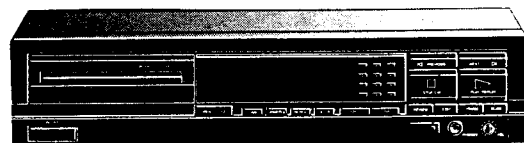


Service
Service
Service



Service Manual

TABLE OF CONTENTS	PAGE
1. Technical specifications	1
2. Controls and connections	2
3. Warnings	3
4. Dismantling instructions	4
5. Servicing hints	5
6. Block diagram	6
7. Wiring diagram	7
8. Circuit diagrams and printed boards	7
8.1. Power supply	7
8.2. Display	8
8.3. Variable headphone	8
8.4. Servo circuit diagram	9
8.5. Servo & decoder panel component side	10
8.6. Servo & decoder panel solder side	11
8.7. Decoder circuit diagram	12
9. Start up procedure	13
10. Faultfinding guide	13
11. Service testprogram	13
12. Electrical adjustments	14
13. Exploded view	15
14. Mechanical partslist	16
15. Electrical partslist	17



TECHNICAL SPECIFICATIONS

General

- | | | |
|----|----------------------------------|------------------------------------|
| 1. | Mains voltage /00B | : 220V ($\pm 10\%$) |
| | /05B | : 240V ($\pm 10\%$) |
| | /17B | : 117V ($\pm 10\%$) |
| 2. | Mains frequency | : 50-60 Hz |
| 3. | Mains voltage selection | : See circuit diagram Power Supply |
| 4. | Power consumption mains,operated | : 15W |

External RC-5 connection

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

Line output

- | | | |
|-----|--|--|
| 1. | Number of channels | : 2 |
| 2. | Output voltage | : 2 Vrms \pm 2dB |
| 3. | Unbalance left-right | : max. \pm 0,25dB |
| 4. | Output resistance | : 200 Ohm |
| 5. | Amplitude linearity | : max. \pm 0,15dB from 20 Hz to 20 kHz |
| 6. | Phase non-linearity | : max. \pm 1° from 20 Hz to 20 kHz |
| 7. | Signal to noise ratio | : min. 90dB from 20 Hz to 20 kHz |
| | With A-filter | : min. 95dB from 20 Hz to 20 kHz |
| 8. | Dynamic range (-60dB) | : min. 88dB from 20 Hz to 20 kHz |
| 9. | Total harmonic distortion + noise | : min. 84dB from 20 Hz to 20 kHz |
| 10. | Intermodulation distortion | : min. 84dB from 20 Hz to 20 kHz |
| 11. | Out-band attenuation | : min. 60dB |
| 12. | Channel separation | : min. 86dB from 20 Hz to 20 kHz |
| 13. | Muting during random access | : min. 90dB from 20 Hz to 20 kHz |
| 14. | Automatic switched de-emphasis
with time constant | : 15/50 μ s |
| 15. | Linearity on -90dB | : from +1 to -4dB |

Variable headphone (low end)

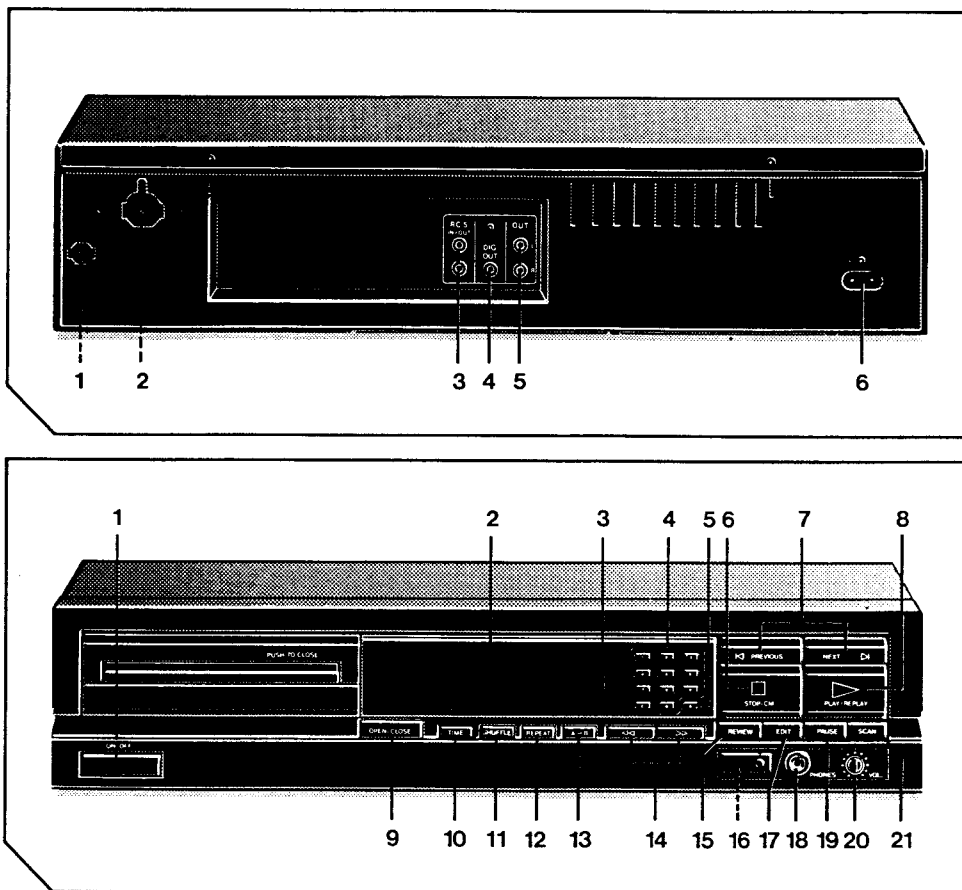
- | | | |
|----|----------------------|---|
| 1. | Output voltage | : max. 2 Vrms \pm 2dB |
| 2. | Unbalance left-right | : max. \pm 0,2dB |
| 3. | Output resistance | : 150 Ohm |
| 4. | Load impedance range | : 32 Ohm to 600 Ohm load |
| 5. | Output power | : max. 6 mW into 32 Ohm load
: max. 10 mW into 150 Ohm load
: max. 6 mW into 600 Ohm load |

Dimensions and weight

- | | | |
|----|-----------------------|-------------------------------|
| 1. | Apparatus tray closed | : WxDxH 420 x 280 x 88/110 mm |
| 2. | Apparatus tray open | : WxDxH 420 x 415 x 88/110 mm |
| 3. | Weight | : 3,8 kg |

Optical read-out system

- | | | |
|----|---------------------|------------------------|
| 1. | Laser type | : Semiconductor AlGaAs |
| 2. | Wavelength | : 780 nm \pm 20 nm |
| 3. | Light output (c.w.) | : 0,4 mW \pm 0,04 mW |



CONTROLS

Indication on App.	Indication in diagram
1. ON/OFF	SK-1
2. Display	1061
3. C(ancel)	1024
4. 1-0 digitkeys	1023,1027,1028,1031,1032, 1035,1036,1040,1042,1051
5. S(tore)	1020
6. STOP/CM	1026
7. PREVIOUS NEXT	1034 1030
8. PLAY/REPLAY	1029
9. OPEN/CLOSE	1045
10. TIME	1044
11. SHUFFLE	1046
12. REPEAT	1047
13. A-B	1049
14. << >>	1048 1050
15. REVIEW	1025
16. Remote eye	1060
17. EDIT	1022
18. PHONES	BU-3
19. PAUSE	1021
20. VOL(ume)	1201
21. SCAN	1033

CONNECTIONS

Indication on App.	Indication in diagram
1. Mains fuse holder (not all versions)	
2. Voltage selector (not all versions)	
3. RC5 IN/OUT	BU-2
4. DIG(ital) OUT	BU-2
5. OUT L/R	BU-2
6. Mains inlet	BU-1

GB WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

ESD**NL WAARSCHUWING**

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

F ATTENTION

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

D WARNUNG

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

I AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione. Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

GB

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

NL

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

SF Varo!

Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

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.

S Varning!

Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

F

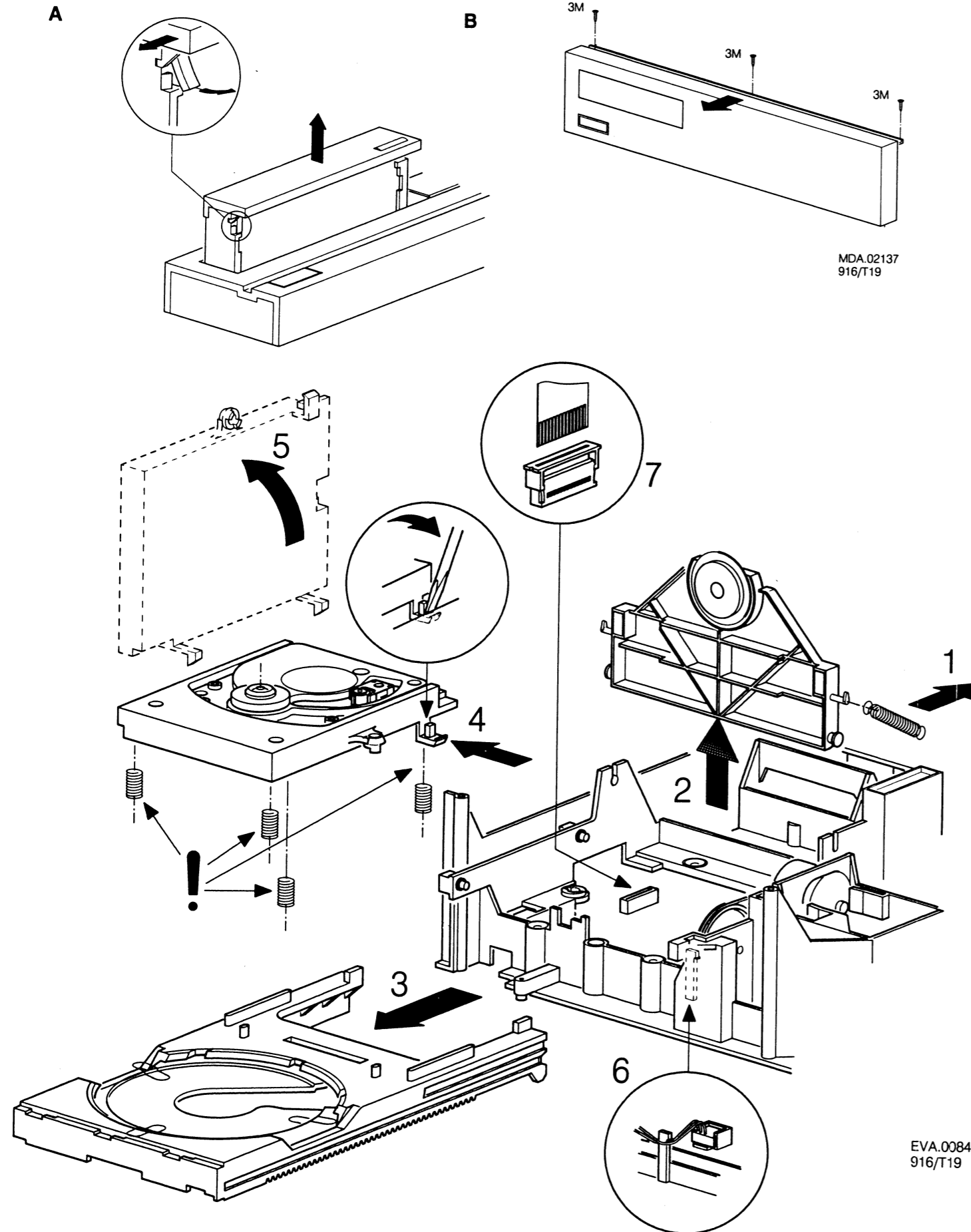
Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

**CLASS 1
LASER PRODUCT**

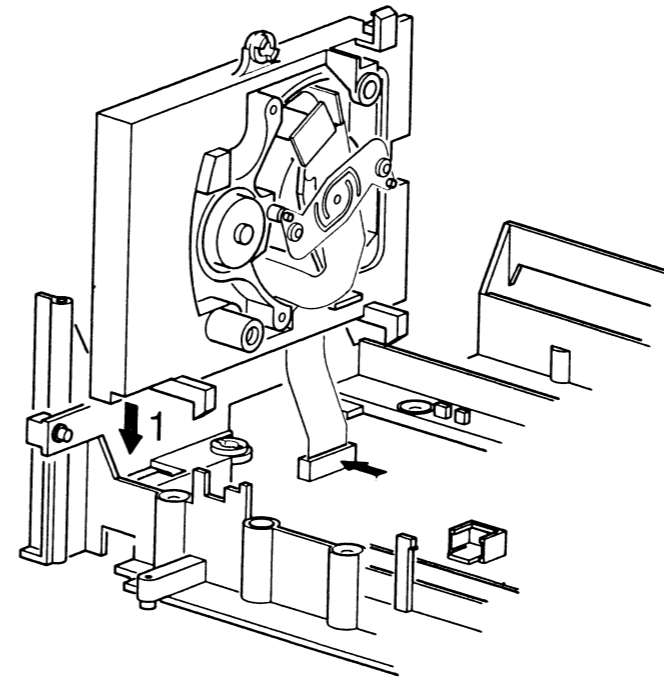
3172 110 03420

DISASSEMBLY OF THE CABINET AND LOADING
CABINET DISASSEMBLY HINTS

4

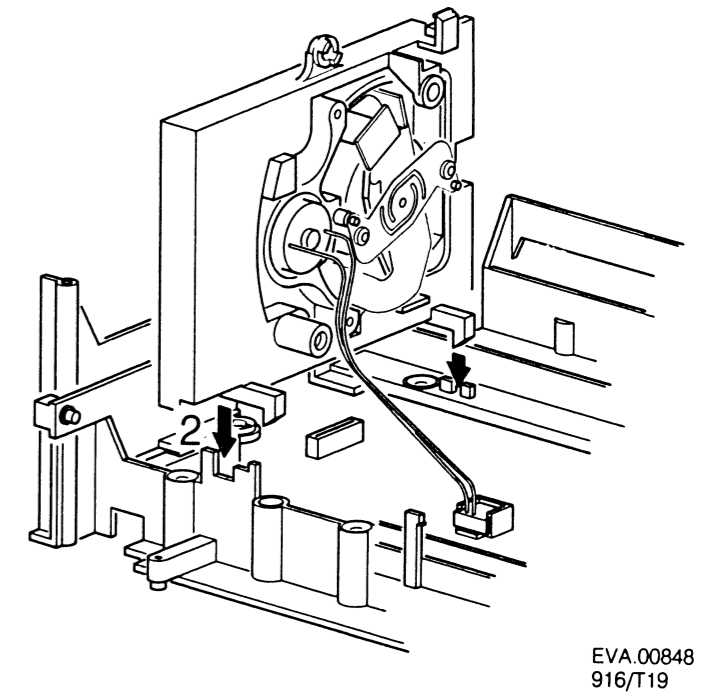


FOIL CONNECTION POSITION



4

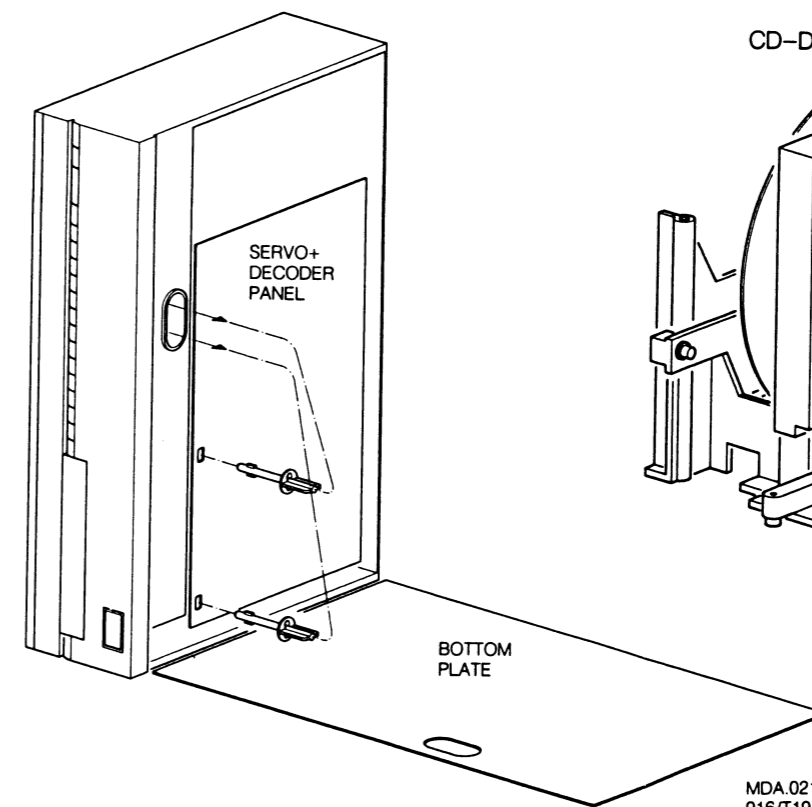
PLAY-SERVICE POSITION



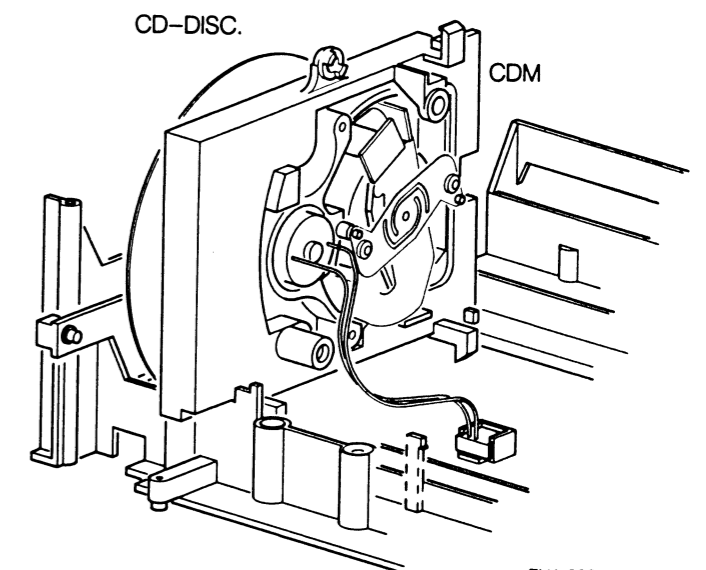
CAUTION
INVISIBLE LASER RADIATION WHEN
OPEN DO NOT STARE INTO BEAM
3104 106 75942

EVA.00848
916/T19

MEASURING AND ADJUSTMENT POSITION



SERVICE POSITION PLAY



EVA.00849
916/T19

MDA.02138
916/T19

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.
(See drawing "Service disc hold-down")

The set can function normally then.
Code number of the disc hold-down is 4822 462 50383.

When the tray mechanism has been disassembled, the tray switch must be activated immediately after pressing the play button in order to ensure normal operation.

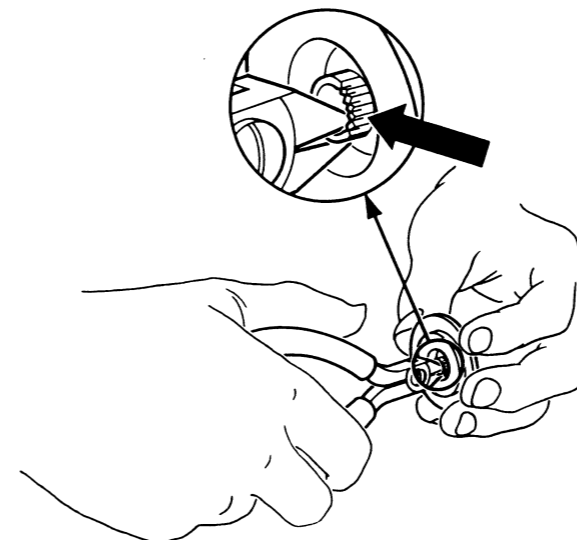
To avoid electric shock during servicing, it is recommended to mount an insulation cover over the mains leads on the servo & decoder panel. See drawing MDA 02548. The cover can be ordered under codenumber 4822 444 60655.

5

SERVICE TOOLS

Audio signals 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 1 kHz 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
Insulation cover	4822 444 60655
Transport key	4822 535 92907

SERVICE DISC-HOLDDOWN

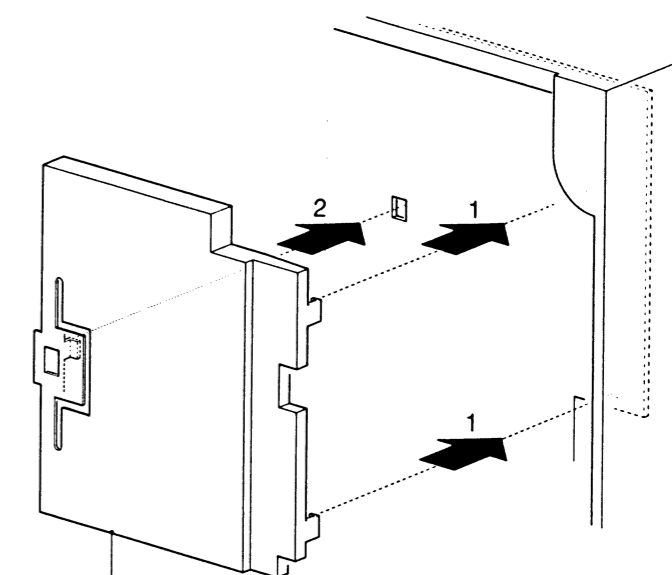


L2 565 A12

Compose a service Disc hold-down in the following way

- Cut in the most inner ring of a disc hold-down (4822 462 50383) with small and sharp nippers, see fig. above.
- Enlarge the diameter of the innermost ring slightly with the hind part of a pencil or ballpoint, so that it jams onto the turntable with sufficient force.
- If the jamming force decreases after certain time of use, the diameter has to be enlarged with a pencil or ballpoint again.

INSULATION COVER



4822 444 60655

TO AVOID ELECTRIC SHOCK DURING SERVICING MOUNT INSULATION COVER OVER MAINS LEADS ON MAIN PANEL

MDA.02548
T02/007

GENERAL

SERVICE PACKAGE

DISMOUNTING

VACUUM PISTON 4822 395 10082

SOLDERING IRON

e.g. WELER SOLDER TIP PT-H7

OR

SOLDERING IRON

SOLDER WICK 4822 321 40042

e.g. A PAIR OF TWEEZERS

HEATING

SOLDERING IRON

SOLDER WICK

CLEANING

MOUNTING

e.g. A PAIR OF TWEEZERS

SOLDER

Ø 0.5 - 0.8 mm

SOLDERING IRON

PRESSURE

SOLDERING TIME < 3 sec./side

SOLDER

Ø 0.5 - 0.8 mm

PRESSURE

SOLDERING IRON

EXAMPLES

RIGHT

NO!

PRECAUTIONS

SOLDERING IRON

RIGHT

COPPER TRACK

SOLDERING IRON

CHIP COMPONENT

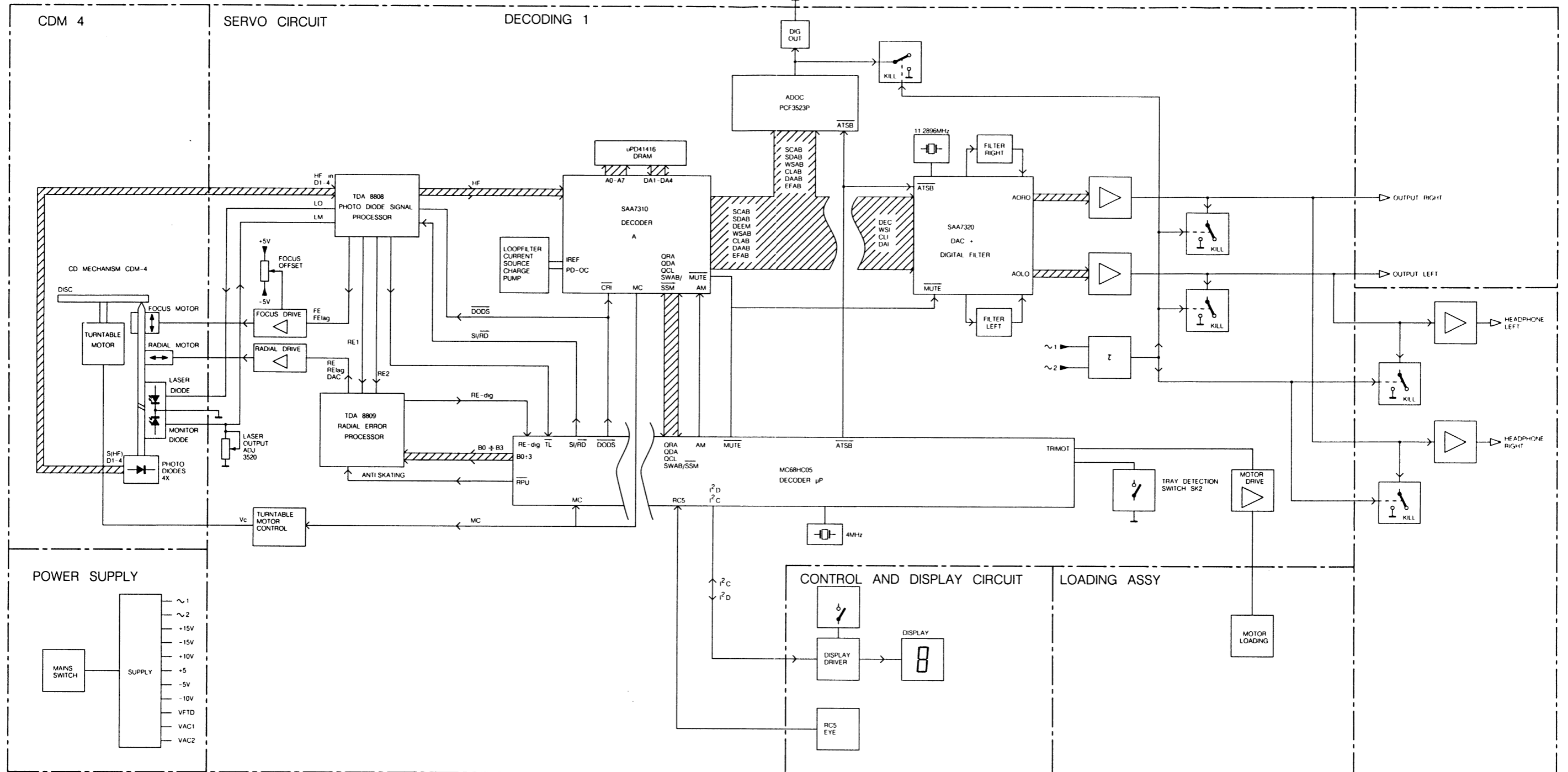
27 012C12

SERVICE FOIL FOR CDM

EXTENSION CABLE

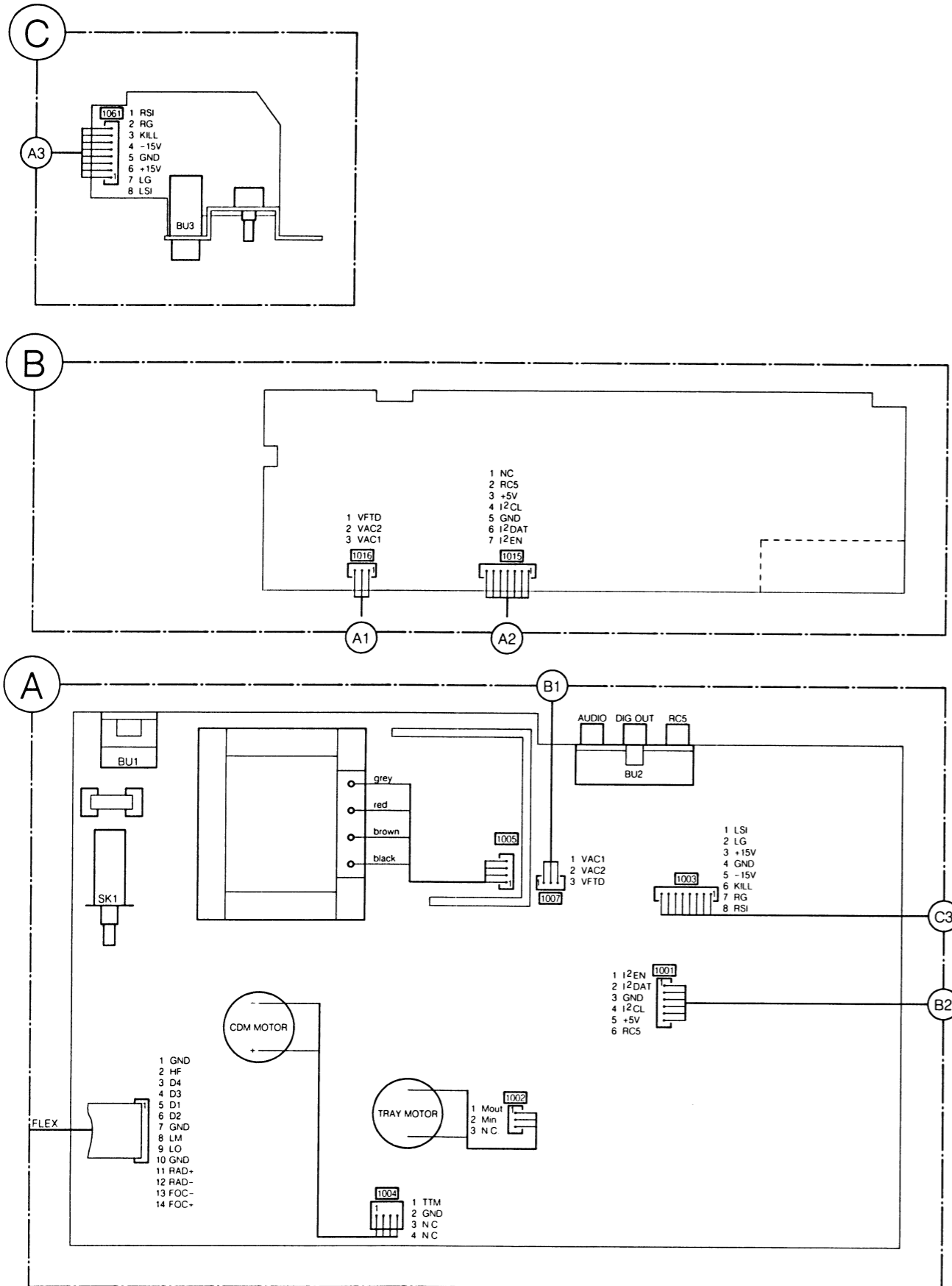
MDA 01408
T28/822

BLOCK DIAGRAM



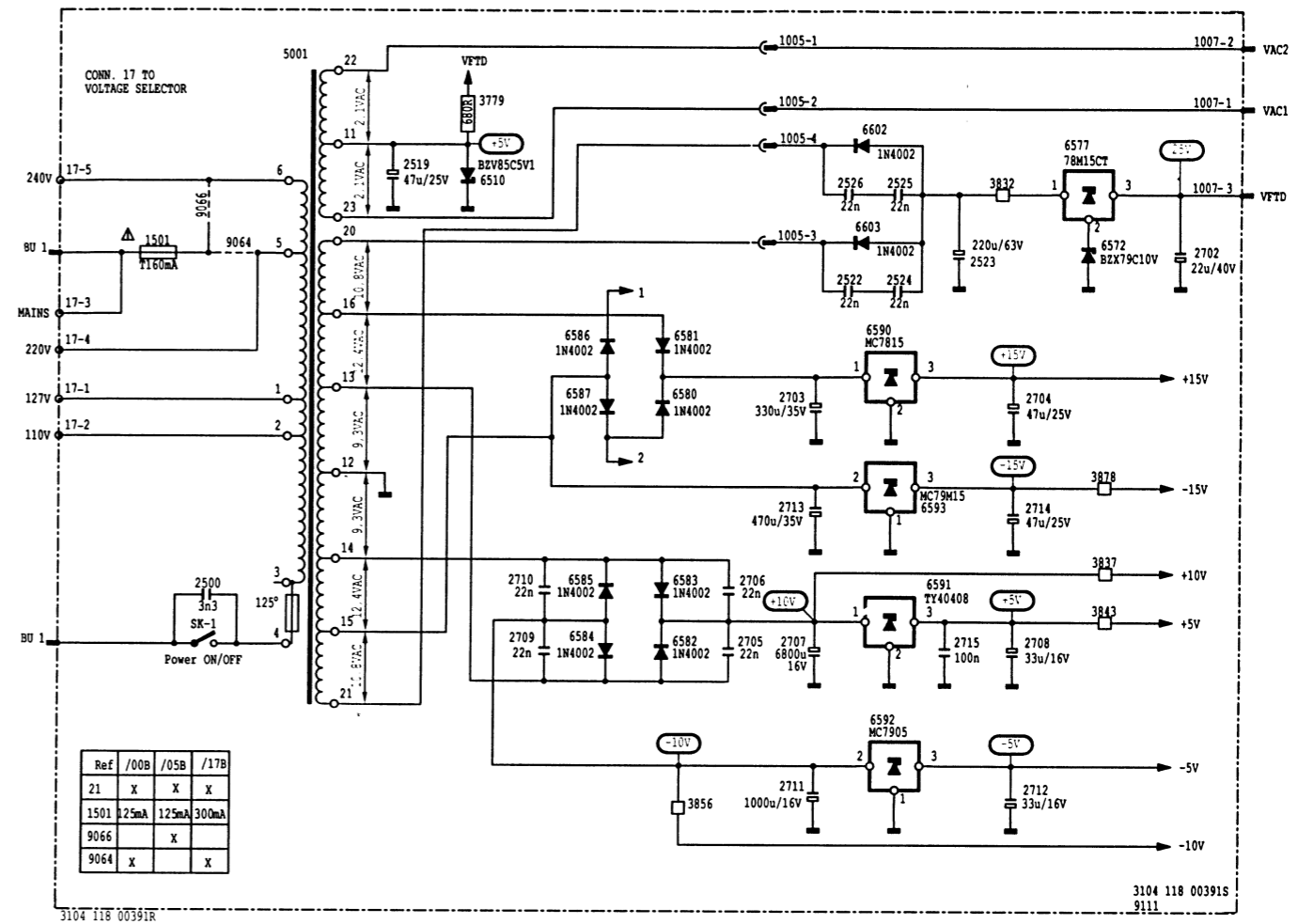
- | | | | | | | | |
|-------|---|---------|---|------------|--|----------|--|
| AGC | - Automatic Gain Control | DET | - HF detector voltage input | MC | - Motor control signal | RE lag | - Radial error signal for LAG network |
| ATSB | - Attenuation of Audio level in Search position | DIV4 | - Divide by 4 input | MUTE | - Mute signal | Rosc | - Resistor wobble oscillator |
| ANI | - Digital Data information on disc signal | DOBM | - Digital out signal | OALO | - Operational Amplifier left output | Rwob | - Wobble generator input |
| B0-B3 | - Control bits for radial circuit | DODS | - Drop out detector suppression | OARO | - Operational Amplifier right output | Sc | - Starting up capacitor input |
| BEQ | - Equalizer reference current input | D1+4 | - Photodiode currents | OALI- | - Operational Amplifier left input - | SCAB | - Subcode clock Decoder-A to ADOC |
| BGC | - DC and LF gain control reference input | EFAB | - Error flag Decoder-A to ADOC | OALI+ | - Operational Amplifier left input + | SDAB | - Subcode data Decoder-A to ADOC |
| CDL | - Capacitor Damping Left | FE | - Focus error signal | OARI- | - Operational Amplifier right input - | Si/RD | - On/off control for laser supply and focus procedure successful |
| CDR | - Capacitor Damping Right | FE lag | - Focus error signal for LAG network | OARI+ | - Operational Amplifier right input + | | |
| CEFM | - Clock Eight-to-Fourteen Modulator | HF | - HF output for DEMOD | Offset IN | - Offset control input | | |
| CLAB | - Clock signal Detector-A to DAC | HFD | - HF detector output for DEMOD | Offset OUT | - Offset control output | SWAB/SSM | - Subcode word/start-stop motor signal |
| CLI | - IS serial bit clock input | HF-in | - HF current input to HF amplifier | PD/OC | - Phase detector - oscillator control | TL | - Track loss output signal |
| Cosc1 | - Capacitor wobble oscillator | HF-out | - HF amplifier and equalizer voltage output | PLLH | - PLL on hold reset | TTM+ | - Control voltage for turntable motor |
| Cosc2 | - Capacitor wobble oscillator | INTL+ - | - Output from left positive (negative) switched-capacitor integrator | QCL | - Q-channel clock signal | Vext+ | - Control voltage for turntable motor |
| CRI | - Counter Reset Inhibit | INTR+ - | - Output from right positive (negative) switched-capacitor integrator | QDA | - Q-channel data signal | Vext- | - Supply connection |
| DAAB | - Data signal Decoder-A to DAC | IREF | - Reference Current | QRA | - Q-channel request acknowledge | WSAB | - Supply connection |
| DAI | - IS serial data input | LM | - Laser monitor diode input | QADout | - Output of RE2-RE1 input | WSI | - Word select Decoder-A to ADOC |
| DEC | - Decoupling input internal bypass | LO | - Laser amplifier current output | RE | - Radial error signal (Amplified RE2-RE1 currents) | XIN | - IS word select input |
| DEEM | - Deemphasis | | | RE1 | - Radial error signal 1 | XSYS | - Oscillator signal in Decoder-A |
| DEL | - Deemphasis Left | | | RE2 | - Radial error signal 2 | | |
| DER | - Deemphasis Right | | | RE dig | - Radial error digital | | |

WIRING DIAGRAM

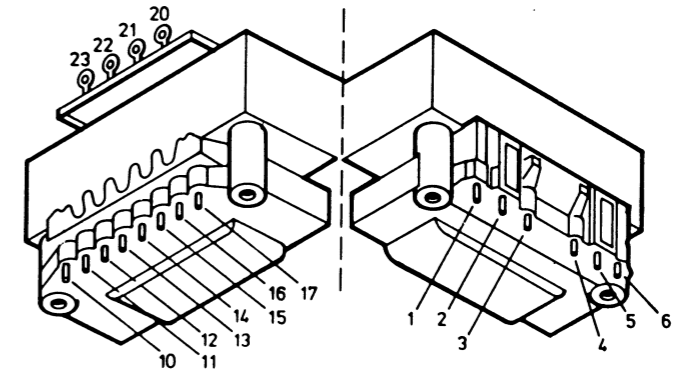
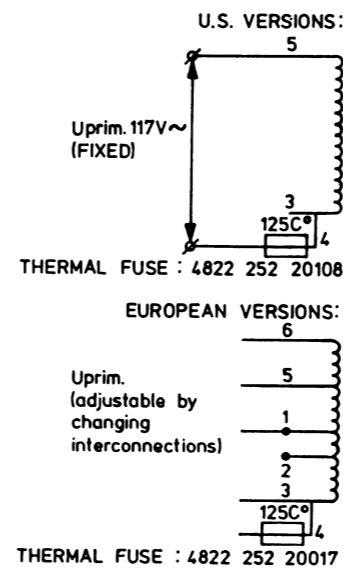


MIA 0294
119/113

POWER SUPPLY




TRANSFORMER CONNECTIONS




44 737 A11


CONTROL & DISPLAY PARTSLIST


Miscellaneous		
1015	4822 256 91787	FTD holder
1016	4822 267 50621	socket
1016	4822 267 40696	socket 3-fold
1020	4822 276 13112	Tact switch
1021	4822 276 13112	Tact switch
1022	4822 276 13112	Tact switch
1023	4822 276 13112	Tact switch
1024	4822 276 13112	Tact switch
1025	4822 276 13104	Tact switch
1026	4822 276 13104	Tact switch
1027	4822 276 13112	Tact switch
1028	4822 276 13112	Tact switch
1029	4822 276 13104	Tact switch
1030	4822 276 13104	Tact switch
1031	4822 276 13112	Tact switch
1032	4822 276 13104	Tact switch
1033	4822 276 13104	Tact switch
1034	4822 276 13104	Tact switch
1035	4822 276 13112	Tact switch
1036	4822 276 13104	Tact switch
1040	4822 276 13104	Tact switch
1042	4822 276 13112	Tact switch
1044	4822 276 13104	Tact switch
1045	4822 276 13104	Tact switch
1046	4822 276 13112	Tact switch
1047	4822 276 13112	Tact switch
1048	4822 276 13104	Tact switch
1049	4822 276 13104	Tact switch
1050	4822 276 13104	Tact switch
1051	4822 276 13112	Tact switch
1060	4822 214 51772	GP1U521X IR Receiver
1061	4822 130 90998	7-MT-123GK Display


		
6001	4822 130 34281	BZX79-C15
6002	4822 130 30621	1N4148
6003	4822 130 30621	1N4148
6004	4822 130 30621	1N4148
6005	4822 130 30621	1N4148
6007	4822 130 30621	1N4148
6008	4822 130 34173	BZX79-C5V6
6009	4822 130 34173	BZX79-C5V6
7001	4822 130 40938	BC548
7002	4822 209 72226	U3090


		
2001	5322 124 21643	22µF 20% 40V
2002	4822 122 10166	22nF 30% 16V
2003	4822 122 31465	220pF 10% 50V
2004	4822 122 10166	22nF 30% 16V

VARIABLE HEADPHONE PARTSLIST		
Miscellaneous		
1201	4822 505 10571	hex nut for headphone socket
1201	4822 102 10398	Potmeter 10k LOG
1202	4822 267 30743	Headphone socket

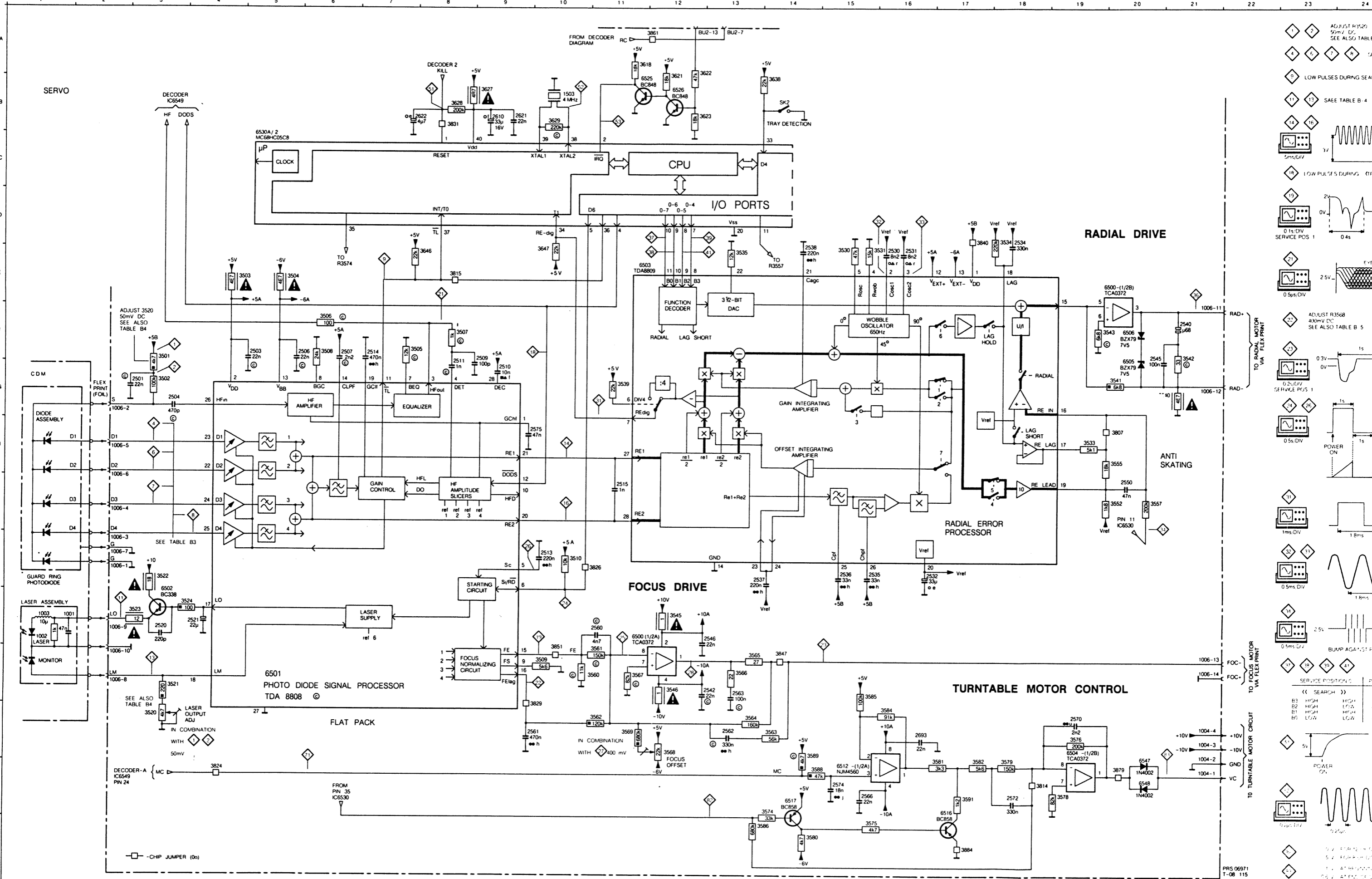
		
3001	4822 050 22203	22k 1% 0,6W
3002	4822 050 22203	22k 1% 0,6W
3003	4822 050 22203	22k 1% 0,6W
3004	4822 052 10478	4Ω 5% 0,33W
3005	4822 050 24702	4k7 1% 0,6W
3006	4822 050 24702	4k7 1% 0,6W
3007	4822 050 24703	47k 1% 0,6W
3008	4822 050 24702	4k7 1% 0,6W
3009	4822 050 21504	150k 1% 0,6W
3010	4822 050 21002	1k 1% 0,6W
3011	4822 050 21002	1k 1% 0,6W
3012	4822 052 10338	3Ω 5% 0,33W
3013	4822 052 10338	3Ω 5% 0,33W
3014	4822 052 10478	4Ω 5% 0,33W
3015	4822 050 24703	47k 1% 0,6W

		
2201	5322 124 21762	100µF 20% 10V
2202	5322 124 21762	100µF 20% 10V
2203	5322 124 21711	100µF 20% 25V
2204	5322 124 21711	100µF 20% 25V

		
3201	4822 051 10101	100Ω 2% 0,25W
3202	4822 051 10101	100Ω 2% 0,25W
3203	4822 050 21003	10k 1% 0,6W
3204	4822 050 21003	10k 1% 0,6W
3205	4822 052 10109	10Ω 5% 0,33W
3206	4822 052 10109	10Ω 5% 0,33W
3207	4822 116 52264	27k 5% 0,5W
3208	4822 116 52264	27k 5% 0,5W
3209	4822 051 10122	1k2 2% 0,25W
3210	4822 051 10122	1k2 2% 0,25W
3211	4822 050 21501	150Ω 1% 0,6W
3212	4822 050 21501	150Ω 1% 0,6W

		
6201	4822 209 82362	NJM4556D
6203	4822 130 40958	BC338-25
6204	4822 130 40958	BC338-25

SERVO CIRCUIT DIAGRAM



ADJUST R3520
50mV DC
SEE ALSO TABLE B4

LOW PULSES DURING SEARCH

SEE TABLE B-4

1ms/DIV
1V

LOW PULSES DURING (SEARCH)

0.1s/DIV
SERVICE POS 1
0.4s

25V

ADJUST R3568
80mV DC
SEE ALSO TABLE B-5

0.2V/DIV
SERVICE POS 1
1s

0.5s/DIV

POWER ON

1ms/DIV
1.8ms

0.5ms/DIV

0.5ms/DIV

1.5ms

0.5ms/DIV

BUMP AGAINST PLATE

SERVICE POSITION 0

B3	HIGH	HIGH	AC
B2	HIGH	17.5	AC
B1	HIGH	HIGH	AC
B0	LOW	LOW	AC

POWER ON

5V

0.2s/DIV

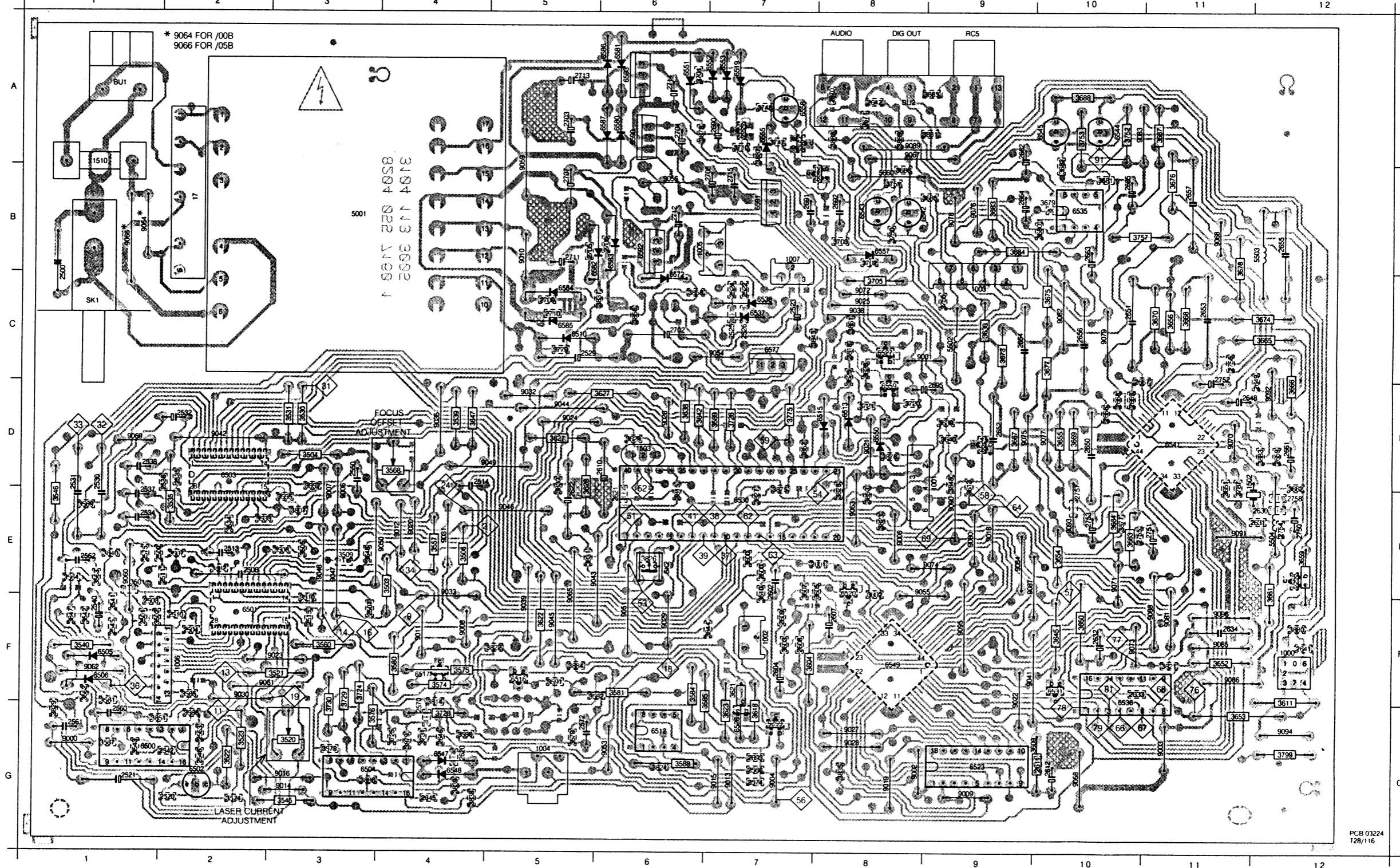
0.2s

0.2s/DIV

0.2s

SERVO & DECODER PANEL component side

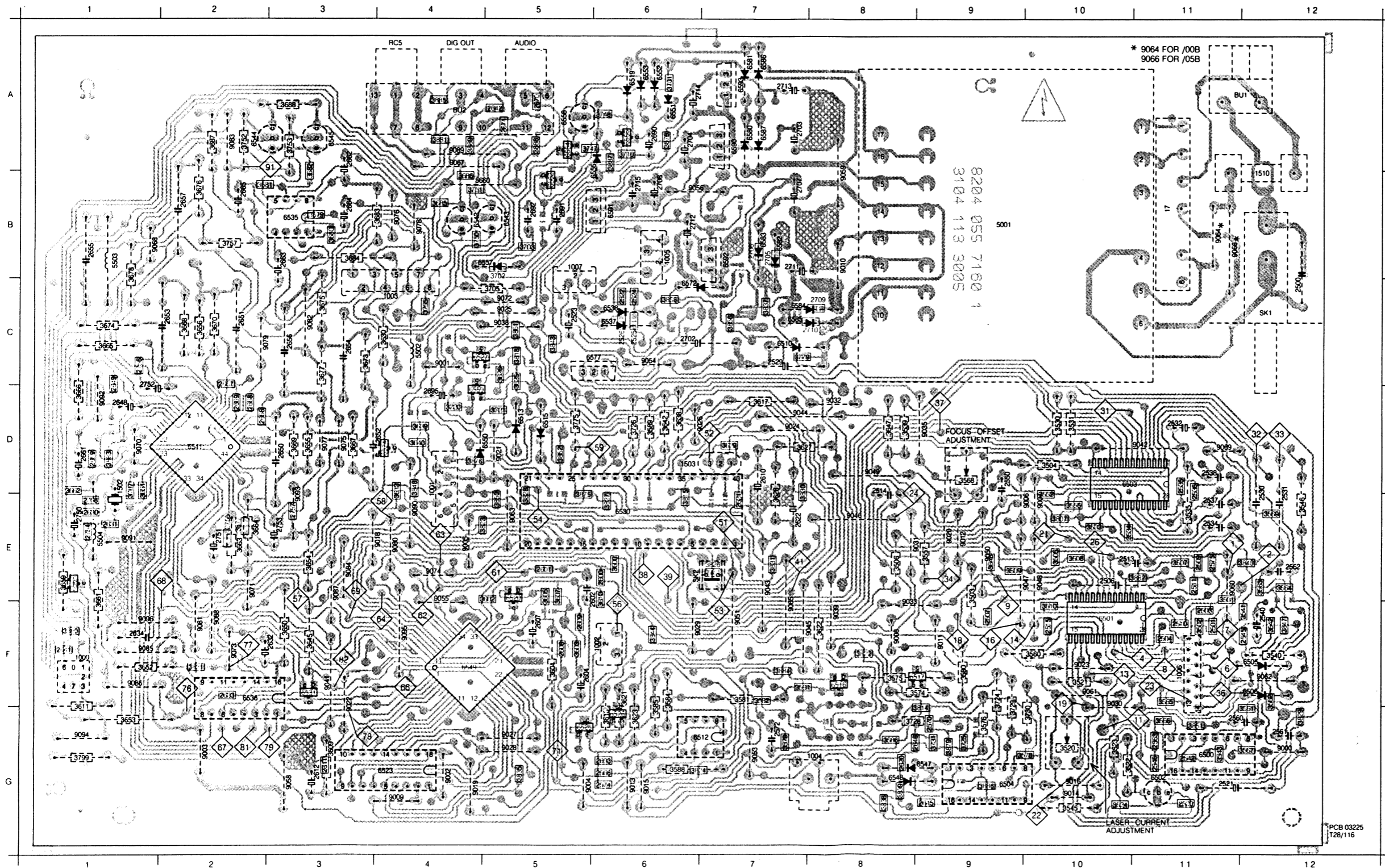
17 B2	2510 F2	2545 F1	2621 E6	2662 A9	2710 C5	3509 E3	3561 G1	3600 E7	3640 D9	3673 C9	3724 F3	3821 F11	3858 C6	6501 F2	6537 C7	6577 C7	9010 B5	9035 D4	9063 E8	9086 F11
BU1 A1	2511 E2	2546 G2	2622 E5	2663 B10	2711 B5	3510 F3	3562 F1	3602 E8	3642 D6	3674 C12	3725 G4	3822 F5	3861 C8	6502 G2	6538 C7	6580 A6	9011 F4	9038 C8	9064 B1	9087 E9
BU2 A8	2513 E2	2550 D3	2630 E12	2664 B9	2712 B6	3520 G3	3563 E1	3603 F7	3645 F10	3675 C10	3726 D7	3823 E8	3875 E7	6503 D2	6541 D11	6581 A6	9012 E4	9039 F5	9065 F5	9088 F11
SK1 C1	2514 D4	2580 G1	2631 E11	2665 B10	2713 A5	3521 F3	3564 E1	3604 F7	3646 E3	3676 B11	3728 G4	3824 G6	3876 D8	6504 G3	6542 B8	6582 C5	9013 G7	9041 F9	9066 B1	9089 A8
SK2 E6	2515 F3	2561 G1	2632 F10	2666 D10	2714 A6	3522 G2	3565 F2	3605 F8	3647 D4	3677 C10	3729 G3	3825 E6	3877 E7	6505 F1	6543 B8	6583 B6	9014 G3	9042 D2	9067 A8	9090 E9
1000 F12	2520 G2	2582 E1	2633 F10	2667 D10	2715 B7	3523 G2	3566 G2	3607 F7	3650 F10	3678 C11	3730 C3	3826 E6	3878 A6	6506 F1	6544 A10	6584 C5	9015 G7	9043 E5	9068 B11	9091 E11
1001 E9	2521 G1	2563 G2	2634 F11	2668 D10	2750 E12	3524 G2	3567 G1	3609 G10	3651 E11	3679 B10	3731 G4	3827 E8	3879 G4	6510 C5	6545 A10	6585 C5	9016 G3	9044 D5	9069 D1	9092 D12
1002 F7	2522 C7	2566 G7	2641 F12	2669 D10	2751 E11	3530 D3	3568 D4	3610 F7	3652 F11	3680 B10	3747 A7	3829 G1	3879 E8	6512 G6	6547 G4	6586 A6	9018 E9	9045 F5	9070 D11	9093 E10
1003 C9	2523 C7	2570 G4	2642 A8	2670 A8	2752 C11	3531 D3	3569 E1	3611 F12	3653 G11	3681 B10	3748 A7	3830 E5	3881 A8	6513 D8	6548 G4	6587 A6	9019 G8	9046 E5	9071 E10	9094 G12
1004 G5	2524 C7	2572 G5	2645 G4	2671 A8	2753 E10	3533 E2	3574 F4	3613 E9	3654 E10	3682 B10	3750 B8	3831 E5	3882 E2	6515 D8	6549 F8	6589 A6	9020 E4	9047 E3	9072 C8	9095 F9
1005 B6	2525 C7	2574 G7	2646 G4	2690 A7	2754 E12	3534 E2	3575 F4	3618 G7	3655 D10	3683 B9	3751 B8	3835 G8	3884 F5	6516 F5	6550 D8	6591 B7	9021 D8	9048 E3	9073 F10	9096 F11
1006 F2	2526 C7	2575 E1	2648 D11	2691 B7	2755 E10	3535 E2	3576 G3	3621 F7	3656 C11	3684 B9	3752 A10	3837 C6	3885 A8	6517 F4	6552 A7	6593 A6	9022 G8	9049 D4	9074 E9	
1007 B7	2529 C5	2600 E7	2649 D12	2692 B8	2756 C11	3539 D4	3578 G3	3622 F5	3659 E12	3685 B8	3753 A10	3838 G4	3886 A7	6519 A7	6553 A7	6594 A6	9023 F3	9050 E4	9075 D9	
1502 D11	2530 E1	2601 E7	2650 D10	2693 G7	2757 E10	3540 F1	3579 G5	3623 G7	3661 F12	3686 B8	3755 C9	3839 G4	3887 G3	6520 E8	6554 A7	6595 A6	9024 D5	9051 F6	9076 B9	
1503 D6	2531 E1	2602 F7	2651 C10	2695 D9	2758 E12	3541 F1	3580 F4	3625 D8	3662 D12	3687 A11	3757 B10	3840 E1	3888 A8	6524 D8	6555 A7	6596 A6	9025 C8	9053 G6	9077 D10	
1510 B1	2532 D2	2604 F7	2652 D9	2702 C6	3501 E1	3542 F1	3581 F6	3627 D5	3664 E10	3688 A10	3775 D7	3843 C7	3889 A8	6525 G7	6556 A7	6597 A6	9026 D6	9054 C7	9078 B9	
2500 C1	2534 E1	2607 F8	2653 C11	2703 A5	3502 F2	3543 G1	3582 F5	3627 D5	3665 C12	3689 A10	3779 C5	3844 F7	3889 A8	6526 G7	6557 A7	6598 A6	9027 G8	9055 E8	9079 C10	
2501 F1	2535 D2	2608 F7	2654 C9	2704 A6	3503 E4	3545 G3	3584 F6	3627 D5	3666 D12	3690 A10	3787 E11	3847 F1	3890 E9	6527 C8	6558 A7	6599 A6	9028 G8	9056 B6	9080 E9	
2503 F1	2536 E2	2609 F7	2655 B12	2705 B5	3504 D3	3546 E1	3585 G7	3628 E5	3667 D9	3692 D6	3703 B8	3848 E9	3891 E8	6530 B12	6559 D8	6600 E3	9029 F6	9058 G10	9081 F11	
2504 F2	2537 E1	2610 D6	2656 C10	2706 B6	3505 E3	3552 E3	3586 G4	3628 D6	3668 C11	3693 C9	3705 C8	3850 E8	3892 E8	6531 F10	6560 B8	6601 E3	9030 F2	9059 B5	9082 C10	
2506 E2	2538 D1	2611 G10	2657 B11	2707 B5	3506 E4	3555 E3	3588 G6	3630 C9	3669 D10	3694 D6	3710 A7	3851 G1	3893 G1	6532 C8	6561 B8	6602 E3	9031 E4	9060 E1	9083 A10	
2507 F3	2540 F1	2612 G10	2659 D12	2708 B7	3507 E2	3557 E4	3589 D7	3638 D6	3669 D10	3698 D6	3720 D8	3852 D7	3894 G1	6533 B10	6562 B8	6603 E3	9032 D5	9061 F2	9084 E9	
2509 E2	2542 G2	2620 G4	2661 D12	2709 C5	3508 E3	3560 F3	3591 F5	3639 D9	3670 C11	3699 D9	3721 D8	3856 C6	3895 C6	6536 F10	6563 C6	6604 G8	9033 E4	9062 F1	9085 F11	



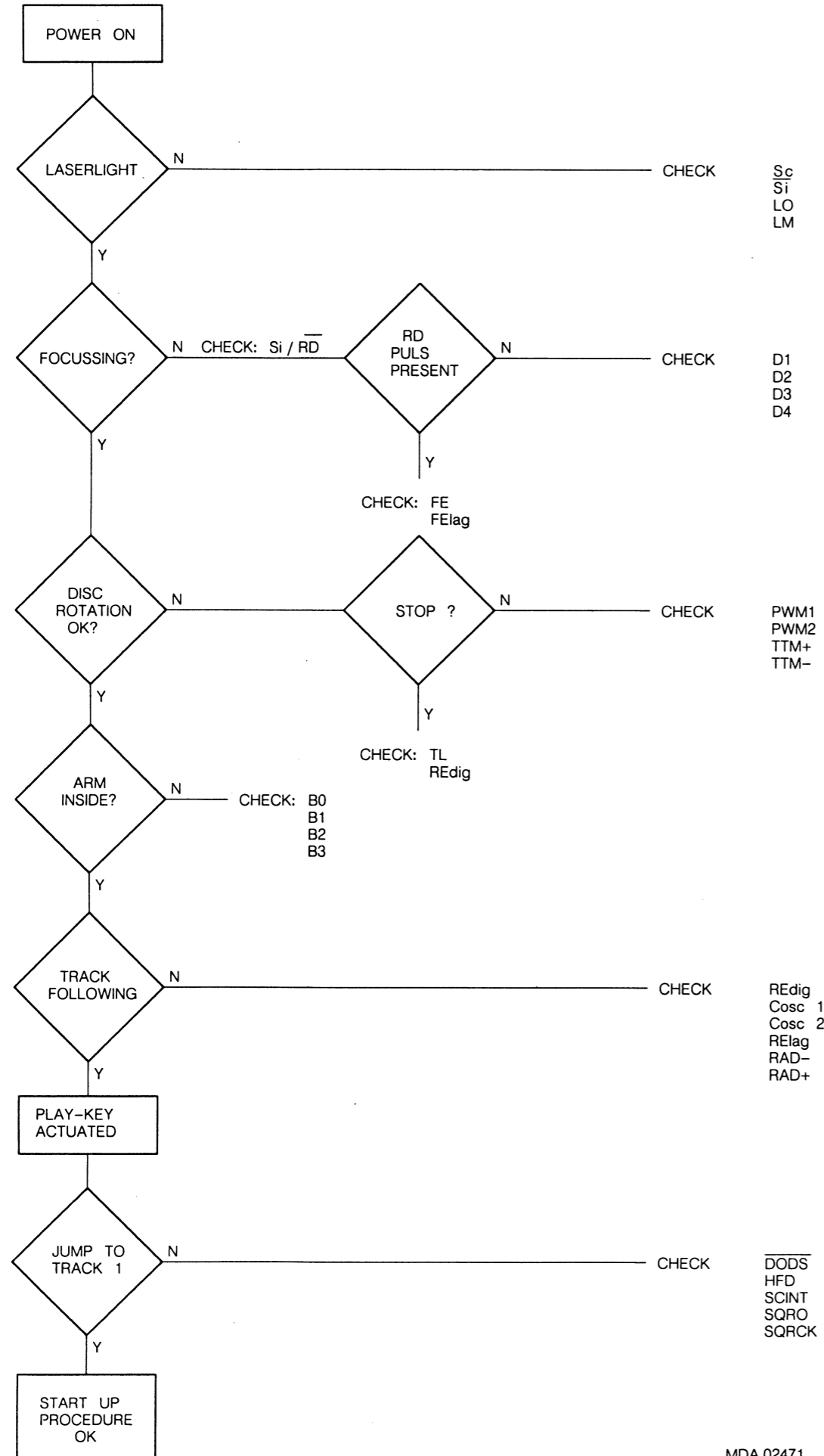
PCB 03224
128/116

SERVO & DECODER PANEL solder side

17 B11	2509 E11	2542 G11	2620 G8	2661 D1	2709 C8	3508 E10	3560 F10	3591 F7	3639 D4	3670 C2	3721 D5	3818 C5	3856 C7	6500 G11	6536 F2	6572 C6	9009 G4	9033 F8	9062 F12	9085 F1
BU1 A11	2510 F11	2545 F12	2621 E7	2662 A3	2710 C7	3509 E9	3561 G11	3592 F6	3640 D4	3672 C3	3724 G8	3819 F2	3858 C6	6501 F10	6537 C6	6577 C5	9010 B8	9035 D9	9063 E5	9086 F1
BU2 A4	2511 E11	2546 G11	2622 E7	2663 B3	2711 B7	3510 F10	3562 G12	3602 F6	3642 D6	3674 C3	3725 G8	3822 F8	3861 C5	6502 G11	6538 C6	6580 A7	9011 F9	9038 C5	9064 B11	9087 E3
SK1 C12	2513 E10	2550 D9	2630 E1	2664 B3	2712 B6	3520 G10	3563 E12	3603 F5	3645 F3	3675 C2	3726 D6	3823 E5	3875 E5	6503 D10	6541 D2	6581 A7	9012 E9	9039 F8	9065 F7	9088 F2
SK2 E6	2514 D8	2560 G11	2631 E1	2665 B2	2713 A7	3521 F10	3564 E12	3604 F5	3646 E9	3676 B2	3728 G8	3824 G6	3876 D4	6504 G9	6542 B4	6582 B7	9013 G6	9041 F3	9066 B11	9089 A4
1000 F1	2515 F10	2561 G12	2632 F3	2666 D2	2714 A6	3522 G10	3565 F11	3605 F5	3647 D8	3677 C3	3729 G8	3826 E7	3877 E2	6505 F12	6543 B5	6583 B7	9014 G10	9042 D10	9067 A4	9090 A4
1001 E4	2520 G11	2562 E12	2633 F2	2667 D2	2715 B6	3523 G10	3566 G11	3607 F6	3650 F3	3678 C1	3730 G10	3827 E6	3878 A6	6506 F12	6544 A2	6584 C7	9015 G6	9043 E7	9068 B1	9091 E1
1002 F6	2521 G11	2563 G11	2634 F1	2668 D2	2750 E1	3524 G10	3567 G11	3609 G3	3651 E1	3679 B3	3731 G8	3828 E5	3879 G9	6510 C7	6545 A3	6585 C7	9016 G10	9044 D7	9069 D11	9092 D1
1003 C4	2522 C6	2566 C6	2641 F1	2669 D2	2751 E2	3530 D10	3568 D9	3610 F6	3652 F1	3680 B3	3747 A5	3829 G12	3880 F1	6512 C6	6547 G9	6586 A7	9018 E4	9045 F8	9070 D1	9093 E3
1004 G7	2523 C5	2570 G9	2642 A5	2670 A5	2752 D1	3531 D10	3569 E12	3611 G1	3653 G1	3681 B2	3748 A6	3830 E7	3881 A4	6513 D5	6548 G8	6587 A7	9019 G4	9046 E8	9071 E2	9094 G1
1004 G7	2524 C6	2572 G7	2645 G9	2671 A5	2753 E3	3533 E10	3574 F8	3613 E4	3654 E3	3682 B3	3750 B4	3831 E7	3882 E10	6515 D5	6549 F4	6590 A7	9020 E9	9047 E10	9072 C5	9095 F4
1005 B6	2525 C6	2574 G6	2646 G9	2680 A6	2754 E1	3534 E10	3575 F8	3617 D7	3655 D3	3683 B4	3751 B4	3835 G5	3883 D1	6516 F8	6550 D5	6591 B9	9021 D5	9048 E10	9073 F2	9096 F1
1006 F11	2526 C6	2575 E11	2648 D1	2691 B5	2755 E2	3535 E11	3576 G9	3618 G6	3656 C2	3684 B4	3752 A2	3837 C7	3884 F7	6517 F8	6551 A8	6592 B7	9022 G3	9049 D8	9074 E4	
1007 B5	2529 C7	2600 E6	2649 D1	2692 B5	2756 C1	3539 D8	3578 G9	3621 F6	3659 E1	3685 B4	3753 A3	3838 G8	3885 A4	6519 A6	6552 A6	6593 A7	9023 F10	9050 E9	9075 D3	
1502 E1	2530 E12	2601 E5	2650 D3	2693 C6	2757 E3	3540 F12	3579 G7	3622 F8	3661 F1	3686 B4	3755 C4	3839 G8	3886 G9	6520 F5	6553 A6	6594 G12	9024 D7	9051 F7	9076 B4	
1503 B6	2531 E12	2602 F6	2651 C2	2695 D4	2758 E1	3541 F12	3580 F9	3623 G6	3662 F1	3687 A2	3757 B2	3840 E11	3887 B6	6523 G4	6554 A5	6595 A5	9025 C5	9053 G7	9077 D3	
1510 B12	2532 D11	2604 F5	2652 D4	2702 C6	3501 F11	3542 F12	3581 F7	3625 D5	3663 E2	3688 A3	3775 D5	3843 C5	3888 A5	6524 D4	6555 B6	6596 G4	9026 D7	9054 C6	9078 B4	
2500 C12	2534 E11	2607 F5	2653 C2	2703 A7	3502 F11	3543 G11	3582 F7	3626 C5	3664 E2	3689 A6	3779 C7	3844 F6	3889 A4	6525 C5	6556 A6	6597 G2	9027 C5	9055 F4	9079 C2	
2501 F11	2535 E11	2608 F5	2654 C3	2704 A6	3503 F9	3545 G10	3584 G6	3627 D7	3665 C1	3692 C5	3787 E1	3847 F12	5001 B9	6526 G6	6557 B4	6598 G5	9028 C5	9056 B6	9080 E4	
2503 F11	2536 E11	2609 F5	2655 B1	2705 B7	3504 D10	3546 E12	3585 G6	3628 E7	3666 D1	3703 B5	3799 G1	3848 E4	5502 C4	6527 C4	6558 A5	6599 E4	9029 F6	9058 G3	9081 F2	
2504 F11	2537 E11	2610 D7	2656 C3	2706 B7	3505 E10	3547 E10	3586 C8	3629 D7	3667 D3	3705 C4	3807 E10	3850 E5	5503 B1	6530 E6	6559 D4	6600 E10	9030 F10	9059 B8	9082 C3	
2506 E10	2538 D11	2611 G3	2657 B2	2707 B7	3506 E8	3555 E10	3588 G6	3630 C4	3668 C2	3710 A6	3814 G8	3851 G11	5504 E1	6531 F3	6562 B5	6601 F10	9031 E9	9060 E11	9083 A2	
2507 F9	2540 F12	2612 G3	2659 D1	2708 B6	3507 E11	3557 E9	3589 D6	3638 D6	3669 D3	3720 D4	3815 E6	3852 D5	5506 B4	6533 B3	6563 E1	9008 F8	9032 D8	9061 F10	9084 E3	

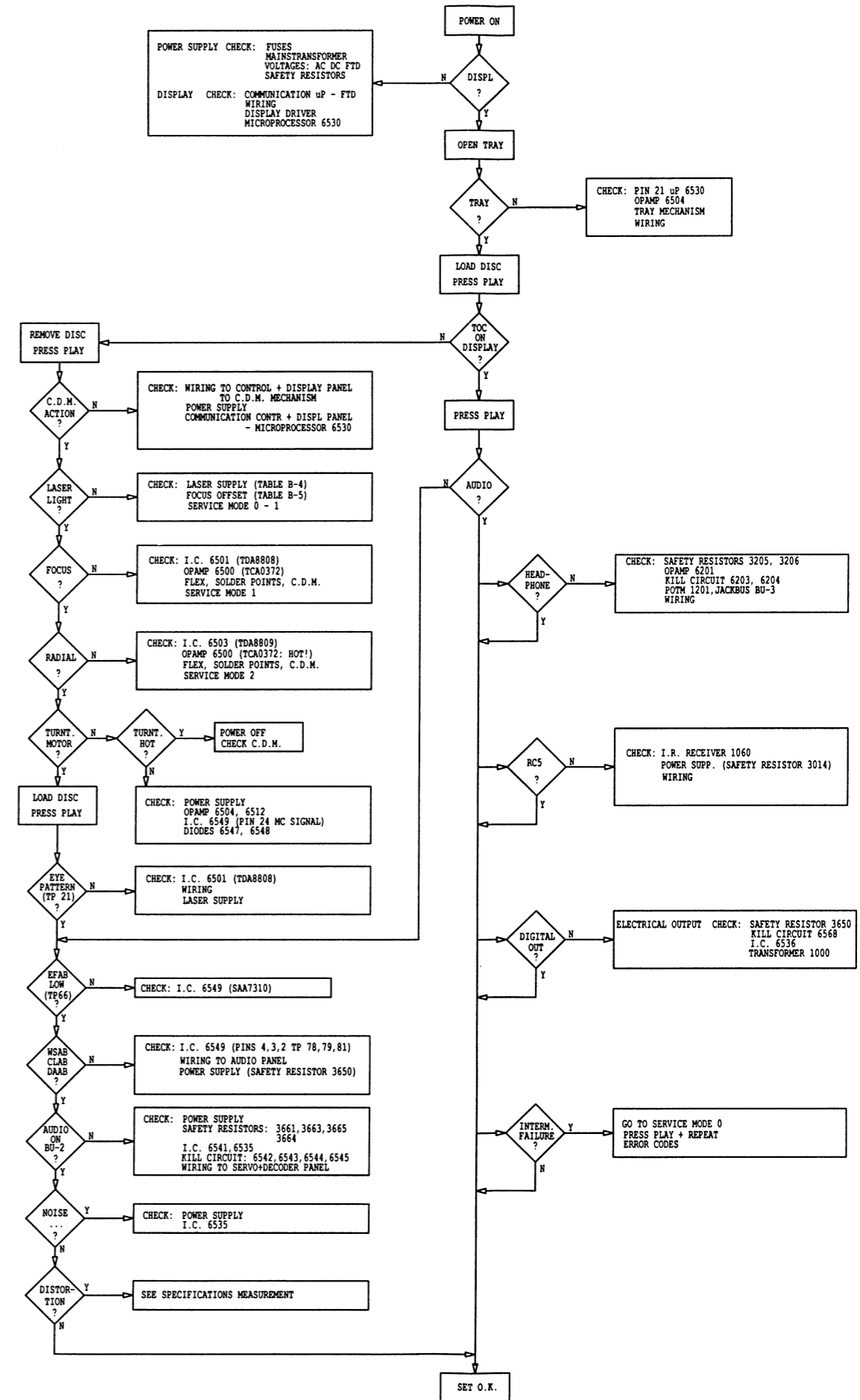


START UP PROCEDURE

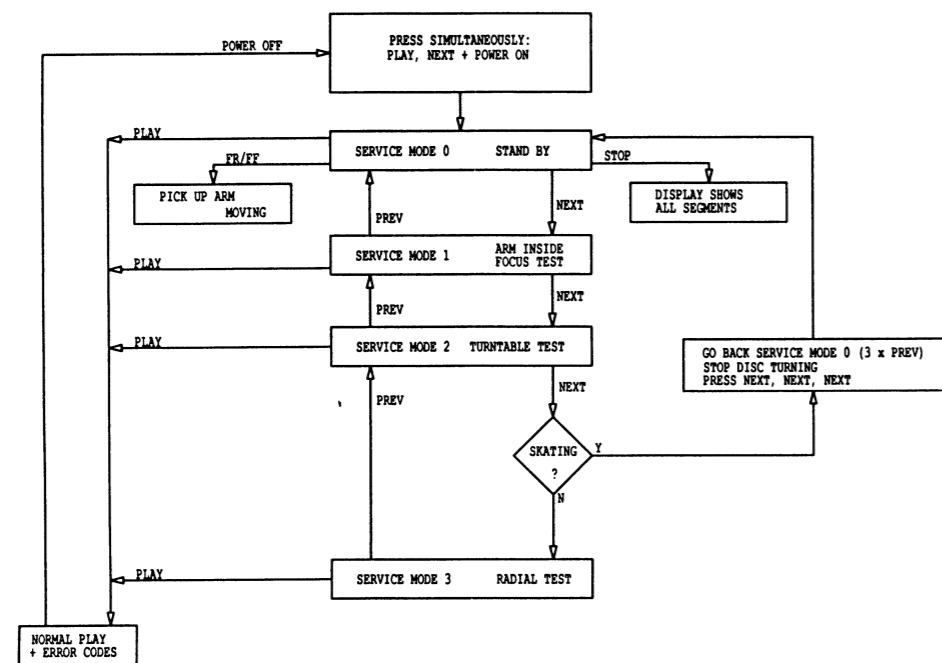


MDA.02471
T07-9001

FAULT FINDING GUIDE



SERVICE TESTPROGRAM

HAS1005
9117

ERROR CODE TABLE

SYSTEM ERRORS

- ERROR 02 Focus error, no track loss
- ERROR 03 Radial start error, min. exentricity point not found
- ERROR 04 Focus error, focus lost while starting
- ERROR 05 TL error when recovering TL in play
- ERROR 06 TL error during jump
- ERROR 07 Subcode error, no valid cubcode within 3 sec.
- ERROR 08 TOC error, out of lead-in while reading TOC

B-3 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 ←→ IR LED of remote control

T-23356A

B-4 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 PRS 06615 T02/9020
	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

T-23356B

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

B-4 LASER CURRENT ADJUSTMENT

Step	Signal	Mode					Remarks
1	-	Power off	-	-	-	-	Check if FLEX-FOIL is properly connected
2	-	Power off		R3520	$1k\Omega \begin{matrix} +10\% \\ -0 \end{matrix}$	-	Pre-adjustment Ohmic value
3	-	Power off	-	R3568	-	-	Set to mid-position
4	laser current = voltage across R3501	Test disc 5A play	 	-	$\geq 15mV$	-	If $< 15mV$ then go to step 3 and set R3520 to 1/4 or 3/4. Try again.
5	laser current = voltage across R3501	Test disc 5A play	 	R3520	50mV	-	-
6	FE-LAG	Test disc 5A track 1 play		R3568	400mV	-	Fine adjustment

T-23356C

B-5 ADJUSTMENT OF FOCUS-OFFSET

Step	Signal	Mode					Remarks
1	-	Power on no disc	-	R3568	-	-	adjust for optical mid-position of the focus motor
2	FE LAG	Play Test disc 5 Track 1	22	R3568	$400mV \pm 40 mV DC$	-	fine adjustment

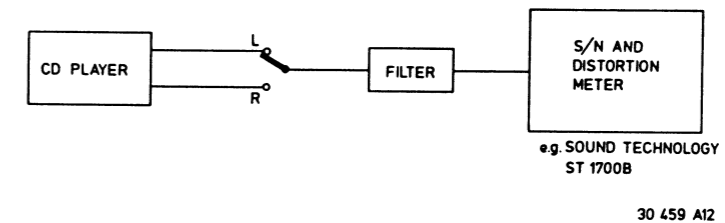
T-23356D

D-6 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-23356M

Filter = 13th order filter 4822 395 30204

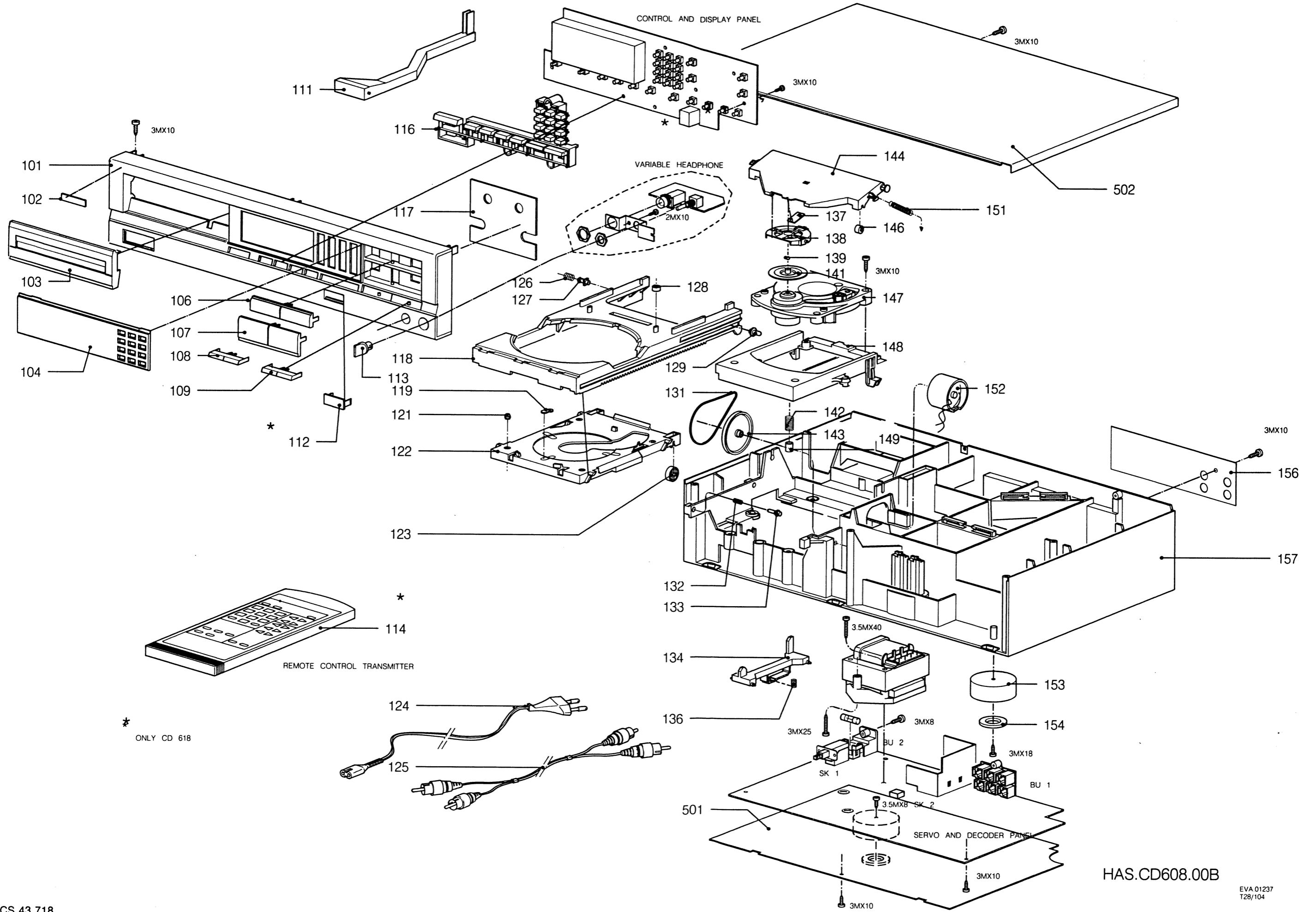


30 459 A12

EXPLODED VIEW

15

15



* ONLY CD 618

HAS.CD608.00B



EVA 01237
T28/104




Mechanical Partslist

101	4822 444 40461 for CD608
101	4822 444 40463 for CD618
102	4822 459 10887
103	4822 444 40464
104	4822 381 11269
106	4822 410 60094
107	4822 410 60095
108	4822 410 61414
109	4822 410 61415
111	4822 410 60105
112	4822 381 11051
113	4822 411 61674
114	4822 218 10411
116	4822 410 61413
118	4822 444 50603
121	4822 325 50177
122	4822 466 93011
123	4822 528 90638
124	4822 321 10249 for /00B
124	4822 321 10719 for /05B
124	4822 321 10523 for /10B
125	4822 321 22832
126	4822 492 52094
127	4822 402 61252
128	4822 532 51756
129	4822 402 61253
131	4822 358 10115
134	4822 402 50276
136	4822 492 52123
137	4822 466 92257
138	4822 402 61207
139	4822 520 40177
141	4822 530 80503
142	4822 492 51902
143	4822 528 81329
144	4822 444 60568
146	4822 528 90639
147	4822 691 30209
148	4822 402 61196
149	4822 466 61587
151	4822 492 32883
152	4822 361 21258
154	4822 462 41479
156	4822 444 30418
157	4822 464 50805
502	4822 444 30417

SERVO & DECODER PANEL PARTSLIST

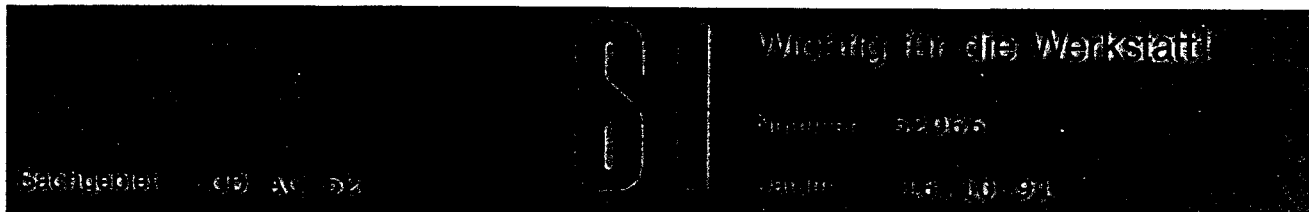
Miscellaneous			— —		
0005	4822 492 63076	Spring clip	2611	4822 122 33809	22nF 20% 50V
0021	4822 256 30274	Fuse holder	2612	4822 124 40272	33µF 20% 16V
1000	4822 148 80281	Transformer Digital Out	2620	4822 122 33809	22nF 20% 50V
BU-1	4822 265 20291	Mains inlet	2621	4822 122 33809	22nF 20% 50V
BU-2	4822 267 40789	Cinch socket	2622	4822 124 22031	4,7µF 20% 63V
SK1	4822 276 11309	Mains switch	2630	5322 122 32452	47pF 5% 50V
SK2	4822 276 12523	Tray tact switch	2631	5322 122 32452	47pF 5% 50V
1502	4822 242 71349	11,2896Mhz Crystal	2632	4822 124 40272	33µF 20% 16V
1503	4822 242 72527	4Mhz Resonator	2633	4822 122 33809	22nF 20% 50V
1510	4822 070 31251	Fuse 125 mA	2634	4822 122 10181	47pF 5% 50V
5001	4822 146 30938	Mains transformer	2641	4822 122 33105	56nF 10% 63V
— —			2644	4822 122 33809	22nF 20% 50V
2500	4822 126 10454	3,3nF 20% 400V	2645	4822 122 33809	22nF 20% 50V
2501	4822 122 33809	22nF 20% 50V	2646	4822 122 33496	100nF 10% 63V
2503	4822 122 33809	22nF 20% 50V	2648	4822 124 40272	33µF 20% 16V
2504	5322 122 34099	470pF 10% 63V	2649	4822 122 33496	100nF 10% 63V
2506	4822 122 10166	22nF 30% 16V	2650	4822 121 51556	51pF 1% 630V
2507	4822 122 33175	2,2nF 20% 50V	2651	4822 121 51556	51pF 1% 630V
2509	5322 122 32531	100pF 5% 50V	2652	4822 121 42729	1,5nF 1% 250V
2510	4822 122 33177	10nF 20% 50V	2653	4822 121 42729	1,5nF 1% 250V
2511	4822 122 31746	1000pF 5% 50V	2654	4822 121 50591	1nF 1% 630V
2513	4822 121 42408	220nF 5% 63V	2655	4822 121 50591	1nF 1% 630V
2514	4822 121 51252	470nF 5% 63V	2656	4822 121 51288	100pF 630V
2515	4822 122 31746	1000pF 5% 50V	2657	4822 121 51288	100pF 630V
2520	5322 126 10794	220pF 10%	2659	4822 122 33496	100nF 10% 63V
2521	5322 124 21643	22µF 20% 40V	2661	4822 124 41578	6,8µF 20% 50V
2522	4822 122 33809	22nF 20% 50V	2662	4822 124 41525	100µF 20% 25V
2523	4822 124 41799	220µF 63V	2663	4822 124 41525	100µF 20% 25V
2524	4822 122 33809	22nF 20% 50V	2664	4822 124 22339	100µF 16V Bipolar
2525	4822 122 33809	22nF 20% 50V	2665	4822 124 22339	100µF 16V Bipolar
2526	4822 122 33809	22nF 20% 50V	2666	5322 122 31842	330pF 5% 63V
2529	4822 124 22027	47µF 20% 25V	2667	5322 122 31842	330pF 5% 63V
2530	4822 121 51321	8,2µF 1% 63V	2668	4822 122 33496	100nF 10% 63V
2531	4822 121 51321	8,2µF 1% 63V	2669	4822 122 33496	100nF 10% 63V
2532	4822 124 40272	33µF 20% 16V	2670	4822 122 32575	220pF 5% 50V
2534	5322 121 42661	330nF 5% 63V	2671	4822 122 32575	220pF 5% 50V
2535	4822 122 33342	33nF 10% 63V	2690	4822 124 41334	470µF 20% 35V
2536	4822 122 33342	33nF 10% 63V	2691	4822 121 51436	820nF 10% 63V
2537	4822 121 42408	220nF 5% 63V	2692	5322 121 42386	100nF 5% 63V
2538	4822 121 42408	220nF 5% 63V	2693	4822 122 33809	22nF 20% 50V
2540	4822 124 41583	0,68µF 50V Bipolar	2695	4822 124 41558	10µF 25V Bipolar
2542	4822 122 33809	22nF 20% 50V	2702	5322 124 21643	22µF 20% 40V
2545	4822 122 33496	100nF 10% 63V	2703	4822 124 41859	330µF 20% 35V
2546	4822 122 33809	22nF 20% 50V	2704	4822 124 40433	47µF 20% 25V
2550	4822 121 43526	47nF 5% 100V	2705	4822 122 33809	22nF 20% 50V
2560	4822 121 43901	4n7 5% 50V	2706	4822 122 33809	22nF 20% 50V
2561	4822 121 51252	470nF 5% 63V	2707	4822 124 41591	6800µF 20% 16V
2562	5322 121 42661	330nF 5% 63V	2708	4822 124 40272	33µF 20% 16V
2563	4822 122 33496	100nF 10% 63V	2709	4822 122 33809	22nF 20% 50V
2566	4822 122 33809	22nF 20% 50V	2710	4822 122 33809	22nF 20% 50V
2570	4822 122 33175	2,2nF 20% 50V	2711	4822 124 41853	1000µF 16V
2572	5322 121 42661	330nF 5% 63V	2712	4822 124 40272	33µF 20% 16V
2574	4822 122 33893	18nF 10% 63V	2713	4822 124 41334	470µF 20% 35V
2575	4822 122 32542	47nF 10% 63V	2714	4822 124 40433	47µF 20% 25V
2600	5322 122 32452	47pF 5% 50V	2715	5322 121 42386	100nF 5% 63V
2601	4822 122 31644	2,2nF 10% 63V	2750	4822 124 40272	33µF 20% 16V
2602	4822 121 51252	470nF 5% 63V	2751	4822 124 40272	33µF 20% 16V
2604	4822 124 41576	2,2µF 20% 50V	2752	4822 124 40272	33µF 20% 16V
2607	4822 124 40272	33µF 20% 16V	2753	4822 124 40272	33µF 20% 16V
2608	4822 122 33809	22nF 20% 50V	2754	4822 122 33496	100nF 10% 63V
2609	4822 122 33809	22nF 20% 50V	2755	4822 122 33496	100nF 10% 63V
2610	4822 124 20688	33µF 50% 16V	2756	4822 122 33496	100nF 10% 63V
			2757	4822 122 33496	100nF 10% 63V
			2758	4822 126 10326	220pF 5% 50V

					
3501	4822 051 20472	4k7 5% 0,1W	3618	4822 050 21803	18k 5% 0,125W
3502	4822 051 20104	100k 5% 0,1W	3621	4822 050 21803	18k 1% 0,6W
3503	4822 052 10478	4Ω7 5% 0,33W	3622	4822 050 24703	47k 1% 0,6W
3504	4822 052 10478	4Ω7 5% 0,33W	3623	4822 050 21803	18k 1% 0,6W
3505	4822 051 20163	16k 5% 0,1W	3625	4822 051 20103	10k 5% 0,1W
3506	4822 051 10101	100Ω 2% 0,25W	3626	4822 051 20103	10k 5% 0,1W
3507	4822 050 21002	1k 1% 0,6W	3627	4822 052 10478	4Ω7 5% 0,33W
3508	4822 051 20243	24k 5% 0,1W	3628	4822 050 22004	200k 1% 0,6W
3509	4822 051 20562	5k6 5% 0,1W	3629	4822 051 20224	220k 5% 0,1W
3510	4822 051 20103	10k 5% 0,1W	3630	4822 050 24702	4k7 1% 0,6W
3520	4822 101 10685	4k7 20%LIN 0.05W	3638	4822 051 10223	22k 2% 0,25W
3521	4822 051 10221	220Ω 2% 0,25W	3639	4822 051 20223	22k 5% 0,1W
3522	4822 052 10189	18Ω 5% 0,33W	3640	4822 051 20223	22k 5% 0,1W
3523	4822 052 10129	12Ω 5% 0,33W	3642	4822 051 10223	22k 2% 0,25W
3524	4822 051 20101	100Ω 5% 0,1W	3645	4822 050 24702	4k7 1% 0,6W
3530	4822 050 24703	47k 1% 0,6W	3646	4822 051 20223	22k 5% 0,1W
3531	4822 050 21503	15k 1% 0,6W	3647	4822 051 10223	22k 2% 0,25W
3533	4822 051 20512	5k1 5% 0,1W	3650	4822 052 10339	33Ω 5% 0,33W
3534	4822 051 20224	220k 5% 0,1W	3651	4822 051 20224	220k 5% 0,1W
3535	4822 050 21203	12k 1% 0,6W	3652	4822 051 10223	22k 2% 0,25W
3539	4822 051 10223	22k 2% 0,25W	3653	4822 050 26801	680Ω 1% 0,6W
3540	4822 052 10478	4Ω7 5% 0,33W	3654	4822 050 24702	4k7 5% 0,125W
3541	4822 051 20682	6k8 5% 0,1W	3655	4822 116 52235	1M 5% 0,5W
3542	4822 051 20339	33Ω 5% 0,1W	3656	4822 116 52235	1M 5% 0,5W
3543	4822 051 20682	6k8 5% 0,1W	3659	4822 050 24702	4k7 1% 0,6W
3545	4822 052 10108	1Ω 5% 0,33W	3661	4822 052 10478	4Ω7 5% 0,33W
3546	4822 052 10108	1Ω 5% 0,33W	3662	4822 051 20339	33Ω 5% 0,1W
3552	4822 051 20182	1k8 5% 0,1W	3663	4822 052 10478	4Ω7 5% 0,33W
3555	4822 051 20183	18k 5% 0,1W	3664	4822 052 10478	4Ω7 5% 0,33W
3557	4822 050 22004	200k 1% 0,6W	3665	4822 052 10478	4Ω7 5% 0,33W
3560	4822 050 21103	11k 1% 0,6W	3666	4822 052 10478	4Ω7 5% 0,33W
3561	4822 051 20154	150k 5% 0,1W	3667	4822 050 21003	10k 1% 0,6W
3562	4822 051 20124	120k 5% 0,1W	3668	4822 050 21003	10k 1% 0,6W
3563	4822 051 20563	56k 5% 0,1W	3669	4822 050 22203	22k 1% 0,6W
3564	4822 051 20164	160k 5% 0,1W	3670	4822 050 22203	22k 1% 0,6W
3565	4822 051 20279	27Ω 5% 0,1W	3673	4822 050 25602	5k6 1% 0,6W
3566	4822 051 20229	22Ω 5% 0,1W	3674	4822 050 25602	5k6 1% 0,6W
3567	4822 051 20823	82k 5% 0,1W	3675	4822 050 25602	5k6 1% 0,6W
3568	4822 100 11193	22k 20%LIN 0,05W	3676	4822 050 25602	5k6 1% 0,6W
3569	4822 051 20684	680k 5% 0,1W	3677	4822 050 27502	7k5 1% 0,6W
3574	4822 050 13303	33k 1% 0,4W	3678	4822 050 27502	7k5 1% 0,6W
3575	4822 050 24702	4k7 1% 0,6W	3679	4822 051 10123	12k 2% 0,25W
3576	4822 050 22004	200k 1% 0,6W	3680	4822 051 10103	10k 2% 0,25W
3578	4822 051 20823	82k 5% 0,1W	3681	4822 051 10123	12k 2% 0,25W
3579	4822 051 20154	150k 5% 0,1W	3682	4822 051 10103	10k 2% 0,25W
3580	4822 050 24702	4k7 1% 0,6W	3683	4822 050 23001	300Ω 1% 0,6W
3581	4822 050 23302	3k3 1% 0,6W	3684	4822 050 23001	300Ω 1% 0,6W
3582	4822 051 20562	5k6 5% 0,1W	3685	4822 051 20101	100Ω 5% 0,1W
3584	4822 050 29103	91k 1% 0,6W	3686	4822 051 20101	100Ω 5% 0,1W
3585	4822 050 21004	100k 1% 0,6W	3687	4822 051 10101	100Ω 2% 0,25W
3586	4822 051 20684	680k 5% 0,1W	3688	4822 051 10101	100Ω 2% 0,25W
3588	4822 050 24703	47k 1% 0,6W	3701	4822 051 20472	4k7 5% 0,1W
3589	4822 050 24702	4k7 1% 0,6W	3702	4822 116 82595	5M6 10% 0,1W
3591	4822 051 20122	1k2 5% 0,1W	3703	4822 051 20473	47k 5% 0,1W
3600	4822 051 20222	2k2 5% 0,1W	3705	4822 050 25603	56k 1% 0,6W
3602	4822 051 20223	22k 5% 0,1W	3710	4822 051 20154	150k 5% 0,1W
3603	4822 051 20759	75Ω 5% 0,1W	3720	4822 051 10102	1k 2% 0,25W
3604	4822 052 10478	4Ω7 5% 0,33W	3721	4822 051 20473	47k 5% 0,1W
3605	4822 051 20162	1k6 5% 0,1W	3724	4822 050 21203	12k 1% 0,6W
3607	4822 051 20392	3k9 5% 0,1W	3725	4822 051 20163	16k 5% 0,1W
3609	4822 052 10478	4Ω7 5% 0,33W	3726	4822 051 10223	22k 5% 0,125W
3610	4822 051 20912	9k1 5% 0,1W	3728	4822 050 15602	5k6 1% 0,4W
3611	4822 050 26801	680Ω 1% 0,6W	3729	4822 050 21203	12k 1% 0,6W
3613	4822 051 20223	22k 5% 0,1W	3730	4822 050 21203	12k 1% 0,6W
3617	4822 051 10223	22k 5% 0,125W	3731	4822 051 20229	22Ω 5% 0,1W
			3747	4822 051 20103	10k 5% 0,1W

					
3748	4822 051 20392	3k9 5% 0,1W	6500	4822 209 72587	TCA0372DP2
3750	4822 051 20122	1k2 5% 0,1W	6501	4822 209 73234	TDA8808T/C3
3751	4822 051 20122	1k2 5% 0,1W	6502	4822 130 44121	BC338
3752	4822 051 10122	1k2 2% 0,25W	6503	4822 209 73235	TDA8809T/C2
3753	4822 051 10122	1k2 2% 0,25W	6504	4822 209 72587	TCA0372DP2
3755	4822 051 20103	10k 5% 0,1W	6505	4822 130 30861	BZX79-C7V5
3757	4822 051 10103	10k 2% 0,25W	6506	4822 130 30861	BZX79-C7V5
3775	4822 050 24702	4k7 1% 0,6W	6510	4822 130 31456	BZV85-C5V1
3779	4822 051 20681	680Ω 5% 0,1W	6512	4822 209 83274	NJM4560D
3787	4822 051 10102	1k 2% 0,25W	6513	4822 130 30621	1N4148
3800	4822 051 10008	Chip jumper	6515	4822 130 30621	1N4148
3807	4822 051 10008	Chip jumper	6516	5322 130 42012	BC858A
3814	4822 051 10008	Chip jumper	6517	5322 130 42012	BC858A
3815	4822 051 10008	Chip jumper	6519	5322 130 30684	1N4002
3818	4822 051 10008	Chip jumper	6520	4822 130 42131	BF550
3821	4822 051 10008	Chip jumper	6523	4822 209 70422	MN4264-15
3822	4822 051 10008	Chip jumper	6524	4822 130 61207	BC848
3823	4822 051 10008	Chip jumper	6525	4822 130 61207	BC848
3824	4822 051 10008	Chip jumper	6526	4822 130 61207	BC848
3826	4822 051 10008	Chip jumper	6527	5322 130 41983	BC858B
3827	4822 051 10008	Chip jumper	6530	4822 209 30075	MC68HC05D9P/ZC400009
3828	4822 051 10008	Chip jumper	6531	4822 130 42675	BC818
3829	4822 051 10008	Chip jumper	6535	4822 209 83662	NJM5532DD
3830	4822 051 10008	Chip jumper	6536	4822 209 62588	PCF3523P
3831	4822 051 10008	Chip jumper	6537	5322 130 30684	1N4002
3835	4822 051 10008	Chip jumper	6538	5322 130 30684	1N4002
3837	4822 051 10008	Chip jumper	6541	4822 209 61708	SAA7321GP
3838	4822 051 10008	Chip jumper	6542	4822 130 40958	BC338-25
3839	4822 051 10008	Chip jumper	6543	4822 130 40958	BC338-25
3840	4822 051 10008	Chip jumper	6544	4822 130 40958	BC338-25
3843	4822 051 10008	Chip jumper	6545	4822 130 40958	BC338-25
3844	4822 051 10008	Chip jumper	6547	5322 130 30684	1N4002
3847	4822 051 10008	Chip jumper	6548	5322 130 30684	1N4002
3848	4822 051 10008	Chip jumper	6549	4822 209 61759	SAA7310GP/S5
3850	4822 051 10008	Chip jumper	6550	5322 130 30684	1N4002
3851	4822 051 10008	Chip jumper	6551	5322 130 30684	1N4002
3852	4822 051 10008	Chip jumper	6552	4822 130 30621	1N4148
3856	4822 051 10008	Chip jumper	6553	4822 130 30621	1N4148
3858	4822 051 10008	Chip jumper	6554	4822 130 42513	BC858C
3861	4822 051 10008	Chip jumper	6555	4822 130 31981	BZX79-C3V9
3875	4822 051 10008	Chip jumper	6556	5322 130 41981	BC848A
3876	4822 051 10008	Chip jumper	6557	4822 130 30621	1N4148
3877	4822 051 10008	Chip jumper	6558	4822 130 44121	BC338
3878	4822 051 10008	Chip jumper	6559	4822 130 61207	BC848
3879	4822 051 10008	Chip jumper	6562	4822 130 61207	BC848
3880	4822 051 10008	Chip jumper	6568	4822 130 61207	BC848
3881	4822 051 10008	Chip jumper	6571	4822 209 60772	X24C16
3882	4822 051 10008	Chip jumper	6572	4822 130 61219	BZX79-C10
3883	4822 051 10008	Chip jumper	6577	4822 209 80808	MC78M15CT
3884	4822 051 10008	Chip jumper	6580	5322 130 30684	1N4002
3885	4822 051 10008	Chip jumper	6581	5322 130 30684	1N4002
3886	4822 051 10008	Chip jumper	6582	5322 130 30684	1N4002
3887	4822 051 10008	Chip jumper	6583	5322 130 30684	1N4002
3888	4822 051 10008	Chip jumper	6584	5322 130 30684	1N4002
3889	4822 051 10008	Chip jumper	6585	5322 130 30684	1N4002
3890	4822 051 10008	Chip jumper	6586	5322 130 30684	1N4002
			6587	5322 130 30684	1N4002
			6590	4822 209 80808	MC78M15CT
5502	4822 157 51238	820μH	6591	4822 209 71579	TY40408
5503	4822 157 51238	820μH	6592	4822 209 82056	MC7906CT
5504	4822 157 51235	4,7μH 10%	6593	5322 130 41899	MC7915CT



101h



Service Information

Betrifft:

CD-Spieler CD 608/CD 618
neuer Bitstream - DAC

Verteiler:

INTERN UND EXTERN

Im Verlauf der Fertigung ist der Bitstream-Wandler (IC 6541) SAA 7321GP, Version M3B, vorübergehend ersetzt worden durch SAA 7323GP, Version M5A. Danach wurde diese Ausführung wiederum ersetzt durch SAA 7321GP, Version M5B.
Um optimale Ergebnisse zu erzielen, sind folgende Änderungen in der Beschaltung des IC eingeführt worden:

Components	SAA7321/M3B 4822 209 61708	SAA7323/M5A 4822 209 63997	SAA7321/M5B 4822 209 30706
C2666/C2667	330pF	560pF	560pF
C2654/C2655	1nF	270pF	1nF
C2658	-	100nF	100nF
C2758	180pF/56pF	-	-

Decoder-Panels mit den unterschiedlichen IC-Ausführungen sind wie folgt gekennzeichnet:

SAA 7321/M3B	-
SAA 7323/M5B	Sticker "A" *), "B"
SAA 7321/M5B	Sticker "C"

*) Zwischenlösung: C 2758 = 180 pF; C 2658 nicht vorhanden.

4812 829 52066

