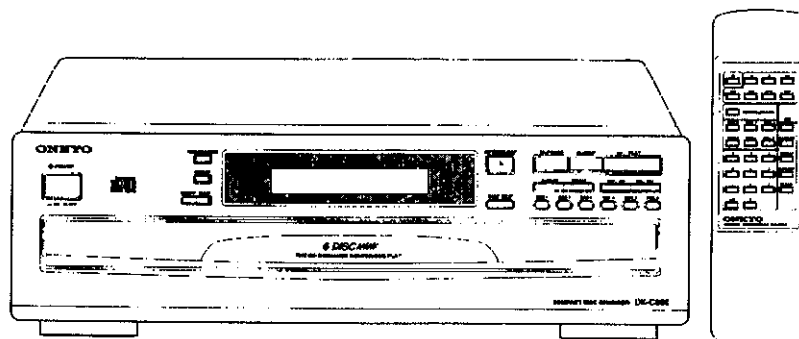


ONKYO® SERVICE MANUAL**COMPACT DISC CHANGER
MODEL DX-C380****Black and Silver models**

BMD	120V AC, 60Hz
BMPP/BMPA/SMPP	230V AC, 50Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK Δ ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

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SPECIFICATIONS

Signal readout system:	Optical non-contact
Reading rotation:	About 500 - 200 r.p.m. (constant linear velocity)
Linear velocity:	1.2 - 1.4 m/s
Error correction system:	Cross Interleave Reed-Rolomon code
D/A converter:	1 bit PWM/ACCUPULSE
Sampling frequency:	352.8 kHz (8 times oversampling)
Number of channel:	2 (stereo)
Frequency response:	5 Hz - 20kHz
Total harmonic distortion:	0.005% (at 1kHz)
Dynamic range:	96 dB
Signal to noise ratio:	92 dB
Channel separation:	92 dB (at 1kHz)
Wow and Flutter:	Below threshold of measurability
Output level:	2 volts r.m.s.
Power consumption:	10 watts
Power supply :	120V, 60Hz 230V, 50Hz
Dimensions (W x H x D):	435 x 131 x 433 mm (17-1/8" x 5-3/16" x 17-1/16")
Weight:	6.9 kg (15.2 lbs.)

Specifications and features are subject to change without notice.

SERVICE PROCEDURES

1. Safety-check out

After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Connect the insulating-resistance tester between the plug of power supply cord and chassis.

Specifications: More than 10Mohm at 500V.

Initialize the set.

Roulette stops when the POWER button is pushed while pushing the button of DISC6 with DISC1 gripped.

Note:

CD mechanism might be damaged to the movement (transportation) without gripping DISC.

CAUTION ON REPLACEMENT OF OPTICAL PICK UP

The laser diode in the optical pickup block is so sensitive to static electricity, surge current and etc, that the components are liable to be broken down or its reliability remarkably deteriorated.

During repair, carefully take the following precautions. (The following precautions are included in the service parts.)

PRECAUTIONS

1. Ground for the work-desk.

Place a conductive sheet such as a sheet of copper (with impedance lower than 10MΩ) on the work-desk and place the set on the conductive sheet so that the chassis.

2. Grounding for the test equipment and tools.

Test equipments and toolings should be grounded in order that their ground level is the same the ground of the power source.

3. Grounding for the human body.

Be sure to put on a wrist-strap for grounding whose other end is grounded.

Be particularly careful when the workers wear synthetic fiber clothes, or air is dry.

4. Select a soldering iron that permits no leakage and have the tip of the iron well-grounded.

5. Do not check the laser diode terminals with the probe of a circuit tester or oscilloscope.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICE

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION, BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.

Laser Diode Properties

Material: GaAS/GaAlAs

Wavelength: 760 ~ 800nm

Emission Duration: continuous

Laser output: max. 0.5mW*

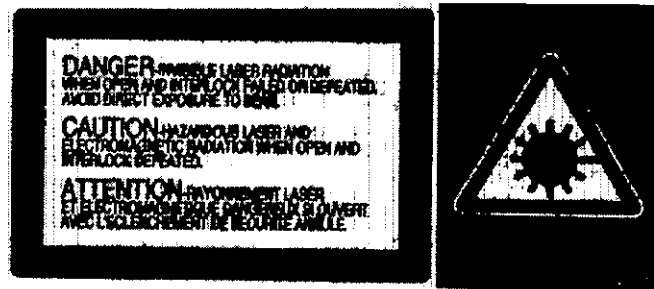
*This output is the value measured at a distance about 1.8mm from the objective lens surface on the Optical Pick-up Block.

LASER WARNING LABEL

These labels are located on the mechanism.

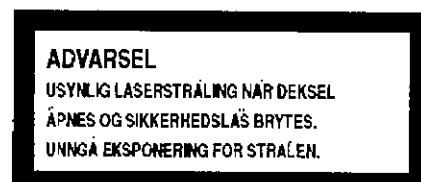
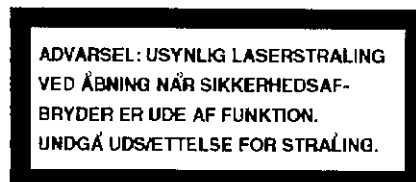
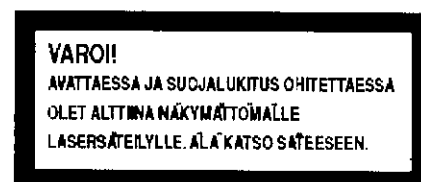
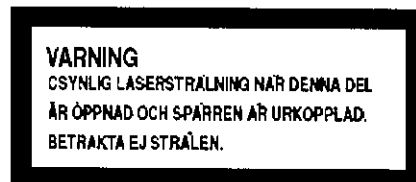
1. Warning label

This label is located on the chassis.



2. Class 1 label

This label is located on the rear panel.



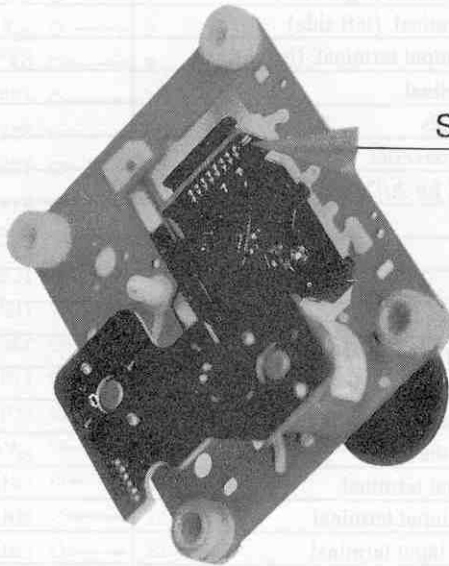
Only 230V model

CAUTION ON REPLACEMENT OF OPTICAL PICKUP

The laser diode in the optical pickup block is so sensitive to static electricity, surge current and etc. that the components are liable to be broken down or its reliability remarkably deteriorated.

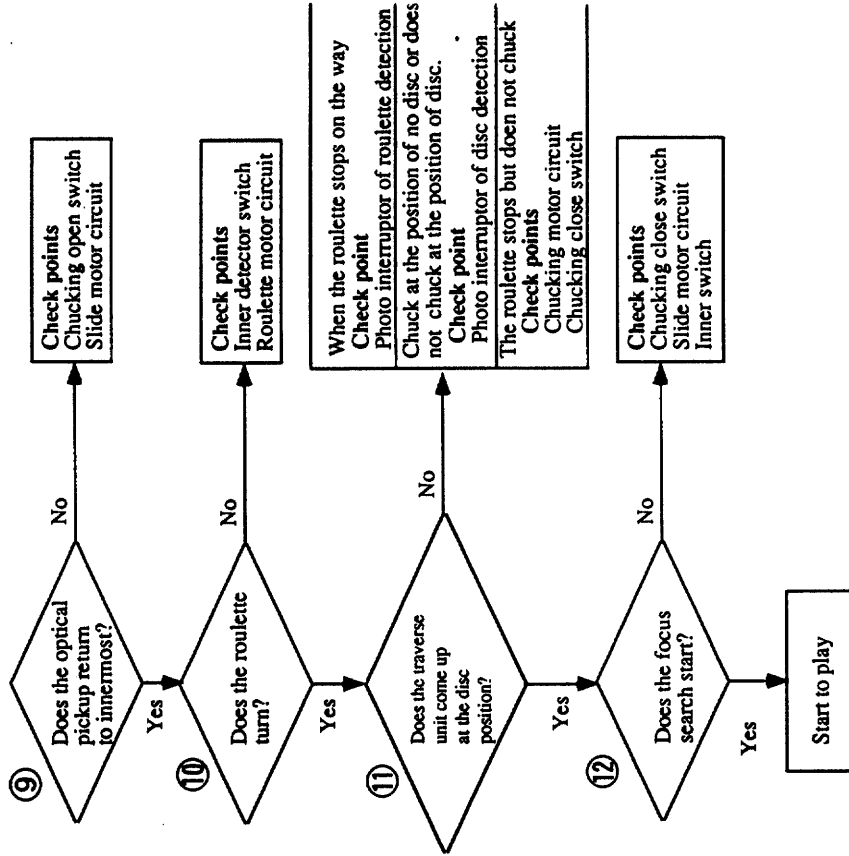
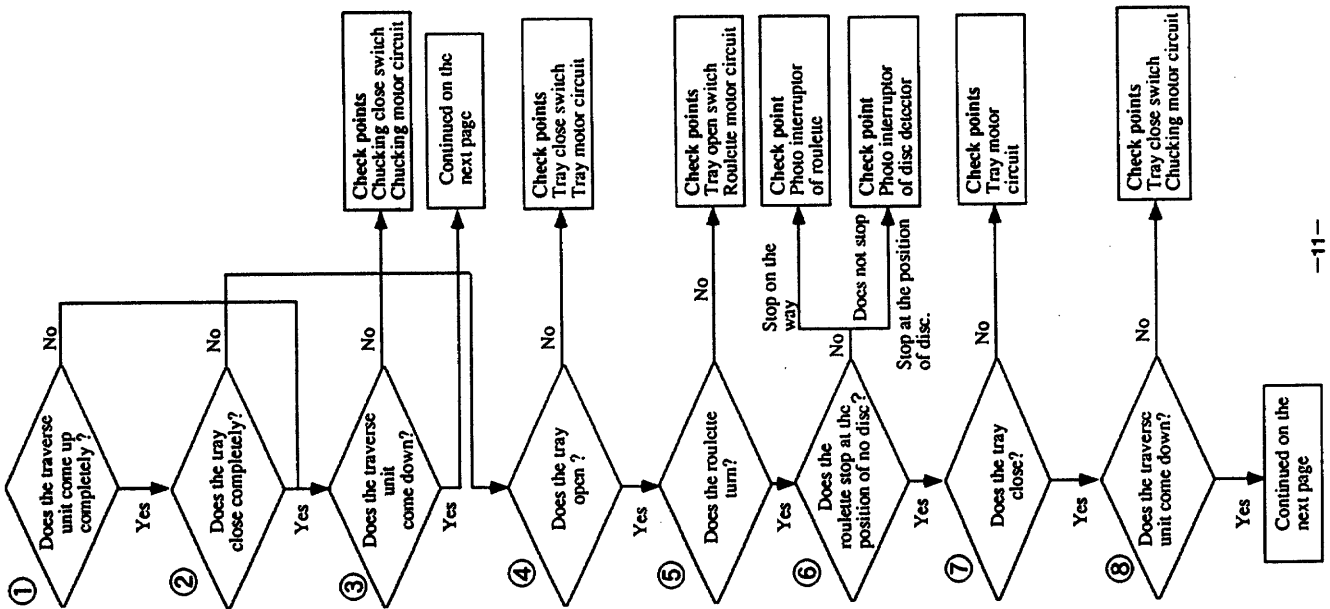
During repair, carefully take the following precautions.

1. When replacing the optical pickup, first short the LD terminals and remove the connector. Also, when attaching the new optical pickup, after attaching the connector, unsolder the LD terminals.
2. Do not touch the optical pickup object lens with the hands.

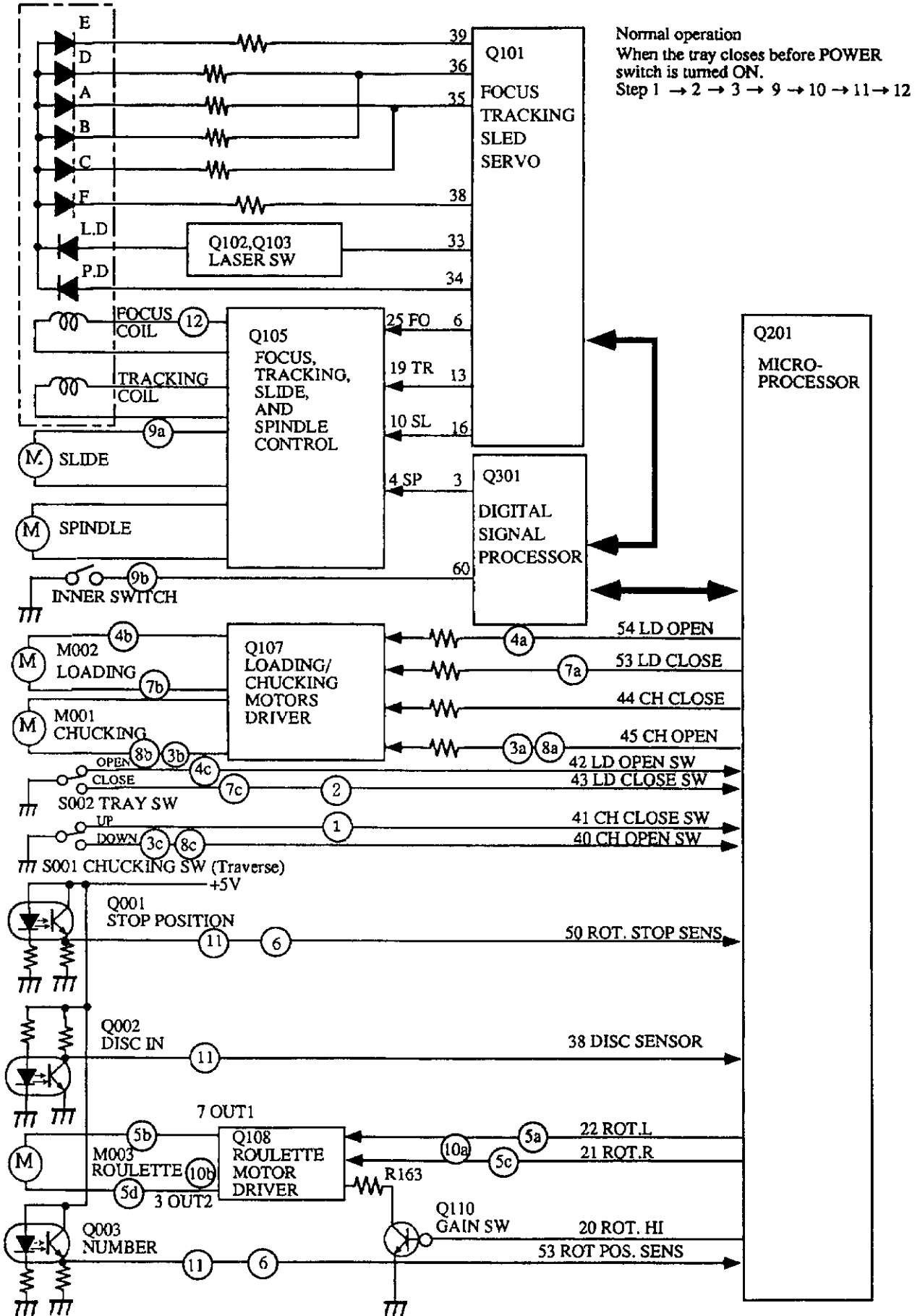


Short pattern for LD protection.

TROUBLE SHOOTING



INITIALIZING OPERATION



ERROR MESSAGE DISPLAYED IN HEAT-RUNNING MODE

Heat-running Mode : Power ON as pushing DOWN button together.

Operation :

1. DISC 1 chucking and TOC Reading (Pick-up Home position is displayed.)
2. Accessing of the Outermost Track
3. Tray Open
4. Tray Close
5. DISC 1 Playing / Stop and Chucking Down
6. Roulette Turning 7/6 Turns clockwise

Then,

1. DISC 2 chucking and TOC Reading (Pick-up Home position is displayed.)
2. Accessing of the Outermost Track
3. Tray Open
4. Tray Close
5. DISC 2 Playing / Stop and Chucking Down
6. Roulette Turning 5/6 Turns counter-clockwise

Then,

Continued as the above.

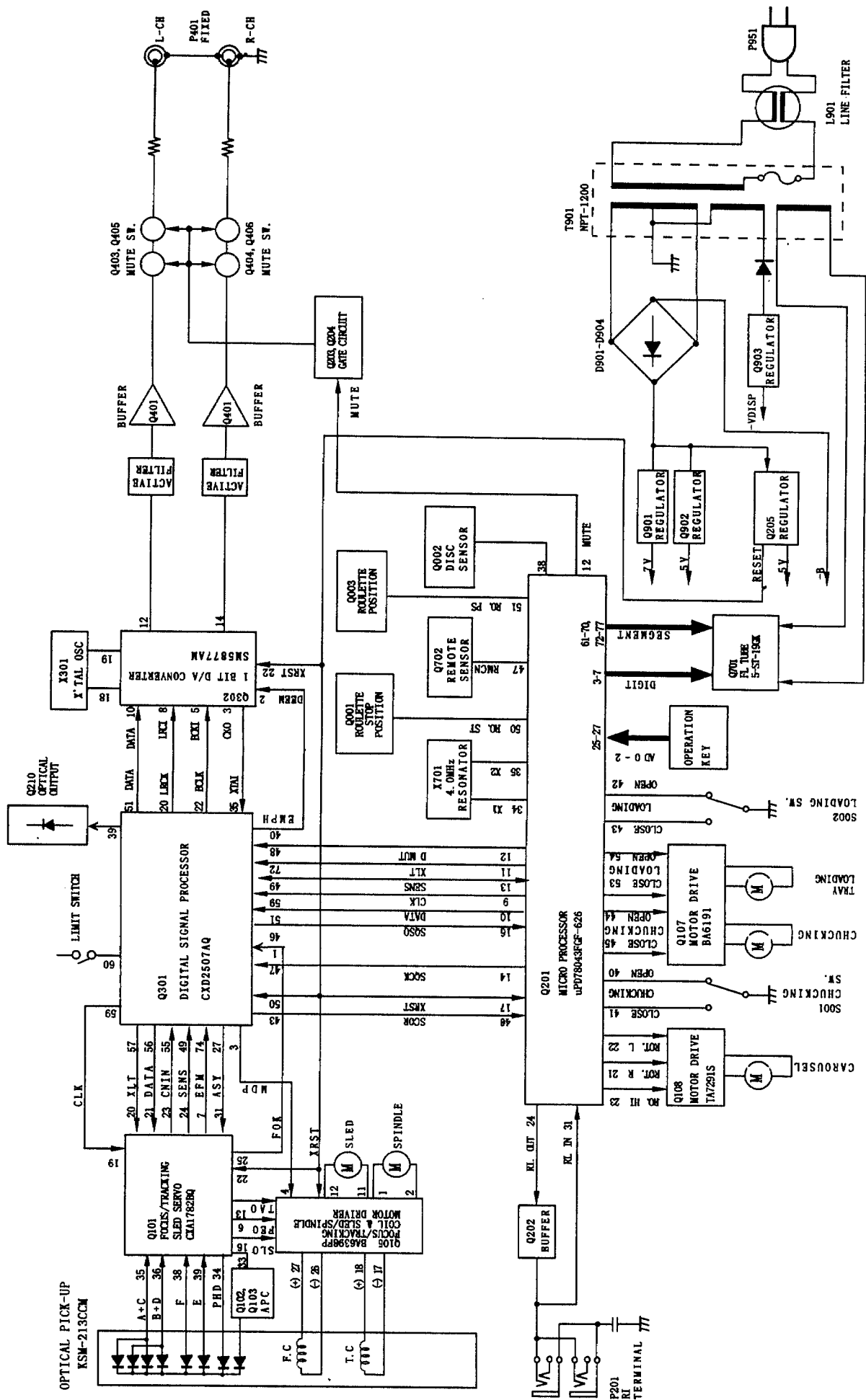
In these operation Error Message is shown in the display if any error occurs in the mechanism or the servo control. And then you can find the failure point almost exactly in this mode before you repair rejected units.

1. nf : FOCUS NG : FOCUS SERVO ON missed (Failure in Laser or RF circuit)
2. ng : GFS NG : TIMEOUT for Non-GFS (Synchronous Signal Detection) (Failure in RF Demodulator or CLV)
3. Ld : TOC Reading NG : TIME OUT Before TOC Reading completion (All SERVO Circuit)
4. Ac : ACCESS NG : TIME OUT before ACCESS completion (All SERVO Circuit)
5. co : CH OPEN NG : Non-CHUCKING Open
6. cc : CH CLOSE NG : Non-CHUCKING Close
7. rL : ROT LEFT NG : Non CCW Turning of Roulette or Non-Detection of CCW Turning of Roulette
8. rr : ROT RIGHT NG : Non CW Turning of Roulette or Non-Detection of CW Turning of Roulette
9. OP : TRAY OPEN NG : Non TRAY Open
10. CL : TRAY CLOSE NG : Non TRAY Close
11. PU : PICK UP RETURN NG : PICK-UP Non Return to the inner most.

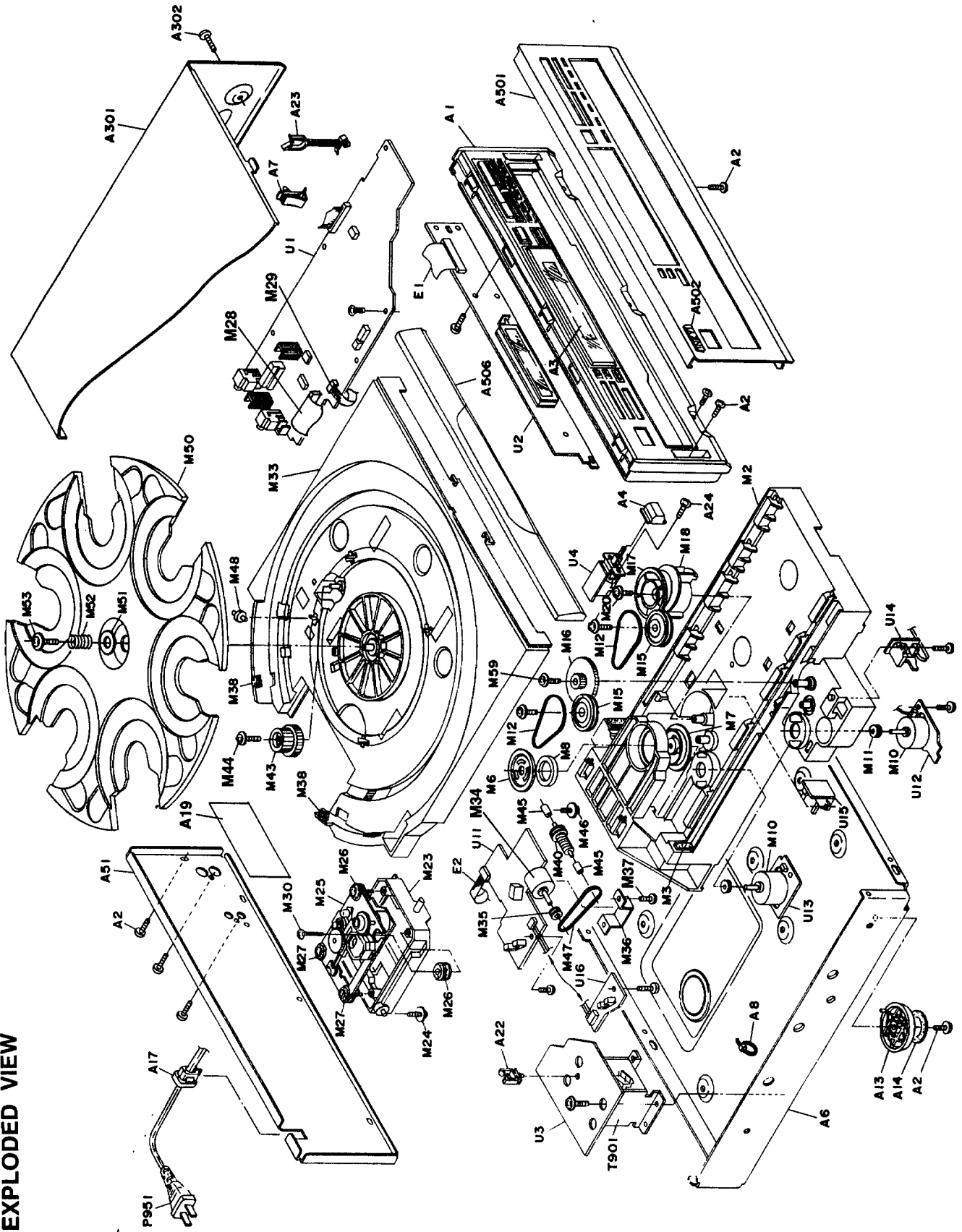
There are two Errors in the normal operation as follows.

1. Er : INITIALIZE ERROR : Error occurred in Mechanism when it is initialized. (Error points are displayed in Heat-running Mode.)
2. rn : RAM NG : RAM for File is not initialized.

BLOCK DIAGRAM



CHASSIS EXPLODED VIEW



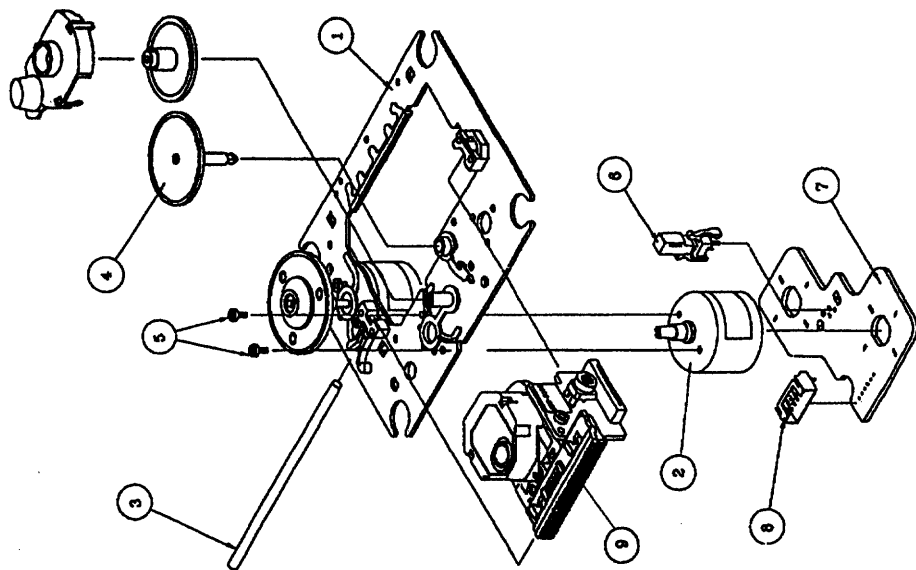
PICK-UP DRIVE UNIT

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
A1	27110990B	Front bracket 	M2	24840109B	Rail
A2	838130088	Front bracket <S>	M3	28141337	Cushion
A3	28191776A	3TTTB+8B, Self-tapping screw	M6	24830004	Yoke (CHIB)
A4	28191777A	Clear plate 	M7	24824006	Cap (CHC)
A6	28325465	Clear plate <S>	M8	24832006	Magnet (CHB)
A7	27100327B	Knob (POW) 	M10	24804015	Motor, RF-500TB-14415
A8	260208	Knob (POW) <S>	M11	24810028	Pulley
A13	27175316B	Chassis	M12	24816010A	Rubber belt (B)
A14	28141332	Holder, MFS-1000	M15	24810040	Gear (Pulley)
A17	27300750	Wire tie	M16	24810039A	Gear (Load)
A19	29361957	Cushion	M17	24810041	Gear (A)
A20	831430088	Leg	M18	24810042	Gear (B)
A22	27300833-2	△ Cord bushing, #Z271	M20	831430088	3TTTW+8B(BC), Self-tapping screw
A23	27301779	Label (ALL2)	M23	24802024	Chassis (Sub)
A24	838430107	3TTTW+8B(BC), Self-tapping screw	M24	24840111	Special self-tapping screw
A51	27122717	Clamp, WS-2NS	M25	24800017	CD Mechanism unit, KSM-213CCM
A301	28184680A	Clamp, HL-38-0	M26	24818013	Insulator (A)
A302	838430088	3TTTB+10S(BC), Self-tapping screw	M27	24818014	Insulator (B)
A501	27212201	Rear panel <D>	M28	204416004	Flexible flat cable, NCFCA-16004
A502	28135244	Rear panel <E>	M29	200990464	Socket AS, NASA-12F618
A506	28148366	Rear panel <F>	M30	24840111	Special self-tapping screw
E1	204329005	Rear panel <G>	M33	24840107D	Tray
E2	204307007	Top cover 	M34	24804021	Motor, RF-310TA-11400
P951	253279HIT	Top cover <S>	M35	24810066	Pulley (C)
T901	253193HIT	3TTTB+8B(BC) 	M36	24822018	Retainer
U1	1H442580-5	Front panel 	M37	838130088	3TTTB+8B, Self-tapping screw
U2	1H442581-5	Front panel <S>	M38	28141340	Cushion
U3	1H442582-5	Badge 	M40	24810045A	Worm AS
U4	1H442583-5	Badge <S>	M43	24810043	Wheel gear
U11	1H401554-1	Door 	M44	831430088	3TTTW+8B(BC), Self-tapping screw
U12	1H401555-1	Door <S>	M45	24834017A	Spacer
U13	1H401556-1	Flexible flat cable, NCFCA-29005	M46	24840111	Special self-tapping screw
U14	1H401557-1	Flexible flat cable, NCFCA-07007	M47	24816035	Rubber belt (G)
U15	1H401558-1	AC cord, AS-UC-2#18 <D>	M48	24840110	Roller
U16	1H401559-1	AC cord, AS-SAA <PA>	M50	24840108A	Rollette
		AC cord, AS-CEB <P>	M51	24834016	Washer (A)
		Power transformer, NPT-1200D <D>	M52	24820033	Spring (A)
		Power transformer, NPT-1200P <PA, P>	M53	24840111	Special self-tapping screw
		Main circuit PC board assy, NAAR-5880-5	M58	838130088	3TTTB+8B, Self-tapping screw
		Display circuit PC board assy, NADIS-5881-5	M59	838426088	2.6TTTB+8B(BC), Self-tapping screw
		Power supply circuit PC board assy, NAFS-5882-5			
		Power switch PC board assy, NASW-5883-5			
		Position sensor PC board assy, NAEITC-5854-1			
		Chuckling motor PC board assy, NAEITC-5855-1			
		Loading motor PC board assy, NAEITC-5856-1			
		Chuckling switch PC board assy, NAEITC-5857-1			
		Rollette in/out PC board assy, NASW-5858-1			
		Disc sensor PC board assy, NAEITC-5859-1			

NOTE: Black model only
<S> Silver model only
<D> 120V model only
<P> 230V model only
<PA> Australian model only

NOTE: THE COMPONENTS IDENTIFIED BY MARK **A** ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACES ONLY WITH PART NUMBER SPECIFIED.



REF. NO.	PART NO.	DESCRIPTION
1	X-2625-877-1	Motor chassis ass'y
2	X2625-769-1	Motor gear ass'y
3	2626-908-01	Sied shaft
4	24810023	Gear A
5	7621-255-15	P2x3 Pan head screw
6	24840008	Leaf switch
7	1639-678-12	Motor PC board
8	1564-722-11	6P, Connector pin
9	8848-483-05	KSS-213C, Optical pickup

PRINTED CIRCUIT BOARD-PARTS LIST

Main circuit PC board (NAAR-5880-5)

CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
			C401, C402, C411	374723924	3900pF±5%, 50V, Plastic
			C412		
Q101	22241093	CXA1782BQ	C403-C406,	374721824	1800pF±5%, 50V, Plastic
Q105	22241066	BA6398FP	C409, C410		
Q107	22240771	BA6191	C407, C408	374724714	470pF±5%, 50V, Plastic
Q108	22240239	TA7291S	C413, C414	374722724	2700pF±5%, 50V, Plastic
Q201	22241094	MPD78043FGF-026	C415, C416	354781009	10 μF, 50V, Elect.
Q205	22240018	M51943A(M51943ASL)	C417-C420,	374722734	0.027 μF±5%, 50V, Plastic
Q301	22241096	CXD2507AQ	C423		
Q302	22241074R9	SM5877AM	C916, C917	354764709	47 μF, 35V, Elect.
Q401	222956	NJM2068D-D			
Q901	222780075	78M07HF			
Q902	222780055	78M05HF			
			Resistors		
			R108, R126	5210263	N06HR20KBC, Trim
			R217	49163104405	RM1/10J-100K *5, R net
Q102, Q903	2211504	2SA950-Y			
Q103, Q109, Q202	2212600 or	DTA124ES or	X201	3010229	EFOLC004A4
	2215780	KRA103M			
Q106	2211255 or	2SC1815-GR or	X301	3010159	AT-38-169, Crystal
	2215985	KTC3198-GR			
Q110, Q203	221282	DTC144ES	X301A	27190751	
	2215820 or	KRC104M or			
Q204	2211455 or	2SA1015-GR or	L101		
	2215975	KTA1266-GR			
Q403-Q406	2211706 or	2SD655-F or			
	2216002	KTC2874-B	P101	25051768	NSCT-16P1555
			P105A	25051851	NSCT-7P1638
			P202A	25051836	NSCT-29P1623
			Photo coupler		
Q210	24120038	GP1F32T			
			Diodes		
D10, D201, D203,	223205 or	1SS270A or	P102A, P104A	25055150	NPLG-6P134
D205, D206	223163	1SS133	P103A	25055149	NPLG-5P133
D102, D202, D401	224470562	MTZJ5.6B, Zener	P106	25055038	NPLG-2P29
D908	224473004	MTZJ30D, Zener	P107	25055045	NPLG-4P33
D909	224470512	MTZJ5.1B, Zener			
			Jacks		
			P201	25045481 or	NPJ-2PDBL299 or
				25045330	NPJ-2PDBL184
C101, C102, C108	354721019	100 μF, 6.3V, Elect.	P401	25045353	NPJ-2PDBL199, Line out
C126, C202, C211,					
C308					
C105, C109, C110	374721034	0.01 μF±5%, 50V, Plastic	Q901A, Q902A	27160145-1	RAD-51
C120, C129, C138,					
C304, C306					
C106, C112, C131	374722224	2200pF±5%, 50V, Plastic			
C107	374723334	0.033 μF±5%, 50V, Plastic			
C111, C114	374724744	0.47 μF±5%, 50V, Plastic	Q701	212132	5-ST-19GK
C113	374721024	1000pF±5%, 50V, Plastic			
C115, C116, C119	374721044	0.1 μF±5%, 50V, Plastic	Q702	24130011 or	PIC-12043TE2 or
C117	354780479	4.7 μF, 50V, Elect.	Q702 or	241330	PIC-26043TE2
C122	354763309	33 μF, 35V, Elect.			
C123	354780339	3.3 μF, 50V, Elect.	C701	353721019	100 μF, 6.3V, Elect
C125, C127, C128	354744709	47 μF, 16V, Elect.			
C135, C421, C422,					
C910-C912			S701-S719	25035652 or	NPS-111-S604 or
C205, C303	354784799	0.47 μF, 50V, Elect.		25035652MAT or	NPS-111-S624 or
C206	354782299	0.22 μF, 50V, Elect.		25035704	NPS-111-S667
C207, C913	354721029	1000 μF, 50V, Elect.	E701	27190941	(FL)
C215, C216	354781019	100 μF, 50V, Elect.			
C301	374722234	0.022 μF±5%, 50V, Plastic	P202B	25051873	NSCT-29P1660
C302	374721524	1500pF±5%, 50V, Plastic			
C311-C313	354722219	220 μF, 6.3V, Elect.			
C314	354724719	470 μF, 6.3V, Elect.			
C316, C317	354741009	10 μF, 16V, Elect.			

Display circuit PC board (NADIS-5881-5)

CIRCUIT NO.	PART NO.	DESCRIPTION
		FL tube
Q701	212132	5-ST-19GK
		Remote sensor
Q702	24130011 or	PIC-12043TE2 or
Q702 or	241330	PIC-26043TE2
		Capacitor
C701	353721019	100 μF, 6.3V, Elect
		Switches
S701-S719	25035652 or	NPS-111-S604 or
	25035652MAT or	NPS-111-S624 or
	25035704	NPS-111-S667
		Holder
E701	27190941	(FL)
		Socket
P202B	25051873	NSCT-29P1660

Power supply circuit PC board (NAPS-5882-5)

CIRCUIT NO.	PART NO.	DESCRIPTION
		Diodes
D901-D907	22380260 or	△ RL1N4003 or
	22380035	△ GP104003E

CIRCUIT NO.	PART NO.	DESCRIPTION
	Coil	
L901	231222	△ NCH-3454
	Capacitors	
C901	354744729S	4700 μ F, 16V, Elect
C902	393342227S	2200 μ F, 16V, Elect
C905	354784709	47 μ F, 50V, Elect
C906	354780229	2.2 μ F, 50V, Elect
C908, C909	354744719	470 μ F, 16V, Elect
	Sockets	
P901A	25050273	NSCT-9P101
P902A	25050269	NSCT-5P97
	Plug	
P903	25055676	NPLG-2P632

Power switch PC board (NASW-5883-5)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitor	
C950	3500191	△ DE7150F-103M , AC400V/125V , IS C
	Switch	
S901	25035636	△ NPS-111-L590P , Power

Position sensor PC board (NAETC-5854-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Photo interrupters	
Q001	24190041	SG-207
Q002	24190046	GP2S28
	Capacitors	
C001, C003	354744709	47 μ F, 16V, Elect
C002	352942206	22 μ F, 16V, Elect
	Sockets AS	
P001A	2002390605UL	NSAS-6P0597
P103	2009990447UL or 2009990594UL	NSAS-10P0596 or NSAS-10P-0807
P104	2009990446UL or 2009990593UL	NSAS-11P0595 or NSAS-11P-0806
	Sockets	
P105B	25051851 or 25050913	NSCT-7P1638 or NSCT-7P700

Chucking motor PC board (NAETC-5855-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitor	
C004	352942206S	22 μ F, 16V, Elect

Chucking switch PC board (NAETC-5857-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Switch	
S001	25065491	NMS-1223

Roulette in/out PC board (NASW-5858-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Switch	
S002	25065375	NMS-1219

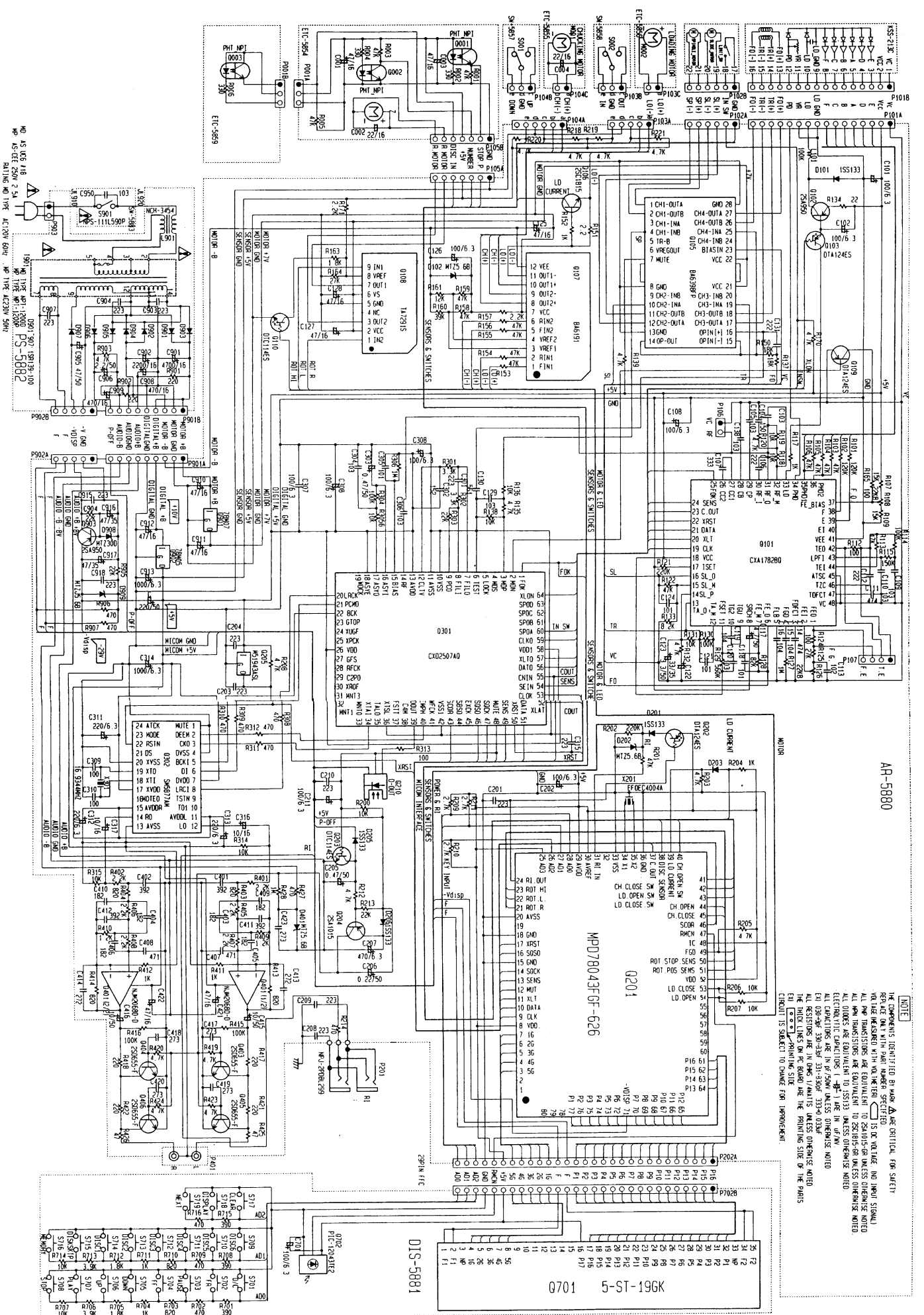
Disc sensor PC board (NAETC-5859-1)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Photo interrupter	
Q003	24190041	SG-207
	Plug	
P001B	25055367	NPLG-3P350

NOTE: THE COMPONENTS IDENTIFIED BY MARK △
ARE CRITICAL FOR RISK OF FIRE AND
ELECTRIC SHOCK. REPLACE ONLY WITH
PART NUMBER SPECIFIED.

SCHEMATIC DIAGRAM

A | B | C | D | E | F | G



ADJUSTMENT PROCEDURES

Instruments required

Dual trace oscilloscope, AF oscillator, Test disc (SONY YEDS-18) and AC voltmeter.

1. Focus offset adjustment

Turn R108 and R126 to the mechanical center.

Load the test disc YEDS-18 on the tray and play the track 2.

Connect the oscilloscope to terminal P106.

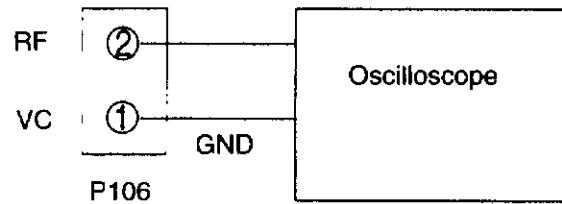
Adjust R108 until the waveform on the oscilloscope becomes maximum.

After adjustment, disconnect the oscilloscope.



Photo 1

0.2V/div
0.2 μ s/div



2. Focus gain adjustment

Set the output of AF oscillator to 1kHz, 2 Vp-p.

Play the track 2 of test disc.

Connect the oscilloscope and the AF oscillator as shown below.

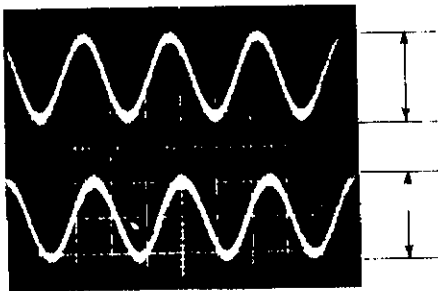
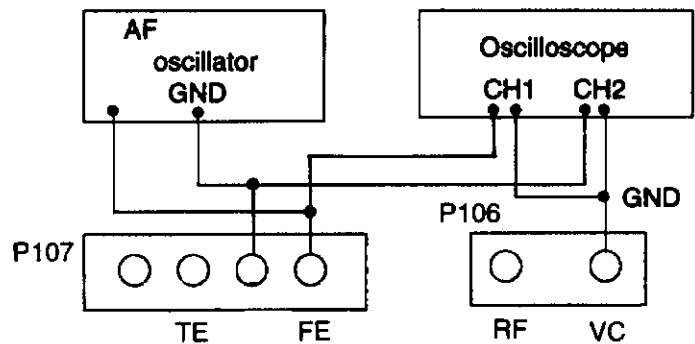


Photo 2

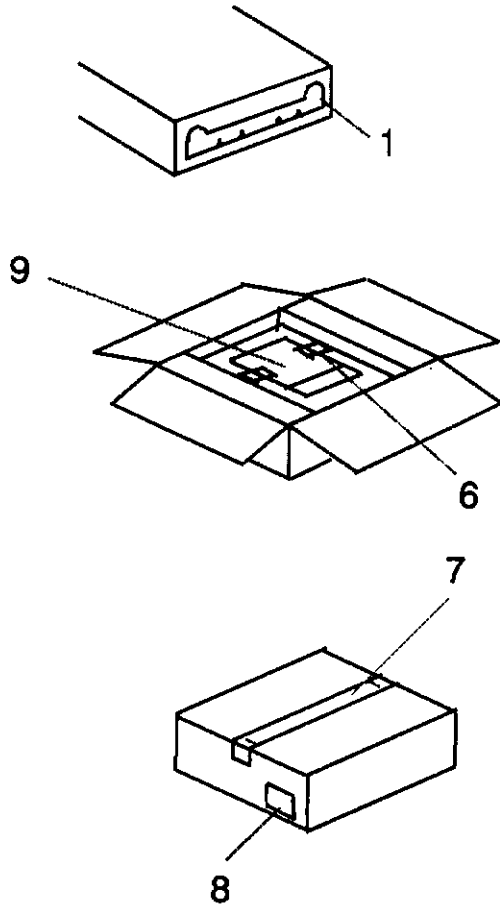
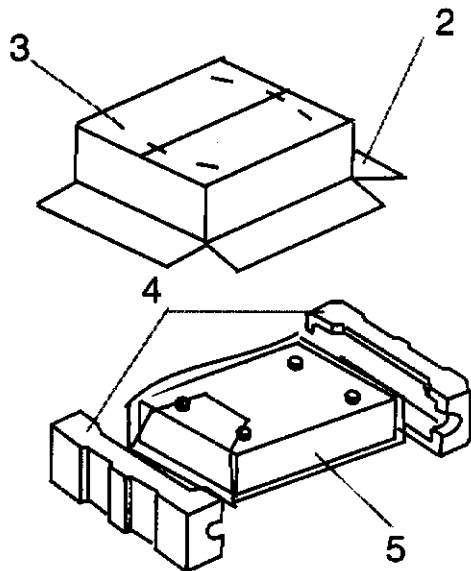
0.5V/div
0.5ms/div



Adjust R126 until 1kHz components of channels 1 and 2 on oscilloscope become same level.

After adjustment, disconnect the AF oscillator and the oscilloscope.

PACKING VIEW



REF. NO.	PART NO.	DESCRIPTION
1	29095795	Sheet (Door)
2	29053575	Carton box
2	29053579	Carton box <S>
3	282321	Staple
4	29091774A	Pad ass'y
5	29100153	1020x720, Poly bag
6	261504	Paper tape
7	29110098	PP tape
8	29362614	Label, UPC <D>
8	29362618	Label, EAN <PA,P>
8	29362619	Label, EAN <S> <P>
9	Accessory bag ass'y	
	2010381 or	Audio connection cable
	2010326	
	2010200	RI cable
	24140331B	RC-331C, Remote control
	29100097-1A	350*250, Poly bag
	29342883	Instruction manual, E
	29342927	Instruction manual, U3GSWD <P>
	29342928	Instruction manual, U3FSI <P>
	29355299	Instruction sheet <D>
	29365083A	Warranty card <D>
	29365042	Warranty card <PA>
	29360840	Label sheet <D>
	3010054	Battery, UM3
	27270397	Spacer, Chassis
	29095866	Sheet, ONKYO <D>

NOTE: Black model only
 <S> Silver model only
 <D> 120V model only
 <P> 230V model only
 <PA> Australian model only

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