NAD

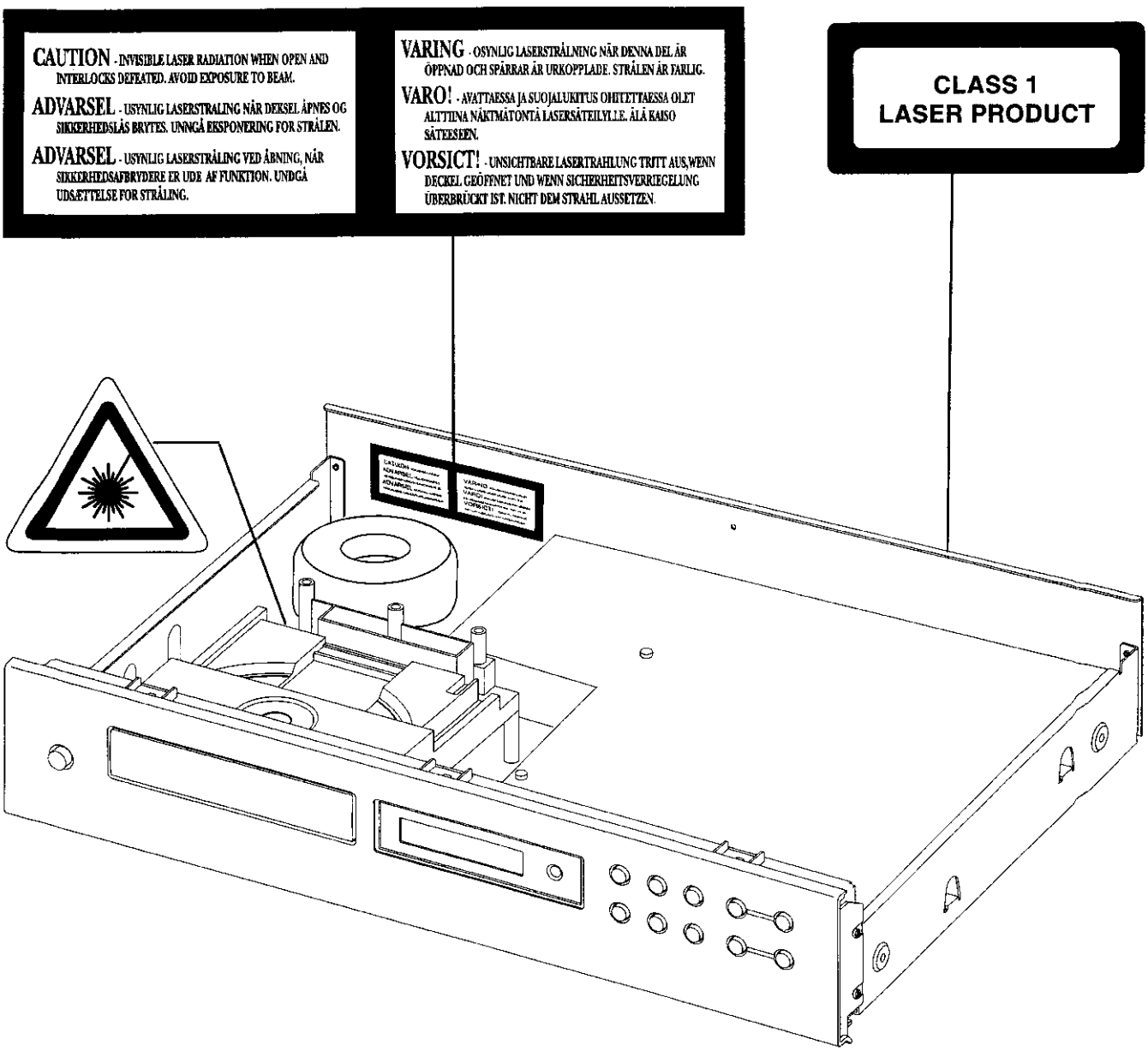
524
COMPACT DISC PLAYER

SERVICE MANUAL

524 COMPACT DISC PLAYER

SAFETY INFORMATION

CAUTION



The lightning flash with arrowhead, within an equilateral triangle is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure; that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES.
OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS :-
(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND
(2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

SERVICE SAFETY PRECAUTIONS

1. Replacing the fuses

CAUTION: FOR CONTINUED PROTECTION AGAINST THE RISK OF FIRE REPLACE ONLY WITH SAME TYPE OF FUSE.

Reference No	Part Number	Description
M507*AH	5120-0052-0	Fuse 1.6A 250V Time Lag (UL/CSA)
M507*C	5120-0050-0	Fuse 1.6A 250V Time Lag (SEMKO/VDE)

NOTE :
- <*AH > : USA, CANADIAN MODEL ONLY.
  <*C > : EUROPEAN MODEL ONLY.

2. Safety check out

(Only U.S.A. model)
Before returning the product to the customer, make leakage current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit.

Parts marked with the symbol ⚠ are critical with regard to the risk of fire and electric shock. Replace only with parts recommended by the manufacturer.

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SPECIFICATIONS

Disc Capacity		One Disc, 120 or 80 mm
Decoding		BURR-BROWN Delta Sigma 24 bit
Digital Filter		8 Times oversample
Analog Filter		4 pole active
Frequency Response		+/- 0.5 dB, 5 Hz - 20 kHz
De-Emphasis Error		+/- 0.3 dB
THD (at 0 dB, 1 kHz)		0.007%
Intermodulation Distortion (19 + 20 kHz)		< -100 dB
Dynamic Range		96 dB
Linearity		+/- 0.5 dB, 0 dB to -80 dB
Signal / Noise Ratio (A-Weighted)		≥100 dB, De-Emphasis on
		≥100 dB, De-Emphasis off
Channel Separation	1 kHz	> 90 dB
	10 kHz	> 80 dB
Wow and Flutter		Unmeasurable (Quartz Crystal Accuracy)
Output Impedance		200 Ω
Output level at 0 dB		2.2 V rms
Digital Error Correction		CIRC with double error correction in C1 and C2
Digital Code Output		Sony / Philips Serial data format

CONTROLS

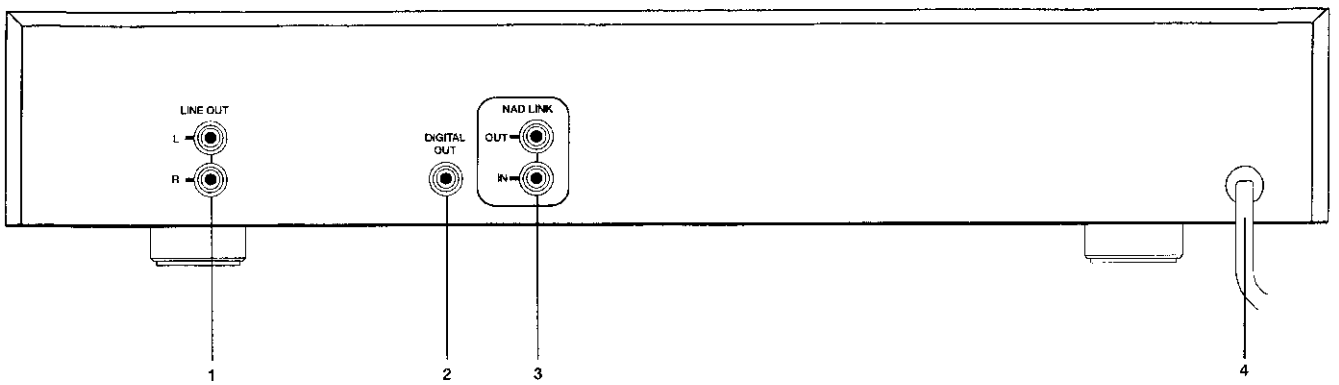
Play / Pause, Stop, Random, Skip (< >), Scan (< >), Open, Time, Repeat.

PHYSICAL SPECIFICATIONS

Dimensions (Width x Height x Depth)	435 x 80 x 285 mm
Net weight	4 kg (8.8 lbs)
Shipping weight	5.1 kg (11.22 lbs)

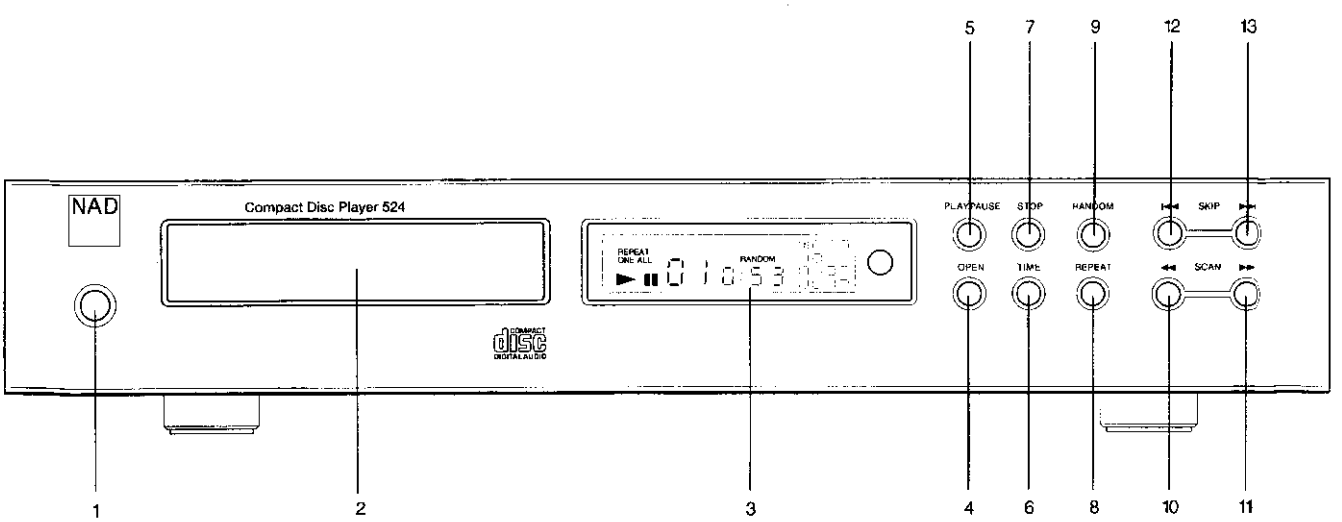
REAR PANEL / FRONT PANEL VIEW

REAR PANEL



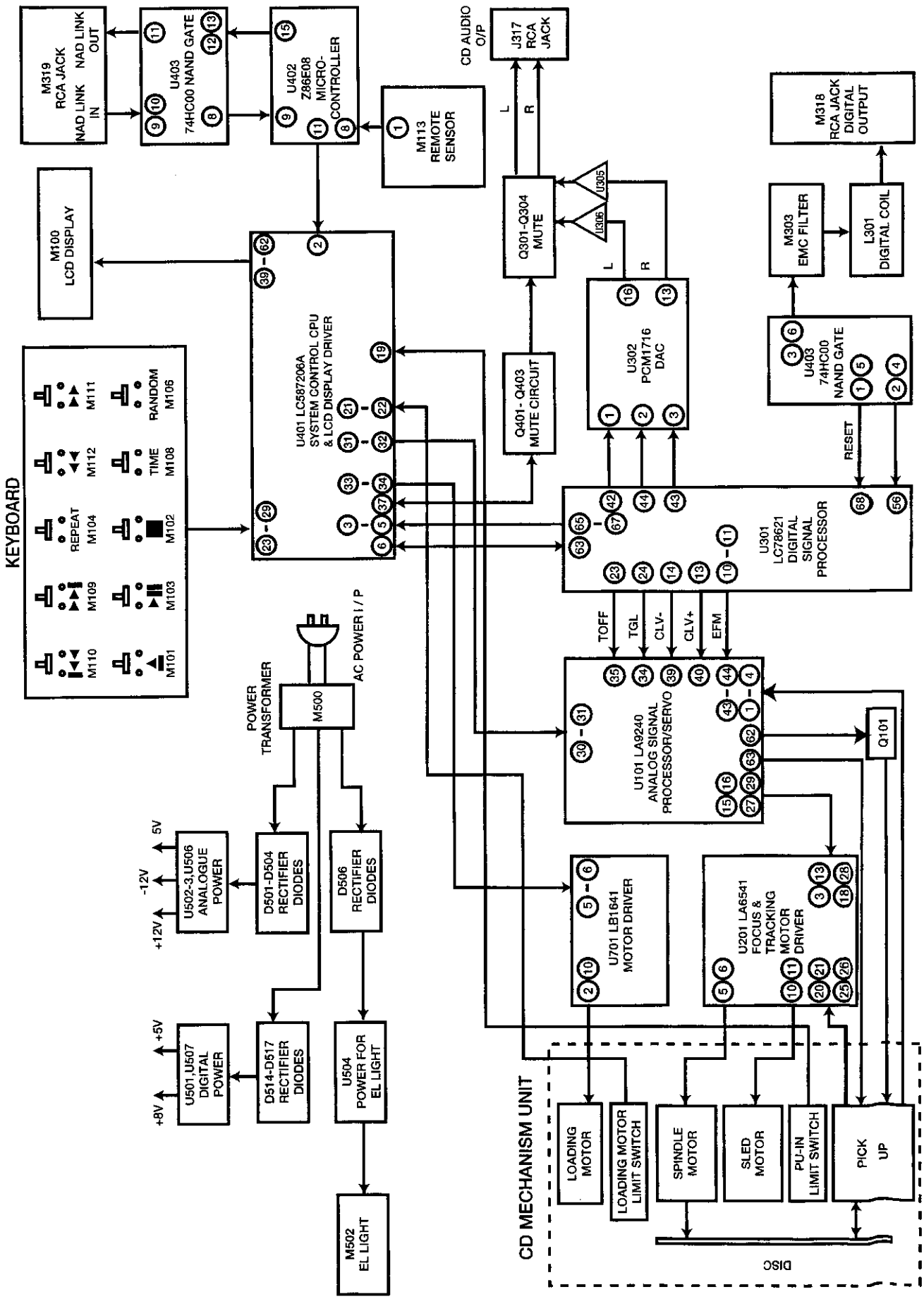
1. LINE OUTPUT
2. DIGITAL OUTPUT
3. NAD LINK
4. AC LINE CORD

FRONT PANEL

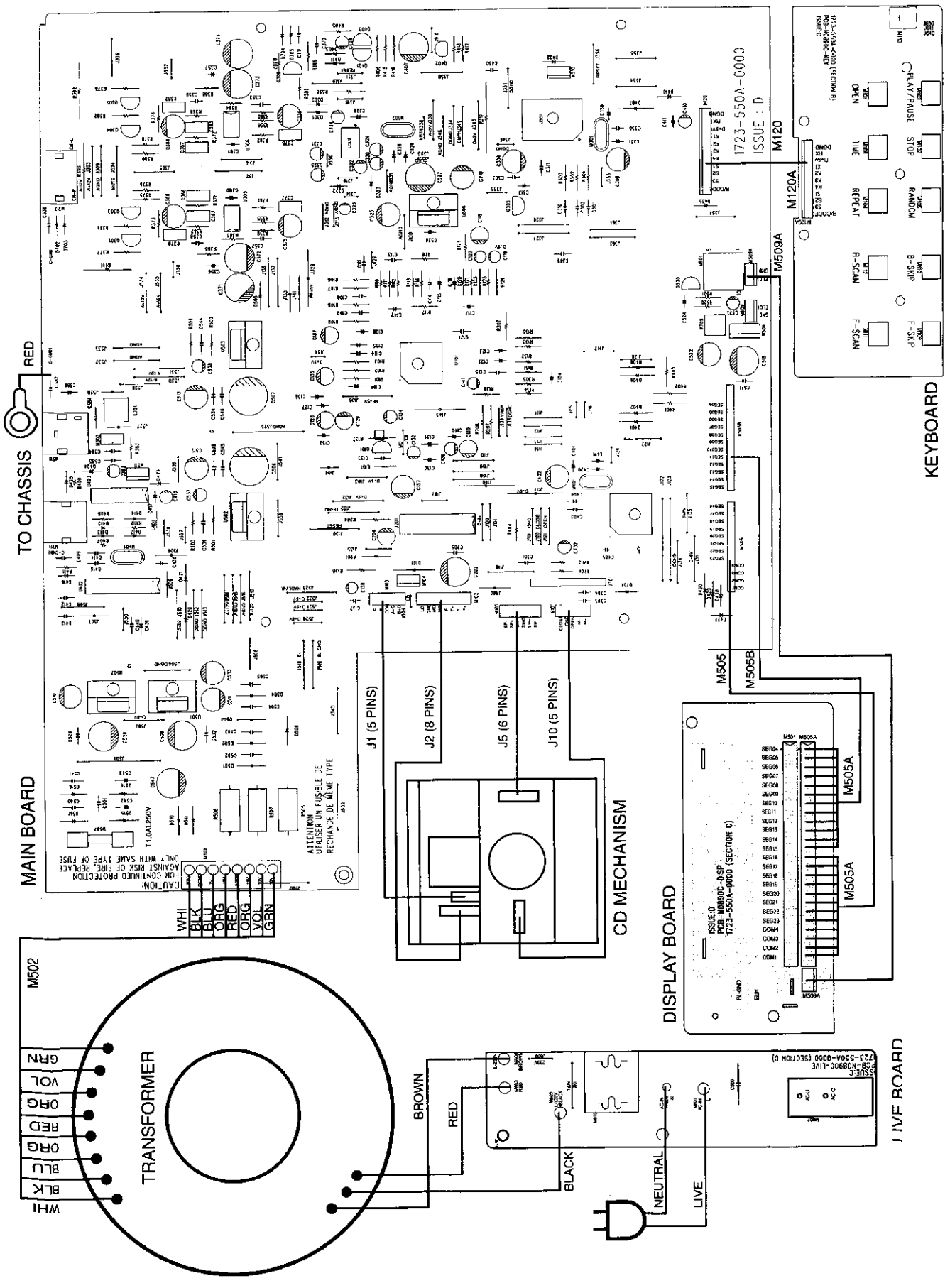


1. POWER ON / OFF
2. DISC DRAWER
3. DISPLAY
4. OPEN
5. PLAY / PAUSE
6. TIME
7. STOP
8. REPEAT
9. RANDOM
10. SCAN Back (◄◄)
11. SCAN Forward (►►)
12. SKIP Back (I◄◄)
13. SKIP Forward (►►I)

BLOCK DIAGRAM



WIRING DIAGRAM



DISASSEMBLY INSTRUCTIONS

1. Remove machine screws M 4.0 x 6.0 (① to ④) from the side panels.
   Remove tapping screw 3.0 x 8.0 ⑤ from the back panel.
   Refer to **Figure No. 1**.

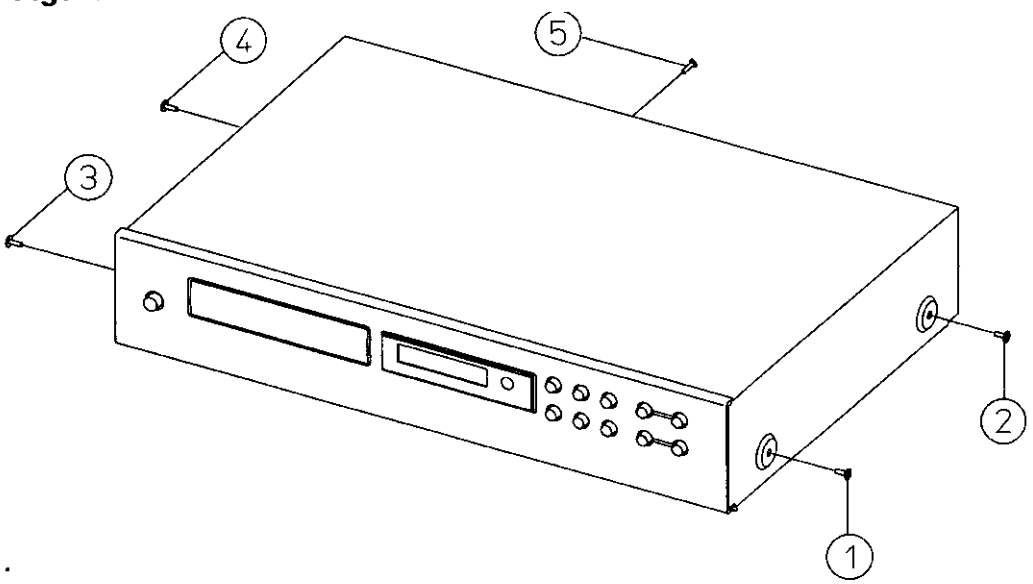


Figure No. 1.

2. Pull both sides of the TOP COVER slightly outwards ⑥ and tilt approx. 35° and then remove in the direction as indicated by the arrow ⑦. Refer to **Figure No. 2.**

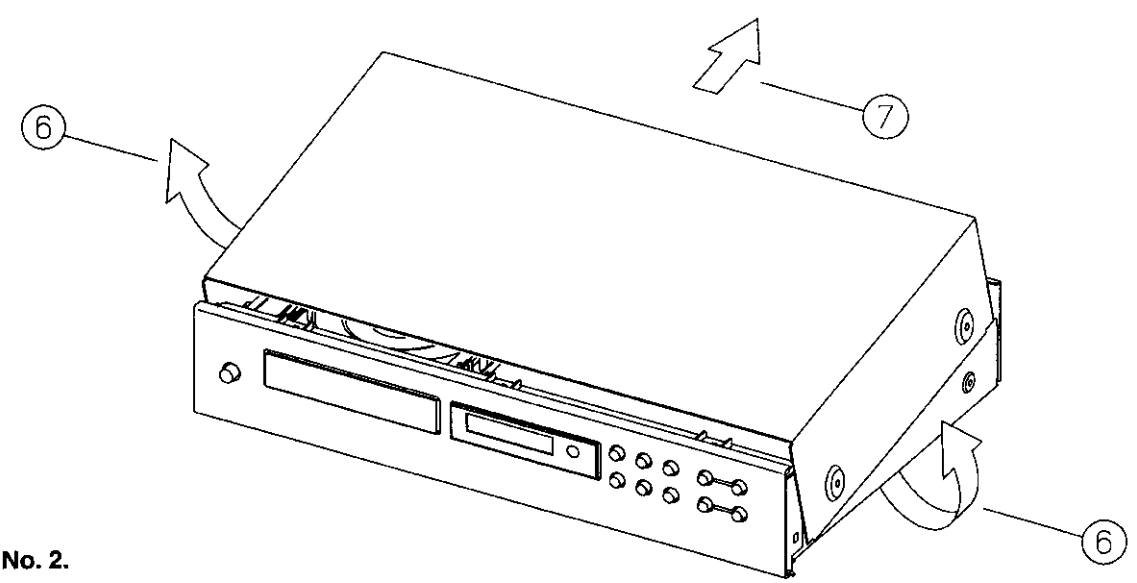
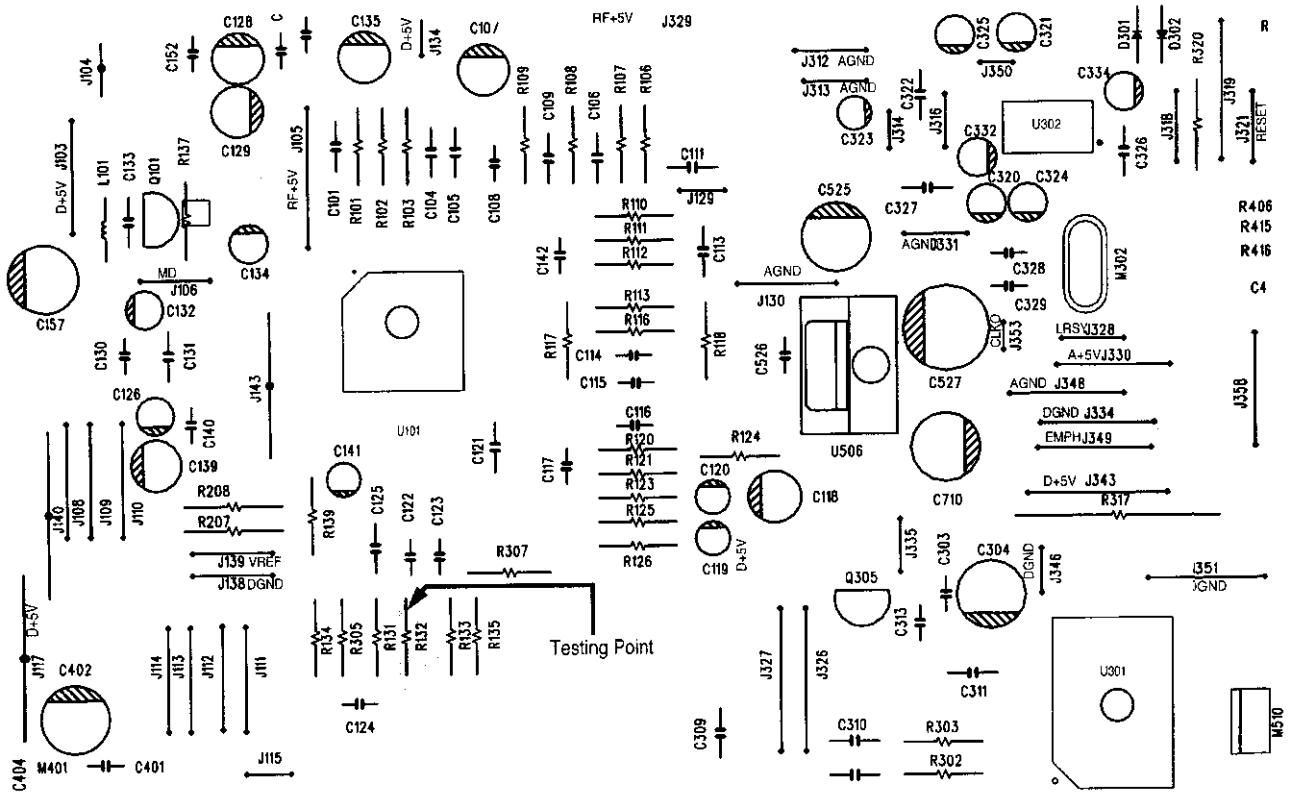


Figure No. 2.

RF PATTERN TESTING



NAD – 524 PCB TESTING POINTS DIAGRAM

TESTING PROCEDURE

(1) Load the test disc (Sony Test CD YEDS-7) and set the unit into PLAY mode.

(2) Connect the scope to R132 (Pin 41 of U101) and DGND (J334).

Scope setting: Coupling : AC.
Vertical sensitivity : 0.2 V/div.
Horizontal time base : 0.5 µS/div.

(3) Observe the waveform is 2.0V p-p +/- 5% and the eye pattern is at its best shape (see FIG. 1).

FIG. 1 (a)

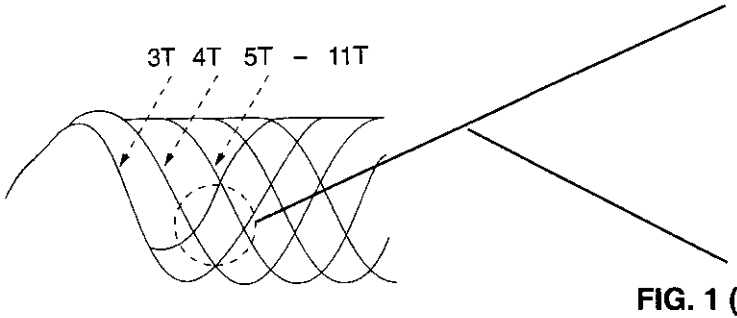
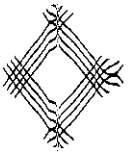


FIG. 1 (b) Poor eye pattern



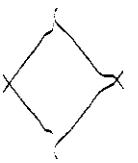


FIG. 1 (c) Good eye pattern

IMPORTANT NOTES

INSTRUCTION FOR HANDLING OPTICAL SYSTEM BLOCK PICK-UP

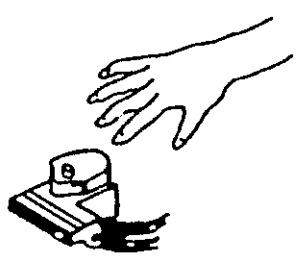
Electrostatic breakdown of the laser diode in the optical system block may occur due to a potential difference caused by electrostatic charge accumulated on clothing, human body, etc. A ground must be provided as follows to prevent any electrostatic charge during unpacking or repair work.

1. Ground for Human Body
Be sure to wear a ground band (1M ohm) that is properly grounded to remove any static electricity that may be charged on the body.

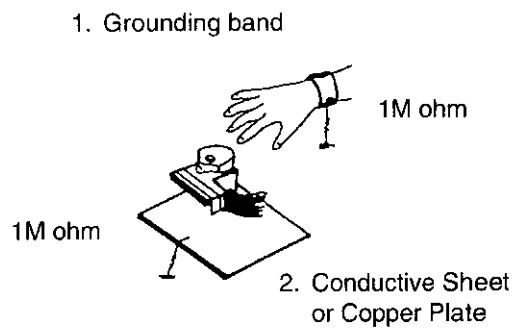
2. Ground for Work Bench
Be sure to place a conductive sheet (1M ohm) or copper plate with proper grounding on the work bench or other surface on which the pick-up is to be placed.

3. Because the static electricity charge on the clothing does not discharge through the body grounding band, do not let clothing to get in contact with the pick-up unit.

INCORRECT



CORRECT



NOTE: Laser diodes are so susceptible to damage from static electricity that even if a static discharge does not ruin the diode, it can shorten its life or cause it to work improperly.

PRECAUTIONS FOR CHECKING BEAM EMISSION

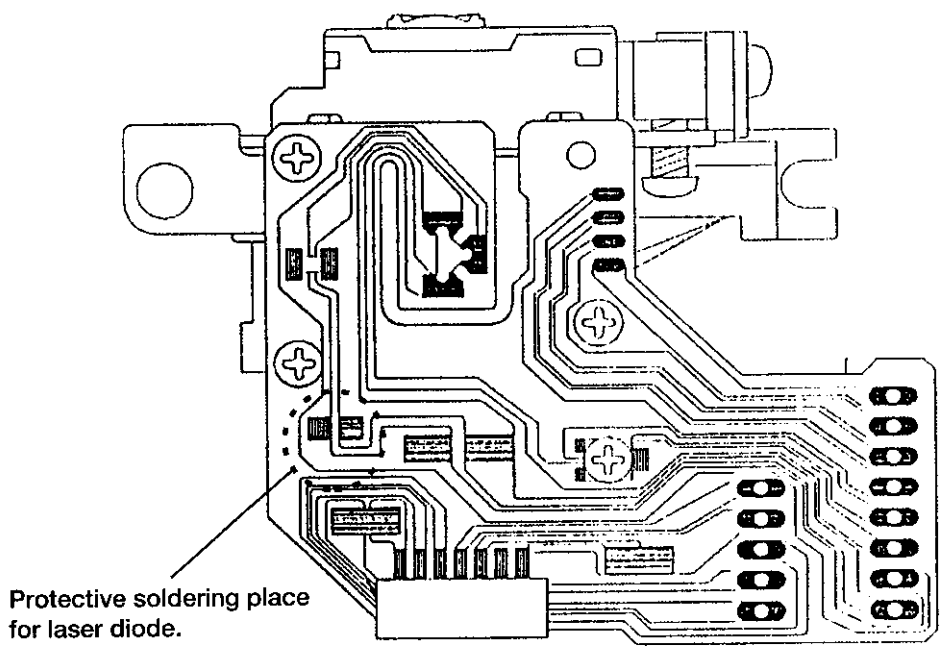
The laser beam of this unit is focused on the reflecting surface of the objective lens in the optical system block. Therefore, keep your eyes at least 12 inches (30 cm) away from the objective lens when the laser diode is **ON**.
(Operation Check Method for Laser Diode and Focus Search Function.)
When the **POWER** switch is turned **ON** after the chucking plate is removed, observe the objective lens and confirm that the following operations are performed properly.
(The optical system block should be at the lead-in area position when it is checked at this time .)
(1) The laser should be at the innermost position after the chucking plate is removed.
(2) The diffused light of the laser beam can be seen when the **POWER** switch is turned **ON**.
(3) Vertical (up and down) movement of the objective lens (4 times) will take place.

PRECAUTIONS WHEN CHANGING LASER PICK-UP

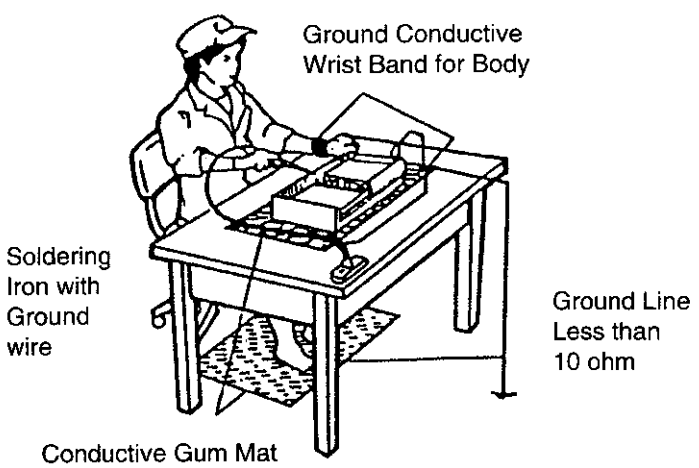
When removing the pick-up assembly, short circuit the PCB tracks on the optical block as shown in the drawing in order to protect the pick-up before removal.

NOTE: Replacement pickup assemblies are supplied with the PCB pattern already protected.

DO NOT REMOVE THE SHORT CIRCUITS UNTIL YOU HAVE FINISHED FITTING THE PICK-UP.

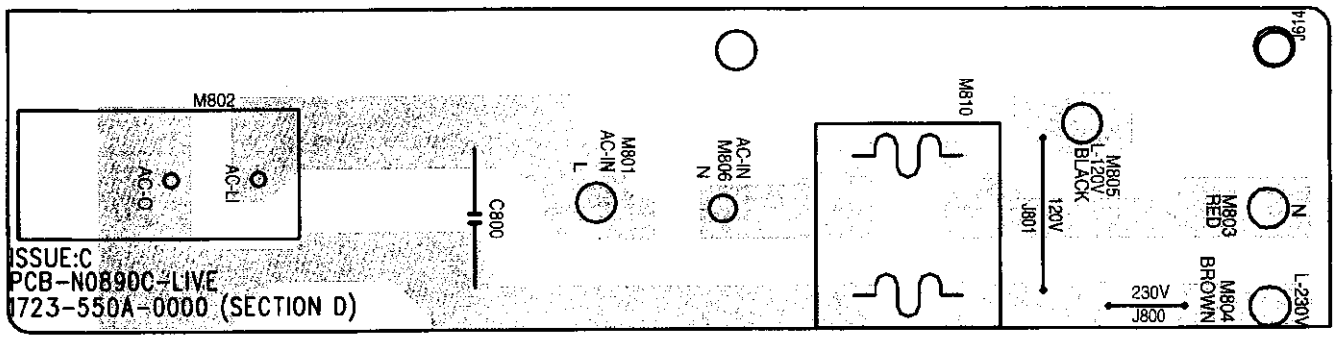


Caution:
Laser diodes are extremely susceptible to damage from static eletricity. Even if a static discharge does not ruin the diode, it can shorten its life or cause it to work improperly. When replacing the pick-up, use a conductive mat, a grounded soldering iron, and so on, to protect the laser diode from static damage.

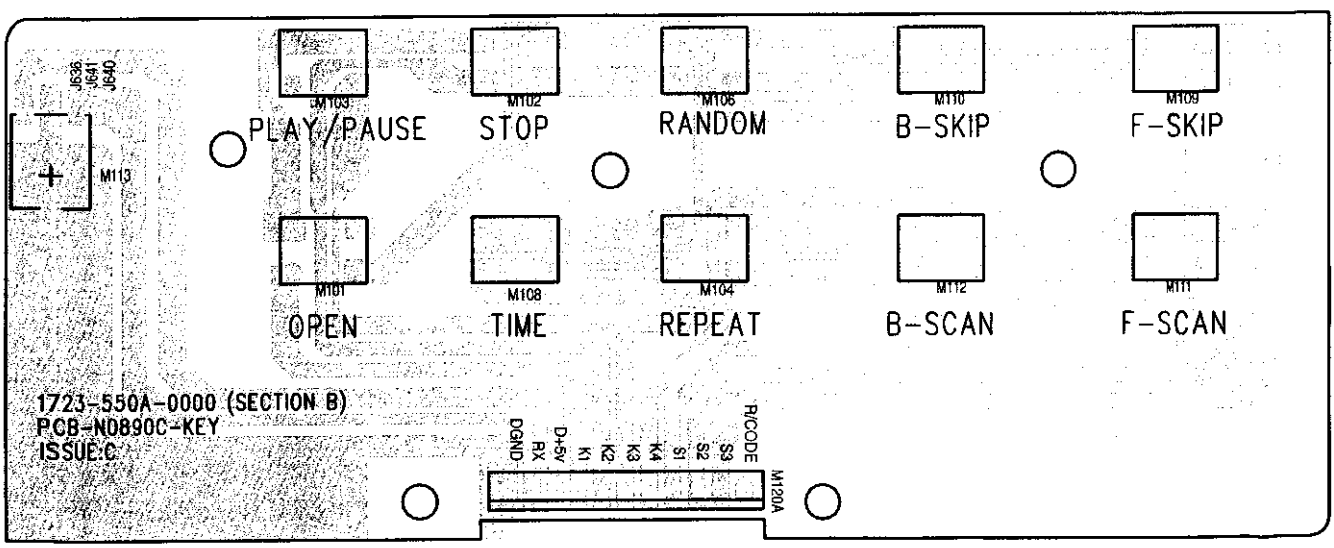


PCB LAYOUT

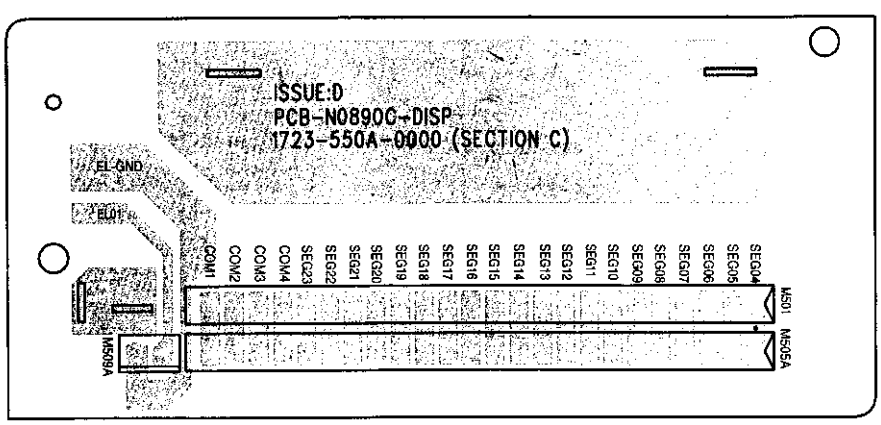
LIVE BOARD



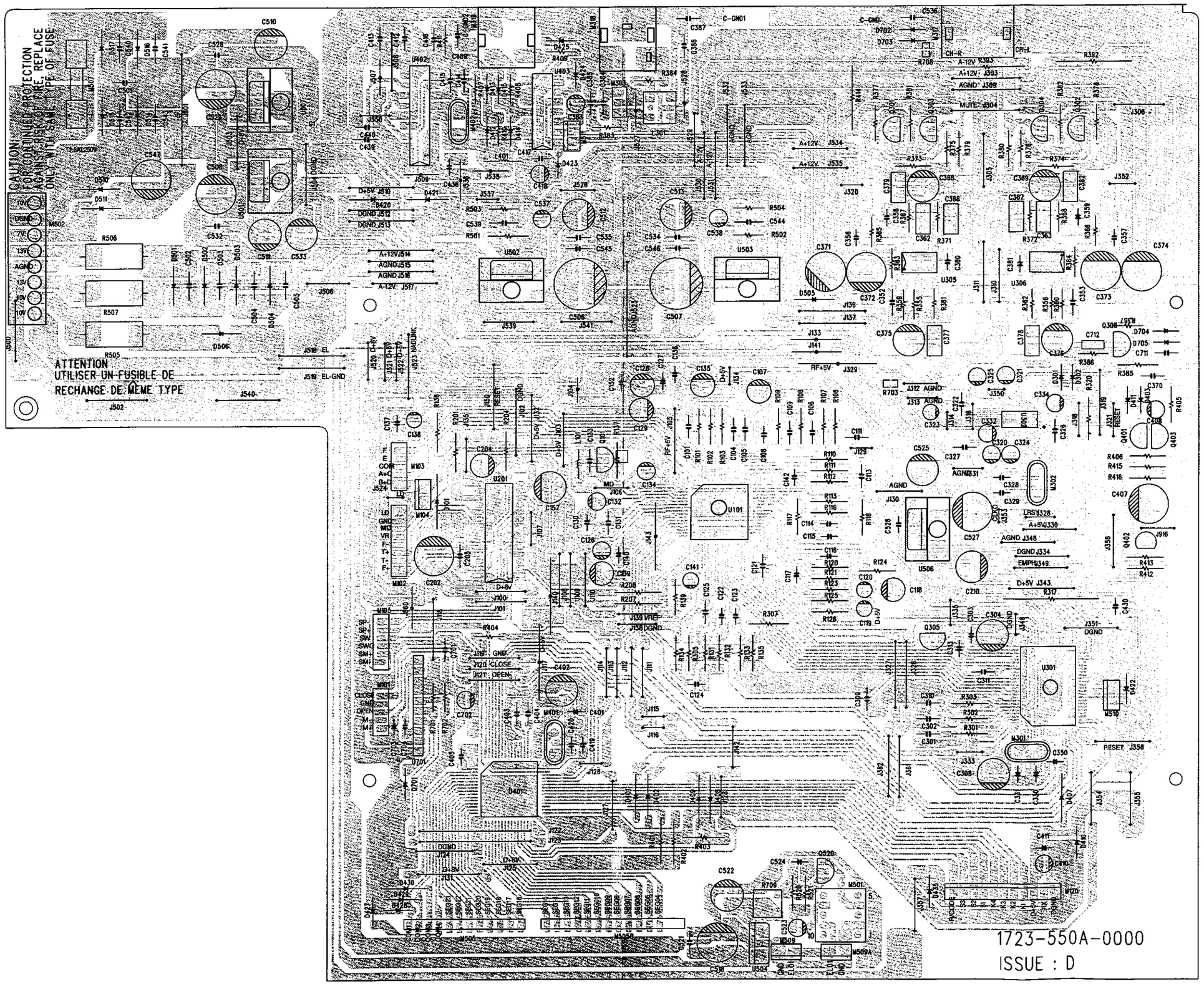
KEYBOARD



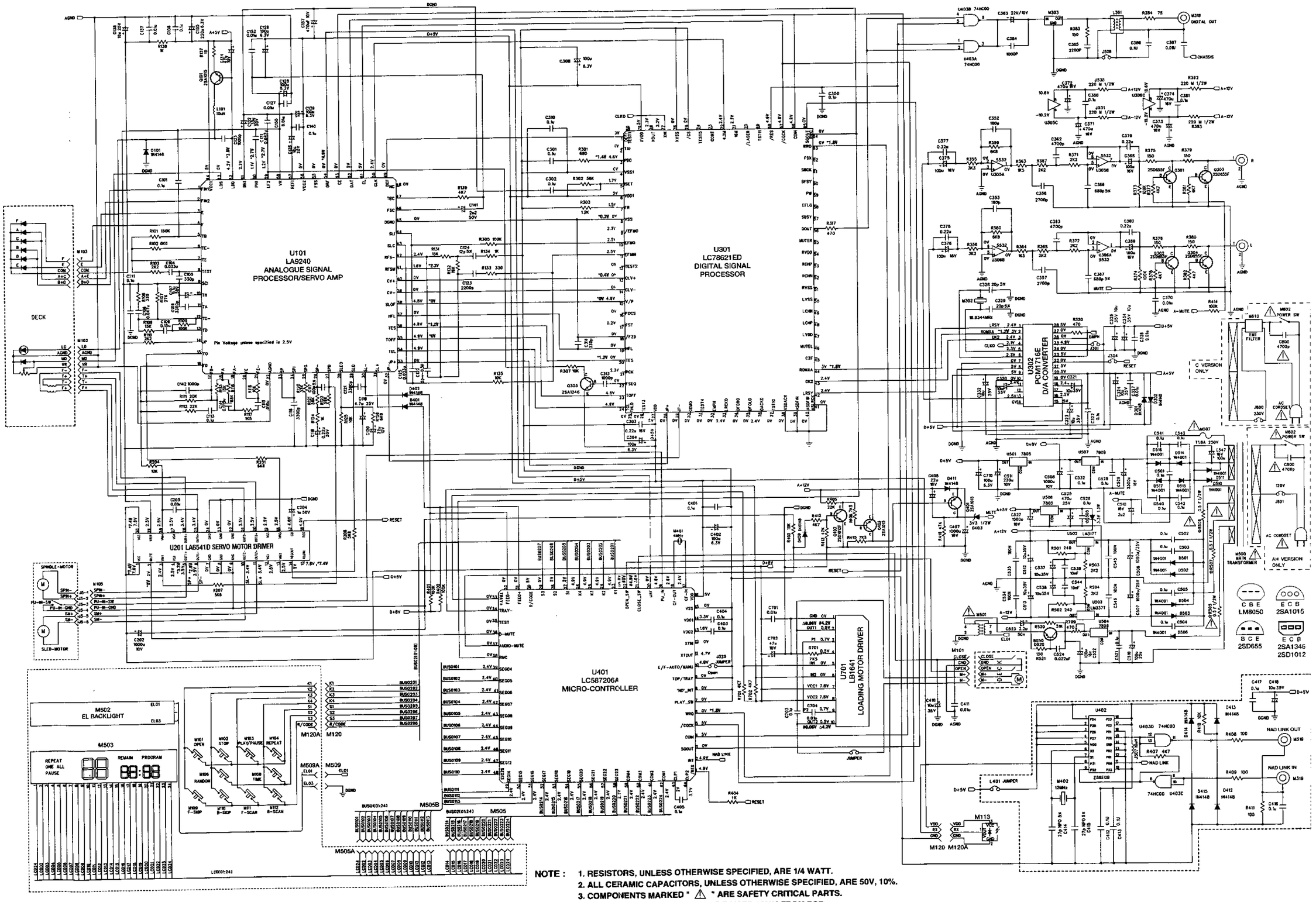
DISPLAY BOARD



MAIN BOARD


CAUTION
FOR CONTINUED PROTECTION
AGAINST RISK OF FIRE, REPLACE
ONLY WITH SAME TYPE OF FUSE
ATTENTION
UTILISER UN FUSIBLE DE
RECHANGE DE MEME TYPE
1723-550A-0000
ISSUE : D

SCHEMATIC DIAGRAM

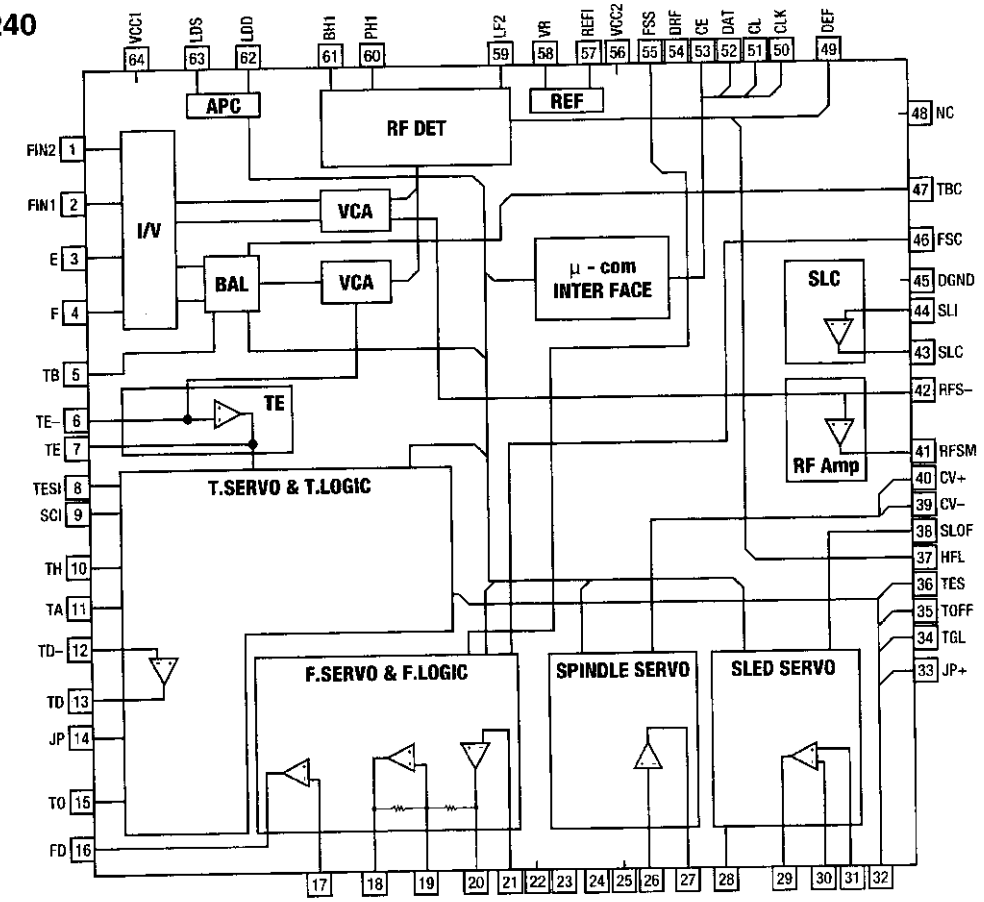


NOTE :
1. RESISTORS, UNLESS OTHERWISE SPECIFIED, ARE 1/4 WATT.
2. ALL CERAMIC CAPACITORS, UNLESS OTHERWISE SPECIFIED, ARE 50V, 10%.
3. COMPONENTS MARKED " ⚠ " ARE SAFETY CRITICAL PARTS.
4. COMPONENTS MARKED "☆" ARE RAISED 10MM FROM PCB.
5. VOLTAGE SPECIFIED ON THE IC'S PIN WHICH DOES NOT HAS MARKING IS IN STOP MODE, MARKED WITH "▲" IS PLAY MODE, "#" IS TRAY OPEN MODE AND "Δ" IS TRAY CLOSE MODE.

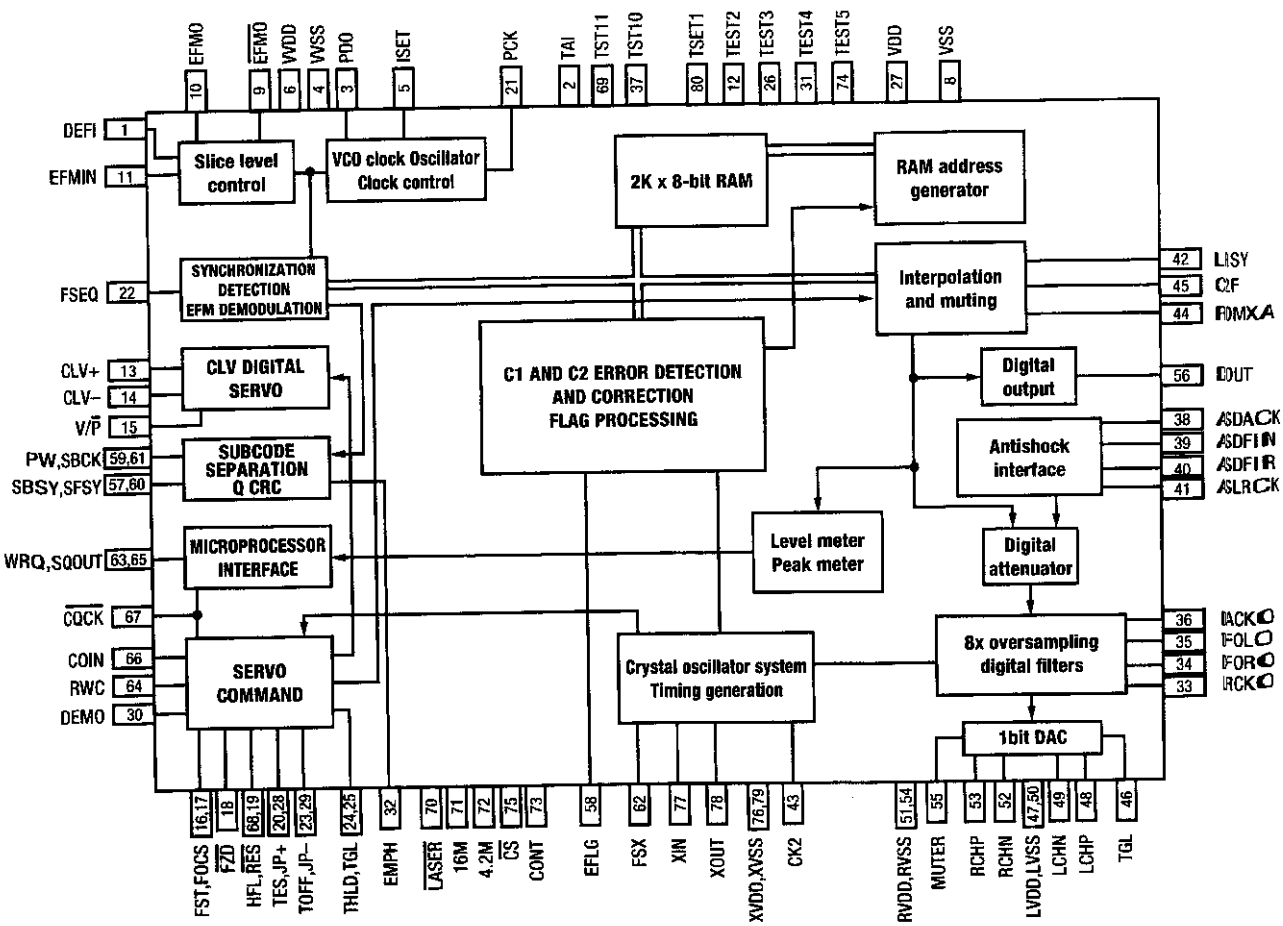
RESISTORS : M - METAL FILM
F - FUSIBLE
CARBON FILM UNLESS OTHERWISE SPECIFIED.

IC BLOCK DIAGRAM

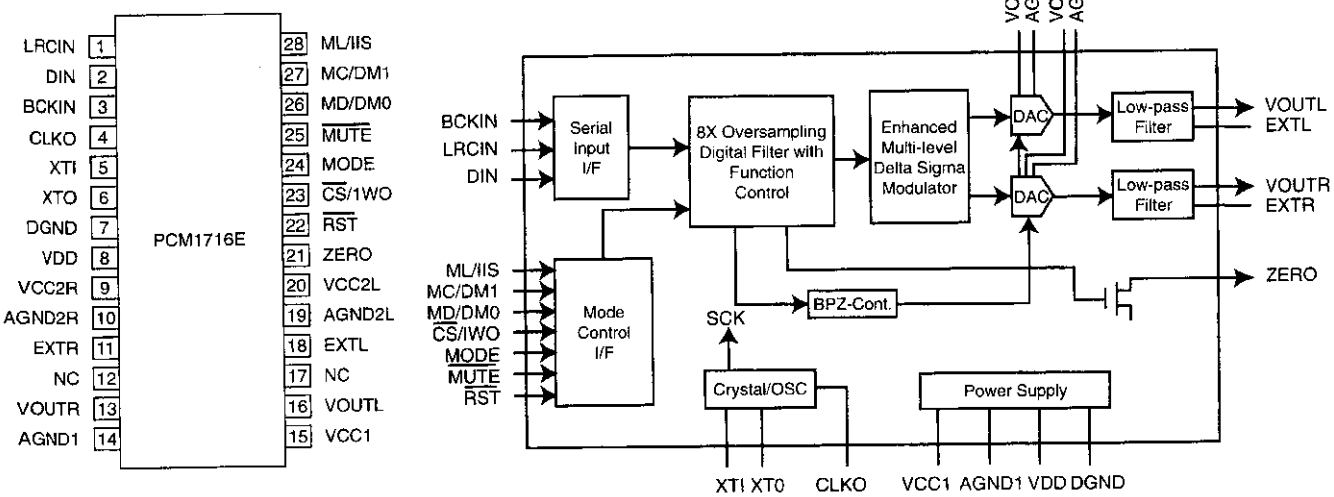
U101: LA9240



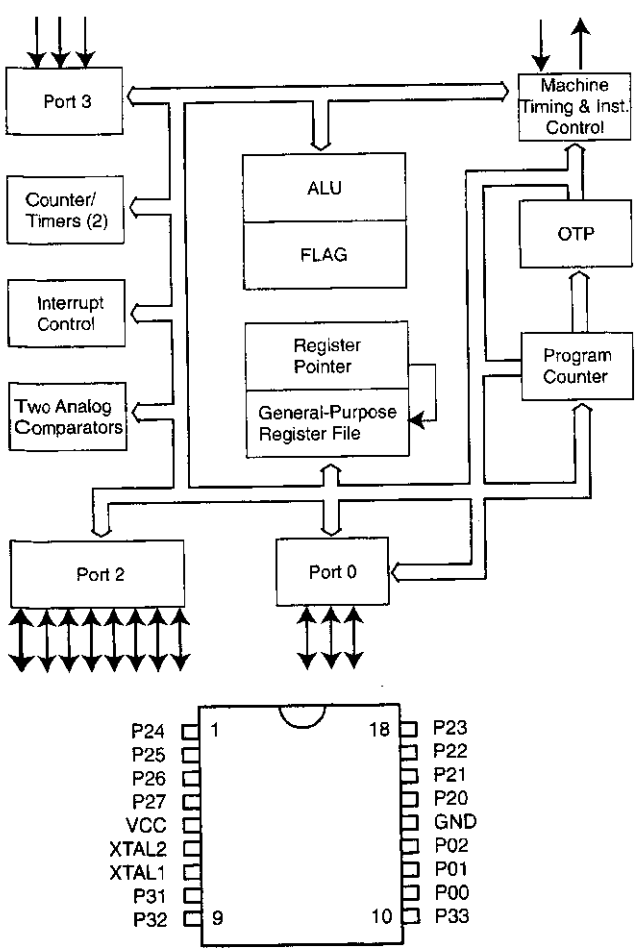
U301: LC78621ED



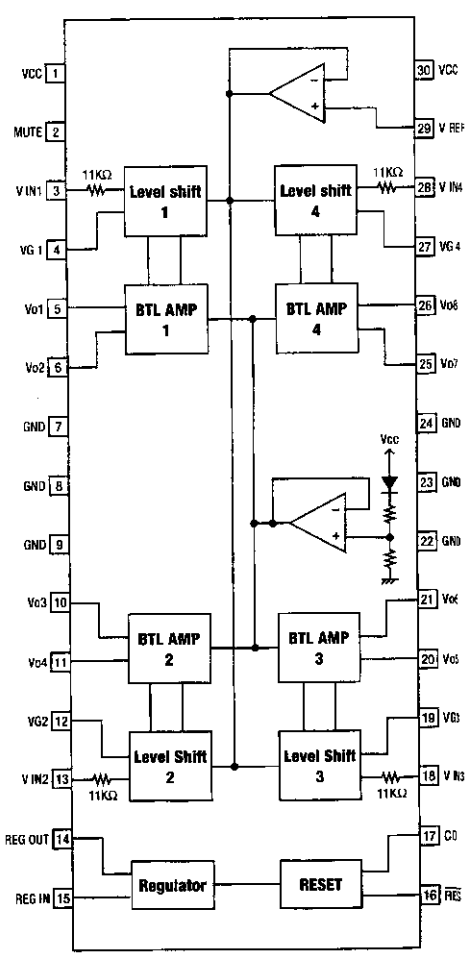
U302: PCM1716E



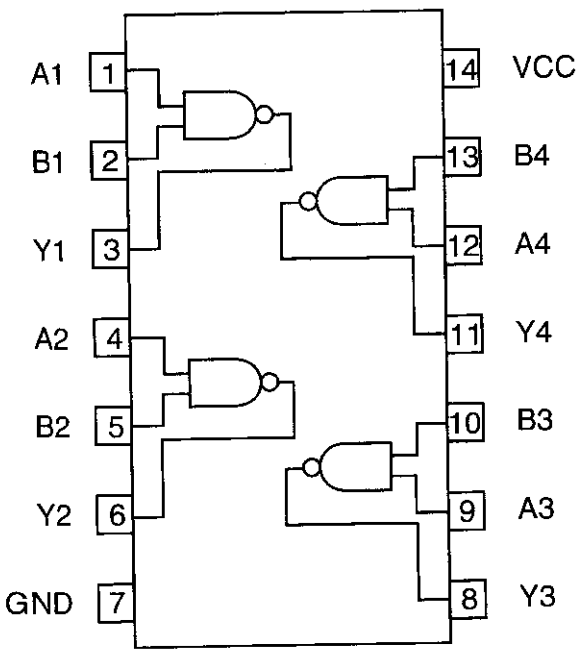
U402: Z86E08



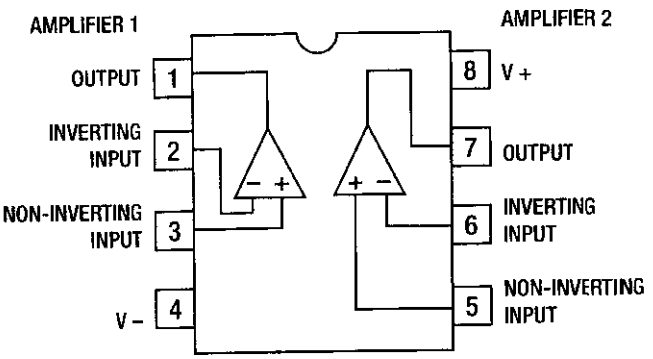
U201: LA6541D



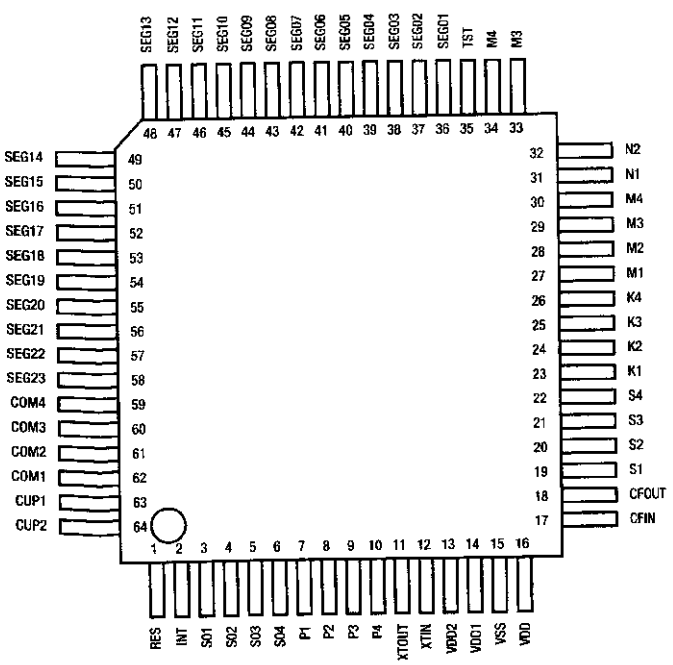
U403: 74HC00



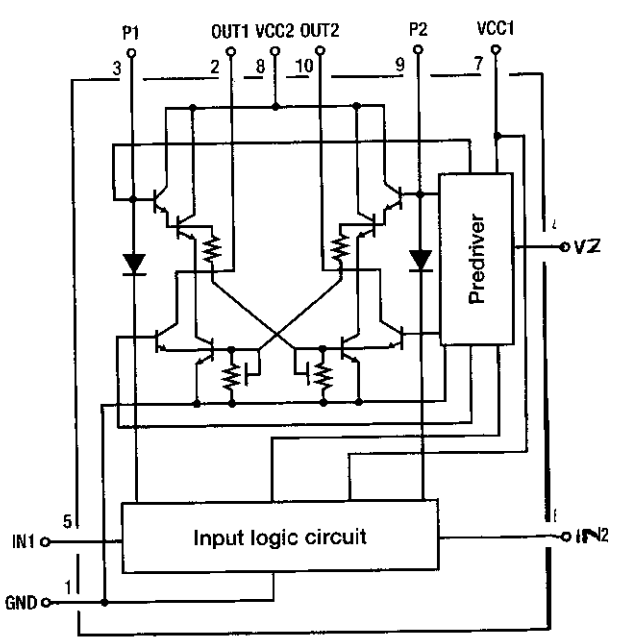
U305 - U306: NE5532



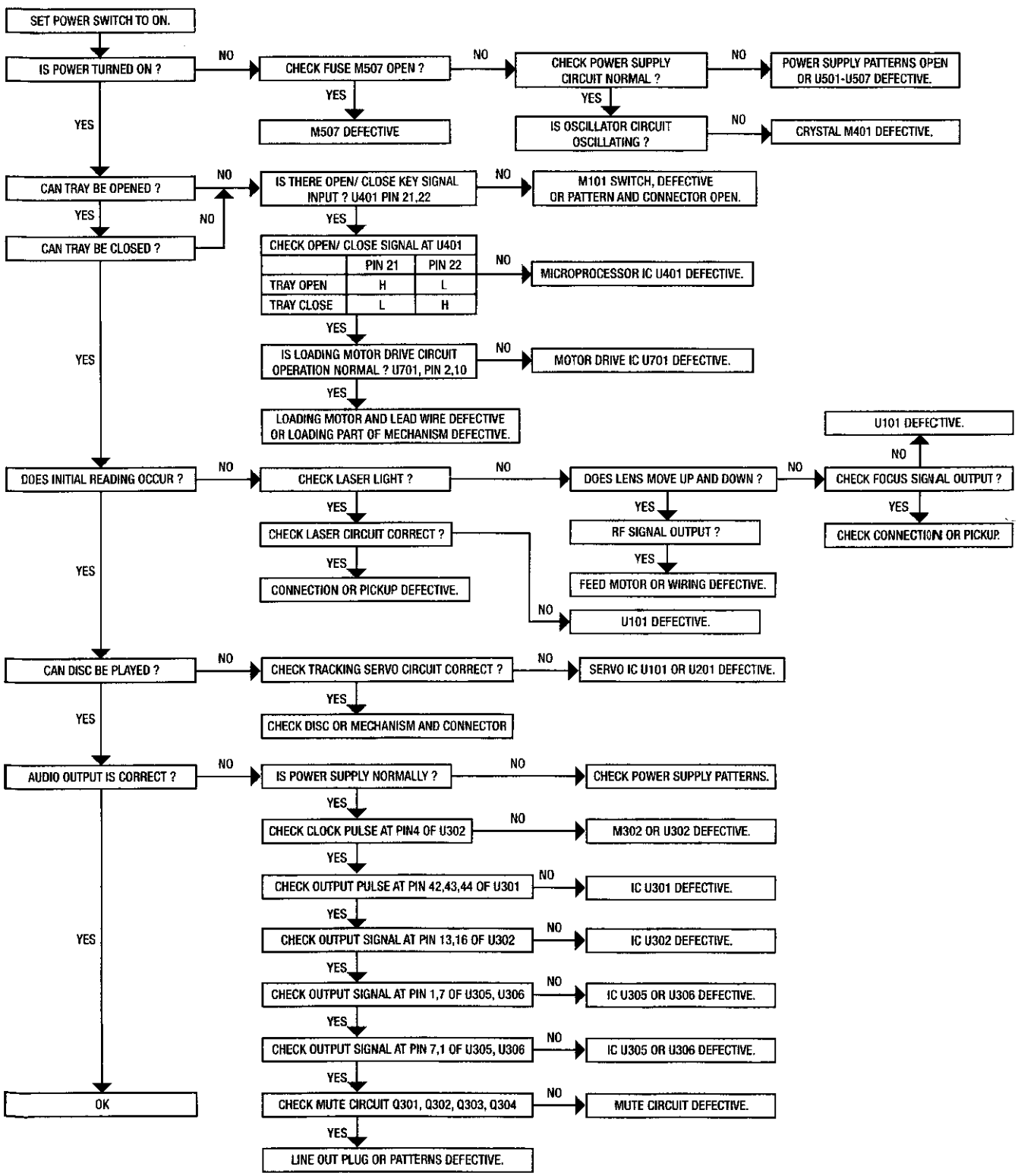
U401: LC587206A



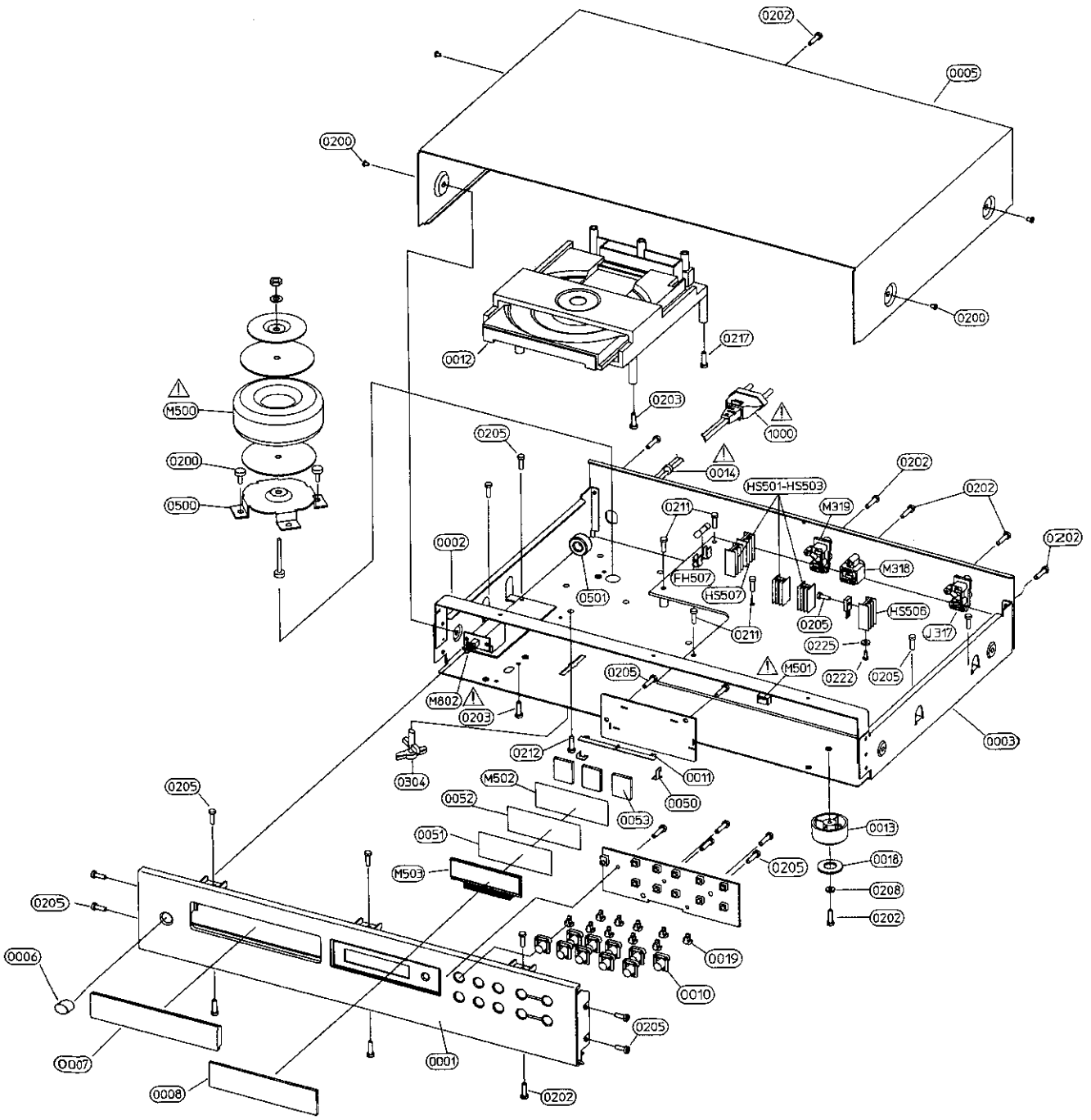
U701: LB1641



TROUBLESHOOTING GUIDE



EXPLODED VIEW



EXPLODED VIEW PARTS LIST

Item	Part No	Description	Qty
0001	1464-4613-3	FASCIA W/SS PAINT	1
0002	1402-3781-1	STRAP	1
0003*AH	1402-7760-0	CHASSIS	1
0003*C	1402-7762-0	CHASSIS	1
0005	1402-3530-0	COVER	1
0006	2437-510B-0	DIA 9.5 GLOSS POWER BUTTON	1
0007	1464-6711-1	CD DOOR W/PAINT	1
0008	3714-6013-0	DISPLAY WINDOW W/SS PAINT	1
0010	2437-7301-0	SINGLE BUTTON	10
0011	4134-3011-0	EL HOLDER	1
0012	4111-0901-1	CD DECK CD93F8	1
0013	4152-4631-0	RUBBER FOOT 14MM HIGH	4
0014 ⚠	4151-9461-0	STRAIN RELIEF BUSHING	1
0018	4152-4641-0	CUSHION FOOT	4
0019	3715-1606-0	INSERT BUTTON	10
0050	4134-3041-0	LCD CORNER BRACKET	2
0051	3716-3502-0	POLYESTER SHEET LEE FILTER PN253	1
0052	3716-3505-0	PC SHEET FILTER	1
0053	4152-4841-1	EL BLACK CUSHION	3
0200	2900-4006-3010	M4X0.5PX6MM W/FLAT WASHER	8
0202	2954-3008-3000	TAPPING SCREW 3X8MM B-TITE (BLK.ZN	12
0203	2954-3010-3000	TAPPING SCREW 3X10MM B-TITE (BLK.ZN)	2
0205	2954-3008-0000	TAPPING SCREW 3X8MM B-TITE (YEL.ZN)	23
0208	2842-3367-0	METAL WASHER ID=3.3 OD=6.7	4
0211	2904-3006-0000	SCREW M3X6 (YEL.ZN)	4
0212	2954-3510-3000	TAPPING SCREW 3.5X10MM B-TITE (BLK.ZN)	1
0217	2954-4010-3000	TAPPING SCREW 4X10MM B-TITE (BLK.ZN)	1
0222	2950-2608-3000	SCREW PAN HEAD 2.6X8MM B-TITE (BLK.ZN)	5
0225	2601-2608-0601	FIBRE WASHER M2.6 0.8T OD=6	4
0304	1463-160B-0	CD TRANSIT LOCK	1
0500	4104-3721-0	TRANSFORMER BRACKET	1
0501	1808-0130-0	FERRITE CORE D19XT10	1
1000*AH ⚠	7009-3100-2	AC CORD 18AWGX2 SPT-2 UL/CSA	1
1000*C ⚠	7009-3110-0	AC CORD SEMKO	1
FH507	4131-9131-0	FUSE HOLDER 6.5MM PITCH RECT	2
HS501-HS503	5400-9130-0	HEAT SINK	3
HS506-HS507	5400-9130-0	HEAT SINK	2
J317	2113-1300-0	2P RCA JACK W/R AU W/SHIELD	1
M318	2113-1170-0	1P RCA JACK YL AU HTJ-032-09	1
M319	2113-1121-0	2P RCA JACK Y/Y AU HSP-242V-22	1
M500 ⚠	1806-2317-0	MAIN TRANSFORMER	1
M501 ⚠	1806-2320-0	EL TRANSFORMER	1
M502	2450-1146-0	EL BACKLIGHT	1
M503	2460-1340-1	LCD DISPLAY NEGATIVE	1
M802	5200-0961-0-01	POWER SWITCH	1

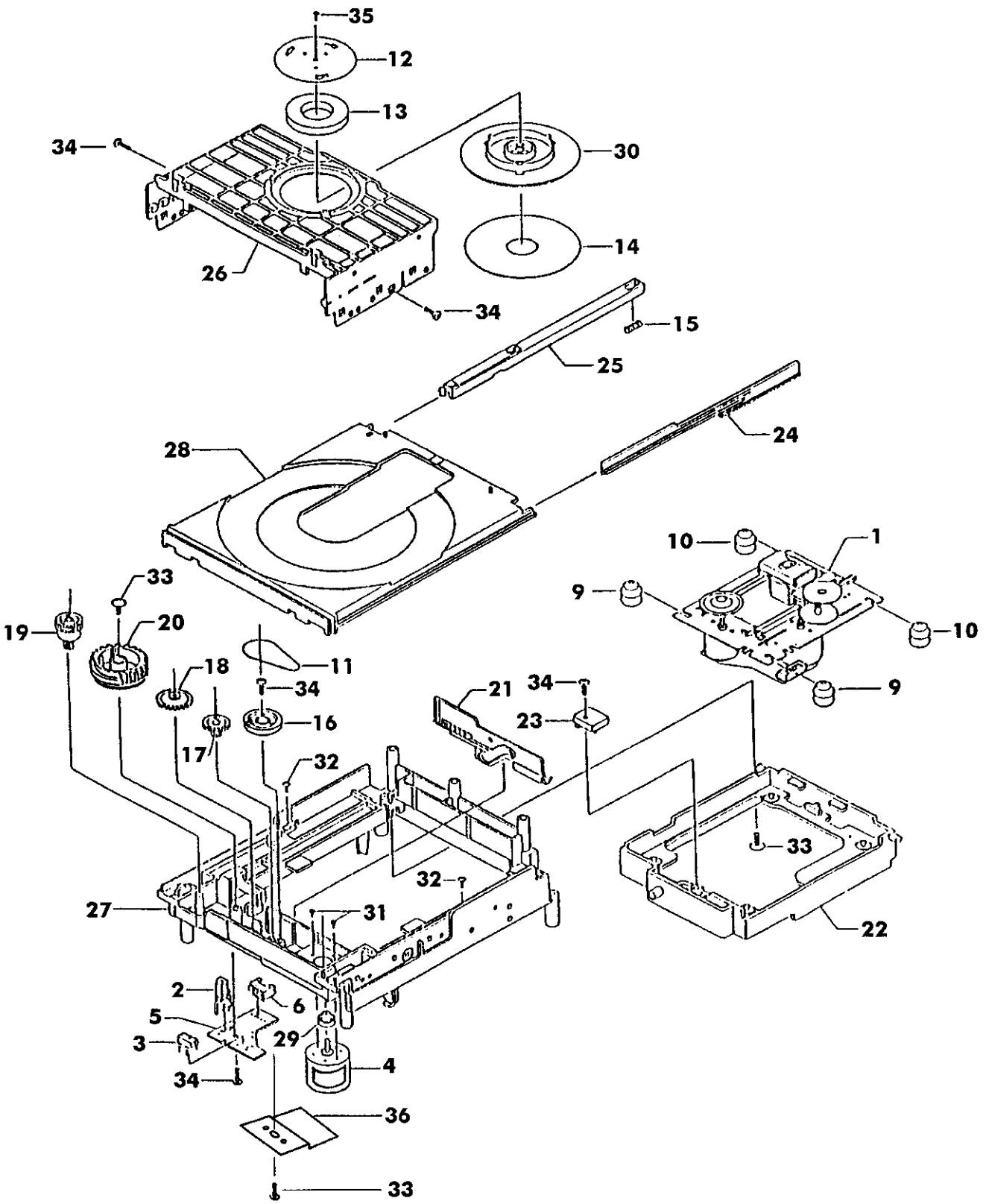
NOTE : – **The components identified by ⚠ mark are critical for risk of fire and electrical shock. Replace only with part number specified.**

– **<*AH > : USA, Canadian model only.**

<*C > : European model only.

MECHANISM EXPLODED VIEW

CD93F8



EXPLODED VIEW PARTS LIST OF MECHANISM CD93F8

Item	Part No	Description	Qty
1	4102-5002-0	CD94V5 MECHANISM	1
2	4102-5003-0	SWITCH LEAF	1
3	4102-5004-0	SWITCH PUSH 2-1	1
4	4102-5005-0	LOADING MOTOR	1
5	4102-5006-0	CON/SW PCB	1
6	4102-5007-0	CON JST 5P RT	1
9	4102-5008-0	Hardness 60° CUSHION RUBBER	2
10	4102-5009-0	Hardness 50° CUSHION RUBBER	2
11	4102-5010-0	BELT SQUARE	1
12	4102-5011-0	PLATE MAGNET	1
13	4102-5012-0	MAGNET DISK	1
14	4102-5013-0	SHEET	1
15	4102-5014-0	SPRING RAIL	1
16	4102-5015-0	PULLEY GEAR	1
17	4102-5016-0	GEAR IDLER A	1
18	4102-5017-0	GEAR IDLER B	1
19	4102-5018-0	GEAR TRAY	1
20	4102-5019-0	GEAR MEDIATION	1
21	4102-5020-0	SLIDER	1
22	4102-5021-0	CDM MOUNTING BASE	1
23	4102-5022-0	FIXITY	1
24	4102-5023-0	RAIL RIGHT	1
25	4102-5024-0	RAIL LEFT	1
26	4102-5025-0	SUPPORT MAGNET	1
27	4102-5026-0	BASE FRAME	1
28	4102-5027-0	CD TRAY	1
29	4102-5028-0	PULLEY MOTOR	1
30	4102-5029-0	HOLDER MAGNET	1
31	4102-5030-0	SCREW PAN+SW 1.7x3.5	2
32	4102-5031-0	SCREW S-TPG PAN+FLG 2x6	2
33	4102-5032-0	SCREW S-TPG BRZ+FLG 3x8	3
34	4102-5033-0	SCREW S-TPG BIN 2.6x7.8	5
35	4102-5034-0	SCREW SPECIAL 1.7x4.0	1
36	4102-5035-0	BRACKET	1

ELECTRICAL PARTS LIST

Reference No.	Part No.	Description
KEYBOARD ASSEMBLY		
PC BOARD		
	PCB-N0890C-KEY	KEYBOARD ASSEMBLY
SWITCHES		
M101-M104,M106	5200-3291-0-01	TACT SW SKHHAR
M108-M112	5200-3291-0-01	TACT SW SKHHAR
IR SENSOR		
M113	4816-043T-3	IR SENSOR PIC-26043TM2
LIVE ASSEMBLY		
PC BOARD		
*AH	PCB-N0890C-LIVE	LIVE ASSEMBLY
*C	PCB-N0891C-LIVE	LIVE ASSEMBLY
CAPACITOR		
C800 ⚠	8910-0049-0	CAP 400V 4700P DE7150F472MVA1KC
JUMPERS		
J800*C	635N-0002-0	WJ ROLLER FORM D=0.6MM
J801*AH	635N-0002-0	WJ ROLLER FORM D=0.6MM
EMI FILTER		
M810*C ⚠	1806-2170-0	EMI FILTER TLN12UA150W3R0
FUSES		
M507*AH ⚠	5120-0052-0	FUSE 1.6A 250V TIME LAG 5X20MM UL/CSA
M507*C ⚠	5120-0050-0	FUSE 1.6A 250V TIME LAG 5X20MM SEMKO/VDE
MAIN ASSEMBLY		
PC BOARD		
	PCB-N0890C-MAIN	MAIN ASSEMBLY
CAPACITORS		
C104	153F-333J-5-MS	CM 50V 0.033µF 5%
C106	153F-473J-5-NR	CM 50V 0.047µF 5%
C107	157F-104M-5-GMK	CE 50V 0.1µF 20%
C108	153F-332J-5-KW	CM 50V 3300pF 5%
C109	153F-154J-5-NLM	CM 50V 0.15µF 5%
C114	153F-153J-5-KP	CM 50V 0.015µF 5%
C115	153F-183J-5-KP	CM 50V 0.018µF 5%
C116	153F-332J-5-KM	CM 50V 3300pF 5%
C117	150F-101J-5-IF	CC 50V 100pF 5%
C118	157F-224M-5-GMK	CE 50V 0.22µF 20%
C119	157E-475M-5-GMK	CE 25V 4.7µF 20%
C120	157C-226M-5-IUK	CE 10V 22µF 20%
C121	153F-332J-5-KW	CM 50V 3300pF 5%
C122	15CH-050D-5-GG	CC 50V 5pF +/-0.5pF NPO
C123	153F-222J-5-IM	CM 50V 2200pF 5%
C124	15CH-120J-5-GG	CC 50V 12pF 5% NPO
C125	153F-333J-5-MS	CM 50V 0.033µF 5%
C126	157E-106M-5-GMK	CE 25V 10µF 20%
C127	153F-103J-5-IM	CM 50V 0.01µF 5%
C128-C129	157B-107M-5-KMK	CE 6.3V 100µF 20%

Reference No.	Part No.	Description
C130	153F-103J-5-IM	CM 50V 0.01μF 5%
C131	153F-473J-5-NR	CM 50V 0.047μF 5%
C132	157F-334M-5-GMK	CE 50V 0.33μF 20%
C133	153F-102J-5-IM	CM 50V 1000pF 5%
C134	157C-476M-5-IMK	CE 10V 47μF 20%
C135	157B-227M-5-LMK	CE 6.3V 220μF 20%
C137	153F-103J-5-IM	CM 50V 0.01μF 5%
C138	157E-106M-5-GMK	CE 25V 10μF 20%
C139	157B-107M-5-KMK	CE 6.3V 100μF 20%
C141	157F-225M-5-GMK	CE 50V 2.2μF 20%
C142	153F-102J-5-IM	CM 50V 1000pF 5%
C152	153F-103J-5-IM	CM 50V 0.01μF 5%
C157	157C-477M-5-OVK	CE 10V 470μF 20%
C202	157C-108M-5-S5K	CE 10V 1000μF 20%
C204	157F-105M-5-GMK	CE 50V 1μF 20%
C205	153F-103J-5-IM	CM 50V 0.01μF 5%
C303	153F-223J-5-LQ	CM 50V 0.022μF 5%
C304,C308	157B-107M-5-KMK	CE 6.3V 100μF 20%
C313	153F-102J-5-IM	CM 50V 1000pF 5%
C320-C321, C323-C325	157Q-106M-5-IUF	CE 35V 10μF 20% RA2
C328-C329	15CH-200J-5-GG	CC 50V 20pF 5% NPO
C332	157Q-106M-5-IUF	CE 35V 10μF 20% RA2
C334	157Q-106M-5-IUK	CE 35V 10μF 20%
C356-C357	153F-272J-5-JM	CM 50V 2700pF 5%
C362-C363	153F-472J-5-KM	CM 50V 4700pF 5%
C366-C367	158F-681J-5-KW	CP 50V 680pF 5%
C368-C369	157D-107M-5-KUF	CE 16V 100μF 20%
C370	153F-103J-5-IM	CM 50V 0.01μF 5%
C371-C374	157D-477M-5-SXF	CE 16V 470μF 20%
C375-C376	157D-107M-5-KUF	CE 16V 100μF 20%
C377-C379,C382	153I-224J-9-NL	CM 63V 0.22μF 5%
C383	157C-226M-5-IUK	CM 10V 22μF 20%
C384	153F-102J-5-IM	CM 50V 1000pF 5%
C385	153F-222J-5-IM	CM 50V 2200pF 5%
C387	153F-103J-5-IM	CM 50V 0.01μF 5%
C402	157B-107M-5-KMK	CE 6.3V 100μF 20%
C407	157D-108M-5-S9K	CE 16V 1000μF 20%
C409	635N-0002-0	WJ ROLLER FORM D=0.6MM
C410	157Q-106M-5-IUK	CE 35V 10μF 20%
C411	153F-103J-5-IM	CM 50V 0.01μF 5%
C414-C415	15CH-270J-5-GG	CC 50V 27pF 5% NPO
C418	157Q-106M-5-IUK	CE 35V 10μF 20%
C506-C507	157E-108M-5-X9F	CE 25V 1000μF 20%
C508	157C-108M-5-S5K	CE 10V 1000μF 20%
C511	157C-227M-5-OMK	CE 10V 220μF 20%
C512-C513	157Q-106M-5-IUF	CE 35V 10μF 20%
C518	157E-107M-5-KUK	CE 25V 100μF 20%
C522	157D-107M-5-KUK	CE 16V 100μF 20%
C523	157F-225M-5-GMK	CE 50V 2.2μF 20%
C524	153F-223J-5-LQ	CM 50V 0.022μF 5%
C525	157E-477M-5-S5F	CE 25V 470μF 20%
C527	157C-108M-5-S9F	CE 10V 1000μF 20%
C529	157D-338M-5-5&K	CE 16V 3300μF 20%
C533	157C-108M-5-S5K	CE 10V 1000μF 20%
C537-C538	157Q-106M-5-IUF	CE 35V 10μF 20%
C539, C544	153F-103J-5-IM	CM 50V 0.01μF 5%
C701	153F-103J-5-IM	CM 50V 0.01μF 5%
C702	157C-476M-5-IMK	CE 10V 47μF 20%
C704	153F-103J-5-IM	CM 50V 0.01μF 5%
C710	157B-107M-5-KMK	CE 6.3V 100μF 20%

Reference No.	Part No.	Description
DIODES		
D101,D301-D302	4804-1480-2	DIODE IN4148 AT
D401-D402	4804-1480-2	DIODE IN4148 AT
D403	4837-3V31-2	DZ 1/2W 3.1-3.5V AT
D409, D411-D415	4804-1480-2	DIODE IN4148 AT
D501-D504, D506	4804-0010-2	DIODE IN4001 AT
D505	4840-1140-0	ZD 1.3W 3.3V 5% AT
D514-D517	4804-0010-2	DIODE IN4001 AT
COILS		
L101, J507	1801-100K-M	COIL 10μH 10% BL7.0
L301	1802-0450-0	DIGITAL COIL 015-910-27BB
CRYSTALS & RESONATORS		
M302	2300-1910-0	X'TAL 16.9344MHZ +/-30PPM
M401	2703-0150-0	CR 4.00MHZ,CST4.00MGW
M402	2703-0190-0	CR RESONATOR CSA 12MHZ
EMC FILTER		
M303	2704-0060-0	EMC FILTER DSS31055B271M
TRANSISTORS		
Q101	4851-015Y-5	TR 2SA1015-Y HFE120-240
Q301-Q304	4860-1780-5	TR 2SD655F HFE 600-1200
Q305	485A-1346-5	TR 2SA1346 HFE 50-100
Q401, Q403	4860-0660-5	TR 2SA1015GR
Q402	4851-012F-5	TR 2SD1012F/G HFE 160-560
Q520	4858-050I-5	TR LM8050I HFE 100-250
RESISTORS		
J531, J535	4717-221J-L	RMF 220 OHM 1/2W 5%
R361-R362	635N-0002-0	WJ ROLLER FORM D=0.6MM
R365-R366	635N-0002-0	WJ ROLLER FORM D=0.6MM
R392-R393	4717-221J-L	RMF 220 OHM 1/2W 5%
R505-R507 ⚠	4717-0R5J-2-F	RFU 0.5 OHM 1/2W 5%
R709	4756-4716-3-06	SVR 470 H3 7X7.6
ICs		
U101	3130-6710-0	IC LA9240 ASP
U201	3130-6720-0	IC LA65141D 4-CHANNEL BTL DRIVER
U301	3130-6700-0	IC LC78621ED DSP
U302	3130-8520-0	IC PCM1716E D/A CONVERTER 24BIT
U305-U306	3130-2430-0	IC NE5532 OP AMP
U401	3130-6750-0	IC LC587206A MICROCONTROLLER
U402	3130-6410-0	IC Z86E08 OTP MICROCONTROLLER
U403	3130-4160-0	IC TC74HC00AP DIGITAL
U501	3130-2020-3	IC 7805 +5V REGULATOR
U502	3130-5610-0	IC LM317T +ADJ REGULATOR
U503	3130-5620-0	IC LM337T -ADJ REGULATOR
U504	3130-9030-0	IC NJM78L09A +9V REGULATOR
U506	3130-2020-3	IC 7805 +5V REGULATOR
U507	3130-2790-1	IC 78M08 +8V REGULATOR
U701	3130-6560-0	IC LB1641 MOTOR DRIVER

NOTE : **–The components identified by ⚠ mark are critical for risk of fire and electrical shock. Replace only with part number specified.**

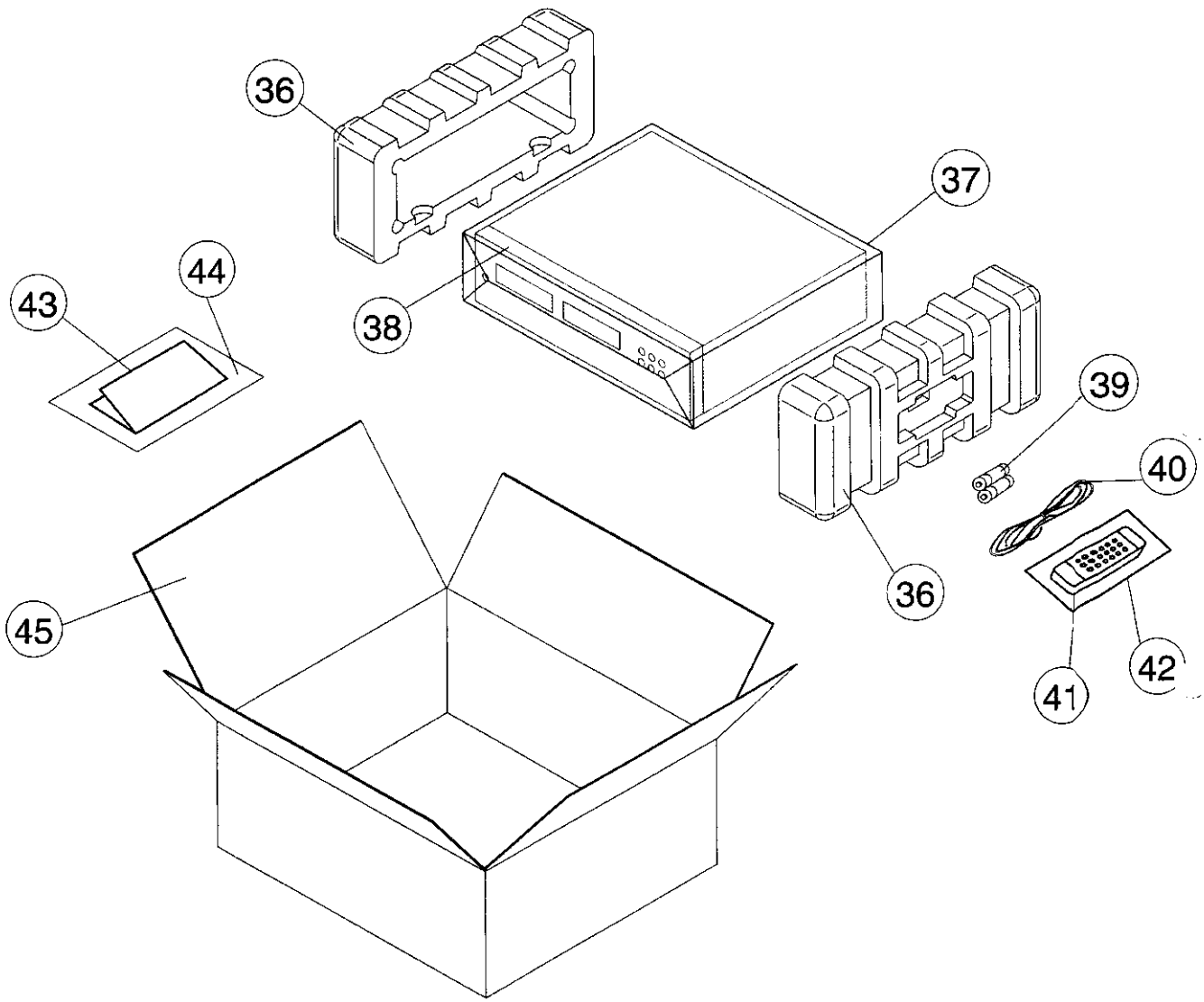
– <*AH > : USA, Canadian model only.

<*C > : European model only.

–Capacitors : CP-Polystyrere, CM-Mylar, CE-Electrolytic, CC-Ceramic.

–Resistors : RMF-Metal Film, RFU-Fusible.

PACKING DIAGRAM



ITEM	PART NO.	DESCRIPTION	Q'TY
36	1490-1783-0	POLYFOAM ENDCAP	2
37	1497-1332-1	UNIT POLYBAG	1
38	1497-1432-0	FASCIA COVER	1
39	4060-0530-0	BATTERIES	2
40	2103-7302-1	RCA CABLE	1
41	8900-1231-0	REMOTE CONTROL HANDSET	1
42	1497-1302-0	REMOTE CONTROL POLYBAG	1
43	4301-4219-0	INSTRUCTION MANUAL	1
44	1497-1062-0	MANUAL POLYBAG	1
45	1477-2502-0	CARTON BOX	1