Compact disc player CD380/00R/05R

Service
Service
Service

43 726 A12

Service Manual

COMPACT disc DIGITAL AUDIO

CONTENTS

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

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

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

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

(F)
Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

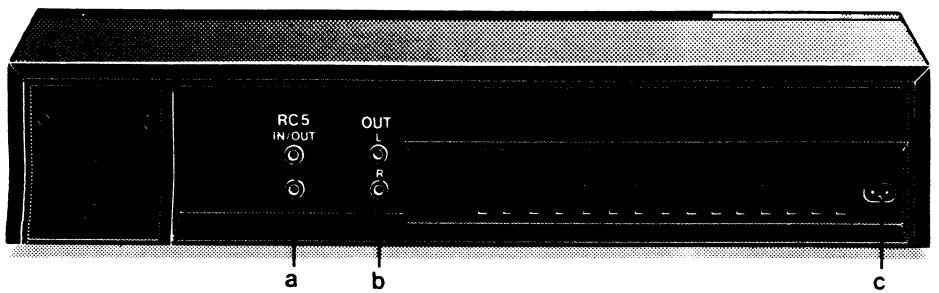
CLASS 1
LASER PRODUCT

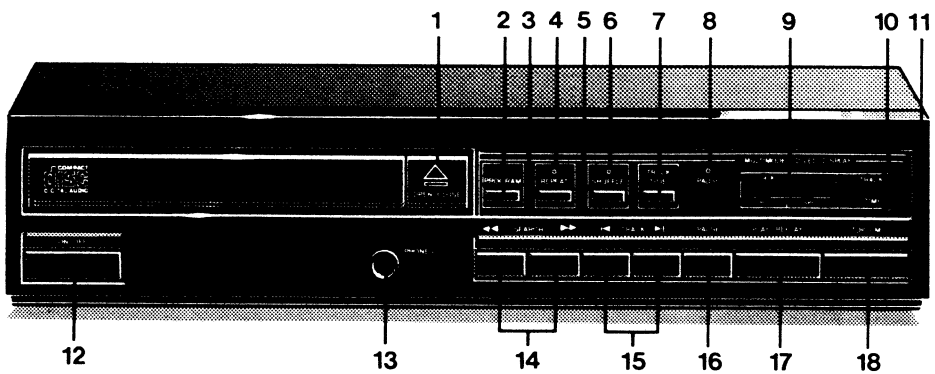
Documentation Technique Service Dokumentation Documentazione di Servizio Huolte-Ohje Manual de Servicio Manual de Servicio

Subject to modification
4822 725 22066
Printed in The Netherlands

PHILIPS

CONTROL BUTTONS





43 727 A12

Front of player

1 OPEN/CLOSE key	(SK 19)
2 PROGRAM key	(SK 20)
3 REPEAT key	(SK 18)
4 REPEAT LED	(6504)
5 SHUFFLE key	(SK 22)
6 SHUFFLE LED	(6506)
7 TRACK/TIME key	(SK 21)
8 PAUSE LED	(6503)
9 MULTI mode CD LED display	(6501)
10 TRACK LED	(6508)
11 TIME LED	(6505)
12 ON/OFF key	(SK 1)
13 HEADPHONE socket	(BU 3)
14 ◀◀ SEARCH ▶▶ keys	(SK 15, SK 16)
15 ⏮ TRACK ⏭ keys	(SK 13, SK 14)
16 PAUSE key	(SK 17)
17 PLAY/REPLAY key	SK 11)
18 STOP/CM key	(SK 19)

Rear of player

a RC 5 IN/OUT }	(BU 2)
b OUT L/R }	
c Mains lead connection	(BU 1)

TECHNICAL DATA

Typical Audio Performance Dual DAC.
- Number of Channels: 2
- Frequency Range: 2-20 000 Hz
- Output resistance: 200 Ω
- Nominal load impedance: 100 kΩ//100 pF
- Amplitude Linearity: ± 0,1 dB (20-20 000 Hz)
- Phase Linearity: ± 1.0° (20-20 000 Hz)
- Dynamic Range: 90 dB (20-20 000 Hz)
- Signal-to-Noise Ratio: 96 dB (20-20 000 Hz)
- Channel Separation: 98 dB (20-20 000 Hz)
- Total Harmonic Distortion: 0,003% (20-20 000 Hz)
- Wow and Flutter: quartz crystal precision
- D/A Conversion: quadruple oversampling (176.4 kHz) with digital filter and two 16 bit D/A converters
- Error Correction System: Cross Interleaved Reed Solomon Code (CIRC)
- Audio Output Level: 2 V_{rms}
- Headphones load impedance: 32-600 Ω

Optical Readout System
- Laser: semi-conductor AlGaAs
- Wavelength: 780 nm

Signal Format
- Sampling Frequency: 44.1 kHz
- Quantization: 16 bit linear/channel

Power Supply
- Mains Voltage: see type plate at rear of player
- Mains Frequencies: 50 and 60 Hz
- Power Consumption: 15 W approx.
- Safety Requirements: IEC

Cabinet, general
- Dimensions (w × h × d): 360 × 80 × 300 mm
- Weight: 3.5 kg approx.

Typical Audio Performance DAC4

Signal to noise ratio	typ 95dB min 90dB (20Hz-20kHz)
Dynamic range (-60dB)	typ 86dB (20Hz-20kHz) min 80dB (20Hz-20kHz) (0.01%)
Total distortion + noise	typ 0.016% min 0.05% (20Hz-20kHz)
Intermodulation distortion	max 0.016% (20Hz-20kHz)

The right is reserved to change data if necessary

This Compact Disc player complies with the radio interference requirements as laid down in EEC (European Economic Community) regulations.

SERVICING HINTS

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

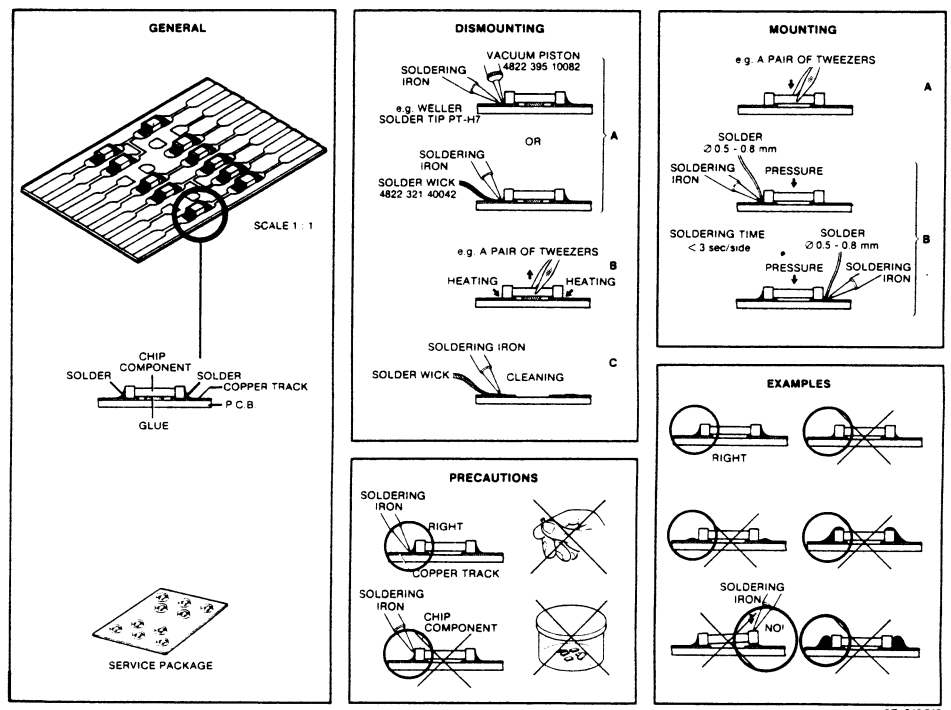
The disc should always rest properly on the turntable.
To achieve this a disc hold-down has been mounted in a bracket of the tray mechanism.
If the tray mechanism has to be disassembled for servicing, a separate disc hold-down should be used. For a service disc hold-down see drawing 42565 A12.

Test discs

It is important to treat the test discs with great care. The disorders on the discs (black spots, fingerprints, etc.) are exclusive and unambiguously positioned. Damage may cause additional drop-outs etc. rendering the intentional errors no longer exclusive. In that case it will no longer be possible to check e.g. the good working of the track detectors.

SERVICE TOOLS

Audio test disc (1)	4822 397 30185
Disc without errors (5)+ disc with DO errors, black spots and fingerprints (5A)	4822 397 30096
Disc 65 min 1kHz without pause	4822 397 30155
Torx screwdrivers	
Set (straight)	4822 395 50145
Set (square)	4822 395 50132
13th order filter	4822 395 30204
Service cable (5p)	4822 321 21273
Service cable (14p)	4822 321 21598
Service flexfoil (14p)	4822 322 40066
Service connector (14p)	4822 267 50676
Glass disc	4822 395 90204



27 012C12

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

F ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).
Leur longevité 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 gegenüber elektrostatischen Entladungen (ESD).
Unsorgfältige Behandlung im Reparaturfall kan die Lebensdauer drastisch reduzieren.
Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes.
Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

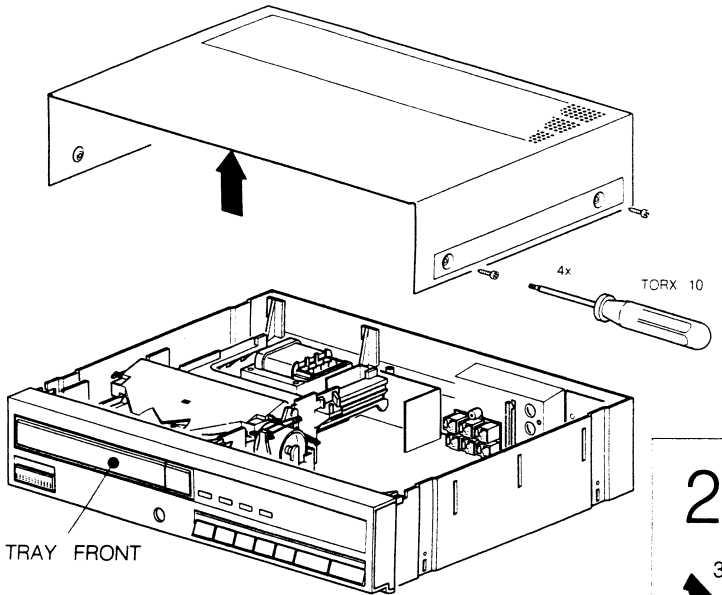
NL WAARSCHUWING

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.

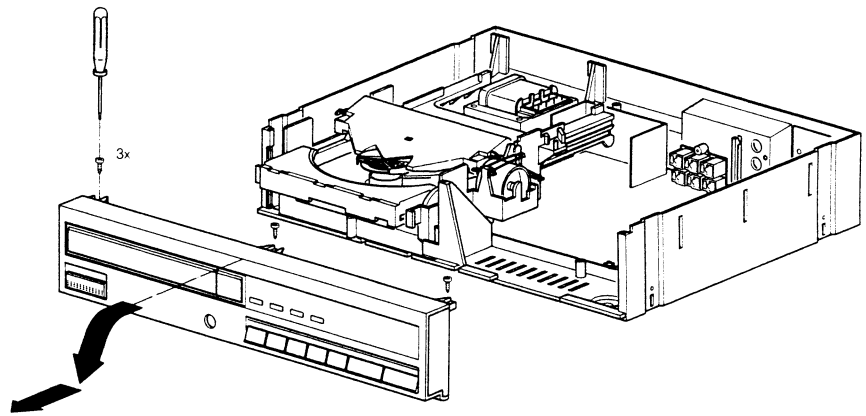
I AVVERTIMENTO

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.

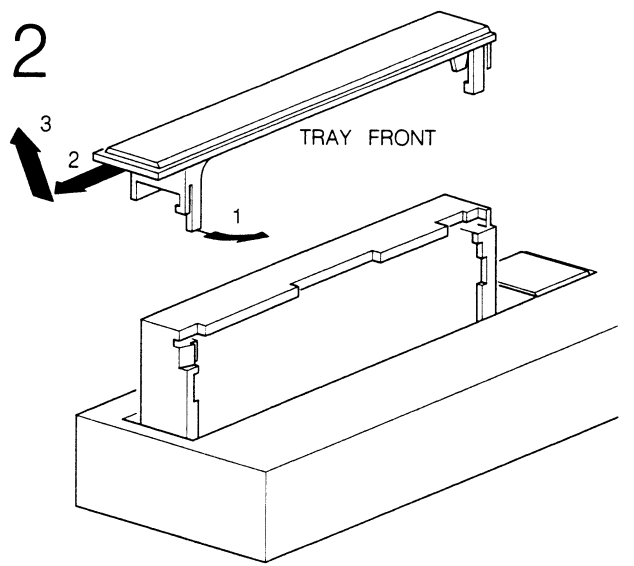
1



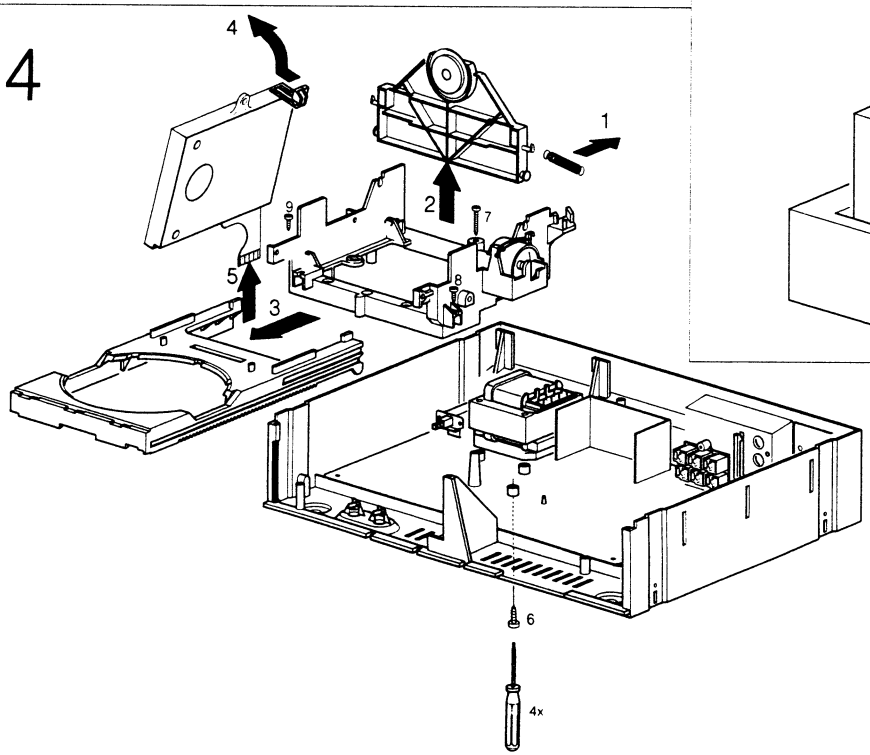
3



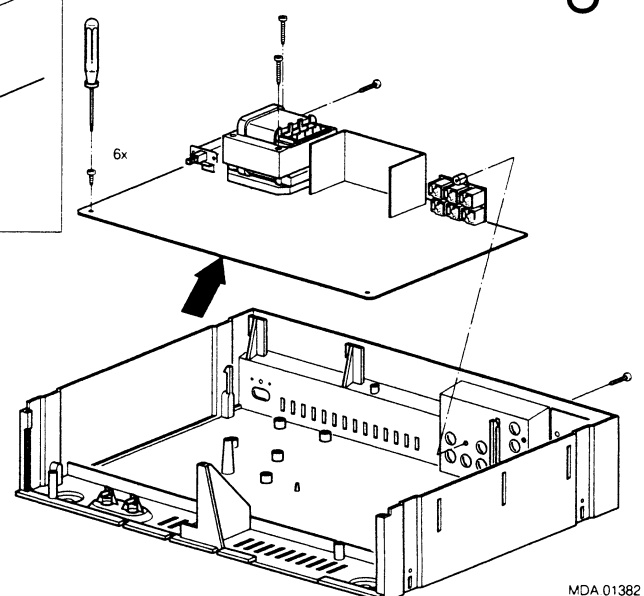
2



4

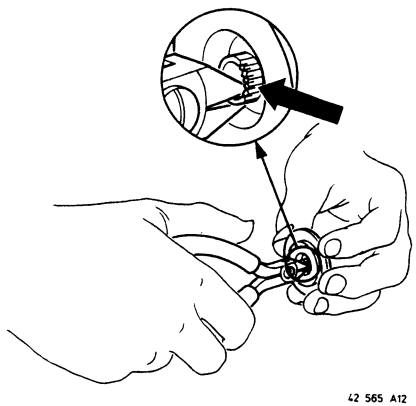


5

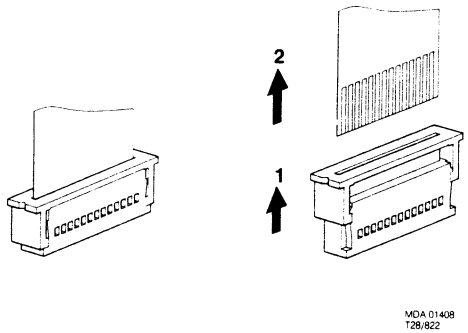


MDA 01382
T-27/822

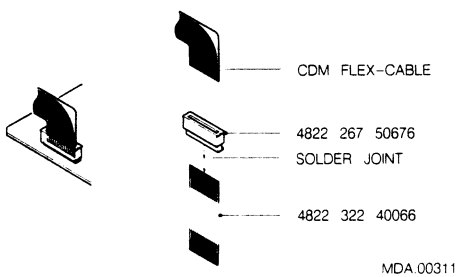
SERVICE DISC-HOLDDOWN



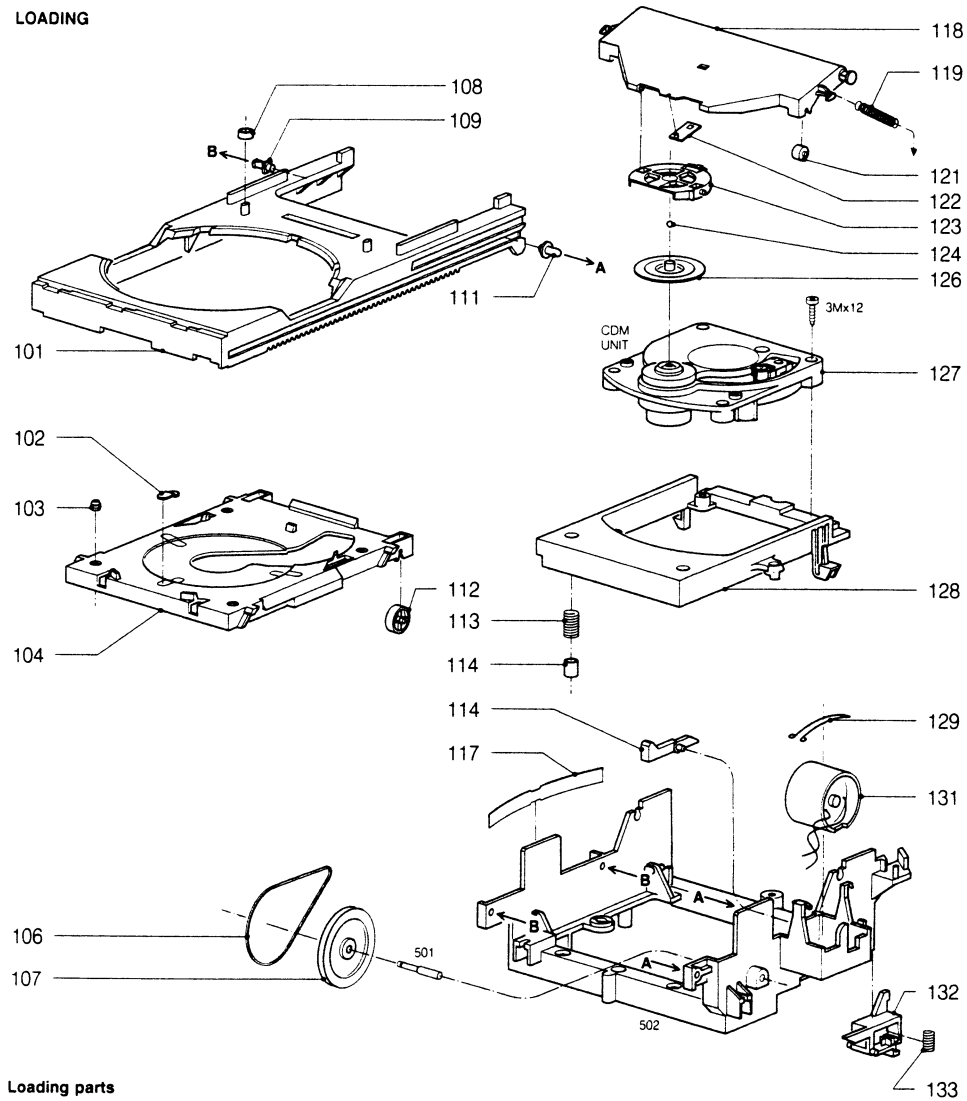
DEMOUNTING FOIL CDM



SERVICE CDM FOIL



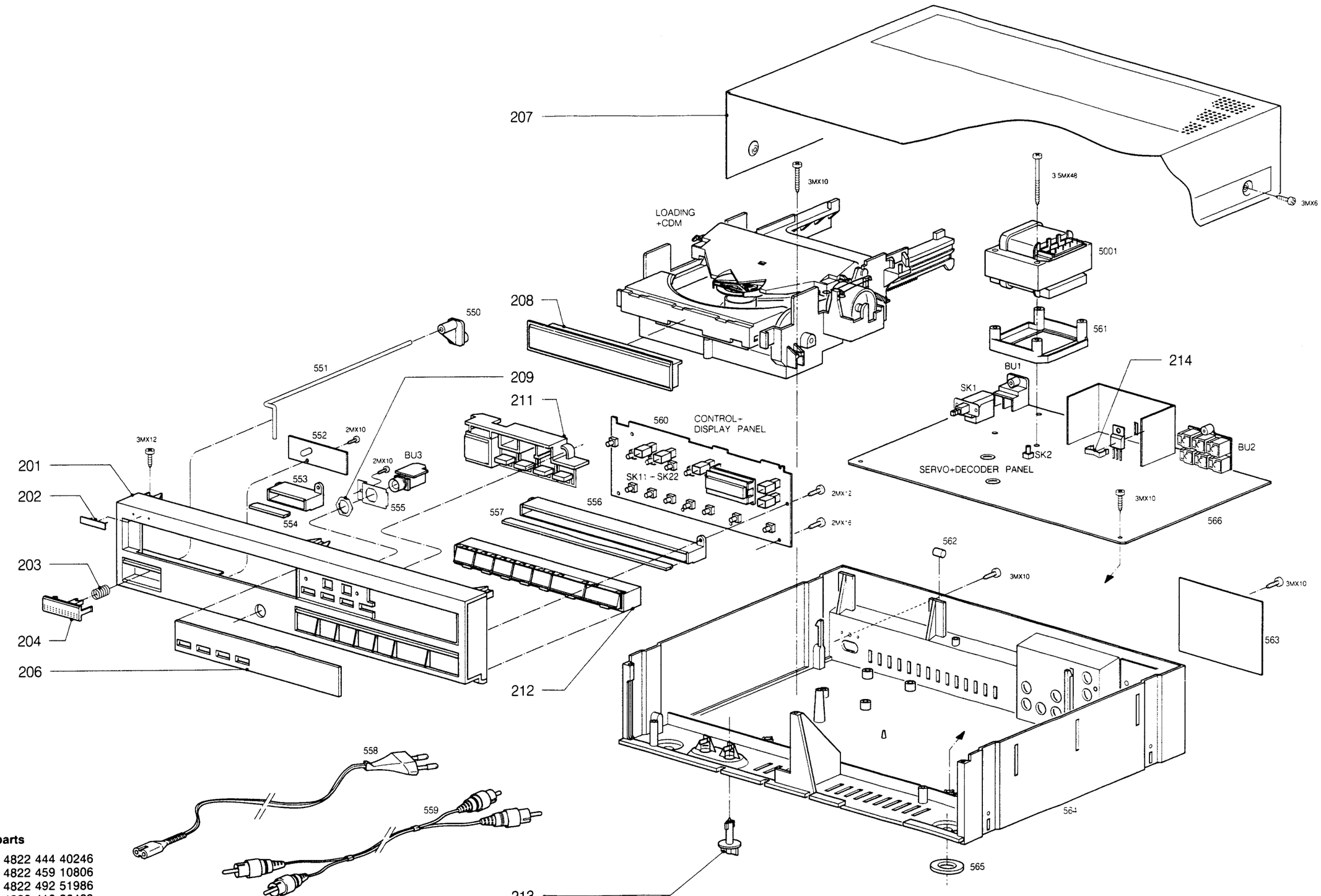
LOADING



Loading parts

101	4822 444 50603	119	4822 492 32883
102	4822 325 50176	121	4822 528 90639
103	4822 325 50177	122	4822 466 92257
104	4822 466 92251	123	4822 402 61207
106	4822 358 10115	124	4822 520 40177
107	4822 522 32359	126	4822 530 80503
108	4822 532 51518	127	4822 691 30209
109	4822 402 61081	128	4822 402 61196
111	4822 402 61132	129	4822 492 63746
112	4822 528 90638	131	4822 361 20998
113	4822 492 51902	132	4822 402 50244
114	4822 466 61587	133	4822 492 51935
116	4822 402 61107		
117	4822 492 63659		
118	4822 444 60568		

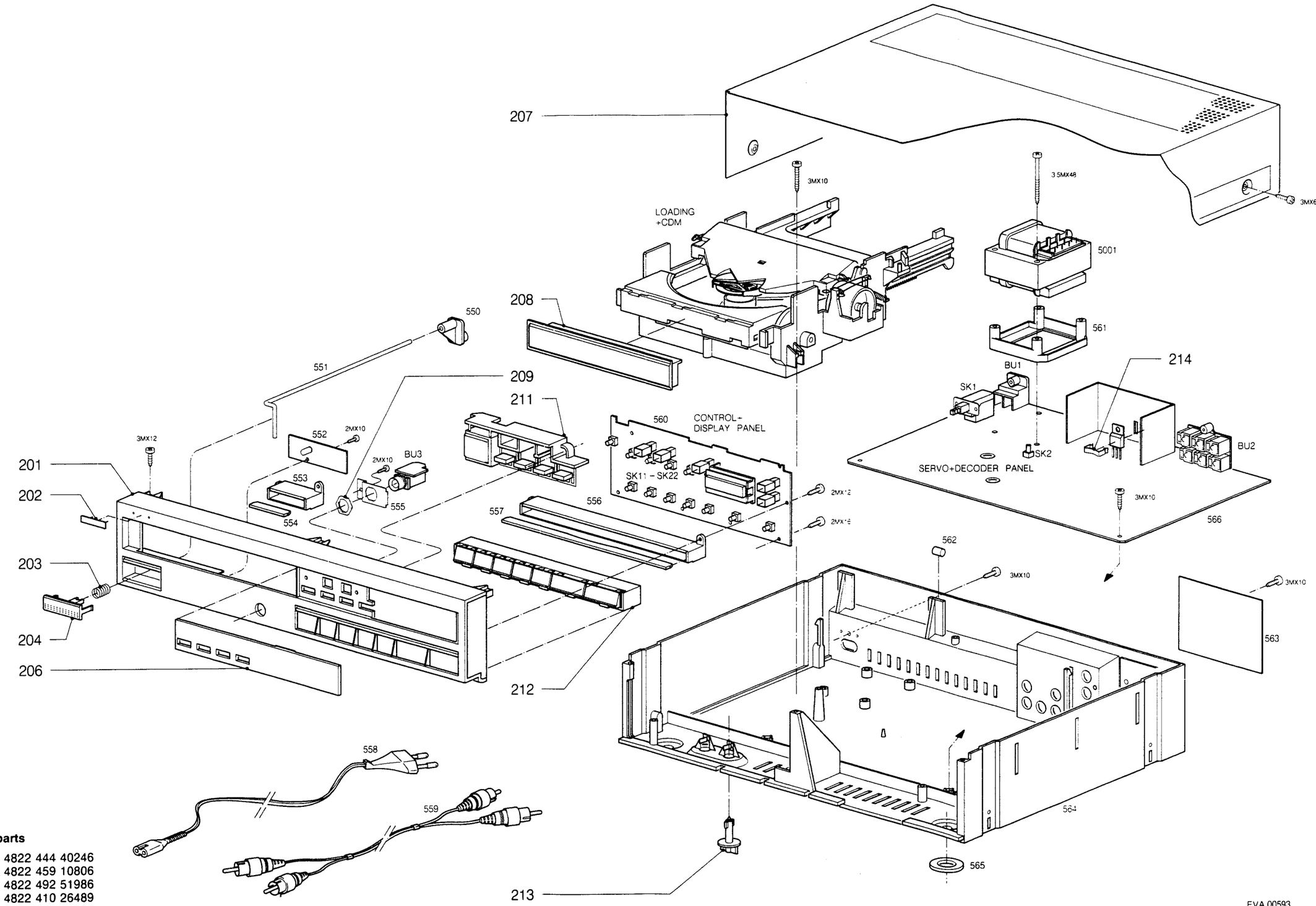
EVA 00594
821/T19



Cabinet parts

201	4822 444 40246
202	4822 459 10806
203	4822 492 51986
204	4822 410 26489
206	4822 381 10988
207	4822 444 30398
208	4822 444 60566
209	4822 505 10571
211	4822 410 26486
212	4822 410 26488
213	4822 417 20162
214	4822 492 63076

EVA 00593
818/T19

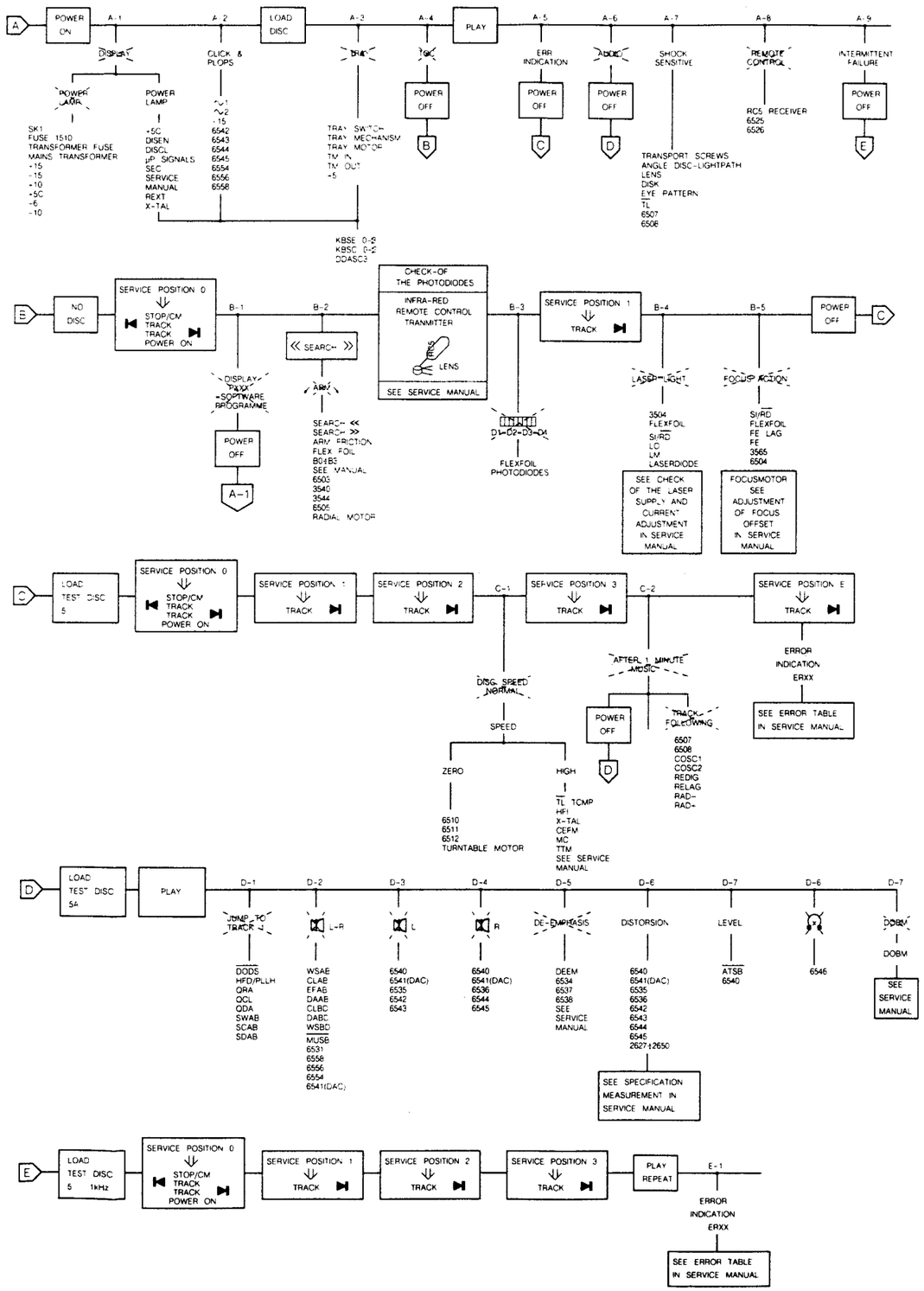


Cabinet parts

201	4822 444 40246
202	4822 459 10806
203	4822 492 51986
204	4822 410 26489
206	4822 381 10988
207	4822 444 30398
208	4822 444 60566
209	4822 505 10571
211	4822 410 26486
212	4822 410 26488
213	4822 417 20162
214	4822 492 63076

EVA 00593
818/T19

ELECTRICAL MEASUREMENTS AND ADJUSTMENTS



PRS 05133
T02/822

A1
µP-SIGNALS

SIGNAL	MODE	◇			REMARKS
RESET	POWER ON	100		PULS HIGH	
X-TAL	STAND BY	101		4MHz	
TRAY IN	OPEN/CLOSE	83			HIGH WHEN TRAY IS CLOSING
TRAY OUT	OPEN/CLOSE	83A			LOW WHEN TRAY IS OPENING
$\overline{ATSB}$	DISC SEARCH	89		LOW	
$\overline{MUTE}$	STAND BY PLAY	67		HIGH	

MDA 01389
T-06 823

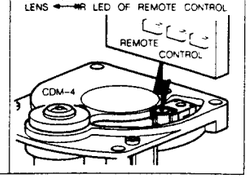
ARM INSIDE

SIGNAL	MODE	◇			REMARKS
B0	SERVICE POSITION 1 OR 2 OR 3 SEARCH ≫	36		HEIGH	ADJUST FOR OPTICAL MID-POSITION
	SERVICE POSITION 1 OR 2 OR 3 SEARCH ≪	36		HEIGH	
B1	SERVICE POSITION 1 OR 2 OR 3 SEARCH ≫	34		HEIGH	
	SERVICE POSITION 1 OR 2 OR 3 SEARCH ≪	34		LOW	
B2	SERVICE POSITION 1 OR 2 OR 3 SEARCH ≫	33		HEIGH	
	SERVICE POSITION 1 OR 2 OR 3 SEARCH ≪	33		HEIGH	
B3	SERVICE POSITION 1 OR 2 OR 3 SEARCH ≫	32		LOW	
	SERVICE POSITION 1 OR 2 OR 3 SEARCH ≪	32		LOW	

MDA 01386
T-06 821

B3
CHECK OF THE PHOTODIODES

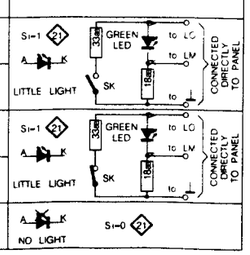
STEP	SIGNAL	MODE	◇				REMARKS
1	–	POWER ON	4 6 7 8	–	–	SEE DRAWING 38314A12	SIGNAL DEPENDS ON DISTANCE LENS ⟷ IR LED OF REMOTE CONTROL



MDA 01378
T-06 824

B4
CHECK OF LASER SUPPLY (WITH DEMOUNTED CDM AND ADDITIONAL CIRCUIT)

STEP	SIGNAL	MODE	◇				REMARKS
1	LO	SERV POS 2	9 (V)	–	1.8<V<3	–	
	LM	SK	11 (V)	–	170<mV<220	–	
2	LO	SERV POS 2	9 (V)	–	1.8<V<3	–	
	LM	SK	11 (V)	–	170<mV<220	–	
3	LO	POWER ON	9 (V)	–	0V ± 0.2V	–	



MDA 01379
T-06 824

B4
LASER CURRENT ADJUSTMENT

STEP	SIGNAL	MODE	◇				REMARKS
1	—	POWER OFF	17 — Ω — GND	R3520	1kΩ	—	PRE-ADJUSTMENT OHMIC VALUE
2	EYE-PATTERN HF	TEST DISC 5 PLAY	PIN 25 DECODER A (SAA7210) — 0V GND	—	—	SEE DRAWING 3701788	IF NO SIGNAL SEE "START UP PROCEDURE"
3	LASER CURRENT & VOLTAGE ACROSS R3501	TEST DISC 5 PLAY TRACK 1	1 — V — 2	R3520	50mV DC	—	—

MDA 01380
T-08 823

B5
ADJUSTMENT OF FOCUS-OFFSET

STEP	SIGNAL	MODE	◇				REMARKS
1	—	POWER ON	—	R3569	—	—	ADJUST FOR OPTICAL MID-POSITION
2	FE LAG	PLAY TEST DISC 5 TRACK 1	27	R3569	400mV ±40mV DC	—	FINE ADJUSTMENT

MDA 01381
T-08 824

B5
FOCUS ACTION

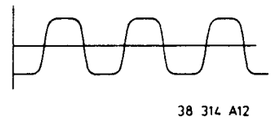
SIGNAL	MODE	◇			REMARKS
Si/$\overline{Rd}$	SERVICE POSITION 1 WHEN REPEATING START UP PROCEDURE	21		PULS "LOW"	SEE DRAWING MDA 01403
FE	TEST DISC 5A, SERVICE POSITION 1 WHEN REPEATING START UP PROCEDURE	26			SEE DRAWING MDA 01413
FE-LAG	TEST DISC 5A	27			SEE ADJUSTMENT OF FOCUS-OFFSET

MDA 01384
T-08 823

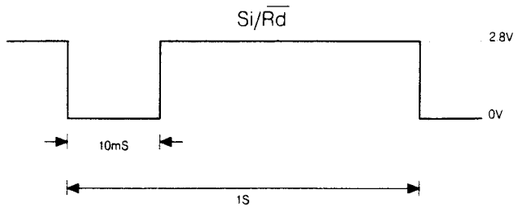
C1
HIGH SPEED DISC ROTATION

SIGNAL	MODE	◇			REMARKS
$\overline{TL}$	TEST DISC 5, PLAY OR SERVICE POSITION 2	13		PULSES "LOW"	WHEN THE DISC IS SLOWLY BRAKED BY HAND
TCMP	TEST DISC 5, PLAY OR SERVICE POSITION 2	14	+5V		AFTER 4 $\overline{TL}$ PULSES
HFI	TEST DISC 5, PLAY OR SERVICE POSITION 2	65			SEE DRAWING 3701788
X-tal	TEST DISC 5A, PLAY OR SERVICE POSITION 2	69		11.28MHz	IF THIS FREQUENCY DEVIATES CHECK X-OUT ON FILTER-B
CEFM	TEST DISC 5A, PLAY OR SERVICE POSITION 2	68		4.32MHz	
MC	TEST DISC 5, PLAY OR SERVICE POSITION 2	81			SEE DRAWING 38849A12
TTM-	TEST DISC 5A, PLAY OR SERVICE POSITION 2	16	APPROX -1V		

MDA 01385
T-08 823

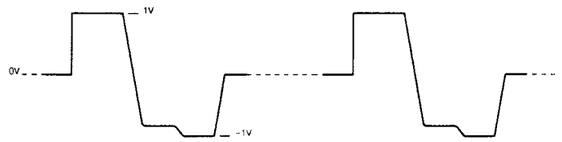


38 314 A12

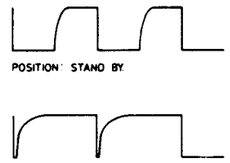


MDA.01403
T33/821

37 017 B8



MDA 01413
T33/823



38 849 A12

POSITION PLAYER	POWER ON	SERVICE POSITION 3	PLAY	SEARCH, PAUSE
$\overline{DODS}$ SIGNAL	"LOW"	"HIGH"	"HIGH"	

MDA.01143
T12 -651

MDA 00240
T07-804

C2
TRACK FOLLOWING

SIGNAL	MODE	◇			REMARKS
C osc1	TEST DISC 5 PLAY OR SERVICE POSITION 3	30		650Hz	
C osc2	TEST DISC 5 PLAY OR SERVICE POSITION 3	31		650Hz	
RE dig	TEST DISC 5 PLAY OR SERVICE POSITION 3	37		PULSES "HIGH"	WHEN THE DISC IS SLOWLY BRAKED BY HAND
RE lag	TEST DISC 5 PLAY OR SERVICE POSITION 3	41	APPROX 2.5V DC		

MDA 01387
T-08 823

D1
JUMP TO TRACK 1

SIGNAL	MODE	◇			REMARKS
$\overline{DODS}$	TEST DISC 5A SEARCH ≫ SEARCH ≪	19			SEE DRAWING MDA 01143
HFD/$\overline{PLLH}$	TEST DISC 5A TRACK 15 PLAY	23		PULSES "LOW"	SEE DRAWING MDA 00240 WHEN THE DISC IS SLOWLY BRAKED BY HAND
QRA	TEST DISC 5A PLAY	75			SEE DRAWING MDA 00453
QDA	TEST DISC 5A PLAY	77			
QCL	TEST DISC 5A PLAY	76			
SWAB	TEST DISC 5A PLAY	78			SEE DRAWING MDA 00239
SCAB	TEST DISC 5A PLAY	79			SEE DRAWING MDA 00239
SDAB	TEST DISC 5A PLAY	80			SEE DRAWING MDA 00239

MDA 01388
T-08 823

D2
NO AUDIO OUTPUT LEFT + RIGHT

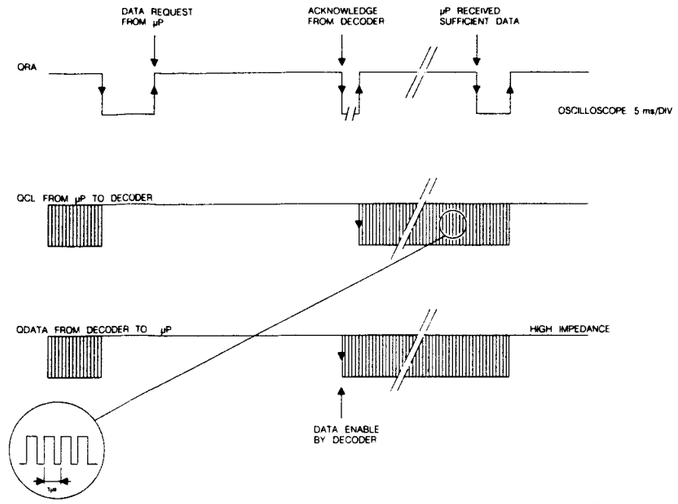
SIGNAL	MODE	◇			REMARKS
WSAB	DISC PLAY	71			SEE DRAWING 38847C12
CLAB	DISC PLAY	72			SEE DRAWING 38847C12
DAAB	DISC PLAY	73		ACTIVITY	SEE DRAWING 38847C12
EFAB	TEST DISC 5A	74		PULSES	WHEN THE DISC IS SLOWLY BRAKED BY HAND
CLBD	DISC PLAY	87			SEE DRAWING 38848C12
DABD	DISC PLAY	86		ACTIVITY	SEE DRAWING 38848C12
WSBD	DISC PLAY	85			SEE DRAWING 38848C12
$\overline{MUSB}$	DISC PAUSE OR NEXT OR PREVIOUS	90		"LOW"	

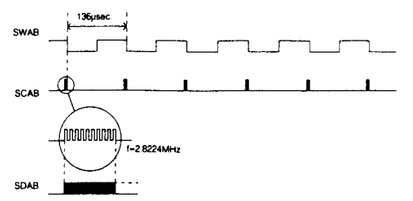
MDA 01390
T-08 823

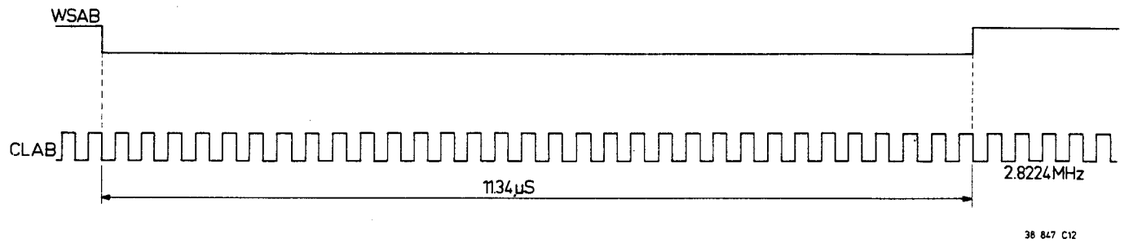
DAC IC

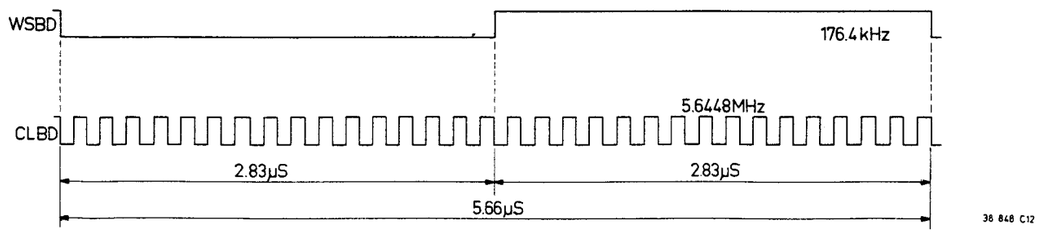
SIGNAL	MODE	◇			REMARKS
OUTPUT OF OP-AMP	DISC PLAY	94		LF SIGNAL	LEFT CHANNEL
OUTPUT OF OP-AMP	DISC PLAY	95		LF SIGNAL	RIGHT CHANNEL

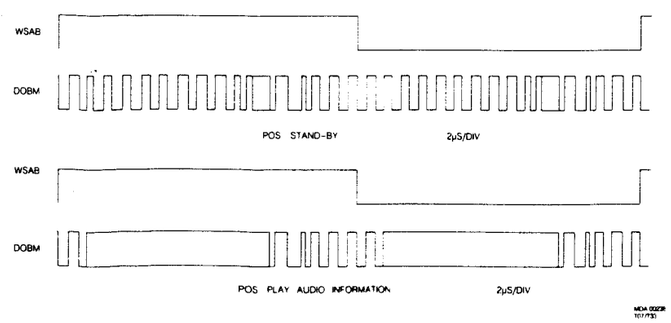
MDA 01392
T-08 823











D5
DEEM CIRCUIT

SIGNAL	MODE	◇			REMARKS
DEEM	TEST DISC 5A: TRACK 14: PLAY TRACK 15: PLAY	84		"LOW" "HIGH"	SEE TESTPOINT 92 AND 91 ON DEEM CIRCUIT
TESTPOINT 92	TEST DISC 5A TRACK 14	92		LF SIGNAL	
TESTPOINT 92	TEST DISC 5A TRACK 15	92		NO SIGNAL	
TESTPOINT 91	TEST DISC 5A TRACK 14	91		LF SIGNAL	
TESTPOINT 91	TEST DISC 5A TRACK 15	91		NO SIGNAL	

MDA 01393
T-08 825

D6
SPECIFICATIONS MEASUREMENT

SIGNAL	MODE	◇			REMARKS
BU2-L	TEST DISC 3, PLAY, TOTAL HARMONIC DISTORSION	FILTER OUTPUT	0.003%		SEE DRAWING: 30459A12
BU2-R	TEST DISC 3, PLAY, TOTAL HARMONIC DISTORSION	FILTER OUTPUT	0.003%		SEE DRAWING: 30459A12
BU2-L	TEST DISC 3, PLAY, SIGNAL-TO-NOISE RATIO	FILTER OUTPUT	96dB		SEE DRAWING: 30459A12
BU2-R	TEST DISC 3, PLAY, SIGNAL-TO-NOISE RATIO	FILTER OUTPUT	96dB		SEE DRAWING: 30459A12

MDA 01395
T-08 823

D9
DOBM DIGITAL OUTPUT

SIGNAL	MODE	◇			REMARKS
DOBM	TEST DISC 5A, PLAY	88			SEE DRAWING: MDA 00238

MDA 01391
T-08 823

ERROR TABLE

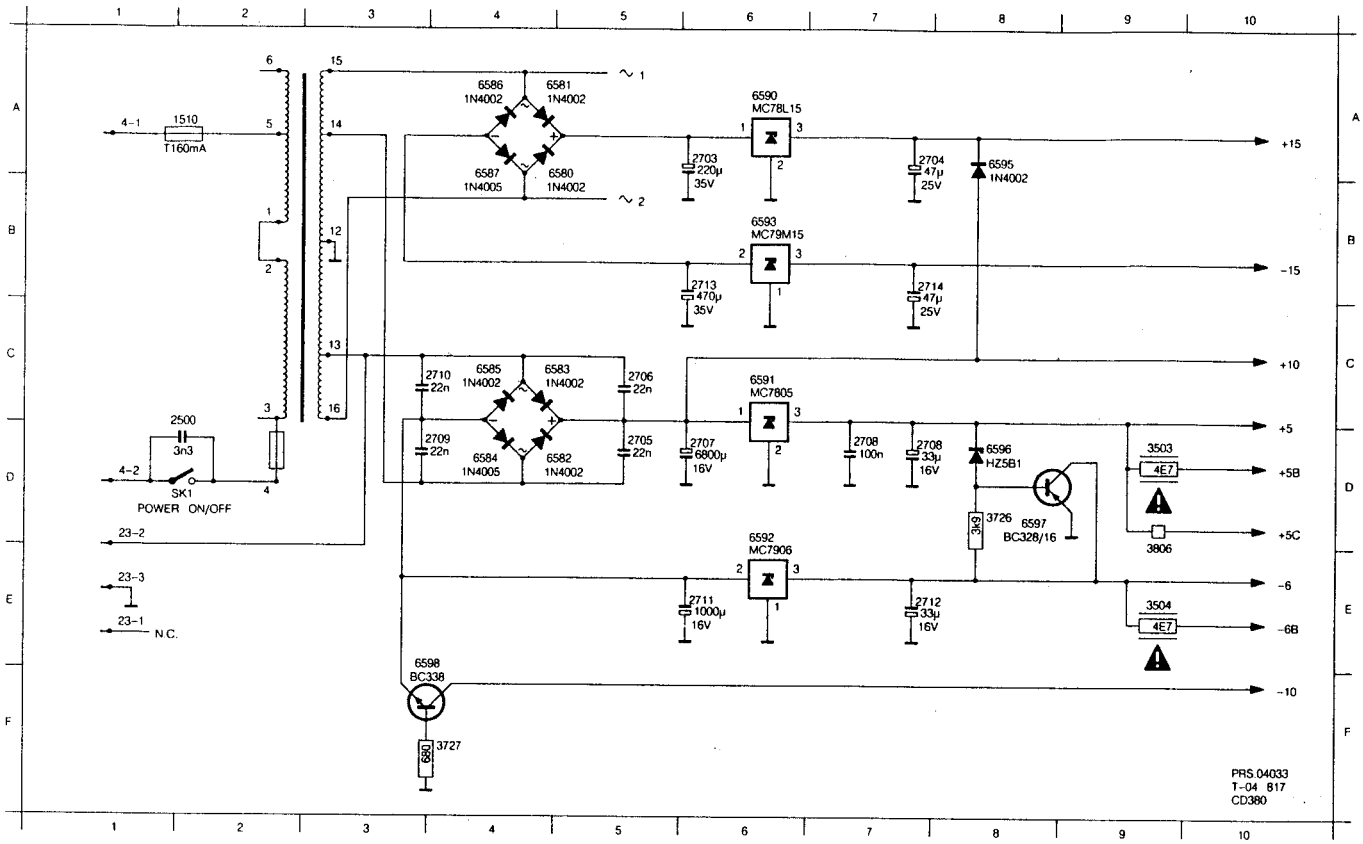
System errors

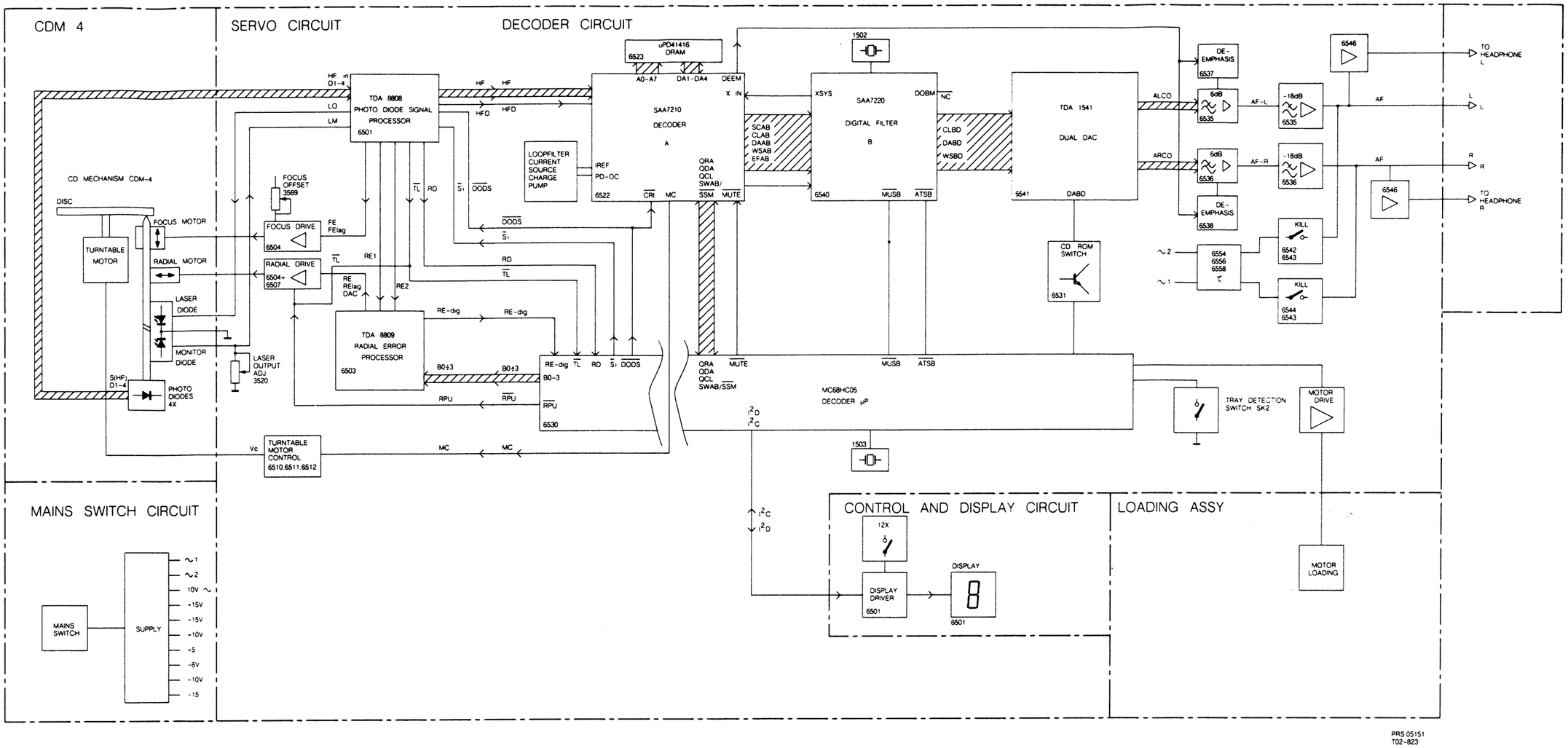
Indication	Cause	Check
Er 01	No RD	$\overline{Si}$, Sc, RD, Photodiode signal processor
Er 02	No $\overline{TL}$ pulse at start-up	$\overline{TL}$, HF, Photodiode signal processor, CD disc present
Er 03	No lead-in track found	CD disc, radial arm position, REdig, Radial error processor
Er 04	Too many $\overline{TL}$ pulses in PLAY	CD disc, $\overline{HFD}$
Er 05	$\overline{TL}$ pulse > 50 msec. in PLAY	CD disc, HF in, photodiodes
Er 06	No $\overline{TL}$ pulse within 0.5 sec. during track jumping	RE-lag circuit
Er 07	Subcoding error during PLAY	HF
Er 08	TOC error	CD disc, turntable motor control, radial arm position

Operating errors

Er 30 "NEXT" key operated during the last track, with "REPEAT" turned off.
Er 31 "PREVIOUS" key operated during the first track, with "REPEAT" turned off.
Er 32 Index selected before a track has been selected.
Er 33 The selected index number does not exist on this disc.
Er 34 Programme survey requested; no programme present.
Er 35 The programme memory is full.
Er 36 The progammed track is not present on this CD disc.
Er 37 The selected track is not present on this CD disc.
Er 60 End of the "FAST FORWARD" search motion.
Er 61 End of the "FAST REVERSE" search motion.

1510	A 2	2705	D 5	2708	D 8	2712	E 8	3504	E 9	6580	A 5	6584	D 4	6590	A 6	6595	A 8	SK1	D 2				
2500	C 2	2706	C 5	2709	D 4	2713	B 6	3726	D 8	6581	A 5	6585	C 4	6591	C 6	6596	D 8						
2703	A 6	2707	D 6	2710	C 4	2714	B 8	3727	F 4	6582	D 5	6586	A 4	6592	D 6	6597	D 8						
2704	A 8	2708	D 7	2711	E 6	3503	D 9	3806	D 9	6583	C 5	6587	A 4	6593	B 6	6598	E 4						





AGC – Automatic Gain Control
B0-B3 – Control bits for radial circuit
BEQ – Equalizer reference current input
BGC – DC and LF gain control reference input
Cosc1 – Capacitor wobble oscillator
Cosc2 – Capacitor wobble oscillator
DEC – Decoupling input of inkruat bypass
DET – HF detector voltage input
DIV4 – Divide by 4 input
$\overline{DODS}$ – Drop out detector suppression
D1÷4 – Photodiode currents
FE – Focus error signal
FE lag – Focus error signal for LAG network
HF – HF output for DEMOD
HFD – HF detector output for DEMOD
HF-in – HF current input to HF amplifier
HF-out – HF amplifier and equalizer voltage output
LM – Laser monitor diode input
LO – Laser amplifier current output
MC – Motor control signal
offset IN – Offset control input
offset OUT – Offset control output
PLLH – PLL on hold output
RADout – output of RE2-RE1 input
RE – Radial error signal (Amplified RE_2-RE_1 currents)

Rosc – Resistor wobble oscillator
Rwob – Wobble generator input
RE1 – Radial error signal 1 (summation of amplified currents D_3 and D_4
RE2 – Radial error signal 2 (summation of amplified currents D_1 and D_2
RE dig – Radial error digital
RE lag – Radial error signal for LAG network
Sc – Starting up capacitor input
Si/$\overline{RD}$ – On/off control for laser supply and focus circuit. Ready signal, Starting up procedure succesful.
$\overline{TL}$ – Track loss output signal
TTM– – Control voltage for turntable motor
TTM+ – Control voltage for turntable motor
Vext– – Supply connection
Vext+ – Supply connection

$\overline{ATSB}$ – Attenuation of Audio level in Search position (Cueing)
CD ROM Switch – Digital Data information on disc signal
CEFM – Clock Eight-to-Fourteen Modulator
CLAB – Clock signal Decoder-A to Filter-B
CLBD – Clock signal Filter-B to DAC
$\overline{CREF}$ – Reference Current
$\overline{CRI}$ – Counter Reset Inhibit
DAAB – Data signal Decoder-A to Filter-B
$\overline{DABD}$ – Data signal Filter-B to DAC
$\overline{DEEM}$ – Deemphasis
DOBM – Digital out signal
$\overline{EFAB}$ – Error flag Decoder-A to Filter-B
$\overline{MUTE}$ – Mute signal

$\overline{MUSB}$ – Soft Mute signal
PD/OC – Phase detector - oscillator control
QCL – Q-channel Clock signal
QDA – Q-channel Data signal
QRA – Q-channel Request Aknowledge
SCAB – Subcode clock Decoder-A to Filter-B
SDAB – Subcode data Decoder-A to Filter-B
SWAB/$\overline{SSM}$ – Subcode Word/Start-stop motor signal
WSAB – Word select Decoder-A to Filter-B
WSBD – Word Select Filter-B to DAC
XIN – Oscillator signal in Decoder-A
XSYS – Oscillator signal out Filter-B

SERVO

SERVO

DECODER-A IC6522

DODS HF HFD

3805

6530 MC68HC05C8

µP CLOCK CPU I/O PORTS

INT/T0 T1 RESET Vdd XTAL1 XTAL2 IRQ

TL RE-dig

DECODING 2 KILL

RADIAL DRIVE

RADIAL ERROR PROCESSOR

6503 TDA8809

ROM 3½-BIT DAC

RADIAL LAG SHORT CIRCUIT

INTEGRATING AMPLIFIER

OSCILLATOR 650Hz

LEAD LAG LAG HOLD RADIAL RELAG LAG SHORT CIRCUIT RADIAL RE IN

RC5 IN RC5 OUT

TO RADIAL MOTOR VIA FLEX PRINT

RAD+ RAD-

6504-(1/2)B TCA0372(A)

6507-(1/2)A NJM4560D

6508 BC858

6506 HZ7C2 7V5

6505 HZ7C2 7V5

6507-(1/2)B NJM4560D

6501
PHOTO DIODE SIGNAL PROCESSOR
TDA 8809 ©

CDM

FLEX PRINT (FO...)

DIODE ASSEMBLY

GUARD RING PHOTODIODE

LASER ASSEMBLY

1002 LASER

MONITOR

LASER OUTPUT ADJ

HF AMPLIFIER

EQUALIZER

GAIN CONTROL

HF AMPLITUDE SLICERS

LASER SUPPLY

STARTING CIRCUIT

FOCUS NORMALIZING CIRCUIT

FOCUS DRIVE

6504 TCA0372(B)

FOCUS OFFSET

TURNTABLE MOTOR CONTROL

6512-(1/2)A NJM4560

6512-(1/2) NJM4560

6510 BC338/25

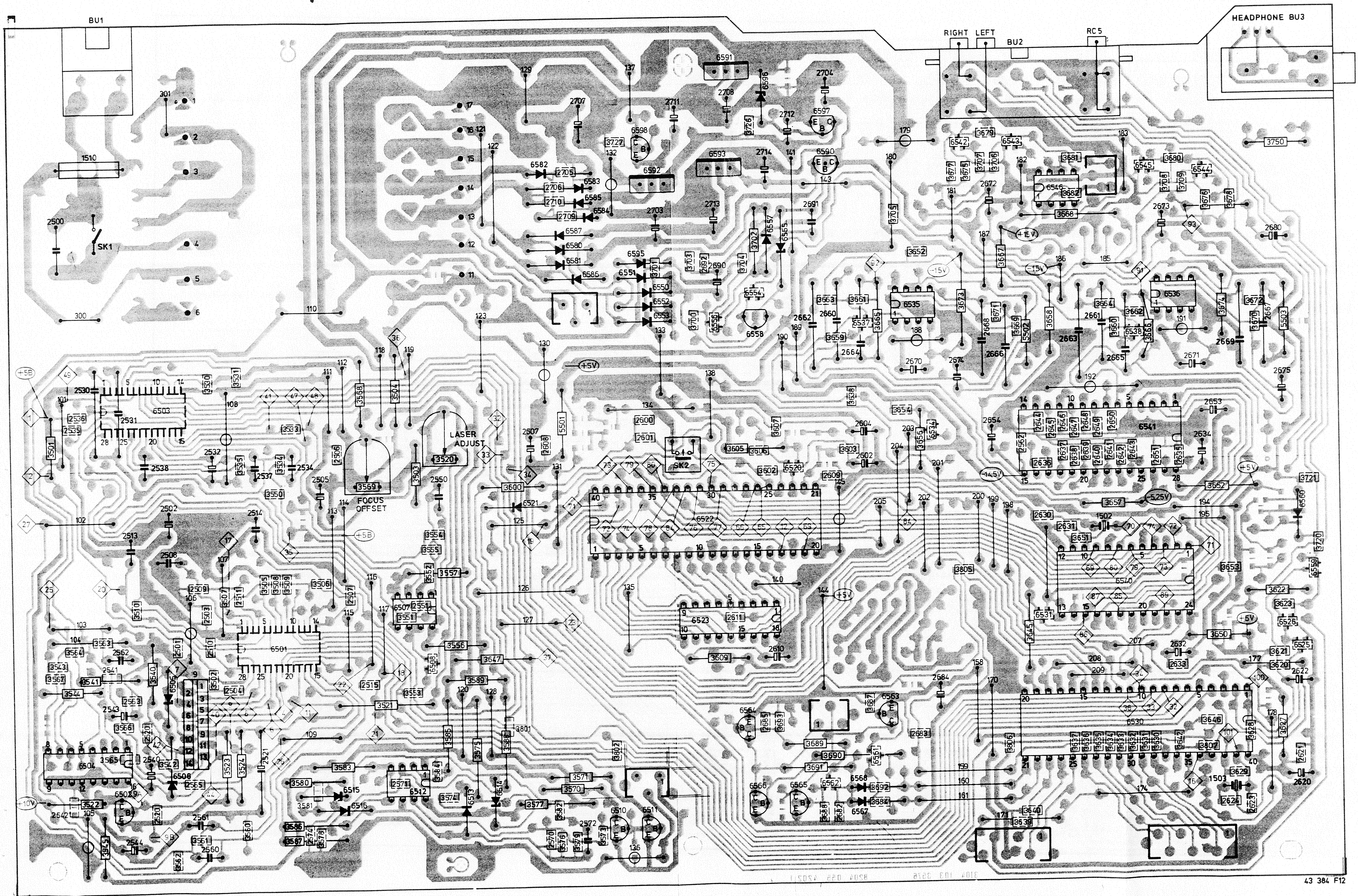
6511 BC328/25

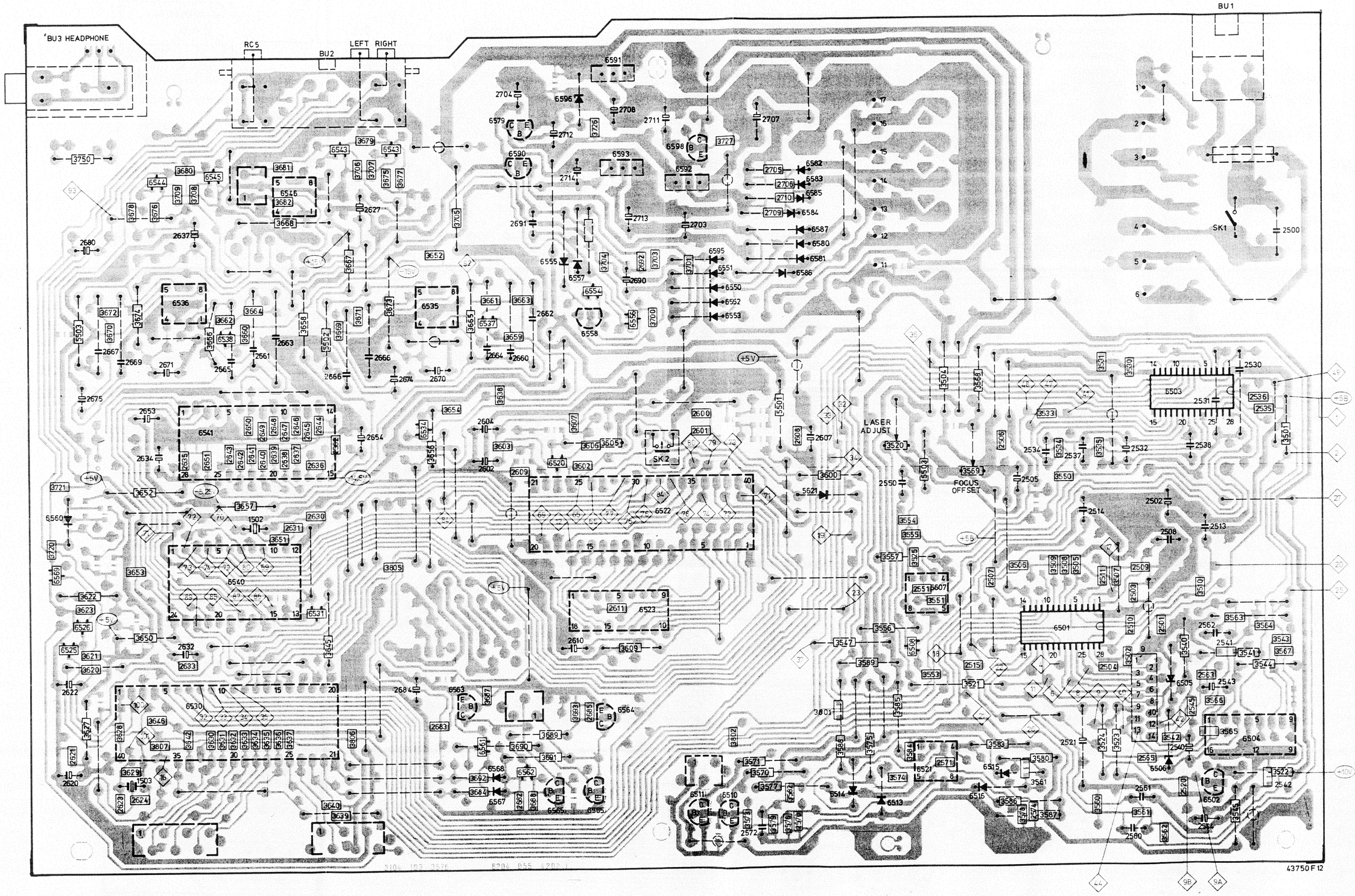
TO FOCUS MOTOR VIA FLEX PRINT

TO TURNTABLE MOTOR CIRCUIT

DECODER-A IC6522 MC

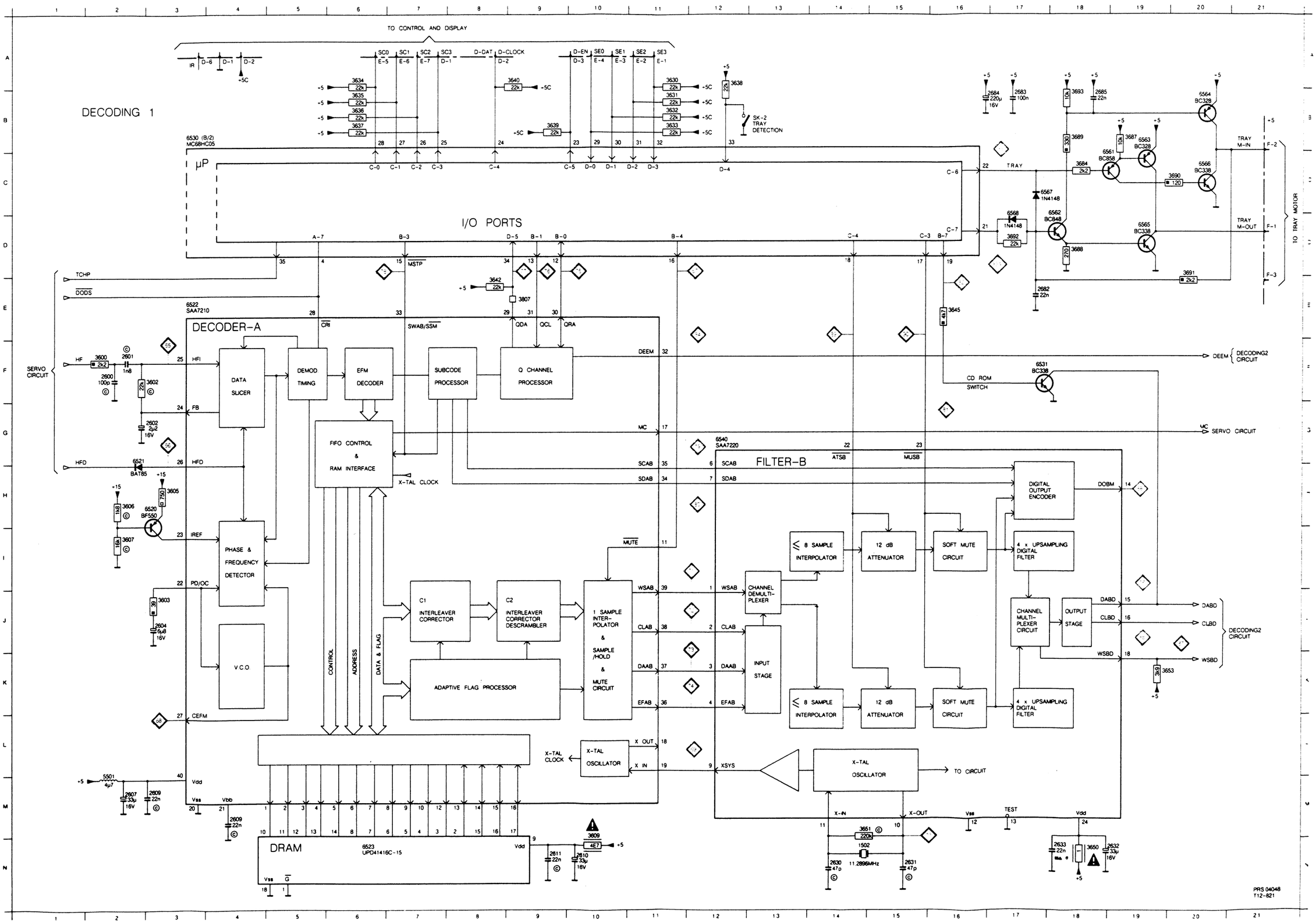
DECODING 1 6530


BU1
HEADPHONE BU3
RIGHT
LEFT
BU2
RC5
SK1
SK2
LASER ADJUST
FOCUS OFFSET
43 384 F12

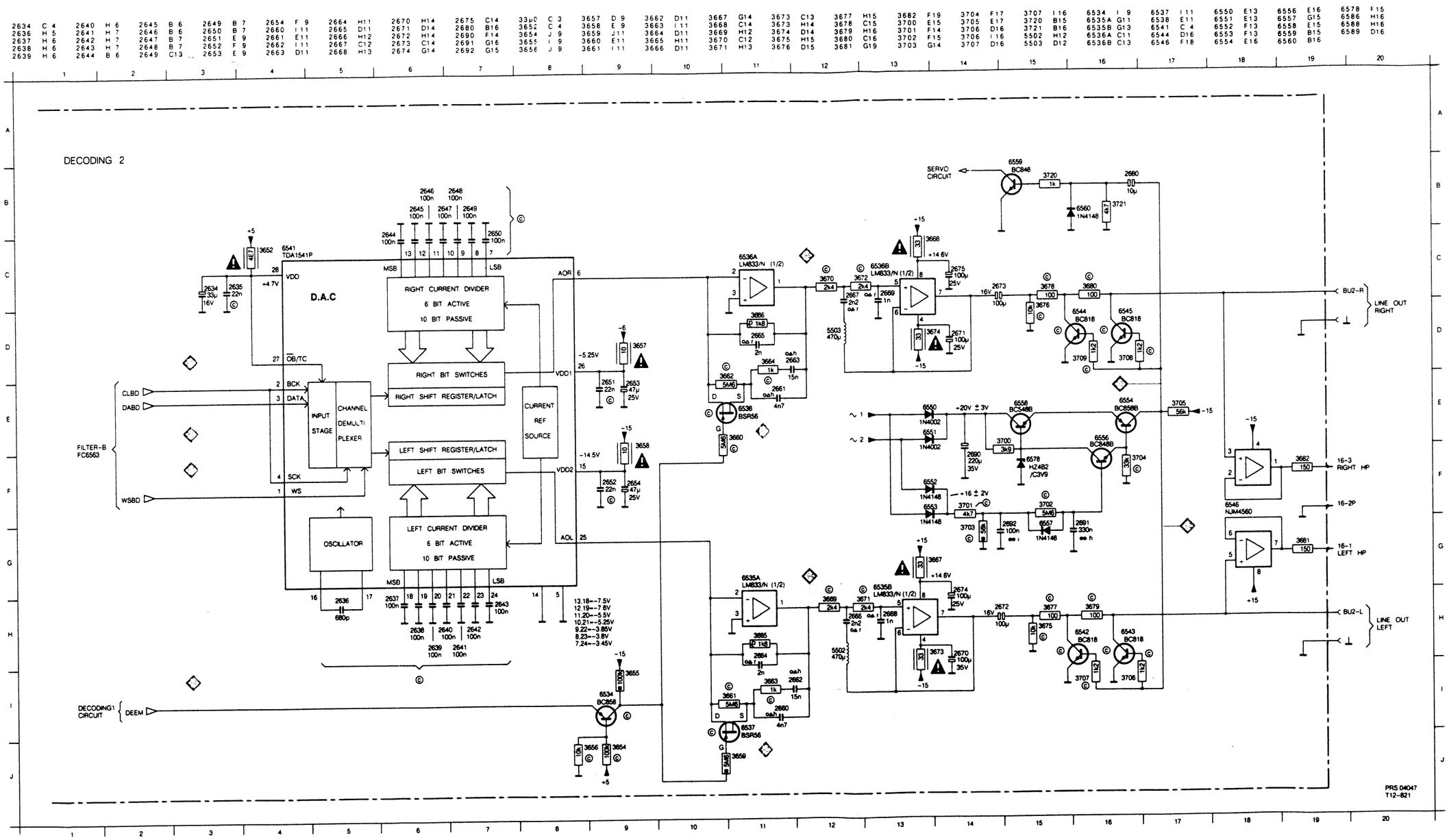

BU3 HEADPHONE
RC5
BU2
LEFT
RIGHT
BU1
SK1
SK2
LASER ADJUST
FOCUS OFFSET
+5V
+10V
43750F12

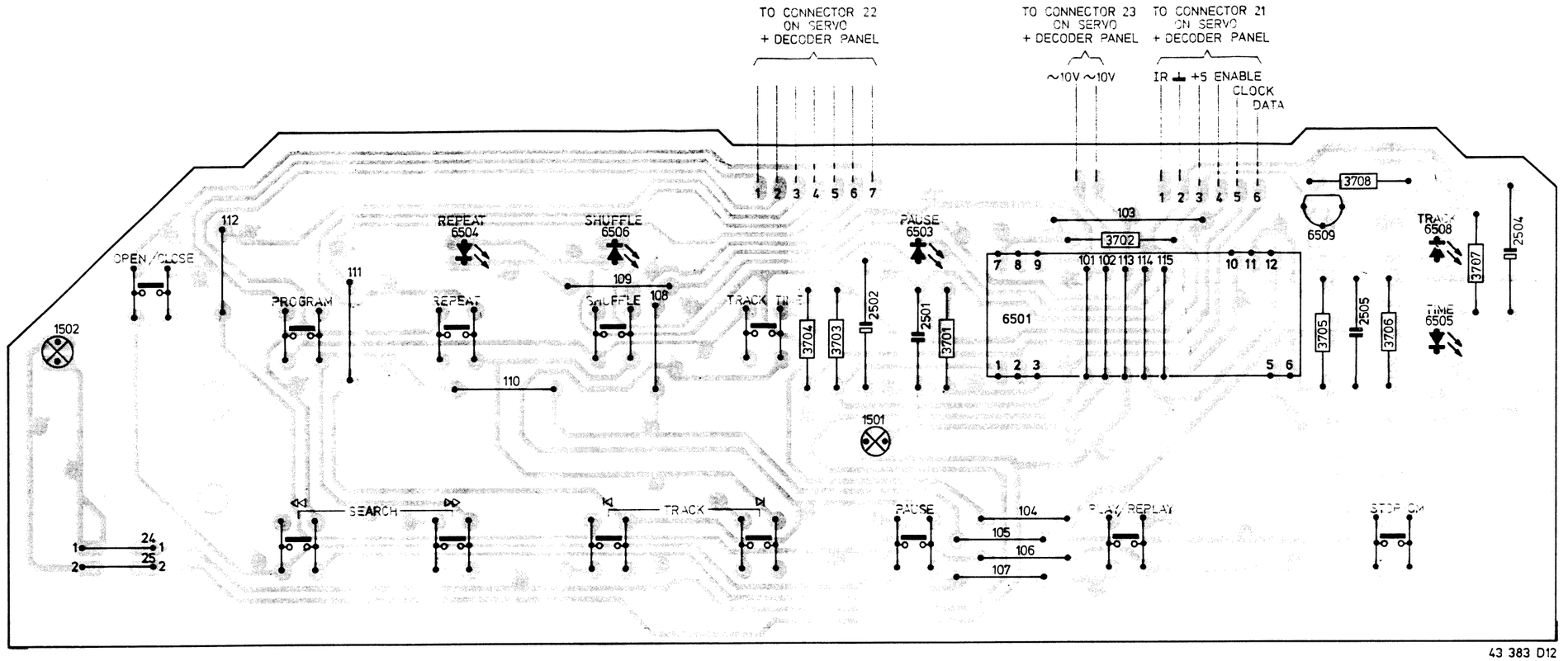
DECODING 1

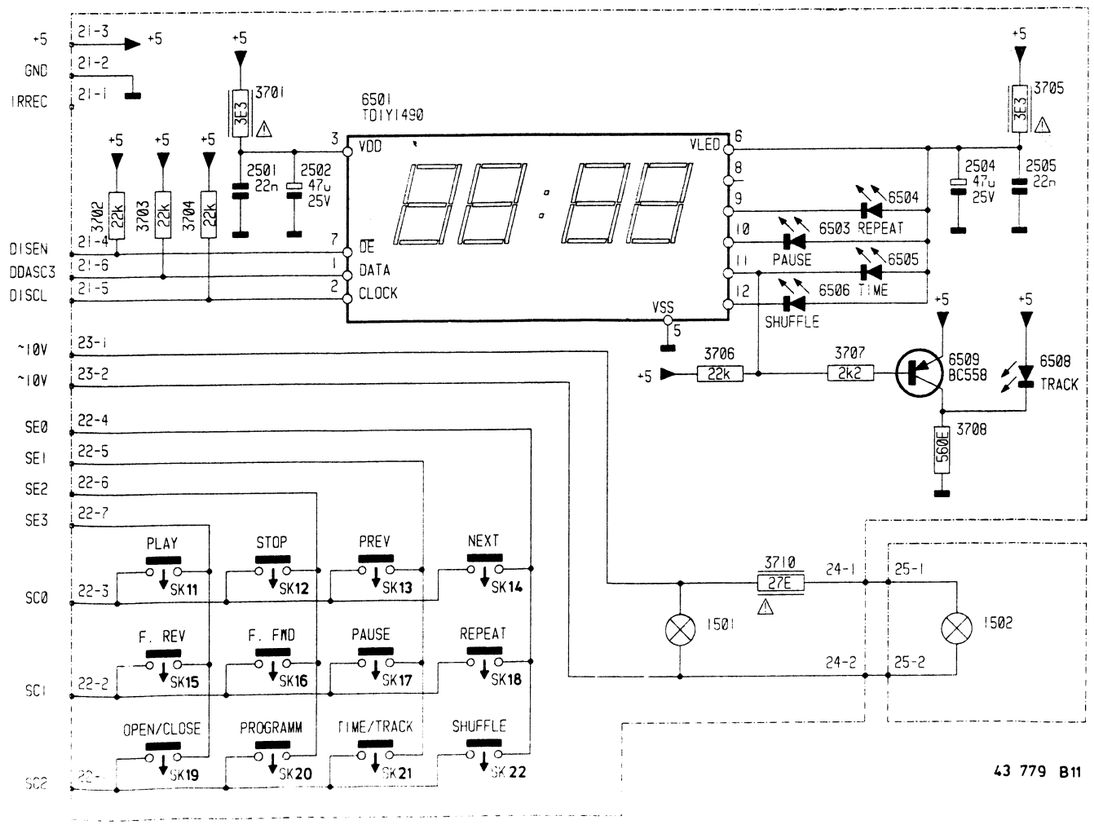
1502 N14 2602 G 3 2609 M 3 2611 N 9 2632 N19 2683 B17 3600 F 2 3605 H 3 3609 M10 3632 B11 3635 B 6 3638 A12 3642 E 8 3651 M14 3687 B19 3690 C20 3693 B18 6520 H 3 6523 N 6 6540 G12 6563 B19 6566 C20 SK-2 B13
2600 F 2 2604 J 3 2609 M 4 2630 N14 2633 N18 2684 B17 3602 F 3 3606 H 2 3630 A11 3633 B11 3636 B 6 3639 B 9 3645 E16 3653 K20 3688 D18 3691 D20 3807 E 9 6521 G 2 6530 B 3 6561 C18 6564 B20 6567 C17
2601 F 2 2607 M 2 2610 N10 2631 N15 2682 E17 2685 B18 3603 J 3 3607 I 2 3631 B11 3634 A 6 3637 B 6 3640 A 9 3650 N18 3684 C18 3689 B18 3692 D17 5501 L 2 6522 E 3 6531 F17 6562 C18 6565 D19 6568 C17



DECODING 2


DECODING 2
D.A.C
RIGHT CURRENT DIVIDER
6 BIT ACTIVE
10 BIT PASSIVE
RIGHT BIT SWITCHES
RIGHT SHIFT REGISTER/LATCH
LEFT SHIFT REGISTER/LATCH
LEFT BIT SWITCHES
LEFT CURRENT DIVIDER
6 BIT ACTIVE
10 BIT PASSIVE
INPUT STAGE
CHANNEL DEMULTI PLEXER
CURRENT REF SOURCE
OSCILLATOR
TDA1541P
CLBD
DABD
WSBD
BCK
DATA
WS
SCK
OB/TC
VDD
MSB
LSB
AOR
AOL
VDD1
VDD2
FILTER-B FC6563
DECODING1 CIRCUIT
DEEM
SERVO CIRCUIT
LM833/N (1/2)
BSR56
BC848
BC858
BC548B
BC856B
BC818
BC848B
NJM4560
HZ4B2 /C3V9
1N4002
1N4148
BU2-R
BU2-L
LINE OUT RIGHT
LINE OUT LEFT
16-3 RIGHT HP
16-2P
16-1 LEFT HP
PRS 04047
T12-821



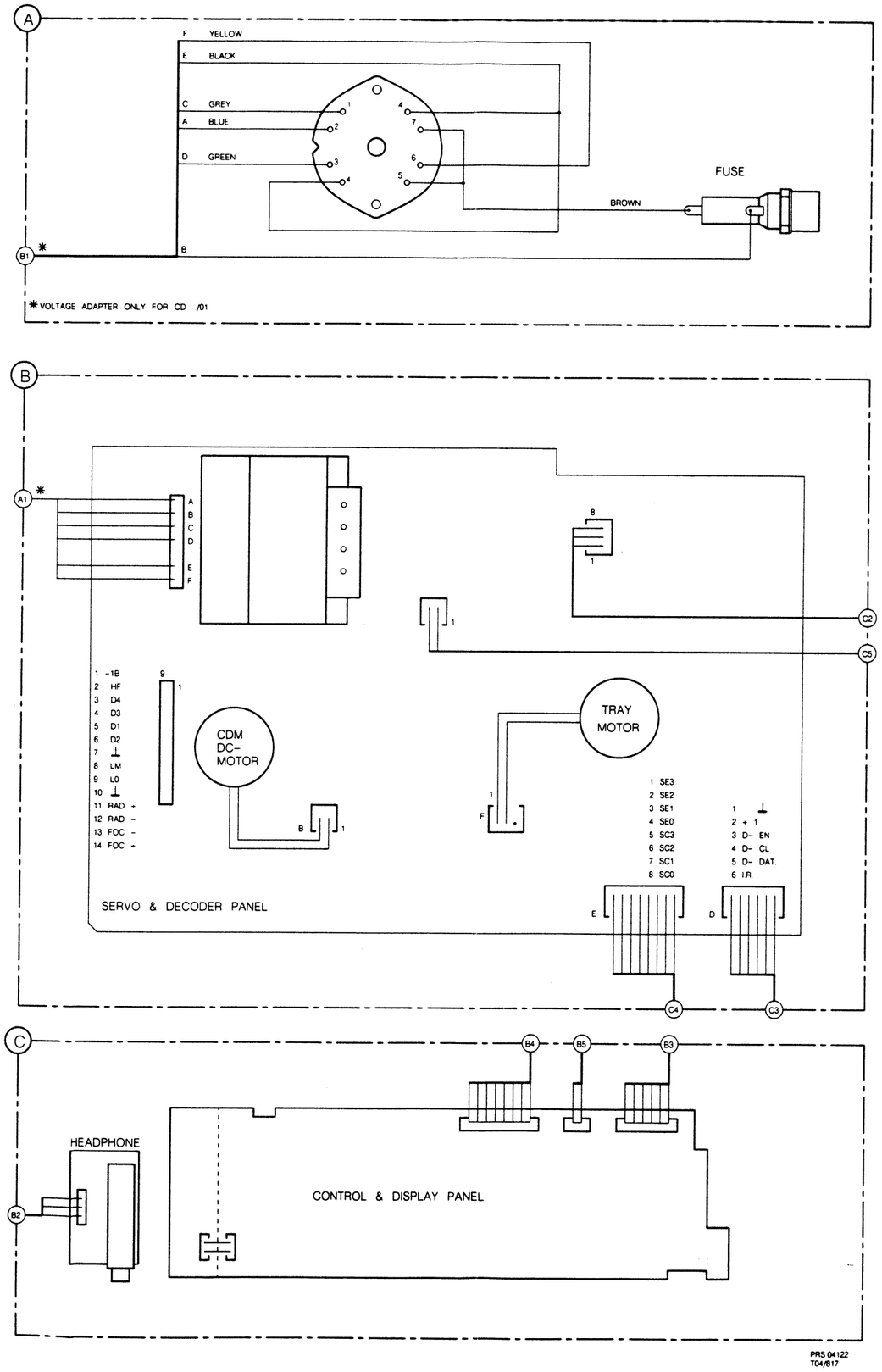


ELECTRICAL PARTS LIST CONTROL AND DISPLAY

2501,2505	22 nF, 16 V	4822 122 10166
2502,2504	47 µF, 25 V	4822 124 22027
	c	
6509	BC558	4822 130 40941
6503, 6504	TLHR4499	4822 130 80849
6505, 6508	TLHG4499	4822 130 80848
6506	TLHY4499	4822 130 80851
3701,3705	Safety Res. 3E3 0,33W 5%	4822 111 30593
3702,3703 3704,3706	met film 22k 0,5W 5%	4822 116 52463
3707	met film 2k2 0.5W 1%	4822 116 52408
3708	met film 560E 0.5W 5%	4822 116 52428

Miscellaneous	
Control switches SK 11 ÷ SK 22	4822 276 12276
6501 Display TDIY 1490	4822 130 90543
1066 Mute delay assy	4822 214 51719
1501, 1502 Lamp	4822 134 40634

WIRING DIAGRAM



ELECTRICAL PARTSLIST SERVO + DECODER PANEL

For non active chip components see separate list.

MC79L09AC	4822 209 73233
MC79M15CT	5322 209 86361
MC7906CT	4822 209 82056
TY40408 (+5V)	4822 209 71579
MC78M15	4822 209 80808
TDA8808T	4822 209 73234
TDA8809T/C2	4822 209 73235
SAA7210P/04	4822 209 71001
µPD41416C-20	4822 209 50582
SAA7220	4822 209 11157
TDA1541A/N2	4822 209 72544
TDA1543	4822 209 73236
LM833N	4822 209 83163
NJM4560D	4822 209 83274
TCA0372DP2	4822 209 72587
MC68HC05C8	4822 209 73232

BC328-16	4822 130 41023
BC328	4822 130 44104
BC338	4822 130 44121
BC558B	4822 130 44197
BC858	5322 130 42012
BC848	5322 130 41981
BC818	4822 130 42675
BF550	4822 130 42131

Miscellaneous

Display	4822 130 90543
Cinch socket	4822 267 40766
Tackt switch (tray)	4822 276 11896
Mains switch	4822 276 11309
Mains inlet	4822 265 20291
Phone socket	4822 267 30743
Fuse holder	4822 256 30274
Mains transformer	4822 146 30701

330N		5322 121 42661
4.7M	50V	4822 124 41577
6M8	50V	4822 124 41578
33M	16V	4822 124 40272
47M	25V	4822 124 41527
100M	25V	4822 124 41528
220M	16V	4822 124 40196
220M	35V	4822 124 41572
470M	35V	4822 124 41573
1000M	16V	4822 124 41571
6800M	16V	4822 124 41571

Bipolair

0.68M	16V	4822 124 41583
10M	25V	4822 124 41558
100M	16V	4822 124 22339

1N4002	4822 130 30684
1N4148	4822 130 30621
HZ7C2/7V2	4822 130 32862
BA314	4822 130 30879
HZ3B2	4822 130 32831
HZ7A3	4822 130 33523
BAT85	4822 130 31983

CSA4.000	4822 242 70831
11289.6 kHz	4822 242 71644

Coil 4.7 mH	4822 157 71644

Safety resistors	1/3 Watt
4E7	4822 116 52858
12E	4822 111 30511
18E	4822 111 31515
100E	4822 116 52389
120E	4822 116 52394
220R	4822 116 43221
330E	4822 116 52416
750R	4822 116 52432
1K	4822 116 52391
1K2	4822 116 52395
1K8	4822 116 53109
2K2	4822 116 52408
4K7	4822 116 52426
5K6	4822 116 52438
6K8	4822 116 52925
10K	4822 116 52452
22K	4822 116 52463
47K	4822 116 52472
100K	4822 116 52973
180K	4822 116 52505
5M6	4822 116 52533

Non flameable Resistors

1R	4822 111 30483
4R7	4822 111 30499
10R	4822 111 30508
33R	4822 111 30522
1K8	4822 116 53109

4K7	4822 101 10685
22K	4822 100 20522

3302	4 E 7	5%	0,33 W	4822 111 30499
3305	4 E 7	5%	0,33 W	4822 111 30499
3306	4 E 7	5%	0,33 W	4822 111 30499
3336	4 E 7	5%	0,33 W	4822 111 30499
3360	4 E 7	5%	0,33 W	4822 111 30499
3369	1 R	5%	0,33 W	4822 111 30483
3372	4 E 7	5%	0,33 W	4822 111 30499
3374	4 E 7	5%	0,33 W	4822 111 30499
3381	4 E 7	5%	0,33 W	4822 111 30499
3383	4 E 7	5%	0,33 W	4822 111 30499
3384	4 E 7	5%	0,33 W	4822 111 30499
3385	4 E 7	5%	0,33 W	4822 111 30499
3388	4 E 7	5%	0,33 W	4822 111 30499
3389	4 E 7	5%	0,33 W	4822 111 30499
3390	4 E 7	5%	0,33 W	4822 111 30499
3396	1 R	5%	0,33 W	4822 111 30483
3404	10 M	5%	0,5 W	4822 116 52494
3418	22 E	5%	0,33 W	4822 111 30517
3419	22 E	5%	0,33 W	4822 111 30517
3421	47 E	5%	0,33 W	4822 111 30526
3422	11 K	1%	0,6 W	4822 116 52907
3424	150 E	1%	0,6 W	4822 116 52846
3425	47 E	5%	0,33 W	4822 111 30526
3426	11 K	1%	0,6 W	4822 116 52907
3428	150 E	1%	0,6 W	4822 116 52846
3429	47 E	5%	0,33 W	4822 111 30526
3430	11 K	1%	0,6 W	4822 116 52907
3432	150 E	1%	0,6 W	4822 116 52846
3433	47 E	5%	0,33 W	4822 111 30526
3434	11 K	1%	0,6 W	4822 116 52907
3436	150 E	1%	0,6 W	4822 116 52846
3446	4 E 7	5%	0,33 W	4822 111 30499
3447	10 E	5%	0,33 W	4822 111 30508
3448	4 E 7	5%	0,33 W	4822 111 30499
3454	820 E	1%	0,6 W	4822 116 52864
3455	820 E	1%	0,6 W	4822 116 52864
3458	33 E	5%	0,33 W	4822 111 30522
3459	33 E	5%	0,33 W	4822 111 30522
3460	2 K 4	1%	0,6 W	4822 116 52851
3461	2 K 4	1%	0,6 W	4822 116 52851
3462	2 K 4	1%	0,6 W	4822 116 52851
3463	2 K 4	1%	0,6 W	4822 116 52851
3464	33 E	5%	0,33 W	4822 111 30522
3465	33 E	5%	0,33 W	4822 111 30522
3466	620 E	5%	0,5 W	4822 116 52429
3467	4 E 7	5%	0,33 W	4822 111 30499
3476	620 E	5%	0,5 W	4822 116 52429
3477	4 E 7	5%	0,33 W	4822 111 30499
3482	330 R	1%	0,6 W	5322 116 53736
3483	270 E	1%	0,6 W	5322 116 53288

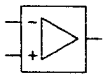
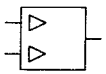
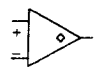
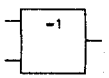
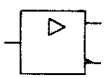
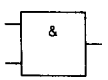
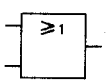
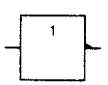
Miscellaneous

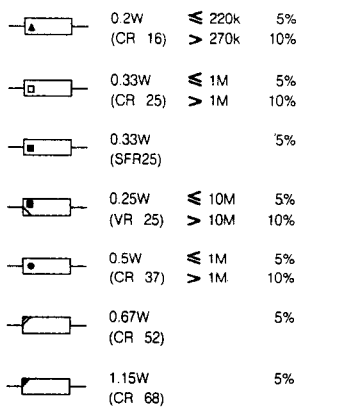
	Spring clip	4822 255 40179
5001	Mains transformer	4822 146 30701
BU 3	Phone socket	4822 267 30743
BU 2	Cinch socket 4p	
BU 1	Mains inlet	4822 265 20291
SK1	Mains switch	4822 276 11309
SK2	Switch	4822 276 11896
	Holder fuse	4822 256 30274
1510	Fuse	4822 253 30009

SYMBOL	DESCRIPTION
	Capacitor, general
	Electrolytic capacitor (+ and - may be omitted)
	Bipolar electrolytic capacitor (+ may be omitted)
	Resistor, general
	N.T.C. resistor
	P.T.C. resistor
	Voltage divider with preset adjustment
	Chip jumper
	Pin contact
	Bus contact
	Coil, self-induction
	Transformer with electrically poor conducting core and adjustable pre-magnetization
	Diode
	Zener diode
	Stabistor
	Double variable capacity diode (in one envelope)
	Photo conductive diode
	L.E.D.

SYMBOL	DESCRIPTION
	Transistor (N.P.N.)
	Transistor (P.N.P.)
	Direct current (DC)
	Alternating current (AC)
	Earth (functional)
	Frame or chassis connection
	Direction in which AC voltages are passed on (optional present)
	Interrupted line
	Not-connected crossing lines
	Connected lines
	Cable tree with lead-outs
	Changer, general (arrow is optional)
G VCO	Voltage Controlled Oscillator
	Band-pass filter
	Phase changing network
...ns	Delay element
	Amplifier, general

MDA 00083
T32-735

SYMBOL	DESCRIPTION
	Operational amplifier
	Differential amplifier
	Splitter
	Operational amplifier with open output
	Exclusive OR gate
	True/complement amplifier with high input
	Flip Flop
	AND gate
	OR gate
	Inverter with high input



MDA.00084
T32-735

© Chips 50 V NP0 S1206		
1 pF	5%	4822 122 32479
1,2 pF	5%	4822 122 33013
1,5 pF	5%	4822 122 31792
1,8 pF	5%	4822 122 32087
2,2 pF	5%	4822 122 32425
3,3 pF	5%	4822 122 32079
3,9 pF	5%	4822 122 32081
4,7 pF	5%	4822 122 32082
5,6 pF	5%	4822 122 32506
6,8 pF	5%	4822 122 32507
8,2 pF	5%	4822 122 32083
10 pF	5%	4822 122 31971
12 pF	5%	4822 122 32139
15 pF	5%	4822 122 32504
18 pF	5%	4822 122 31769
22 pF	10%	4822 122 31837
27 pF	5%	4822 122 31966
33 pF	5%	4822 122 31756
39 pF	5%	4822 122 31972
47 pF	5%	4822 122 31772
56 pF	5%	4822 122 31774
68 pF	5%	4822 122 31961
82 pF	10%	4822 122 31839
100 pF	5%	4822 122 31765
120 pF	5%	4822 122 31766
150 pF	5%	4822 122 31767
180 pF	2%	4822 122 31794
220 pF	5%	4822 122 31965
270 pF	5%	4822 122 32142
330 pF	10%	4822 122 31642
390 pF	5%	4822 122 31771
470 pF	5%	4822 122 31727
560 pF	5%	4822 122 31773
680 pF	5%	4822 122 31775
820 pF	5%	4822 122 31974
1 nF	10%	5322 122 31647
1,2 nF	5%	4822 122 31807
1,5 nF	10%	4822 122 31781
1,8 nF	10%	4822 122 32153
2,2 nF	10%	4822 122 31644
2,7 nF	10%	4822 122 31783
3,3 nF	10%	4822 122 31969
3,9 nF	10%	4822 122 32566
4,7 nF	10%	4822 122 31784
5,6 nF	10%	4822 122 31916
6,8 nF	10%	4822 122 31976
10 nF	10%	4822 122 31728
12 nF	10%	5322 122 31648
15 nF	10%	4822 122 31782
18 nF	10%	4822 122 31759
22 nF	10%	4822 122 31797
27 nF	10%	4822 122 32541
33 nF	10%	4822 122 31981
47 nF	10%	4822 122 32542
56 nF	10%	4822 122 32183
100 nF	10%	4822 122 31947
180 nF	10%	4822 122 32915
220 nF	20%	4822 122 32715

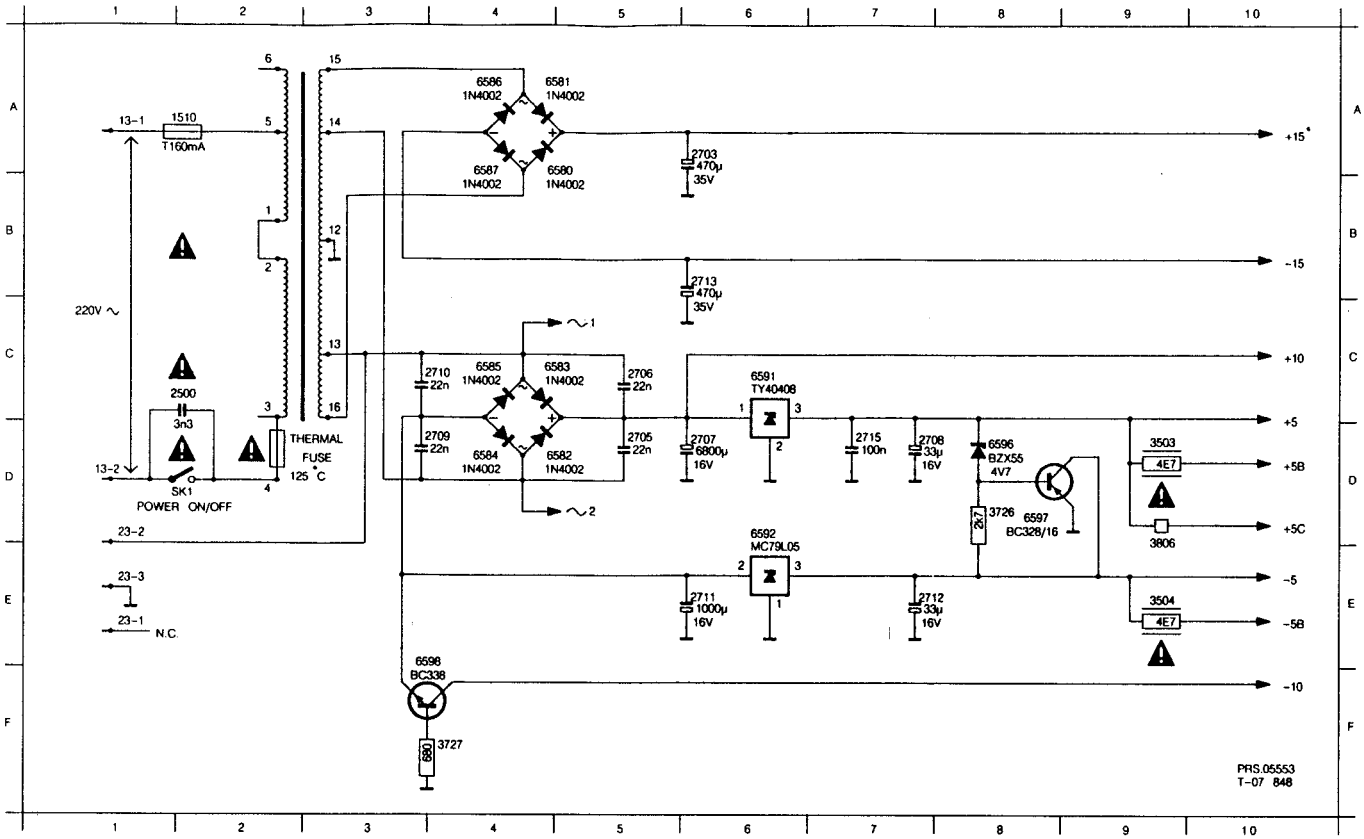
© Chips 0,125 W S1206 NP0		
0 E	jumper	4822 111 90163
1 E	5%	4822 111 90184
1,1 E	5%	4822 111 90377
1,2 E	5%	4822 111 90378
1,3 E	5%	4822 111 90379
1,5 E	5%	4822 111 90381
1,6 E	5%	4822 111 90382
1,8 E	5%	4822 111 90383
2 E	5%	4822 111 90384
2,2 E	5%	5322 111 90104
2,4 E	5%	4822 111 90385
2,7 E	5%	4822 111 90386
3 E	5%	4822 111 90387
3,3 E	5%	4822 111 90388
3,6 E	5%	4822 111 90389
3,9 E	5%	4822 111 90391
4,3 E	5%	4822 111 90392

© Chips 0,125 W S1206		
4,7 E	5%	5322 111 90376
5,1 E	5%	4822 111 90393
5,6 E	5%	4822 111 90394
6,2 E	5%	4822 111 90395
6,8 E	5%	4822 111 90254
7,5 E	5%	4822 111 90396
8,2 E	5%	4822 111 90397
9,1 E	5%	4822 111 90398
10 E	2%	5322 111 90095
11 E	2%	4822 111 90338
12 E	2%	4822 111 90341
13 E	2%	4822 111 90343
15 E	2%	4822 111 90344
16 E	2%	4822 111 90347
18 E	2%	5322 111 90139
20 E	2%	4822 111 90352
22 E	2%	4822 111 90186
24 E	2%	4822 111 90355
27 E	2%	5322 111 90105
30 E	2%	4822 111 90356
33 E	2%	4822 111 90357
36 E	2%	4822 111 90359
39 E	2%	4822 111 90361
43 E	2%	5322 116 90125
47 E	2%	4822 111 90217
51 E	2%	4822 111 90365
56 E	2%	4822 111 90239
62 E	2%	4822 111 90367
68 E	2%	4822 111 90203
75 E	2%	4822 111 90371
82 E	2%	4822 111 90124
91 E	2%	4822 111 90375
100 E	2%	5322 111 90091
110 E	2%	4822 111 90335
120 E	2%	4822 111 90339
130 E	2%	4822 111 90164
150 E	2%	5322 111 90098
160 E	2%	4822 111 90345
180 E	2%	5322 111 90242
200 E	2%	4822 111 90348
220 E	2%	4822 111 90178
240 E	2%	4822 111 90353
270 E	2%	4822 111 90154
300 E	2%	4822 111 90156
330 E	2%	5322 111 90106
360 E	1%	4822 111 90288
360 E	2%	4822 111 90358
390 E	2%	5322 111 90138
430 E	2%	4822 111 90362
470 E	2%	5322 111 90109
510 E	2%	4822 111 90245
560 E	2%	5322 111 90113
620 E	2%	4822 111 90366
680 E	2%	4822 111 90162
750 E	2%	5322 111 90306
820 E	2%	4822 111 90171
910 E	2%	4822 111 90372
1 k	2%	5322 111 90092
1,1 k	2%	4822 111 90336
1,2 k	2%	5322 111 90096
1,3 k	2%	4822 111 90244
1,5 k	2%	4822 111 90151
1,6 k	2%	5322 111 90265
1,8 k	2%	5322 111 90101
2 k	2%	4822 111 90165
2,2 k	2%	4822 111 90248
2,4 k	2%	4822 111 90289
2,7 k	2%	4822 111 90569
3 k	2%	4822 111 90198
3,3 k	2%	4822 111 90157
3,6 k	2%	5322 111 90107
3,9 k	2%	4822 111 90571
4,3 k	2%	4822 111 90167
4,7 k	2%	5322 111 90111
5,1 k	2%	5322 111 90268
5,6 k	2%	4822 111 90572
6,2 k	2%	4822 111 90545

© Chips 0,125 W S1206			1U
6,8 k	2%	4822 111 90544	
7,5 k	2%	4822 111 90276	
8,2 k	2%	5322 111 90118	
9,1 k	2%	4822 111 90373	
10 k	2%	4822 111 90249	
11 k	2%	4822 111 90337	
12 k	2%	4822 111 90253	
13 k	2%	4822 111 90509	
15 k	2%	4822 111 90196	
16 k	2%	4822 111 90346	
18 k	2%	4822 111 90238	
20 k	2%	4822 111 90349	
22 k	2%	4822 111 90251	
24 k	2%	4822 111 90512	
27 k	2%	4822 111 90542	
30 k	2%	4822 111 90216	
33 k	2%	5322 111 90267	
36 k	2%	4822 111 90514	
39 k	2%	5322 111 90108	
43 k	2%	4822 111 90363	
47 k	2%	4822 111 90543	
51 k	2%	5322 111 90274	
56 k	2%	4822 111 90573	
62 k	2%	5322 111 90275	
68 k	2%	4822 111 90202	
75 k	2%	4822 111 90574	
82 k	2%	4822 111 90575	
91 k	2%	5322 111 90277	
100 k	2%	4822 111 90214	
110 k	2%	5322 111 90269	
120 k	2%	4822 111 90568	
130 k	2%	4822 111 90511	
150 k	2%	5322 111 90099	
160 k	2%	5322 111 90264	
180 k	2%	4822 111 90565	
200 k	2%	4822 111 90351	
220 k	2%	4822 111 90197	
240 k	2%	4822 111 90215	
270 k	2%	4822 111 90302	
300 k	2%	5322 111 90266	
330 k	2%	4822 111 90513	
360 k	2%	4822 111 90515	
390 k	2%	4822 111 90182	
430 k	2%	4822 111 90168	
470 k	2%	4822 111 90161	
510 k	2%	4822 111 90364	
560 k	2%	4822 111 90169	
620 k	2%	4822 111 90213	
680 k	2%	4822 111 90368	
750 k	2%	4822 111 90369	
820 k	2%	4822 111 90205	
910 k	2%	4822 111 90374	
1 M	2%	4822 111 90252	
1,1 M	5%	4822 111 90408	
1,2 M	5%	4822 111 90409	
1,3 M	5%	4822 111 90411	
1,5 M	5%	4822 111 90412	
1,6 M	5%	4822 111 90413	
1,8 M	5%	4822 111 90414	
2 M	5%	4822 111 90415	
2,2 M	5%	4822 111 90185	
2,4 M	5%	4822 111 90416	
2,7 M	5%	4822 111 90417	
3 M	5%	4822 111 90418	
3,3 M	5%	4822 111 90191	
3,6 M	5%	4822 111 90419	
3,9 M	5%	4822 111 90421	
4,3 M	5%	4822 111 90422	
4,7 M	5%	4822 111 90423	
5,1 M	5%	4822 111 90424	
5,6 M	5%	4822 111 90425	
6,2 M	5%	4822 111 90426	
6,8 M	5%	4822 111 90235	
7,5 M	5%	4822 111 90427	
8,2 M	5%	4822 111 90237	
9,1 M	5%	4822 111 90428	
10M	5%	5322 111 91141	

POWER SUPPLY DIAGRAM FROM AH01

1510	A 2	2705	D 5	2708	D 8	2711	E 6	2715	D 7	3726	D 8	6580	A 5	6583	C 5	6586	A 4	6592	D 6	6598	E 4
2500	C 2	2706	C 5	2709	D 4	2712	E 8	3503	D 9	3727	F 4	6581	A 5	6584	D 4	6587	A 4	6596	D 8	SK1	D 2
2703	A 6	2707	D 6	2710	C 4	2713	B 6	3504	E 9	3806	D 9	6582	D 5	6585	C 4	6591	C 6	6597	D 8		



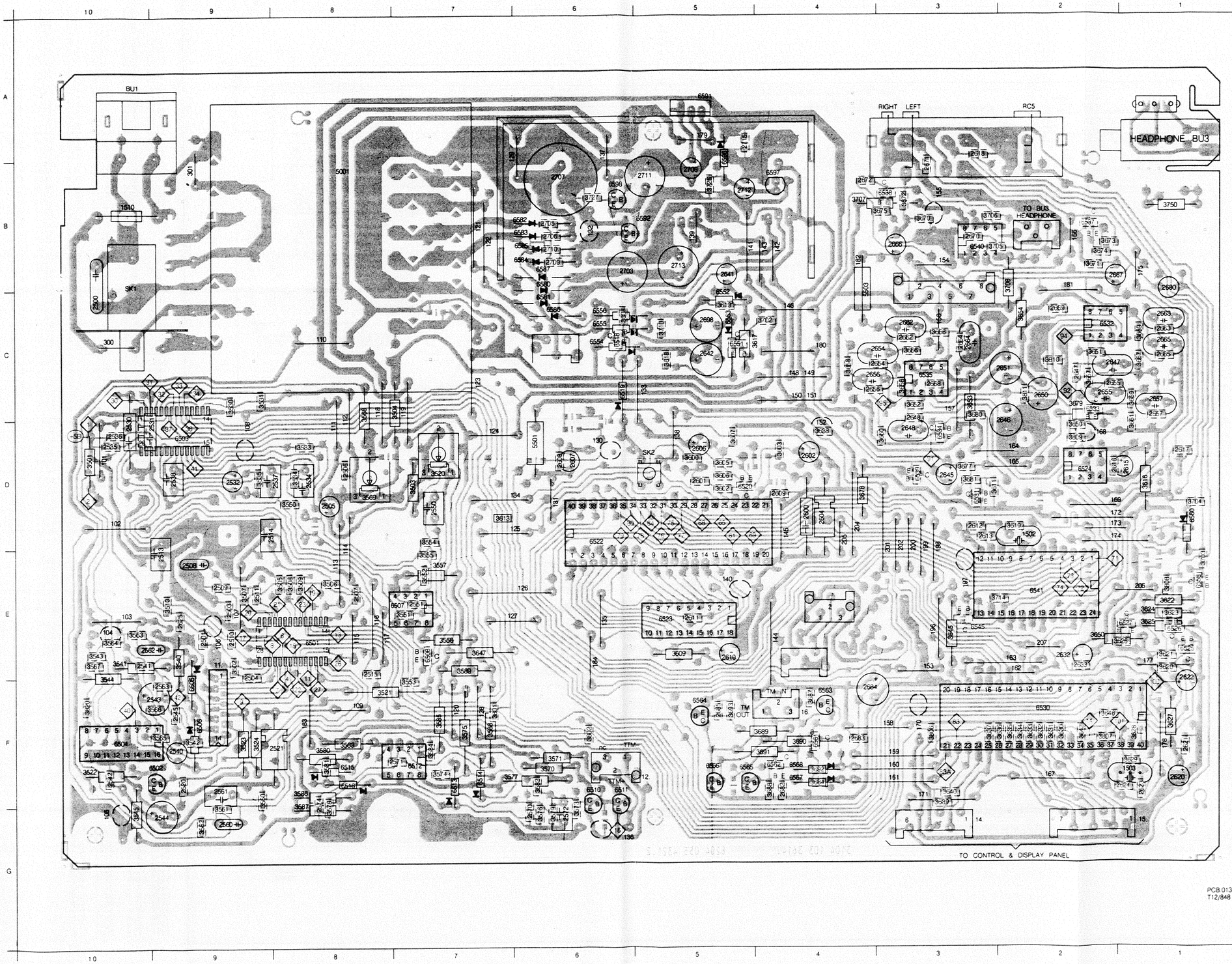
Changes

Changes introduced with A88-255 from marking AH01
already published: none

Description	Reasons
Front page	Contents adapted
2-1-a	Audio test disc (3) no longer available, replaced by audio test disc (1)
7-1 to 7-6	Diagrams and drawings of the panel of the DAC4 version added

Partslist

TDA 1543 (DAC4)	4822 209 73236
Transformer (DAC4)	4822 146 30707

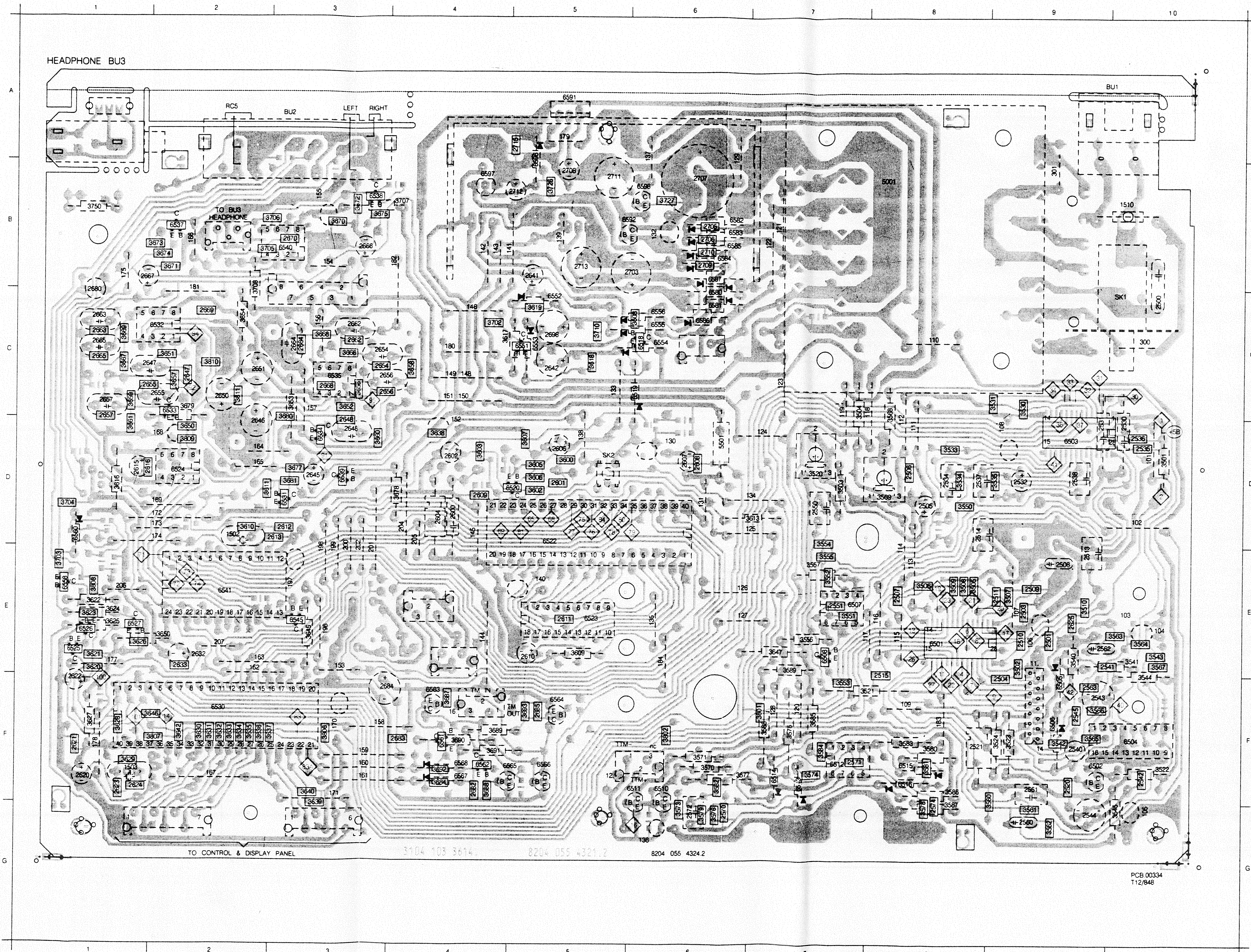


PCB 01302
T12/848

1502	D 2	3509	E 8	3684	F 4						
1503	F 1	3510	E 9	3687	F 4						
1510	B10	3520	D 7	3688	F 4						
207	E 2	3521	F 8	3689	F 4						
2500	C10	3522	F10	3690	F 4						
2501	E 9	3523	F 9	3691	F 4						
2503	E 9	3524	F 9	3692	F 4						
2504	E 9	3530	C 9	3693	F 5						
2505	D 8	3531	C 9	3702	C 4						
2506	D 8	3533	D 8	3703	E 1						
2507	E 8	3534	D 8	3704	D 1						
2508	E 9	3535	D 9	3705	B 2						
2509	E 9	3540	E 9	3706	B 3						
2510	E 9	3541	E10	3707	B 4						
2511	E 9	3542	F 9	3708	B 2						
2513	E 9	3543	E10	3710	C 5						
2514	D 8	3544	E10	3726	B 5						
2515	E 8	3545	G10	3727	B 6						
2520	F 9	3550	D 8	3750	B 1						
2521	F 8	3551	E 7	3801	F 7						
2530	D10	3552	E 7	3802	F 6						
2531	D 9	3553	F 7	3806	F 3						
2532	D 9	3554	D 7	3807	F 2						
2534	D 8	3555	E 7	3808	E 1						
2535	D10	3556	E 7	3809	D 2						
2536	D10	3557	E 7	3810	C 2						
2537	D 8	3560	F 9	3811	C 2						
2538	D 9	3561	G 9	5001	B 8						
2540	F 9	3562	G 9	5501	D 6						
2541	E10	3563	E10	5504	D 1						
2542	F10	3564	E10	6501	E 8						
2543	F 9	3565	F 9	6502	F 9						
2544	G 9	3566	F 9	6503	D 9						
2545	F 9	3567	E10	6504	F10						
2550	D 7	3568	C 8	6505	F 9						
2551	E 7	3569	D 8	6506	F 9						
2560	G 9	3570	F 6	6507	E 7						
2561	F 9	3571	F 6	6508	E 7						
2562	E 9	3573	G 6	6510	F 6						
2563	F 9	3574	F 7	6511	F 6						
2570	G 6	3575	F 7	6512	F 7						
2571	F 7	3576	G 6	6513	F 7						
2572	G 6	3577	F 6	6514	F 7						
2574	F 8	3578	G 8	6515	F 8						
2600	D 4	3579	G 6	6516	F 8						
2601	D 4	3580	F 8	6518	F 6						
2602	D 4	3581	F 8	6519	C 6						
2604	D 4	3582	F 6	6520	D 5						
2606	D 5	3583	F 8	6522	D 5						
2607	D 6	3584	F 7	6523	E 5						
2608	D 6	3585	F 7	6524	D 2						
2609	D 4	3586	F 8	6525	E 1						
2610	D 5	3587	F 8	6526	E 1						
2611	E 5	3588	F 7	6527	E 1						
2612	D 3	3589	E 7	6530	F 2						
2613	D 3	3600	D 5	6531	D 3						
2615	D 1	3602	D 5	6532	C 2						
2616	D 1	3603	D 4	6533	C 2						
2620	F 1	3605	D 5	6534	D 3						
2621	F 1	3606	D 5	6535	C 3						
2622	F 1	3607	D 5	6537	B 2						
2623	F 1	3608	C 6	6538	B 3						
2624	F 1	3609	E 5	6539	D 3						
2625	E 9	3610	D 2	6540	B 3						
2632	E 2	3611	D 2	6541	E 2						
2633	E 2	3613	D 7	6545	E 3						
2641	B 5	3616	D 1	6551	C 5						
2642	C 5	3617	C 4	6552	C 5						
2645	D 3	3618	C 5	6553	C 5						
2646	D 2	3619	C 5	6554	C 6						
2647	C 2	3620	E 1	6555	C 6						
2647	C 2	3621	E 1	6556	C 6						
2648	D 3	3622	E 1	6558	E 1						
2648	D 3	3623	E 1	6560	D 1						
2650	C 2	3624	E 1	6561	F 4						
2651	C 2	3625	E 1	6562	F 4						
2654	C 3	3626	F 1	6563	F 4						
2654	C 3	3627	F 1	6564	F 5						
2655	C 1	3628	F 1	6565	F 5						
2655	C 2	3629	F 1	6566	F 5						
2656	C 3	3630	F 2	6567	F 4						
2656	C 3	3631	F 2	6568	F 4						
2657	C 1	3632	F 2	6580	C 6						
2657	C 1	3633	F 2	6581	C 6						
2662	C 3	3634	F 2	6582	B 6						
2662	C 3	3635	F 2	6583	B 6						
2663	C 1	3636	F 2	6584	B 6						
2663	C 1	3637	F 3	6585	B 6						
2664	C 3	3638	D 4	6586	C 6						
2664	C 3	3639	F 3	6587	B 5						
2665	C 1	3640	F 3	6591	A 5						
2665	C 1	3642	F 2	6592	B 6						
2666	B 3	3645	E 3	6596	B 5						
2667	B 1	3646	F 2	6597	B 4						
2668	C 3	3647	E 7	6598	B 6						
2669	C 1	3650	E 2	BU1	A10						
2670	B 3	3650	D 2	SK1	C10						
2680	C 1	3651	C 2	SK2	D 5						
2682	F 4	3652	C 3								
2683	F 4	3653	C 3								
2684	F 3	3654	C 2								
2685	F 3	3656	C 3								
2698	C 5	3657	C 2								
2703	B 6	3658	C 4								
2705	B 6	3659	C 1								
2706	B 6	3660	D 3								
2707	B 6	3661	D 1								
2708	B 5	3666	C 3								
2709	B 6	3667	C 1								
2710	B 6	3668	C 3								
2711	B 5	3669	C 1								
2712	B 5	3670	B 3								
2713	B 5	3671	B 2								
2715	A 5	3672	B 3								
3501	D10	3673	B 2								
3502	E 9	3674	B 2								
3503	D 7	3675	B 3								
3504	C 7	3677	D 3								
3505	E 8	3678	D 4								
3506	E 8	3679	C 2								
3507	E 9	3680	C 3								
3508	E 8	3681	D 3								

8204 055 4324.2

SERVO & DECODER PANEL FROM AH01



1502	D 2	3509	E 8	3684	F 4
1503	F 1	3510	E 9	3687	F 4
1510	B10	3520	D 7	3688	F 4
207	E 2	3521	F 8	3689	F 4
2500	C10	3522	F10	3690	F 4
2501	E 9	3523	F 9	3691	F 4
2503	E 9	3524	F 9	3692	F 4
2504	E 9	3530	C 9	3693	F 5
2505	D 8	3531	C 9	3702	C 4
2506	D 8	3533	D 8	3703	E 1
2507	E 8	3534	D 8	3704	D 1
2508	E 9	3535	D 9	3705	B 2
2509	E 9	3540	E 9	3706	B 3
2510	E 9	3541	E10	3707	B 4
2511	E 9	3542	F 9	3708	B 2
2513	E 9	3543	E10	3710	C 5
2514	D 8	3544	E10	3726	B 5
2515	E 8	3545	G10	3727	B 6
2520	F 9	3550	D 8	3750	B 1
2521	F 8	3551	E 7	3801	F 7
2530	D10	3552	E 7	3802	F 6
2531	D 9	3553	F 7	3806	F 3
2532	D 9	3554	D 7	3807	F 2
2534	D 8	3555	E 7	3808	E 1
2535	D10	3556	E 7	3809	D 2
2536	D10	3557	E 7	3810	C 2
2537	D 8	3560	F 9	3811	C 2
2538	D 9	3561	G 9	5001	B 8
2540	F 9	3562	G 9	5501	D 6
2541	E10	3563	E10	6501	E 8
2542	F10	3564	E10	6502	F 9
2543	F 9	3565	F 9	6503	D 9
2544	G 9	3566	F 9	6504	F10
2545	F 9	3567	E10	6505	F 9
2550	D 7	3568	C 8	6506	F 9
2551	E 7	3569	D 8	6507	E 7
2560	G 9	3570	F 6	6508	E 7
2561	F 9	3571	F 6	6510	F 6
2562	E 9	3573	G 6	6511	F 6
2563	F 9	3574	F 7	6512	F 7
2570	G 6	3575	F 7	6513	F 7
2571	F 7	3576	G 6	6514	F 7
2572	G 6	3577	F 6	6515	F 8
2574	F 8	3578	G 8	6516	F 8
2600	D 4	3579	G 6	6518	C 6
2601	D 5	3580	F 8	6519	C 6
2602	D 4	3581	F 8	6520	D 5
2604	D 4	3582	F 6	6522	D 5
2606	D 5	3583	F 8	6523	E 5
2607	D 6	3584	F 7	6524	D 2
2608	D 6	3585	F 7	6525	E 1
2609	D 4	3586	F 8	6526	E 1
2610	E 5	3587	F 8	6527	E 1
2611	E 5	3588	F 7	6530	F 2
2612	D 3	3589	E 7	6531	D 3
2613	D 3	3600	D 5	6532	C 2
2615	D 1	3602	D 5	6533	C 2
2616	D 1	3603	D 4	6534	D 3
2620	F 1	3605	D 5	6535	C 3
2621	F 1	3606	D 5	6537	B 2
2622	F 1	3607	D 5	6538	B 3
2623	F 1	3608	C 6	6539	D 3
2624	F 1	3609	E 5	6540	B 3
2625	E 9	3610	D 2	6541	E 2
2632	E 2	3611	D 2	6545	E 3
2633	E 2	3613	D 7	6551	C 5
2641	B 5	3616	D 1	6552	C 5
2642	C 5	3617	C 4	6553	C 5
2645	D 3	3618	C 5	6554	C 6
2646	D 2	3619	C 5	6555	C 6
2647	C 2	3620	E 1	6556	C 6
2647	C 2	3621	E 1	6558	E 1
2648	D 3	3622	E 1	6560	D 1
2648	D 3	3623	E 1	6561	F 4
2650	C 2	3624	E 1	6562	F 4
2651	C 2	3625	E 1	6563	F 4
2654	C 3	3626	E 1	6564	F 5
2654	C 3	3627	F 1	6565	F 5
2655	C 1	3628	F 1	6566	F 5
2655	C 2	3629	F 1	6567	F 4
2656	C 3	3630	F 2	6568	F 4
2656	C 3	3631	F 2	6580	C 6
2657	C 1	3632	F 2	6581	C 6
2657	C 1	3633	F 2	6582	B 6
2662	C 3	3634	F 2	6583	B 6
2662	C 3	3635	F 2	6584	B 6
2663	C 1	3636	F 2	6585	B 6
2663	C 1	3637	F 3	6586	C 6
2664	C 3	3638	D 4	6587	B 6
2664	C 3	3639	F 3	6591	A 5
2665	C 1	3640	F 3	6592	B 6
2665	C 1	3642	F 2	6596	B 5
2666	B 3	3645	E 3	6597	B 4
2667	B 1	3646	F 2	6598	B 6
2668	C 3	3647	E 7	BU1	A10
2669	C 2	3650	E 2	BU2	A 3
2670	B 3	3650	D 2	SK1	C10
2680	C 1	3651	C 2	SK2	D 5
2682	F 4	3652	C 3		
2683	F 4	3653	C 3		
2684	F 3	3654	C 2		
2685	F 5	3656	C 3		
2698	C 5	3657	C 2		
2703	B 6	3658	C 4		
2705	B 6	3659	C 1		
2706	B 6	3660	D 3		
2707	B 6	3661	D 1		
2708	B 5	3666	C 3		
2709	B 6	3667	C 1		
2710	B 6	3668	C 3		
2711	B 5	3669	C 1		
2712	B 5	3670	B 3		
2713	B 5	3671	B 2		
2715	A 5	3672	B 3		
3501	D10	3673	B 2		
3502	E 9	3674	B 2		
3503	D 7	3675	B 3		
3504	C 7	3677	D 3		
3505	E 8	3678	D 4		
3506	E 8	3679	C 2		
3507	E 9	3680	C 3		
3508	E 8	3681	D 3		

DECODING DIAGRAM 1 FROM AH01

1502 N14 2602 G 3 2607 M 2 2610 N10 2613 N15 2682 E17 2685 B18 3603 J 3 3607 I 2 3610 M14 3631 B11 3634 A 6 3637 B 6 3640 A 9 3649 N18 3688 D18 3691 D20 3807 E 9 6519 I 1 6523 N 6 6545 F17 6563 B19 6566 C20 SK-2 B13
2600 F 2 2604 J 3 2608 M 3 2611 N 9 2632 N19 2683 B17 3600 F 2 3605 H 3 3608 H 1 3613 G 2 3632 B11 3635 B 6 3638 A12 3642 E 8 3684 C18 3689 B18 3692 D17 5501 L 2 6520 H 3 6530 B 3 6541 G12 6561 C18 6564 B20 6567 C17
2601 F 2 2606 H 2 2609 M 4 2612 N14 2633 N18 2684 B17 3602 F 3 3606 I 2 3609 M10 3630 A11 3633 B11 3636 B 6 3639 B 9 3645 E16 3687 B19 3690 C20 3693 B18 6518 H 1 6522 E 3 6541 G12 6562 C18 6565 D19 6568 C17

TO CONTROL AND DISPLAY

GND +5V 14-5 14-4 +5C

SC0 15-5 SC1 15-6 SC2 15-7 SC3 14-1 DDA D-CLOCK 14-2 D-EN 14-3 SE0 15-4 SE1 15-3 SE2 15-2 SE3 15-1

3634 3635 3636 3637 3640 3639 3630 3631 3632 3633 3638 22k

SK-2 TRAY DETECTION

DECODING 1

6530 (B/2) MC68HC05

μP

I/O PORTS

C-0 C-1 C-2 C-3 C-4 C-5 D-0 D-1 D-2 D-3 D-4 C-6 C-7 A-7 B-3 D-5 B-1 B-0 B-4 C-4 C-3 B-7

TRAY

2684 220μ 16V 2683 100n 3693 10k 2685 22n 3689 330 3687 10k 6563 BC328 6564 BC328 6561 BC858 6566 BC338 3684 2k2 3690 120 6567 1N4148 6562 BC848 6565 BC338 6568 1N4148 3692 22k 3688 220 2682 22n 3691 2k2

TRAY M-IN 16-2 TRAY M-OUT 16-1 N.C 16-3 TO TRAY MOTOR

DODS

6522 SAA7210

DECODER-A

CRI SWAB/SSM QDA QCL QRA MSTP

3642 22k 3807

SERVO CIRCUIT

HF 3600 2k2 2601 1n8 2600 47p NPO 3602 22k HFI DATA SLICER DEMOD. TIMING EFM DECODER SUBCODE PROCESSOR Q CHANNEL PROCESSOR

DEEM 32 → DEEM DECODING2 CIRCUIT

CD ROM SWITCH 6545 BC818

FIFO CONTROL & RAM INTERFACE

MC 17 → MC SERVO CIRCUIT

SCAB 35 SDAB 34

X-TAL CLOCK

HFD 3613 1k 26 HFD

+10 3608 680 6518 BC848 6519 BZX55 F6V8 2606 33μ 3608 3k3 6530 BF550 3605 750 3607 10k 23 IREF

PHASE & FREQUENCY DETECTOR

22 PD/OC 3603 39 2604 6μ8 V.C.O.

27 CEFM

CONTROL ADDRESS DATA & FLAG

C1 INTERLEAVER CORRECTOR C2 INTERLEAVER CORRECTOR DESCRAMBLER ADAPTIVE FLAG PROCESSOR

1 SAMPLE INTER-POLATOR & SAMPLE /HOLD & MUTE CIRCUIT

MUTE 11

WSAB 39 CLAB 38 DAAB 37 EFAB 36

X-TAL CLOCK X-TAL OSCILLATOR X OUT 18 X IN 19

5501 4μ7 2607 33μ 16V 2608 22n 40 Vdd 20 Vss 21 Vbb 2609 22n

DRAM 6523 MN4264-15 Vdd 9 Vss 18 G 1

3609 4E7 2611 22n 2610 33μ 16V +5

6541 SAA7220

FILTER-B

SCAB 6 SDAB 7 ATSB 22 MUSB 23

WSAB 1 CLAB 2 DAAB 3 EFAB 4 CHANNEL DEMULTI-PLEXER INPUT STAGE

8 SAMPLE INTERPOLATOR 12 dB ATTENUATOR SOFT MUTE CIRCUIT 4 x UPSAMPLING DIGITAL FILTER

DIGITAL OUTPUT ENCODER DOBM 14

CHANNEL MULTI-PLEXER CIRCUIT OUTPUT STAGE DABD 15 CLBD 16 WSBD 18 → DABD CLBD WSBD DECODING2 CIRCUIT

X-TAL OSCILLATOR → TO CIRCUIT

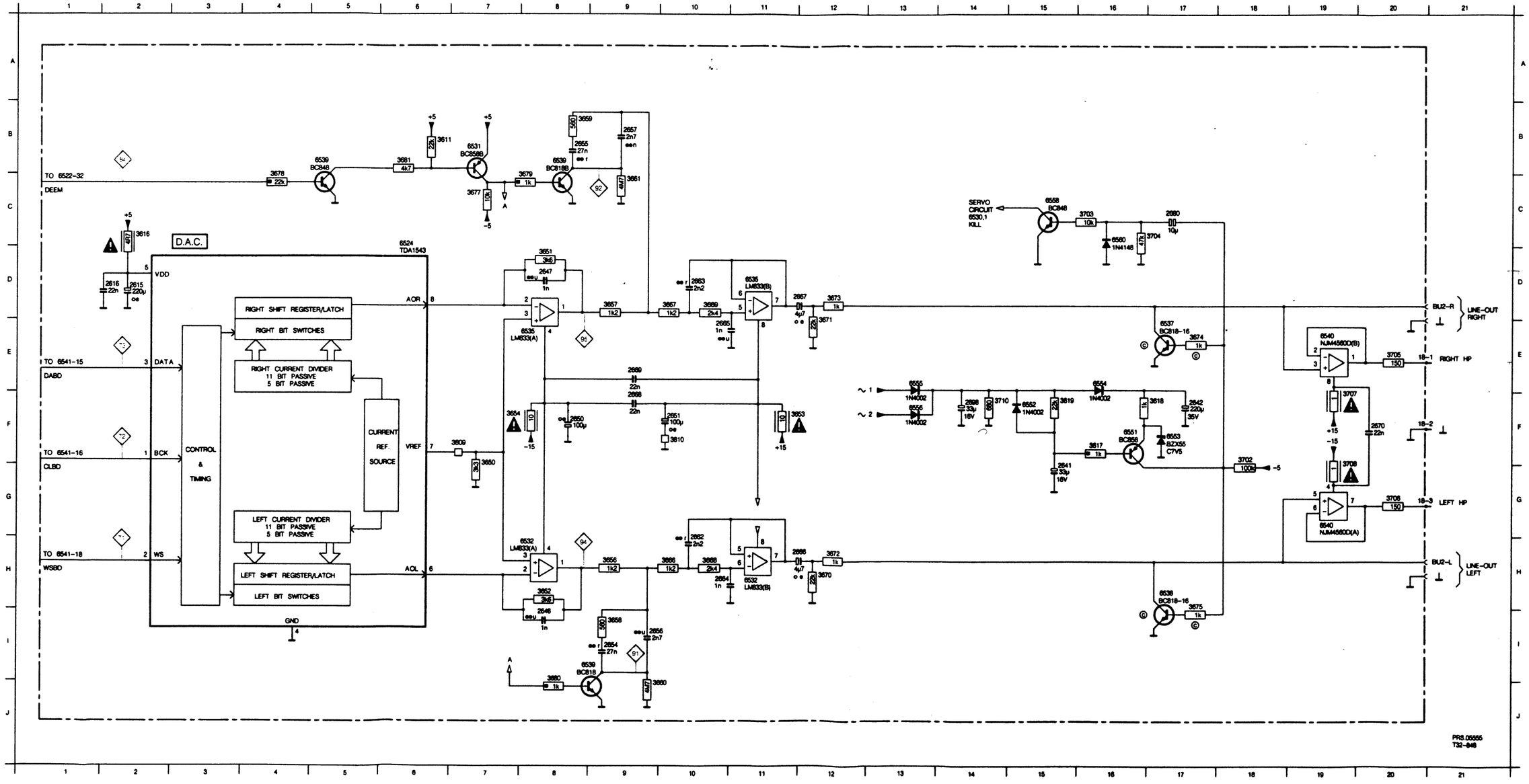
X-IN 11 X-OUT 10 Vss 12 TEST 13 Vdd 24

3610 22pF 1502 11,2896MHz 2612 47p 2613 47p

2633 22n 3649 2632 33μ 16V +5

PRS 05554 T32-846

CS 19 775



PHILIPS

PHILIPS

SI

Wichtig für die Werkstatt!

Nummer: 24189

Sachgebiet: Compact-Disc--AC 24

Datum: 28.11.88 De/Li

Service Information

S cd

Betrifft: Compact Disc-Spieler CD 380

Verteiler: intern und extern

Im Laufe der Fertigung ist der Prozessor 6530 MC68HC05C8 Version P 104 ersetzt worden durch MC68HC05C8 Version P 105.

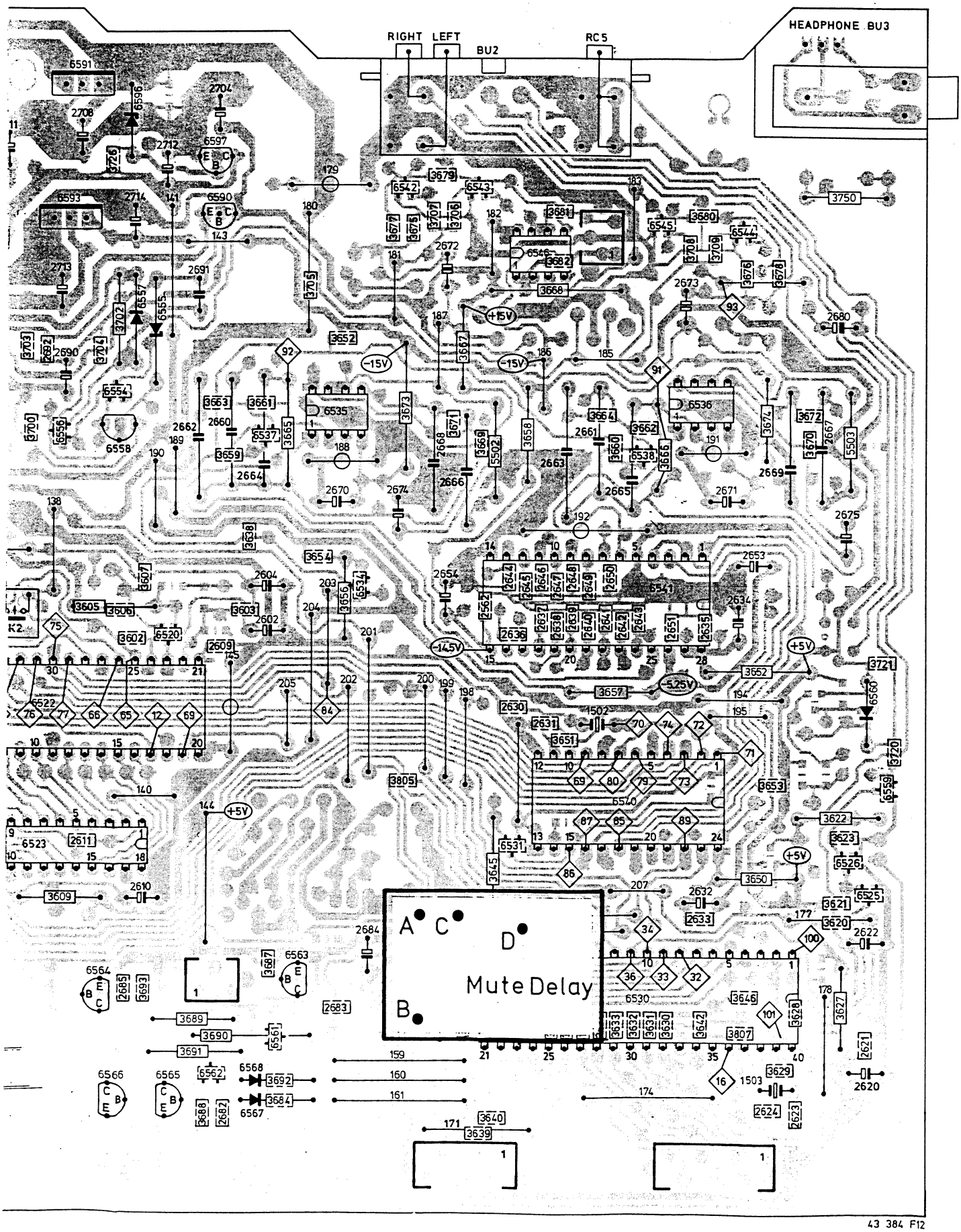
MC68HC05C8 P 105 4822 209 73232

Dadurch ändert sich das Einleiten des Serviceprogramms:

- Version P 104: Tasten Previous, Next, Stop drücken und Power on;
- Version P 105: Tasten Pause, Search forward, Repeat drücken und Power on.

Die geänderte Software des MC68HC05C8 P 105 macht den in älteren Geräten verwendeten Zusatzprint "Mute Delay" überflüssig.
Beim Einbau eines Prozessors MC68HC05C8 Version P 105 anstelle der älteren Version P 104 ist der "Mute Delay"-Print zu entfernen:

- Kontaktstifte A - D des Zusatzprints vom Hauptprint ablöten (s. Abb.);
- zusätzliche Leitung am Zusatzprint ablöten;
- Prozessor auswechseln;
- die vom Zusatzprint abgelötete Leitung mit Pin 16 des neuen µP verbinden;
- auf dem Hauptprint die Anschlüsse für die Kontaktstifte A und B des Zusatzprints miteinander verbinden.


HEADPHONE BU3
RIGHT
LEFT
BU2
RC5
Mute Delay
A
B
C
D
+15V
-15V
+5V
-14.5V
-5.25V

43 384 F12

PHILIPS

SI

Wichtig für die Werkstatt!

Nummer: 24185

Sachgebiet: Compact Disc AC 24

Datum: Ø9.11.88 De/Li

Service Information

Betrifft: Compact Disc-Spieler CD 38Ø
Service-Hinweise

Verteiler: intern und extern

1.
Bei Geräten mit Wochencode bis 831 kann es zu Servo-Problemen dadurch kommen, daß Pin 28 von IC 65Ø3 (TDA 88Ø9) schlechten oder aussetzenden Kontakt zum Print hat.
Abhilfe ist möglich durch Nachlöten von Anschluß 28/IC 65Ø3.

2.
Bei Geräten mit Wochencode bis 839 können in Einzelfällen Schwierigkeiten auftreten derart, daß die Schublade nicht ausfährt. Ursache ist ein temperaturbedingtes Ausdehnen des Plattenandrückers Pos.126; dadurch kann es zum Festklemmen des Andrückers auf dem Plattenteller des Laufwerks kommen.

Abhilfe ist möglich durch Auswechseln des Plattenandrückers Pos. 126 gegen eine verbesserte Ausführung; die Bestell-Nummer lautet unverändert

Pos. 126 4822 53Ø 8Ø5Ø3 ✓

3.
Wird ein CD 38Ø in ein HiFi System integriert und an den RC 5-Bus angeschlossen, dann können Störimpulse auf der RC 5-Leitung zu fehlerhaften Fernbedienungsbefehlen führen.

Abhilfe ist möglich durch Einfügen eines Kondensators 1Ø nF/ 25 V zwischen Emitter und Kollektor von Transistor 6525.