> Laser{LASER  
LIGHT ?}
    Laser -- N --> CheckLaser[CHECK: LASER SUPPLY TESTPOINTS 9-11  
SERVICE MODE 0 - 1]
    Laser -- Y --> Focus{FOCUS ?}
    Focus -- N --> CheckIC7001[CHECK: I.C. 7001 (TDA8808)  
CRAMP 7003 (TCA8373)  
FEED SOLIDER POINTS, C.D.M.  
8300, 8307  
SERVICE MODE 1]
    Focus -- Y --> Radial{RADIAL ?}
    Radial -- N --> CheckIC7002[CHECK: I.C. 7002 (TDA8809)  
CRAMP 7005 (TCA8372: BOT?)  
FEED SOLIDER POINTS, C.D.M.  
8305, 8064  
SERVICE MODE 2-3]
    Radial -- Y --> TurnMotor{TURN  
MOTOR ?}
    TurnMotor -- N --> LoadDisc2[LOAD DISC  
PRESS PLAY]
    TurnMotor -- Y --> TurnBot{TURN  
BOT ?}
    TurnBot -- Y --> PowerOff[POWER OFF  
CHECK C.D.M.]
    TurnBot -- N --> CheckPowerSupply[CHECK: POWER SUPPLY  
CRAMP 7131  
I.C. 7100 (PIN 24 TESTPOINT 12)  
TRANSISTORS 7112, 7113  
83140, 3141, 3142, 3143]
    LoadDisc2 --> TestPattern{TEST  
PATTERN  
(TP 17)}
    TestPattern -- N --> CheckIC7001[CHECK: I.C. 7001 (TDA8808)  
WIRING  
LASER SUPPLY  
+ CURRENT TESTPOINTS 1-2]
    TestPattern -- Y --> HeadLow{HEAD  
LOW  
(TP 14)}
    HeadLow -- N --> CheckIC7100[CHECK: I.C. 7100 (8A7310)]
    HeadLow -- Y --> HeadClamp{HEAD  
CLAMP  
DAM ?}
    HeadClamp -- N --> CheckIC7100[CHECK: I.C. 7100 (PINS 4, 3, 2 TP 71, 72, 73)  
POWER SUPPLY (SAFETY RESISTOR 3102)]
    HeadClamp -- Y --> Audio2{AUDIO  
TP 93, 94 ?}
    Audio2 -- N --> CheckPowerSupply[CHECK: POWER SUPPLY  
SAFETY RESISTORS: 3304, 3302, 3500  
3305, 3306, 3307  
I.C. 7201, 7202, 7203, 7300  
COMMUNICATION -> 7731 - IC 7201]
    Audio2 -- Y --> Audio3{AUDIO  
ON  
BO-2 ?}
    Audio3 -- N --> CheckPowerSupply[CHECK: POWER SUPPLY  
SAFETY RESISTORS: 3342, 3343, 3344  
I.C. 7302, 7303  
WILL CIRCUIT 7304, 7305, 7306, 7307  
WIRING TO SERVO+DECODER PANEL]
    Audio3 -- Y --> Noise{NOISE ?}
    Noise -- N --> CheckPowerSupply[CHECK: POWER SUPPLY  
I.C. 7300, 7302, 7303]
    Noise -- Y --> Distortion{DISTOR-  
TION ?}
    Distortion -- N --> SetOK([SET O.K.])
    Distortion -- Y --> SeeSpec[SEE SPECIFICATIONS MEASUREMENT]
    Head --> Head{HEAD ?}
    Head -- N --> CheckSafetyResistors[CHECK: SAFETY RESISTORS 3390, 3391  
CRAMP 7100  
WILL CIRCUIT 7382, 7383  
PUSH 3381, JACKSON HS-5  
WIRING]
    Head -- Y --> FTS{FTS ?}
    FTS -- N --> CheckComm7731[CHECK: COMMUNICATION -> 7731 - EEPROM 7751  
WIRING]
    FTS -- Y --> Fader{FADER ?}
    Fader -- N --> CheckComm7731[CHECK: COMMUNICATION -> 7731 - IC 7201  
WIRING]
    Fader -- Y --> R/S{R/S ?}
    R/S -- N --> CheckReceiver[CHECK: I.M. RECEIVER 1451  
POWER SUPP. (SAFETY RESISTOR 3451)  
WIRING  
SR-2]
    R/S -- Y --> DigitalOut{DIGITAL  
OUT ?}
    DigitalOut -- N --> CheckSafetyResistor[CHECK: SAFETY RESISTOR 3211  
I.C. 7201, 7213  
TRANSFORMER 5211]
    DigitalOut -- Y --> InterimFailure{INTERIM  
FAILURE ?}
    InterimFailure -- N --> SetOK
    InterimFailure -- Y --> ServiceMode[GO TO SERVICE MODE 0.1, 2 OR 3  
PRESS PLAY  
ERROR CODES ARE DISPLAYED]
    SetOK --> End([SET O.K.])
```

EAS1019
9143

SERVICE TEST PROGRAM

BAS1020
3143

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 D1 D3 D4	power on	 	-	-	signal 4:6:7:8	Signal depends on Distance lens $\leftrightarrow$ IR LED of remote control

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 LM	serv. pos. 2 SK	 	$1.8 < V < 2.3$ $170 < mV < 220$	
2	LO LM	serv. pos. 2 SK	 	$1.8 < V < 2.3$ $170 < mV < 220$	
3	LO	Power on		$0V \pm 0.2V$	

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		$56 < mV < 76$

WARNINGS

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

CHECK OF THE PHOTODIODES

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

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		$1.8 < V < 2.3$	REPLACEMENT CIRCUIT FOR LASER ASSEMBLY CONNECT DIRECTLY TO PANEL 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. PHS 08615 102/9020
	LM	SK		$170 < mV < 220$	
2	LO	serv. pos. 2		$1.8 < V < 2.3$	
	LM	SK		$170 < mV < 220$	
3	LO	Power on		$0V \pm 0.2V$	No light

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

T-23366B

CHECK OF CDM-9

Step	Signal	Mode		
1	S current = voltage across R3000	Test disc 5A play		$56 < mV < 76$

WARNINGS

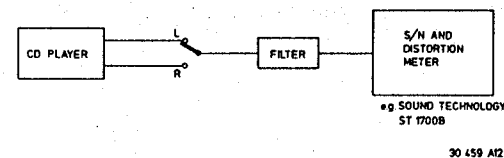
1. Never disconnect flex when power is on.
2. Laser power is adjusted during the production process and may not be readjusted.

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

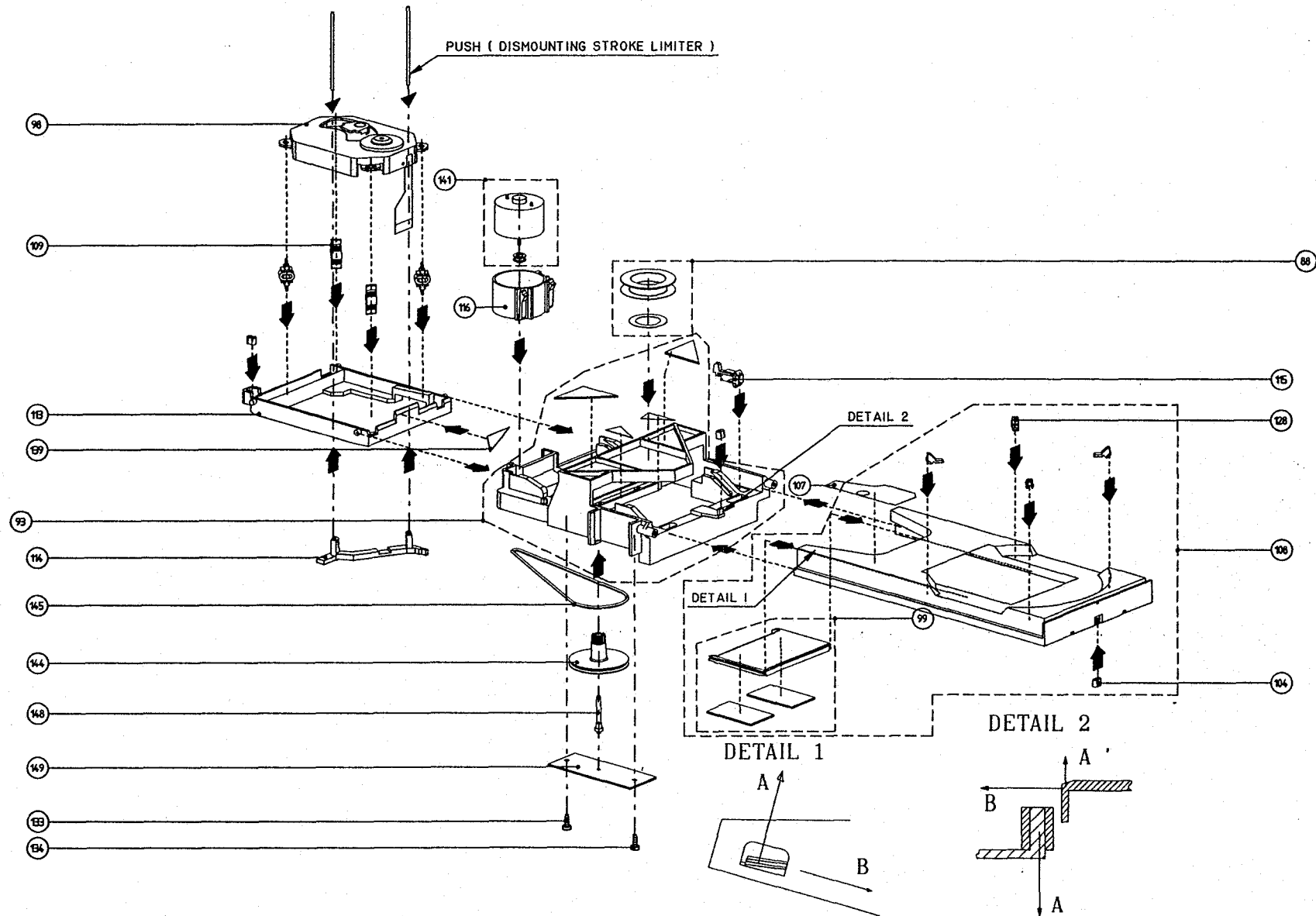
Filter = 13th order filter 4822 395 30204



44a

45a

LOADER



HAS.1042

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 (NEXTTEL)
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

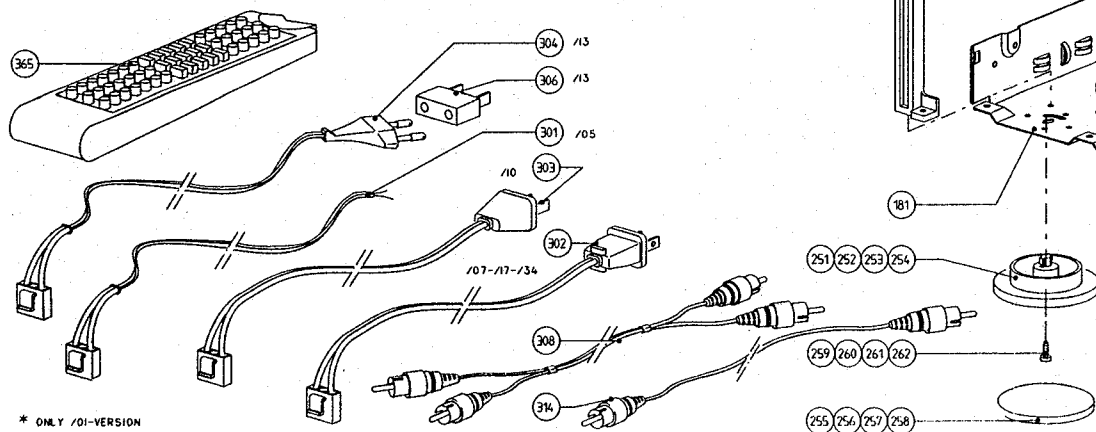
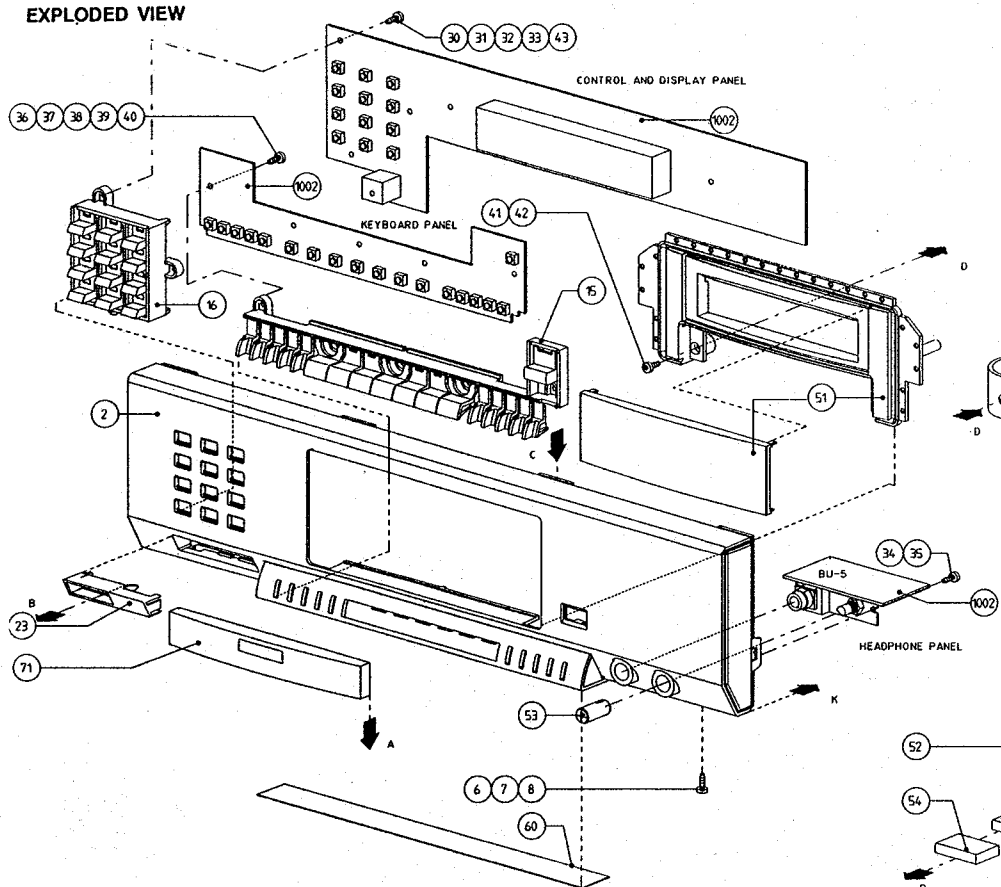
Not mentioned parts are only available during production period on special request.

SCREWS

Taplitle M3x6: 6,7,8	Plastite M3x10: 34,35
83	36,37,38,39,40
211,212	41,42
	209,210
Taplitle 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
Taplitle M3x15: 202,203	

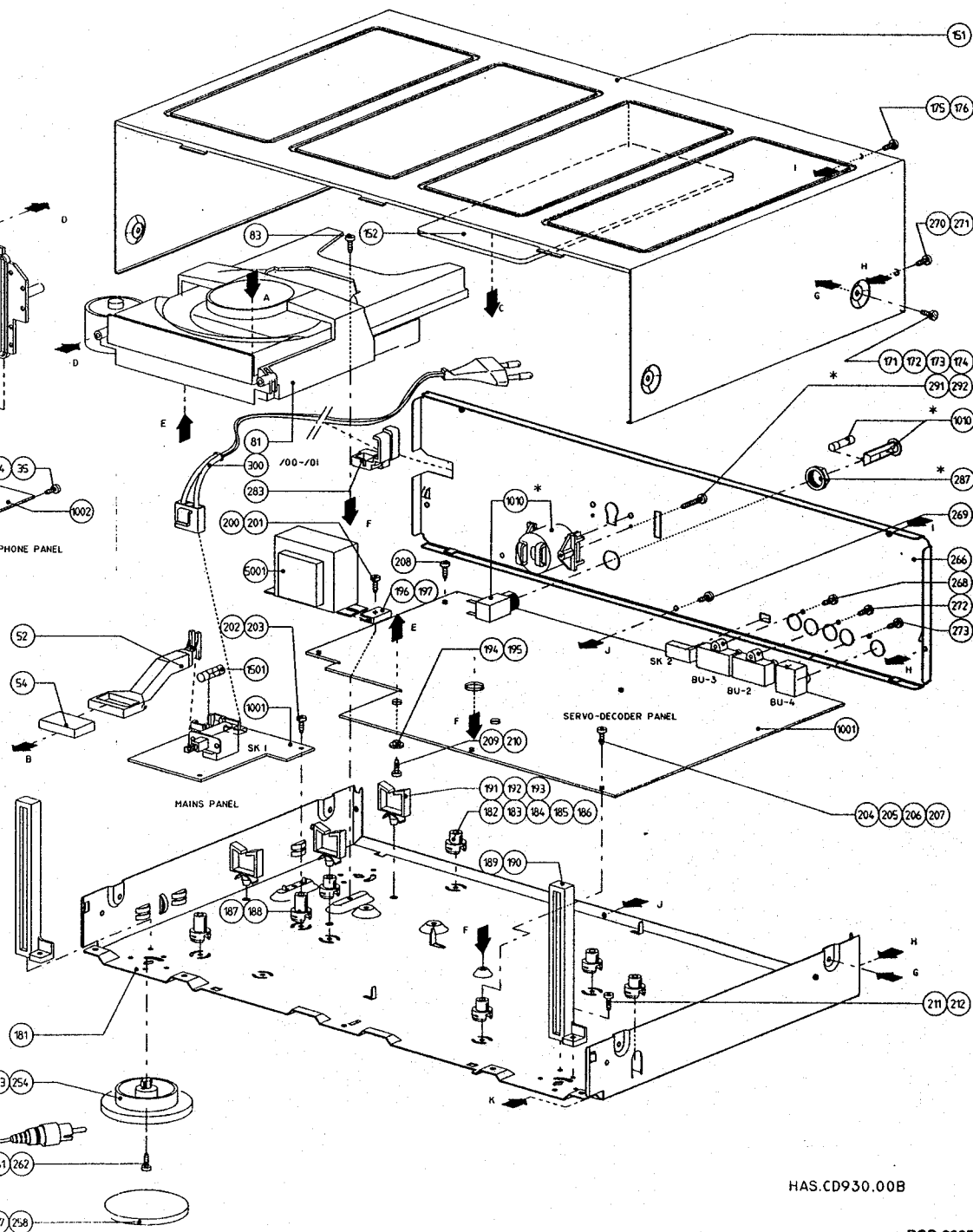
EXPLODED VIEW

47



* ONLY /01-VERSION

48



HAS.CD930.00B

PCS 60055

MAIN PANEL			2100	5322 122 32452	47pF 5% 50V
MISCELLANEOUS			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
BU-2	4822 492 63076	CLAMPING SPRING	2105	4822 121 51252	470nF 5% 63V
BU-3	4822 267 31456	ANALOG OUT SOCKET	2107	4822 124 41576	2,2μF 20% 50V
BU-4	4822 267 31455	ESI IN/OUT SOCKET	2108	4822 124 40272	33μF 20% 16V
BU-4	4822 267 31457	DIGITAL OUT SOCKET	2109	4822 122 33809	22nF 20% 50V
SK-2	4822 276 12339	SWITCH ESI ON/OFF	2131	4822 122 33893	18nF 10% 63V
1101	4822 265 30525	RFK5 CONNECTOR	2132	5322 121 42661	330nF 5% 63V
1302	4822 267 40624	RFK5 CONNECTOR	2133	4822 122 33175	2,2nF 20% 50V
1702	4822 267 50723	CONNECTOR 13P	2134	4822 122 33809	22nF 20% 50V
CRYSTAL			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
1300	4822 242 71349	CRYSTAL 11.2896 MHz	2202	4822 124 40272	33μF 20% 16V
1700	4822 242 72527	RESONATOR 4 MHz	2203	4822 122 33809	22nF 20% 50V
1731	4822 242 72527	RESONATOR 4 MHz	2204	4822 122 33809	22nF 20% 50V
CAPACITORS			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
2000	4822 122 33809	22nF 20% 50V	2210	5322 121 42386	100nF 5% 63V
2001	5322 122 32268	470pF 10% 50V	2211	4822 124 40272	33μF 20% 16V
2003	4822 122 33809	22nF 20% 50V	2212	4822 122 33809	22nF 20% 50V
2006	4822 122 33809	22nF 20% 50V	2214	4822 122 33809	22nF 20% 50V
2007	4822 122 33175	2,2nF 20% 50V	2215	4822 122 33809	22nF 20% 50V
2008	4822 122 32542	47nF 10% 63V	2216	4822 124 40272	33μF 20% 16V
2009	5322 122 32531	100pF 5% 50V	2300	4822 124 40272	33μF 20% 16V
2010	4822 122 33177	10nF 20% 50V	2301	4822 122 33496	100nF 10% 63V
2011	5322 122 34123	1nF 10% 50V	2302	4822 122 33496	100nF 10% 63V
2012	4822 121 42408	220nF 5% 63V	2303	5322 122 32452	47pF 5% 50V
2013	4822 121 51252	470nF 5% 63V	2304	5322 122 32452	47pF 5% 50V
2015	5322 122 34123	1nF 10% 50V	2305	5322 122 32452	47pF 5% 50V
2021	4822 121 51321	8,2μF 1% 63V	2306	4822 122 33496	100nF 10% 63V
2022	4822 121 51321	8,2μF 1% 63V	2307	4822 122 33496	100nF 10% 63V
2023	4822 124 40433	47μF 20% 25V	2308	4822 124 40433	47μF 20% 25V
2025	5322 121 42661	330nF 5% 63V	2309	4822 124 40433	47μF 20% 25V
2026	4822 122 33342	33nF 10% 63V	2310	4822 124 40433	47μF 20% 25V
2027	4822 122 33342	33nF 10% 63V	2311	4822 124 40433	47μF 20% 25V
2028	4822 121 42408	220nF 5% 63V	2312	4822 122 33496	100nF 10% 63V
2029	4822 121 42408	220nF 5% 63V	2313	4822 122 33496	100nF 10% 63V
2041	4822 121 51252	470nF 5% 63V	2314	4822 124 40272	33μF 20% 16V
2042	5322 126 10223	4,7nF 10% 63V	2315	4822 124 40272	33μF 20% 16V
2043	4822 121 42408	220nF 5% 63V	2316	4822 122 33496	100nF 10% 63V
2044	4822 122 33496	100nF 10% 63V	2317	4822 122 33496	100nF 10% 63V
2061	4822 121 51252	470nF 5% 63V	2318	4822 122 33496	100nF 10% 63V
2062	4822 122 33496	100nF 10% 63V	2319	4822 122 33496	100nF 10% 63V
2063	4822 122 33809	22nF 20% 50V	2320	4822 124 40272	33μF 20% 16V
2081	4822 122 32575	220pF 10% 500V	2321	4822 124 40272	33μF 20% 16V
2082	4822 124 40433	47μF 20% 25V	2322	5322 122 32658	22pF 5% 50V
2091	4822 121 43526	47nF 5% 100V	2323	5322 122 32658	22pF 5% 50V

ELECTRICAL PARTS LIST

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MAIN PANEL			
MISCELLANEOUS			
▲	4822 492 63076	CLAMPING SPRING	
BU-2	4822 267 31731	CINCH SOCKET ANA.OUT	
BU-4	4822 267 31729	CINCH SOCKET DIG.OUT	
1761	4822 267 31728	CINCH SOCKET ESI BUS	
1762	4822 267 31728	CINCH SOCKET ESI BUS	
1300	4822 242 71349	CRYSTAL 11.2896 MHz	
1700	4822 242 72527	RESONATOR 4.00 MHz	
1731	4822 242 72527	RESONATOR 4.00 MHz	
CAPACITORS			
2000	5322 122 32654	22nF 10% 63V	
2001	5322 122 32268	470pF 10% 50V	
2003	5322 122 32654	22nF 10% 63V	
2006	5322 122 32654	22nF 10% 63V	
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	8,2nF 1% 63V	
2022	4822 121 51321	8,2nF 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	5322 122 32654	22nF 10% 63V	
2081	4822 122 33575	220pF 5%NPO 50V	
2082	4822 124 40433	47μF 20% 25V	
2091	4822 121 43526	47nF 5% 100V	
2100	5322 122 32452	47pF 5% 63V	
2101	4822 122 33175	2,2nF 20% 50V	
2102	5322 122 32654	22nF 10% 63V	
2103	4822 124 40433	47μF 20% 25V	
2104	5322 122 32654	22nF 10% 63V	
2105	4822 121 51252	470nF 5% 63V	
2107	4822 124 40244	2,2μF 20% 63V	
2108	4822 124 40433	47μF 20% 25V	
2109	5322 122 32654	22nF 10% 63V	
2131	4822 122 33893	18nF 10% 63V	
2132	5322 121 42661	330nF 5% 63V	
2133	4822 122 33175	2,2nF 20% 50V	
2134	5322 122 32654	22nF 10% 63V	
2135	4822 124 40196	220μF 20% 16V	
2136	5322 122 32654	22nF 10% 63V	
2137	4822 124 40196	220μF 20% 16V	
2201	5322 122 32654	22nF 10% 63V	
2203	5322 122 32654	22nF 10% 63V	
2204	5322 122 32654	22nF 10% 63V	
2205	4822 124 40433	47μF 20% 25V	
2206	5322 122 31863	330pF 5% 50V	
2207	5322 122 32658	22pF 5% 50V	
2208	5322 122 32654	22nF 10% 63V	
2210	5322 121 42386	100nF 5% 63V	
2211	4822 124 40433	47μF 20% 25V	
2212	5322 122 32654	22nF 10% 63V	
2214	5322 122 32654	22nF 10% 63V	
2215	5322 122 32654	22nF 10% 63V	
2216	4822 124 40433	47μF 20% 25V	
2217	5322 122 32452	47pF 5% 63V	
2220	5322 122 32452	47pF 5% 63V	
2221	5322 122 32654	22nF 10% 63V	
2300	4822 124 40433	47μF 20% 25V	
2301	4822 122 33496	100nF 10% 63V	
2302	4822 122 33496	100nF 10% 63V	
2303	5322 122 32452	47pF 5% 63V	
2304	5322 122 32452	47pF 5% 63V	
2305	5322 122 32452	47pF 5% 63V	
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 40433	47μF 20% 25V	
2315	4822 124 40433	47μF 20% 25V	
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 40433	47μF 20% 25V	
2321	4822 124 40433	47μF 20% 25V	
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	

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
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
3352	4822 051 10008	0Ω	5%	0,25W
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 23302	3k3	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	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
					4019	4822 051 10008	0Ω	5%	0.25W
3603	4822 050 21003	10k	1%	0.6W	4021	4822 051 10008	0Ω	5%	0.25W
3604	4822 050 21003	10k	1%	0.6W	4022	4822 051 10008	0Ω	5%	0.25W
3605	4822 050 21003	10k	1%	0.6W	4023	4822 051 10008	0Ω	5%	0.25W
3606	4822 052 10108	1Ω	5%	0.33W	4024	4822 051 10008	0Ω	5%	0.25W
3607	4822 052 10108	1Ω	5%	0.33W	4026	4822 051 10008	0Ω	5%	0.25W
3608	4822 052 10229	22Ω	5%	0.33W	4027	4822 051 10008	0Ω	5%	0.25W
3701	4822 050 22204	220k	1%	0.6W	4030	4822 051 10008	0Ω	5%	0.25W
3702	4822 052 10478	4Ω7	5%	0.33W	4031	4822 051 10008	0Ω	5%	0.25W
3703	4822 050 22203	22k	1%	0.6W	4032	4822 051 10008	0Ω	5%	0.25W
3705	4822 050 22203	22k	1%	0.6W	4034	4822 051 10008	0Ω	5%	0.25W
3708	4822 050 22203	22k	1%	0.6W	4036	4822 051 10008	0Ω	5%	0.25W
3709	4822 050 22203	22k	1%	0.6W	4037	4822 051 10008	0Ω	5%	0.25W
3710	4822 050 22203	22k	1%	0.6W	4039	4822 051 10008	0Ω	5%	0.25W
3721	4822 050 22201	220Ω	1%	0.6W	4043	4822 051 10008	0Ω	5%	0.25W
3722	4822 050 21002	1k	1%	0.6W	4044	4822 051 10008	0Ω	5%	0.25W
3723	4822 050 22203	22k	1%	0.6W	4045	4822 051 10008	0Ω	5%	0.25W
3731	4822 050 22204	220k	1%	0.6W	4046	4822 051 10008	0Ω	5%	0.25W
3733	4822 050 22203	22k	1%	0.6W	4047	4822 051 10008	0Ω	5%	0.25W
3735	4822 050 22203	22k	1%	0.6W	4050	4822 051 10008	0Ω	5%	0.25W
3736	4822 050 22203	22k	1%	0.6W	4051	4822 051 10008	0Ω	5%	0.25W
3741	4822 050 22203	22k	1%	0.6W	4053	4822 051 10008	0Ω	5%	0.25W
3742	4822 050 22203	22k	1%	0.6W	4056	4822 051 10008	0Ω	5%	0.25W
3743	4822 050 22203	22k	1%	0.6W	4057	4822 051 10008	0Ω	5%	0.25W
3744	4822 050 22203	22k	1%	0.6W	4058	4822 051 10008	0Ω	5%	0.25W
3745	4822 050 22203	22k	1%	0.6W	4060	4822 051 10008	0Ω	5%	0.25W
3746	4822 050 22203	22k	1%	0.6W	4061	4822 051 10008	0Ω	5%	0.25W
3747	4822 050 22203	22k	1%	0.6W	4062	4822 051 10008	0Ω	5%	0.25W
3748	4822 050 22203	22k	1%	0.6W	4066	4822 051 10008	0Ω	5%	0.25W
3751	4822 050 21003	10k	1%	0.6W	4067	4822 051 10008	0Ω	5%	0.25W
3752	4822 050 21003	10k	1%	0.6W	4071	4822 051 10008	0Ω	5%	0.25W
3761	4822 052 10109	10k	5%	0.33W	4081	4822 051 10008	0Ω	5%	0.25W
3762	4822 050 21803	18k	1%	0.6W	4085	4822 051 10008	0Ω	5%	0.25W
3763	4822 050 24703	47k	1%	0.6W	4086	4822 051 10008	0Ω	5%	0.25W
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					

COILS				7203	5322 209 12099	MC74HC164D
5211	4822 148 80281	DIG.OUT TRANSFORMER		7204	4822 209 30739	MC74HC04AD
5300	4822 157 51192	220μH		7211	4822 209 62588	PCF3523P
5301	4822 157 51192	220μH		7212	4822 130 61207	BC848
5302	4822 157 51235	4.7μH		7213	4822 209 31284	MC74HC08AD
				7300	4822 209 31086	SAA7350
DIODES				7302	4822 209 83163	LM833N
6061	4822 130 30861	BZX79-C7V5		7303	4822 209 83163	LM833N
6062	4822 130 30861	BZX79-C7V5		7304	4822 130 42696	BC818-25
6201	4822 130 30621	1N4148		7305	4822 130 42696	BC818-25
6300	4822 130 30621	1N4148		7306	4822 130 42696	BC818-25
6301	4822 130 30621	1N4148				
6511	5322 130 30684	1N4002		7307	4822 130 42696	BC818-25
6512	5322 130 30684	1N4002		7310	5322 130 42012	BC858
6513	5322 130 30684	1N4002		7311	5322 130 42012	BC858
6514	5322 130 30684	1N4002		7382	4822 130 42696	BC818-25
6520	4822 130 30621	1N4148		7383	4822 130 42696	BC818-25
6521	4822 130 30621	1N4148				
6522	4822 130 30621	1N4148		7520	4822 130 60492	BC376
6541	5322 130 30684	1N4002		7521	4822 209 80891	MC78M05CT
6543	4822 130 31981	BZX79-C3V9		7522	4822 209 73233	MC79L05ACP
6544	4822 130 34173	BZX79-C5V6		7525	5322 130 41982	BC848B
6561	4822 130 34278	BZX79-C6V8		7526	5322 130 41982	BC848B
6562	4822 130 30621	1N4148				
6563	4822 130 30621	1N4148		7527	5322 130 41982	BC848B
6564	4822 130 30621	1N4148		7541	4822 209 62115	MC79L15ACP
6565	5322 130 30684	1N4002		7561	5322 130 41982	BC848B
6566	5322 130 30684	1N4002		7562	5322 130 42012	BC858
6567	4822 130 31981	BZX79-C3V9		7600	4822 209 62059	TCA0372DP1
6700	4822 130 31983	BAT85				
6721	4822 130 80235	BZX79-C3V3		7701	4822 209 30938	MC68HC05C8P/ZC405027
TRANSISTORS & IC's				7702	4822 209 72042	MC78L05ACP
7001	4822 209 73234	TDA8808T/C3		7721	5322 130 42012	BC858
7002	4822 209 73235	TDA8809T/C2		7731	4822 209 30984	MC68HC05D9P/ZC400014
7003	4822 209 72587	TCA0372DP2-		7732	5322 130 42012	BC858
7004	5322 130 44349	BC635				
7100	4822 209 61759	SAA7310GP/H5		7751	4822 209 63244	X24C04P1
7101	4822 130 42131	BF550		7761	5322 130 42012	BC858
7102	4822 209 70422	MN4264-15		7762	4822 130 61207	BC848
7131	4822 209 83274	NJM4560D		7763	5322 130 41982	BC848B
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				

RESISTORS

2328	5322 122 32268	470pF 10% 50V
2329	5322 122 32268	470pF 10% 50V
2330	4822 126 10326	180pF 5% 63V
2331	4822 126 10326	180pF 5% 63V
2332	4822 126 10326	180pF 5% 63V
2333	4822 126 10326	180pF 5% 63V
2334	4822 122 31746	1000pF 2% 63V
2335	4822 122 31746	1000pF 2% 63V
2336	5322 122 32531	100pF 5% 50V
2337	5322 122 32531	100pF 5% 50V
2338	4822 124 22339	ELC BIP 100μF 16V 20%
2339	4822 124 22339	ELC BIP 100μF 16V 20%
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	5322 122 32654	22nF 10% 63V
2512	5322 122 32654	22nF 10% 63V
2513	5322 122 32654	22nF 10% 63V
2514	5322 122 32654	22nF 10% 63V
2520	4822 124 42119	4700μF 20% 25V
2521	5322 122 32654	22nF 10% 63V
2522	5322 122 32654	22nF 10% 63V
2523	4822 124 40244	2,2μF 20% 63V
2525	4822 124 40784	3300μF 20% 16V
2542	5322 122 32654	22nF 10% 63V
2543	5322 122 32654	22nF 10% 63V
2544	4822 124 42392	470μF 20% 50V
2545	5322 122 32654	22nF 10% 63V
2546	5322 122 32654	22nF 10% 63V
2547	5322 122 32654	22nF 10% 63V
2548	4822 124 40246	4,7μF 20% 63V
2549	5322 122 32654	22nF 10% 63V
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 40433	47μF 20% 25V
2602	5322 122 32654	22nF 10% 63V
2603	4822 124 40433	47μF 20% 25V
2604	5322 122 32654	22nF 10% 63V
2605	4822 122 33496	100nF 10% 63V
2704	5322 122 32654	22nF 10% 63V
2705	4822 124 40244	2,2μF 20% 63V
2706	5322 122 32654	22nF 10% 63V
2707	5322 122 32654	22nF 10% 63V
2708	4822 124 40433	47μF 20% 25V
2733	5322 122 32654	22nF 10% 63V
2751	5322 122 32654	22nF 10% 63V
2761	4822 124 40433	47μF 20% 25V
2762	5322 122 32654	22nF 10% 63V

3000	4822 116 52283	4k7 5% 0,5W
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 116 52233	10k 5% 0,5W
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 116 52245	150k 5% 0,5W
3033	4822 116 52257	22k 5% 0,5W
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 116 52269	3k3 5% 0,5W
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 116 52257	22k 5% 0,5W
3072	4822 116 52257	22k 5% 0,5W
3075	4822 116 52233	10k 5% 0,5W
3081	4822 052 10189	18Ω 5% 0,33W
3082	4822 052 10129	12Ω 5% 0,33W
3083	4822 116 52175	100Ω 5% 0,5W
3092	4822 050 21802	1k8 1% 0,6W
3094	4822 050 21803	18k 1% 0,6W
3100	4822 116 52256	2k2 5% 0,5W
3101	4822 116 52257	22k 5% 0,5W
3102	4822 111 30846	6Ω8 5% 0,25W
3105	4822 116 52201	75Ω 5% 0,5W
3106	4822 116 52276	3k9 5% 0,5W
3107	4822 116 52306	9k1 5% 0,5W
3108	4822 116 52246	1k6 5% 0,5W
3109	4822 051 20101	100Ω 5% 0,1W
3131	4822 116 52283	4k7 5% 0,5W
3132	4822 116 52284	47k 5% 0,5W
3133	4822 116 52234	100k 5% 0,5W

3134	4822 050 19103	91k 1% 0,4W
3135	4822 116 52269	3k3 5% 0,5W
3136	4822 116 52289	5k6 5% 0,5W
3137	4822 116 52245	150k 5% 0,5W
3138	4822 116 52304	82k 5% 0,5W
3139	4822 116 52175	100Ω 5% 0,5W
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 116 52298	680k 5% 0,5W
3145	4822 116 52289	5k6 5% 0,5W
3146	4822 116 52271	33k 5% 0,5W
3147	4822 116 52283	4k7 5% 0,5W
3148	4822 116 52283	4k7 5% 0,5W
3149	4822 116 52207	1k2 5% 0,5W
3150	4822 116 52248	160k 5% 0,5W
3151	4822 116 52283	4k7 5% 0,5W
3202	4822 111 30846	6Ω8 5% 0,25W
3209	4822 051 10008	0Ω 5% 0,25W
3211	4822 111 30846	6Ω8 5% 0,25W
3212	4822 116 52226	560Ω 5% 0,5W
3213	4822 116 52227	620Ω 5% 0,5W
3214	4822 116 52257	22k 5% 0,5W
3215	4822 116 52257	22k 5% 0,5W
3216	4822 116 52257	22k 5% 0,5W
3219	4822 111 30846	6Ω8 5% 0,25W
3221	4822 051 20223	22k 5% 0,1W
3222	4822 051 20101	100Ω 5% 0,1W
3223	4822 051 20101	100Ω 5% 0,1W
3224	4822 051 20101	100Ω 5% 0,1W
3225	4822 051 20101	100Ω 5% 0,1W
3300	4822 111 30846	6Ω8 5% 0,25W
3301	4822 116 52258	220k 5% 0,5W
3302	4822 050 11002	1k 1% 0,4W
3303	4822 116 52175	100Ω 5% 0,5W
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 116 52233	10k 5% 0,5W
3331	4822 116 52233	10k 5% 0,5W
3332	4822 116 52233	10k 5% 0,5W
3333	4822 116 52233	10k 5% 0,5W
3334	4822 116 52175	100Ω 5% 0,5W
3335	4822 116 52175	100Ω 5% 0,5W
3336	4822 116 52175	100Ω 5% 0,5W
3337	4822 116 52175	100Ω 5% 0,5W
3338	4822 116 52256	2k2 5% 0,5W
3339	4822 116 52256	2k2 5% 0,5W
3340	4822 116 52256	2k2 5% 0,5W
3341	4822 116 52256	2k2 5% 0,5W
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 116 52283	4k7 5% 0,5W
3347	4822 116 52283	4k7 5% 0,5W
3348	4822 116 52233	10k 5% 0,5W
3349	4822 116 52233	10k 5% 0,5W
3350	4822 051 20472	4k7 5% 0,1W
3351	4822 116 52283	4k7 5% 0,5W
3354	4822 116 52258	220k 5% 0,5W
3355	4822 116 52258	220k 5% 0,5W
3392	4822 116 52175	100Ω 5% 0,5W
3393	4822 116 52175	100Ω 5% 0,5W
3394	4822 116 52256	2k2 5% 0,5W
3395	4822 051 20222	2k2 5% 0,1W
3520	4822 116 52228	680Ω 5% 0,5W
3521	4822 116 52228	680Ω 5% 0,5W
3522	4822 116 52228	680Ω 5% 0,5W
3523	4822 116 52228	680Ω 5% 0,5W
3524	4822 116 52228	680Ω 5% 0,5W
3525	4822 116 52269	3k3 5% 0,5W
3526	4822 116 52175	100Ω 5% 0,5W
3527	4822 116 52284	47k 5% 0,5W
3528	4822 116 52257	22k 5% 0,5W
3529	4822 116 52233	10k 5% 0,5W
3530	4822 116 52224	470Ω 5% 0,5W
3541	4822 116 52269	3k3 5% 0,5W
3561	4822 116 52224	470Ω 5% 0,5W
3562	4822 116 52284	47k 5% 0,5W
3563	4822 050 22205	2M2 1% 0,6W
3564	4822 116 52233	10k 5% 0,5W
3565	4822 116 52271	33k 5% 0,5W
3566	4822 116 52258	220k 5% 0,5W
3567	4822 050 11002	1k 1% 0,4W
3600	4822 050 25102	5k1 1% 0,6W

3602	4822 116 52233	10k 5% 0,5W	4016	4822 051 10008	0Ω 5% 0,25W
3603	4822 116 52233	10k 5% 0,5W	4018	4822 051 10008	0Ω 5% 0,25W
3604	4822 116 52233	10k 5% 0,5W	4019	4822 051 10008	0Ω 5% 0,25W
3605	4822 116 52233	10k 5% 0,5W	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 116 52258	220k 5% 0,5W	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 116 52257	22k 5% 0,5W	4031	4822 051 10008	0Ω 5% 0,25W
3705	4822 116 52257	22k 5% 0,5W	4034	4822 051 10008	0Ω 5% 0,25W
3708	4822 116 52257	22k 5% 0,5W	4036	4822 051 10008	0Ω 5% 0,25W
3710	4822 116 52257	22k 5% 0,5W	4037	4822 051 10008	0Ω 5% 0,25W
3711	4822 051 20223	22k 5% 0,1W	4039	4822 051 10008	0Ω 5% 0,25W
3721	4822 116 52215	220Ω 5% 0,5W	4043	4822 051 10008	0Ω 5% 0,25W
3722	4822 050 11002	1k 1% 0,4W	4044	4822 051 10008	0Ω 5% 0,25W
3723	4822 116 52257	22k 5% 0,5W	4045	4822 051 10008	0Ω 5% 0,25W
3731	4822 116 52258	220k 5% 0,5W	4046	4822 051 10008	0Ω 5% 0,25W
3734	4822 116 52257	22k 5% 0,5W	4047	4822 051 10008	0Ω 5% 0,25W
3735	4822 116 52257	22k 5% 0,5W	4050	4822 051 10008	0Ω 5% 0,25W
3736	4822 116 52257	22k 5% 0,5W	4051	4822 051 10008	0Ω 5% 0,25W
3737	4822 051 20332	3k3 5% 0,1W	4053	4822 051 10008	0Ω 5% 0,25W
3741	4822 116 52257	22k 5% 0,5W	4057	4822 051 10008	0Ω 5% 0,25W
3742	4822 116 52257	22k 5% 0,5W	4058	4822 051 10008	0Ω 5% 0,25W
3743	4822 116 52257	22k 5% 0,5W	4060	4822 051 10008	0Ω 5% 0,25W
3744	4822 116 52257	22k 5% 0,5W	4061	4822 051 10008	0Ω 5% 0,25W
3745	4822 116 52257	22k 5% 0,5W	4062	4822 051 10008	0Ω 5% 0,25W
3746	4822 116 52257	22k 5% 0,5W	4066	4822 051 10008	0Ω 5% 0,25W
3747	4822 116 52257	22k 5% 0,5W	4067	4822 051 10008	0Ω 5% 0,25W
3748	4822 116 52257	22k 5% 0,5W	4071	4822 051 10008	0Ω 5% 0,25W
3751	4822 116 52233	10k 5% 0,5W	4085	4822 051 10008	0Ω 5% 0,25W
3752	4822 116 52233	10k 5% 0,5W	4086	4822 051 10008	0Ω 5% 0,25W
3761 ▲	4822 052 10109	10Ω 5% 0,33W	COILS		
3762	4822 116 52251	18k 5% 0,5W	5211	4822 148 80281	TRAFO DIG. OUT
3763	4822 116 52284	47k 5% 0,5W	5300	4822 157 51192	220mH
3764	4822 116 52175	100Ω 5% 0,5W	5301	4822 157 51192	220mH
3765	4822 116 52284	47k 5% 0,5W	5302	4822 157 53139	4,7μH
3766	4822 116 52284	47k 5% 0,5W	5502 ▲	4822 214 51841	MAINS FILTER
3767	4822 116 52284	47k 5% 0,5W			
3768	4822 116 52284	47k 5% 0,5W			
3999	4822 050 11002	1k 1% 0,4W			
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			
4013	4822 051 10008	0Ω 5% 0,25W			
4014	4822 051 10008	0Ω 5% 0,25W			
4015	4822 051 10008	0Ω 5% 0,25W			

DIODES					
6061	4822 130 30861	BZX79-C7V5	7303	4822 209 83163	LM833N
6062	4822 130 30861	BZX79-C7V5	7304	4822 130 42696	BC818-25
6201	4822 130 30621	1N4148	7305	4822 130 42696	BC818-25
6300	4822 130 30621	1N4148			
6301	4822 130 30621	1N4148	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
6511	5322 130 30684	1N4002			
6512	5322 130 30684	1N4002	7311	5322 130 42012	BC858
6513	5322 130 30684	1N4002	7382	4822 130 42696	BC818-25
6514	5322 130 30684	1N4002	7383	4822 130 42696	BC818-25
6520	4822 130 30621	1N4148	7520	4822 130 60492	BC376
			7521 ▲	4822 209 80891	MC78M05CT
6521	4822 130 30621	1N4148			
6522	4822 130 30621	1N4148	7525	5322 130 41982	BC848B
6530	4822 130 34233	BZX79-C5V1	7526	5322 130 41982	BC848B
6541	5322 130 30684	1N4002	7527	5322 130 41982	BC848B
6543	4822 130 34197	BZX79-C12	7541	5322 209 62115	MC79L15AC
			7561	5322 130 41982	BC848B
6544	4822 130 34278	BZX79-C6V8			
6561	4822 130 34278	BZX79-C6V8	7562	5322 130 42012	BC858
6562	4822 130 30621	1N4148	7600	4822 209 62059	TCA0372DP1
6563	4822 130 30621	1N4148	7701	4822 900 10388	MC68HC05C8P-S05
6564	4822 130 30621	1N4148	7702	4822 209 72042	MC78L05ACP
			7721	5322 130 42012	BC858
6565	5322 130 30684	1N4002			
6566	5322 130 30684	1N4002	7731	4822 900 10355	MC68HC05D9P-P136
6567	4822 130 31981	BZX79-C3V9	7732	5322 130 42012	BC858
6700	4822 130 31983	BAT85	7751	4822 209 52316	ST24C04B1
6721	5322 130 31504	BZX79-C3V3	7761	5322 130 42012	BC858
			7762	4822 130 61207	BC848
TRANSISTORS & IC's			7763	5322 130 41982	BC848B
7001	4822 209 73234	TDA8808T			
7002	4822 209 31973	TDA8809T/C2/S1/13			
7003	4822 209 72587	TCA0372			
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 41715	BC328-40			
7134	5322 130 42012	BC858			
7135	5322 130 42012	BC858			
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	PCF2705P			
7212	4822 130 61207	BC848			
7213	4822 209 31284	MC74HC08AD			
7300	4822 209 31356	SAA7350			
7302	4822 209 83163	LM833N			

DISPLAY PANEL				
MISCELLANEOUS				
1401	4822 256 91848	DISPLAY HOLDER		
1402	4822 242 72527	RESONATOR 4MHz		
1403	4822 130 91073	DISPLAY CD930		
1404	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		

KEYBOARD PANEL				3383	4822 116 52244	15k	5%	0,5W			
MISCELLANEOUS				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			
1422	4822 276 13114	TACT SWITCH	3389	4822 051 10101	100Ω	2%	0,25W				
1423	4822 276 13114	TACT SWITCH	3390	4822 052 10228	2Ω	5%	0,33W				
1424	4822 276 13114	TACT SWITCH	3391	4822 052 10228	2Ω	5%	0,33W				
1425	4822 276 13114	TACT SWITCH	IC								
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	7380	4822 209 82362	NJM4556D						
1431	4822 276 13213	SWITCH	MISCELLANEOUS								
1432	4822 276 13213	SWITCH	SK-1	4822 276 13216	MAINS SWITCH						
1433	4822 276 13114	TACT SWITCH	21	4822 256 30274	FUSE HOLDER						
1434	4822 276 13114	TACT SWITCH	1010	4822 277 21366	VOLTAGE SELECTOR						
1435	4822 276 13213	SWITCH	1010	4822 462 41505	COVER						
1436	4822 276 13114	TACT SWITCH	1010	5322 256 34058	FUSE HOLDER						
1437	4822 276 13114	TACT SWITCH	1010	5322 462 44478	FUSE CAP						
1438	4822 276 13114	TACT SWITCH	1501	4822 070 31251	FUSE 125mA						
1439	4822 276 13114	TACT SWITCH	5001	4822 146 31045	MAINS TRANSFORMER						
DIODES				5001	4822 146 31153	MAINS TRAFO /01					
				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								
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